



Proven Quality.  
Trusted Name.

Transportation Equipment Sales Corporation

August 1, 2018

West Virginia State Purchasing Division  
Michelle L Childers, Senior Buyer  
2019 Washington St., East  
Charleston, WV 25305-0130

08/02/18 11:11:05  
WV Purchasing Division

Ms. Childers:

**RFQ# PTR1900000001**

Thank you for the invitation to submit a bid for 176"-190" Wheelbase Cutaway Buses. We are pleased to offer a 2019 Elkhart Coach ECII /2019 Ford E450 chassis to meet or exceed your requested specifications.

We appreciate the opportunity to work with you on this contract. Please call me at 1-800-227-3572 with any questions regarding our bid.

Sincerely,

Noel E. Graham Jr.  
President

**Bid Documents**

**Addendums**

**Equipment List of the Six  
Vehicles Offered**

**Specifications, Floor  
Plans & Brochures**

**Warranty & Service  
Documentation**

**Testing & Compliance**

**Warranty & Service  
Documentation**

**TESCO Literature**

# **Bid Documents**



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Request for Quotation  
 36 - Vehicles

Proc Folder: 457733

Doc Description: 176" - 190" Wheelbase Cutaway Vehicle

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2018-07-09	2018-07-24 13:30:00	CRFQ 0805 PTR1900000001	1

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON  
 US

WV 25305

**VENDOR**

**Vendor Name, Address and Telephone Number:**

Transportation Equipment Sales Corp.  
 6401 Seaman Rd. Oregon OH 43616

**FOR INFORMATION CONTACT THE BUYER**

Michelle L Childers  
 (304) 558-2083  
 michelle.l.childers@wv.gov

Signature X

FEIN # 34-1029900

DATE 8/1/2018

All offers subject to all terms and conditions contained in this solicitation

**ADDITIONAL INFORMATION:**

## Request for Quotation

The West Virginia Purchasing Division is soliciting bids on behalf of the Division of Public Transit and any other state agency that desires to ut this contract to establish an open-end contract for 176" - 190' Wheelbase Dual Rear Wheel (DRW) Cutaway vehicles with air conditioning, fixed seats, wheelchair securements and lift to provide specialized transportation services in an urban and suburban-rural environment, including hilly terrain and a severe operating climate suited to stop-start duty cycles.

INVOICE TO		SHIP TO	
ACCOUNTS PAYABLE		GENERAL MANAGER	
PUBLIC TRANSIT DIVISION OF		PUBLIC TRANSIT DIVISION OF	
BLDG 5 RM 650		KANAWHA VALLEY REGIONAL TRANSPORTATION AUTHORITY	
1900 KANAWHA BLVD E		1550 FOURTH AVE	
CHARLESTON	WV25305-0432	CHARLESTON	WV 25324
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	176" - 190" Wheelbase Cutaway Vehicle	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
25101502			

**Extended Description :**

176" - 190" Wheelbase Cutaway Vehicle  
 \*\*\*\*\*

Vendor should type or clearly print the information into the Exhibit A-Pricing Page to prevent errors in the evaluation. If Vendor is submitting bid online Vendor must submit Exhibit A -Pricing Page as attachment. TOTAL BID FOR EVALUATION is the amount Vendor is to enter into wvOASIS commodity line when submitting. Notwithstanding the foregoing, the Purchasing Division may correct errors at its discretion.

## INSTRUCTIONS TO VENDORS SUBMITTING BIDS

**1. REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

**2. MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

**3. PREBID MEETING:** The item identified below shall apply to this Solicitation.

A pre-bid meeting will not be held prior to bid opening

A NON-MANDATORY PRE-BID meeting will be held at the following place and time:

A MANDATORY PRE-BID meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

**4. VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: July 16, 2018 at 10:00 AM EDT

Submit Questions to: Michelle Childers, Senior Buyer  
2019 Washington Street, East  
Charleston, WV 25305  
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)  
Email: Michelle.L.Childers@wv.gov

**5. VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

**6. BID SUBMISSION:** All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile.

The bid delivery address is:  
Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID:  
BUYER:  
SOLICITATION NO.:  
BID OPENING DATE:  
BID OPENING TIME:  
FAX NUMBER:

The Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. Submission of a response to an Expression or Interest or Request for Proposal is not permitted in wvOASIS.

**For Request For Proposal ("RFP") Responses Only:** In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus N/A convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)

- Technical  
 Cost

**7. BID OPENING:** Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: July 24, 2018 at 1:30 PM EDT

Bid Opening Location: Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130



**8. ADDENDUM ACKNOWLEDGEMENT:** Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

**9. BID FORMATTING:** Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

**10. ALTERNATE MODEL OR BRAND:** Unless the box below is checked, any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

**11. EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

**12. COMMUNICATION LIMITATIONS:** In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

**13. REGISTRATION:** Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.

**14. UNIT PRICE:** Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

**15. PREFERENCE:** Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and should include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at:

<http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

**15A. RECIPROCAL PREFERENCE:** The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. A request form to help facilitate the request can be found at:

<http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

**16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

**17. WAIVER OF MINOR IRREGULARITIES:** The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

**18. ELECTRONIC FILE ACCESS RESTRICTIONS:** Vendor must ensure that its submission in wvOASIS can be accessed and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

**19. NON-RESPONSIBLE:** The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform, or lacks the integrity and reliability to assure good-faith performance.”

**20. ACCEPTANCE/REJECTION:** The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b.”

**21. YOUR SUBMISSION IS A PUBLIC DOCUMENT:** Vendor’s entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

**DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.**

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled “confidential,” “proprietary,” “trade secret,” “private,” or labeled with any other claim against public disclosure of the documents, to include any “trade secrets” as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

**22. INTERESTED PARTY DISCLOSURE:** West Virginia Code § 6D-1-2 requires that the vendor submit to the Purchasing Division a disclosure of interested parties to the contract for all contracts with an actual or estimated value of at least \$1 Million. That disclosure must occur on the form prescribed and approved by the WV Ethics Commission prior to contract award. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

**23. WITH THE BID REQUIREMENTS:** In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

## GENERAL TERMS AND CONDITIONS:

- 1. CONTRACTUAL AGREEMENT:** Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.
- 2. DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.
  - 2.1. "Agency" or "Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.
  - 2.2. "Bid" or "Proposal"** means the vendors submitted response to this solicitation.
  - 2.3. "Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.
  - 2.4. "Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
  - 2.5. "Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
  - 2.6. "Award Document"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.
  - 2.7. "Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
  - 2.8. "State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
  - 2.9. "Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

**3. CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

**Term Contract**

**Initial Contract Term:** **Initial Contract Term:** This Contract becomes effective on \_\_\_\_\_  
upon approval \_\_\_\_\_ and extends for a period of \_\_\_\_\_ one (1) \_\_\_\_\_ year(s).

**Renewal Term:** This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

**Alternate Renewal Term** – This contract may be renewed for \_\_\_\_\_ successive \_\_\_\_\_ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

**Delivery Order Limitations:** In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

**Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within \_\_\_\_\_ days.

**Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within \_\_\_\_\_ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that maintenance, monitoring, or warranty services will be provided for \_\_\_\_\_ year(s) thereafter.

**One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

**Other:** See attached.

**4. NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

**5. QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

**Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

**Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

**Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

**One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

**6. EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute a breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

**7. REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

**BID BOND (Construction Only):** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

**PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

**LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

**MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

**LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

**8. INSURANCE:** The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed in this section.

Vendor must maintain:

**Commercial General Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.

**Automobile Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.

**Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: \_\_\_\_\_ per occurrence.

**Commercial Crime and Third Party Fidelity Insurance** in an amount of: \_\_\_\_\_ per occurrence.

**Cyber Liability Insurance** in an amount of: \_\_\_\_\_ per occurrence.

**Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.

**Pollution Insurance** in an amount of: \_\_\_\_\_ per occurrence.

**Aircraft Liability** in an amount of: \_\_\_\_\_ per occurrence.



Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

**9. WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

**10. [Reserved]**

**11. LIQUIDATED DAMAGES:** This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

\_\_\_\_\_ for \_\_\_\_\_

Liquidated Damages Contained in the Specifications

**12. ACCEPTANCE:** Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

**13. PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.

**14. PAYMENT IN ARREARS:** Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

**15. PAYMENT METHODS:** Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

**16. TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

**17. ADDITIONAL FEES:** Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

**18. FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

**19. CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

**20. TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.

**21. APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

**22. COMPLIANCE WITH LAWS:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

**SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

**23. ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

**24. MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

**25. WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

**26. SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

**27. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

**28. WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

**29. STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

**30. PRIVACY, SECURITY, AND CONFIDENTIALITY:** The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

**31. YOUR SUBMISSION IS A PUBLIC DOCUMENT:** Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

**DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.**

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

**32. LICENSING:** In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

**SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

**33. ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

**34. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

**35. VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

**36. INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

**37. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State, Vendors are required to sign, notarize, and submit the Purchasing Affidavit to the Purchasing Division affirming under oath that it is not in default on any monetary obligation owed to the state or a political subdivision of the state.

**38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"), provided that both the Other Government Entity and the Vendor agree. Any extension of this Contract to the aforementioned Other Government Entities must be on the same prices, terms, and conditions as those offered and agreed to in this Contract, provided that such extension is in compliance with the applicable laws, rules, and ordinances of the Other Government Entity. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

**39. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

**40. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at [purchasing.requisitions@wv.gov](mailto:purchasing.requisitions@wv.gov).

**41. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision. The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Revised 06/08/2018

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

**42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS:** Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more of such operations, from steel made by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
- c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

**43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL:** In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a

“substantial labor surplus area”, as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

**44. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE:** W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least \$1 million, the vendor must submit to the Agency a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-award interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.



REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

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SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of the Division of Public Transit and any other state agency that desires to utilize this contract to establish an open-end contract for 176" – 190" Wheelbase Dual Rear Wheel (DRW) Cutaway vehicles with air conditioning, fixed seats, wheelchair securements and lift to provide specialized transportation services in an urban and suburban-rural environment, including hilly terrain and a severe operating climate suited to stop-start duty cycles.

Vehicles supplied shall conform in all respects to the applicable Motor Vehicle Laws of the State of West Virginia, Federal Motor Vehicle Safety Standards, Environmental Protection Agency, Federal and State Regulations in effect at the time of manufacture and all must be in compliance with Americans with Disabilities Act (ADA) regulations at the time production of the vehicle commences.

The Vendor is to deliver a complete new 2019 or current year vehicle in one of the two (2) proposed floor plans as defined in these specifications with different configurations identified as a Class on the Exhibit A- Pricing Pages, ready for operation. **All required Federal Transit Administration certification forms shall be included in the bid proposal.**

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them.
- 2.1 "Contract Item" means the 176" – 190" Wheelbase Dual Rear Wheel (DRW) Cutaway vehicles more fully described by these specifications.
- 2.2 "Pricing Pages" or "Contract Items" means the list of buses with the configurations identified herein and on the Pricing pages as Classes A through F.
- 2.3 "Division" means the West Virginia Division of Public Transit, DPT.
- 2.4 "EPA" means Environmental Protection Agency.
- 2.5 "Gross Vehicle Weight Rating (GVWR)" means the maximum loaded weight (including curb weight, operator & passenger weight, and payload) in pounds (lbs.) of a single vehicle. Vehicle manufacturers specify the maximum GVWR on the vehicle certification label.
- 2.6 "Manufacturer/Brand" means the name of the maker of the contract item which will be supplied by the vendor.
- 2.7 "Model & Number" means the model name and model number associated with the contract item as defined by the manufacturer.
- 2.8 "OEM" means Original Equipment Manufacturer.
- 2.9 "Powertrain" means the group of components used to transmit engine power to the wheels. The powertrain includes the engine, clutch, transmission, universal joints, drive shaft, and rear-axle gears.

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176" – 190" Wheelbase Cutaway Vehicle

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- 2.10 **"Pricing Page"** means the pages, contained in wvOASIS or attached as Exhibit A, upon which Vendor should list its proposed price for the Contract Items.
- 2.11 **"QVM"** means Qualified Vehicle Manufacturer.
- 2.12 **"Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
- 2.13 **"Vendor Name"** means the company name of the vendor who will be supplying the contract item(s) to the Division.
- 2.14 **"Warranty"** means the written guarantee issued with new motor vehicles or related equipment. It defines the manufacturer's responsibility for the repair or replacement of defective parts and other services provided as part of the purchase price. A warranty can be nullified if the user does not follow certain stipulations of the manufacturer, such as preventive maintenance.
- 2.15 **"Wheelbase"** means the distance from the centerline of the front axle to the centerline of the rear axle. Minimum of 176".
- 2.16 **"Curb Weight"** means Weight of the vehicle including maximum fuel, oil, and coolant and all equipment required for the operation as required by this specification without passengers or driver.
- 2.17 **"Gross Load"** means one hundred and seventy five (175) pounds for every design passenger seating position and for the driver and three hundred (300) pounds for every wheelchair station. Vehicles will be operated without standees.
- 2.18 **"Fireproof"** means materials that will not burn or melt at temperatures less than 2,000 degrees Fahrenheit.
- 2.19 **"Fire Resistant"** means Materials that have a flame-spread index less than 150 as measured in a radiant panel flame test per FTA Docket 90A
- <https://www.govmark.com/pdf/information-bulletin/public-transportation-requirements.pdf>
- 2.20 **"ASTM"** means American Society for Testing and Materials
- 2.21 **"SAE"** means Society of Automotive Engineers
- 2.22 **"FMVSS"** means Federal Motor Vehicle Safety Standards
- 2.23 **"EPA"** means Environmental Protection Agency

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- 2.24 "DMV" means Division of Motor Vehicles, State of West Virginia
- 2.25 "FTA" means Federal Transit Administration
- 2.26 "ADA" means Americans with Disabilities Act of 1990 including applicable federal regulations issued pursuant to the Act and in effect at the time production of the vehicle commences.
- 2.27 "DBA" means the decibel scale A weight to measure upper middle frequencies over time that can impact hearing loss.
- 2.28 "RPM" means Revolutions per minute.
- 2.29 "HP" means the power of an engine measured in terms of a unit of power equal to 550 foot pounds per second.
- 2.30 "GAWR FR" is the maximum distributed weight that may be supported by the front axle.
- 2.31 "GAWR RR" is the maximum distributed weight that may be supported by the rear axle.

### 3. GENERAL REQUIREMENTS

**3.1 CONTRACT Items and Mandatory Requirements:** Vendor shall provide Agency with the Contract Items listed below on an open-end and continuing basis. Contract Items must meet or exceed the mandatory requirements as shown below.

- 3.1.1 In all cases, materials shall be furnished as specified. Where brand names or specific items or processes are used in the specifications, consider the term or equal to follow.
- 3.1.2 **Legal Requirements** – The vehicle shall meet all applicable FMVSS, DMV, ADA and federal and state regulations in effect at the date of manufacture. Vendor shall supply certification that vehicle meets all FMVSS Regulations and that vehicle complies with all relevant federal and State of West Virginia Standards at the time of delivery.
- 3.1.3 **Components, Materials, Workmanship, and Completeness:** These specifications reflect the Division of Public Transit's preference as to dimensions, materials, and major components. However, the vendor shall not omit any part or detail which goes to make the vehicle complete and ready for service, even though such part or detail is not mentioned in these specifications.
- 3.1.4 All units or parts shall be manufacturer's best quality and shall conform in material, design and workmanship to the best practice known in the automotive industry. All parts shall be new and in no case will used, reconditioned, or

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176" – 190" Wheelbase Cutaway Vehicle

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obsolete parts be accepted. The parts on all vehicles provided by the same manufacturer shall be interchangeable.

- 3.1.5 The price quoted in any proposal submitted shall include all items of labor, material, tools, equipment, and other costs necessary to fully complete the manufacture and delivery of the vehicle pursuant to these specifications.
- 3.1.6 It is the intent of these specifications to provide and require a complete vehicle of the type prescribed ready for operation. The vendor shall assume sole responsibility for the entire vehicle as to warranty and after-sales parts and service.
- 3.1.7 Warranty to become effective on the first day, after the date of final acceptance, of each vehicle by the Division of Public Transit.
- 3.1.8 **Exhaust Emissions Control Requirements:** The vehicle shall comply with all federal and state requirements applicable to the year of manufacture.
- 3.1.9 **Noise Control:** The exterior noise from the vehicle shall not exceed eighty-six (86) dba using the procedures set forth in the SAE Standard SAE J 366. Vendor shall supply report showing testing results of noise control.
- The interior noise at a location two (2) feet from the rear window and four (4) feet from the floor shall not exceed 86 dba with the vehicle standing with the transmission in neutral and the engine operating a maximum rated RPM.
- 3.1.10 **Inspection Facilities:** In order to comply Inspection Stations, the manufacturer shall provide on its premises a suitable hoist for a complete inspection of the underside of the vehicle. A **pit is not acceptable**. This includes, but is not limited to, wiring and hosing runs, structural integrity, through floor securements, OEM defects and completeness, and coverage of the undercoating
- 3.1.11 Body shall be thoroughly water tested and made tight to prevent leakage. All vehicles purchased under this contract shall, during the course of the manufacture and prior to acceptance, shall be subjected to a water test to determine body leaks. This test shall consist of a series of nozzles, which are strategically located around the perimeter of the vehicle as to spray water over the entire surface of the vehicle. The nozzles shall eject a volume of water no less than twenty-two pounds per square inch measured at the nozzle tip. Body shall be thoroughly water tested and made tight to

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prevent leakage. The bidder shall provide the procuring agency with details of its water testing procedures with the bid.

LOCAL GOVERNMENT BODIES: UNLESS THE VENDOR INDICATES IN THE BID HIS/ HER REFUSAL TO EXTEND THE PRICES, TERMS AND CONDITIONS OF THE BID TO COUNTY, SCHOOL, MUNICIPAL AND OTHER LOCAL GOVERNMENT BODIES, THE BID SHALL EXTEND TO POLITICAL SUBDIVISIONS OF THE STATE OF WEST VIRGINIA. IF THE VENDOR DOES NOT WISH TO EXTEND THE PRICES, TERMS AND CONDITIONS OF THE BID TO ALL POLITICAL SUBDIVISIONS OF THE STATE, THE VENDOR MUST CLEARLY INDICATE SUCH REFUSAL IN HIS/ HER BID.

ALSO, THE PRICES, TERMS AND CONDITIONS OF THE BID MAY BE EXTENDED TO WEST VIRGINIA TRANSIT AUTHORITIES AND PRIVATE NON PROFITS. VENDOR MUST CLEARLY INDICATE A REFUSAL IN HIS / HER BID.

### **3.2 CHASSIS**

**3.2.1** Chassis shall be OEM's original wheelbase. Chassis extensions behind the rear axles to support the body shall be in accordance with OEM's recommended practices and painted to match the original. All welds and cuts shall be properly dressed and deburred to present a professional finish.

### **3.3 ENGINE / EXHAUST SYSTEM**

**3.3.1** Engine shall have a minimum of 362 horsepower, gasoline engine.

**3.3.2** The engine shall be furnished with a large capacity full flow oil filter easily reached and replaced without removal of any major component. Engine shall be equipped with oil fill access in top of rear valve pan cover. Front oil filler tube shall be extended to rear of front access door. All service tubes should be extended in a similar manner. Care should be taken to ensure that the battery and alternator supply wire is insulated to prevent grounding during oil filter removal/replacement. Transmission cooler lines should not interfere with the oil filter removal or replacement. A low voltage light shall be under the hood in order for service personnel to service vehicle.

**3.3.3** An engine oil-cooling system and dry type air cleaner is required. Two (2) ambulance bilge-style cooling ports shall be installed on OEM hood to facilitate air exchange in the engine compartment.

**3.3.4** The engine shall be installed to produce a minimum of vibration. A firewall of sandwich construction shall separate the engine and passenger compartments, providing both thermal and acoustic insulation and sealing

REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

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against intrusion of exhaust fumes into the vehicle. Non-combustible insulation shall be used.

- 3.3.5 Exhaust System** to be OEM stainless steel exhaust pipes and muffler installed with heat shield and baffles. The tail pipe shall be designed to direct exhaust away from the lift area toward the street side.

**3.4 FUEL SYSTEM**

- 3.4.1** A single fuel tank shall have the maximum capacity allowed by OEM and be located between the chassis rails behind the rear wheels. Fueling should be possible from the street or curbside. Engine mounted fuel filter is required with replacement type element. Locking fuel door to be provided on each vehicle.

**3.5 COOLING SYSTEM**

- 3.5.1** The cooling system shall have sufficient capacity to provide satisfactory cooling at 15 degrees Fahrenheit at sea level and shall be equipped with an overflow tank such that coolant expelled is saved and restored to the cooling system. The cooling system shall be the OEM chassis supplier's heaviest duty system.

**3.6 HIGH IDLE SYSTEM**

- 3.6.1** A high-idle system, intended to maintain battery charging under heavy demand when the vehicle is stationary and the emergency brake is applied shall be provided on all vehicles. The fast idle switch will automatically disengage when the vehicle is placed in forward or reverse gears.

**3.7 ENGINE OIL COOLER**

- 3.7.1** An OEM oil cooler shall be provided.

**3.8 TRANSMISSION**

All fill tubes must be extended to an accessible position for easy service access.

- 3.8.1** Transmission shall be a heavy-duty, six-speed automatic minimum, with increased cooling capacity to match GVWR of vehicle.
- 3.8.2** The transmission and drive shall be heavy duty. Each section of the drive shaft shall be equipped with a guard to prevent the shaft from striking the passenger compartment floor or the ground in the event it should break.
- 3.8.3** The transmission shall have a separate cooling system appropriate for the intended use of the vehicle. The cooling system shall be protected with permanent type antifreeze to twenty-five below zero Fahrenheit.
- 3.8.4** The vehicle shall be equipped with a differential having a gear ratio appropriate to maintain a speed of 70 mph with the vehicle loaded and not exceed

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manufacture's recommended operation engine rpm. The gear ratio will be adjusted by the vendor after the delivery to the end user to be appropriate for the agency's use and terrain.

**3.9 SUSPENSION**

- 3.9.1** Shall be the highest rating available. Suspension system shall provide the low, unsprung weight characteristics necessary for passenger comfort without sacrificing vehicle stability and shall provide heavy-duty shock absorbers. A front axle with independent suspension is preferred. Vendor must perform a front end alignment after each vehicle is completely built. The vendor shall supply a camber and caster kit for each vehicle. Vendor shall supply a statement of completion verifying that alignment was completed with warranty information.
- 3.9.2** MOR/RIDE Suspension System or equal shall be supplied on each vehicle. Defined as rubber shear spring suspension that works in conjunction with the chassis steel leaf spring suspension to absorb road shock.

**3.10 AUDIBLE ALARMS /BACK UP CAMERA**

- 3.10.1** A 12 volt dual horn shall be situated beneath the front end of the vehicle, protected from wheel wash.
- 3.10.2** A rear alarm shall be provided that is clearly audible outside of the vehicle when the transmission is in reverse.
- 3.10.3** An audible door ajar alarm/buzzer shall be provided for rear emergency exit door, emergency exit windows and non-ambulatory wheelchair lift door.
- 3.10.4** An OEM back up camera will be provided at the rear of the vehicle. The viewing screen will be mounted to allow the driver a clear view of the area directly behind the vehicle. Location of the viewing screen will be determined by the successful vendor and the Division of Public Transit.

**3.11 FRONT AXLE AND STEERING**

- 3.11.1** GAWR FR compatible with chassis OEM.
- 3.11.2** The steering mechanism shall be constructed so that the vehicle can be easily steered by its operator and shall be such as to make the wheel free from road shock and vibration. The steering mechanism shall be self-centering, requiring little or no effort for the operator to bring the vehicle back to a straight-ahead position from a turning position. Steering wheel rim shall be 25 inches maximum in diameter and the wheel rim shall be of plastic or synthetic resin construction molded over metal. The steering gear box should be placed in an easily accessible location for service. Steering shall be power assisted.

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**3.11.3** With the vehicle stationary on dry, level pavement and the engine idling, steering effort shall be as low as possible at the steering wheel. This effort shall remain approximately constant from just off straight-ahead to approaching full lock.

**3.11.4** OEM tilt-wheel, or adjustable steering column, with cruise control is required.

**3.12 REAR AXLE**

**3.12.1** GAWR RR compatible with chassis OEM.

**3.13 BRAKES**

**3.13.1 Service Brakes:** The Anti-Lock Brake System (ABS) foundation brakes shall be a power-actuated hydraulic split system of four-wheel disc-type, with four channel anti-lock braking control. Braking system shall include a red brake warning lamp in the instrument cluster that lights when the parking brake is on, when a front or rear hydraulic failure occurs, or when brake fluid is low in the reservoir.

**3.13.2** Emergency parking brakes shall be provided on the driveline or rear brakes.

**3.13.3** The brake system shall meet all federal and state requirements for vehicles over 10,000 GVWR for stopping distance, stability while braking, fade resistance, water recovery and warning devices. The warning devices must meet FMVSS standards.

**3.14 WHEELS**

**3.14.1** 16.0 diameter X 6.0" width or sized compatible with the suspension and GVWR will be furnished.

**3.14.2** Both inner and outer wheels shall be painted to match the basic body color, which is white.

**3.15 TIRES**

**3.15.1** Vehicles shall be equipped with seven (six regular and one regular sized spare) steel belted radial tires. Each inner dual rear wheel shall come with an air valve extender.

**3.15.2** Manufacturer shall provide a spare tire as standard equipment. The spare wheel and tire shall be sized per 3.15.1 and shall be shipped secured in the body of the vehicle appropriately secured so as not to damage the vehicle interior during shipment. Spare is to be the exact same tire and provided on the vehicle. Spare tire shall be painted as per 3.14.2 and it shall be as inflated to the proper pressure with air, not nitrogen.

**3.15.3** Tires shall be supplied with the vehicle from the factory.

**3.15.4** Tire Rating and Type E rating truck type treads shall be all weather type.



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3.15.5 Rubber mud flaps shall be provided at all wheels. No hard plastic shall be permitted.

### 3.16 ELECTRICAL SYSTEM / WIRING

3.16.1 The vehicles are to be supplied with a twelve (12) volt electrical system. All components are to be selected and integrated to function in an environment characterized by low engine (alternator) speeds and high amperage draws, due to lights, flashers, air conditioning or heaters, and other accessories in constant operation. As Built Schematics must be supplied and current with all vehicles in Word or Adobe reader format. **Two (2) 11" x 17" clearly readable laminated print copies of the as built schematics shall be provided for each vehicle at the time of delivery.** All wiring shall be loomed and held in place by insulated clamps spaced every 12 inches on center. Wiring shall be system coded, numbered and function coded. All wiring must be at least 14 gauge where possible. The Division will accept lower gauge wiring in places where 14 gauge is not possible by OEM. All wiring shall have adequate electrical insulation and provide flexibility and resistance against solvents or abrasives in accordance with SAE standards. All exposed underbody connectors shall be weather proofed for protection against the elements.

SAE Standard <http://standards.sae.org/ams3625/>

- 3.16.2 Wiring shall be correctly grouped and coded and installed such that systems checks, maintenance, and replacement can be affected with minimum effort.
- 3.16.3 Wiring shall be adequately supported. Where penetration of structural members occurs, grommets or similar devices shall be used to prevent chafing.
- 3.16.4 Where applicable, all circuits shall be suppressed with capacitors to eliminate interference with radio and TV transmission and reception.
- 3.16.5 **Alternator:** OEM 225-amp alternator with a rectifier is required. Rectifier maybe either integral or externally connected. Bidder shall specify the nature of the rectifier and method of installation. The voltage regulator shall be solid state. The alternator shall be sized to provide a minimum of 90 percent of the continuous system draw at the engine manufacturer's recommended idle or 100 percent at automatic fast idle as specified (3.6 High Idle System). The alternator speed shall not exceed its recommended maximum or recommended high engine speed. The continuous system draw shall include all accessories in their "high" position, which could operate as the vehicle is in motion; i.e., excluding intermittently operating devices, such as turn signals, brake lights, or wheelchair lifts.

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- 3.16.6 Batteries:** Two (2) strongest duty 12 volt batteries shall be provided with a minimum total capacity of 1275 CCA.
- 3.16.7** Batteries shall be at an easily accessible location from the exterior of the vehicle. Any chassis OEM battery located under the hood shall remain there. The second battery is to be installed in a stainless steel battery box on a stainless steel slide-out tray located on the curb side of the vehicle. An access door will be provided in the skirt to access this battery box. The access door will be secured with two (2) quarter-turn latches.

**3.17 INSTRUMENTS AND CONTROLS:**

The following instruments shall be provided. All controls shall be within the driver's arm reach when his seat belt is fastened. All instruments are to be grouped on a single panel in full view of the driver with no instruments obstructed by controls, trim panels, or other appurtenances and arranged in a consistent and uniform manner.

- 3.17.1** Vehicle shall be equipped with the OEM's deluxe digital AM/FM/USB/MP3 radio stereo with a 6-speaker system for the passengers. One (1) additional speaker shall be installed in the driver's door or driver's side of the dashboard.
- 3.17.2** Speedometer with recording odometer
- 3.17.3** Ammeter or voltmeter gauge
- 3.17.4** Low-charge warning light
- 3.17.5** Oil pressure gauge
- 3.17.6** Fuel tank level gauge(s)
- 3.17.7** Engine temperature gauge
- 3.17.8** Headlight on indication and headlight high beam indicator
- 3.17.9** Directional signal and flasher action light
- 3.17.10** Parking Brake Indicator

**The following controls, in addition to the normal steering, braking, and transmission functions shall be provided:**

- 3.17.11** Separate switches and temperature controls for rear passenger compartment heater and air conditioner.
- 3.17.12** Separate switch and temperature controls for driver's heater, defroster and air conditioner.

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- 3.17.13 Three speed electric windshield wipers with high, low and intermittent speeds and may be panel or column mounted.
- 3.17.14 Passenger compartment lights
- 3.17.15 Back Up Camera
- 3.17.16 Tilt Steering Wheel
- 3.17.17 Cruise Control
- 3.17.18 OEM charging port for cell phones.
- 3.17.19 Emergency flasher control facing driver and clearly visible
- 3.17.20 Master exterior light switch and auxiliary switches, if necessary, for any clearance or marker lights.
- 3.17.21 A two-speed heavy duty commercial vehicle circulation fan shall be provided in the driver's area for increased circulation. The fan shall be a minimum of six (6) inches in diameter with at least a three position control switch. Location will be approved by the West Virginia Division of Public Transit.
- 3.17.22 Glove box with 12 volt light inside.
- 3.17.23 Each vehicle shall be equipped with driver's side air bag.

**3.18 ELECTRICAL FUSES/CIRCUIT BREAKERS**

- 3.18.1 The fuse panel box shall be large enough so that the wires are not cramped and easily accessible for service. The panel door shall have enough space between door and panel so that the door and wires do not touch when closed.
- 3.18.2 All fuses and/or circuit breakers other than the OEM's chassis shall be placed in a waterproof electrical distribution panel located above the driver's door, accessible from inside the vehicle. Fuses will be automotive mini blade type fuses that plug into a modular distribution block, such as Cooper Bussman Series 3000 BEC, TCT, or equal.
- 3.18.3 The distribution panel access door shall be side or bottom hinged and contain a readily visible circuit diagram of the electrical services.

**3.19 BODY STRUCTURE / ROOF**

- 3.19.1 Body shall be steel framed with a minimum 18 gauge steel and be built as an integral welded unit mounted on a chassis and adequately reinforced at all joints

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where stress concentration may occur. Side walls, rear wall, roof, and floor must be welded together; joining by other means is not acceptable. Details of body construction including materials, methods of joining and assembling components or sub-assemblies and method of attachment of the body to the chassis shall be submitted in bid. Honeycomb construction is not acceptable. Roof structure to include two roll bars fabricated from steel tubing incorporated into roof structure to provide additional strength.

- 3.19.2** Federal and state requirements including FMVSS #220 Rollover Protection are required to be met. The side and end forming shall be so designed and constructed that they will carry their proportion of the stresses imposed and absorb excessive impacts with as little damage as is practical. Adequate reinforcement shall be installed around all doors in order to transfer the stresses around these openings. All posts in body, side, and roof sections shall be of square section tubing or equal construction securely fastened to the under frame structure so that the entire frame shall act as one unit without any movement at the joining. The end posts shall be designed to standards as required for federal and state standards for shear, static load on roof, and side panel impact protection.

FVMSS Standard #220 <https://www.law.cornell.edu/cfr/text/49/571.220>

- 3.19.3** All steel components are to be anti-corrosive that meets ASTM B117 (3500 hours) and ASTM D870 (1000 hours). The Division will accept gray self etching primer on steel components and G40 galvanized materials as equals.

ASTM B117 <https://www.astm.org/Standards/B117.htm>

ASTM D870 <https://www.astm.org/Standards/D870.htm>

- 3.19.4** All nuts, bolts, clips, washers, clamps, and like-parts shall be galvanized, zinc-coated, or given a coat of primer as additional protection against corrosion. All exterior screws and bolts shall be stainless steel.
- 3.19.5** Interior surfaces of any exterior painted body panels and posts which are covered by trim material shall be given a coat of primer as additional protection against deterioration.
- 3.19.6** All exterior joints and seams shall be protected by the application of caulking compound of zinc chromate type or acceptable substitute. Application of exterior sidewalls with two-sided tape is not acceptable.
- 3.19.7** All interior panels shall be riveted, welded or fastened to the body frame. All fasteners shall be installed to resist vibratory loosening. Exterior seams shall be constructed in such a manner that they shed water; the leading panel shall be lapped over the following panel and in no case shall the sealing of the panels be dependent on caulking alone. All exterior joints and seams shall be protected by the application of caulking compound of zinc chromate type tape, butyl rubber type, or equal.

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- 3.19.8** All exposed surfaces and edges shall be smooth, free from burrs and other projections, and shall be neatly finished.
- 3.19.9** Lower skirts to be of thick molded fiberglass or galvanized steel. Skirt seams **MUST** be placed above the wheel wells or adjacent to one of the A/C skirt condensers only.
- 3.19.10** Ceiling and side panels shall match the interior color scheme and provide a hard, vandal resistant, flame-retardant surface.
- 3.19.11** The passenger entrance frame and wheelchair door shall be aluminum or stainless steel construction only.
- 3.19.12** The front cap shall have an extra framed support from the side of the passenger entrance door to the floor.
- 3.19.13** Roof shall be one piece metal, fiberglass, or equal panel with one and one half (1 – 1/2") minimum thickness rigid foam insulation or equivalent. Side panels above the floor line shall be one piece fiberglass reinforced plastic (FRP), steel, aluminum, or equals on the exterior, of one piece construction, firmly attached to prevent flexing of the panels to the frame structure to present a smooth pleasant appearance and to be free from drumming or oil canning. Vacuum lamination is the preferred method.
- 3.19.14** Side panels (skirt) below the floor line shall be detachable aluminum and separate from the above panels for ease of the maintenance and repair. An aluminum or galvanized steel underfloor shall be provided for the whole of the passenger compartment, and it shall be fully undercoated.
- 3.19.15** Stepwells shall be of one-piece stainless steel or aluminum construction welded into the floor and side-structures. The bottom of the steps and risers will be coated with undercoating, such as Z Tech Z guard 20060 B-2 or an equal. Stepwells shall be of one piece construction of corrosion resistant steel with covered corners and adequate reinforcement to prevent deflection.

Stepwell shall be the full width of the door opening, and designed like the Talon Tread-type step or approved equal, which eliminates separation and exposure of metal to moisture on the treads and risers. The preferred method of manufacturing is a process where the contrasting step nosing and flooring are heated with the metal stepwell so that the metal and flooring material are fused with fewer seams and less caulking.

The entire underside of the stepwell shall be fully undercoated. The nosing of each step shall be marked with bright yellow marking with abrasive strip insert not less than two (2) inches wide, reflective type material Ger floor or equal.

Floor covering shall be laid without gaps or openings. Joints shall be filled with color matching material to be tight against any influx or seepage of water and all edges to be sealed. Stepwells and walkways to be contrasting color against under passenger seat flooring for higher visibility.

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- 3.19.16** Wheel housing shall be steel and should provide clearance for wheels equipped with chains to move freely and to allow a wheel to be removed with the vehicle jacked on the rear axle.

**3.20 EXTERIOR:**

Vehicle exterior paint shall be OEM standard "white" finish.

- 3.20.1 Vehicle Vinyl Scheme: Vinyl Logo/Striping Schemes on Vehicle Classes A, C, E.** The Transit Authority's name, phone number and Logo Striping applied to both sides of the vehicle by the Vendor at the factory
- 3.20.2** The artwork for the logo and stripes will be provided by the Transit Authority upon award.
- 3.20.3** Signs and numbers shall be fade, chip, and peel-resistant: NO painted signs, decals or pressure sensitive appliques.
- 3.20.4** All decals shall be sealed with clear, waterproof sealant around the edges and on all exposed surfaces.
- 3.20.5** Successful vendor to work directly with Transit Authority regarding what logo, stripes, etc. to be applied. Successful vendor shall obtain written documentation from Transit Authority Official approving layout, colors and information prior to installation. See Exhibit C Examples of Paint Schemes.

**3.21 UNDERCOATING AND RUSTPROOFING:**

- 3.21.1** All exposed floor seams shall be sealed with an industrial grade butyl sealant or equivalent which conforms to ASTM C920. The entire surface of exterior lowered floor shall have a rust inhibiting coating, such as an epoxy primer base, applied to cover all welded areas, and then a fresh application of undercoating over the entire surface. Undercoating shall comply with current Federal and State flammability standards.

ASTM C920 Standards: <https://www.astm.org/Standards/C920.htm>

- 3.21.2** The vehicles shall be fully undercoated at the point of manufacture prior to delivery.

**3.22 DOORS – ACCESS AND ENTRANCE / EXIT**

- 3.22.1 Access Doors:** Access doors shall be provided where necessary to service transmission, engine, radiator, batteries, air conditioning, and radio system components.
- 3.22.2 Ambulatory Passenger Doorway:** A driver operated 2 leaf, outward opening passenger access door shall be located towards the front of the right of the vehicle.

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3.22.3 Dimensions shall be:

Overall Clear Height	Approximately 80"
Overall Clear Width	Not Less Than 30"
Tread Depth	Minimum of 8.5"
Riser Height	Maximum of 9"
Distance Step to Ground	Maximum of 12"

- 3.22.4 The door shall be fully glazed or provided with upper and lower windows allowing the driver an adequate view of the curbside area outside of the door. **Tempered safety glass shall be used.**
- 3.22.5 When the door is closed, the lower step shall not protrude beyond the door line more than two (2) inches.
- 3.22.6 Brushes or other appropriate seals shall be fitted to the bottom of the door panels to assist in sealing and snow clearance.
- 3.22.7 Electrically Operated door to be provided with Kubota key switch or equal. Door control shall be within twenty-eight (28) inches from the right side of the driver's shoulder. The door frame shall be welded at all seams to ensure that the door frame will not separate. An additional post shall run from the side of the passenger entrance door to the cap to provide an extra support for the front cap.
- 3.22.8 The passenger entrance and non-ambulatory passenger entrance/exit door frames shall be aluminum or stainless steel construction only.
- 3.22.9 Passenger door shall be key operated from the outside and by a rocker or toggle switch from the driver's console. Door pivot pins shall incorporate permanently lubricated bearings. Door must have an emergency release in case electric is not properly working.
- 3.22.10 Driver's door shall have a diamond plate running board to provide easy access for the driver. The Division of Public Transit requests no less than 8.5" wide and within 12.5" off the ground.
- 3.22.11 An interlocking system such as Intermotive Gateway, ILIS, or equal, shall be provided which renders the door inoperative unless the transmission shift lever is in the "park" position. Once the door is closed and the vehicle is placed in drive, the interlocking system will disengage.
- 3.22.12 **Non-Ambulatory Passenger Entrance/Exit:** A driver operated two-piece wheelchair entrance door with large upper viewing window, capable of being locked, shall be located at the rear of the curbside and behind the rear wheels. Doors shall be fitted with heavy-duty, full-length piano hinges. These doors shall not sag when open, and if there is a possibility of sagging, additional preventative gussets need to be inserted.

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- 3.22.13 A minimum clear vertical distance of 68" inches required through the doorway and lift installation.
- 3.22.14 Overall door width of approximately 52 inches is required. The door width must provide operating clearance for a lift meeting the requirements of the lift section.
- 3.22.15 A warning light shall be provided at the driver's station to indicate when the door is open for wheelchair operation and a buzzer to indicate when it is ajar with the vehicle in motion.
- 3.22.16 Door ajar signal is to be activated by a magnetic proximity switch or a plunger type switch. The striker for the signal must not have contact with flexible section of the door. It must either make contact with the top mullion or have a two (2) inch by two (2) striker plate to prevent false alarms.
- 3.22.17 Air springs shall be heavy, riveted to body and door or double nut and lock nut. Air springs will firmly secure the door in the open position.
- 3.22.18 **Emergency Exit Door:** A full height rear emergency exit door with a minimum clear opening of thirty-five and a half (35.5) inches by fifty-seven (57) inches minimum that fully complies with ADA standards shall be provided on all floor plans.
- 3.22.19 Large upper and lower windows shall be provided in the door to maximize rearward visibility.
- 3.22.20 Emergency exits with full length stainless steel piano style hinges will be required on all floor plans. A cam-over or spring style holdback to be used to secure door in open position. A gas shock style hold open device will be accepted.
- 3.22.21 A warning light shall be provided at the driver's station to indicate when the door is open for wheelchair operation and a buzzer to indicate when it is ajar with the vehicle in motion.
- 3.22.22 **Roof Gutters:** Water deflecting roof gutters shall be provided over ambulatory and wheelchair accessible doors and windows.

**3.23 BUMPERS / FENDERS AND MOLDING**

- 3.23.1 **Bumpers:** The front bumper shall be the OEM chassis supplier's.
- 3.23.2 The rear bumper shall be unpressurized, self-contained, self-restoring, energy absorbing bumper of the HELP system, such as the ROMEO RIM, SMI or equal, having the same specifications as mentioned above.
- 3.23.3 **Fenders:** Flexible fenders shall be provided for the rear wheels, the Division of Public Transit shall approve materials and configuration. Rubber molding shall run the length of the passenger compartment at floor level. The molding shall be secured in a manner other than snapped onto a metal rail. The ends of the molding shall be



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finished and caulked if necessary to prevent sharp edges at the angle cuts.

### 3.24 WHEELCHAIR LIFT

The lift shall meet or exceed all the U.S. Department of Transportation's minimum and Americans with Disabilities Act requirements.

- 3.24.1 Vehicle shall be equipped with one (1) fully automatic wheelchair lift, Braun Century Series or equal. The lift shall have been tested to a minimum static load of 2,400 lbs. The lift shall have an one thousand (1,000) lbs. rated lifting capacity and shall be installed in the rear curbside of vehicle.
- 3.24.2 The lift shall have a self-cleaning, see-through, non-skid platform which can be folded and unfolded by one person.
- 3.24.3 Lift control switch shall be completely weather proof with illuminated functions and labeled as to function. The controls shall be placed adjacent to the lift in such a position to enable the attendant or the disabled person, once the person is on the platform, to operate the lift. In the fully lowered position the platform shall measure at least thirty seven (37) inches wide and have an effective length of at least fifty one (51) inches. A safety barrier shall be the full length of the curb side edge of the platform and shall be a moveable hinged surface to provide a barrier to prevent the wheelchair from rolling off the lift during operation. Barrier to have a durable rubber nose guard and be powder coated yellow for safety and high visibility. A two (2) inch high barrier shall also be provided on each side of the platform to prevent wheelchairs from rolling over the edge. Two (2) automatic fold handrails shall be provided one on each side of the platform. A safety belt shall be installed on the lift to secure the occupant during the use of the lift with retractable belt.
- 3.24.4 Power unit shall be twelve (12) volt electro-hydraulic system. Power unit shall be readily accessible for service. A manual hand crank shall be installed for lift operation in the event of power failure.
- 3.24.5 Lift shall be capable of being used from curb level or ground. The lift should be capable of safely lifting a one thousand (1,000) pound rated lifting capacity. The lift platform should be capable of being raised or lowered with a load in no more than twelve (12) seconds. All power units, operating joints, linkage, and mounting points to the body shall be certified by the manufacturer as being adequate for the loading. The operation of the unit shall provide a smooth, jerk-free ride in both up and down directions.

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- 3.24.6** All sliding surfaces and load bearing pivot points shall be free of exposed grease and constructed with ball and roller bearings. All electrical and hydraulic lines and units, all control mechanisms and cables shall be securely fastened and placed so as not to interfere with passenger ingress and egress, or with any moving parts. All moving parts shall be shielded from contact with passengers and operator.
- 3.24.7** Platform shall fold into door area for storing while not in use. Platform in stored position shall not intrude into vehicle body more than 14 inches. Lift shall be adequately restrained in stored position to prevent lift from coming adrift while vehicle is in motion. The lift in its stored position shall not rattle.
- 3.24.8** It is the vendor's responsibility to provide instructions on the use of lift to meet the specified performance standards, and on the safe operation, maintenance and service of the lift, as well as, warranty information. An instructional video explaining the lift operations and lift maintenance shall be provided with each vehicle.
- 3.24.9** Lift controls shall be interlocked with the vehicle brakes and transmission and door, or other approved means, to ensure that the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlock mechanism(s) are engaged. The lift must not be able to be deployed without engaging the interlock system and the interlock must prevent the vehicle from being moved until the lift is stowed. Any interlock which can be disengaged prior to lift stowage will cause the vehicle not to be accepted. Intelligent Lift Interlock System Model # ILIS501 or equal.
- 3.24.10** An interlocking system with fast idle, such as Intermotive Gateway, ILIS, or equal, shall be provided which renders the lift inoperative unless the transmission shift lever is in the "park" position and the emergency brake is applied.
- 3.24.11** A wheelchair lift light shall be located inside the vehicle to illuminate the lift. An additional light will be mounted in the area to illuminate the surrounding area of the street. The lights shall function automatically when the lift door is opened, even with the running lights switch is in the off position to provide illumination in accordance with FTA/ADA requirements. Installation of the lights shall not intrude upon the headroom or effective width of the wheelchair access area.
- 3.24.12** Lift Installation:
- 3.24.12.1** The lift shall be installed by bolting through the floor into structural steel that is an integral part of the body underfloor structure.
- 3.24.12.2** The power unit shall be placed at the forward side of the lift for rear mounted lifts and on the rear side for forward mounted lifts and be readily accessible for service. In the event of power failure, the deployed lift

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platform shall be able to be lowered manually with passenger and raised without passengers.

- 3.24.12.3 System control valve shall be solenoid controlled and shall be accessibly mounted for easy maintenance. All lift components shall either be inside the vehicle or enclosed and protected for water wash.
- 3.24.12.4 Electrical control switches shall be completely weather proof and labeled as to function. All switches shall be of the momentary type.
- 3.24.12.5 The lift installation shall provide a hand-held switch for remote operation of the lift in addition to or in place of the regular door-mounted electrical lift controls. The lift control cable shall have a protective steel wire cover from control to base for lift, if available.
- 3.24.12.6 A caution sign shall be prominently displayed in full view of persons standing at curbside of the vehicle as a warning to stand clear for lift operations.
- 3.24.12.7 Activating the lift circuitry through a lift master switch will cause the rear hazard lights to flash.
- 3.24.12.8 Wheelchair lift shall have a grounding strap from the chassis frame to the lift frame.
- 3.24.12.9 The lift shall meet the NHTSA FMVSS platform lift systems for accessible motor vehicles in all areas, but not limited to minimum platform dimensions, maximum size limits on protrusions and other hardware, handrails, retaining barriers, and performance standards. A safety strap from handrail to handrail is required.

Federal Motor Vehicle Safety Standards; Platform Lift systems for Accessible Motor Vehicles Platform Lift Installations on Motor Vehicles:  
<https://www.federalregister.gov/articles/2000/07/27/00-18773/federal-motor-vehicle-safety-standards-platform-lift-systems-for-accessible-motor-vehicles-platform>

### 3.25 WINDOWS / GLAZING

- 3.25.1 **Windshield** shall be OEM tinted. Windshield shall be one (1) piece and laced in, but "not glued," unless OEM is a two piece windshield.
- 3.25.2 **Passenger Windows** shall be T slider top mounted with at least one curbside and two street side hinged to provide emergency egress. Emergency exits are to be denoted with fade and peel resistant decals, lighted and equipped with a buzzer if opened while the vehicle is moving. Size shall be approximately thirty six (36) inches wide by thirty six (36) inches high with 1/8 inch AS-3 tempered glass tinted for 31 percent transmittance. Heavy-duty latches are to be used on all windows.

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- 3.25.3 Passenger Door** panels shall have full height AS-3 tempered glass windows for maximum visibility of the curb.
- 3.25.4 Lift Door Windows** shall incorporate a single large window in each door panel consistent with the other passenger windows. Doors shall be two-piece as is specified in section 3.22.11.
- 3.25.5 Rear Windows** In addition to the windows in the rear emergency door, windows shall be provided on both sides of the door to increase rearward visibility.
- 3.25.6 Driver's Window** shall be OEM standard window to be controlled by electric switch.
- 3.25.7 Transition Window** The transition panel between the passenger door and the front fender shall have a window of approximately thirty-four (34) inches by ten (10) inches dimensions to enhance the view of the curb area.  
**Vendor shall submit dimensioned diagram with bid.**

### **3.26 HEATING AND AIR CONDITIONING**

#### **3.26.1 Heating System:**

- 3.26.1.1** The heating system shall provide heat for both the driver and passengers, as well as, defrost air for the windshield. The system shall provide for a comfortable temperature for passengers throughout the vehicle by providing heat from both a dash and passenger compartment heater.
- 3.26.1.2** An electrical stepwell system heater, to be approved by the Division of Public Transit, shall be provided to eliminate ice and snow build-up. Heater using the coolant system shall be stainless steel.
- 3.26.1.3** A passenger compartment heater shall be provided towards the back of the vehicle to ensure consistent heat distribution throughout the vehicle. Gate valves shall be provided to allow the rear heater system to be shut off. Heater fans shall have high and low speeds. (Heater Capacity 2 x 35,000 BTU minimum).

#### **3.26.2 Air Conditioning:**

- 3.26.2.1** The OEM chassis supplier's heaviest duty air-conditioning system shall be supplied plus such other components as necessary to ensure effective, uniform cooling throughout the vehicle. Trans Air, ACC, Burgess, ACT are approved or equals. At a minimum, the system should consist of:

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- 3.26.2.2 The OEM's engine driven compressor with a minimum displacement of 9 cubic inches. Provided a secondary engine-driven compressor of sufficient size to circulate the rear A/C per specifications.
- 3.26.2.3 The OEM's front mounted condenser shall not be removed.
- 3.26.2.4 A three fan oversized (minimum fan size – 12"; rated at 82,000 BTU's per hour), skirt-mounted condenser shall be shielded from road spray.
- 3.26.2.5 A ceiling mounted evaporator at the rear of the passenger compartment with a minimum capacity of 93,000 BTU's and separate fan speed control.
- 3.26.2.6 All A/C hoses, heater hoses and wiring shall be properly protected to ensure against wear from friction and the elements.
- 3.26.2.7 The A/C systems will include, as standard, ATCO, Quick Click, or approved equal connectors and hoses. Bead-lock fittings and rubber barrier hoses are not acceptable.
- 3.26.2.8 The A/C system shall utilize environmentally friendly R-134a refrigerant. Refrigerant hoses shall be double braided (Type C, Class II) and the refrigerant hoses and fittings must be SAE specification J2064 compliant.

### 3.27 INTERIOR LIGHTING

- 3.27.1 The interior shall be illuminated by LED fixtures. Interior shall be illuminated to provide a minimum of twelve (12) foot candles of illumination measured at thirty-six (36) inches above the floor over each two-passenger cross seat. Provide detailed information on the installed interior lights with bid submittal.
- 3.27.2 The stepwell area shall be illuminated to FTA/ADA standards by door activated LED stepwell lights including the immediate area outside. These lights shall be shielded to protect passengers' eyes from glare. Light fixture shall be totally enclosed, splash-proof, designed to provide ease of cleaning, as well as, lamp housing removal and shall not be easily removed by passenger. Stepwell lights shall be protected from damage caused by passengers kicking the lenses or fixtures and shall not be a hazard to passenger. Stepwell lights shall be activated by operating the passenger door even with the running lights switch in the OFF position.
- 3.27.3 Red LED location indicator lights shall be provided above all emergency doors and window exits.
- 3.27.4 Fire Retardancy must meet or exceed FMVSS 302, ASTM-E 162 Surface mobility, and Flame Spread Index F - 5<150.

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FMVSS 302:

[https://www.sp.se/en/index/services/firetest\\_building/firetest\\_bu%C3%ADding/FMVSS302/Sidor/default.aspx](https://www.sp.se/en/index/services/firetest_building/firetest_bu%C3%ADding/FMVSS302/Sidor/default.aspx)

- 3.27.5 Light fixtures shall be designed to prevent accumulation of dust, insects and other materials. Light fixture shall have an aluminum base and polycarbonate lens designed for easy maintenance and cleaning. Lens shall be effectively sealed such that incursion of dust and insects is prevented.
- 3.27.6 Light fixtures shall mount to the interior surface of the vehicle without requirement for perforation of that surface for other than threaded fasteners and wire. Light fixtures shall have formed endcaps that are shaped without sharp corners (rounded) and provide a finished appearance. If fixtures are round, end caps not required.

**3.28 EXTERIOR LIGHTING:**

- 3.28.1 Exterior lighting shall be in accordance with Federal Motor Vehicle Safety Regulations (393.12) See link below.

<http://icsw.nhtsa.gov/cars/rules/standards/conspicuity/TBMpstr.html>

- 3.28.2 All exterior lights to be single contact. Double contact may be used for tail, stop and rear turn signals. **Light Emitting Diode (LED) lights shall be used for taillights, brake lights, turn signal, collision avoidance lights, and clearance marker lights.** Truck-Lite or Equal is recommended.
- 3.28.3 Headlights of sealed beam type are required with high and low beams controlled by column-mounted lever switch or by a foot switch mounted on the floor, which will be sealed from moisture. Sealed beam units shall be of the latest type and low beam rating of 600-hour life. **Headlights shall be wired for daytime running.**
- 3.28.4 Directional signals independent of the brake lights shall be provided and shall have sealed amber lens in front and rear. Rear stoplights are to be independent of directional and hazard warning signals.
- 3.28.5 LED Rear stop and taillights shall be provided. Rear stoplights are to be independent of directional and hazard warning signals.
- 3.28.6 In addition to the normal stop lights provided on the base vehicle, an extra LED stoplight shall be provided. This light shall be mounted on the centerline of the vehicle above the rear door and shall be wired to operate in conjunction with the normal stoplights.
- 3.28.7 Red rear reflectors shall be provided. Additional four reflectors, two on each side of the vehicle, amber front and red rear, shall be provided.
- 3.28.8 LED mid-ship side directional signals wired to operate with front directional signals shall be provided.

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- 3.28.9** A circuit shall be provided for the directional signal which, when on, will cause them to function as traffic hazard warning signals.
- 3.28.10** License plate mounts: located on the rear cap. Prior to delivery, all vehicles must be pre-drilled, with hardware installed, to meet specifications that require rear license plate. Any vehicle delivered without such plate mounts will be rejected.
- A rear LED license plate light shall be provided to meet Federal and State of West Virginia regulations. License plate mounting and light are acceptable on the rear cap.
- 3.28.11** Two (2) LED back-up lights shall be provided which are adequate to meet Federal and State of West Virginia regulations.
- 3.28.12** An LED wheelchair lift light shall be located inside the vehicle to illuminate the lift. One (1) additional LED light will be mounted on the skirt below the lift to illuminate the surrounding area of the street. The light shall function automatically when the lift door is opened, even when the running light switch is in the off position and provide illumination in accordance with FTA/ADA requirements. Installation of the lights shall not intrude upon the headroom of effective width of the wheelchair access area.
- 3.28.13** LED Marker, Cluster, and all other lights as required by State and Federal regulations shall be provided. Lights shall operate with or **without engine running**.
- 3.28.14** The rear hazard flashers shall be activated when the lift operating circuits are energized.
- 3.28.15** All lights are to be LED lights with the exception of the dome lights and headlights.

**3.29 FLOOR AND FLOOR COVERING**

- 3.29.1** Flooring shall be constructed of a minimum of five-eighths inch (5/8"), five ply, exterior BC grade (or better) water-resistant plywood without visible cracks or holes firmly secured to the floor structure by the use of adhesive and mechanical fasters with no intrusions into the vehicle body compartment.
- 3.29.2** Floor shall be laid in such a manner as to be free from squeaking. All flooring shall be RCA Transit Flooring, Altro, Gerflor, or equal, being non-slip resistant, double groove rib design, able to stand up to heavy traffic. Color to be selected by the Division of Public Transit.
- 3.29.3** Entrance area shall be covered with one-eighth (1/8) inch floor covering. All step edges to be marked in accordance with FTA/ADA requirements. (Grid Style Yellow is the preferred color). Vendor must provide sample within 48 hours of request.

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- 3.29.4 Aisle front entrance and securement areas shall be covered with one-eighth (1/8) inch floor covering.
- 3.29.5 A Standee Line is required. Color to be same as step nosing. **(Yellow is the preferred color).**
- 3.29.6 Insulation of rigid closed cell polystyrene, polyurethane foam, or bagged fiberglass shall be provided for the full depth of the structure between all interior and exterior panels and any cavities between the subfloor and floor construction. Vendor shall specify the type of insulation with their bid and provide documentation that it is flame retardant and non-toxic.

**3.30 SEATING**

- 3.30.1 Seats shall be Freedman or equal, being a Mid-high back double with semi-bucket and contoured configuration. Seats shall be spring base with five (5) inches of foam padding. Upholstery shall be grade 4 or higher with ABS Knee-Saver back. **Description of offered product to be provided with bid submittal. Five (5) seat belt extenders shall be provided per vehicle ordered.**
- 3.30.2 A padded grab rail shall be provided on top of each forward facing seatback and all fold-away. Grab rail is not required on the rearmost seats.
- 3.30.3 The seats shall be equipped with the Freedman USR (under seat retractor) system or equal complying with FMVSS 210. (see link below) Or equal would meet FMVSS 210 and the belts shall be fully retractable into housings and shall not touch the floor at any time. Retractable seatbelts shall be attached to the seat frames. All belts shall be permanently kept in the correct position for securement applications.

FMVSS 210

[http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571\\_1210&rgn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571_1210&rgn=div8)

- 3.30.4 Seats shall use a single T pedestal leg with black painted finish and side rail for mounting.
- 3.30.5 **Priority Seating:** Appropriately positioned decals shall indicate that the first two (2) rows on each side are designated as priority seating for the elderly and persons with disability.
- 3.30.6 Seats shall conform to the following dimensions:

Width per Passenger	17.5 inches
Height of Seat Cushion	18 inches
Depth of Seat	17 inches
Height of Seat Back	23 inches max. (except rear row)
Hip-to-Knee Room	27 inches minimum
Aisle Width	14 inches minimum



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**3.30.7** Seats and Seating shall comply with the following FMVSS Standards:

FMVSS Standard 207 Seating Systems:

<https://www.law.cornell.edu/cfr/text/49/571.207>

FMVSS Standard 208 Occupant Crash Protection:

<https://www.law.cornell.edu/cfr/text/49/571.208>

FMVSS Standard 209 Seat Belt Assemblies and Anchorage:

<https://www.law.cornell.edu/cfr/text/49/571.209>

FMVSS Standard 210 Seat Belt Assemblies and Anchorage:

<https://www.law.cornell.edu/cfr/text/49/571.210>

**3.30.8** A fold up armrest will be provided on all aisle passenger seats. Seat shall have FMVSS certified seat-belts with retractor.

**3.30.9** Two (2) double mid-high seats will be **integrated child restraint seats** which are capable of securing one child between the height of thirty-three (33) inches and forty-nine (49) inches with a weight between twenty (20) to sixty (60) pounds and an adult. Instructions for the securement shall be printed on the seat in English and Spanish, and shall be easy to understand.

**3.30.10** Two (2) double mid-high seats will have **installed CRS restraints for child seats**.

**3.30.11** Driver's Seat: The driver's seat shall be power high-back bucket seat with commercial grade cloth material that matches the color of the passenger seats (Grade 4 cloth minimum). Driver's seat shall have a folding armrest, a headrest, and a lumbar support as a minimum. Freedman Shield operator seat or equal. Seat shall have a minimum of four (4) inches fore and aft adjustment. Seat installation shall allow for unimpeded movement over the whole seat range. A shoulder belt is required. Seat Belt Extension to be provided for driver seat.

**3.30.12** A Freedman Seating 3 Step Forward Facing Fold Down Double Seat, or equal, being mid-high back seats with headrest that does not block passenger viewing, knee saver back for more hip to knee room, jig welded heavy duty tubular frames and seat belts designed not to fall on the floor. Fold down double seats shall be used in every wheelchair position on the street side of the unit for use by non-disabled persons when the securement system is not needed. When folded up, the seat shall not interfere with the use of the wheelchair positions by passengers in wheelchairs. An under-seat retractable seat belt shall be provided for each seated position. **Seat height shall be 14" from the floor to the bottom of the seat cushion.**

Seats and seating shall comply with the following FMVSS Standards:

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Standard Number 207 Seating Systems

[http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571\\_1207&rgn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571_1207&rgn=div8)

Standard Number 208 Occupant Crash Protection

[http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571\\_1208&rgn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571_1208&rgn=div8)

Standard Numbers 209 Seat Belt Assemblies [http://www.ecfr.gov/cgi-bin/text-](http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571_1209&rgn=div8)

[idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571\\_1209&rgn=div8](http://www.ecfr.gov/cgi-bin/text-idx?SID=7d443eb75ceba033fed91e90f816b574&node=se49.6.571_1209&rgn=div8)

Standard Number 210 Seat Belt Anchorage

<https://www.law.cornell.edu/cfr/text/49/571.210>

**3.31 WHEELCHAIR SECUREMENT SYSTEM:**

- 3.31.1** Wheelchair securement areas and systems shall fully comply with all applicable U.S. Department of Transportation's Americans with Disabilities Requirements.

**Vendor is to supply the description, warranty and literature information of this product with bid.**

- 3.31.2** Vehicle shall be equipped with two (2) wheelchair positions.

**3.31.2.1** Each wheelchair station shall have a securement system fully complying with ADA requirements and capable of securing most common wheelchairs and other mobility aid devices. Each wheelchair space shall have at least six (6") inches in between each space for easy access of driver.

**3.31.2.2** At each required wheelchair position a wheelchair securement system shall be provided to securely hold the wheelchair in the wheelchair position.

**3.31.2.3** Provisions shall be made, in the wheelchair position area, to stow the straps and buckles off the floor when they are not in use. The stored straps shall not interfere with passenger movement or sitting space.

- 3.31.3** The vendor shall provide with each vehicle upon delivery a pamphlet, brochure or similar literature describing and instructing the use and maintenance of the wheelchair securement system and shall demonstrate to the recipient

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the proper method of using the system. Demonstration of the securement system must be performed to insure correct use of the system.

**3.32 MOBILITY AID / OCCUPANT RESTRAINT SYSTEM**

- 3.32.1** A restraint system shall be provided for the occupant of the wheelchair at each wheelchair position. The restraint system shall be a seat belt assembly permanently attached to the floor or side of the vehicle or to the wheelchair lock supports. The restraint system shall be capable of securing a passenger in all types of wheelchairs or Scooters, while the chairs are locked in position. The seat belt shall be at least eighty (80) inches long and shall be easily fastened and unfastened by the wheelchair occupant. Each seat belt shall be equipped with a retractor or other device, which keeps the seat belt webbing or strap off the floor when the seat belt is not in use. A complete retractable wheelchair and occupant restraint system with S- Hooks shall be installed at each wheelchair location. The system will have automatic belt retractors; tensioning knobs; and easy to use tension release mechanisms. The system shall be a Q-Strait QRT 360 Deluxe; Secura brand, or equal with the brand appropriate L-Track System to be used.
- 3.32.2** Wheelchair retractors shall be fully automatic, auto locking and self- tensioning.
- 3.32.3** Retractors shall automatically remove any slack in the webbing after they are secured to the wheelchair.
- 3.32.4** Retractors are self-retracting; therefore no belts are left on the floor, keeping them cleaner and longer lasting.
- 3.32.5** Retractor shall have a "LOCKED" indicator tag and shall only be visible when the retractor is in the LOCKED mode assuring the retractor is not in the release condition when properly secured to the wheelchair.
- 3.32.6** Retractors shall be heavy duty with heat treated structural components and plated for superior corrosion resistance.
- 3.32.7** Retractors shall have a chrome plated metal cover for long lasting protection.
- 3.32.8** Retractors shall have BLUE or BLACK webbing and the occupant restraints shall be of a contrasting color for easy identification in the field. Retractors shall be designed to be low profile to fit under most wheelchair foot rests.
- 3.32.9** Retractors shall be equipped with anchoring points for the attachment of the occupant restraint lap belts.

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- 3.32.10 Retractors shall be able to be used with a variety of shoulder/lap belt combinations.
- 3.32.11 Retractors shall have manual knobs for additional tightening if needed.
- 3.32.12 Retractor shall be able to secure a wheelchair with one hand in as little as 10 seconds.
- 3.32.13 Retractors shall have a warranty period of 3 years and shall have a manufacturing label to identify the part number and date of manufacture for easy traceability.
- 3.32.14 Retractors, occupant restraints and anchoring equipment shall be installed in accordance with the manufacturer's installation instructions and recommendations.
- 3.32.15 Medium-Duty Series L-Track with flanges, mounting holes and clear anodized finish to be used, like FE-748-100-PD4C track with end caps, or Equal, floor anchoring product for wheelchair Tie-Downs and Occupant restraint systems. The Division accepts standard non-anodized aluminum L-Track. L-Track shall run full length of the vehicle.
- 3.32.16 The seams between the flooring and the track need to be treated to ensure that no moisture can get to the track to cause track deterioration.
- 3.32.17 Track and securement system need to comply with manufacturer's recommendations regarding using the same manufacturer's track and securement systems.
- 3.32.18 Vendor shall provide **four (4) each of sixteen inch (16") quick straps** for each securement location.
- 3.32.19 The retractors shall be designed to be low profile to fit under most wheelchair foot rests.
- 3.32.20 Retractors and occupant restraints shall meet or exceed but not limited to the following specifications:
- 30mpg/20g Impact Test Criteria per SAE J2249  
[http://standards.sae.org/j2249\\_199901/](http://standards.sae.org/j2249_199901/)
- ISO 10542  
[http://www.iso.org/iso/catalogue\\_detail.htm?csnumber=60372](http://www.iso.org/iso/catalogue_detail.htm?csnumber=60372)
- Canadian Z605  
<http://www.scc.ca/en/standardsdb/standards/6595>

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National Standards for School Buses

<http://www.nasdpts.org/ncstonline/>

ADA (49 CFR Part 38)

<https://www.law.cornell.edu/cfr/text/49/part-38>

FMVSS 209

<https://www.law.cornell.edu/cfr/text/49/571.209>

FMVSS 222

<https://www.law.cornell.edu/cfr/text/49/571.222>

FMVSS 302

[https://www.element.com/landing/aircraft-interiors-flammability-testing?utm\\_source=google&utm\\_medium=cpc&utm\\_campaign=US\\_Flammability&mfefit=ppc\\_mt\\_flammability&gclid=EAIaIQobChMI3sWXj XT2wIVk1uGCh2NWAIEAAYASAAEgIrnvD BwE](https://www.element.com/landing/aircraft-interiors-flammability-testing?utm_source=google&utm_medium=cpc&utm_campaign=US_Flammability&mfefit=ppc_mt_flammability&gclid=EAIaIQobChMI3sWXj XT2wIVk1uGCh2NWAIEAAYASAAEgIrnvD BwE)

- 3.32.21** The vendor shall provide with each vehicle upon delivery a pamphlet, brochure or similar literature describing and instructing the use and maintenance of the wheelchair securement system and shall demonstrate to the recipient the proper method of using the system. Demonstration of the securement system must be performed to insure correct use of the system.

### **3.33 MIRRORS**

#### **3.33.1 Exterior:**

Two (2) six and one-half inch (6-1/2") x nine and one-half inch (9-1/2') minimum size fully adjustable outside rear-view mirrors, such as the Rosco model number 71H for Driver's side and 717H for passenger side, or equal shall be provided: one at the driver's door and one at the right front body corner. Mirror arms shall be constructed on anodized aluminum, stainless steel, powder coated steel, or another non-corrosive, approved equal material. Mirror arm may be chrome plated. Convex "blind spot" mirrors shall also be provided on each side of the vehicle, with a minimum five inch (5") diameter. The convex mirror shall be built into the same head as the flat mirror and shall not be of the stick on type. Both mirrors shall be reinforced mounted breakaway mirrors. Bolts shall be of the heaviest grade to ensure from breaking or snapping. Mirrors shall be heated and remote controlled, such as those produces by Rosco, Lucerix, or equal, and shall be heated and remote controlled. **Crossover mirrors are not acceptable.**

- 3.33.2 Interior:** Vehicle shall have a rectangular flat mirror with a viewing area of at least 6"X 16" installed that provides a complete view of the interior to the driver.

- 3.33.3** Each vehicle shall be equipped with a sun visor for driver that is able to

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pivot to cover their door unless a single visor is provided by OEM.

**3.33.4 Rear View Mirror:** The OEM rear view mirror shall be retained.

**3.33.5 Fresnel Lens:** Each vehicle shall be equipped with a large Fresnel flat, wide-range lens, approximately 11"X 14", ready for installation/placement by the purchaser upon delivery of the vehicle.

**3.34 PASSENGER ASSISTS**

**3.34.1** Passenger assists shall be constructed of seamless stainless steel tubular stock having an outside diameter of between 1.25 inches and 1.50 inches and shall be provided as specified below on all vehicles. Assists shall be securely installed to prevent passengers from moving or twisting the assists when grasped.

**3.34.2** Assists shall be securely installed as inclined hand rails 30 inches above the step treads on both sides of the passenger step well.

**3.34.3** Passenger assists shall be provided as floor-to-ceiling vertical stanchions at the top of the steps at both sides of the step well and shall be fully padded above seat level operations.

**3.34.4** Passenger assists shall be provided as over-head assists on both sides of and parallel to the center aisle for the full-length of the passenger compartment except where they will substantially interfere with wheelchair operation.

**3.34.5** Passenger assists shall be provided as vertical stanchions, padded above seat level, elsewhere within the vehicle, including the driver's barrier.

**3.34.6** All stanchions shall have rubber fittings at top and bottom where the tube inserts into the anchor to provide more stability and vibratory wear resistance.

**3.35 MODESTY PANELS**

**3.35.1** Sturdy modesty panels constructed of padded material complementing the interior trim shall be provided ahead of the forward row of seats on both sides the aisle. A full height 3/8" LEXAN translucent barrier shall be provided behind the driver's seat and above the modesty panel. **Location of modesty panel installation must be approved by the Division of Public Transit.**

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**3.36 EXTERIOR REFLECTIVE VINYL TAPE:**

**3.36.1** The vehicle shall be stripped from front to back with exterior white reflective vinyl tape around the egress passenger windows, meeting DOT-C2 standards. (See the following link regarding DOT-C2 standards.)

<http://sharplogger.vt.edu/documents/Conspicuity%20and%20reflector%20requirements%20393%2011.pdf>

**3.36.2** When the existing logos are not on the rear of the vehicle, the white reflective vinyl must circle the rear emergency door window, if present, even when the color vinyl is used in the logo.

**3.36.3** When reflective tape and paint are used for the same color on one vehicle, they must match (Example: painting the vehicle skirt and using tape stripes for the side of the vehicle must match.)

**3.36.4** Finished surfaces shall not be damaged by controlled applications of commonly used graffiti-removing chemicals.

**3.37 DIGITAL DESTINATION SIGNS**

**3.37.1** Front and side digital destination signs shall be provided. A lightweight all LED sign that provides a wide viewing angle for visibility at day or night with automatic brightness adjustment. Signs must be compatible with all Windows platforms programming platform for easy transit system use. The signs must come with all accessories for the transit system to change routes daily if needed, including an operator control unit (OCU) with PC card port for uploading data will be required for each vehicle along with a 12V DC converter. The destination signs must meet all ADA standards and must have a minimum operating life of 100,000 hours. The sign shall be fastened to the body of the vehicle on the top and bottom of each destination sign to secure and eliminate all movement. Brackets should be used in addition to normal installation procedures to secure signs at the top and bottom.

**3.37.2** The Division of Public Transit shall approve size and location of window.

**3.37.3** Dimensions: front-All LED minimum 16 x 80 Pixel and 6 1/2" x 31 5/8" display small pitch signs. Side All LED 8 x 64 Pixel and 3 1/4" x 25 1/4" display. All programmable software and hardware is to be provided.

**3.37.4** Customer support shall be provided.

**3.37.5** Control panel for the signs shall be located at a position convenient for driver operation and shall be approved by the Division of Public Transit. Vendor shall submit details with bid.

**3.38 PASSENGER SIGNALING SYSTEM**

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**3.38.1** Passenger signaling system with a pull cord stop request system and touch tape with buzzer at wheelchair positions shall be provided. The pull cord system shall be at height that individuals with disabilities can access the cord at seat level front to rear.

**3.39 MOBILE PA SYSTEM**

**3.39.1** Mobile PA system with a handheld mic, one external speaker, and two internal speakers shall be provided. PA system may be integrated into the radio system if it can be done without excessive slicing; otherwise, the system should be separate.

**3.40 FARE BOX PROVISION**

**3.40.1** Fare box provision requires that the forward stanchion at the driver's shoulder shall be prewired for mounting of fare box with enough slack for the positioning of the fare box to be moved.

**3.41 STROBE LIGHT**

**3.41.1** A protected or guarded clear lens strobe light shall be installed on top of the vehicle. The Division of Public Transit shall approve the type, the installation location, and the process.

**3.42 RADIO INSTALLATION PREP/ VEHICLE COMMUNICATION**

**3.42.1** The vehicle shall be provided with adequate grounding material at roof level or at side level as directed for a radio antenna. Such material shall provide direct grounding to the main vehicle body frame.

**3.42.2** A conduit or other path shall be provided for an unexposed antenna cable routing between the antenna mounting area and an area to be provided for installation of a mobile radio receiver within easy reach of the driver, together with the necessary wiring for a power supply.

**3.42.3** Vendor shall supply a ground wire, loom (conduit) and pull wire. A power wire is not necessary.

**3.43 BIKE RACK MOUNTING PLATE**

**3.43.1** A bike rack mounting plate only shall be supplied on the front or rear of the vehicle meeting receiving transit authority's preference.

**3.44 SECURITY CAMERA SYSTEM –**

**3.44.1** Each Vehicle shall be equipped with Pro-Vision HD Recording System Model DVR-808, or equal. Or equal having the following characteristics:



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**3.44.1.1 Solid State Design**

**3.44.1.2 1080p True HD Video Quality**

**3.44.1.3** System shall be capable of recording sixteen (16) cameras simultaneously at the maximum quality and frame rate.

**3.44.1.4** The system must include at least one SDXC Card with a capacity of no less than 128GB.

**3.44.1.5** The system must have a removable 2.5" drive tray to support an optional 500GB, 1TB or 2TB Solid State Drive space for expanded recording capacity.

**3.44.1.6** The system must at minimum provide video coverage for person entering the door, the driver, front row passengers and all the way to the rear seating area with the use of one camera.

**3.44.1.7** The system must have the ability to use a single wide angle interior camera to provide coverage of the driver, the seat area of the bus, and of persons standing outside the entry door on the passenger side.

**3.44.1.8** The system must have the ability to use wide angle exterior cameras to provide coverage from headlight to taillight on each side of the vehicle with a single camera per side.

**3.44.1.9** The system must include a lockable enclosure constructed of no less than 18 gauge steel to prevent access to the storage device, power, camera connection, and all mounting screws.

**3.44.1.10** The system must have the ability to download video manually by removing the storage device, manually through WI-FI, or automatically through Wi-Fi.

**3.44.1.11** The system must be capable of complete setup and aiming of cameras with a web based interface.

**3.44.1.12** All software, cables and necessary equipment needed to install the system and operate it must be included.

**3.45 DUAL PURPOSE SAFETY VENT**

**3.45.1** Each vehicle shall be equipped with a five (5) way, 23" X 23" minimum dual purpose safety vent capable of being used as a multi-position roof ventilator and as an emergency exit/escape in compliance with FMVSS 217 and 302.

FMVSS 217: <https://www.law.cornell.edu/cfr/text/49/571.217>

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**3.46 STORAGE COMPARTMENT**

- 3.46.1 A storage compartment capable of accommodating jumper cables, seat belt cutter, and other items shall be provided in the front header above the driver. The compartment will be provided with a latching or other mechanism to hold it in the open position.
- 3.46.2 Bottom hinged compartment doors will be provided with restraint straps to limit its movement to 90 degrees. **The Division of Public Transit must approve location and size.**
- 3.46.3 A storage box, when no room is available, floor mounted to curbside of engine cover is allowed. **The Division of Public Transit must approve location and size.**
- 3.46.4 Storage bins shall be provided in driver's door.

**3.47 INTERIOR DECALS:** To be supplied and installed unless noted otherwise.

- 3.47.1 "No Smoking" at the front top of vehicle.
- 3.47.2 "Seat Belt Usage Required" at the front top of the vehicle.
- 3.47.3 **EMERGENCY EQUIPMENT** – Transit Authority will install.
- 3.47.4 All emergency exits and windows to be noted with decal.
- 3.47.5 "Clearance \_\_\_ feet \_\_\_ inches" above driver's visor. Specific figures on clearance will be determined by exact dimension of vehicle.
- 3.47.6 "Emergency Dial 911" at the front top of the vehicle.
- 3.47.7 Black lettering on yellow background "Watch Your Step" decals shall be affixed to entrance step risers.

**3.48 EXTERIOR DECALS:** To be supplied and installed.

- 3.48.1 "Vehicle Stops at all Railroad Crossings" on the back of the vehicle.
- 3.48.2 The International Wheelchair Accessibility Symbol on the back of the vehicle.
- 3.48.3 "Caution Frequent Stops" on the back of the vehicle.
- 3.48.4 "CAUTION: STAND CLEAR FOR LIFT OPERATIONS" on lift door.

**3.49 EMERGENCY/SAFETY EQUIPMENT**

- 3.49.1 **First Aid Kit** - First-Aid Kit shall comply with United States Department of Labor, Occupational Safety & Health Administration's minimal acceptable number and type of first-aid kits required under paragraph (d)(2) of the logging standards. (See link below) First-aid kits shall be stored in

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storage compartment or mounted so as to provide for access in the event of an accident, away from foot traffic.

[https://www.osha.gov/ppls/oshaweb/owadisr.show\\_document?p\\_table=STANDARDS&p\\_id=9863](https://www.osha.gov/ppls/oshaweb/owadisr.show_document?p_table=STANDARDS&p_id=9863)

**3.49.2** Kit shall be housed in a polypropylene or metal box which contains at least the following items:

- 3.49.2.1** Instant Cold Pack (1)
- 3.49.2.2** Certicaine or Burn Spray (1 oz.)
- 3.49.2.3** 1" x 3" Adhesive Bandages, twenty-five (25)
- 3.49.2.4** 3/4" x 3" Adhesive Bandages, ten (10)
- 3.49.2.5** Extra Large Adhesive Bandages, ten (10)
- 3.49.2.6** 3" x 3" Gauze Pads, ten (10)
- 3.49.2.7** Antiseptic Wipes, ten (10)
- 3.49.2.8** Alcohol Prep Pads, twenty (20)
- 3.49.2.9** Ammonia Inhalants, ten (10)
- 3.49.2.10** 2" x 6 yds. Gauze Bandage
- 3.49.2.11** 1/2" x 2.5 yds. Adhesive Tape
- 3.49.2.12** Burn Ointment (1/8 oz.), four (4)
- 3.49.2.13** Insect Sting Swabs, four (4)
- 3.49.2.14** PVP Iodine Swabs, four (4)
- 3.49.2.15** Tweezers, one (1)
- 3.49.2.16** Scissors, one (1)
- 3.49.2.17** Safety Pins, five (5)

**3.49.3** **Fire Extinguisher**– 5 lb. dry chemical fire extinguisher with a minimum of a 20-A:180-B: C rating shall be provided in vehicle and shall be mounted in an accessible compartment with a hinged door or on a vehicular-type quick access bracket away from foot traffic.

**3.49.4** **Reflectors** – Three (3) bi-directional emergency reflective triangles conforming

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to requirements of FMVSS No. 125, Section 571.125 shall be secured in the storage compartment of the vehicle.

**3.49.5 Bloodborne Pathogen Protection Kit** - A ten (10) unit (minimum) kit housed in a polypropylene or metal box and containing at least the following items:

3.49.5.1 Gown/Cap (1)

3.49.5.2 Goggles (Eye Shield) (1)

3.49.5.3 Mask (1)

3.49.5.4 Three (3) Pairs of Protective, Disposable Gloves

3.49.5.5 Scraper (1) plastic, scoop to pick up biohazard fluids.

3.49.5.6 Crepe Towels two (2)

3.49.5.7 Antiseptic Towelettes, four (4)

3.49.5.8 Disinfectant Towelette, four (4)

3.49.5.9 Mouth to Mouth Barrier, one (1)

3.49.5.10 Scoop Bag, three (3)

3.49.5.11 Infectious Liquid Control Powder (2 oz.)

3.49.5.12 Red Bio-Hazard Bags with Ties, two (2)

**3.49.6 Web/Seat Belt Cutter:** A 5.5" X 3" Web/Seat Belt Cutter -- shall be secured in a location accessible from the driver's seat.

**3.49.7 Mylar Blankets:** Two (2) folded, sealed and stored silver 80-85" x 50-70" Mylar disposable rescue blankets.

**3.49.8 Wool Blankets:** Two (2) wool blankets (62" X 80" each) shall be provided.

**3.49.9 Safety Vest:** A highly-visible reflective safety vest to be worn by the driver in case of an emergency that makes the driver visible to evacuating passengers and other motorists.

**3.49.10 Wheel Chocks:** Each vehicle will be equipped with one (1) set of wheel chocks with storage.

**3.50 UNSPECIFIED ACCESSORIES & FEATURES**

**3.50.1** All parts, equipment, accessories, material, design and performance characteristics not specified herein, but which are necessary to provide a complete unit, must be furnished with each unit and required to confirm to

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strength, quality of material, and quality of workmanship to those which are advertised and provided to the market in general by the unit industry. All parts and accessories advertised and regularly supplied as standard shall be included, except those which would represent duplication of these specified and except those which, by specification, are not to be furnished. All standard safety features, required by Federal and State Law, shall be included. Vehicles must have all equipment found on the manufacturer's base model plus other equipment requirements, packages, items, etc. needed to meet the specifications.

**3.51 TRAINING**

**3.51.1** The Vendor shall, at its own expense conduct two (2) one day training sessions at two different locations between the hours of 8:00 a.m. to 5:00 p.m. Dates will be mutually agreed upon, with the option of additional training days, if necessary. The Division will arrange a venue and registration. The vendor will provide one or more qualified instructor(s) and materials. Instructors shall conduct schooling sessions which shall be designated to instruct the Recipient Agency's in-house driver training staff in proper and safe on-road operation of the vehicle, in operating characteristics and limitations of the vehicle, and identification and proper operation of all driver's controls. Instructors shall also conduct training sessions for maintenance instructors and qualified mechanics to give thorough and proper training in the maintenance and repair of all operating systems of the vehicle including: (1) power train, (2) electrical system, (3) heating, ventilation and air conditioning system, (4) braking and air system, and (5) wheelchair lift and securement systems. The Vendor shall also provide visual and other teaching aids for use by each Recipient Agency's own staff.

**4.0 VEHICLE CLASSES – Requirements specific to each vehicle class.**

**4.1 Class A: Vehicle** – A vehicle having at least 8 fixed forward facing mid high back seats (doubles/singles) plus two (2) wheel chair positions, meeting all requirements of Section 3 of this RFQ. The Division of Public Transit shall approve the proposed seating configuration. The vehicles furnished per these specifications shall be of the following dimensions:

WHEELBASE	176" Minimum
REAR AXLE	Dual Rear Wheel
GVWR	14,500 Maximum
TIRE	225/75/R16 Minimum
LOAD RATING	E
WIDTH (MAXIMUM)	96"

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OVERALL LENGTH	315" Maximum
OVERALL HEIGHT (MAXIMUM)	120"
TURNING RADIUS (MAXIMUM)	32'
SEAT/WHEELCHAIR CAPACITY	16+2 WC Passengers with one (1) Double Foldaway
PASSENGER HEAT	2 x 35,000 BTU with Circulating Pump
PASSENGER A/C	82,000 BTU Separate from the Dash
ENGINE TYPE	Gas
ENGINE CAPACITY	6.8 L Minimum
SPARE TIRE	Loose
BATTERY	Dual
FAST IDLE	Yes
CURBSIDE EMERGENCY WINDOWS	1 Minimum
STREETSIDE EMERGENCY WINDOWS	2 Minimum

- 4.1.1 Class A Vehicle:** Vehicles in Class A shall meet the mandatory requirements listed in Section 3 that include the Transit Authority Vinyl Logo and stripes as defined in Section 3.20. Examples of these logo and stripes have been provided in Exhibit B.

Logo, striping schemes and colors will be furnished to the successful Vendor by the Transit Authority.

Successful vendor to work directly with Transit Authority regarding what logo, stripes, etc. to be applied. Successful vendor shall obtain written documentation from Transit Authority Official approving layout, colors and information prior to installation.

**4.2 Class B Vehicle: (Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics:**

Vehicles identified as Class B vehicles shall meet the mandatory requirements listed in Section 3 and the mandatory requirements of Class A with the exception that Class B vehicles shall have Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics instead of vinyl logo and stripes. Examples of these Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics is provided in Exhibit C Examples of Paint Scheme.

For Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics, surfaces shall be properly cleaned and primed, as appropriate for the paint used. All exterior surfaces shall be impervious to gasoline and commercial cleaning agents.

Finished surfaces shall not be damaged by controlled applications of commonly used graffiti-removing chemicals.

Paint schemes and paint colors will be furnished to the successful Vendor by the Transit Authority.

Successful vendor to work directly with Transit Authority regarding what

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paint schemes, logo, etc. to be applied. Successful vendor shall obtain written documentation from Transit Authority Official approving layout, colors and information prior to installation.

Where the logo covers the windows, perforated vinyl shall be used. Skirt painting shall be included in the price.

Matching touch up paint shall be provided to the Transit Authority.

- 4.3 **Class C (Extended Wheelbase, Front Lift):** Vehicles identified as Class C vehicles shall meet the mandatory requirements listed in Section 3 and the mandatory requirements of Class A with the exception that Class C vehicles shall have an extended body with front lift with 7 forward facing mid high back double seats Vinyl logo and stripes.

Extended length with front lift option—Increase to 190" wheelbase chassis to accommodate front lift configuration and an additional double foldaway seat position per floor plan provided Section 21.

- 4.4 **Class D (Extended Wheelbase, Front Lift, Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics):** Vehicles identified as Class D vehicles shall meet the mandatory requirements listed in Section 3 and the mandatory requirements of Class A with the exception that Class D vehicles shall have Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics as described in Class B instead of vinyl logo and stripes. Class D vehicles shall also have the extended length with front lift option per Class C.

- 4.5 **Class E (Extended Wheelbase, Front Lift, Overhead Luggage, High Back Seats):** Vehicles identified as Class E vehicles shall meet the mandatory requirements listed in Section 3 and the mandatory requirements of Class A and Class C, extended length, front lift with the exception that Class E vehicles shall also have, overhead luggage and high back seats as listed below.

4.5.1 Interior overhead luggage racks – Vendor should submit product description with bid.

4.5.2 Substitute high back for mid high back passenger seats.

- 4.6 **Class F (Extended Wheelbase, Front Lift, Overhead Luggage, High Back Seats, Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics)** Vehicles identified as Class F vehicles shall meet the mandatory requirements listed in Section 3 and the mandatory requirements of Class A with the exception that Class F vehicles shall have Full Bus Body Paint or ¾ Bus Body Paint with Expanded Graphics as described in Class B instead of vinyl logo and stripes, Class C extended wheelbase, front lift, and Class E the vehicles shall have overhead luggage and high back seats.

Blue field Area  
Buckethead  
EC 8203  
EC 9642

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**5.0 ADDITIONAL REQUIREMENTS APPLICABLE TO ALL VEHICLES**

**5.1 Summary of Items to Be Provided Upon Delivery**

By the time of delivery, the following items shall be furnished by the successful Vendor for each vehicle:

- 5.1.1** All warranty verification vouchers, certificates or coupons.
- 5.1.2** Current model year of the following manuals to each Transit Authority per model year.  
  
Parts manuals Chassis and Body  
Wiring schematics of auxiliary circuits and all other necessary prints for the maintenance of the vehicle and Operations manual Chassis and Body.
- 5.1.3** Completely filled fuel tank or tanks.
- 5.1.4** Protection to 20° F below zero with permanent type antifreeze.
- 5.1.5** A vehicle(s) free of dealer signs and emblems.
- 5.1.6** Assurance of compliance with manufacturer's pre-delivery service, lubed, serviced and ready for immediate service.
- 5.1.7** A vehicle(s) which is clean, (If delivery of the vehicle occurs during the winter months of October through March, the vehicle shall be washed directly prior to delivery at Kanawha Valley Regional Transportation Authority to ensure that the vehicle is free of dirt and salt deposits)
- 5.1.8** Operation, maintenance and warranty information for any add on equipment will be provided upon delivery if available to the Vendor. Such as: lift, wheelchair securement system, occupant restraint system, destination signs, PA system and security camera system.
- 5.1.9** Original vehicle chassis manufacturer's factory sticker itemizing equipment on the vehicle.
- 5.1.10** A certified weight slip showing front and drive axle weights for the vehicle at its curb weight.
- 5.1.11** Proof of Alignment.
- 5.1.12** Vehicle shall comply with and conform to the State of West Virginia Motor Vehicle Inspection Law and shall have the current inspection sticker attached to the windshield.



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5.1.13 Proof of rustproofing/undercoating warranty.

5.2 TITLE

5.2.1 Adequate documents for securing the vehicle in the name of the Transit Authority shall be provided to the Division of Public Transit at least 10 working days prior to the delivery of each vehicle. **The Division of Public Transit will supply with each release order the Transit Authority names(s) for titling documents.** The Vendor warrants that the title shall pass to the Division of Public Transit/Transit Authority free and clear of all liens, mortgages and encumbrances, financing statements, security agreements, claims and demands of any character.

5.2.2 According to WV State Code §5A-3-4(8), vendor agrees that liquidated damages shall be imposed at the rate of \$10 per calendar day for failure to provide the titling documentation at the time of vehicle delivery. This clause shall in no way be considered exclusive and shall not limit the State or agency's right to pursue any other additional remedy to which the State or agency may have legal cause for action including further damages against the vendor.

5.2.3 All documentation (Certificate of Origin, Delivery/Odometer Statement, Etc.) in original form must be mailed or hand carried to:

5.2.4 WV Division of Public Transit  
1900 Kanawha Blvd., East  
Building 5, Room 650  
Charleston, WV 25305

6.0 QUALITY ASSURANCE

6.1 QUALITY ASSURANCE ORGANIZATION

The Vendor shall establish and maintain an effective quality assurance organization. It shall be a specifically defined organization and should respond directly to the Vendor's management. The Vendor's complete quality assurance program for purchased components and in-plant inspection procedures shall be available for review by the Division of Public Transit prior to award.

Control

The quality assurance organization shall exercise quality control over all phases of production from initiation of design through manufacture and preparation for delivery. The organization shall also control the quality of supplied articles.

Authority and Responsibility

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The quality assurance organization shall have the authority and responsibility for reliability, quality control, inspection planning, establishment of the quality control system, and acceptance/rejection of materials and manufactured articles in the production of the vehicles.

**6.2 QUALITY ASSURANCE ORGANIZATION FUNCTIONS**

The quality assurance organization shall include the following minimum functions.

**Work Instructions**

The quality assurance organization shall verify inspection operation instructions to ascertain that the manufactured product meets all prescribed requirements.

**Records Maintenance**

The quality assurance organization shall maintain and use records and data essential to the effective operation of its program. These records and data shall be available for review by the resident inspectors. Inspection and test records for this procurement shall be available for a minimum of one (1) year after inspections and test are completed.

**Corrective Actions**

The quality assurance organization shall detect and promptly assure correction of any condition that may result in the production of defective vehicles. These conditions may occur in designs, purchases, manufacture, tests, or operations that culminate in defective supplies, facilities, technical data, or standards.

**6.3 STANDARDS AND FACILITIES**

**Configuration Control**

The Vendor shall maintain drawings and other documentation that completely describe a quality vehicle that meets all of the options and special requirements of this procurement. The quality assurance organization shall verify that each vehicle is manufactured in accordance with these controlled drawings and documentation.

**Measuring and Testing Facilities**

The Vendor shall provide and maintain the necessary gauges and other measuring and testing devices for use by the quality assurance organization to verify that the vehicles conform to all specification requirements. These devices shall be calibrated at established periods against certified measurement standards that have known valid relationships to national standards.

