



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 7

List View

General Information

Procurement Folder: 281516

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0506

Vendor ID: VS0000004719 

SO Doc ID: MMB1700000003

Legal Name: Rohrer Enterprises Inc

Published Date: 2/21/17

Alias/DBA:

Close Date: 3/1/17


Total Bid: \$49,885.00

Close Time: 13:30

Response Date: 03/01/2017 

Status: Closed

Response Time: 10:38

Solicitation Description: Addendum #1 - 15 PASSENGER WHEELCHAIR BUS FOR MMB 

Total of Header Attachments: 7

Total of All Attachments: 7

REQUEST FOR QUOTATION
CRFQ 0506 MMB1700000003
15 PASSENGER WHEELCHAIR BUS

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of The Department of Health and Human Resources (WVDHHR), Bureau for Behavioral Health and Health Facilities (BBHFF) and Mildred Mitchell-Bateman Hospital (MMBH) located at 1530 Norway Avenue Huntington, WV 25705 to establish a contract for the one time purchase of a New fifteen (15) passenger wheelchair bus.

PLEASE NOTE: The contract awarded as a result of this solicitation may be funded in whole or in part with Federal Funds and thus this solicitation and its resulting awarded contract are subject to the requirements of *Attachment 1: Provisions Required for Federally Funded Procurements*.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
- 2.1 **“Contract Item”** means a fifteen (15) passenger wheelchair bus as more fully described by these specifications.
- 2.2 **“Pricing Page”** means the pages, contained in WVOASIS or attached as *Exhibit “A”*, upon which Vendor should list its proposed pricing for the Contract Items.
- 2.3 **“Solicitation”** means the official notice of and opportunity to supply the State with goods or services that is published by the Purchasing Division.
3. **GENERAL REQUIREMENTS:**
- 3.1 **Mandatory Contract Item Requirements:** Contract Item must meet or exceed the mandatory requirements listed below.
- 3.1.1 **Fifteen (15) Passenger Wheelchair Bus.**
- 3.1.1.1 **Bus must have a total seating capacity of fifteen (15) passengers.**
- 3.1.1.1.1 **Bus must consist of a minimum of twelve (12) seats.**
- 3.1.1.1.2 **Bus must have two (2) wheelchair tie downs.**
- 3.1.1.1.3 **Bus must have one (1) driver seat.**
- 3.1.1.1.4 **Bus must have mid back vinyl on all seating.**

Revised 10/27/2014

REQUEST FOR QUOTATION
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15 PASSENGER WHEELCHAIR BUS

3.1.13 Proposed bus's vehicle mechanical features must include a minimum three (3) year or 36,000 mile bumper to bumper warranty with a zero (0) dollar deductible during this warranty period.

3.1.14 Bus should be White in color.

3.1.15 Bus should have a bi-folding passenger walk through door.

4. CONTRACT AWARD:

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

4.2 Pricing Page: If responding on paper, Vendor should complete the Exhibit "A" Pricing Page by completing the Lump Sum price for the vehicle as well as all contact information. Vendor should complete the Pricing Page in full as failure to complete the Pricing Page in its entirety may result in Vendor's bid being disqualified.

If responding within wvOASIS, Vendor should input their Lump Sum price as the Unit Price for the commodity line. wvOASIS will automatically calculate the extended price. Vendor should complete the wvOASIS Pricing Page in full as failure to complete the Pricing Page in its entirety may result in Vendor's bid being disqualified.

Vendor should type or electronically enter the information into the Pricing Pages to prevent errors in the evaluation.

5. PAYMENT:

5.1 Payment: Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia. In this case after delivery and acceptance by Mildred Mitchell-Bateman Hospital, vendor can send an original invoice to Accounts Payable Department at 1530 Norway Avenue, Huntington, WV 25705.

6. DELIVERY:

6.1 Shipment and Delivery: Vendor shall deliver the Contract Items immediately after being awarded this Contract and receiving a purchase order or notice to

REQUEST FOR QUOTATION
CRFQ 0506 MMB1700000003
15 PASSENGER WHEELCHAIR BUS

proceed. Vendor shall deliver the Contract Items within 180 working days after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at 1530 Norway Avenue, Huntington WV 25705.

- 6.2 Late Delivery:** The Agency placing the order under this Contract must be notified in writing if the shipment of the Contract Items will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the Contract, and/or obtaining the Contract Items from a third party.

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

- 6.3 Delivery Payment/Risk of Loss:** Vendor shall deliver the Contract Items F.O.B. destination to the Agency's location.

- 6.4 Return of Unacceptable Items:** If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

- 6.5 Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

7. VENDOR DEFAULT:

- 7.1** The following shall be considered a vendor default under this Contract.

7.1.1 Failure to perform Contract Services in accordance with the requirements contained herein.

7.1.2 Failure to comply with other specifications and requirements contained herein.

REQUEST FOR QUOTATION
CRFQ 0506 MMB1700000003
15 PASSENGER WHEELCHAIR BUS

- 7.1.3 Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.
- 7.1.4 Failure to remedy deficient performance upon request.
- 7.2 The following remedies shall be available to Agency upon default.
 - 7.2.1 Immediate cancellation of the Contract.
 - 7.2.2 Immediate cancellation of one or more release orders issued under this Contract.
 - 7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:

- 8.1 **Contract Manager:** During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Andrew Clawson

Telephone Number: 410-980-1906

Fax Number: n/a

Email Address: aclawson@rohrerbus.com

PRICING PAGE CRFQ MMB1700000003

EXHIBIT "A"

Item #	Estimated Usage:	Description	Lump Sum Price
3.1.1	1 EA	Fifteen (15) Passenger Wheelchair Bus	
GRAND TOTAL LUMP SUM BID SUBMISSION			\$ 49,885.00

Awarding of the contract will be to the vendor who provides the lowest overall GRAND TOTAL cost and meets or exceeds the specifications of the Request for Solicitation.

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

Company Name: Rohrer Enterprises, Inc. DBA/Rohrer Bus Sales


Sales Representative: Andrew Clawson

Vendor Address: 1515 State Road, P.O. Box 100
Duncannon, PA 17020

Vendor Phone: 410-980-1906

Fax Number: n/a

Email Address: aclawson@rohrerbus.com


Signature

Febrary 28, 2017

Date

Remit to Address: 1515 State Road, P.O. Box 100
Duncannon, PA 17020

SOLICITATION NUMBER: CRFQ MMB1700000003
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as CRFQ MMB1700000003 ("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 list the questions and answers to this solicitation.

