

FED STD 833D

JUNE 26, 2009

FEDERAL STANDARD
BUSES: TYPE A SCHOOL
SUPPORT TEXT

TYPE “A”- SCHOOL BUSES

1.0 Scope and Classification

1.1 Scope

This Standard covers commercial Type “A” Buses.

The buses specified herein are of school bus construction.

This Standard is intended to simplify competitive procurement of commercial vehicles, and achieve a practical degree of standardization within the federal fleet.

The Government takes no exemptions to the laws and regulations for vehicles used on public roads and highways.

1.2 Application

This Standard does not include all varieties of the commodity indicated by the title but is intended to cover those vehicles generally acquired by the Government. Buses with standardized components and equipment are highlighted in this Standard. A selection of coded optional additional systems and equipment are included for agencies, divergent geographic and operational related needs.

1.3 Coverage of Bus Types

The types of buses covered by this standard are listed below. Optional equipment appears in section 3.22. The item descriptions, minimums, options, and manufacturer data can be viewed on the web www.gsa.gov/automotive. Click on the link for all standards and refer to [Fed Std 833D, Items 301C-305C, Type A School Bus](#).

1.1.1 Classifications

The individual bus configuration classifications are referred to by a Standard Item Number (SIN)

The SIN's covered by this specification are as follows:

301C- 14 Children, Type A, School Bus

302C- 24 Children, Type A, School Bus

304C- 30 Children, Type A, School Bus

305C- 36 Children, Type A, School Bus

2.0 Applicable documents

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues in effect are those cited in the solicitation or contract.

The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.1 Federal Specifications

A-A-393A Commercial Item Description Extinguishers, Fire, Dry-Chemical (Hand-Portable)

2.2 ADA Transportation Vehicle Accessibility Guidelines (ADA) 36 CFR Part 1192

1192.25 Doors, steps and thresholds

1192.29 Interior circulation, handrails and stanchions

1192.31 Lighting

2.3 Federal Motor Vehicle Safety Standards (FMVSS) 49 CFR Part 571

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[Federal Standard 833D Items 301C-305C, Type A School Bus](#)

- 571.101 Controls and Displays
- 571.102 Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect
- 571.103 Windshield Defrosting and Defogging Systems
- 571.104 Windshield Wiping and Washing Systems
- 571.105 Hydraulic Brake Systems
- 571.106 Brake Hoses
- 571.108 Lamps, Reflective Devices, and Associated Equipment
- 571.111 Rearview Mirrors
- 571.113 Hood Latch Systems
- 571.116 Motor Vehicle Brake Fluids
- 571.119 New Pneumatic Tires for Vehicle Other Than Passenger Cars
- 571.120 Tire Selection and Rims for Vehicles other than Passenger Cars
- 571.124 Accelerator Control Systems
- 571.131 School Bus Pedestrian Safety Devices
- 571.201 Occupant Protection in Interior Impact
- 571.202 Head Restraints
- 571.203 Impact Protection for the Driver from the Steering Control System
- 571.204 Steering Control Rearward Displacement
- 571.205 Glazing Materials
- 571.207 Seating Systems – Standard applies to the driver’s seat only
- 571.208 Occupant Crash Protection - Standard applies to the driver’s seat only
- 571.209 Seat Belt Assemblies - Standard applies to the driver’s seat only
- 571.210 Seat Belt Assembly Anchorages - Standard applies to the driver’s seat only
- 571.212 Windshield Mounting
- 571.213 Child Restraint Systems – Standard applies to vehicles with an integral child safety seat
- 571.214 Side Impact Protection
- 571.217 Bus Emergency Exits and Window Retention and Release
- 571.219 Windshield Zone Intrusion
- 571.220 School Bus Rollover Protection
- 571.221 School Bus Body Joint Strength
- 571.222 School Bus Passenger Seating and Crash Protection
- 571.225 Child Restraint Anchorage Systems
- 571.301 Fuel System Integrity
- 571.302 Flammability of Interior Materials
- 571.303 Fuel System Integrity of Compressed Natural Gas Vehicles
- 571.403 Platform Lift Systems for Motor Vehicles
- 571.404 Platform Lift Installation in Motor Vehicles

2.4 Federal Motor Carrier Safety Regulations (FMCSR) 49 CFR Part 393

- 393.11 Lighting devices and reflectors
- 393.19 Requirements for turn signaling systems
- 393.20 Clearance lamps to indicate extreme width and height
- 393.22 Combination of lighting devices and reflectors
- 393.23 Lighting devices to be electric
- 393.24 Requirements for headlamps and auxiliary road lighting lamps
- 393.25 Requirements for lamps other than head lamps
- 393.26 Requirements for reflectors
- 393.28 Wiring to be protected
- 393.29 Grounds
- 393.30 Battery installation
- 393.31 Overload protective devices
- 393.40 Required brake systems
- 393.41 Parking brake system
- 393.42 Brakes required on all wheels
- 393.44 Front brake line, protection
- 393.45 Brake tubing and hose, adequacy

393.46 Brake tubing and hose connections
 393.47 Brake lining
 393.50 Reservoirs required
 393.51 Warning devices and gauges
 393.52 Brake performance
 393.53 Automatic brake adjusters and brake adjustment
 393.55 Antilock brake systems
 393.61 Window construction
 393.62 Window obstructions
 393.63 Windows, markings
 393.65 All fuel systems
 393.67 Liquid fuel tanks
 393.69 Liquefied petroleum gas systems
 393.77 Heaters
 393.78 Windshield wipers
 393.79 Defrosting device
 393.81 Horn
 393.88 Television receivers
 393.89 Buses, driveshaft protection
 393.90 Buses, standee line or bar
 393.92 Buses, marking emergency doors
 393.95 Emergency equipment on all power units

2.5 Non-Government standards and other publications

2.5.1 Society of Automotive Engineers (SAE) Standards and Recommended Practices

J163 Low Tension Wiring and Cable Terminals and Splice Clips
 J198 Windshield Wiper Systems- Trucks, Buses, and Multipurpose Vehicles
 J381 Windshield Defrosting Systems Test Procedure and Performance Requirements- Trucks, Buses, and Multipurpose Vehicles
 J551 Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats (up to 15m), and Machines (50 Hz to 18 GHz)
 J516 Hydraulic Hose Fittings
 J537 Storage Batteries
 J561 Electrical Terminals-Eyelets and Spade Type
 J575 Test Methods and Equipment for Lighting Devices and Components for Use on Vehicles Less Than 2032 MM in Overall Width
 J588 Turn Signal Lamps for Use on Motor Vehicles Less than 2032 mm in Overall Width
 J589 Turn Signal Switch
 J673 Automotive Safety Glasses
 J686 Motor Vehicle License Plates
 J695 Turning Ability and Off Tracking-Motor Vehicles
 J910 Hazard Warning Signal Switch
 J1127 Battery Cable
 J1128 Low Tension Primary Cable
 J1133 School Bus Stop Arm
 J1292 Automobile, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring
 J1318 Gaseous Discharge Warning Lamp for Authorized Emergency, Maintenance, and Service Vehicles
 J1350 Selection and Application Guidelines for Diesel, Gasoline, and Propane Fired Liquid Cooled Engine Pre-Heaters
 J1489 Heavy Truck and Bus Retarder Downhill Performance Mapping Procedure
 J1908 Electrical Grounding Practice
 J2064 R134a Refrigerant Automotive Air-Conditioning Hose
 J2188 Commercial Truck and Bus SAE Recommended Procedure for Vehicle Performance Prediction and Charting

