

March 12, 2014

State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

Dear Mrs. Collins:

Thanks you for the opportunity to submit this bid in response to your Request for Quotation # PTR13058. We are offering the Startrans Senator II .

Should we receive an award for this solicitation, we will provide the material as outlined. The Startrans Senator II will be constructed in Goshen, Indiana.

Also addressed and included in the proposal are curb weights and warranty locations to be used to maintain vehicles.

We are if full understanding of training and will provide personnel to conduct training if we are the successful bidder. We have included "as-built" wiring schematics in our bid price. Also, as requested, we are offering schemes to match your existing fleets. The prices for the paint and graphics are included in our pricing.

Thank you again for this opportunity. Please call if you have questions.

Sincerely,



Chad Seals  
Account Manager  
West Virginia Public Transit Providers  
800-533-1006 x352  
434-821-4456  
[chad@sonnymerryman.com](mailto:chad@sonnymerryman.com)



State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

# Solicitation

NUMBER
PTR13058

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
LAURA HOOPER
304-558-2306

VENDOR	RFQ COPY
	TYPE NAME/ADDRESS HERE

SHIP TO	DIVISION OF PUBLIC TRANSIT
	KANAWHA VALLEY REGIONAL TRANS
	1550 FOURTH AVENUE
	CHARLESTON, WV
25325	304-343-3840

DATE PRINTED
01/14/2014

BID OPENING DATE: 02/11/2014 BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	EA		557-05		
158" WHEELBASE BUSES (CUTAWAYS)						
REQUEST FOR QUOTATION (RFQ)						
OPEN-END CONTRACT						
THE WEST VIRGINIA STATE PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF PUBLIC TRANSIT, IS SOLICITING BIDS FOR ONE (1) TO TWENTY (20) 158" WHEELBASE CUTAWAY BUSES, PER THE ATTACHED SPECIFICATIONS.						
***** THIS IS THE END OF RFQ PTR13058 ***** TOTAL:						<u>10,004,500.00</u>

SIGNATURE	TELEPHONE 1-800-533-1006	DATE March 12, 2014
TITLE Commercial Sales	FEIN 540806-176	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



REQUEST FOR QUOTATION  
PTR13058 158" Wheelbase Transit Vehicles

Option	Item Description	Unit Price	Estimated	Extended Price
		Per Vehicle	Quantity	
A	Bus, Fixed route, child restraint, camera	\$63,495.00	20	\$1,269,900.00
B	Bus, Fixed route, child restraint, camera, full bus paint	\$63,745.00	20	\$1,274,900.00
C	Bus, Fixed route, child restraint, camera, full bus paint, armrests	\$63,865.00	20	\$1,277,300.00
D	Bus, Fixed route, child restraint, camera, armrests	\$63,750.00	20	\$1,275,000.00
E	Bus, Fixed route, child restraint, camera, full bus paint, armrests, extended length, Vista lift	\$66,860.00	20	\$1,337,200.00
F	Bus, Paratransit package, armrests	\$57,670.00	20	\$1,153,400.00
G	Bus, Paratransit package, armrests, camera	\$60,055.00	20	\$1,201,100.00
H	Bus, Paratransit package, armrests, camera, child restraint	\$60,785.00	20	\$1,215,700.00
<b>Total for Bid Evaluation:</b>				<b>\$10,004,500.00</b>

**Pricing Page:**

**Complete the form provided.**

**Please note: These are only estimated quantities and do not reflect any guarantee of purchase. The Agency may purchase more or less as needed. The awards may be made to multiple vendors.**

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: PTR13058**

**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 checked="" type="checkbox"/> Addendum No. 3	<input type="checkbox"/> Addendum No. 8
<input checked="" 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.

Sonny Merryman Inc.

Company



Authorized Signature

March 12, 2014

Date

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

## ATTACHMENT A



State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

# Solicitation

NUMBER
PTR13058

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
LAURA HOOPER 304-558-2306

V E N D O R	RFQ COPY
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S H I P T O	DIVISION OF PUBLIC TRANSIT KANAWHA VALLEY REGIONAL TRANS
	1550 FOURTH AVENUE CHARLESTON, WV 25325 304-343-3840

DATE PRINTED
01/23/2014

BID OPENING DATE: 02/11/2014 BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 1						
THIS ADDENDUM IS ISSUED TO MODIFY THE ORIGINAL SOLICITATION PER THE ATTACHED DOCUMENTATION.						
0001	1	EA	557-05	158" WHEELBASE BUSES (CUTAWAYS)		
***** THIS IS THE END OF RFQ PTR13058 ***** TOTAL:						

SIGNATURE	TELEPHONE 1-800-533-1006	DATE March 12, 2014
TITLE Commercial Sales	FEIN 540806-176	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**SOLICITATION NUMBER: PTR13058****Addendum Number: 1**

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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:**

To update the Buyer Contact Information on the solicitation:

Beth Collins, Senior Buyer - File 53  
2019 Washington Street, East  
Fax: 304-558-4115  
Phone: 304-558-2306  
Email: Beth.A.Collins@wv.gov

**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.



State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

## Solicitation

NUMBER  
PTR13058

PAGE  
1

ADDRESS CORRESPONDENCE TO ATTENTION OF  
BETH COLLINS  
304-558-2306

RFQ COPY

TYPE NAME/ADDRESS HERE

V  
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DIVISION OF PUBLIC TRANSIT  
KANAWHA VALLEY REGIONAL TRANS

1550 FOURTH AVENUE  
CHARLESTON, WV

25325 304-343-3840

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DATE PRINTED  
02/05/2014

BID OPENING DATE: 02/11/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 2						
THIS ADDENDUM IS ISSUED TO MODIFY THE ORIGINAL SOLICITATION PER THE ATTACHED DOCUMENTATION.						
0001	1	EA		557-05		
158" WHEELBASE BUSES (CUTAWAYS)						
***** THIS IS THE END OF RFQ PTR13058 ***** TOTAL:						

SIGNATURE

TELEPHONE

1-800-533-1006

DATE

March 12, 2014

TITLE  
Commercial Sales

FEIN

540806-176

ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**SOLICITATION NUMBER: PTR13058**

**Addendum Number: 2**

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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:**

Addendum is to change the bid opening date to February 27, 2014 (02/27/2014).

Addendum also includes Attachment A to consist of technical questions and answers, along with approved equals.

**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.



# ATTACHMENT A

TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

1

- 3.8 NOTE: DEALER TO PROVIDE 11 X 17 LAMINATED WIRING SCHEMATICS  
**As Built schematics must be provided by the successful vendor.**
- 3.8 REQUEST APPROVAL FOR THE LAMINATED COPIES OF THE AS-BUILT WIRING SCHEMATICS TO BE SIZED AT 8 ½"x 11"  
**Approved. All labeling must be large enough to be clearly readable.**
- 3.8 REQUEST APPROVAL THAT ALL WIRING SHALL BE LOOMED AND HELD IN PLACE BY INSULATED CLAMPS SPACED EVERY 24 INCHES ON CENTER  
**Approved.**
- 3.8.5 REQUEST APPROVAL FOR ALL WIRING TO BE LOOMED AND HELD IN PLACE BY INSULATED CLAMPS SPACED EVERY 24 INCHES ON CENTER. OUR STEEL CAGE, FLOOR SIDEWALLS, REAR WALL AND ROOF ARE AT A MAXIMUM ON 24" CENTERS  
**Approved.**
- 3.9.2 Being that my competitors are spelled out in first paragraph 3.9.2, I ask that MCC be added to the list of a/c manufacturers. In review of the spec detail, the MCC system for specification reference is our MCC AC-713Max. MCC passenger compartment A/C in addition to the chassis OEM driver/dash system. (Independent of each other.)  
**Approved. Please include MCC in the list of approved manufacturers, and the above-referenced system is approved contingent on meeting all technical aspects of the specification.**
- 3.9.2c The spec 3.9.2 ( C ) references, previously available Carrier CM3 . That unit is available as MCC - CM3. (Same product branded as MCC, and included in AC-713Max)  
**The above-referenced system is approved contingent on meeting all technical aspects of the specification.**
- 3.9.2d 3.9.2 (D) calls out TransAir TA73 evaporator  
\*\*Note: MCC (formerly Carrier) GEN5 ceiling hung evaporators deliver more head clearance than any other comparably sized competing ceiling hung evaporator, at ~2" smaller profile. They have a service friendly design that integrates an easy access/removable & washable return air filter. Technicians do not have to unscrew and remove the return air plenum as you would on the TA73 to clean, service the evaporator.  
**The above-referenced system is approved contingent on meeting all technical aspects of the specification.**

TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

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- 3.9.2 The spec 3.9.2 (D), I ask that the wording be changed as follows to include type E hose:  
Refrigerant hoses shall be reinforced braid (type C, class II, or type E Class I) and the refrigerant hoses and fittings must be SAE specification J2064 compliant. All A/C hoses, heater hoses and wiring shall be properly protected. The A/C system shall include, as standard, ATCO Air-O-crimp, Goodyear, Aeroquip EZ-clip, Flex-clip, or approved equal connectors and hoses. Beadlock fittings and rubber barrier hoses are not acceptable.  
**Approved.**

- 3.12.b REQUEST: PLEASE ACCEPT THAT STEEL COMPONENTS WILL BE TREATED WITH GRAY SELF ETCHING PRIMER FROM NANOCHEM THAT DOES NOT MEET THE SALT SPRAY SPECIFICATION. WE USE THIS PRIMER BECAUSE IT IS EFFECTIVE AND BECAUSE IT HAS A LOW VOC RATIO WHICH HELPS ALLOW US TO MEET STRICT ENVIRONMENTAL REGULATIONS IN EFFECT IN OUR COUNTY. TECHNICAL INFORMATION ATTACHED IN FILE LABELED 3.12.b BODY  
**We cannot accept the significantly reduced salt spray test with Nanochem due to the application of these buses. Please explore other primers which have a low VOC and high salt resistance.**

- 3.12.b Body 3.12.4 Doors request: Please accept that the tread depth for the ambulatory entry will be 11" for standard floor buses and 8.5 if the floor has to be raised to accommodate certain floor plan layouts  
**Accepted, with a caveat: please list with submission of the supporting materials which classes will have the reduced tread depth so that recipient agencies can make informed decisions regarding this design.**

- 3.12.1 Request approval for our standard body construction. Glaval utilizes a "Steel-Safe" construction to provide superior structural integrity for maximum safety and impact protection. All body structures are fixture welded including the floor, both of the sidewalls, the roof, and the rear wall. All joints are welded to form the structure with the exception of window radius extrusions which are mechanically fastened. Glaval's unique body-to-chassis mounting system provides full length isolation of our floor frame and the chassis frame. This process spreads the load of the body evenly across the frame from front to rear for a unified weight load resulting in less stress on the floor structure and reduced vibration and road noise. Assembly  
The floor structure is bolted to chassis frame mount angles. Frame mount angles are welded flush (facing down) to the bottom side of the floor and another set is welded flush (facing up) to the chassis frame rail. The opposing mounts have a 1/4" rubber isolator between each location and are fastened together using 1/2"-13 grade 5 bolts torqued to 49-59 ft-lbs. Sidewalls are fastened to the floor structure with 3/8"-16 grade 5 bolts passing through the bottom C channel into mounting tabs which are welded to the floor cross members every 24".  
The roof is fastened to the sidewall structures with 3/8"-16 grade 5 bolts passing through the roof C channel into the sidewall top angle every 24". The rear wall is welded to the side wall, roof, and floor structures at mounting tabs located at points around the perimeter of the rear wall. The front cap, the rear cap, and door seams are trimmed with an aluminum trim channel with a white

## TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

3

vinyl cover. Any fastener exposed to the elements is constructed of zinc, stainless steel, or black oxide.

**Exterior floor** The floor structure is constructed of 2' X 8" 13 ga. "Flo-Coat" (galvanized) cross members welded on 24" centers. A 2" X 4" galvanized longitudinal tube runs the entire length of the floor and is welded to the cross members. One-piece 14 ga. (minimum) galvanized steel wheel plates are installed over the rear wheels for a flat floor layout. **SEWALLS** The roadside and curbside walls are constructed of 1 1/2" X 1 1/2" 18 ga. "FloCoat" (galvanized) tubes welded on 24" centers. A modified galvanized C-Channel is welded to the bottom of the wall and a 1 1/2" galvanized angle is welded at the top. The exterior skin is .024" galvanized steel with white exterior face laminated to ADZEL. All wall cavities are filled with 1 1/2" block foam insulation. This insulation meets a value of R-9. The interior panels are 3.2 mm gray vinyl covered ADZEL. The components are vacuum laminated using water activated urethane adhesive. **ROOF** The roof structure is constructed of 1 1/2" X 1 1/2" 18 ga. "Flo-Coat" (galvanized) formed bows welded on 24" centers. The roof bows are seated into a 1 1/2" galvanized C-Channel bottom rail.

The exterior skin is a one piece .045 filon/fiberglass composite laminated to ADZEL. The cavities of the roof structure are filled with expandable spray foam insulation. The insulation meets a value of R-8. The interior panels are 3.2 mm gray vinyl covered ADZEL.

The roof components are compression laminated using a water activated urethane adhesive.

**REAR WALL** The rear wall structure is constructed of 1 1/2" X 1 1/2" 18 ga. "Flo-Coat" (galvanized) tubing. The exterior skin is .024 galvanized steel with white exterior face laminated to AZDEL. All wall cavities are filled with 1 1/2" foam insulation. This insulation meets a value of R-9. The interior panels are 3.2 mm gray vinyl covered AZDEL. The components are vacuum laminated using water activated urethane adhesive.

**SKIRTING** the exterior skirting is .024" galvanized steel with a white exterior face. Galvanized angled skirt braces are welded onto the bottom of the wall and cross members. The skirting is placed overlapping the sidewall skin. A polyurethane adhesive is added to the vertical skirt braces. The skirting is then mechanically fastened to the sidewall and to the bottom of the skirt braces. The skirt seam is timed with an aluminum retainer with an approximate 1 1/4" aluminum cap.

**The above-referenced construction is approved contingent on meeting all technical aspects of the original specification.**

3.12.4b REQUEST APPROVAL OF OUR STANDARD PASSENGER ENTRANCE/EXIT DOOR THAT HAS A CLEAR HEIGHT OF 82 1/2".

**Approved.**

3.12.4b REQUEST APPROVAL FOR DISTANCE GROUND TO STEP NOT TO EXCEED 12 INCHES +/- A HALF INCH

**Approved.**

TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

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3.12.4g REQUEST APPROVAL OF OUR STANDARD NON-AMBULATORY ENTRANCE/EXIT DOOR THAT HAS A CLEAR OPENING OF 69 ¼" H X 44 ¾" W

**Height is approved. Width shall be 46".**

3.12.4 k request approval of our standard size emergency exit door—a full height rear emergency door with a minimum clear opening of 33" X 62 ½"

**Approved.**

3.12.4Please accept our standard tread depth of 11" in lieu of 12"

**Approved.**

3.12.4.f Doors request: please accept a diamond plate driver running board that is approximately 12" off the ground

**Approved.**

3.12.4 f Please accept our standard height of approximately 13" above the ground, in lieu of 8". If we went to 8" the bottom of the step framing would be less than 6" from the ground and would likely cause ground clearance issues.

**Approved.**

3.12.5A request approval of our standard sub-flooring cover. The floor structure is covered with 5/8" marine tech plywood. It is attached with a polyurethane adhesive sealant and mechanically fastened into the cross members. The floor structure is sealed to keep outside elements from entering the vehicle with an expandable, polyurethane spray foam.

**Approved.**

3.12.5B request approval of our standard flooring. Koroseal flooring is manufactured from proprietary thermoplastic formulations. The materials are homogenous throughout the full thickness of the floor. Koroseal flooring thickness is 1/8" nominally on smooth materials and 3/16" thick nominally on ribbed materials. The floor covering is gray Koroseal, smooth under the seats and ribbed in the aisle and entry steps with optional colors/manufactures available upon request. Floors have full length cove molding for cleaning ease run 9" up the sidewall and trimmed with a kick panel. Entry step nosing is white or optional yellow with Altro on the sides and vertical risers.

**Approved.**

TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

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- 3.12.5B In addition to the brands listed, please accept GerFlor Tarabus flooring, as described in the attached literature, as an approved equal. This flooring is available in a variety of colors that can be selected by the end user agency.

**Approved.**

- 3.12.5C and 3.12.5f If rubber flooring is used (RCA or Rubber Solutions), please accept their ribbed flooring for the aisle, steps and wheelchair lift area, in lieu of smooth rubber

**Approved.**

- 3.12.5.c Floor Request: Please Clarify If Aisle Front Entrance And Tie Down Areas Are To Be 1/8" Smooth Rubber Then The Only Ribbed Rubber In The Bus Will Be On The Steps. Is That Correct?

**As long as the flooring is slip resistant and the aisle is of a contrasting color or shade for visually impaired riders, no ribbed flooring is necessary. If a vendor chooses to use the ribbed flooring as we have specified in the past for the aisle, that is acceptable.**

- 3.12.5C If GerFlor terabus flooring is approved, please accept GerFlor's StepBus step edge, as described in the attached literature, in lieu of RCA's Talon Tread.

**Approved.**

- 3.12.5 G Please reconsider deleting the requirement for a standee line, since according to section 2.e on page 18, vehicles will be operated without standees

**Denied.**

- 3.12.5.E Floor request: please clarify what color the aisle rubber and the under-seat rubber are to be? This may affect the price of the flooring

**The intention was contrasting color; we typically request blue, but usually this choice is solidified with the successful vendor post award.**

- 3.12.6 A All wall cavities are filled with 1 1/2" block foam insulation. All cavities of the wheelchair and/or rear door structure are filled with 1" block foam insulation. The cavities of the roof structure are filled expandable spray foam insulation. Foam-Control EPS meets or exceeds the requirements of ASTM C578, "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation." Foam-Control EPS is monitored for Quality Control and Listed by Underwriters Laboratories Inc.

**Approved**

TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

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3.12.6B Undercoating Tectyl 127CG Gray is a solvent cutback, thixotropic, gray pigmented corrosion preventative compound. The dry film is firm and non-tacky. TECTYL 127CG gray provides excellent weathering and corrosion protection for industrial applications. TECTYL 127CG is recommended for use in the transportation industry as an undercoating and sound deadener. Tectyl 127CG possesses dielectric strength 800 volts per dry mil of coating and can be applied between dissimilar metals to prevent galvanic corrosion. The underbody is sprayed with a tough, pliable, corrosion protectant material with sound deadening properties in accordance with chassis manufacturer's guidelines

**Approved**

3.14.f We believe you mean 27" minimum. Please confirm.

**You are correct-27" minimum.**

3.14 I The 9100 ALX3 driver seat is not available for the Ford E series chassis. In the last bid specification, the Freedman Sport Shield was called for. Is this acceptable? Also, USSC makes the G2ELP model for this chassis, as described in the attached literature. Is this acceptable? Both seats are compatible with the Ford OEM or Adnik power seat base. The GCELP is also available with a P1A Air suspension system. Please advise as to which seat you would want.

**G2ELP and the Freedman Sports Shield are approved.**

3.14i "The specified USSC 9100alx3 seat is not available in any type of cutaway bus. This seat is only available in 12 year Altoona tested heavy duty transit buses". Request the state to specify a different seat, one that is compatible with a cutaway bus.

**G2ELP and the Freedman Sports Shield are approved with the Ford OEM or Adnik power seat base.**

3.15 Please accept Q'Straint anodized medium duty L track part# Q5-6100-FCA in lieu of the heavy duty track specified. This track is not typically used in the small & medium duty bus industry. Medium duty track is the industry standard and the number we are requesting is what they recommend and it will be anodized track.

**Approved. All track and restraint systems need to be deemed compatible by the manufacturer as well as meet all applicable safety regulations.**

3.17 A Request approval of our standard modesty panel and top barrier Top barrier is ¼" CLEAR OR SMOKE PLEXIGLASS. MODESTY PANELS ARE CONSTRUCTED OF GRAY Rontex (a fabric/carpet backer type of material) adhered to a 3/8" plywood panel & trimmed with metal C-channel on exposed edges. These panels are then mechanically fastened to stanchion assemblies in the vehicle> A modesty panel is standard aft of the entry door and aft of the front lift door. 96"wide body

The panel aft of the entry is 19 ½" w X 21" h

The panel aft of the front lift is 18" w x 21"h



TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

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**Approved.**

- 3.18B REQUEST APPROVAL OF OUR STANDARD PASSENGER WINDOWS. Side passenger windows are transit style top sliders with a 20% light transmitting tint. The window size is 46 ½" w x 32 ½" h / 1511 sq inches. An interior clamp ring and a bulb seal allow a water tight fit. Emergency egress windows are constructed in the same manner, but capable of being opened in an emergency situation. They feature a top hinge and heavy duty red handles which when released allow the window to open. Emergency windows are clearly labeled with instructions of operation in a visible location on window. The number of passengers designates the quantity. Filler windows are a 22 ½", or 20 ½" w x 32 ½" h fixed style window. Passenger windows have an AS-3 rating and are compliant with FMVSS 217. The rear emergency window is a fixed style egress window. The window size is 60" w x 22 ½" h with a 20% light transmitting tint and an AS-3 rating.