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

Terms and Conditions:

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

ADDENDUM #1
CRFQ MMB1700000003

Question #1:

Is a 5.4L V8 gasoline engine acceptable?

Answer #1:

Per the specifications under section 3.1.1.2

The smallest size motor that is acceptable is a 6.0L V-8.

Question #2:

Are solid windows (without sliders) acceptable?

Answer #2:

Yes.

Question #3:

Can a manmade non-slip floor (like Gerflor) be substituted for a rubber floor covering?

Answer #3:

Yes.

Question #4:

Are the AV handles to be on just the aisle seats or both aisle and window seats?

Answer #4:

AV handles must be on the aisle seat.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFO MMB1700000003

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 type="checkbox"/> Addendum No. 2	<input type="checkbox"/> Addendum No. 7
<input type="checkbox"/> Addendum No. 3	<input type="checkbox"/> Addendum No. 8
<input type="checkbox"/> Addendum No. 4	<input type="checkbox"/> Addendum No. 9
<input type="checkbox"/> Addendum No. 5	<input type="checkbox"/> Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that 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.

Rohrer Enterprises, Inc. DBA/Rohrer Bus Sales

Company



Authorized Signature

February 28, 2017

Date

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



School & Commercial Bus Sales

**REQUEST FOR QUOTATION
CRFQ 0506 MMB 1700000003
15 PASSENGER WHEELCHAIR BUS**

Proposed Vehicle Specifications:
2017 FORD E350 WORLD TRANS

158" Wheelbase
6.8L V-10 Gas Engine
12,5000 GVWR
Spring Leaf Rear Suspension
Exhaust to Exit RH Rear
Interlock Inpower w/Fast Idle
Front OEM Bumper
Steel Rear Bumper
30" Entrance Door
60" x 22" Rear Emergency Window
70K ACT A/C System
65K BTU Heater w/Shutoff Decal
OEM Battery Power Distribution Underhood
Electrical Interface
Fixed Vinyl Cabliner – Thatch White
Vinyl Headliner – Thatch White
Vinyl Interior Sidewall – Thatch White
5/8" Subfloor Plywood
Gerflor Serius Flooring
White Gerflor Step Nosing
White Gerflor Standee Line
Stanchion Package w/Right Hand Stainless Steel Grab
96" Stainless Steel Overhead Ceiling Grab
Rosco Manual Exterior Mirrors
Front and Rear Mud Flaps
LED Interior Light Package
LED Exterior Light Package
Back Up Assist Reverse Alarm
REI AM/FM/CD Radio
Five (5) Radio Speakers



School & Commercial Bus Sales

Double Wheelchair Lift Door
Ricon Wheelchair Lift
Q'Straint Q-8100 Tie Down Systems w/L-Track
ADA Decals
OEM Driver Seat Base
Freedman Shield Driver's Seat
Driver Seat Fabric – Level 1 Oxen Grey
Six (6) Mid Back Double Passenger Seats – Level 3 Oxen Grey
Armrest, Each Seat
Black AV Grab, Each Seat
74" Standard Seat Belt, Each Seat

ROHRER

School & Commercial Bus Sales

Photo Documentary of Proposed Units

Curbside



Streetside



Front



Rear



Additional Exterior Pictures



Dual Leaf Wheel Chair Lift Door With Two Windows



WC Securement Area



Driver's Seat



Passenger Entrance Steps with White Step Nosing



Dash Area



Switch Controls



Fuse Panel Above Driver's Area



Rear AC Evaporator



Rear Heater



White Standee Line



Passenger Area



Passenger Seats



Emergency Exit Windows X 2



Rear Emergency Exit Window



LEGEND

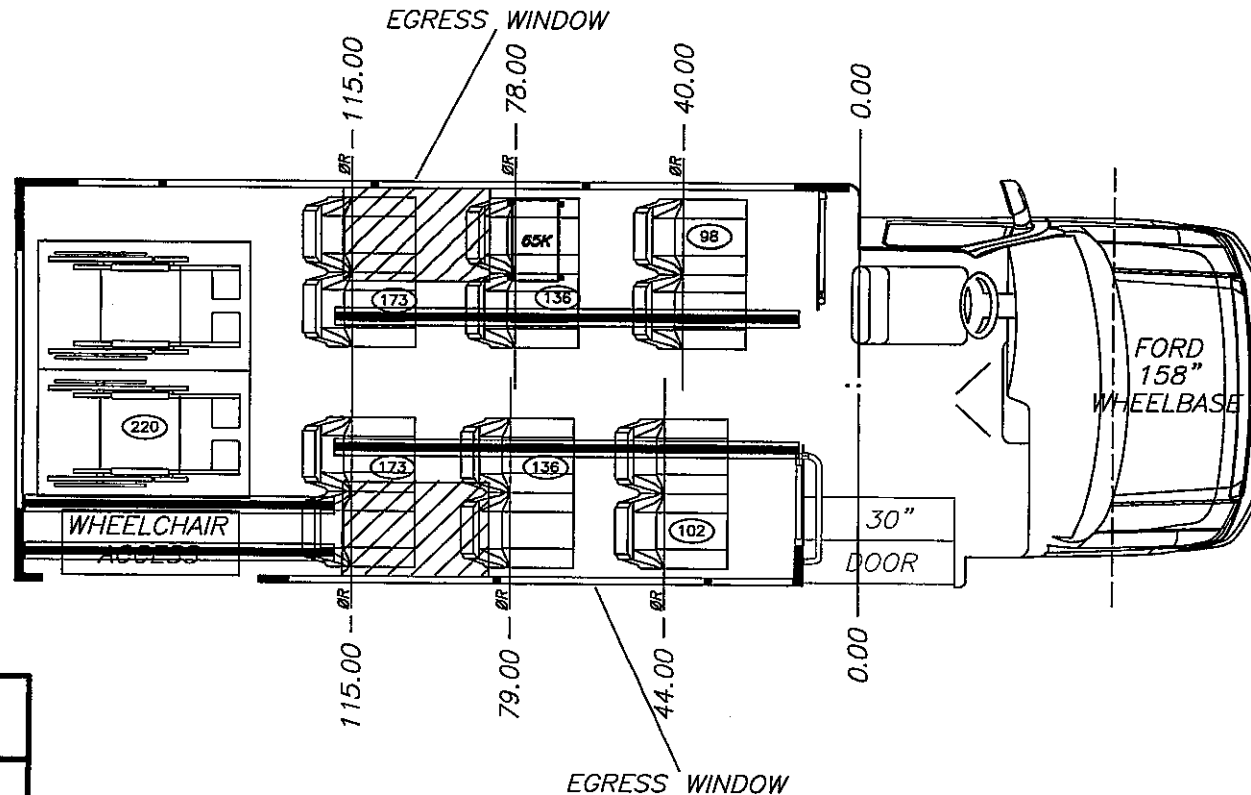
(95) = C/L FRONT AXLE TO PASS C.G.