2.5.2 American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

A03 Handbook, Chapter 9, Surface Transportation
 37 Methods of Testing for Rating Unitary Air-Conditioning and Heat Pump Equipment
 41.1 Standard Methods for Temperature Measurement

41.2 Standard Methods for Laboratory Airflow Measurement

41.3 Standard Method for Pressure Measurement

2.5.3 American Trucking Association, Inc.

Technology and Maintenance Council (TMC) RP 803

2.6 The National Conference On School Transportation

National School Transportation Specifications and Procedures 2005 Revised Edition (NSTSP)

2.7 Order of Precedence

In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3.0 Requirements

- a. Chassis manufacturer, intermediate stage vehicle converter, and final state manufacturer, as applicable, shall be registered with the National Highway and Traffic Safety Administration (NHTSA).
- b. The bus shall be complete with all the necessary operating components, features, and accessories customarily furnished for commercial sale, whether stipulated herein or not.
- c. Buses and furnished accessories shall comply with all applicable Federal Motor Vehicle Safety Standards and the Federal Motor Carrier Safety Regulations listed in section 2.4 applicable on the date of manufacture.
- d. All standards and specifications listed in Section 2 shall apply with the only exceptions being those in conflict with FMVSS standards.
- e. Bus shall meet the requirements of the NSTSP and the State to which it is delivered unless otherwise amended herein.
- f. Seating capacity can be reduced from those cited for each SIN in the States prohibiting 3x3 seating in the area of the emergency exit rear door. Those States included shall be listed in the OEM Clarifications tab in Auto Choice with the actual capacity per State listed.
- g. Buses furnished shall meet or exceed this Specification. All deviations to this Standard must be directed in writing to the GSA Procurement officer assigned to the bus program.
- h. Options are defined in Paragraph 3.22. Option codes are selected by the purchaser to meet agency needs. An Option cited in a purchase order, is a requirement to be provided under a contract.
- i. Information for this Standard and Items can be viewed on the web www.gsa.gov/automotive. Click on the link for all standards and refer to [Fed Std 833D, Items 301C-305C, Type A School Bus](#)

3.1 Body and Chassis

The body and chassis furnished shall be no older than the bus manufacturer's current production at the time of vehicle manufacture.

3.1.1 Passenger Capacities

<u>Standard Item Number (SIN)</u>	<u>Child Capacity (Seated)</u>
SIN 301C	14 children
SIN 302C	24 children
SIN 304C	30 children
SIN 305C	36 children

3.1.2 Body Construction

The following FMVSS requirements shall apply to all buses furnished herein:

571.214

571.220

571.221

3.1.3 Body Fastener Application

All fasteners shall be corrosion resistant.

3.1.4 Body Structure

Wood shall not be used for structural framing.

3.1.5 Body Integrity

- a. The body, floor, roof, and panel joints shall be water and air tight.
- b. All body seams shall be sealed and not permit dust or fume entry into passenger compartment.
- c. Body, hinge, and, mirror mounting points shall be reinforced to prevent cracking, fastener, or fastener device pull out.

3.1.6 Body Exterior Lengths

Body measurement shall be exterior rear surface to front face of body. Length measurement shall not include bumpers.

3.1.7 Body Exterior Width

This measurement shall be taken from the exterior vertical body surface of the primary body skin panel.

3.1.8 Body Exterior

- a. Exterior side walls shall comply with FMVSS 571.214, 220, and 221.
- b. Bus end caps can be of composite construction materials if not available in metallic.
- c. Tires shall not protrude beyond exterior body side wall.
- d. Composite rubber fender extensions can be used to cover tire edge.

3.1.9 Rain Splash Control

Rain gutters, hoods, or lips shall be provided to prevent water from the roof flowing onto the passenger doors, side windows, and the door boarding area.

3.1.10 Passenger Compartment Interior Dimensions

Interior height as measured from the floor to center peak of ceiling. Measurement minimum shall be maintained between the first and last vertical roof bows.

3.1.11 Insulation

- a. All bus and chassis manufacturer standard and optional insulation packages shall be supplied as standard and shall comply with FMVSS 571.302.
- b. Buses shall have all available firewall insulation
- c. Insulation as installed in bus shall have a minimum R-value of 5.
- d. When using insulation that is not spray urethane:
 1. The insulation material shall not be exposed to moisture including but not limited to wash downs.
 2. The insulation material shall not be exposed to the exterior including under bus body.
 3. The insulation material shall not be used in any manner for which it was not originally designed.
 4. Insulation shall fill all cavity areas and voids in:
 - i. Outer and inner walls
 - ii. Outer and inner roof
 - iii. Roof bow hat section

3.1.12 Maintenance

- a. The design of the bus and optional equipment shall permit access for routine servicing and shall permit access for replacement and adjustment of component parts and accessories with minimal disturbance of other components and systems.
- b. Interior hinged and fastener-secured access panels and doors for maintenance:
 1. Shall use common tools to open and be flush with the surrounding materials.
 2. Shall be sealed to prevent entry of fumes and water into passenger compartment.

3.1.13 Sound Level

The interior sound level when measured in accordance with FMCSR 393.94 shall not be greater than 82db.

- a. All noise reduction methods available from body and chassis manufacturer shall be added to the standard package.

Examples of noise reduction methods that may be included as standard include:

1. Complete lining of stepwell treads and sides with multiple layer noise reduction matting.
2. Urethane foam underbody insulation
3. Application of PPG Audioguard acoustical coating
4. Additional noise reducing exhaust mufflers
5. Underbody shielding
6. Engine compartment and underhood noise control matting.

3.1.14 Body Mounting

- a. Cutaway buses shall "float" the cab and body per chassis manufacturer's Body Builders Book.
- b. Reinforcements or filler blocks shall be used where mounting devices might otherwise deform frame flanges.
- c. Mounting devices shall utilize fasteners that will minimize loosening but which may require regular scheduled tightening.
- d. Interface of chassis and body, including all electrical, fluid, mechanical systems, and mounted equipment shall be in full accordance with the chassis manufacturer's "Body Builders Book" and published equipment technical data.

3.1.15 Corrosion Protection

- a. All hardware shall be corrosion resistant.
- b. Fastener materials shall be compatible with materials being fastened.
- c. No bare metal permitted.
- d. All joints and connections of dissimilar metals shall be insulated to minimize effects of galvanic corrosion.

3.1.16 Undercoating

Metallic underbody, fenders, skirts and wheelwells shall be undercoated.

3.1.17 Mud Flaps

Rubber composition mud flaps at all wheel ends shall extend to within 3 to 7 inches off the ground when suspension is at normal operating height and at curb weight and be supported at the approximate middle by wire bracing to further reduce sail.

3.1.18 Curb Weight

The curb weight shall include the weight of the chassis and body with all attachments, accessories, standard and optional equipment, a full complement of fuel, lubricants, coolants.