**Approved.**

- 3.20 Request: As approved equal that the mud flaps be made of polyethylene as equal to rubber specified.

**Approved.**

- 3.25.2C Please accept attached vinyl chart to be used for agency logos. If logos are to be done in DOT-C2 vinyl color choices will be limited to red or white and it would not be possible to match current color schemes. DOT-C2 vinyl would still be used to mark emergency exits as described in the specifications

**Approved**

- 4.1.1 request approval of our standard exterior height of 114" on a standard floor. We are also requesting approval of an exterior height of 122" should a flat floor/no wheelwells be required (class e). In order to maintain our interior height of 78 ½", when a flat floor is required our exterior height increases by 8"

**Approved.**

- 4.5.1 Class E calls for a front lift, extended body length and a third WC positions. How many fixed ambulatory seats and how many fixed fold away seats will be in this class vehicle? Will attached floorplan 1 or 2 be acceptable?

**The 4 ambulatory + 3 tie down positions (Floorplan 2) would preferred.**

- 4.6 will class F vehicles be required to meet the mandatory requirements of Class A? If not what capacity is the capacity of Class F?

**Please see revised Class F specification below:**

## TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

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- 4.6 Class F: Vehicles identified as Class F vehicles must meet the following mandatory requirements in addition to the requirements listed in section 3 as well as having the paratransit package and armrests as listed below in 4.6.1 and 4.6.2.

### Measurements and Other Specifications:

GVWR	14,500 maximum
WHEELBASE	158" minimum
REAR AXLE	Dual Rear Wheel
TIRE	225/75R16 minimum
LOAD RATING	E
WIDTH (MAXIMUM)	96"
OVERALL LENGTH (APPROXIMATE)	275" maximum
OVERALL HEIGHT (MAXIMUM)	120"
TURNING RADIUS (MAXIMUM)	30-32'
SEAT/ WHEELCHAIR CAPACITY	Driver + 12 + 2 w/c passenger
PASSENGER HEAT	1 x 35,000 BTUs
PASSENGER A/C	65,000 BTUs separate from the dash-Requires dual compressors
ENGINE TYPE	Gas engine, 305 HP minimum
ENGINE CAPACITY	6.8 L minimum
SPARE TIRE	Loose
BATTERY	Dual
FAST IDLE	Yes
CURBSIDE EMERGENCY WINDOWS	1 minimum
STREETSIDE EMERGENCY WINDOWS	2 minimum

#### 4.6.1 Paratransit Package-include credit to delete maintenance manuals

One set of Tire Traction Chains of the appropriate size shall be provided for each vehicle. Chains will be secured in the vehicle at a location approved by the Division of Public Transit.

Jumper cables of stranded copper, 4-6 gauge, and seven (7) feet minimum length shall be secured in the storage compartment of the vehicle.

One set of Vehicle Jack and Lug Wrench of the appropriate size to be provided per vehicle in a safe and secure location.

- 4.6.2 Flip-up Armrests A flip up armrest for each passenger aisle seat shall be installed. Vendor should submit product description, warranty information, and product literature with bid, but must submit within 48 hours of request.

TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058

9

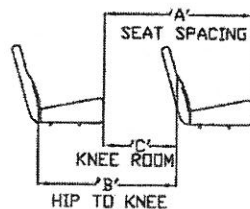
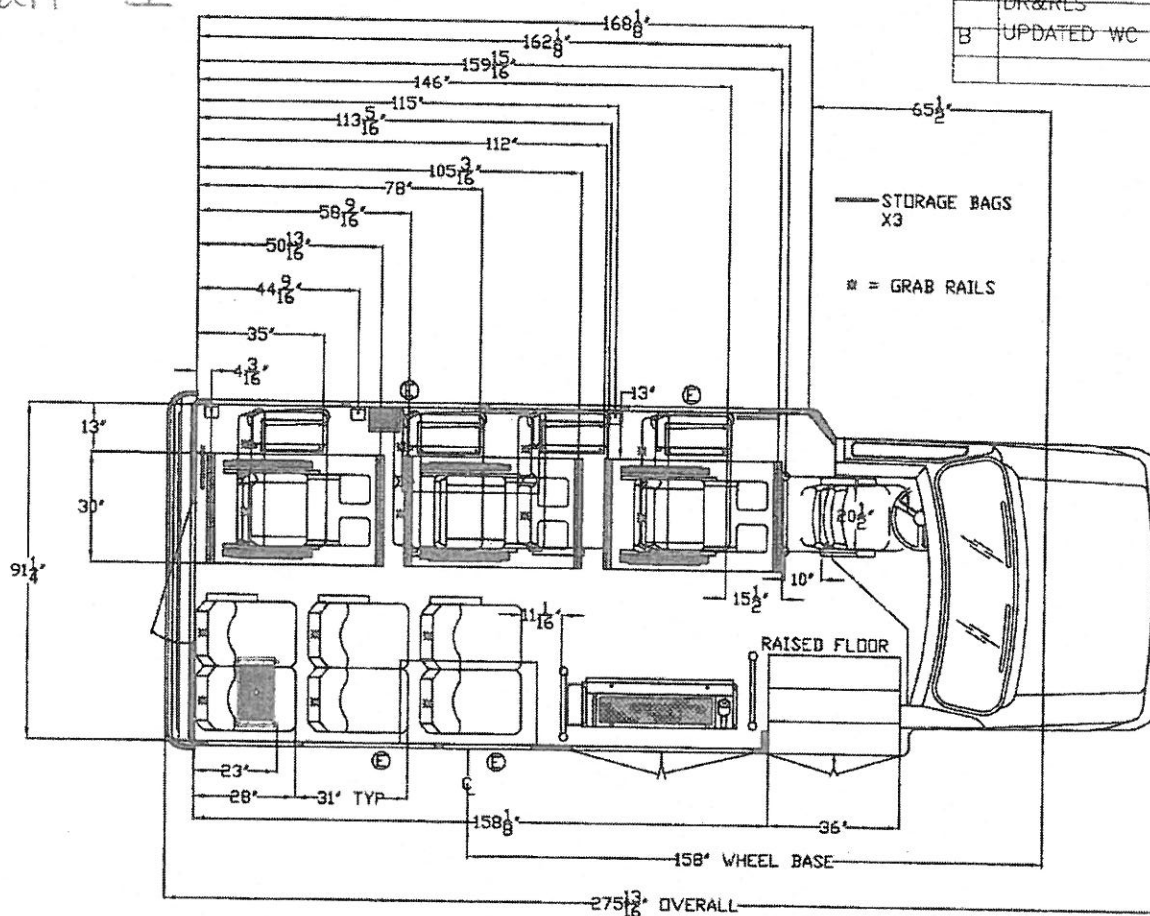
11.0A We request the delivery requirement be extended to 180 days. This is due to lead time on 6.8L gas chassis from Ford

**The WVDPT is aware of the shortages experienced this past year, but we will keep the 150 days specified. If more time is needed, the successful vendor may document the reason in writing per the specifications and ask for an extension. This serves the division better than a blanket time extension in the event that the chassis shortage does not persist.**

Page 97 and 98—The Seating Diagrams on page 97 and 98 do not seem to correspond to any of the requested classes. Please advise if these were added in error or which class each diagram corresponds to

**We were advised to include sample floorplans—the capacity should be as specified; these are merely for guidance**

# Floorplan #1



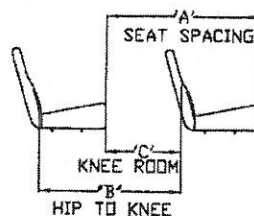
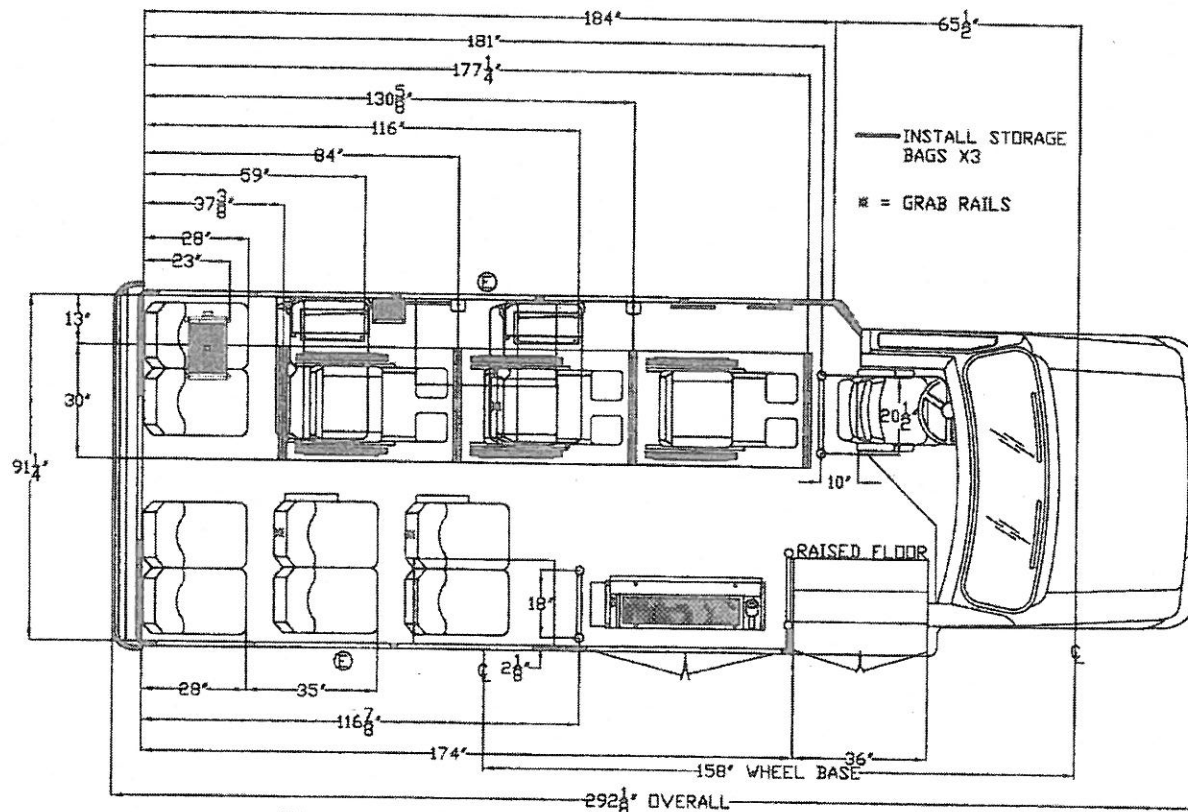
SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
MID HIGH	31"	27"	8-3/4"

Rev.	Revision Description	By	Date	ECN / PPCN
B	UPDATED WC L TRACK	ARS	4-30-08	N/A


<b>DO NOT SCALE</b>	Drawing Name / Description: <b>FLOOR PLAN, 14P/3WC/158WB/276BDY</b>		Unit Number:		Reference: GC Part Number:	
	<b>SIZE A</b> THIS DRAWING AND THE INFORMATION CONTAINED THEREON ARE THE EXCLUSIVE PROPERTY OF GOSHEN COACH (THOR INDUSTRIES, INC.). 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 GOSHEN COACH.		Models:		Drawing Number: <b>0124960B</b>	
			Work Instruction Reference:		Revision: <b>B</b>	
	Tolerances: +/- 1/16" +/- 1" Unless Noted Otherwise		25161 Leer Drive Elkhart, IN 46514 (574) 970-6300		Scale: <b>N/A</b>	Units: <b>INCHES</b>

# Floorplan #2

Rev.	Revision Description	By	Date	ECN / PPCN
A	DR&RFI		5-29-08	
B	ADDED 5 ACROSS			N/A



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
MID HI	35"	31"	12 3/4"

<b>DO NOT SCALE</b>	Drawing Name / Description: FLOOR PLAN, GCII 13P/3WC/158WB/292BDY		Unit Number:		Reference:		GC Part Number:		
	<b>SIZE A</b>	THIS DRAWING AND THE INFORMATION CONTAINED THEREON ARE THE EXCLUSIVE PROPERTY OF GOSHEN COACH (THOR INDUSTRIES, INC.). 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 GOSHEN COACH.	Tolerances: +/- 1/16" +/- 1" Unless Noted Otherwise	Models:	 25161 Lear Drive Elkhart, IN 46514 (574) 970-6300		Drawing Number:		
				Work Instruction Reference:			Revision: <b>B</b>		
				Scale: N/A	Units: INCHES	Drawn: RRP	Date: 01/03/08	Class Code:	
								File location: CD/FP/GCII/158/292	



State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

## Solicitation

NUMBER
PTR13058

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
BETH COLLINS 304-558-2306

RFQ COPY

TYPE NAME/ADDRESS HERE

V  
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R

DIVISION OF PUBLIC TRANSIT  
KANAWHA VALLEY REGIONAL TRANS  
1550 FOURTH AVENUE  
CHARLESTON, WV  
25325 304-343-3840

DATE PRINTED
02/10/2014

BID OPENING DATE: 02/27/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM 3						
THIS ADDENDUM IS ISSUED TO MODIFY THE ORIGINAL SOLICITATION PER THE ATTACHED DOCUMENTATION.						
01	EA		557-05			
	1					
158" WHEELBASE BUSES (CUTAWAYS)						
***** THIS IS THE END OF RFQ PTR13058 ***** TOTAL:						

SIGNATURE	TELEPHONE 1-800-533-1006	DATE March 12, 2014
TITLE Commercial Sales	FEIN 540806-176	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**SOLICITATION NUMBER: PTR13058****Addendum Number: 3**

---

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:**

Addendum is issued to confirm bid opening date is February 27, 2014 (02/27/2014).

**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.





State of West Virginia  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

## Solicitation

NUMBER  
PTR13058

PAGE  
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:  
BETH COLLINS  
304-558-2306

RFQ COPY

TYPE NAME/ADDRESS HERE

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DIVISION OF PUBLIC TRANSIT  
KANAWHA VALLEY REGIONAL TRANS  
1550 FOURTH AVENUE  
CHARLESTON, WV  
25325 304-343-3840

DATE PRINTED

02/21/2014

BID OPENING DATE: 03/12/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO.04						
THIS ADDENDUM IS ISSUED TO MODIFY THE ORIGINAL SOLICITATION PER THE ATTACHED DOCUMENTATION.						
J001	1	EA	557-05	158" WHEELBASE BUSES (CUTAWAYS)		
***** THIS IS THE END OF RFQ PTR13058 ***** TOTAL:						

SIGNATURE

TELEPHONE

1-800-533-1006

DATE

March 12, 2014

TITLE

Commercial Sales

FEIN

540806-176

ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

SOLICITATION NUMBER: PTR13058

Addendum Number: 4

---

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:**

To clarify a question on page 7 of the approved equals under section 4.5.1

To change the bid opening date to March 12, 2014 at 1:30 PM EST.

**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.

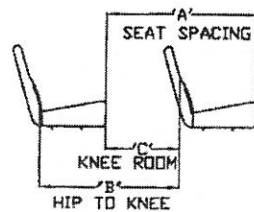
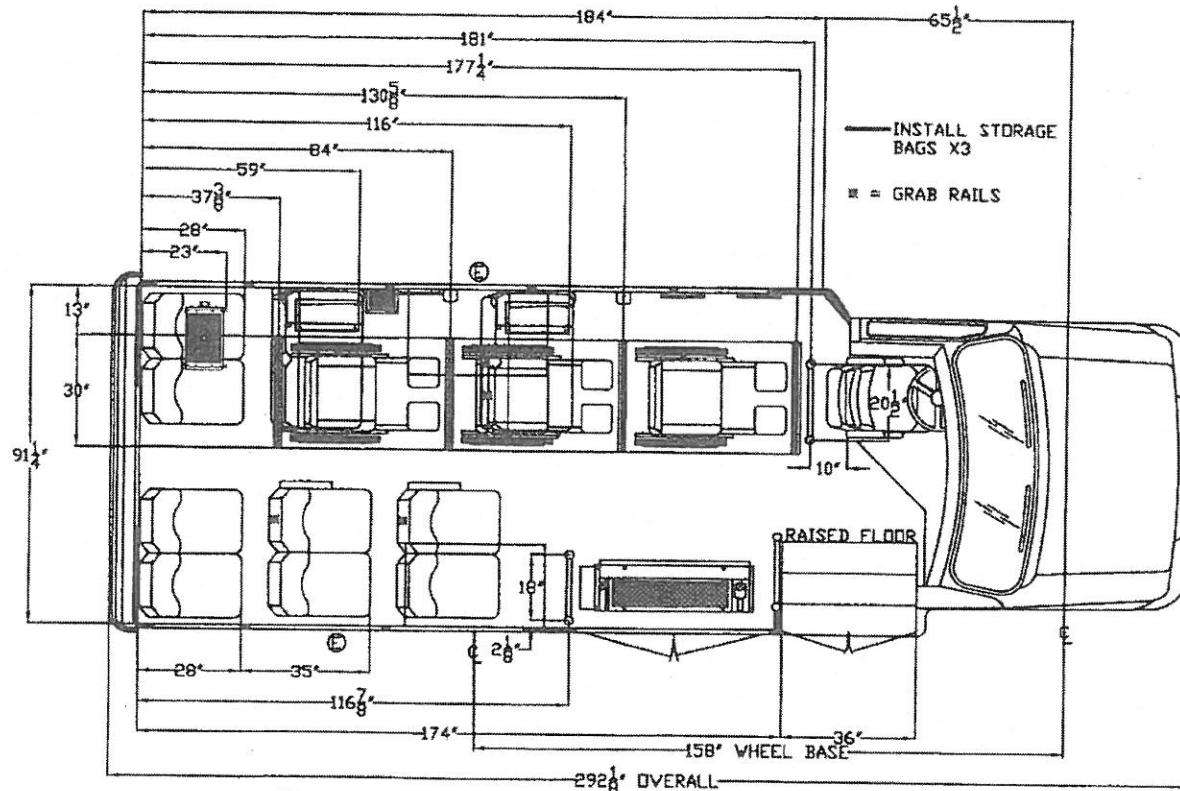
## ATTACHMENT A

**TECHNICAL QUESTIONS/ APPROVED EQUALS ON PTR13058**

On page seven of the approved equals; 4.5.1 it is stated that Class E should be 4 ambulatory + 3 tie down positions (Floor Plan 2) would be preferred. Floor plan 2 has 8 ambulatory passengers. Can you clarify?