Amb. Pass: 12

W/C Pass: 2

Max. capacity: 15

REAR WIN
60 X 22



DEALER APPROVAL

☐ APPROVED

x Kay 2-22-17
CUSTOMER SIGNATURE

WORLD TRANS
REV GROUP

1655 WALL STREET
SALINA, KS. 67401

DO NOT SCALE DRAWING

DRAWING INFORMATION

THIS DRAWING IS THE PROPERTY OF ELDORADO, A REV GROUP COMPANY, AND IS NOT TO BE DUPLICATED OR USED IN ANY WAY DETRIMENTAL TO THEIR BEST INTEREST.

DRAWN: MILLER CKD:

DATE: 1/27/17 SIZE: A

SCALE: 1/42 WGT:

REV. 02/16

TOLERANCE UNLESS SPECIFIED

SEAT SPACING $\pm .25$ (SEAT SPACING NOT TO BE LESS THAN 28.5")

RESTRAINTS $\pm .25$ (W/C POSITIONS NOT TO BE SMALLER THAN 30 X 48)

REV. BY DATE

RELEASE TO PRODUCTION

DESCRIPTION

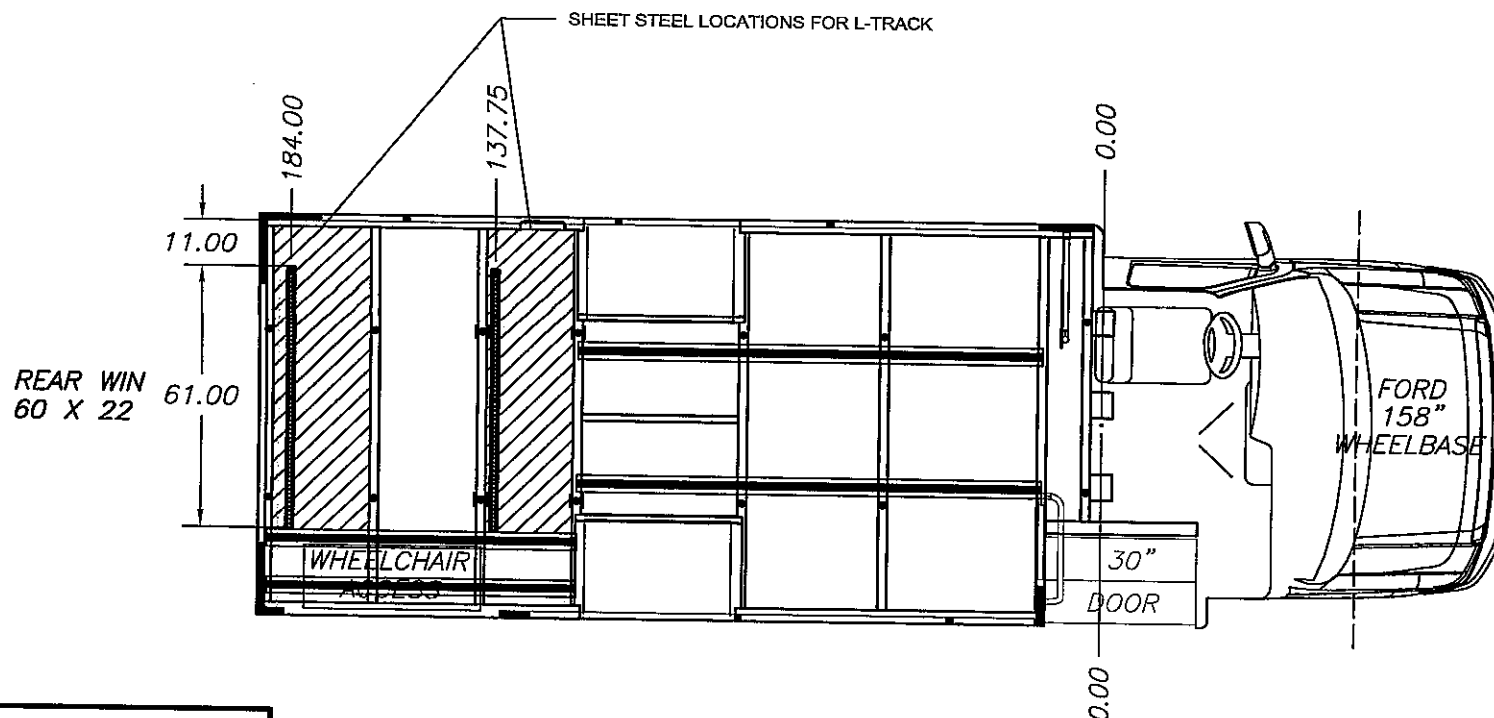
TITLE:
WORLD TRANS 24
30" ENTRY DOOR / WC DOOR (REAR)

UNIT NUMBER
E5W24S30RL-W0146

PAGE
1 OF 1

LEGEND

(95) = C/L FRONT AXLE TO PASS C.G.



DEALER APPROVAL

☐ APPROVED

x Kay 22217
CUSTOMER SIGNATURE

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SCALE: 1/42 WGT:

TOLERANCE UNLESS SPECIFIED

SEAT SPACING $\pm .25$ (SEAT SPACING NOT TO BE LESS THAN 28.5")

RESTRAINTS $\pm .25$ (W/C POSITIONS NOT TO BE SMALLER THAN 30 X 48)

A JPM 2/7/17

- JPM 1/27/17

REV. BY DATE

REMOVED THE FLIP SEATS AND CHANGED THE HEATER TO A 35K- PER DEALER REQUEST

RELEASE TO PRODUCTION

DESCRIPTION

WORLD TRANS
REV GROUP

1655 WALL STREET
SALINA, KS. 67401

TITLE:
WORLD TRANS 24
30" ENTRY DOOR / WC DOOR (REAR)

UNIT NUMBER
E5W24S30RL-W0146

PAGE
1 OF 1



WORLD TRANS

REV GROUP



Perfectly engineered to be lighter, stronger and safer; the World Trans E and G series will meet all of your needs and exceed your expectations - put together in a smart looking package. The unique modular construction will create a quieter, more fuel efficient bus with less waste and in a fraction of the time.