3.1.19 Payload and Gross Vehicle Weight

The payload weight for child passengers shall be calculated using 120 pounds per child and 215 pounds for the driver. Wheelchair positions shall be calculated using 300 lbs. for each wheelchair position specified.

3.1.20 Capacity Decal

An instruction decal shall be applied to the forward bulkhead visible to all passengers and driver. The lettering shall be not less than 1-1/2 inch in height and in strong contrast to the interior background color. The message can be in a single line or two lines and must state "No Standees Permitted" or "No Standees" and "Maximum Passenger Capacity XX" or "Capacity XX Passengers". The two X's shall represent the passenger capacities specified as standard and optional. Multiple decals can be used to accommodate this requirement with one displaying the no standees instruction statement and another displaying passenger capacity.

3.1.21 Towing Devices

- a. Front and rear towing devices shall be furnished. Front devices can be deleted if the chassis manufacturer's incorporates a frame crush zone that prohibits attachment of the towing devices.

- b. If the bus cannot be lifted with the furnished hooks or loops without damaging body panels or frame, a warning label shall be permanently affixed to the frame area immediately next to the towing devices and clearly visible to tow truck operator during recovery procedures. Warning label shall be in high contrast to its surrounding to provide immediate recognition. The warning label shall read in bold letters no smaller than ¼ inch, "DO NOT LIFT BUS WITH TOW EYES. TOW EYES FOR FLAT GROUND MANEUVERING ONLY."
- c. Complete towing instructions shall be furnished with the operator's manual.
- d. Rear towing device(s) shall not provide a toehold for unauthorized riders

3.2 Air Pollution Control

The vehicle and engine shall conform to 40 CFR Subchapter C-Part 86- "Control of Emissions from New and In-use Highway Vehicles and Engines," as evidenced by an EPA certificate of compliance. Vehicles shall also comply with all pollution control requirements for the State of final destination. Certificates of compliance shall be made available upon request.

3.3 Engines

Engine horsepower and torque ratings shall be the engine manufacturer's advertised values.

3.3.1 Cooling System

- a. Cooling system shall be charged with extended life coolant.
- b. All coolant hoses and lines shall be Goodyear Hi-Miler, International Truck Premium, or fiber reinforced silicone such as Flexfab "Silicone". Silicone hoses shall not be used in the passenger compartment.
- c. Hoses and lines shall not be supported by wire ties or straps.
- d. Passenger compartment heater hoses shall be equipped with full-flow, quarter-turn valves located in a protected location to permit complete shutoff of engine coolant flow to heating units. The location of the valves shall be indicated with a label stating the purpose of the valves such as "Heater Shutoff Valves" and located to be visibly obvious.

3.3.2 Engine Compartment

- a. Engine compartment shall be readily accessible for servicing and routine maintenance of engine and engine components.
- b. All fluid locations shall be accessible with standard funnels, pour spouts, and automatic dispensing equipment.
- c. All lubricant sumps shall be fitted with magnetic-type external, drain plugs if available from the component manufacturer as standard or optional.
- d. Ready access to engine compartment shall be furnished for servicing and routine maintenance of engine and engine components.

3.4 Engine Accessories

3.4.1 Automatic Engine Idle Shutdown

Engine shall shutdown automatically after a 300-second idle period when the transmission is in the neutral position. Shutdown command can be overridden when the air conditioning is switched to on.

3.4.2 Coolant Heater

All engines shall be equipped with a 120-volt AC coolant heater located in the engine block. Heater shall be engine manufacturer's standard or optional equipment.

3.4.3 High-Idle Control

Engine high-idle control shall:

- a. Be preset to operate at an elevated rate to meet electrical and air conditioning loads not to exceed maximum rate permitted by engine manufacturer.
- b. Idle up shall engage when switched to the "ON" position and meet the parameters set by the engine manufacturer when supplied as original equipment (OEM).
- c. When function control is furnished by aftermarket the following shall apply:

1. Operate (engage) when the air conditioning is operating, the parking brake applied, and the transmission in "NEUTRAL" or "PARK". High idle speed shall not rely on manual on/off switch position to elevate idle. A low voltage sensing controller can be used to accommodate this requirement in lieu of immediate idle up when A/C is activated.
2. Disengage when the parking brake is released, service brake pedal depressed, or transmission in-gear position is selected

3.5 Transmission

3.5.1 Automatic Transmission

- a. Transmission ratings shall be selected to meet or exceed the maximum horsepower, torque, of the engine specified.

3.6 Brakes

3.6.1 Service Brakes

- a. Chassis OEM Antilock Brake System shall be furnished with independent sensors at all wheel ends and rated to meet or exceed requirements FMCSR 393.40, 393.41, 393.42, 393.44, 393.45, 393.46, 393.47, 393.50, 393.51, 393.52, 393.53 and SAE J516, J517.
- b. Brake linings shall be rated for extended service life.

3.7 Axles

- a. GVWR - the GVWR (Gross Vehicle Weight Rating) and individual axle (Gross Axle Weight Rating) GAWR shall not be exceeded when loaded with the specified number of passengers and baggage including the driver.
- b. GAWR calculation shall reflect maximum weight ratings as advertised by axle manufacturer and no higher rating of components shall be acceptable.

3.7.1 Drive Axle

Differential and bearing lubrication shall be synthetic grease/fluid

3.7.2 Driveshaft

Driveshaft protection shall comply with FMCSR 393.89

3.8 Electrical

3.8.1 Electrical System

- a. Shall comply with SAE J163, J561, J589b, J910, J1127, J1128, J1292, FMCSR 393.28, 393.29, 393.31,
- b. All electrical and electronic components, including, but not limited to: switches, connectors, terminal strips, relays, circuit breakers, fuses, fusible links, lamps, indicators, appliances, etc. shall be clearly identified and shown in as-built wiring diagrams and schematics to be furnished and provided with each bus order at time of delivery. This information can be supplied by electronic means as well as in paper copy. When information is made available via electronic format all necessary program downloads shall be provided at no charge with no limit to service life.
- c. All wires shall be color-coded or permanently marked no less than every 6-inches the entire length of the wire for identification with easily read numbers and/or letters and routed in Nylon-6 split-loom. Multi-conductor cabling does not need to be covered in split loom.
- d. All wires and cables furnished by chassis and bus manufacturer shall be stranded high-temperature crosslinked polyethylene insulation.
- e. The use of ribbon cables are permitted only when used in the interior of control modules and computers.
- f. All wiring (including grounds), connecting terminals, relays, and switches shall be rated to carry at least 125 percent of the maximum ampere load for which the circuit is protected.
- g. No more than three ground wires or cables are permitted per grounding stud.
- h. All grounding locations shall be accessible for inspection and repair.

