

# CONVENTIONAL SCHOOL BUS SPECIFICATIONS, 78 PASSENGER

The bus is to be a 2020 model or newer as described in these specifications. Minimum specifications are listed below. Bidders specifications must meet or exceed minimum specifications. All bus specifications shall meet or exceed those specifications as set forth by the Ohio Department of Public Safety, Federal Department of Transportation and the Ohio Department of Education, minimum construction standards.

## CHASSIS SPECIFICATIONS

Air Compressor	13.2 CFM capacity at 1250 RPM, belt driven. Clean inlet air obtained from charge air at engine intake. Air tank capacity 4260 cu. in.	
Alternator	12 volt, 240 amps minimum	
Axles	Front 12,000 lbs. capacity, full power steering. Petroleum lubed bearings. Rear 23,000 lbs. capacity, single speed, oil slinger.	
Battery	Three Group 31, 12v, 2100 CCA, deep cycle. Mounted in a box with slide out tray. 4/0 Battery cables required.	
Brakes, service	Dual full air, 16.5x5 front and 16.5x7 rear."S" cam, Non-asbestos extended wear lining. Automatic slack adjusters. Bendix AD-IP air dryer. Dust shields.	
Brakes, emergency	30 sq. in. spring brake system with treadle valve control. Separate valve for parking with EZ-Grip cover.	
Controls	Adjustable high idle switch. Electronic cruise control. Key-type starter and stop switch. Dash mounted transmission shifter. Tilt/Telescopic steering wheel. Rheostat dash dimmer on headlight switch.	
Engine	Propane auto-gas V10 6.8 liter 320 HP 460 lb/ft of torque minimum. 2018 emissions .05 NOx or lower. Dual Fuel pumps located in fuel tank. Viscous fan.	
Engine hood	Tilt hood, with low effort assist (15 lb maximum). Silver grill and headlight bezels.	
Exhaust	Tail pipe to exit below rear bumper.	
Fuel tank	ASME certified steel, 93 gallon useable capacity located behind rear axle between frame rails. Spring loaded locking fuel door and sending unit access plate required.	
Instruments	Speedometer Odometer Voltmeter Fuel level gauge Ammeter Tachometer Digital clock, dash mounted Resettable trip odometer Engine warning system high water temp/low oil pressure	Water temperature gauge Dual air pressure gauges Oil pressure gauge Low air pressure warning light & buzzer Low coolant warning light & buzzer Hour meter Headlights "left on" warning chime Transmission temperature gauge

Lights	Daytime running lights. Turn signals top fender mounted.
Manuals	Complete maintenance manual and a list of all of the parts used in the bus with part numbers shall be provided.
Suspension	Front: Parabolic springs 10,000 lbs. Rear: Air ride 23,000 lbs. capacity. Shock absorbers, front and rear, double action piston type.
Transmission	Automatic, oil cooled by heat exchanger in bottom of radiator.
Tires	11R 22.5, 14 ply radial tubeless tires steering tires front and rear.
Tow hooks	Two front and rear, frame mounted.
Vision	Direct forward line of sight to the road surface over the engine hood not to exceed 12.5 feet.
Warranty	Minimum required, Chassis 2 years 24,000 miles, Engine 5 years 100,000 miles, Transmission 5 years unlimited mileage.
Wheels	10 Stud disc type, hub-piloted, 22.5 x 8.25.
Wheelbase	Maximum of 280", curb turning radius not to exceed 36 feet.
Wiring	Color and number coded wiring.

## **BODY SPECIFICATIONS**

Air intake	Mounted on right front below windshield level. Manual control for fresh air.
Arm rest	Driver's arm rest to left of driver on rear portion of switch panel.
Battery compartment	Enclosed compartment with sliding tray. Tray to be held in place with a retaining pin. Door hinged at the side with a recessed handle. Frame mounted.
Bumpers	Front and rear, plate steel, one piece, die-formed. Frame mounted, front and rear at least 12" in height. Front bumper to include a 7"x14" white reflective background for placement of State ID number.
Construction	Roof bows 14 gauge die formed, hat shaped one piece continuous floor line to floor line. Welding and/or splicing roof bows is not acceptable. Bows must not extend below the floor line. Full width one piece roof panels. 20 gauge fluted side panels from the windows down, extending 16 inches below the floor. All panels inside and out to be riveted. Body to be Colorado rack test compliant.  Rain visors over side windows to be embossed in roof panels to reduce seams. Rub rails, four applied rails located as follows, one below windows, one at passenger level, one near floor line, and one at the bottom of the skirt.