**WVDPT prefers 8 ambulatory passenger seats and 3 tie down positions, with four additional foldaway seats in the tie down area, as is shown in floorplan two (attached).**

Rev.	Revision Description	By	Date	ECN / PPCN
A	DR&RFL		5-29-08	
B	ADDED 5 ACROSS			N/A



SEAT STYLE	SEAT SPACING 'A'	HIP-TO-KNEE 'B'	KNEE ROOM 'C'
MID HI	35"	31"	12 3/4"

DO NOT SCALE	Drawing Name / Description: FLOOR PLAN, GCII 13P/3WC/158WB/292BDY		Unit Number:		Reference:		GC Part Number:	
	<b>A</b> SIZE	THIS DRAWING AND THE INFORMATION CONTAINED THEREON ARE THE EXCLUSIVE PROPERTY OF GOSHEN COACH (THOR INDUSTRIES, INC.). 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 GOSHEN COACH.	Models:		25161 Leer Drive Elkhart, IN 46514 (574) 970-8300		Drawing Number:	
			Work Instruction Reference:				Revision: <b>B</b>	
			Tolerances: +/- 1/16" +/- 1" Unless Noted Otherwise		Scale: N/A	Units: INCHES	Drawn: RRP	Date: 01/03/08

File location: CD/FP/GCII/158/292

**REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles**

**REQUIRED BID DOCUMENTATION CHECKLIST**

Model Year: 2015 Model: Senator SII

Manufacturer: Startrans

**Mandatory Bid Forms-must be submitted with bid**

- X   Bid form 1 LOCATION(S) OF THE TECHNICAL SERVICE REPRESENTATIVE(S)
- X   Bid form 2 CERTIFICATION FOR AIR POLLUTION
- X   Bid form 3 DISADVANTAGED BUSINESS ENTERPRISE VENDORS/ MANUFACTURERS  
CERTIFICATION
- X   Bid form 4 BUY AMERICA CERTIFICATION ROLLING STOCK
- X   Bid form 5 FEDERAL MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION
- X   Bid form 6 U.S. COMPTROLLER'S DEBARMENT LIST CERTIFICATION
- X   Bid form 6A CERTIFICATION OF PRIMARY PARTICIPANT REGARDING DEBARMENT,  
SUSPENSION, AND OTHER RESPONSIBILITY MATTERS
- X   Bid form 7 VENDOR'S CERTIFICATION OF UNDERSTANDING AND  
ACCEPTANCE
- X   Bid form 8 CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING  
REQUIREMENTS
- X   COPY OF RELEVANT BUS TESTING REPORT- 3.4 STURAA TEST- 4 Years;  
3.12.1g Water Testing- details of process; 3.14 Seating Diagram- provide proposed  
seating diagram
- X   Bid form 9 CERTIFICATION OF RESTRICTIONS ON LOBBYING
- X   Pricing page

**Mandatory Documentation-must be submitted within 48 hours of request**

**Section  
Referenced**

**A=UPON REQUEST B=PROVIDED C=ADDRESS IN COVER LETTER**

- A   3.5 Engine: V-10 heavy duty gasoline engine- provide description, warranty, and literature
- A   3.5g Engine cooling system- provide description, warranty, and Literature
- A   3.5h High Idle System- provide description, warranty, and literature
- A   3.6 Transmission- provide description, warranty, and literature

**REQUEST FOR QUOTATION PTR13058**  
**158" Wheelbase Transit Vehicles**

<u>A</u> 3.6.d	Transmission Cooling System- provide description, warranty, and literature
<u>A</u> 3.7.1	Heavy Duty Brakes- provide description, warranty, and literature
<u>A</u> 3.7.3	Suspension System- provide description, warranty, and literature
<u>A</u> 3.7.3	MOR/RydeSuspension System- provide description, warranty, and literature
<u>A</u> 3.7.a	Tire Information- provide description, warranty, and literature
<u>A</u> 3.8	Electrical System- provide description, warranty, and literature
<u>A</u> 3.8.1	Alternator- specify the rectifier, method of installation, provide warranty and literature
<u>A</u> 3.8.2	Batteries- specify type and capacity
<u>A</u> 3.8.3	Exterior Lights -LED Lights- provide description, warranty, and literature
<u>A</u> 3.8.4	Interior Lights- provide description/details
<u>A</u> 3.8.6	Rear Alarm- provide description, warranty, and literature
<u>A</u> 3.8.6	Backup camera- provide description, warranty, and literature
<u>A</u> 3.8.7	Fuse box panel- provide description/details
<u>A</u> 3.9.1	Heating System- provide description, warranty and literature
<u>A</u> 3.9.1b	Stepwell Heater- provide description, warranty and literature
<u>A</u> 3.9.1c	Auxiliary Heaters- provide description, warranty and literature
<u>A</u> 3.9.2a	A/C Cooling System- provide description, warranty and literature
<u>A</u> 3.9.6a	A/C Compressor- provide description, warranty and literature
<u>A</u> 3.9.2b	A/C Condenser Information- provide description, warranty and Literature
<u>A</u> 3.9.2d	Evaporator- provide description, warranty and literature
<u>A</u> 3.9.2	A/C Hose System- provide description, warranty and literature
<u>A</u> 3.10	Roof Hatch- provide description, warranty and literature
<u>A</u> 3.11.1	Control Panel Location- submit details
<u>A</u> 3.11.1	Circulation Fan- provide description, warranty and literature
<u>B</u> 3.12.1	Body Construction- provide description of body construction including materials, methods of joining and assembling components or subassemblies and method of attachment of the body to the chassis, warranty and literature



**REQUEST FOR QUOTATION PTR13058**  
**158" Wheelbase Transit Vehicles**

- A 3.12.1 Provide proof that skirt panel seams below floorline will be placed only above wheel wells or adjacent to A/C skirt condenser
- A 3.12.2a Documentation of one piece roof
- A 3.12.4c Door Operating Mechanism- provide description/ details
- A 3.12.5b Sample of Flooring- provide colors per specifications, warranty and literature
- A 3.12.6 Insulation- provide proof of insulation requirement per spec.
- A 3.12.7 Bumpers- provide description, warranty and literature
- A 3.13 Lift- provide details, model #, warranty and literature. Provide information and literature that lift will meet the NHTSA platform lift requirements.
- A 3.13g Interlock System- provide description, warranty and literature
- A 3.14a Passenger Seats- provide details for all proposed including flip up seats and ABS Knee Saver backs
- A 3.14b Under Seat Retractor System- provide description, warranty, literature and FMVSS 210 Report Certification
- A 3.14i Driver's Seat- provide description, warranty and literature
- A 3.15 Mobility Aid Securement- provide details of proposed system, warranty, and literature
- A 3.19a Exterior Mirrors- provide description, warranty and literature
- A 3.21 Radio/CD Stereo- provide description, provide warranty and literature
- A 3.24 Undercoating/Rust proofing- provide description, warranty, literature and application process
- A 3.25 Interior and Exterior Color Schemes- provide details of schemes available
- B 3.25.2b Paint Scheme- provide sample of vinyl chart to be used
- A 4.1.2 Strobe Light-provide description, warranty, and literature; Fixed Route Package-provide description, warranty and literature; PA System- provide description, warranty and literature; Passenger Signaling System- provide description, warranty and literature
- A 4.1.3 Child Restraint Seat- provide description, warranty and literature
- A 4.1.4 Security Camera System- provide description, warranty and literature
- A 4.2.5 VISTA type lift-provide description, warranty and literature
- B 4.5.1 Extended body-- floorplan

**REQUEST FOR QUOTATION PTR13058**  
**158" Wheelbase Transit Vehicles**

- A 5.2 Items in sections a-l provide proof of compliance
- B 5.11.1 Warranty on completed vehicle
- B 5.11.2 Warranty on Basic Vehicle Structure
- B 5.11.3 & 4.40e Warranty Locations- A description of how and by whom warranty service will be provided in four (4) areas of WV to cover both Mechanical and body work. Provide vendor who will do warranty of both chassis and body, including bus body, air conditioning and wheelchair lifts. Four areas of WV include: Northern Panhandle, Eastern Panhandle Central WV and Southern WV
- A 5.11 Warranty per specs on subsystems and components
- B 6.1.2 Complete (2) bids in binder form – (1) Marked for WVDPT
- C 9.3a Training- submit letter of understanding to the terms in this section
- B 9.3a Complete Mechanical Description of Vehicle, its construction and equipment including manufacturer's model, model name and/or number and model year Include Warranty Information
- B 9.3b Proposed Floorplans
- B 9.3c Curb Weight (empty weight and Gross Vehicle Weight Rating (GVWR) of vehicle
- B 9.3f Location of nearest depot which will furnish a complete supply of parts and components for the repair and maintenance of the vehicle to be supplied
- A 9.3g Description of the undercoating/rust proofing system, including warranty to be provided.
- C 9.3h Location of assembly
- B 9.3i List of five users names, addresses and telephone numbers to whom your company has provided similar equipment
- A No Debt Affidavit
- B Pricing Page

REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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**BID FORM #1: LOCATION(S) OF THE TECHNICAL SERVICE REPRESENTATIVE(S)**  
**MANDATORY BID FORM-MUST BE SUBMITTED WITH BID**

Location(s) of the Technical Service Representative(s) and parts distribution center(s) closest to the State of West Virginia.

Name: Brady Childress

Address: 5120 Wards Road

Evington, VA. 24550

Telephone: (434) 821-1000

Name: Gerald Layne

Address: 5120 Wards Road

Evington, VA. 24550

Telephone: (434) 821-1000

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

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

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

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

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

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

REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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**BID FORM #2: CERTIFICATION FOR AIR POLLUTION  
MANDATORY BID FORM-MUST BE SUBMITTED WITH BID**

Pursuant to Section 8.4 of Part 1 of the Procurement, the Vendor certifies that the vehicles proposed:

  X   ARE or

       ARE NOT (specify one)

in compliance with the regulations in 40 CFR Part 85, 40 CFR Part 86, 40 CFR Part 600 and the air pollution criteria established by the Environmental Protection Agency of the United States Government.

  3/12/14  

Date



Authorized Signature

  Commercial Sales  

Title

  Sonny Merryman Inc.  

Company Name

REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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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.

3/11/2014

Date

Mark Barzak

Authorized Signature

GOVERNMENT BID ADMINISTRATOR

Title

FOREST RIVER INC ON BEHALF OF STARTRANS BUS

Company Name

REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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**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 section 165(b)(3), of the Surface Transportation Assistance Act of 1982, as amended, and the applicable regulations of 49 CFR 661.11:

3/12/14  
Date   
Authorized Signature  
Sonny Merryman Inc.  
Company Name  
C. Chad Seals  
Name  
Commercial Sales  
Title

**Certificate for Non-Compliance**

The bidder or offeror hereby certifies that it cannot comply with the requirements of section 165(b)(3) of the Surface Transportation Assistance Act of 1982, as amended, but may qualify for an exception to the requirement consistent with section 165(b)(2) or (b)(4) of the Surface Transportation Assistance Act, as amended, and the applicable regulations in 49 CFR 661.7.

\_\_\_\_\_  
Date  
\_\_\_\_\_  
Authorized Signature  
\_\_\_\_\_  
Company Name  
\_\_\_\_\_  
Name  
\_\_\_\_\_  
Title

REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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**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.

3/12/14

Date



Authorized Signature

Commercial Sales

Title

Sonny Merryman Inc.

Company Name

REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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**BID FORM #6—U.S. COMPTROLLER'S DEBARMENT LIST CERTIFICATION**  
**MANDATORY BID FORM-MUST BE SUBMITTED WITH BID**

Sonny Merryman Inc. hereby certifies that it


       IS or

  X   IS NOT (specify one)

included on the U.S. Comptroller General's Consolidated List of Persons or Firms Currently Debarred for  
Violations of Various Public Contracts Incorporating Labor Standards Provisions.

3/12/14

Date

  
Authorized Signature

Commercial Sales

Title

Sonny Merryman Inc.  
Company Name



REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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**BID FORM #6-A: CERTIFICATION OF PRIMARY PARTICIPANT REGARDING  
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS  
MANDATORY BID FORM-MUST BE SUBMITTED WITH BID**

The Primary Participant (applicant for an FTA grant or cooperative agreement, or potential contractor for a major third party contract), Sonny Merryman Inc.  
(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.
5. 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), Sonny Merryman Inc., 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.

 Commercial Sales

Signature and Title of Authorized Official

REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles

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**BID FORM #7: VENDOR'S CERTIFICATION OF  
UNDERSTANDING AND ACCEPTANCE  
MANDATORY BID FORM-MUST BE SUBMITTED WITH BID**

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.

3/12/14

Date



Authorized Signature

Commercial Sales

Title

Sonny Merryman Inc.

Company Name

**SPECIFICATION COMPLIANCE**

NOTE: Please check if what is offered is 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.

  X  

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 PTR13058  
158" Wheelbase Transit Vehicles

**BID FORM #8: CERTIFICATION OF COMPLIANCE  
WITH FTA'S BUS TESTING REQUIREMENTS  
MANDATORY BID FORM-MUST BE SUBMITTED WITH BID**

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 2 CFR Part 1200.

3/12/14

Date



Authorized Signature

Commercial Sales

Title

Sonny Merryman Inc.

Company Name

**REQUEST FOR QUOTATION PTR13058  
158" Wheelbase Transit Vehicles**

**BID FORM #9: CERTIFICATION OF RESTRICTIONS ON LOBBYING  
MANDATORY BID FORM-MUST BE SUBMITTED WITH BID**

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

- a. 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.
- b. 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
- c. The undersigned understands that the language of this certification shall be included in the award documents for all subawards 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) Sonny Merryman Inc., 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.

3/12/14

Date



Authorized Signature

Commercial Sales

Title

**CERTIFICATION AND SIGNATURE PAGE**

By signing below, I certify that I have reviewed this Solicitation in its entirety, understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Sonny Merryman Inc

(Company)



(Authorized Signature)

C.Chad Seals - Commercial Sales

(Representative Name, Title)

(434) 821-1000

(Phone Number)

(434) 821-8203

(Fax Number)

3/12/14

(Date)

RFQ No. PTR13058

STATE OF WEST VIRGINIA  
Purchasing Division

## PURCHASING AFFIDAVIT

**MANDATE:** 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 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: Sonny Merryman Inc.

Authorized Signature: \_\_\_\_\_ Date: 3/12/14

State of Virginia

County of Campbell, to-wit:

Taken, subscribed, and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

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

**AFFIX SEAL HERE**

**NOTARY PUBLIC** \_\_\_\_\_



**Virginia's Bus Company**

## **IMPORTANT CONTACT INFORMATION**

**Mailing Address: P.O. Box 495, Rustburg, VA 24588**

**Shipping: 5120 Wards Road, Evington, VA 24550**

**• MAIN OFFICE:**

**TOLL FREE: (800) 533-1006**

(434) 821-1000

FAX: (434) 821-8203

WEB: [www.sonnymerryman.com](http://www.sonnymerryman.com)

**• SERVICE DEPARTMENT:**

**TOLL FREE (800) 533-1006**

FAX: (434) 821-2131

Brady Childress, Director Customer Support

Ext. 332, [brady@sonnymerryman.com](mailto:brady@sonnymerryman.com)

Pam Lawhorn, Service Administrator

Ext. 341, [pam@sonnymerryman.com](mailto:pam@sonnymerryman.com)

Tim George, Service Team Leader

Ext. 353, [tim@sonnymerryman.com](mailto:tim@sonnymerryman.com)

**• WARRANTY:**

Patty Webb, Warranty Administrator

Ext. 323, [patty@sonnymerryman.com](mailto:patty@sonnymerryman.com)

**• PARTS:**

**TOLL FREE: (800) 386-7278**

FAX: (434) 821-2621

Gerald Layne, Parts Team Leader

Ext. 318, [gerald@sonnymerryman.com](mailto:gerald@sonnymerryman.com)

**• BUSINESS:**

June Wooten, Accounts Payable

Ext. 327, [june@sonnymerryman.com](mailto:june@sonnymerryman.com)

**Hampton Roads Sales & Service Center**

610 Woodlake Drive

Chesapeake, VA 23320

**TOLL FREE: (866) 481-7211**

(757) 361-9070, FAX (757) 361-9072

Reggie Lewis, Customer Support Manager

[reggie@sonnymerryman.com](mailto:reggie@sonnymerryman.com)

**Northern Virginia Sales & Service Center**

10149 Piper Lane

Bristow, VA 20136

**TOLL FREE: (866) 470-0305**

(703) 331-5516 – (703) 331-5517

FAX (703) 331-5518

Ken Lewis, Customer Support Manager

[KenLewis@sonnymerryman.com](mailto:KenLewis@sonnymerryman.com)

## **Service Locations**

- **Mathney Motor Truck Company**  
**4125 1<sup>st</sup> Ave.**  
**Nitro, WV 25143**  
**(304)769-5860**
- **Matheny Motor Truck Company**  
**50 Matheny Lane**  
**Mineral Wells, WV 26150**  
**(304)485-4418**
- **Sonny Merryman Inc.**  
**10149 Piper Lane**  
**Bristow, VA 20136**  
**(703)331-5516**
- **Sonny Merryman Inc.**  
**5120 Wards Road**  
**Lynchburg, VA 24550**  
**1-800-533-1006**
- **Nearest Ford dealer that is truck certified (E450)**





## **STARTRANS BUS** **LIMITED WARRANTY**

### **WHAT IS THE PERIOD OF COVERAGE**

The StarTrans Bus Limited Warranty Policy warrants each new product (except the Body Structure as herein defined) for a period of one (1) year or 12,000 miles whichever comes first. The period of coverage commences with the actual date of delivery of the vehicle to the product's first owner. Within the terms of the Policy, StarTrans agrees to repair or replace any defective part subject to the terms and/or limitations of this warranty agreement.

### **WARRANTY ON BODY STRUCTURE**

The body structure of StarTrans buses is warranted for a period of five (5) years or 75,000 miles whichever comes first from the date of delivery to the product's first owner.

### **WHAT IS "BODY STRUCTURE"?**

The body structure of StarTrans buses is defined as the floor, wall and roof structure but does not include any part of the automotive chassis as manufactured and prepared by the chassis manufacturer. Items not considered as body structure include but are not limited to the following: [a] Doors, [b] Roof vents, [c] Paint, [d] Bumpers, [e] Windows, [f] Gel coat cracks, [g] Interior wall coverings, [h] Rub rails, [i] Relays, [j] Switches, [k] Lights.

### **WHAT ARE THE LIMITATIONS OF THE STARTRANS WARRANTY POLICY?**

StarTrans Bus retains the right to repair or replace at the company's discretion.

StarTrans Bus requires that all repairs performed under the terms of its limited warranty must be done at one of the StarTrans Bus dealers or at one of StarTrans Bus authorized service centers. In the event that the requirement presents an undue hardship on the owner, StarTrans Bus requires that the owner call the StarTrans Bus Factory Warranty Department and secure approval for the repair work to be done at a qualified repair station whose qualifications are mutually agreed upon by both the StarTrans Warranty Department and the vehicle owner.

StarTrans Bus requires that all warranty work performed under the terms of this limited warranty that exceeds Two Hundred Dollars (\$200.00) in value whether in diagnostic time or in actual labor and/or parts repair, said requested warranty must be approved by



the StarTrans Bus Warranty Department BEFORE WORK IS DONE. The StarTrans Bus Warranty Department is located in Goshen, Indiana, and the department's phone numbers are as follows: (574) 642-0810 or (574) 7642-0096.

If the subject vehicle has been previously used in dealer demonstration service beyond four thousand (4,000) miles / one year or as a dealer rental unit, the mileage accrued in the previous service above four thousand (4,000) miles / one year is to be counted toward the twelve thousand (12,000) mile limit and one (1) year warranty, or in the case of the body structure, seventy-five thousand (75,000) miles or five (5) year's warranty.

#### **WARRANTY CLAIM SUBMITTAL**

Warranty claims shall be submitted within sixty (60) days of authorization. Any claims submitted sixty (60) days following the authorization date shall not be warrantable.

#### **WHAT VOIDS STARTRANS LIMITED WARRANTY?**

The following will void the StarTrans Limited Warranty Policy provisions:

- Damage to product caused by an accident involving the vehicle,
- Product failure caused by improper servicing,
- Product failure caused by customer negligence (not exercising good care and responsible routine maintenance) Example: fluids being checked and maintained regularly,
- Product failure caused by customer misuse, or abuse.
- Damage to product caused by freezing, flooding, fire or any other occurrence that may be termed an "Act of God."

#### **WHAT IS NOT COVERED BY STARTRANS LIMITED WARRANTY POLICY?**

The following are not covered by the StarTrans Limited Warranty:

- Automotive chassis as received from the chassis manufacturer,
- Wheel chair lifts and lock assemblies,
- Automotive air conditioners and heaters (OEM),
- Tires,
- Batteries,
- Air conditioners and heaters (ADD ON),
- Automotive cruise control,
- Audio systems,
- Add-on suspension systems,
- Alternators and regulators,
- Seats and seating.



The manufacturers of these specific component parts offer a national network of service centers fully qualified to handle customer needs.

StarTrans Bus will not undertake warranty responsibility for normal maintenance items and adjustments past thirty (30) days: Included are such maintenance items as (a) door adjustments, (b) lights, (c) relays, (d) switches, (e) any dealer, service center, or owner installed equipment.

StarTrans Bus will not undertake responsibility to any purchaser of its products for any undertaking or representation of warranty made by dealers selling its products beyond those solely expressed herein.

StarTrans Bus shall not assume any responsibility for lost time, inconvenience, expense for gasoline, towing, telephone, travel, lodging, loss or damage to personal property or loss of revenues, or the cost of a replacement vehicle.

The StarTrans Bus Limited Warranty as stated herein and any implied warranties that may be expressed by StarTrans Bus are limited to one (1) full year or twelve thousand (12,000) miles, whichever occurs first, after the actual date of delivery by the vehicle's FIRST OWNER. Body structure as defined herein is limited to five (5) years or seventy-five thousand (75,000) miles, whichever occurs first, after the actual date of delivery to the vehicle's FIRST OWNER. The StarTrans Limited Warranty extends to the original retail purchaser and is NOT TRANSFERABLE. Original purchaser means the first retail purchaser purchasing the StarTrans bus product from a StarTrans Bus Dealer.

The StarTrans Bus Limited Warranty is applicable to any product registered and normally used within the United States and Canada ONLY.

With the exception of "body structure" as defined herein, which has a different stated warranty, the limited warranty applicable to your product is for the duration of twelve thousand (12,000) miles, or for the duration one one (1) full year after initial date of delivery, whichever occurs first. StarTrans Bus is required by law to maintain records pertaining to the original owner of each StarTrans Bus product. It is desirable for the warranty starting date to be registered properly at the StarTrans factory within ten (10) days after the delivery date. A warranty and or pre-delivery registration page is enclosed with each new product owner's manual package. The selling dealer SHALL send this registration and or pre-delivery registration page to the factory at the time of your purchase. The absence of this registration and or pre-delivery page in no way changes your StarTrans Bus Limited Warranty. However, you will be required at some future date should you need service attention under the StarTrans Limited Warranty to show proof of the date of purchase.