- i. In addition to grounds rated to carry the full load, RF grounding of the bus body shall be furnished to the chassis with a minimum 19 mm (3/4"), braided and tinned, ground strap with soldered ends that are secured to clean metal surfaces, with star washer, on the body and frame and sealed with non-hardening, battery terminal type sealer.
- j. Electrical system shall incorporate master panels for current limiting devices and other electronic devices and be located in areas that provide easy access but not require underbody access or removal of other components for inspection and service of components contained within. No current limiting devices or relays shall be located outside of electrical panels. The only exceptions to this requirement are the fuses specifically required to be located inside battery box by the powered component manufacturer.
- k. All overcurrent protection devices shall be securely mounted, easily removable, and readily accessible for inspection, replacement, resetting if required, and service.
- l. All wiring between the chassis and body shall be connected to terminal strip(s), block(s), or multi-pin connector(s) and all shall be readily accessible for checking and service. All connections interior and exterior susceptible to moisture exposure shall be sealed. Wiring harness junctions shall use multi-pin water tight connectors.
- m. The body and accessory electrical equipment shall be interfaced to chassis in accordance with chassis manufacturer's recommendations.
- n. All electrical consumers shall be disconnected from battery power with the ignition in the off position with the exception of all devices required to be powered as required by FMVSS and all memory functions.
- o. All wiring shall be installed in a manner that does not stress the conductor, insulation, terminal ends, connectors, appliances or switches and provides enough slack at terminal ends to allow for the removal of light assemblies and other components for repair.
- p. All unnecessary additional wire length shall be removed. The exception to this requirement is allowed only when prescribed resistance is required in wire length by interconnected components and controls.
- q. All electrical components and wiring shall be accessible through panels that are installed to facilitate easy removal and servicing.
- r. All lights or powered components mounted on hinged covers or doors shall have a flex loop secured at both ends to allow for normal opening of cover without damaging wires
- s. All wiring harnesses shall be in protected locations and kept at least 15 cm (6 in.) away from exhaust system components unless properly protected by a heat shielding.
- t. All wiring harnesses shall be rigidly supported at distances not greater than 20-inches by one or more of the following to prevent sagging and movement which results in abrasion, chafing, pinching, snagging, or any other damage. All plastic materials shall be UV resistant and metal supports corrosion resistant:
 - i. P-clamps– Clamps shall be corrosion resistant with a neoprene, Viton, or silicone insulator.
 - ii. Saddle-supports – Formed metal support with smooth radius edges designed to carry no less than twice the weight of the harness it supports.
 - iii. Cable clamps – Die-formed, radius-edge, corrosion-resistant metal cable clamps and can only be used in bus interior or engine compartment in areas not subject to wetting by rain or road spray. Plastic clamps can only be used in areas not exposed to heat that could exceed their working limits.
 - iv. Button-cable ties – Harnesses supported by this method shall not exceed one half the designed weight of the tie. Cable ties must be UV-resistant and are acceptable only for bundling and should never be used to support wiring or wiring harness. Saddle-supports can incorporate tie wraps provided they are only used to prevent movement of the harness and in no way provide support or retention. The government will make final determination of rigid support acceptability if not one of the aforementioned.
- u. All apertures in vehicle shall be grommeted for passing wiring through. Exception to this requirement:
 - i. If surface mount light fixture is centered over a hole in body skin no less than 3/4 inch in diameter and the hole has been die punched with a radius edge painted or coated completing a smooth edge incapable of abrading wire. No drilled or bored holes are acceptable for this exception.
 - ii. All body penetrations shall be sealed with an elastomer sealing compound if grommeting alone cannot provide a tight seal against the entry of water, fumes, or dust into the passenger compartment.
 - iii. Electrical circuit board panels and components that are susceptible to accidental contact shall have a protective cover, shield, or enclosed/dedicated compartment to prevent accidental shorts that can result in injury, fire, or damage to the electrical system.
- v. All electric motors shall be turned off and the audio visual equipment sound output silenced by a single switch located in easy reach of the driver and labeled to the affect of "Noise Cancel".

3.8.2 Batteries

- a. Shall comply with FMCSR 393.30 and SAE J537

- b. Batteries shall be mounted in a fully enclosed box on a self-draining roll-out tray made of stainless steel or other materials intrinsically resistant to damage or corrosion due to battery acid exposure and capable of supporting the full weight of the batteries without assistance.
- c. Tray shall roll out to allow for complete visual inspection without removing battery(s) or battery cables.
- d. Minimum of two, Group 31, maintenance-free batteries
- e. The total reserve capacity rating and the total cold cranking ratings at 0 degrees F, both measured in accordance with SAE J537, shall be not less than that required by the engine manufacture for starting at zero degrees Fahrenheit.
- f. All components within the battery compartment shall be protected from battery electrolyte and gas corrosion.
- g. Only battery cables shall be connected to batteries.
- h. Battery cables shall be routed through dedicated holes in battery box independent of each other and insulated from abrasion by grommets.
- i. No spliced battery cables permitted. Cables shall be one-piece, stranded-conductor with protective covering (jacket) pigmented red to indicate positive and black to indicate negative and shall be run from the positive battery terminal of the leading battery directly to the starter solenoid.

3.8.3 Auxiliary Interior Power Receptacle

- a. Shall be 12-volt powered with 10 amp minimum supply located in the driver's area.
- b. Receptacle shape shall be similar to cigar lighter.

3.8.4 120-Volt Shore Power

- a. All powered components requiring alternating current (ac) shall operate on 120-volt (v), 60 Hz. The power inlet connector shall be polarized and of the grounding type and shall be listed as suitable for the purpose. The power inlet connector shall be in a weatherproof housing with a spring-loaded and gasket sealed cover. The inlet connector shall be constructed and installed as to guard against inadvertent contact by persons with parts made live. The inlet connector shall be provided with a grounding pole with a first to make and last to break contact. The supply equipment shall have sufficient rating to supply the load served.
- b. One (1) 25' long commercial grade single outlet portable line cord shall be provided, Hubbell model GFP25CA or equivalent. The line cord shall include a listed system of protection against electric shock of personnel, i.e.: GFCI. The line cord length shall include 12/3 cord, GFCI plug with automatic reset and attachment plug. The GFCI device shall be an integral part of the portable line cord with attachment plug. A mounted box or compartment for the portable line cord shall be located within the cab, engine compartment, or exterior and shall provide positive cable retention during vehicle operation.
- c. All electrical and heating materials shall be listed or labeled by a Nationally Recognized Testing Laboratory - i.e.: UL/CSA/ETL and shall be installed in accordance with both the manufacturers' instructions and the National Electrical Code.

3.9 Fuel

3.9.1 Fuel System

Shall comply with FMVSS 571.301, FMCSR 393.65, FMCSR 393.67, and FMCSR 393.69

3.9.2 Fuel Tank(s)

- a. When the tank filler cap is located behind body skin, a hinged access door shall be furnished.
- b. Fuel fill(s) shall permit filling of tank(s) with only the nozzle end of the fuel handle.

3.10 Exterior

3.10.1 Conspicuity

- a. Yellow-reflecting-yellow reflective material two inches in width complying with the requirements of FMVSS 131, Table 1 shall be used to outline all emergency exit windows and doors and the perimeter of the rear of the bus. If there is not enough room to properly apply the two inch reflective material, the width can be reduced to not less than ¾-inch.