**Production Tooling as Media of Inspection**

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When production jigs, fixtures, tooling master patterns, and other devices are used as media of inspection, they shall be proved for accuracy at formally established intervals and adjusted, replaced, or repaired as required to maintain quality.

**Equipment Use By Division of Public Transit's Inspector(s)**

The Vendor's gauges and other measuring and testing devices shall be made available for use by the Division of Public Transit's inspector(s) to verify that the vehicles conform to all specification requirements. If necessary, the Vendor's personnel shall be made available to operate the devices and to verify their condition and accuracy.

**6.4 CONTROL OF PURCHASES**

The Vendor shall maintain quality control of purchases.

**Supplier Control**

The Vendor shall require that each supplier maintains a quality control program for the services and supplies that it provides. The Vendor's quality assurance organization shall inspect, and test materials provided by suppliers for conformance to specification requirements. Materials that have been inspected, tested, and approved shall be identified as acceptable to the point of use in the manufacturing or assembly processes. Controls shall be established to prevent inadvertent use of non-conforming materials.

**Purchasing Data**

The Vendor shall verify that all applicable specification requirements are properly included or referenced in purchases of articles to be used on vehicles.

**6.5 MANUFACTURING CONTROL**

The Vendor shall ensure that all basic production operations, as well as all other processing and fabricating, are performed under controlled conditions, establishment of these controlled conditions shall be based on the documented work instructions, adequate production equipment, and special working environments if necessary.

**Completed Items**

A system for final inspection and test of completed vehicles shall be provided by the quality assurance organization. It shall measure the overall quality of each completed vehicle.

**Non-conforming Materials**

The quality assurance organization shall monitor the Vendor's system for controlling non-conforming materials. The system shall include procedures for identification, segregation, and disposition.

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**Statistical Techniques**

Statistical analysis, tests, and other quality control procedures may be used when appropriate in the quality assurance processes.

**Inspection Status**

A system shall be maintained by the quality assurance organization for identifying the inspection status of components and completed vehicles. Identification may include cards, tags, or other normal quality control devices.

**6.5.1 INSPECTION SYSTEM**

The quality assurance organization shall establish, maintain, and periodically audit a fully documented inspection system. The system shall prescribe inspection and test of materials, work in progress and completed articles. At a minimum, it shall include the following controls.

**Inspection Stations**

Inspection stations shall be at the best locations to provide for the work content and characteristics to be inspected. Stations shall provide the facilities and equipment to inspect structural integrity; electrical; hydraulic; through floor securements; OEM defects; coverage of the undercoating; and other components and assemblies for compliance with the design requirements.

Stations shall also be at the best locations to inspect or test characteristics before they are concealed by subsequent fabrication or assembly operations. These locations shall minimally include, as practicable, underbody structure completion, body framing completion, body prior to paint preparation, water test before interior trim and insulation installation, engine installation completion, underbody dress-up and completion, vehicle prior to final paint touch up, vehicle prior to road test, and vehicle final road test completion.

The manufacturer shall provide on its premises a suitable hoist for a complete inspection of the underside of the vehicle. **A pit is not acceptable.**

**Inspection Personnel**

Sufficiently trained inspectors shall be used to ensure that all materials, components, and assemblies are inspected for conformance with the qualified vehicle design.

**Inspection Records**

Acceptance, rework, or rejection identification shall be attached to inspected articles. Articles that have been accepted as a result of approved materials review actions shall be identified. Articles that have been reworked to specified drawing configurations shall not require special identification. Articles rejected as unsuitable or scrap shall be plainly marked and controlled to prevent installation on the vehicle. Articles that become

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obsolete as a result of engineering changes for other actions shall be controlled to prevent unauthorized assembly or installation. Unusable articles shall be isolated and then scrapped.

Discrepancies noted by the Vendor or Division of Public Transit's inspector during assembly shall be entered by the inspection personnel on a record that accompanies the major component, subassembly, or vehicle from start of assembly through final inspection. Actions shall be taken to correct discrepancies or deficiencies in the manufacturing processes, procedures, or other conditions that cause articles to be in nonconformity with the requirements of the contract specifications. The inspection personnel shall verify the corrective actions and mark the discrepancy record. If discrepancies cannot be corrected by replacing the non-conforming materials, the Division of Public Transit shall approve the modification, repair, or method of correction to the extent that the contract specifications are affected.

**Quality Assurance Audits**

The quality assurance organization shall establish and maintain a quality control audit program. Records of this program shall be subject to review by the Division of Public Transit.

**Division of Public Transit's Inspector(s)**

The Division of Public Transit may be represented at the Vendor's plant by their inspectors, they shall monitor, in the Vendor's plant, the manufacture of vehicles built under this procurement. The Division of Public Transit's inspectors shall be authorized to release the vehicles for delivery. Upon request to the quality assurance supervisor, inspectors shall have access to the Vendor's quality assurance files related to this procurement. These files shall include drawings, material standards, parts lists, inspection processing and reports, and records of defects. The presence of these inspectors in the plant shall not relieve the Vendor of its responsibility to meet all of the requirements of this procurement.

The Division of Public Transit's inspectors shall not have the authority to stop the Vendor's production line until any apparent problem area of major significance that arises to warrant such actions is fully discussed with the Vendor's top management.

**6.6 SERVICE AND PARTS**

The Vendor shall state on **Bid Form #1** the representative(s) responsible for assisting the Recipient Agencies, as well as, the location of the nearest distribution center(s) which shall furnish a complete supply of parts and components for the repairs and maintenance of the vehicles to be supplied.

**6.6.1 Materials and Workmanship**

**6.6.1.1** Vendor shall incorporate in the proposed vehicle(s) the latest technological achievements consistent to achieving maximum service life and superior attractiveness of appearance.

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- 6.6.1.2** Vehicle(s) shall be delivered in new, first-class condition, complete and ready for operation on the street and the Vendor shall assume all responsibility and liability incident to said delivery.
- 6.6.1.3** All materials used in the construction of vehicle(s) and in all its parts and accessories shall conform to A.S.T.M., S.A.E., or similar associations published standards, and be of top quality.
- 6.6.1.4** The vehicle(s) shall be built with suitable and easily accessible compartments provided for all apparatus, sound deadening insulation, wherever needed, and all operating devices so mounted as to reduce and keep all noise and vibration to an absolute minimum.
- 6.6.1.5** Vendor shall assume responsibility for all material and accessories used in vehicle(s) and their proper installation and their warranty, whether the same is manufactured by the Vendor or purchased ready-made from a source outside the Vendor's company.
- 6.6.2 Spare Parts** –The Vendor shall guarantee the availability of replacement parts for these vehicles for at least a seven (7) year period after the date of acceptance. Spare parts shall be interchangeable with the original equipment and shall be manufactured in accordance with the quality assurance provision of this contract.
- 6.6.3 Engineers** – The Vendor shall, at its own expense, have a competent engineering representative(s) available on request to assist the Recipient Agencies staff in the solution of engineering or design problems within the scope of the specifications that may arise during the warranty period.
- 6.6.4 Documents** – The Vendor shall keep maintenance manuals available for a period of ten (10) years after the date of acceptance of the vehicles procured under this contract. The Vendor shall also keep parts books up-to-date for a period of ten (10) years. The supplied maintenance and operators' manuals shall incorporate all equipment ordered on the vehicles covered by this procurement.

## **6.7 WARRANTIES**

The Vendor has an obligation to ensure that the entire vehicle is covered by a warranty. The Vendor shall make every effort to assure that all obligations defined under all warranties applicable to the vehicle or any subpart of the vehicle are fulfilled.

### **6.7.1 WARRANTY REQUIREMENTS**

Warranties in this document are in addition to any statutory remedies or warranties imposed on the Vendor. Consistent with this requirement the Vendor warrants and guarantees to the Division of Public Transit each complete vehicle, and specific subsystems and components as follows:

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**6.7.2 Complete Vehicle**

The vehicle is warranted and guaranteed to be free from defects and related defects for three (3) years or 36,000 miles, whichever comes first, beginning on the first day after the date of final acceptance of each vehicle. During this warranty period, the vehicle shall maintain its structural and functional integrity. The warranty is based on regular operation of the vehicle under the operating conditions prevailing in the Recipient Agencies locales.

**6.7.3 Warranty of Basic Vehicle Structure**

The Vendor shall warranty the frame and suspension members for three (3) years or 36,000 miles, whichever comes first. This warranty shall not cover air bags, leveling valves, springs or other normal wearing parts. The Vendor is not liable for warranty if the Recipient Agencies voids the warranty as outlined in this Section. If the frame or suspension fails or shows indication of imminent failure, the Recipient Agencies will immediately notify the Vendor of said defect. Within ten (10) calendar days the Vendor will inform the Recipient Agencies on how the Vendor will repair the vehicle. Repair of frame and suspension failures will be the responsibility of the Vendor. Within fifteen (15) calendar days from notification of the defect the Vendor shall begin the repair of the frame and suspension defects. If the vehicle with the reported frame and suspension defect is out of revenue service for more than twenty (20) calendar days because of the reported defect, the Vendor will have to either provide a substitute vehicle of equal seating capacity with wheelchair lift (if applicable) of the same age or newer than the vehicle with the defect or directly reimburse the Recipient Agencies the cost of leasing a substitute vehicle. The maximum daily reimbursement will be \$300. The Vendor will have to continue to provide a substitute vehicle or reimburse the Recipient Agencies until the defect is completely repaired.

**6.7.4 Warranty Locations**

A description of how and by whom warranty service is to be provided in four (4) areas of West Virginia is to be included in the bid proposal. The information should cover both mechanical and body work. All bidders shall provide vendors who will do the warranty of both chassis and body, including vehicle body, air conditioning and wheelchair lifts. The four warranty service areas of West Virginia include: The Northern Panhandle, Eastern Panhandle, Central West Virginia and Southern West Virginia.

**6.7.5 Subsystems and Components –**

The subsystems and components are warranted and guarantees to be free from defects and related defects as follows:

ENGINE: Three (3) years or 36,000 miles, whichever comes first.

TRANSMISSION: Three (3) years or 36,000 miles, whichever comes first.

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DRIVE AXLE: Three (3) years or 36,000 miles, whichever comes first.

BRAKE SYSTEM: Excluding friction material, three (3) years or 36,000 miles, whichever comes first.

BASIC BODY STRUCTURE INTEGRITY: Three (3) years or 36,000 miles, whichever comes first.

AIR CONDITIONING SYSTEM: Two (2) years or two (2) operating seasons, whichever is greater.

WHEELCHAIR LIFT SYSTEM: Two (2) years.

ALL ADD ON COMPONENTS: Two (2) years, unlimited miles.

**6.8 VOIDING OF WARRANTY**

The warranty shall not apply to any part or component of the vehicle that has been subject to misuse, negligence, accident, or that has been repaired or altered in any way so as to affect adversely its performance or reliability, except insofar as such repairs were in accordance with the Vendor's maintenance manuals and the workmanship was in accordance with recognized standards of the industry. The warranty shall also be void if the Recipient Agencies fails to conduct normal inspections and scheduled preventative maintenance procedures as recommended in the Vendor's maintenance manuals.

**6.9 EXCEPTIONS TO WARRANTY**

The warranty shall not apply to scheduled maintenance items, and items such as tires and tubes, nor to items furnished by the Recipient Agencies such as radios, fare boxes and other auxiliary equipment, except insofar as such equipment may be damaged by the failure of a part or component for which the Vendor is responsible.

**6.10 DETECTION OF DEFECTS**

If the Recipient Agency detects a defect within the warranty periods defined in Section 6.6 of this Part, it shall promptly notify the Vendor's representative five (5) working days after receipt of notification, the Vendor's representative shall either agree that the defect is in fact covered by warranty, or reserve judgment until the subsystem or component is inspected by the Vendor's representative or is removed and examined at the Recipient Agencies property or at the Vendor's plant. At that time, the status of warranty coverage on the subsystem or component shall be mutually resolved between the Recipient Agency and the Vendor. Work necessary to affect the repairs defined in Section 6.7 of this Part shall commence within ten (10) working days after receipt of notification by the Vendor.

**6.11 SCOPE OF WARRANTY REPAIRS**

When warranty repairs are required, the Recipient Agencies and the Vendor's representative shall agree within five (5) days after notification on the most appropriate course for the repairs and the



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exact scope of the repairs to be performed under the warranty. If no agreement is obtained within the five (5) day period, the Recipient Agencies reserves the right to commence the repairs in accordance with Section 6.7.3.

**6.12 FLEET DEFECTS**

A fleet defect shall be defined as the failure of any identical items covered by the warranty and the specifications herein and occurring in a twenty percent (20%) portion of the vehicles purchased under this contract.

The Vendor shall correct a fleet defect under the warranty provision. After correcting defect, the Vendor shall promptly undertake and complete a work program reasonably designed to prevent the occurrence of the same defect in all other vehicles purchased under this contract. The work program shall include inspection and/or correction of the potential or defective parts in all of the vehicles purchased under this contract. The warranty on items determined to be fleet defects shall be extended for the time and/or miles of the original warranty. This extended warranty shall begin on the date of the repair/ replacement for the corrected item.

**6.13 REPAIR PROCEDURES**

**6.13.1 Repair Performance**

At its option, the Division of Public Transit, or its designated representative, may require the Vendor, or its designated representative, to perform warranty covered repairs that are clearly beyond the scope of Recipient Agencies capabilities. All warranty work done by Recipient Agencies personnel will be reimbursed by the Vendor.

**6.13.2 Repairs by Vendor**

If the Recipient Agencies requires the Vendor to perform warranty covered repairs, the Vendor's representative must begin the work necessary to make repairs, within ten (10) working days after receiving notification of a defect from the Recipient Agencies. The Recipient Agencies shall make the vehicle available to complete repairs timely with the Vendor's repair schedule.

The Vendor will provide, at its own expense, all spare parts, tools and space required to complete repairs. At the Recipient Agencies option, the Vendor may be required to complete repairs. At the Recipient Agencies option, the Vendor may be required to remove the vehicle from Recipient Agency's property while repairs are being effected. If the vehicle is removed from Recipient Agency's property, repair procedures must be diligently pursued by the Vendor's representative.

**6.13.3 Repairs by Recipient Agencies**

**6.13.3.1 Parts Used**

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If the Recipient Agency performs the warranty covered repairs, it shall correct or repair the defect and any related defects using Vendor specified spare parts available from its own stock or those supplied by the Vendor specifically for this repair. Monthly, or at a period to be mutually agreed upon, reports of all repairs covered by this warranty shall be submitted by the Recipient Agency to the Vendor for reimbursement or replacement of parts. The Vendor shall provide forms for these reports.

**6.13.3.2 Vendor Supplied Parts**

The Recipient Agency may request that the Vendor supply new parts for warranty covered repairs being performed by the Recipient Agency. These parts shall be shipped prepaid to the Recipient Agency from any source selected by the Vendor within 10 (ten) working days of receipt of the request for said parts.

**6.13.3.3 Defective Components Return**

The Vendor may request that parts covered by the warranty be returned to the manufacturing plant. The total cost for this action shall be paid by the Vendor. Materials should be returned in accordance with Vendor's instructions.

**6.13.3.4 Reimbursement for Labor**

The Recipient Agencies shall be reimbursed by the Vendor for labor. The amount shall be determined by multiplying the number of man-hours actually required to correct the defect by the current per hour, straight wage rate, plus 53 percent fringe benefits, plus the cost of towing in the vehicle if such action was necessary and if the vehicle was in the normal service area.

These wage and fringe benefit rates shall not exceed the rates in effect in the Recipient Agencies service garage at the time the defect correction is made.

**6.13.3.5 Reimbursement for Parts**

The Recipient Agencies shall be reimbursed by the Vendor for defective parts and for parts that must be replaced to correct the defect. The reimbursement shall be at the invoice cost of the part(s) at the time of repair and shall include taxes where applicable and 10 percent handling costs.

**6.14 WARRANTY AFTER REPLACEMENT/REPAIRS**

If any component, unit, or subsystem is rebuilt or replaced by the Vendor or by the Recipient Agencies personnel, with the concurrence of the Vendor, the subsystem shall have the unexpired warranty period of the original subsystem.

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**7. CONTRACT AWARD**

**7.1 Contract Award:** The Contract is intended to provide Agencies with a purchase price on all Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.

**7.2** The Federal Transit Administration's "Third Party Contracting Circular" (4220.1F), requires grantees (the DPT) to conduct procurements in a manner that prohibits the use of statutorily or administratively imposed In-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference.

Therefore, the In-State vendor preference per West Virginia Code 5A-3-37 shall not apply to this procurement since it is partially or entirely funded with Federal Transit Administration funds.

**8. PRICING PAGE**

**8.1** Vendor shall complete Exhibit A Pricing Page by listing the unit price for each vehicle Class, multiplying the unit price by the estimated quantity to arrive at a total. All prices quoted are to be in whole dollars and include delivery charges.

**8.2** Exhibit A Pricing Page contains a list of the Contract Items and estimated purchase volume. The estimated purchase volume for each item represents the approximate volume of anticipated purchases only. No future use of the Contract or any individual item is guaranteed or implied. Vendor should complete the Pricing Pages in their entirety as failure to do so may result in Vendor's bids being disqualified.

**8.3** Vendor should electronically enter the information into the Pricing Pages through wvOASIS, if available, or as an electronic document.

**8.4** Additional agencies, as noted, could purchase from any awarded contract resulting from this bid. Specified deliverables would be as originally advertised, competed, evaluated and awarded.

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**9. BID REQUIREMENTS**

- 9.1 All bids must remain in effect for the life of the contract except if vehicle chassis manufacturer issues a model year chassis price increase. A request for a model year chassis price increase is the only price increase that will be considered.
- 9.2 To request a new model year chassis price increase, the request shall be submitted to the Division of Public Transit. Documentation from the actual chassis manufacturer of the chassis price increase is required to be included in the request or the price increase will not be considered.

**10. VENDOR QUALIFICATIONS**

The Vendor must be a person, firm or corporation that:

- 10.1 Has in operation, a manufacturing plant adequate to assure delivery of all equipment within the time specified under the contract.
- 10.2 Has adequate engineering and service personnel, or has the capability to have such personnel, to satisfy any engineering or service problems that may arise during the warranty period.
- 10.3 Has similar vehicles in operation in comparable service for a minimum of one (1) year. The Vendor may be required to furnish a customer list indicating the number of units and dates in service during or equal period or during the bid evaluation period in addition to the requirements under Section 11.1.8 of these specifications.
- 10.4 In lieu of this requirement, certified results of a shaker test may be requested by the Division of Public Transit during the or equal period to prove the proposed vehicles to be capable of operating the service contemplated for these vehicles.
- 10.5 Has the necessary facilities and financial resources to complete the contract in a satisfactory manner within a required time. The Division of Public Transit shall have the right to conduct a pre-award survey of each Vendor.
- 10.6 Has complete and accurate maintenance, parts and operators' manuals.

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**11. MISCELLANEOUS ITEMS TO BE SUPPLIED WITH BID**

**11.1 Pre-Award Review** – The Vendor shall submit the following items and any further items requested.

- 11.1.1 Complete mechanical description of vehicle, its construction and equipment including manufacturer's model name and/or number. Equipment to be described shall include the wheelchair lift, air conditioner, flip-up seat, and wheelchair securement system, if these items are specified herein.
- 11.1.2 Proposed interior floor plans, showing detailed dimensions including the location of the wheelchair securement system and stanchions if specified.
- 11.1.3 Curb weight (empty weight) and gross vehicle weight rating (GVWR) of vehicle.
- 11.1.4 Description of the warranties the Vendor proposes to furnish for the vehicle and for required ancillary equipment, including a listing of sites where warranty work will be performed.
- 11.1.5 The location of the nearest depot which will furnish a complete supply of parts and components for the repair and maintenance of the vehicle to be supplied.
- 11.1.6 Description of the undercoating/rustproofing system, including warranty to be provided.
- 11.1.7 Identification of the specific location of the place of assembly in the case of a vehicle or the place of a conversion in the case of a converted vehicle. If the location changes, the Vendor must notify the Division of Public Transit, in which case the Division of Public Transit reserves the right to perform an inspection similar to the pre-award inspection identified. If the results of the inspection are unsatisfactory, the Division of Public Transit may begin the contract termination process through the WV State Purchasing Division.
- 11.1.8 A list of five (5) users names, addresses, and telephone numbers who have been provided similar equipment by the Vendor. If the Vendor has not provided similar equipment, the Division of Public Transit reserves the right to determine the acceptability of the equipment proposed by the Vendor.

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**12. FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS, CONDITIONS AND CERTIFICATIONS:**

Current FTA Terms and Conditions are included in this bid and must be met. Certifications for Vehicle Purchases, including Federal Motor Vehicle Safety Standards, Debarred Bidders, Disadvantaged Business Enterprise Manufacturers, Buy America Rolling Stock, Byrd Anti-Lobbying and Vehicle Testing certifications are provided on Bid Form Pages #1 - #10. **All bid forms provided shall be properly completed and furnished by the Vendor as part of the bid. Failure to submit any of these forms shall disqualify the bid.**

**12.1 No Government Obligation to Third Parties**

The Division of Public Transit and the Vendor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to the Contract and shall not be subject to any obligations or liabilities to DPT, the Vendor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

The Vendor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified except to identify the subcontractor who will be subject to its provisions.

**12.2 Program Fraud and False or Fraudulent Statements and Related Acts**

The Vendor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended 31 U.S.C. §§ 3801 *et seq.* and U.S. Department of Transportation regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Contract. Upon execution of the underlying contract, the Vendor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract for the FTA assisted project for which this Contract work is being performed. In addition to other penalties that may be applicable, the Vendor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Vendor to the extent the Federal Government deems appropriate.

The Vendor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Vendor, to the extent the Federal Government deems appropriate.

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The Vendor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

**12.3 Access to Records**

The Vendor agrees to permit DPT, the Secretary of the US DOT and the Comptroller General of the United States, or their authorized representatives, to inspect all Contract work, materials, payrolls and other data and records with regard to the Contract. The Vendor also agrees to permit an audit of the books, records, and accounts of the Vendor and its subcontractors.

**12.4 Federal Regulation Changes**

Vendor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement (FTA MA (24) dated October 1, 2017) <http://www.fta.dot.gov> between the WV Department of Transportation, Division of Public Transit and FTA, as they may be amended or promulgated from time to time during the term of this contract. Vendor's failure to so comply shall constitute a material breach of this contract.

**12.5 Civil Rights Requirements**

In connection with the execution of this contract, the following requirements will apply:

**12.5.1 Nondiscrimination.** In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d, *et seq.*, Age Discrimination Act of 1975, as amended, 42 U.S.C. §6101, *et. seq.*, Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101, *et. seq.*, and Federal transit law at 49 U.S.C. §5332, as amended, the Vendor agrees that it will not discriminate against any employee or applicant for employment on the basis of race, color, religion, national origin, sex, age or disability. In addition, the Vendor agrees to comply with any other applicable Federal statutes that may be signed into law or regulations that may be promulgated.

**12.5.2 Equal Employment Opportunity.** The following equal employment opportunity requirements apply to the underlying contract:

**12.5.2.1 Race, Color, Religion, National Origin, Sex, Disability, Age, Sexual Orientation, Gender Identity or Status as a Parent.** In accordance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e, *et seq.*, and Federal transit laws at 49 U.S.C. § 5332, the Vendor agrees to comply with all

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applicable equal employment opportunity requirements of the U.S. Department of Labor (US DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 *et seq.*, (which implement Executive Order Number 11246, "Equal Employment Opportunity", as amended by Executive Order Number 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Vendor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during their employment, without regard to their race, color, religion, national origin, sex, disability, age, sexual orientation, gender identity or status as a parent. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms or compensation; and selection for training, including apprenticeship. In addition, the Vendor agrees to comply with any implementing requirements FTA may issue.

12.5.3 The Vendor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

**12.6 Incorporation of FTA Terms**

The preceding provisions include, in part, certain Standard Terms and Conditions required by the U.S. Department of Transportation, whether or not expressly set forth in the preceding Contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, dated November 1, 2008, and are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Vendor shall not perform any act, fail to perform any act, or refuse to comply with any DPT requests which would cause DPT to be in violation of the FTA terms and conditions.

**12.7 Energy Conservation Requirements**

The Vendor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the State Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act.



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**12.8 Debarment and Suspension**

This contract will comply with the requirements of 2 CFR Part 180, subpart C as adopted and supplemented by U.S. DOT regulations at 2 CFR Part 1200. Vendor is required to submit **Bid Forms #6 & #7** with bid.

The Division will not enter into any arrangement to participate in the development or implementation of a contract with any Vendor that is debarred or suspended except as authorized by Executive Orders No. 12549, "Uniform Suspension, Debarment or Exclusion of Participant from Procurement or Non-procurement Activity," October 13, 1994, 31 U.S.C. § 6101 note, as amended by Executive Order No. 12689, "Debarment and Suspension," August 16, 1989, 31 U.S.C. § 6101 note, and other applicable federal laws, regulations, or guidance regarding participation with debarred or suspended Vendors.

The Division will review the U.S. GSA "System for Award Management – Lists of parties Excluded from Federal Procurement and Non-Procurement Program," <https://www.sam.gov>,

As required by U.S. DOT regulations, 2 CFR Part 1200. If the Vendor's name is on the list, the Division cannot enter into a contract with a Vendor on the debarred list.

Should an approved Vendor have subcontracts, it is required to include similar provisions in each subcontract and review the SAM at <https://www.sam.gov>, to determine that the subcontractor is not on the debarred or suspended list.

**12.9 Buy America Certification** – Vendor agrees to comply with 49 U.S.C. § 5323(j) and 49 CFR Part 661, which provides that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7 and include, microcomputer equipment, software, and small purchases (currently not more than \$150,000) made with capital, operating, or planning funds. Separate requirements for rolling stock are set out at 49 CFR 661.11. Rolling stock not subject to a general waiver must be manufactured in the United States and have a 65 percent domestic content.

**12.9.1.** A bidder must submit to the Division the appropriate Buy America certification on **Bid Form #4** with all bids on FTA-funded contracts, except those subject to a general waiver. **Per FTA requirements, bids that are not accompanied by a completed Buy America certification must be rejected as non-responsive.** This requirement does not apply to lower tier subcontractors.

**12.9.2.** **Should the Vendor be declared responsive and low bid, pursuant to Pre-Award and Post Delivery Audit Requirements, the Division will require the Vendor to submit documentation (prior to any award) that lists:**

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- 12.9.2.1 Component and sub-component parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs;
  - 12.9.2.2 The location of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and the cost of final assembly.
  - 12.9.2.3 The Vendor shall submit one manufacturer's Federal Motor Vehicle Safety Standards (FMVSS) self-certification sticker providing information that the vehicle quoted complies with relevant FMVSS, or Manufacturer's certified statement that the contracted vehicles will not be subject to FMVSS regulations.
- 12.9.3 As required by the Post Delivery Audit Requirement, any successful vendor will be required to furnish the following prior to any completed vehicle being placed into service or before any payment can be made:
- 12.9.3.1 Actual component and sub-component parts of the rolling stock provided, identified by manufacturer of the parts, country of origin and costs; and
  - 12.9.3.2 Actual location of the final assembly point for the rolling stock provided, including a description of the activities that took place at the final assembly point and the actual cost of final assembly.

**12.10 Byrd Anti-Lobbying Amendment**

Every Vendor who applies or bids for an award of \$100,000 or more shall file the certification of **Bid Form #9** required by 49 CFR Part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose the name of the registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. § 1352. Such disclosures are forwarded from tier to tier up to the Division.

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**12.11 Environmental Regulations**

The Vendor agrees it will not use any violating facilities, will report the use of facilities placed on or likely to be placed on the U.S. EPA "List of Violating Facilities," will report violations of use of prohibited facilities to the Division who will in turn report each violation to FTA and the appropriate EPA Regional Office and will comply with the inspection and other requirements issued pursuant to the Environmental Protection Agency (EPA regulations (40 CFR, Part 15), which prohibits the use under nonexempt federal contracts, grants or loans of facilities included on the EPA list of violating facilities.

**12.12 Clean Air & Clean Water**

The Vendor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, 42 U.S.C. §§ 7401 – 7671q and the Federal Water Pollution Control Act, U.S.C. 33 §§ 1251 – 1388, as amended.

The Vendor agrees to report each violation to the Division and understands and agrees that the Division will, in turn, report each violation as required to FTA and the appropriate EPA Regional Office.

The Vendor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance by FTA.

**12.13 Air Pollution and Fuel Economy**

Vendor is to ensure compliance with applicable Federal air pollution control and fuel economy regulations, such as EPA regulations, "Control of Air Pollution from Mobile Sources," 40 CFR Part 85; EPA regulations, "Control of Emissions from New and In-Use Vehicles," 40 CFR Part 86; and EPA regulations, "Fuel Economy and Greenhouse Gas Exhaust Emissions of Motor Vehicles" 40 CFR Part 600.

**12.14 Contract Work Hours and Safety Standards Act**

The Vendor shall comply with Section 102 of the Contract Work Hours and Safety Standards Act (40 USC §§ 3701 *et seq.*, esp. § 3702) as supplemented by Department of Labor Regulations (29 CFR, § 5 & 29 CFR § 1926) as they involve the employment of mechanics and laborers.

**12.14.1 Overtime Requirements** – No Vendor or subcontractor for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty (40) hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half

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times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweeks.

- 12.14.2 Violation - Liability for Unpaid Wages; Liquidated Damages** – In the event of any violation of the clause set forth in above paragraph of this section, the Vendor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Vendor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in above paragraph of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty (40) hours without payment of the overtime wages required by the clause set forth in above paragraph of this section.
- 12.14.3 Withholding for Unpaid Wages and Liquidated Damages** – The Division shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Vendor or subcontractor under any such contract or any other Federal contract with the same prime Vendor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Vendor, such sums as may be determined to be necessary to satisfy any liabilities of such Vendor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 12.4.2 of this section.
- 12.14.4 Subcontracts** – The Vendor or subcontractor shall insert in any subcontracts the clauses set forth in this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Vendor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in this section.
- 12.14.5 Payrolls and Basic Records** – Payrolls and basic records relating thereto shall be maintained by the Vendor during the course of the work and preserved for a period of three (3) years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b) (2) (B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in

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providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the Vendor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

Vendors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of the training programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

**12.15 Disadvantaged Business Enterprise (DBE)**

12.15.1 All U.S. Department of Transportation, Federal Transit Administration (FTA) assisted contracts between FTA, the Division of Public Transit,

and any Vendor shall include the following language:

**12.15.2 Policy** – It is the policy of the U.S. Department of Transportation that Disadvantaged Business Enterprises (DBE) as defined in 49 CFR Part 26 that DBEs shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds under this agreement. Consequently, the DBE requirements of 49 CFR Part 26 apply to the agreement.

**12.15.3 DBE Obligation** – The recipient or its Vendor agrees to ensure that DBEs as defined in 49 CFR Part 26 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds under this agreement. Consequently, the DBE requirements of 49 CFR Part 26 apply to the agreement. In this regard, all recipients or Vendors shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 to ensure that DBEs have the maximum opportunity to compete for and perform contracts. Recipients and their Vendors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of U.S. Department of Transportation-assisted contracts.

**12.15.4** The manufacturer of transit vehicles shall certify that it has complied with the requirements of 49 CFR Part 26 (March 4, 1999), Section 26.49, and "Transit Vehicle Manufacturers". This certification shall be submitted with responses to this solicitation on **Bid Form #3**.

**12.15.5** The Vendor shall make good faith efforts to replace a DBE subcontractor that is unable to perform, with another DBE subcontractor.

**12.15.6** Where the Vendor is found to have failed to exert sufficient reasonable

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and good faith efforts to involve DBEs in the work provided, the Division of Public Transit may declare the Vendor noncompliant and in breach of contract.

**12.15.7** The Vendor will keep records and documents for a reasonable time following performance of this contract to indicate compliance with the Division of Public Transit DBE Program. These records and documents will be made available at reasonable times and places for inspection by any authorized representative of the Division of Public Transit and will be submitted to the Division of Public Transit upon request.

**12.15.8** The awarded Vendor agrees to include the following assurance in every subcontract it signs relevant to this contract: The Vendor and each Third Party Subcontractor must not discriminate on the basis of race, color, national origin, or sex in the award and performance of any FTA or U.S. DOT-assisted sub-agreement, third party contract, and third party subcontract, as applicable, and the administration of its DBE program or the requirements of 49 CFR Part 26.

The Vendor and each third party subcontractor must take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of U.S. DOT-assisted sub-agreements, third party contracts and third party subcontracts, as applicable.

Failure by the Vendor and any of its third party contracts or third party subcontractors to carry out the requirements of this subparagraph 13.d (4) (b) is a material breach of this contract, and

The following remedies, or such other remedy as the Division of Public Transit deems appropriate, include, but are not limited to, withholding payments; assessing sanctions; liquidated damages; and/or disqualifying the Vendor from future bidding as non-responsible.

**12.16**     Accessibility

Vendor agrees that any vehicles provided shall be in accordance with the 42 U.S.C. Sections 12101 *et seq.*, and US DOT regulations, "Transportation Services for Individuals with Disabilities Act (ADA)," 49 CFR Part 37; and Joint U.S. Architectural and Transportation Barriers Compliance Board (U.S. ATBCB) and U.S. DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 CFR Part 1192 and 49 CFR Part 38.

**12.17**     Vehicle Testing

The Vendor agrees to comply with 49 U.S.C. § 5318(e) and FTA's implementing regulation at 49 CFR Part 665 and shall perform the following:

**12.17.1** A manufacturer of a new vehicle model or a vehicle model produced

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with a major change in components or configuration shall provide a copy of the final test report to the Division of Public Transit at a point in the procurement process specified by the Division of Public Transit which will be prior to the Division's final acceptance of the first vehicle reflecting a passing score.

**12.17.2** A manufacturer who releases a report under above paragraph shall provide notice to the operator of the testing facility that the report is available to the public.

**12.17.3** If the manufacturer represents that the vehicle was previously tested, the vehicle being sold should have the identical configuration and major components as the vehicle in the test report, which must be provided to the Division prior to the Division's final acceptance of the first vehicle. If the configuration or components are not identical, the manufacturer shall provide a description of the change and the manufacturer's basis for concluding that it is not a major change requiring additional testing.

**12.17.4** If the manufacturer represents that the vehicle is "grandfathered" (has been used in mass transit service in the United States before October 1, 1988 and is currently being produced without a major change in configuration or components), the manufacturer shall provide the name and address of the recipient of such a vehicle and the details of that vehicle's configuration and major components.

**12.17.5** Any bidder must submit to the Division FTA's Vehicle Testing Requirements Certification on **Bid Form #10**. Bids that are not accompanied by a completed certification must be rejected as non-responsive. **A copy of the vehicle testing report should be included with the bid if available.** This requirement does not apply to lower tier subcontractors.

**12.18** **Bid Protest Procedures**

Vendors have the option of protesting certain decisions made by the Purchasing Division. Please refer to the following link for Vendor Protest Procedures under Section 6.8.

<http://www.state.wv.us/admin/purchase/vrc/VPG/default.html>

**12.19** **Appeals to the Federal Transit Administration (FTA)**

Under the Federal Transit Administration's Circular 4220.1F, the Federal Transit Administration's (FTA's) appeals process for reviewing protests of a recipient's procurement decisions are:

**12.19.1** Requirements for the Protester – The protester must:

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**12.19.1.1 Qualify as an "Interested Party"** – Only an "interested party" qualifies for FTA review of its appeal. An "interested party" is a party that is an actual or prospective bidder or offeror whose direct economic interest would be affected by the award or failure to award the contract at issue.

- i) **Subcontractors** – A subcontractor does not qualify as an "interested party" because it does not have a direct economic interest in the results of the procurement.
- ii) **Consortia//Joint Ventures/Partnerships/Teams** – An established consortium, joint venture, partnership, or team that is an actual bidder or offeror and is acting in its entirety, would qualify as an "interested party" because it has a direct economic interest in the results of the procurement. An individual member of a consortium, joint venture, partnership, or team, acting solely in its individual capacity, does not qualify as an "interested party" because it does not have a direct economic interest in the results of the procurement.
- iii) **Associations or Organizations** – An association or organization that does not perform contracts does not qualify as an "interested party" because it does not have a direct economic interest in the results of the procurement.

**12.19.1.2 Exhaust Administrative Remedies** – The protester must exhaust its administrative remedies by pursuing the WV Purchasing Division protest procedures to completion before appealing their decision to FTA.

**12.19.1.3 Appeal Within Five (5) Days** – The protester must deliver its appeal to the FTA Regional Administrator, Region III, 1760 Market Street, Suite 500, Philadelphia, PA, 19103-4124 within five (5) working days of the date when the protester has received actual or constructive notice of the WV Purchasing Division's final decision. Likewise, the protester must provide its appeal to the same address within five (5) working days of the date when the protester has identified other grounds for appeal to FTA. For example, other grounds for appeal include the DPT's failure to have or failure to comply with the WV Purchasing Division's protest procedures or failure to review the protest.



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**12.20**     **Extent of FTA Review** - FTA limits its reviews of protests to:

**12.20.1** Failure of DPT to have or adhere to WV Purchasing Division written bid protest procedures, or failure of DPT to review a complaint or protest.

**12.20.2** Alleged violations on other grounds are under the jurisdiction of the appropriate State or local administrative authorities.

**12.20.3** Alleged violations of a specific Federal Law or regulation that provides an applicable complaint procedure shall be submitted and processed in accordance with that Federal Law or regulation. See, e.g., Buy America Requirements, 49 C.F.R. Part 661 (Section 661.15); Participation by Minority Business Enterprise in Department of Transportation Programs, 49 C.F.R. Section 26.89.

FTA will exercise discretionary jurisdiction over those appeals involving issues important to FTA's overall public transportation program. FTA will refer violations of Federal law for which it does not have primary jurisdiction to the Federal authority having proper jurisdiction.

**12.21**     **FTA Determination to Decline Protest Reviews**

FTA's determination to decline jurisdiction over a protest does not mean that FTA approves of or agrees with WV Purchasing Division's decision or that FTA has determined the contract is eligible for Federal participation. FTA's determination means only that FTA does not consider the issues presented to be sufficiently important to FTA's overall program that FTA considers a review to be required.

**12.22**     **Prohibited Interest**

No employee, officer, board member, agent or their family members of the Division of Public Transit may participate in the selection, award or administration of a contract supported by Federal funds if a real or apparent conflict of interest is involved. Such a conflict could arise when any of the parties mentioned above have a financial or other interest in the Vendor selected for the contract.

**12.23**     **Hold Harmless**

The Vendor agrees to protect, defend, indemnify and hold the State of West Virginia, the Division, its officers, employees and agents free and harmless from and against any and all losses, penalties, damages, settlements, costs, charges, professional fees or other expenses or liabilities of every kind and

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character arising out of or relating to any and all claims, liens, demands, obligations, actions, proceedings or causes of action of every kind and character in connection with or arising directly or indirectly out of this Contract and/or the performance hereof. Without limiting the generality of the foregoing, and all such claims, etc., relating to personal injury, infringement of any patent, trademark, copyright (or application for any thereof) or of any other tangible or intangible personal or property right, or actual or alleged violation of any applicable statute, ordinance, administrative order, rule or regulation, or decrees of any court, shall be included in the indemnity hereunder. The Vendor further agrees to investigate, handle, respond to, provide defense for and defend any such claims, etc., at his/her sole expense and agrees to bear all other costs and expenses related thereto, even if such claim is groundless, false or fraudulent.

**13. ORDERING AND PAYMENT TO VENDOR**

**13.1 ORDERING:**

**13.1.1** Vendor shall accept orders by regular mail, facsimile, e-mail, or any other written forms of communication.

**13.2 PAYMENT:**

**13.2.1** When submitting invoices for payment to the Division of Public Transit, the Vendor shall be required to provide an original typed invoice. The following items shall appear on the invoice:

- 1) Vendor's Federal Employee Identification Number (FEIN)
- 2) Order number
- 3) Invoice should reflect the base vehicle cost and any applicable options with unit cost. **NOTE: Two invoices shall be submitted for each vehicle, one for 90% and one for 10%.**
- 4) Submit all invoices to:  
Division of Public Transit  
Building 5, Room 650  
1900 Kanawha Blvd., East  
Charleston, West Virginia 25305

**13.2.2** Payment of 90% of the total cost shall be paid upon conditional acceptance of the vehicle(s).

**13.2.3** Conditional acceptance of the vehicle(s) by the Division of Public Transit shall be made upon completion of inspection by the Division of Public Transit under Section 16 of this CRFQ.

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- 13.2.4 Under the conditional acceptance of the vehicle(s) provided, the Division of Public Transit shall retain 10% of the total cost per vehicle until all vehicles provided have been in actual service for thirty (30) days.
- 13.2.5 In the event any vehicle is found to be unacceptable during the thirty (30) day period of conditional acceptance, the Division of Public Transit shall furnish to the Vendor, in writing, a letter of non- acceptance detailing any and all deficiencies.
- 13.2.6 Final acceptance on each vehicle shall be made by the Division of Public Transit in writing upon completion of the period of conditional acceptance and/or after any and all deficiencies have been corrected.
- 13.2.7 Final acceptance shall be made on each individual vehicle provided. (Some vehicles may be accepted, while acceptance of others remains pending.)
- 13.2.8 Final acceptance of each vehicle shall be provided in writing by the Director of the Division of Public Transit or his/her authorized representative.
- 13.2.9 All warranties as described in this contract shall begin with the first day after the date of final acceptance of each vehicle. **Vendor shall furnish Notification of Delayed Delivery Date of In-Transit Mileage Accumulation Forms for completion by the Division of Public Transit upon acceptance of the vehicle.**
- 13.2.10 Prompt Payment – The prime Vendor agrees to pay each sub-contractor under this prime contract for satisfactory performance of its contract no later than fifteen (15) days from the receipt of each payment the prime Vendor receives from the Division of Public Transit. The Vendor agrees further to return retainage payments to each sub-contractor within fifteen (15) days after the sub-contractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval from the Division of Public Transit. This clause applies to both DBE and non-DBE sub-contractors.

#### 14. PRE-DELIVERY ACCEPTANCE TESTS

##### 14.1 Responsibility

Fully-documented tests shall be conducted on each production vehicle following manufacture to determine its acceptance to the Division of Public Transit. These acceptance tests shall include pre-delivery inspections and testing by the Division of Public Transit after the vehicles have been delivered.

##### 14.2 Pre-Delivery Tests

The Vendor shall conduct acceptance tests at its plant on each vehicle following completion of manufacture and before delivery to the Division of Public Transit. These pre-delivery tests shall include visual and measured inspections, as well as testing the total vehicle operation. The tests shall be documented. Additional tests

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may be conducted at the Vendor's discretion to ensure that the completed vehicles have attained the desired quality and have met the requirements of Section 3: Specifications. This additional testing shall be recorded on appropriate test forms provided by the Vendor.

The pre-delivery tests will be scheduled and conducted with sufficient notice so that they may be witnessed by the resident inspectors, who may accept or reject the results of the tests. The results of pre-delivery tests, and any other tests, will be filed with the assembly inspection records for each vehicle. The under-floor equipment will be made available for inspection by the resident inspectors, using a hoist. A scaffold, or elevated platform will be provided by the Vendors to easily and safely inspect vehicle roofs. Delivery of each vehicle will require written authorization of a resident inspector. Authorization forms for the release of each vehicle for delivery will be provided by the Vendor. An executed copy of the authorization will accompany the delivery of each vehicle.

**14.3 Inspection - Visual and Measured**

Visual and measured inspections shall be conducted with the vehicle in a static condition. The purpose of the inspection testing is to verify overall dimensional and weight requirements, to verify that required components are included and are ready for operation, and to verify that components and subsystems that are designed to operate with the vehicle in a static condition do function as designed.

**14.4 Total Vehicle Operation**

Total vehicle operations shall be evaluated during road tests. The purpose of the road tests is to observe and verify the operation of the vehicle as a system and to verify the functional operation of the subsystem that can be operated only while the vehicle is in motion.

Each vehicle shall be driven for a minimum of 15 miles during the road tests. Observed defects shall be recorded on the test forms. The vehicle shall be retested when defects are corrected and adjustments are made. This process shall continue until defects or required adjustments are no longer detected. Results shall be pass/fail for these vehicle operation tests.

**14.5 Final Pre-Delivery Inspection:**

Prior to delivery, all vehicles must be thoroughly inspected and serviced in compliance with the manufacturer's prescribed procedures which includes but is not limited to:

- 14.5.1 Complete vehicle lubrication;
- 14.5.2 Confirm oil level, fill crank case as needed, top off all fluids;
- 14.5.3 Adjust engine to proper operating condition;

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- 14.5.4 Verify tire pressure and correct as necessary;
- 14.5.5 Check front end alignment or four-wheel alignment, perform alignment, and balance all tires;
- 14.5.6 Wash/Clean interior and exterior of vehicle. Remove all unnecessary tags, stickers (including window stickers), papers, tags, etc.;
- 14.5.7 Upon delivery, the vehicles fuel tanks shall be full of fuel;
- 14.5.8 Affix a valid West Virginia Inspection Sticker to the windshield. The vehicle must be inspected in the month delivered;
- 14.5.9 No dealer insignia or other advertising shall be affixed to the vehicle or appear on any accessory such as mud flaps, bumpers, deck lids, etc. Vehicles delivered with such advertising will be rejected;
- 14.5.10 Perform operational checks which will cover all controls, systems, and devices, doors, windows, accessories, and road testing of the completed vehicle. Vehicle shall be driven at various speeds; brakes tested for dependability, vehicle checked for rattles, squeaks and must be in compliance with pre-delivery inspection/servicing procedures and make adjustments as necessary.

**15. DELIVERY AND RETURN:**

- 15.1 **Delivery Time and Location:** Vendors shall specify approximate delivery dates when submitting bids. Delivery of the vehicle shall be completed within 150 days after receipt of executed contract documents. Vendor shall ship all orders in accordance with the above schedule and shall not hold orders until a minimum delivery quantity is met.
- 15.2 **Late Delivery:** The Division must be notified in writing if delivery is delayed for any reason. The request for extension must be received by the Division of Public Transit no less than ten (10) days prior to the originally planned vehicle delivery date and must include detailed justification for the length of the time extension. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the delayed order, and/or obtaining the items ordered from a third party.

Any Agency seeking to obtain items from a third party under this provision must first obtain approval of the Purchasing Division.

Delivery shall be FOB destination to:  
Kanawha Valley Regional Transit Authority (KRT)  
1550 4<sup>th</sup> Avenue,  
Charleston, WV 25324

Vendor must contact KRT 24 hours before delivery at 304-343-7594. Delivery will be accepted Monday through Friday, between 9 a.m. and 2 p.m. exclusive of State holidays. Any delay in delivery resulting from the common carrier's operations, accidents, or

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mechanical failures in route shall be construed as a cause beyond the Vendor's control. However, the Vendor shall have the responsibility of releasing the vehicle to the common carrier in time to reach the delivery site under normal delivery conditions.

- 15.3 In case the delivery of the complete vehicle shall be necessarily delayed because of strike, injunction, civil disturbance, government controls, or by reason of any cause or circumstances beyond the control of the Vendor, as detailed in writing by the Vendor, the term of completion of delivery shall be extended by a number of days to be determined in each instance by mutual agreement of the Division of Public Transit and Vendor.
- 15.4 If the vehicle is delivered over-the-road, a written report shall be submitted by the driver to the Division of Public Transit listing all incidents and unusual vehicle performance during the trip.
- Should any service or repair be required during delivery, a comprehensive report shall be submitted to the Executive Director of the Division of Public Transit describing the nature of the service or repair and the cause.
- 15.5 Prior to acceptance, the Vendor shall have total risk of loss of the vehicle, including any damage sustained during the Vendor's driveway operation. Drivers shall keep a maintenance log enroute and it shall be delivered to the Division of Public Transit with the vehicle.

## 16. POST-DELIVERY ACCEPTANCE TESTS

- 16.1 The Division of Public Transit shall within fifteen (15) calendar days of notice from Vendor that vehicle is ready to be inspected for conditional acceptance, proceed with its inspection of vehicle for conditional acceptance. The Division of Public Transit will conduct acceptance tests on each delivered vehicle. The purpose of these tests is to identify defects that have become apparent between the time of vehicle release and delivery to the Division of Public Transit. The post-delivery tests shall include visual inspection and vehicle operations. The road tests for total vehicle operation are similar to those conducted at the Vendor's plant. Operational deficiencies of each vehicle shall be identified and recorded.
- 16.2 Vehicles that fail to pass the post-delivery tests are subject to non-acceptance. The Division of Public Transit shall record details of all defects and shall notify the Vendor of non-acceptance of each vehicle within 5 days after completion of the tests.

## 17. Conditional Acceptance of Vehicle's

- 17.1 The vehicle shall undergo the Division of Public Transit's acceptance test. If the vehicle passes these tests, conditional acceptance of the vehicle by the Division of Public Transit occurs on the fifteenth day after delivery. Acceptance may occur earlier if the Division of Public Transit notifies the Vendor of early acceptance. If the vehicle fails these tests, it shall not be accepted until the repairs have been made.

### 17.1.1 Repairs After Non-Acceptance

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The Division of Public Transit may require the Vendor, or its designated representative, to perform the repairs after non-acceptance or the work may be done by the Transit Authority or Recipient Agency's personnel with reimbursement by the Vendor.

**17.1.2 Repairs by Vendor**

If the Transit Authority or Recipient Agency requires the Vendor to perform repairs after non-acceptance of the vehicle, Vendor's representative must begin work within five (5) working days after receiving notifications from the Division of Public Transit or Transit Authority of failure of acceptance tests. The Transit Authority or Recipient Agency shall make the vehicle available to complete repairs timely with the Vendor's repair schedule.

The Vendor shall provide, at its own expense, all spare parts, tools and space required to complete the repairs. At the Transit Authority or Recipient Agency's option, the Vendor may be required to remove the vehicle from their property. The repair procedure must be diligently pursued by the Vendor's representatives and the Vendor shall assume risk of loss while the vehicle is under its control.

**17.1.3 Repairs by Transit Authority or Recipient Agency**

**17.1.3.1 Parts Used.** If the Transit Authority or Recipient Agency decides to perform the repairs after non-acceptance of the vehicle, it shall correct or repair the defect and any related defects using Vendor specified parts available from its own stock or those supplied by the Vendor specifically for this repair.

Monthly, or at a period to be mutually agreed upon, reports of all repairs covered by this procedure shall be submitted by the Transit Authority or Recipient Agency to the Vendor for reimbursement or replacement of parts. The Vendor shall provide forms for these reports.

**17.1.3.2 Vendor Supplied Parts.** If the Vendor supplies parts for repairs being performed by the Transit Authority or Recipient Agency, after non-acceptance of the vehicle, these parts shall be shipped prepaid to the Transit Authority or Recipient Agency from any source selected by the Vendor within ten (10) working days after receipt of the request for said parts, provided said parts are available for shipment.

**17.1.3.3 Return of Defective Components.** The Vendor may request that parts covered by this provision be returned to the

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manufacturing plant. The total cost for this action shall be paid by the Vendor.

**17.1.3.4 Reimbursement for Labor.** The Transit Authority or Recipient Agency shall be reimbursed by the Vendor for labor. The amount shall be determined by multiplying the number of actual "man-hours" straight wage rate plus 53 percent fringe benefits, plus the cost of towing in the vehicle if such action was necessary. These wage and fringe benefit rates shall not exceed the rates in effect at the Transit Authority or Recipients Agency's service garage at the time the defect correction is made.

**17.1.3.5 Reimbursement for Parts.** The Transit Authority or Recipient Agency shall be reimbursed by the Vendor for defective parts that must be replaced to correct the defect. The reimbursement shall include taxes where applicable and ten (10) percent handling cost.

**17.1.4 Delivery Payment/Risk of Loss:** Standard order delivery shall be F.O.B. destination to the Agency's designated location. Vendor shall include the cost of standard order delivery charges in its bid pricing/discount and is not permitted to charge the Agency separately for such delivery.

**18. VENDOR DEFAULT:**

**18.1** The Following shall be considered a vendor default under this Contract.

**18.1.1** Failure to provide Contract Items in accordance with the requirements obtained herein.

**18.1.2** Failure to comply with other specifications and requirements contained herein.

**18.1.3** Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.

**18.1.4** Failure to remedy deficient performance upon request.

**18.1.5** The Following remedies shall be available to Agency upon default.

**18.1.6** Immediate cancellation of the Contract.

**18.1.7** Immediate cancellation of one or more release orders issued under this Contract.

**18.1.8** Any other remedies available in law or equity.



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19. MISCELLANEOUS:

- 19.1 **No Substitutions:** Vendor shall supply only Vehicles as submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.
- 19.2 **Vendor Supply:** Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.
- 19.3 **Contract Manager:** During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Jeff Pappas

Telephone Number: 800-227-3572

Fax Number: 419-836-8460

Email Address: JPAPPAS@tescobus.com

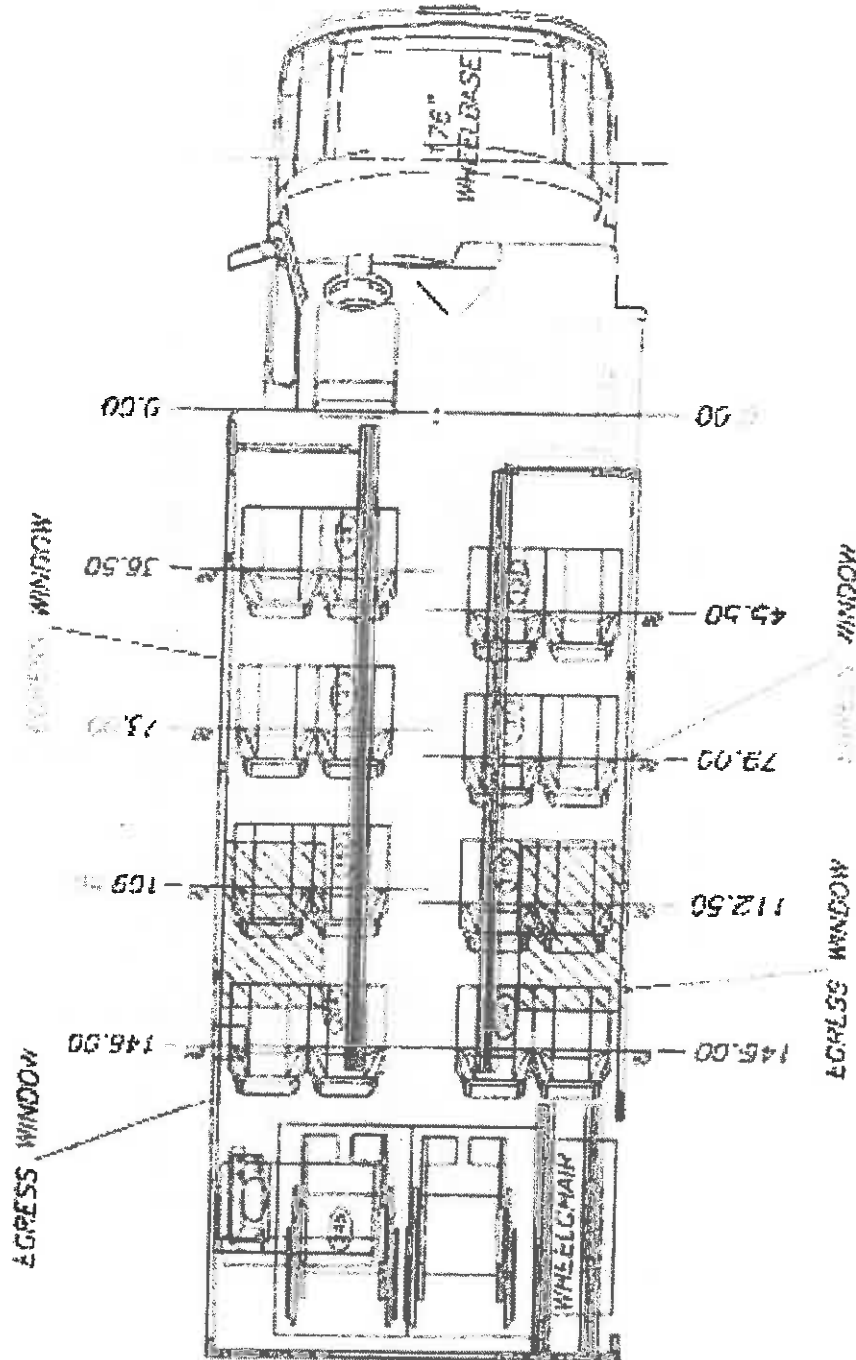
20. NOTIFICATION OF FEDERAL PARTICIPATION

Federal funding for this project is being provided by the Federal Transit Administration through various CFDA grants for 80% of the project cost. CFDA grants will be specified after award.

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21. PROPOSED FLOOR PLANS

Class A and Class B

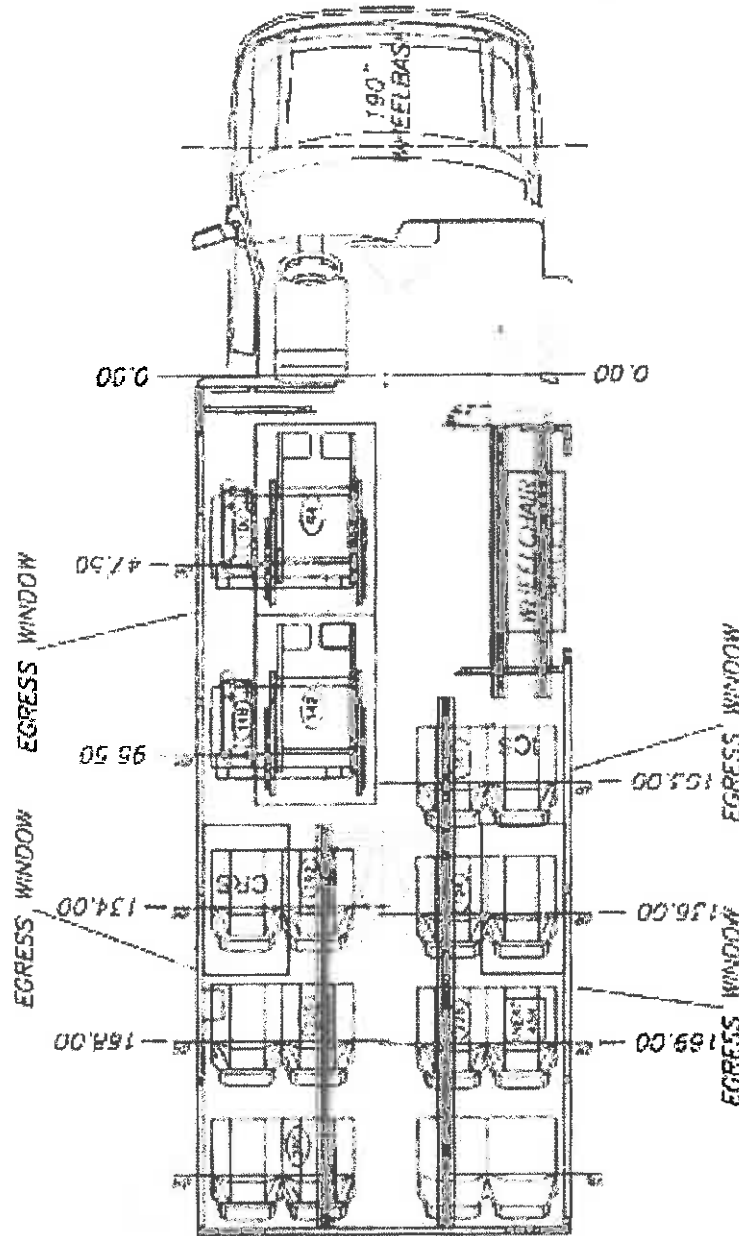


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Classes C, D, E, and F



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**REQUIRED BID FORMS**

The following certifications must be properly **completed and furnished by the bidder as part of the bid**. Failure to submit any of these certifications shall deem the bid **non-responsive**.

*A required documentation checklist has been provided for bidder's usage.*

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**BID FORM #1**

**MANDATORY BID FORM -- MUST BE SUBMITTED WITH BID**

**Location(s) of Technical Service Representative(s)  
closest or in the State of West Virginia**

Name: Transportation Equipment Sales Corp.      Contact Josh Wise

Address: 6401 Seaman Rd.

Oregon OH 43616

Telephone: 800-227-3572

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

**Location(s) of Parts Distribution Center(s)  
closest or in the State of West Virginia**

Name: Transportation Equipment Sales Corp.      Contact Josh Clark

Address: 5464 Stadium Rd.

Oregon OH 43616

Telephone: 419-720-7463

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

### West Virginia - Ford Service Facilities

<u>Service Facilities</u>	<u>Address</u>	<u>City &amp; ST</u>	<u>County</u>	<u>Phone</u>	<u>Service Contact</u>	<u>Body Work</u>	<u>Comments</u>
<b>Northern Panhandle</b>							
Ohio Valley Ford Mercury	Route 250 Jefferson Ave	Moundsville, WV	Marshall	(304) 845-4244	John Dudley	Yes	has a lift works on other busses
Rich Galardi Ford	1625 Commerce	Wellsburg, WV	Brooke	(304) 737-0211	Dave White	No	has lifts seems confident
<b>Eastern Panhandle</b>							
Kent Parsons Ford Lincoln Mercury	Route 45 E Moler Ave	Martinsburg, WV	Berkeley	(304) 263-3344	Kelly Hess	Yes	does work on floor
Markwood Ford Mercury	RR 3 Box 3280	Keyser, WV	Mineral	(304) 788-7900	Mike Smyder	No	has lifts and refers to a local body shop
Roth Ford	HC 30 Box 40	Petersburg, WV	Grant	(800) 334-7684	Rick Oates	No	does work on ground only small work
<b>Central West Virginia</b>							
Astorg Ford Lincoln Mercury	2028 7th St	Parkersburg, WV	Wood	(304) 485-8585	Rob Ayers	No	has lifts body shop can't fit a bus
Campus Ford Lincoln Mercury	Route 7	Morgantown, WV	Monongalia	(304) 296-4477	Michelle Smith	No	has a lift
Chenoweth Ford Lincoln Mercury	Route 50 E	Clarksburg, WV	Harrison	(304) 623-6501	Mike Allawat	Yes	has a lift
Elkins Fordland	1211 Harrison Ave	Elkins, WV	Randolph	(304) 636-2222	Kent Winn	No	limited does work on ground
I77 Ford Mercury	HC 80 Box 71B	Ripley, WV	Jackson	(304) 372-3673	Chris Smith	No	has lifts works on other busses
J & J Ford	Route 7 W	Terra Alta, WV	Preston	(304) 789-2431	Terry Shreve	Yes	has lifts
Michael Motor	1061 State St	Gassaway, WV	Braxton	(304) 364-5935	Matt Loyde	Yes	has a lift
Midway Ford	201 Orchard Park Rd	Hurricane, WV	Putnam	(304) 562-3315	Mike Withrow	No	does work on ground small shop limited
Scott Ford Mercury	Route 7 W	Kingwood, WV	Preston	(304) 329-3673	Willy Alberico	No	has lifts works on other busses
Toothman Ford	Route 50 W	Grafton, WV	Taylor	(304) 265-3000	Jackie Bell	No	has lifts can recommend body shop
Wilson Ford Lincoln Mercury	1950 Fairmont Ave	Fairmont, WV	Marion	(304) 363-0500	Rico Insani	Yes	does work on ground works on other busses
Jack Garrett Ford	Route 1 Ripley Rd	Spencer, WV	Roane	(304) 927-2492	Mike Carpenter	Yes	has lift works on other busses
Turnpike Ford of Huntington	2480 5th Ave	Huntington, WV	Cabell	(304) 529-2260	Rusty Stover	Yes	has a lift and contact Chris Carel for body
<b>Southern West Virginia</b>							
Andy Clark Ford Lincoln Mercury	498 Courthouse Rd	Princeton, WV	Mercer	(877) 425-2128	Sheryl Belcher	Yes	has lifts sublets body work next door
Colonial Ford Lincoln Mercury	428 N Jefferson St	Lewisburg, WV	Greenbrier	(304) 645-2244	Kenny Miller	Yes	has lift and body work is separate company
Ramey Ford Lincoln Mercury	615 N Eisenhower Dr	Beckley, WV	Raleigh	(304) 256-7421	Scotty Bowman	No	does work on floor handles other busses

**West Virginia - Braun Service Facilities**

<u>Service Facilities</u>	<u>Address</u>	<u>City &amp; ST</u>	<u>County</u>	<u>Phone</u>	<u>Located in District</u>
Van Lifts Unlimited	RR 12 Box 283	Hurricane, WV	Putnam	(304) 727-9478	Central West Virginia
Marietta Mobility	211 S. 8th Street	Marietta, OH	Washington	(800) 690-4950	*
Mobility Plus VA	323 S. College Ave.	Salem, VA	Independent	(540) 389-3400	*
Speclin Emergency Vehicle	100 Industrial St	Scottdale, PA	Westmoreland	(724) 887-8093	*
Keystone Coach Works, Inc.	4786 Library Road	Bethel Park, PA	Allegheny	(412) 833-1900	*
Total Mobility Services	4785 Penn Ave	Boswell, PA	Somerset	(814) 629-9934	*
Mountain International Trucks	408 Goff Mountain Rd	Cross Lanes, WV	Kanawha	(304) 776-5600	Central West Virginia
Matheny Motors	Third & Ann Streets	Parkersburg, WV	Wood	(304) 485-4423	Central West Virginia
Ironside Mobility Systems	687 Lofstrand Lane Unit P	Rockville, MD	Montgomery	(301) 279-5855	*
M.I.T.S. of Virginia	2075 West Main St.	Waynesboro, VA	Independent	(800) 420-6470	*
Mobility Works	1090 Mossie Blvd	Wall, PA	Allegheny	(412) 824-8091	*





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**BID FORM #2**

**CERTIFICATION FOR AIR & WATER POLLUTION  
MANDATORY BID FORM – MUST BE SUBMITTED WITH BID**


The Vendor certifies that the vehicles proposed:

ARE  X  in compliance with the regulations in 40 CFR Part 85, 40 CFR Part 86, 40 CFR Part 600, Clean Water Act and the air/water pollution criteria established by the Environmental Protection Agency of the United States Government.

ARE NOT \_\_\_\_\_ in compliance with the regulations in 40 CFR Part 85, 40 CFR Part 86, 40 CFR Part 600, Clean Water Act and the air/water pollution criteria established by the Environmental Protection Agency of the United States Government.

8/1/2018

Date

  
Authorized Signature

President

Title

Transportation Equipment Sales Corp.

Company Name

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BID FORM #3

DISADVANTAGED BUSINESS ENTERPRISE  
VENDORS/ MANUFACTURERS CERTIFICATION

MANDATORY BID FORM – MUST BE SUBMITTED WITH BID

(Check appropriate statement)

The Vendor, if a transit vehicle manufacturer, hereby certifies that it has complied with the requirements of 49 CFR Section 26.49 by submitting an annual DBE goal to the Federal Transit Administration (FTA). The goal has either been approved or not disapproved by FTA.

The Vendor, if a non-manufacturing supplier, hereby certifies that the manufacturer of the transit vehicle to be supplied has complied with the above-referenced requirement of 49 CFR Section 26.49.

8/1/2018

Date

Authorized Signature

President

Title

Transportation Equipment Sales Corp.  
Company Name

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

---

BID FORM #3

DISADVANTAGED BUSINESS ENTERPRISE  
VENDORS/ MANUFACTURERS CERTIFICATION

MANDATORY BID FORM - MUST BE SUBMITTED WITH BID

(Check appropriate statement)

The Vendor, if a transit vehicle manufacturer, hereby certifies that it has complied with the requirements of 49 CFR Section 26.49 by submitting an annual DBE goal to the Federal Transit Administration (FTA). The goal has either been approved or not disapproved by FTA.

The Vendor, if a non-manufacturing supplier, hereby certifies that the manufacturer of the transit vehicle to be supplied has complied with the above-referenced requirement of 49 CFR Section 26.49.

7/30/2018

Date



Authorized Signature

General Manager

Title

Elkhart Coach, division of Forest River, Inc.  
Company Name

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

**BID FORM #4**

**BUY AMERICA CERTIFICATION  
ROLLING STOCK  
MANDATORY BID FORM - MUST BE SUBMITTED WITH BID**

**Certificate of Compliance**

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. § 5323(j), as amended and the applicable regulations of 49 CFR 661.12:

8/1/2018

Date

Authorized Signature

Transportation Equipment Sales Corp.

Company Name

Noel E. Graham Jr.

Name

President

Title

**Certificate for Non-Compliance**

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. § 5323(j), as amended, but may qualify for an exception to the requirement consistent and the applicable regulations in 49 CFR 661.7.

Date

Authorized Signature

Company Name

Name

Title

Revised 10/27/14

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

BID FORM #4

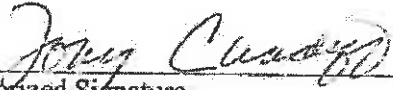
BUY AMERICA CERTIFICATION  
ROLLING STOCK  
MANDATORY BID FORM - MUST BE SUBMITTED WITH BID

Certificate of Compliance

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. § 5323(j), as amended and the applicable regulations of 49 CFR 661.12:

7/30/2018

Date

  
Authorized Signature

Elkhart Coach, division of Forest River Inc.  
Company Name

Tony Cundiff  
Name

General Manager  
Title

**Certificate for Non-Compliance**

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. § 5323(j), as amended, but may qualify for an exception to the requirement consistent and the applicable regulations in 49 CFR 661.7.

Date

Authorized Signature

Company Name

Name

Title

Revised 10/27/14

REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

---

**BID FORM #5**

**FEDERAL MOTOR VEHICLE  
SAFETY STANDARDS CERTIFICATION**

**MANDATORY BID FORM – MUST BE SUBMITTED WITH BID**

The vendor hereby certifies that it shall submit, as required by Title 49 of the CFR, Part 663 - Subpart D, its self-certification information stating that the vehicle(s) will comply with the relevant Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in Title 49 of the Code of Federal Regulations, Part 571.

8/1/2018

Date

Authorized Signature

President

Title

Transportation Equipment Sales Corp.  
Company Name

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

---

**BID FORM #5**

**FEDERAL MOTOR VEHICLE  
SAFETY STANDARDS CERTIFICATION**

**MANDATORY BID FORM - MUST BE SUBMITTED WITH BID**

The vendor hereby certifies that it shall submit, as required by Title 49 of the CFR, Part 663 - Subpart D, it's self-certification information stating that the vehicle(s) will comply with the relevant Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in Title 49 of the Code of Federal Regulations, Part 571.

7/30/2018

Date

  
Authorized Signature

General Manager

Title

Elkhart Coach, division of Forest River, Inc.  
Company Name

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

---

**BID FORM #6**  
**U.S. Comptroller's Debarment List Certification**  
**MANDATORY BID FORM - MUST BE SUBMITTED WITH BID**

Transportation Equipment Sales Corp. hereby certifies that it

       IS or

IS NOT (specify one) included on the U.S. GSA's debarment and suspension information available at <https://www.sam.gov>.

8/1/2018

Date

  
Authorized Signature

President

Title

Transportation Equipment Sales Corp.  
Company Name



REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

---

**BID FORM #6**  
**U.S. Comptroller's Debarment List Certification**  
**MANDATORY BID FORM - MUST BE SUBMITTED WITH BID**

Elkhart Coach, Division of Forest River Inc hereby certifies that it

           IS or

IS NOT (specify one) included on the U.S. GSA's debarment and suspension information available at <https://www.sam.gov>.

7/30/2018  
Date

  
Authorized Signature

General Manager  
Title

Elkhart Coach, Division of Forest River Inc.  
Company Name

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

---

**BID FORM #7**

**MANDATORY BID FORM - MUST BE SUBMITTED WITH BID**

**CERTIFICATION OF PRIMARY PARTICIPANT REGARDING  
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS**

The Primary Participant (applicant for an FTA grant or cooperative agreement, or potential contractor for a major third party contract),  
Transportation Equipment Sales Corp.

(COMPANY NAME) certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

If the primary participant (applicant for an FTA grant, or cooperative agreement, or potential third party contractor) is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

**THE PRIMARY PARTICIPANT (APPLICANT FOR AN FTA GRANT OR COOPERATIVE AGREEMENT, OR POTENTIAL CONTRACTOR FOR A MAJOR THIRD PARTY CONTRACT),**

Transportation Equipment Sales Corp. CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET SEQ. ARE APPLICABLE THERETO.

 President

Signature and Title of Authorized Official

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

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**BID FORM #8**  
**MANDATORY BID FORM - MUST BE SUBMITTED WITH BID**  
**VENDOR'S CERTIFICATION OF**  
**UNDERSTANDING AND ACCEPTANCE**

The Vendor hereby certifies that all Technical Specifications and Contract Terms and Conditions have been carefully reviewed, are fully understood and shall be adhered to in performance and completion of any contract resulting from this bid.

8/1/2018

Date

Authorized Signature

President

Title

Transportation Equipment Sales Corp.  
Company Name

**SPECIFICATION COMPLIANCE**

**NOTE: Please check if what is offered is not in exact compliance with specifications. Any discrepancies must be listed as an attachment to the bid proposal. Exact dimensions and/or descriptions must be provided as a part of the Vendor's bid proposal when submitted.**

- Bid proposal submitted meets and/or exceeds all specification requirements.
- Bid proposal submitted contains deviations from specification requirements. Detailed descriptions of these deviations have been provided with this bid proposal.

REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

**BID FORM #9**  
**MANDATORY BID FORM – MUST BE SUBMITTED WITH BID**

**CERTIFICATION OF RESTRICTIONS ON LOBBYING**

The undersigned (Vendor, Contractor) certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid by or on behalf of the undersigned, to any person for influence or attempt to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress regarding the award of a Federal grant, loan (including a line of credit), cooperative agreement, loan guarantee, or loan insurance, or the extension, continuation, renewal, amendment, or modification of any Federal grant, loan (including a line of credit), cooperative agreement, loan guarantee, or loan insurance.
2. If any funds other than Federal appropriated funds have been or will be paid to any person to influence or attempt to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or any employee of a Member of Congress in connection with any application for a Federal grant, loan (including a line of credit), cooperative agreement, loan guarantee, or loan insurance, the undersigned assures that it will complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," Rev. 7-97; and
3. The undersigned understands that the language of this certification shall be included in the award documents for all sub awards at all tiers (including subcontracts, sub grants, sub agreements, and contracts under grants, loans (including a line of credit), cooperative agreements, loan guarantees, and loan insurance.

Undersigned understands that this certification is a material representation of fact upon which reliance is placed by the Federal government and that submission of this certification is a prerequisite for providing a Federal grant, loan (including a line of credit), cooperative agreement, loan guarantee, or loan insurance for a transaction covered by 31 U.S.C. 1352. The undersigned also understands that any person who fails to file a required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The (Vendor, Contractor) Transportation Equipment Sales Corp., certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the (Vendor, Contractor) understands and agrees that the provisions of 31 U.S.C. §§ 3801, et seq., apply to this certification and disclosure.

8/1/2018

Date

  
Authorized Signature

President

Title

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

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BID FORM #10

**CERTIFICATION OF COMPLIANCE WITH FTA'S  
BUS TESTING REQUIREMENTS**

The undersigned (Vendor/Manufacturer) certifies that the vehicle offered in this procurement complies with 49 U.S.C. 5318, as amended by MAP-21, and FTA regulations, "Bus Testing," 49 CFR Part 665.

The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assistance may subject the undersigned to civil penalties as outlined in the Department of Transportation's regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

8/1/18  
Date

*[Signature]*  
Authorized Signature

*president*  
Title

*Transportation Equipment Sales Corp.*  
Company Name

REQUEST FOR QUOTATION  
176" - 190" Wheelbase Cutaway Vehicle

---

BID FORM #10

CERTIFICATION OF COMPLIANCE WITH FTA'S  
BUS TESTING REQUIREMENTS

The undersigned (Vendor/Manufacturer) certifies that the vehicle offered in this procurement complies with 49 U.S.C. 5318, as amended by MAP-21, and FTA regulations, "Bus Testing," 49 CFR Part 665.

The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assistance may subject the undersigned to civil penalties as outlined in the Department of Transportation's regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

7/30/2018

Date



Authorized Signature

General Manager

Title

Elkhart Coach, Division of Forest River Inc.  
Company Name



**A Division of Forest River Inc.**

July 30, 2018

**RE: State of West Virginia Request for Quote PTR1900000001 for Cutaway buses**

Please be advised that Elkhart Coach, Division of Forest River, certifies that it fully complies with relevant Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in Title 49 Code of Federal Regulations, Part 571.

FMVSS 207 Seating Systems Standards

FMVSS 209 Seat Belt Assemblies Standard

FMVSS 210 Seat Belt Assembly Anchorages Standard

FMVSS 217 Bus Window Tension and Release Standard

FMVSS 220 School Bus Rollover Standard

FMVSS 302 Flammability of Interior Materials

STURAA 7 Year/200,000 Mile Vehicle Durability Test

Elkhart Coach retains all performance test reports on file at our facility in Elkhart, Indiana and complete individual copies are available upon request.

Tony Cundiff  
General Manager  
Elkhart Coach Division  
Forest River, Inc.

REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

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**REQUIRED BID DOCUMENTATION CHECKLIST**

Manufacturer: Elkhart      Model Year: 2019      Model: ECII

**Mandatory Bid Forms – must be submitted with bid:**

- Bid Form #1: Locations of Technical Service Representatives and Parts Distribution Centers
- Bid Form #2: Certification for Air & Water Pollution
- Bid Form #3: Disadvantaged Business Enterprise Vendors/Manufacturers Certification  
The vendor shall also supply with bid FTA TVM DBE Goal Concurrence for the Current Fiscal Year Approval Letter.
- Bid Form #4: Buy America Certification Rolling Stock  
Should the Vendor be declared responsive and low bid, pursuant to Pre-Award and Post Delivery Audit Requirements, the Division will require the Vendor to submit documentation (with the bid or prior to any award) that lists:
  - 1) Component and sub-component parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and
  - 2) The location of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and the cost of final assembly.
- Bid Form #5: Federal Motor Vehicle Safety Standards Certification  
Vendor shall also supply with bid a breakdown of FMVSS standards to be met with proposed vehicle.
- Bid Form #6: U.S. Comptroller's Debarment List Certification
- Bid Form #7: Certification of Primary Participant Regarding Debarment, Suspension, and Other Responsibility Matters
- Bid Form #8: Vendor's Certification of Understanding and Acceptance
- Bid Form #9: Certification of Restrictions on Lobbying
- Bid Form #10: Certification of Compliance with FTA's Vehicle Testing Requirements  
A copy of the vehicle testing report (if available) shall be included with the bid.
- Exhibit A Pricing Page



REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

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**DOCUMENTATION TO BE SUBMITTED WITH BID:**

**Section**  
**Referenced**

- 3.1.11 Provide details of water testing procedures.
- 3.2 Chassis: provide product description, warranty information and product literature.
- 3.2 Wheelbase: provide length of proposed wheelbase.
- 3.3 Engine: gasoline: provide product description, warranty information and product literature.
- 3.5 Radiator and Cooling System: provide product description, warranty information and product literature.
- 3.6 High Idle System, provide product description, warranty information and product literature.
- 3.8 Transmission: provide product description, warranty information and product literature.
- 3.10.4 Rear View Back-Up Camera: provide product description, warranty information and literature.
- 3.11.4 Tilt Wheel, Cruise Control and Power Steering: provide product description.
- 3.13 Brakes: provide product description, warranty information and product literature.
- 3.14 Wheels: provide product description, warranty information and product literature.
- 3.15 Tires: provide product description, warranty information and product literature.
- 3.16.5 Alternator: provide product description, warranty information and product literature.
- 3.16.6 Battery: provide product description, warranty information and product literature.
- 3.17.1 Radio/AM/FM/USB/MP3: provide product description, warranty information and product literature.
- 3.19 Body Structure/Roof Specifications: provide a description of how construction/ conversion will take place and meet the specification requirements. Provide actual interior height and body length of proposed vehicle.
- 3.19.15 Stepwell: provide a description of construction.
- 3.22 Entrance, Exit, Lift and Emergency Exit Doors: Provide product description, dimensions, description of connection with interlock system, and locks to be provided.

REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

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- 3.23 Rear Bumper: provide product description, warranty information and product literature.
- 3.24 Wheelchair Lift: provide product description, warranty information and product literature.
- 3.24.9 Interlock System: provide product description, warranty information and product literature.
- 3.26 Front and Rear Heating and Air Conditioning: provide product description, warranty information, product literature.
- 3.29 Flooring: provide a description of product to be used, samples of floor covering, colors to be used and assembly process.
- 3.30.1 Passenger Seats and Restraints: provide product description, warranty information and product literature.
- 3.30.2 Padded Grab Handle: provide product description.
- 3.30.11 Driver's Seat: provide product description, warranty information and product literature.
- 3.31 Wheelchair Securement System: provide product description, warranty information and product literature.
- 3.32 Mobility Aid/ Occupant Restraint Systems: provide product description, warranty information and product literature.
- 3.33.1 Exterior Mirrors: provide product description, warranty information and product literature.
- 3.37 Digital Destination Signs: provide product description, warranty information and product literature.
- 3.38 Passenger Signaling System: provide product description, warranty information and product literature.
- 3.39 Mobile PA System: provide product description, warranty information and product literature.
- 3.40 Fare Box Provision: provide description of provision.
- 3.41 Strobe Light: provide product description, warranty information and product literature.
- 3.42 Radio Install Prep: provide description of process.
- 3.44 Security Camera System Including Playback: provide product description, warranty information and product literature.

REQUEST FOR QUOTATION  
176" – 190" Wheelbase Cutaway Vehicle

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- 3.45 Dual Purpose Safety Vent: provide product description, warranty information and product literature.
- 3.46 Storage Compartment: provide information on proposed location.
- 3.51 Training: submit letter of understanding to the terms in this Section.
- 4.5-4.6 Overhead Luggage Rack: provide product description and product literature. Classes E&F
- 4.5-4.6 High Back Passenger Seating: provide product description, warranty information and product literature. Classes E & F
- 6.7.4 Warranty Provider Locations: provide names of providers in WV
- 6.7.5 Warranties: provide information on warranties to be provided.
- 11.1.1 Complete mechanical description of vehicle, its construction and equipment including manufacturer's model name and/or number.
- 11.1.2 Proposed interior floor plans, showing detailed dimensions including the location of the wheelchair securement system.
- 11.1.3 Curb weight (empty weight) and gross vehicle weight rating (GVWR) of vehicle.
- 11.1.6 Rustproofing and Undercoating: provide product description, warranty information and product literature.
- 11.1.8 A list of five (5) users names, addresses, emails and telephone numbers who have been provided similar equipment.
  
- No Debt Affidavit
- Addendum Acknowledgement

**REQUEST FOR QUOTATION  
EXHIBIT A PRICING PAGE  
176" - 190" Wheelbase Cutway Vehicle**

**VENDOR NAME:**

**MANUFACTURER/MAKE/MODEL:**

<b>CLASS</b>	<b>VEHICLE DESCRIPTION</b>	<b>UNIT PRICE PER VEHICLE</b>	<b>ESTIMATED QUANTITY</b>	<b>EXTENDED PRICE</b>
<b>A</b>	<b>176" Vehicle, Eight (8) Fixed Double Seats, Two (2) Wheelchair Positions with One (1) Fold Up Seat (Double), Rear Curbside Lift Location, Vinyl Logo and Stripes</b>	\$ 80,877	5	\$ 404,385
<b>B</b>	<b>176" Vehicle, Eight (8) Fixed Double Seats, Two (2) Wheelchair Positions with One (1) Fold Up Seat (Double), Rear Curbside Lift Location, Full Bus Body Paint or 3/4 Bus Body Paint with Expanded Graphics</b>	\$ 84,877	5	\$ 424,385
<b>C</b>	<b>Vehicle, Seven (7) Fixed Double Seats, Two (2) Wheelchair Positions with Two (2) Fold Up Seats (Double), Extended Wheelbase to 190", Front Wheel Chair Lift Location, Vinyl Logo and Stripes</b>	\$ 81,143	5	\$ 405,715
<b>D</b>	<b>Vehicle, Seven (7) Fixed Double Seats, Two (2) Wheelchair Positions with Two (2) Fold Up Seats (Double), Extended Wheelbase to 190", Front Wheel Chair Lift Location, Full Bus Body Paint or 3/4 Bus Body Paint with Expanded Graphics</b>	\$ 85,143	5	\$ 425,715
<b>E</b>	<b>Vehicle, Seven (7) Fixed Double Seats, Two (2) Wheelchair Positions with Two (2) Fold Up Seats (Double), Extended Wheelbase to 190", Front Wheel Chair Lift Location, Vinyl Logo and Stripes, Overhead Luggage Racks, High Back Seats</b>	\$ 81,881	5	\$ 409,405
<b>F</b>	<b>Vehicle, Seven (7) Fixed Double Seats, Two (2) Wheelchair Positions with Two (2) Fold Up Seats (Double), Extended Wheelbase to 190", Front Wheel Chair Lift Location, Full Bus Body Paint or 3/4 Bus Body Paint with Expanded Graphics Overhead Luggage Racks, High Back Seats</b>	\$ 85,881	5	\$ 429,405
<b>TOTAL BID FOR EVALUATION</b>				<b>\$ 2499010</b>

\*Complete form provided. The DPT may purchase more or less as needed.  
Note: These are only estimated quantities and do not reflect any guarantee of purchase.  
Please do not alter pricing page.

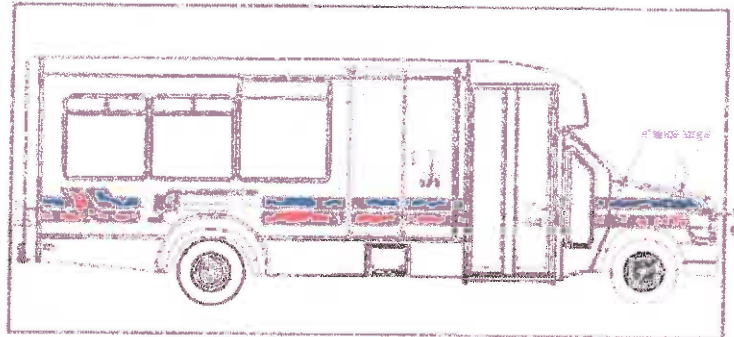
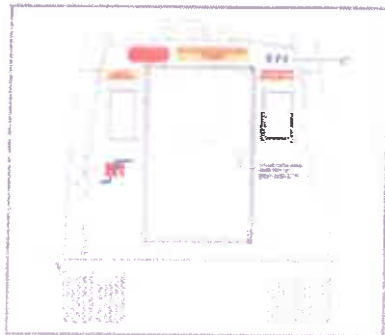
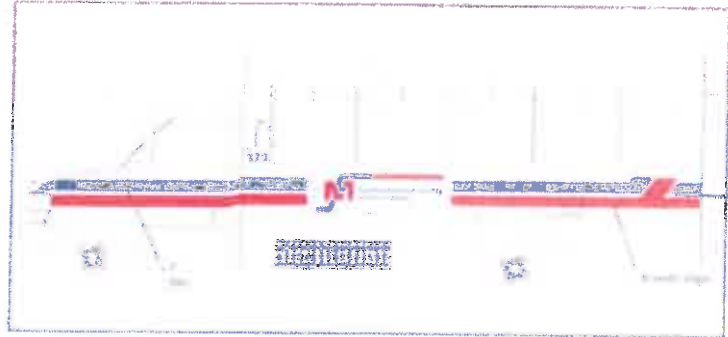
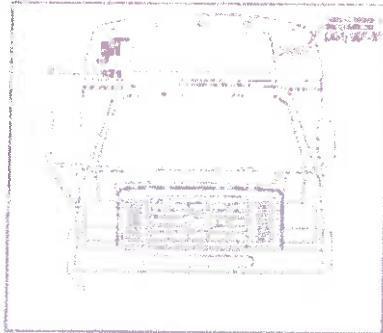
EXHIBIT B, VINYL LOGOS AND STRIPES

CENTRA



# EXHIBIT B, VINYL LOGOS AND STRIPES

## Fairmont-Marion County Transit Authority



\*Graphic colors and placement are representative. See final product for final. ■ 125 0106 Cardinal Red ■ 295 0106 Peridot Blue ■ 2" White Conspicuity Tape

**EXHIBIT B, VINYL LOGOS AND STRIPES**

**HERE & THERE TRANSIT**



**EXHIBIT B, VINYL LOGOS AND STRIPES**

**Ohio Valley Eastern Ohio Regional Transit**





## EXHIBIT C, EXAMPLES OF PAINT SCHEMES

### Bluefield Area Transit



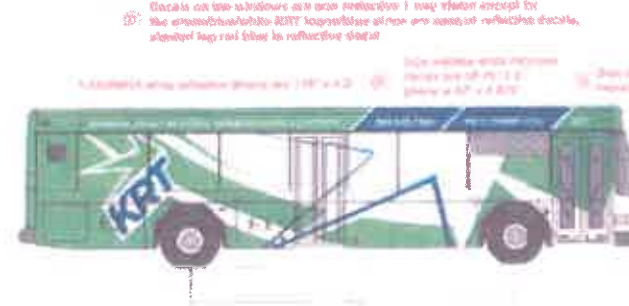
## EXHIBIT C, EXAMPLES OF PAINT SCHEMES

### Buckwheat Express



# EXHIBIT C, EXAMPLES OF PAINT SCHEMES

## Kanawha Valley Regional Transit Authority



CHARLESTON, WV	PAINT (Azathi)	DETAILS	Approved & Acceptance
(B) Low Floor, 35 feet by 102 inches Serial Numbers 189934 - 189941 Bus Numbers 1001 - 1809	White Green Black/Grey Safety White Aerovac 2507 - Hubs Commercial primers to match scheme	75263 EZ 832133-EX N6901-EX The green in the KRT logo are overprinted on 662CR Green 662133-EX The blue in the logo is Light Blue Reflective 660CR 75	Approved by: <u>Steve Flanigan</u> Title: <u>487 General Manager</u> For: <u>5/18/17</u> Date: <u>11/25/17</u> Rev: <u>3</u> (Rev: <u>11-17-17</u> ) PCX: _____

*Handwritten signature*



# EXHIBIT C, EXAMPLES OF PAINT SCHEMES

Eastern Panhandle Transit Authority

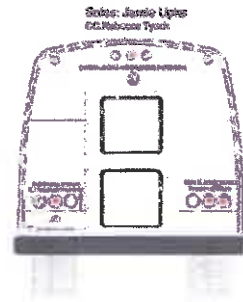
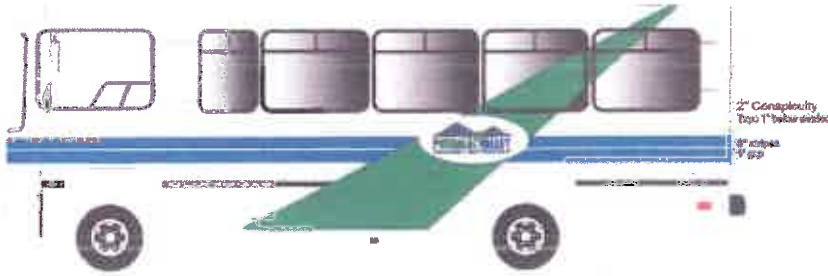


# EXHIBIT C, EXAMPLES OF PAINT SCHEMES

## Potomac Valley Transit Authority

Paint Scheme form

Unit #



2" Conspicuity Tape



### Vinyl Colors & Numbers

- 1.) # 140 Blue
- 2.) \_\_\_\_\_
- 3.) # Spectra Everglade Green

Customer Signature

Generic form

Robin Miller  
(Graphics Dept.)