Driving Intelligence.

- Light weight and incredibly strong, allowing for improved fuel efficiency and increased seating
- Galvanized steel flooring, roof and walls for superior strength, durability and rust prevention
- Innovative design provides unparalleled safety and style featuring an exclusive one-piece tubular roof bow design and state of the art EP4 electrical system
- Molded skirts and fiberglass front and rear caps produce a clean, sleek and modern look
- Meets or exceeds 7 Year/200,000 mile Altoona testing as well as FMVSS 220 and 214

*Varies based on your state and the options selected. *Photo shown with optional equipment.



STANDARD CHASSIS EQUIPMENT

	FORD E Models	GM G Models
Engine	6.0L Gas 6.6L Diesel	6.8L Gas
Transmission	Electronic 4-Speed Auto	Electronic 5-Speed Auto
Fuel Tank	33 Gallon	40 Gallon
Brakes	Power w/4 wheel antilock	Power w/4 wheel antilock
Alternator	145 Amp.	57 Amp. HD

STANDARD BODY EQUIPMENT

- 5/8" Marine Grade Plywood Flooring
- 3 High Intensity Interior LED Dome lights
- Consistant LED Lighting Throughout
- 4" Stop/Tail/Turn/Backup Lights
- Tinted 36" x 45" T-Slide Windows
- Rear view
- Black Wrap-around bumpers
- One-Piece Tubular Steel Roofbows
- Spray Foam Insulation
- Commercial Seats
- Electric Door
- Molded Skirts
- Fiberglass Molded Read Cap

POPULAR OPTIONS

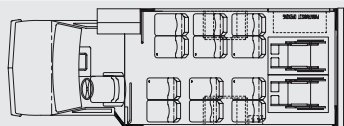
- 3 Point Seats
- AM/FM/BT Radio
- Backup Alarm
- Backup Camera
- Battery/Storage Compartment
- Colored Flooring
- Electric Monitors
- Interior Mirrors
- Kickout Window
- LED Lighting Package
- Overhead Luggage
- Rear Heater
- Rear In-Wall A/C
- Rear Storage
- Reverse Backup Sensors
- Roof Escape Hatch
- Safety Equipment
- Spare Tire
- Stainless Steel Wheel Covers
- Static Roof Vent
- Track Flooring
- Vandal Lock (Emergency Door)

SPECIFICATIONS

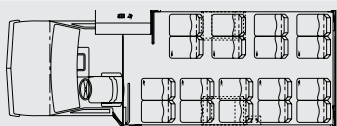
MODEL	22EN	22GN	22E	22G	24E	24G	26E	26G
Maximum Passenger Capacity	13 + Driver	13 + Driver	19 + Driver	19 + Driver	21 +Driver	21 +Driver	25 +Driver	21 +Driver
Maximum Seating Rows	5	5	5	5	5	5	6	6
Interior Height 6" fromSidewall	75"	75"	75"	75"	75"	75"	75"	75"
Interior Height at Center Aisle	80"	80"	80"	80"	80"	80"	80"	80"
Interior Width	82"	82"	90"	90"	90"	90"	90"	90"
Electric Entrance Door	30"/40"	30"/40"	30"/40"	30"/40"	30"/40"	30"/40"	30"/40"	30"/40"
Overall Height	117"	117"	122"	122"	122"	122"	122"	122"
Overall Length with Bumper	266"	272"	266"	272"	288"	294"	314"	320"
Overall Width with No Mirrors	88"	88"	96"	96"	96"	96"	96"	96"
Wheelbase	138"/158"	139"/159"	138"/158"	139"/159"	158"	159"	176"/190"	177"
GVWR	11,500 12,500 14,500	12,300 14,200	11,500 12,500 14,500	12,300 14,200	11,500 12,500 14,500	12,300 14,200	14,500	14,200
Availability	12/15/16	12/15/16	8/29/16	10/31/16	8/29/16	10/31/16	8/29/16	10/31/16

*Varies based on state and option selected. **Various passenger/wheelchair configurations available.

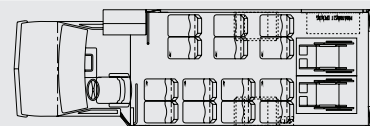
POPULAR FLOOR PLANS



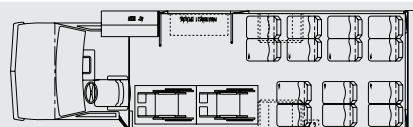
22E
12 & 2 with Rear Lift



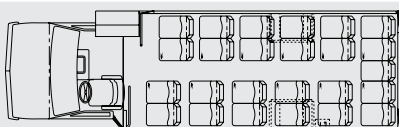
22E
18 Passenger



22E
14 & 2 with Rear Lift



22E
14 Passenger



26E
24 Passenger

Due to ongoing engineering improvements, World Trans reserves the right to make changes without notification.

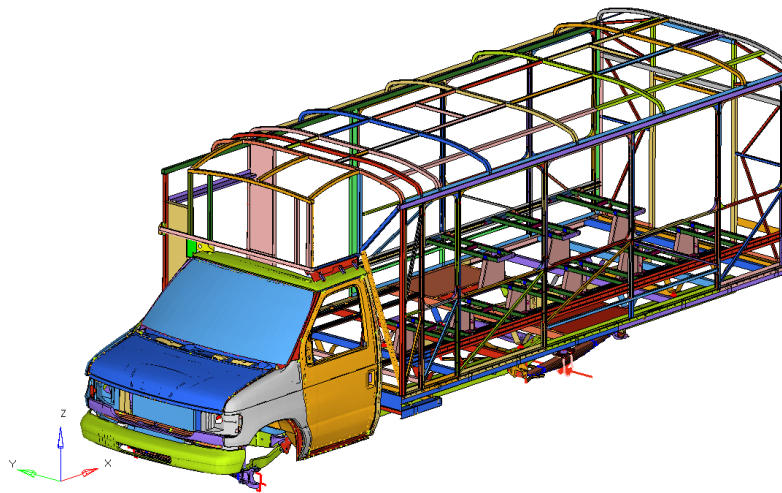


WORLD TRANS
REV GROUP



WORLD TRANS

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Bus Technical Specifications

E/G22

E/G24

E/G26

Revision 2016-05-02 (Preliminary Release)

1. Scope

These specifications define requirements for medium-duty cutaway buses. Buses shall have a minimum expected life of seven (7) years or 200,000 miles, and are intended for the widest possible spectrum of passengers, including children, adults, the elderly and people with disabilities. Buses shall be certified for the seven year 200,000 mile durability through the Altoona test track per the FTA bus test regulations set forth in 49 CFR Part 665.