- b. The sides of the bus shall be taped with the same material as used to outline the emergency exits and extend the length of the bus body and be located between the floor line and the beltline.
- c. Additional markings such as signs stating "SCHOOL BUS" shall be of the material, shape, size, and verbiage as required by the State to which it will be delivered unless otherwise specified on the purchase order.
- d. Activity buses shall use white-reflecting-white reflective material with the same requirements of a. b. and c. above.

3.10.2 Exterior Mirrors

- a. Exterior mirrors shall be corrosion resistant stainless steel or composite plastic.
- b. Mirror mounting hardware shall be made of corrosion resistant materials.
- c. Motorized remote controlled and heated, flat and convex surfaces with controls located in driver's area for both flat and convex mirrors. Heat and position control switch(s) shall be "Marked to Indicate Function" and located in the driver's area. Heating function shall be automatically deactivated when the ignition switch is turned to the "OFF" position. A Pictogram can be used to identify mirror switches and functions.

3.10.3 License Plates

Front and rear license plate mounting provisions shall be furnished and comply with SAE J686.

3.10.4 Other Plates and Decals

Dealer identification decals and placards shall not be applied to vehicle exterior. Bus manufacturer decals are permitted so long as they do not interfere with other required or specified markings.

3.10.5 Exterior Paint

- a. The standard exterior color shall be school bus yellow unless otherwise specified by option in paragraph 3.22.
- b. Roof shall be painted bright white

3.11 Doors and Windows

3.11.1 Passenger Doors

- a. Shall comply with FMVSS 217.
- b. Passenger door shall be powered.
- c. The passenger entry door panel glazing material shall have a thickness not less than .210-inches and be laminated safety glass conforming to the requirements of ANSI Z26.1 Test Grouping 2 and the Recommended Practices defined in SAE J673.

3.11.2 Keys

All exterior access panels, doors, and storage compartments shall be keyed. All locks of similar design shall be keyed alike.

Passenger entry and exit doors can be electronically or mechanically locked. Duplicate keys shall be furnished with each bus.

3.11.3 Steps

- a. Shall comply with 36 CFR, Part 1192
- b. [Galvanized steel, stainless steel, or aluminum can be used to construct the passenger steelwell.](#)
- c. [The material chosen for the stepwell construction must be similar to the surrounding body structure.](#)
- d. Step tread surface shall be pebble face with white or yellow pebble nosing and backed by a permanent dielectric coating.
- e. Square vertical leading edge of stepwell shall have a flat surface to provide a positive seal where doors contact stepwell or otherwise provide a positive seal for doors to prevent intrusion of water, dirt, wind, etc.

3.11.4 Emergency Exits

- a. Emergency exits shall comply with FMVSS 217 unless amended by State requirements.

- b. Emergency doors shall be indicated by a red LED lamp visible to passengers but that does not reflect or cause glare on inside of windshield.

3.11.5 Passenger Windows

- a. Shall comply with FMCSR 393.61, 393.62, 393.63 and FMCSR393.92.
- b. Provided with fingertip control, permitting ready opening and adjustment to various desired openings.
- c. Rattle proof and, when closed, waterproof and windproof.
- d. All passenger windows shall be fitted with latching devices.

3.11.5.1 Tinting

- a. Chassis manufacturer's tinted windshield shall be furnished.
- b. Windows on the bus sides and in the rear door shall be tinted a neutral color, complementary to the bus exterior.

3.11.5.1.1 Windshield Defrosting

Shall comply with FMVSS 571.103, FMCSR 393.79, and SAE J381

3.11.5.1.2 Windshield Wiping and Washing

Shall comply with FMVSS 571.104, FMCSR 393.78, and SAE J198

3.12 Lights and Lighting

3.12.1 Exterior Lighting

- a. All exterior lights on the vehicle shall comply with ADA 1192.31, FMCSR 393.11, 393.19, 393.20, 393.22, 393.23, 393.24, 393.25, 393.26, 393.31, and SAE J589, and J910.
- b. The following exterior lighting shall be Light Emitting Diode (LED): rear tag, tail, stop, turn, clearance, and door area ground/curb illumination.
- c. Exclusions to LED requirement are wheel chair door area and ground lighting, headlamps, and other lights that cannot be replaced by a LED due to a design only available in incandescent or when multiple LED assemblies cannot be used to take the place of an incandescent fixture due to space limitations.
- d. LED lighting shall have internal voltage regulation.
- e. All exterior lights shall be grounded with an insulated wire.
- f. The ground lead shall not be secured by the lamp fixture mounting screws or hardware.
- g. A terminal shall be attached to the wires by a simple mechanical crimp-type process that conforms to SAE J163.
- h. Ground terminal lugs shall be solder plated, cadmium, tin or zinc plated.
- i. Ground terminals should be clustered and shall be accessible for servicing.
- j. A serrated paint-cutting terminal shall be utilized to make proper contact when used on painted surfaces.
- k. When two wire lights are not commercially available, then ground return connections may be made to vehicle structure, frame or engine using the ground-return system (one wire systems per SAE J1292).
- l. [Lights and reflectors shall not be mounted on rub rails or vehicle bumpers unless recess protected.](#)
- m. [Reflectors must be a sticker type flexible material. The sticker must use cube corner elements to reflect light such as 3M Diamond Grade. Rigid plastic stick on or screw-on reflectors are not permitted.](#)
- n. All lights or powered components mounted on hinged covers or doors shall have a flex loop secured at both ends to allow for normal opening of cover without damaging wires.
- o. Clearance lamps shall be low-profile design or body recessed to prevent damage from tree limbs. Armor shields shall not be supplied to protect lighting unless supplied commercially as standard equipment.
- p. All buses shall be equipped [with a Dialight model 18001AB811, Trucklite Super 60 STS model 60315Y, or Soundoff Signal model CV062MTY or CV061MTY auxiliary side marker/ turn signal combination lamp positioned below the passenger windows, forward of the side midpoint, to the rear of the passenger door and driver's side window.](#)
- q. All exterior housings of lamps, switches, electronic devices, and fixtures shall be corrosion resistant and weatherproofed.

3.12.2 Interior Lighting

Interior lighting shall include:

- a. Bus manufacturer's standard equipment flush mounted domelights equaling not less than one lamp per seated row.
- b. Minimum of one domelight over the driver area controlled independently of other interior lighting with a separate switch.
- c. The following LED lamps shall be used to provide entrance, step, and ground illumination meeting ADA guidelines: IDS Luminator model 510-571001, Dialight models - 17081CB, 13001CB, 40 series, 70 series, 80 series, Trucklite models – 4060C, 6060C, 44 series, 15, 80, MTG model ICL -3001, [CRS model 10-103](#), and [Maxxima M63318RCL](#). The number of lamps used and the combination of are at the discretion of the bus manufacturer.
- d. Interior illumination shall meet or exceed requirements of ADA 1192.31

3.13 Electronics/Audio Visual

3.13.1 Radio

- a. AM/FM Compact-Disc combination radio
- b. Minimum of two flush mount premium quality speakers shall be provided for every 3 rows of seats.