#### **ADDENDUM TO WARRANTY POLICY**

StarTrans Bus warrants the paint on the vehicle for one (1) year from the date of purchase.

#### **ADDENDUM TO DEALER**

While at authorized dealer's retail establishment, the bus shall be maintained in an excellent condition with special attention to the external and internal aesthetics of the unit as well as the overall operation of the vehicle while waiting the sale of the vehicle .

#### **WHAT WILL YOU DO TO KEEP THE WARRANTY IN EFFECT?**

You will perform reasonable and necessary maintenance to the unit in accordance with StarTrans Bus direction and recommendations. Owners and operators should pay particular attention to the warning and instruction labels provided by StarTrans Bus.

#### **WHAT OTHER CONDITIONS OR LIMITATIONS APPLY TO THIS WARRANTY?**

This limited warranty excludes transportation to and from the dealer or manufacturer to get warranty services. The limited warranty policy also excludes loss of time or loss of use, lost revenues, salaries or commissions, lodging, towing charges, bus fares, car rentals, and gasoline expense. Also excluded are telephone charges, inconvenience or other incidental damages.

This limited warranty excludes the cost of repairing or replacing other property that is damaged because of an alleged defect in the unit as well as other consequential damage. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you.

## 2014 Model Year **Ford** Warranty Guide

(Except F-650/750, Hybrid and Electric Vehicles)



fordowner.com



ford.ca





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:
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.customersaskford.com">www.customersaskford.com</a>	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>
In Asia-Pacific Region, Sub-Saharan Africa, U.S. Virgin Islands, Central America, the Caribbean, and Israel:	In Puerto Rico:
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>	Ford International Business Development, Inc. P.O. Box 11957 Caparra Heights Station San Juan, PR 00922-1957 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>
In Middle East:	
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>	

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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 2014-model car or light truck. If you bought a previously owned 2014-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 17-32).

## **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 34 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 2014-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.

These implied warranties do not apply at all if you use your vehicle for business or commercial purposes. In addition, the implied warranty of fitness for a particular purpose does not apply 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.

**NOTE: 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 17-31.**

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.

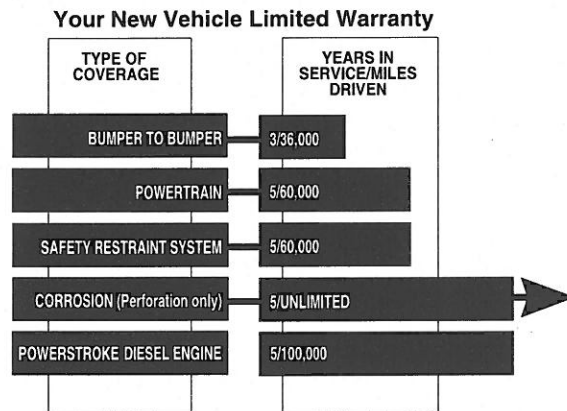
For more information regarding the BBB AUTO LINE program, see page 34 of this booklet.

## 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. For this reason, Ford provides the New Vehicle Limited Warranty in order to remedy any such 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 14 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, electronic engine control unit, engine mounts, flywheel, injection pump, manifold (exhaust and intake), manifold bolts, oil pan, oil pump, seals and gaskets, thermostat, 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, 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; **Rear-Wheel Drive:** axle shafts, bearings (front and rear), center support bearing, drive axle housing (including all internal parts), drive shaft, propeller shafts, retainers, supports, 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. 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 PowerStroke 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), high pressure lines, gaskets and seals, glow plugs, turbocharger, two-stage turbocharger assembly, turbocharger actuator, powertrain control module, engine control module, high pressure fuel injection pump assembly, electronic driver unit, injectors, injection pressure sensor, fuel rail pressure sensor, high pressure oil regulator, 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 17-31.

If you own or lease a 2014-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.

#### **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, or 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 (other than a certified emissions part) or any part (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"

#### **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 (which ever 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                    | • clutch linings                       |
| • oils, lubricants, other fluids | • wiper blades*                        |
| • oil/air filters                | • wheel alignments and tire balancing* |
| • tire rotation/inflation        | • brake pad/lining*                    |
| • cleaning/polishing             |  |

\* 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. Some examples include:

- Loss of personal recording media, software or data
- Failure to provide proper installation environment
- 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, worms, Trojan Horses, cancelbots
  - installation of unauthorized software, peripherals and attachments
  - unauthorized, unapproved and/or incompatible repairs, upgrades and modification
  - the defective function of your cellular phone or digital media device (i.e., 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 36)
- 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
- 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)
- Winching (vehicle must be within 100 feet of a paved or county-maintained road)

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 Rental cars (FRCS) that must be towed because a covered repair has 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.



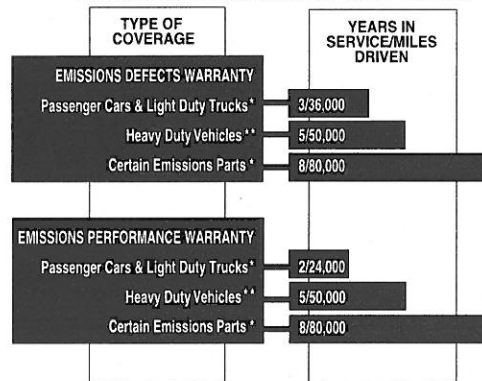
## 5. Federal requirements for emissions warranties

### 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

**Emissions Warranties for Your Vehicle**



\* 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. Applicable parts are listed under **What is Covered?** on pages 20-21.

The warranty coverage period for:

- Passenger cars, light duty trucks (applies to vehicles up to 8,500 pounds GVWR)
  - The emission warranty coverage period is 8 years or 80,000 miles (whichever occurs first) for catalytic converters, electronic emission control units, and onboard emissions diagnostic devices.
  - All other parts covered under your emissions warranty are warranted for 3 years or 36,000 miles whichever comes first.
- 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, light duty trucks (applies to vehicles up to 8,500 pounds GVWR)
  - 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 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
- Idle Air Bypass 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 emissions warranties. For more details about the specific parts covered by the Emissions Defect 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 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:

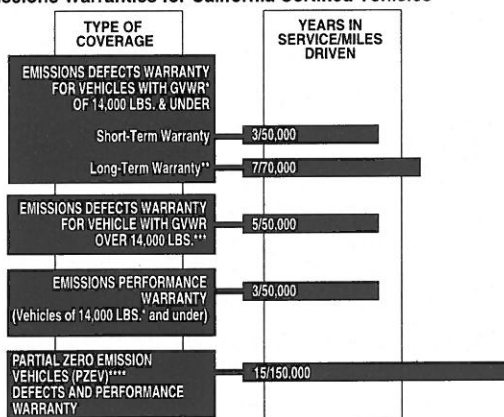
**Manager, Certification and Compliance Division  
(6405J)  
Warranty Claims  
Environmental Protection Agency  
Ariel Rios building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460**

## 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.

\*\*\*\* Refer to your Vehicle Emission Control Information Label for emissions certification information.

### 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\* 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.

\* 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, Oregon, Pennsylvania, Rhode Island, Vermont and Washington (NOTE: New York adopted California emissions standards, but not the California Emissions Warranty; the Federal Emission Control Warranty applies to all non-PZEV vehicles in New York)
- **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, 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, 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.

#### **Vehicles Eligible for California PZEV Emission Warranty Coverage**

California Partial Zero Emission Vehicles (PZEV) have extended coverage on all emission related parts. This extended warranty coverage applies if your vehicle is PZEV certified as indicated on the VECI label and is registered in a state that has adopted and is enforcing California PZEV emissions warranty, which may include the following states, subject to change: California, Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Rhode Island or Vermont.

For full details about coverage under California requirements for emissions control, see:

- ➔ **Defects Warranties** (pages 24-30)
- ➔ **Performance Warranty** (pages 24-25)
- ➔ **What Is Covered?** (pages 26-29)
- ➔ **What Is Not Covered?** (page 29)

## **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 2014-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 24-25, provided there has been no abuse, neglect, or improper maintenance of your vehicle.

Your emission control system may include parts such as the carburetor or 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 an emissions-related part listed on pages 27 and 28 with coverage for 7 years or 70,000 miles 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**.

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**.



For Vehicles Eligible for California PZEV Emission Warranty Coverage

For 15 years or 150,000 miles (whichever first occurs):

1. If an emissions-related part on your vehicle is defective, the part will be repaired or replaced by Ford. This is your emissions control system DEFECTS WARRANTY.
2. 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.

**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:

**State of California Air Resources Board  
Mobile Source Operations Division  
P.O. Box 8001  
El Monte, California 91731-2990**

## 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
- Idle Air Bypass 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 (MFD)
- Transmission Control Module (TCM) and Solenoids
- Turbocharger Assembly
- Vacuum Distribution System

\* Includes hardware and emissions related software changes only

**COVERAGE FOR 2014 MODEL VEHICLES (GVWR OF 14,000 LBS. OR LESS)  
UNDER CALIFORNIA LONG TERM DEFECTS WARRANTY  
(Coverage for up to 7 years/70,000 miles, whichever first occurs)**

Part Name	1.0L Fiesta	1.5L Fusion	1.6L Fiesta	1.6L Escape	1.6L Fusion	2.0L Edge	2.0L Escape	2.0L Explorer	2.0L Focus	2.0L Fusion	2.0L Taurus	2.5L Escape	2.5L Fusion	3.5L Edge	3.5L Explorer	3.5L Flex	3.5L Taurus	3.7L Edge	3.7L Explorer	3.7L Mustang	3.7L Taurus	4.6L E-Series	5.0L Mustang	5.4L E-Series	5.4L Expedition	5.8L Mustang	6.2L F-Superduty	6.7L F-Superduty	6.8L E-Series	6.8L F-Superduty	6.8L Motorhome & Step Van Chassis*		
Catalytic Converter	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Diesel Catalyst and Particulate Filter Assembly																												X					
Diesel Exhaust Fluid Pressure Line																													X				
Diesel Exhaust Fluid Tank																													X				
Turbocharger Actuator Assembly																													X				
Cam Timing Assembly	X	X	X	X	X	X	X	X	X	X	X			X	X(1)	X(1)	X(1)	X	X	X	X		X					X					
Variable Camshaft Timing Kit															X(2)	X(2)	X(2)																
Variable Camshaft Timing Housing (Right Hand)															X	X	X								X								
Variable Camshaft Timing Housing (Left Hand)															X	X	X								X								
Variable Camshaft Timing Solenoid															X	X	X																
Variable Camshaft Timing Assembly	X					X	X	X	X	X	X	X	X	X	X(1)	X(1)	X(1)	X	X	X	X												
PCV Valve																																	
Turbocharger	X	X	X	X	X	X	X	X	X	X	X				X	X	X												X				
Charge Air Cooler	X	X				X		X									X																
Transmission Control Module	X		X						X											X													
Transmission Solenoid Assembly		X		X	X		X	X		X	X	X	X											X							X	X	X
Fuel Tank	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fuel Tank Shield				X		X	X				X	X		X			X	X			X						X				X	X	
Auxiliary Fuel Tank Filler Kit																						X		X				X		X	X		
Fuel Supply Manifold Assembly			X												X(2)	X(2)	X(2)												X				
Fuel Delivery Module						X	X			X					X	X	X				X	X		X				X		X		X	
Fuel Pump to Fuel Rail Tube															X	X	X																
Fuel Pump Assembly				X		X	X	X(2)							X(2)																		
Turbocharger Control Solenoid				X		X	X			X					X(2)	X	X(2)																
Intake Manifold	X		X												X	X(2)	X						X	X	X	X		X		X	X	X	
Exhaust Manifold (Right-Hand)															X(2)	X	X(2)						X		X	X		X		X	X	X	
Exhaust Manifold (Left-Hand)			X	X	X										X(2)	X	X(2)						X		X						X	X	
Exhaust Manifold Gasket				X											X(2)	X	X						X		X				X				
EGR Cooler																												X					

**COVERAGE FOR 2014 MODEL VEHICLES (GVWR OF 14,000 LBS. OR LESS)  
UNDER CALIFORNIA LONG TERM DEFECTS WARRANTY  
(Coverage for up to 7 years/70,000 miles, whichever first occurs)**

Part Name	1.0L Fiesta	1.5L Fusion	1.6L Fiesta	1.6L Escape	1.6L Fusion	2.0L Edge	2.0L Escape	2.0L Explorer	2.0L Focus	2.0L Fusion	2.0L Taurus	2.5L Escape	2.5L Fusion	3.5L Edge	3.5L Explorer	3.5L Flex	3.5L Taurus	3.7L Edge	3.7L Explorer	3.7L Mustang	3.7L Taurus	4.6L E-Series	5.0L Mustang	5.4L E-Series	5.4L Expedition	5.8L Mustang	6.2L F-Superduty	6.7L F-Superduty	6.8L E-Series	6.8L F-Superduty	6.8L Motorhome & Step Van	
Fuel Injector Kit																											X					
High Pressure Fuel Pump																											X					
Fuel Injector															X(2)	X(2)	X(2)															
Fuel Injector Fuel Supply Manifold																X(1)	X									X						
High Pressure Fuel Line																												X				
Throttle Body			X																													
Instrument Cluster (3)		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X				X					
Powertrain Control Wiring Harness								X			X				X	X	X		X		X	X	X	X	X			X	X	X	X	X
Powertrain Control Module (PCM)/ Engine Control Module (ECM)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Main Body Wiring Harness (4)	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X		X		X	X	X	X	X		X	
Dash Panel & Headlamp Junction Wiring Assembly(4)		X		X	X		X	X		X	X	X	X		X	X	X		X		X											
Interior Wiring Assembly (4)											X					X	X			X	X		X			X						
Main Wiring Assembly (4)	X	X	X		X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Rear Lamp Wiring Assembly (4)																						X		X	X		X	X	X	X	X	X
Fuel Sender Wiring Assembly (4)																										X	X			X		

(1) for non EcoBoost engine only

(2) for EcoBoost Engine only

(3) for Service Engine Soon/Malfunction Indicator Lamp (MIL) functionality concerns only

(4) for MIL illumination 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.

For vehicles within the warranty period, Ford will repair at no cost to the owner, under the Federal Emissions Warranty, covered emission failures caused by properly installed Ford parts or non-Ford parts that have been certified by the U.S. Environmental Protection Agency (EPA). Ford is not responsible for the cost of repairing any emission failures caused by non-Ford parts that have not been certified by the EPA.

**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 EPA certified parts without voiding your federal warranty coverage for future repairs during the 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 34.

## **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.



## **9. Ford Extended Service Plan**

### **MORE PROTECTION FOR YOUR VEHICLE**

You can get additional protection for your new car or light truck by purchasing a Ford Extended Service Plan (Ford ESP). Ford ESP service contracts are backed by Ford Motor Company and they provide:

- additional benefits during the warranty period depending on the plan you purchase (such as: alternative transportation and coverage for certain maintenance and wear items; coverage for certain maintenance and wear items); and
- extended protection after your Bumper to Bumper Warranty expires.

You may purchase Ford ESP from any Ford Motor Company dealer or visit our website at [Ford-ESP.com](http://Ford-ESP.com). There are several Ford ESP plans available in various time, distance and deductible combinations. Each plan is tailored to fit your own driving needs, including reimbursement for towing and rental vehicles.

When you purchase Ford ESP, you receive peace-of-mind protection throughout the United States and Canada, provided by a network of Ford Motor Company dealers.

This information is subject to change. Ask your dealer for complete details about Ford 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  
4200 Wilson Boulevard, Suite 800  
Arlington, Virginia 22203-1833**

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.

# STARTRANS

A SUPREME CORPORATION COMPANY



# STARTRANS SENATOR AND

## DESIGN, DURABILITY, AND ATTENTION TO DETAIL.

The durable Startrans Senator and Senator SII offer seating capacity up to 25 passengers. They also feature a spacious aisle, large luggage racks, and plenty of headroom for passenger safety and comfort.

And these are just some of the features and benefits of Startrans buses. As a longtime leader in the medium-duty transit bus industry, StarTrans is backed by Supreme Corporation's commitment to excellence. That's why design, durability, and attention to our customers' wants and needs are at the forefront of how we do business.

If you need buses that perform well, look great, and deliver on promises, look to Startrans. It's the clear choice for your service needs.



*Rear Luggage Compartment*



*The Senator mode  
with optional double  
door chassis and  
in-body entry door.*

# SENATOR SHUTTLE



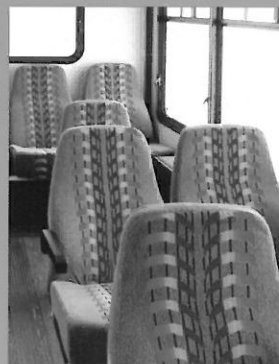
Overhead storage compartment



Optional mid-back passenger seats with aisle grab handles



Driver's area with optional co-pilot seat



A few of the many styles of seating and fabric available



## FEATURES

**SUBFLOOR** – 12-gauge steel superstructure fully welded with floor-level Z-rails, incorporated with chassis-rubber ride capabilities.

**FLOORING** – 3/4" FRP, undercoated. Floor covered with 1/8" transit rubber. Aluminum heat shield over chassis catalytic converter and muffler.

**WINDOWS** – 36" x 36" T-Slider windows, 31% tinted. Clamp ring-style radius windows. Egress windows installed to meet FMVSS 217 requirements. Operator's curbside window AS-2 rated

**ENTRY** – Spacious entry (32" x 83" clear opening) with doors that operate manually. The 14-gauge steel door frames are fully welded and powder-coated to enhance durability. The door panels are glazed and tempered glass. White step nosing and lighted stepwell standard. Entrance grab rail (left side).

**LIGHTING** – Each bus comes standard with six passenger courtesy lights.

**OPTIONAL A/C & HEAT** – A/C systems ranging in size from 30,000 BTU to 88,000 BTU. Rear heat 40,000 BTU to 65,000 BTU.

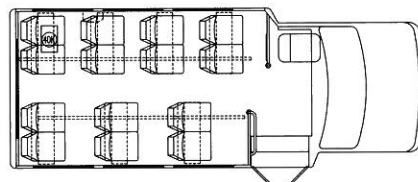
**OPTIONAL PARATRANSIT** – Wheelchair accessibility with a wide range of securement systems and seating arrangements.

**OPTIONAL LUGGAGE** – Luggage can be stored in over-seat, floor-to-ceiling, rear compartment, or custom-designed areas.

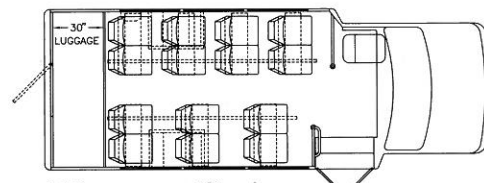
**OPTIONAL SEATING** – Forward-facing, perimeter-style, and track seating are all available. Your choice of vinyl and cloth fabric in a wide range of colors.

**OPTIONAL VIDEO PACKAGE** – LCD TV, Flip Monitors, DVD Player

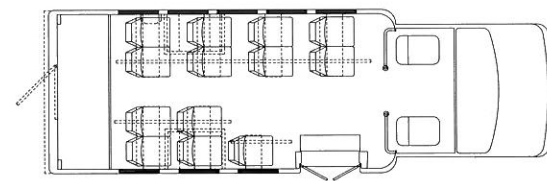
- Mud flaps (front and rear)
- 12-month/12,000-mile with five-year/ 75,000-mile warranty of body structure
- Ford or Chevy chassis



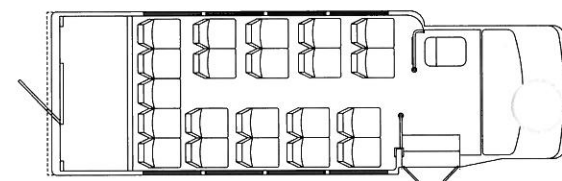
14 Passengers



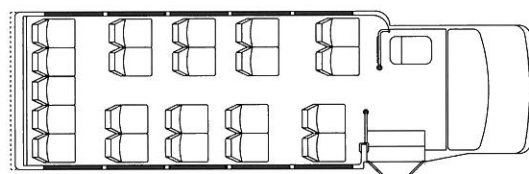
14 Passengers w/ Rear Luggage



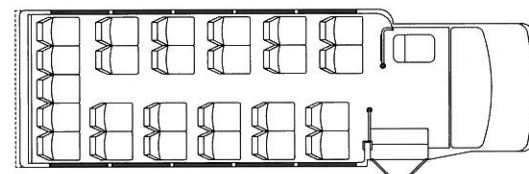
13 Passengers + Co-Pilot w/ Rear Luggage



21 Passengers w/ Rear Luggage



21 Passengers



25 Passengers



2592 East Kercher Road • Goshen, IN 46528  
574-642-4730 • 877-258-1391 • FAX 574-642-4108  
[www.StarTransBus.com](http://www.StarTransBus.com)



Due to Supreme Corporation's commitment to product quality, specifications and options are subject to change in the interest of product improvement and market changes.