2. Legal Requirements

The Contractor shall comply with all applicable federal and state regulations. These shall include but not be limited to ADA, as well as state safety requirements. Buses shall meet all applicable FMVSS regulations in effect at the date of manufacture.

3. Manufacturer Certifications

The body manufacturer must be an ISO 9001:2008 certified company and have a "Fully Meets" rating in the Ford Quality Vehicle Manufacturer Program. Proof of compliance must be submitted with the bid.

4. Overall Vehicle Dimensions and Capacities

Model	E/G22	E/G24	E/G26	E/G22N
Max Passengers (Fixed Seating)*	19 + Driver	21 + Driver	25 + Driver	13 + Driver
Max Seating Rows	5	5	6	5
Interior Height at Center Aisle	80"	80"	80"	80"
Interior Height 6" from Side Wall	75"	75"	75"	75"
Interior Width	90"	90"	90"	82"
Entrance Door Width	30"/40"	30"/40"	30"/40"	30"/40"
Entrance Door Height	86"	86"	86"	86"
Overall Height (Wheelwell Floor)	117"	117"	117"	117"
Overall Height (Flat Floor)	122"	122"	122"	N/A
Overall Length with Bumpers (Ford)	22' 2"	24'	26' 2"	22' 2"
Overall Length with Bumpers (GM)	22' 8"	24' 6"	26' 8"	22' 8"
Overall Width with No Mirrors	96"	96"	96"	88"
Wheelbase (Ford)	138"/158"	158"	176"/190"	138"/158"
Wheelbase (GM)	139"/159"	159"	177"	139"/159"
GVWR (lbs) (Ford)	11,500	11,500	14,500	11,500
	12,500	12,500		12,500
	14,500	14,500		14,500
GVWR (lbs) (GM)	12,300	12,300	14,200	12,300
	14,200	14,200		14,200

* Maximum passenger capacity subject to weight calculation of specific vehicle configuration.

5. Chassis

- a. Front Axle: 4,600 or 5,000 lb (Ford E-Series). 4,300 or 4,600 lb (GM G-Series), appropriate for GVWR and weight distribution.
- b. Rear Axle: 7,800, 8,500 or 9,500 (Ford E-Series), 8,600 or 9,600 lb (GM G-Series), appropriate for GVWR and weight distribution.
- c. Engine: 5.4L or 6.8L gasoline (Ford E-Series), 6.0L gasoline (GM G-Series)
- d. Transmission: 5- speed automatic (Ford E-Series), 6-speed automatic (GM G-Series)
- e. Brake system: Power, self-adjusting, four wheel disc with four wheel anti-lock
- f. Fuel Tank: 40gal or 55gal rear-mount (Ford E-Series), 37gal mid-ship mount or 57gal rear-mount (GM G-Series) appropriate for required fuel range and weight distribution. The vehicle fuel tank must be installed by the chassis manufacturer; fully compliant with California Air Resources Board (CARB) standards and must not be modified in any way.
- g. Exhaust: Exhaust system to be aluminized exhaust pipes and muffler properly installed with heat shield and baffles.
- h. Standard alternator output: 225A Ford, 220A Chevrolet.
- i. Batteries: Dual batteries rated at 650CCA minimum. Standard is one under hood, one on frame rail. Both may be optionally relocated to a battery box.

6. Body Structure

The body shall be a steel cage construction. All structural members in the floor, side walls, rear wall, and roof shall be G40 galvanized steel material for corrosion resistance. The body cage should be at least 50% spot welded to ensure structural integrity and to minimize the effect of welding on the galvanized corrosion protection. A full FEA analysis of the body cage shall be performed to show compliance to minimum requirements.

The body cage structure, at a minimum, to have been tested to the following:

- 1. All applicable FMVSS regulations
- 2. Buses shall be certified for the seven year 200,000 mile durability through the Altoona test track per the FTA bus test regulations set forth in 49 CFR Part 665
- 3. FMVSS 220, School Bus Rollover Protection
- 4. FMVSS 214, Side Impact Protection

Prior to installation on the chassis, the body cage structure shall be assembled using leveling and squaring fixtures to ensure consistency and a plumb, square and level structure. Specific body cage construction elements shall include:

- a. Floor: The floor frame shall be constructed of 11 gauge, G40 galvanized tubular crossmembers at least 2" wide X 2" high with a minimum strength of 50,000 psi. The tubular crossmembers shall be spot welded to a continuous G40 galvanized C-channel forming the perimeter of the floor structure. Crossmembers shall be placed at body mount isolator locations as provided by the chassis manufacturer. The floor frame shall be secured to the chassis frame in accordance with the chassis manufacturer's recommended practices.
- b. Side Walls: Side walls shall be constructed of G40 galvanized 45,000 psi steel modular sections. Each modular section shall include vertical C-channels along its forward and rearward boundary, a horizontal C-channel along its upper boundary, and a Z-shaped section at its lower boundary. Each modular section shall include a diagonal channel to form a strong truss. Modular wall sections shall be spot welded to adjacent fore and aft sections to form a structural I-beam at each window section. Modular wall sections shall be spot welded at their upper C-channel to a continuous 14 gauge, 1-1/2" x 2" tubular longitudinal member to form the top of the side wall. Modular wall sections shall be spot welded along their lower boundary to the continuous C-section of the floor perimeter. A continuous G40 galvanized seat track shall be spot welded to a continuous HSLA Grade 60 G40 galvanized roll formed stringer supporting the seat track on three sides, and the stringer shall be welded to the adjacent structural members of the cage wall.
- c. Roof: The roof consists of 1.5" x 1.5" G40 galvanized tubular steel roof bows installed on maximum 48" centers. The end of each roof bow is welded into a continuous longitudinal gauge G40 galvanized steel C-channel forming the perimeter of the roof. The continuous C-channels at the perimeter of the roof shall be spot welded to the continuous longitudinal tubes along the top of each wall.
- d. Rear Wall: The rear wall consists of MIG and spot welded 1.5" x 1.5" G40 galvanized main structural members and diagonal reinforcements. The rear wall design ensures similar strength and performance for both rear window and rear door versions. A section of G40 galvanized Z-section shall be welded to the bottom of the rear wall to form the interface to the floor.