February 16, 06

## EXHIBIT C, EXAMPLES OF PAINT SCHEMES

Little Kanawha Transit Authority



**EXHIBIT C, EXAMPLES OF PAINT SCHEMES**

**Tri-State Transit Authority**



## EXHIBIT C, EXAMPLES OF PAINT SCHEMES

Mid-Ohio Valley Transit Authority





**EXHIBIT C, EXAMPLES OF PAINT SCHEMES**

**Tri-River Transit**



# EXHIBIT C, EXAMPLES OF PAINT SCHEMES

## Mountain Line Transit Authority



**EXHIBIT C, EXAMPLES OF PAINT SCHEMES**

**New River Transit**



# EXHIBIT C, EXAMPLES OF PAINT SCHEMES

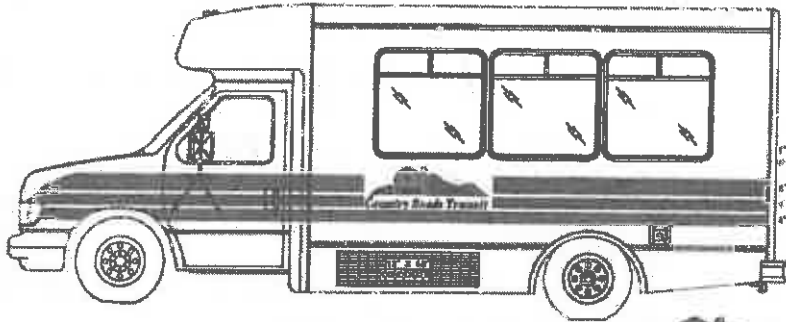
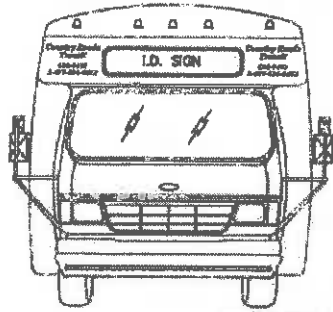
## Mountain Transit Authority

### Paint Scheme Mountain Transit Authority

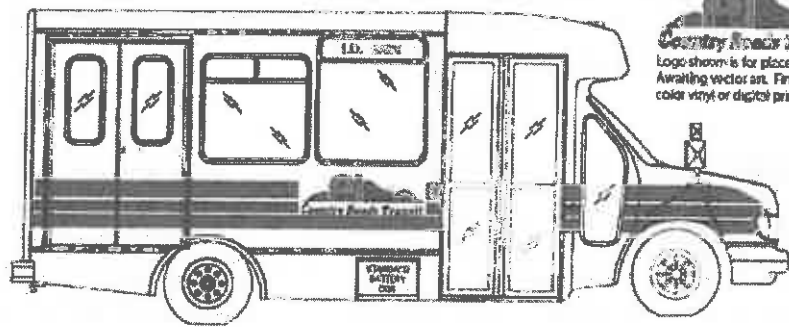
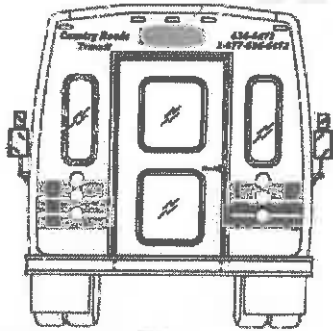


# EXHIBIT C, EXAMPLES OF PAINT SCHEMES

## Country Roads Transit



Equipment  
Manufacturer  
Manufacturer  
Manufacturer



**Country Roads Transit**  
Logo shown is for placement only.  
Awaiting vector art. Final output is  
color vinyl or digital print (T&D).



Country Roads Transit on GCII 158/263  
Preliminary Art for Approval: 6/10/13



Red (RAL 3000)



Green (RAL 6003)



Black (RAL 9005)

**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

JEFF PAPPAS, Vice President  
(Name, Title)  
JEFF PAPPAS, Vice President  
(Printed Name and Title)  
6401 SEAMAN RD., OREGON, OH 43616  
(Address)  
800-227-3572 / 419-836-8460  
(Phone Number) / (Fax Number)  
JPAPPAS@tescobus.com  
(email address)

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Transportation Equipment Sales Corp.  
(Company)  
[Signature]  
(Authorized Signature) (Representative Name, Title)

NOEL E. GRAHAM, JR.  
(Printed Name and Title of Authorized Representative)

August 1, 2018  
(Date)  
800-227-3572 / 419-836-8460  
(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM  
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- Addendum No. 1
- Addendum No. 2
- Addendum No. 3
- Addendum No. 4
- Addendum No. 5

- Addendum No. 6
- Addendum No. 7
- Addendum No. 8
- Addendum No. 9
- Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

TRANSPORTATION EQUIPMENT SALES CORP.  
Company

[Signature], President  
Authorized Signature

8/1/18  
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

# West Virginia Ethics Commission



## Disclosure of Interested Parties to Contracts

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of \$1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

*"Business entity"* means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation, but does not include publicly traded companies listed on a national or international stock exchange.

*"Interested party"* or *"Interested parties"* means:

- (1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;
- (2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and
- (3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

*"State agency"* means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of *W. Va. Code* § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

*This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: [ethics@wv.gov](mailto:ethics@wv.gov); website: [www.ethics.wv.gov](http://www.ethics.wv.gov).*



West Virginia Ethics Commission  
Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

Name of Contracting Business Entity: Transportation Equipment Sales Co. Address: 6401 Seaman Rd.

Name of Authorized Agent: JEFF PAPPAS Address: Oregon, OH. 43616  
6401 Seaman Rd.

Contract Number: PTR190000001 Contract Description: 176"-190" wheelbase pickup truck

Governmental agency awarding contract: State of West Virginia / Purchasing Division

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

1. Subcontractors or other entities performing work or service under the Contract

Check here if none, otherwise list entity/individual names below.

2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)

Check here if none, otherwise list entity/individual names below.

3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)

Check here if none, otherwise list entity/individual names below.

NOEL E. GRAHAM, SR., CEO

Signature: [Signature] Date Signed: 8/1/18

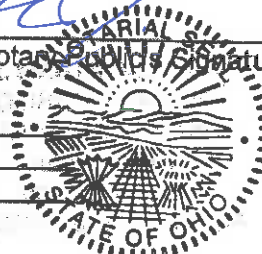
Notary Verification

State of OHIO, County of LUCAS

I, NOEL E. GRAHAM, SR, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 1st day of August 2018

[Signature]  
Notary Public's Signature



NOEL E. GRAHAM JR.  
NOTARY PUBLIC  
STATE OF OHIO  
Recorded in  
Lucas County  
Revised June 8, 2018  
My Comm. Exp. 7/7/2020

To be completed by State Agency:

Date Received by State Agency: \_\_\_\_\_  
Date submitted to Ethics Commission: \_\_\_\_\_  
Governmental agency submitting Disclosure: \_\_\_\_\_

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**CONSTRUCTION CONTRACTS:** Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

**ALL CONTRACTS:** Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

**DEFINITIONS:**

**"Debt"** means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

**"Employer default"** means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

**"Related party"** means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: Transportation Equipment Sales Corp. (TESCO)

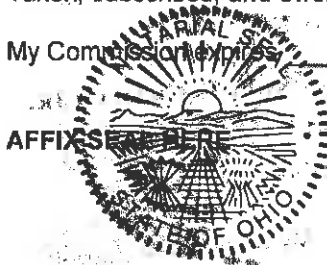
Authorized Signature: [Signature] Date: 8-1-18  
CEO

State of OHIO

County of LUCAS, to-wit:

Taken, subscribed, and sworn to before me this 1st day of August, 2018.

My Commission expires \_\_\_\_\_, 20\_\_\_\_.



NOEL E. GRAHAM JR.  
NOTARY PUBLIC  
STATE OF OHIO  
Recorded in  
Lucas County  
My Comm. Exp. 7/7/2020

NOTARY PUBLIC [Signature]

**Addendum(s)**



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Request for Quotation  
 36 - Vehicles

Proc Folder: 457733

Doc Description: Addendum 1 - 176" - 190" Wheelbase Cutaway Vehicle

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2018-07-16	2018-08-02 13:30:00	CRFQ 0805 PTR1900000001	2

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Name, Address and Telephone Number:

**FOR INFORMATION CONTACT THE BUYER**

Michelle L Childers  
 (304) 558-2063  
 michelle.l.childers@wv.gov

Signature X *[Handwritten Signature]* FEIN # 34-1029900 DATE 8/1/2018

All offers subject to all terms and conditions contained in this solicitation

**ADDITIONAL INFORMATION:**

**Addendum**

Addendum No. 1 issued to modify the schedule of events as follows:

Questions deadline changed FROM: 7/16/2018 at 10:00 AM TO: 7/23/2018 at 10:00 AM.

Bid Opening changed FROM: 7/24/18 at 1:30 PM TO: 8/02/2018 at 1:30 PM

End of Addendum  
.....

**Request for Quotation**

The West Virginia Purchasing Division is soliciting bids on behalf of the Division of Public Transit and any other state agency that desires to utilize this contract to establish an open-end contract for 176" - 190" Wheelbase Dual Rear Wheel (DRW) Cutaway vehicles with air conditioning, fixed seats, wheelchair securements and lift to provide specialized transportation services in an urban and suburban-rural environment, including hilly terrain and a severe operating climate suited to stop-start duty cycles.

INVOICE TO	SHIP TO
ACCOUNTS PAYABLE PUBLIC TRANSIT DIVISION OF BLDG 5 RM 650 1900 KANAWHA BLVD E CHARLESTON WV25305-0432 US	GENERAL MANAGER PUBLIC TRANSIT DIVISION OF KANAWHA VALLEY REGIONAL TRANSPORTATION AUTHORITY 1550 FOURTH AVE CHARLESTON WV 25324 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	176" - 190" Wheelbase Cutaway Vehicle	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
25101502			

**Extended Description :**

176" - 190" Wheelbase Cutaway Vehicle  
\*\*\*\*\*

Vendor should type or clearly print the information into the Exhibit A-Pricing Page to prevent errors in the evaluation. If Vendor is submitting bid online Vendor must submit Exhibit A -Pricing Page as attachment. TOTAL BID FOR EVALUATION is the amount Vendor is to enter into vvOASIS commodity line when submitting. Notwithstanding the foregoing, the Purchasing Division may correct errors at its discretion.

**SOLICITATION NUMBER: CRFQ PTR1800000001**

**Addendum Number: 01**

---

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

- Modify bid opening date and time
- Modify specifications of product or service being sought
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Other

**Description of Modification to Solicitation:**

This addendum is issued to modify the solicitation per the attached documentation and the following:

1. To modify the schedule of events as follows:

Questions deadline changed FROM: 7/16/2018 at 10:00 AM TO: 7/23/2018 at 10:00 AM.

Bid Opening changed FROM: 7/24/18 at 1:30 PM TO: 8/02/2018 at 1:30 PM

No other changes.

**Additional Documentation:** Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

**Terms and Conditions:**

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.:** \_\_\_\_\_

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**

(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Transportation Equipment Sales Corp.  
NOBLE E. GRANTHAM, JR. Company  
[Signature]  
Authorized Signature  
8/1/18  
Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Request for Quotation  
 36 - Vehicles

Proc Folder: 457733

Doc Description: Addendum 2 - 176" - 190" Wheelbase Cutaway Vehicle

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No		Version
2018-07-24	2018-08-02 13:30:00	CRFQ	0805 PTR1900000001	3

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Name, Address and Telephone Number:

**FOR INFORMATION CONTACT THE BUYER**

Michelle L Childers  
 (304) 558-2063  
 michelle.l.childers@wv.gov

Signature X

FEIN #

34-1029900

DATE

8/1/2018

All offers subject to all terms and conditions contained in this solicitation



**ADDITIONAL INFORMATION:**

**Addendum**

Addendum No. 2 issued to publish the agency answers to vendor questions.

End of Addendum  
.....

**Request for Quotation**

The West Virginia Purchasing Division is soliciting bids on behalf of the Division of Public Transit and any other state agency that desires to utilize this contract to establish an open-end contract for 176" - 190" Wheelbase Dual Rear Wheel (DRW) Cutaway vehicles with air conditioning, fixed seats, wheelchair securements and lift to provide specialized transportation services in an urban and suburban-rural environment, including hilly terrain and a severe operating climate suited to stop-start duty cycles.

INVOICE TO		SHIP TO	
ACCOUNTS PAYABLE PUBLIC TRANSIT DIVISION OF BLDG 5 RM 650 1900 KANAWHA BLVD E CHARLESTON WV25305-0432 US		GENERAL MANAGER PUBLIC TRANSIT DIVISION OF KANAWHA VALLEY REGIONAL TRANSPORTATION AUTHORITY 1550 FOURTH AVE CHARLESTON WV 25324 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	176" - 190" Wheelbase Cutaway Vehicle	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
25101502			

**Extended Description :**

176" - 190" Wheelbase Cutaway Vehicle  
\*\*\*\*\*

Vendor should type or clearly print the information into the Exhibit A-Pricing Page to prevent errors in the evaluation. If Vendor is submitting bid online Vendor must submit Exhibit A -Pricing Page as attachment. TOTAL BID FOR EVALUATION is the amount Vendor is to enter into wvOASIS commodity line when submitting. Notwithstanding the foregoing, the Purchasing Division may correct errors at its discretion.

**SOLICITATION NUMBER: CRFQ PTR1900000001**

**Addendum Number: 02**

---

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

- ] Modify bid opening date and time
- ] Modify specifications of product or service being sought
- ] Attachment of vendor questions and responses
- ] Attachment of pre-bid sign-in sheet
- ] Correction of error
- ] Other

**Description of Modification to Solicitation:**

This addendum is issued to modify the solicitation per the attached documentation and the following:

1. To publish agency answers to vendor questions.

No other changes.

**Additional Documentation:** Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

**Terms and Conditions:**

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
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# ATTACHMENT A

**CRFQ PTR1900000001**

**176" – 190" Wheelbase Cutaway Vehicle**

**Vendor Questions and Agency Answers**

**Question 1) Page 30 3.16.1 Electrical System/Wiring- In place of the Two 11"x17" laminated as built we would like to offer a USB as built diagram in their place. Is this acceptable?**

**Answer 1) The Division requests the two 11" by 17" laminated as build schematics.**

**Question 2) Page 34 3.19.14 An Aluminum or galvanized steel underfloor is requested. Would a Tyvek synthetic vapor barrier in lieu of the aluminum or galvanized steel be acceptable?**

**Answer 2) The Division will accept the Tyvek synthetic vapor barrier in lieu of the aluminum or galvanized.**

**Question 3) Page 53 3.44.1 Security Camera System- Can we please have clarification on the number of cameras to be installed in each unit?**

**Answer 3) The Division request six cameras be installed, location to be determined later.**

**Question 4) 3. Contract Terms, Page 10, Please allow annual bus body price increase after initial one-year period based on actual commodity cost increase.**

**Answer 4) The Division is only allowing a price increase on chassis only once a year during renewal period.**

**Question 5) 3.2.1 Chassis, Page 26, Please allow chassis to be extended by cutting between the axles. This will be required to obtain a long enough wheelbase (186") to build class A through F buses.**

**Answer 5) The Division will allow this request.**

**Question 6) 3.4.1. Fuel System, Page 27, Please accept that gas fuel will be on StreetSide of chassis and cannot be relocated per OEM manufacturer requirements.**

**Answer 6) The Division will allow this request since it's an OEM requirement.**

**Question 7) 3.10.4 Back Up Camera, Page 28, Please accept that the back-up camera will not be from ford. They do not offer one on cutaway chassis.**

**Answer 7) The Division will allow an aftermarket back up camera.**

**Question 8) 3.16.1 Electrical System, Page 30, Please accept that wiring will be color and function coded but not numbered.**

**Answer 8) The Division will accept color and function coded wiring.**

**Question 9) 3.21.1 Undercoating and Rustproofing, Page 35, Floor cross members will be painted and primed as well as undercoated. Undercoating will comply with federal flammability standards.**

**Answer 9) This will be acceptable.**

**Question 10) 3.25.3 Windows/Glazing, Page 40, Please accept that the passenger door windows will be AS-2 not AS-3 as specified. This is a federal regulation.**

**Answer 10) The Division accepts the window as AS-2.**

**Question 11) 3.25.6 Windows/Glazing, Page 41, Please accept that the driver OEM standard window is operated with a crank not electricity as specified.**

**Answer 11) The Division will allow the crank operated window if not available.**

**Question 12) 3.26.2 Air Conditioning and 4.1.Vehicle Classes, Page 41 and 58, Please accept passenger compartment air conditioning that meets the spec and is rated 70,000 BTU when combined with the chassis a/c system. This has been used in the past by west Virginia in buses of the same size and passenger capacity.**

**Answer 12) The Division accepts the air conditioning.**

**Question 13) 3.27.5 Interior Lighting, Page 43, Please accept manufacturer's standard interior led lighting. Fixture with an ABS base.**

**Answer 13) The Division will accept the manufacturer's standard interior led lighting.**

**Question 14) 3.29.2 Floor and Floor Covering, Page 44, Please remove RCA transit flooring from the spec. This is a less expensive rubber floor and the seams cannot be welded. The state has required GERFLOR or ALTRO floor in the past. Also remove "double groove rib design" as this described RCA rubber flooring. GERFLOR and ALTRO floor coverings are smooth not ribbed.**

**Answer 14) RCA flooring is to be removed from the specs.**

**Question 15) 3.30.1 Seating, Page 45, Please accept that Freedman Seating states that ABS plastic seat backs are not available on double seats with ICS position and companion position and so these double seats will not have ABS backs.**

**Answer 15) The Division will accept the seats without the ABS plastic seat backs from Freedman Seating for the ICS positions.**

**Question 16) 3.30.12 Foldaway Seat, Page 46, Please accept that the freedman double 3-step foldaway seat frame allows approximately 12.5" between the floor and the bottom of the seat cushion not 14" as specified.**

**Answer 16) The Division will accept this request.**

**Question 17) 3.31.2.1 Wheelchair Securement, Page 47, Please accept that there is not enough room to have 6" between each wheelchair position on the bus. Nose to tail wheelchair positions will have shared track.**

**Answer 17) The Division understands and accepts this request.**

**Question 18) 3.32.15 Mobility Aids, Page 49, Please accept that the L-track will not run "full length" in the bus. It will run cross ways. See floor plan.**

**Answer 18) The Division will accept the L-track running cross ways.**

**Question 19) 3.37.1 Digital Destination Signs, Page 52, Please accept Twin Vision Mobilite front and side destination signs that have a 100,000-hour operating life, windows based programing and don't require a pc card or software or a dc power converter.**

**Answer 19) The Division will accept Twin Vision Mobilite digital destination signs.**

**Question 20) 4.3 Classes C, D, E, F, Page 60, Please accept that a 190" wheelbase is not necessary for the front lift buses and so the wheelbase will remain the same as the rear lift buses at 186".**

**Answer 20) The Division will accept this request.**

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.:** \_\_\_\_\_

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| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
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| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

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*Manufacturing Equipment Sales Corp.*  
\_\_\_\_\_  
NORBERT G. GARDNER, JR. Company

*[Signature]*  
\_\_\_\_\_  
Authorized Signature

*8/1/18*  
\_\_\_\_\_

Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012



**Equipment List of the  
Six Vehicles Offered**

Item #

Description

Item #	Description
<b>2019 Ford E450 (GVWR: 14,500 WB: 186 Engine: 6.8L)</b>	
1	Special-37 Chassis Service & Parts Manuals
1	TL03 Level 3 Lettering / Graphics
1	001-001 Alignment - Castor & Camber Kit, Ford Only
1	002-002 Exhaust - Route to Streetside
1	006-001 Running Board - Driver Side Diamond Plate
1	013-001 Mud Flaps - Front, 1 Pair
1	014-002 Alarm - Back up
1	028-001 Stepwell - Stainless Steel IPO Standard
1	Special-4 Prep for sportworks bike rack model DL2 to include bolt kit, backing plate and mounting plate assembly
1	Special-5 Front and rear mud flaps must be rubber
1	Special-6 Two ambulance style cooling ports installed on hood, no passenger door delete, power locks and window
1	017-018 Battery Box - Stainless Steel Box, SS Tray, SS Lid, SS Slides
1	018-001 Spare Tire & Wheel
1	020-001 Valve Extension - Inner Dual Wheel (Per Pair)
1	068-001 Wheel Chokes - (1) Pair
1	023-002 Bumper - Rear Romeo Rim
1	025-003 Mor/Ryde - Rear (Ford E450)
1	030-006 Floor - Aluminum Underbelly
1	Special-2 Flooring - Gerflor Two color to include yellow standee line and step nosing.
3	Special-3 Flooring - Gerflor one piece step with abrasive yellow step nosing
1	Special-34 Flooring - Step nosing to be yellow RCA Abrasive Talon Tread IPO Standard
1	033-003 Ceiling - Gray FRP Covering
1	037-002 Door - Hold Open, Gas Strut Style (Included in W/C Door Package)
1	037-004 Door - Fuel Fill, Locking
1	037-008 Door - Electrical Powered Entry, 36" Width
1	037-010 External Key Switch for Electrical Powered Entry
1	037-012 Door - Rear, w/(2) Windows & w/Door Ajar Buzzer, 36" Width
1	038-003 Window - Additional Egress IPO Std. (1) Window One on curb side, two on streetside
1	038-007 Window - Rear Twin
1	038-008 Alarm - Emergency Window Ajar Package
1	039-001 Fan - Circulating
1	039-003 Roof Hatch - Low Profile Dual Purpose Safety Vent, (Transpec #1075)
1	040-002 Heater - 35K BTU Rear
1	040-003 Heater - 35K BTU Rear w/Circulating Pump
1	040-008 Stepwell - Front Heated - Per Step, Electric w/Switch
1	Special-10 AC 70K combined with front
1	042-009 Luminator Mobilite LED Front & Side Destination Signs must be installed using securements for the top
1	045-001 Electrical Schematic - Laminated Electric Legend on Elec. Door
0.2	045-003 Electrical Schematic - Wiring as Built
1	Special-11 Electrical prep for farebox at stanchion next to driver's right shoulder
1	Special-12 Backup Camera from RVS with 7" TFT LCD digital view color monitor
1	Special-13 Provision camera system with DVR and six Cameras
1	048-001 Ground Plane & Pre-Wire for 2-way Radio
3	048-008 Speaker - 2 Extra (Each)
1	048-009 PA500 - PA Option Only w/ External Speaker & (2) Internal Speakers
1	049-033 Light - Upgrade Interior 4" Courtesy Lights to LED
1	049-035 Light - Upgrade Egress Lights to LED (per light)
1	049-037 Light - Upgrade (2) Stepwell Lights To LED IPO Standard



Proven Quality.  
Trusted Name.

Checklist For Quote #NQ44375

State of West Virginia Dept. of Admin 7/27/2018

2019 Elkhart Coach ECII

1 unit ordered  
16 pass. with 2 w/c

Qty	Item #	Description
1	049-040	Light - Upgrade Driver's Dome Light to LED IPO Standard
1	049-006	Light - Brake, LED, Rear Center Mounted
1	049-018	Light - LED Clearance/Marker Lights, (5 Amber 7 Red)
1	049-020	Light - Running Lights, Daytime
1	049-022	Light - LED, Midship Turn/Marker
1	049-026	Light - Strobe Light, Dbl Flash, Roof Mounted, Clear Lens
1	049-028	Branch Guard for Dbl Flasher Strobe Light
1	049-038	Light - LED Hooded Light at Entry Door
1	049-039	Lights - Upgrade Hooded Lights Below Lift & License Plate Light To LED IPO Standard
1	Special-14	Lights under hood light from ford
1	Special-15	rear hazzard lights to flash when lift is operating
1	052-002	Glove Box - w/Light & Lock
1	053-001	Overhead Storage - Front Cap requires bottom hinge with straps to hold door at 90 degrees
1	053-004	Manual - Standard Parts Manual
1	Special-9	clip to hold overhead storage door open
1	057-001	Rub Rails - Black Rubber
1	058-001	Reflectors - Both Sides of Bus, (Red Rear/Amber Front)
1	Special-32	Black Rubber Fender Flares IPO Std.
1	Special-7	Drip rail for top of lift door
1	Special-8	Drip rail for top of entry door
1	059-002	Grab Rail - Entrance Parallel to Steps, Both Sides (ADA Required)
1	059-003	Grab Rail - Ceiling (Both Sides of Aisle) Includes Standee Line & Sign
4	061-002	Stanchion - Padding 40" Each
1	Special-17	add rubber fittings at top and bottom of stanchions where tubes insert into the anchor
1	036-002	Modesty Panel - w/Stanchions, Behind Driver
1	036-003	Plexiglass Top for Modesty Panel, Tinted
1	063-002	Cutter - Seat Belt
1	064-002	Fire Extinguisher - 5 LB Cylinder w/Brackett
1	064-003	Triangles - Emergency in Box
1	Special-18	first aid kit, WV spec
1	Special-19	bloodbourne pathogen protection kit, wv spec
2	Special-20	Mylar Disposable rescue blanket in sealed container
2	Special-21	wool blankets W/case
1	Special-22	Safety vest, highly visible, reflective
1	069-012	Mirrors - Interior Flat, 6"x16"
1	069-013	Mirrors - Interior, Wide Angle lens, 11"x 14" Shipped Loose
1	069-019	Mirrors - Exterior, Heated, Remote, ROSCO
1	070-001	Decal - "All Passengers Are Required to Wear Seat Belts"
1	070-004	Decal - "Emergency Equipment", Red on White
1	070-005	Decal - "No Smoking", Red on White
2	070-006	Decal - "Priority Seating W/C Area", (ADA Required)
1	070-007	Decal - "Stand Clear of Lift", Black on White
1	070-008	Decal - "Vehicle Height"
2	070-009	Decal - "Watch Your Step", Mounted on ALL Riser
1	070-010	Decal - International Wheelchair Symbol, 9"x9"
1	Special-24	decal caution frequent stops ship loose
1	Special-25	decal this vehicle stops at all railroad crossings ship loose
1	Special-26	decal emergency dial 911
1	073-001	Interlock for W/C Lift, Includes Intermotive Gateway Fast Idle & Interlock With Door Adjar Light



Proven Quality.  
Trusted Name.

Checklist For Quote #NQ44375

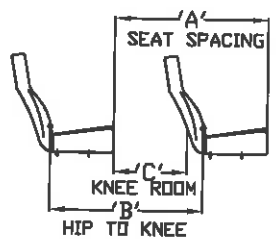
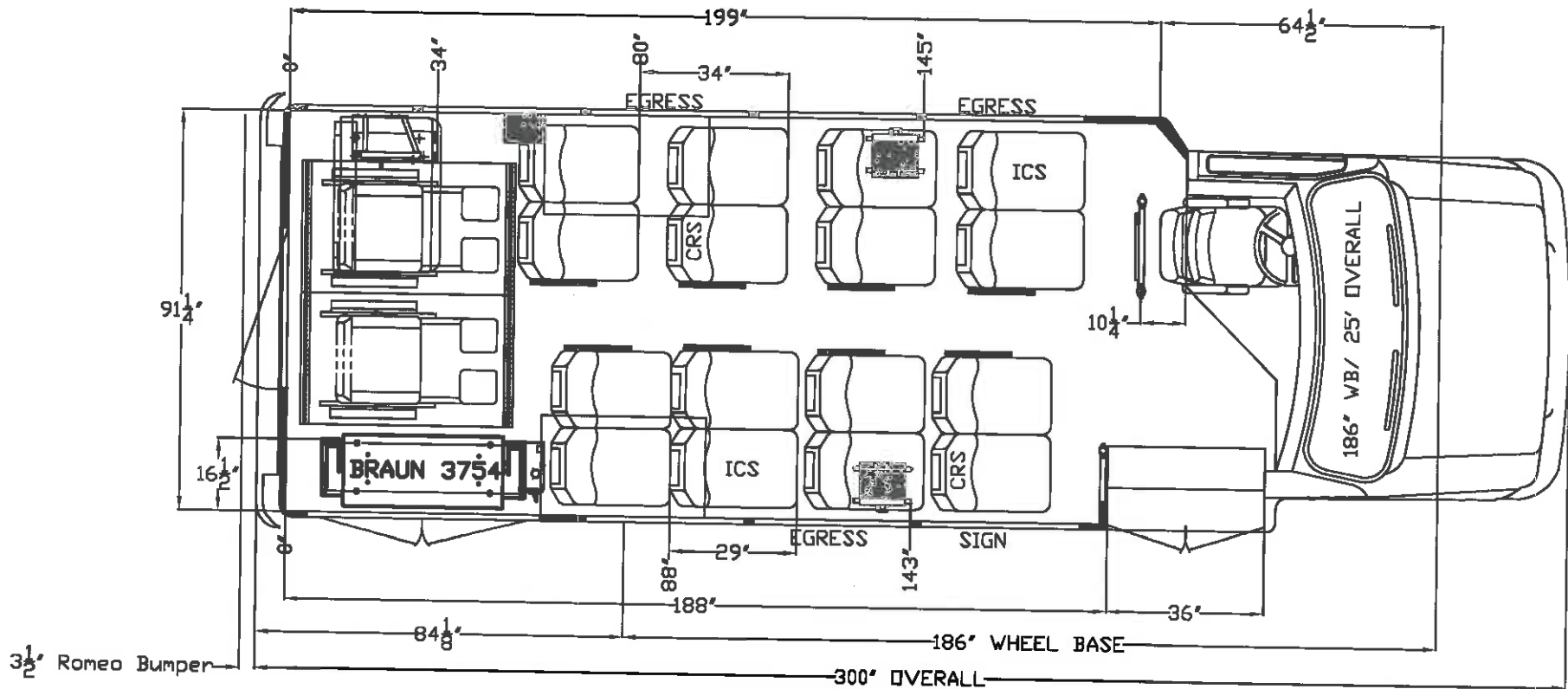
State of West Virginia Dept. of Admin 7/27/2018

2019 Elkhart Coach ECII

1 unit ordered  
16 pass. with 2 w/c

Item #	Description
1	077-001 W/C Door Package - Dbl Doors w/1 Window Ea., 1 Int. Light, 2 Ext. Lights, Door Ajar Alarm, Extra Axle Lea
1	080-001 Stop Request - Pull Cord System w/Touch Tape at W/C Locations, Overhead Sign, Chim & Dash Light (inc
2	079-001 Q'Straint - Storage Pouch
2	Special-1 Q'Straint - Q-10007 Tie down kit for L track with 4 QRT 360 retractors and q8-6326-a1 retractable combc
4	Special-27 Q'Straint End caps
8	Special-28 Q'Straint - Webbing Loop Q5-7580
1	082-010 Braun - Lift Hand Belt
1	Special-29 Braun - Century NCL10003754-2 Lift FMVSS403 37x54 platform 1000 lb capacity
1	Special-30 Braun - instructional DVD
1	Special-31 Braun - Shielded Cable for the control box P/N 401038A
1	086-060 Seat - Driver, Freedman "Shield", Recline, RH Armrest
6	086-031 Seat - Mid-High, Rigid, Double
1	086-043 Seat - AM Fold Away, Dbl 3-Step
2	086-033 Seat - Integrated Child, Dbl w/1 Child Seat Position
2	086-041 Child Seat Latch - CRS-225 (Only Available on Forward Facing Rigid Seats)
1	087-007 Seat - Fabric Upgrade to Level 4, (1) Driver Seat
18	087-008 Seat - Fabric Upgrade to Level 4, (1) Pass Seat
16	088-001 Antivandal - Top Grab, FSC, Black (N/A on High Back Seats)
9	089-002 Armrest - Flip-up, US Arm
12	097-001 Seat Back - ABS, Mid-High, 1 Seat Position (N/A on Freedmen ICS Seats or 3PT Seats)
8	098-008 Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions (N/A on Flips or Folds)
5	098-011 Seat Belt - Extension 12" Length
1	098-015 Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions Foldaways Only

REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-






SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
MID-HIGH	29"	27"	9"
MID-HIGH	34"	32"	14"

A

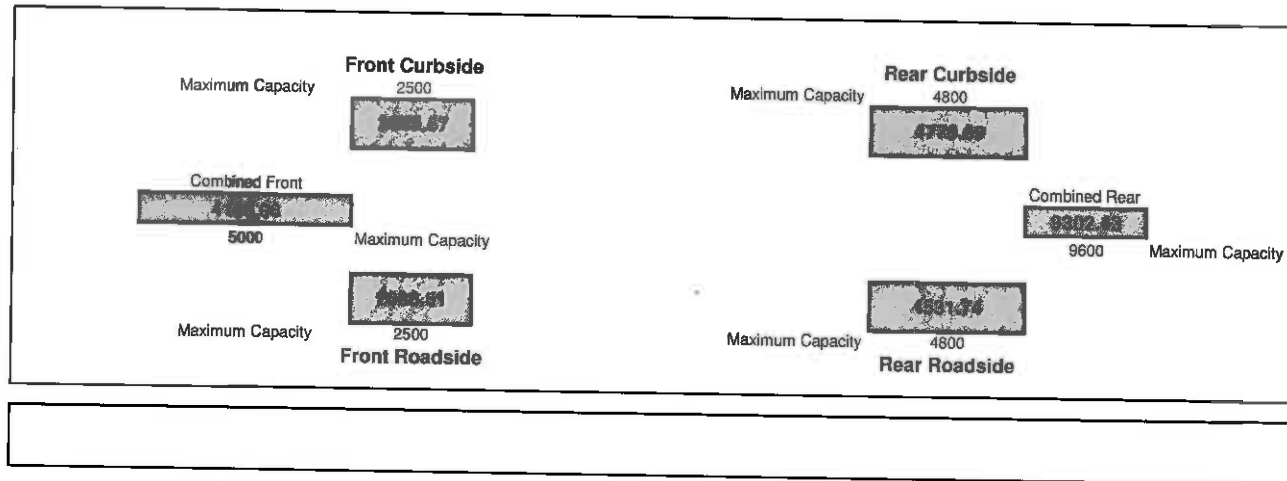
DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-01

DO NOT SCALE	PROJECTION	DESCRIPTION			57490 County Road 3		
	 	Floor plan ECCW 186-300 Rear Lift (Braun1000/3754) Standard Floor 18P/2WC			Elkhart, IN 46517		
SIZE	W.I. NUMBER	DATE:	SCALE:	REFERENCE:	SHEET 1 OF 1		A DIVISION OF FOREST RIVER <b>900-05-1182</b> REV <b>A</b>
	A	7-18-18	N.T.S.	NUMBER	DRAWN BY: NPM		
		TOLERANCES UNLESS OTHERWISE SPECIFIED ARE: FLOORPLANS ±1/2" ALL STRUCTURAL ±1/8" ANGLE ±1°			CHECKED BY:	DRAWING NUMBER	

# ELKHART COACH WEIGHT ANALYSIS

INPUT AREAS=		CHASSIS	Quote #	MODEL:	FUEL TYPE:	FUEL LOAD ADJ. DATA (F.L.A.)						
VEHICLE DESCRIPTION:						FUEL CAP.	FUEL WGT PER GAL.					
WHEELBASE		PER IN. VALUE CALC.	AXLE WEIGHTS				FUEL AMT.	WGT OF FUEL	FUEL ADJ. AMT.			
		0.54	LEFT FRONT	RIGHT FRONT			339.35		-84.84			
AXLE CAPACITIES		TOTAL	LEFT REAR	RIGHT REAR			FUEL TANK CENTER	DEALER				
FRONT	REAR											
LEFT (ROADSIDE)			RIGHT (CURBSIDE)									
DRIVER	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR		
			23.86%	114.52	35.48			0.00%	0.00	0.00		
2 PASS			0.00%	0.00	0.00			0.00%	0.00	0.00		
2 PASS			51.08%	171.24	178.76			53.76%	161.83	188.17	2 PASS	
2 PASS			68.82%	109.14	240.86			70.43%	103.49	246.51	2 PASS	
2 PASS			86.56%	47.04	302.96			87.10%	45.18	304.84	2 PASS	
			104.30%	-15.05	365.05			103.76%	-13.17	383.17	2 PASS	
			0.00%	0.00	0.00			126.88%	-80.65	380.65	WC	
2 PASS			0.00%	0.00	0.00			0.00%	0.00	0.00		
			126.88%	-125.27	591.27			0.00%	0.00	0.00		
			0.00%	0.00	0.00			0.00%	0.00	0.00		
			0.00%	0.00	0.00			0.00%	0.00	0.00		
			0.00%	0.00	0.00			0.00%	0.00	0.00		
Rear Door			0.00%	0.00	0.00			0.00%	0.00	0.00		
Mor Ryde			141.94%	-14.26	48.26			0.00%	0.00	0.00		
			100.00%	0.00	50.00			141.94%	-14.26	48.26	Rear Door	
			0.00%	0.00	0.00			100.00%	0.00	50.00	Mor Ryde	
TOTAL PASSENGER LOAD				287.35	1812.85							
AXLE WEIGHTS				1821.00	2572.00							
									202.41	1581.59	3884.00	
									1877.00	3042.00	9312.00	
				FRONT	REAR	LEFT/RIGHT TOTALS	LEFT/RIGHT %S					
				LEFT	2088.51	4531.74	6620.26	0.492				
				RIGHT	2059.57	4770.69	6830.26	0.508				
FRT / REAR TOTALS				4148.08	9302.43	13450.51						
AXLE CAPACITIES				5000	9600	14500						
AVAILABLE CAPACITIES												



A



Proven Quality.  
Trusted Name.

Checklist For Quote #NQ44376

State of West Virginia Dept. of Admin 7/27/2018

2019 Elkhart Coach ECII

1 unit ordered

16 pass. with 2 w/c

Item #

Description

2019 Ford E450 (GVWR: 14,500 WB: 186 Engine: 6.8L)

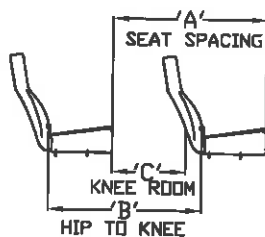
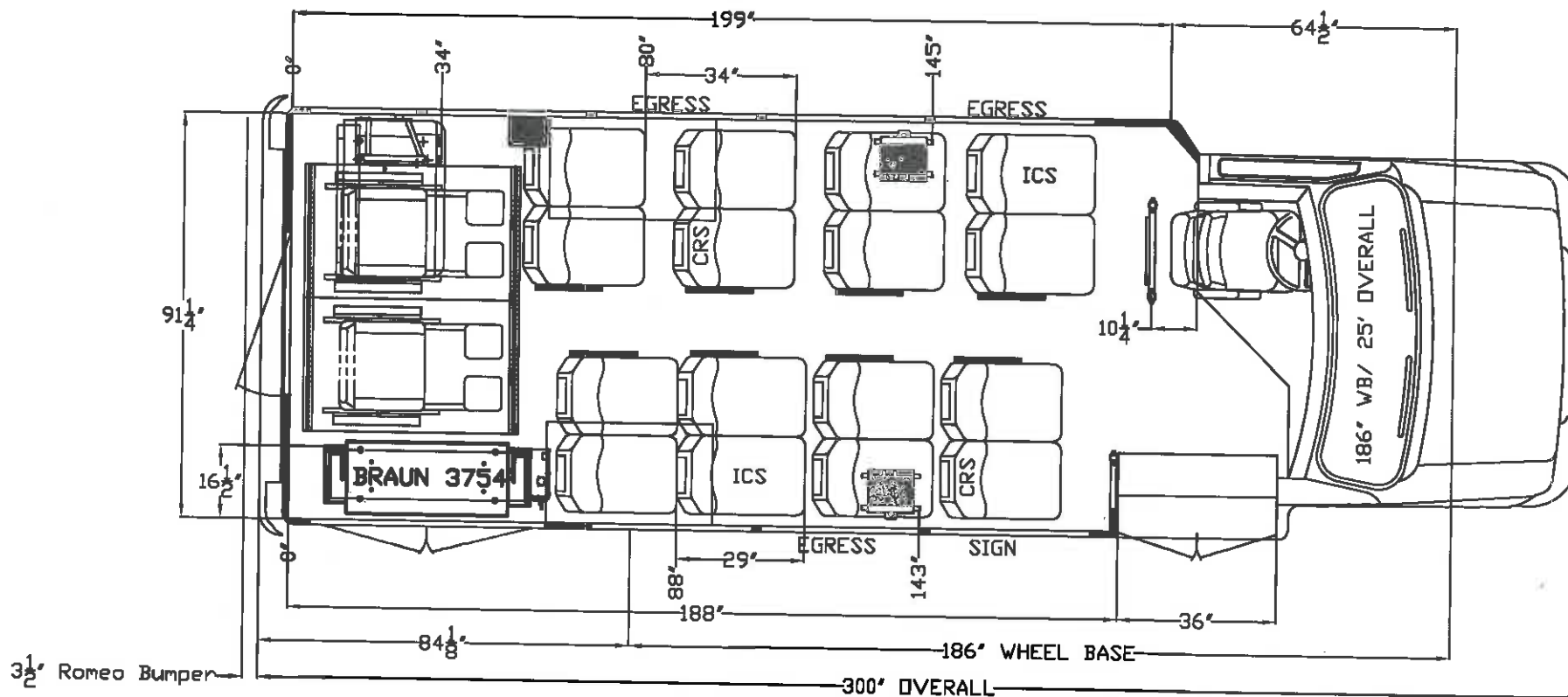
1	TL03	Level 3 Lettering / Graphics
1	TL06	Paint - Custom
1	001-001	Alignment - Castor & Camber Kit, Ford Only
1	002-002	Exhaust - Route to Streetside
1	006-001	Running Board - Driver Side Diamond Plate
1	013-001	Mud Flaps - Front, 1 Pair
1	014-002	Alarm - Back up
1	028-001	Stepwell - Stainless Steel IPO Standard
1	Special-4	Prep for sportworks bike rack model DL2 to include bolt kit, backing plate and mounting plate assembly
1	Special-5	Front and rear mud flaps must be rubber
1	Special-6	Two ambulance style cooling ports installed on hood, no passenger door delete, power locks and window
1	017-018	Battery Box - Stainless Steel Box, SS Tray, SS Lid, SS Slides
1	018-001	Spare Tire & Wheel
1	020-001	Valve Extension - Inner Dual Wheel (Per Pair)
1	068-001	Wheel Chokes - (1) Pair
1	023-002	Bumper - Rear Romeo Rim
1	025-003	Mor/Ryde - Rear (Ford E450)
1	030-006	Floor - Aluminum Underbelly
1	Special-2	Flooring - Gerflor Two color to include yellow standee line and step nosing.
3	Special-3	Flooring - Gerflor one piece step with abrasive yellow step nosing
1	Special-32	Flooring - Step Nosing to be Yellow RCA Abrasive Talon Tread
1	033-003	Ceiling - Gray FRP Covering
1	037-002	Door - Hold Open, Gas Strut Style (Included in W/C Door Package)
1	037-004	Door - Fuel Fill, Locking
1	037-008	Door - Electrical Powered Entry, 36" Width
1	037-010	External Key Switch for Electrical Powered Entry
1	037-012	Door - Rear, w/(2) Windows & w/Door Ajar Buzzer, 36" Width
1	038-003	Window - Additional Egress IPO Std. (1) Window One on curb side, two on streetside
1	038-007	Window - Rear Twin
1	038-008	Alarm - Emergency Window Ajar Package
1	039-001	Fan - Circulating
1	039-003	Roof Hatch - Low Profile Dual Purpose Safety Vent, (Transpec #1075)
1	040-002	Heater - 35K BTU Rear
1	040-003	Heater - 35K BTU Rear w/Circulating Pump
1	040-008	Stepwell - Front Heated - Per Step, Electric w/Switch
1	Special-10	AC 70K combined with front
1	042-009	Luminator Mobilite LED Front & Side Destination Signs must be installed using securements for the top
1	045-001	Electrical Schematic - Laminated Electric Legend on Elec. Door
0.2	045-003	Electrical Schematic - Wiring as Built
1	Special-11	Electrical prep for farebox at stanchion next to driver's right shoulder
1	Special-12	Backup Camera from RVS with 7" TFT LCD digital view color monitor
1	Special-13	Provision camera system with DVR and six Cameras
1	048-001	Ground Plane & Pre-Wire for 2-way Radio
3	048-008	Speaker - 2 Extra (Each)
1	048-009	PA500 - PA Option Only w/ External Speaker & (2) Internal Speakers
1	049-033	Light - Upgrade Interior 4" Courtesy Lights to LED
1	049-035	Light - Upgrade Egress Lights to LED (per light)
1	049-037	Light - Upgrade (2) Stepwell Lights To LED IPO Standard

Qty	Item #	Description
1	049-040	Light - Upgrade Driver's Dome Light to LED IPO Standard
1	049-006	Light - Brake, LED, Rear Center Mounted
1	049-018	Light - LED Clearance/Marker Lights, (5 Amber 7 Red)
1	049-020	Light - Running Lights, Daytime
1	049-022	Light - LED, Midship Turn/Marker
1	049-026	Light - Strobe Light, Dbl Flash, Roof Mounted, Clear Lens
1	049-028	Branch Guard for Dbl Flasher Strobe Light
1	049-038	Light - LED Hooded Light at Entry Door
1	049-039	Lights - Upgrade Hooded Lights Below Lift & License Plate Light To LED IPO Standard
1	Special-14	Lights under hood light from ford
1	Special-15	rear hazzard lights to flash when lift is operating
1	052-002	Glove Box - w/Light & Lock
1	053-001	Overhead Storage - Front Cap requires bottom hinge with straps to hold door at 90 degrees
1	053-004	Manual - Standard Parts Manual
1	Special-9	clip to hold overhead storage door open
1	057-001	Rub Rails - Black Rubber
1	058-001	Reflectors - Both Sides of Bus, (Red Rear/Amber Front)
1	Special-7	Drip rail for top of lift door
1	Special-8	Drip rail for top of entry door
1	059-002	Grab Rail - Entrance Parallel to Steps, Both Sides (ADA Required)
1	059-003	Grab Rail - Ceiling (Both Sides of Aisle) Includes Standee Line & Sign
4	061-002	Stanchion - Padding 40" Each
1	Special-17	add rubber fittings at top and bottom of stanchions where tubes insert into the anchor
1	036-002	Modesty Panel - w/Stanchions, Behind Driver
1	036-003	Plexiglass Top for Modesty Panel, Tinted
1	063-002	Cutter - Seat Belt
1	064-002	Fire Extinguisher - 5 LB Cylinder w/Brackett
1	064-003	Triangles - Emergency in Box
1	Special-18	first aid kit, WV spec
1	Special-19	bloodbourne pathogen protection kit, wv spec
2	Special-20	Mylar Disposable rescue blanket in sealed container
2	Special-21	wool blankets
1	Special-22	Safety vest, highly visible, reflective
1	069-012	Mirrors - Interior Flat, 6"x16"
1	069-013	Mirrors - Interior, Wide Angle lens, 11"x 14" Shipped Loose
1	069-019	Mirrors - Exterior, Heated, Remote, ROSCO
1	070-001	Decal - "All Passengers Are Required to Wear Seat Belts"
1	070-004	Decal - "Emergency Equipment", Red on White
1	070-005	Decal - "No Smoking", Red on White
2	070-006	Decal - "Priority Seating W/C Area", (ADA Required)
1	070-007	Decal - "Stand Clear of Lift", Black on White
1	070-008	Decal - "Vehicle Height"
2	070-009	Decal - "Watch Your Step", Mounted on ALL Riser
1	070-010	Decal - International Wheelchair Symbol, 9"x9"
1	Special-24	decal caution frequent stops ship loose
1	Special-25	decal this vehicle stops at all railroad crossings ship loose
1	Special-26	decal emergency dial 911
1	073-001	Interlock for W/C Lift, Includes Intermotive Gateway Fast Idle & Interlock With Door Adjar Light
1	077-001	W/C Door Package - Dbl Doors w/1 Window Ea., 1 Int. Light, 2 Ext. Lights, Door Ajar Alarm, Extra Axle Lea



Item #	Description
1	080-001 Stop Request - Pull Cord System w/Touch Tape at W/C Locations, Overhead Sign, Chim & Dash Light (inc
2	079-001 Q'Straint - Storage Pouch
2	Special-1 Q'Straint - Q-10007 Tie down kit for L track with 4 QRT 360 retractors and q8-6326-a1 retractable comb
4	Special-27 Q'Straint End caps
8	Special-28 Q'Straint - Webbing Loop Q5-7580
1	082-010 Braun - Lift Hand Belt
1	Special-29 Braun - Century NCL10003754-2 Lift FMVSS403 37x54 platform 1000 lb capacity
1	Special-30 Braun - instructional DVD
1	Special-31 Braun - Shielded Cable for the control box P/N 401038A
1	086-060 Seat - Driver, Freedman "Shield", Recline, RH Armrest
6	086-031 Seat - Mid-High, Rigid, Double
1	086-043 Seat - AM Fold Away, Dbl 3-Step
2	086-033 Seat - Integrated Child, Dbl w/1 Child Seat Position
2	086-041 Child Seat Latch - CRS-225 (Only Available on Forward Facing Rigid Seats)
1	087-007 Seat - Fabric Upgrade to Level 4, (1) Driver Seat
18	087-008 Seat - Fabric Upgrade to Level 4, (1) Pass Seat
16	088-001 Antivandal - Top Grab, FSC, Black (N/A on High Back Seats)
9	089-002 Armrest - Flip-up, US Arm
12	097-001 Seat Back - ABS, Mid-High, 1 Seat Position (N/A on Freedmen ICS Seats or 3PT Seats)
8	098-008 Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions (N/A on Flips or Folds)
5	098-011 Seat Belt - Extension 12" Length
1	098-015 Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions Foldaways Only

REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-




SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
MID-HIGH	29"	27"	9"
MID-HIGH	34"	32"	14"

B

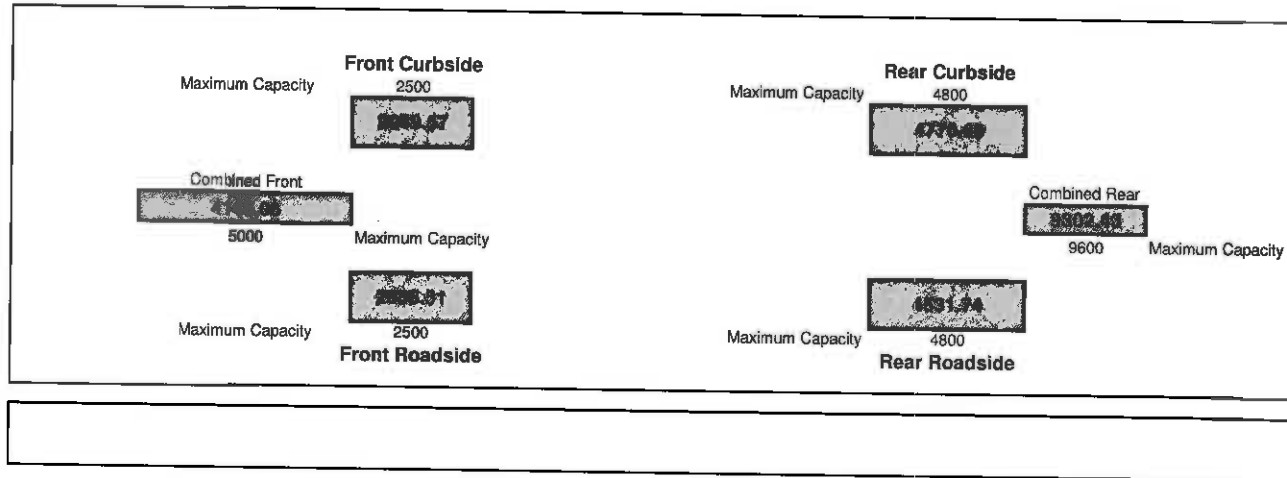
DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-01

DO NOT SCALE	PROJECTION	DESCRIPTION				57490 County Road 3 Elkhart, IN 46517 (574) 327-2700 A DIVISION OF FOREST RIVER		
	<input type="radio"/>	Floor plan ECCW 186-300 Rear Lift (Braun1000/3754) Standard Floor 18P/2WC						
SIZE	W.I. NUMBER	DATE:	SCALE:	REFERENCE:	SHEET 1 OF 1		DRAWING NUMBER	REV
	A		N.T.S.	NUMBER				
THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE EXCLUSIVE PROPERTY OF ELKHART COACH. IT SHALL NOT BE COPIED OR DUPLICATED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT IS LOANED FOR USE WITH REFERENCE TO WORK UNDER CONTRACT WITH, OR PROPOSALS SUBMITTED TO ELKHART COACH.		TOLERANCES UNLESS OTHERWISE SPECIFIED ARE: FLOORPLANS ±1/2" ALL STRUCTURAL ±1/8" ANGLE ±1°		DRAWN BY:	NPM		CHECKED BY:	

# ELKHART COACH WEIGHT ANALYSIS

INPUT AREAS-		VEHICLE DESCRIPTION:	CHASSIS	Quote #	MODEL:	FUEL TYPE:	FUEL LOAD ADJ. DATA (F.L.A.)					
WHEELBASE		PER IN. VALUE CALC.	AXLE WEIGHTS		FUEL AMT.		WGT OF FUEL	FUEL ADJ. AMT.				
FRONT		REAR	TOTAL	LEFT FRONT	RIGHT FRONT	FUEL TANK CENTER		DEALER				
		0.54					339.35		-84.84			
<b>LEFT (ROADSIDE)</b>						<b>RIGHT (CURBSIDE)</b>						
DRIVER	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR		
			23.66%	114.52	35.48			0.00%	0.00	0.00		
			0.00%	0.00	0.00			0.00%	0.00	0.00		
2 PASS			51.08%	171.24	179.76			53.76%	161.83	188.17	2 PASS	
2 PASS			68.82%	109.14	240.86			70.43%	103.49	246.51	2 PASS	
2 PASS			86.56%	47.04	302.96			87.10%	45.18	304.84	2 PASS	
2 PASS			104.30%	-15.05	365.05			103.76%	-13.17	363.17	2 PASS	
			0.00%	0.00	0.00			126.88%	-80.65	380.65	WC	
2 PASS			0.00%	0.00	0.00			0.00%	0.00	0.00		
			0.00%	0.00	0.00			0.00%	0.00	0.00		
			0.00%	0.00	0.00			0.00%	0.00	0.00		
			0.00%	0.00	0.00			0.00%	0.00	0.00		
Rear Door			0.00%	0.00	0.00			0.00%	0.00	0.00		
Mor Ryde			141.94%	-14.26	48.26			141.94%	-14.26	48.26	Rear Door	
			100.00%	0.00	50.00			100.00%	0.00	50.00	Mor Ryde	
			0.00%	0.00	0.00			0.00%	0.00	0.00		
TOTAL PASSENGER LOAD				287.35	1812.65			0.00%	0.00	0.00		
AXLE WEIGHTS				1821.00	2572.00				202.41	1581.59	3884.00	
									1877.00	3042.00	9312.00	
				FRONT	REAR	LEFT/RIGHT TOTALS	LEFT/RIGHT %S					
				LEFT	2088.61	4531.74	6620.26	0.492				
				RIGHT	2059.57	4770.69	6830.26	0.508				
FRT / REAR TOTALS				4148.08	9302.43	13450.51						
AXLE CAPACITIES				5000	9600	14500						
AVAILABLE CAPACITIES												



B

Item #	Description
<b>2019 Ford E450 (GVWR: 14,500 WB: 186 Engine: 6.8L)</b>	
1	Special-35 Chassis Service & Parts Manuals
1	TL03 Level 3 Lettering / Graphics
1	001-001 Alignment - Castor & Camber Kit, Ford Only
1	002-002 Exhaust - Route to Streetside
1	006-001 Running Board - Driver Side Diamond Plate
1	013-001 Mud Flaps - Front, 1 Pair
1	014-002 Alarm - Back up
1	028-001 Stepwell - Stainless Steel IPO Standard
1	Special-4 Prep for sportworks bike rack model DL2 to include bolt kit, backing plate and mounting plate assembly
1	Special-5 Front and rear mud flaps must be rubber
1	Special-6 Two ambulance style cooling ports installed on hood, no passenger door delete, power locks and window
1	017-018 Battery Box - Stainless Steel, Box, SS Tray, SS Lid, SS Slides
1	018-001 Spare Tire & Wheel
1	020-001 Valve Extension - Inner Dual Wheel (Per Pair)
1	068-001 Wheel Chokes - (1) Pair
1	023-002 Bumper - Rear Romeo Rim
1	025-003 Mor/Ryde - Rear (Ford E450)
1	030-006 Floor - Aluminum Underbelly
1	Special-2 Flooring - Gerflor Two color to include yellow standee line and step nosing.
3	Special-3 Flooring - Gerflor one piece step with abrasive yellow step nosing
1	Special-32 Flooring - Step Nosing to be Yellow RCA Abrasive Talon Tread
1	033-003 Ceiling - Gray FRP Covering
1	037-002 Door - Hold Open, Gas Strut Style (Included in W/C Door Package)
1	037-004 Door - Fuel Fill, Locking
1	037-008 Door - Electrical Powered Entry, 36" Width
1	037-010 External Key Switch for Electrical Powered Entry
1	037-012 Door - Rear, w/(2) Windows & w/Door Ajar Buzzer, 36" Width
1	038-003 Window - Additional Egress IPO Std. (1) Window One on curb side, two on streetside
1	038-007 Window - Rear Twin
1	038-008 Alarm - Emergency Window Ajar Package
1	039-001 Fan - Circulating
1	039-003 Roof Hatch - Low Profile Dual Purpose Safety Vent, (Transpec #1075)
1	040-002 Heater - 35K BTU Rear
1	040-003 Heater - 35K BTU Rear w/Circulating Pump
1	040-008 Stepwell - Front Heated - Per Step, Electric w/Switch
1	Special-10 AC 70K combined with front
1	042-009 Luminator Mobilite LED Front & Side Destination Signs must be installed using securements for the top
1	045-001 Electrical Schematic - Laminated Electric Legend on Elec. Door
0.2	045-003 Electrical Schematic - Wiring as Built
1	Special-11 Electrical prep for farebox at stanchion next to driver's right shoulder
1	Special-12 Backup Camera from RVS with 7" TFT LCD digital view color monitor
1	Special-13 Provision camera system with DVR and six Cameras
1	048-001 Ground Plane & Pre-Wire for 2-way Radio
3	048-008 Speaker - 2 Extra (Each)
1	048-009 PA500 - PA Option Only w/ External Speaker & (2) Internal Speakers
1	049-033 Light - Upgrade Interior 4" Courtesy Lights to LED
1	049-035 Light - Upgrade Egress Lights to LED (per light)
1	049-037 Light - Upgrade (2) Stepwell Lights To LED IPO Standard



Proven Quality.  
Trusted Name.

Checklist For Quote #NQ44377

State of West Virginia Dept. of Admin 7/27/2018

2019 Elkhart Coach ECII

1 unit ordered  
14 pass. with 2 w/c

Qty	Item #	Description
1	049-040	Light - Upgrade Driver's Dome Light to LED IPO Standard
1	049-006	Light - Brake, LED, Rear Center Mounted
1	049-018	Light - LED Clearance/Marker Lights, (5 Amber 7 Red)
1	049-020	Light - Running Lights, Daytime
1	049-022	Light - LED, Midship Turn/Marker
1	049-026	Light - Strobe Light, Dbl Flash, Roof Mounted, Clear Lens
1	049-028	Branch Guard for Dbl Flasher Strobe Light
1	049-038	Light - LED Hooded Light at Entry Door
1	049-039	Lights - Upgrade Hooded Lights Below Lift & License Plate Light To LED IPO Standard
1	Special-14	Lights under hood light from ford
1	Special-15	rear hazzard lights to flash when lift is operating
1	052-002	Glove Box - w/Light & Lock
1	053-001	Overhead Storage - Front Cap requires bottom hinge with straps to hold door at 90 degrees
1	053-004	Manual - Standard Parts Manual
1	Special-9	clip to hold overhead storage door open
1	057-001	Rub Rails - Black Rubber
1	058-001	Reflectors - Both Sides of Bus, (Red Rear/Amber Front)
1	Special-7	Drip rail for top of lift door
1	Special-8	Drip rail for top of entry door
1	059-002	Grab Rail - Entrance Parallel to Steps, Both Sides (ADA Required)
1	059-003	Grab Rail - Ceiling (Both Sides of Aisle) Includes Standee Line & Sign
5	061-002	Stanchion - Padding 40" Each
1	Special-17	add rubber fittings at top and bottom of stanchions where tubes insert into the anchor
1	036-002	Modesty Panel - w/Stanchions, Behind Driver
1	036-003	Plexiglass Top for Modesty Panel, Tinted
1	036-004	Modesty Panel - Full Height Adjacent W/C Lift
1	063-002	Cutter - Seat Belt
1	064-002	Fire Extinguisher - 5 LB Cylinder w/Brackett
1	064-003	Triangles - Emergency in Box
1	Special-18	first aid kit, WV spec
1	Special-19	bloodborne pathogen protection kit, wv spec
2	Special-20	Mylar Disposable rescue blanket in sealed container
2	Special-21	wool blankets
1	Special-22	Safety vest, highly visible, reflective
1	069-012	Mirrors - Interior Flat, 6"x16"
1	069-013	Mirrors - Interior, Wide Angle lens, 11"x 14" Shipped Loose
1	069-019	Mirrors - Exterior, Heated, Remote, ROSCO
1	070-001	Decal - "All Passengers Are Required to Wear Seat Belts"
1	070-004	Decal - "Emergency Equipment" , Red on White
1	070-005	Decal - "No Smoking", Red on White
2	070-006	Decal - "Priority Seating W/C Area", (ADA Required)
1	070-007	Decal - "Stand Clear of Lift", Black on White
1	070-008	Decal - "Vehicle Height"
2	070-009	Decal - "Watch Your Step", Mounted on Top Riser
1	070-010	Decal - International Wheelchair Symbol, 9"x9"
1	Special-24	decal caution frequent stops ship loose
1	Special-25	decal this vehicle stops at all railroad crossings ship loose
1	Special-26	decal emergency dial 911
1	073-001	Interlock for W/C Lift, Includes Intermotive Gateway Fast Idle & Interlock



Proven Quality.  
Trusted Name.

Checklist For Quote #NQ44377

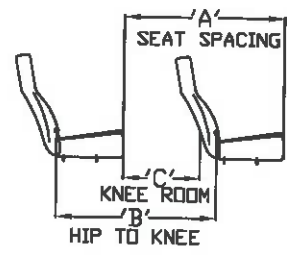
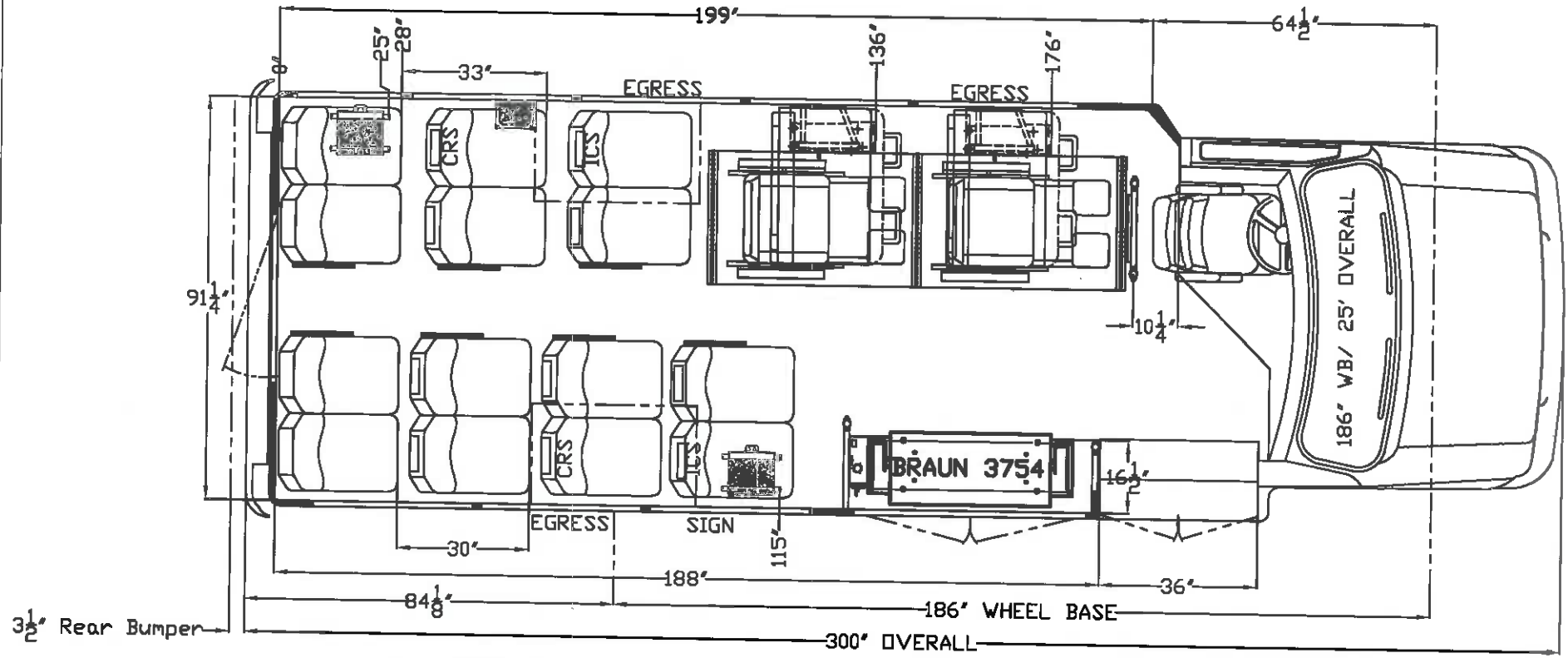
State of West Virginia Dept. of Admin 7/27/2018

2019 Elkhart Coach ECII

1 unit ordered  
14 pass. with 2 w/c

Item #	Description
1 077-001	W/C Door Package - Dbl Doors w/1 Window Ea., 1 Int. Light, 2 Ext. Lights, Door Ajar Alarm, Extra Axle Lea
1 080-001	Stop Request - Pull Cord System w/Touch Tape at W/C Locations, Overhead Sign, Chim & Dash Light
2 079-001	Q'Straint - Storage Pouch
2 Special-1	Q'Straint - Q-10007 Tie down kit for L track with 4 QRT 360 retractors and q8-6326-a1 retractable comb
6 Special-27	Q'Straint End caps
8 Special-28	Q'Straint - Webbing Loop Q5-7580
1 082-010	Braun - Lift Hand Belt
1 Special-29	Braun - Century NCL10003754-2 Lift FMVSS403 37x54 platform 1000 lb capacity
1 Special-30	Braun - instructional DVD
1 Special-31	Braun - Shielded Cable for the control box P/N 401038A
1 086-060	Seat - Driver, Freedman "Shield", Recline, RH Armrest
5 086-031	Seat - Mid-High, Rigid, Double
2 086-043	Seat - AM Fold Away, Dbl 3-Step
2 086-033	Seat - Integrated Child, Dbl w/1 Child Seat Position
2 086-041	Child Seat Latch - CRS-225 (Only Available on Forward Facing Rigid Seats)
1 087-007	Seat - Fabric Upgrade to Level 4, (1) Driver Seat
18 087-008	Seat - Fabric Upgrade to Level 4, (1) Pass Seat
14 088-001	Antivandal - Top Grab, FSC, Black (N/A on High Back Seats)
9 089-002	Armrest - Flip-up, US Arm
10 097-001	Seat Back - ABS, Mid-High, 1 Seat Position (N/A on Freedmen ICS Seats or 3PT Seats)
7 098-008	Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions (N/A on Flips or Folds)
5 098-011	Seat Belt - Extension 12" Length
2 098-015	Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions Foldaways Only

REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
Mid HI	30'	28'	10'
Mid HI	33'	31'	13'

C

DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-02

DO NOT SCALE SIZE <b>A</b>	PROJECTION ⊙ □	DESCRIPTION Floor plan ECCW 186-300 Front Lift (Braun1000/3754) Standard Floor 18P/2WC W.I. NUMBER	DATE: 7-18-18	SCALE: N.T.S.	REFERENCE: NUMBER	SHEET 1 OF 2	57490 County Road 3 Elkhart, IN 46517 (574) 327-2700 A DIVISION OF FOREST RIVER	
	THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE EXCLUSIVE PROPERTY OF ELKHART COACH. IT SHALL NOT BE COPIED OR DUPLICATED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT IS LOANED FOR USE WITH REFERENCE TO WORK UNDER CONTRACT WITH, OR PROPOSALS SUBMITTED TO ELKHART COACH.	TOLERANCES UNLESS OTHERWISE SPECIFIED ARE: FLOORPLANS ±1/2" ALL STRUCTURAL ±1/8" ANGLE ±1°	DRAWN BY: NPM	PART NUMBER <b>900-05-1180</b>	CHECKED BY:	REV <b>A</b>		





y	Item #	Description
	<b>2019 Ford E450 (GVWR: 14,500 WB: 186 Engine: 6.8L)</b>	
1	Special-35	Chassis Service and Parts Manuals
1	TL03	Level 3 Lettering / Graphics
1	TL06	Paint - Custom
1	001-001	Alignment - Castor & Camber Kit, Ford Only
1	002-002	Exhaust - Route to Streetside
1	006-001	Running Board - Driver Side Diamond Plate
1	013-001	Mud Flaps - Front, 1 Pair
1	014-002	Alarm - Back up
1	028-001	Stepwell - Stainless Steel IPO Standard
1	Special-4	Prep for sportworks bike rack model DL2 to include bolt kit, backing plate and mounting plate assembly
1	Special-5	Front and rear mud flaps must be rubber
1	Special-6	Two ambulance style cooling ports installed on hood, no passenger door delete, power locks and windows
1	017-018	Battery Box - Stainless Steel Box, SS Tray, SS Lid, SS Slides
1	018-001	Spare Tire & Wheel
1	020-001	Valve Extension - Inner Dual Wheel (Per Pair)
1	068-001	Wheel Chokes - (1) Pair
1	023-002	Bumper - Rear Romeo Rim
1	025-003	Mor/Ryde - Rear (Ford E450)
1	030-006	Floor - Aluminum Underbelly
1	Special-2	Flooring - Gerflor Two color to include yellow standee line and step nosing.
3	Special-3	Flooring - Gerflor one piece step with abrasive yellow step nosing
1	Special-32	Flooring - Step Nosing to be Yellow RCA Abrasive Talon Tread
	033-003	Ceiling - Gray FRP Covering
1	037-002	Door - Hold Open, Gas Strut Style (Included in W/C Door Package)
1	037-004	Door - Fuel Fill, Locking
1	037-008	Door - Electrical Powered Entry, 36" Width
1	037-010	External Key Switch for Electrical Powered Entry
1	037-012	Door - Rear, w/(2) Windows & w/Door Ajar Buzzer, 36" Width
1	038-003	Window - Additional Egress IPO Std. (1) Window One on curb side, two on streetside
1	038-007	Window - Rear Twin
1	038-008	Alarm - Emergency Window Ajar Package
1	039-001	Fan - Circulating
1	039-003	Roof Hatch - Low Profile Dual Purpose Safety Vent, (Transpec #1075)
1	040-002	Heater - 35K BTU Rear
1	040-003	Heater - 35K BTU Rear w/Circulating Pump
1	040-008	Stepwell - Front Heated - Per Step, Electric w/Switch
1	Special-10	AC 70K combined with front
1	042-009	Luminator Mobilite LED Front & Side Destination Signs must be installed using securements for the top
1	045-001	Electrical Schematic - Laminated Electric Legend on Elec. Door
0.2	045-003	Electrical Schematic - Wiring as Built
1	Special-11	Electrical prep for farebox at stanchion next to driver's right shoulder
1	Special-12	Backup Camera from RVS with 7" TFT LCD digital view color monitor
1	Special-13	Provision camera system with DVR and six Cameras
1	048-001	Ground Plane & Pre-Wire for 2-way Radio
3	048-008	Speaker - 2 Extra (Each)
	048-009	PA500 - PA Option Only w/ External Speaker & (2) Internal Speakers
	049-033	Light - Upgrade Interior 4" Courtesy Lights to LED
5	049-035	Light - Upgrade Egress Lights to LED (per light)

Qty	Item #	Description
1	049-037	Light - Upgrade (2) Stepwell Lights To LED IPO Standard
1	049-040	Light - Upgrade Driver's Dome Light to LED IPO Standard
1	049-006	Light - Brake, LED, Rear Center Mounted
1	049-018	Light - LED Clearance/Marker Lights, (5 Amber 7 Red)
1	049-020	Light - Running Lights, Daytime
1	049-022	Light - LED, Midship Turn/Marker
1	049-026	Light - Strobe Light, Dbl Flash, Roof Mounted, Clear Lens
1	049-028	Branch Guard for Dbl Flasher Strobe Light
1	049-038	Light - LED Hooded Light at Entry Door
1	049-039	Lights - Upgrade Hooded Lights Below Lift & License Plate Light To LED IPO Standard
1	Special-14	Lights under hood light from ford
1	Special-15	rear hazzard lights to flash when lift is operating
1	052-002	Glove Box - w/Light & Lock
1	053-001	Overhead Storage - Front Cap requires bottom hinge with straps to hold door at 90 degrees
1	053-004	Manual - Standard Parts Manual
1	Special-9	clip to hold overhead storage door open
1	057-001	Rub Rails - Black Rubber
1	058-001	Reflectors - Both Sides of Bus, (Red Rear/Amber Front)
1	Special-7	Drip rail for top of lift door
1	Special-8	Drip rail for top of entry door
1	059-002	Grab Rail - Entrance Parallel to Steps, Both Sides (ADA Required)
1	059-003	Grab Rail - Ceiling (Both Sides of Aisle) Includes Standee Line & Sign
5	061-002	Stanchion - Padding 40" Each
1	Special-17	add rubber fittings at top and bottom of stanchions where tubes insert into the anchor
1	036-002	Modesty Panel - w/Stanchions, Behind Driver
1	036-003	Plexiglass Top for Modesty Panel, Tinted
1	036-004	Modesty Panel - Full Height Adjacent W/C Lift
1	063-002	Cutter - Seat Belt
1	064-002	Fire Extinguisher - 5 LB Cylinder w/Brackett
1	064-003	Triangles - Emergency in Box
1	Special-18	first aid kit, WV spec
1	Special-19	bloodbourne pathogen protection kit, wv spec
2	Special-20	Mylar Disposable rescue blanket in sealed container
2	Special-21	wool blankets
1	Special-22	Safety vest, highly visible, reflective
1	069-012	Mirrors - Interior Flat, 6"x16"
1	069-013	Mirrors - Interior, Wide Angle lens, 11"x 14" Shipped Loose
1	069-019	Mirrors - Exterior, Heated, Remote, ROSCO
1	070-001	Decal - "All Passengers Are Required to Wear Seat Belts"
1	070-004	Decal - "Emergency Equipment" , Red on White
1	070-005	Decal - "No Smoking", Red on White
2	070-006	Decal - "Priority Seating W/C Area", (ADA Required)
1	070-007	Decal - "Stand Clear of Lift", Black on White
1	070-008	Decal - "Vehicle Height"
2	070-009	Decal - "Watch Your Step", Mounted on Top Riser
1	070-010	Decal - International Wheelchair Symbol, 9"x9"
1	Special-24	decals caution frequent stops ship loose
1	Special-25	decals this vehicle stops at all railroad crossings ship loose
1	Special-26	decals emergency dial 911



Proven Quality.  
Trusted Name.

Checklist For Quote #NQ44378

State of West Virginia Dept. of Admin 7/27/2018

2019 Elkhart Coach ECII

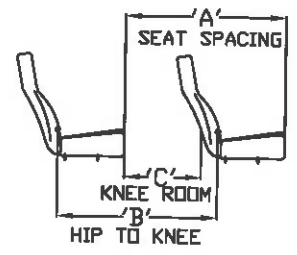
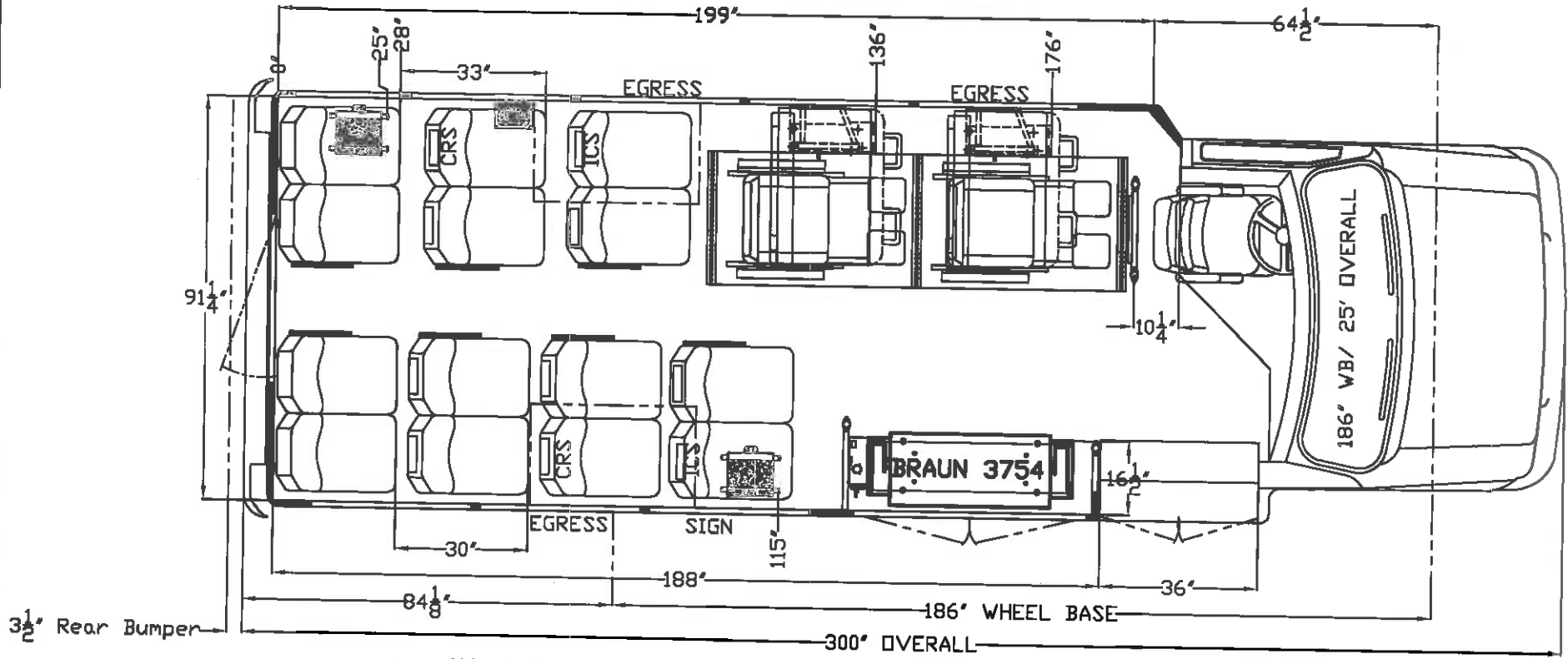
1 unit ordered  
14 pass. with 2 w/c

Item #

Description

1	073-001	Interlock for W/C Lift, Includes Intermotive Gateway Fast Idle & Interlock
1	077-001	W/C Door Package - Dbl Doors w/1 Window Ea., 1 Int. Light, 2 Ext. Lights, Door Ajar Alarm, Extra Axle Lea
1	080-001	Stop Request - Pull Cord System w/Touch Tape at W/C Locations, Overhead Sign, Chim & Dash Light
2	079-001	Q'Straint - Storage Pouch
2	Special-1	Q'Straint - Q-10007 Tie down kit for L track with 4 QRT 360 retractors and q8-6326-a1 retractable comb
6	Special-27	Q'Straint End caps
8	Special-28	Q'Straint - Webbing Loop Q5-7580
1	082-010	Braun - Lift Hand Belt
1	Special-29	Braun - Century NCL10003754-2 Lift FMVSS403 37x54 platform 1000 lb capacity
1	Special-30	Braun - instructional DVD
1	Special-31	Braun - Shielded Cable for the control box P/N 401038A
1	086-060	Seat - Driver, Freedman "Shield", Recline, RH Armrest
5	086-031	Seat - Mid-High, Rigid, Double
2	086-043	Seat - AM Fold Away, Dbl 3-Step
2	086-033	Seat - Integrated Child, Dbl w/1 Child Seat Position
2	086-041	Child Seat Latch - CRS-225 (Only Available on Forward Facing Rigid Seats)
1	087-007	Seat - Fabric Upgrade to Level 4, (1) Driver Seat
18	087-008	Seat - Fabric Upgrade to Level 4, (1) Pass Seat
14	088-001	Antivandal - Top Grab, FSC, Black (N/A on High Back Seats)
9	089-002	Armrest - Flip-up, US Arm
10	097-001	Seat Back - ABS, Mid-High, 1 Seat Position (N/A on Freedmen ICS Seats or 3PT Seats)
7	098-008	Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions (N/A on Flips or Folds)
5	098-011	Seat Belt - Extension 12" Length
	098-015	Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions Foldaways Only

REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
Mid HI	30'	28'	10'
Mid HI	33'	31'	13'

D

DEALER SIGNATURE:

Q-42-071818-02

DO NOT SCALE SIZE <b>A</b>	PROJECTION ⊙ □	DESCRIPTION Floor plan ECCW 186-300 Front Lift (Braun1000/3754) Standard Floor 18P/2WC	57490 County Road 3 Elkhart, IN 46517 (574) 327-2700 A DIVISION OF FOREST RIVER	
	W.I. NUMBER	DATE: 7-18-18	SCALE: N.T.S.	REFERENCE: NUMBER
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		CHECKED BY:		REV <b>A</b>





Item #	Description
<b>2019 Ford E450 (GVWR: 14,500 WB: 186 Engine: 6.8L)</b>	
1	Special-39 Chassis Service and Parts manuals
1	Special-40 NO DEALER LOGOS
1	Special-41 Title and Inspection Fees
1	TL03 Level 3 Lettering / Graphics
1	001-001 Alignment - Castor & Camber Kit, Ford Only
1	002-002 Exhaust - Route to Streetside
1	006-001 Running Board - Driver Side Diamond Plate
1	013-001 Mud Flaps - Front, 1 Pair
1	014-002 Alarm - Back up
1	028-001 Stepwell - Stainless Steel IPO Standard
1	Special-4 Prep for sportworks bike rack model DL2 to include bolt kit, backing plate and mounting plate assembly
1	Special-5 Front and rear mud flaps must be rubber
1	Special-6 Two ambulance style cooling ports installed on hood, no passenger door delete, power locks and windows
1	017-018 Battery Box - Stainless Steel Box, SS Tray, SS Lid, SS Slides
1	018-001 Spare Tire & Wheel
1	020-001 Valve Extension - Inner Dual Wheel (Per Pair)
1	068-001 Wheel Chokes - (1) Pair
1	023-002 Bumper - Rear Romeo Rim
1	025-003 Mor/Ryde - Rear (Ford E450)
1	030-006 Floor - Aluminum Underbelly
1	Special-2 Flooring - Gerflor Two color to include yellow standee line and step nosing.
2	Special-3 Flooring - Gerflor one piece step with abrasive yellow step nosing
1	Special-36 Flooring - Step Nosing to be Yellow RCA Abrasive Talon Tread
1	033-003 Ceiling - Gray FRP Covering
1	037-002 Door - Hold Open, Gas Strut Style (Included in W/C Door Package)
1	037-004 Door - Fuel Fill, Locking
1	037-008 Door - Electrical Powered Entry, 36" Width
1	037-010 External Key Switch for Electrical Powered Entry
1	037-012 Door - Rear, w/(2) Windows & w/Door Ajar Buzzer, 36" Width
1	038-003 Window - Additional Egress IPO Std. (1) Window One on curb side, two on streetside
1	038-007 Window - Rear Twin
1	038-008 Alarm - Emergency Window Ajar Package
1	039-001 Fan - Circulating
1	039-003 Roof Hatch - Low Profile Dual Purpose Safety Vent, (Transpec #1075)
1	040-002 Heater - 35K BTU Rear
1	040-003 Heater - 35K BTU Rear w/Circulating Pump
1	040-008 Stepwell - Front Heated - Per Step, Electric w/Switch
1	Special-10 AC 70K combined with front
1	042-009 Luminator Mobilite LED Front & Side Destination Signs must be installed using securements for the top
1	045-001 Electrical Schematic - Laminated Electric Legend on Elec. Door
0.2	045-003 Electrical Schematic - Wiring as Built
1	Special-11 Electrical prep for farebox at stanchion next to driver's right shoulder
1	Special-12 Backup Camera from RVS with 7" TFT LCD digital view color monitor
1	Special-13 Provision camera system with DVR and six Cameras
1	048-001 Ground Plane & Pre-Wire for 2-way Radio
1	048-008 Speaker - 2 Extra (Each)
1	048-009 PA500 - PA Option Only w/ External Speaker & (2) Internal Speakers
1	049-033 Light - Upgrade Interior 4" Courtesy Lights to LED

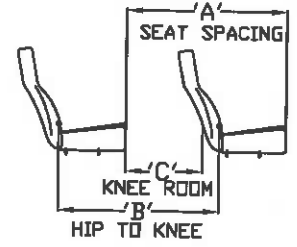
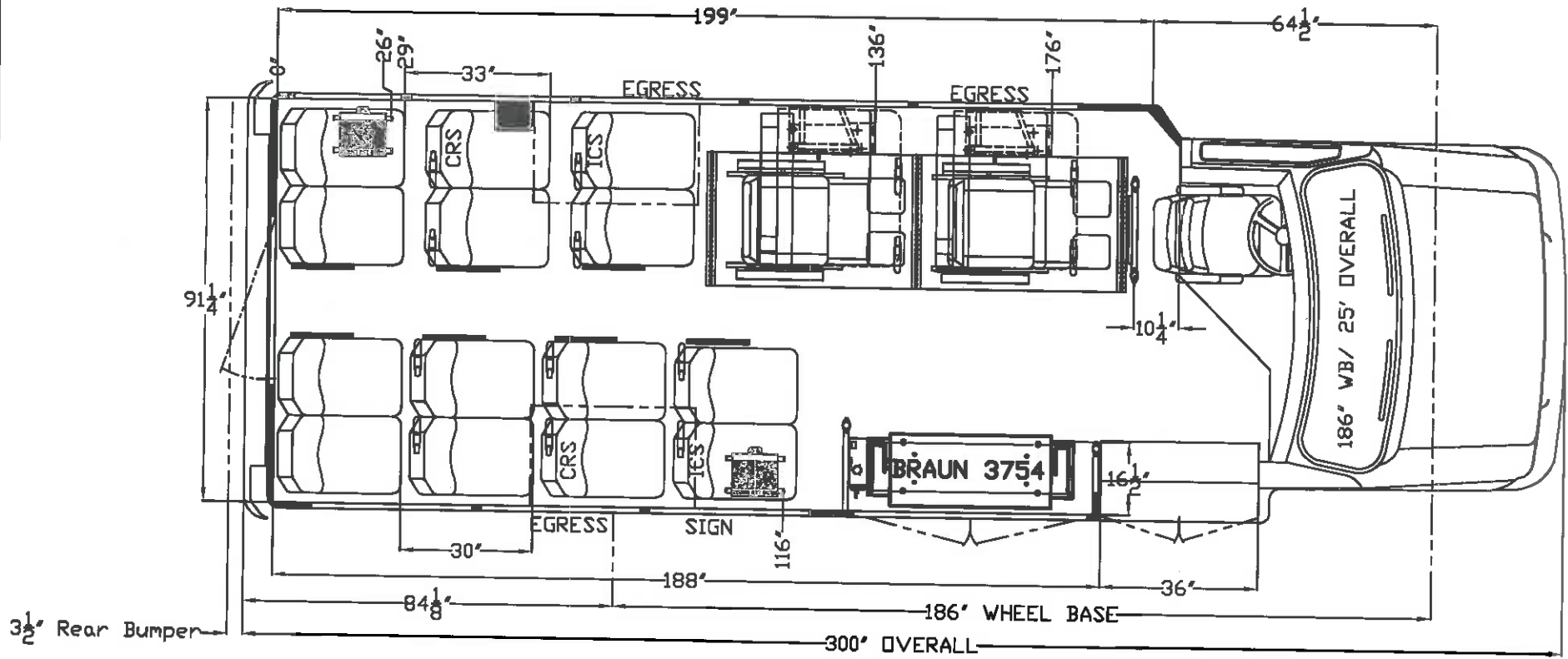
Qty	Item #	Description
5	049-035	Light - Upgrade Egress Lights to LED (per light)
1	049-037	Light - Upgrade (2) Stepwell Lights To LED IPO Standard
1	049-040	Light - Upgrade Driver's Dome Light to LED IPO Standard
1	Special-37	Light - Two LED lights above center aisle
1	049-006	Light - Brake, LED, Rear Center Mounted
1	049-018	Light - LED Clearance/Marker Lights, (5 Amber 7 Red)
1	049-020	Light - Running Lights, Daytime
1	049-022	Light - LED, Midship Turn/Marker
1	049-026	Light - Strobe Light, Dbl Flash, Roof Mounted, Clear Lens
1	049-028	Branch Guard for Dbl Flasher Strobe Light
1	049-038	Light - LED Hooded Light at Entry Door
1	049-039	Lights - Upgrade Hooded Lights Below Lift & License Plate Light To LED IPO Standard
1	Special-14	Lights under hood light from ford
1	Special-15	rear hazzard lights to flash when lift is operating
1	052-002	Glove Box - w/Light & Lock
1	053-001	Overhead Storage - Front Cap requires bottom hinge with straps to hold door at 90 degrees
1	053-004	Manual - Standard Parts Manual
1	Special-9	clip to hold overhead storage door open
1	057-001	Rub Rails - Black Rubber
1	058-001	Reflectors - Both Sides of Bus, (Red Rear/Amber Front)
1	Special-7	Drip rail for top of lift door
1	Special-8	Drip rail for top of entry door
1	059-002	Grab Rail - Entrance Parallel to Steps, Both Sides (ADA Required)
1	059-003	Grab Rail - Ceiling (Both Sides of Aisle) Includes Standee Line & Sign
5	061-002	Stanchion - Padding 40" Each
1	Special-17	add rubber fittings at top and bottom of stanchions where tubes insert into the anchor
1	036-002	Modesty Panel - w/Stanchions, Behind Driver
1	036-003	Plexiglass Top for Modesty Panel, Tinted
1	036-004	Modesty Panel - Full Height Adjacent W/C Lift
1	062-007	Overhead Luggage - Both Sides
1	063-002	Cutter - Seat Belt
1	064-002	Fire Extinguisher - 5 LB Cylinder w/Brackett
1	064-003	Triangles - Emergency in Box
1	Special-18	first aid kit, WV spec
1	Special-19	bloodbourne pathogen protection kit, wv spec
2	Special-20	Mylar Disposable rescue blanket in sealed container
2	Special-21	wool blankets
1	Special-22	Safety vest, highly visible, reflective
1	069-012	Mirrors - Interior Flat, 6"x16"
1	069-013	Mirrors - Interior, Wide Angle lens, 11"x 14" Shipped Loose
1	069-019	Mirrors - Exterior, Heated, Remote, ROSCO
1	070-001	Decal - "All Passengers Are Required to Wear Seat Belts"
1	070-004	Decal - "Emergency Equipment", Red on White
1	070-005	Decal - "No Smoking", Red on White
2	070-006	Decal - "Priority Seating W/C Area", (ADA Required)
1	070-007	Decal - "Stand Clear of Lift", Black on White
1	070-008	Decal - "Vehicle Height"
2	070-009	Decal - "Watch Your Step", Mounted on Top Riser
1	070-010	Decal - International Wheelchair Symbol, 9"x9"

**Item # Description**

1	Special-24	decal caution frequent stops ship loose
1	Special-25	decal this vehicle stops at all railroad crossings ship loose
1	Special-26	decal emergency dial 911
1	073-001	Interlock for W/C Lift, Includes Intermotive Gateway Fast Idle & Interlock
1	077-001	W/C Door Package - Dbl Doors w/1 Window Ea., 1 Int. Light, 2 Ext. Lights, Door Ajar Alarm, Extra Axle Lea
1	080-001	Stop Request - Pull Cord System w/Touch Tape at W/C Locations, Overhead Sign, Chim & Dash Light
2	079-001	Q'Straint - Storage Pouch
2	Special-1	Q'Straint - Q-10007 Tie down kit for L track with 4 QRT 360 retractors and q8-6326-a1 retractable comb
6	Special-27	Q'Straint End caps
8	Special-28	Q'Straint - Webbing Loop Q5-7580
1	082-010	Braun - Lift Hand Belt
1	Special-29	Braun - Century NCL10003754-2 Lift FMVSS403 37x54 platform 1000 lb capacity
1	Special-30	Braun - instructional DVD
1	Special-31	Braun - Shielded Cable for the control box P/N 401038A
1	086-060	Seat - Driver, Freedman "Shield", Recline, RH Armrest
5	086-019	Seat - Hi-Back, Rigid, Double
2	086-043	Seat - AM Fold Away, Dbl 3-Step
1	Special-33	Fold Away seats to be High Back
14	Special-34	Corner Grab for High back seats only
2	086-033	Seat - Integrated Child, Dbl w/1 Child Seat Position
2	086-041	Child Seat Latch - CRS-225 (Only Available on Forward Facing Rigid Seats)
1	087-007	Seat - Fabric Upgrade to Level 4, (1) Driver Seat
18	087-008	Seat - Fabric Upgrade to Level 4, (1) Pass Seat
	089-002	Armrest - Flip-up, US Arm
7	098-008	Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions (N/A on Flips or Folds)
5	098-011	Seat Belt - Extension 12" Length
2	098-015	Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions Foldaways Only



REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-






SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
H Back	30'	28'	10'
H Back	33'	31'	13'