Floorplans shown are only a few of the designs available.



# ***SENATOR SERIES II STANDARD BUILD SPECS***

## ***2011***

### **STEEL FLOOR**

The steel sub frame parts are welded together in a welding fixture. It is constructed from the following material.

12-gauge cross members are welded to four 3/16" long sills which are 4 1/4" wide x 1" high. These cross members are a modified "C" shape 1 1/2" wide x 3" high with an anti-rust coating on the inside of the formed cross member.

14-gauge steel floor support tubes 1" x 2" are welded between the cross members to form a grid that ties the steel sub frame together.

1/8" x 2" x 2" steel perimeter angle side rails provide the welding surface for the sidewall attachment.

12-gauge seat track 1 5/8" wide x 7/8" high are welded every 6" to a 14-gauge steel strip that is 3 1/2" wide and welded to the cross members.

A 10-gauge wheel chair lift support (paratransit model) is welded to the cross members under the wheel chair lift area. The support is designed as a secure point for the lift so it becomes an integral part of the steel sub frame.

Rear wheel wells are constructed of 12-gauge steel and designed with flanges that are welded under the lip of the cross members to create a watertight seal and fastened at the wall side.

The steel sub frame is painted after assembly to assure protection from rust and corrosion.

### **UNISTRUT CHANNEL SEAT TRACK**

All seating is secured in a 1 5/8" wide Unistrut channel seat track. A 3 1/2" wide 14-gauge steel plate is welded to the steel sub frame. The Unistrut channel is then welded to this plate.

### **OPTIONAL FLAT FLOOR**

The floor structure is identical except for the following changes.

The cross members are raised 5 1/2" and are supported by 1/4" x 2" bar stock "V" style brackets that are welded to the bottom of the cross member and the top of the long sill.

Wheel wells are a flat 14-gauge galvaneal steel plate is welded to the sub frame to complete the wheel well area.

### **FLOOR DECK**

The finished sub floor is 3/4" thick Fiberglass reinforced plywood. This material is described as follows: The inner core of the FRP panel is made of Northern Fir Lauch B/C plywood that has been plugged and filled. The maximum number of filler plugs per 4' x 8' sheet to be no more than twenty (20). This material is sandwiched between a 17 oz. woven rope fiberglass mat that is impregnated with fiberglass resin, the face side of the material to have 20 mil. Gel coat with the back side covered with co-extruded melinex film.

The FRP panels are then installed on the top of the steel sub frame with grade five (5) floor bolts. Construction adhesive is utilized as well along the top of all floor members that intersect the floor decking material as an additional securement method. A minimum of six (6) bolts per crossmember is standard.

# ***SENATOR SERIES II STANDARD BUILD SPECS***

## ***2011***

### **OPTIONAL W/C FLANGED L TRACK**

L track is mounted in 9 ¾" pieces and bolted through the floor with 5/16" grade 8 torx bolts. End caps are installed at each end for a finished look.

### **SIDEWALLS**

The sidewall structure consists of a welded steel cage, then foam filled and pressure laminated to form a sidewall envelope. It is constructed in the following manner.

16-gauge, 1" x 1" steel tube, 1" x 2" tube, along with 1" x 2" roll formed wall studs are utilized to create a steel grid work that is a part of the total steel structure that surrounds the passenger compartment. Select models (vehicles with optional shoulder harness seat belts) have one 14 ga steel plate 3-1/2" wide located 1" above the window line for the wheel chair shoulder harness support and two additional 1" x 2" vertical steel wall bows located at the wheel chair door location.

The exterior is .024" galvanized steel pre-painted white with an underlayment of 5/32" luan.

The interior is 5/32" luan covered with Filon (chiller glass).

The foam filled steel cage is placed in the center and all layers are adhered using polyurethane hot melt adhesive.

The entire assembly is pressure laminated in a roller system to completely bond the laminated envelope.

### **REAR WALL**

The rear wall structure consists of a welded steel cage, then foam filled and pressure laminated to form an envelope. It is constructed in the following manner.

1" x 1" 16-gauge steel tubing with 1" square 16-gauge roof bows are designed to create a steel grid work that is a part of the total steel structure that surrounds the passenger compartment.

The exterior is .024" galvanized steel pre-painted white with an underlayment of 5/32" luan.

The interior is 5/32" luan covered with Filon (chiller glass).

The foam filled steel cage is placed in the center and all layers are adhered using polyurethane hot melt adhesive.

The entire assembly is pressure laminated in a roller system to completely bond the laminated envelope.

### **ROOF**

The roof structure consists of a steel cage construction utilizing a formed and capped roof bow.

It is constructed in the following manner. Roof bows are located on approx. 24" centers and constructed of 1 ½" x 1 ½" 14-gauge hat section with the cap section being 16 gauge. For all roof assemblies that receive a roof hatch, ¼" steel 4" x 4" corner gussets are added to each corner of the opening for additional support.

## ***SENATOR SERIES II STANDARD BUILD SPECS***

### ***2011***

The roof also consists of (3) 3/16" steel roll bars placed at the front, center, and rear of the roof. These roll bars are married along the side then welded to a roof bow at each of the three locations.

A one piece fiberglass radius panel (Symalite-long glass fiber-reinforced polypropylene composite sheet) then covers the roof.

A layer of Astro-foil insulation is placed between the inner and outer steel roof structure.

#### **FRONT & REAR CAPS**

##### **Front cap**

The front cap is a one-piece fiberglass design and constructed in the following manner.

The exterior is a gelcoated surface at 18 to 22 mil thickness.

The total thickness of resin and fiberglass will be skin coated at a thickness of 140 to 150 mils.

The fiberglass content of this layer will be 30 -32 %.

Reinforcements are then installed and glassed in.

##### **Rear cap**

The rear cap is a three-piece design made from TPO plastic, which is pre-painted white, UV protected, and mechanically fastened to the rear wall.

Two vertical parts, one roadside and one curbside, with an upper horizontal part that overlaps each of the verticals create a natural water shed.

Reinforcements are secured in place behind the pieces with high quality adhesive.

#### **WINDOWS**

##### **Driver's Window (meets FMVSS 205 & 217)**

At the driver's position, one window is provided by the OEM. This window rolls down manually.

##### **Curbside Transition Window (meets FMVSS 205 & 217)**

The curbside transition window is located in front of the entry door. The window's size is 40" high x 13 1/2" at widest point (12" at the bottom). The top 1/3 is angled to fit the contour of the cab. The total square inches of viewing area is 425. It has a tempered safety glass rating of AS-2 with a 31% tint.

##### **Passenger Side Windows – Non-Egress (meets FMVSS 205 & 217)**

The number of windows depends on the model of the bus. The window size is 36" high x 36" wide. It is a "T-slider" ventilation type which is designed for the top 7" to open by sliding towards the rear. The window is maintained in the closed position by mechanical latches. The total square inches of viewing area is 1296. It has a tempered safety glass rating of AS-3 with a 31% tint.

##### **Passenger Side Windows – Egress (meets FMVSS 205 & 217)**

The number of windows will depend on the model of the bus. They are identical to the non-egress in construction, but are designed to be opened in an emergency situation by releasing two clearly marked red release latches located on each side of the window. There will be operating instructions located at and on each egress window.

# ***SENATOR SERIES II STANDARD BUILD SPECS***

## ***2011***

### **Rear Egress Window (meets FMVSS 205 & 217)**

There is one rear egress window. The window is designed to be opened in an emergency situation by releasing two clearly marked red release latches located on each side of the window. There will be operating instructions located at and on each egress window. The window's size is 22" high x 58" wide. The total square inches of viewing area is 1,276. It has a tempered safety glass rating of AS-3 and 31% tint.

### **Window Seals**

The windows are sealed between the body and window frame with ½" ribbed rectangle closed cell rubber seal.

## **ASSEMBLY**

The bus body is assembled in the following manner.

The entry door steel portal frame is welded and bolted to the chassis so this assembly becomes an integral part of the OEM chassis.

The steel floor sub frame assembly is then mounted on the OEM chassis utilizing by bolting to the OEM frame with 12mm x 1.75 class 9.8 bolts and nuts supplied by the chassis manufacturer utilizing the OEM rubber mount suspension system. This allows the body to be mounted the same as the OEM cab which reduces any stress where the two are connected and helps isolate road vibrations from the body.

After the complete steel floor assembly is installed, all steel parts are repainted.

The floor deck is next. A closed-cell rubber seal is applied to the edge of the plywood floors, so when the sidewall is set this seal will close any gap between the floor and sidewall, creating a weather proof passenger compartment.

The front fiberglass cap is secured to the OEM chassis utilizing mechanical fasteners and a butyl rubber seal between the chassis and the flange on the front cap to create a weather proof seal.

The side walls are then installed, securing them to the steel sub frame and portal frame with mechanical fasteners as well as welding.

The rear wall follows and is attached to the rear cross member and the sidewalls, utilizing mechanical fasteners.

The roof is then installed and welded to the front cap, sidewalls and rear wall.

The entry door frame and steps are installed and attached to the portal frame utilizing mechanical fasteners and butyl rubber seal. The double-out doors are then installed to complete the main body structure.

After the body is assembled a liquid sealer is applied to the seams at the floor line and rear wall. This sealing is in addition to sealing the interior after the final trim pieces are applied.

This completes the laminated body structure, having a minimum of body seams, no exposed fasteners, resistant to impact, "body shock" (OEM rubber mounting system), oxidation finish, and non-corrosive. This body structure fully meets FMVSS 220 & 221 requirements.

The remaining components are not an integral part of the body structure, but are designed for weather protection and/or cosmetic components. The rear cap facia is then set over the rear wall and along with the galvanized steel side skirts, rubber wheel well moldings, transition panel and the steel bumper anti ride, installed with mechanical fasteners and sealed with a butyl rubber seal

## ***SENATOR SERIES II STANDARD BUILD SPECS***

### ***2011***

(interior) or an automotive caulk (exterior). In addition, the skirts and wheel well moldings are fastened to the horizontal steel tubes in the sidewalls and the anti ride into the steel sub frame.

After all the above components are installed, an aluminum trim, secured by mechanical fasteners, is placed over the body seams. This trim is covered with a vinyl insert and sealed with an automotive caulk to assure the body is completely weather proof.

## **DOORS**

### **DRIVER'S DOOR**

The driver's door is OEM and has a keyed lock and manual window.

### **PASSENGER ENTRY DOOR**

#### **Entry Door Portal Frame**

The entry door portal frame is a 1 ½" x 1 ½" 14-gauge tubular frame that is welded at the bus sub frame and the chassis cab floor. It is fastened with mechanical fasteners at the curbside "A" pillar. The purpose of this frame is to support the entry doorframe.

#### **Entry Door Step Well Frame**

The step well frame consists of 14-gauge galvaneal steel formed to create a perimeter frame, step well, and the finished opening for the double-out entry doors. The step well is a 3-step entry. This frame is powder coated White.

#### **Double-Out Entry Doors**

The standard entry door is a manually opened double door design with a clear opening of 32" wide x 83" high. The opener is a "pistol grip door closer" with an over-center positive lock A&M Systems, Inc. Aluma-Clear™ Door Specifications:

Full clear span, full view glass

Glass panel is 1/8", AS-2 green tint;

Fully black anodized 6063-T6 aluminum extruded door frame

Extrusion has a minimum wall thickness of .090"

All frame assembly joints use Key-Lok™ design for added joint rigidity

All attaching hardware is zinc plated or stainless steel for corrosion control

Lower pivot point is glass-filled injection molded design

Upper Torque Arm drive is zinc plated and easily replaced if required

Both door panels are identical and can be used in either forward or aft position

Door panels are light weight, typically less than 30 lbs. each

Padding shall be affixed to the top edge of the exit / entrance door opening. Padding shall be at least 3 inches wide and 1 inch thick and shall extend the full width of the door opening.

### **WHEEL CHAIR DOORS (paratransit model)**

The double-out wheel chair door is constructed in the following manner.

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The door leaf consists of an interior frame assembled from 1 3/8" x 3/4" substrate with a 1.85 lb density foam sandwiched between an inner and outer skin of .040 smooth aluminum. These items are laminated together to form a one-piece solid door.

The front leaf utilizes a 3-point dead bolt latch system, while the rear leaf is a 2-point.

Each leaf has an upper 36" high x 14 1/2" wide window. It has a total square inch viewing area of 522 and a tempered safety glass rating of AS-3 with a 31% tint.

There are 3 rubber seals, a 1/4" "D" style, a 1/2" "D" style, and a 1/2" ribbed seal, which complete the assembly for a weather tight fit.

The outer perimeter frame is constructed from extruded aluminum and incorporates the hinges that have .120 steel hinge pins. The hinges are then mechanically fastened to the door leaves.

A header plate, installed at the top of the assembly, allows for two, top mounted, steel check-style, zinc plated hold open devices with 30 lb. springs.

The entire assembly is then inserted into the wheel chair door frame. This frame consists of 14-gauge galvaneal steel, powder coated white, and formed to create a perimeter frame and lift platform support.

## **EXTERIOR FEATURES**

### **FRONT BUMPER**

The chassis manufacturer provides the standard front bumper.

### **REAR BUMPER**

The rear bumper is a 14-gauge formed bumper. It is powder coated black. The bumper is supported by two 3/16" steel formed bumper brackets that are bolted to the steel bumper and then bolted to the chassis frame.

### **EXTERIOR MIRRORS**

There are two Rosco brand exterior mirrors. The mounting brackets include a driver's side wing mount and a passenger side fender mount quad design. The mirrors and mounting brackets will have a black finish with a 2-in-1 mirror head. The upper flat glass measures 6 3/4" wide x 9 3/4" high with the lower convex measuring 6" wide x 3 1/2" high.

### **MUD FLAPS**

There are two mud flaps behind the rear wheels. The mud flaps are constructed of 1/4" black thermoset plastic and are fastened to a steel support that is a part of the steel sub frame.

### **FUEL FILL**



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A fiberglass fuel fill is recessed into the body on the driver's side so the OEM fuel fill pipe and fuel cap does not protrude beyond the body sides.

### **DRIVE SHAFT GUARDS**

A drive shaft guard is installed on each section of the drive shaft. These guards are 1/4" x 2" aluminum. They are welded to the chassis steel sub frame.

### **HEAT SHIELD**

A heat shield is installed over the exhaust pipe and muffler. This shield is constructed from 20 gauge galvalume and fastened to the bottom of the sub frame cross members with mechanical fasteners.

### **UNDERCOATING**

The entire underside of the bus is undercoated with a premium haps free petroleum coating except the areas directly above the chassis exhaust pipe, muffler and tailpipe. (12" from exhaust pipe and 2" from fuel tank) The undercoating meets all MIL specs C-62218A.

### **SKIRTS, WHEEL WELL MOLDINGS, TRANSITION PANEL, & ANTI RIDE**

The side skirts are .024 pre-painted galvanized steel formed with a 90-degree break on the lower edge providing a mounting point for the skirt brackets.

The wheel well moldings are extruded black rubber.

The transition panel is a fiberglass component constructed in the following manner. The exterior is a gelcoated surface at 18 to 22 mil thickness. The total thickness of resin and fiberglass will be coated at a thickness of 140 to 150 mils. The fiberglass content of this layer will be 30 - 32 %.

The anti ride is fabricated from 1/8" aluminum, painted or powder coated black, and mechanically fastened to the rear bumper.

### **INTERIOR FEATURES**

#### **CAB LINER**

The upper cab area consists of a 1" x 2" 14-gauge steel frame welded cage which ties the vehicle cab body to the passenger cab body.

It is then welded to the front leading edge of the roof as well as mechanically fastened to the cab roof perimeter.

Padded vinyl covers, which match the color of the cab area, are installed above the driver in the front portion of the vehicle, around the entry door frame, and above the entry door.

#### **HEADLINER AND WALL COVERING**

The headliner and wall covering panel material is made Filon (chiller glass). It is mechanically fastened to the ceiling and laminated to the interior of the side walls.

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1/4" luan wrapped in vinyl will be used at the roof to sidewall intersection point to provide access to wiring within the roof envelope.

This panel is securely fastened into place by way of extruded aluminum "snap" channels secured into place with mechanical fasteners.

### **HOSE COVERS**

The rear a/c drain hoses are routed between the rear wall and the rear cap fascia.

### **BODY SEAM TRIM**

After all the above components are installed, an aluminum trim, secured by mechanical fasteners, is placed over the body seams. This trim is covered with a vinyl insert.

### **FINISHED FLOOR**

The standard floor covering is black, 1/8" thick, transit type smooth rubber with 3/16" ribbed rubber in the entry way and the aisle. The entry steps have a white step nosing covering the leading edge of the step riser.

### **ROTOCAST TRIM PANELS**

A rotocast trim panel is installed at the floor to sidewall seam. Over the wheel wells, there is a molded piece of the same material, which follows the wheel well contour.

The "B" pillar and curbside transition window also utilize a rotocast panel to cover the unfinished areas of the OEM chassis.

### **ENTRY DOOR TRIM**

The areas surrounding the entry door frame are trimmed with padded vinyl which matches the interior color scheme.

### **STANCHIONS, MODESTY PANELS, & ASSIST HANDRAILS**

There are two 1 1/4" OD stainless steel stanchion poles constructed in the following manner.

Behind the driver's seat, a vertical stanchion will run from floor to ceiling connecting with a horizontal stanchion secured to the wall. All fittings and fasteners are stainless steel. The fasteners are a clad type with no exposed threads.

Behind the entry door, a vertical stanchion will run from floor to ceiling connecting with a horizontal stanchion secured to the wall. In addition, a modesty panel is attached to this assembly. All fittings and fasteners will be stainless steel. The fasteners are clad type with no exposed threads. The modesty panel is constructed from a 3/4" substrate and covered with a gray laminate finish. It is rectangular in shape and covered with a color-coordinated plastic edge around the entire perimeter.

An entry assist hand rail, constructed from the same materials, is attached to the entry door vertical stanchion for safety and to assist entering and exiting the bus.



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### **INTERIOR MIRROR**

A 2 ½" x 9" fully adjustable mirror located in the top center portion of the windshield shall be supplied by the chassis manufacturer. In addition, a 6 1/2" x 9 1/2" convex mirror with a full range adjustment is located above the driver's area, on the interior front cab liner for viewing the passenger area.

### **WALL TRACK**

The Unistrut channel is torx bolted every 6" to a 1" x 2" 14-gauge steel tube that is part of the interior side wall structure.

The seat frames are bolted to the seat channel with two 7/16" grade 8 bolts, threaded into two 1 ¼" x 7/16" hardened channel nuts.

This installation meets FMVSS 207 & 210 requirements.

### **DRIVER'S SEAT**

The driver seat pedestal is mounted in the holes provided by the OEM. The seat is a high back recliner with a right hand arm rest. This seat meets FMVSS 207 & 210 requirements.

### **ELECTRICAL**

#### **WIRING**

All wiring added by the final stage manufacturer meets one of the following standards.

- SAE Specification J1128-SXL high temperature wire (8 to 14-gauge)

- SAE Specification J1128-GXL high temperature wire (8 to 14-gauge)

- SAE Specification J1128-SGX high temperature wire (Battery cable)

In addition to the above specifications, all wiring is color-coded, number and function designated every 12" to enable identification and circuit trace ability.

### **INSTALLATION & SECUREMENT**

All wiring under the body or hood is protected with high temperature (minimum 125 degree) nylon convoluted tubing and is secured by one of the following methods.

- High temperature heavy gauge wire ties.

- Vinyl coated P clamps.

In addition to the above requirements, all wiring is routed no closer than ¾" from any sharp edge or a minimum of 4" away from any heat source.

No wiring will be routed through the wheel well unless protected by a metal shield and convoluted tubing.

A minimum of 1 ½" clearance is maintained between any wiring and the engine to compensate for engine roll.

No wiring will be secured to brake or fuel lines.

# ***SENATOR SERIES II STANDARD BUILD SPECS***

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### **CONNECTORS**

All wiring is connected in the under-body or under-hood areas by weather pack connectors

Where it is not possible to install a sealable insulated electrical connector in these locations, the insulated connector is protected by heat shrink tubing with a glued seal inside.

The remaining wiring located inside the bus is connected by one of the following connectors.

- Standard insulated eyelet.

- Standard insulated butt connector.

- Standard insulated quick disconnect.

- Standard insulated ring connector.

### **GAUGE OF WIRE**

All wiring is sized to carry the electrical load required for length of bus.