Door, entrance	Air operated outward opening. Grab rails located on both sides.
Door, emergency	Rear emergency door is required 52.5"x 37.7". Dual 6" hinges with grease fittings.
Floor	5/8" Treated or marine grade plywood installed over steel floor, fastened with screws. Interior wheel housing to be protected with a one piece molded cover.
Glove boxes	One located on the right side of dash 6"x 6"x 20" and a second compartment located to the left of the driver 6"x 7"x 7".
Heaters	All heaters are required to have cleanable filters. 90,000 BTU left front heater, with defroster for entrance door and windshield. Heater cut off valves to be ball type 1/4 turn shutoff.  50,000 BTU right front with two speed fan.  50,000 BTU rear heater located behind rear wheelhouse with a two speed fan.  Two 6" auxiliary fans located above the windshield to assist with defrosting.  Heater circulating pump
Insulation	Fiberglass insulation R value of 5.77 located in the ceiling and side walls with additional insulation in driver's area. All ceiling panels to be perforated to reduce engine noise (full length acoustic headliner).
Interior	Interior to be astro white. Seat frames and heaters to be black.
Lights	Warning light system meeting current state specifications and hooded to improve visibility. Seven inch back-up lights. 16 lamp monitor LED capable, low profile strobe light, and a stop arm with LED lights. LED Marker lights.
Mirrors	Interior, rearview 6"x 30", sun visor 6"x 30" Plexiglas. Mirrors heated and remote controlled. Crossover mirror arms to have bell mounts. Exterior brackets stainless steel
Paint	Exterior, heat cured polyurethane. White roof. Rub rails painted black full width of the rails.
Radio	AM/FM/CD/MP3/PA with eight speakers.
Reflective tape	Install 3M reflective vinyl as follows: under "School Bus" front and rear a 2" wide strip at floor level full length both sides, outline rear of bus and emergency exits.
Roof hatches	Two, evenly spaced.
Rust protection	Premium (T-Wax) corrosion protection or equivalent applied to under body.
Safety equipment	All required State specifications mounted in a compartment above the windshield.

Seat, driver's	Air suspension, hi-back, cloth upholstery with a foam cushion and back, entire seat adjustable without tools. Height adjustable driver's shoulder belt required.
Seat, passenger	First two rows of seats NextGen convertible seats or equal, seat belt ready. Left hand barrier to have a cover with a storage pocket. Minimum body length 35' 7" for maximum seat spacing.
Step well	Three step, non-skid, rubber covered steps. Stainless steel construction. Bolted not welded.
Switch panel	All accessory switches: heaters, warning lights, etc. must be mounted on a separate panel located just below the driver's window or on the right side dash area placed within easy reach of the driver. Must have a cutoff switch for interior noise. (aka railroad/quiet switch).
Windshield	Four piece flat shaded safety plate. Assist handles installed above the windshield and fold-up step each side on right and left cowls to facilitate cleaning windshield.
Windows	To be tinted side windows 28%, entrance door 70%, and driver's window 70%.
Wipers	Dual electric, bottom mounted, wet arm, intermittent operation.
Wiring	Color coded in molding above side windows. Body wiring protected by circuit breakers. Locking outside wiring access door 27"x 16" located just below the driver's window. Two spare wires running to the rear of the bus for future use.
Optional equipment	Luggage compartments, two 28.4 Cu.Ft. with door assist struts.

NOTE: All companies are encouraged to bid but any exceptions taken to these specifications or alternates provided must be listed on the bid form or on a separate sheet attached to the bid form. If a list is not submitted with the bid it will be required that the bus delivered meet all of the requested specifications. A build sheet or equipment list does not meet this requirement, exceptions must be listed separate and marked as exceptions.