E

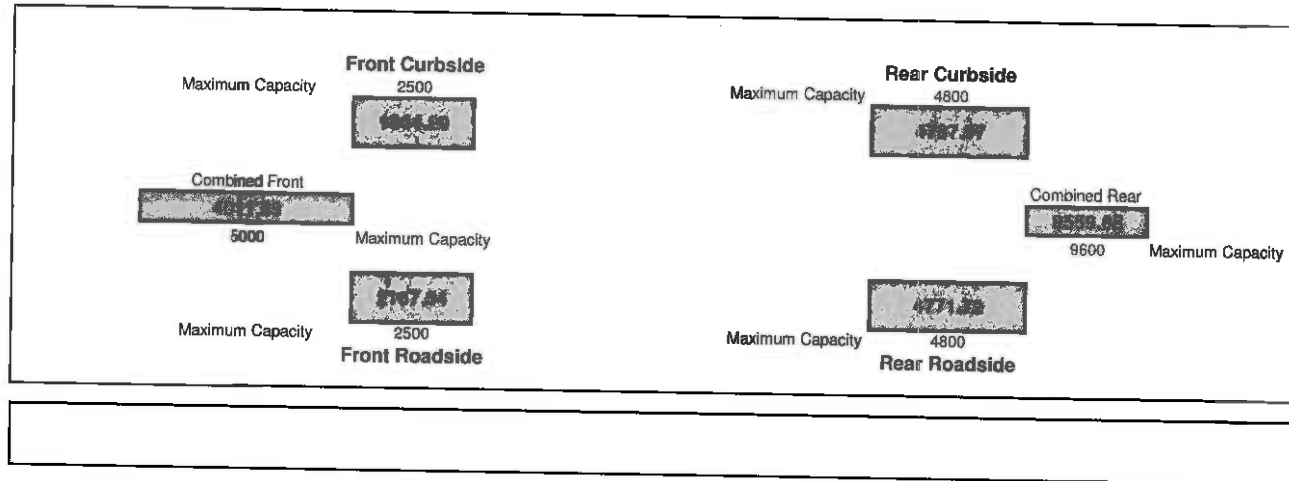
DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-03

DO NOT SCALE	PROJECTION	DESCRIPTION			57490 County Road 3			
		Floor plan ECCW 186-300 Front Lift (Braun1000/3754) Standard Floor 18P/2WC			Elkhart, IN 46517			
SIZE	W.I. NUMBER	DATE:	SCALE:	REFERENCE:	A DIVISION OF FOREST RIVER			
	A	7-18-18	N.T.S.	NUMBER	SHEET 1 OF 2	DRAWN BY: NPM PART NUMBER: <b>900-05-1179</b> CHECKED BY:		
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# ELKHART COACH WEIGHT ANALYSIS

INPUT AREAS=		CHASSIS	Quote #	MODEL	FUEL TYPE:	FUEL LOAD ADJ. DATA (F.L.A.)					
VEHICLE DESCRIPTION:						FUEL CAP.	FUEL WGT PER GAL.				
WHEELBASE		PER IN. VALUE CALC.	AXLE WEIGHTS				FUEL AMT.	WGT OF FUEL	FUEL ADJ. AMT.		
		0.54	LEFT FRONT	RIGHT FRONT				339.35	-84.84		
AXLE CAPACITIES						FUEL TANK CENTER		DEALER			
FRONT	REAR	TOTAL	LEFT REAR	RIGHT REAR							
LEFT (ROADSIDE)						RIGHT (CURBSIDE)					
DRIVER	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	
			23.66%	114.52	35.48			0.00%	0.00	0.00	
2 PASS			0.00%	0.00	0.00			0.00%	0.00	0.00	
2 PASS			52.15%	181.35	197.65			81.72%	69.28	309.72	2 PASS
2 PASS			79.57%	74.16	288.84			98.39%	5.85	357.15	2 PASS
2 PASS			88.39%	5.81	354.19			115.05%	-54.19	414.19	2 PASS
2 PASS			115.05%	-54.19	414.19			131.72%	-114.19	474.19	2 PASS
			131.72%	-114.19	474.19			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
Overhead Luggage			0.00%	0.00	0.00			0.00%	0.00	0.00	
			81.18%	12.98	56.02			0.00%	0.00	0.00	
			0.00%	0.00	0.00			98.92%	0.43	39.57	Overhead Luggage
Romeo			143.55%	-3.05	10.05			0.00%	-3.05	10.05	Romeo
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
TOTAL PASSENGER LOAD				217.38	1830.62			0.00%	0.00	0.00	
AXLE WEIGHTS				1970.00	2794.00				-95.87	1604.87	3557.00
									1960.00	3036.00	9760.00
				FRONT	REAR	LEFT/RIGHT TOTALS	LEFT/RIGHT %S				
				LEFT	2167.54	4771.72	6939.26	0.511			
				RIGHT	1844.29	4787.97	6632.26	0.489			
FRT / REAR TOTALS				4011.83	9559.68	13571.51					
AXLE CAPACITIES				5000	9600	14500					
AVAILABLE CAPACITIES											



Item #

Description

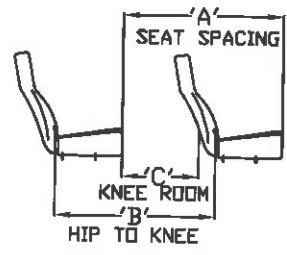
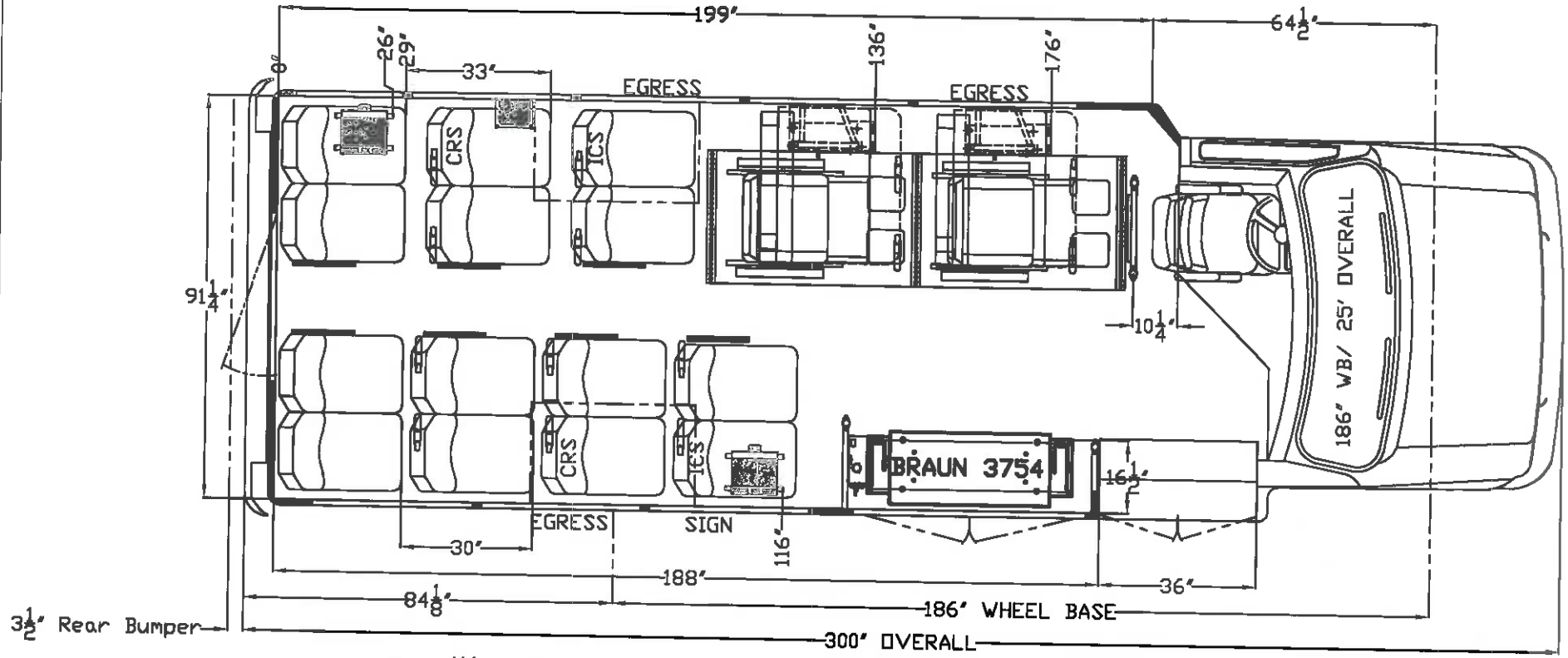
2019 Ford E450 (GVWR: 14,500 WB: 186 Engine: 6.8L)

1	Special-41	Chassis Service and Parts Manuals
1	Special-42	Title and Inspection Fees
1	TL03	Level 3 Lettering / Graphics
1	TL06	Paint - Custom
1	001-001	Alignment - Castor & Camber Kit, Ford Only
1	002-002	Exhaust - Route to Streetside
1	006-001	Running Board - Driver Side Diamond Plate
1	013-001	Mud Flaps - Front, 1 Pair
1	014-002	Alarm - Back up
1	028-001	Stepwell - Stainless Steel IPO Standard
1	CT001	Chassis Transfer Fee
1	Special-35	2019 Chassis Price Increase
1	Special-4	Prep for sportworks bike rack model DL2 to include bolt kit, backing plate and mounting plate assembly
1	Special-5	Front and rear mud flaps must be rubber
1	Special-6	Two ambulance style cooling ports installed on hood, no passenger door delete, power locks and window
1	017-018	Battery Box - Stainless Steel Box, SS Tray, SS Lid, SS Slides
1	018-001	Spare Tire & Wheel
1	020-001	Valve Extension - Inner Dual Wheel (Per Pair)
1	068-001	Wheel Chokes - (1) Pair
1	023-002	Bumper - Rear Romeo Rim
1	025-003	Mor/Ryde - Rear (Ford E450)
1	030-006	Floor - Aluminum Underbelly
	Special-2	Flooring - Gerflor Two color to include yellow standee line and step nosing.
3	Special-3	Flooring - Gerflor one piece step with abrasive yellow step nosing
1	Special-36	Flooring - Step Nosing to be Yellow RCA Abrasive Talon Tread
1	033-003	Ceiling - Gray FRP Covering
1	037-002	Door - Hold Open, Gas Strut Style (Included in W/C Door Package)
1	037-004	Door - Fuel Fill, Locking
1	037-008	Door - Electrical Powered Entry, 36" Width
1	037-010	External Key Switch for Electrical Powered Entry
1	037-012	Door - Rear, w/(2) Windows & w/Door Ajar Buzzer, 36" Width
1	038-003	Window - Additional Egress IPO Std. (1) Window One on curb side, two on streetside
1	038-007	Window - Rear Twin
1	038-008	Alarm - Emergency Window Ajar Package
1	039-001	Fan - Circulating
1	039-003	Roof Hatch - Low Profile Dual Purpose Safety Vent, (Transpec #1075)
1	040-002	Heater - 35K BTU Rear
1	040-003	Heater - 35K BTU Rear w/Circulating Pump
1	040-008	Stepwell - Front Heated - Per Step, Electric w/Switch
1	Special-10	AC 70K combined with front
1	042-009	Luminator Mobilite LED Front & Side Destination Signs must be installed using securements for the top
1	045-001	Electrical Schematic - Laminated Electric Legend on Elec. Door
0.2	045-003	Electrical Schematic - Wiring as Built
1	Special-11	Electrical prep for farebox at stanchion next to driver's right shoulder
1	Special-12	Backup Camera from RVS with 7" TFT LCD digital view color monitor
	Special-13	Provision camera system with DVR and six Cameras
	048-001	Ground Plane & Pre-Wire for 2-way Radio
3	048-008	Speaker - 2 Extra (Each)

Qty	Item #	Description
1	048-009	PA500 - PA Option Only w/ External Speaker & (2) Internal Speakers
1	049-033	Light - Upgrade Interior 4" Courtesy Lights to LED
5	049-035	Light - Upgrade Egress Lights to LED (per light)
1	049-037	Light - Upgrade (2) Stepwell Lights To LED IPO Standard
1	049-040	Light - Upgrade Driver's Dome Light to LED IPO Standard
1	Special-37	Two LED Lights Above Center Aisle
1	049-006	Light - Brake, LED, Rear Center Mounted
1	049-018	Light - LED Clearance/Marker Lights, (5 Amber 7 Red)
1	049-020	Light - Running Lights, Daytime
1	049-022	Light - LED, Midship Turn/Marker
1	049-026	Light - Strobe Light, Dbl Flash, Roof Mounted, Clear Lens
1	049-028	Branch Guard for Dbl Flasher Strobe Light
1	049-038	Light - LED Hooded Light at Entry Door
1	049-039	Lights - Upgrade Hooded Lights Below Lift & License Plate Light To LED IPO Standard
1	Special-14	Lights under hood light from ford
1	Special-15	rear hazzard lights to flash when lift is operating
1	052-002	Glove Box - w/Light & Lock
1	053-001	Overhead Storage - Front Cap requires bottom hinge with straps to hold door at 90 degrees
1	053-004	Manual - Standard Parts Manual
1	Special-9	clip to hold overhead storage door open
1	057-001	Rub Rails - Black Rubber
1	058-001	Reflectors - Both Sides of Bus, (Red Rear/Amber Front)
1	Special-7	Drip rail for top of lift door
1	Special-8	Drip rail for top of entry door
1	059-002	Grab Rail - Entrance Parallel to Steps, Both Sides (ADA Required)
1	059-003	Grab Rail - Ceiling (Both Sides of Aisle) Includes Standee Line & Sign
5	061-002	Stanchion - Padding 40" Each
1	Special-17	add rubber fittings at top and bottom of stanchions where tubes insert into the anchor
1	036-002	Modesty Panel - w/Stanchions, Behind Driver
1	036-003	Plexiglass Top for Modesty Panel, Tinted
1	036-004	Modesty Panel - Full Height Adjacent W/C Lift
1	062-007	Overhead Luggage - Both Sides
1	063-002	Cutter - Seat Belt
1	064-002	Fire Extinguisher - 5 LB Cylinder w/Bracket
1	064-003	Triangles - Emergency in Box
1	Special-18	first aid kit, WV spec
1	Special-19	bloodbourne pathogen protection kit, wv spec
2	Special-20	Mylar Disposable rescue blanket in sealed container
2	Special-21	wool blankets
1	Special-22	Safety vest, highly visible, reflective
1	069-012	Mirrors - Interior Flat, 6"x16"
1	069-013	Mirrors - Interior, Wide Angle lens, 11"x 14" Shipped Loose
1	069-019	Mirrors - Exterior, Heated, Remote, ROSCO
1	070-001	Decal - "All Passengers Are Required to Wear Seat Belts"
1	070-004	Decal - "Emergency Equipment", Red on White
1	070-005	Decal - "No Smoking", Red on White
2	070-006	Decal - "Priority Seating W/C Area", (ADA Required)
1	070-007	Decal - "Stand Clear of Lift", Black on White
1	070-008	Decal - "Vehicle Height"

Item #	Description
2	070-009 Decal - "Watch Your Step", Mounted on Top Riser
1	070-010 Decal - International Wheelchair Symbol, 9"x9"
1	Special-24 decal caution frequent stops ship loose
1	Special-25 decal this vehicle stops at all railroad crossings ship loose
1	Special-26 decal emergency dial 911
1	073-001 Interlock for W/C Lift, Includes Intermotive Gateway Fast Idle & Interlock
1	077-001 W/C Door Package - Dbl Doors w/1 Window Ea., 1 Int. Light, 2 Ext. Lights, Door Ajar Alarm, Extra Axle Lea
1	080-001 Stop Request - Pull Cord System w/Touch Tape at W/C Locations, Overhead Sign, Chim & Dash Light
2	079-001 Q'Straint - Storage Pouch
2	Special-1 Q'Straint - Q-10007 Tie down kit for L track with 4 QRT 360 retractors and q8-6326-a1 retractable comb
6	Special-27 Q'Straint End caps
8	Special-28 Q'Straint - Webbing Loop Q5-7580
1	082-010 Braun - Lift Hand Belt
1	Special-29 Braun - Century NCL10003754-2 Lift FMVSS403 37x54 platform 1000 lb capacity
1	Special-30 Braun - instructional DVD
1	Special-31 Braun - Shielded Cable for the control box P/N 401038A
1	086-060 Seat - Driver, Freedman "Shield", Recline, RH Armrest
5	086-019 Seat - Hi-Back, Rigid, Double
2	086-043 Seat - AM Fold Away, Dbl 3-Step
1	Special-33 Fold Away seats to be High Back
2	086-033 Seat - Integrated Child, Dbl w/1 Child Seat Position
2	086-041 Child Seat Latch - CRS-225 (Only Available on Forward Facing Rigid Seats)
1	087-007 Seat - Fabric Upgrade to Level 4, (1) Driver Seat
	087-008 Seat - Fabric Upgrade to Level 4, (1) Pass Seat
9	089-002 Armrest - Flip-up, US Arm
7	098-008 Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions (N/A on Flips or Folds)
5	098-011 Seat Belt - Extension 12" Length
2	098-015 Seat Belt - U.S.R., Freedman, Double Seat, 2 Positions Foldaways Only
14	Special-38 Corner Grab for High Back Seats Only

REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
Hi Back	30"	28"	10"
Hi Back	33"	31"	13"

F

DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-03

DO NOT SCALE SIZE A	PROJECTION ⊙ □	DESCRIPTION Floor plan ECCW 186-300 Front Lift (Braun1000/3754) Standard Floor 18P/2WC	57490 County Road 3 Elkhart, IN 46517 (574) 327-2700 A DIVISION OF FOREST RIVER	
	THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE EXCLUSIVE PROPERTY OF ELKHART COACH. IT SHALL NOT BE COPIED OR DUPLICATED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT IS LOANED FOR USE WITH REFERENCE TO WORK UNDER CONTRACT WITH, OR PROPOSALS SUBMITTED TO ELKHART COACH.	DATE: 7-18-18	SCALE: N.T.S.	REFERENCE: NUMBER
TOLERANCES UNLESS OTHERWISE SPECIFIED ARE: FLOORPLANS ±1/2" ALL STRUCTURAL ±1/8" ANGLE ±1°		DRAWN BY: NPM	PART NUMBER <b>900-05-1179</b>	
		CHECKED BY:	REV <b>A</b>	<b>elkhart Coach</b>



**Specifications, Floor Plans  
& Brochures**



# EC-II

*Proudly built by Elkhart Coach*



Elkhart Coach

A DIVISION OF FORESE RIVER

# FORD EC-II STANDARDS AND OPTIONS

## STANDARD CHASSIS FEATURES

- Ford E-430 & E-350 DRW Cut-Away Chassis
- Electronic 5-Speed Automatic Transmission
- 55 or 40 Gallon Fuel Tank
- Ford V-10 5.4L Gas Engine
- Ford V-8 5.4L Gas Engine
- OEM Installed Dash Air Conditioning & Heat
- 225 or 155 Amp Alternator
- 138", 158", 176", 186" or 190" Wheelbases
- Heavy Duty Engine Cooling Package
- Chrome Front Bumper & Grill
- 14,500, 12,500 & 11,500 GVWR
- Dual Electric Horns
- Driver Air Bag
- Heavy Duty Suspension
- Power Steering/Brakes
- LT225 / 75RX16E Tires
- Dual 650 CCA Batteries
- Tilt Steering Wheel/Cruise Control
- Dual Beam Headlights

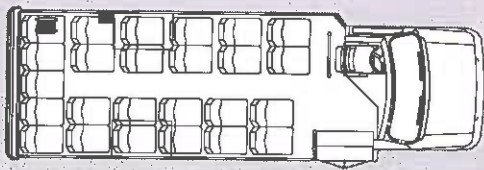
## STANDARD BODY FEATURES

- FMVSS Certified
- STURAA Tested for 7 Years/200,000 Miles
- Insulated Roof & Exterior Walls
- Mor-View Right Side Cab Window
- Smooth Rubber Floor w/ Ribbed-Rubber Aisles
- Rear ABS Fender Flares
- Powder Coated Rear Steel Bumper

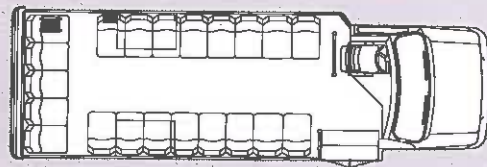
- Rear Mud Flaps
- Entrance Door & Driver Modesty Panels
- All Aluminum Sidelwalls and Skirts
- Dual Drive Shaft Guards
- Entry Door Assist Handles
- Fully Welded, Unified Steel Cage Body Structure
- Undercoating
- Swing-A-Way Exterior Flat Mirrors with Integrated Convex Panels
- Drip Rail Over Passenger Windows & Entry Doors
- White or Yellow Step Nosing – All Entry Steps
- Color/Function Coded Wiring Harness
- Laminated Steel Reinforced Composite Construction
- Master Electronic Printed Circuit Control Panel
- Emergency Side Egress Windows
- Stylized ABS Rear Trim
- 91" Interior Width & 77" Headroom
- Large 36" x 36" & 24" x 36" Upper T-Slider Windows
- 22" x 64" Rear Egress Window
- Single Piece Seamless FRP Roof
- Smooth FRP Interior Walls
- FRP Ceiling

## POPULAR OPTIONS

- Rear Heat System
- Front and Side Destination Signs
- MerRide Suspension
- Individual Reading Lights
- Spare Tire & Wheel
- Interior Luggage Rack
- Interior Convex Mirror
- Back-Up Alarm
- Overhead Luggage Racks
- Exterior Rear Center Mount Brake Light
- Rear Luggage Compartment
- Ceiling Grab Rails
- AM/FM Radio w/ CD Player
- "Flat Floor" (No Wheel Well Risers)
- DVD Player w/ Flip Down Monitor
- Heated/Remote Exterior Mirrors
- High-Back or Mid-High Seats with Armrests
- Front Mud Flaps
- Ground Plane For Two-Way Radio Installation
- Paging System
- Rear Emergency Door with Ajar Package
- LED Interior & Exterior Lighting
- Rear A/C System
- Roof Escape Hatch
- Stainless Steel Wheel Inserts
- ADA Mobility Compliance Package
- All FRP Exterior
- Driver Running Board
- Electric Entry Door



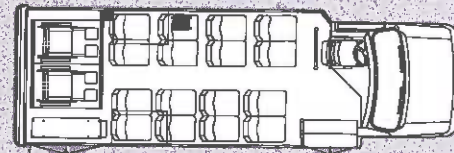
25 Passenger - Forward Facing Seating



21 Passenger Perimeter Seating



15 Passenger - 2 Wheelchairs - Front Lift



16 Passenger - 2 Wheelchairs - Rear Lift



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Forest River, Inc. 55479 C.R. 1 Elkhart, IN 46515-3030  
514 389 4600 www.forestriverinc.com www.forestriveraccessories.com

## How to Perform Water Test on Completed Vehicle


### Applicable Documents:

**EC4FR5BR – External Inspection Findings Worksheet** – This form is used to note all defects found during inspection. Water leaks found during the water test are to be noted on this form.

**Note:** This test is to be performed at the approved Forest River Water Test Booth, which contains over 250 nozzles spaced at 4-inch intervals with a pressure of 65 psi. The nozzles are directed at the top and sides of the bus from a peripheral nozzle ring that surrounds the outside of the bus. The booth is capable of testing buses up to 40-ft. in length.

### Instructions:

- Enter Water Test Booth. Make sure all windows and doors are tightly closed.
- Allow bus to remain in the booth under the water spray for at least 15 minutes. Note all water leaks and document on the External Inspection Findings worksheet as noted below.

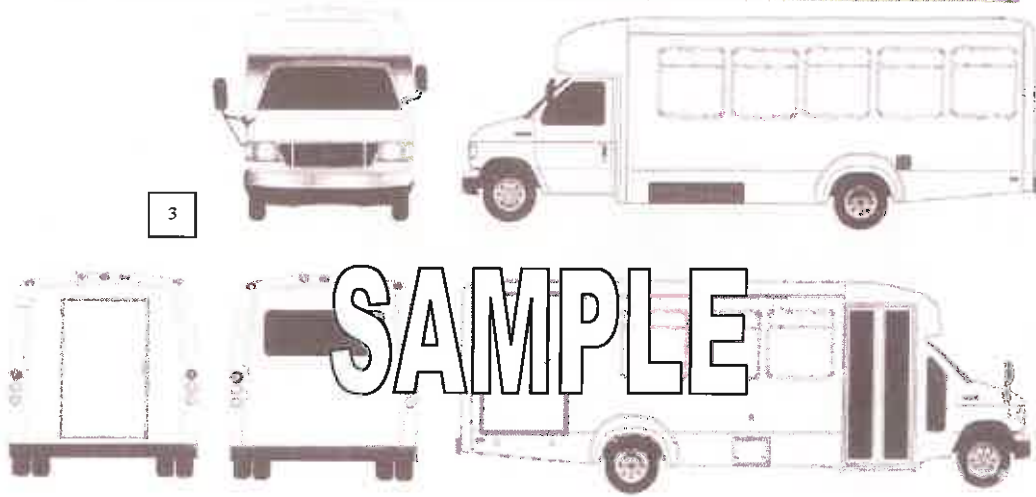


External Inspection Findings Worksheet

Unit Number: 1

Note all defects below. Be specific about type of damage. Items include but are not limited to:  
 Paint: Chips, Scratches, Glue, Cracks, Graphics or Decal Defects.

Notes: 2



Water Test – circle all leak points above and describe here: 4

EC4FR5BR

Revision Level: A

Revised: 5/19/2006

Released: 2/24/2006

Originator: Bill Dettman  
 Approval: Rick VanLandingham

Revision Date:  
 Issue Date: 12/4/2006

Rev. Level: Release  
 Page 1 of 2

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 To verify the controlled version, or to obtain a copy, please contact the **ISO Management Representative**.



**Note all defects and water leak points. Please print clearly.**

1. Write the bus order number in this space.
2. Note all external defects other than water leaks in this space.
3. Circle the areas on the bus body where leaks or other defects are found. Make notations as needed for clarification of the defect type.
4. Retain the completed form in the unit documentation.

Upon completion of the test, return the unit to production and repair all areas noted. After all repairs are complete, the unit is to be retested to make sure it is leak-free.

**References:**

- EC2SP100 – Inspection and Testing Procedure
- EC2SP131 – Control of Nonconforming Product (Sort and Rework) Procedure

**Revisions:**

List all revisions made to this document.

Revision Level	Revision Date	Description

Originator: Bill Dettman

Revision Date:

Rev. Level: Release

Approval: Rick VanLandingham

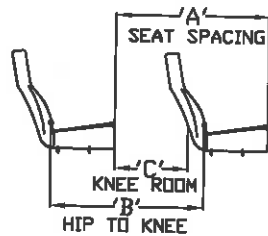
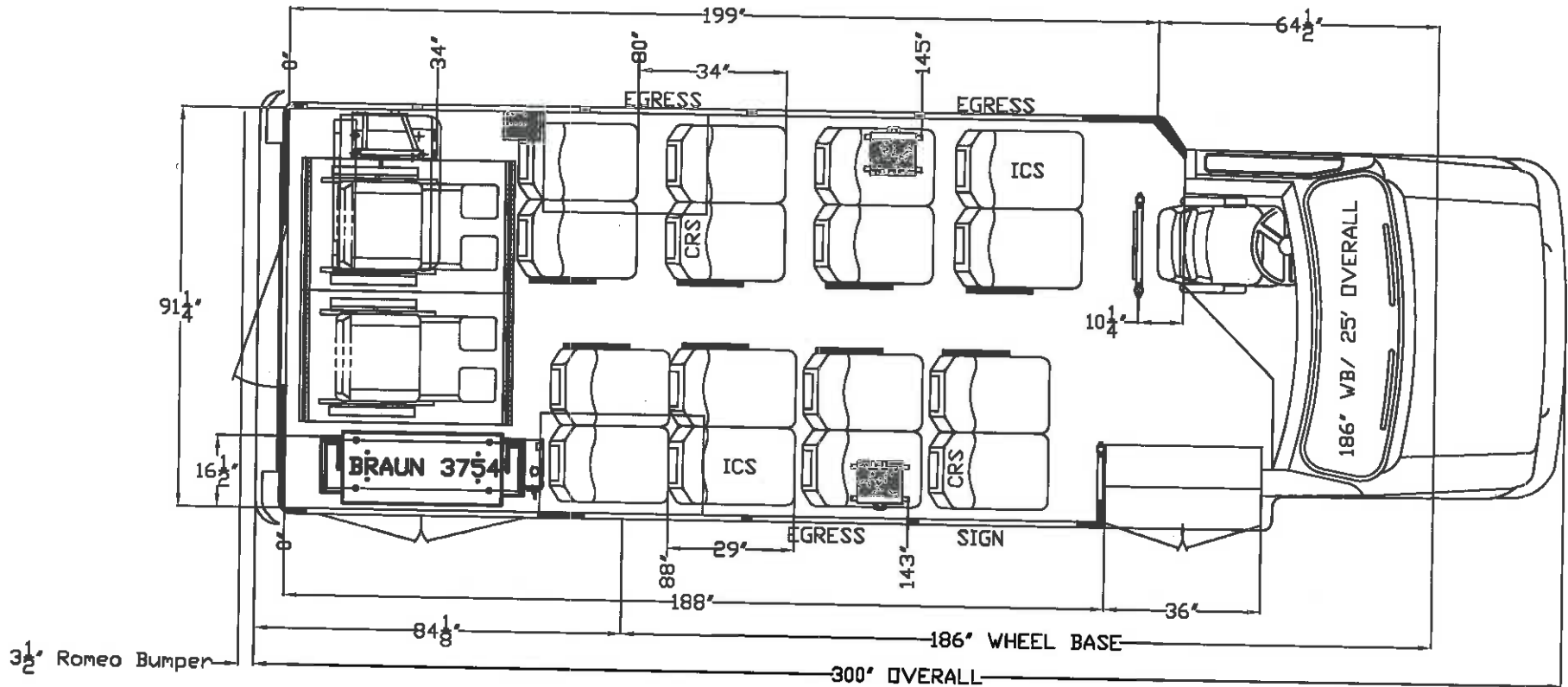
Issue Date: 12/4/2006

Page 2 of 2

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REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
MID-HIGH	29"	27"	9"
MID-HIGH	34"	32"	14"

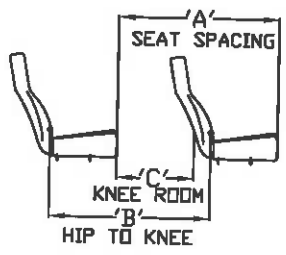
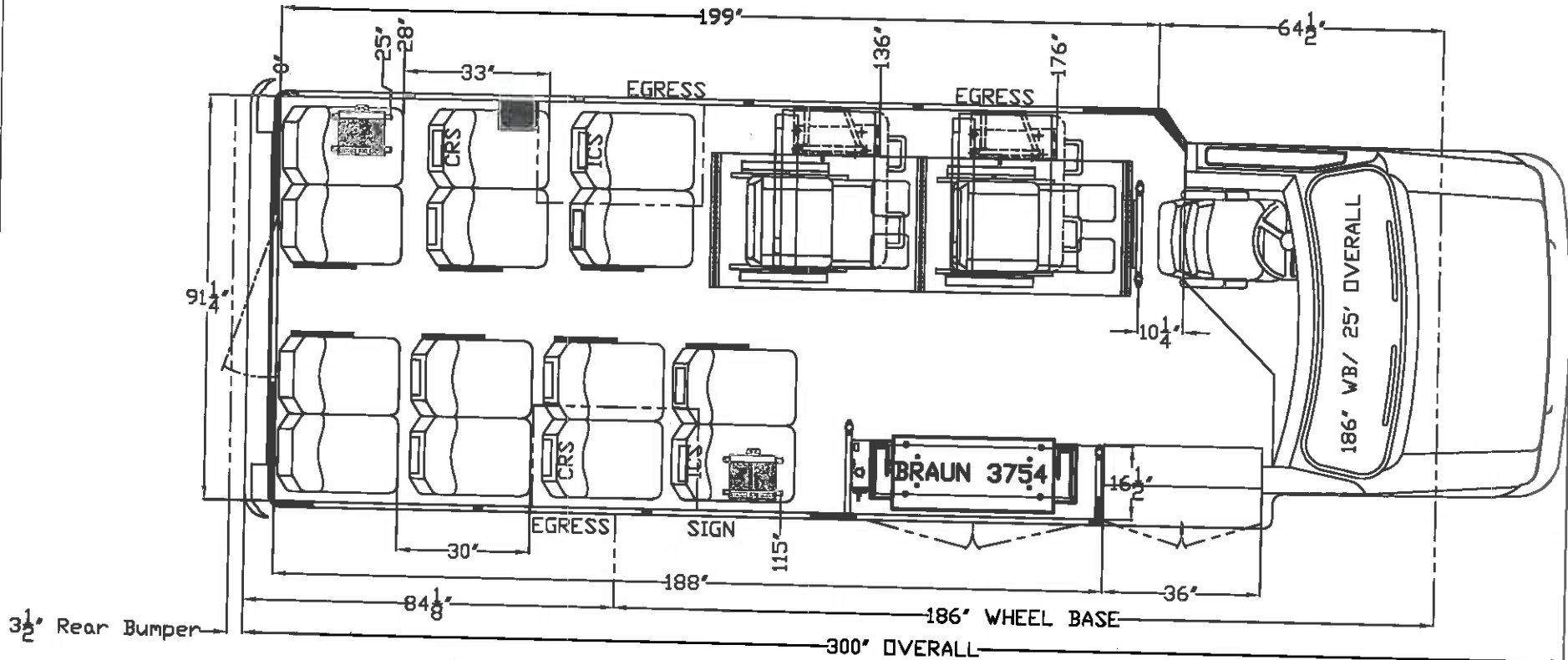
DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-01

DO NOT SCALE	PROJECTION	DESCRIPTION				57490 County Road 3 Elkhart, IN 46517 (574) 327-2700 A DIVISION OF FOREST RIVER
	SIZE	W.I. NUMBER	DATE:	SCALE:	REFERENCE:	
A			7-18-18	N.T.S.	NUMBER	SHEET 1 OF 1
THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE EXCLUSIVE PROPERTY OF ELKHART COACH. IT SHALL NOT BE COPIED OR DUPLICATED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT IS LOANED FOR USE WITH REFERENCE TO WORK UNDER CONTRACT WITH, OR PROPOSALS SUBMITTED TO ELKHART COACH.		TOLERANCES UNLESS OTHERWISE SPECIFIED ARE: FLOORPLANS ±1/2" ALL STRUCTURAL ±1/8" ANGLE ±1°		DRAWN BY:	DRAWING NUMBER	REV
				NPM	900-05-1182	A
				CHECKED BY:		



REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
Mid Hi	30"	28"	10"
Mid Hi	33"	31"	13"

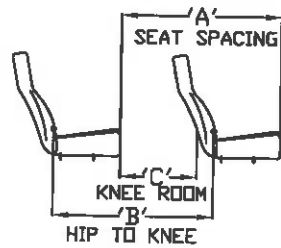
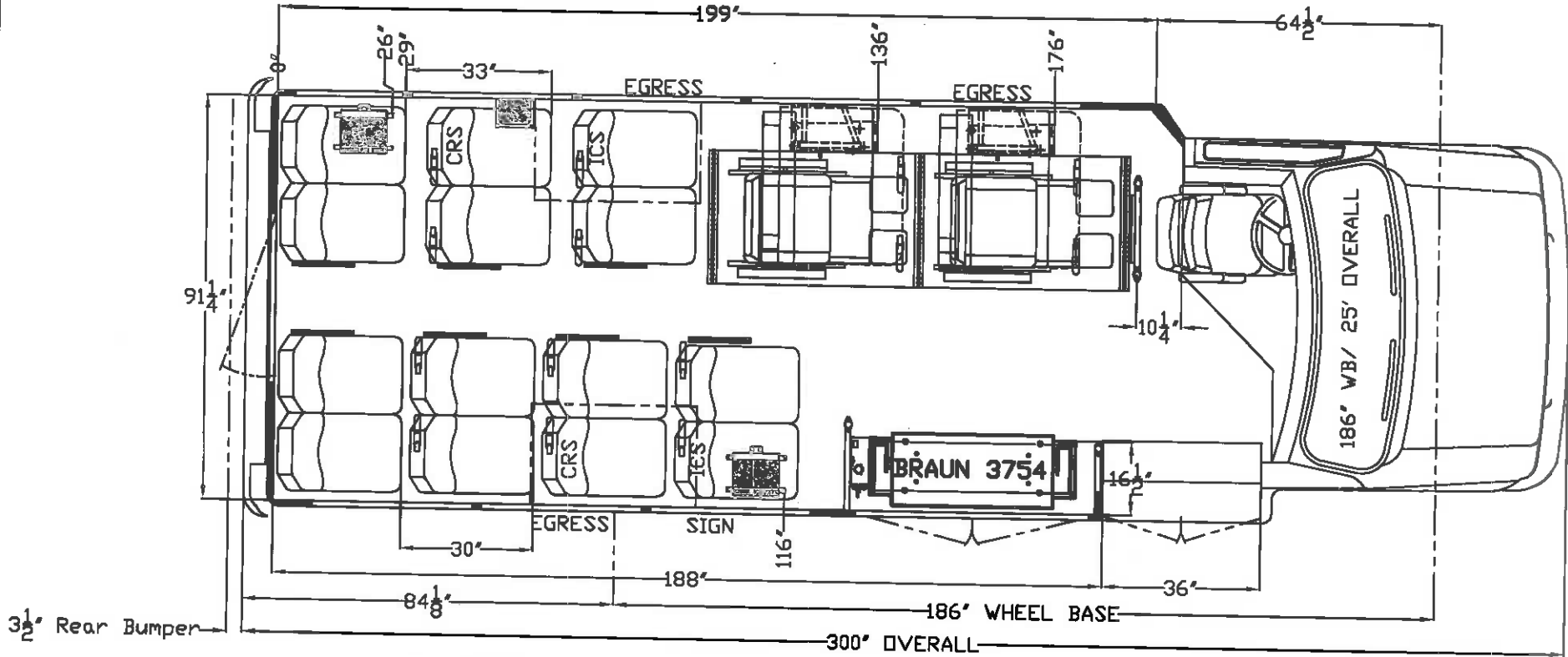
DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-02

DO NOT SCALE SIZE <b>A</b>	PROJECTION ⊙ □	DESCRIPTION Floor plan ECCW 186-300 Front Lift (Braun1000/3754) Standard Floor 18P/2WC	57490 County Road 3 Elkhart, IN 46517 (574) 327-2700 A DIVISION OF FOREST RIVER	
	DATE: 7-18-18	SCALE: N.T.S.	REFERENCE: NUMBER	SHEET 1 OF 2
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			CHECKED BY	REV <b>A</b>



REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION	REV	DATE	BY	DESCRIPTION
-	-	-	-	-	-	-	-	-	-	-	-



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
H Back	30"	28"	10"
H Back	33"	31"	13"

DEALER SIGNATURE: \_\_\_\_\_

Q-42-071818-03

<b>DO NOT SCALE</b>	PROJECTION □	DESCRIPTION Floor plan ECCW 186-300 Front Lift (Braun1000/3754) Standard Floor 18P/2WC			57490 County Road 3 Elkhart, IN 46517 (574) 327-2700 A DIVISION OF FOREST RIVER	
	SIZE <b>A</b>	W.I. NUMBER	DATE: 7-18-18	SCALE: N.T.S.	REFERENCE: NUMBER	SHEET 1 OF 2
THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE EXCLUSIVE PROPERTY OF ELKHART COACH. IT SHALL NOT BE COPIED OR DUPLICATED IN ANY MANNER, NOR SHALL IT BE SUBMITTED TO OUTSIDE PARTIES FOR EXAMINATION WITHOUT OUR WRITTEN CONSENT. IT IS LOANED FOR USE WITH REFERENCE TO WORK UNDER CONTRACT WITH, OR PROPOSALS SUBMITTED TO ELKHART COACH.		TOLERANCES UNLESS OTHERWISE SPECIFIED ARE: FLOORPLANS ±1/2" ALL STRUCTURAL ±1/8" ANGLE ±1°		DRAWN BY: NPM	PART NUMBER <b>900-05-1179</b>	REV <b>A</b>



# MAJOR PRODUCT CHANGES

## OVERVIEW

The 2019 Ford E-Series Cutaway and Stripped Chassis.

### MODEL LINE-UP CHANGES

- None

### POWERTRAIN CHANGES

- Updated information in the Engine Horsepower and Torque Ratings section

### OPTION CHANGES

- Removed Shadow Black Exterior Paint Color
- Added Agate Black Exterior Paint Color (UM)
- Edited Front GAWR Availability Chart
- Added E-350/E-450 65-mph Speed Limitation (916) availability
- Changed wording in E-350/E-450 75-mph Speed Limitation (917)
- Added note to Air Conditioning Delete – Front Heat Only (57D) and Auxiliary Heater Connection Package w/Rear Fan Control (57J) that they cannot be combined.
- Deleted Ford Telematics™ Powered by Telogis® (85C) for 19MY
- ePATS (91E) now optional on all Cutaway (SRW and DRW)

### Product Changes and Features Availability

Features, options and package content subject to change. Please check [www.fmcdealer.com](http://www.fmcdealer.com) for the most current information.

★ = New for this model year



## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS MAJOR PRODUCT SUMMARY

The 2019 Ford E-Series Cutaway and Stripped Chassis continue to build on their proven strengths as the leader in sales, safety and customer loyalty.

The following equipment is standard as indicated.

CUTAWAY	STRIPPED CHASSIS
<p><b>POWERTRAIN/FUNCTIONAL</b></p> <ul style="list-style-type: none"> <li>● Alternator – 155 Amp with 6.8L EFI Triton V10 engine</li> <li>● Alternator – 150 Amp with 6.2L SFI V8 FFV engine</li> <li>● Auxiliary               <ul style="list-style-type: none"> <li>— Fuel Port</li> <li>— Transmission oil cooler</li> </ul> </li> <li>● Battery – heavy-duty</li> <li>● Brakes – 4-wheel disc brakes</li> <li>● Fuel tank – 40 Gallon (aft-of-axle) (E-350)</li> <li>● Fuel tank – 55 Gallon (E-450)</li> <li>● Horn – dual-note</li> <li>● Mirrors – NOT INCLUDED</li> <li>● Modified Vehicle Wiring Kit &amp; System</li> <li>● Powerpoint – double 12V Powerpoints in I/P</li> <li>● Spare tire &amp; wheel – NOT INCLUDED</li> <li>● Steel valve stems (Std. on DRW)</li> <li>● Steering gear – heavy-duty</li> <li>● Tire Pressure Monitoring System (TPMS) – SRW models only</li> </ul> <p><b>EXTERIOR</b></p> <ul style="list-style-type: none"> <li>● Bumper – black painted, front w/lower black plastic valence</li> <li>● Ford Oval on grille</li> <li>● Glass – solar</li> <li>● Headlamps – dual sealed-beam with fixed lens</li> <li>● Wheels – painted steel (white DRW / gray SRW)</li> <li>● Wheel trim – NOT INCLUDED</li> </ul> <p><b>INTERIOR</b></p> <ul style="list-style-type: none"> <li>● Air conditioning – front only</li> <li>● Audio – electronic AM/FM stereo, digital clock, audio input jack and 2 speakers</li> <li>● Console – Slim line engine cover console – color-keyed w/dual bin stowage &amp; (3) cup holders</li> <li>● Courtesy light switch – front-door</li> <li>● Dash sound absorber</li> <li>● Floor covering – front, black vinyl</li> <li>● Front dome light</li> <li>● Glove Box w/aux Powerpoint</li> <li>● Instrument panel – medium flint</li> <li>● Key-in-ignition warning chime</li> <li>● Light &amp; Convenience Group</li> <li>● Mirror – interior day/night Rearview Mirror, NOT INCLUDED</li> <li>● Seats – dual bucket seats w/vinyl trim &amp; I/B armrests</li> <li>● Steering wheel – tilt</li> <li>● Sun visors – color-keyed vinyl</li> <li>● Tachometer</li> <li>● Trim               <ul style="list-style-type: none"> <li>— A-pillar grab handle</li> <li>— LH/RH black cowl trim panels</li> <li>— LH/RH color-keyed cowl grab handles</li> <li>— Medium flint w/single stowage area door-trim panels</li> <li>— Molded vinyl faced front headliner</li> </ul> </li> <li>● Windshield wipers – interval</li> </ul> <p><b>SAFETY/SECURITY</b></p> <ul style="list-style-type: none"> <li>● Airbag – driver &amp; passenger side</li> <li>● Safety belts – medium flint w/height-adjustable D-ring</li> </ul>	<p><b>POWERTRAIN/FUNCTIONAL</b></p> <ul style="list-style-type: none"> <li>● Auxiliary fuel port</li> <li>● Daytime Running Lights</li> <li>● Front bumper delete</li> <li>● Handling Package</li> <li>● Horn – dual-note</li> <li>● Mirrors – NOT INCLUDED</li> <li>● Modified Vehicle Wiring Kit</li> <li>● Wheel trim – NOT INCLUDED</li> </ul> <p><b>INTERIOR</b></p> <ul style="list-style-type: none"> <li>● Mirror – interior day/night Rearview Mirror, NOT INCLUDED</li> <li>● Radio – NOT INCLUDED</li> <li>● Steering wheel – tilt</li> <li>● Windshield wipers – interval</li> </ul> <p><i>NO BODY SHEET METAL INCLUDED. INCLUDES GAUGE PACKAGE. ALSO INCLUDES A STANDARD DUNAGE PACKAGE WITH THE FOLLOWING EQUIPMENT</i></p> <p><b>FOR STRIPPED CHASSIS ONLY:</b></p> <ul style="list-style-type: none"> <li>● Fuel-filler vent hose</li> <li>● Headlamp Switch</li> <li>● Incomplete Vehicle Manual</li> <li>● Instrument cluster</li> <li>● Vehicle Identification Kit</li> <li>● Warranty Facts Book</li> <li>● Wiring assemblies</li> <li>● Wrench – wheel nut</li> </ul>

Please see Standard Equipment pages for more details.

### Product Features Availability

Features, options and package content subject to change.

## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS STANDARD EQUIPMENT

The following items are standard on every 2019MY E-Series Cutaway/Stripped Chassis vehicle:

**POWERTRAIN/FUNCTIONAL**

- Alternator – 155 Amp with 6.8L EFI Triton V10 engine
- Alternator – 150 Amp with 6.2L SFI V8 FFV engine
- Auxiliary Fuel Port
- Battery – Maintenance-free
- Brakes – 4-wheel Disc Anti-lock Braking System (ABS)
- Powertrain – 6.8L EFI Triton V10 engine/Elect. 6-Speed O/D w/Tow Haul transmission
- Transmission w/auxiliary Cooler

**EXTERIOR**

- **Axle**
  - Front, Twin I-beam
  - Rear – Full Float
- Mirrors – NOT INCLUDED
- Shock Absorbers – Heavy-duty

**EXTERIOR (continued)**

- Spare Tire & Wheel – NOT INCLUDED
- Stabilizer Bars – Front Stabilizer Bar Only on E350 SRW. Front and Rear Stabilizer Bar on E350/E450 DRW
- Steel Wheels
- Steering – Power
- Wheel Trim – NOT INCLUDED

**INTERIOR**

- Headliner – Front, Molded Vinyl Faced (Cutaway only)
- Modified Vehicle Wiring Kit
- Seats – Dual High-back Vinyl Buckets (Cutaway only)
- Steering Wheel – Tilt
- Windshield Wipers – Interval

**SAFETY/SECURITY**

- Airbags – 2<sup>nd</sup> Generation (Cutaway only)

The following features are standard on select 2019MY E-Series Cutaway/Strip Chassis vehicles:

POWERTRAIN/FUNCTIONAL	CUTAWAY	STRIPPED CHASSIS
Powertrain – 6.8L EFI Triton V10 engine/Elect. 6-Speed O/D w/Tow Haul transmission	•	•
<b>KEY EXTERIOR FEATURES</b>		
<b>Bumpers</b>		
Front – Black Painted w/lower Black Plastic Valence	•	
Ford Oval on Grille	•	
Headlamps – Dual Sealed-beam with fixed lens	•	
<b>Wheels</b>		
16" x 6" White Steel 4 Hand Hole (DRW)	•	•
Windshield Wipers – Interval	•	•
<b>KEY INTERIOR FEATURES</b>		
<b>Air Conditioning</b>		
Dash Sound Absorber	•	
Engine Cover – Black Engine Cover Console – Color-keyed w/dash Bin	•	
Storage & (3) Cup Holders	•	
Floor Covering – Front, Black Vinyl	•	
Instrument Panel – Medium Flint	•	
<b>Lighting</b>		
Courtesy Light Switches – Front doors	•	
Front Dome Light	•	
Powerpoint – 12 Volt Source in Instrument Panel	•	
Radio – Electronic AM/FM Stereo w/digital Clock, Audio Input Jack and 2 Speakers	•	
Seats – Dual High-back Vinyl Bucket	•	
Step Well Pads – Black Plastic	•	
Sun Visors – Vinyl	•	
<b>Trim</b>		
Driver & Passenger A-pillar Interior Grab Handle	•	
Front, Molded Vinyl Faced Headliner	•	
Interior Door Panel w/Storage Area Door Trim Panels	•	
<b>SAFETY/SECURITY</b>		
Dual Airbags – 2 <sup>nd</sup> Generation	•	
Safety Belts – Medium Flint w/height adjustable D-ring	•	

★ = New for this model year

• = Available  
S = Standard, O = Optional, P = Packaged Option

### AXLE AVAILABILITY

Engine	Body Type	Tires	Non-Limited-Slip		Limited-Slip	
			4.10	4.56	4.10	4.56
6.2L SFI V8 FFV (996/44P)	E-350 C/A SRW (E3F)	LT245/75Rx16E BSW A/S (T38)	S X56	O X58	O XE6	O XE8
6.8L EFI Triton V10 (99S/44P)	E-350 C/A SRW (E3F)	LT245/75Rx16E BSW A/S (T38)	O X56	S X58	O XE6	O XE8
6.2L SFI V8 FFV (996/44P)	E-350 C/A DRW (E3F)	LT225/75Rx16E BSW A/S (T68)	S X52	O <sup>1</sup> X85	O XE2	O <sup>1</sup> XF5
6.8L EFI Triton V10 (99S/44P)	E-350 C/A DRW (E3F)	LT225/75Rx16E BSW A/S (T68)	O X52	S X85	O XE2	O XF5
6.2L SFI V8 FFV (996/44P)	E-450 C/A DRW (E4F)	LT225/75Rx16E BSW A/S (T68)	—	S X83	—	O XF3
6.8L EFI Triton V10 (99S/44P)	E-450 C/A DRW (E4F)	LT225/75Rx16E BSW A/S (T68)	—	S X83	—	O XF3
6.2L SFI V8 FFV (996/44P)	E-350 Stripped DRW (E3K)	LT225/75Rx16E BSW A/S (T68)	S X52	O <sup>1</sup> X85	O XE2	O <sup>1</sup> XF5
6.8L EFI Triton V10 (99S/44P)	E-350 Stripped DRW (E3K)	LT225/75Rx16E BSW A/S (T68)	O X52	S X85	O XE2	O XF5
6.2L SFI V8 FFV (996/44P)	E-450 Stripped DRW (E4K)	LT225/75Rx16E BSW A/S (T68)	—	S X83	—	O XF3
6.8L EFI Triton V10 (99S/44P)	E-450 Stripped DRW (E4K)	LT225/75Rx16E BSW A/S (T68)	—	S X83	—	O XF3

**Note:**

- All E-Series with the 6.2L SFI V8 FFV engine (either 4.10 or 4.56 axle ratio) without 6.2L Enhanced Frontal Area Limitation (15F) will receive a Vehicle Emission Control Information label with a 72 ft<sup>2</sup> frontal area restriction.
- All E-Series cutaways with the 6.2L SFI V8 FFV engine (either 4.10 or 4.56 axle ratio) with 6.2L Enhanced Frontal Area Limitation (15F) will receive a Vehicle Emission Control Information label with a 79 ft<sup>2</sup> frontal area restriction. The 6.2L Enhanced Frontal Area Limitation (15F) offering requires 60mm radii second unit body restrictions.
- All E-350 with the 6.8L EFI Triton V10 engine and 4.10 axle ratio will receive a Vehicle Emission Control Information label with a 64¾ ft<sup>2</sup> frontal area restriction.
- All E-350 with the 6.8L EFI Triton V10 engine and 4.56 axle ratio without 6.8L Enhanced Frontal Area Limitation (15D) will receive a Vehicle Emission Control Information label with a 72 ft<sup>2</sup> frontal area restriction.
- All E-350 with the 6.8L EFI Triton V10 engine and 4.56 axle ratio with 6.8L Enhanced Frontal Area Limitation (15D) will receive a Vehicle Emission Control Information label with a 82 ft<sup>2</sup> frontal area restriction. The 6.8L Enhanced Frontal Area Limitation (15D) offering requires 60mm radii second unit body restrictions.
- All E-450 with the 6.8L EFI Triton V10 engine and 4.56 axle ratio will receive a Vehicle Emission Control Information label with no frontal area restriction.

<sup>1</sup> 4.56 axle requires Upgraded Trailer Tow Package (535)

## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS OPTIONAL EQUIPMENT

	Order Code	Cutaway		Stripped Chassis	
		780A	782A	785A	790A
<b>BODY STYLE</b>	E-350 Super Duty®				
	E-450 Super Duty®				
	E-350 Stripped Chassis				
	E-450 Stripped Chassis				
<b>WHEELBASE</b>	Super Duty®	138"	—	—	—
	Super Duty®	158"	—	—	—
	Super Duty® (DRW)	176"	—	—	—
	Stripped Chassis	138"	—	—	—
	Stripped Chassis	158"	—	—	—
	Stripped Chassis	176"	—	—	—
<b>POWERTRAIN/FUNCTIONAL</b>					
6.2L SFI V8 FFV engine / 6-Speed O/D w/Tow Haul transmission	996/44P	O	O	O	O
6.8L EFI Triton V10 engine / 6-Speed O/D w/Tow Haul transmission, Includes with Ambulance Prep Package (47A) on E36/E4F	996/44P	S	S	S	S
CNG/Propane Gaseous Engine Prep Package. See Packaged Options/Emissions page for availability and content	981	O	O	O	O
Speed Limitation – 55 mph governed top speed. Fleet only w/valid FIN code. See Packaged Options/Emissions page for availability and content	916	O	O	O	O
Speed Limitation – 75 mph governed top speed. Fleet only w/valid FIN code. See Packaged Options/Emissions page for availability and content	917	O	O	O	O
50-State Emissions System	425	S	S	S	S
6.2L Enhanced Frontal Area Limitation – Provides Vehicle Emission Control Information label with a 79 ft² frontal area restriction; requires 60mm radii second unit body restrictions. Optional on cutaways with 6.2L SFI V8 FFV engine.	15F	O	O	—	—
6.8L Enhanced Frontal Area Limitation – Provides Vehicle Emission Control Information label with a 62 ft² frontal area restriction; requires 60mm radii second unit body restrictions. Optional on 6.8L EFI Triton V10 engine with a 60 mm radii only.	15D	O	—	O	—
<b>WHEELS</b>					
16" Sport Wheel Cover (SRW only) N/A with aluminum wheels (64F) and 16"X7" Painted White Steel Wheels (647)	614	O	—	—	—
16"X7" Painted White Steel Wheels – DRW only	646	S	S	S	S
16"X7" Painted White Steel Wheels – SRW only	647	O	—	—	—
16"X7" Aluminum wheels with chrome cover hubcaps (SRW only)	64F	O	—	—	—
16"X7" Painted Gray Steel Wheels – SRW only	642	S	—	—	—
<b>TIRES (spare tire is same as road tire, except where noted otherwise: manufacturer listed in parentheses)</b>					
LT225/70R16E BSW A/S – DRW (Marked)	T68	S	S	—	—
LT245/75R16E BSW A/S – SRW	T38	S	—	—	—
Spare Tire & Wheel – E-350 SRW incl. 2 Top Mechanics Jack, E-350 DRW incl. 4 Ton Hydraulic Jack, NO JACK with E-450. Included with 47A Ambulance Prep Package.	51A	O/P-47A	O/P-47A	O	O
Spare Tire & Wheel – NOT INCLUDED	516	S	S	S	S
Tractor Control	457	O	O	O	O
<b>FUEL TANK / AUXILIARY FUEL PORT</b>					
40 Gallon (Included with 47S School Bus Prep Pkg. and 47J Multi-Function School Activity Bus Prep Package).	657	S/I	O/I	S	O
55 Gallon Aerial, 6SP DRW & E3K with 158" wheelbase and 11,500# GVW. 12,500# GVWR only. Not available with 47S School Bus Prep Package or 47J Multi-Function School Activity Bus Prep Package.	656	O	S	O	S
<b>KEY EXTERIOR OPTIONS</b>					
<b>ALTERNATOR / ELECTRICAL</b>					
110V A/C Outlet – requires IP mounted 12V powerpoint and lights	601	O	O	—	—
Alternator – Extra Heavy-Duty 225 Amp. Optional on 6.8L EFI Triton V10 engine only. Included with 47A Ambulance Prep Package.	63N	O/P-47A	O/P-47A	O	O
Alternator – Extra Heavy-Duty 240 Amp. Optional on 6.2L SFI V8 FFV engine only.	63O	O	O	O	O
Battery – Heavy-Duty 78 Amp. Replaces standard 72 Amp heavy-duty battery	63G	O	O	O	O
Batteries – Dual Heavy-Duty 78 amp. Includes Heavy-Duty 76 amp battery (63G). Included with 47A Ambulance Prep Package.	634	O/P-47A	O/P-47A	—	—
<b>Bumper</b>					
Painted White (646 with 47S Shuttle Bus Pkg. or 47H Icehopper Pkg.)	76W	O	O	—	—
<b>Door</b>					
Right Hand Delete (deletes RH door, A-pillar grab handle, RH seat & seatbelts, passenger side storage, under-seat storage & 2nd mirrors. N/A w/160 Interior Upgrade Pkg., 47A Ambulance Pkg., 47B Power Windows and Locks Package, 47C Motorhome Pkg.)	60X	O	O	S	S
Engine Block Heater – Single Element (recommended when minimum temperature is 10°F or below.)	41H	O	O	O	O

\* = New for this model year

S = Standard, O = Optional, P = Packaged Option

**2019 E-SERIES CUTAWAY/STRIPPED CHASSIS  
OPTIONAL EQUIPMENT**

	Order Code	Cutaway		Stripped Chassis	
		780A	782A	785A	790A
<b>BODY STYLE</b>					
E-350 Super Duty®		E3F	—	—	—
E-450 Super Duty®		—	E4F	—	—
E-350 Stripped Chassis		—	—	E3K	—
E-450 Stripped Chassis		—	—	—	E4K
<b>WHEELBASE</b>					
Super Duty®	138"	O	—	—	—
Super Duty®	158"	O	O	—	—
Super Duty® (DRW)	176"	O	O	—	—
Stripped Chassis	138"	—	—	O	—
Stripped Chassis	158"	—	—	O	O
Stripped Chassis	176"	—	—	O	O
<b>KEY EXTERIOR OPTIONS (continued)</b>					
License Plate Bracket	159	O	O	—	—
Integrated Trailer Brake Controller – Requires Message Center (60J)	68B	O	O	—	—
<b>Mirrors</b>					
Manual Telescoping Trailer Tow Mirrors with Manual-adjust flat lens (Incl. w/47A Ambulance Prep Pkg. NA on 47B Shuttle Bus Pkg. & 60X RH Door Delete NA w/903 Power Group, 948 Remote Keyless-Entry, 47M Motorhome Prep Pkg. or 18C Interior Upgrade Pkg.)	54D	O/P-47A	O/P-47A	—	—
Manual Telescoping Trailer Tow Mirrors with Power-adjust flat lens. Requires Power Group (903). Not Available w/60X RH Door Delete.	54E	O	O	—	—
Mirror – Day/Night Interior Rearview Mirror. N/A with SYNC® (98S)	625	O	O	—	—
Running Boards - LH/RH Door Length	688	O	O	—	—
<b>Spacers/Crossmembers</b>					
Alternate Lateral Frame Spacers (6 lateral all WB. Incl. Frame Pucks. N/A w/47S School Bus Pkg.)	554	O	O	—	—
Frame Pucks (Isolators) Incl. 12 Body Mounts (Incl. w/47S School Bus Pkg. 47M Motorhome Pkg. 47A Ambulance Pkg. and 47B Shuttle Bus Pkg. and Multi-Function School Activity Bus Prep Pkg.)	559	O	O	—	—
Rear Frame Crossmember Delete. N/A with School Bus Prep Package (47S) or Multi-Function School Activity Bus Prep Pkg.	88E	O	S	O	S
Standard Pattern Frame (4 long/2 lateral w/138" & 158" WB. 4 lateral/2 long w/176" WB. 6 lateral w/RV Striped Chassis (Incl. Frame Pucks N/A w/47S School Bus Pkg. or 47J Multi-Function School Activity Bus Prep Package))	557	O	O	—	—

★ = New for this model year

S = Standard, O = Optional, P = Packaged Option

## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS OPTIONAL EQUIPMENT (CONT'D.)

	Order Code	Cutaway		Stripped Chassis	
		780A	782A	785A	790A
<b>BODY STYLE</b>					
E-350 Super Duty®		E3F	—	—	—
E-350 Super Duty®		—	E4F	—	—
E-350 Stripped Chassis		—	—	E3K	—
E-450 Stripped Chassis		—	—	—	E4K
<b>WHEELBASE</b>					
Super Duty®	138"	O	—	—	—
Super Duty®	144"	O	O	—	—
Super Duty® (DRW)	176"	O	O	—	—
Stripped Chassis	138"	—	—	O	—
Stripped Chassis	158"	—	—	O	O
Stripped Chassis	176"	—	—	O	O
<b>KEY INTERIOR OPTIONS</b>					
Airbag Delete – Passenger Side (Req. 21B, 21S, 21T, 21D or 21F). Not available with Passenger Airbag Cutoff Switch (62C). Included with Right Hand Door Delete (60X).	59D	P	P	—	—
Air Conditioning Delete – Front Heat Only. Cannot be combined with Auxiliary Heater Connection Package with Fan Control (57J).	57D	O	O	S	S
B-Pillar Trim Kit. Includes unique, full LH/RH B-pillar trim shipped in dunnage box. May require trimming depending upon back-panel or upfit installed. N/A with Right Hand Door Delete (60X) or Medium Pebble Interior.	92B	O	O	—	—
Rear View Camera. Includes Electrochromic Rearview Mirror with Camera Display. Not available with SYNC® (985).	43C	O	O	—	—
Instrument Panel Electronic Message Center	60J	O	O	—	—
Passenger Airbag Cutoff Switch. Not available with Passenger Side Airbag Delete (60D) or Right Hand Door Delete (60X).	62C	O	O	—	—
Power Windows and Locks Group – Incl. 1-touch down power driver window. Included with Motorhome Prep Package and Shuttle Bus Prep Package.	903	O/P-47M, 47B	O/P-47M, 47B	—	—
Remote Keyless Entry (req. power windows & locks 903)	916	O	O	—	—
SecuriLock® Passive Anti-Theft System (ePATS) – Optional on SRW and DRW.	91E	O	O	—	—
Cruise Control (required with SYNC® (985)). Included on Motorhome Prep Package (47M).	525	O/P-47M	O/P-47M	O	O
<b>Audio</b>					
Electronic AM/FM Stereo, digital clock, auto input jack and 2 speakers. May upgrade to 4 speakers (874).	587	S	S	—	—
Premium Electronic AM/FM Stereo, digital clock, single disc CD, audio input jack and 2 speakers. May upgrade to 4 speakers (874)	585	O	O	—	—
Radio Delete. N/A with SiriusXM® Satellite Radio (43B) or SYNC® (985).	68Y	O	O	S	S
Radio Prep Package (incl. antenna, 2 speakers, grilles & wiring normally provided)	58F	O	O	—	—
Radio Prep Package (incl. antenna, 4 speakers, grilles & wiring normally provided)	68W	O	O	—	—
SiriusXM® Satellite Radio with 6-month Prepaid subscription (48 Contiguous States). Service Not Available in Alaska or Hawaii. Requires 585.	43B	O	O	—	—
SYNC® Voice-Activated Google Assistant and Entertainment System (911 Available). Vehicle Health Reports, traffic reports, GPS based turn-by-turn driving directions and AppLink™. Requires Cruise Control (525). Includes Auto-Dimming Inside Rearview Mirror with Microphone. N/A with base AM/FM Stereo Radio (587) or Radio Delete (68Y). Must select an audio package other than 587 or 68Y.	985	O	O	—	—
4 Speaker Upgrade Pkg. (avail w/587, 585 (includes two installed speakers and two boxed speakers)	874	O	O	—	—

★ = New for this model year

S = Standard, O = Optional, P = Packaged Option

## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS OPTIONAL EQUIPMENT (CONT'D.)

	Order Code	Cutaway		Stripped Chassis	
		780A	782A	785A	790A
<b>BODY STYLE</b>	E-350 Super Duty®	E3F	—	—	—
	E-450 Super Duty®	—	E4F	—	—
	E-350 Stripped Chassis	—	—	E3K	—
	E-450 Stripped Chassis	—	—	—	E4K
<b>WHEELBASE</b>	Super Duty®	138"	—	—	—
	Super Duty®	168"	—	—	—
	Super Duty®(DRW)	176"	—	—	—
	Stripped Chassis	138"	—	—	—
	Stripped Chassis	158"	—	—	—
	Stripped Chassis	176"	—	—	—
<b>KEY INTERIOR OPTIONS (continued)</b>					
<b>Seats</b>					
6-way Power Driver Seat Adjuster (avail. w/21A, 21S, 21T, 21Y) Incl. w/21Z and 21F	90P	O	O	—	—
Buckets, Dual, High Back – Select Vinyl or Cloth 2 digit trim type/color code on Color/Trim Chart	21I	S	S	—	—
Captain's Chairs – Driver Side Only, Mid Series Cloth (N/A w/18C Interior Upgrade Pkg. or 47A Ambulance Pkg.) Includes Passenger Airbag Delete and only available 47B Shuttle Bus Pkg. with 60X Right Hand Door Delete.	21T	O	O	—	—
Captain's Chairs – Driver Side w/o Trim Includes Passenger Airbag Delete. Only available with 47B Shuttle Bus Pkg. with 60X Right Hand Door Delete.	21S	O	O	—	—
Dual High-Back Cloth Captain's Chairs – Select 2 Digit Trim Type/Color on Color/Trim Chart (Incl. with 18C Interior Upgrade Pkg.). Optional on Shuttle Bus Prep Package and Motorhome Prep Package.	21A	O	O	—	—
Dual High-Back Cloth Captain's Chairs w/o Trim – Select 2 Digit Trim Type/Color on Color Trim Chart. Optional on Shuttle Bus Prep Package and Motorhome Prep Package.	21Y	O	O	—	—
Manual Pedestal w/2-way Adjuster (Incl. w/47M & 47B Prep Pkg. Provides manual pedestal, pretensioning restraint system & unique seat tracks for driver side only. Deletes floor covering. Temporary driver seat provided. N/A w/18C Interior Upgrade Pkg. or 47A Ambulance Pkg.)	21W	P-47B / 47M	P-47B / 47M	—	—
Passenger Seat Delete (Deletes passenger seat, side & harness restraint system). Incl. w/47S Prep Pkg., 47J Prep Pkg. and 60X Right Hand door delete. N/A w/18C Interior Upgrade Pkg. or 47A Ambulance Pkg.	21B	O	O	—	—
Power Seat Prep Pkg. – Driver Seat Pedestal is prepared for Power Seat. Deletes Floor Covering. Only available with 47M Motorhome Pkg., 47B Shuttle Bus Pkg.	21Z	O	O	—	—
Seat Prep Pkg. – Manual with 2-way Adjuster (provides manual pedestal, pretensioning restraint system & unique seat tracks for driver side only. Includes Passenger Airbag Delete. Temporary driver seat provided. Available with 47S Shuttle Bus Pkg. N/A with 18C Interior Upgrade Package.	21D	O	O	—	—
Seat Prep Pkg. – Power (provides manual pedestal, pretensioning restraint system & unique seat tracks for driver side only. Deletes floor covering and passenger-side airbag. Temporary driver seat provided. Only available with 47B Shuttle Bus Pkg. OR 60X right hand door delete.	21F	O	O	—	—
<b>Note: May add Vinyl Floor Covering (162)</b>					
<b>GROUPS PACKAGES (See Packaged Options/Emissions Page for Pkg. Content)</b>					
W3 Prep Package	57Z	—	—	O	O
Ambulance Prep Package	47A	O	O	—	—
Ambulance Prep Package, Not Required (req. on orders not destined for Ambulance use)	47Z	O	O	—	—
Auxiliary Heater/AC Connector Package. Included on Ambulance Prep Package (47A)	57L	O	O	—	—
Auxiliary Heater/AC Connector Package w/Rear Controls	57X	O	O	—	—
High-Series Exterior Upgrade Package	18A	O	O	—	—
Insulation Package, Not available with Motorhome Prep Package	552	O	O	—	—
Interior Upgrade Package (see Packaged Options/Emissions page for pkg. content)	18C	O	O	—	—
Motorhome Prep Package	47M	O	O	O	—
MFSAB Prep Package (see Packaged Options/Emissions page for pkg. content)	47J	O	O	—	—
School Bus Prep Package	47S	O	O	—	—

\* = New for this model year

S = Standard, O = Optional, P = Packaged Option

## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS OPTIONAL EQUIPMENT (CONT'D.)

	Order Code	Cutaway		Stripped Chassis	
		780A	782A	785A	790A
<b>BODY STYLE</b>					
E-350 Super Duty®		E3F	—	—	—
E-450 Super Duty®		—	E4F	—	—
E-350 Stripped Chassis		—	—	E3K	—
E-450 Stripped Chassis		—	—	—	E4K
<b>WHEELBASE</b>					
Super Duty®	138"	O	—	—	—
Super Duty®	158"	O	O	—	—
Super Duty®(DRW)	176"	O	O	—	—
Stripped Chassis	138"	—	—	O	—
Stripped Chassis	158"	—	—	O	O
Stripped Chassis	176"	—	—	O	O
<b>GROUPS/PACKAGES (See Packaged Options/Emissions Page for Pkg. Content) (continued)</b>					
Shuttle Bus Prep Package	47B	O	O	—	—
Trailer Towing Package (Class I). Included on Motorhome Prep Package 47M. Available with 6.2L EFI Triton V10 engine (985), 6.2L SFI V8 FFV engine (996) and 4.10 axle or 4.56 SRW axle or E4F. Not available with 47A, 47S, 47J.	534	O/P-47M	O/P-47M	P-47M	—
Upgraded Trailer Towing Package (Class I). Included on Motorhome Prep Package 47M. Available only with 6.2L SFI V8 FFV engine (996) and 4.56 DRW axle (X85/XF5). Not available with 47A, 47S, 47J.	535	O/P-47M	—	O/P-47M	—
User-Defined Switches -- Includes four toggle switches on the instrument panel.	525	O	O	—	—
<b>LPO OPTIONS</b>					
Auxiliary Heater Connection Package w/Rear Fan Controls -- (avail. w/47S, 47J, 47M or 47B Prep Pkgs.). Cannot be combined with Air Conditioning Delete -- Front Heat Only (57D).	57J	O	O	—	—
Daytime Running Lamp	442	O	O	S	S
Engine Console Cover Delete -- Fleet only w/valid FIN code	41X	O	O	S	S
Front Max GVWR -- up to 8,000 lbs. Fleet only w/valid FIN code. Included with E4F 14,500# GVWR (20F), E3F/E4F w/47S Ambulance Prep. Pkg. and E4F w/47M Motorhome Prep. Available on 47B Shuttle Bus Prep Package with E4F 14,500# GVWR (20F) and E3F/E4K 47M Motorhome Prep Package.	572	O	O	O	O
Driveshaft Upgrade -- from 3" to 3½" diameter -- Intended for vehicles that will have their wheelbase stretched. Optional on 47B Shuttle Bus Prep Package or 47M Motorhome Prep Package with 158" wheelbase.	43D	O-47B O-47M	O-47B O-47M	O-47M	—

★ = New for this model year

S = Standard, O = Optional, P = Packaged Option



## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS COLOR & TRIM AVAILABILITY

Note: First letter denotes type second letter denotes color		Interior and Seat Color	
		Medium Flint	Medium Pebble
<b>STANDARD</b>	Vinyl Buckets Cloth Buckets Cloth Captain's Chairs Seats Not Included	AE CE ME XE	MW XW
EXTERIOR COLOR		Code	Availability
<b>COMMERCIAL</b>			
School Bus Yellow – Required with School Bus Prep Package (47S). Available fleet only without 47S. Not available with Multi Function School Activity Bus (47J)		<b>B1</b>	•
Stone Gray Metallic		<b>D1</b>	•
Magnetic Metallic		<b>J7</b>	•
Blue Jeans		<b>N1</b>	•
Race Red		<b>PQ</b>	•
★ Agate Black		<b>UM</b>	•
Ingot Silver Metallic		<b>UX</b>	•
Green Gem Metallic		<b>W6</b>	•
Oxford White		<b>YZ</b>	•
<b>MOTORHOME PACKAGE (47M)</b>			
School Bus Yellow – fleet only		<b>B1</b>	•
Stone Gray Metallic		<b>D1</b>	•
Magnetic Metallic		<b>J7</b>	•
Blue Jeans		<b>N1</b>	•
Race Red		<b>PQ</b>	•
★ Agate Black		<b>UM</b>	•
Ingot Silver Metallic		<b>UX</b>	•
Green Gem Metallic		<b>W6</b>	•
Oxford White		<b>YZ</b>	•

**NOTE: Commercial Cutaway and Cutaway Interior Upgrade Pkg. (18C) only available with Medium Flint interior. Motorhome Package (47M) with both Medium Flint and Medium Pebble interior.**

# 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS PACKAGED OPTIONS/EMISSIONS

## AC PREP PACKAGE (57Z)

### Availability:

- Optional on Stripped Chassis only

### Includes:

- A/C Compressor, condenser, drive belt, tensioner attaching brackets and bolts

## AMBULANCE PREP PACKAGE (47A)

**NOTE: CHECK WITH UPFITTER ON CHARGE MARGIN ACCEPTABILITY**

### Availability:

- Optional on Cutaway only

### Not available with:

- E-350 158" WB, SRW – 6.2L SFI V8 FFV engine only
- Seat options 21F, 21D, 21W, 21S, 21Z, 21B or 21T
- Trailer Tow Pkg. (534) or Upgraded Trailer Tow Pkg. (535)
- Motorhome Prep Pkg. (47M), School Bus Prep Pkg. (47S), Shuttle Bus Prep Pkg. (47B), Multi Function School Activity Bus Prep Pkg. (47J)
- CNG/Propane Gaseous Engine Prep Package (981)

### Includes:

- Dual 78 Amp heavy-duty batteries (634)
- Auxiliary Heater – Air Conditioning Connector Package (57L)<sup>1</sup>
- Auxiliary Fuel Port (945)
- Limited-Slip Axle
- 225 Amp Extra Heavy-Duty Alternator (63N) with 6.8L EFI Triton V10 engine (99S)
- 240 Amp Extra Heavy-Duty Alternator (63O) with 6.2L SFI V8 FFV engine (996)
- Front Max GAWR
- Spare Tire and Wheel (51A)
- Mirrors, Telescoping Trailer Tow with Manual Adjustments (54D)<sup>2</sup>
- Vinyl headliner and sun visors
- Frame pucks (isolators – included when spacers not ordered)
- License plate bracket
- Badging (shipped in dunnage)

**NOTE 1: May upgrade to Auxiliary Heater – Air Conditioning Connector Package with Rear Controls (57X)**

**NOTE 2: May select Exterior Mirror Delete (54F) to delete Manual Trailer Tow Mirrors (54D) from Ambulance Prep Package. Vehicle will be built without exterior mirrors. – OR – May select Telescoping Trailer Tow Mirrors with Power Glass Adjustments (54E) if Power Windows and Locks Group (903) is selected.**

## AUXILIARY HEATER – AIR CONDITIONING CONNECTOR PACKAGE (57L) (w/o REAR A/C CONTROLS)

### Availability:

- Optional on Cutaway only

### Includes:

- Front heater connector
- Front air conditioning connector

**NOTE: This package is intended to provide necessary hardware for body-builders to install own auxiliary system.**

## AUXILIARY HEATER – AIR CONDITIONING CONNECTOR PACKAGE (57X) (w/REAR A/C CONTROLS)

### Availability:

- Optional on Cutaway only

### Includes:

- Front heater connector
- Front air conditioning connector
- Rear A/C controls in instrument panel

**NOTE: This package is intended to provide necessary hardware for body-builders to install own auxiliary system.**

## SPEED LIMITATION – 65-MPH (916)

**Availability: Fleet only w/valid FIN code**

### 65-mph (916)

- E-350 Cutaway/Stripped Chassis (SRW or DRW) with the 6.2L SFI V8 FFV engine and 40-gallon fuel tank up to 12,500 GVWR
- E-350 Cutaway/Stripped Chassis (SRW or DRW) with the 6.8L EFI Triton V10 engine and 40-gallon fuel tank
- E-450 Cutaway/Stripped Chassis (DRW) with the 6.8L EFI Triton V10 engine and 40-gallon fuel tank
- E-450 Cutaway/Stripped Chassis (DRW) with the 6.8L EFI Triton V10 engine and 55-gallon fuel tank

## SPEED LIMITATION – 65-MPH (916)

**Availability: Fleet only w/valid FIN code**

### 65-mph (916)

- E-350 Cutaway/Stripped Chassis (SRW or DRW) with the 6.2L SFI V8 FFV engine and 40-gallon fuel tank up to 12,500 GVWR
- E-350 Cutaway/Stripped Chassis (SRW or DRW) with the 6.8L EFI Triton V10 engine and 40-gallon fuel tank
- E-450 Cutaway/Stripped Chassis (DRW) with the 6.2L SFI V8 FFV engine and 40-gallon fuel tank
- E-450 Cutaway/Stripped Chassis (DRW) with the 6.8L EFI Triton V10 engine and 40-gallon fuel tank
- E-450 Cutaway/Stripped Chassis (DRW) with the 6.8L EFI Triton V10 engine and 55-gallon fuel tank

## HIGH-SERIES EXTERIOR UPGRADE PACKAGE (18A)

### Availability:

- Optional on Cutaway only

### Includes:

- Front chrome bumper
- Chrome grille

## RADIO PREP PACKAGE (58F), (58W)

- No radio chassis.

### Includes:

- Antenna, speaker grilles and wiring that are normally provided with single-CD radio packages
- (58F) 2 speakers (N/A w/58W)
- (58W) 4 speakers (N/A w/58F)

## INSULATION PACKAGE (552)

### Availability:

- Optional on Cutaway only
- Included with Interior Upgrade Package (18C)
- Not available with Motorhome Prep Package (47M)

### Not available with:

- Rear View Camera (43C)

### Includes:

- Front cloth headliner
- Cloth sun visors

## INTERIOR UPGRADE PACKAGE (18C)

### Availability:

- Optional on Cutaway only

### Not available with:

- Right Hand Door Delete (60X)
- School Bus Package (47S)
- Motorhome Package (47M)
- Rear View Camera (43C)

### Includes:

- Front cloth headliner
- High-series door-trim panels
- Dual Cloth Captain's Chairs (21A)
- Cloth sun visors
- Front carpeting
- Power door-locks and windows (903)
- Insulation Package (552)

**NOTE: May substitute with Vinyl Floor Covering (162)**

**MOTORHOME PREP PACKAGE (47M)****Availability:**

- Optional on E-350 and E-450 Cutaway and E-350 Stripped Chassis
- E-350 6.2L SFI V8 FFV engine with 4.10 axle includes Trailer Tow Package 534 – see note 2
- E-350 6.2L SFI V8 FFV engine with 4.56 SRW axle (X58/XE8) includes Trailer Tow Package 534 – see note 2
- E-350 6.2L SFI V8 FFV engine with 4.56 DRW axle (X85/XF5) includes Upgraded Trailer Tow Package 535 – see note 2
- E-350 6.8L EFI Triton V10 engine available with 4.56 SRW (X58/XE8) or DRW axle (X85/XF5) includes Trailer Tow Package 534 – see note 2
- E-450 includes Trailer Tow Package 534 – see note 2

**Not available with:**

- Right Hand Door Delete (60X)
- Interior Upgrade Pkg. (18C)
- Insulation Package (552)
- Rear View Camera (43C)
- Ambulance Prep Pkg. (47A), School Bus Prep Pkg. (47S), Shuttle Bus Prep Pkg. (47B), Multi-Function School Activity Bus Prep Pkg. (47J)

**Includes (Cutaway only):**

- High-Series Exterior Upgrade Package (18A)
  - Front chrome bumper and chrome grille
- Power door-locks and windows (903)
- Manual Pedestals, seats not included (21W) – see note 1
- Cruise Control (525)
- Fixed antenna
- Frame pucks (isolators – included when spacers not ordered)
- Front license plate bracket
- Cloth sun visors
- Exterior Mirror Delete
- Front Max GAWR (E-450 only)

**Deletes:**

- Front vinyl floor covering (162) – see note 4
- Front headliner
- Front dome lamp

**NOTE 1:** May upgrade to 21A or 21Y seats

**NOTE 2:** Reference RV and Trailer Towing Guide for maximum trailer weights and GAWRs

**NOTE 3:** May add 21Z

**NOTE 4:** May add 162 front vinyl floor covering

**NOTE 5:** May upgrade to Front Max GAWR (672) with E-350

**NOTE 6:** May upgrade driveshaft from 3" to 3½" diameter (43D). Requires 158" wheelbase. Intended for vehicles that will have their wheelbase stretched.

**RIGHT HAND DOOR DELETE (60X)****Availability:**

- Optional on E-350 and E-450 Cutaway only

**Not available with:**

- Interior Upgrade Package (18C)
- Motorhome Pkg. (47M)
- Ambulance Pkg. (47A)
- Power Equipment Group (903)
- Rear View Camera (43C)

**Includes:**

- Exterior Mirror Delete (54F)
- Passenger Seat Delete (21B)

**Deletes:**

- Right hand seat, seat belt system and hardware
- Passenger side airbag
- Passenger side A-pillar grab handle
- Passenger side sun visor
- Passenger side speaker
- Headliner

**SCHOOL BUS BODY BUILDER PREP PACKAGE (47S)****Availability:**

- E-350 138" WB, 10,050# GVWR (SRW) – 6.2L & 6.8L engines
- E-350 138" WB, 11,500# GVWR (DRW) – 6.2L & 6.8L engines
- E-350 158" WB, 12,500# GVWR (DRW) – 6.2L & 6.8L engines
- E-450 158" WB, 14,000# GVWR (DRW) – 6.2L engine only
- E-450 158" WB, 14,200# GVWR (DRW) – 6.8L engine only
- E-450 158" WB, 14,500# GVWR (DRW) – 6.8L engine only

**Not available with:**

- Interior Upgrade Pkg. (18C)
- Trailer Tow Pkg. (534) or Upgraded Trailer Tow Pkg. (535)
- SYNC® (98S)
- Rear View Camera (43C)
- Ambulance Prep Pkg. (47A), Motorhome Prep Pkg. (47M), Shuttle Bus Prep Pkg. (47B), Multi Function School Activity Bus Prep Pkg. (47J)
- Standard Pattern Spacers (557), Alternate Lateral Frame Spacers (554)
- CNG/Propane Gaseous Engine Prep Package (981)

**Requires:**

- School Bus Yellow paint (B1)

**Includes:**

- Banded front-door glass (tinted)
- High Back Driver Seat Only (21B)
- Frame pucks
- 40 gallon fuel tank

**Deletes:**

- RH seat, seat pedestal and attaching hardware
- RH seat belt system
- RH B-pillar trim and scuff plate
- Passenger side airbag (RH front)
- Front headliner

**NOTE 1:** May add Extra Heavy-Duty 225 Amp Alternator (63N) for 6.8L EFI Triton V10 engine or 240 Amp Alternator (63O) for 6.2L SFI V8 FFV engine

**SHUTTLE BUS PREP PACKAGE (47B)****Availability:**

- Optional on Cutaway only
- Optional – May upgrade to: Dual High-Back Cloth Captain's Chairs (21A) or Dual High-Back Untrimmed Captain's Chairs (21Y)
- Not available with SYNC® (98S) or Rear View Camera (43C)
- Ambulance Prep Pkg. (47A), Motorhome Prep Pkg. (47M), School Bus Prep Pkg. (47S), Multi Function School Activity Bus Prep Pkg. (47J)

**Includes:**

- High-Series Exterior Upgrade Package (18A)
  - Front chrome bumper and chrome grille
- Manual Pedestals, seats not included (21W)
- Power door-locks and windows 903 (NA w/RH door delete 60X)
- Engine block heater
- Frame pucks (isolators – included when spacers not ordered)
- Front license plate bracket
- Exterior Mirror Delete (54F)

**Deletes:**

- Front vinyl floor covering (162)
- Front headliner
- Front dome lamp

**NOTE 1:** May add 162 front vinyl floor covering

**NOTE 2:** May upgrade to optional Extra Heavy-Duty 225 Amp Alternator (63N) for 6.8L EFI Triton V10 engine or 240 Amp Alternator (63O) for 6.2L SFI V8 FFV engine

**NOTE 3:** May add 21Z

**NOTE 4:** May upgrade to Front Max GAWR (672)

**NOTE 5:** May upgrade driveshaft from 3" to 3½" diameter (43D). Requires 158" wheelbase. Intended for vehicles that will have their wheelbase stretched.

# 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS PACKAGED OPTIONS/EMISSIONS

### MULTI FUNCTION SCHOOL ACTIVITY BUS (MFSAB) PREP PACKAGE (47J)

**Availability:**

- E-350 138" WB, 10,050# GVWR (SRW) – 6.2L & 6.8L engines
- E-350 138" WB, 11,500# GVWR (DRW) – 6.2L & 6.8L engines
- E-350 158" WB, 12,500# GVWR (DRW) – 6.2L & 6.8L engines
- E-450 158" WB, 14,000# GVWR (DRW) – 6.2L engine only
- E-450 158" WB, 14,200# GVWR (DRW) – 6.8L engine only
- E-450 158" WB, 14,500# GVWR (DRW) – 6.8L engine only

**Not available with:**

- School Bus Yellow Paint (B1)
- Interior Upgrade Pkg. (18C)
- Trailer Tow Pkg. (534) or Upgraded Trailer Tow Pkg. (535)
- SYNC® (98S)
- Rear View Camera (43C)
- Ambulance Prep Pkg. (47A), Motorhome Prep Pkg. (47M), Shuttle Bus Prep Pkg. (47B), School Bus Prep Pkg. (47S)
- Standard Pattern Spacers (557), Alternate Lateral Frame Spacers (554)
- CNG/Propane Gaseous Engine Prep Package (981)

**Includes:**

- Banded front-door glass (tinted)
- High Back Driver Seat Only (21B)
- Frame pucks
- 40-gallon fuel tank

**Deletes:**

- RH seat, seat pedestal and attaching hardware
- RH seat belt system
- RH B-pillar trim and scuff plate
- Passenger side airbag (RH front)
- Front headliner

**NOTE 1:** May upgrade to optional Extra Heavy-Duty 225-Amp Alternator for 6.8L EFI Triton V10 engine or 240 Amp Alternator (63O) for 6.2L SFI V8 FFV engine

### SPARE TIRE AND WHEEL (51A)

**Availability:**

- Optional on E-350 and E-450

**Includes (E-350 only – no jack included with E-450):**

- Lug nut wrench
- 2 Ton Mechanical Jack and handle (E-350 SRW only)
- 4 Ton Hydraulic Jack and handle (E-350 DRW only)

### CNG/PROPANE GASEOUS ENGINE PREP PACKAGE (981)

**Availability:**

- Not available with Ambulance Prep (47A), School Bus Prep (47S) or Multi Function School Activity Bus (47J) packages

**Includes:**

- Hardened Engine Intake Valves, Exhaust Valves and Valve Seats

**NOTE:** This package DOES NOT include CNG/Propane fuel tanks, lines, etc. Vehicle will be equipped with the standard factory gasoline fuel system. Additional equipment combined with a Certified calibration reflash is required, from an external upfitter, to convert the vehicle to a CNG/Propane fueled vehicle.

*Ford Motor Company does not provide an exhaust or evaporative emissions certificate with this option when converted to use CNG or Propane fuel. Ford does not represent that a vehicle converted to use CNG or Propane will comply with all applicable U.S. or Canadian safety standards. It is the responsibility of the final stage manufacturer (body-builder, installer, alterer or subsequent stage manufacturer) to determine that any vehicle converted to use CNG or Propane complies with U.S. Federal, California or Canadian exhaust and evaporative emission requirements, Federal fuel economy standards, U.S. and Canadian safety standards, labeling and any other requirements.*

### MISCELLANEOUS

COV Required .....	79V
Priced DORA .....	C09

### SPECIAL ORDERS

(FLEET ONLY. See [www.fmcdealer.com](http://www.fmcdealer.com) for ordering guidelines and restrictions.)

### PAYLOAD PACKAGE SELECTOR CHART

GVWR	OPT. CODE	WB. INCH	ENGINE (L)	TRANSMISSION
<b>E-350 Cutaway (E3F) – Single Dual Rear Wheel (SRW/DRW)</b>				
10050	20X	138-SRW	6.2	6-spd auto w/OD
10050	20X	158-SRW	6.2	6-spd auto w/OD
10050	20X	138-SRW	6.8	6-spd auto w/OD
10050	20X	158-SRW	6.8	6-spd auto w/OD
11500	20Y	138-DRW	6.2	6-spd auto w/OD
11500	20Y	138-DRW	6.8	6-spd auto w/OD
11500	20Y	158-DRW	6.2	6-spd auto w/OD
11500	20Y	158-DRW	6.8	6-spd auto w/OD
12500	20C	158-DRW	6.2	6-spd auto w/OD
12500	20C	158-DRW	6.8	6-spd auto w/OD
12500	20C	176-DRW	6.2	6-spd auto w/OD
12500	20C	176-DRW	6.8	6-spd auto w/OD
<b>E-450 Cutaway (E4F) – Dual Rear Wheel (DRW)</b>				
14000	205	158-DRW	6.2	6-spd auto w/OD
14000	205	176-DRW	6.2	6-spd auto w/OD
14200*	20E	158-DRW	6.8	6-spd auto w/OD
14200*	20E	176-DRW	6.8	6-spd auto w/OD
14500	20F	158-DRW	6.8	6-spd auto w/OD
14500	20F	176-DRW	6.8	6-spd auto w/OD
<b>E-350 Stripped Chassis (E3K) – Dual Rear Wheel (DRW)</b>				
11500	20Y	138-DRW	6.2	6-spd auto w/OD
11500	20Y	138-DRW	6.8	6-spd auto w/OD
12500	20C	158-DRW	6.2	6-spd auto w/OD
12500	20C	158-DRW	6.8	6-spd auto w/OD
12500	20C	176-DRW	6.2	6-spd auto w/OD
12500	20C	176-DRW	6.8	6-spd auto w/OD
<b>E-450 Stripped Chassis (E4K) – Dual Rear Wheel (DRW)</b>				
14000	205	158-DRW	6.2	6-spd auto w/OD
14000	205	176-DRW	6.2	6-spd auto w/OD
14500	20F	158-DRW	6.8	6-spd auto w/OD
14500	20F	176-DRW	6.8	6-spd auto w/OD

\* Optional

**NOTE:** For Payload information, please see the 2019 E-Series e-Sourcebook

### 50-STATES EMISSION SYSTEM

Standard on all units ..... 425

### Auxiliary Fuel Port

Auxiliary Fuel Port located on the fuel tank, offers entry point access to fuel tank for specialized gas powered equipment such as a power generator, powered wheelchair lift etc ..... 945

## 2019 E-SERIES CUTAWAY/STRIPPED CHASSIS PACKAGED OPTIONS/EMISSIONS

2019 FRONT GAWR AVAILABILITY CHART				
WB INCH	ENGINE (L)	GVWR LBS	FGAWR Standard	FGAWR Max (672)
<b>E3F Cutaway - Single/Dual Rear Wheel (SRW/DRW)</b>				
138-SRW	6.2/6.8	10050	4050 / 4200	4200 / N/A
158-SRW	6.2/6.8	10050	4200 / 4200	N/A
138-DRW	6.2/6.8	11500	4050 / 4050	4600 / 4600
138-DRW <sup>1</sup>	6.8	11500	4200	4600
158-DRW	6.2/6.8	11500	4050 / 4200	4600 / 4600
158-DRW	6.2/6.8	12500	4050 / 4200	5000 / 5000
158-DRW <sup>1</sup>	6.2/6.8	12500	4600 / 4600	5000 / 5000
176-DRW	6.2/6.8	12500	4200 / 4200	5000 / 5000
176-DRW <sup>2</sup>	6.2/6.8	12500	4600 / 4600	5000 / 5000
<b>E4F Cutaway - Dual Rear Wheel (DRW)</b>				
158-DRW	6.2	14000	4400	5000
158-DRW <sup>1</sup>	6.2	14000	4600	5000
176-DRW	6.2	14000	4400	5000
176-DRW <sup>2</sup>	6.2	14000	4600	5000
158-DRW	6.8	14200	4600	N/A
176-DRW	6.8	14200	4600	N/A
158-DRW	6.8	14500	5000	N/A
176-DRW	6.8	14500	5000	N/A
<b>E3K Stripped Chassis - Dual Rear Wheel (DRW)</b>				
138-DRW	6.2/6.8	11500	4200 / 4400	4600 / 4600
158-DRW	6.2/6.8	12500	4600 / 4600	5000 / 5000
176-DRW	6.2/6.8	12500	4600 / 4600	5000 / 5000
<b>E4K Stripped Chassis - Dual Rear Wheel (DRW)</b>				
158-DRW	6.2	14000	4600	5000
176-DRW	6.2	14000	4600	5000
158-DRW	6.8	14500	5000	N/A
176-DRW	6.8	14500	5000	N/A

<sup>1</sup> Only available on MFSAB Prep Package (47J), School Bus Prep Package (47S), Motorhome Prep Package (47M) or Shuttle Bus Prep Package (47B)

<sup>2</sup> Only available on Motorhome Prep Package (47M) or Shuttle Bus Prep Package (47B)

**POWERTRAIN****FUEL ECONOMY**

TRUCKS WITH GROSS VEHICLE WEIGHT RATINGS OVER 8,500 POUNDS ARE NOT INCLUDED IN THE EPA FUEL ECONOMY RATING SYSTEM. FUEL ECONOMY INFORMATION ON THESE MODELS IS GENERALLY NOT AVAILABLE BECAUSE OF WIDE VARIANCES IN VEHICLE LOADING AND OPERATIONAL CONDITIONS BETWEEN VARIOUS CUSTOMER APPLICATIONS.