7. Body Exterior

- a. Roof: The roof exterior panel shall consist of a one-piece composite material that is lightweight, extremely durable and impact resistant. The roof panel shall have no seams other than at the junction of the roof panel and the front and rear caps.
- b. Side Walls: Exterior side wall panels shall be constructed of a 2.5 mm gel-coated product that is a durable semi-rigid fiberglass reinforced polyester resin (FRP). This gel-coated surface shall be highly scratch and abrasion resistant with excellent weathering characteristics and shall maintain integrity from -40 to 180 degrees Fahrenheit.
- c. Wall Skirts: Exterior wall "skirting" below the floor line of the passenger compartment must be removable and replaceable for ease of maintenance. Collision with the skirting alone shall not transmit damage to the floor or wall structure. Wheels and tires shall be removable with the

skirts in place. Flexible black fender flares shall be provided at the rear wheel housing. Mud flaps are included behind the rear tires.

- d. Front Bumper: The OEM chassis chrome bumper shall be provided on the front of the bus.
- e. Rear Bumper: The rear bumper shall be constructed from 10 gauge steel, powder coated.

8. Body Interior Panels and Finishes

Panels below the seat rail shall be a black, heavy-duty material. H-rail and screws along the seams retain the ceiling panels. Trim molding covers the seams and fasteners. Interior side wall panels are Vinyl coated lauan with upgrade options.

Front bulkhead and transition panel cover shall be light gray ABS plastic, or a combination of a padded vinyl and other automotive materials.

Entry grab rails shall be installed on both sides of the front entry area. A stanchion and modesty panel shall be provided aft of the entry door.

9. Corrosion Resistance

In order to provide superior corrosion resistance, all tubular and fabricated steel shall be galvanized, minimum G40, with the coating applied during the steel milling process. The body cage shall be at least 50% spot welded to minimize the effect of welding on the galvanized corrosion protection. MIG welds and any MIG-weld-affected areas of galvanized steel components shall be treated with cold galvanizing compound after welding.

The body floor sub-frame assembly shall be primed to meet the 1,000-hour salt spray test per ASTM procedure B-117, with no structural detrimental effects to normally visible surfaces. The floor structure shall also be rated no less than five using the crosshatch adhesion test per ASTM D3359.

Prior to shipment, the vehicle shall be undercoated with water-based heavy duty undercoating.

10. Safety Interlock System

Units equipped with wheelchair lifts come standard with an automatic fast idle module and an FMVSS 403 and 404 compliant wheelchair lift interlock system. The fast idle module elevates engine speed under certain preset conditions, including high electrical demand. The wheelchair lift interlock system will ensure the lift can only be activated when the vehicle transmission is in park and the parking brake is set. The interlock system will prevent the transmission from shifting from park if the wheelchair lift doors are open, or the parking brake is applied. Optionally, the interlock system can prevent the transmission from shifting from park if the entry or rear emergency doors are open.

11. Passenger Entry

The entry door shall be an outward opening, two-leaf type with an overlapping rubber seal at the meeting edges of the panels. The door shall be attached to the body with two heavy-duty steel pivot pins with nylon bushings. A heavy-duty bulb seal shall be installed at the top and hinged edges of the door. Each door panel shall be glazed with a full-height AS2 glass panel. The door shall be electrically controlled by a switch located within reach of a seated driver and will not permit opening unless the vehicle transmission is in park. The door clear opening shall be a minimum of 30" wide by 80" high or maximum 40" wide by 80" high.

Doors must be parallel to the frame rails of the vehicle to allow for safe parallel curb loading.

The original chassis door, with a roll-up window, shall be supplied on the driver's side of the vehicle.

12. Windows

To create a feeling of light and spaciousness in the passenger compartment, the main passenger windows shall be as large as possible, 45" wide x 36" high minimum. Narrower windows may be used to fill smaller areas as necessary. The windows are to be glazed with nominal 1/8" tempered safety glass. Emergency escape provisions shall comply with FMVSS 217.

13. Mirrors and Sun Visors

- a. Exterior Rear View Mirrors: Exterior mirrors shall consist of a 7" x 9.5" flat and 7" x 4" convex mirror on each side of the vehicle. The right-hand mirror shall be mounted to the chassis fender and shall be visible thru the front windshield. Mirrors shall be mounted with steel tubular structure coated with black powdercoating and encased in a black, impact resistant plastic housing. Exterior mirrors are manual with the option to upgrade to heated and remote models.
- b. Interior Mirrors: The interior rearview mirror mounted to the windshield shall be chassis manufacturer standard.
- c. Sun Visor: The OEM chassis sun visor shall be provided and shall retain all OEM instructional/warning labels.

14. Electrical Body Power Distribution Center

The body builder power distribution center must use plug-in type connectors for easy removal or testing. It must be a printed circuit card with all base components located on the front of the card including all relays and fuses. All of the relays must be +12V DC and removable for testing or replacement. All fuses shall be standard automotive type with the ability to upgrade to manual reset circuit breakers upon request. The system shall include (2) spare battery and ignition fuses. LED lights shall be included for troubleshooting by indicating blown fuses, relay activation and relay operation. A buzzer mounted near the driver shall have the ability to activate when lift door is open, rear door is open, entry door is open, or window is open and an auxiliary input for other requested items. The electrical system must include accommodations for the addition of options or aftermarket requirements. Power distribution center shall include silkscreen identification on the

front and back that include all components / circuits. Wiring should be point to point and the use of relays is only allowed when switches are not available for the required load. AC High speed, AC Medium speed, AC condenser, AC Clutch and master body relay.

- a. A/C Electrical System: System shall include a single compressor AC system included in the power distribution center and have the ability to add a second single compressor system in the same location.
- b. Stop Request: An optional stop request system shall include 2 different tones for passenger and ambulatory passengers per ADA requirements including a remote mounted speaker located in the OEM dash driver switch panel. Buzzer must also have adjustable volume by the driver. A reset of the card system must be included for entry door cycle or switch in the driver console. Card must be plug n play for ease of replacement.
- c. Heating: The system must have the ability to operate two separate heaters with independent high and low speeds. An output shall be included that is common for any heater output to be used for a water valve or pump.
- d. Driver Switches: Switches must have amber backlighting that operates when the chassis running lamps are turned on. They must also include an amber operation LED for any components on the exterior of the vehicle or any item a driver cannot easily identify as being turned on. Switches must be a rocker style and rated at a minimum of 20A.

