

1) Scope

This technical specification covers requirements for a new General Coach Bus EZ-Street low floor bus, which is suitable for service in a variety of applications. The bus shall be designed to operate in service for at least seven years or 200,000 miles. The bus shall meet all applicable Federal Motor Vehicle Safety Standards (FMVSS) and Environmental Protection Agency (EPA) regulations in effect at the date of manufacture. The bus must be fully compliant with the Americans with Disabilities Act (ADA). The bus must comply with O.E.M. chassis manufacturer's recommended practices as defined in the Body Builder and Van Modifier Manuals.



2) General Requirements and Dimensions

Description	ES 230	ES 240	ES 250	ES 270
Maximum overall length, with standard bumpers	281.0"	294.0"	307.50"	327.0"
23' 4'		24' 6"	25' 9.5"	27' 3"
Add for energy absorbing bumper - rear	5"	5"	5"	5"
Chassis/Wheelbase	Ford E450 176"	Ford E450 186"	Ford E450 186"	Ford E450 208"
GVWR	14500 #	14500#	14500#	14500#
Exterior Height, to skin	111"	111"	111"	111"
• Add for Roof Mount A/C	9.5"	9.5"	9.5"	9.5"
• Add for closed vent	4.5"	4.5"	4.5"	4.5"
• Add for open vent	7.5"	7.5"	7.5"	7.5"
Maximum Exterior Width	102"	102"	102"	102"
Interior Height at center of aisle (minimum)	Front - 81.0" Rear - 78.0"	Front - 81.0" Rear - 78.0"	Front - 81.0" Rear - 78.0"	Front - 81.0" Rear - 78.0"
Interior Width at Floor	96.75"	96.75"	96.75"	96.75"
Width 24" Above Floor	Same	Same	Same	Same
Clear passenger Door Opening	38.0"	38.0"	38.0"	38.0"
Ground to Step	15.0"	15.0"	15.0"	15.0"
Ground to first Step Kneeled	11.0"	11.0"	11.0"	11.0"
Aisle Width	22.0"	22.0"	22.0"	22.0"



GENERAL COACH

America, Inc.

Thor Industries Commercial Bus Division

TECHNICAL SPECIFICATIONS
GENERAL COACH BUS EZ-STREET

Chassis: Ford E450

GVWR - 14,500 #
Engine - 6.8 L GAS-EFI- V10
Horse Power - 05 HP @ 4250 RPM- 420 LB/FT @ 3250 RPM
Transmission - 5-Speed O/D Automatic Trans (5R110)
4.56 Rear Axle Ratio
Delco Remy 225-AMP Alternator
Dual 650 CCA Battery
35 And 55 Gallon Fuel tank
Power Disc brakes
16X 6 Steel Wheels
5000# Twin I-Beam Front Axle
9500# Rear Axle
TiresLT225/75R 16E, BSW all season
Tilt Cruise

Chassis Frame:

Shall utilize the OEM frame and include 1/4 inch A36 steel to achieve the frame modification. The modification shall be designed so that the driveline is under the frame rails not to include a drop box. All modification shall have sufficient strength to prevent up to a 3 G downward shock condition.

Suspension:

Shall be a Dallas Smith Corporation IntelliSync® air-ride suspension system. This system shall include a York Model 210 under hood mounted compressor. The bus shall kneel at all 4 points when the bus is in park the requirements of the IntelliSync system are met and the entry doors are open.

A Schrader valve shall be installed into the bus air suspension on the roadside so that in the event of a no-start situation the air bags on the suspension can be inflated and the bus moved properly.

Ramp and Entry Door:

This shall be a Braun Ramp with an 800lb capacity with a useable ramp space of 34.125 inches and a ramp length of 94 inches. The ramp shall be mounted to the body and have a 6:1 ratio for ADA compliance.

The ramp shall deploy once the bus is in park the switch has been activated the requirements of the ItelliSync system is met the entry doors open and the bus kneels at all 4 points.

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 edge of the door and a brush type seal at the bottom edge. Each door panel shall have an 11-gauge aluminum frame and shall be glazed with a full-height AS2 glass panel. The door shall be driver-operated and electrically controlled and shall incorporate a locking feature. The door clear opening shall be a minimum of 38" wide by 74 1/2" high.

2. Body Specifications:

2.1 Body Structure:

Shall be coated with a 99% pure zinc coating during the milling process.

The coach shall have a heavy-duty unit body-type structure. The body structure shall be of durable steel construction; adequately reinforced at all joints and points of stress, with sufficient strength to support the entire weight of full-loaded vehicle on its top or side, if overturned. At a minimum, the sidewalls shall be constructed of tubular 16 gauge 1-1/2" x 1-1/2" vertical studs and corner posts. Centers to be on a maximum 48" with a horizontal stringer of 1-1/2" x 2" 14 gage tubing at the top of the wall and a 16 gauge Z-rail at the bottom of the wall. The window corners shall be reinforced with corner gussets. The roof shall be constructed of 1.5" x 1.5" tube steel rafters installed on maximum 48" centers. The floor frame shall consist of 11 gauge, 2 x 2.8 x 2 " channel cross members, on a maximum 24" center, with an outer 14 gauge 305" x3.19" x 2.0C-Channel. A copy of the FMVSS 220 rollover protection test results shall be submitted with the bid. FMVSS must meet 220 with the structure itself and cannot be dependent on exterior or interior panels for strength. The requirement must be submitted with this bid identifying this requirement.

The body shall be welded to the under frame structure so that the entire frame shall act as one unit without any movement in joining. Front side, and back panels shall be secured to the floor frame, members, and posts so as to result in a permanent, fully-integrated structural unit adequately reinforced with steel posts and rails at all points where stress concentration may occur. The cage shall be built as a complete assembly and shall be square, plumb and level before installing the body on the chassis. The vehicle shall adequately carry loads for which it was designed without exceeding its rated GVW.

Interior panels shall vinyl covered Luann, FRP or approved equal. Reinforcements shall be installed around door openings in order to transfer stress around the opening. All exterior side panels shall be 3.5 mm Noble Select with a tensile strength of 7,000 psi. The sidewalls must have a gel coat finish. The roof panels shall be .020 two side galvanized steel with a baked enamel finish. The skin shall be laminated to 1/8" Luann and bonded to the steel frame. Exterior panels shall be sufficiently stiff to prevent vibration, drumming, or flexing while the bus is in normal service. Lower skirt panels shall be sufficiently fastened and braced to prevent damage from ice and snow build-up. Lower skirt panel sections are easily removable and repairable. Where panels are lapped, the upper or forward panel shall act as a watershed. Sealing and fastening of joints shall prevent entrance of moisture and dirt. All exterior panels shall be riveted, bonded or welded to the body frame with no exterior visible fasteners.

Gun installed huck bolt fastenings, huck rivets or welds shall be used at all locations where stress is concentrated. Fastener materials shall be compatible with materials being fastened. No sheet metal screws shall be permitted, except fender rubbers which can be secured with locking-type, self-tapping bolts. Where self-tapping bolts are used, body panels shall be reinforced with aluminum or stainless steel backing. In no case shall the sealing of the panel be dependent on caulking alone.

Body overhang shall not exceed one third of bus overall length. The total height of the bus, from the bottom of the tires to the top of the vehicles highest point shall not exceed 111". The rear of the body shall be flat across the full width of the coach.

Electrical:

Shall be a Precision Works self diagnosing electrical panel. This shall be installed above the drivers seated position. All wiring must be p-clamped every six inches and loomed. All pass through shall have a grommet installed. All electrical wiring shall be p-clamped separate of the AC and Heater hoses.