**ENGINE HORSEPOWER AND TORQUE RATINGS\***

ENGINE	TRANSMISSION	NOMINAL COMPRESSION RATIO	50-STATE	
			HORSEPOWER H.P. @ RPM	TORQUE LB.-FT. @ RPM
6.8L EFI Triton V10	6-Speed O/D w/Tow Haul (6R140)	9.0	305 @ 4250	420 @ 3250
6.2L SFI V8 FFV	6-Speed O/D w/Tow Haul (6R140)	9.8	331 @ 5500	356 @ 4000

\* = New for this model year

# 2019 Model Year Ford Warranty Guide

(Except F-650/750, Hybrid and Electric Vehicles)



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Your satisfaction is our #1 goal. If you have any questions or concerns, or are unsatisfied with the service you are receiving, follow these steps:

1. Contact your Sales Representative or Service Advisor at your selling/servicing dealership.
2. If your inquiry or concern remains unresolved, contact the Sales Manager, Service Manager or Customer Relations Manager.
3. If you require assistance or clarification on Ford Motor Company policies or procedures, please contact the Ford Customer Relationship Center.

In the United States	In Canada
<p>Ford Motor Company Customer Relationship Center P.O. Box 6248 Dearborn, MI 48121 1-800-392-3673 (FORD) (TDD for the hearing impaired: 1-800-232-5952) <a href="http://www.owner.ford.com">www.owner.ford.com</a></p>	<p>Customer Relationship Centre Ford Motor Company of Canada, Limited P.O. Box 2000 Oakville, Ontario L6J 5E4 1-800-565-3673 (FORD) <a href="http://www.ford.ca">www.ford.ca</a></p>
In Asia-Pacific Region, South America, Africa, U.S. Virgin Islands, Central America, the Caribbean, and Israel	In Puerto Rico
<p>Ford Motor Company Ford Export Operations Attention: Customer Relations 1555 Fairlane Drive Fairlane Business Park #3 Allen Park, MI 48101 Telephone: (313) 594-4857 For customers in Guam, the Commonwealth of the Northern Mariana Islands (CNMI), America Samoa, and the U.S. Virgin Islands, please feel free to call our Toll-Free Number: (800) 841-FORD (3673) Fax: (313) 390-0804 E-mail: <a href="mailto:expcac@ford.com">expcac@ford.com</a></p>	<p>Ford International Business Development, Inc. P.O. Box 11967 Caparra Heights Station San Juan, PR 00922-1967 Telephone: (800) 841-FORD (3673) Fax: (313) 390-0804 E-mail: <a href="mailto:prcac@ford.com">prcac@ford.com</a> <a href="http://www.ford.com.pr">www.ford.com.pr</a></p>
In Middle East	
<p>Ford Middle East Customer Relationship Center P.O. Box 21470 Dubai, United Arab Emirates Telephone: 971-4-3326084 Toll-free Number for the Kingdom of Saudi Arabia: 800 8971409 Local Telephone Number for Kuwait: 24810575 Fax: 971-4-3327299 E-mail: <a href="mailto:menacac@ford.com">menacac@ford.com</a> <a href="http://www.me.ford.com">www.me.ford.com</a></p>	



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## 1. Introduction

**Ford Motor Company** and your selling dealer thank you for selecting one of our quality products. Our commitment to you and your vehicle begins with quality protection and service.

When you need warranty repairs, your selling dealer would like you to return to it for that service, but you may also take your vehicle to another Ford Motor Company dealership authorized for warranty repairs. Certain warranty repairs require special training though, so not all dealers are authorized to perform all warranty repairs. That means that, depending on the warranty repair needed, the vehicle may need to be taken to another dealer. If a particular dealership cannot assist you, then contact the Customer Relationship Center at 1-800-392-3673.

This booklet explains in detail the warranty coverages that apply to your 2019-model car or light truck. If you bought a previously owned 2019-model vehicle, you are eligible for any remaining warranty coverages.

Ford Motor Company provides the **Emissions Defect Warranties** and **Emissions Performance Warranties** which cover your emissions control systems, and **Noise Emissions Warranty** which applies only to medium/heavy duty trucks over 10,000 pounds Gross Vehicle Weight Rating (pages 17-30).

## 2. Important information you should know

### IF YOU NEED CUSTOMER ASSISTANCE

Your Ford Motor Company dealer is available to assist you with all your automotive needs. Please follow the procedures outlined on the front page of this booklet.

In addition, if you are an eligible U.S. owner, you may use - at no cost - the services of the BBB AUTO LINE program. For details, see Better Business Bureau (BBB) AUTO LINE program, page 32 or call 1-800-955-5100.

### KNOW WHEN YOUR WARRANTY BEGINS

Your **Warranty Start Date** is the day you take delivery of your new vehicle or the day it is first put into service (for example, as a dealer demonstrator), whichever occurs first.

### CHECK YOUR VEHICLE

We try to check vehicles carefully at the assembly plant and the dealership, and we usually correct any damage to paint, sheet metal, upholstery, or other appearance items. But occasionally something may slip past us, and a customer may find that a vehicle was damaged before he or she took delivery. If you see any damage when you receive your vehicle, notify your dealership within one week.

### MAINTAIN YOUR VEHICLE PROPERLY

Your glove compartment contains an **Owner's Manual** which indicates the scheduled maintenance required for your vehicle. Proper maintenance guards against major repair expenses resulting from neglect or inadequate maintenance, may help increase the value you receive when you sell or trade your vehicle, and is important in allowing your vehicle to comply with applicable emissions standards.

It is your responsibility to make sure that all of the scheduled maintenance is performed and that the materials used meet Ford engineering specifications. Failure to perform scheduled maintenance as specified in the Owner's Manual will invalidate warranty coverage on

parts affected by the lack of maintenance. Make sure that receipts for completed maintenance work are retained with the vehicle and confirmation of maintenance work is always entered in your **Owner's Manual**.

Your Ford or Lincoln dealership, or Ford or Lincoln Auto Care Service Center, has factory-trained technicians who can perform the required maintenance using genuine Ford parts. The dealership looks forward to meeting your every service need to maximize your satisfaction with your vehicle.

#### **WHO PAYS FOR WARRANTY REPAIRS?**

You will not be charged for repairs covered by any applicable warranty during the stated coverage periods, unless specifically stated elsewhere in this guide.

Some states have mandated alternate time coverage periods for parts of your vehicle (e.g. seatbelts).

Some states and/or local governments may require a tax on a portion of warranty repairs. Where applicable law allows, the tax must be paid by you, the owner of the vehicle.

During the Bumper to Bumper Warranty period, dealers may receive instructions to provide no-cost, service-type improvements - not originally included in your Owner's Manual - intended to increase your overall satisfaction with your vehicle.

Sometimes Ford may offer a special adjustment program to pay all or part of the cost of certain repairs beyond the terms of the applicable warranty. Check with your dealer or call 1-800-392-3673 to learn whether any adjustment program is applicable to your vehicle. Please have your vehicle identification number available.

## **DO WARRANTIES APPLY IN OTHER COUNTRIES?**

The **New Vehicle Limited Warranty** and the **Emissions Warranties** described in this booklet apply to your vehicle if:

- it was originally purchased through the Ford Export Operations Military Sales Program; or
- it was originally sold or leased by Ford Motor Company or one of its dealers in the United States or U.S. Federalized Territories, and it was originally registered/licensed and operated in the United States, U.S. Federalized Territories, or Canada.

If you meet either of these two requirements, you do have warranty coverage when you travel with this vehicle outside the United States, U.S. Federalized Territories, or Canada. In some cases, however, you may have to pay the servicing Ford dealer in a foreign country or U.S. Federalized Territory for a repair that is covered under the U.S. warranty. If this happens, be sure to save the paid repair order or invoice. You should present this document to a U.S. Ford Motor Company dealer for warranty refund consideration. Refer to [www.Ford.com](http://www.Ford.com) for additional customer assistance reference information.

### 3. The New Vehicle Limited Warranty for your 2019-model vehicle

#### **LIMITATIONS AND DISCLAIMERS**

All of the warranties in this booklet are subject to the following limitations and disclaimers:

The warranties in this booklet are the only express warranties applicable to your vehicle. Ford does not assume or authorize anyone to assume for it any other obligation or liability in connection with your vehicle or these warranties. No person, including Ford employees or dealers, may modify or waive any part of these warranties.

Ford and its dealers reserve the right to make changes in or additions to vehicles built or sold by them at any time without incurring any obligation to make the same or similar changes or additions to vehicles previously built or sold.

Ford and its dealers also reserve the right to provide post-warranty repairs, conduct recalls, or extend the warranty coverage period for certain vehicles or vehicle populations, at the sole discretion of Ford. The fact that Ford has provided such measures to a particular vehicle or vehicle population in no way obligates Ford to provide similar accommodations to other owners of similar vehicles.

As a condition of these warranties, you are responsible for properly using, maintaining, and caring for your vehicle as outlined in your Owner's Manual. Ford recommends that you maintain copies of all maintenance records and receipts for review by Ford.

Ford and your dealer are not responsible for any time or income that you lose, any inconvenience you might be caused, the loss of your transportation or use of your vehicle, the cost of rental vehicles, fuel, telephone, travel, meals, or lodging, the loss of personal or commercial property, the loss of revenue, or for any other incidental or consequential damages you may have.

Punitive, exemplary, or multiple damages may not be recovered unless applicable law prohibits their disclaimer.

You may not bring any warranty-related claim as a class representative, a private attorney general, a member of a class of claimants or in any other representative capacity.

Ford shall not be liable for any damages caused by delay in delivery or furnishing of any products and/or services.

You may have some implied warranties. For example, you may have an implied warranty of merchantability (that the car or light truck is reasonably fit for the general purpose for which it was sold) or an implied warranty of fitness for a particular purpose (that the car or light truck is suitable for your special purposes), if a special purpose was specifically disclosed to Ford itself not merely to the dealer before your purchase, and Ford itself not just the dealer told you the vehicle would be suitable for that purpose.

These implied warranties are limited, to the extent allowed by law, to the time period covered by the written warranties, or to the applicable time period provided by state law, whichever period is shorter.

**DISCLAIMER OF IMPLIED WARRANTIES FOR BUSINESS AND RACING USE**

***\*\*\* Ford disclaims all implied warranties if the vehicle is used for business or commercial purposes. \*\*\****

***\*\*\* Ford disclaims the implied warranty of fitness for a particular purpose if your vehicle is used for racing, even if the vehicle is equipped for racing. \*\*\****



The warranties contained in this booklet and all questions regarding their enforceability and interpretation are governed by the law of the state in which you purchased your Ford vehicle. Some states do not allow Ford to limit how long an implied warranty lasts or to exclude or limit incidental or consequential damages, so the limitation and exclusions described above may not apply to you.

**APPLICABILITY OF LIMITATIONS OF IMPLIED WARRANTY TO NEW VEHICLE LIMITED WARRANTY AND EMISSIONS WARRANTY**

***\*\*\* This information about the limitation of implied warranties and the exclusion of incidental and consequential damages under the NEW VEHICLE LIMITED WARRANTY also applies to the EMISSIONS WARRANTIES described on pages 17-25. \*\*\****

Ford participates in the BBB AUTO LINE warranty dispute resolution program. You may contact BBB AUTO LINE by calling 800-955-5100.

You are required to submit your warranty dispute to the BBB AUTO LINE before exercising rights or seeking remedies under the Federal Magnuson-Moss Warranty Act, 15 U.S.C. § 2301 et seq. To the extent permitted by the applicable state "Lemon Law", you are also required to submit your warranty dispute to the BBB AUTO LINE before exercising any rights or seeking remedies under the "Lemon Law" if you choose to seek remedies that are not created by the Magnuson-Moss Warranty Act or the applicable state "Lemon Law," you are not required to first use BBB AUTO LINE to resolve your dispute - although the program is still available to you.

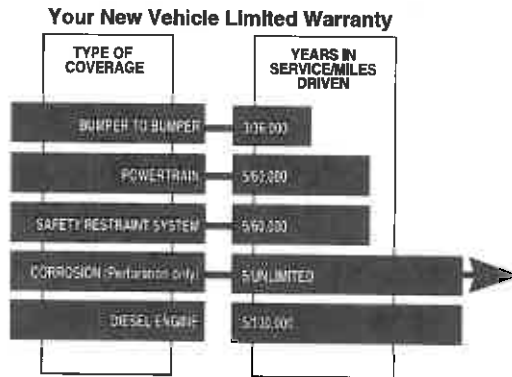
For more information regarding the BBB AUTO LINE program, see page 32 of this booklet.

## QUICK REFERENCE: WARRANTY COVERAGE

This chart gives a general summary of your warranty coverage provided by Ford Motor Company under the **New Vehicle Limited Warranty**. Please refer to the description of warranty coverage for more specific information.

For each type of coverage, the chart shows two measures:

- years in service
- miles driven



The measure that occurs first determines how long your coverage lasts. For example: Your Bumper to Bumper Coverage lasts for three years - unless you drive more than 36,000 miles before three years elapse. In that case, your coverage ends at 36,000 miles.

For more details on coverage, see:

- ➔ **What is Covered?** (pages 8-12)
- ➔ **What is Not Covered?** (pages 12-15)

### WHAT IS COVERED?

Your NEW VEHICLE LIMITED WARRANTY gives you specific legal rights. You may have other rights that vary from state to state. Under your New Vehicle Limited Warranty if:

- your Ford vehicle is properly operated and maintained, and

- was taken to a Ford dealership for a warranted repair during the warranty period,

then authorized Ford Motor Company dealers will, without charge, repair, replace, or adjust all parts on your vehicle that malfunction or fail during normal use during the applicable coverage period due to a manufacturing defect in factory-supplied materials or factory workmanship.

This warranty does not mean that each Ford vehicle is defect free. Defects may be unintentionally introduced into vehicles during the design and manufacturing processes and such defects could result in the need for repairs. Ford provides the New Vehicle Limited Warranty only to remedy manufacturing defects that result in vehicle part malfunction or failure during the warranty period.

The remedy under this written warranty, and any implied warranty, is limited to repair, replacement, or adjustment of defective parts. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Ford, through its authorized dealers, is willing and able to repair, replace, or adjust defective parts in the prescribed manner. Ford's liability, if any, shall in no event exceed the cost of correcting manufacturing defects as herein provided and upon expiration of this warranty, any such liability shall terminate.

Conditions that are not covered by the New Vehicle Limited Warranty are described on pages 12-15. When making warranty repairs on your vehicle, the dealer will use Ford or Motorcraft parts or remanufactured or other parts that are authorized by Ford, at the discretion of Ford or the Ford dealership.

Nothing in this warranty should be construed as requiring defective parts to be replaced with parts of a different type or design than the original part, so long as the vehicle functions properly with the replacement part. Moreover, Ford and its authorized dealers are entitled to a reasonable time and a reasonable number of attempts within which to diagnose and repair any defect covered by this warranty.

In certain instances, Ford may authorize repairs at other than Ford dealer facilities.

Two separate warranties apply to tires on your new vehicle. The New Vehicle Limited Warranty covers tire defects in factory supplied material or workmanship for 100% of labor costs and on a pro rata adjustment basis for parts. (See the reimbursement schedule below).

For vehicles within the New Vehicle Limited Warranty time in service and mileage coverage period, defective tires will be replaced on a pro rata adjustment basis according to the following mileage-based Reimbursement Schedule:

MILES DRIVEN	PERCENT OF PARTS COVERED BY FORD
1-12,000	100%
12,001-24,000	60%
24,001-36,000	30%

The tire manufacturer also provides you with a separate tire warranty that may extend beyond the New Vehicle Limited Warranty coverage. You will find the manufacturer's tire warranty with the owner literature supplied with your vehicle. You have the option of having a tire warranty repair performed by the tire manufacturer's authorized service center. If you go to a tire service center for a repair covered by the New Vehicle Limited Warranty, you may be charged a prorated amount for wear or other charges. If so, you should present your paid invoice detailing the nature of the charges to any Ford Motor Company dealership for refund consideration. When making warranty repairs on your vehicle, the dealer will use Ford or Motorcraft parts or remanufactured or other parts that are authorized by Ford. In certain instances, Ford may authorize repairs at other than Ford dealer facilities. Tire replacements under warranty will be made with the same brand and model as originally equipped with the vehicle unless the same brand and model is no longer available, in which case a tire of the same brand, size, load, speed and tread type will be used. In some circumstances, Ford may authorize another brand and/or model to substitute for the original brand and model, even if still available.

Normal tire wear or damage is not reimbursable. See page 15 for details of what is not covered.

**Extended warranty coverage periods are available for certain vehicle parts and conditions. Specifically,**

(1) Your vehicle's Powertrain components are covered for five years or 60,000 miles, whichever occurs first. The extended coverage applies to the **Engine**; all internal lubricated parts, cylinder block, cylinder heads, electrical fuel pump, powertrain control module, engine mounts, flywheel, injection pump, manifold (exhaust and intake), manifold bolts, oil pan, oil pump, seals and gaskets, engine thermostat, engine thermostat housing, timing chain cover, timing chain (gears or belt), turbocharger/supercharger unit, valve covers, water pump;

**Transmission:** all internal parts, clutch cover, seals and gaskets, torque converter, transfer case (including all internal parts), transmission case, transmission mounts; **Front-Wheel Drive:** axle shafts, front bearings, seals and gaskets, universal and constant velocity joints; **Rear-Wheel Drive:** axle shafts, rear bearings, center support bearing, drive axle housing (including all internal parts), drive shaft, retainers, supports, seals and gaskets, universal and constant velocity joints.

**Four-Wheel/All-Wheel Drive:** axle shafts, bearings (front and rear), center support bearing, drive shafts, final drive housing (including all internal parts), hubs-automatic front locking (four-wheel drive), locking rings (four-wheel drive), seals and gaskets, universal and constant velocity joints.

(2) Your vehicle's safety belts and air bag Supplemental Restraint System (SRS) are covered for an extended Safety Restraint Coverage Period, which lasts for five years or 60,000 miles, whichever occurs first.

(3) Your vehicle's body sheet metal panels are covered for an extended Corrosion Coverage Period, which lasts for five years, regardless of miles driven. The extended warranty coverage only applies if a body sheet metal panel becomes perforated due to corrosion during normal use due to a manufacturing defect in factory-supplied materials or factory workmanship. If aluminum body panels have corrosion or rust damage, and the damage is not the result of abnormal usage, vehicle accident, customer actions and/or extreme environmental conditions, the corrosion or rust damage repairs are covered for 5 years, unlimited miles. For damage caused by airborne material (environmental fallout) where there is no factory-related defect involved and therefore no warranty – our policy is to provide free repair of paint damage due to the airborne material for 12 months or 12,000 miles, whichever occurs first.

(4) Your vehicle's direct injection diesel engine and certain engine components are covered during the Diesel Engine Coverage Period, which lasts for five years or 100,000 miles, whichever occurs first. The following parts are covered during this extended coverage period: the engine, cylinder block, heads and all internal parts, intake and exhaust manifolds, timing gear, harmonic balancer, valve covers, oil pan and pump, water pump, fuel system (excluding fuel lines, fuel tank and frame mounted fuel conditioning module sometimes referred to as the frame mounted pump/filter/water separator or frame mounted fuel filter/water separator), high pressure lines, gaskets and seals, glow plugs, turbocharger, two-stage turbocharger assembly, turbocharger actuator,

powertrain control module, high pressure fuel injection pump assembly, injectors, injection pressure sensor, fuel rail pressure sensor, exhaust back pressure regulator and sensor, exhaust pressure sensor, manifold pressure sensor, intake air temperature sensor, crankshaft position sensor, camshaft position sensor, accelerator switch.

**NOTE:** Some components may also be covered by the Emissions Warranties. For more information, see pages 17-29.

If you own or lease a 2019-model Next Generation Police Interceptor Vehicle (NGPI), refer to the Warranty Addendum Card that was given to you when you took delivery of your vehicle for further explanation of Amendments to the New Vehicle Limited Warranty. The Warranty Addendum applies only the NGPI vehicles delivered in the State of Florida and New York.

## **WHAT IS NOT COVERED UNDER THE NEW VEHICLE LIMITED WARRANTY?**

### **Damage Caused By:**

- accidents, collision or objects striking the vehicle (including driving through a car wash)
- theft, vandalism, or riot
- fire or explosion
- using contaminated or improper fuel/fluids
- customer-applied chemicals or accidental spills
- driving through water deep enough to cause water to be ingested into the engine
- misuse of the vehicle, such as driving over curbs, overloading, racing or using the vehicle as a permanent stationary power source

### **Damage Caused by Alteration or Modification**

The New Vehicle Limited Warranty does not cover any damage caused by:

- alterations or modifications of the vehicle, including the body, chassis, electronics or their components, after the vehicle leaves the control of Ford Motor Company
- tampering with the vehicle, tampering with the emissions systems or with the other parts that affect these systems (for example, but not limited to exhaust and intake systems)

- the installation or use of a non-Ford Motor Company part or software (other than a certified emissions part or software) or any part or software (Ford or non-Ford) designed for off-road use only installed after the vehicle leaves the control of Ford Motor Company, if the installed part fails or causes a Ford part to fail. Examples include, but are not limited to lift kits, oversized tires, roll bars, cellular phones, alarm systems, automatic starting systems and performance-enhancing powertrain components or software and performance “chips”.

Your vehicle may allow, enable or facilitate the use of certain non-Ford Motor Company software. Ford is not responsible for the functionality of such software. Ford may disallow, discontinue or modify your ability to use such software at any time without prior notification or incurring any warranty or other obligation. Non-Ford Motor Company software may be governed by End User License Agreement or warranty provided by the software provider. For Ford Motor Company software see End User License Agreement found in the Owner Manual.

#### **Damage Caused by Use and/or the Environment**

The New Vehicle Limited Warranty does not cover surface rust, deterioration and damage of paint, trim, upholstery, and other appearance items that result from use and/or exposure to the elements. You, as the owner, are responsible for these items. Some examples are:

- dings, dents
- cuts, burns, punctures or tears
- road salt
- tree sap, bird and bee droppings
- windstorm, lightening, hail
- earthquake
- freezing, water or flood
- stone chips, scratches (some examples are on paint and glass)
- windshield stress cracks. However, limited coverage on windshield stress cracks will be provided for the first 12 months or 12,000 miles (whichever occurs first), even though caused by use and/or exposure to the elements.

## **Maintenance/Wear**

The New Vehicle Limited Warranty does not cover: (1) parts and labor needed to maintain the vehicle; and (2) the replacement of parts due to normal wear and tear. You, as the owner, are responsible for these items. See your Owner's Manual. Some examples of maintenance and normal wear are:

- oil changes
- oils, lubricants, other fluids
- oil/air filters
- tire rotation/inflation
- cleaning/polishing
- clutch linings
- wiper blades\*
- wheel alignments and tire balancing\*
- brake pad/lining\*

\* Ford will replace or adjust certain maintenance items when necessary, free of charge during a limited period:

- Wiper blade replacements will be provided during the first six months in service, regardless of miles driven.
- Wheel alignments and tire balancing will be provided during the first 12 months or 12,000 miles in service, whichever occurs first.
- Brake pad/lining replacements will be provided during the first 12 months or 18,000 miles in service, whichever occurs first.

## **SYNC Hands-Free Communications and Entertainment System**

If your vehicle is equipped with SYNC, the New Vehicle Limited Warranty does not cover repairs under certain conditions, such as failure to provide proper installation environment. The New Vehicle Limited Warranty does not cover repairs of certain damage or loss, such as:

- Loss of personal recording media, software or data
- Loss, change, or discontinuation of functionality because of:
  - system updates to Ford Motor Company software or lack of compatibility with non-Ford Motor Company electronic devices
  - non-Ford Motor Company software, or
  - obsolescence of vehicle software or hardware
  - lack of network coverage or availability
- Damage caused by:
  - abnormal use such as insertion of foreign objects, fluid spillage
  - unauthorized modification to alter functionality or capability
  - computer or internet viruses, bugs, or malware, such as worms, Trojan Horses, cancelbots



- installation of unauthorized software, peripherals and attachments
- unauthorized, unapproved and/or incompatible repairs, upgrades and modification
- the defective function or obsolescence of your cellular phone or digital media device (for example, inadequate signal reception by the external antenna, viruses or other software problems)

#### **Tire Wear or Damage**

The New Vehicle Limited Warranty does not cover normal wear or worn out tires. Tires will not be replaced (unless required by a warranty repair) for wear or damage including:

- tire damage from road hazard such as cuts, snags, bruises, bulges, puncture, and impact breaks
- tire damage due to under or over inflation, tire chain use, racing, spinning (as when stuck in snow or mud), improper mounting or dismounting, or tire repair

#### **Other Items or Conditions Not Covered**

The New Vehicle Limited Warranty does not cover:

- vehicles that have had the odometer disconnected, altered, or inoperative for an extended period of time with the result that the actual mileage cannot be determined
- vehicles that have ever been labeled or branded as dismantled, fire, flood, junk, rebuilt, reconstructed, or salvaged; this will void the New Vehicle Limited Warranty
- vehicles that have been determined to be a total loss by an insurance company; this will void the New Vehicle Limited Warranty
- converted ambulances that are not equipped with the Ford Ambulance Prep Package, see important information about ambulance conversions (page 34)
- Aftermarket parts or components, sometimes installed by Ford Motor Company or an authorized Ford dealership, may not be covered by the New Vehicle Limited Warranty. Any damage caused to Ford components due to the failure of aftermarket parts (other than a certified emissions part) is not covered.

#### 4. In addition ...

#### **ROADSIDE SERVICE ASSISTANCE (UNITED STATES, PUERTO RICO, AND U.S. VIRGIN ISLANDS)**

Your vehicle is covered by the complimentary Ford Roadside Assistance Program (unless you are driving a daily rental unit). Under this program, Ford will cover:

- Towing to the nearest Ford Motor Company dealership, or towing to your selling dealership if within 35 miles of the disablement
- Flat tire change (vehicle must have useable spare)
- Fuel delivery (limited to two occurrences in a 12-month period up to 2 gal. gas, 5 gal. diesel)
- Jump starts
- Lock-out assistance (replacement key cost is customer responsibility)
- Winch out services: includes pulling a vehicle within 100 feet of a paved or county maintained road. No recoveries.

The Roadside Assistance Program is separate from the New Vehicle Limited Warranty. It begins at the warranty start date and lasts for five years or 60,000 miles (whichever occurs first). If you need towing beyond the five years or 60,000 miles (whichever occurs first) period, Ford can arrange roadside assistance and charge your credit card. If the reason for the vehicle disablement is later found to be covered by another Ford warranty, Ford will provide a refund for the tow charge under the other warranty, through the dealership.

**For emergency roadside assistance, call 1-800-241-3673, 24 hours a day, 365 days a year.**

Ford Rent-A-Car (FRAC) and Dealer Daily Rental (DDR) vehicles that must be towed because a covered repair failed during the warranty coverage period, Ford will cover towing to the nearest Ford Motor Company dealership.

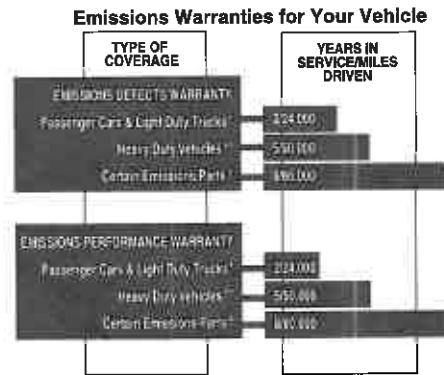
Ford Motor Company reserves the right to modify or discontinue Roadside Assistance at any time. Certain restrictions apply to Roadside Assistance benefits. Call 1-800-241-3673 for further details.

## 5. Federal requirements for emissions warranties

### QUICK REFERENCE: EMISSIONS WARRANTY COVERAGE

This chart shows your warranty coverage under two emissions warranties that Ford Motor Company provides, in compliance with Federal requirements. The warranties are:

- Emissions Defects Warranty
- Emissions Performance Warranty



\* Applies to vehicles up to 8,500 pounds gross vehicle weight rating (GVWR)

\*\* Applies to trucks over 8,500 pounds gross vehicle weight rating (GVWR) up to 19,500 pounds gross vehicle weight rating (GVWR). Vocational vehicle tires covered for 2/24,000 for defects that affect compliance with greenhouse gas requirements.

For full details on emissions control coverage, see:

- ➔ **Emissions Defect Warranty** (page 18)
- ➔ **Emissions Performance Warranty** (page 19)
- ➔ **What is Covered?** (pages 20-21)
- ➔ **What is Not Covered?** (page 21)

## EMISSIONS DEFECT WARRANTY COVERAGE

During the warranty coverage period, Ford Motor Company warrants that:

- your vehicle or engine is designed, built, and equipped to meet - at the time it is sold - the emissions regulations of the U.S. Environmental Protection Agency (EPA).
- your vehicle or engine is free from emission-related defects in factory-supplied materials or workmanship, which are defects that could prevent the vehicle or engine from conforming with applicable EPA regulations.
- you will not be charged for diagnosis, repair, replacement, or adjustment of parts containing an emissions-related defect. A list of emission-related parts can be found in **What is Covered?** on pages 20-21.

The warranty coverage period for:

- The emissions defects warranty coverage period for passenger cars and light duty trucks (applies to vehicles up to 8,500 pound GVWR) is as follows:
  - 8 years or 80,000 miles (whichever occurs first) for catalytic converters, electronic emissions control unit, and onboard emissions diagnostic devices, including the Battery Energy Control Module (BECM).
  - 2 years or 24,000 miles (whichever occurs first) for all other covered parts. (Note: Ford's 3-year, 36,000-mile bumper-to-bumper coverage, as described above, surpasses this mandatory federal coverage.)
- Heavy duty vehicles (applies to trucks over 8,500 pounds GVWR up to 19,500 pounds GVWR)
  - The emissions warranty coverage period for heavy duty vehicles (HDVs) is 5 years or 50,000 miles (whichever comes first) for all parts covered by your emissions warranty.
    - **Only for HDVs not designated as vocational vehicles on the underhood VEHICLE EMISSION CONTROL INFORMATION label:** The 5 year/50,000 mile warranty includes coverage of components whose failure would increase the vehicle's emissions of air conditioning refrigerants.
    - **Only for HDVs designated as vocational vehicles on the underhood VEHICLE EMISSION CONTROL INFORMATION label:** Tire defects that affect compliance with emission standards are covered for 2 years or 24,000 miles, whichever comes first.

## EMISSIONS PERFORMANCE WARRANTY COVERAGE

Under Emissions Performance Warranty Coverage, Ford Motor Company will repair, replace, or adjust - with no charge for labor, diagnosis, or parts - any emissions control device or system, if you meet all of the following conditions:

- You have maintained and operated your vehicle according to the instructions on proper care in the **Owner's Manual** and this booklet.
- Your vehicle fails to conform, during the warranty coverage period, to the applicable national EPA standards, as determined by an EPA approved inspection and maintenance program.
- You are subject to a penalty or sanction under local, state, or federal law because your vehicle has failed to conform to the emissions standards. (A penalty or sanction can include being denied the right to use your vehicle.)
- Your vehicle has not been tampered with, misused, or abused.

The warranty coverage period for:

- Passenger cars and light duty trucks (applies to vehicles up to 8,500 pounds GVWR) is as follows:
  - 8 years or 80,000 miles (whichever occurs first) for catalytic converter, electronic emissions control unit, and onboard emissions diagnostic devices.
  - 2 years or 24,000 miles (whichever occurs first) for all other covered parts .
- Heavy duty vehicles (applies to trucks over 8,500 pounds GVWR up to 19,500 pounds GVWR)
  - 5 years or 50,000 miles (whichever occurs first) for all covered parts.

See **WHAT IS COVERED?** below for list of covered parts.

Note that the warranty period begins on the **Warranty Start Date** as specified on page 2 of this booklet.

## WHAT IS COVERED?

For your vehicle if these parts contain an emissions-related defect, they are covered by both the Emissions Defect Warranty and the Emissions Performance Warranty.

- Air Flow Sensor
- Air/Fuel Feedback Control System and Sensors
- Air Induction System
- Catalytic Converters (including Selective Catalytic Reduction and Diesel Oxidation Catalysts)
- Cold Start Enrichment System (diesel only)
- Controls for Deceleration (diesel only)
- Diesel Exhaust Fluid System
- Diesel Particulate Filter
- Electronic Ignition System (diesel only)
- Electronic Engine Control Sensors and Switches
- Powertrain Control Module (PCM)/Engine Control Module (ECM)\*
- Evaporative Emission Control System
- Exhaust Gas Recirculation (EGR) System
- Exhaust Manifold
- Exhaust Pipe (Manifold to Catalyst)
- Fuel Filler Tube and Seal (non-diesel only)
- Fuel Injection System
- Fuel Injector Supply Manifold
- Fuel Tank (non-diesel only)
- Fuel Tank Pressure Control Valve
- Ignition Coil and/or Control Module
- Intake Manifold
- Intercooler Assembly - Engine Charger
- Malfunction Indicator Lamp (MIL)/On-Board Diagnostic (OBD) System
- PCV system and Oil Filler Cap
- Secondary Air Injection System
- Spark Control Components
- Spark Plugs and Ignition Wires
- Thermostat
- Throttle Body Assembly (MFI)
- Transmission Control Module (TCM) and Solenoids
- Turbocharger Assembly
- Vacuum Distribution System

\* Includes hardware and emissions related software changes only

### **Important Information About List of Parts**

Also covered by the two emissions warranties are all emissions-related bulbs, hoses, clamps, brackets, tubes, gaskets, seals, belts, connectors, non-diesel fuel lines, sensors, and wiring harnesses that are used with components on the list of parts, above.

Concerning parts that should be replaced on a certain maintenance schedule: these parts remain under warranty until : (a) the first replacement time that is specified in your **Owner's Manual**; or (b) the time or mileage limits of the Federal Defect and Performance Warranties (whichever occurs first). Your Ford Motor Company dealer maintains a complete list of parts covered by the emissions performance warranty. For questions about emission-related parts, contact your dealer.

### **WHAT IS NOT COVERED?**

Ford Motor Company may deny you emissions warranty coverage if your vehicle or a part does not contain an emissions-related defect or has failed because of abuse, neglect, improper maintenance, unapproved modifications, or any items included in **What Is Not Covered?**, pages 12-15.

If you need more information about getting service under the **Federal Emissions Performance Warranty**, or if you want to report what you believe to be violations of the terms of this warranty, you may contact:

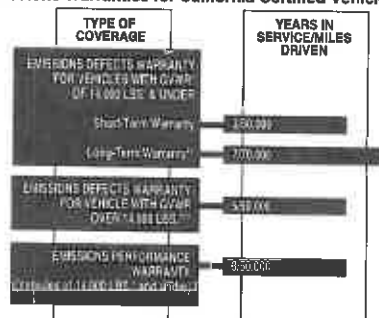
**U.S. Environmental Protection Agency  
Office of Transportation and Air Quality  
Compliance Division, Light-Duty Vehicle Group  
Attn: Warranty Complaints  
2000 Traverwood Drive  
Ann Arbor, MI 48105  
Email: [complianceinfo@epa.gov](mailto:complianceinfo@epa.gov)**

## 6. California requirements for emissions warranties

### QUICK REFERENCE: EMISSIONS WARRANTY COVERAGE

This chart shows the emission warranty that Ford Motor Company provides for your vehicle under the emissions control warranty in accordance with the regulations of the California Air Resources Board. This coverage is in addition to Federal Emission warranties (Page 17).

Emissions Warranties for California Certified Vehicles



- \* Gross Vehicle Weight Rating
- \*\* These specific parts were selected on the basis of their estimated replacement cost at the time the California Air Resources Board certified your vehicle for sale in California (up to 14,000 GVWR).
- \*\*\* Diesel engine vehicles over 14,000 pounds GVWR are covered for 5 years or 100,000 miles.



## Vehicles Eligible for California Emission Warranty Coverage

California emission warranty coverage applies if your vehicle meets the following two requirements:

- Your vehicle is registered in a state<sup>1</sup> that has adopted and is enforcing California emission warranty regulations applicable for your vehicle at the time of repair, and
- Your vehicle is certified for sale in California as indicated on the vehicle emission control information label.

<sup>1</sup> Subject to change, the following states have adopted and are enforcing California emission warranty regulations:

- **Passenger Car & Light-duty Trucks** (up to 8,500 pounds GVWR) - California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington
- **Medium-Duty Passenger Vehicles** (up to 10,000 pounds GVWR designed primarily for the transportation of persons. Excludes incomplete trucks, trucks with a seating capacity either over twelve persons total or over nine persons rearward of the driver's seat, or trucks with an open cargo area of at least six feet of interior length): California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New York, Oregon, Rhode Island, Vermont and Washington
- **Medium-Duty Vehicles** (over 8,500 pounds GVWR up to 14,000 pounds GVWR) - California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New York, Oregon, Rhode Island, and Vermont.
- **Light Heavy-Duty Diesel Engine Vehicles** (over 14,000 pounds GVWR up to 19,500 pounds GVWR) - California, Maine and Pennsylvania.

For full details about coverage under California requirements for emissions control, see:

- ➔ **Defects Warranties** (pages 24-28)
- ➔ **Performance Warranty** (pages 24-25)
- ➔ **What Is Covered?** (pages 26-27)
- ➔ **What Is Not Covered?** (page 27)

## **EXPLANATION OF CALIFORNIA EMISSIONS WARRANTIES**

### **Your Warranty Rights and Obligations**

The California Air Resources Board and Ford Motor Company are pleased to explain the emission control system warranty on your 2019-model vehicle. In California, new motor vehicles must be designed, built, and equipped to meet the State's stringent anti-smog standards. Ford must warrant the emission control system on your vehicle for the periods of time listed on pages 24-26, provided there has been no abuse, neglect, or improper maintenance of your vehicle.

Your emission control system may include parts such as the fuel injection system, the ignition system, catalytic converter, and the engine computer. Also included may be hoses, belts, connectors, and other emissions-related assemblies.

Where a warrantable condition exists, Ford Motor Company will repair your vehicle at no cost to you including diagnosis, parts, and labor.

### **Manufacturer's Warranty Coverage**

#### For Vehicles Eligible for California Emission Warranty Coverage

If Gross Vehicle Weight Rating is 14,000 lbs. or less:

For 3 years or 50,000 miles (whichever first occurs):

1. If your vehicle fails a Smog Check inspection, all necessary repairs and adjustments will be made by Ford to ensure that your vehicle passes the inspection. This is your emission control system PERFORMANCE WARRANTY.
2. If any emissions-related part on your vehicle is defective, the part will be repaired or replaced by Ford. This is your short-term emission control system DEFECTS WARRANTY.

For 7 years or 70,000 miles (whichever first occurs):

If a high-priced emissions-related part is defective or if its failure causes your vehicle to fail a Smog Check inspection, the part will be repaired or replaced by Ford. This is your long-term emission control system DEFECTS WARRANTY.

For a list of the high-priced emission-related parts that are covered for 7 years or 70,000 miles, go to [www.owner.ford.com](http://www.owner.ford.com) / Owner Manuals. Select the list that corresponds to the model and the model year of your vehicle. NOTE: This list is vehicle specific and may not be the same for all vehicles. It is based on the replacement cost of each specific part, which can vary between vehicle lines.

If Gross Vehicle Weight rating is over 14,000 lbs.:

For 5 years or 50,000 miles (gasoline powered engines and vehicles) or 5 years or 100,000 miles (diesel powered engines and vehicles) (whichever first occurs):

If an emissions-related part on your vehicle is defective, the part will be repaired or replaced by Ford. This is your emission control system  
DEFECTS WARRANTY.

## **Owner's Warranty Responsibilities**

As the vehicle owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Ford Motor Company recommends that you retain all receipts covering maintenance on your vehicle, but Ford cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

You are responsible for presenting your vehicle to a Ford Motor Company dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

As the vehicle owner, you should also be aware that Ford Motor Company may deny you warranty coverage if your vehicle or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

If you have any questions regarding your warranty rights and responsibilities, or if you want to report what you believe to be violations of the terms of this warranty, you may contact the Ford Customer Relationship Center at 1-800-392-3673 (FORD) or the California Air Resources Board at:

**California Air Resources Board**  
9528 Telstar Avenue  
El Monte, California 91731

## WHAT IS COVERED?

If the parts on the following list contains a defect that affects emissions, they are covered by the Defects Warranties.

- Air Flow Sensor
- Air/Fuel Feedback Control System and Sensors
- Air Induction System
- Catalytic Converters (including Selective Catalytic Reduction and Diesel Oxidation Catalysts)
- Cold Start Enrichment System (diesel only)
- Controls for Deceleration (diesel only)
- Diesel Exhaust Fluid System
- Diesel Particulate Filter
- Electronic Ignition System (diesel only)
- Electronic Engine Control Sensors and Switches
- Powertrain Control Module (PCM)/Engine Control Module (ECM)\*
- Evaporative Emission Control System
- Exhaust Gas Recirculation (EGR) System
- Exhaust Manifold
- Exhaust Pipe (Manifold to Catalytic)
- Fuel Filler Tube and Seal (non-diesel only)
- Fuel Injection System
- Fuel Injector Supply Manifold
- Fuel Tank (non-diesel only)
- Fuel Tank Pressure Control Valve
- Ignition Coil and/or Control Module
- Intake Manifold
- Intercooler Assembly - Engine Charger
- Malfunction Indicator Lamp (MIL)/On-Board Diagnostic (OBD) System
- PCV System and Oil Filler Cap
- Secondary Air Injection System
- Spark Control Components
- Spark Plugs and Ignition Wires
- Thermostat
- Throttle Body Assembly (MT)
- Transmission Control Module (TCM) and Solenoids
- Turbocharger Assembly
- Vacuum Distribution System

\* Includes hardware and emissions related software changes only

### **Important Information about List of Parts**

There may be additional coverage for these parts through the Bumper to Bumper, Powertrain, or Diesel Engine limited warranties. In any case, the warranty with the broadest coverage applies.

Also covered by this warranty are all emissions-related bulbs, hoses, clamps, brackets, tubes, gaskets, seals, belts, connectors, non diesel fuel lines, and wiring harnesses that are used with components on the list of parts above.

Concerning parts that should be replaced on a certain maintenance schedule: these parts remain under warranty until the first required replacement time that is specified in your **Owner's Manual**.

**NOTE:** If the diagnosis does not reveal a defect, the Defects Warranty does not apply.

Your Ford Motor Company dealer maintains a complete list of covered parts. For more details about the specific parts that are covered by the Defects Warranty, contact your dealer.

### **WHAT IS NOT COVERED?**

Ford Motor Company may deny you emissions warranty coverage if your vehicle or a part does not contain a defect that affects emissions or has failed because of abuse, neglect, improper maintenance, unapproved modifications, or any items included in **What Is Not Covered?**, pages 12-15.

## **7. Additional information about your emissions warranty coverage, under Federal and California requirements**

### **HOW DO I GET WARRANTY SERVICE?**

To get service under your emissions warranties, take your vehicle to any Ford Motor Company dealer as soon as possible after illumination of the Malfunction Indicator Light or it has failed an EPA-approved test or a California Smog Check inspection. Be sure to show the dealer the document that says your vehicle has failed the test.

Your dealer will determine whether the repair is covered by the warranty. If the dealer has a question about Emissions Performance Warranty coverage, it will forward the question to Ford Motor Company, which must make a final decision within 30 days after you bring your vehicle in for repair. (The decision will be made within a shorter time if state, local, or federal law requires you to have the vehicle repaired more quickly in order to avoid additional penalties.) The deadline for a determination about Emissions Performance Warranty Coverage does not need to be met if you request a delay, agree to a delay in writing, or if the delay is caused by an event for which neither Ford nor your dealer is responsible. If a question about Emissions Performance Warranty coverage is referred to Ford Motor Company, you will be notified by Ford Motor Company in writing if your claim for warranty coverage is denied. The notice will explain the basis for denying your claim. If you fail to receive this notice within a timely manner, as determined above, Ford will perform the warranty repair for you free of charge.

### **HOW DO I HANDLE EMERGENCY REPAIRS?**

If your vehicle needs an emergency warrantable repair and a Ford Motor Company dealer is not available, or if a Ford Motor Company dealer cannot perform warrantable repair(s) within 30 days of you bringing your vehicle to the dealer, repairs may be performed at any service establishment or by you using Ford equivalent replacement parts.

Ford will reimburse you for the cost of these warranty repairs including diagnosis, if you take the part(s) that are replaced and the repair receipt(s) to a Ford Motor Company dealer. The reimbursement shall not exceed Ford's suggested retail price for the warranted parts that are replaced and labor charges based on Ford's recommended time allowance for the warranty repair and the geographically appropriate hourly rate.

## **WHAT REPLACEMENT PARTS SHOULD I USE?**

Ford Motor Company recommends that you use genuine Ford replacement parts. However, when you are having non-warranty work done on your vehicle, you may choose to use non-Ford parts. If you decide to use non-Ford parts, be sure they are equivalent to Ford parts in performance, quality, and durability. If you use replacement parts that are not equivalent to Ford parts, your vehicle's emissions control systems may not work as effectively, and you may jeopardize your emissions warranty coverage.

Under the Federal and California emissions warranties, Ford will repair or replace covered parts if they are properly installed, Ford parts or the equivalent, or non-Ford parts that have been certified by the U.S. EPA or the California Air Resources Board (CARB). Ford is not responsible for the cost of repairing or replacing non-Ford parts that are not equivalent to Ford parts or that have not been certified by EPA or CARB.

**The maintenance, replacement, or repair of emissions control devices or systems can be performed by any automotive repair establishment or individual using Ford replacement parts or the equivalent, or EPA- or CARB-certified parts, without voiding your emissions warranty coverage for future repairs during the applicable warranty period.**

## **PROPER MAINTENANCE PRESERVES YOUR WARRANTY**

If you do not maintain your vehicle properly, Ford may have the right to deny you warranty coverage.

To have repairs made under this warranty, you may have to show that you have followed Ford's instructions on properly maintaining and using your vehicle. You will find these instructions in your **Owner's Manual**. Be sure to save your service receipts and to keep accurate records of all maintenance work.

## **CUSTOMER ASSISTANCE**

If you are not satisfied with the handling of a warranty matter, see **Customer Assistance**, on the inside front cover, and **Better Business Bureau (BBB) AUTO LINE program**, page 32.



## **5. Noise emissions warranty**

### **NOISE EMISSIONS WARRANTY FOR CERTAIN LIGHT TRUCKS**

Ford Motor Company warrants to the first person who purchases this vehicle for purposes other than resale and to each subsequent purchaser that this vehicle as manufactured by Ford, was designed, built and equipped to conform at the time it left Ford's control with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by Ford Motor Company, and is not limited to any particular part, component or system of the vehicle as manufactured by Ford. Defects in design, assembly or in any part, component or system of the vehicle as manufactured by Ford, which, at the time it left Ford's control, caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.

#### **THE NOISE EMISSIONS WARRANTY OBLIGATIONS DO NOT APPLY TO:**

- loss of time, inconvenience, loss of use of the vehicle, commercial loss or, other consequential damages.
- any vehicle which is not covered by the U.S. EPA Medium and Heavy Trucks Noise Emission Standards (40 C.F.R. Part 205, Subpart B). Among the non-covered vehicles are those lacking a partially or fully enclosed operator's compartment, such as a basic stripped chassis, those having a Gross Vehicle Weight Rating of 10,000 pounds or less, and those sold outside the United States and its territories. To the extent permitted by law, **THIS WARRANTY IS EXPRESSLY INSTEAD** of any express or implied warranty, condition, or guarantee, agreement, or representation, by any person with respect to conformity of this vehicle with the U.S. EPA Noise Control Regulations, including **ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS.**

## 9. Ford Protect Extended Service Plan

### MORE PROTECTION FOR YOUR VEHICLE

You can get more protection for your new car or light truck by purchasing a Ford Protect Extended Service Plan (Ford Protect ESP). Ford Protect ESP service contracts are backed by Ford Motor Company or subsidiaries of Ford Motor Company (examples are but not limited to: Ford Motor Service Company or the American Road Insurance Company). Ford Protect plans provide up to 8 years and 150,000 miles of coverage.

They provide:

- benefits during the warranty period, depending on the plan you purchase can be: reimbursement for a rental vehicle, protecting against tire and wheel road hazard damage, coverage for certain maintenance and wear items, lost key replacement, other plans are available;
- protection against covered repair costs and continuing Roadside Service Assistance benefits after your Bumper to Bumper Warranty expires.

You may purchase Ford Protect ESP from any Ford Motor Company dealer or see our website at [Ford-ESP.com](http://Ford-ESP.com). There are several Ford Protect ESP plans available in various time, distance and deductible combinations. Each plan is tailored to fit your own driving and vehicle ownership needs, including reimbursement for towing and rental.

When you purchase Ford Protect ESP, you receive peace-of-mind protection throughout the United States, Canada and Mexico, provided by a network of more than 4,600 Ford Motor Company dealers.

**NOTE:** Repairs performed outside the United States, Canada, Mexico, Guam or Puerto Rico, Virgin Islands, American Samoa, and District of Columbia are not eligible for Ford Protect ESP coverage.

This information is subject to change. Ask your dealer for complete details about Ford Protect ESP coverage.

### **Owner's Warranty Responsibilities**

As the vehicle owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Ford Motor Company recommends that you retain all receipts covering maintenance on your vehicle, but Ford cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

You are responsible for presenting your vehicle to a Ford Motor Company dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

As the vehicle owner, you should also be aware that Ford Motor Company may deny you warranty coverage if your vehicle or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

If you have any questions regarding your warranty rights and responsibilities, or if you want to report what you believe to be violations of the terms of this warranty, you may contact the Ford Customer Relationship Center at 1-800-392-3673 (FORD) or the California Air Resources Board at:

**California Air Resources Board**  
**9528 Telstar Avenue**  
**El Monte, California 91731**

## WHAT IS COVERED?

If the parts on the following list contains a defect that affects emissions, they are covered by the Defects Warranties.

- Air Flow Sensor
- Air/Fuel Feedback Control System and Sensors
- Air Induction System
- Catalytic Converters (including Selective Catalytic Reduction and Diesel Oxidation Catalysts)
- Cold Start Enrichment System (diesel only)
- Controls for Deceleration (diesel only)
- Diesel Exhaust Fluid System
- Diesel Particulate Filter
- Electronic Ignition System (diesel only)
- Electronic Engine Control Sensors and Switches
- Powertrain Control Module (PCM)/Engine Control Module (ECM)\*
- Evaporative Emission Control System
- Exhaust Gas Recirculation (EGR) System
- Exhaust Manifold
- Exhaust Pipe (Manifold to Catalyst)
- Fuel Filler Tube and Seal (non-diesel only)
- Fuel Injection System
- Fuel Injector Supply Manifold
- Fuel Tank (non-diesel only)
- Fuel Tank Pressure Control Valve
- Ignition Coil and/or Control Module
- Intake Manifold
- Intercooler Assembly - Engine Charger
- Malfunction Indicator Lamp (MIL)/On-Board Diagnostic (OBD) System
- PCV System and Oil Filler Cap
- Secondary Air Injection System
- Spark Control Components
- Spark Plugs and Ignition Wires
- Thermostat
- Throttle Body Assembly (MFI)
- Transmission Control Module (TCM) and Solenoids
- Turbocharger Assembly
- Vacuum Distribution System

\* Includes hardware and emissions related software changes only

### **Important Information about List of Parts**

There may be additional coverage for these parts through the Bumper to Bumper, Powertrain, or Diesel Engine limited warranties. In any case, the warranty with the broadest coverage applies.

Also covered by this warranty are all emissions-related bulbs, hoses, clamps, brackets, tubes, gaskets, seals, belts, connectors, non diesel fuel lines, and wiring harnesses that are used with components on the list of parts above.

Concerning parts that should be replaced on a certain maintenance schedule: these parts remain under warranty until the first required replacement time that is specified in your **Owner's Manual**.

**NOTE:** If the diagnosis does not reveal a defect, the Defects Warranty does not apply.

Your Ford Motor Company dealer maintains a complete list of covered parts. For more details about the specific parts that are covered by the Defects Warranty, contact your dealer.

### **WHAT IS NOT COVERED?**

Ford Motor Company may deny you emissions warranty coverage if your vehicle or a part does not contain a defect that affects emissions or has failed because of abuse, neglect, improper maintenance, unapproved modifications, or any items included in **What Is Not Covered?**, pages 12-15.

## **7. Additional information about your emissions warranty coverage, under Federal and California requirements**

### **HOW DO I GET WARRANTY SERVICE?**

To get service under your emissions warranties, take your vehicle to any Ford Motor Company dealer as soon as possible after illumination of the Malfunction Indicator Light or it has failed an EPA-approved test or a California Smog Check inspection. Be sure to show the dealer the document that says your vehicle has failed the test.

Your dealer will determine whether the repair is covered by the warranty. If the dealer has a question about Emissions Performance Warranty coverage, it will forward the question to Ford Motor Company, which must make a final decision within 30 days after you bring your vehicle in for repair. (The decision will be made within a shorter time if state, local, or federal law requires you to have the vehicle repaired more quickly in order to avoid additional penalties.) The deadline for a determination about Emissions Performance Warranty Coverage does not need to be met if you request a delay, agree to a delay in writing, or if the delay is caused by an event for which neither Ford nor your dealer is responsible. If a question about Emissions Performance Warranty coverage is referred to Ford Motor Company, you will be notified by Ford Motor Company in writing if your claim for warranty coverage is denied. The notice will explain the basis for denying your claim. If you fail to receive this notice within a timely manner, as determined above, Ford will perform the warranty repair for you free of charge.

### **HOW DO I HANDLE EMERGENCY REPAIRS?**

If your vehicle needs an emergency warrantable repair and a Ford Motor Company dealer is not available, or if a Ford Motor Company dealer cannot perform warrantable repair(s) within 30 days of you bringing your vehicle to the dealer, repairs may be performed at any service establishment or by you using Ford equivalent replacement parts.

Ford will reimburse you for the cost of these warranty repairs including diagnosis, if you take the part(s) that are replaced and the repair receipt(s) to a Ford Motor Company dealer. The reimbursement shall not exceed Ford's suggested retail price for the warranted parts that are replaced and labor charges based on Ford's recommended time allowance for the warranty repair and the geographically appropriate hourly rate.

### **WHAT REPLACEMENT PARTS SHOULD I USE?**

Ford Motor Company recommends that you use genuine Ford replacement parts. However, when you are having non-warranty work done on your vehicle, you may choose to use non-Ford parts. If you decide to use non-Ford parts, be sure they are equivalent to Ford parts in performance, quality, and durability. If you use replacement parts that are not equivalent to Ford parts, your vehicle's emissions control systems may not work as effectively, and you may jeopardize your emissions warranty coverage.

Under the Federal and California emissions warranties, Ford will repair or replace covered parts if they are properly installed Ford parts or the equivalent, or non-Ford parts that have been certified by the U.S. EPA or the California Air Resources Board (CARB). Ford is not responsible for the cost or repairing or replacing non-Ford parts that are not equivalent to Ford parts or that have not been certified by EPA or CARB.

**The maintenance, replacement, or repair of emissions control devices or systems can be performed by any automotive repair establishment or individual using Ford replacement parts or the equivalent, or EPA- or CARB-certified parts, without voiding your emissions warranty coverage for future repairs during the applicable warranty period.**

### **PROPER MAINTENANCE PRESERVES YOUR WARRANTY**

If you do not maintain your vehicle properly, Ford may have the right to deny you warranty coverage.

To have repairs made under this warranty, you may have to show that you have followed Ford's instructions on properly maintaining and using your vehicle. You will find these instructions in your **Owner's Manual**. Be sure to save your service receipts and to keep accurate records of all maintenance work.

### **CUSTOMER ASSISTANCE**

If you are not satisfied with the handling of a warranty matter, see **Customer Assistance**, on the inside front cover, and **Better Business Bureau (BBB) AUTO LINE program**, page 32.

## **8. Noise emissions warranty**

### **NOISE EMISSIONS WARRANTY FOR CERTAIN LIGHT TRUCKS**

Ford Motor Company warrants to the first person who purchases this vehicle for purposes other than resale and to each subsequent purchaser that this vehicle as manufactured by Ford, was designed, built and equipped to conform at the time it left Ford's control with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by Ford Motor Company, and is not limited to any particular part, component or system of the vehicle as manufactured by Ford. Defects in design, assembly or in any part, component or system of the vehicle as manufactured by Ford, which, at the time it left Ford's control, caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.

#### **THE NOISE EMISSIONS WARRANTY OBLIGATIONS DO NOT APPLY TO:**

- loss of time, inconvenience, loss of use of the vehicle, commercial loss or, other consequential damages.
- any vehicle which is not covered by the U.S. EPA Medium and Heavy Trucks Noise Emission Standards (40 C.F.R. Part 205, Subpart B). Among the non-covered vehicles are those lacking a partially or fully enclosed operator's compartment, such as a basic stripped chassis, those having a Gross Vehicle Weight Rating of 10,000 pounds or less, and those sold outside the United States and its territories. To the extent permitted by law, THIS WARRANTY IS EXPRESSLY INSTEAD of any express or implied warranty, condition, or guarantee, agreement, or representation, by any person with respect to conformity of this vehicle with the U.S. EPA Noise Control Regulations, including ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS.



## 8. Ford Protect Extended Service Plan

### MORE PROTECTION FOR YOUR VEHICLE

You can get more protection for your new car or light truck by purchasing a Ford Protect Extended Service Plan (Ford Protect ESP). Ford Protect ESP service contracts are backed by Ford Motor Company or subsidiaries of Ford Motor Company (examples are but not limited to: Ford Motor Service Company or the American Road Insurance Company). Ford Protect plans provide up to 8 years and 150,000 miles of coverage.

They provide:

- benefits during the warranty period, depending on the plan you purchase can be: reimbursement for a rental vehicle, protecting against tire and wheel road hazard damage, coverage for certain maintenance and wear items, lost key replacement, other plans are available;
- protection against covered repair costs and continuing Roadside Service Assistance benefits after your Bumper to Bumper Warranty expires.

You may purchase Ford Protect ESP from any Ford Motor Company dealer or see our website at [Ford-ESP.com](http://Ford-ESP.com). There are several Ford Protect ESP plans available in various time, distance and deductible combinations. Each plan is tailored to fit your own driving and vehicle ownership needs, including reimbursement for towing and rental.

When you purchase Ford Protect ESP, you receive peace-of-mind protection throughout the United States, Canada and Mexico, provided by a network of more than 4,600 Ford Motor Company dealers.

**NOTE:** Repairs performed outside the United States, Canada, Mexico, Guam or Puerto Rico, Virgin Islands, American Samoa, and District of Columbia are not eligible for Ford Protect ESP coverage.

This information is subject to change. Ask your dealer for complete details about Ford Protect ESP coverage.

## **10. The Better Business Bureau (BBB) AUTO LINE Program (U.S. Only)**

Your satisfaction is important to Ford Motor Company and to your dealer. If a warranty concern has not been resolved using the three-step procedure outlined on the first page of the Customer Assistance section, you may be eligible to participate in the BBB AUTO LINE program.

The BBB AUTO LINE program consists of two parts — mediation and arbitration. During mediation, a representative of the BBB will contact both you and Ford Motor Company to explore options for settlement of the claim. If an agreement is not reached during mediation and your claim is eligible, you may participate in the arbitration process. An arbitration hearing will be scheduled so that you can present your case in an informal setting before an impartial person. The arbitrator will consider the testimony provided and make a decision after the hearing.

You are not bound by the decision, but should you choose to accept the BBB AUTO LINE decision, Ford must abide by the accepted decision as well. Disputes submitted to the BBB AUTO LINE program are usually decided within forty days after you file your claim with the BBB.

BBB AUTO LINE Application: Using the information provided below, please call or write to request a program application. You will be asked for your name and address, general information about your new vehicle, information about your warranty concerns, and any steps you have already taken to try to resolve them. A Customer Claim Form will be mailed that will need to be completed, signed, and returned to the BBB along with proof of ownership. Upon request, the BBB will review the claim for eligibility under Program Summary Guidelines.

**You can get more information by calling BBB AUTO LINE at 1-800-955-5100, or writing to:**

**BBB AUTO LINE  
3033 Wilson Boulevard, Suite 600  
Arlington, Virginia 22201**

BBB AUTO LINE applications can also be requested by calling the Ford Motor Company Customer Relationship Center at 1-800-392-3673.

**Note:** Ford Motor Company reserves the right to change eligibility limitations, modify procedures, or to discontinue this process at any time without notice and without obligation.

## **11. State warranty enforcement laws**

These state laws - sometimes called lemon laws - allow owners to receive a replacement vehicle or a refund of the purchase price, under certain circumstances. The laws vary from state to state.

To the extent your state law allows, Ford Motor Company requires that you first send us a written notification of any defects or non-conformities that you have experienced with your vehicle. (This will give us the opportunity to make any needed repairs before you pursue the remedies provided by your state's law.)

In all other states where not specifically required by state law, Ford Motor Company requests that you give us the written notice. Send your written notification to:

**Ford Motor Company**  
**Customer Relationship Center**  
**P.O. Box 6248**  
**Dearborn, MI 48126**

## 12. Important information about ambulance conversions

Ford vehicles are suitable for producing ambulances only if equipped with the **Ford Ambulance Prep Package**. In addition, Ford urges ambulance manufacturers to follow the recommendations of the **Ford Incomplete Vehicle Manual** and the **Ford Truck Body Builders Layout Book** (and pertinent supplements).

**Using a Ford vehicle without the Ford Ambulance Prep Package to produce an ambulance could result in elevated underbody temperatures, fuel overpressurization, and the risk of fuel expulsion and fires. Such use also voids the Ford Bumper to Bumper Warranty and may void the Emissions Warranties.**

You may determine whether the vehicle is equipped with the **Ford Ambulance Prep Package** by inspecting the information plate on the driver's rear door pillar.

You may determine whether the ambulance manufacturer has followed Ford's recommendations by contacting the ambulance manufacturer of your vehicle.

**Gateway**

**INTERMOTIVE**  
**VEHICLE**  
**CONTROLS**

An ISO 9001:2015 Registered Company

# Gateway

## High Idle and Shift Interlock System

### Overview

- All-in-one wheelchair interlock and high idle system to ensure full functionality of the vehicle's systems while using the lift
- Provides battery charge protection and improves air conditioning performance
- System is fully compliant with FMVSS 403/404 and the Americans with Disabilities Act (ADA) for wheelchair lift interlocks
- Simple plug and play connections to the OEM chassis

### Features

- Prevents vehicle movement while the lift is in use by locking the shifter in Park
- Monitors OEM sensor inputs from the transmission, engine, charging system and ambient air temperature
- Programmable RPM for high idle
- Prevents driving with the park brake set
- Can provide real-time chassis data
- Diagnostic trouble codes available
- Uses Intermittent Fault Filter™ (IFF) technology to eliminate erroneous lift door signals

*Product features may vary by make, model or year. See instructions for complete details.*

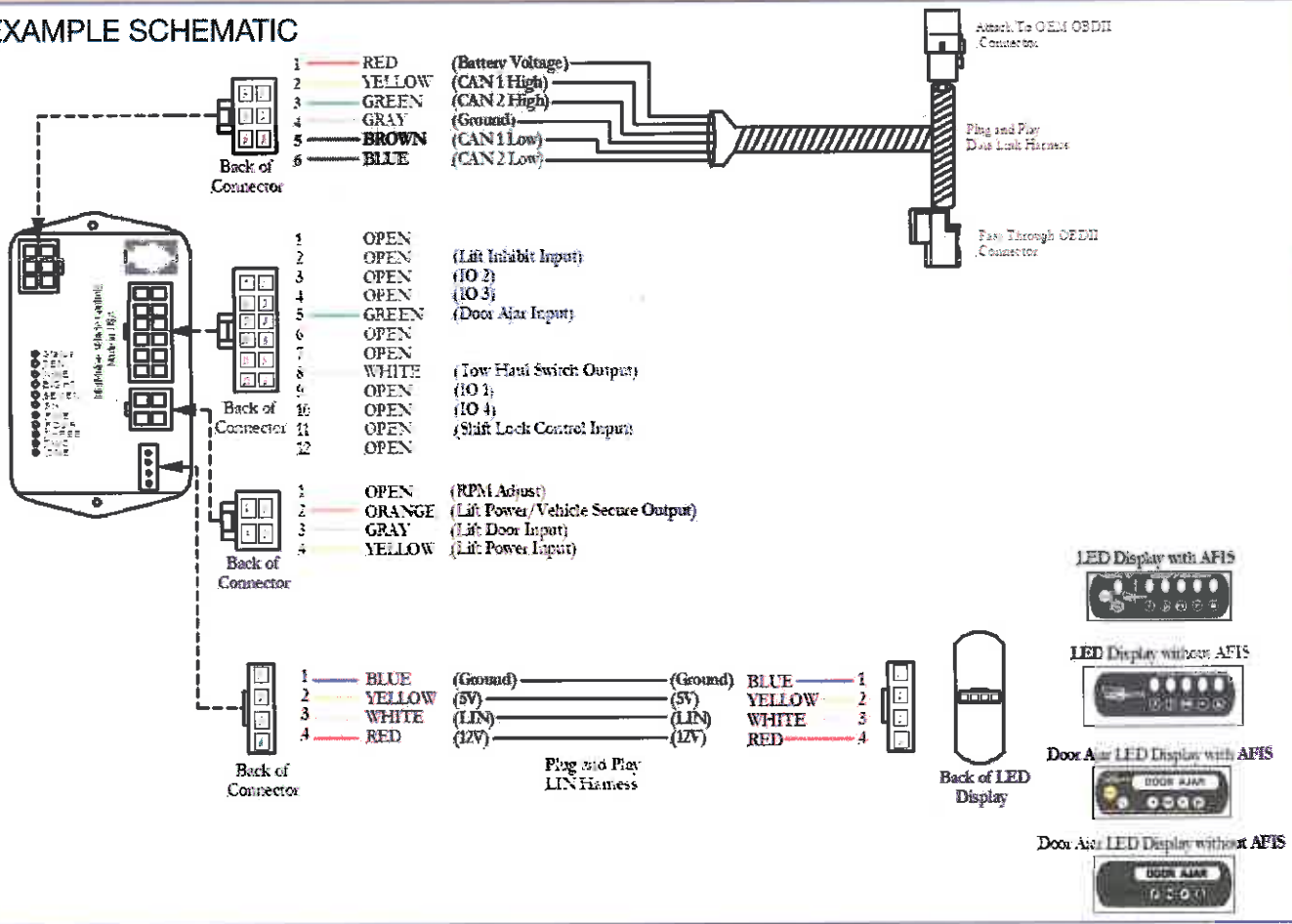
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AUTOMOTIVE TECHNOLOGIES

**(775) 831-2002**

# Details

## EXAMPLE SCHEMATIC



## SPECIFICATIONS

**Number of Inputs**

Five inputs (lift inhibit, door ajar, shift lock, lift door and RPM adjust)

**Number of Outputs**

Four configurable outputs, plus one lift power/vehicle secure output and one tow haul switch output

**Current Draw**

~120 mA

**Quiescent Draw**

~2 mA (sleep current)

**CAN Speed**

High and medium speed

**Temperature Range**

-40°C to 80°C

**Dimensions**

4" L x 2" W x 1" H



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An ISO 9001:2000 Registered Company

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### LIMITED WARRANTY

#### WARRANTY PERIOD

InterMotive warrants the product for the period of one year from the date the product was shipped from InterMotive or two years from the in-service date (if the warranty registration is completed on-line) for products that fail to function properly under normal use because of a manufacturing defect when installed and operated according to the manufacturer's instructions. The product will be repaired or replaced, at InterMotive's discretion, with a comparable product without charge.

- **Diagnostics** - A service facility diagnosing, installing, and/or repairing a product must follow the proper InterMotive procedures/documents – reference [www.intermotive.net](http://www.intermotive.net) or call 530-823-1048.
- **Labor Reimbursement** - Contact InterMotive **prior** to commencing diagnostic/repair for information on allowable labor reimbursements.
- **Return Goods Authorization** - The customer must contact InterMotive with the product serial number and obtain an RGA number prior to shipping the product to InterMotive.
- **Return Packaging** - The part being returned must have the RGA number and a detailed description of the symptom(s) or issue(s) the product is exhibiting attached to it. Packages received without an RGA number written on the outside will be refused delivery and returned to the customer at their expense.
- **Shipping** – Shipping is the initial responsibility of the customer. If the product is determined to be warrantable and is repaired or replaced, InterMotive will pay for shipping to and from the repairing facility for the repaired/replaced product via ground shipping. If the product does not qualify for a warranty repair or replacement, the customer is responsible for return shipping costs.

#### LIMITATION ON LIABILITY

InterMotive will not be liable for personal injury, loss or damage to property or any incidental or consequential loss or expense from property damage due directly or indirectly from the use or installation of this product.

InterMotive does not cover vehicle towing, travel, food, lodging, vehicle rental, loss of time or loss of vehicle use

### PRODUCT RETURN POLICY

Non-warranty returns will be accepted if made within 30 days of date of purchase. Items over 90 days are not eligible for refunds. The customer must contact InterMotive with the product serial number and obtain a Returned Goods Authorization (RGA) number prior to returning product. The customer is responsible for paying all shipping costs back to InterMotive, Inc. All non-warranty returns must be intact, in working and re-saleable condition (i.e. no cut wires, worn or damaged modules, etc.). Non-warranty merchandise returns will be subject to a 25% re-stocking fee. Unless otherwise requested, credit will be applied to the customer's account for accepted returns. Non-warranty returns not in re-saleable condition will be subject to a price deduction from the total credit issued. Custom designed or special order products are NOT returnable for any reason other than warranty or repair purposes as described below.

### Refunds and Credit

Unless requested in writing for unusual circumstances at the time of a merchandise return, InterMotive Inc. does not issue refunds. Credit will be applied to the customer's account per the terms described within this return policy. Verbal or implied deviations from this return policy are accepted at the sole discretion of InterMotive Inc. InterMotive Inc. will suspend credit privileges for customers who practice "charging back" without authorization from InterMotive Inc. The withholding of payment or taking unauthorized credit for merchandise returns will be exclusively managed by InterMotive Inc. per the terms described within this return policy



# COMMERCIAL GRADE BACKUP CAMERA SYSTEM RVS - 082507

**RVS**  
SYSTEMS  
A Safe Fleet Brand



This backup camera system is complete with a crystal clear 7" LED Digital Panel color monitor with distance grid lines and mirror image capability, a 3 channel multiplexer with automatic system switch, a 130° SHARP® CCD backup camera with 50 foot in-fra-red night vision and all the wires, connectors and mounts you will need. The rear view camera system is completely weatherproof with an IP69K rating, strong and reliable, shock resistant, with a 20G vibration and 100G impact rating (highest in the industry) and comes with a full year warranty.



System can be upgraded to a quad view monitor with the capability to connect 4 cameras.

# BACKUP CAMERA SYSTEM

## RVS - 082507

- COMPLETELY WEATHERPROOF WITH AN IP69K RATING
- 7" LED DIGITAL PANEL COLOR MONITOR WITH MIRROR IMAGE CAPABILITY
- 1/3 SHARP® COLOR CCD, 410K PIXELS, 2.5 MM WIDE LENS WITH 130° ANGLE
- 3 CHANNELS ALLOWING YOU TO CONNECT ADDITIONAL CAMERAS
- SHOCK RESISTANT WITH A 20G VIBRATION AND 100G IMPACT RATING



### MONITOR

PANEL SIZE	7" LED DIGITAL PANEL
DOT RESOLUTION	800 X 3 (RGB) X 480
SCREEN MODE	16:09
CONTRAST RATIO	500:07:00
DISPLAY BRIGHTNESS	400CD/m <sup>2</sup>
FIELD OF VIEW	U:50° D:60° L/R:70°
CAMERA INPUT	3 CHANNEL
VIDEO SOURCE	1VP - P, 75Ω
POWER SUPPLY	DC 9V-32V
POWER CONSUMPTION	5W
OPERATING TEMPERATURE	-20°C - +70° C
STORAGE TEMPERATURE	-30°C - +85°C
VIDEO SYSTEM	AUTO NTSC/PAL
OVERALL DIMENSIONS	7" (L) X 5.25" (H) X 1" (D)
WEIGHT	400G
VIBRATION RATING	5G
DOT PITCH	0.1926 (H) X 0.1710 (V)
SYNC SYSTEM	INTERNAL

### CAMERA

CAMERA	1/3" SHARP® COLOR CCD
PICTURE ELEMENTS	410,000 PIXELS
GAMMA CORRECTION	R=0.45 TO 1.0
IMAGE SENSOR	620 TV LINES, PAL: 752 (H) X 582 (V), NTSC: 811 (H) X 507 (V)
LENS	2.5MM
VIEW ANGLE	130°
WATERPROOF RATING	IP69K
SYNC SYSTEM	INTERNAL SYNCHRONIZATION
INFRA-RED DISTANCE	50 FEET (18 INFRARED)
USABLE ILLUMINATION	0 LUX (IR ON)
POWER SOURCE	DC 9V-32V
S/N RATIO	MORE THAN 48DB
ELECTRONIC IRIS	1/50, 1/60-1/100,000SEC
VIDEO OUTPUT	1VP - P, 75Ω
IR SWITCH CONTROL	ACDS AUTOMATIC CONTROL
VIBRATION AND IMPACT RATING	20G / 100G
OPERATING TEMPERATURE	-40°C - +70°C / RH 95% MAX
STORAGE TEMPERATURE	-40°C - +85°C / RH 95% MAX
NET WEIGHT	220Z

# Warranty

## One Year Warranty

Rear View Safety, Inc. warrants this product against material defects for a period of one year from date of purchase. We reserve the right to repair or replace any such defective unit at our sole discretion. Rear View Safety, Inc. is not responsible for a defect in the system as a result of misuse, improper installation, damage or mishandling of the electronic components. Rear View Safety, Inc. is not responsible for consequential damages of any kind.

This warranty is void if: defects in materials or workmanship or damages result from repairs or alterations which have been made or attempted by others or the unauthorized use of nonconforming parts; the damage is due to normal wear and tear, this damage is due to abuse, improper maintenance, neglect or accident; or the damage is due to use of the Rear View Safety, Inc. system after partial failure or use with improper accessories.

## Warranty Performance

DURING THE ABOVE WARRANTY PERIOD, SHOULD YOUR REAR VIEW SAFETY PRODUCT EXHIBIT A DEFECT IN MATERIAL OR WORKMANSHIP, SUCH DEFECT WILL BE REPAIRED WHEN THE COMPLETE REAR VIEW SAFETY, INC. PRODUCT IS RETURNED, POSTAGE PREPAID AND INSURED, TO REAR VIEW SAFETY, INC. OTHER THAN THE POSTAGE AND INSURANCE REQUIREMENT, NO CHARGE WILL BE MADE FOR REPAIRS COVERED BY THIS WARRANTY.

## Warranty Disclaimers

NO WARRANTY, ORAL OR WRITTEN, EXPRESSED OR IMPLIED, OTHER THE ABOVE WARRANTY IS MADE WITH REGARD TO THIS REAR VIEW SAFETY, INC. REAR VIEW SAFETY, INC. DISCLAIMS ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE AND ALL OTHER WARRANTIES IN NO EVENT SHALL REAR VIEW SAFETY, INC. LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES OR FOR ANY COSTS, ATTORNEY FEES, EXPENSES, LOSSES OR DELAYS ALLEGED TO BE AS A CONSEQUENCE OF ANY DAMAGE TO, FAILURE OF, OR DEFECT IN ANY PRODUCT INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOSS OF PROFITS.



## STRUCTURAL SPECIFICATIONS

### **Body Side Wall Framework Construction:**

Vertical Steel 16 Gauge Roll Formed Steel, (nominal dimensions 1" X 2"), and 1" x 2" steel tubing vertical support columns, in conjunction with 1" x 1" steel tubing for both lateral and vertical support.

Vertical support columns equally spaced on standard 38" Max. on-center dimensions.

All non-supporting members, (i.e. window and door frame structures), constructed of 16 gauge 1" x 1" and 1" x 2" steel tubing.

Completed sub-assembly of body sidewall structure framework are thoroughly cleaned and then completely prepped with an EPA approved water soluble based gray primer prior to lamination process stage outlined below.

### **Body Rear Wall Framework Construction:**

Body Rear wall framewor constructed of 16 gauge steel tubing welded together to form the back of the steel cage.

Completed sub-assembly of body rear wall structure framework is thoroughly cleaned and then completely prepped with an EPA approved water soluble based gray primer

### **Body Roof Structure Framework Construction:**

Body roof framework constructed using 16 Gauge hot rolled steel roof bows spaced on standard 26" centers, max.

Individual roof bows are "capped" over the open top of the bow with crimped and welded 16 gauge steel plate, (hat section).

One or two roll bars, (depending upon length of Para-transit vehicle), fabricated from 7 gauge 1.25" x 1.25" formed steel tubing is incorporated into roof structure to provide additional strength.

Completed sub-assembly of body roof structure framework is thoroughly cleaned and then completely prepped with an EPA approved water soluble based gray primer prior to lamination process stage outlined below

### **Body Floor Structure Framework Construction:**

Steel subfloor fabricated utilizing cross-members comprised of 12 gauge steel "G" sections with a nominal height of 4.5" minimum.

Steel sub-floor cross-members are welded to 12 gauge 1" x 3.5" steel C-channel sections forming a unitized solid steel floor framework.

Seat track sections of 12 gauge steel and designed to the OEM seat manufacturer's, (Freedman), specifications are securely welded directly to floor and sidewall framework.

Completed sub-assembly of body floor structure framework is thoroughly cleaned and then completely prepped with an EPA approved water soluble based gray primer prior to assembly to the OEM chassis.

Steel sub floor structure is isolated from the chassis by means of standard Ford OEM supplied elastomeric body isolation mounts. The sub floor is bolted to the OEM chassis frame through the individual body isolation mounts utilizing Ford OEM bolts, nuts and washers. Body isolation mount bolts are tightened to the proper Ford QVM torque specification as specified in the Ford body-builders specification manual.

Wheelwells are two piece design of welded 11 gage steel

### **Body Exterior & Interior Panel Construction:**

Body panels comprised of both exterior and interior "layered" panels that are vacuum laminated to the body structure framework sub-assemblies, (curbside wall, streetside wall, rear wall and roof structure frameworks).

Exterior wall body panels comprised of 0.040" thick aluminum panels having baked white gloss enamel finish, (matching exterior color of Ford OEM cab).

Exterior aluminum panels vacuum laminated to 0.11" lauan plywood panels utilizing a moisture cured, high contact urethane adhesive.

Front cap and transition pieces are molded, gel-coated fiberglass. Rear cap pieces are composite material

Interior wall body panels comprised of 0.040" Fiber-Reinforced-Plastic, (FRP), gloss light gray in color. Interior wall body panels to be vacuum laminated to 0.11" lauan plywood panels utilizing a moisture cured, high contact urethane adhesive.

### **Roof Exterior & Interior Panel Construction:**

Roof panels comprised of both exterior and interior "layered" panels that are vacuum laminated to the roof structure framework sub-assembly.

Exterior roof panel comprised of a single seamless 0.040 FRP panel having an exterior gloss white finish which matches the color of the body's exterior painted aluminum side and rear wall panels, and the exterior color of the Ford OEM cab.

Exterior seamless FRP roof panel vacuum laminated to 0.11" lauan plywood panels utilizing a moisture cured, high contact urethane adhesive. (Seams are allowed only at the junction of the front cap and the junction of the rear cap.).

Interior roof panel comprised of a single seamless 0.040 FRP panel having a standard gloss gray finish matching the color of the body's interior FRP rear and side wall panels

Interior seamless FRP roof panel vacuum laminated to 0.2" lauan plywood panels utilizing a moisture cured, high contact urethane adhesive.

### **Final Stage Body Construction:**

All cavities and voids present in the structure framework of the body sidewall, rear wall and roof sub-assemblies are completely filled with 1.063 lb, high density beadboard insulation of the proper thickness, prior to the final vacuum lamination of the interior and exterior body and roof panels to their respective body structure framework.

Exterior and interior side wall panels are vacuum laminated to the steel structure framework of the individual body, side and rear wall sub-assemblies utilizing a moisture cured, high contact urethane adhesive.

Finished laminated body sidewalls, rear wall and roof sub-assemblies are welded to the chassis mounted body floor structure framework, thus providing a complete unitized body with integrated steel superstructure.

Steel sub floor structure is isolated from the chassis by means of standard Ford OEM supplied elastomeric body isolation mounts. The sub floor is bolted to the OEM chassis frame through the individual body isolation mounts utilizing Ford OEM bolts, nuts and washers. Body isolation mount bolts are tightened to the proper Ford QVM torque specification as specified in the Ford body-builders specification manual. When tightened the body mounts have an approximate thickness of .876" and 1.04" for the top and bottom mounts respectively.

All exterior and interior seams and joints are thoroughly caulked utilizing MS35 structural adhesive caulking to insure a complete watertight seal of the body.

Plywood floor decking is secured to the frame using zinc plated Tek screws

Fender flares and caps are secured to the bus body using stainless steel screws treated with anti-corrosion material which will be exposed on the finished bus

Front cap is comprised of gel-coated fiberglass. Rear cap is comprised of ABS plastic with a Corad film for UV protection.

### **Standard Entry Door Steps**

Sidewalls are constructed of 14ga cold rolled steel

Steps are constructed of 11ga cold rolled steel

Primed with gray self-etching primer

### **Rear and Wheelchair Doors**

#### **Door panel materials:**

1 3/16" EPS Foam, 1 1/8" x 1 1/8" aluminum tubing and 2.7mm Luan core laminated together with overlaments of .060 plastic interior skin and .030 aluminum exterior skin. Panel and opening are trimmed with 400 Series aluminum.

#### **Structural framing of opening:**

1" x 2" x 16ga steel tubing

1" x 1" x 16ga steel tubing

11ga Wheelchair Door Jamb Assemblies (wheelchair door only)

### **Dimensions**

Exterior width 93 1/2" when measured from sidewall to sidewall

Exterior height 113 1/2" standard floor, 115 1/2" raised floor \*Ford

Interior width 91 1/4" when measured from sidewall to sidewall

Interior height 77" standard floor, 75" raised floor

Passenger entry ground to first step 11 1/2" to 12 1/2"

Passenger entry step depth 11" standard floor, 8 1/2" raised floor

Passenger entry step riser 9" standard floor, 7 1/2" raised floor



**Elkhart Coach**  
Elkhart, Indiana 46514

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***EC-I & EC-II Cutaway Bus  
Ford E-350 and E-450 Chassis  
Construction Specifications 2011***



**DESIGNED TO MEET OR EXCEED  
FEDERAL SPECIFICATIONS**

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**Scope:**

This specification describes a steel cage constructed commercial Para-transit that meets all the requirements of FMVSS Safety and ADA Standards in effect at the time of manufacture. The Para-transit vehicle must also meet the requirements of the state in which it is to be operated.

The Para-transit vehicle must be tested in the 7-year/200,000 mile category at the Altoona Bus Testing Facility in Duncansville, PA and a copy of the full report must be submitted with the bid.

The Para-transit vehicle provided must be built on a Ford commercial cut-away chassis of the current model year with a driver position and equipped without a curbside door, and with the curbside passenger seat and air-bag system deleted.

Any exceptions to these specifications must be noted at the time the bid is submitted:

**Materials:**

All materials used in construction of the Para-transit vehicle shall be new and unused; returned or reconditioned components will not be accepted.

**Documents to be submitted with Bid:**

- List of the FMVSS Safety Standards that are met by the proposed Para-transit vehicle. This list must include a copy of the actual certification for the following critical safety standards:
- FMVSS 220 Roof Crush (Roll Over) Test
- Detailed vehicle floor plan showing hip-to-knee seat spacing, aisle width, interior width, location of windows, roof hatch, wheelchair lift, modesty panels and entry door.
- A Four-Point weight analysis shall also be included with the bid demonstrating that the finished Para-transit vehicle will not exceed any axle rating or the total GVWR of the chassis.
- Copy of the full Altoona test for the Para-transit vehicle being proposed.
- Copy of Manufacturer's State License, (where applicable).
- Names and addresses of three current users of the same bus as the one proposed. Information must include contact name and daytime phone number and e-mail address.

**Delivery Requirements:****Chassis Specification:**

Current model year Ford E-350 or E-450 Cutaway chassis.

- 11,500 lb GVWR E-350 138" WB
- 14,500 lb GVWR E-450 158" and 186" WB
- 5.4L V8 Gas engine w/155 amp Alternator
- 6.8L V10 Gas engine w/225 amp Alternator.
- 5.4L Gas - 4-speed auto, 6.8L Gas - 5-speed auto.
- (1) 650 CCA & (1) 750 CCA Motorcraft batteries - Gas
- Factory Dash A/C, Defroster, and Heat



- 47B Shuttle Bus Package w/engine block heater, front license plate bracket, frame isolators.
- White painted wheels 4- vent
- No Driver seat ordered on chassis - pedestal only

### **Body Specification:**

#### **Body Side Wall Framework Construction:**

Vertical Steel 16 Gauge Roll Formed Steel, (nominal dimensions 1" X 2"), and 1" x 2" steel tubing vertical support columns, in conjunction with 1" x 1" steel tubing for both lateral and vertical support.

Vertical support columns equally spaced on standard 38" Max. on-center dimensions.

All non-supporting members, (i.e. window and door frame structures), to be constructed of 16 gauge 1" x 1" and 1" x 2" steel tubing.

Completed sub-assembly of body sidewall structure framework to be thoroughly cleaned and then completely prepped with an EPA approved water soluble based anti-corrosion gray primer prior to lamination process stage outlined below.



#### **Body Rear Wall Framework Construction:**

Body Rear wall framework is constructed of 16 gauge steel tubing welded together to form the back of the steel cage.

Completed sub-assembly of body rear wall structure framework is thoroughly cleaned and then completely prepped with an EPA approved water soluble based anti-corrosion gray primer prior to lamination process stage outlined below.

### **Body Roof Structure Framework Construction:**

Body roof framework is constructed using 16 Gauge hot rolled steel roof bows spaced on standard 27" centers, max.

Individual roof bows are "capped" over the open top of the bow with crimped and welded 16 gauge steel plate, (hat section).

One or two roll bars, (depending upon length of Para-transit vehicle), are fabricated from 7 gauge 1.25" x 1.25" formed steel tubing is incorporated into roof structure to provide additional strength.

Completed sub-assembly of body roof structure framework is thoroughly cleaned and then completely prepped with an EPA approved water soluble based anti-corrosion gray primer prior to lamination process stage outlined below

### **Body Floor Structure Framework Construction:**

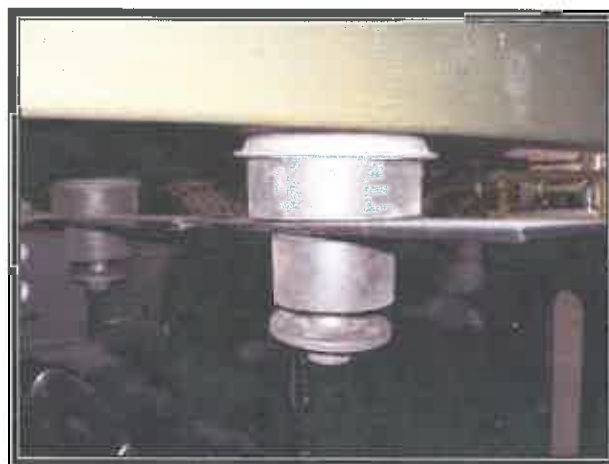
Steel subfloor is fabricated utilizing cross-members comprised of 14 gauge steel "G" sections with a nominal height of 4.8125" minimum.

Steel sub-floor cross-members are welded to 12 gauge 1" x 3.5" steel C-channel sections forming a unitized solid steel floor framework.

Seat track sections of 12 gauge steel and designed to the OEM seat manufacturers, (Freedman), specifications are securely welded directly to floor and sidewall framework.

Completed sub-assembly of body floor structure framework is thoroughly cleaned and then completely prepped with an EPA approved water soluble based anti-corrosion gray primer prior to assembly to the OEM chassis.

Steel sub floor structure is isolated from the chassis by means of standard Ford OEM supplied elastomeric body isolation mounts. The sub floor is bolted to the OEM chassis frame through the individual body isolation mounts utilizing Ford OEM bolts, nuts and washers. Body isolation mount bolts are tightened to the proper Ford QVM torque specification as specified in the Ford body-builders specification manual. When tightened the body mounts have an approximate thickness of .876" and 1.04" for the top and bottom mounts respectively.



### **Body Exterior & Interior Panel Construction:**

Body panels are comprised of both exterior and interior "layered" panels that are vacuum laminated to the body structure framework sub-assemblies, (curbside wall, streetside wall, rear wall and roof structure frameworks).



### **Body Panel Construction, (Exterior Walls):**

Exterior wall body panels are comprised of 0.040" thick aluminum panels having baked white gloss enamel finish, (matching exterior color of Ford OEM cab).

Exterior aluminum panels are vacuum laminated to 0.11" luan plywood panels utilizing a moisture cured, high contact urethane adhesive.

### **Body Panel Construction, (Interior Walls):**

Interior wall body panels are comprised of 0.046" Fiber-Reinforced-Plastic, (LAMIPLAST), gloss light gray in color. Interior wall body panels are vacuum laminated to 0.11" luan plywood panels utilizing a moisture cured, high contact urethane adhesive.

### **Roof Exterior & Interior Panel Construction:**

Roof panels are comprised of both exterior and interior "layered" panels that are vacuum laminated to the roof structure framework sub-assembly.

Exterior roof panel is comprised of a single seamless 0.046" LAMIPLAST panel having an exterior gloss white finish which matches the color of the body's exterior painted aluminum side and rear wall panels, and the exterior color of the Ford OEM cab.

Exterior seamless LAMIPLAST roof panel is vacuum laminated to 0.11" luan plywood panels utilizing a moisture cured, high contact urethane adhesive. (Seams are allowed only at the junction of the front cap and the junction of the rear cap. Any other seams on the exterior of the roof are not permitted).

Interior roof panel is comprised of a single seamless 0.046" LAMIPLAST panel having a standard gloss gray finish matching the color of the body's interior LAMIPLAST rear and side wall panels defined in section 11.5 of this specification.

Interior seamless LAMIPLAST roof panel is vacuum laminated to 0.20" luan plywood panels utilizing a moisture cured, high contact urethane adhesive.

### **Final Stage Body Construction:**

All cavities and voids present in the structure framework of the body sidewall and rear wall sub-assemblies are completely filled with 1 1/16" thick high-density beadboard insulation. The roof sub-assembly is completely filled with 1 3/4" thick high-density beadboard insulation. All sub-assemblies are filled prior to the final vacuum lamination of the interior and exterior body and roof panels to their respective body structure framework.

The 1 1/16" high density beadboard insulation, when combined with the 0.11" thickness of the exterior and interior luan plywood panels, provides an insulating value of R-7.28 for the roof & R-4.15 for the side and rear wall sub-assemblies.

Exterior and interior side wall panels are vacuum laminated to the steel structure framework of the individual body panels, side and rear wall and roof sub-assemblies utilize a moisture cured, high contact urethane adhesive.

Finished laminated body sidewalls, rear wall and roof sub-assemblies are welded to the chassis mounted body floor structure framework, thus providing a complete unitized body with integrated steel superstructure.

All exterior seams and joints are thoroughly caulked utilizing SIKAFLEX 521 structural adhesive caulking to ensure a complete watertight seal of the body.

All interior seams and joints are thoroughly caulked utilizing BONDAFLEX SIL 100 silicone caulking to ensure a complete watertight seal of the body.

### **Sub-Flooring**

Unless otherwise specified, flooring is 5/8" thick exterior grade plywood.

Unless otherwise specified, floor covering is black transit quality rubber extending to the seat track on the walls. The aisle (and W/C Tiedown areas if applicable) and entry steps are ribbed rubber. The rubber under the seats will be smooth matching.



### **Body Dimensions:**

Exterior width: 102 1/4" Maximum at the wheel wells excluding mirrors.

Interior Width: 90" Minimum

Interior Height: 75" Minimum

Exterior Height: 117" Maximum

Wheelbase: 190" Maximum

Exterior Length: 313" Maximum  
Rear Overhang: Less than 33% of the overall bus length.

### **Passenger Seats:**

Minimum 25" Hip-to-Knee space.