15. Electrical Body Wiring Harness

General-purpose wiring shall be cross-linked polyolefin insulated and shall meet SAE standards J1127 & J1128 types SGX and GXL. Wires shall be stamped every 6". Multiple colors are required for different circuits and can be done through solid colors or colors with stripes. One color harnesses are not allowed. All harnesses shall contain a protective barrier through the use of loom, grommets, wire ties and insulated clamps. Routing shall be used as to best protect the harness. Protective covering shall be rated for the area of routing. Temperature, liquids and chafing shall be considered. All connectors shall be plug in type and keyed connectors with locks meeting SAE automotive standards. Dielectric grease shall be used on all exterior connections.

16. Lighting, Exterior

All exterior lighting, with the exception of lighting supplied by the chassis manufacturer, shall be LED. The use of butyl tape is not allowed.

- a. Marker Lights: Lights must be mounted in a recessed grommet and be ¾" round / self-sealing style. This applies to all amber and red marker lights.
- b. Tag Light: Light must be mounted in an anti-corrosion ABS housing and mounted using a gasket.
- c. Side Turn / Marker: Should be Super 60 style single light and recess mounted.

- d. Stop-Tail-Turn-Backup Lights: Lights shall be 4" round and mounted in a recessed grommet. Grommet and lights shall be sealed separately during installation.

17. Lighting, Interior

LED dome lights to be provided. The passenger compartment lighting shall be controlled by a switch located within the driver area. All interior lights shall be the same style / model light for luggage light, lift light, dome lights, driver map light and entry door step light. Each light shall be a minimum of 500 lumens.

- a. Driver Map Light: Light must operate with the OEM driver door open or OEM dash dome light switch.
- b. Interior Dome Lights: Interior lights require a minimum of 3 lights (2 driver side located across from wheelchair door locations and 1 passenger side centered in the body) with the ability to upgrade to 6 lights (3 spaced evenly on the driver and 3 on the passenger side). Lights must operate with passenger entry door open or interior dome light switch located in the driver dash.
- c. Entry Door Step Light: Step light shall be mounted above the entry door. Step light must operate with passenger entry door open or interior dome light switch located in the driver dash.

18. Floor Subfloor and Covering

The plywood floor shall be minimum 5/8" thick, CDX or equivalent grade plywood, mounted with Tek screws installed into the steel floor frame. All plywood edges should be sealed. The rear wheel housings shall be 14 gauge galvanized steel.

Interior floor covering shall be slip resistant flooring with a minimum of 70 mills in thickness. The passenger area will have a level floor throughout except for the wheel well section for the rear axle/wheels. A flat floor option is available to provide a level floor throughout the passenger compartment.

19. Insulation

The body roof and side walls shall be insulated with spray-applied expanding foam insulation to fill gaps and provide adhesion to the exterior panels across the entire panel surface. Insulation in sides, rear, and roof shall be equal to an R-9.5 thermal barrier and sound absorption.

20. Seating

Driver seat shall be OEM as provided by the chassis manufacturer.

Passenger seats shall be manufactured by HSM and shall be tested to prove compliance with FMVSS 207/FMVSS 210. Seats shall be mid-high type and installed as shown on the vehicle floor plan.

Passenger seats shall to be fastened to floor and wall seat tracks spanning the length of the passenger seating area utilizing a continuous galvanized seat track. The seat track shall be spot welded to a continuous HSLA Grade 60 G40 galvanized roll formed stringer supporting the seat track on three sides, and the stringer shall be welded to adjacent structural members of the cage floor or wall. All seat installations shall comply with FMVSS 207/210 seat pull testing requirements.

21. Heating, Ventilation, and Air Conditioning

- a. The front heater, front air conditioner, and defroster shall be OEM as supplied by the chassis manufacturer with controls located on the dash within easy reach of the driver.
- b. Provisions shall be made for supplying heated coolant to optional heaters in the passenger cabin. A coolant shut-off valve installed in the rear heater hoses is standard and shall be located under the cab behind the driver's area.
- c. The vehicle may be equipped with an optional heater rated at 65K Btu.
- d. The vehicle may be equipped with an optional rear auxiliary air conditioning system. The rear system shall include an independent compressor, skirt-mounted condenser, and rear evaporator. When combined with the OEM front air conditioning, the total system capacity shall exceed 60K BTU and shall meet performance requirements for the Houston pull down test.
- e. All heating and air conditioning lines and hoses shall be sufficiently protected to ensure against wear from friction and the elements. There shall be no heating lines routed within the passenger compartment.

22. Road and Water Test

Prior to shipment, the bus shall undergo thorough road and water testing to verify operational readiness.

The purpose of the road tests is to observe and verify the operation of the bus as a system and to verify the functional operation of the subsystems that can be operated only while the bus is in motion. Each bus shall be driven a minimum of 5 miles on the road test.

Prior to water test, the bus shall be driven a minimum of one-half mile on a track simulating various rough road conditions including staggered bumpers, chatter bumps and frame twists. The water test shall be run for 15 minutes to check the integrity of the vehicle's body seams, window frame seals and other exterior component close-outs for their ability to keep rainwater, road splash, melting snow and slush, and other exterior water from entering the inside of the vehicle. If a water leak is found, it will be repaired and the vehicle will be retested.

23. Quality Assurance

The Contractor's Quality Management System shall be registered as compliant with ISO 9001:2008.