### **LIGHTING**

#### **EXTERIOR LIGHTING**

The following lights are installed and meet FMVSS 108 requirements. (Lamps, reflective devices and/or associated equipment)

##### **Identification lamps**

- Three amber rectangular lights centered and recessed in the front cap

- Three red rectangular lights centered and recessed in the rear cap

##### **Clearance lamps**

- Two amber rectangular lights located and recessed at each outer edge of the front cap

- Two red rectangular lights located and recessed at each outer edge of the rear cap

##### **Side Marker Lights**

- Two red rectangular lights located one on each side of the side wall just in front of the rear cap in line with the rear clearance lights

##### **Stop/Tail lamps, Turn signal lamps, and Backup lamps**

- Three 4" round light assemblies located and recessed in each side of the rear cap

##### **License Plate Light**

- One chrome plated license plate light recessed in the rear cap on the driver's side

- (In addition to the light, there will be space provided for the license plate in the recess.)

The chassis manufacturer supplies the headlights, chassis front turn lights, and the hazard flashers. The chassis system is then tied into the bus system by the final stage manufacturer

#### **INTERIOR LIGHTING**

##### **Driver's Courtesy Lights**

A driver's courtesy light is installed just above the driver's left shoulder. Opening the driver's door or turning the headlight switch counter-clockwise activates the light.

# ***SENATOR SERIES II STANDARD BUILD SPECS***

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### **Step Well Entry Lights**

Two step well lights are provided, one on each side of the entry step well. These lights activate when the double-out entry doors are opened.

### **Overhead Courtesy Lights**

Six overhead courtesy lights are installed in the headliner of the bus to provide lighting for safe passenger movement. Turning on the switch in the driver's console or opening the double-out entry door activates the lighting.

### **Dash Instrumentation Lighting**

Dash instrumentation lighting is provided by the chassis manufacturer and activated by the headlight switch.

## **DRIVER'S CONTROL PANEL**

### **MASTER DISTRIBUTION PANEL**

A master distribution panel is installed in a lockable storage compartment located over the driver's door. The function of this panel is to supply all power to the bus except those functions related to the OEM chassis. A #2 cable that is connected to a solenoid that powers this panel. These circuits will be protected by automatic circuit breakers. The solenoid is activated when the ignition is turned on.

In addition to the power supplied by the ignition hot solenoid circuit, there are six circuits in the panel that are battery hot and protected by in-line fuses. These circuits are for the radio and electric door operator options.

# ***SENATOR SERIES II STANDARD BUILD SPECS***

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### **ELECTRONIC SWITCH PANEL CONTROL**

A switch panel is located within easy access of the driver to control all the functions necessary to operate the bus except the OEM chassis functions. Any electrical devices requiring a switch will be provided as needed.

### **MISCELLANEOUS**

#### **EXTERIOR FINISH**

The standard exterior finish is a bright white, which matches the OEM chassis white. Optional paint packages are painted with a Dupont paint.

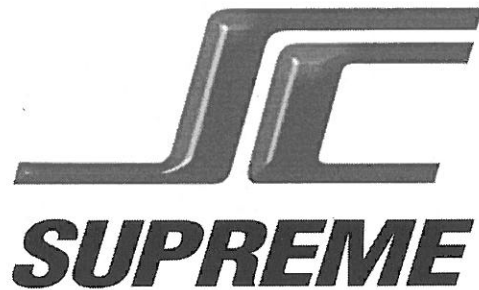
#### **WARRANTY**

The finished product has a general warranty of 12 months/12,000 miles and a structural body warranty of 5 year/75,000 miles.

SENATOR II		21'	22'	25'	26'
BUMPER TO BUMPER LENGTH					
	FORD	154"	271"	296"	316"
	CHEVY	154"	271"	N/A	N/A
USABLE FLOOR LENGTH					
STREETSIDE		208"	232"	265"	
	FORD	146"	163"	190"	209"
	CHEVY	146"	163"	N/A	N/A
CURBSIDE		197"	221"	254"	
32" ENTRY DOORS		134"	153"	177"	189"
37" ENTRY DOORS		129"	148 1/2"	172"	184"
CAB AREA FLOOR TO CEILING HEIGHT		76"	76"	76"	76"
INTERIOR HEIGHT AT CENTER AISLE					
	FORD	82"	82"	82"	82"
	CHEVY	82"	82"	N/A	N/A
FLOOR WIDTH AT FLOOR LINE		93 1/2"	93 1/2"	93 1/2"	93 1/2"
INTERIOR WIDTH AT SEAT LEVEL		93 1/2"	93 1/2"	93 1/2"	93 1/2"
AISLE WIDTH (WITH 2-2 SEATING)		21"	21"	21"	21"
EXTERIOR HEIGHT		116"	116"	116"	116"
EXTERIOR WIDTH (AT WHEEL FLARE)		100"	100"	100"	100"
GROUND TO FIRST STEP		12"	12"	12"	12"
STEP HEIGHT		8"	8"	8"	
STEP RISER		8 1/2"	8 1/2"	8 1/2"	8 1/2"
TREAD DEPTH		9 1/2"	9 1/2"	9 1/2"	9 1/2"
FLOOR HEIGHT FROM GROUND					
FRONT		30 1/2"	30 1/2"	30 1/2"	30 1/2"
REAR		35"	35"	35"	35"
<b>FLAT FLOOR DIMENSIONS</b>					
INTERIOR HEIGHT AT CENTER AISLE		76"	76"	76"	76"
GROUND TO FIRST STEP		12"	12"	12"	12"
STEP RISER		8 1/2"	8 1/2"	8 1/2"	8 1/2"
FLOOR HEIGHT FROM GROUND					
FRONT		30 1/2"	30 1/2"	30 1/2"	30 1/2"
REAR		40"	40"	40"	40"

## **References**

- 1) VDRPT – Neil Sherman (Transit Engineer) (804) 786-1154**
- 2) VRTA – Mark McGreger (President/CEO) (877) 777-2708**
- 3) RADAR – Curtis Andrews (President/CEO) (540) 343-1721**
- 4) City of Danville – Mark Adleman (Transit Manager) (434) 799-5110**
- 5) Radford Transit – Josh Baker (Transit Manager) (540) 961-8363**



## Supreme Bus References

### Southeast Tennessee Human Resource Agency

Contact: Mary Cookston 423.949.2191

312 Resource Road

Dunlap, TN 37327-0909

[mcookston@sethra.us](mailto:mcookston@sethra.us)

### Upper Cumberland Human Resource Agency

Riley Sparks 931.528.1127

3111 Enterprise Drive

Cookeville, TN 38501

[ucartsup@yahoo.com](mailto:ucartsup@yahoo.com)

### Southwest Human Resource Agency

Diana Turner 731.989.5111

PO Box 264

1527 White Ave.

Henderson, TN 38340-0264

[dturner@swhra.org](mailto:dturner@swhra.org)

### New Jersey Transit

Irene Felcon 973.491.7354

One Penn Plaza East

Newark, NJ 07105

[ifelcon@njtransit.com](mailto:ifelcon@njtransit.com)

**STARTRANS WEIGHT ANALYSIS WORKSHEET** S2 22' E450 12P 2WC RL (6.8G).xls

TECHNICIAN: Rich Durecki				DATE: 3/10/2014						
UNIT NUMBER: <b>22' 12+2 RL 6.8G</b>						FUEL LOAD ADJ. DATA (F.L.A.)				
VEHICLE DESCRIPTION				FRONT AXLE		REAR AXLE		FUEL CAP.		FUEL WGT PER GAL.
T:\Drawings\FP BASIC--2006\S2 22' E450 12P 2WC RL (6.8G).xls]CALC PAGE				3588		5908		55		6
WB		PER IN. VALUE CALC.		AXLE WEIGHTS		FUEL AMT.		WGT OF FUEL		FUEL ADJ. AMT.
158		0.63		LEFT FRONT RIGHT FRONT		1.00		330		-330.00
AXLE CAPACITIES				1794		1794		FUEL TANK CENTER		
FRONT		REAR		TOTAL		LEFT REAR RIGHT REAR		208		
5000		9600		14500		2954		2954		
STREETSIDE						CURBSIDE				
DESC.	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR
DRIVER	48.5	60	30.70%	41.58	18.42	103	52	65.19%	18.10	33.90
2P	93	52	58.86%	21.39	30.61	133	52	84.18%	8.23	43.77
2P	125	52	79.11%	10.86	41.14	163	52	103.16%	-1.65	53.65
2P	157	52	99.37%	0.33	51.67			0.00%	0.00	0.00
W/C			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
			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
			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				74.16	141.84				24.68	131.32
AXLE WEIGHTS				1794.00	2954.00				1794.00	2954.00
REFERENCE UNIT INFORMATION										
LIFT INCLUDED IN BASE WEIGHT										
				FRONT	REAR	LEFT/RIGHT TOTALS	LEFT/RIGHT %S			
LEFT				1868.16	3095.84	4964.00	0.503			
RIGHT				1818.68	3085.32	4904.00	0.497			
FRT / REAR TOTALS				3686.85	6181.15	9868.00				
AXLE CAPACITIES				5000	9600	14500				
AVAILABLE CAPACITIES				1313.15	3418.85	4632.00				
				FRONT	REAR	TOTAL OK				
				AXLE OK	AXLE OK					



# STARTRANS WEIGHT ANALYSIS WORKSHEET<sup>SM-E05SW.xls</sup>

TECHNICIAN: Rich Durecki				DATE: 3/10/2014							
UNIT NUMBER: <b>SM-E05SW</b>						FUEL LOAD ADJ. DATA (F.L.A.)					
VEHICLE DESCRIPTION				FRONT AXLE		REAR AXLE		FUEL CAP.		FUEL WGT PER GAL.	
T:\Drawings\Quote\2014\Sonny Merryman\[SM-E05SW.xls]CALC PAGE				3879		6073		55		6	
WB		PER IN. VALUE CALC.		AXLE WEIGHTS		FUEL AMT.		WGT OF FUEL		FUEL ADJ. AMT.	
176		0.57		LEFT FRONT RIGHT FRONT		1.00		330		-330.00	
AXLE CAPACITIES				1939.5		1939.5		FUEL TANK CENTER			
FRONT		REAR		TOTAL		LEFT REAR RIGHT REAR		214			
5000		9600		14500		3036.5		3036.5			
<b>STREETSIDE</b>						<b>CURBSIDE</b>					
DESC.	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	DISTANCE (IN.)	WEIGHT (LBS.)	% REAR AXLE	FRONT	REAR	
DRIVER	48.5	60	27.56%	43.47	16.53	171	52	97.16%	1.48	50.52	
W/C	100		56.82%	0.00	0.00	207	52	117.61%	-9.16	61.16	
2P FAW	157	52	89.20%	5.61	46.39	243	52	138.07%	-19.80	71.80	
2P FAW	195	52	110.80%	-5.61	57.61			0.00%	0.00	0.00	
2P	243	52	138.07%	-19.80	71.80			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			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			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				23.67	192.33				-27.48	183.48	
AXLE WEIGHTS				1939.50	3036.50				1939.50	3036.50	
REFERENCE UNIT INFORMATION											
LIFT INCLUDED IN BASE WEIGHT											
				FRONT	REAR	LEFT/RIGHT TOTALS	LEFT/RIGHT %'S				
LEFT				1963.17	3228.83	5192.00	0.503				
RIGHT				1912.02	3219.98	5132.00	0.497				
FRT / REAR TOTALS				3875.19	6448.81	10324.00					
AXLE CAPACITIES				5000	9600	14500					
AVAILABLE CAPACITIES				1124.81	3151.19	4176.00					
				FRONT	REAR	TOTAL OK					
				AXLE OK	AXLE OK						

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## Small, Women and Minority (SWaM) Vendors Search

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Search by company name = merryman

The following result(s) sorted by company name.

Total 1 search result(s)

SWaM Type	SWaM Cert#	Expiration Date	Company Name/Mailing Address	Pcard	Description of Services
S	9485	10-01-2016	SONNY MERRYMAN, INC Doing Business As: P O BOX 495 RUSTBURG, VA 24588 Contact: FLOYD MERRYMAN Phone: (434)821-1200 Fax: (434)821-8203	N	NIGP Code and Description SALES AND SERVICE

## Note

- MS or WS in the SWaM Type column indicates the business also has small business certification.
- Before printing, ensure that your browser print setup is set to landscape.

Expiration date with \* indicates that business is pending for recertification.

Expiration date with \*\* indicates that business currently has 'Provisionally Approved' status. The Department of Minority Business Enterprise (DMBE) must receive all required supporting documents 15 days prior to the expiration date to allow processing or the certification will automatically expire.


Company name with \*\*\* indicates that business is a "Service Disabled Veteran owned" business.

1-1 of 1

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Virginia Department of Minority Business Enterprise  
1111 East Main Street, Suite 300 Richmond, VA 23219  
Phone: (804) 786-6585  
WAI Level A Compliant

Web Policy | Contact US

Word Viewer (.doc) | Adobe Acrobat Reader (.pdf) | Excel Viewer (.xls) | PowerPoint Viewer (.ppt) | WinZip (.zip)

	SYSTEM FORM	
	Noise Control Verification	
REVISION: A	Form: FQC 034	DATE EFFECTIVE: 01/06/2014

BODY #	
VIN#	

This form confirms that exterior noise produced by the vehicle does not exceed (86) dba inside the unit. Verification is done using a max hold sound level meter. Supreme's standard Noise Control Testing (NCT) is a stagnate verification and is not meant to give evidence of road or pass-by noise levels.

**Setup:**

E brake on, transmission in neutral, engine at maximum rated RPM

**Testing:**

Take readings 4' from the floor in the following areas:

Cab: Driver area  dba


Mid: Center area  dba

Rear: 2' from rear wall  dba

Noise Control Testing By

Date

--

	SYSTEM FORM	
	Water Test Verification Certificate	
REVISION: 03	Form: FQC 005	DATE EFFECTIVE: 12/3/2012

CUSTOMER	
BODY #	
VIN#	
TEST DATE	

This certificate verify's this vehicle has passed Supreme standard water testing. Supreme standard water testing practices consist of continuous leak free test. These tests are performed at the Supreme Corporation water testing facility by trained and qualified Quality Assurance water test personnel.

TEST TIME PERFORMED    10MINS. ☐    15MINS. ☐  
 (CHECK APPROPRIATE TIME)

Water Test Verification Performed By:
---------------------------------------

Note: Supreme water testing verification ensures that all vehicles being released to Supreme customers have been tested and that test verified leak free. Any modifications to the Supreme bus body either intentional or unintentional once a vehicle has been released by Supreme may have adverse effects on these test results. Supreme water test verification only applies to body structure added by Supreme or OEM modifications made by Supreme.

Note: OEM cab chassis and windows will be tested and verified prior to vehicle release but Supreme assumes no liability for OEM chassis water defects.



## Water Test

DATE: \_\_\_\_\_

UNIT NUMBER: \_\_\_\_\_

TEST BY: \_\_\_\_\_

TEST TRIPS: \_\_\_\_\_ TOTAL: \_\_\_\_\_

SHIP DATE: \_\_\_\_\_

KEY CODE		1. Roadside Window		3. Trans Area		5. Drivers Radius		7. W/C doors		9. Roof Hatch		11. Clearance Lights.	
		2. Curbside Window		4. Fuel Fill		6. Rear of entry door		8. W/C shrouds				10. Rear Window	
		12. Rear Door		13. Other		14. W/C Drip Rail		15. Kick Panel				16. Destination Sign	
		17. Ground Plane		18. Windshield Area									
CODE	LEAK DESCRIPTION	INT.	MIN.	1 <sup>ST</sup> REPAIR		INT.	MIN.	2 <sup>ND</sup> REPAIR					



## Operation Instruction

# Vehicle Quality Audit

Revision: 03	Prepared By: Lorraine Schultz	Date Created: 8/3/2009
OI #: 035	Process Owner: Supreme Bus Quality Manager	Effective Date: 9/10/2013

- 2.10 Picturing the Vehicle: Follow the picture check list contained in the traveler to ensure all required images are captured. All special options installed on the vehicle should be captured during the picture process. Pictures will be uploaded to the Doc View system once vehicle has been released for shipping. These pictures will be utilized by customer service and maintained as an, as built visual work record of the vehicle. If items are repaired or replaced that alter the pictured record, those pictures will need to be re-taken prior to the vehicles release.

### 3. Road Test Audit

- 3.1 Fuel System: Verify the fuel intake system by fueling the unit with 5 gallons of fuel. If the order indicates more fuel is to be added do so at this time. Be aware of the way the unit accepts the fuel and check the ground beneath the fuel fill for any signs of leakage.

- 3.2 Vehicle Weight: Weigh the vehicle and compare the weight of unit to the weight analysis paper which is found in the order prior to the travelers. The "go no go" criteria for vehicle weight will be located on the weight analysis sheet. If the vehicle exceeds the weight on the weight analysis sheet note it on the "Stop Ship" form. Vehicles that exceed the weight analysis sheet weight by more than 3% require senior management approval prior to release.

- 3.3 Leak Test: Leak testing the vehicle: consists of 15 minutes under a continues flow of water to simulate a steady rain. Special attention should be made to the window and door areas of the vehicle to ensure there is no water penetration in these areas. Water may on occasion enter the vehicle through structural voids as well example: marker lights, RVL body seams, transition body to cab structures etc. Structural leaks may not immediately be apparent while the test is being performed and may only surface once the vehicle is driven. For this reason the leak test should be performed prior to the road test. Record any leaks on the coded water test sheet and return the unit to the appropriate department for repair. All leak repairs must be verified by performing a verification leak test. It is un- acceptable to release any vehicle that has not been verified LEAK FREE.

- 3.4 Road testing the vehicle: Verify all road test criteria have been met by following the check list included in the road test portion of the traveler. Examples of verifications made during the road test include. Windshield wipers, horn, rear heaters (High & Low), rear evap. ( High,Med.&Low),dash A/C and heat,Towhaul/overdrive, Cruise control, Heated and remote mirrors, PA/radio's. Chassis performance should also be observed and verified during the road test. Alignment, brakes, steering, dash gauges, vibrations, abnormal noises etc. Note: Always check the following prior to entering public roads during a road test.

- 3.4.1. Check all exterior lighting for operation.
- 3.4.2. Verify mirrors have been adjusted properly.
- 3.4.3. Verify proper license plate and DOT tags on the unit.
- 3.4.4. Fasten your seatbelt.

- 3.5 After the road test is complete sign the travelers in the appropriate location for verification. If defects were noted during the road tests list them on the stop ship and return to the appropriate department for repairs.

**PRELIMINARY**  
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03/05/13

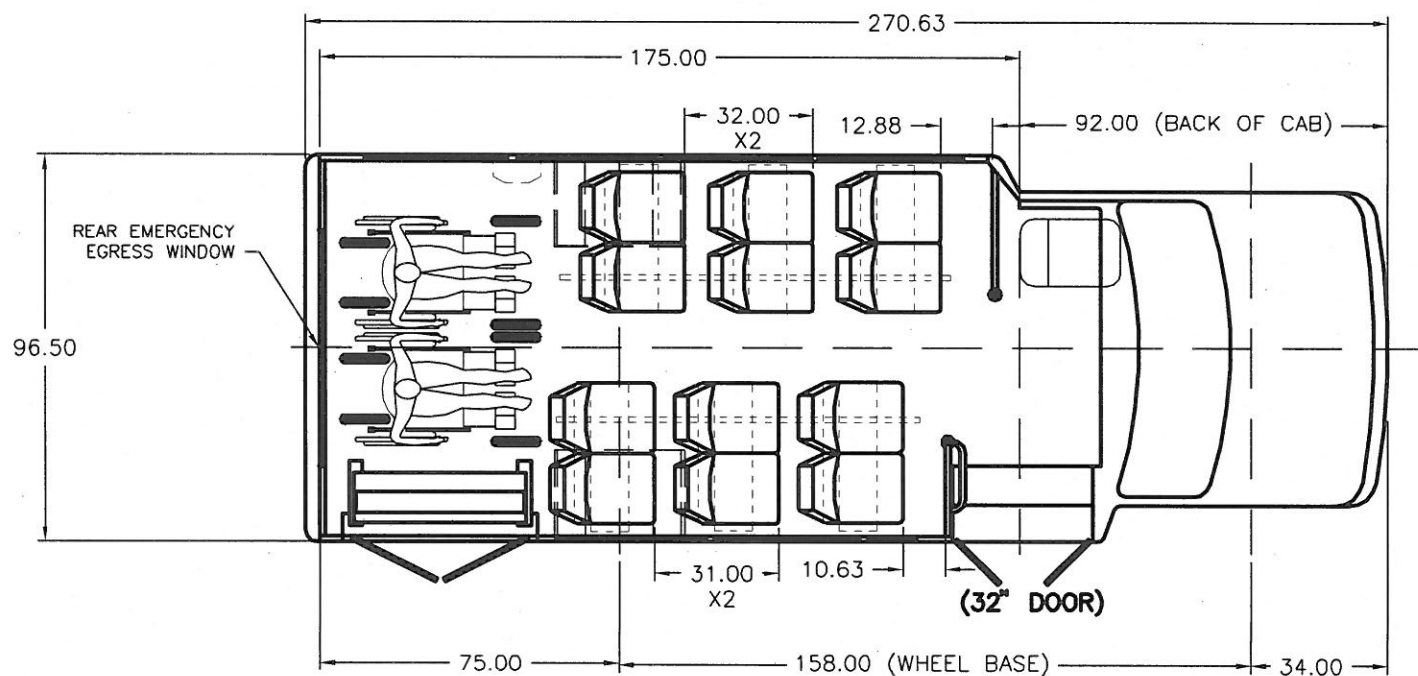
**REVISED**  
03/05/13

REV.	ECN	ECN	DESCRIPTION	DATE	BY
A			UPDATE PRINT TO NEW TITLE BLOCK	3-5-13	R.D.