Minimum Aisle: 14" measured at the armrests.

Seats must be installed in 12 gauge steel seat track that is welded to the steel cage of the sidewalls and to the steel sub floor.

Passenger seats are Freedman Seating Co. forward facing mid-high seats, Featherweight style with rigid seat backs.

Freedman three-step foldaways are required at the wheelchair positions.

Retractable lap seat belts are to be provided for all passengers.

Fold-up US Arms armrests (padded or anti-vandal) on aisle side of seats.

### **Passenger Entry:**

Entry door shall be a two panel manual or electric door with full-length tempered glass windows.

Door and door header mechanism shall be manufactured by A & M Door Systems Inc.

Clear entry door dimensions shall be a minimum of 29" wide by 80" high.

### **Air Conditioning and Heat:**

Front air conditioning and heat is Ford standard – Approximately 15,000 BTU/Hour

Rear Air Conditioning to be a Trans-Air ® system rated at 67,000 BTU/Hour.

- Hose will be of the "Quick Click" type.
- System will have dual compressors.

Rear Heater to be a Pro-Air® system consist of one (1) 35,000 BTU/Hour hot water type heater.

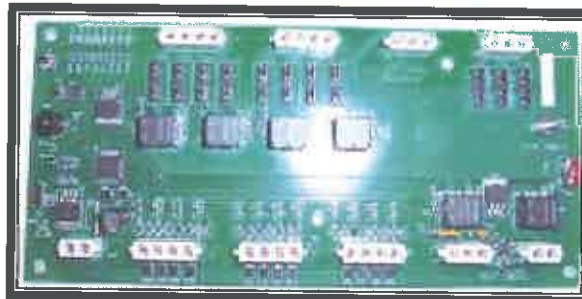
A fast idle device to increase the engine speed at idle will be included.

### Electrical System:

Breaker box for the Para-transit vehicle body to be located above the driver door in an ABS non-conductive vacuum formed back plane with access door.



A programmable, plug and play microprocessor controlled printed circuit master control board utilizing ground signal circuit activation. Also incorporates a LED light indicating when each circuit is activated to simplify troubleshooting.



Manual reset circuit breakers are used versus automatic reset circuit breakers to prevent oversight of a recurring electrical fault.

Battery cables are 2 gauge on gas chassis. Each cable is color coded, red positive, black negative and grounded to the frame. The chassis batteries are protected with two fuses, 120A for the solenoid and 90A for lift. An additional chassis frame to body frame ground is added to eliminate possible poor grounding issues.

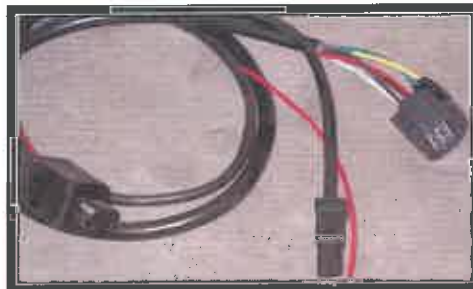


Wiring is color coded and labeled, (not numbered), for function and complies with all the requirements of the Society of Automotive Engineers (SAE Standards).

The wiring harness utilizes AMP "Mate-N-Lok II" connectors.



The harness supplying the rear brake, turn, back up and license plate light utilizes an extruded, molded pigtail manufactured by Hermac. Tail light harnesses are manufactured using Ford OEM terminals and connectors with no splices.



Door ajar systems utilize automotive grade non-contacting magnetic switches instead of a mechanical plunger switches used by other manufacturers. These eliminate future adjustments and mechanical failures.

## Windows:

Tempered Top-T Slider windows are standard in passenger cabin.



Passenger windows are 36" wide and 36" high. One smaller 36"X24" window is allowed on each sidewall to accommodate certain floorplans.

Egress windows are provided in sufficient numbers to comply with all FMVSS requirements.

Side windows tinted 20% gray density with 31% light transmission

Window ajar system uses automotive grade custom designed magnetic reed switches. Other manufacturer's use residential type switches that typically fail due to the vibration and shock of an automotive environment.

### Interior Specifications:

Modesty Panels behind entry door and driver seat are grey padded vinyl.



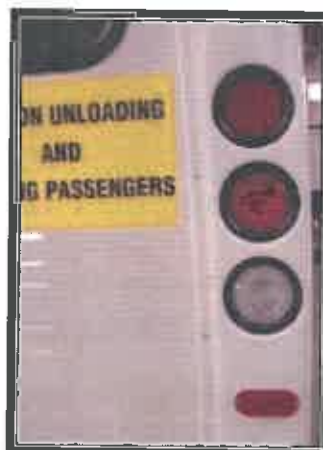
Interior walls are FRP light gray, interior ceiling is gloss light gray FRP.

All transition pads and the driver area are covered with grey padded vinyl.



### Lighting:

Exterior lights to be LED with the exception of the two clear incandescent backup lights, marker and clearance lights, doorway lighting and lighting supplied with the chassis.





Interior lights to be incandescent and mounted in transition pads located at ceiling/sidewall interface.



Red interior emergency lights to be located above each egress window.



### **Para-transit Equipment:**

Passenger entryway grab rails parallel to entry steps and compliant to ADA regulation.



Braun/Ricon W/C Lift meeting the requirements of FMVSS 403 and installed in accordance with FMVSS 404.

Q'Straint QRT Deluxe Tie Down systems installed in "L" track recessed into the floor.



ADA Decals and signage including Priority Seating to be provided as required per ADA regulations.

Double W/C Door with windows same height as passenger windows, (all lighting requirements to be provided as required per ADA regulations).

Microprocessor controlled ADA Interlock system to be utilized with W/C door option.

### **Exterior Finish and Paint:**

The exterior body will match Ford white on the chassis.

### **Miscellaneous Equipment:**

- Front and rear mud flaps
- Back up alarm
- 16 unit First Aid Kit
- 5 lb Fire Extinguisher
- Reflective triangles in box
- Belt Cutter

### **Floor Plan:**

#### **Warranty:**

Body warranty of 3 years or 36,000 miles parts and labor. Structural warranty of 6 years or 72,000 miles.

The major subcomponents, including but not limited to, the Wheelchair Lift, the Wheelchair Tie Downs, the Passenger and Driver seats, and the rear Air Conditioning Systems will be warranted by the manufacturer of that component. Detailed Warranty coverage for these individual components is provided with each Para-transit vehicle.

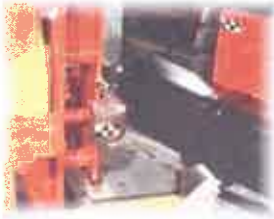
Chassis Warranty is provided by Ford and is the standard OEM warranty.

# HELP<sup>®</sup>

## ENERGY ABSORBING BUMPERS

### RR ROMEO RIM, INC.

*Solving Today's Challenges with Engineered Solutions*



## HELP<sup>®</sup> BUMPER PERFORMANCE

HELP<sup>®</sup> is an acronym for **H**igh **E**nergy **L**evel **P**olymers. The polymer is the base polyurethane material that absorbs the high energy levels created during bumper collisions. This polyurethane material was expressly designed for repeated impact protection under extreme temperature variances and is impervious to a wide variety of solvents, minerals, acids and alkaline compounds.

The polymer material is used to Reaction Injection Mold (RIM) bumper modules with a patented internal rib design that is at the heart of energy absorption capability of the HELP<sup>®</sup> system.

These energy absorbing modules are mounted on full length, high strength, lightweight, 6061-T6 aluminum extrusions to create the HELP<sup>®</sup> Energy Absorbing Bumper.

The HELP<sup>®</sup> Energy Absorbing Bumper impact performance is summarized below:

- 5.0 mph Fixed Barrier Impact – No damage to bumper or bus.
- 4.0 mph 30° Corner Impact – No damage to bumper or bus.
- 6.0 mph Center Impact – No damage to bumper or bus.
- Puncture Resistant – 1/4" diameter spherically radiused rod at 350 lbs. force without puncture.
- Repeat of Test Series – Unimpaired Performance
- Temperature Range – -20°F to 120°F

In summary, HELP<sup>®</sup> Energy Absorbing Bumpers don't rust, they don't dent, they don't bend or warp and the paint doesn't chip and flake-off. HELP<sup>®</sup> Energy Absorbing Bumpers keep their vehicles where they are meant to be... on the road working in revenue service while complimenting the image of their owners.

**No Dents, No Rust, No Damage = No Cost, No Downtime, No Worries.**

*Protecting Your Bottom Line Since 1975*

*TOUGH, RESILIENT AND DURABLE: NO OTHER BUMPER ON THE MARKET TODAY CAN TAKE THE REPEATED HITS, UNDER ALL ENVIRONMENTAL CONDITIONS, THAT THE HELP BUMPER DOES EVERY DAY.*

In addition to the impact performance listed above the HELP® Energy Absorbing Bumper meets these rigorous performance criteria:

Description	Performance Requirement		HELP® Specification	
	Method(s)	Condition(s)	Front	Rear
Water absorption	ASTM	24 hr. immersion @20° C	<2.0%	<2.0%
Chip resistance	SAE J400	Ambient Temp @90° angle	0C Topcoat only	0C Topcoat only
High Speed Puncture	ASTM D3763	30 C, 12.7mm Tup, 76.2mm support	>58 ft-lbs.	>58 ft-lbs.
Brittleness	ASTM	Propyl alcohol @ 40° C	Pass	Pass
Ultra Violet Stability	ASTM D4587-91	480 jr	Pass	Pass

## OUR COMMITMENT TO YOU

- **On Time** – Whether it is a product shipment, project deliverable or a returned phone call we respect and meet your timing needs.
- **Unsurpassed Quality** – Materials, workmanship, design and service: we delivery the quality you rightly expect and demand.
- **Excellent Value** – We are unremitting in containing costs while improving product performance.



## COMPLETE PROTECTION

HELP® bumpers are highly engineered to withstand damage during crashes. Less damage means fewer insurance claims, reduced repair and maintenance costs and reduced vehicle downtime.

## PROVEN PERFORMANCE

No other bumper is as durable or resilient. Romeo RIM developed and engineered the original HELP® bumper which means every HELP® bumper is backed by more in-depth testing, research and new technological developments than imitation bumpers.

## SPECIFY THE BEST

Call, write or visit our web site for sample performance specifications.

### Romeo Rim, Inc.

74000 Van Dyke Avenue  
Romeo, Michigan 48065  
Phone (586) 336-5800  
Fax (586) 752-5021

Proud Members of:



[www.HELPBumpers.com](http://www.HELPBumpers.com)

## **HELP® BUMPER WARRANTY**

HELP® Energy Absorbing Bumper Systems, produced and supplied by Romeo RIM, Inc. are warranted for a minimum of three (3) years from the date of shipment to a customer, subject to the terms and conditions stated below, HELP® Bumpers are warranted against defective parts that impair fit, function, or appearance of the product.

### **Conditions:**

Romeo RIM, Inc. warrants only those parts supplied and assembled into the finished product by Romeo RIM, Inc. and providing that the defective condition was both inherent in the product prior to shipment from Romeo RIM, Inc. and that prevailing Romeo RIM, Inc. specifications have clearly been violated. Shipping, handling, and/or customer-induced damage is not covered under these warranty provisions.

In the event of a warranty claim, the Romeo RIM, Inc. standard "RETURNED GOODS PROCEDURE" shall be invoked, providing for verification of the discrepant material and appropriate guidelines for repair and/or credit of the material.

If additional non-warranty damage is incurred by the product in handling or returned to Romeo RIM, Inc. for repairs, the cost for this damage will be a customer liability in total including parts, material and labor.

### **Defective Parts:**

Defective material is subject, upon verification of the claim, to either repair or replacement of components and/or assemblies at the sole discretion of Romeo RIM, Inc. The cost of parts and materials will be assumed by Romeo RIM, Inc. for claims qualifying under the aforementioned "Conditions", but will otherwise be quoted as a customer liability.

This section represents the sole remedy for any breach of warranty provided hereunder. In no event will Romeo RIM, Inc. be responsible for incidental or consequential damages of any kind or nature, including lost profits.

### **Labor:**

The labor cost for the repair and/or replacement of defective parts and assemblies in a verified claim will be assumed by Romeo RIM, Inc. this includes customer manpower involved with other than normally scheduled inspection, packaging, and/or assembly operations, but Romeo RIM, Inc. reserves the right to both negotiate the hourly cost to ensure a reasonable charge and to specify the use of Romeo RIM, Inc. versus available customer personnel.

In the event of a non-warranty claim, labor costs will be quoted for specified repairs as a customer liability.

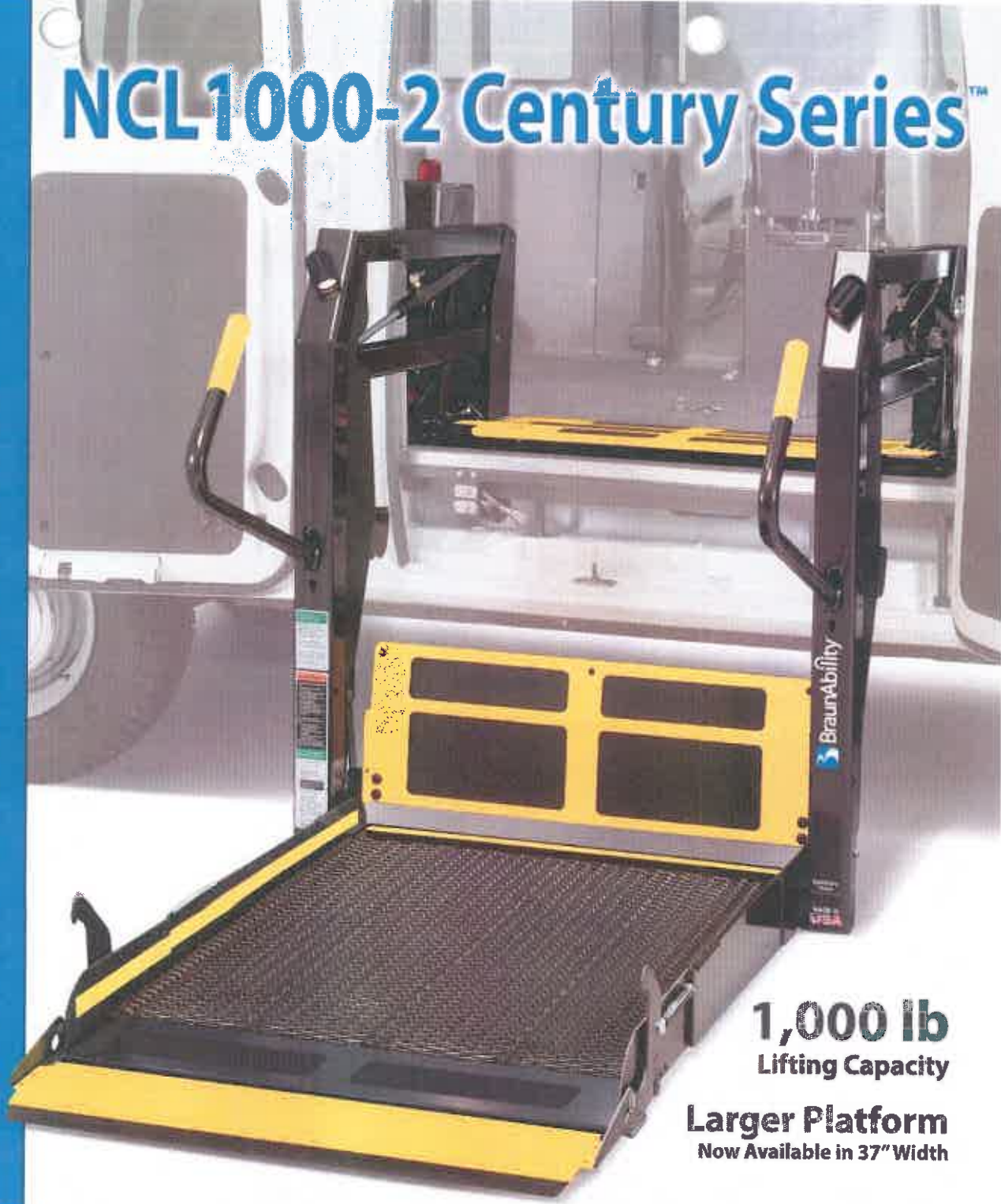
### **Shipping:**

Romeo RIM, Inc will assume the costs for shipments of repair/replacement parts and/or the return of defective material under a verified claim. The right to specify the means of transportation and packaging requirements is reserved by Romeo RIM, Inc.

In the event of a non-warranty claim, shipping costs will be quoted, as appropriate, for customer payment.

# NCL1000-2 Century Series™

Commercial Wheelchair Lifts



**1,000 lb**  
Lifting Capacity

**Larger Platform**  
Now Available in 37" Width

# NCL1000-2 Century Series

**NCL1000IB3351-2** (33" wide x 51" long platform)

**NCL1000IB3451-2** (34" wide x 51" long platform)

**NCL1000IB3451HB-2** (34" wide x 51" long platform - with handrail belt)

**NCL1000IB3454-2** (34" wide x 54" long platform)

**NCL1000IB3454HB-2** (34" wide x 54" long platform - with handrail belt)

**NCL1000IB3751HB-2** (37" wide x 51" long platform - with handrail belt)

**NCL1000IB3754HB-2** (37" wide x 54" long platform - with handrail belt)

*rear pump models listed - all models also available in front pump configuration*

- 1,000 lb lifting capacity
- Fully automatic FMVSS 403-compliant lift, operated by an attendant
- Loading position - either direction
- Interfaces with OEM interlocks
- Long lasting LED lift mounted lights that are active when vehicle interlocks are engaged and lift power switch is on
- Hand-held control box with illuminated functions
- Locking mechanical Inboard Barrier (IB), powder coated yellow for safety and high visibility, prevents operation if occupied
- Pump design prevents platform folding when occupied, quiet operation & low current draw
- Durable redesigned baseplate reduces lift weight and allows for quicker and easier service of hose/wiring
- Easily installed, step-by-step installation instructions, no peripheral hardware required
- Platform movement prevented during unsafe operation
- Gas spring activated outer barrier detects roll stop occupancy as the platform leaves the ground, complete with durable rubber nose guard
- Transition areas marked with durable high-gloss yellow powder coating for safety & visibility
- Side or rear door application
- Dual handrails for security and convenience
- Bridging feature permits the wheelchair user to board the lift from sidewalks or inclines
- Floor to ground travel is 48"
- Integrated back-up pump
- Equipped with an adjustable anti-rattle feature to avoid unpleasant noise in the vehicle during transit
- Durable high-gloss powder coated finish
- Lift-Tite system stows the lift platform securely while the vehicle is in transit
- Pump module with removable cover offers easy access to all components



Integrated dual handrails provide added security for wheelchair users and standees



Visual and audible warnings alert both passengers and attendants to unsafe conditions



Gas spring activated outer barrier detects roll stop occupancy as the platform leaves the ground



## **Braun® Limited Warranty**

### **WARRANTY COVERAGE AND WARRANTY COVERAGE TIME PERIODS**

The Braun Corporation ("Braun") warranty covers certain parts of this wheelchair lift for three (3) years or 10,000 cycles and the cost of labor to repair or replace those parts for one (1) year or 3,000 cycles. If The Braun Corporation receives the warranty registration card within 20 days after the lift is put into service, the warranty labor coverage will increase from one (1) year or 3,000 cycles to three (3) years or 10,000 cycles. In addition, providing the warranty registration card is returned as noted above, the following lift's power train parts are warranted for five (5) years or 15,000 cycles: Cable, Cylinder, Flow Control, Gear Box, Motor, Pump, Hydraulic Hose and Fittings. This limited warranty covers substantial defects in materials and workmanship of the lift, provided that the lift is operated and maintained properly and in conformity with the owner's manual. The warranty period begins on the date that the product is delivered to the first retail purchaser by an independent, authorized dealer of Braun, or, if the dealer places the product into any type of service prior to retail sale, on the date the dealer first places the product in such service. This limited warranty applies only to the first purchaser. It may not be transferred.

### **WHAT BRAUN WILL DO TO CORRECT PROBLEMS**

In the event that a substantial defect in material or workmanship, attributable to Braun, is found to exist during the first year of warranty coverage, it will be repaired or replaced, at Braun's option, without charge for parts or labor to the owner, in accordance with the terms, conditions and limitations of this limited warranty. If the substantial defect in material or workmanship, attributable to Braun, is found to exist during the second or third year of warranty coverage, it will be repaired or replaced, at Braun's option, without charge to the owner for parts, only, in accordance with the terms, conditions and limitations of this limited warranty. Providing the warranty card is returned within 20 days as outlined above, the labor warranty period will be extended by two years of coverage in accordance with the terms, conditions, and limitations of this limited warranty. In addition, if a substantial defect in material or workmanship, attributable to Braun, is found to exist during the fourth or fifth year of warranty coverage to the following lift's power train parts: Cable, Cylinder, Flow Control, Gear Box, Motor, Pump, Hydraulic Hose and Fittings, it will be repaired or replaced, at Braun's option, without charge to the owner for parts, only, in accordance with the terms, conditions and limitations of this limited warranty. The cost of labor for repair or replacement at any time after the warranty coverage detailed above is the sole responsibility of the owner.

Braun's obligation to repair or replace defective materials or workmanship is the sole obligation of Braun under this limited warranty. Braun reserves the right to use new or remanufactured parts of similar quality to complete any work, and to make parts and design changes from time to time without notice to anyone. Braun reserves the right to make changes in the design or material of its products without incurring any obligation to incorporate such changes in any previously manufactured product. Braun makes no warranty as to the future performance of this product, and this limited warranty is not intended to extend to the future performance of the product. In addition, the owner's obligation to notify Braun, or one of its authorized, independent dealers, of a claimed defect does not modify any obligation placed on the owner to contact Braun directly when attempting to pursue remedies under state or federal law.

### **LIMITATIONS, EXCLUSIONS AND DISCLAIMER OF IMPLIED WARRANTIES**

**ANY IMPLIED WARRANTY THAT IS FOUND TO ARISE BY WAY OF STATE OR FEDERAL LAW, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS, IS LIMITED IN DURATION TO THE TERMS OF THIS LIMITED WARRANTY AND IS LIMITED IN SCOPE OF COVERAGE TO THE SCOPE OF COVERAGE OF THIS LIMITED WARRANTY.** Braun disclaims any express or implied warranty, including any implied warranty of fitness or merchantability, on



## **Braun® Limited Warranty**

**BRAUN SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM BREACH OF THIS LIMITED WARRANTY OR ANY IMPLIED WARRANTY. THIS EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES SHALL BE INDEPENDENT OF ANY FAILURE OF THE ESSENTIAL PURPOSE OF ANY WARRANTY, AND THIS EXCLUSION SHALL SURVIVE ANY DETERMINATION THAT THIS LIMITED WARRANTY OR ANY IMPLIED WARRANTY HAS FAILED OF ITS ESSENTIAL PURPOSE.** This warranty does not cover, and in no event shall Braun be liable for towing charges, travel, lodging, or any other expense incurred due to the loss of use of the product or other reason.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

### **HOW TO GET SERVICE**

To obtain warranty service the owner must do all of the following:

1. Notify an authorized service center, of the claimed defect attributable to Braun, within the warranty coverage period designated above
2. Provide the notification mentioned in (1), above, within ten (10) days of when the owner discovered, or should have discovered, the claimed defect
3. Promptly schedule an appointment with and take the product to an authorized service center for service.
4. Pay any transportation costs and all expenses associated with obtaining warranty service.

Since Braun does not control the scheduling of service work at the independent dealerships you may encounter some delay in scheduling or completion of work. If you need assistance you may contact Braun, at 631 West 11th Street, Winamac, Indiana 46996; 1-800-THE-LIFT, (843-5438).

If two (2) or more service attempts have been made to correct any covered defect that you believe impairs the value, use or safety of the product, or if it has taken longer than thirty (30) days for repairs to be completed, you must, to the extent permitted by law, notify Braun directly, in writing, at the above address, of the unsuccessful repair(s) of the alleged defect(s) so that Braun can become directly involved in providing service pursuant to the terms of this limited warranty.

### **WHAT IS NOT COVERED**

This Limited Warranty does not cover any of the following: defects in materials, components or parts of the product not attributable to Braun, any material, component or part of the product that is warranted by another entity (Note: the written warranty provided by the manufacturer of the material, component or part is the direct responsibility of that manufacturer); items that are added or changed after the product leaves Braun's possession; additional items installed at any dealership, or other place of business, or by any other party, other than Braun; normal wear, tear, usage, maintenance, service, periodic adjustments, the effects of condensation or moisture from condensation; mold or any damage caused by mold; imperfections that do not affect the product for its intended purpose; items that are working as designed but that you are unhappy with; problems related to mis-operation, misuse, mishandling, neglect or abuse, including failure to maintain the product in accordance with the owner's manual, or other routine maintenance such as inspections, lubricating, adjustments, tightening of screws, sealing, wheel alignments or rotating tires; damage due to accident or collision, including any acts of weather or damage or corrosion due to the environment; theft, vandalism, fire, or other intervening acts not attributable to Braun; damage resulting from tire wear or tire failure; defacing, scratches, dents or chips on any interior or exterior surface of the product, including those

## **Braun® Limited Warranty**

a dealer prior to delivery to the purchaser. You must inspect the product for this type of damage when you take delivery. If you find any such defect or damage you must notify the selling dealer, or Braun, at the time of delivery to have these items covered by this limited warranty and to have work performed on the items at no cost to you as provided by this limited warranty.

### **EVENTS DISCHARGING BRAUN FROM OBLIGATION UNDER WARRANTY**

The following shall completely discharge Braun from any express or implied warranty obligation to repair or replace anything and void this warranty: misuse, neglect, collision, accidents, failure to provide routine maintenance (See Owner's Manual), unauthorized alteration, off road use, Acts of Nature, damage from weather or the environment, theft, vandalism, tampering, fire, explosions, overloading the product and odometer tampering.

### **LEGAL REMEDIES**

Any action to enforce any portion of this limited warranty, or any implied warranty, must be commenced within six (6) months after expiration of the warranty coverage period designated above or the action will be barred because of the passage of time. Any performance of repairs shall not suspend this limitation period from expiring. Any performance of repairs after the warranty coverage period has expired, or performance of repairs regarding any thing excluded from coverage under this limited warranty shall be considered "good will" repairs, and they will not alter the terms of this limited warranty, or extend the warranty coverage period or the filing limitation period in this paragraph. In addition, since it is reasonable to expect that the product will need some service during the warranty period; this warranty does not extend to future performance. It only sets forth what Braun will do and does not guarantee anything about the product for any time period. Nothing in this warranty, or any action of Braun, or any agent of Braun, shall be interpreted as an extension of any warranty period or the filing limitation period in this paragraph. Some states do not allow a reduction in the statute of limitations, so this reduction may not apply to you.

### **WARRANTY REGISTRATION and MISCELLANEOUS**

Your warranty registration records should be completed and delivered to the appropriate companies, including the Braun Delivery Checklist & Warranty form. That form must be returned to Braun within twenty (20) days of purchase. The Braun warranty will not be registered unless this warranty registration is completed and received by Braun. Failure to file this warranty registration with Braun will not affect your rights under this limited warranty as long as you can present proof of purchase, but it can cause delays in obtaining the benefits of this limited warranty, and it changes the start date of the warranty to the date of final assembly of the product by Braun.

Braun agrees to repair or replace any of its factory installed parts found to have substantial defects within the appropriate warranty period designated above, provided that the repair is authorized by Braun and carried out by an authorized service center (a Braun labor schedule determines the cost allowance for repairs). Braun will not honor any warranty claim for repairs or replacement of parts unless the claim is submitted with the appropriate paperwork, and the work is completed by an independent, factory authorized service center. The appropriate paperwork can be obtained by written or phone contact with Braun at the contact information in this warranty.

Braun reserves the right to designate where any warranty work can be performed. Braun also reserves the right to examine any defective workmanship or part prior to giving any authorization for warranty work. Braun's return authorization procedure must be adhered to in order to process any warranty claims.

**A complete Trans/Air system consisting of (1) TA73 Evaporator, (1) SMC3L Skirt Mount Condenser and (1) 10 cid Compressor installed separately from the OEM chassis compressor & dash evaporator with BASIC Controls and a Trans/Air supplied mount kit.**

**Quality System:** Trans/Air Manufacturing is registered to ISO 9001:2008 by an accredited auditor.

**Evaporator: TA73**  
Capacity: 41,000 (SAE) to 65,000 (IMACA) Btu/hr  
Cooling Coil: Advanced aluminum fins on 3/8" internally enhanced copper tubing  
Expansion Valve: Externally equalized thermostatic type  
Blower Assembly: (2) blowers each with double wheels and dual inlets  
Total Blower Air Flow: 1480 ft<sup>3</sup>/min @ 0 Static (2515 m<sup>3</sup>/hr @ 0 Static)  
Motors: High performance double shaft, permanent magnet  
Amperage: 16.9 A @ 13.5 Vdc / 8.5 A @ 27 Vdc  
Housing: Galvannealed steel with aluminum or ABS cover  
Specification: All interior components shall meet FMVSS 302 for fire retardant specifications

**Condenser: SMC3L Microchannel** (Skirt Mount)  
Capacity: 71,325 (SAE) to 87,175 (IMACA) Btu/hr  
Condenser Coil: Aluminum microchannel  
Fan Assembly: (3) low profile, surface mounted 10 in diameter fans  
Motor Type: Closed, permanent magnet w/ball bearings  
Amperage: 31.0 A @ 13.5 Vdc / 15.5 A @ 27 Vdc  
Total Fan Air Flow: 2745 ft<sup>3</sup>/min @ 0 static (4664 m<sup>3</sup>/hr @ 0 Static)  
Filter Drier: 16 in<sup>3</sup>, R-134A compatible  
Sight Glass: At back of coil  
Cond Housing: Powder-coated galvannealed steel

**Electrical Controls: Basic**  
Fan Controls: 3 speed rotary or rocker switch @ driver  
Temp Controls: Rotary manual or digital thermostat @ driver  
Protection: Fused main power distribution with individually fused motor.  
Wiring: Color coded in fire proof loom  
Specification: All wiring and electrical controls shall meet SAE J1292 electrical specifications.

**Hose: Trans/Air Clip-Lok**  
Fittings: Corrosion resistant chromated steel with (2) grooves and stainless steel clips.  
Specification: Fittings/hose shall meet SAE J2064 hose fitting integrity specifications.

**Compressor: 10 CID**  
Protection: High/low pressure switches.  
Specification: Mounts shall meet SAE J637 belt alignment specifications.

**Warranty: 2 years**  
Mileage: Unlimited  
Inception: Date of in-service  
Dealer demo: 6 month, 6000 miles  
Coverage: All components and installation if installation is provided by Trans/Air.

DESCRIPTION		
Backing		NT
Thickness		2.25 ± 0.15 mm 0.088 ± 0.006"
Weight		2.20 ± 0.15 kg/m <sup>2</sup> 4.05 lb/Sq.Yd
Roll width		200 cm 6.56'
Roll length		24 lm 78.72'
PERFORMANCE		
Dimensional stability	ASTM D 1204	≤ 0.3 %
Abrasion resistance	ISO 9352 TABER TEST	300 ± 50 mg 0.01 ± 0.002 oz
Indentation resistance	EN 433	≤ 0.2 mm < 0.008"
Low temperature resistance	D 42 1235 A	- 20°C / -4°F
Sound Damping Characteristics	ISO 717/2	□= 5 dB
Color fastness	ASTM D 4459	≥ 7
Slip resistance	ASTM D 2047	> 0.6
Fire resistance	FMVSS 302 (ISO 3795/76)	Conform
	Docket 90a (ASTM E648) (NFPA 253)	Class 1 (CRF > 0.45 W/cm <sup>2</sup> )
Resistance to chemicals	EN 423	Unaffected by diluted acids and bases Unaffected by domestic products (excluding solvents for plasticized PVC)

# FREEDMAN SEATING ICS

(Integrated Child Seat)

**KIDS &  
SAFETY**

**WHAT COULD  
BE MORE  
IMPORTANT?**

Also available  
the ICS-10,  
for children  
up to 10 years old.

Not Just Seats



THE FEATHER WEIGHT SERIES BY

**FREEDMAN**  
SEATING COMPANY

an ISO 9001:2000 certified company

Seating Solutions™

# FREEDMAN

# SEATING ICS

## (Integrated Child Seat)

Kids and safety, what could be more important? Nothing!

That's the underlying principle behind the Freedman ICS (Integrated Child Seat) and ICS-10.

The ICS is designed for children from 22-51 lbs. and the ICS-10 can accommodate children up to 10 years old, 22-78 lbs. Both ICS seats are comfortable for adults and safe for children.

A tapered back provides unrestricted viewing for drivers, and best of all, the shoulder belts can be adjusted in seconds without taking the seat apart or clumsy operations.

### Standard Features:

- Accommodates children 22-51 lbs. (22-78 lbs for the ICS-10)
- Matching companion seat available
- Fold down tongue can be folded to act as a booster seat
- Easily adjustable shoulder straps
- Standard with FMVSS 213 and 210 seat belt anchorage compliance
- Retrofittable; Fits on most Feather Weight frames!

### Options:

- Available in a wide variety of vinyls and cloths
- Upholstered or US Arms
- Adjustable footrests
- Freedman USR (Under Seat Retractor)
- Available as a single or double
- Grab rails

Not Just Seats



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THE FEATHER WEIGHT SERIES BY

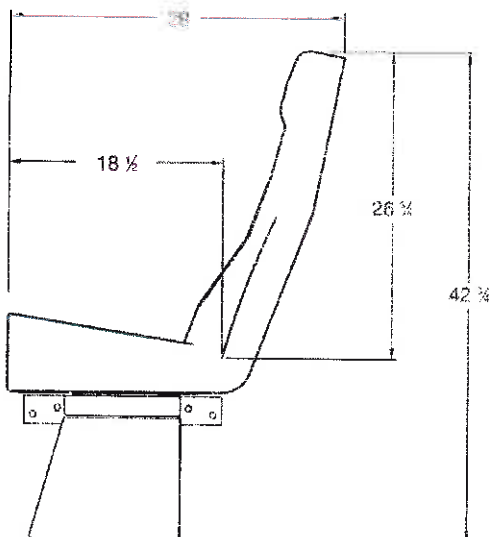
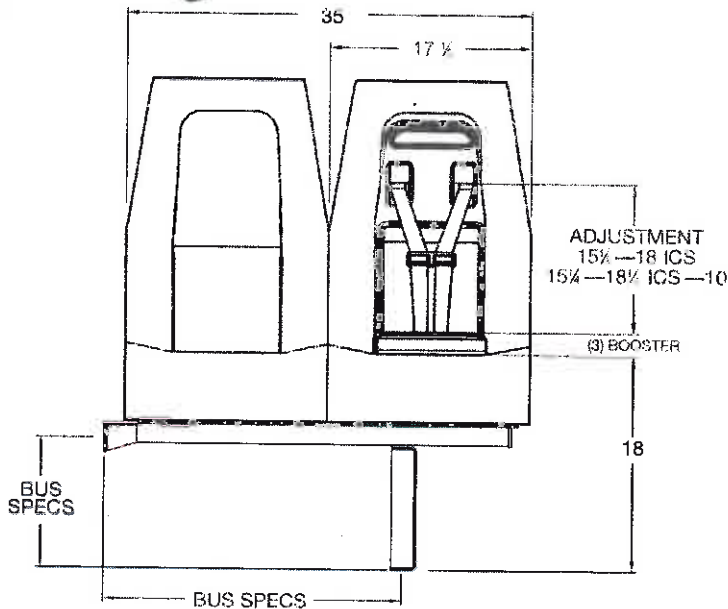
**FREEDMAN**  
SEATING COMPANY

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(773) 524-2440 (800) 443-4540 Fax (773) 252-7450

WWW.FREEDMANSEATING.COM

e-mail: sales@freedmanseat.com

We are constantly updating and improving our seats; therefore we reserve the right to change or modify specifications or materials without notice. All Freedman Seating Company seats meet or exceed FMVSS standards.



# FEATHER

MID-HI SEAT  
"ROCK SOLID"

# WEIGHT



## Sustainable Seating Solutions

Freedman Seating Company's Feather Weight seats are designed to be like feathers on a bird: light and airy to satisfy weight restrictions and ensure a smooth ride, yet durable for years of service and low maintenance.

Freedman Seating Feather Weight seats are the most severely tested in the company's history, and meet all applicable federal motor vehicle safety standards for strength and safety (including 210 for seat belts). Less weight means one thing to bus builders and operators: they can get more passengers per bus. And when we say more passengers, ***we mean more happy passengers.***



Not Just Seats



Seating Solutions™

THE FEATHER WEIGHT SERIES BY

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# FEATHER WEIGHT

## MID-HI SEAT "ROCK SOLID"



### Sustainable Seating Solutions

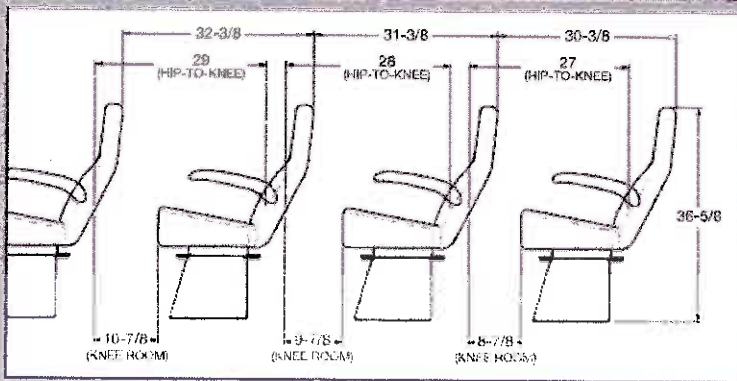
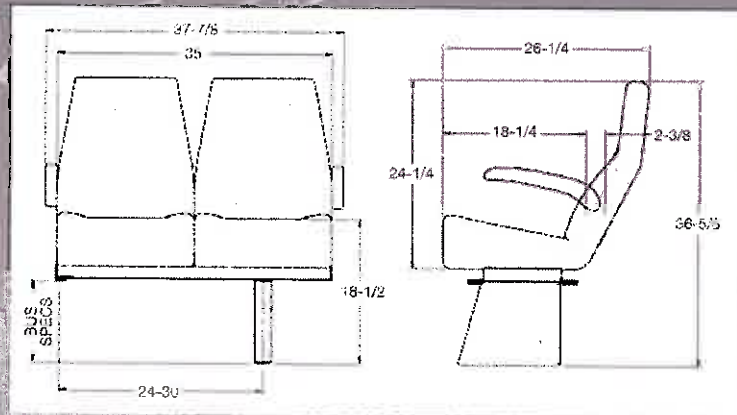
Whether your bus is for tour/charter, para-transit, or shuttle, Feather Weight Mid-Hi works for you. Optional adjustable headrests and reclining back-rests give you luxuries for long journeys, while grab rails and ABS plastic backs provide the function and safety required for shorter trips. The ultra-thin backrest gives outstanding support and creates more hip-to-knee room than any other seat in its class. The steel frame system meets or exceeds all applicable government standards for safety and durability. And, it's light as a feather!

#### Feather Weight Mid-Hi features include:

- An ultra-thin Knee-Saver type backrest for added hip-to-knee room and lumbar support
- Molded polyurethane seat and back cushions for comfort and long lasting support
- 17½" wide seat cushions
- 22½" back height off the seat cushion, 37" off the floor
- Wire mesh-grid seat springs for even support
- FMVSS 210 compliance—all Feather Weight seats are seat belt ready
- Transit style—rigid backrests (starting weight without options—43 lbs.)
- Touring style—reclining backrests (starting weight without options—47 lbs.)
- Covers that can be removed and replaced easily and without the use of special tools

#### Feather Weight Mid-Hi options include:

- Black molded U.S. Arms or upholstered flip-up armrests
- Adjustable headrests
- Black or yellow corner AV grab rails
- Black or yellow top AV grab rails
- ABS plastic backs
- Mesh map pockets
- Vertical stitching
- FTA foam
- Snack trays
- Aluminum folding footrests
- Pillow seat cushions
- Rear row quick disconnect
- Side sliders
- 16", 18" or 19" wide seats available
- Rigid or reclining backrests
- Seat belts
  - Non-retracting seat belts
  - Retracting seat belts
  - USR (Under Seat Retractors)
- S3 Bio-Cushions (Made with vegetable oil)
- A wide variety of cloths and vinyls
- S3 cloths (Made with recycled yarn)



PILLOW SEAT

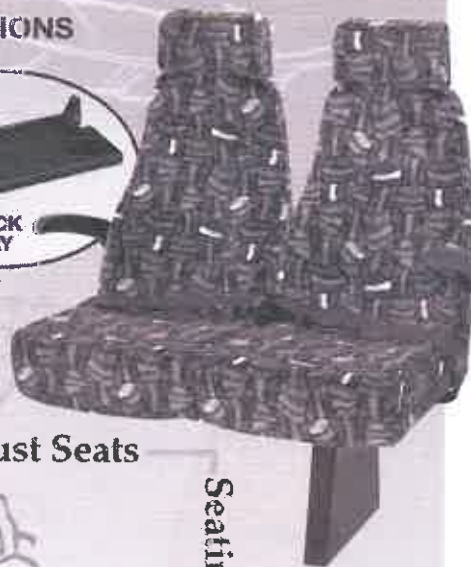


SNACK TRAY



FOOTREST

#### OPTIONS



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ISO 9001:2000 registered



# FEATHER

## HIGH-BACK SEAT

# WEIGHT

Freedman Seating Company's Feather Weight seats are designed to be like feathers on a bird: light and airy to satisfy weight restrictions and ensure a smooth ride, yet durable for years of service and low maintenance.

Freedman Seating Feather Weight seats are the most severely tested in the company's history, and meet all applicable federal motor vehicle safety standards for strength and safety (including 210 for seat belts). Less weight means one thing to bus builders and operators: they can get more passengers per bus. And when we say more passengers, *we mean more happy passengers.*



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THE FEATHER WEIGHT SERIES BY

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# FEATHER WEIGHT

## HIGH-BACK SEAT

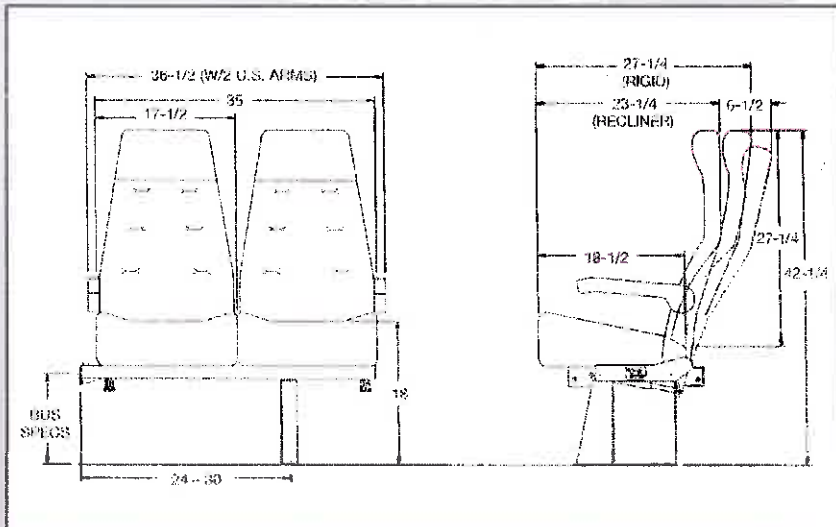
Cross-country or cross-town, the Freedman Feather Weight High-Back gets you there in safety and comfort. The headrest actually cradles your head, and provides unrestricted viewing. The ultra-thin backrest gives out-standing support and creates more hip-to-knee room than any other seat in its class. The steel frame system meets or exceeds all applicable government standards for safety and durability. And, it's light as a feather!

### Feather Weight High-Back features include:

- An ultra-thin *Knee-Saver* type backrest for added hip-to-knee room and lumbar support
- Molded polyurethane seat and back cushions for comfort and long lasting support
- 17½" wide seat cushions
- 27¼" back height off the seat cushion, 42½" off the floor
- Wire mesh-grid seat springs for even support
- FMVSS 210 compliance—all *Feather Weight* seats are seat belt ready
- Covers that can be removed and replaced easily and without the use of special tools

### Feather Weight High-Back options include:

- Black molded U.S. Arms or upholstered flip-up armrests
- Mesh map pockets
- Vertical stitching
- FTA foam
- Snack trays
- Aluminum folding footrests
- Pillow seat cushions
- Pillow headrests
- Side grab rail
- U.S.R.—Under Seat Retractors
- 16" or 19" wide seats available
- Rear row quick disconnect
- CRS-225 hooks and tethers
- Side sliders
- Cup holders
- Seat belt loops



### OPTIONS



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# FREEDMAN SHIELD DRIVER SEATS



Shield Rigid Seat

Lateral adjustable arm  
Shield Recliner Seat



Sustainable Seating Solutions  
Freedman Seating Company

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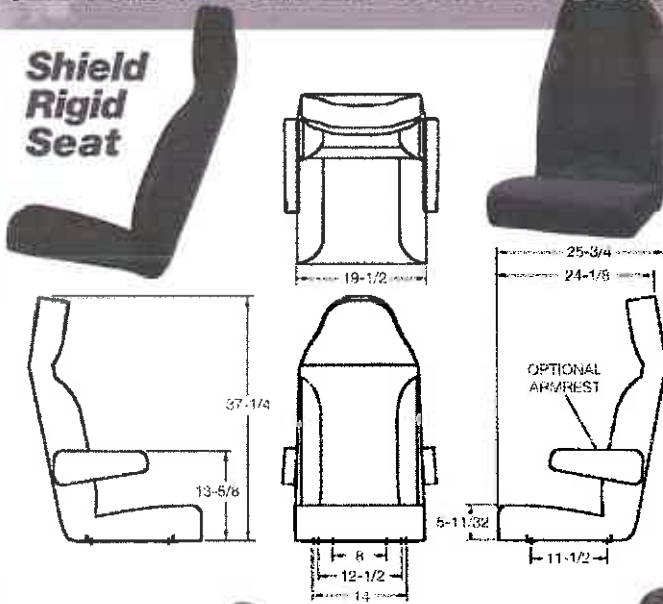


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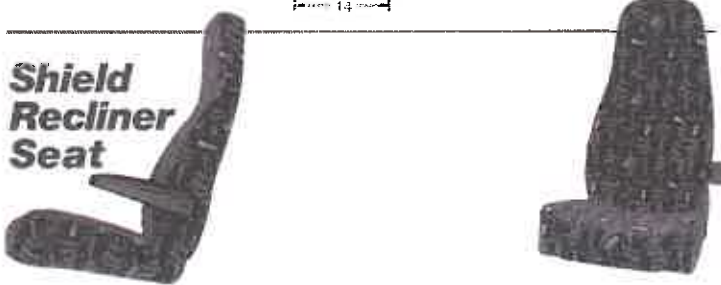
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# FREEDMAN SHIELD DRIVER SEATS

## Shield Rigid Seat



## Shield Recliner Seat



## Shield Rigid Seat

### Standard features:

- Designed and tested to comply with all applicable FMVSS requirements including 202A headrest standard
- Taller and wider headrest with decreased backset
- "Cushier" headrest for dynamic impact headrest absorption
- Automotive grade 4-spring seat flex-o-later for even load support and long life
- J-clip upholstery fastening for quick change out with no special tools
- High quality molded polyurethane seat and back cushions
- Universal mounting holes to fit Freedman Seating pedestals and most aftermarket bases

### Optional features:

- Flip arms: US Arm, AMA upholstered or wide upholstered
- Mesh map pocket
- Vertical stitching
- Wide array of fabrics and vinyls
- 4-position adjustable lumbar support
- S3 Bio Cushions
- Fore/Aft slide tracks, required for universal mounting

## Shield Recliner Seat

### Standard features:

- Designed and tested to comply with all applicable FMVSS requirements including 202A headrest standard
- Taller and wider headrest with decreased backset
- "Cushier" headrest for dynamic impact headrest absorption
- Automotive grade 4-spring seat flex-o-later for even load support and long life
- J-clip upholstery fastening for quick change out with no special tools
- High quality molded polyurethane seat and back cushions
- 4-position adjustable lumbar support
- Heavy duty recliner mechanism
- Mounting brackets to fit Ford E-Series and Chevy cutaway seat delete bases

### Optional features:

- Molded flip arms
- Mesh map pocket
- Vertical stitching
- Wide array of fabrics and vinyls
- FTA foam
- S3 Bio Cushions
- Universal mounting holes to fit Freedman Seating pedestals and most aftermarket bases
- Fore/Aft slide tracks (not for Ford or Chevy seats), required for universal mounting

We are constantly updating and improving our seats; therefore we reserve the right to change or modify specifications or materials without notice. All Freedman Seating Company seats meet or exceed FMVSS standards.

## Not Just Seats



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e-mail: sales@freedmanseat.com

### MARKETS



DELIVERY TRUCK



BUS



VAN



MARINE



SPECIALTY



Sustainable Seating Solutions  
Freedman Seating Company

# SEAT BELT SPECIFICATIONS

## *USR Under Seat Retractor*

Seat belts shall be the *Freedman USR* or prior approved equal. They shall meet or exceed every applicable Federal Motor Vehicle Safety Standard including FMVSS 209 (seat belt assemblies, performance & strength) and FMVSS 210 (seat belt mounting certification). All seats belts shall have the following minimum requirements:

1. All two-point seat belts shall be the Freedman Seating USR (Under Seat Retractable) belts or prior approved equal.
2. All seat belts must meet or exceed Federal Motor Vehicle Safety Standard 209. All seat frames must meet or exceed Federal Motor Vehicle Safety Standard 210.
3. All seat belts must be user friendly, easy to operate, lightweight and durable.
4. In order to maximize passenger comfort, all seat belt retractors must be permanently located under or behind the seating position. Traveling retractors that sit on top of the passenger's lap are not acceptable.
5. All female seat belt buckles must be fixed in position by a metal bracket or cable, permanently keeping the belts in the correct position and off the floor.
6. USR seat belts on foldaway seats must have the retractor spool attached to the bottom of the foldaway seat and utilize a 90 degree bend in the retractor housing to prevent the webbing from being twisted. This allows the male (tongue) end to be positioned flat on the seat cushion which provides the passenger with easy access to the seat belt.

For dual rear wheel vehicles:

7. The passenger seats, frames and seat belts should operate as a complete system. All two-point seat belts must be permanently mounted on the seat frame. Seat belts attached to the floor track or wall track are not acceptable.

For single rear wheel narrow body vehicles that do not require shoulder 3 point belts:

- The passenger seats, frames and seat belts should operate as a complete system. All two-point seat belts must be permanently mounted on the seat frame. Seat belts attached to the floor track are not acceptable.

For modified vans and executive shuttle type vehicles that require shoulder 3 point belts on all window seats:

- The passenger seats which are not next to the window (the aisle seats), frames and seat belts should operate as a complete system. All two-point seat belts must be permanently mounted on the seat frame. Seat belts attached to the floor track are not acceptable.

FREEDMAN SEATING COMPANY  
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USR.doc/jtm01

## Passenger Seats Limited Warranty & Sales Terms

January 2009

### WARRANTY:

Freedman Seating Company warrants to the original buyer that its Passenger Seats are free from defects in material and workmanship for the following components:

Metal Components – Five (5) years

Plastic Components – Three (3) years

Moving Components – Three (3) years

Gas Shock Components – One (1) year

Upholstered Components (foam) – Three (3) years

Cover Warranty is for defects in the material or sewing and is limited to replacement covers.

- One (1) year for Level #1 in-stock FSC material and perforated vinyl
- Two (2) years for Level #3 in-stock FSC material and higher
- No warranty for COM (Customer Own/supplied Material)

The warranty period begins at time of the bus in-service date not to exceed 180 after the date of the shipment from Freedman Seating Company.

### NON-PRORATED REPLACEMENT:

In the event that a warranty-covered failure should occur within the warranty period, Freedman Seating Company will repair or replace the seat without charge and without prorating, at Freedman Seating Company's option. This is the sole and exclusive remedy for breach of any warranty. Any replacement seat or part is only covered by this warranty for the remainder of warranty period applicable to the original seat.

### EXCLUSIONS:

This warranty specifically excludes foam, upholstery material, seat belts, and items exposed to normal wear and tear such as metal finish and paint and does not apply to any seat that is damaged as result of accident, derailment, improper installation, structural defects, intentional damage, abuse, vandalism, negligence, misuse, improper operating conditions, lack of maintenance, or extreme natural phenomena. Seats exposed to toxic or corrosive materials are excluded from this warranty. Seats exposed to cleaning solutions that are not listed on the Freedman Seating Company Cleaning Guide are excluded from this warranty. This warranty is provided directly to the purchaser only and does not extend to any subsequent party and is solely for the Freedman Seating Company product as it is originally manufactured.

### INCIDENTAL, CONSEQUENTIAL DAMAGES, & LIMITATIONS:

This warranty shall be in lieu of any other warranty or terms, expressed warranty or terms, expressed or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. The purchaser's sole and exclusive remedy against Freedman Seating Company shall be for the repair and replacement of the defective product as provided herein. No other remedy; including but not limited to incidental or consequential damages for lost profits, lost sales, injury to person or property, shipping, freight, installation, removal, or any other incidental or consequential loss shall be available to the purchaser.

### NOTIFICATION:

All reports, claims, or notices required by the warranty to be provided to Freedman Seating Company must be in writing and delivered to: Attention – Freedman Seating Company, Warranty Claim Department, 4545 W. Augusta Blvd., Chicago, IL 60630. Repairs being claimed for warranty must be sent to Freedman Seating Company for prior approval and warranty acceptance before any warranty claims can be made. Parts being claimed for warranty must be sent to Freedman Seating Company for prior approval and warranty acceptance before any warranty claims can be made.

### INSPECTION AND VERIFICATION:

The owner must provide access to the failed seat so that Freedman Seating Company's authorized representative can perform an on-site inspection. Alternatively, Freedman Seating Company may ask the owner to ship the failed seat to Freedman Seating Company's laboratory for inspection. Within 30 days of the inspection, either on-site or in the laboratory, Freedman Seating Company will render an opinion as to whether or not the claimed failure is covered by the warranty.

### GENERAL MAINTENANCE:

Freedman Seating Company provides the proper maintenance and cleaning instructions on its web site [www.freedmanseating.com](http://www.freedmanseating.com). Warranty is contingent upon documented performance of recommended maintenance and service. All replacement parts should be recommended or authorized Freedman Seating Company components. Failure to purchase proper components will null and void the warranty.

### DESIGN:

Freedman Seating Company reserves the right to modify parts and design specifications without notice as long as the seats meet general specifications, unless otherwise committed per contract. In case further non-conforming changes have to be incorporated, Freedman Seating Company will submit such changes to customer for prior approval.

### OTHER:

The terms and warranty are contingent upon customers meeting agreed upon payment terms as specified in Freedman Seating Company proposals. Terms and warranty supersede any other terms including but not limited to customer terms printed on the back of Purchase Orders, listed on websites, or other sources from customers.

Warranty – Passenger Seats 1-09

## Padded Grab Handles







Thinking *Beyond* Safety

# QRT™ SERIES

The New Standard  
in Wheelchair Securement and Passenger Safety



# QRT-3 SERIES



Meets the Requirements of **WC18**  
Compatible with **WC19** Wheelchairs



# QRT-360

## MEETING TOMORROW'S STANDARDS, TODAY

**Introducing the QRT-3 SERIES Wheelchair and Occupant Securement System:**  
The first 4-point, heavy duty, fully automatic retractable tie-downs designed, engineered and built to perform in wheelchair crash tests under **WC19** as well as withstand the higher loads of the **WC18 standard**.

More impressively, the new **QRT-360** meets these increased standards years ahead of their effective date in 2015.



### WC18/WC19 at a Glance

As WC19 wheelchairs become increasingly popular, the countdown has already begun for wheelchair tie-downs to be compatible. Year-end 2015 will see the effective date of the revised RESNA WC18 standard for Wheelchair Tie-downs and Occupant Restraint Systems (WTORS).

The most significant implication of the revised standard is that wheelchair tie-downs must be stronger. WC19 covers the design and testing of wheelchairs for use in passenger transportation, and it brings about much needed passenger protection as well as some challenges for WTORS manufacturers.

These crash tested wheelchairs will feature lap belts that are integrally mounted onto the wheelchair frame, as opposed to relying on traditional WTORS equipment where the passenger belts are mounted separately. During a collision, this new dynamic produces higher loading on the WTORS as much as 60%. Enter the QRT-360, the first retractor to meet these new requirements.

# AN ALL NEW DESIGN FROM THE FLOOR UP

**Stronger than any previous retractors, the QRT-360 utilizes innovative energy management designs and material technologies to deliver the system's full strength for maximum load capacity.**

**An energy-absorbing steel frame, new high strength 58 mm webbing and fine-adjust self tensioning from 25 high-strength teeth, the QRT-360 retractors achieve a surrogate wheelchair rating that meets the requirements of WC18. The geometry of the teeth and an innovative new locking bar design provide perpendicular alignment for maximum strength. A re-engineered Positive Locking Interface contributes to the system's ability to secure extremely heavy loads.**

**With many more safety features than manual straps and significantly lighter and more practical than 6-point systems, space-efficient QRT-360 retractors safely secure both the chair and occupant in an easy-to-use 4-point restraint. This not only meets the new WC18 standard for combined occupant and chair securement, but it eliminates the need, cost and additional securement time associated with having four anchorages dedicated to the rear securement.**

## Compatible with Most Vehicles and Chairs

The QRT-360 offers a shortened retractor footprint that allows placement flexibility and better accommodates large chairs by increasing the available space in the securement location. Like other Q'Straint systems, it's compatible with the widest variety of wheelchairs and scooters.

## A More Secure Connection, Every Time

With Q'Straint J-hook attachments, operators can achieve a secure attachment on virtually any wheelchair. An updated Positive Lock Indicator provides the operator with clear and certain visual confirmation that the retractor is locked and the vehicle is ready to go. Our patented design eliminates the guesswork when passenger safety is involved. When the indication mark is in-line, the attachment is secure.

## Automatic Tightening Increases Safety

Q'Straint's industry-leading self-tensioning system automatically tightens the straps to eliminate any slack created by small wheelchair movements. The belts continue to tighten during low-g vehicle movements, which reduce the potential for dangerous excursions in the event of a collision.

## Automatic Release Makes it Easy to Use

Securement is simplified by the compact and ergonomically designed knob. Thanks to Q'Straint auto-release, operators and attendants can pull and secure the wheelchair hook in one step without having to press a release button.

## SOLUTIONS FOR EVERY TRANSPORTATION APPLICATION

Personal  
Mobility

Para-Transit

School/Pupil  
Transportation

Transit

Motorcoach

Taxi



# QRT-1 SERIES

## THE SECUREMENT SYSTEM THAT CHANGED EVERYTHING

The original 4-point wheelchair securement system, QRT-1 Series retractors defined the way passenger safety devices are designed and tested.

### Solutions for Every Need and Budget

Today, QRT-1 Series retractors provide a full range of options for simple, safe and effective securement of wheelchairs in Para-Transit vehicles, mini-van, rail, city bus, coach bus, and school bus applications.



### QRT Max

is a **fully automatic**, knobless retractor offering innovative features that maximize ease of use and ensure passenger safety.



### QRT Deluxe

is the world-class original **self-locking** and **self-tensioning** retractable system. The Max and Deluxe models feature a new ergonomic streamlined housing.



### QRT Standard

is simple and economical semi-automatic retractor system appropriate for many applications.

## QRT-1 Series Specifications

**Compatible Anchorages:**  
Slide 'N Click and L-Track floor anchorages, or may be directly mounted to vehicle floors, seat legs or barriers.

**Warranty:**  
3 years (QRT Max, QRT Deluxe)  
2 years (QRT Standard)

**Testing:**  
Crash tested to 30mph/20g  
Impact Test Criteria

**Meets or exceeds the following standards and regulations:**

- SAE J2249
- ISO 10542
- FMVSS 209, 302, 210, 222
- CMVSS 309
- CSA Z609
- ADA

QRT SERIES-1		QRT	QRT	QRT
FEATURES COMPARISON		MAX	DELUXE	STANDARD
<b>Knobless, One-Handed Operation</b>	No knobs to interfere with wheelchairs and transfers	●		
<b>Dual Tensioning Knobs</b>	Provides additional tensioning if needed		●	
<b>Single Tensioning Knob</b>	Provides additional tensioning if needed			●
<b>Automatic, Self-Locking</b>	Allows easy, one-handed hook-up	●	●	
<b>Self-Tensioning</b>	Retractors automatically take up slack	●	●	
<b>Positive Lock Indicator</b>	Patented feature clearly indicates when fitting is locked in anchorage	●	●	●
<b>Interchangeable</b>	Eliminates confusion: no right, left, front, or rear locations	●	●	●
<b>Low Profile &amp; Compact</b>	Elimination of mounting bracket allows retractors to fit under most footrests	●	●	●
<b>Accommodates Larger Wheelchairs</b>	Reduced overall retractor length leaves more room for wheelchairs	●	●	●
<b>Universal Design</b>	Accommodates virtually all wheelchair designs, including scooters	●	●	●
<b>Durable</b>	Constructed from hardened steel and coated in zinc for maximum corrosion resistance	●	●	●
<b>J-Hook</b>	Reduces twisting of belts and ensures proper securement with a quarter turn accommodating virtually all wheelchair designs	●	●	●
<b>Foot Release Lever</b>	Easy release	●	●	●



Qstraint.com

**Q'Straint America**  
5553 Ravenswood Road, #110  
Ft. Lauderdale, FL 33312  
Tel: 800-987-9987  
Fax: 954-986-0021  
Email: qstraint@qstraint.com

**Q'Straint Europe**  
72-76 John Wilson Business Park  
Whitstable, Kent, CT5 3QT  
United Kingdom  
Tel: +44 (0)1227 773035  
Fax: +44 (0)1227 770035  
Email: info@qstraint.co.uk

**Q'Straint Australia**  
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21 Shoebury Street,  
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Tel: +61 7 3892 2311  
Fax: +61 7 3892 1819  
Email: info@tramanco.com.au

**Q'Straint Canada**  
18-100 Sheldon Dr.  
Cambridge, ON N1R 7S7  
Tel: 1-800-987-9987  
Email: qstraint@qstraint.com

MKM4821 - QRT3



*Supplying the world with safety.*

## Warranty Policy

Q'Straint belts/retractors are inspected and tested thoroughly. The product is warranted to be free from defects in workmanship and materials for the periods from the date of purchase:

- Q'POD – 5 years (with warranty card submitted & proof of maintenance)
- Q'UBE -3 years (with warranty card submitted & proof of maintenance)
- QRT Max – 3 years (with a warranty card submitted)
- QRT Deluxe – 3 years (with a warranty card submitted)
- QLK -150- 3 years (with warranty card submitted & proof of maintenance)
- QLK-100 – 2 years (with warranty card submitted & proof of maintenance)
- QRT Standard – 2 year (with a warranty card submitted)
- Q-5000 (Q'Straint) – 2 years
- M-Series – 2 year
- Anchorages (track) – 1 year
- Accessories – 1 year

Should any of the belts fail to operate properly during the warranty period, return the COMPLETE belt/retractor, freight prepaid, to Q'Straint or an authorized dealer. In some situations, we will determine to provide a replacement, at a charge, while we receive and inspect the item claimed. If inspection shows that improper operation is caused by defective workmanship or material, Q'Straint will repair or replace the belt/retractor only, at no charge. Otherwise, invoice for replacement is due and payable within 45 days from ship date. Q'Straint does not warrant labor charges.

This warranty does not apply:

- where normal maintenance is required
- repairs have been made or attempted by user
- the belts/retractors have been abused, misused or improperly maintained
- alterations have been made to the Q'Straint belts/retractors by user or installer

A warranty card is enclosed with each Q'Straint kit, please fill this card out in full and mail back to your nearest Q'Straint office OR register the product online at [www.qstraint.com/registration](http://www.qstraint.com/registration).

Please contact us with any questions or concerns.

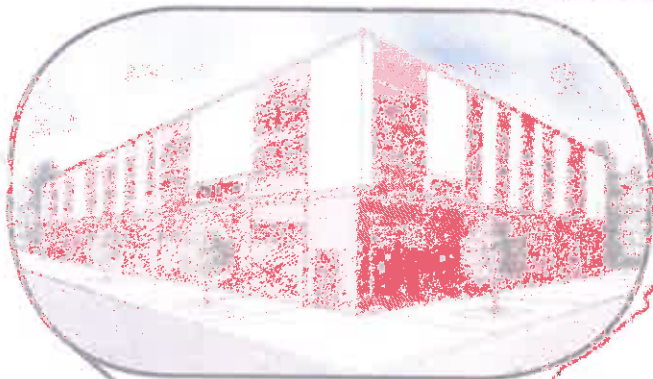
# Rosco Vision Systems

Made in the **U.S.A.**

**COMMERCIAL BUS**



Mirror Assemblies  
Mirror Mounts & Arms  
Integrated Products  
Sun Visors  
Continuous & Event Video Recording  
Cameras & Backup Safety Products



**Queens, New York**



*New York Since 1907*



**Vision Systems**

# Rosco Vision Systems

## Industries & Products

### Industries We Serve

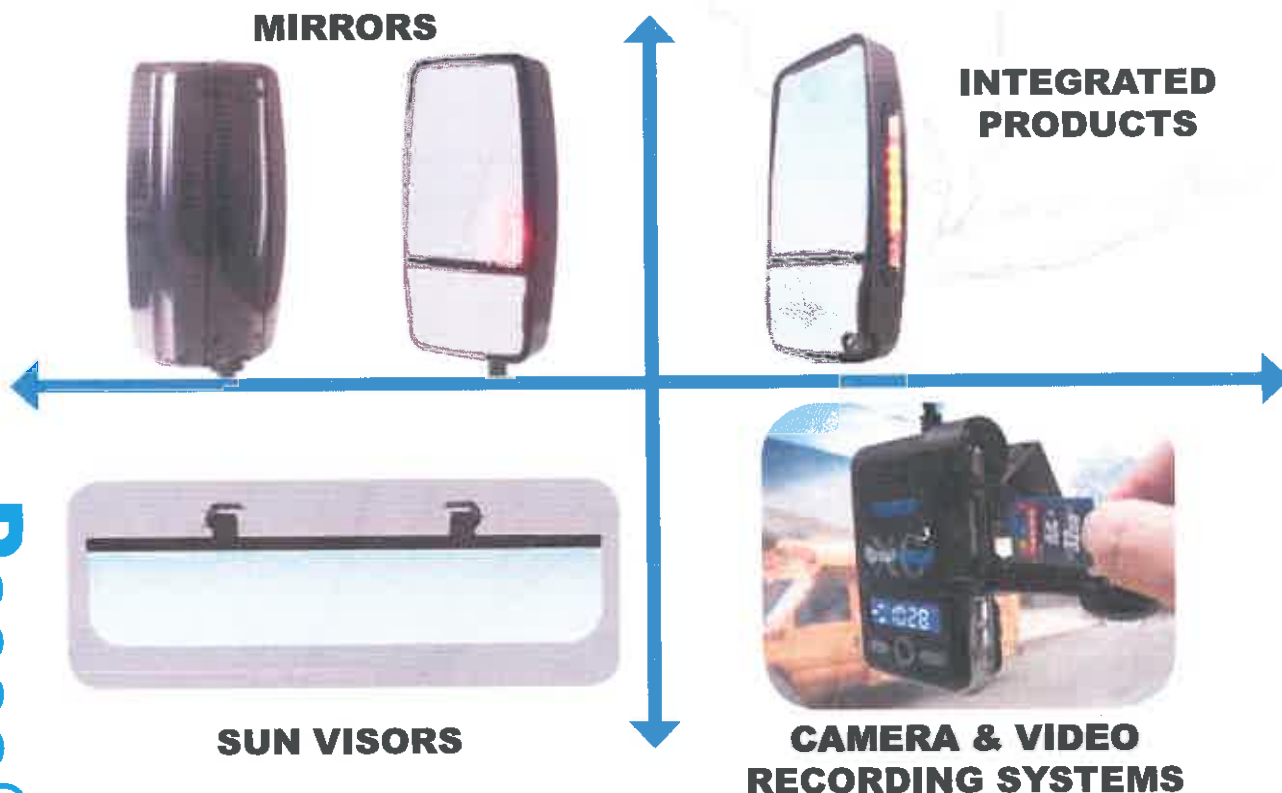
Rosco's standard and custom products are engineered and manufactured for these industries:

- Commercial Bus
- Transit/Coach Bus
- Cutaway Bus
- School Bus
- Truck
- Emergency & Rescue
- Fire Truck
- Military
- RV
- Material Handling
- Construction
- Aggregate

*Rosco Vision Systems is committed to providing customer satisfaction and quality products supported by employee participation and continuous improvement through the quality management system.*



### Product Matrix

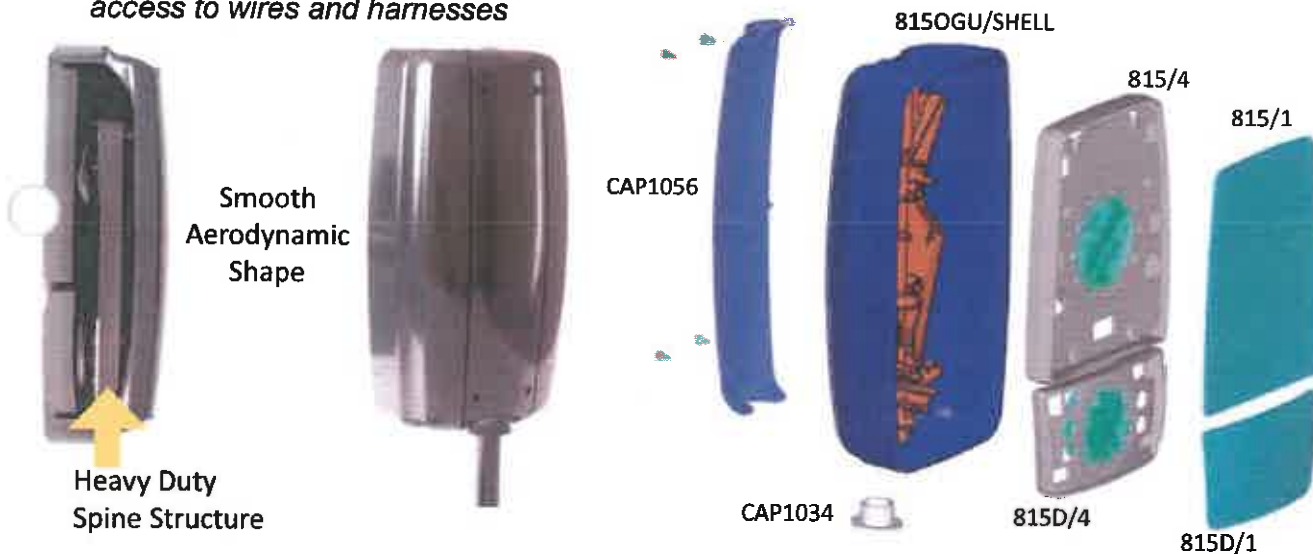


# AccuStyle®

## 815 Series

### Features and Benefits

- *Lightweight*
- *Certified by OEM's to meet FMVSS-111 requirements*
- *Same model can be mounted as upright, overhang or two point mount*
- *Reduces inventory of replacement parts*
- *Aerodynamic, wind tunnel tested profile has lower drag coefficient for increased fuel economy*
- *Used on all commercial bus types including cutaway, conventional and transit style*
- *Available heated, motorized, embedded or external turn signal LED's*
- *Each motorized mirror lens is four way adjustable*
- *Hidden wire and connectors*
- *Full height rear entry cap allows for simple installation and ease of maintenance including access to wires and harnesses*



### AccuStyle® 815 Series 8" x 15" Dual Mirrors

PART NO.	DESCRIPTION
815	8" x 15" dual mirror, two point mount, motorized, 12 volt
8150G	8" x 15" dual mirror, overhang mount, motorized, 12 volt
815SLU/815SRU	8" x 15" dual mirror, upright mount, motorized, 12 volt with L or R signal lens LEDs
815SLEU/815SREU	8" x 15" dual mirror, upright mount, motorized, 12 volt with exterior L or R signal LEDs
815U	8" x 15" dual mirror, upright mount, motorized, 12 volt
M815	8" x 15" dual mirror, two point mount, hand adjustable
M8150G	8" x 15" dual mirror, overhang mount, hand adjustable
M815U	8" x 15" dual mirror, upright, hand adjustable

\* For Heated Add "H" to the End of All Part Numbers Without a "/", or Add "H" in Front of the "/" When Present.



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AccuStyle®

COMMERCIAL BUS



# E-Z Bracket®

## Heavy Duty Fender Mount

### Features and Benefits

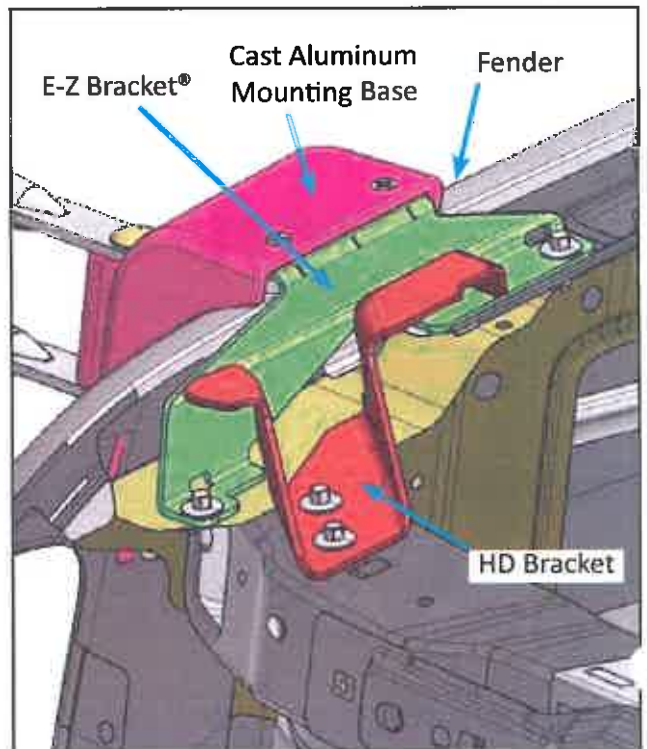
- *Simple and Fast Installation: Rosco's patented E-Z Bracket® System makes installation of a Type "A" bus mirror system easier than ever before. (Patent No. 7,055,973).*
  - *The under-the-fender mount utilizes existing fender mounting bolts to secure the mount below the hood.*
  - *Rosco's unique ferrule system transfers the strength of the inner heavy-gauge fender wall to the exterior of the vehicle.*
  - *Installation is completed with two holes instead of as many as twelve.*
  - *Eliminates the large arms and braces commonly used on passenger side mirror.*
- *Massive cast aluminum mounting base provides a stable mount for vibration resistance and durability.*
- *Low-profile construction is aerodynamic and aesthetically appealing.*
- *Contoured profile matches the fender perfectly for a solid mount that looks great on the vehicle.*
- *Available for both Ford and GM vehicles.*
- *Vibration reduction/dual wall tube.*

### Fender Mount HD E-Z Bracket®

The Rosco HD E-Z Bracket® maximizes holding force with OEM inner hood components to simplify installation and minimize vibration.



HD E-Z Bracket® Installation



HD E-Z Bracket® Model

# Improving Safety & Efficiency

## Stronger Arms and More Mirror Options

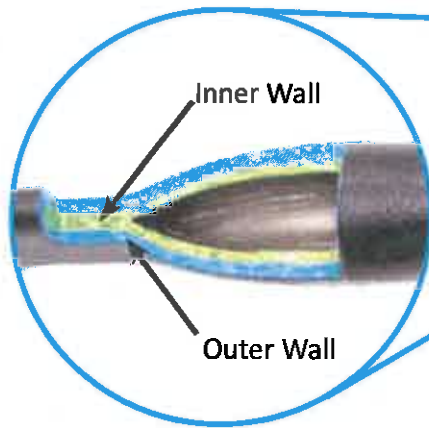
### Dual-Wall Tubing

In 2012 Rosco introduced the E-Z Bracket® HD heavy duty mounting base design that reduced mirror vibration amplitude and resonance by up to 50%. The E-Z Bracket® HD quickly became the new standard for all E-Series Ford fender applications moving forward.

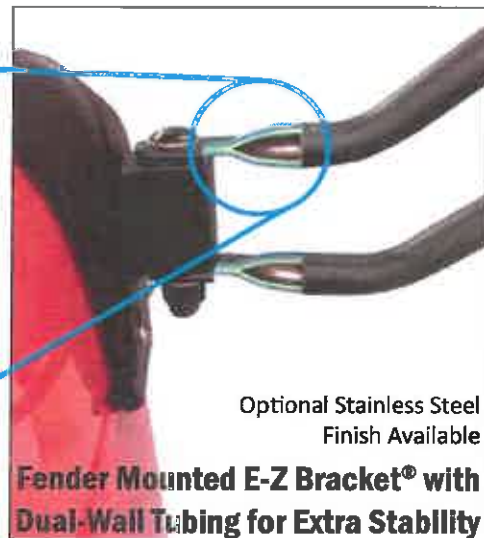
In 2014, Rosco furthered the fight against unruly fender vibration by

introducing "Dual-Wall" high strength steel arm technology on all fender mount arms for Ford and GM. Dual-Wall tubular arms dampen vibration more than single wall tubular arms and exceed the performance of all other arm designs, both tubular and extruded.

Dual-Wall arms have the added strength where it is needed most at the mounting location, but the benefit of thinner wall, light weight performance through the majority of the arm. When coupling all three of Rosco's fender mount weapons... the Dual-Wall arm, the E-Z Bracket® HD, and the AccuStyle® lightweight mirror head, the Rosco Mirror "System" has never been stronger in overcoming the many challenges of light weight fenders.



Dual-Wall Tube Detail



### Rearview Camera and LED Options



Add Rosco LED side marker lights for omnidirectional vehicle alerts to other drivers and pedestrians.



Add Rosco blind spot/wide angle viewing cameras to help driver visibility. The industry's only integrated mirror camera that adjusts positions with the convex mirror lens adjustment

Rear Looking Camera (both manual and remote control).



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COMMERCIAL BUS

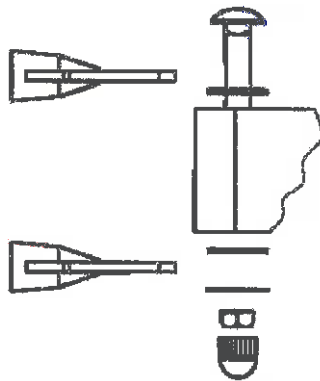
Improvements

# Breakaway Arm Assemblies

## Swivel & Spring-Break® Detent

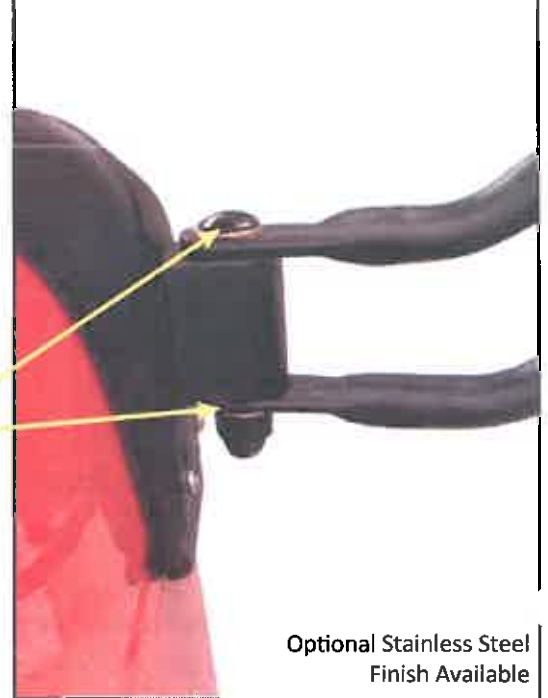
### Non-Detent Swivel Arm Assembly

Rosco's non-detent swivel arm assembly is the industry standard. It's unique sandwich design provides unparalleled mirror assembly adjustment while being powerful enough to hold positions at highway speeds. With infinite adjustability, the vehicle operator can locate the mirror arm and head to an optimal location for each distinctive driver eye-point location.



Unique hinge design allows for wide range of swinging motion allowing drivers to adjust the position of arms as well as mirrors to find the optimal view from the driver's seat.

### Non-Detent Swivel Arm Assembly

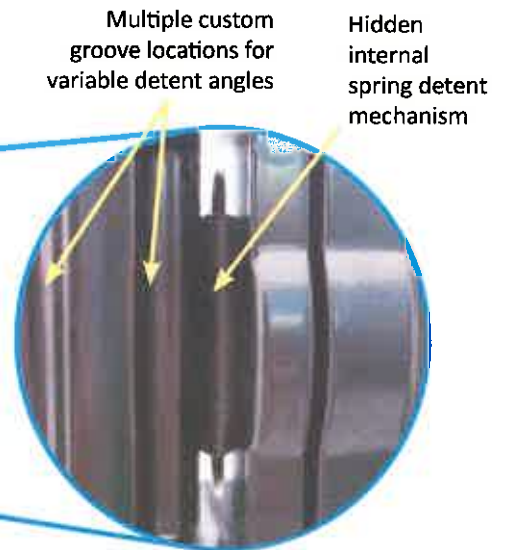
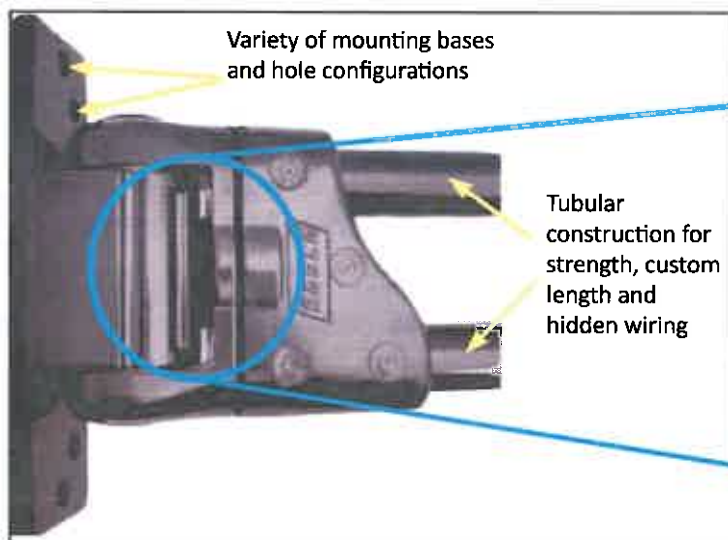


Optional Stainless Steel Finish Available

Breakaway Assemblies

### Spring-Break® Detent

This line of mounting arms has a unique spring loaded detent mechanism that dampens vibration and keeps the arm locked in position. Heavy-duty cast aluminum mount and swivel provide long lasting reliability and unequaled stability. Tubular construction keeps things economical. Totally maintenance free and offered for Ford, GM, Freightliner and Navistar cutaway buses.



Spring-Break® Detent Detail

# Combo & Interior Mirrors

## Rearview & Crossview Assemblies

### Combination Assemblies



More than one Rosco fender mounted mirror can benefit from the uniquely stable E-Z Bracket® HD mounting base. The "combo" fender mounted mirror design allows both rearview and front crossview mirrors to efficiently install on a common point, thus minimizing holes in the vehicle and maximizing ease of installation, and performance.

← **AccuStyle® Rearview & Hawk-Eye® Crossview Combination Assembly**

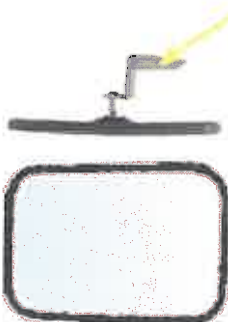
### Interior Mirrors

- All models manufactured with safety glass.
- Padded edges meet federal and state requirements for safety.
- Available with non-glare glass.
- Many come complete with mounting brackets.
- Powder coated for durability.
- Available in various sizes and mounting configurations.



530

616INT/BKT



609DRYL

PART NO.	DESCRIPTION
530	6" x 16" interior mirror, safety glass
630	6" x 30" interior mirror, safety glass
416	4" x 16" interior rear view mirror w/ safety glass
609D	6" x 9" entrance door convex mirror
609DRYL	6" x 9" entrance door convex mirror w/ 616INT/BKT
616DRYL	7" x 16" entrance convex mirror w/ 616INT/BKT
355N/355S/355V	6" round flat mirror w/ mounting bracket
362R	12" round convex mirror w/ ball stud mount
601D	6" round convex mirror w/ center from stud
710	7" x 10" convex mirror

630



Vision Systems

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**COMMERICAL BUS**  
**Combo Assemblies & Interior Mirrors**

# Switches & Harnesses

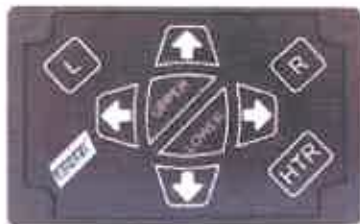
## Control Switches & Wire Harnessing

### Features and Benefits

A variety of switches, including heater controls and timers, are available to suit all requirements. Wire harnesses are available from stock or in custom lengths, with many different standard and weatherproof connectors.

- A variety of mirror control switches in various sizes to suit every need.
- Heater control switches available in four types with optional heater timer and shut off.

PART NO.	DESCRIPTION
SW-3	Remote mirror control switch, 12V, 1.4" diameter, 12" harness
SW-5	Mirror heater momentary switch, 1" x 0.5"
SW-5-HT	Mirror heater momentary switch, with 10 minute heater timer relay and shut off
HAR5004	2X SW-3 round remote switches & 1X SW5-HT heater remote with timer
HAR5007	2X SW-3 remote switches & 1X SW-5HT heater switch with timer, 10-pin for LED
HAR5012	Switch Plate Assembly, 2 remote switches and 1 momentary heater switch w/ 10 minute heater timer relay, w/ 10 pin connectors for LED turn signal
HAR5013	Switch Plate Assembly, 2 remote switches & 1 momentary heater switch w/ 10 minute heater timer relay



**ILLUMINATED  
MEMBRANE SWITCH**



**HAR5012 (H/R/LED)  
or HAR5013 (H/R)**



**SWI2005  
MOMENTARY  
SWITCH**



**SWI3003  
TOGGLE  
SWITCH**

### Integrated Membrane Switches

PART NO.	DESCRIPTION
SWI1010	Integrated membrane switch w/ heater timer for remote and heated, vertical configuration
SWI1011	Integrated membrane switch w/ heater timer for remote and heated, horizontal configuration
SWI1013	Integrated membrane switch w/ heater timer for remote / LED and heated / remote / LED, vertical configuration
SWI1014	Integrated membrane switch w/ heater timer for remote / LED and heated / remote / LED, horizontal configuration

### Ford E-Series Driver Door Mounted Switches

PART NO.	DESCRIPTION
HAR5020	Switch Pod w/ toggle heater switch, red illuminated and 2 remote switches
HAR5024	Switch Pod w/ toggle heater switch, red illuminated
HAR5029	Switch Pod w/ momentary heater switch (green), timer, 2 remote switches
HAR5032	Switch Pod w/ momentary heater switch (green), timer, 2 remote switches, 10 pin connectors for LED mirror turn signal



**HAR5020**

# Fleet Safety Management

## Continuous Video & Event Recording

### Dual-Vision™ XC Recording

Rosco's Dual-Vision™ XC is the most cost effective windshield based camera that offers all the benefits of event based recording with the added benefit of continuous recording. With Dual-Vision™ XC fleets have the ability to reduce distracted driving, improve driver performance, and reduce liability and insurance premiums. Some Dual-Vision™ XC features include:

- No monthly fees
- Up to 160 hours of continuous video on a 32GB SD card
- Tamper proof SD card lock
- G-Force recognition
- Vehicle speed
- Integrated GPS tracking
- Driver panic button
- 24 hour surveillance timer audio, night vision
- Up to 6 camera views
- Wi-Fi download capability and much much more.



Dual-Vision™ XC 2+1



### DV-Pro® Advanced Data Management Software



Maximize your data's potential with the DV-Pro® fleet database management system. This software was developed specifically for organizing information captured by Dual-Vision™ XC recording devices. DV-Pro® makes it fast and easy to view or transfer recorded data, locate specific events on footage, archive or discard content, and compile reports or email files. DV-Pro® driver tools give greater control of information generated by high capacity Dual-Vision™ XC recorders. You can conduct searches based on detailed criteria and quickly make note of key events such as speed overages.

Contact us today for more information.

CALL TOLL FREE: 800.227.2095



Third Camera  
Quad Screen  
Pop-up Window

COMMERCIAL BUS

Digital Products

# Backup Safety Products

## Backup Cameras & Monitors

### Safety Starts with a Rearview Camera

We cover all the safety angles so your vehicle can backup safely. Replace a standard rearview mirror with one that displays an LCD image as soon as the vehicle is shifted into reverse. Or install a rearview mirror backup camera that delivers an unobstructed view of what's behind the vehicle even when it's dark outside.

Reduce the risks of moving in reverse. Drivers will be able to maneuver easily in reverse with one of our backup camera kits.



**STSK7965**  
COMPLETE CAMERA KIT



**STSC106**  
BULLET CAM



**STSC109B**  
REAR LOOKDOWN  
OR SIDE MOUNT



**STSC112**  
LICENSE PLATE CAM



**STSC118**  
INTERIOR DOME  
CAM



**STSC128**  
UNIVERSAL  
SIDE CAM

*Cameras Types include:*

- Rear look down
- Universal side mount
- Interior dome
- License plate
- Small Bullet
- Brake Light

*Monitor Options include:*

- 5" LCD
- 7" LCD
- Single to quad screen
- Black-lit LCD
- Ultra bright mirror-monitors

Rosco's line of integrated rear light backup cameras are made for work vans such as the Sprinter, GM/Chevy Express and Nissan NV 1500 - 3500 series. Enhance safety with these seamless backup cameras suited for your vehicle and engineered to work with most Rosco monitors and mirror-monitor combos.



**STSC160**  
SPRINTER CAM



**STSC161**  
GM/CHEVY EXPRESS



**STSC162**  
NISSAN NV 1500 - 3500



**STSM207**  
7" COLOR LCD  
w/ QUAD SCREEN CAPABILITY



**STSM241**  
5" COLOR LCD

# Backup Safety Products

## Backup Cameras & Backup Sensors

### MOR-Vision Mirror/Monitor Backup Camera Systems



STSM230

Rosco Vision Systems introduces a revolutionary new backup camera system (STSK4530) for small to medium vehicles. This new system utilizes an interior rearview mirror (STSM230) to display a 4.3" LCD monitor when the vehicle is in reverse operation. This monitor allows the driver to see behind the vehicle, and once the vehicle is shifted to all other modes of operation a normal mirror view reappears.

This STSM230 mirror-monitor is also compatible with the brake light backup cameras (See *STSC160, STSC161, STSC162 on opposite page*) for the Sprinter, GM/Chevy Express and Nissan NV 1500-3500 work trucks.



STSK4530

The MOR-Vision series also includes our STSK5530 kit and STSK6630 kit for small and large buses. Buses equipped with MOR-Vision have options for multiple cameras and automatic monitor view changes based on operational conditions of the bus.



STSK6630

### Backup Safety Sensors

A wireless backup sensor kit alerts drivers to unsafe situations behind a vehicle. Rosco designs flush mount and under-the-bumper backup sensors for a range of applications. Commercial vehicle backup sensors give drivers the information they need for safe reversing to loading dock alignments. Look to Rosco backup sensors for trucks and other hardworking vehicles. With sensor kits and backup cameras, we deliver rugged tools for smooth driving.



BSSK1001

CALL TOLL FREE: 800.227.2095

COMMERCIAL BUS

ROSCO®



## The History & Present

**Manhattan, New York, 1907**

As a native New York company, Rosco was founded in 1907 with a main focus in manufacturing automotive mirrors, head and tail lamps, spot and dome lights, switches and other machined parts.

Today, Rosco is one of North America's leading suppliers of backup camera systems, mirrors, visors, and other visual safety solutions to the worldwide commercial vehicle market. For over a century, Rosco's vision has remained exceptionally clear. We engineer and manufacture visual safety systems for buses, trucks, military and fleet vehicles. The company is proud to be the largest supplier of bus mirror systems in North America.

Our products are designed from real-world knowledge of the challenges that today's drivers face out on the open road. But that's not all. Rosco Vision Systems are also designed to help fleet managers run a more efficient operation, fully compliant with all safety rules, regulations, and legislation.

Rosco is renowned for its strong design engineering focus and custom product development. The mission of Rosco Vision Systems is to develop high quality products that function flawlessly for the life of the vehicle and provide a level of service and support that our customers have come to expect.

## Engineering and Manufacturing Since 1907



90-21 144th Place  
Jamaica, NY 11435

T: 800.227.2095 | F: 718.297.0323

www.roscomirrors.com | www.roscovision.com



## MIRROR SYSTEMS

### ROSCO COMMERCIAL WARRANTY

We warrant that all ROSCO mirror, camera, sun visor, and electronic vision products are free from defects in workmanship and materials for a period of ONE (1) YEAR from the date of receipt of the product. During the warranty period, we agree to provide a replacement for (or at our option repair) any ROSCO product and/or any one or more component parts of a ROSCO product, which malfunctions under normal use and service.