WARRANTY OVERVIEW

Please refer to specific warranties for details & exclusions

WORLD TRANS	
World Trans Base Warranty	3 Years/36,000 Miles – World Trans
World Trans Body Structure	5 Year/100,000 Miles – World Trans
World Trans Electrical System	3 Year/36,000 Miles - Electrical Panels (Circuit Boards) 3 Year/36,000 Miles - Wiring
World Trans Paint	5 Year/100,000 Miles – World Trans (prorated after 3/36 period)
CHASSIS	
Ford Motor Co.	3 Year/36,000 Miles E & F Series Chassis 5 Year/60,000 Miles Drivetrain 5 Year/Unlimited Miles Corrosion 5 Year/100,000 Miles Diesel Engine
General Motors	3 Year/36,000 Miles G3500 & G4500 Chassis 5 Year/60,000 Miles Drivetrain for End Users w/o FAN 5 Year/100,00 Miles Drivetrain for FAN End Users 3 Year/36,000 Miles Corrosion 6 Year/100,000 Miles Rust-Through
AIR CONDITIONING AND HEAT	
A.C.T. A/C*	2 Year/Unlimited Mileage, Parts, Labor with prior authorization (from Original in Service Date)
ACC Climate Control	3 Year/75,000 Miles (with min 2 Year/Unlimited mileage for original owner)
Mobile Climate Control(MCC)	2 Year Unlimited Mileage (from Original in Service Date)
Thermo King A/C	2 Year/ Unlimited Mileage, Parts, Labor 1 Year on Compressors
Trans Air	2 Year/Unlimited Mileage (from date of in-service)
ProAir Heaters*	2 Years/Unlimited Mileage
ALTERNATOR	
Alternator	See Chassis Warranty
AUDIO VISUAL	
ASA Radio Components	2 Year/Unlimited Mileage
Echovision	1 Year (from original purchase date)

REI*	2 Year/Unlimited Mileage – Radios, Monitors, DVD players 3 Year/Unlimited Mileage – Surveillance Products 90 Days – Speakers, Microphones, Cables, etc.
Rosco Vision Systems	1 Year from date of receipt of product
BIKE RACKS	
Sportworks – Bike Racks	1 Year (from date of purchase)
COOLANT HEATERS	
Espar Climate Control Systems	2 Year/2000 Hours Airtronic 1 Year/1000 Hours D8LC 2 Year/2000 Hours Hydronic 4 & 5 1 Year/1000 Hours Hydronic10 & higher; Hydronic L's & M's
DESTINATION SIGNS	
Axion Technologies	6 Year – Axion Series 35 and 40 products
Hanover Signs	10 Year – Amber LED Signs 5 Year – White & Color Signs
Luminator-TwinVision	6 Year/Parts & Labor – Horizon SMT Amber or White & Spectrum Full Color (date of shipment from plant) 1 Year/Parts & Labor – Mobilite (in-service date or 90 days after original shipment date) 10 Year/Parts & 3 Year/Labor – Amber/Silver Smart Series (date of shipment from plant) 6 Year/Parts & 3 Year Labor – Chroma Smart Series (date of shipment from plant)
Transign	Life of Vehicle – LED Destinator Electronic Signs (original buyer) 1 Year – Roller Curtain Mechanisms & Curtains, Run Number Boxes, Stop Requested Signs (from date of shipment)
DOORS	
A&M Systems - Doors*	1 Year, Parts & Labor 3 Year Extended Limited available – call for quote
FARE BOXES	
Diamond Mfg – Fare Box	1 Year (from date of shipment)
FAST IDLE/INTERLOCK	
InPower*	2 Year (from date of shipment from InPower)
Intermotive Vehicle Controls	1 Year (from original date product shipped) or 2 Year (from in-service date if registered)
FIRE SUPPRESSION	
Amerex	3 Year – commercial vehicle systems/gas detection control panels less sensors (from purchase date)
Fogmaker	2 Year (original buyer) 1 Year Methane Sensors

Kidde	1 Year Limited, Parts
FLOORING	
Altro	15 Year 0.11" (2.7mm) Meta & Chroma 12 Year 0.09" (2.2mm) Meta & Chroma 10 Year 0.07" (1.8mm) Meta & Chroma
GerFlor*	12 Year
RCA Rubber	12 Year Center Aisle Rib & Under Seat (from delivery date) 1 Year Tread & Entrance, Materials Only (from delivery date)
LIFTS AND RAMPS	
Braun Lifts	5 Year Parts, 3 Year Labor (if warranty card returned)
Ricon Lifts	5 Year Limited, 1 st year Parts & Labor
LIGHTING	
Dialight	12 Year LED Vehicle Interior Illumination Products 5 Year LED Reading Lamp, Compartment Light, Exterior Stepwell Light 7 Year LED Vehicle Head Light/Strip Lights (original end user) Lifetime LED Vehicle Lamp (original end user)
Grote Lights	1 Year from date of manufacture
Optronic Lights*	3 Year (excluding bulbs) Incandescent (from purchase date) Lifetime of original purchaser LED lighting products
LUGGAGE BINS	
Pretoria (SMI)	5 Year (original purchaser from shipment date)
MIRRORS	
Safe Fleet (B&R/Hadley)	1 Year (from date of in service for original end user)
Rosco Vision Systems	1 Year (from date of product receipt)
Velvac	1 Year (date of sale to end-user or 2 Year from manufacture)
RESTRAINTS	
Q-Straint Tie-downs	1 Year Q-8200 2 Year M Series 2 Year Q-8100 2 Year 5000 Series 3 Year Q-8300 1 Year Anchorages/Track
Sure-Lok Tie-downs	1 Year Standard Belt Kits 1 Year Titan Series 3 year
RETARDERS	
Telma Retarders	2 Year/Unlimited Miles (after delivery to original purchaser)
ROOF HATCHES	
SMI (Transpec)	1 Year (from date of Manufacture) 2 Year – Electrical components & 5 Year on all other components (from date of manufacture) – Power Hatches

SEATING	
HSM Solutions*	1 Year from the date of original purchase
Freedman Seating	1 Year Freedman Level 1 & 2 Covers 2 Year Freedman Level 3 & up Covers No Warranty Customer Supplied /Special Fabric 5 Year Metal Frames, Base Frames, Legs 1 Year Foldaway Gas Shocks
Recaro Seating	2 Year/100,00 Miles; 1 Year Foam 2 Year Standard Fabric, Vinyl or Leather
USSC Seating	5 Year Metal components 3 Year Plastic Components 3 Year Moving Components 1 Year Upholstered Components
SUB-FLOORS	
Standard Plywood (BlueLinx)	Warranty free of manufacturing defects; none in the field
Roseburg Forest Products (Marine Grade Plywood)	Warranty free of manufacturing defects; none in the field
ThermoLite Board (Composite)	Limited Lifetime
SUSPENSIONS	
MOR/ryde Suspensions	3 Year/70,000 Miles (from original purchase date) 1 Year Labor Charges (from original purchase date)
WINDOWS	
Kinro Windows (includes Starquest)*	1 Year (date of sale to end-user or 18 Months from delivery to manufacturer/dealer)

***Preferred Vendors**

Vendor shown warranties for options/components listed above do not include the installation warranty. Standard installation warranty for all of the listed items is 12 months or 12,000 miles whichever occurs first.