**CUSTOMER APPROVAL**

APPROVED BY: \_\_\_\_\_

APPROVED DATE: \_\_\_\_\_



**FEATURES:**

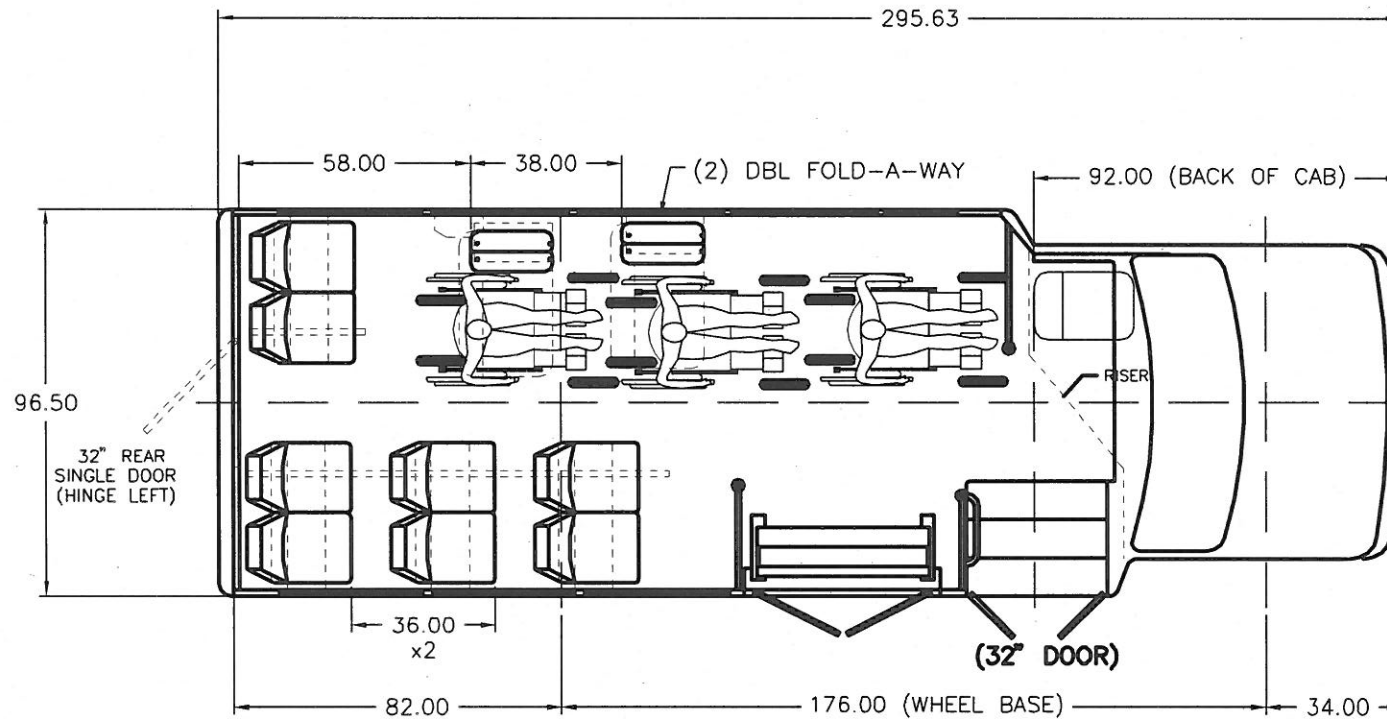
- 36"x36" TOP T-SLIDER WINDOWS (12" FILLER)
- L-TRACK (FLANGED) OTHERS AVAILABLE
- 28.00 HIP TO KNEE AS SHOWN

**RAISED FLOOR**

STANDARD TOLERANCE UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		<b>JS</b> <b>SUPREME</b>		CUSTOMER:	
ASSY DIMS ± 0.13"	APPROVED	TH	5/22/06	TITLE:	FLOOR PLAN, 12 PASSENGERS 2 WIC, REAR LIFT
XX ± 0.1"	WEIGHT			SERIES:	SENATOR II
XXX ± 0.06"	FINISH			SIZE:	B
XXX ± 0.063"	MATERIAL			FILE LOC:	t:\drawings\fp basic-2006
ANGULAR ± 1.0°				SCALE:	1:30
INTERPRET GEOMETRIC TOLERANCES				DWG#:	s2 22' e450 12p 2wc rl
				REVECO:	A
				PART NO.	QUOTE

**PRELIMINARY**  
**NON-PRODUCTION PRINT**  
**FOR R&D USE ONLY**  
02/26/14

**CUSTOMER APPROVAL**  
APPROVED BY: \_\_\_\_\_  
APPROVED DATE: \_\_\_\_\_



**FEATURES:**

- 36"x36" TOP T-SLIDER WINDOWS (18" FILLER)
- L-TRACK (FLANGED) OTHERS AVAILABLE
- 33.00 HIP TO KNEE AS SHOWN

**RAISED FLOOR**

STANDARD TOLERANCE UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		<b>JS SUPREME</b>		CUSTOMER: SONNY MERRYMAN	
ASS'Y DIMS ± 0.13"	DRAWN RD 2/26/14	APPROVED	—	TITLE: FLOOR PLAN, 8 & 4 PASSENGERS 3 W/C, FRONT LIFT 24' (175/200)	MODEL: E-450 6.8G (14,500)
XX ± 0.1"	—	WEIGHT	—	SERIES: SENATOR II-RAISED FLOOR	FILE LOC: t:\drawings\quote\2014\sonny merryman
XXX ± 0.06"	—	FINISH	—	SIZE: B	SCALE: 1:30
XXX ± 0.063"	—	MATERIAL	—	DWG#: sm-605	REVIEGO: PART NO. QUOTE
ANGULAR ± 1.0°	—		—		



**PARTIAL**  
**STURAA TEST**  
**7 YEAR**  
**200,000 MILE BUS**  
**from**  
**SUPREME CORPORATION**  
**MODEL SENATOR S II**

**MARCH 2005**

**PTI-BT-R0502**

**PENNSTATE**



**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 Rt. 220 N. (814) 695-3404  
Duncansville, PA 16835



U.S. Department  
of Transportation  
Federal Transit  
Administration

400 Seventh St., S.W.  
Washington, D.C. 20590

February 5, 2004

Samuel K. Craig  
Vice President of Sales and Marketing  
Startrans Bus Division  
Supreme Corporation  
16500 CR 38  
P.O. Box 463  
Goshen, IN 46528

Dear Mr. Craig:

This is in response to your letter dated April 10, 2003, in which you requested assistance from the Federal Transit Administration (FTA) concerning the applicability of the Bus Testing Regulation (49 CFR Part 665) to the Senator II bus model manufactured by the Startrans Bus Division of Supreme Corporation. Your letter states that:

- Startrans has tested its Senator bus model on a Ford E450 chassis in the 7-year, 200,000-mile service life category (Report No. 2013-12-00).
- Startrans is proposing to build a new unit to be called the Senator II, which will be built on the Ford E350 and E450 chassis.
- The principal difference between the Senator and the Senator II is that the Senator has a fiberglass body and the Senator II has a steel body.
- Supreme Corporation believes that [the Senator] is very similar [to the Senator II] in dimensional layout, and the weight distribution and center of gravity of the Senator II are expected to be "better" based on your analysis.

You have asked FTA to determine what additional tests will be required for the Senator II.

FTA has reviewed your request and accompanying documentation and has determined that **partial testing** will be required for the Senator II, specifically, the **structural durability** and **reliability** tests. This determination is based on the following conclusions drawn from the (incomplete) information submitted by Supreme Corporation or contained in our files:

- Startrans tested its Senator bus model on a Ford E450 chassis in the 7-year, 200,000-mile service life category (Report No. 2013-12-00). Therefore the Senator bus model is eligible for partial testing procedures.

- The body of the tested Senator model bus consisted of a framework of steel tubing sheathed in fiberglass panels, with the fiberglass panels attached to the tubes using automotive-grade double-sided tape.
- The body of the proposed Senator II model bus would consist of a framework of steel tubing sheathed in steel panels, with the steel panels fastened to the tubes with rivets.
- Startrans stated that its second-unit body is designed to withstand all structural requirements without the exterior skin, and that the exterior skin is not a structural member.
- FTA's technical support consultant, Booz-Allen & Hamilton, made several attempts to obtain structural drawings of the buses to evaluate whether Startrans made major changes to the structure to accomplish the change from fiberglass skin to steel skin. To date, we have not received any drawings depicting the structural changes involved in the change from fiberglass skin to steel skin. Without these drawings, we are not able to evaluate whether major structural changes were necessary to accommodate the change to the steel skin, nor are we able to say definitively that we would not expect to obtain significantly different data from repeating the specified tests. In order to resolve this open matter, we have made a determination based on the information that Startrans has made available to us.

Should you make any other changes to the vehicle, additional testing may be required. In addition, if Startrans provides the requested information, we would be willing to re-evaluate this determination. If you require any further assistance with this or other matters concerning bus testing, please feel free to contact me at the address above, or by e-mail ([marcel.belanger@fta.dot.gov](mailto:marcel.belanger@fta.dot.gov)), fax (202-366-3765), or telephone (202-366-0725).

Sincerely,



Marcel Belanger  
Bus Testing Program Manager  
Office of Technology, TRI-20

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## **EXECUTIVE SUMMARY**

Supreme Corporation submitted a model Senator SII, diesel-powered 17 seat (including the driver) 24-foot bus, for a partial STURAA test in the 7 yr/200,000 mile category. The Federal Transit Administration determined that the following tests would be performed: 2. Reliability and 5.7 Structural Durability Test. Testing started on January 7, 2005 and was completed on March 4, 2005. The Check-In section of the report provides a description of the bus and specifies its major components.

The partial test which involved the Structural Durability Test also provides the information for the Reliability results. The Structural Durability Test was started on January 13, 2005 and was completed on March 3, 2005.

The interior of the bus is configured with seating for 17 passengers including the driver and two wheelchair positions. Free floor space will accommodate 11 standing passengers resulting in a potential capacity of 28 persons and two wheelchair positions. At 150 lbs per person and 600 lbs per wheelchair position, this load results in a measured gross vehicle weight of 15,560 lbs. In order to avoid exceeding the GAWR (9,450 lbs) of the rear axle, ballast for eight standing passengers and one wheelchair position was eliminated. This reduction from full capacity resulted in an adjusted measured gross vehicle weight of 13,840 lbs and was used for all dynamic testing. The SLW segment was performed at 13,440 lbs. Note: one wheelchair position was eliminated in order to avoid exceeding the GAWR (9,450 lbs) of the rear axle, and the final segment was performed at a CW of 10,250 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.

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 four reported failures, one was a Class 3 and three were Class 4.

## ABBREVIATIONS

ABTC	- Altoona Bus Test Center
A/C	- air conditioner
ADB	- advance design bus
ATA-MC	- The Maintenance Council of the American Trucking Association
CBD	- central business district
CW	- curb weight (bus weight including maximum fuel, oil, and coolant; but without passengers or driver)
dB(A)	- decibels with reference to 0.0002 microbar as measured on the "A" scale
DIR	- test director
DR	- bus driver
EPA	- Environmental Protection Agency
FSS	- free floor space (floor area available to standees, excluding ingress/egress areas, area under seats, area occupied by feet of seated passengers, and the vestibule area)
GVL	- gross vehicle load (150 lb for every designed passenger seating position, for the driver, and for each 1.5 sq ft of free floor space)
GVW	- gross vehicle weight (curb weight plus gross vehicle load)
GVWR	- gross vehicle weight rating
MECH	- bus mechanic
mpg	- miles per gallon
mph	- miles per hour
PM	- Preventive maintenance
PSBRTF	- Penn State Bus Research and Testing Facility
PTI	- Pennsylvania Transportation Institute
rpm	- revolutions per minute
SAE	- Society of Automotive Engineers
SCH	- test scheduler
SEC	- secretary
SLW	- seated load weight (curb weight plus 150 lb for every designed passenger seating position and for the driver)
STURAA	- Surface Transportation and Uniform Relocation Assistance Act
TD	- test driver
TECH	- test technician
TM	- track manager
TP	- test personnel

# TEST BUS CHECK-IN

## I. OBJECTIVE

The objective of this task is to log in the test bus, assign a bus number, complete the vehicle data form, and perform a safety check.

## II. TEST DESCRIPTION

The test consists of assigning a bus test number to the bus, cleaning the bus, completing the vehicle data form, obtaining any special information and tools from the manufacturer, determining a testing schedule, performing an initial safety check, and performing the manufacturer's recommended preventive maintenance. The bus manufacturer must certify that the bus meets all Federal regulations.

## III. DISCUSSION

The check-in procedure is used to identify in detail the major components and configuration of the bus.

The test bus consists of a Supreme Corporation, model Senator SII. The test bus is built on a Ford E-450 Super Duty chassis. The bus has an OEM driver's and passenger door rear of the front axle and a passenger door just aft of the cab passenger door equipped with a Braun Model L917FIB hydraulic platform handicap lift. Power is provided by a diesel-fueled, Ford Motor Co. model 6.0 L Power Stroke engine coupled to a Ford Motor Co. model 4R100 transmission.

The measured curb weight is 3,960 lbs for the front axle and 6,290 lbs for the rear axle. These combined weights provide a total measured curb weight of 10,250 lbs. There are 17 seats including the driver, two wheelchair positions and room for 11 standing passengers bringing the total passenger capacity to 28 and 2 wheelchairs. Gross load is  $150 \text{ lb} \times 28 = 4,200 \text{ lbs} = 1,200 \text{ lbs} (2 \text{ wheelchairs}) = 5,400 \text{ lbs}$ . At full capacity, the measured gross vehicle weight is 15,660 lbs. In order to avoid exceeding the GAWR (9,450 lbs) of the rear axle, ballast for eight standing passengers and one wheelchair position was eliminated. This reduction from full capacity resulted in an adjusted measured gross vehicle weight of 13,840 lbs and was used for all dynamic testing.

## VEHICLE DATA FORM

Bus Number: 0502	Arrival Date: 1-7-05
Bus Manufacturer: Supreme Corporation	Vehicle Identification Number (VIN): 1FDXE45P44HA74490
Model Number: Senator S II	Date: 1-7-05
Personnel: S.C., T.S. & M.H.	

**WEIGHT:** Values in parenthesis indicate the adjusted weights necessary to avoid exceeding the GAWR. These values were used for all dynamic testing.

**Individual Wheel Reactions:**

Weights (lb)	Front Axle		Middle Axle		Rear Axle	
	Right	Left	Right	Left	Right	Left
CW	2,020	1,940	N/A	N/A	3,410	2,880
SLW	2,150 (2,130)	2,250 (2,200)	N/A	N/A	5,050 (4,280)	4,650 (4,830)
GVW	2,140 (2,120)	2,310 (2,450)	N/A	N/A	5,790 (4,810)	5,320 (4,460)

**Total Weight Details:**

Weight (lb)	CW	SLW	GVW	GAWR
Front Axle	3,960	4,400 (4,570)	4,450 (4,570)	4,600
Middle Axle	N/A	N/A	N/A	N/A
Rear Axle	6,290	9,700 (9,110)	11,110 (9,270)	9,450
Total	10,250	14,100 (13,440)	15,560 (13,840)	GVWR: 14,050

**Dimensions:**

Length (ft/in)	24 / 2.5
Width (in)	98.0
Height (in)	114.0
Front Overhang (in)	29.5
Rear Overhang (in)	85.0
Wheel Base (in)	176.0
Wheel Track (in)	Front: 68.4
	Rear: 77.5



Bus Number: 0502	Date: 1-7-05
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**CLEARANCES:**

Lowest Point Outside Front Axle	Location: Steering stabilizer	Clearance(in): 11.1
Lowest Point Outside Rear Axle	Location: Exhaust pipe	Clearance(in): 14.2
Lowest Point between Axles	Location: Body @ step well	Clearance(in): 9.0
Ground Clearance at the center (in)	11.0	
Front Approach Angle (deg)	25.5	
Rear Approach Angle (deg)	10.5	
Ramp Clearance Angle (deg)	7.9	
Aisle Width (in)	19.5	
Inside Standing Height at Center Aisle (in)	81.3	

**BODY DETAILS:**

Body Structural Type	Integral		
Frame Material	Steel		
Body Material	Steel & fiberglass		
Floor Material	Plywood		
Roof Material	Fiberglass / composite		
Windows Type	<input type="checkbox"/> Fixed	<input checked="" type="checkbox"/> Movable	
Window Mfg./Model No.	HEHR / AS3 DOT 269		
Number of Doors	1 Front	1 Rear	
Mfr. / Model No.	Supreme Corp. / NA		
Dimension of Each Door (in)	Front- 31.8 x 83.0 Driver-31.8 x 54.4	Handicap - 47.1 x 70.4 Emergency - 32.1 x 57.9	
Passenger Seat Type	<input type="checkbox"/> Cantilever	<input checked="" type="checkbox"/> Pedestal	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	Freedman Seating Corp. / Featherweight Mid-Hi		
Driver Seat Type	<input type="checkbox"/> Air	<input type="checkbox"/> Spring	<input checked="" type="checkbox"/> Other (explain)
Mfr. / Model No.	Ford Motor Co. / OEM		
Number of Seats (including Driver)	17 + 2 wheelchair positions		

Bus Number: 0502	Date: 1-7-05
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**BODY DETAILS (Contd..)**

Free Floor Space ( ft <sup>2</sup> )	16.8				
Height of Each Step at Normal Position (in)	Front	1. 10.3	2. 8.4	3. 8.6	4. N/A
	Middle	1. N/A	2. N/A	3. N/A	4. N/A
	Rear	1. N/A	2. N/A	3. N/A	4. N/A
Step Elevation Change - Kneeling (in)	N/A				

**ENGINE**

Type	<input checked="" type="checkbox"/> C.I.	<input type="checkbox"/> Alternate Fuel	
	<input type="checkbox"/> S.I.	<input type="checkbox"/> Other (explain)	
Mfr. / Model No.	Ford Motor Co. / 6.0 L Power Stroke		
Location	<input checked="" type="checkbox"/> Front	<input type="checkbox"/> Rear	<input type="checkbox"/> Other (explain)
Fuel Type	<input type="checkbox"/> Gasoline	<input type="checkbox"/> CNG	<input type="checkbox"/> Methanol
	<input checked="" type="checkbox"/> Diesel	<input type="checkbox"/> LNG	<input type="checkbox"/> Other (explain)
Fuel Tank Capacity (indicate units)	55 gals		
Fuel Induction Type	<input checked="" type="checkbox"/> Injected	<input type="checkbox"/> Carburetion	
Fuel Injector Mfr. / Model No.	Ford Motor Co. / 6.0 L Power Stroke		
Carburetor Mfr. / Model No.	N/A		
Fuel Pump Mfr. / Model No.	Ford Motor Co. / 6.0 L Power Stroke		
Alternator (Generator) Mfr. / Model No.	Ford/Motorcraft / 3GLF		
Maximum Rated Output (Volts / Amps)	12 / 130		
Air Compressor Mfr. / Model No.	N/A		
Maximum Capacity (ft <sup>3</sup> / min)	N/A		
Starter Type	<input checked="" type="checkbox"/> Electrical	<input type="checkbox"/> Pneumatic	<input type="checkbox"/> Other (explain)
Starter Mfr. / Model No.	Visteon / 484720		

Bus Number: 0502	Date: 1-7-05
------------------	--------------

#### TRANSMISSION

Transmission Type	<input type="checkbox"/> Manual	<input checked="" type="checkbox"/> Automatic	
Mfr. / Model No.	Ford Motor Co. / 4R100		
Control Type	<input checked="" type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Other
Torque Converter Mfr. / Model No.	Ford Motor Co. / 4R100		
Integral Retarder Mfr. / Model No.	N/A		