Upon discovering a defect, the customer must contact ROSCO for a return authorization and then must return the product, and/or component part, together with proof of date of receipt of the product, to ROSCO INC. 144-31 91 Ave. Jamaica, New York 11435. The customer and not ROSCO will be responsible for the payment of all removal, installation and transportation charges for return of defective products or components to ROSCO. Transportation charges for such return must be prepaid. The repaired or replaced equipment will be returned to the customer with transportation charges prepaid by ROSCO. Replacement (or repaired) products and/or component parts are warranted only for the unexpired term of the original warranty.

This warranty does not cover defects caused by neglect, misuse, incorrect application, incorrect installation, water damage, vehicle wash facilities, alteration or repair in any manner outside ROSCO's factory, or damage caused by the return shipment due to inadequate packaging or mishandling. If the alleged defect is due to any of these causes, the customer will be advised of the findings and asked what action is to be taken. If ROSCO is requested to repair the product, a repair charge estimate will be prepared and the customer's written permission (purchase order, repair, etc.) will be necessary to proceed with the repair of the product and/or component part. Transportation charges for such returns will be the responsibility of the customer.

This warranty may not be expanded by oral representation, written sales information, drawings or otherwise. Repair or replacement is the exclusive remedy for defective products under this warranty. This warranty is expressly in lieu of all other warranties, including any implied warranty of merchantability or any implied warranty of fitness for a particular purpose on any ROSCO product. ROSCO shall not be liable for any consequential or incidental damages for breach of any express or implied warranty on any ROSCO product.

# MobiLite Destination Sign System



The MobiLite electronic destination sign system provides a cost effective entry-level sign solution that is ideal for small bus fleets. Easy to install and program, this sign system allows users to upgrade from nonprogrammable roller curtain products to more reliable, efficient and programmable electronic sign systems. Destination and Route information can be changed electronically in seconds at the press of a button on the MobiLite System controller



**LUMINATOR**  
TECHNOLOGY GROUP

## Specifications

	Front Sign	Side Sign
<b>Configuration</b>	14 X 108	14 X 72
<b>Display Size</b>	42.13" X 4.10"	27.95" X 4.10"
<b>Envelope Size</b>	44.90" X 6.85" X 2.45"	30.72" X 6.85" X 2.45"
<b>Voltage</b>	12V	12V
<b>System Controller</b>	MobiLite ICU with USB Port	Mobilite ICU with USB Port



## Features:

- Mobilite ICU with USB port
- Simple Web-based sign programming tool
- Available in Amber or White LEDs
- High intensity LEDs with automatic brightness adjustment
- Minimum operating life of 100,000 hours
- Full readability range of 130 degrees
- 12 VDC operation
- ADA-compliant fonts

## Benefits:

- Increases reliability due to a solid-state design
- Reduces operating and maintenance costs
- Easy operation of signs and programming software



**LUMINATOR**  
TECHNOLOGY GROUP

900 Klein Road  
Plano, Texas 75074

972-424-6511

[www.luminatortechgroup.com](http://www.luminatortechgroup.com)

## **BUS PRODUCTS WARRANTY**

**MobiLite Electronic Destination Sign System**

### **1-YEAR LIMITED WARRANTY**

**1-Year Parts**

**This Warranty is Effective October 1, 2013**

**SELLER HEREBY EXPRESSLY EXCLUDES ALL EXPRESS AND IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS OR OTHERWISE, except such express warranties as are set forth in this paragraph below. ANY COMPONENT SUPPLIED BY PARTIES OVER WHOM SELLER HAS NO CONTROL AS TO THE QUALITY OF THE MANUFACTURE IS HEREBY EXPRESSLY EXCLUDED FROM ALL EXPRESS AND IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS OR OTHERWISE, except as set forth in the express written warranty of the supplier of such component.**

Luminator-TwinVision (the "Seller") warrants to Buyer that each new amber or silver "MobiLite" Destination Sign System product to be free from defects in material and workmanship, under normal use, for a period of **1 years, or 12 months.**

This warranty begins at the in-service date of the vehicle or 90 days after the original shipment date of the product from the Seller's manufacturing facility, whichever comes first. Seller warrants that the Electronic Destination Sign System product will conform to the contract description and that the goods supplied hereunder will be fit for the stated purpose.

Seller warrants to the Buyer spare part and repair part manufactured by Seller to be free from defects of material and workmanship for a period of **ninety days (90)** from date of shipment from Seller's plant provided the products are operated under normal conditions and within the limits of the specifications of the products.

Seller will correct within a reasonable time after receipt of the defective part, parts or product, any defect in any product sold hereunder which it finds to be defective, at Seller's option either by repairing or replacing the defective part, parts or product and such action shall be accepted by Buyer as full performance of the Warranty during the original **one (1) year** period.

This warranty is limited to material and workmanship and will not cover any product failures as a result of:

- **Damage caused by accident, abuse, misuse or improper installation.**
- **Damage cause by environmental conditions including, but not limited to: fire, vandalism, water, temperature, humidity, dust, etc.**
- **Damage caused by service completed by personnel other than Seller or Seller authorized technicians.**
- **Modification to product completed without prior written approval by Seller.**

A Luminator Technology Group Company

**WARRANTY REPAIR PROCESS:** Product to be returned for repair must have a service dispatch (SD) number. No items will be accepted without a SD number. The SD number should be noted on the box and on the paperwork that accompanies the returned product. This number can be obtained by contacting Luminator-TwinVision Repair Service at (972) 516-3120. Material should be shipped to:

Luminator Holding, LP  
Attn: Repair  
900 Klein Road  
Plano, TX 75074, USA

The return of any product shall be at the expense of the Buyer. Product returned to Seller under warranty must be properly packaged. Seller will not be responsible for damage to a product during transit or packages lost in transit.

**LIMITATION OF PROCEEDINGS:** No action of any kind may be commenced against Seller more than one (1) year from the date Buyer's claim or cause of action against Seller first arose.

**WAIVER:** Waiver by Seller of a breach by Buyer of any provision of this warranty shall not be deemed a waiver of future compliance therewith and such provision as well as all other provisions hereunder shall remain in full force and effect.

**DAMAGES:** Seller's liability shall in no event, except in the case of non-delivery, exceed the cost of repairing or replacing such part, parts or products or the amount of the purchase price paid with respect to the product on which the claim for damage is based, whichever is the lesser (Buyer is to return to Seller any product with regard to which Buyer receives the amount of the purchase price paid) in the case of non-delivery Seller's liability shall not exceed the difference if any between the contract price and the market price on the contract day of delivery of the product to be delivered.

**SELLER IN NO EVENT SHALL HAVE ANY LIABILITY WHATSOEVER FOR PAYMENT OF INCIDENTAL, CONSEQUENTIAL, INDIRECT OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO DAMAGES FOR LOSS OF PROFIT OR DAMAGES RESULTING FROM PERSONAL INJURY, DEATH OR DAMAGE TO, OR LOSS OF USE OF ANY PROPERTY, INCLUDING BUT NOT LIMITED TO ANY PRODUCT SOLD HEREUNDER.**



**A Division of Forest River, Inc.**

2018 West Virginia Bid PTR 1900000001.

**RE: Stop Request System Description.**

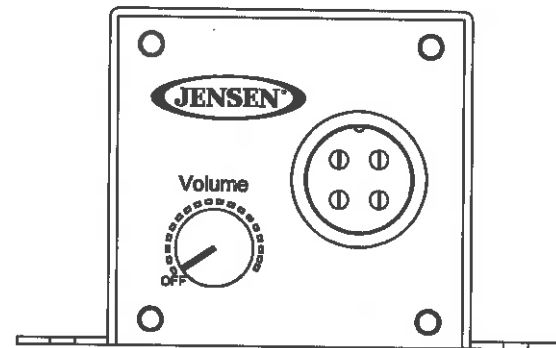
The Stop Request system that will be installed is constructed by Elkhart Coach. This system consists of a large "STOP REQUEST" sign with red letters installed high on the front bulkhead so it is easily seen by entire passenger cabin. System also consists of a yellow pull cord that runs the full length of the passenger cabin where seats are installed on both sides of the unit. Yellow touch tape is installed in all tie down areas making the Stop Request system easily accessible for all Mobility Passengers. Chime will sound when either touch tape or pull cord is engaged. System has an on/off rocker switch in the switch pod that is controlled by the driver. Switch must be switched to "ON" for system to work. Turn switch to "OFF" once system has been engaged and requested passenger has exited the unit and door has been shut. This will reset the system.

57490 CR 3  
Elkhart, IN 46517

Phone: 574-327-2700  
Fax: 574-327-2701



# PA500 Owner's/Installation Manual



Universal Public Address System

ASA ELECTRONICS  
2602 Marina Drive  
Elkhart, IN 46514  
1-800-688-3135  
[www.asaelectronics.com](http://www.asaelectronics.com)





The lightning flash with the arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## Description:

The JENSEN PA500 is a universal public address system that can be utilized as a stand alone PA (when connected to speakers) or operate in conjunction with any existing radio/speaker set up.

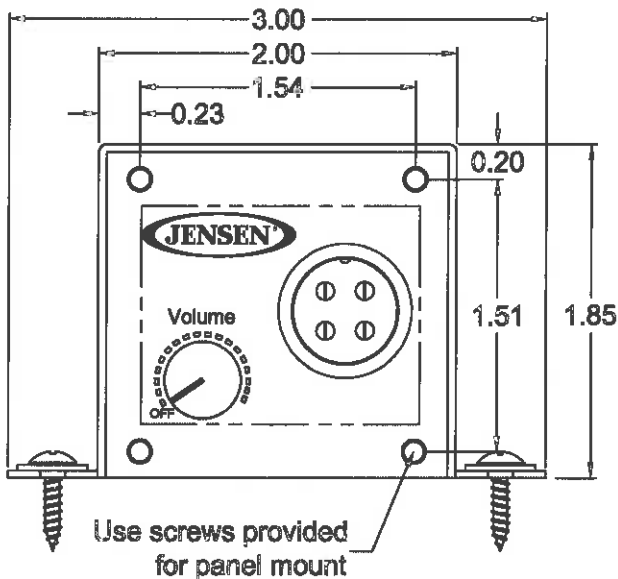
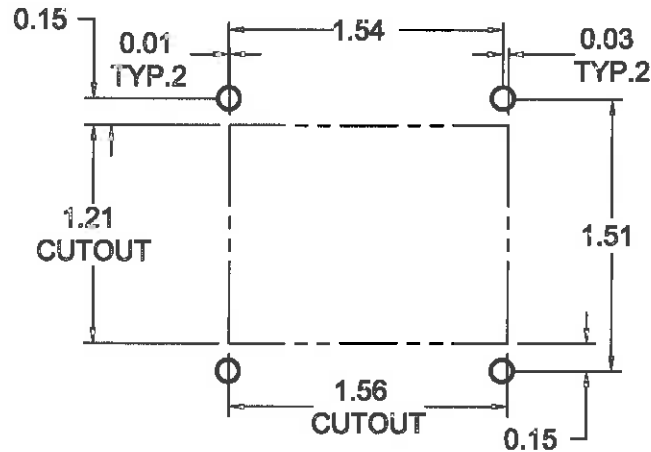
## Operation:

The PA500 system amplifier connects in line between the vehicle's radio and the installed speakers. The installed radio will operate normally. When the microphone is activated by the "Push to Talk" (PTT) switch on the microphone, the speakers are electrically disconnected from the radio and engaged with the PA. The microphone triggers activation of the PA through the same speakers (muting/overriding the radio source). There is no need to adjust PA volume at the radio since the PA volume can be set using the volume/gain control on the PA500 itself. If the PA500 is installed in an enclosure the volume level can be pre-set by the installer.



## Panel Cutout (Optional Installation):

The PA500 may also be mounted through a panel (as shown below). In this method, the microphone volume may be adjusted or turned on/off to meet the operator's preference.



## Troubleshooting:

Symptom	Possible Cause	Possible Solution
Has audio from radio but not PA500	<ul style="list-style-type: none"> <li>- PA not turned on</li> <li>- Volume set too low on PA</li> <li>- In-line fuse blown</li> <li>- Input and output wired backwards</li> </ul>	<ul style="list-style-type: none"> <li>- Turn PA on</li> <li>- Adjust volume of PA to higher level</li> <li>- Check and replace in-line fuse</li> <li>- Reverse input and output wiring</li> </ul>
High pitched squeal (feed back)	<ul style="list-style-type: none"> <li>- Volume on PA set too high</li> </ul>	<ul style="list-style-type: none"> <li>- Turn volume on PA down</li> </ul>
Hand held MIC keyed and gets feed back	<ul style="list-style-type: none"> <li>- Volume on PA set too high</li> <li>- Volume on MIC set too high</li> </ul>	<ul style="list-style-type: none"> <li>- Turn volume on PA down</li> <li>- Turn volume down on MIC</li> </ul>
PA500 will not turn on, (does not have power)	<ul style="list-style-type: none"> <li>- In-line fuse on PA blown</li> </ul>	<ul style="list-style-type: none"> <li>- Replace fuse</li> </ul>

## Specifications:

4 Channels

Current Draw

Frequency Response

Size

Weight

25 Watts per channel, 4 ohm load

7 Arnp Max.

100-10,000

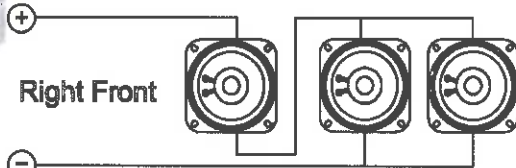
3.08" x 1.85" x 4.0" (W x H x D)

15 oz.

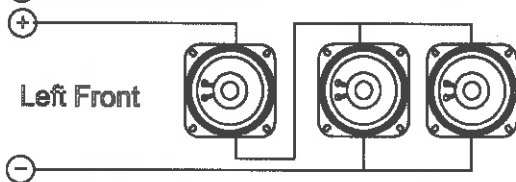
## Speaker Connections:

### 3 Pair- 40hm Speakers

Curb Side  
6 Ohm  
Total Impedance



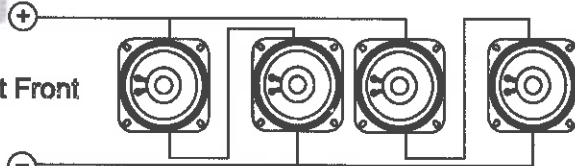
Driver Side  
6 Ohm  
Total Impedance



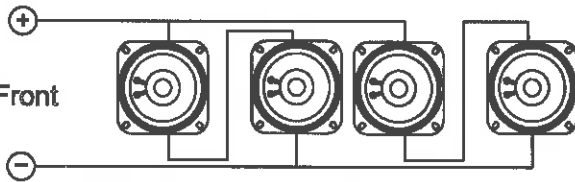
Align Speakers with "+" on top and "-" on bottom as shown

### 4 Pair- 40hm Speakers

Curb Side  
4 Ohm  
Total Impedance



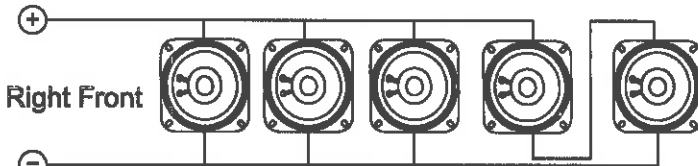
Driver Side  
4 Ohm  
Total Impedance



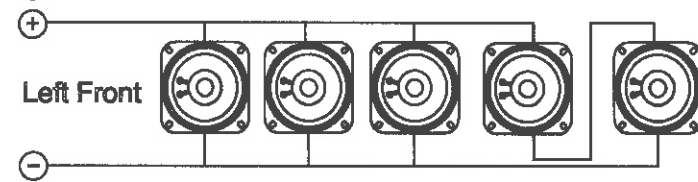
Align Speakers with "+" on top and "-" on bottom

### 5 Pair- 40hm Speakers

Curb Side  
4.8 Ohm  
Total Impedance



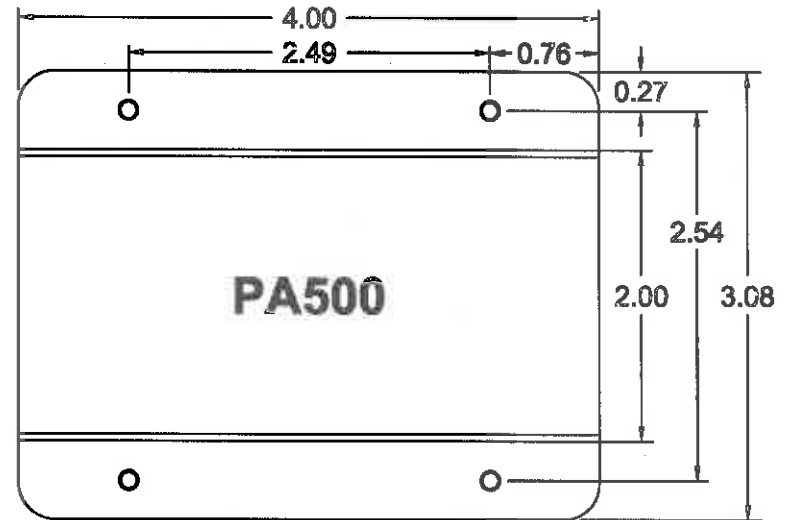
Driver Side  
4.8 Ohm  
Total Impedance



Align Speakers with "+" on top and "-" on bottom

## Optional Flange Mount Installation:

The PA500 may also be mounted in a "blind" location, using the mounting holes on the flanges. In this case, the microphone volume must be pre-set by the installer prior to the completion of the installation. The 30 ft. microphone extension/adaptor cable (P/N 1401035) or the 36" microphone extension/adaptor cable (P/N 1401040), is to be used to allow connection of a PTT (Push To Talk) type microphone by the operator.



# Typical Wiring Connections:

## INPUT NOTES:

Wire Radio according to Manufacturer Spec.

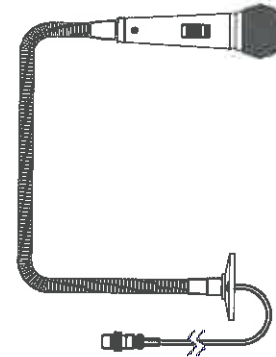
PA500 can accept any radio (up to 4 Channels).

Maintain appropriate load requirements.  
(4 ohm minimum suggested)

## Radio to PA500

RA RF +	Gray
RA RF -	Gray/Black
RA LF +	White
RA LF -	White/Black
RA RR +	Violet
RA RR -	Violet/Black
RA LR +	Green
RA LR -	Green/Black

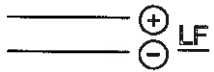
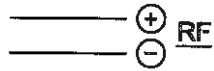
# PA500 Applications con't.:



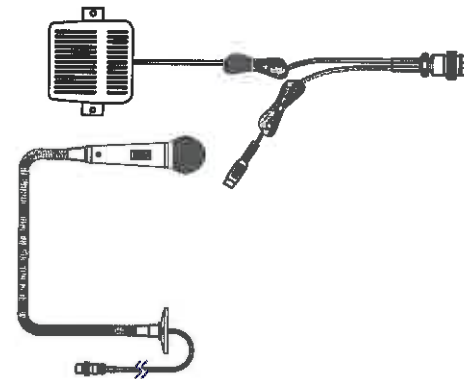
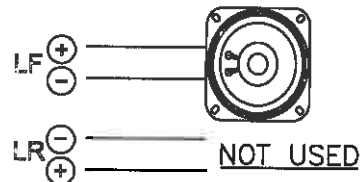
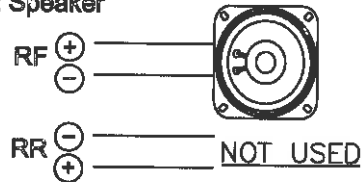
Boom Microphone  
P/N JMICBOM

## Optional Examples:

### INPUT 4 Wire



### OUTPUT 2 Speaker



Boom Microphone with  
Foot Pedal  
P/N JMICBOMFP

※ The PA500 is also compatible with older VOYAGER and JENSEN Microphones such as the BVMH01 and BVMH01M

# JENSEN PA500 Applications

The JENSEN PA500 is compatible with the following JENSEN microphones:

Part Number	Description
JMICHND	Hand held Microphone
JMICBOM	Boom Microphone
JMICHST	Hostess Microphone
JMICBOMF?	Boom Microphone with foot pedal

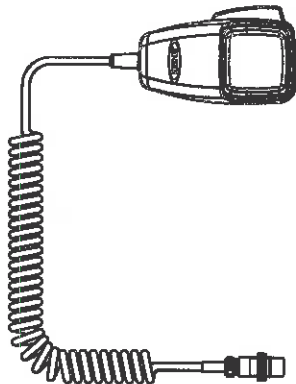
In applications which require remote mounting of the PA500, JENSEN offers both a 3ft (#1401020) and a 20 ft (#1401003) extension/adaptor cable



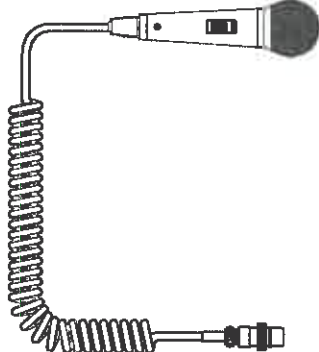
20 Ft Extension Cable  
P/N 1401003



3 Ft Extension Cable  
P/N 1401020



Hand Held Microphone  
P/N JMICHND



Hostess Microphone  
P/N JMICHST

## To PA500 Speakers

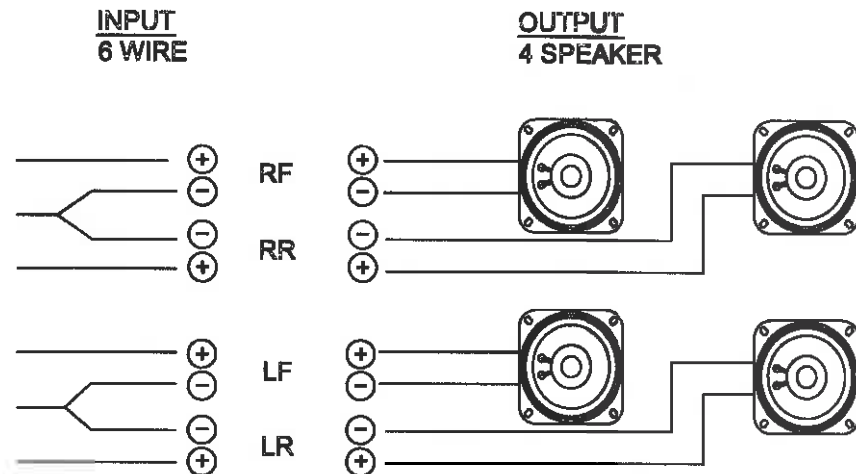
SP RF +
SP RF -
SP LF +
SP LF -
SP RR +
SP RR -
SP LR +
SP LR -

## OUTPUT NOTES:

Do not ground any leads.

Do not tie output leads together.

It is permissible to use only Front or Rear Inputs and Outputs in 2 speaker /4 Wire Systems



# PA500 Wiring:

## Wiring Chart for Radio and Speaker Connections

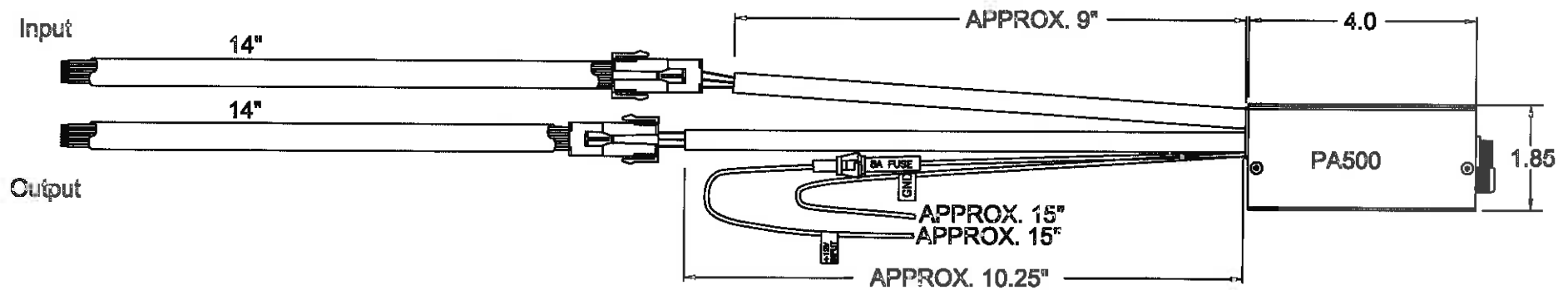
Wire Color	Speaker Connection
Gray	Right Front +
Gray/Black	Right Front -
White	Left Front +
White/Black	Left Front -
Violet	Right Rear +
Violet/Black	Right Rear -
Green	Left Rear +
Green/Black	Left Rear -

## Hardware Kit:

Quantity- Type  
4- M5 x 13mm Phillips PH Tapping Screw



4- M3.5 Flat Washer





**A Division of Forest River, Inc.**

West Virginia Bid 1900000001.

RE: Fare Box Provision.

The Fare Box provision will include a power and ground wire ran to desired location for Fare Box. Wire will either be ran under the floor, or up through stanchion if so desired.

57490 CR 3  
Elkhart, IN 46517

Phone: 574-327-2700  
Fax: 574-327-2701



# STAR SIGNAL MODEL C2 - 240 LED BEACONS

---

Product Code: C2 - 240



Zoom and Alternate Views



- 26 customer selectable flash patterns, plus steady-on
- Exceeds SAE J845 standards
- Approval: Class II
- Fully encapsulated circuitry for weather and shock resistance
- Extremely low current draw
- Star Generation IV LEDs
- Durable polycarbonate screw on lens, rugged die-cast aluminum base with powder coat finish and universal mounting: permanent mount, flange mount, 1" pipe mount
- Shipped in quad flash mode

- **Voltage:** permanent - 10-30V DC, magnet 10-16V DC
- **Amp Draw:** 0.4 amps @ 12V DC, 0.8 amps max





**A Division of Forest River, Inc.**

West Virginia Bid 1900000001.

RE: 2-Way Radio Provision.

2-Way Radio Provision will include a power and ground wires ran to front cap and under passenger cabin B-Pillar behind driver. Provision will also include a 12'' x 18'' ground plate installed in desired location.

57490 CR 3  
Elkhart, IN 46517

Phone: 574-327-2700  
Fax: 574-327-2701

# PRO-VISION<sup>™</sup>

*Video Systems*

HIGH-DEFINITION  
MOBILE VIDEO  
RECORDING  
SYSTEMS

RELIABLE • SIMPLE • AFFORDABLE<sup>™</sup>



TRANSIT

TRANSIT HIGH-DEFINITION SYSTEM  
**QUICK FACTS**

- Rugged Solid-State Design
- 1080p True HD Video Quality
- 5-YEAR System Warranty
- Automated Video Management
- GPS Route History
- Integrated Stop-Arm Solution
- Remote Live Video Viewing
- 16-Channel HD Video & Audio
- System Health Alerts
- Wireless File Transfer
- Unbeatable Value

RELIABLE • SIMPLE • AFFORDABLE

**PRO-VISION**  
Video Systems

**REMOTE LIVE VIDEO VIEWING**

Outfitted with live connections on your fleet vehicles, real-time HD video and perfectly synced audio can be viewed and downloaded remotely, freeing you owner of vehicle equipment in and around your vehicles.

**INTEGRATED STOP-ARM SOLUTION**

The PRO-VISION HD system can be integrated stop-arm camera with camera control and record to a single file, still, MP4, granting you HD record of any violating vehicle and driver with its sounds on a 720 MP4.

**AUTOMATED WIRELESS FILE TRANSFER**

When the system is powered on, the device will automatically download the recorded video to your server. You can view the video from a laptop, tablet or smartphone, allowing you to view the video from anywhere, anytime, and from any device, eliminating the need to manually connect through wires to obtain your files.

**HD ZOOM TOOL**

The HD ZOOM TOOL allows you to zoom in on any video frame and download the zoomed-in video to your computer. This tool is available for all PRO-VISION HD systems.

GSN Contract Holder

**1080p TRUE HD**

The PRO-VISION HD system can be integrated with a 1080p True HD camera, providing you with the highest quality video and audio available.

**16-CHANNEL VIDEO & AUDIO**

The PRO-VISION HD system can be integrated with a 16-channel video and audio camera, providing you with the highest quality video and audio available.

**GPS ROUTE HISTORY**

The PRO-VISION HD system can be integrated with a GPS tracking system, providing you with the highest quality video and audio available.

**DID YOU KNOW?**

With over 10 years of experience, PRO-VISION HD systems are the most reliable and secure video and audio recording system available. The PRO-VISION HD system is the most reliable and secure video and audio recording system available.

The PRO-VISION HD system is the most reliable and secure video and audio recording system available. The PRO-VISION HD system is the most reliable and secure video and audio recording system available.



**RUGGED SOLID-STATE DESIGN**

**BUILT-IN HIGH-FIDELITY MICROPHONES**

With an integrated high-fidelity microphone, built-in PRO-VISION cameras and the ability to record audio to compact flash, you can capture audio recordings that are both audible and clear of background noise.

View video, configurations, additional features and more at [provisionusa.com](http://provisionusa.com)



**IN-HOUSE ENGINEERING**

Engineered, designed and tested by the PRO-VISION in-house engineer, the PRO-VISION products are built, supported and installed by the people who know the products inside and out.

**FACTORY INSTALLATION**

The PRO-VISION in-house installation team come direct from the factory equipped with the skill, tools and training to install your system the first time, on time, every time. They will complete your on-site video before before and ensure that your cameras are working & secured.

**GUARANTEED RELIABLE**

No other company in the industry provides a 5-year exclusive, equipment warranty, 24/7 customer support, lifetime warranty and LIFETIME CABLE AND SDXC CARD. We're here to help you with any installation.

**SIMPLE WI-FI SETUP**

Simply connect a mobile device to the DVR via built-in Wi-Fi to access camera views, adjust settings and quickly perform routine maintenance checks, eliminating the need for complicated wiring, mounting and remote controls.

**FUTURE PROOF**

With continuous updates of DVR and software features provided, the PRO-VISION High-Definition Systems are built to adapt to the latest advances in technology, ensuring your system is ready for years of reliable service.

**VIDEO MANAGEMENT**

SecureMax by PRO-VISION is designed to address video management challenges with a secure, scalable digital management solution that simplifies the video management process and maximizes security, storage and time video for any length of time either through your organization's existing servers or the cloud.





## **PRO-VISION, Inc.**

8625-B Byron Commerce Dr. SW  
Byron Center, MI 49315 USA  
P 616.583.1520  
F 616.583.1522

[www.provisionusa.com](http://www.provisionusa.com)

## **60 MONTH LIMITED WARRANTY (U.S. and Canada)**

### **PRO-VISION® Products**

This warranty applies only to a PRO-VISION® product (excluding BODYCAM® brand products) originally purchased from PRO-VISION, Inc. (the "company") after April 1<sup>st</sup>, 2017, that is sold to and shipped to an original end user customer located in the United States or Canada, which product is used and operated solely within the United States or Canada (a "covered PRO-VISION® product"). For all other PRO-VISION® products, only the warranty in effect at the time the product was originally purchased from the company applies.

The company warrants that should any covered PRO-VISION® product, under normal use and conditions, be proven defective in material or workmanship within 60 months after the date of original purchase of the product from the company (lifetime on video cables, lifetime on sd cards, and 12 months on batteries, hard disk drives and Drive Recorder model DR-200) such defect(s) will be repaired by the company or the product replaced by the company with new or reconditioned product (at the company's option) without charge for parts or repair labor by the company. The repaired or replaced product will be returned by the company freight pre-paid via "ground" service.

To obtain repair or replacement within the terms of this warranty, the covered PRO-VISION® product must be delivered, transportation pre-paid by the warranty claimant, to the company's main office shown above, with written proof of warranty coverage (e.g.: company dated bill of sale, company approved dated bill of sale or company approved Vehicle In-Service Document), serial number on product and written specification of defect(s). In addition, a Return Merchandise Authorization Number (RMA number) must be clearly marked on the exterior of the shipping container. A RMA number may be obtained by calling 800.576.1126. Failure to obtain a RMA number and to clearly mark that number on the exterior of the shipping container may cause your shipment to be refused by the company. In the event written proof of warranty coverage is not provided to company by claimant, warranty coverage will be determined by the company, in its sole discretion, based on the product's serial number.

This warranty does not apply to any product or part thereof which, in the opinion of the company, has been damaged through alteration, improper installation, mishandling, misuse, neglect, or accident. Opening the housing of any product will void the warranty. Missing or illegible serial number will void the warranty. If a product is sent to the company for warranty evaluation without sufficient packing for product protection during shipping, warranty will be void. The extent of the company's liability under this warranty is limited to the repair or replacement provided above, and, in no event, shall the company's liability exceed the original purchase price paid to the company for the product. No technical support will be provided, and no warranty claims will be valid or provided under this warranty, for any product unless: (a) the company has received full payment for such product and (b) claimant is not in default of any of its obligations to the company regarding any PRO-VISION® product or company service.

This warranty is in lieu of all other express or implied warranties or liabilities. EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, SATISFACTORY QUALITY, NON-INTERFERENCE, ACCURACY OF INFORMATIONAL CONTENT, OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW AND ARE EXPRESSLY DISCLAIMED BY THE COMPANY. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD. This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose. Any action for breach of this warranty must be filed within a period of 90 days after the date any claim for such breach first accrues. In no case shall the company be liable for any consequential or incidental damages for breach of any warranty. No person or representative is authorized to assume for the company any liability other than that expressed herein in connection with any product.

The company may modify these terms and conditions at any time by either providing any affected party with written notice or posting such revised terms on [www.provisionusa.com](http://www.provisionusa.com). Such revised terms shall become effective 30 days after the date of such written notice or posting. For the limited warranty on BODYCAM® brand products please visit [www.bodycameras.com](http://www.bodycameras.com).

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



## **PRO-VISION, Inc.**

8625-B Byron Commerce Dr. SW  
Byron Center, MI 49315 USA  
P 616.583.1520  
F 616.583.1522

[www.provisionusa.com](http://www.provisionusa.com)

## **12 MONTH LIMITED WARRANTY (Outside U.S. and Canada)**

### **PRO-VISION® Products**

This warranty applies to a PRO-VISION® product (excluding BODYCAM® brand products) originally purchased from PRO-VISION, Inc. (the "company") after April 1<sup>st</sup>, 2017, that is sold to or shipped to an original end user customer located outside of the United States or Canada, or which product is used or operated outside of the United States or Canada (a "warranted PRO-VISION® product". For all other PRO-VISION® products, only the warranty in effect at the time the product was originally purchased from the company applies.

The company warrants that should any warranted PRO-VISION® product, under normal use and conditions, be proven defective in material or workmanship within 12 months after the date of original purchase of the product from the company (lifetime on video cables, lifetime on sd cards, and 12 months on batteries and hard disk drives), such defect(s) will be repaired by the company or the product replaced by the company with new or reconditioned product (at the company's option) without charge for parts or repair labor by the company. The repaired or replaced product will be returned by the company freight pre-paid via "ground" service.

To obtain repair or replacement within the terms of this warranty, the warranted PRO-VISION® product must be delivered, transportation pre-paid by the warranty claimant, to the company's main office shown above, with written proof of warranty coverage (e.g.: company dated bill of sale, company approved dated bill of sale or company approved Vehicle In-Service Document), serial number on product and written specification of defect(s). In addition, a Return Merchandise Authorization Number (RMA number) must be clearly marked on the exterior of the shipping container. A RMA number may be obtained by calling 800.576.1126. Failure to obtain a RMA number and to clearly mark that number on the exterior of the shipping container may cause your shipment to be refused by the company. In the event written proof of warranty coverage is not provided to company by claimant, warranty coverage will be determined by the company, in its sole discretion, based on the product's serial number.

This warranty does not apply to any product or part thereof which, in the opinion of the company, has been damaged through alteration, improper installation, mishandling, misuse, neglect, or accident. Opening the housing of any product will void the warranty. Missing or illegible serial number will void the warranty. If a product is sent to the company for warranty evaluation without sufficient packing for product protection during shipping, warranty will be void. The extent of the company's liability under this warranty is limited to the repair or replacement provided above, and, in no event, shall the company's liability exceed the original purchase price paid to the company for the product. No technical support will be provided, and no warranty claims will be valid or provided under this warranty, for any product unless: (a) the company has received full payment for such product and (b) claimant is not in default of any of its obligations to the company regarding any PRO-VISION® product or company service.

This warranty is in lieu of all other express or implied warranties or liabilities. EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, SATISFACTORY QUALITY, NON-INTERFERENCE, ACCURACY OF INFORMATIONAL CONTENT, OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW AND ARE EXPRESSLY DISCLAIMED BY THE COMPANY. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD. This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose. Any action for breach of this warranty must be filed within a period of 90 days after the date any claim for such breach first accrues. In no case shall the company be liable for any consequential or incidental damages for breach of any warranty. No person or representative is authorized to assume for the company any liability other than that expressed herein in connection with any product.

The company may modify these terms and conditions at any time by either providing any affected party with written notice or posting such revised terms on [www.provisionusa.com](http://www.provisionusa.com). Such revised terms shall become effective 30 days after the date of such written notice or posting. For the limited warranty on BODYCAM® brand products please visit [www.bodycameras.com](http://www.bodycameras.com).

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state



## 1070 Series Dual Purpose Safety Vent II

Roof Hatches > Transit > 1070 Series Dual Purpose Safety Vent II

### Products

- Crossing Arms
- Doors
- Interiors
- Roof Hatches
- Step Treads
- Treads
- Stop Arms
- Warning Lights

### Tech Bulletins

### Literature

### Suppliers

### Company

### News

### Contact

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Distributor Locator

- Select Location -

1-800-951-7867

ISO 9001:2008



### 1070 Series Dual Purpose Safety Vent II

The Dual Purpose Safety Vent II is a combination roof ventilator/emergency exit that provides 5-position fresh air ventilation and a simple release handle that allows the hatch to hinge open for emergency exit.

1075 = White

1076 = Light Gray

1077 = Dark Gray

• Fresh air ventilator and emergency exit

• Low profile platform

• Interchangeable with earlier Transpec models

• Available in various radiuses to fit different roof curvatures

• Constructed of high strength UV/Color shift stable materials

• Recommended for Shuttle, Coach and Transit Bus applications

• Available with or without outside release

• Available with or without alarm switch

• Available with optional adhesive sealant and reflective tape

• Also available with bi-lingual decals

### Assembly Numbers

1075-004-002

1075-016-001

1075-028-111

1075-116-002

1075-204-001



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## PRODUCT WARRANTY POLICY

### LIMITED WARRANTY

Specialty Manufacturing Incorporated (SMI) guarantees its products against defects in materials and workmanship for the time stated and to the extent and subject to the limitations set forth below:

**STOP ARMS AND CROSSING ARMS:** Two (2) years from the date of manufacture (as evidenced by the SMI serial number on the product).

**PROLO, TRIPLE VALUE, DUAL PURPOSE, POWER and MSV ROOF HATCHES:** Two (2) years on all electrical components, Five (5) years on all other components from the date of manufacture (as evidenced by the SMI serial number on the product).

**DRIVER ALERT and MERGE ALERT:** Five (5) years from the date of manufacture (as evidenced by the SMI serial number on the product).

**PRETORIA TRANSIT INTERIORS:** TWO (2) years from the date of manufacture (as evidenced by the SMI serial number on the product).

**ALL OTHER SMI PRODUCTS:** (Includes 1900-series hatch product) One (1) year from the date of manufacture (as evidenced by the SMI serial number on the product).

This limited warranty extends only to the original purchase of products from SMI by an original equipment manufacturer, dealer, or distributor (the "Buyer").

SMI's sole and exclusive obligation (and Buyer's sole and exclusive remedy) with respect to this limited warranty shall be to, at its option, repair, replace or issue credit (non-repairable parts only) for defective products in accordance with this limited warranty, provided that SMI receives notice of such defects during the applicable warranty period.

Any damage caused by external causes or events beyond our control, including problems with electrical power, servicing not authorized by SMI, negligent installation or operation, failure to follow documented procedures, use of non-SMI parts in conjunction with products of SMI's manufacture, abuse, or general misuse of the product are not covered by the warranty. Custom configured products are non-refundable.

To request warranty service you must call SMI at (800) 951-7867 within the warranty period stated above, with a complete description of the problem, or send an e-mail to: [Warranty@smiglobal.net](mailto:Warranty@smiglobal.net)

If warranty service is required, SMI will issue a Return Material authorization number (RMA). You must ship the defective product back to SMI within the warranty period in its original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. To be considered for credit, **A COPY OF THE RMA MUST ACCOMPANY ALL RETURNED PRODUCT.**

### EXCLUSION FROM COVERAGE

SMI is not obligated to repair or replace cosmetic items. This warranty applies only to the operation or use of the covered product under conditions for which it was designed, and does not cover loss or damage resulting from external causes such as dropping the product, collision with an object, burglary, theft, vandalism, environmental conditions, such as fire, flooding, windstorm, hail, or earthquake, misuse, abuse, neglect or accidental damage resulting from improper use of any electrical power source. Damage incurred during transport of product is not covered.

In order for the warranty to be valid, you, the Buyer shall perform routine and preventive maintenance as recommended by the manufacturer. Loss or damage resulting from the failure to abide by the manufacturer's recommended maintenance is specifically not covered by this warranty.

### GENERAL POLICY

1. Failure to comply with above statements will void this Limited Warranty
2. SMI assumes no responsibility or liability for the expense incurred for removal and/or installation of product requiring service and/or repair; or for the expense of packaging and handling; or for the handling of product returned to sender after necessary service or repair.
3. This warranty will be voided when:
  - Using or substituting other than all genuine SMI components.
  - Serial Number and/or date of manufacture on unit(s) have been intentionally defaced or painted over.
4. Except as expressly provided in this limited warranty, there are no other express or implied warranties for the products; including without limitation any implied warranties of merchantability or fitness for a particular purpose.

IN NO EVENT WILL SMI BE LIABLE FOR MONETARY DAMAGES (REGARDLESS OF THE CAUSE AND REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT OR IN TORT, INCLUDING NEGLIGENCE) OR FOR ANY LOST PROFITS, LOST SAVINGS, INCIDENTAL DAMAGES OR OTHER CONSEQUENTIAL DAMAGES, OR FOR PUNITIVE DAMAGES, EVEN IF SMI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY BUYER BASED ON ANY THIRD PARTY CLAIM OR FOR ANY COSTS OR ATTORNEY FEES INCURRED BY THE BUYER.

**THIS WARRANTY POLICY SUPERCEDES ALL PREVIOUS WARRANTY POLICIES.**

**SMI RESERVES THE RIGHT TO MODIFY, WITHOUT NOTICE, THIS WARRANTY POLICY AT ANY TIME, AND AT SMI'S SOLE DISCRETION.**



**A Division of Forest River, Inc.**

West Virginia Bid 1900000001.

RE: Overhead Storage Description.

The Overhead Storage compartment is wooden box that is built into the front cap. The box is 12'' high, 8'' deep, and 50'' wide. The box is lined with auto cloth. Overhead Storage also has a bottom hinged door with straps to hold door at a 90 degree opening, thumb latches to secure the door closed, and is wrapped in the same gray vinyl that is installed in front cab area.

57490 CR 3  
Elkhart, IN 46517

Phone: 574-327-2700  
Fax: 574-327-2701



**A Division of Forest River, Inc.**

West Virginia Bid 1900000001.

RE: Overhead Luggage Description.

The Overhead Luggage Compartments are constructed by Elkhart Coach. They are installed over all seated positions on both sides of the unit. The compartments come out 22'' from the sidewall. The bottom of the compartment is approximately 64'' from the floor. Clear opening of the compartment is approximately 10 1/8''. Compartment is lined with auto cloth and exterior is gray.

57490 CR 3  
Elkhart, IN 46517

Phone: 574-327-2700  
Fax: 574-327-2701





# Body Builders Layout Book

1  
E-SERIES

## E-SERIES INDEX

2018  
MODEL YEAR

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# Body Builders Layout Book

**2**  
E-SERIES

## E-SERIES MODEL LINEUP

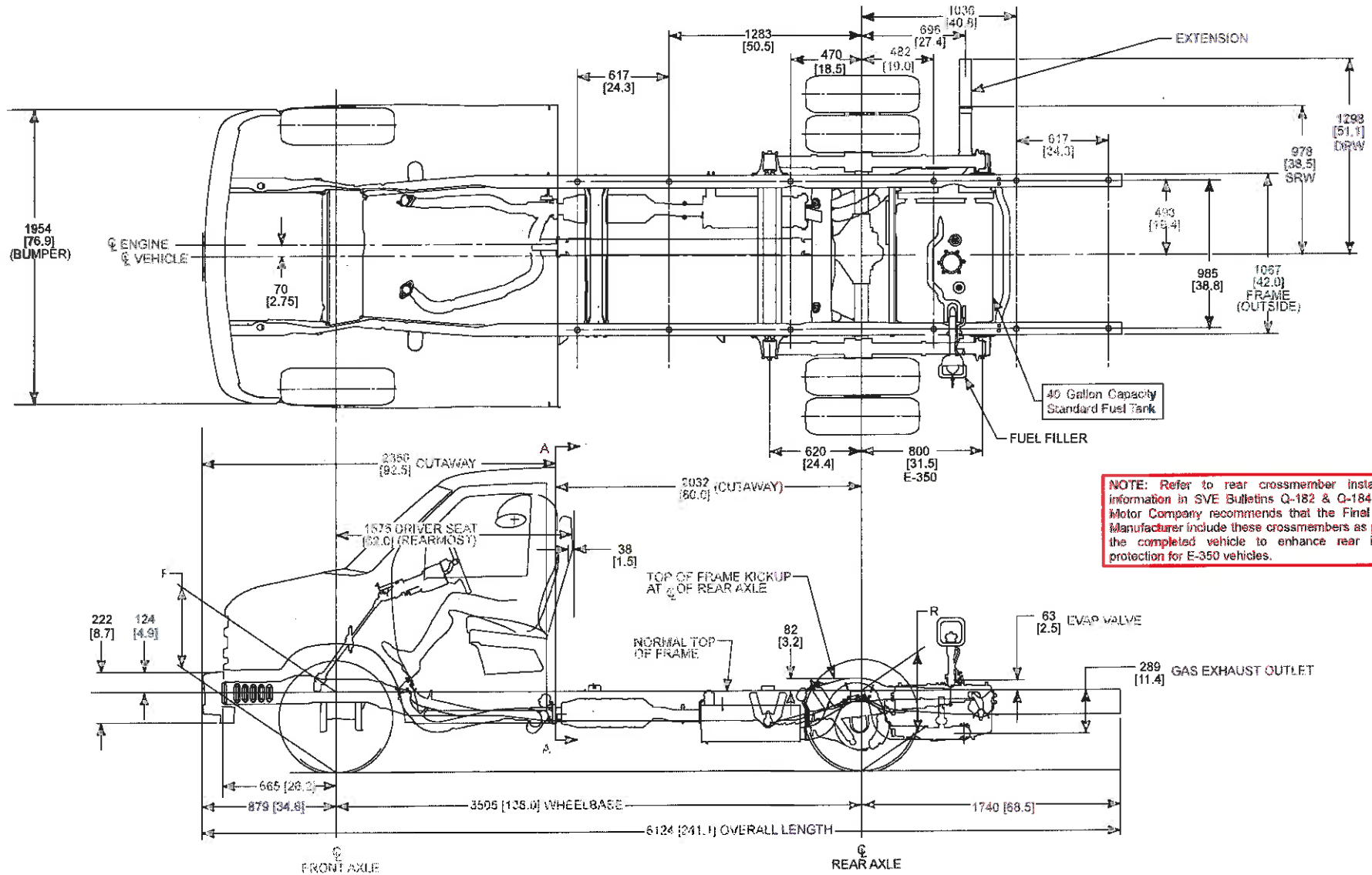
**2018**  
MODEL YEAR

Model	WB (in.)	Engine/ Trans.	Maximum GVWR (lbs.)	Maximum Payload (lbs.)	Spring/GAWR (lbs.) <sup>(1)</sup>		Base Curb Weight (lbs.)		
					Front Range Min.- Max.	Rear	Front	Rear	Total
E-350 Cutaway	138 SRW	6.8L/6R140	10,050	5180	4200	6084	2923	1941	4864
		6.2L/6R140	10,050	5230	4050	6084	2891	1921	4812
	138 DRW	6.8L/6R140	11,500	6360	4200-4600	7800	2949	2187	5136
		6.2L/6R140	11,500	6420	4050-4600	7800	2920	2159	5079
	158 SRW	6.8L/6R140	10,050	5120	4200	6084	3022	1906	4928
		6.2L/6R140	10,050	5190	4200	6084	2915	1937	4852
E-350 Cutaway	158 DRW	6.8L/6R140	11,500	6280	4200-4600	7800	3056	2158	5214
		6.2L/6R140	11,500	6370	4050-4600	7800	2997	2130	5127
		6.8L/6R140	12,500	7340	4600-5000	8500	3041	2114	5155
		6.2L/6R140	12,500	7330	4600-5000	8500	3016	2147	5163
	176 DRW	6.8L/6R140	12,500	7260	4600-5000	8500	3133	2104	5237
		6.2L/6R140	12,500	7310	4600-5000	8500	3093	2089	5182
		6.8L/6R140	11,500	6870	4400-4600	7800	2421	2204	4625
		6.2L/6R140	11,500	6979	4200-4600	7800	2343	2178	4521
E-350 Stripped Chassis	158 DRW	6.8L/6R140	12,500	7820	4600-5000	8500	2480	2198	4678
		6.2L/6R140	12,500	7910	4600-5000	8500	2406	2175	4581
	176 DRW	6.8L/6R140	12,500	7760	4600-5000	8500	2535	2197	4732
		6.2L/6R140	12,500	7860	4600-5000	8500	2462	2178	4640
E-450 Cutaway	158 DRW	6.8L/6R140	14,200	8750	4600	9600	3042	2404	5446
		6.8L/6R140	14,500	9090	5000	9600	3021	2386	5407
		6.2L/6R140	14,000	8630	4600-5000	9600	3008	2361	5369
	176 DRW	6.8L/6R140	14,200	8720	4600	9600	3128	2349	5477
		6.8L/6R140	14,500	9060	5000	9600	3105	2330	5435
		6.2L/6R140	14,000	8610	4600-5000	9600	3078	2305	5383
E-450 Stripped Chassis	158 DRW	6.8L/6R140	14,500	9690	5000	9600	2531	2274	4805
		6.2L/6R140	14,000	9290	4600-5000	9600	2456	2254	4710
	176 DRW	6.8L/6R140	14,500	9640	5000	9600	2566	2292	4858
		6.2L/6R140	14,000	9230	4600-5000	9600	2490	2272	4762

(1) Gross Axle Weight Rating is determined by the rated capacity of the minimum component of the axle system (axle, wheels, tires) of a specific vehicle. Front and rear GAWRs will, in all cases, sum to a number equal to or greater than the GVWR for the particular vehicle. Maximum loaded vehicle (including passengers, equipment and payload) cannot exceed the GVWR or GAWR (front or rear).



## E-SERIES DIMENSIONAL DATA E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW)



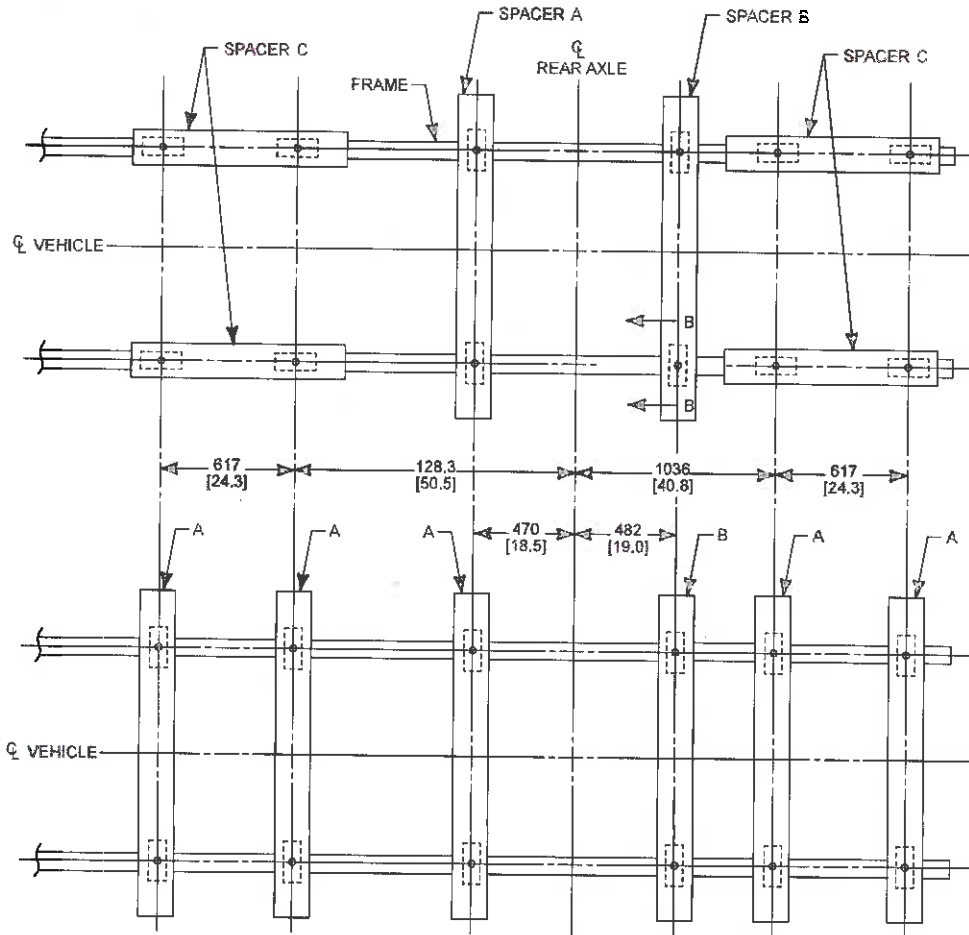
**NOTE:** Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

NOTE -- ( ) DIMENSIONS ARE INCHES.  
(Cont'd next page)

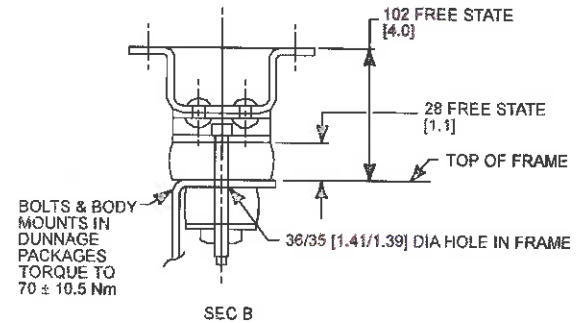
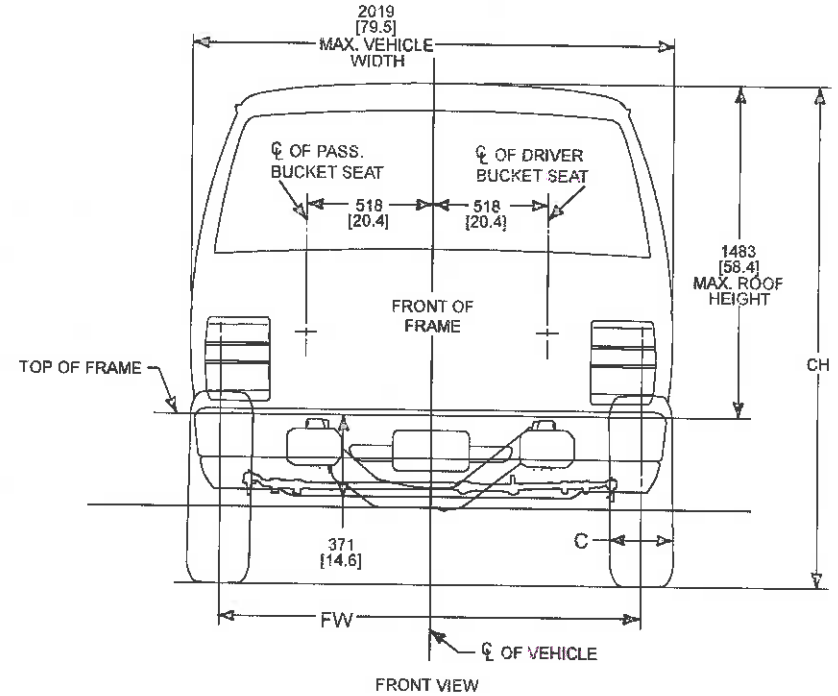




E-SERIES  
DIMENSIONAL DATA  
E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW) (Cont'd)



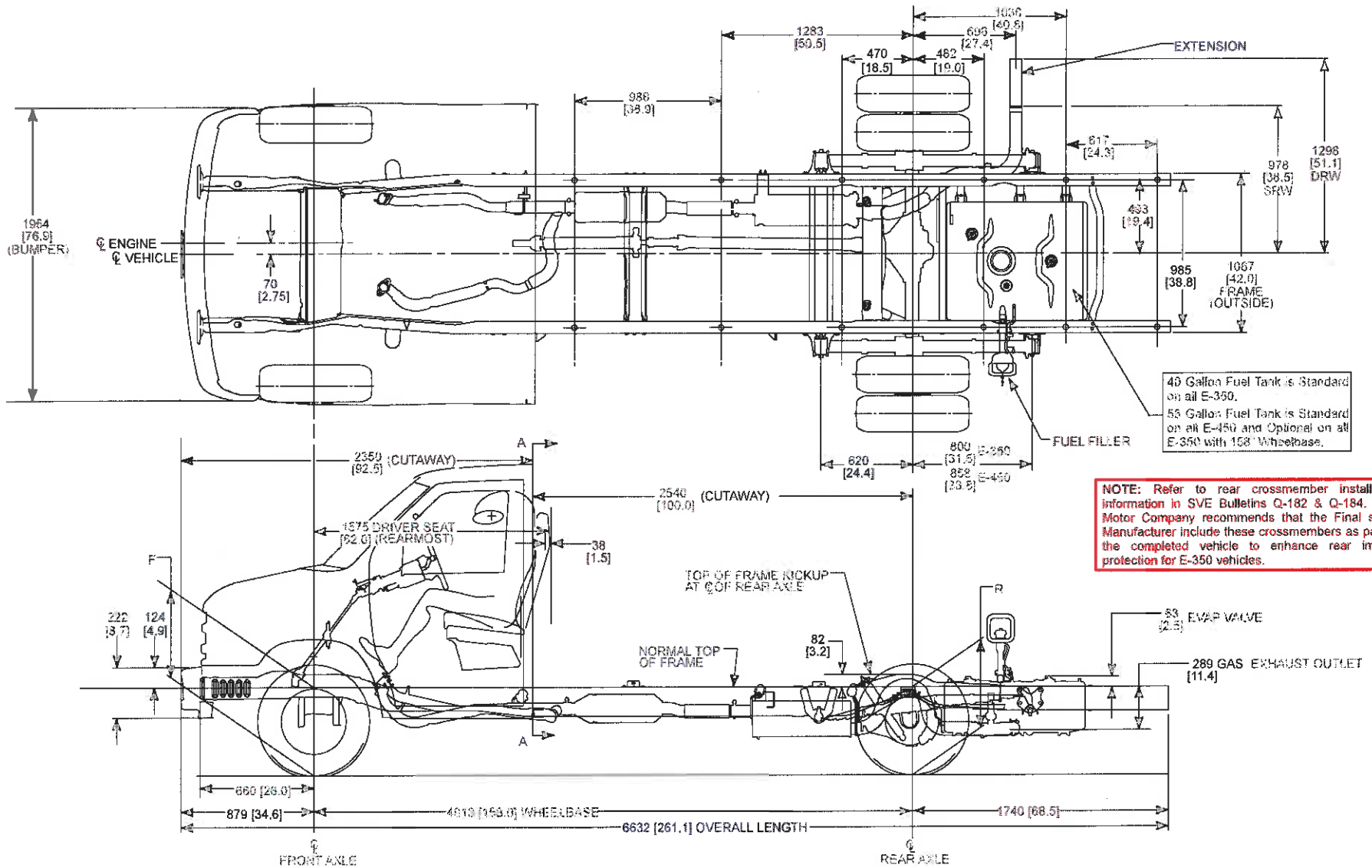
INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.



NOTE — [ ] DIMENSIONS ARE INCHES.



## E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 158" WB (SRW / DRW)



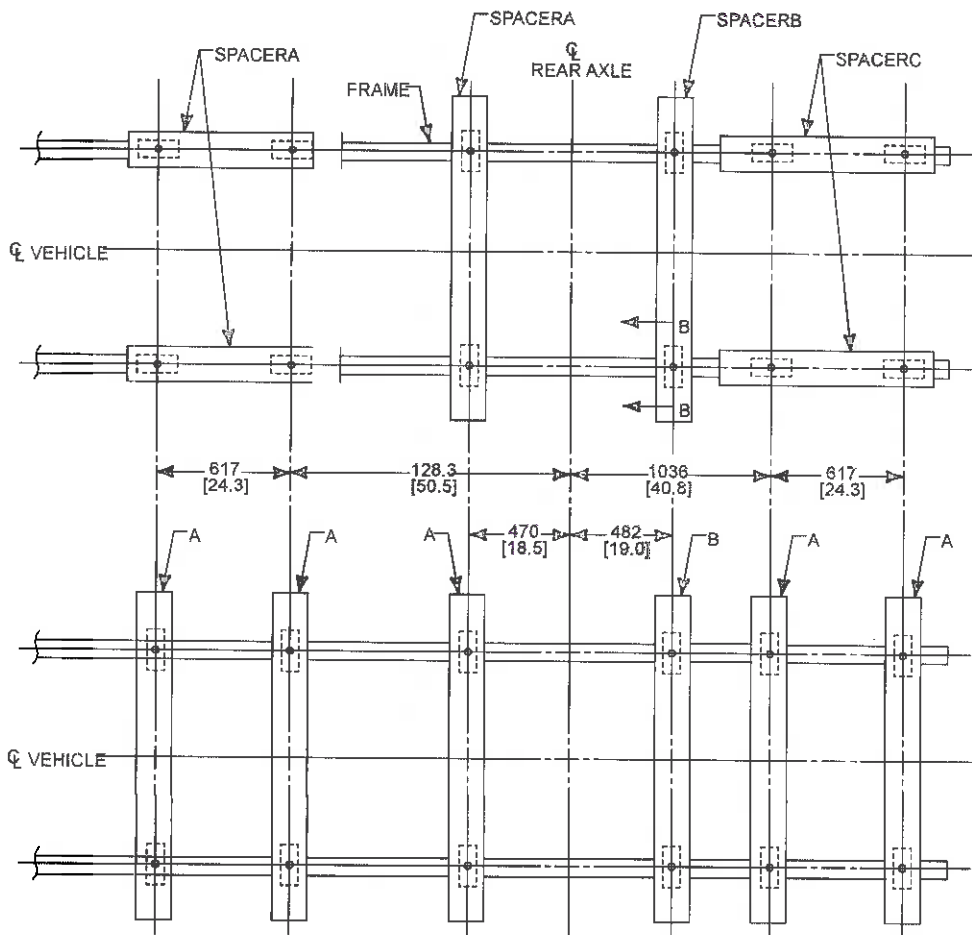
**NOTE:** Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

NOTES --- [ ] DIMENSIONS ARE INCHES.  
--- FOR CA DIMENSION, SEE MODEL LINE UP.

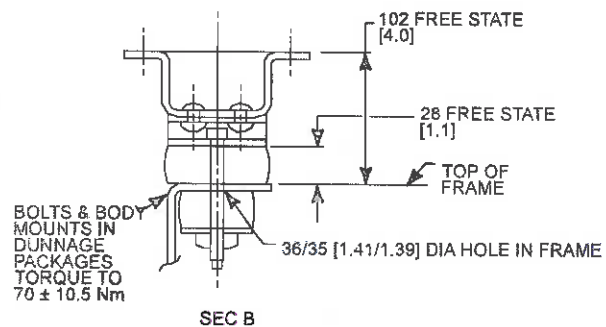
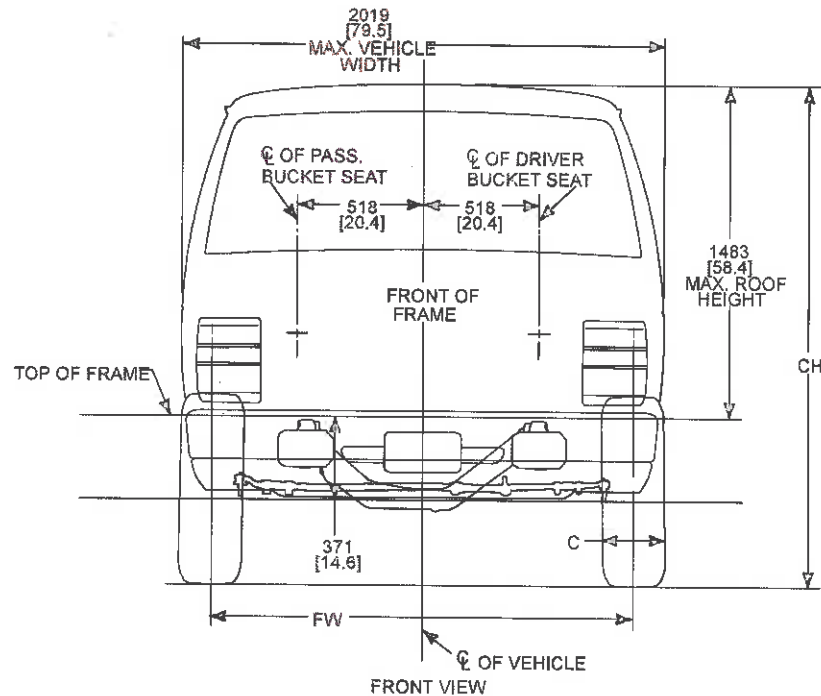
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## E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 158" WB (DRW) (Cont'd)

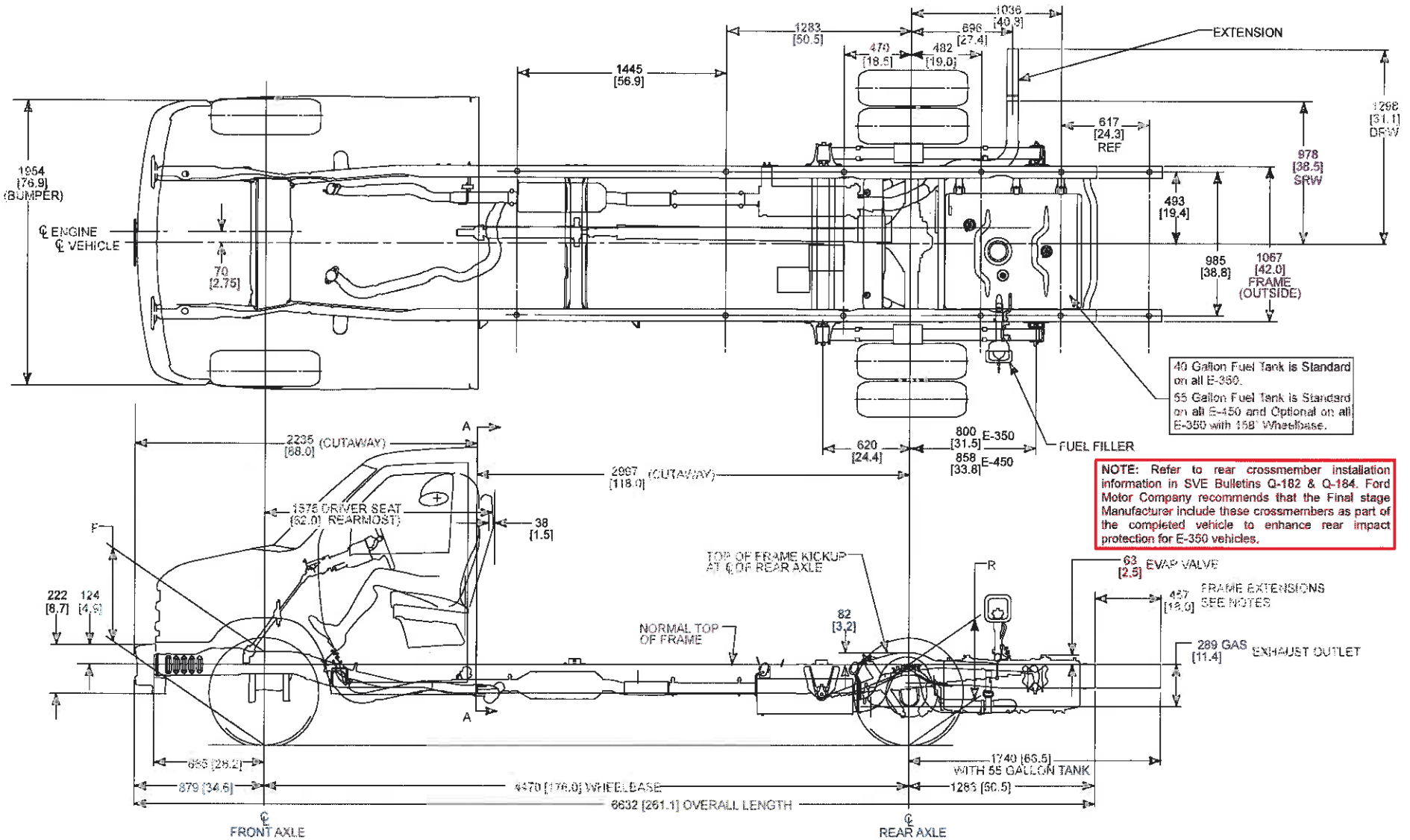


INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.



NOTE — [ ] DIMENSIONS ARE INCHES.

## E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 176" WB (DRW)

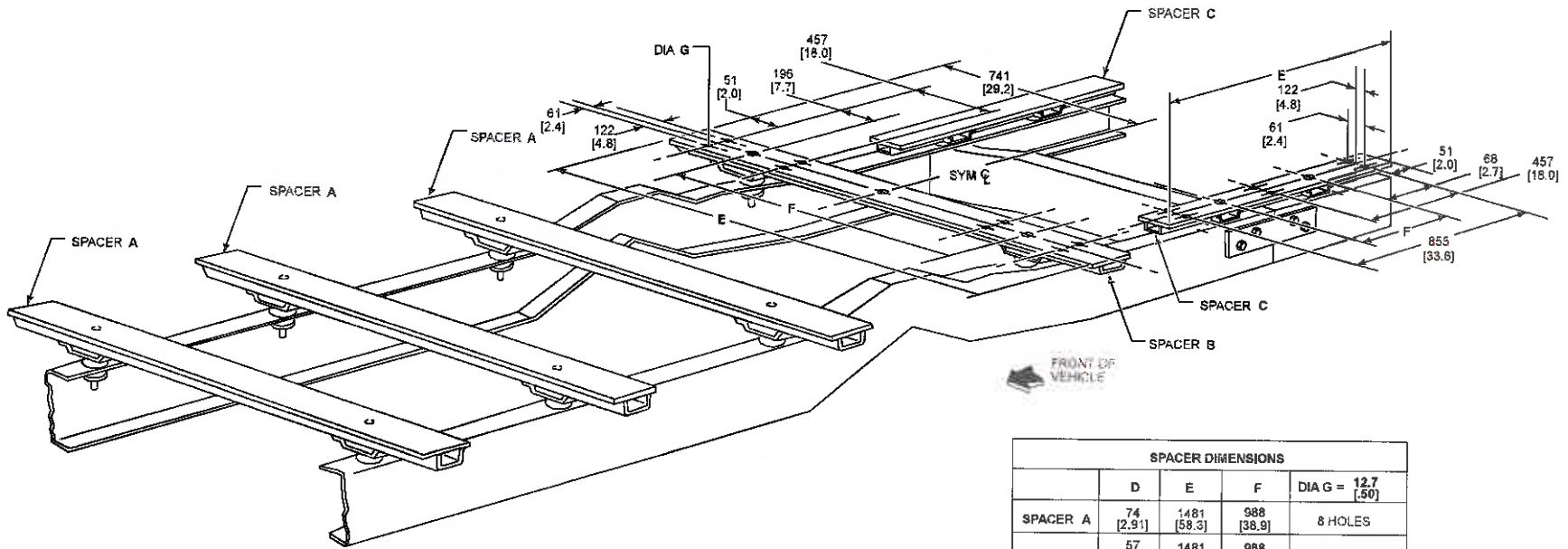


**NOTE:** Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

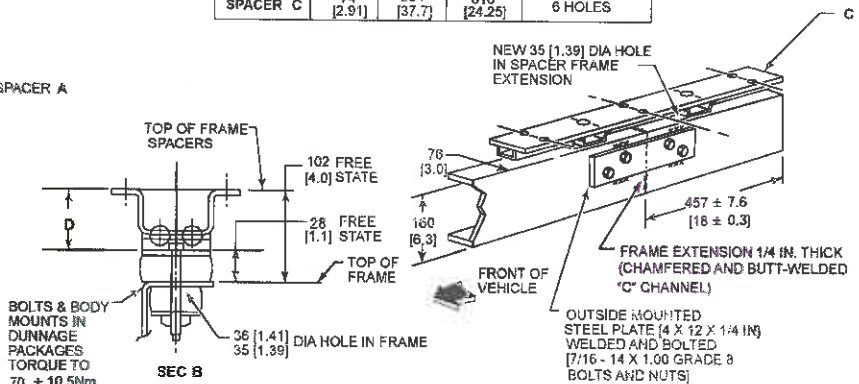
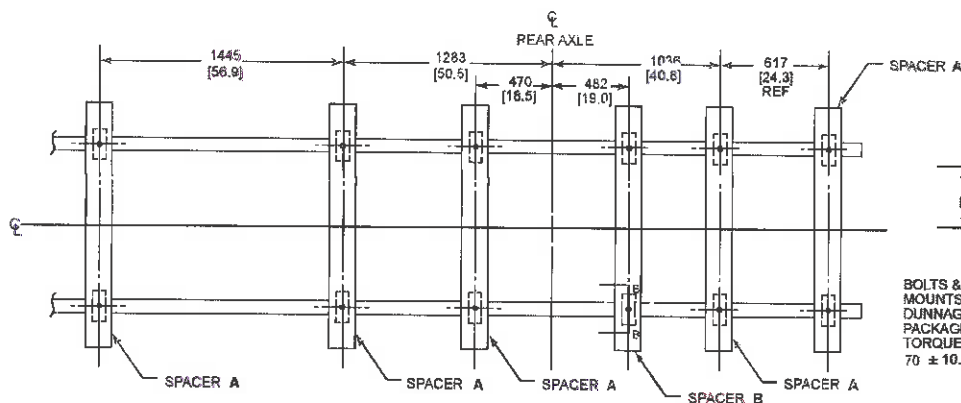
NOTES --- [ ] DIMENSIONS ARE INCHES.  
--- FOR GA DIMENSION, SEE MODEL LINEUP.

(Cont'd next page)

## E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY CUTAWAY 176" WB (DRW) (Cont'd)



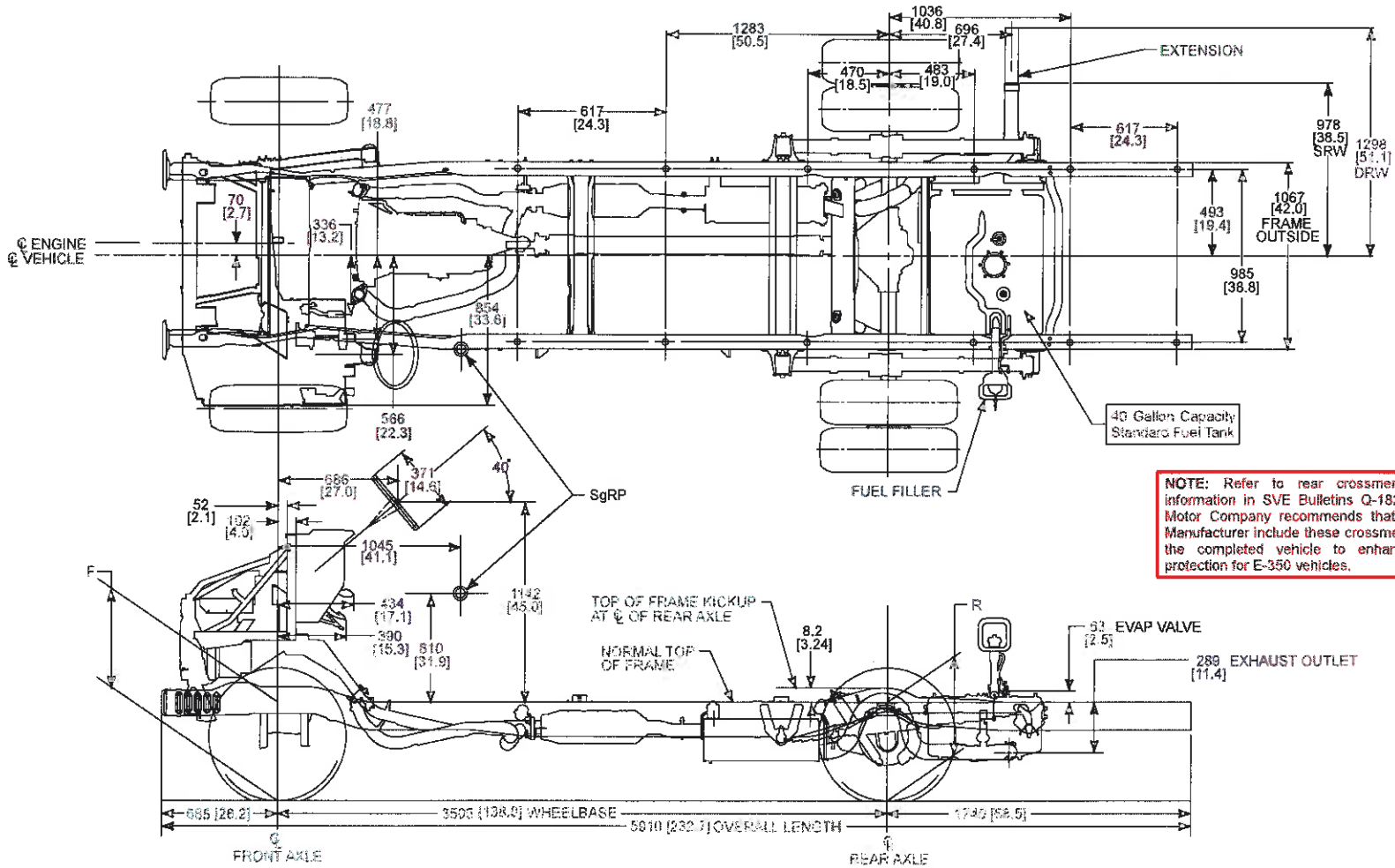
SPACER DIMENSIONS				
	D	E	F	DIA G = 12.7 [50]
SPACER A	74 [2.91]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER B	57 [2.26]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER C	74 [2.91]	204 [37.7]	616 [24.25]	6 HOLES



**NOTE** — [ ] DIMENSIONS ARE INCHES.



E-SERIES  
DIMENSIONAL DATA  
E-350 SUPER DUTY STRIPPED CHASSIS 138" WB (DRW)

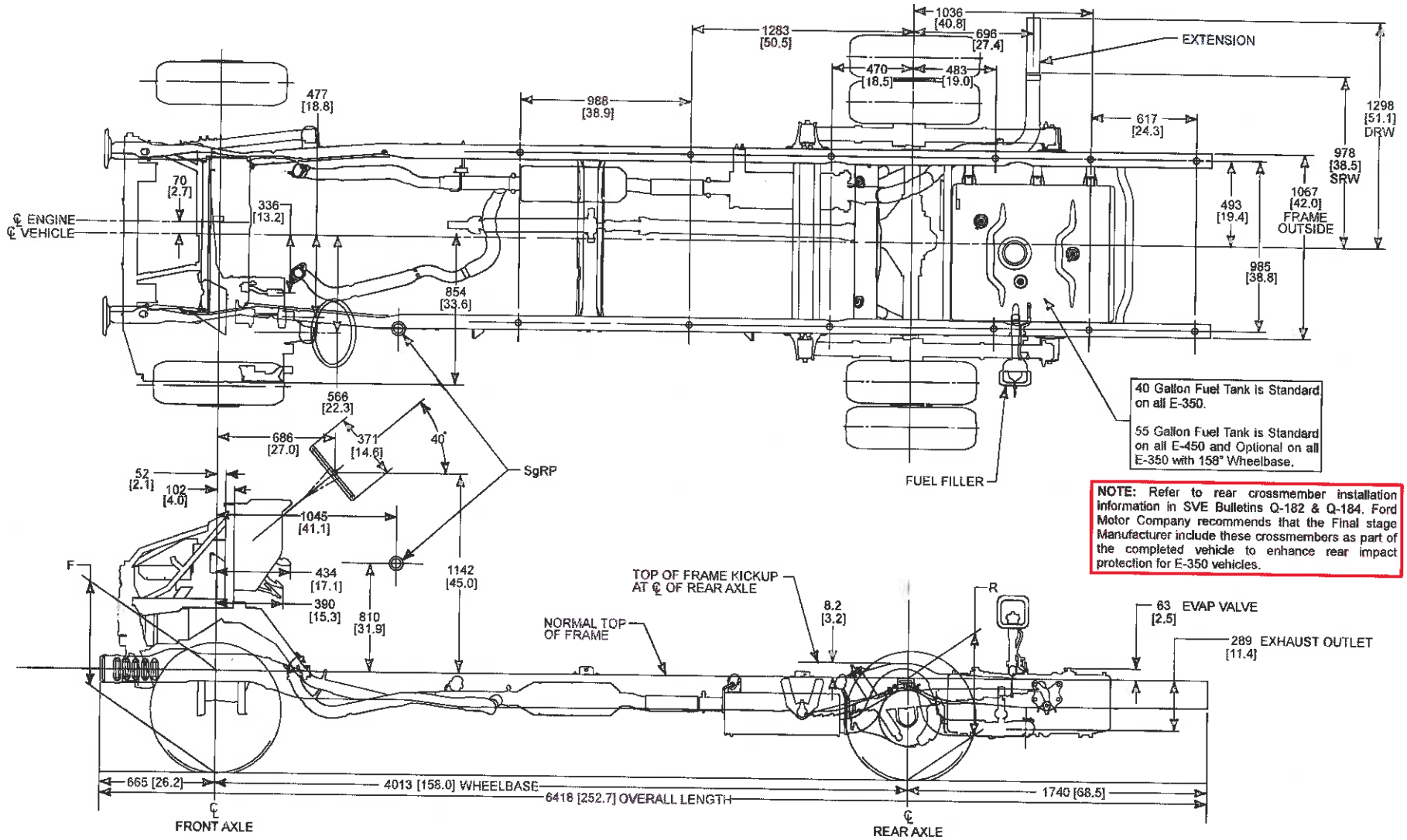


**NOTE:** Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

NOTE --- [ ] DIMENSIONS ARE INCHES.



## E-SERIES DIMENSIONAL DATA E-350 SUPER DUTY STRIPPED CHASSIS 158" WB (DRW)

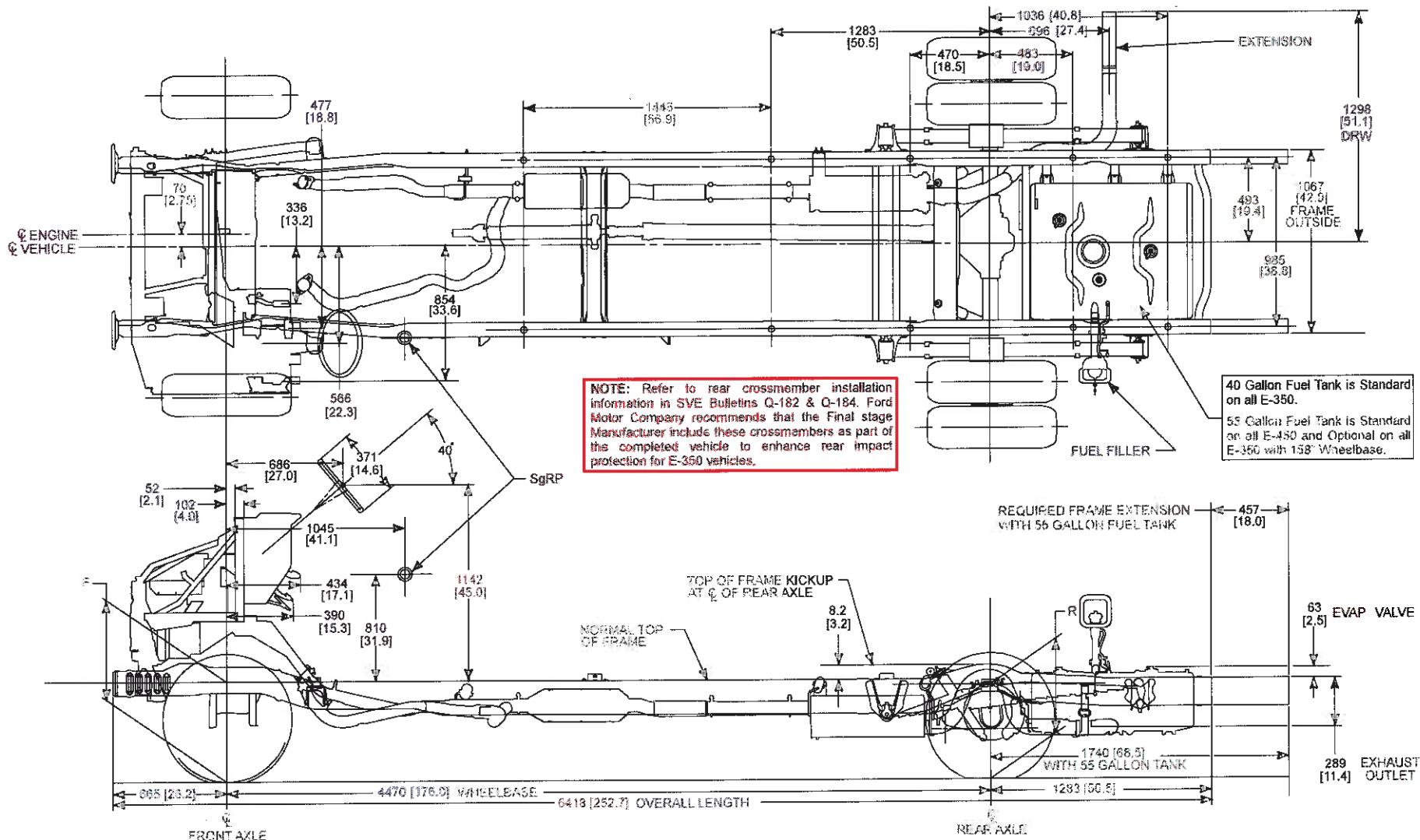


**NOTE:** Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

**NOTE** — [ ] DIMENSIONS ARE INCHES.



## E-SERIES DIMENSIONAL DATA E-350/450 SUPER DUTY STRIPPED CHASSIS 176" WB (DRW)

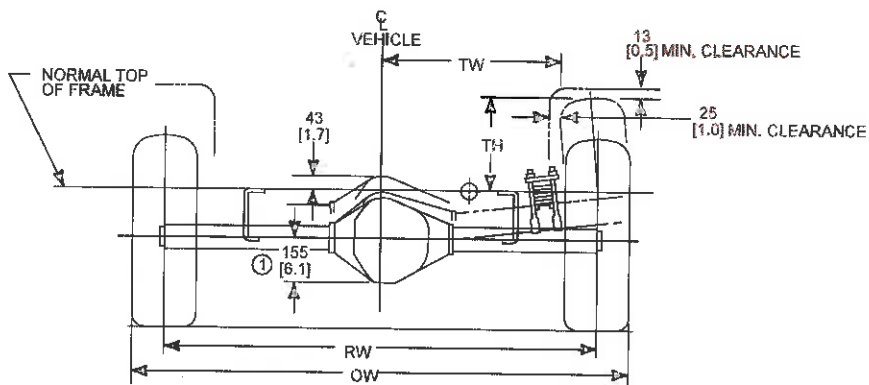


NOTE -- [ ] DIMENSIONS ARE INCHES.



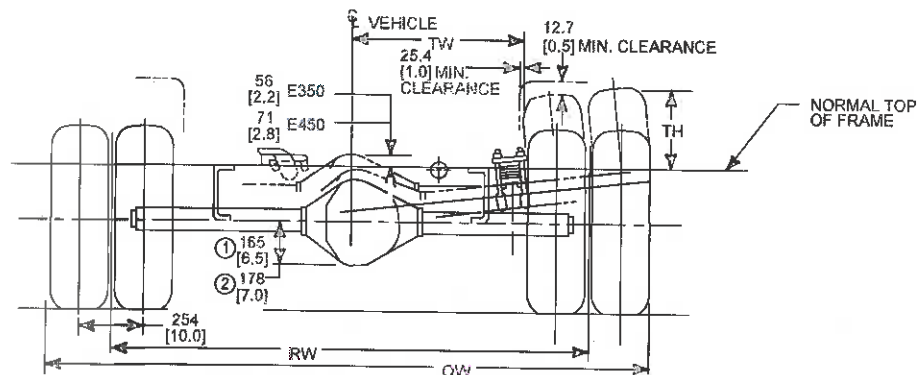


## E-SERIES AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA



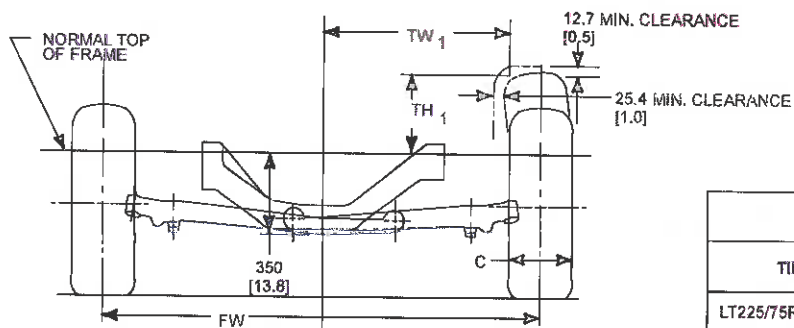
① 7800 LB AXLE USED AT 10,050 LB GVWR  
CUTAWAY APPLICATIONS

**REAR SUSPENSION (SRW)  
REAR VIEW**



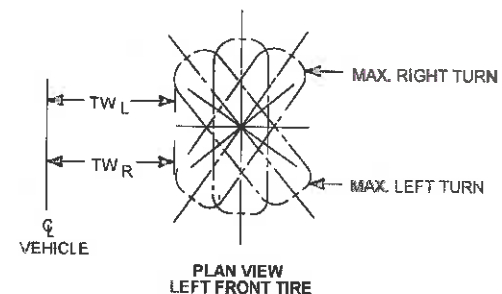
① 8500 LB AXLE USED AT 11,500, 12500 LB GVWR  
② 9600 LB AXLE USED AT 14,000, 14500 LB GVWR FOR E-450

**REAR SUSPENSION (DRW)  
REAR VIEW**



**VEHICLE  
FRONT SUSPENSION  
FRONT VIEW**

FRONT SUSPENSION				
TIRE	TW <sub>1</sub>	TH <sub>1</sub>	TW <sub>L</sub>	TW <sub>R</sub>
LT225/75R16E	655 [25.8]	302 [11.9]	549 [21.6]	521 [20.5]
LT245/75R16E	655 [25.8]	320 [12.6]	549 [21.6]	521 [20.5]



TW = DISTANCE FROM  $\phi$  OF VEHICLE TO SIDE OF TIRE IN MODIFIED JOUCE.  
TH = DISTANCE FROM NORMAL TOP OF FRAME TO TOP OF TIRE IN MODIFIED JOUCE.