3.14 Interior

3.14.1 Heating

Passenger compartment heating shall be provided using heat exchangers integrated into the air conditioning system or by auxiliary coolant-to-air heat exchangers with integral mounted fans to provide circulation in addition to the integral dash system. When heating is not incorporated into the air conditioning system it shall include a minimum of one heat exchanger located in proximity of the rear wall of bus SIN's 301C, 302C, and 304C. SIN 305C requires a minimum of two heat exchangers with one mounted in proximity of the rear wall and a second nominally mid ship. All buses shall have a means of heating the air in the passenger door stepwell.

3.14.2 Stowage Compartment

The bus manufacturer's largest forward bulkhead compartment shall be furnished. Compartment shall be used to store the GFI extension cord, fire extinguisher, and safety triangles. If all three components will not reasonably fit, GSA FFAE will determine a suitable location in conjunction with the manufacturer during the first production vehicle inspection.

3.14.3 Driver's Area

Driver's area shall include as a minimum:

- a. Shall comply with FMCSR 393.51
- b. All switches and controls shall be marked with easily read identifiers
- c. Ignition switch
- d. Tilt steering wheel/column
- e. Cruise control
- f. Engine coolant temperature indicating gauge
- g. Engine coolant temperature overheat warning light
- h. Engine oil pressure indicating gauge
- i. Engine oil low pressure warning light
- j. Fuel level indicating gauge
- k. Water-in-fuel warning light
- l. Transmission selector

3.14.3.1 Interior Mirror

Minimum of one non-glare type mirror shall be mounted inside the bus with a reflective surface area of not less than 60 square inches with rounded corners. Driver shall be able to view complete passenger compartment through interior mirror.

3.15 Floor

3.15.1 Floor Construction

- a. Interior sub-floor shall be metal, covered with not less than a minimum of 1/2" nominal thickness, water resistant, marine grade plywood, with all ends sealed.
- b. All floor fasteners shall be of corrosion resistant materials.

3.15.2 Floor Coverings

- a. The under seat floor area shall be covered with not less than 0.125 inch thick smooth Koroseal medium grey or RCA #766.
- b. The aisle and the entrance area shall be covered with not less than 0.185 inch ribbed Koroseal matting light grey in color or RCA #766 rubber compound matting.
- c. Floor covering shall be permanently bonded to the sub-floor and shall be impervious to temperature changes. Bonding or adhesive material shall be waterproof, including joints and seams, and shall be of the type recommended by the manufacturer of the floor covering material.

3.15.3 Wheelhousings

Wheelhousings which protrude into the passenger compartment shall be covered with the same matting used under the seats or a material equal in durability as the flooring material. The wheelhouse shall be designed in shape and strength so it may be used as a footrest.

3.16 Walls

Standard interior walls shall be painted white to light grey. The area below the windows shall be covered with textured metal galvanized steel or aluminum.

3.17 Ceiling

Standard ceiling panels shall be perforated steel or aluminum sheets for interior noise reduction and painted white to match walls.

3.18 Seats

3.18.1 Driver's Seat

- a. Bus manufacturer's premium cloth seat shall be furnished as standard

3.18.2 Passenger Seats

- a. Passenger seating shall comply with FMVSS 571.217 and 222.
- b. Standard seating shall be school bus bench seats of the widest width bench available.
- c. The tallest seat back available shall be furnished. This requirement remains firm and shall not be superseded by State requirements.
- d. [Seat cover shall be State required material and color.](#)
- e. Seats shall be equipped with three safety belts for each bench seat in compliance with FMVSS 571.209 and 210. Two belts per bench can be furnished on seats that can only accommodate two children.

3.19 Safety

3.19.1 Bumpers

- a. Front and rear bumpers shall be manufacturer's standard metal
- b. Bumpers shall not contact body
- c. Bumpers shall be painted or e-coated on all sides prior to installation.
- d. Back surface of bumper can be epoxy primed in the absence of top coating if not visible during normal operation.
- e. All rear bumpers shall be of anti-ride and anti-hitch design

3.19.2 Barriers and Grab Rails

- a. Barrier panels shall be furnished between the stepwell and the passenger seats and immediately behind the driver's area.
- b. The installation of the barrier behind the driver's area shall not interfere with the full forward motion of the driver's seat.

- c. ADA compliant hand rails are required at the front and rear of the passenger entrance shall be arranged to safely assist passengers entering or leaving the bus.
- d. All stanchions and grab rails shall be ADA compliant stainless steel, epoxy coated, or padded injection-foam covered tubing. If padded tubing is used, the foam must meet all FMVSS requirements and be vandal resistant transit quality material. Opaque barriers shall be covered with the same material as the wall covering unless formed from injection molded plastic.
- e. All stanchions, barriers and grab rails shall be attached to tapping plates in walls, floor and ceiling if no structural members are available.

3.19.3 Emergency Equipment

- a. Shall comply with FMCSR 393.95
- b. Fire extinguisher furnished shall comply with the requirements of the State in which the bus will be operated.
- c. First aid kit shall comply with the requirements of the State in which the bus will be operated.

3.19.4 Stop Signal Arm

- a. Stop signal arm shall comply with SAE J1133.
- b. Shall be equipped with two clustered LED lamps.
- c. Arm mechanism shall be solid state operation.
- d. Specialty Manufacturing Model 6980.
- e. State requirements for the type of illumination used on the Stop Signal Arm shall take precedence if specifically listed in their specifications document.

3.19.5 Flashing Signal Lamp System

- a. LED 7-inch diameter red and amber lamps required.
- b. Lamp system installation and function shall comply with NSTSP requirements.
- c. Visors or hoods, black in color, with a minimum depth of four inches shall be furnished.
- d. Flasher/control module shall be solid state circuitry.
- e. State requirements for the type of illumination used shall take precedence if specially listed in their specifications document.

3.19.6 Control Crossing Arm

- a. [Solid state Transpec 4000 Series with double yellow pole crossing arm](#), [Specialty 6000 Series with solid yellow blade crossing arm](#) or [Specialty 2800 air powered with solid yellow blade crossing arm](#). Looped wire arms are prohibited.
- b. Arm shall extend when red stop lights of the 8-way lamp system activate.
- c. The control crossing arm requirement remains firm and shall not be superseded by State requirements.

3.20 Suspension

3.20.1 Gross Vehicle Weight Ratings

- a. Vehicle GVWR's shall be the chassis manufacturer's published ratings.
- b. Component and vehicular ratings shall not be increased to meet the requirements of this Specification.
- c. When published ratings are not available, verification of rating shall be made available upon request by the Government.

3.21 Tires and Wheels

3.21.1 Tires

- a. Shall comply with FMVSS 571.119 and 571.120
- b. Tubeless, steel belted radial tires with highway tread and a minimum speed rating of 75 mph.

3.21.2 Wheels

- a. Wheel/Tire size and ply rating shall be the same for all wheels/tires.
- b. Shall be color specified by the State of delivery.

3.22 Miscellaneous

3.22.1 Parts and Service Manuals

All parts and services manuals shall be supplied with each bus in electronic format of CD or web based access. Information shall include parts and service information of all standard and optional equipment supplied with each bus. If complete electronic information is unavailable, supplemental paper copies may be substituted for such details not available in electronic form.