#### SUSPENSION

Number of Axles	2		
Front Axle Type	<input checked="" type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle	
Mfr. / Model No.	Ford Motor Co. / Twin I-Beam		
Axle Ratio (if driven)	N/A		
Suspension Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other
No. of Shock Absorbers	2		
Mfr. / Model No.	Motorcraft / 1C24-18045-AA		
Middle Axle Type	<input type="checkbox"/> Independent	<input type="checkbox"/> Beam Axle	
Mfr. / Model No.	N/A		
Axle Ratio (if driven)	N/A		
Suspension Type	<input type="checkbox"/> Air	<input type="checkbox"/> Spring	<input type="checkbox"/> Other
No. of Shock Absorbers	N/A		
Mfr. / Model No.	N/A		
Rear Axle Type	<input type="checkbox"/> Independent	<input checked="" type="checkbox"/> Beam Axle	
Mfr. / Model No.	Dana Corp. / 10.75 HD		
Axle Ratio (if driven)	4.10		
Suspension Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Spring	<input type="checkbox"/> Other
No. of Shock Absorbers	2		
Mfr. / Model No.	Motorcraft / XC25-18080-EA		

Bus Number: 0502	Date: 1-7-05
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#### WHEELS & TIRES

Front	Wheel Mfr./ Model No.	Accuride / 16 x 6
	Tire Mfr./ Model No.	Michelin / LTX LT225/75R 16
Rear	Wheel Mfr./ Model No.	Accuride / 16 x 6
	Tire Mfr./ Model No.	Michelin / LTX LT225/75R 16

#### BRAKES

Front Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	Ford Motor Co. / 13.03		
Middle Axle Brakes Type	<input type="checkbox"/> Cam	<input type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	N/A		
Rear Axle Brakes Type	<input type="checkbox"/> Cam	<input checked="" type="checkbox"/> Disc	<input type="checkbox"/> Other (explain)
Mfr. / Model No.	Ford Motor Co. / 12.9		
Retarder Type	N/A		
Mfr. / Model No.	N/A		

#### HVAC

HVAC

Heating System Type	<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Water	<input type="checkbox"/> Other
Capacity (Btu/hr)	18,000 - 65,000		
Mfr. / Model No.	Ford OEM 7 Pro-Air / 18,000 OEM & 65,000		
Air Conditioner	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Location	Dash & rear ceiling		
Capacity (Btu/hr)	18,000 & 68,000		
A/C Compressor Mfr. / Model No.	Seltac / TM16		

#### STEERING

Steering Gear Box Type	Hydraulic gear
Mfr. / Model No.	Power Ford / XR-50 HD
Steering Wheel Diameter	15.5
Number of turns (lock to lock)	4.0

Bus Number: 0502	Date: 1-7-05
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#### OTHERS

Wheel Chair Ramps	Location: N/A	Type: N/A
Wheel Chair Lifts	Location: Right rear	Type: Hydraulic platform
Mfr. / Model No.	Braun Corp. / L917FIB	
Emergency Exit	Location: Windows Doors	Number: 3 2

#### CAPACITIES

Fuel Tank Capacity (units)	55 gals
Engine Crankcase Capacity (gallons)	3.75
Transmission Capacity (gallons)	2.375
Differential Capacity (pints)	8.25
Cooling System Capacity (quarts)	6.9
Power Steering Fluid Capacity (gallons)	Not available

• •

**COMPONENT/SUBSYSTEM INSPECTION FORM**

Bus Number: 0502	Date: 1-7-05
------------------	--------------

Subsystem	Checked	Comments
Air Conditioning Heating and Ventilation	✓	
Body and Sheet Metal	✓	
Frame	✓	
Steering	✓	
Suspension	✓	
Interior/Seating	✓	
Axles	✓	
Brakes	✓	
Tires/Wheels	✓	
Exhaust	✓	
Fuel System	✓	Diesel
Power Plant	✓	
Accessories	✓	
Lift System	✓	
Interior Fasteners	✓	
Batteries	✓	

## CHECK - IN



## SUPREME CORPORATION'S MODEL SENATOR SII





## **2. RELIABILITY - DOCUMENTATION OF BREAKDOWN AND REPAIR TIMES DURING TESTING**

### **2-I. TEST OBJECTIVE**

The objective of this test is to document unscheduled breakdowns, repairs, down time, and repair time that occur during testing.

### **2-II. TEST DESCRIPTION**

Using the driver log and unscheduled work order forms, all significant breakdowns, repairs, man-hours to repair, and hours out of service are recorded on the Reliability Data Form.

### **CLASS OF FAILURES**

Classes of failures are described below:

- (a) **Class 1: Physical Safety.** A failure that could lead directly to passenger or driver injury and represents a severe crash situation.
- (b) **Class 2: Road Call.** A failure resulting in an en route interruption of revenue service. Service is discontinued until the bus is replaced or repaired at the point of failure.
- (c) **Class 3: Bus Change.** A failure that requires removal of the bus from service during its assignments. The bus is operable to a rendezvous point with a replacement bus.
- (d) **Class 4: Bad Order.** A failure that does not require removal of the bus from service during its assignments but does degrade coach operation. The failure shall be reported by driver, inspector, or hostler.

### **2-III. DISCUSSION**

A listing of breakdowns and unscheduled repairs is accumulated during the Structural Durability Test. The following Reliability Data Form lists all unscheduled repairs under classes as defined above. These classifications are somewhat subjective as the test is performed on a test track with careful inspections every two hours. However, even on the road, there is considerable latitude on deciding how to handle many failures.

The Unscheduled Repair List is also attached to provide a reference for the repairs that are included in the Reliability Data Forms.

The classification of repairs according to subsystem is intended to emphasize those systems which had persistent minor or more serious problems. There was no Class 1 or 2 failures. The one Class 3 failure was the result of a failed alternator. This and the remaining three Class 4 failures are available for review in the Unscheduled Maintenance List, located in Section 5.7 Structural Durability.

# RELIABILITY DATA FORMS

Bus Number: 0502	Date: 3/3/05
Personnel: Bob Relfsteck	

Subsystems	Failure Type				Man Hours	Down Time
	Class 4 Bad Order	Class 3 Bus Change	Class 2 Road Call	Class 1 Physical Safety		
Exhaust System	5,894				0.50	0.50
	6,622				1.00	1.00
Electrical		4,177			2.50	2.50
Wheel/Tires	6,622				0.50	0.50

## **5.7 STRUCTURAL DURABILITY TEST**

### **5.7-I. TEST OBJECTIVE**

The objective of this test is to perform an accelerated durability test that approximates up to 25 percent of the service life of the vehicle.

### **5.7-II. TEST DESCRIPTION**

The test vehicle is driven a total of 7,500 miles; approximately 5,000 miles on the PSBRTF Durability Test Track and approximately 2,500 miscellaneous other miles. The test will be conducted with the bus operated under three different loading conditions. The first segment will consist of approximately 3,000 miles with the bus operated at GVW. The second segment will consist of approximately 1,500 miles with the bus operated at SLW. The remainder of the test, approximately 3,000 miles, will be conducted with the bus loaded to CW. If GVW exceeds the axle design weights, then the load will be adjusted to the axle design weights and the change will be recorded. All subsystems are run during these tests in their normal operating modes. All recommended manufacturers servicing is to be followed and noted on the vehicle maintainability log. Servicing items accelerated by the durability tests will be compressed by 10:1; all others will be done on a 1:1 mi/mi basis. Unscheduled breakdowns and repairs are recorded on the same log as are any unusual occurrences as noted by the driver. Once a week the test vehicle shall be washed down and thoroughly inspected for any signs of failure.

### **5.7-III. DISCUSSION**

The Structural Durability Test was started on January 13, 2005 and was conducted until March 3, 2005. The first 3,000 miles were performed at a GVW of 13,840 lbs. The ballast for standing passengers was reduced from 11 to 8 and one handicap position was eliminated. The GVW segment was completed on January 27, 2005. The next 1,500 mile SLW segment was performed at 13,440 lbs and was completed on February 10, 2005. Note: one wheelchair position was eliminated to avoid exceeding the GAWR (9,450 lbs) of the rear axle. The final 3,000 mile segment was performed at a CW of 10,250 lbs and completed on March 3, 2005.

The following mileage summary presents the accumulation of miles during the Structural Durability Test. The driving schedule is included, showing the operating duty cycle. A detailed plan view of the Test Track Facility and Durability Test Track are attached for reference. Also, a durability element profile detail shows all the measurements of the different conditions.

**SUPREME - TEST BUS #0502**  
**MILEAGE DRIVEN/RECORDED FROM DRIVERS' LOGS**

DATE	TOTAL DURABILITY TRACK	TOTAL OTHER MILES	TOTAL
01/10/05 TO 01/16/05	146.00	67.00	213.00
01/17/05 TO 01/23/05	1011.00	144.00	1155.00
01/24/05 TO 01/30/05	843.00	933.00	1776.00
01/31/05 TO 02/06/05	685.00	348.00	1033.00
02/07/05 TO 02/13/05	461.00	126.00	587.00
02/14/05 TO 02/20/05	885.00	245.00	1130.00
02/21/05 TO 02/27/05	810.00	37.00	847.00
02/28/05 TO 03/06/05	159.00	600.00	759.00
TOTAL	5000.00	2500.00	7500.00

Table 4. Driving Schedule for Bus Operation on the Durability Test Track.

STANDARD OPERATING SCHEDULE

Monday through Friday		
	HOUR	ACTION
Shift 1	midnight	D
	1:40 am	C
	1:50 am	B
	2:00 am	D
	3:35 am	C
	3:45 am	B
	4:05 am	D
	5:40 am	C
	5:50 am	B
	6:00 am	D
	7:40 am	C
Shift 2	7:50 am	F
	8:00 am	D
	9:40 am	C
	9:50 am	B
	10:00 am	D
	11:35 am	C
	11:45 am	B
	12:05 pm	D
	1:40 pm	C
	1:50 pm	B
	2:00 pm	D
Shift 3	3:40 pm	C
	3:50 pm	F
	4:00 pm	D
	5:40 pm	C
	5:50 pm	B
	6:00 pm	D
	7:40 pm	C
	7:50 pm	B
	8:05 pm	D
	9:40 pm	C
	9:50 pm	B
	10:00 pm	D
	11:40 pm	C
	11:50 pm	F

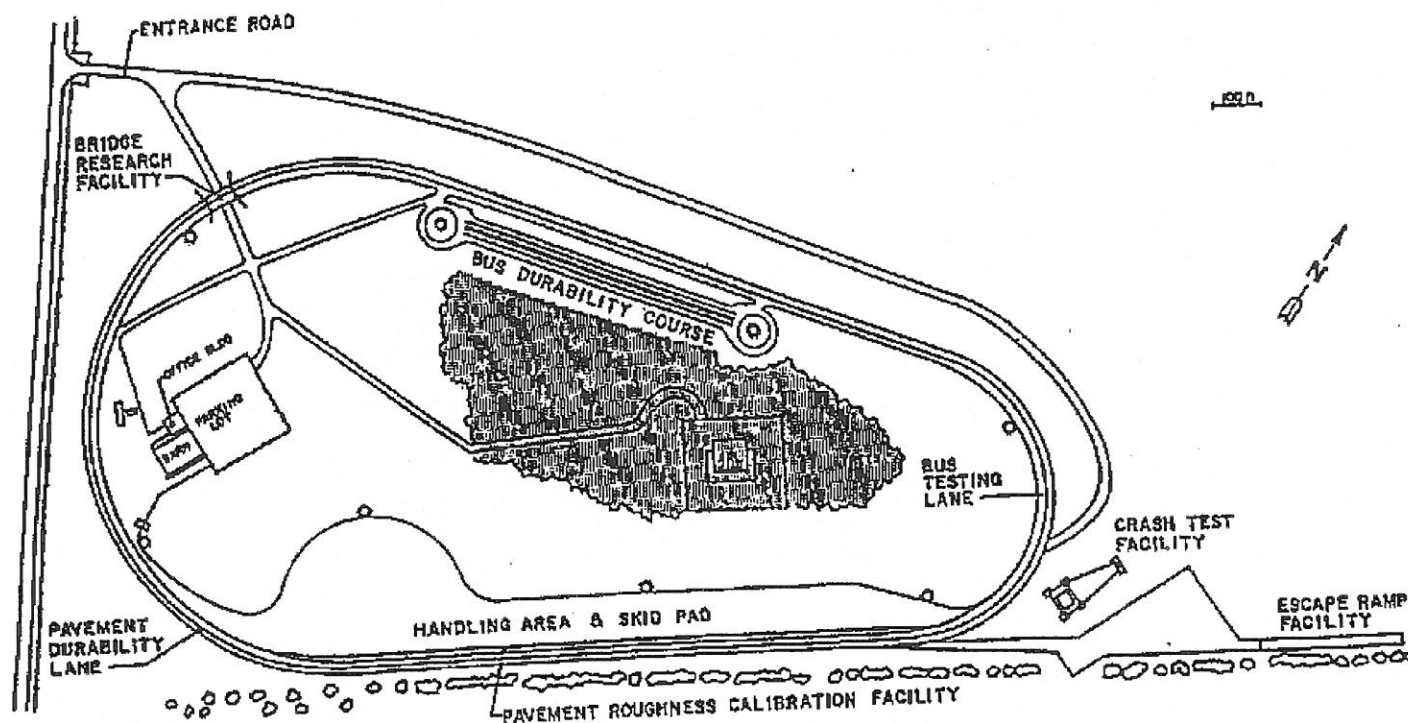
B—Break

C—Cycle all systems five times, visual inspection, driver's log entries

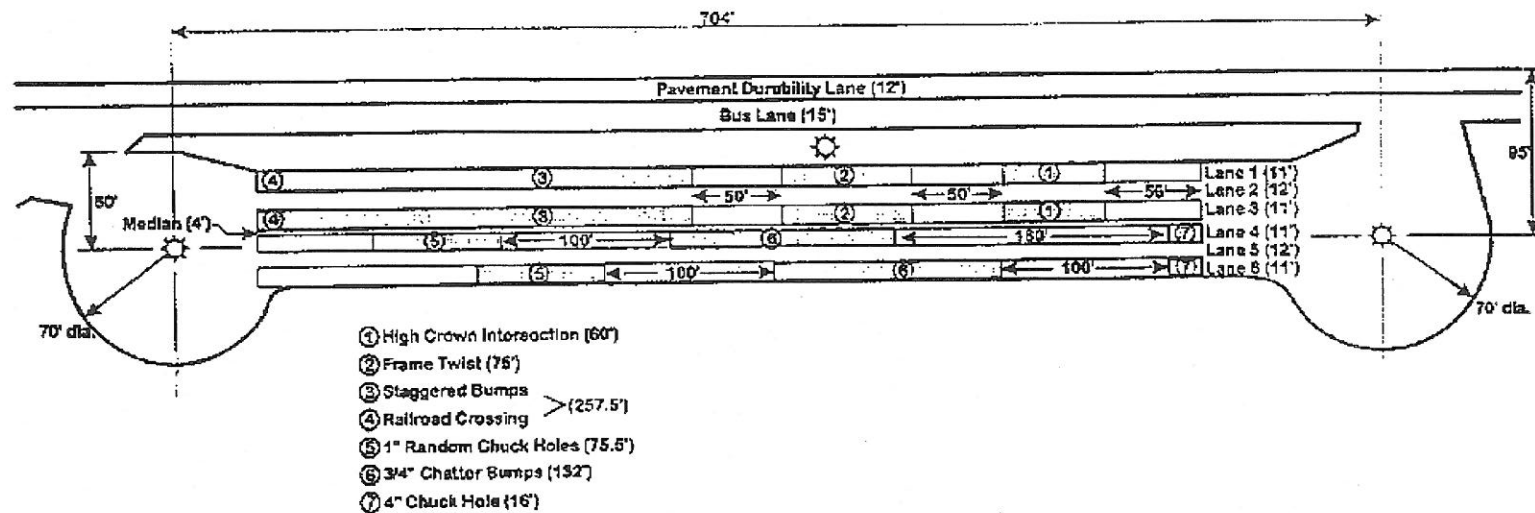
D—Drive bus as specified by procedure

F—Fuel bus, complete driver's log shift entries

“PLAN VIEW OF PENN STATE BUS TESTING AND  
RESEARCH FACILITY”



BUS TESTING AND RESEARCH TEST TRACK  
UNIVERSITY PARK, PA



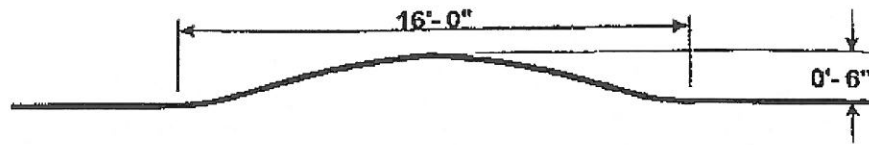
Plan View

## Vehicle Durability Test Track

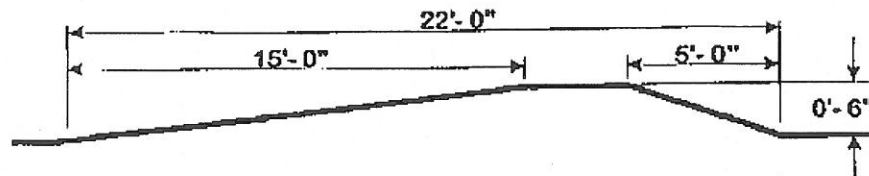
The Pennsylvania Transportation Institute  
Penn State



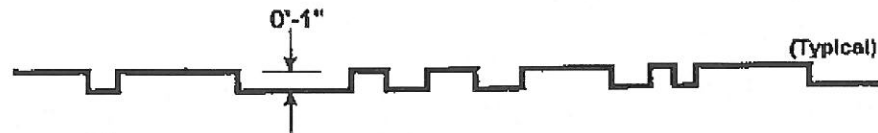
Staggered  
Bumps  
(10 mph)



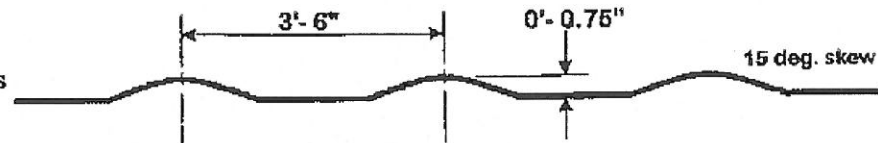
Railroad  
Crossing  
(8 mph)



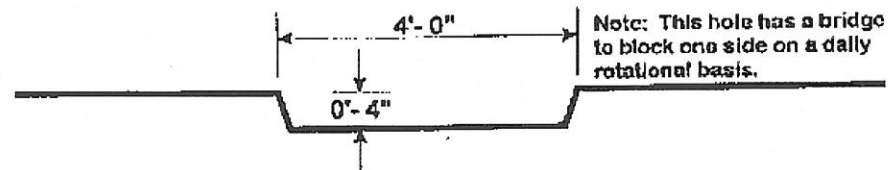
1" Random  
Chuck Holes  
(20 mph)



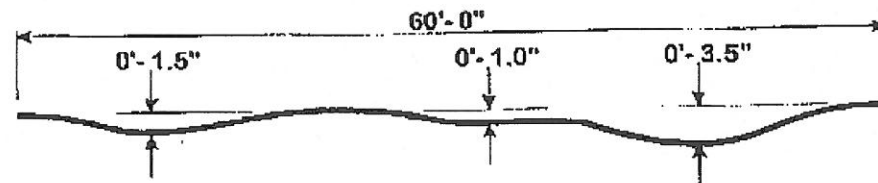
Chatter Bumps  
(20 mph)



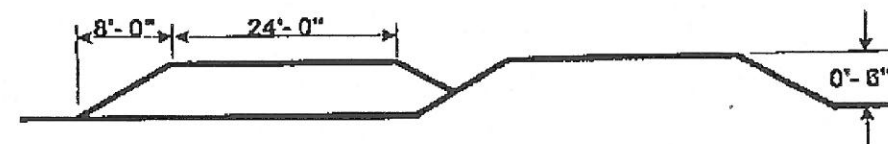
4" Chuck Hole  
(5 mph)



High Crown  
Intersection  
(20 mph)



Frame Twist  
(10 mph)



## Durability Element Profiles

The Pennsylvania Transportation Institute  
Penn State

(Page 1 of 1)  
**UNSCHEDULED MAINTENANCE**  
 Supreme 0502

DATE	TEST MILES	SERVICE	ACTIVITY	DOWN TIME	HOURS
02/07/05	4,177	The engine won't crank, battery will not take charge and charging system is below 12 volts.	Battery and alternator replaced.	2.50	2.50
02/21/05	5,894	The tail pipe is loose.	One broken tail pipe hanger replaced.	0.50	0.50
02/25/05	6,622	The right front tire is leaking air.	Right front tire leak located and hole plugged.	0.50	0.50
02/25/05	6,622	The tail pipe is loose.	Two broken tail pipe hangers replaced.	1.00	1.00