**NOTE** — [ ] DIMENSIONS ARE INCHES.  
(Cont'd next page)



# Body Builders Layout Book

**13**  
E-SERIES

## E-SERIES AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA (Cont'd)

**2018**  
MODEL YEAR

MODEL	WB inches	GVWR pounds	MINIMUM TIRE	FRONT GAWR MIN/MAX pounds	COMBINED FRONT SPRING CAPACITY RATE pounds	F HEIGHT AT FRONT AXLE (1)		REAR GAWR MAX pounds	COMBINED REAR SPRING CAPACITY RATE pounds	R HEIGHT AT REAR AXLE (1)		CH OVERALL HEIGHT OF VEHICLE (STANDARD SPRINGS) (1)	
						BASE CURB WEIGHT mm [in]	LOADED mm [in]			BASE CURB WEIGHT mm [in]	LOADED mm [in]	CURB	LOADED
						STD SPRING	STD SPRING			STD SPRING	STD SPRING		
<b>CUTAWAY</b>													
E-350 SD	138	10,050 SRW	LT245/75R16E	4050/4200	4050/4200	577 [22.7]	528 [20.8]	6084	7810	652 [25.7]	578 [22.7]	2099 [82.6]	2040 [80.3]
		11,500 DRW	LT225/75R16E	4050/4600	4600	571 [22.5]	525 [20.7]	7800	8600	658 [25.9]	583 [23.0]	2098 [82.6]	2039 [80.3]
	158	10,050 SRW	LT245/75R16E	4200	4200	600 [23.6]	532 [21.0]	6084	7810	676 [26.5]	576 [22.7]	2121 [83.5]	2040 [80.3]
		11,500 DRW	LT225/75R16E	4050/4600	4050/4600	572 [22.5]	525 [20.7]	7800	8600	657 [25.9]	583 [23.0]	2094 [82.4]	2043 [80.4]
		12,500 DRW		4600/5000	4600/5000	591 [23.3]	523 [20.6]	8500	8600	664 [26.1]	582 [22.9]	2100 [83.0]	2034 [80.1]
176	12,500 DRW		4600/5000	5000	582 [22.9]	524 [20.6]	8500	8600	665 [26.1]	582 [22.9]	2100 [82.7]	2032 [80.0]	
E-450 SD	158	14,000 DRW	LT225/75R16E	4600/5000	4600/5000	592 [23.3]	523 [20.6]	9600	9600	691 [27.2]	608 [23.9]	2118 [83.4]	2045 [80.5]
		14,500 DRW		5000	5000	596 [23.5]	521 [20.5]	9600	9600	691 [27.2]	608 [23.9]	2121 [83.5]	2033 [80.1]
	176	14,000 DRW		4600/5000	4600/5000	586 [23.1]	521 [20.5]	9600	9600	692 [27.2]	608 [23.9]	2112 [83.1]	2042 [80.4]
		14,500 DRW		5000	5000	594 [23.4]	521 [20.5]	9600	9600	692 [27.2]	608 [23.9]	2116 [83.3]	2042 [80.4]
<b>STRIPPED CHASSIS</b>													
E-350 SD	138	11,500 DRW	LT225/75R16E	4200/4600	4600	608 [23.9]	524 [20.7]	7800	7800	657 [25.9]	583 [23.0]	---	---
	158	12,500 DRW		4600/5000	5000	616 [24.3]	523 [20.6]	8500	8500	664 [26.1]	582 [22.9]	---	---
	176	12,500 DRW		4600/5000	5000	616 [24.3]	523 [20.6]	8500	8500	664 [26.1]	582 [22.9]	---	---
E-450 SD	158	14,000 DRW	LT225/75R16E	4600/5000	5000	617 [24.3]	523 [20.6]	9500	9500	693 [27.3]	608 [23.9]	---	---
		14,500 DRW		5000	5000	624 [24.4]	521 [20.5]	9500	9500	693 [27.3]	608 [23.9]	---	---
	176	14,000 DRW		4600/5000	5000	---	522 [20.6]	9500	9500	---	577 [22.7]	---	---
		14,500 DRW		5000	5000	---	521 [20.5]	9500	9500	---	579 [22.8]	---	---

(1) The Height Data shown represents dimensions of a nominal vehicle with no options. Actual height may vary due to production tolerances.

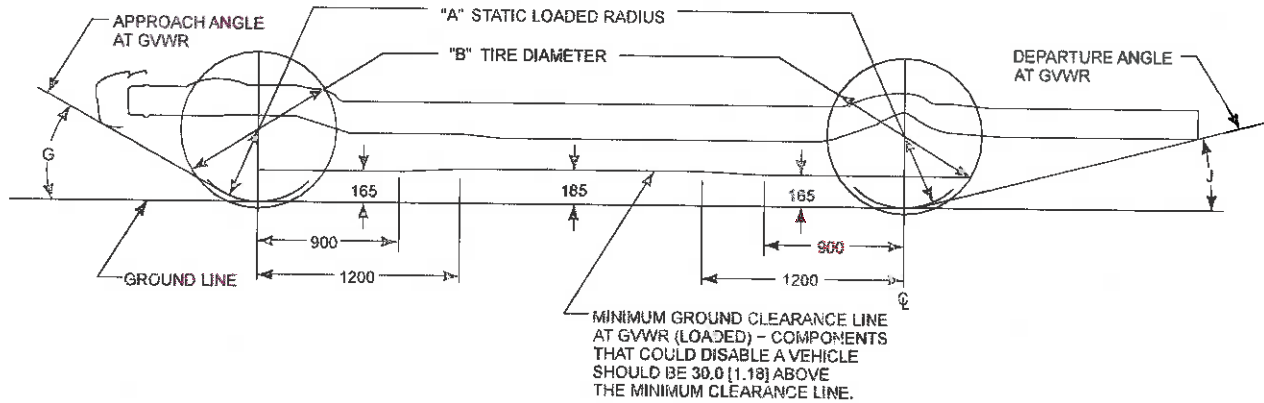
SRW - Single Rear Wheels

DRW - Dual Rear Wheels

NOTE --- [ ] DIMENSIONS ARE INCHES.



E-SERIES  
GROUND CLEARANCE  
APPROACH & DEPARTURE ANGLES



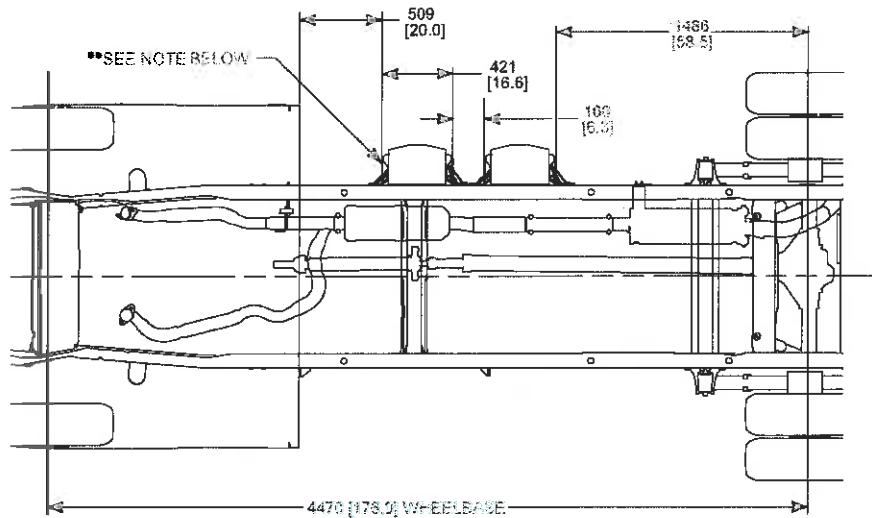
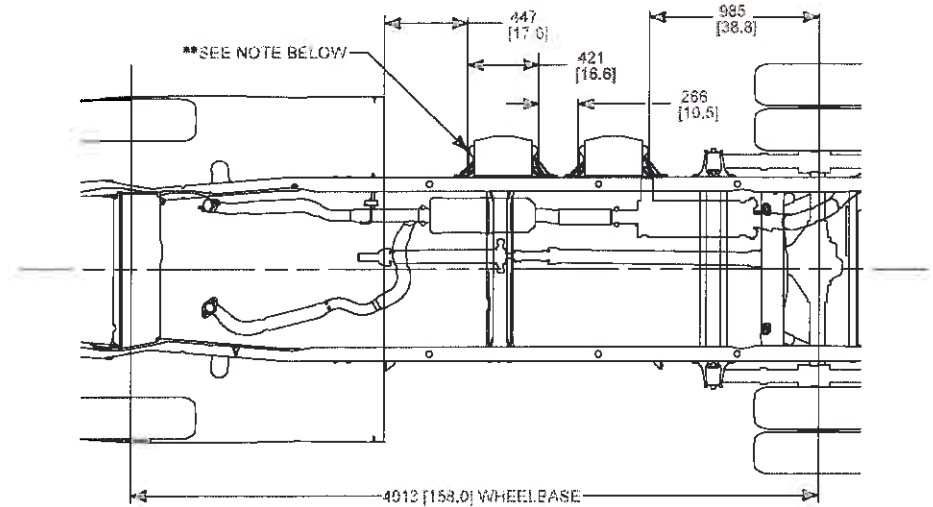
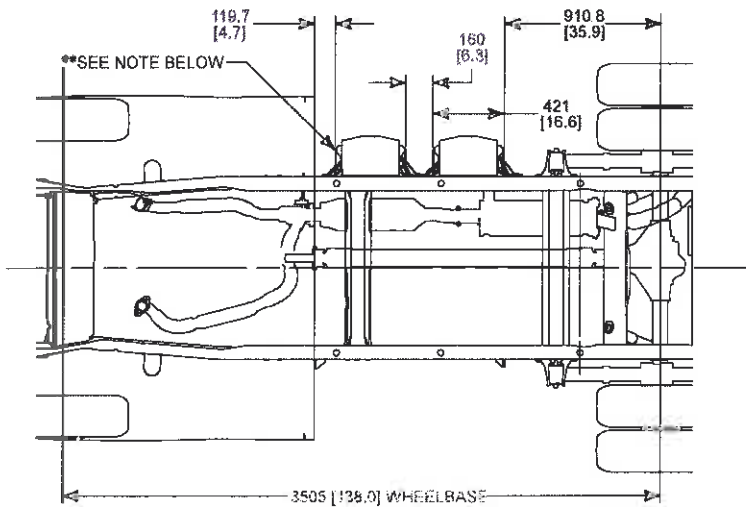
BASE VEHICLE LOADED

MODEL	TIRE SIZE	ALL SEASON TIRE DATA				TREAD WIDTH		OW	TH	TW	GROUND CLEARANCE					
		A	B	C		FW	RW	OVERALL WIDTH	STD	STD	G			J		
		STATIC LOADED RADIUS	MAX. DIAMETER	MAX. SECTION WIDTH	RIM WIDTH	FRONT	REAR	REAR	SPRING	SPRING	APPROACH ANGLE			DEPARTURE ANGLE		
											138" WB	158" WB	176" WB	138" WB	158" WB	176" WB
E-350 Cutaway SRW (Aft-of-Axle Fuel Tank)	LT245/75R16E	356 [14.0]	787 [31.0]	263 [10.3]	178 [7.0]	1763 [69.4]	1831 [72.1]	2094 [82.4]	307 [12.1]	710 [28.0]	21°	N/A	N/A	15°	N/A	N/A
E-350 Cutaway DRW	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	22°	22°	22°	15°	15° ♦	20° ♦
E-450 Cutaway DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	27°	27°	N/A	16° ♦	21° ♦
E-350 Stripped Chassis DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	40°	33°	34°	21°	18°	24°
E-450 Stripped Chassis DRW		346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	39°	35°	N/A	18° ♦	18° ♦

♦ 55-gallon tank and 18 inch frame extension

NOTE — [ ] DIMENSIONS ARE INCHES.

## E-SERIES BATTERY BOX LOCATIONS E-350/450 DUAL BATTERIES & GASOLINE W/ AUXILIARY BATTERY

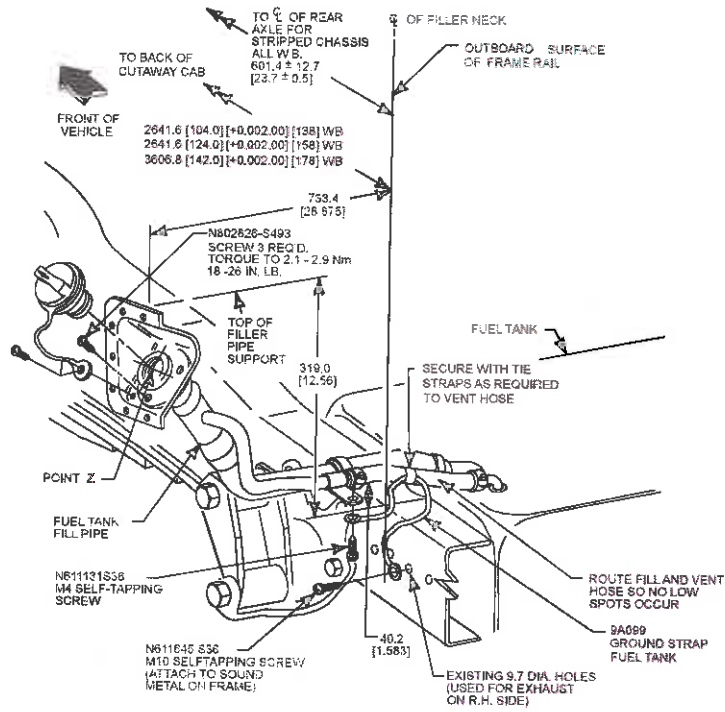


The guidelines below must be followed when repositioning the battery box

- Maintain attachment hole diameter of (12 mm)
- Maintain use of existing OEM bolts (M10)
- The battery box must NOT be packaged any lower in vehicle position than is provided by Ford
- All new frame holes must be at least 1x hole diameter away from all other holes & 1½ diameter away from the edge of a radius tangent
- Battery boxes may not be moved rearward of position provided by Ford

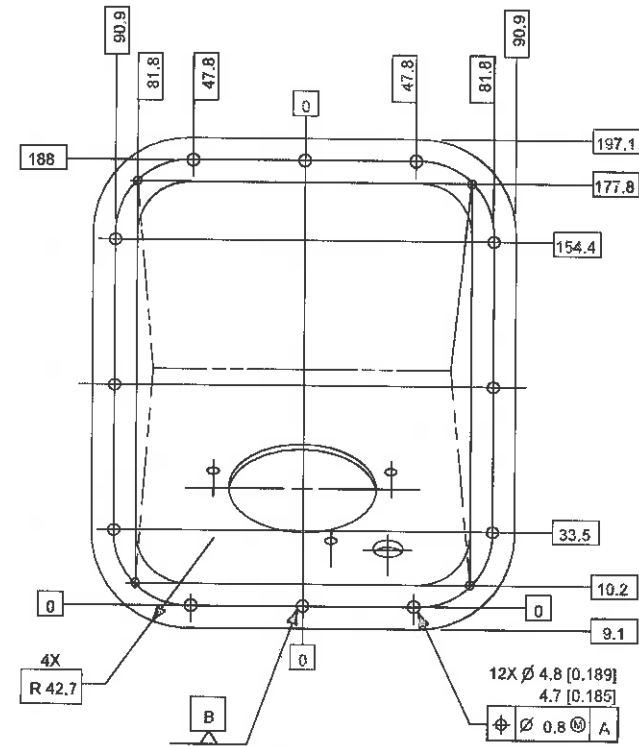
NOTES --- [ ] DIMENSIONS ARE INCHES.  
--- \*\* PLACEMENT FOR GAS ENGINES  
W/ AUXILIARY BATTERY OPTION.

## E-SERIES FUEL FILLER PIPE



TORQUE ALL WORM GEAR DRIVEN HOSE CLAMPS TO 2.9-4.3 NM 25-38 IN.-LB

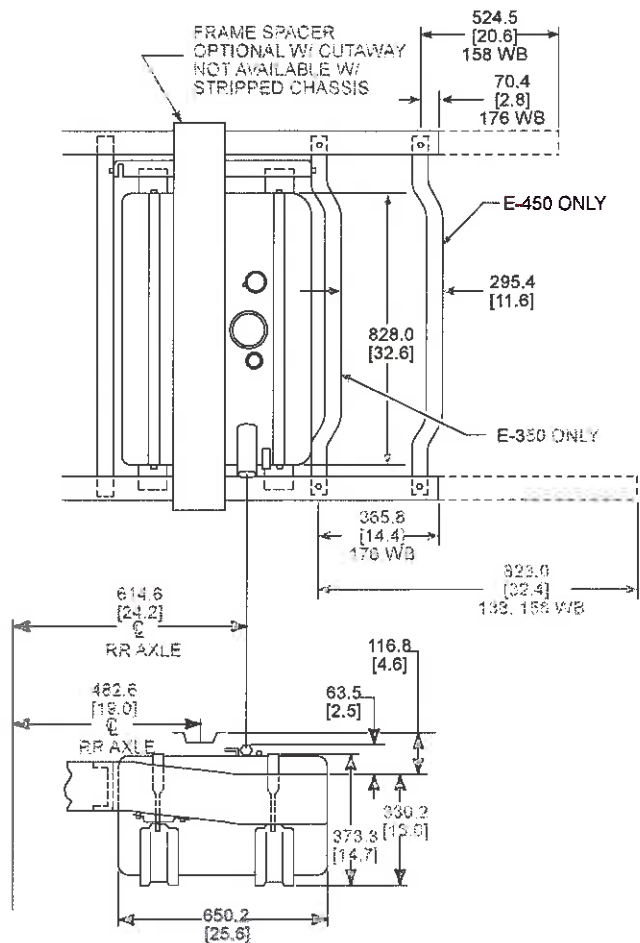
▽ CRITICAL CONTROL ITEM



NOTE — [ ] DIMENSIONS ARE INCHES.



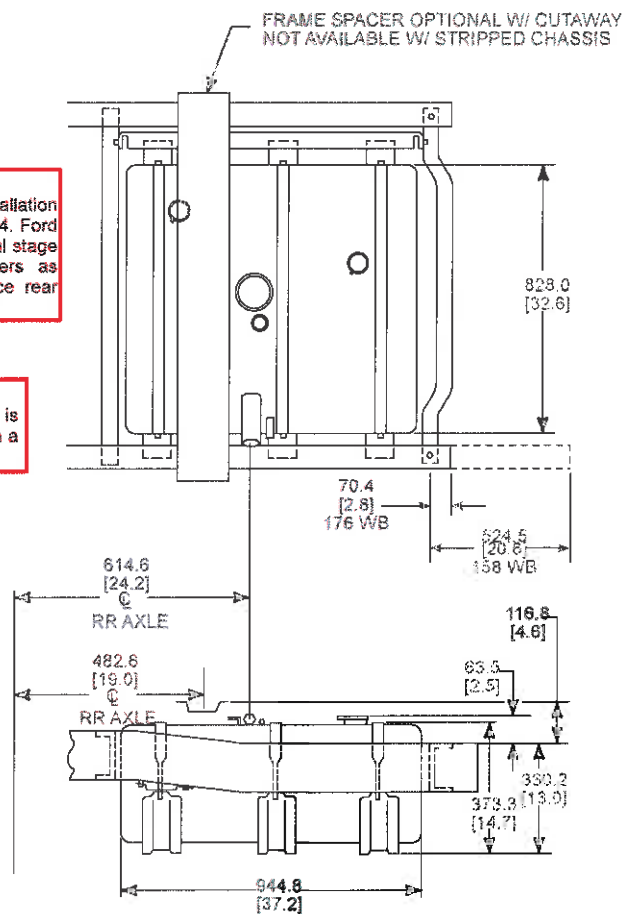
## E-SERIES DIMENSIONAL DATA E-350 SUPER DUTY CUTAWAY 138" WB (SRW / DRW)



**40 GALLON TANK**  
 E-350 138", 156", 178" WB  
 E-450 155", 176" WB

**NOTE:**  
 Refer to rear crossmember installation information in SVE Bulletins Q-182 & Q-184. Ford Motor Company recommends that the Final stage Manufacturer include these crossmembers as part of the completed vehicle to enhance rear impact protection for E-350 vehicles.

**WARNING:**  
 An 18" minimum frame extension is required on the 176" WB frame with a 55 gallon fuel tank.



**55 GALLON TANK**  
 E-350 155" WB  
 E-450 156", 176" WB

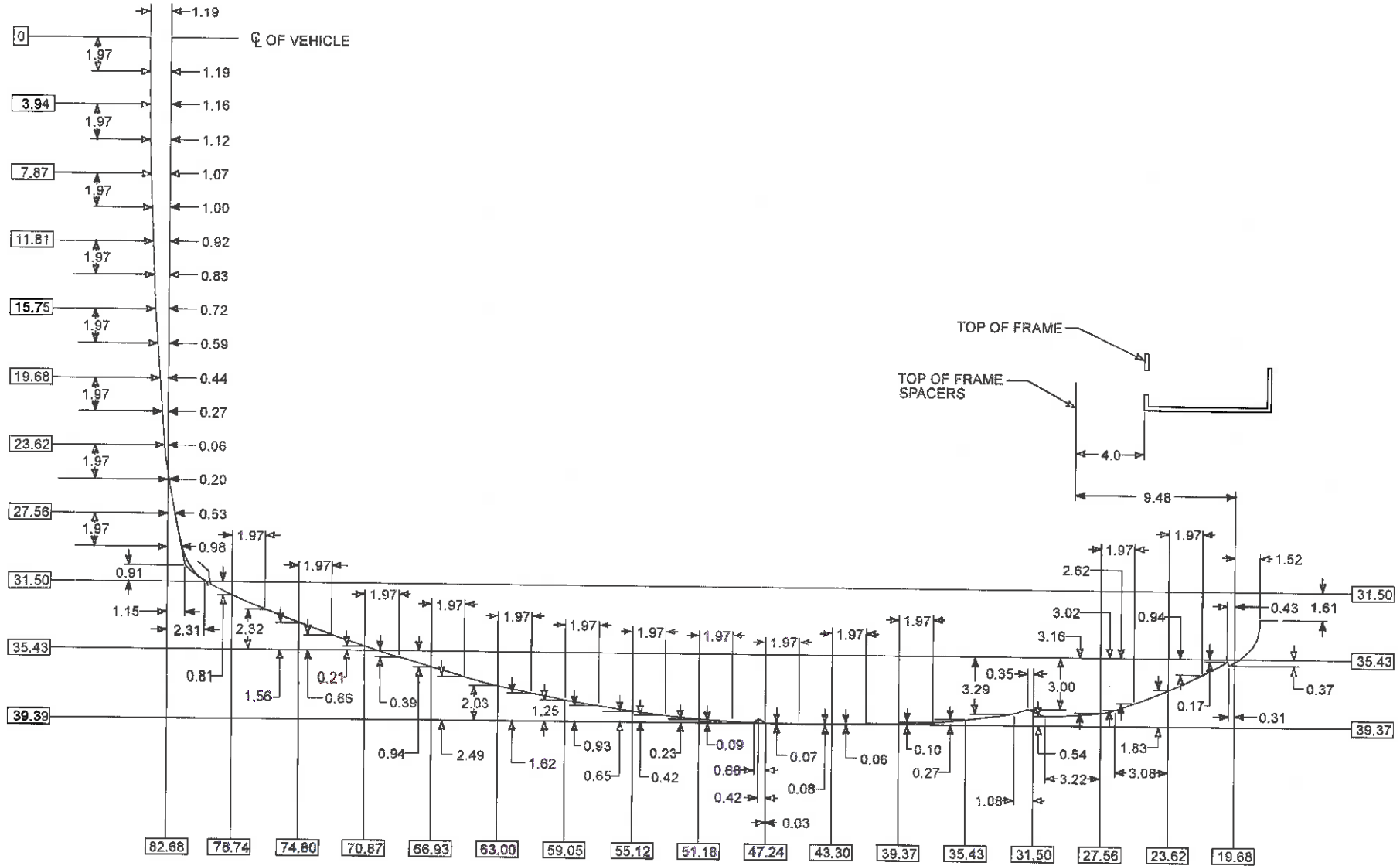
NOTE — [ ] DIMENSIONS ARE INCHES.



E-SERIES  
BACK OF CAB PROFILE DIMENSIONS  
GUTWAY BODY SECTION "A"

2018  
MODEL YEAR

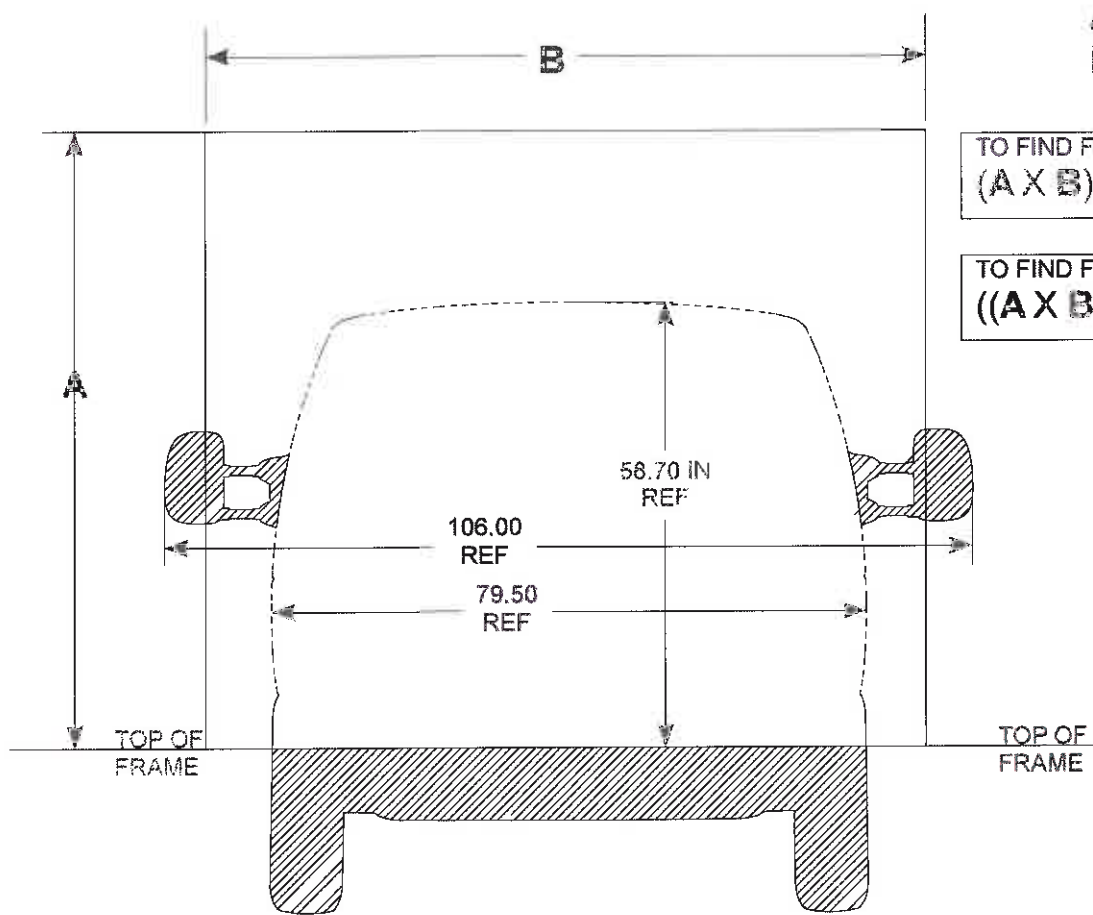
18  
E-SERIES



NOTE — [ ] DIMENSIONS ARE INCHES.



E-SERIES - SRW  
FRONT SURFACE AREA WORKSHEET  
CHASSIS CAB / CUTAWAY



**A** = BOX HEIGHT IN INCHES

**B** = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES  
 $(A \times B) + 1240.7 =$

TO FIND FRONT SURFACE AREA IN SQ FEET  
 $((A \times B) / 144) + 8.62 =$

BELOW FRAME SHADED AREA EQUALS  
 $624293 / (25.4 \times 25.4) = 987.6560$  SQ. IN.  
 $987.6560 / (12 \times 12) = 6.7198$  SQ. FT.

MIRROR SHADED AREA EQUALS  
 $(88087.6 \times 2) / (25.4 \times 25.4) = 273.0721$  SQ. IN.  
 $273.0721 / (12 \times 12) = 1.8963$  SQ. FT.

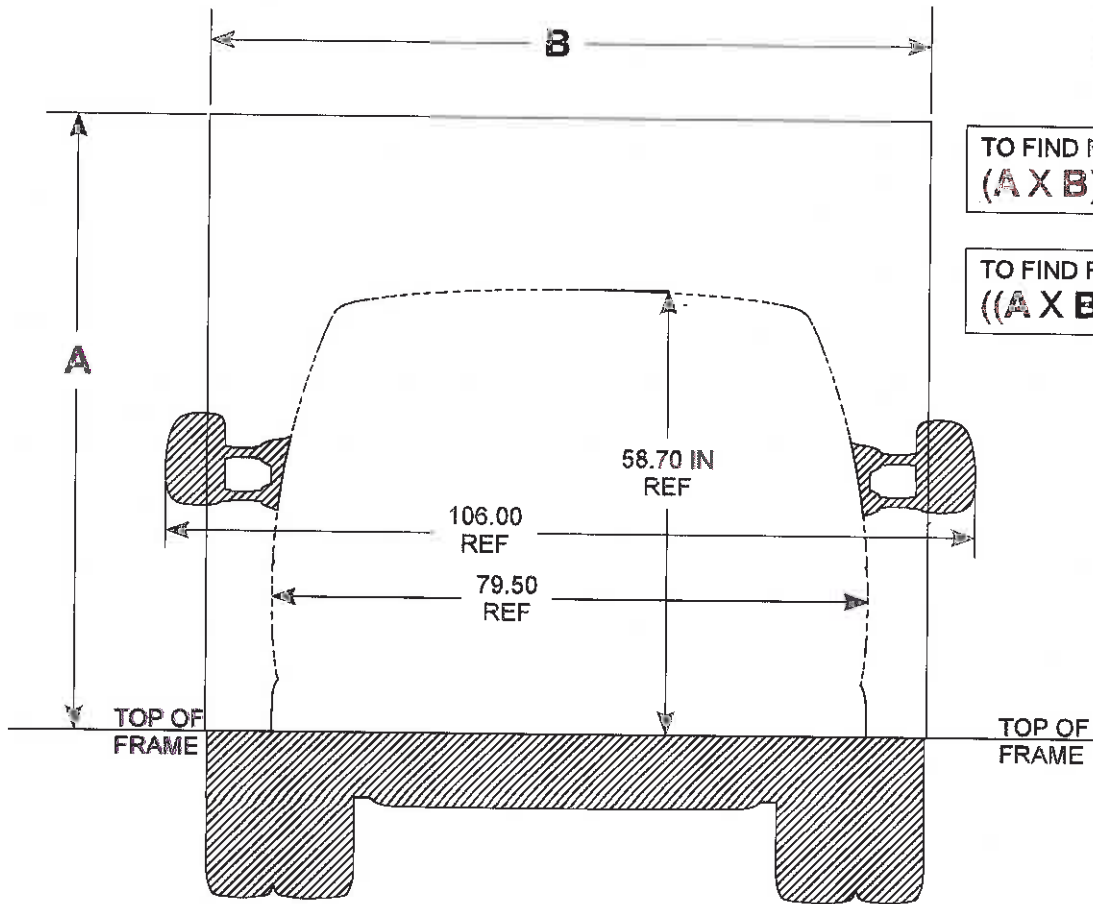
TOTAL SHADED AREA EQUALS  
 $800468.2 / (25.4 \times 25.4) = 1240.7281$  SQ. IN.  
 $1429.6698 / (12 \times 12) = 8.6161$  SQ. FT.

NOTE — DIMENSIONS ARE INCHES.





E-SERIES - DRW  
FRONT SURFACE AREA WORKSHEET  
CHASSIS CAB / CUTAWAY



**A** = BOX HEIGHT IN INCHES  
**B** = BOX WIDTH IN INCHES

TO FIND FRONT SURFACE AREA IN SQ INCHES  
 $(A \times B) + 1632.1 =$

TO FIND FRONT SURFACE AREA IN SQ FEET  
 $((A \times B) / 144) + 11.33 =$

BELOW FRAME SHADED AREA EQUALS  
 $876808.0 / (25.4 \times 25.4) = 1359.0551 \text{ SQ. IN.}$   
 $1359.0551 / (12 \times 12) = 9.4379 \text{ SQ. FT.}$

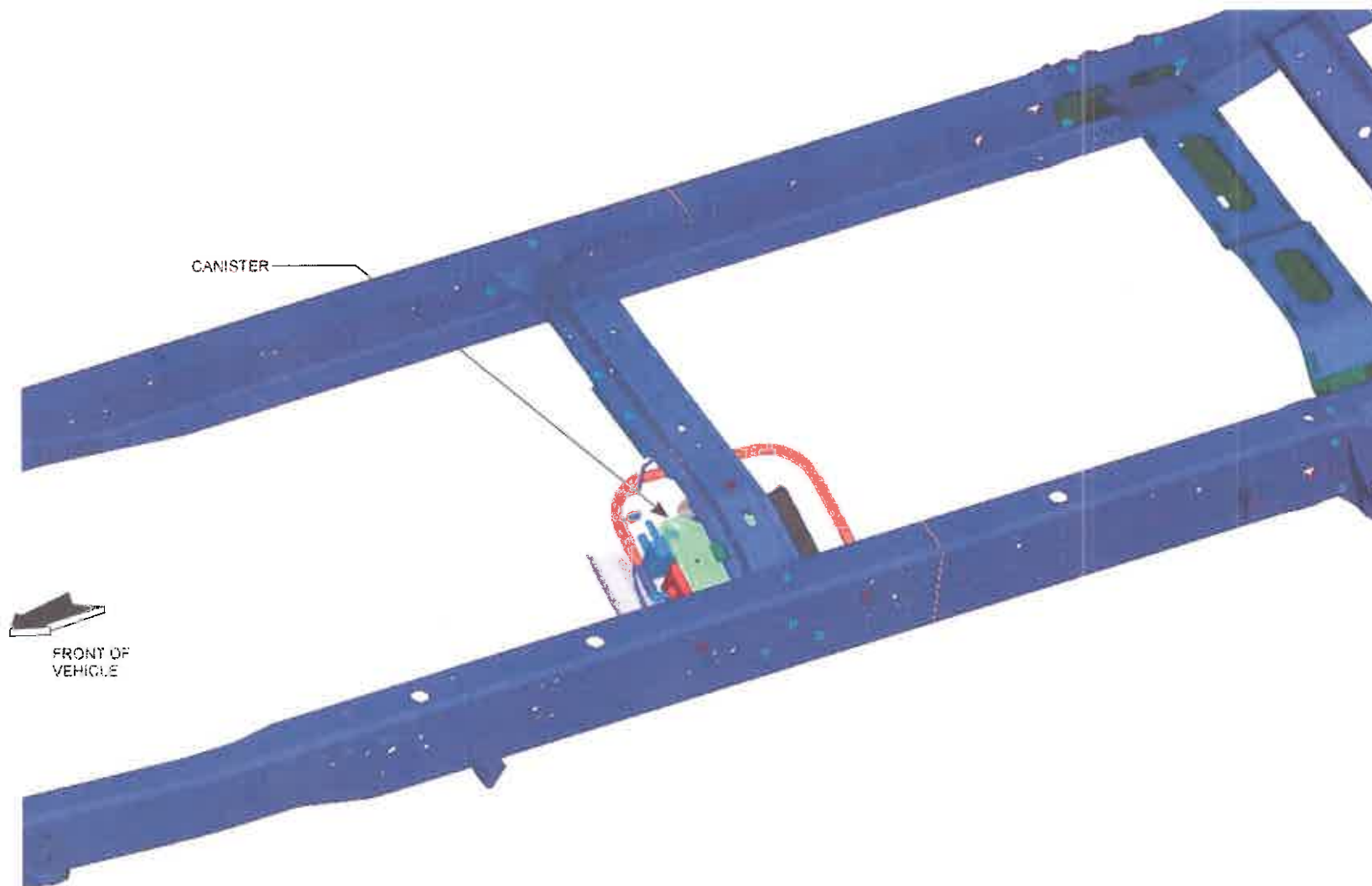
MIRROR SHADED AREA EQUALS  
 $(88087.6 \times 2) / (25.4 \times 25.4) = 273.0721 \text{ SQ. IN.}$   
 $273.0721 / (12 \times 12) = 1.8963 \text{ SQ. FT.}$

TOTAL SHADED AREA EQUALS  
 $1052983.2 / (25.4 \times 25.4) = 1632.1272 \text{ SQ. IN.}$   
 $1632.1272 / (12 \times 12) = 11.3342 \text{ SQ. FT.}$

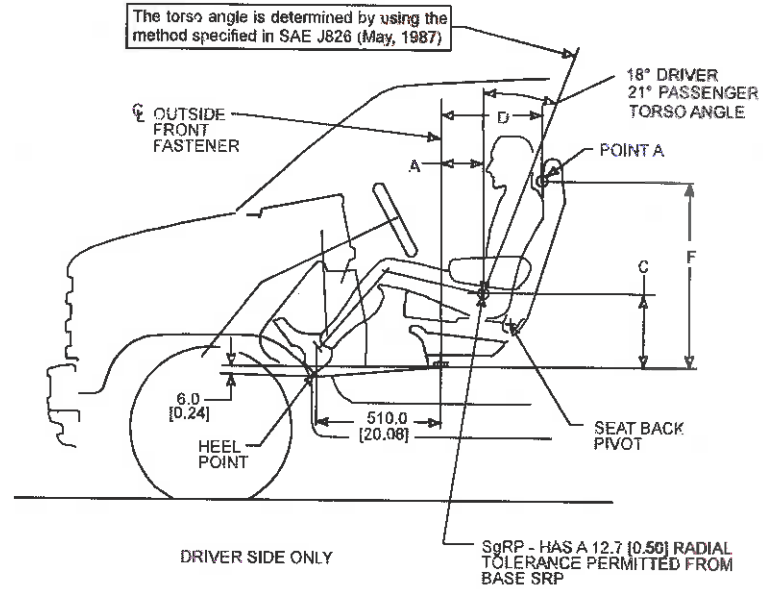
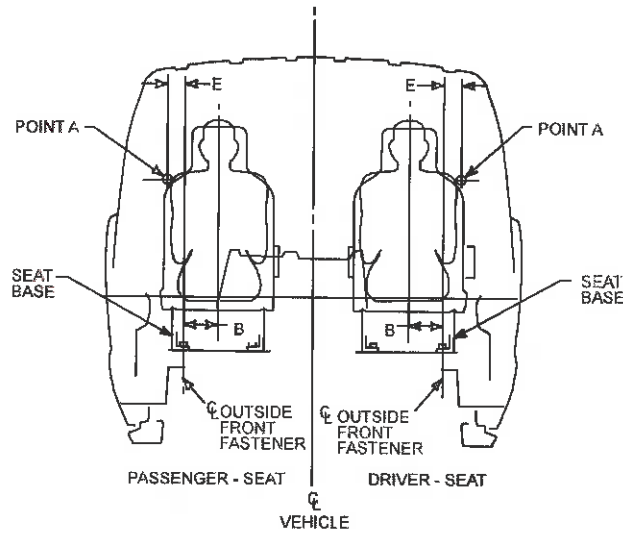
NOTE — DIMENSIONS ARE INCHES.



**E-SERIES  
AFT-OF-AXLE FUEL TANK EVAPORATIVE EMISSIONS CANISTER LOCATION  
CUTAWAY**



## E-SERIES SEAT POSITION E-250/350/450 SUPER DUTY CUTAWAY



**IMPORTANT:**  
The dimensions in this figure require the vehicle to be at Design Position. E-Series vehicles at Design Position will be level front to rear, and side to side, on the upper surface of the ribbed floor panel from the B-pillar rearward.

SRP INFORMATION (SEAT POSITION IS 10.0 mm [0.39] FORWARD OF REARMOST POSITION)				POINT A (SEAT POSITION IS AT THE MIDPOINT OF AVAILABLE TRAVEL)		
SEAT	A	B	C	D	E	F
DRIVER	217.8 [8.57]	105.0 [4.13]	384.2 [15.13]	356.0 [14.01]	67.0 [2.64]	937.4 [36.90]
PASSENGER	277.3 [10.92]	103.0 [4.06]	377.0 [14.84]	412.0 [16.22]	65.0 [2.56]	960.1 [37.80]

CODE	DESCRIPTION	DIMENSION
<b>FRONT COMPARTMENT</b>		
L34	MAXIMUM EFFECTIVE LEG ROOM – FRONT	1015 [40.0]
W3	SHOULDER ROOM – FRONT	1729 [68.1]
W5	HIP ROOM – FRONT	1667 [65.6]
W117	BODY WIDTH AT H-POINT	1996 [78.6]
H61	EFFECTIVE HEAD ROOM – FRONT	1070 [42.1]

NOTE — [ ] DIMENSIONS ARE INCHES.



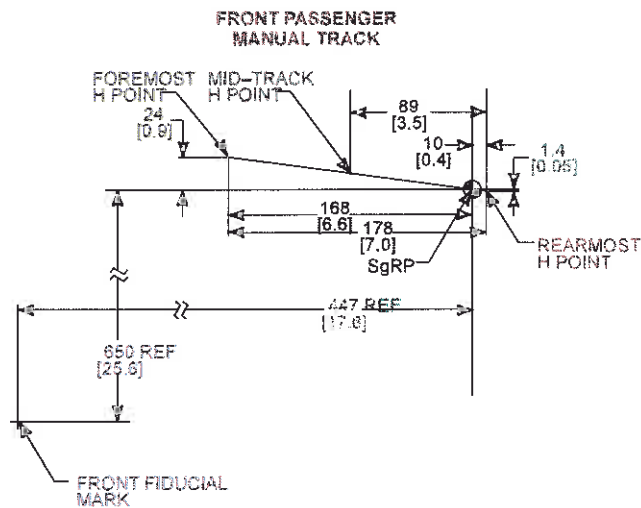
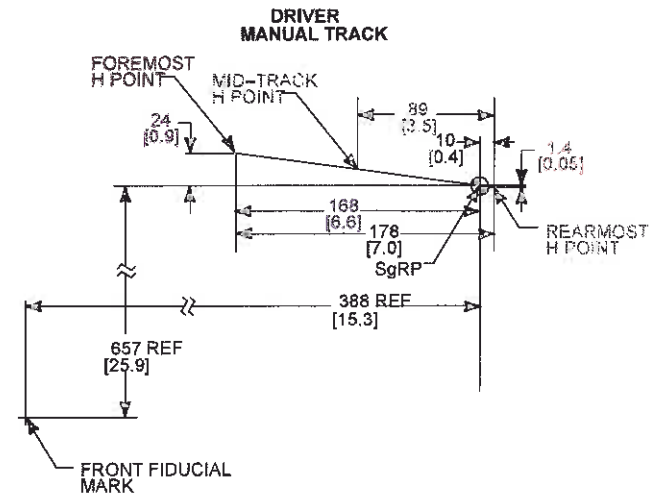
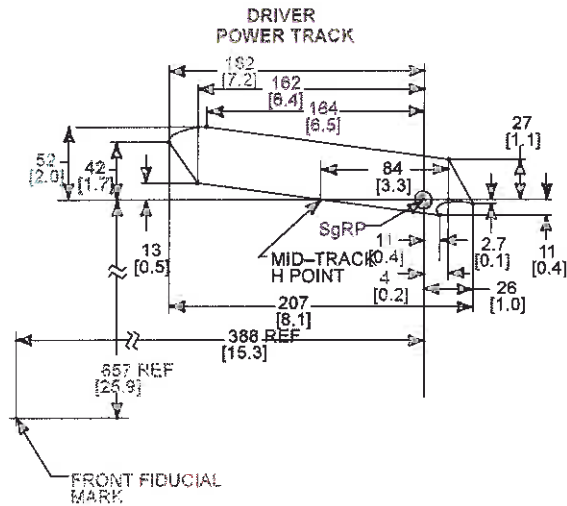
## E-SERIES

### SEAT TRACK TRAVEL / H-POINT LOCATION

2018

MODEL YEAR

23  
E-SERIES

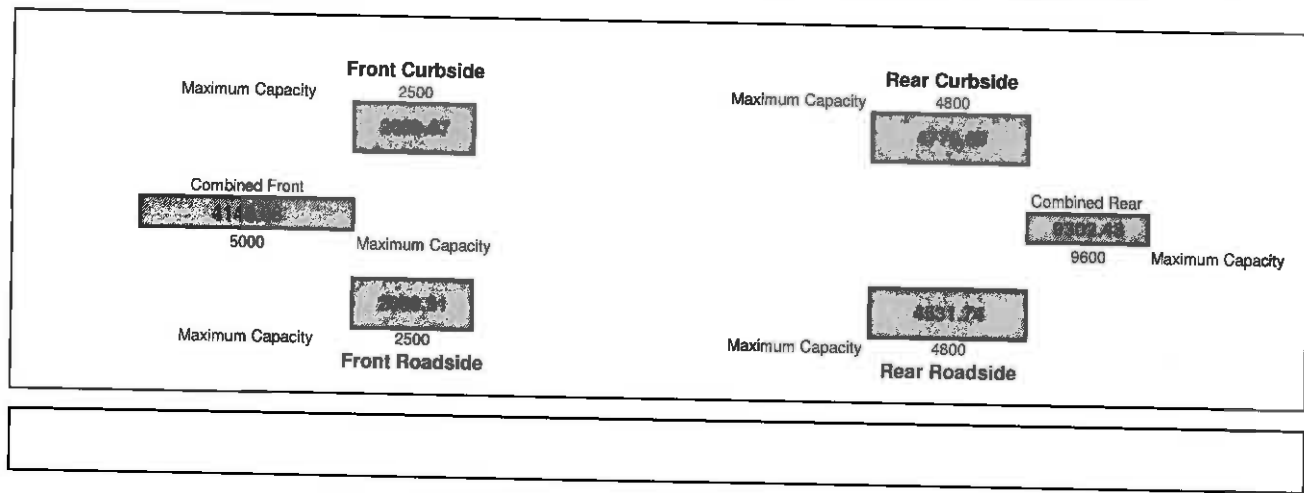


NOTES --- [ ] DIMENSIONS ARE INCHES.

THIS SEAT INFORMATION IS PROVIDED TO ASSIST IN THE INSTALLATION OF SEATS OTHER THAN FORD INSTALLED SEATS AND TO HELP PRESERVE THE INTENDED PERFORMANCE OF THE SAFETY AND ERGONOMIC FEATURES OF THE E-SERIES. THE MID-TRACK H-POINT LOCATION MUST BE MAINTAINED IN ORDER TO COMPLY WITH FICM/SS 208 AIRBAG REQUIREMENTS.

# ELKHART COACH WEIGHT ANALYSIS

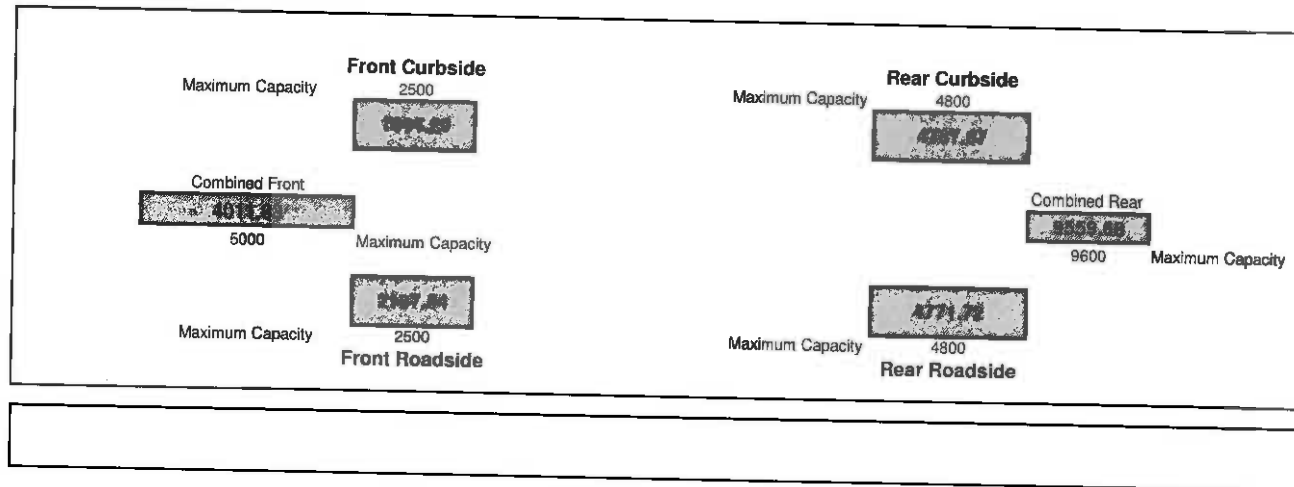
INPUT AREAS		CHASSIS	Quote #	MODEL	FUEL TYPE	FUEL LOAD ADJ. DATA (F.L.A.)					
VEHICLE DESCRIPTION:						FUEL CAP.	FUEL WGT PER GAL				
	WHEEL BASE	PER IN. VALUE CALC.	AXLE WEIGHTS			FUEL AMT.	WGT OF FUEL	FUEL ADJ. AMT.			
		0.54	LEFT FRONT	RIGHT FRONT			339.35	84.84			
AXLE CAPACITIES						FUEL TANK CENTER		DEALER			
FRONT	REAR	TOTAL	LEFT REAR	RIGHT REAR							
LEFT (ROADSIDE)			RIGHT (CURBSIDE)								
DRIVER	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	
			23.66%	114.52	35.48			0.00%	0.00	0.00	
2 PASS			0.00%	0.00	0.00			0.00%	0.00	0.00	
2 PASS			51.08%	171.24	178.76			53.76%	161.83	188.17	2 PASS
2 PASS			68.82%	109.14	240.86			70.43%	103.49	246.51	2 PASS
2 PASS			86.56%	47.04	302.96			87.10%	45.16	304.84	2 PASS
			104.30%	-15.05	365.05			103.78%	-13.17	363.17	2 PASS
			0.00%	0.00	0.00			126.88%	-80.65	360.65	WC
2 PASS			0.00%	0.00	0.00			0.00%	0.00	0.00	
			126.88%	-125.27	591.27			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
Rear Door			0.00%	0.00	0.00			0.00%	0.00	0.00	
Mor Hyde			141.94%	-14.26	48.26			141.94%	-14.26	48.26	Rear Door
			100.00%	0.00	50.00			100.00%	0.00	50.00	Mor Hyde
			0.00%	0.00	0.00			0.00%	0.00	0.00	
TOTAL PASSENGER LOAD				287.35	1812.65			0.00%	0.00	0.00	
AXLE WEIGHTS				1821.00	2572.00				202.41	1581.59	3884.00
									1877.00	3042.00	9312.00
				FRONT	REAR	LEFT/RIGHT TOTALS	LEFT/RIGHT %'S				
				LEFT	2088.51	4531.74	6620.26	0.492			
				RIGHT	2059.57	4770.69	6830.26	0.508			
				FRT / REAR TOTALS	4148.08	9302.43	13450.51				
				AXLE CAPACITIES	5000	9600	14500				
				AVAILABLE CAPACITIES							





# ELKHART COACH WEIGHT ANALYSIS

INPUT AREAS:		CHASSIS	Quote #	MODEL	FUEL TYPE:	FUEL LOAD ADJ. DATA (F.L.A.)					
VEHICLE DESCRIPTION:						FUEL CAP.	FUEL WGT PER GAL.				
WHEELBASE		PER IN. VALUE CALC.	AXLE WEIGHTS			FUEL AMT.	WGT OF FUEL	FUEL ADJ. AMT.			
		0.54	LEFT FRONT	RIGHT FRONT			339.35	-84.84			
AXLE CAPACITIES						FUEL TANK CENTER		DEALER			
FRONT	REAR	TOTAL	LEFT REAR	RIGHT REAR							
<b>LEFT (ROADSIDE)</b>			<b>RIGHT (CURBSIDE)</b>								
DRIVER	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	
			23.66%	114.52	35.48			0.00%	0.00	0.00	
2 PASS			0.00%	0.00	0.00			0.00%	0.00	0.00	
2 PASS			52.15%	181.35	197.65			0.00%	0.00	0.00	
2 PASS			79.57%	74.16	288.84			81.72%	69.28	309.72	2 PASS
2 PASS			98.39%	5.81	354.19			98.39%	5.85	357.15	2 PASS
2 PASS			115.05%	-54.19	414.19			115.05%	-54.19	414.19	2 PASS
2 PASS			131.72%	-114.19	474.19			131.72%	-114.19	474.19	2 PASS
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
Overhead Luggage			0.00%	0.00	0.00			0.00%	0.00	0.00	
			81.18%	12.98	56.02			0.00%	0.00	0.00	
Romeo			0.00%	0.00	0.00			98.92%	0.43	39.57	Overhead Luggage
			143.55%	-3.05	10.05			0.00%	0.00	0.00	
			0.00%	0.00	0.00			143.55%	-3.05	10.05	Romeo
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
			0.00%	0.00	0.00			0.00%	0.00	0.00	
TOTAL PASSENGER LOAD								0.00%	0.00	0.00	
AXLE WEIGHTS									-95.87	1604.87	3557.00
									1960.00	3036.00	9760.00
				FRONT	REAR	LEFT/RIGHT TOTALS	LEFT/RIGHT %'S				
				LEFT	2167.54	4771.72	6939.26	0.511			
				RIGHT	1844.29	4787.97	6632.26	0.489			
FRT / REAR TOTALS				4011.83	9559.68	13571.51					
AXLE CAPACITIES				5000	9600	14500					
AVAILABLE CAPACITIES				898.17	898.17	898.17					





The Chemical Company

PRODUCT DATA

# DEGACOAT™ 300, 310

General purpose underbody/protective coatings

### Description

DegaCoat™ 300 and 310 are non-fibered asphalt emulsions specifically formulated for use as protective underbody coatings which provide excellent corrosion preventative barriers for transport applications.

DegaCoat™ 300 and 310 are fiber-free for application by brush or spray.

### Packaging

DegaCoat™ 300:  
53 gallon (200.6 L) drums  
16 gallon (60.48 L) kegs

DegaCoat™ 310:  
53 gallon (200.6 L) drums  
16 gallon (60.48 L) kegs  
330 gallon (1247 L) totes

### Color

Applies dark brown and dries to a durable matte black finish

### Shelf Life

1 year when properly stored

### Storage

Store in unopened containers in a cool, clean, dry area. Do not allow these materials to freeze in the container; do not store below 35° F (2° C).

### Features

- Anti-corrosion coating
- Nonflammable
- Water clean up
- Fast drying

### Benefits

- Beautifies and protects
- Minimizes fire hazards during application; improves worker safety
- User friendly; enhances production/ process time
- Speeds production

### Where to Use

#### LOCATION

- Truck and trailer
- Bus
- RV
- House/cargo trailers
- Rail cars

#### SUBSTRATE

- Metals
- Aluminum
- Plywood
- OSB
- Can be sprayed over oxidized metals

### How to Apply

#### Surface Preparation

Surface should be free of oil, grease, dirt and loose material.

#### Application

Spray with the proper equipment. Consult the spray equipment manufacturer for more information.

#### UNDERBODY COATING

1. DegaCoat™ 300 and 310 are recommended to be used for corrosion protection on steel surfaces and other metal substrates.

2. DegaCoat™ 300 is designed for spray application using airless equipment. For best results under a wide variety of conditions, a 30:1 or higher ratio pump with a .027 orifice size is recommended. Under limited spray conditions, a 15:1 ratio can be substituted. A heavy film thickness (125 mils wet) can be achieved on vertical surfaces without sagging.

3. DegaCoat™ 310 is designed for spray application using airless equipment. A 15:1 or higher ratio pump with a minimum .023 orifice size is recommended.

### Clean Up

Tools and hands should be cleaned with soap and water before emulsion sets. Dried material can be removed with the appropriate solvent.

### For Best Performance

- Keep from freezing in the container.
- Do not apply at temperatures below 40° F (4° C) or when temperatures are expected to fall to 40° F (4° C) in the next 24 hours.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.



## Technical Data

### Composition

DegaCoat™ 300 and 310 are asphalt-based emulsions.

### Compliances

- DegaCoat™ 300 and 310 comply with ASTM D 1187, Type 1, and ASTM D 1227, Type 3, Class I
- DegaCoat™ 300 and 310 comply with ASTM D 1227, Type 2, Class I and ASTM D 1187, Type 1

### Test Data

PROPERTY	RESULTS	TEST METHODS
<b>Density</b>		
DegaCoat™ 300, lbs/gal	9.1 – 9.9	Industry Method
DegaCoat™ 310, lbs/gal	9.1 – 9.9	
<b>Solid content</b>		
DegaCoat™ 300, % by weight	55.1	Industry Method
DegaCoat™ 310, % by weight	50.0	
<b>Clay content</b>		
DegaCoat™ 300, % by weight	16.2	Industry Method
DegaCoat™ 310, % by weight	4	
<b>Asphalt content</b>		
DegaCoat™ 300, % by weight	38.9	Industry Method
DegaCoat™ 310, % by weight	46	
<b>Median particle size</b>		
DegaCoat™ 300, µ	15	Industry Method
DegaCoat™ 310, µ	15	
<b>Specific gravity</b>		
DegaCoat™ 300	1.1 – 1.2	Industry Method
DegaCoat™ 310	1.1 – 1.2	
<b>Dry to the touch</b>		
DegaCoat™ 300, hrs	1	Industry Method
DegaCoat™ 310, hrs	1	
<b>Consistency</b>		
DegaCoat™ 300	Semi-paste like	Industry Method
DegaCoat™ 310	Semi-paste like	
<b>Color</b>		
DegaCoat™ 300	Black	Industry Method
DegaCoat™ 310	Black	
<b>Water resistance</b>		
		ASTM 2939-94
<b>Blistering</b>		
DegaCoat™ 300	None	
DegaCoat™ 310	None	
<b>Re-emulsification</b>		
DegaCoat™ 300	Nil	
DegaCoat™ 310	Nil	

Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

## Health and Safety

### DEGACOAT™ 300

#### Caution

DegaCoat™ 300 contains asphalt petroleum.

#### Risks

May cause skin, eye or respiratory irritation. Ingestion may cause irritation.

#### Precautions

KEEP OUT OF THE REACH OF CHILDREN. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

#### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

#### Proposition 65

This product contains materials listed by the state of California as known to cause cancer and birth defects or other reproductive harm.

#### VOC Content

24 g/L or 0.20 lbs/gal, less water and exempt solvents.

### DEGACOAT™ 310

#### Caution

DegaCoat™ 310 contains asphalt petroleum and 2-butoxyethanol.

#### Risks

May cause skin, eye and respiratory irritation. Ingestion may cause irritation. May be absorbed through skin. Repeated or prolonged exposure increases the risk of absorption. Reports associate repeated or prolonged occupational overexposure to solvents with permanent brain, nervous system, liver and kidney damage. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

#### Precautions

Keep container closed. Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Avoid breathing vapors. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

#### First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. SEEK IMMEDIATE MEDICAL ATTENTION. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

#### Proposition 65

This product contains material listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

#### VOC Content

24 g/L or 0.20 lbs/gal, less water and exempt solvents.

**For medical emergencies only,  
call ChemTrec (1-800-424-9300).**



# Material Safety Data Sheet



The Chemical Company

## DegaCoat 310

Version 1.1

06/28/2006

### 1. PRODUCT AND COMPANY INFORMATION

- Company : **BASF Building Systems, Inc.**  
889 Valley Park Drive  
Shakopee, MN 55379
- Telephone : 952-496-8000
- Emergency telephone number : (800) 424-9300  
(703) 527-3887 (Outside Continental US)
- Product name : DegaCoat 310
- MSDS ID No. : 11754
- TSCA Inventory : All components of this product are included, or are exempt from inclusion, in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
- Canadian DSL : All components of this product are included, or are exempt from inclusion, in the Canadian Domestic Substance List (DSL).
- Product Use Description : Coating

### 2. HAZARDOUS INGREDIENTS

<u>Chemical</u>	<u>CAS No.</u>	<u>TLV</u>	<u>STEL</u>	<u>PEL</u>	<u>CEIL</u>	<u>Weight %</u>
ASPHALT PETROLEUM	8052-42-4	0.5 mg/m <sup>3</sup>	N.E.	N.E.	N.E.	30.00 - 60.00 %
2-BUTOXYETHANOL	111-76-2	20 ppm	N.E.	50 ppm	N.E.	1.00 - 5.00 %

### 3. HAZARDS IDENTIFICATION

HMIS <sup>4</sup> Rating	HEALTH 1	FLAMMABILITY 1	PHYSICAL HAZARD 0
WHMIS Class	D2B		
Primary Routes of Entry	Skin absorption Ingestion Inhalation		

#### Effects of Overexposure

- Inhalation : Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Inhalation of high vapor concentrations can cause CNS-depression and narcosis. Prolonged inhalation can be harmful.
- Skin : Prolonged skin contact may defat the skin and produce dermatitis. Prolonged or repeated exposure can cause skin irritation and redness. Components of the product may be absorbed into the body through the skin.
- Eyes : Can cause slight irritation.

# Material Safety Data Sheet



## DegaCoat 310

Version 1.5

06/28/2006

**Ingestion** : Can cause slight irritation

**Chronic exposure** : This product contains solvents. Reports associate repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Reports also indicate that solvents cause liver damage, kidney damage, and mucous membrane irritation. Be warned that intentional misuse by deliberately inhaling the vapors and/or the product contents (a process often called "sniffing") can be harmful or fatal.

### Carcinogenicity

	ACGIH	IARC	NTP	OSHA
ASPHALT PETROLEUM	Not classifiable as a human carcinogen.	Possible carcinogen.	N E	N E
2-BUTOXYETHANOL	Confirmed animal carcinogen with unknown relevance to humans.	Limited data	N E	N E

## 4. FIRST AID MEASURES

- Eye contact** : Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.
- Skin contact** : Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.
- Ingestion** : Do not induce vomiting without medical advice. If conscious, drink plenty of water. If a person feels unwell or symptoms of skin irritation appear, consult a physician. If a person vomits, place him/her in the recovery position. Never give anything by mouth to an unconscious person.
- Inhalation** : Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek immediate medical attention.

## 5. FIRE-FIGHTING MEASURES

- Flash point** : > 450.00 °F (232.22 °C)
- Autoignition temperature** : 450.00 °F (232.22 °C)
- Lower explosion limit** : no data available
- Upper explosion limit** : no data available
- Suitable extinguishing media** : water fog  
carbon dioxide (CO2)  
dry chemical
- Fire and Explosion Hazards** : Containers can build up pressure if exposed to heat (fire). Cool closed containers exposed to fire with water spray. Do not use a solid water stream as it may scatter and spread fire.
- Special Fire-fighting Procedures** : As in any fire, wear pressure demand self-contained breathing apparatus (NIOSH

# Material Safety Data Sheet



The Chemical Company

## DegaCoat 310

Version 1.1

06/28/2006

approved or equivalent) and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

- Methods for cleaning up
- Wear appropriate protective equipment (refer to section 8). Take action to eliminate source of leak; prevent from entry into open streams or sewers; contain spill by diking; vacuum up liquid or use absorbent media. remove to storage for disposal and rinse residual stain with water.

### 7. HANDLING AND STORAGE

- Handling
- Use only in area provided with appropriate ventilation. Keep out of reach of children. For personal protection see section 8.
- Storage
- Keep containers tightly closed in a cool, well-ventilated place.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Eye protection
- Wear as appropriate:  
safety glasses with side-shields  
goggles  
face-shield
- Hand protection
- Wear as appropriate:  
Wear Chemically resistant gloves
- Body Protection
- Wear as appropriate:  
impervious clothing  
preventive skin protection
- Respiratory protection
- In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use NIOSH approved respirators.
- Hygienic Practices
- Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice.
- Engineering Controls
- Local exhaust ventilation can be necessary to control any air contaminants to within their TLVs during the use of this product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Color
- brown
- Physical State
- liquid
- Odor
- hydrocarbon-like
- pH
- 5.0 - 7.0

# Material Safety Data Sheet



## DegaCoat 310

Version 1.1

06/28/2006

Odor Threshold	: no data available
Vapor Pressure	: 60 mm/Hg at 100.00 °F (37.78 °C)
Vapor Density	: no data available
Boiling point/range	: 212 °F (100 °C)
Freeze Point	: no data available
Water solubility	: partly miscible
Specific Gravity	: 1.1 - 1.2
Viscosity	: 100,000 cps at 77 °F (25 °C)
Evaporation rate	: no data available
Partition coefficient (n-octanol/water)	: no data available
VOC Concentration as applied (less water and exempt solvents)	: 48 g/l

### 10. STABILITY AND REACTIVITY

Stability	: Stable under recommended storage conditions.
Conditions to avoid	: Prolonged exposure to high temperatures
Materials to avoid	: strong oxidizing agents
Hazardous decomposition products	: Oxides of carbon nitrogen oxides (NOx)
Hazardous polymerization	: Will not occur under normal conditions

### 11. TOXICOLOGICAL INFORMATION

#### Acute inhalation toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>	<u>Exposure time</u>
<u>Concenerit</u>	LC50	no data available		
ASPHALT PETROLEUM	LC50	no data available		
2-BUTOXYETHANOL	LC50	no data available		

# Material Safety Data Sheet



The Chemical Company

## DegaCoat 310

Version 1.1

06/28/2006

### Acute oral toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>
	LD50 (Oral)	no data available	
<u>Component</u>			
ASPHALT PETROLEUM	LD50 (Oral)	no data available	
2-BUTOXYETHANOL	LD50 (Oral)	no data available	

### Acute dermal toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>
	LD50 (Dermal)	no data available	
<u>Component</u>			
ASPHALT PETROLEUM	LD50 (Dermal)	no data available	
2-BUTOXYETHANOL	LD50 (Dermal)	no data available	

## 12. ECOLOGICAL INFORMATION

Ecotoxicological Information : There is no data available for this product.

## 13. DISPOSAL CONSIDERATIONS

Recommendations: Use excess product in an alternate beneficial application. Handle disposal of waste material in manner which complies with local, state, province and federal regulation.

## 14. TRANSPORT INFORMATION

DOT	: Proper shipping name	Not regulated
IATA	: Proper shipping name	Not regulated

## 15. REGULATORY INFORMATION

### SARA 311/312 (RTK)

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE (ACUTE) HEALTH HAZARD

### SARA 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the



# Material Safety Data Sheet



## DegaCoat 310

Version 1.1

06/28/2006

Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Weight %</u>	<u>CAS No.</u>	<u>Chemical Name</u>
1.00 - 5.00 %	111-76-2	2-BUTOXYETHANOL

### CERCLA

CERCLA section 103(a) specifically requires the person in charge of a vessel or facility to report immediately to the National Response Center (NRC) a release of a hazardous substance whose amount equals or exceeds the assigned RQ. The following hazardous substances are contained in this product.

<u>RQ</u>	<u>CAS No.</u>	<u>Chemical Name</u>
100 lbs	8052-42-4	ASPHALT PETROLEUM
	111-76-2	2-BUTOXYETHANOL

### TSCA Section 12(b) Export Notification

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

<u>CAS No.</u>	<u>Chemical Name</u>
26172-55-4	5-CHLORO2-METHYL4-ISOTHIAZOLIN3-ONE
2682-20-4	ISOTHIAZOLIN-3-ONE

### California Proposition 65

The chemical(s) noted below and contained in this product, are known to the state of California to cause cancer, birth defects or other reproductive harm. Unless otherwise specified in Section 2 of this MSDS, these chemicals are present at < 0.1%.

<u>CAS No.</u>	<u>Chemical Name</u>
8052-42-4	ASPHALT PETROLEUM

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## 16. OTHER INFORMATION

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Legend :

- N.E. - Not Established
- TLV - Threshold Limit Value
- STEL - Short Term Exposure Limit
- PEL - Permissible Exposure Limit
- CEIL - Ceiling

Prepared By : Environment, Health and Safety Department

This information is furnished without warranty, representation, or license of any kind, except that this information is accurate to the best of the manufacturer's knowledge, or is obtained from sources believed by the manufacturer to be accurate and is not intended to be all inclusive. No warranty is expressed or implied regarding the accuracy of this information or the results to be obtained from its use thereof. The manufacturer assumes no responsibility for injuries proximately caused by use of the Material if reasonable safety procedures are not followed as stipulated in this Data Sheet. Additionally, the manufacturer assumes no responsibility for injuries proximately caused by abnormal use of the Material even if reasonable safety procedures are followed. Buyer assumes the risk in its use of the Material.

End of MSDS.



Proven Quality.  
Trusted Name.

Transportation Equipment Sales Corporation

### REFERENCES FOR SIMILAR PROJECTS

#### ODOT

Dave Seech  
1980 West Broad Street  
Columbus, OH 43223  
614-644-7237

[dave.seech@dot.state.oh.us](mailto:dave.seech@dot.state.oh.us)

TESCO provided light duty cutaway buses to the State of Ohio.

#### INDOT

Brian Jones  
100 North Senate Ave, #955  
Indianapolis, IN 46204  
317-232-1493

[BJONES@indot.IN.gov](mailto:BJONES@indot.IN.gov)

TESCO provided light duty cutaway buses to the State of Indiana

#### SARTA

Mark Finnicum  
1600 Gateway Blvd SE  
Canton OH 44707  
330-477-2782

[mfinnicum@sartaonline.com](mailto:mfinnicum@sartaonline.com)

TESCO currently has a contract to provide low floor cutaway vehicles.

#### WVDOT

John Caldwell  
1900 Kanawha Blvd East  
Charleston, WV 25305  
304-558-9578

[John.s.caldwell@wv.gov](mailto:John.s.caldwell@wv.gov)

TESCO provided light duty cutaway buses to the State of West Virginia.

#### COTA

Dan West  
1333 Fields Ave  
Columbus OH  
614-906-0755

[westdd@cota.com](mailto:westdd@cota.com)

TESCO currently has a contract to provide wheelchair equipped vans.

#### LAKETRAN

Terri Goodson  
555 Lakeshore Blvd  
Painsville Twp OH 44077  
440-350-1007

[tgoodson@laketrans.com](mailto:tgoodson@laketrans.com)

TESCO currently has a contract to provide light duty alternative fueled vehicles.

#### WRTA

Matthew Kotanchek  
604 Mahoning Ave  
Youngstown OH 44502  
330-744-8431

[mkotanchek@wrtaonline.com](mailto:mkotanchek@wrtaonline.com)

TESCO provided heavy duty cutaway low floor buses (ENC Passport).

#### TARTA

Jim Gee, General Manager  
1127 West Central Ave  
PO Box 792  
Toledo, OH 43697-0792  
419-245-5222

[jgee@tarta.com](mailto:jgee@tarta.com)

TESCO currently has a contract to provide heavy duty 40' buses (ENC Axxess).

**Confidential Document:** The information provided on this document shall not be duplicated, used or disclosed in whole or in part, for any purpose other than to evaluate this bid.



Proven Quality.  
Trusted Name.

Transportation Equipment Sales Corporation

**REFERENCES FOR SIMILAR PROJECTS**

PARTA

Brian Trautman, Dir of Ops &  
Maint.

2000 Summit Rd

Kent OH 44240

330-676-6188

[btrautman@partaonline.org](mailto:btrautman@partaonline.org)

TESCO currently has a contract to  
provide heavy duty 40' buses (ENC  
Axess).

**Confidential Document: The information provided on this document shall not be duplicated, used or disclosed in whole or in part, for any purpose other than to evaluate this bid.**

# **Testing & Compliance**

**STURAA TEST**

**7 YEAR**

**200,000 MILE BUS**

**from**

**ELKHART COACH  
DIVISION OF FOREST RIVER INC.**

**MODEL ECII 186/313**

**DECEMBER 2005**

**PTI-BT-R0516**

**PENNSSTATE**



---

**The Pennsylvania Transportation Institute**

201 Research Office Building (814) 865-1891  
The Pennsylvania State University  
University Park, PA 16802

**Bus Testing and Research Center**

2237 Old Route 220 N. (814) 695-3404  
Duncansville, PA 16635

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## EXECUTIVE SUMMARY

Elkhart Coach submitted a model ECII 186/313, diesel-powered 19 seat (including the driver) 26-foot bus, for a 7 yr/200,000 mile STURAA test. The odometer reading at the time of delivery was 095.0 miles. Testing started on September 13, 2005 and was completed on December 9, 2005. The Check-In section of the report provides a description of the bus and specifies its major components.

The primary part of the test program is the Structural Durability Test, which also provides the information for the Maintainability and Reliability results. The Structural Durability Test was started on September 22, 2005 and was completed on November 29, 2005.

The interior of the bus is configured with seating for 19 passengers including the driver and one wheel chair position. Free floor space will accommodate 9 standing passengers resulting in a potential load of 28 persons + 1 wheel chair position. At 150 lbs per person, this load results in a measured gross vehicle weight of 4,200 lbs. + 600 lbs (1 wheel chair position) = 4,800 lbs. In order to avoid exceeding the GAWR (9,450 lbs) of the rear axle, ballast for all 9 standing passengers was eliminated. This reduction from full capacity resulted in an adjusted measured gross vehicle weight of 13,820 lbs and was used for all dynamic testing. The middle segment was performed at a seated load weight of 13,820 lbs and the final segment was performed at a curb weight of 10,300 lbs. Durability driving resulted in unscheduled maintenance and failures that involved a variety of subsystems. A description of failures, and a complete and detailed listing of scheduled and unscheduled maintenance are provided in the Maintainability section of this report.

Accessibility, in general, was adequate. With the exception of the alternator, components covered in Section 1.3 (repair and/or replacement of selected subsystems), along with all other components encountered during testing, were found to be readily accessible and no restrictions were noted. Access to the alternator was very limited.

The Reliability section compiles failures that occurred during Structural Durability Testing. Breakdowns are classified according to subsystems. The data in this section are arranged so that those subsystems with more frequent problems are apparent. The problems are also listed by class as defined in Section 2. The test bus encountered no Class 1 or Class 2 failures. Of the 13 reported failures, seven were Class 3 and six were Class 4.

The Safety Test, (a double-lane change, obstacle avoidance test) was safely performed in both right-hand and left-hand directions up to a maximum test speed of 45 mph. The performance of the bus is illustrated by a speed vs. time plot. Acceleration and gradeability test data are provided in Section 4, Performance. The average time to obtain 50 mph was 16.19 seconds.

The Shakedown Test produced a maximum final loaded deflection of 0.266 inches with a permanent set ranging between 0.001 to 0.006 inches under a distributed static load of 11,100 lbs. The Distortion Test was completed with all subsystems, doors

and escape mechanisms operating properly. No water leakage was observed throughout the test. All subsystems operated properly.

The test bus was not equipped with any type of tow eyes or tow hooks, therefore, the Static Towing Test was not performed. The Dynamic Towing Test was performed by means of a front-lift tow. The towing interface was accomplished using a hydraulic under-lift wrecker. The bus was towed without incident and no damage resulted from the test. The manufacturer does not recommend towing the bus from the rear, therefore, a rear test was not performed. The Jacking and Hoisting Tests were also performed without incident. The bus was found to be stable on the jack stands, and the minimum jacking clearance observed with a tire deflated was 8.1 inches.

A Fuel Economy Test was run on simulated central business district, arterial, and commuter courses. The results were 6.46 mpg, 6.90 mpg, and 10.65 mpg respectively; with an overall average of 7.43 mpg.

A series of Interior and Exterior Noise Tests was performed. These data are listed in Section 7.1 and 7.2 respectively.





### FMVSS/CMVSS Compliance Summary - 2012

The following information describes briefly the FMVSS standards and the Compliance Action that has been taken by either Elkhart Coach, the chassis manufacturer or both. This summary is not intended to replace the standards on file at Elkhart Coach, but is intended to briefly describe and summarize them.

FMVSS No.	Standard Description	Compliance Action
101	Control Location, Identification and Illumination	Elkhart Coach does not alter the OEM controls or displays. Any added components, controls or displays subject to the standard meet this standard.
102	Transmission Shift Lever Sequence, Starter Interlock & Transmission Braking Effect	Compliance is deferred to the chassis manufacturer.
103	Windshield Defrosting & Defogging Systems	Compliance is deferred to the chassis manufacturer.
104	Windshield Wiping & Washing Systems	Compliance is deferred to the chassis manufacturer.
105	Hydraulic Brake Systems	Test data kept on file for vehicles that have had the frame stretched, or have had other system modifications.
106	Brake Hoses	Brake hoses are not altered. Compliance is deferred to the chassis manufacturer.
108	Lamps, Reflective Devices & Associated Equipment	Elkhart Coach does not alter OEM lighting. Additional lighting to include brake, turn, clearance and reverse lamps meet standard. Data on file.
111	Rear View Mirrors	All aftermarket mirrors installed by Elkhart Coach meet this standard and DOT regulations.
112	Headlamp Concealment Devices	Elkhart Coach does not manufacture vehicles with headlamp concealment devices.
113	Hood latch systems	Compliance is deferred to the chassis manufacturer.
114	Theft Protection	Compliance is deferred to the chassis manufacturer.
115	Vehicle Identification Number	Compliance is deferred to the chassis manufacturer.
116	Hydraulic Brake Fluids	Elkhart Coach does not alter brake systems. Vehicles with stretched frames have additional fluid added by the facility performing the chassis stretch using OEM instruction and materials. All other system modifications utilize only OEM-approved fluid.
118	Power Operated Window, Partition, and Roof Panel Systems	Compliance is deferred to the chassis manufacturer.
120	Tire Selection and Rims for Motor Vehicles Other Than Passenger Cars	Compliance is deferred to the chassis manufacturer.
121	Air Brake Systems	All vehicles manufactured by Elkhart Coach are not equipped with air brake systems.
124	Accelerator Control Systems	Elkhart Coach does not alter the OEM accelerator system, with the exception of the addition of aftermarket fast idle systems on some vehicles. These systems meet this standard when installed in accordance with instructions.
203	Impact Protection for the Driver from the Steering Control System	Compliance is deferred to the chassis manufacturer.



### FMVSS/CMVSS Compliance Summary - 2012

The following information describes briefly the FMVSS standards and the Compliance Action that has been taken by either Elkhart Coach, the chassis manufacturer or both. This summary is not intended to replace the standards on file at Elkhart Coach, but is intended to briefly describe and summarize them.

FMVSS No.	Standard Description	Compliance Action
204	Steering Control Rearward Displacement	Compliance is deferred to the chassis manufacturer.
205	Glazing Materials	No modifications are made to the OEM Glazing materials. Additional glazing materials meet the standard. Test data on file.
207	Seating System	All seating installed by Elkhart Coach meets this standard. Test data on file.
208	Occupant Crash Protection	No alterations are made to the OEM seat belts, air bag systems or associated hardware. Any seat belt systems added meet the standard. Test data on file.
209	Seat Belt Assemblies	No alterations are made to the OEM seat belts or associated hardware. Any seat belt systems added meet the standard. Test data on file.
210	Seat Belt Assembly Anchorage	No alterations are made to the OEM seat belts or associated hardware. Seat belt systems and their installation meet the standard. Test data on file.
212	Windshield Mounting	Compliance is deferred to the chassis manufacturer.
217	Bus Window Retention and Release	No modifications are made to the OEM windows. Additional windows meet the standard. Test data on file.
219	Windshield Zone Intrusion	Compliance is deferred to the chassis manufacturer.
220	School Bus Rollover Testing	All vehicles manufactured by Elkhart Coach are not completed to be used as school buses, however, Elkhart Coach has tested to this standard.
221	School Bus Body Joint Strength	All vehicles manufactured by Elkhart Coach are not completed to be used as school buses, however, Elkhart Coach has tested to this standard. Test data on file.
222	School Bus Passenger Seating and Crash Protection	All vehicles manufactured by Elkhart Coach are not completed to be used as school buses.
225	Child Restraint Anchorage Systems	All vehicles manufactured by Elkhart Coach exceed the applicability of this Standard (10,000 lbs GVWR). Elkhart Coach makes no statement as to conformity to this Standard.
302	Flammability of Interior Materials	All materials installed in the interior of Elkhart Coach products meet the standard. Test data on file.
303	Fuel System Integrity of Compressed Natural Gas Systems	Elkhart Coach does not typically produce vehicles with CNG systems. All vehicles equipped with CNG systems exceed the applicability (10,000 lbs. or less) of this standard.
304	Compressed Natural Gas Fuel Container Integrity	Elkhart Coach does not typically produce vehicles with CNG systems. All vehicles equipped with CNG systems exceed the applicability (10,000 lbs. or less) of this standard.
404	Platform Lift Installation on Motor Vehicles	Elkhart Coach installs wheelchair lifts according to manufacturer instructions and direction. Installations are verified and tested. Elkhart Coach has performed load testing to verify compliance. Test data on file.



## Certificate of Registration

This is to certify the Quality Management System of:

**ELKHART COACH**  
52807 County Road #7  
Elkhart, IN 46514

has been assessed and found to be in compliance  
with the following Quality Standard:

**ISO 9001:2008**

The Quality Management System is applicable to  
**Design, Manufacture, and Servicing of Buses**

The Registration period is from  
**June 25, 2012 to June 24, 2015**

This registration is subject to the company maintaining its system  
to the required standard which will be monitored by SARA Registrar.

Certificate Identification Number: **SARA-2006-CA-0033-03-A**



President  
Ph: 1-800-699-5870 Fax: 1-800-603-4818  
1807D Santa Rita Road, #175  
Pleasanton, CA 94566



U.S. Department  
Of Transportation  
**Federal Transit  
Administration**

Headquarters

Office of Civil Rights  
1200 New Jersey Avenue SE  
Washington, DC 20590

July 30, 2018

David Wright, President  
Elkhart Coach  
2367 Century Drive  
Goshen, IN 46526

### **DBE Program Concurrence Letter**

Dear Mr. Wright:

The Federal Transit Administration's ("FTA") Office of Civil Rights ("TCR") has received Elkhart Coach's Disadvantaged Business Enterprise ("DBE") program. This submission is required pursuant to *Section 1101 (b) of Transportation Equity Act for the 21st Century and 49 CFR Part 26*, "Participation by Disadvantaged Business Enterprises in Department of Transportation Programs."

We have reviewed your DBE program and determined that it is compliant with the U.S. Department of Transportation's DBE regulations. Generally, regular updates to DBE program plans are not required—provided you remain in compliance with the regulations and no significant changes to your DBE program or practices occur. 49 CFR Part 26.21(b)(2).

Thank you for your ongoing support of and cooperation in meeting civil rights requirements for FTA. If you have any questions regarding this concurrence, please do not hesitate to contact me directly at 202-366-5190 or at [Antoinette.Davis@dot.gov](mailto:Antoinette.Davis@dot.gov).

Sincerely,

Antoinette Davis

Cc: Marci Malaster, Acting Headquarters Operations Division Chief  
Jonathan Ocana, Equal Opportunity Specialist  
Edwin Rodriguez, TED Acting Team Leader  
Tony Cundiff, General Manager  
Joe Goeglein, DBE Liaison Officer

**Warranty & Service  
Documentation**



**Elkhart Coach**

## *Warranty Coverage*

### **ELKHART BODY:**

Structure: 6 Years, 72,000 miles

Body Components & Workmanship: 3 Years, 36,000 miles

### **CHASSIS:**

OEM Manufacturer's Warranty

Ford Gas: 3 Years, 36,000 Miles / 5 Years- 60,000 Miles Powertrain Only

Ford Diesel: 3 Years, 36,000 Miles / 5 Years – 100,000 Miles Powertrain Only

### **OTHER APPLICABLE WARRANTIES:**

**FLOOR COVERING:** 5 Years, Unlimited Miles

**TRANS/AIR A/C:** 2 1/2 years, Unlimited Miles

**ACC SYSTEMS:** 3 Years, 75,000 Miles – Minimum 2 Years Unlimited Miles

**FREEDMAN SEATING:** 5 years, Unlimited Miles – Seat Frame & Foam

1 Year Fabric for Level 1 & 2

2 Years Fabric for Level 3 and Up

**DOORS:** 2 Years, 24,000 Miles

**RADIO:** 1 Year, Unlimited miles

**MOR/RIDE SUSPENSION:** 3 Years, 75,000 Miles

**UPGRADED NON-OEM ALTERNATOR:** 18 Months, 75,000 Miles

### **BRAUN W/C LIFT**

Parts and Labor: 3 Years, Unlimited Miles

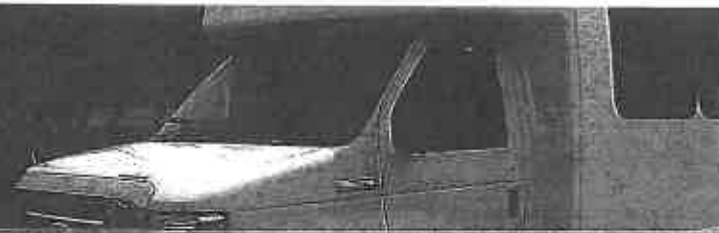
Powertrain Parts Only: 5 Years, Unlimited Miles

### **RICON W/C LIFT**

Parts and Labor: 5 Years Limited / 1 Year, Labor

Powertrain Parts Only : 5 Years, Unlimited Miles

# **TESCO Literature**



Proven Quality. Trusted Name.

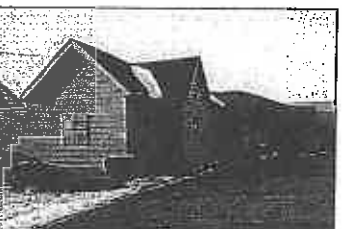
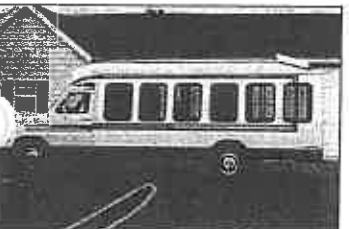
## COMPANY HISTORY

Since 1937, TESCO has given its customers the service and expertise they deserve. The over 75 years of superior products and service given to customers has granted the company its *Proven Quality and Trusted Name*.

In TESCO's early days, school bus sales were a primary focus, until current CEO, Noel Graham Sr., helped the company shift into the commercial bus market. The current management team, led by President, Bud Graham, has expanded the product line and territory over the last decade. Originally serving the Northwest Ohio area, TESCO steadily gained customers throughout the Great Lakes states, eventually becoming the leading bus distributor throughout Ohio, Michigan, Indiana, Kentucky, and West Virginia.

Today, TESCO does business throughout the entire nation, as well as the surrounding countries. This continual territory expansion has made TESCO one of the nation's largest and most successful bus distributors.

TESCO's newest division, Great Lakes Coach, began selling and servicing city buses in 1951. After focusing on school bus sales for several years thereafter, the company directed their efforts to the sales of commercial buses and specialty vehicles. In May 2012, Great Lakes Coach was acquired by TESCO.







Proven Quality. Trusted Name.

## FACILITY

TESCO operates from three facilities in the Great Lakes region of the USA. The primary facility, located in Oregon, Ohio, includes executive office space, a full service graphics design and production department, and over 20,000 square feet of service garages capable of housing up to twelve large buses. The facility grounds can also store over 200 buses awaiting sale or service, giving TESCO the ability to stock a full inventory of vehicles.

The second TESCO location, located just two miles from the main office, houses the used vehicle department and parts division. This facility has an additional eight large bus service bays, grounds to store a full inventory of used vehicles, and 10,000 square feet of office space.

Our third facility is located in Clayton, North Carolina. This location has been added to the TESCO family for the convenience of our southern customers. With this facility being centrally located in the state, it allows for an easier purchasing experience that is close to home. Two service bays are located at this facility along with grounds that store vehicles ready for purchase.





Bureau of Workers' Compensation

30 W. Spring St.  
Columbus, OH 43215

### Certificate of Premium Payment

This certifies the employer listed below has paid into the Ohio State Insurance Fund as required by law. Therefore, the employer is entitled to the rights and benefits of the fund for the period specified. For more information, call 1-800-OHIOBWC.

This certificate must be conspicuously posted.

Policy No. and Employer

Period Specified Below

252374

01/01/2014 Thru 08/31/2014

TRANS EQUIP SALES CORP  
PO BOX 167230  
OREGON, OH 43616-7230



ohioBWC.com

*Stephen Bucher*  
Administrator/CEO

You can reproduce this certificate as needed.

### Ohio Bureau of Workers' Compensation

### Required Posting

Effective Oct. 13, 2004, Section 4123.54 of the Ohio Revised Code requires notice of rebuttable presumption. Rebuttable presumption means an employee may dispute or prove untrue the presumption (or belief) that alcohol or a controlled substance not prescribed by the employee's physician is the proximate cause (main reason) of the work-related injury.

The burden of proof is on the employee to prove the presence of alcohol or a controlled substance was not the proximate cause of the work-related injury. An employee who tests positive or refuses to submit to chemical testing may be disqualified for compensation and benefits under the Workers' Compensation Act.



Bureau of Workers' Compensation

You must post this language with the certificate of premium payment.

DP-29 BWC-1629 7/7/08



Proven Quality.  
Trusted Name.

Transportation Equipment Sales Corporation

## Transportation Equipment Sales Corp

### Affirmative Action Plan

The purpose of the Affirmative Action sample is to provide an acceptable program which addresses employment and the effective utilization of economically disadvantaged persons. This program is not to impose numerical minimums or standards, however, by adopting this program demonstrates a good faith effort to improve the equality of all citizens of the state of Ohio.

#### EEO Recruitment Strategies

**Strategy:** will make a good faith effort to recruit a diverse group of employees and provide equal opportunity for minorities, women and disabled persons to become competitive in state contracting opportunities. will advertise positions in media outlets that will provide information and access to the underserved populations.

#### EEO Selection Strategies

**Strategy:** will utilize procedures, processes and techniques that are fair and do not have an adverse impact on minorities, women or disabled persons. Perspective employees will not be excluded from the hiring process due to race, color, religion, sex (including sexual harassment), national origin, disability, age (40 years old or more), or veteran status.

#### EEO Placement/Orientation

**Strategy:** will provide newly hired employees with basic employment information during the first couple weeks on the job. New employee position descriptions, fringe benefits information, policies, procedures, and EEO are a few of the topics, which should be covered. Employees will not be denied fringe benefits and or opportunities for promotion based on race, color, religion, sex (including sexual harassment), national origin, disability, age (40 years old or more), or veteran status.

#### EEO Performance Evaluation

**Strategy:** will evaluate the performance of their employees on an annual basis. It should provide the necessary supervisory feedback to identify areas to be improved as well as to reinforce those activities that meet or exceed standards. Performance appraisal will be evaluated without regard to race, color, religion, sex (including sexual harassment), national origin, disability, age (40 years old or more), or veteran status.

#### EEO Training Strategies

**Strategy:** will attempt to diversify workforce by utilizing training and apprenticeship programs with diverse participants. Training and apprenticeship programs can increase the number of qualified minorities, women, disabled persons and veterans available for job placement.

tescobus.com

6401 Seaman Rd  
PO Box 167230  
Oregon, Ohio  
43616-7230

Note: Affirmative Action Plan – Established through the State of Ohio Affirmative Action Program

419.836.2835  
419.836.8460 fax  
800.227.3572



Proven Quality.  
Trusted Name.

Transportation Equipment Sales Corporation

### EEO Discipline Strategies

**Strategy:** will set clear disciplinary standards and warn of consequences for non-compliance. Discipline will be designed to rehabilitate employees who choose to correct their behavior as well as justify the termination of those who do not. The employer will not mistreat or unfairly discipline an employee based on race, color, religion, sex (including sexual harassment), national origin, disability, age (40 years old or more), or veteran status.

### EEO Separation Strategies/Exit Interviews

**Strategy:** will conduct exit interviews as a problem-solving tool in an attempt to reveal employee turnover. Exit interviews can provide the organization with information about how to correct the causes of discontent and reduce the costly problem of employee turnover.

### EEO Monitoring Strategies

**Strategy:** will ensure Human Resources managers and supervisors understand this plan and hold managers and supervisors accountable for the effective implementation of this plan.

### Minority Business Enterprise Solicitation Strategies

**Strategy:** will make a good faith effort to solicit business from certified minority owned businesses (MBE). will utilize the State of Ohio, Equal Opportunity Division's webpage to access certified MBEs. <http://das.ohio.gov/Eod/MBESearch/index.asp>

Noel E. Graham, Jr., President

Date

tescobus.com

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PO Box 167230  
Oregon, Ohio  
43616-7230

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Proven Quality.  
Trusted Name.

Transportation Equipment Sales Corporation

### Legal & Debt Affidavit


Transportation Equipment Sales Corp has no criminal litigations, investigations, arbitrations or proceedings against the company or any representatives of the company.

There are no lawsuits, claims, or disputes arising solely between Transportation Equipment Sales Corp and any customer or vendor at this present time and any litigation during the past five years and longer has been dismissed without liability or obligation from the company.

There are no judgments or liens filed against Transportation Equipment Sales Corp at this present time or during the past five years.

Transportation Equipment Sales Corp has not filed bankruptcy in the last five years, and Transportation Equipment Sales Corp is not currently in any bankruptcy proceedings.

X

  
\_\_\_\_\_  
Noel E. Graham, Jr.  
President.

tescobus.com

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PO Box 167230  
Oregon, Ohio  
43616-7230

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419.836.8460 fax  
800.227.3572



Proven Quality.  
Trusted Name.

Transportation Equipment Sales Corporation

REFERENCES

“Confidential”

INDOT

Brian Jones  
100 North Senate Ave., #808  
Indianapolis, IN 46204  
317-232-1493

ODOT

David Seech  
1980 West Broad Street  
Columbus, OH 43223  
614-644-7362

Delaware Area Transit

Denny Schooly  
119 Henderson Court  
Delaware, OH 43015  
740-362-5784

KPTA / RTEC

Shirley Cummins  
100 Main Street  
Mt. Vernon, KY  
606-256-9835

PARTA

Brian Troutman  
200 Summit Rd.  
Kent, OH 44240  
330-678-7745

Dayton Area RTA

Tom Hodge  
4 S. Main Street  
Dayton, OH 45402  
937-425-8637

American Seniors Communities

Melanie Baker  
6900 Gray Road  
Indianapolis, IN 46237  
317-788-2500

City of Anderson

Merle Jones  
530 Baxter Road  
Anderson, IN 46011  
765-648-6405

Cleveland Clinic Foundation

Bill Gillen  
9500 Euclid Ave.  
Cleveland, OH 44195  
216-444-8442

Toledo RTA

Jim Gee  
1127 West Central Ave.  
Toledo, OH 43697  
419-245-5213

tescobus.com

6401 Seaman Rd  
PO Box 167230  
Oregon, Ohio  
43616-7230

Confidential Document: The information provided on this document shall not be duplicated, used or disclosed in whole or in part, for any purpose other than to evaluate this bid.

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