3.22.2 Servicing and Adjusting

- a. [Prior to acceptance of the vehicle by the Government, the contractor shall inspect, service and adjust each vehicle for operational use in accordance with an approved manufacturer's prescribed pre-delivery servicing form.](#)
- b. The areas to be inspected and adjusted, if necessary, shall include as a minimum:
 - i. Alignment of headlights.
 - ii. All engine adjustments.
 - iii. Electrical and brake systems.
 - iv. Filling and charging of batteries.
 - v. Alignment of front wheels.
 - vi. Inflation of all tires.
 - vii. Complete lubrication of body, chassis, engine and running gear with grade of lubricants recommended for the ambient air temperature at the delivery point.
 - viii. Servicing of the cooling system with a solution of ethylene glycol type antifreeze and water in equal parts by volume.
 - ix. Servicing of the windshield washer reservoir with water and appropriate additives.

3.23 Reserved

3.24 Reserved

3.25 Options

[See Appendix A](#)

3.26 General Workmanship Rejection Standards

The following shall be reason for rejection:

- a. A rough, sharp or unfinished edges, burrs, seams, corners, joints, cracks, and dents. Sharp corners and edges shall be either rounded or padded to prevent injury to personnel.
- b. Panels, non-uniform with edges that are not radiused, beveled, etc.
- c. Final stage manufacturer's paint shall be free of dirt and not have runs, sags, orange peel, "fish eyes", blisters, bubbles, chips, scratches, cracks, gouges, over-spray, peeling, chemical stains, water spots, and any other imperfection or lack of complete coverage.
- d. Body panels or components that are uneven, unsealed, or contain cracks, dents or have voids.
- e. Misalignment of: body fasteners, glass, viewing panels, light housings, items with large or uneven gaps or spacing and doors, body panels, and hinged panels.
- f. Improper body design or interface with the chassis that could cause injury during normal use or maintenance.
- g. Improperly fabricated, routed, supported or secured hoses, wires, wiring harnesses and mechanical controls.
- h. Loose, vibrating, abrading body parts, components or subassemblies.
- i. Interference of chassis components, body parts, doors, etc.
- j. Leaks of any gas or fluid lines, (AC, coolant, oil, etc.)
- k. Sagging, non-form fitting upholstery or padding.
- l. Incomplete or incorrect application of rust proofing/undercoating.
- m. Inappropriate or incorrect use of hardware, fasteners, components, or methods of construction.
- n. Incomplete or improper welding, riveting. Welded, bolted and riveted construction utilized shall be in accordance with the highest standards of industry using certified welders.

- o. Improper body design or interface with the chassis substructure that could cause injury during normal use or maintenance, and which fail to provide access to perform routine or mandatory repairs or maintenance on vehicle electrical and mechanical systems. In addition, the improper combination of options by their combination and installation are inherently incompatible with regard to function or safety.
- p. Visual deformities and equipment malfunctions.
- q. Lack of uniformity and symmetry where applicable.
- r. Unsealed appurtenances or other body components, gaskets, etc.
- s. All exterior surfaces shall be smooth and free of wrinkles and dents.
- t. Water leaks
- u. In addition, any deviation from the requirements or any other item, whether or not stipulated herein, that affects form, fit, function, durability, reliability, safety, performance or appearance shall be cause for rejection.

3.27 Identification of Vehicles

The Contractor must show the applicable GSA Purchase Order number on the carrier's freight bill or other document used in the delivery of vehicles awarded f.o.b. destination under this solicitation. This information is essential to the consignee for identification purposes. Vehicles will not be accepted by the Government without this identifying number.

3.28 State of Origin or Bill of Sale

- a. A Manufacturer's Statement of Origin or Bill of Sale showing the applicable purchase order number is required for each vehicle procured under this Standard. The document shall be forwarded to the **Consignee Mailing Address shown on the MVDO** prior to shipment.
- b. Vehicle title/registration and safety/emission tests are the responsibility of the requisitioning agency.

3.29 Warranty Requirements

- a. Warranties in this document are in addition to any statutory remedies or warranties imposed on the Contractor. Consistent with this requirement, the Contractor shall warrant and guarantee to the Government each complete bus vehicle and specific subsystems and components according to the following provisions.
- b. The Contractor shall, be fully responsible for warranty administration for any and all warranty periods.
- c. The Contractor shall have an authorized service representative assigned to assist the Government warranty administration.

3.29.1 Complete Bus Vehicle

The complete bus vehicle shall be warranted and guaranteed (bumper-to-bumper) to be free of defects, parts failure or malfunction due to design, construction or installation errors, defective workmanship, and missing or incorrect parts for a minimum of 3-years or 36,000-miles, whichever occurs first, exclusive of accumulated drive away mileage, beginning on the date of official acceptance by the Government of each vehicle at its destination.

3.29.2 Body and Frame Structure

The basic body and frame structure shall be warranted against corrosion failure and/or fatigue (cracking, bolts/rivets loose, busted, broken, and missing or adhesives separation) failure for 5-years or 100,000-miles, whichever comes first. The basic body structure is composed of all components that are welded, riveted, or bolted together to form the main body construction. The frame structure is the primary load carrying members of the bus, all bolted or welded crossmembers, structural elements of the suspension, weldments, and any other structural members shall be considered as parts of the basic frame structure. Bolted-on components and operating hardware are considered add-ons and therefore are not a part of the basic body and frame structure.

3.29.3 Subsystem and Components

If the Contractor receives from any supplier or subcontractor additional warranty coverage on the whole or any component of the vehicle, in the form of time and/or mileage including any pro rata arrangements, or the Contractor generally extends to his commercial customers a greater or extended warranty coverage, including anti-corrosion, powertrain, or emission, the Government shall receive corresponding warranty benefits [if warranted by their manufacturer for a period longer than that required by the contract](#).

3.30 Exceptions to Warranty

The warranty shall not apply to scheduled maintenance items and items furnished by the Government, except insofar as such equipment may be damaged by the failure of a part or component for which the Contractor is responsible.

3.31 Detection of Defects

If the Government detects a defect within the warranty periods, it shall promptly notify the Contractor's representative. Within 5 working days after receipt of notification, the Contractor's representative shall either agree that the defect is in fact covered by warranty, or reserve judgment until the subsystem or component is inspected by the Contractor's representative or is removed and examined at Government property or at the Contractor's plant. At that time the status of warranty coverage on the subsystem or component shall be mutually resolved between the Government and the Contractor. Work necessary to affect the repairs shall commence within 10 working days after receipt of notification by the Contractor. If within 8 working days of notification to Contractor, the Government and Contractor are unable to agree whether a defect is covered by the warranty provisions, the Government reserves the right to commence repairs and seek reimbursement through any legally available means.

3.32 Scope of Warranty Repairs

When warranty repairs are required, the Government and the Contractor's representative shall agree within 5 working days after notification of a detected defect on the most appropriate course for the repairs and the exact scope of the repairs to be performed under the warranty. If no agreement is obtained within the 5-day period, the Government reserves the right to commence the repairs.

3.33 Fleet Defects

A fleet defect is defined as cumulative failures of any kind in the same components in the same or similar application where such items are covered by the warranty and such failures occur within the warranty period in at least 10 percent of the vehicles delivered under this contract. The Government shall have final approval of corrections or changes under these conditions.

3.34 Intended Use

The vehicles covered by this Standard are intended for general non tactical use by the Government in transporting personnel or cargo. Intended operation is on paved roadways with some semi-improved road surface use.

3.35 Repair Parts and Service

Continuous operation of the buses is of utmost importance. It is necessary that the Contractor be in a position to render prompt service by furnishing a list of branch offices or agencies where complete stocks of repair parts are maintained and can be secured within a reasonable time after ordering by part number from the manufacturer's part books.

3.36 Domestic Use

When vehicles are used within the fifty States of the United States, the District of Columbia, Puerto Rico, American Samoa, Guam, The Republic of Palau, the Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands, and the Virgin Islands, the warranty shall include the furnishing, without cost to the Government (FOB contractors nearest dealer or branch to vehicle's location or station), of new parts and assemblies to replace any that failed or malfunctioned within the warranty period. In addition, when the Government elects to have the work performed at the contractor's plant, branch, dealership, or with the contractor's approval (i) to correct the supplies itself; or (ii) to have them corrected by a commercial garage facility; the cost of the labor involved in the replacement of the failed or malfunctioned parts or assemblies shall be borne by the contractor.

3.37 Foreign Use

When vehicles are used outside the fifty States of the United States, the District of Columbia, Puerto Rico, and the Virgin Islands, the warranty shall include the furnishing of new parts or assemblies to replace any returned to the Contractor by the Government which failed or malfunctioned within the warranty period. The replacement parts or assemblies shall be delivered by the Contractor to the port of embarkation in the United States operator may locate and read it easily.

4.0 Quality Assurance Provisions

4.1 Verification

The Contractor shall verify compliance to the requirements herein prior to first vehicle production release, based on the following verification matrix. Verification may be in the form of drawings, instructions, test results, vendor documentation, certifications, or design analytical data. The Contractor shall not proceed with production before receiving agreement from the Government that verification of compliance is satisfactory. Acceptance of designs by the Government does not relieve the Contractor from responsibility to meet all the requirements and specifications herein, whether reviewed by the Government or not. It shall be the Contractor's responsibility to assure all production documentation results in the production of vehicles that are in compliance with these requirements and specifications.

PWO Provide with offer

FVI First Vehicle Inspection

The type of verification to be submitted for acceptance is listed below:

COC Confirmation of Compliance- Validation by analysis or production builds documentation to be performed by the Contractor and submitted for acceptance by the Government. Verification may be in the form of analysis summaries, build documentation, purchase orders, or similar written documentation.

ET Engineering Test- to be performed by the Contractor and results accepted by the Government. Engineering tests are tests resulting in data output from engineering instruments used to take measurements of parameters such as temperatures, sound levels, etc. Verification may be in the form of an engineering report, test result sheet, or test summary with results documented.

Verification Matrix

SECTION NO.	REQUIREMENT TO BE VERIFIED	TYPE OF VERIFICATION	WHEN VERIFICATION REQUIRED
4.2.3	Water Spray Test Plans	ET	PWO
3.13.1.2	Air conditioning system components and ratings	COC	PWO
4.3	TMC RP 803 Inspection Pre-Service Inspection	COC	FVI
4.2.2	TMC RP 803 Road Test	COC	FVI

3.1.19, 3.1.20, 3.17.2	Layout drawings and weight calculations for each Standard Item Number with minimum required equipment and configuration	COC	PWO
Various	Exceptions taken, documentation to validate “or equal” submissions	COC	PWO

4.2 First Production Vehicle Inspection

The first vehicle produced under this Standard for each Standard Item Number shall be inspected by the Contractor at his plant under the direction and in the presence of Government representatives.

The purpose of the inspection shall be to determine vehicle conformance with the contract.

Acceptance of the first production vehicle shall not constitute a waiver by the Government of its rights under the provisions of the contract.

4.2.1 Vehicle Weight

Vehicle shall be weighed to determine the curb weight and distribution of the curb weight on the front and rear axles.

4.2.2 Road Test

The first production vehicle shall be examined and road tested by the Contractor, less payload, on highways and roads for a distance of not less than 10 miles to assure that the vehicle will operate in accordance with the contractual requirements.

4.2.3 Water Spray Test

- Bus shall be subjected to a water spray test for approximately 15 minutes.
- Testing shall be conducted in accordance with the bus manufacturer’s standard testing procedures.
- Evidence of water leakage shall be cause for rejection until leaks are corrected.

4.2.4 Failure

Failure of the first production vehicle to meet requirements of the contract shall be cause for the Government to refuse acceptance of all vehicles under contract until corrective action has been taken.

4.3 Inspection of Production Vehicles

- The Contractor’s inspection system shall at a minimum assure that the vehicle conforms to the physical and dimensional requirements and is capable of meeting performance requirements specified herein.
- For each vehicle under contract, the Contractor shall make available to the Government, at the point of final acceptance records acceptable to the Government indicating that the servicing, adjusting, and water spray test have been accomplished.

4.3.1 Rejection

Deficiencies of workmanship and nonconformance to any requirements of the contract shall be cause for rejection until corrective action has been taken.

5.0 Preparation

5.1 Vehicle Processing

The vehicle shall be processed for shipment, from the manufacturer's plant to the initial receiving activity, in accordance with the manufacturer's standard commercial practice. Before final delivery to destination address the bus will be inspected and cleaned by the nearest delivery center to ensure all items which may have become loose, leaks, rattles, etc are repaired or adjusted prior to acceptance at the destination address. All fluids and fuel tank(s) shall be full at time of final delivery. The in-transit mileage accumulation on vehicles driven from the assembly plant to the receiving location shall be recorded and the start of warranty coverage adjusted to begin once the bus reaches the destination address.

6.0 Notes

6.1 Ordering Data

This standard reflects information on commercially available buses which have been segregated into classes to provide for competitive acquisition. This information is reflected as side-by-side model comparisons on the General Services Administration's website. Purchasers must use the AUTOCHOICE web site accessible at: www.gsa.gov/automotive to select vehicles, colors, and delivery options.

6.2 Deviation from Federal Standard

An Agency requesting a vehicle or equipment not identified in AutoChoice should consult with the Contract Specialist for the assigned commodity to determine availability. All requests for systems and equipment not identified in the Standard are reviewed by GSA Engineering to determine the appropriate application.

6.3 Changes and Notices

Requests for changes or additions to the Federal Vehicle Standard, along with rationale, should be sent to the General Services Administration, GSA Automotive Suite 10000, 2200 Crystal Drive, Arlington, VA 22202, for appropriate action. The requesting agency will be informed of the action taken.

MILITARY REVIEW ACTIVITIES:

Air force - 84-99

Army – AT – CE

Navy – YD – MC

Defense Logistics Agency

CIVIL COORDINATION & PREPARING ACTIVITY:

GSA-FSS-FFAE

CIVIL AGENCY REVIEWING ACTIVITIES:

Agriculture-FS-ARS-NRCS-APHIS

DC Government

Interior - BLM-Reclamation

State - AID

Transportation – CG

Treasury – IRS – Sec. Svc. – Customs – ATF

Energy – BPA

Commerce – NOAA

Justice – INS, FBI

EPA, TVA, VA

Army – Air Force Exchange Service