

# TRANSIT SCHOOL BUS SPECIFICATIONS, 84 PASSENGER SPN

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	18.7 CFM capacity at 2400 RPM, water cooled, gear 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 13,200 lbs. capacity, full power steering. Petroleum lubed bearings. Rear 21,000 lbs. capacity, single speed with a 5.29 ratio and oil slingers.	
Battery	Three Group 31, 12v, 2100 CCA, deep cycle. Mounted in a box with a slide out tray. 4/0 Gauge battery cables required.	
Brakes, service	Dual full air, 16.5x6 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 with treadle valve. Separate valve for parking, E-Z 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	Diesel, inline 6 cylinder, turbo charged, 220 HP@600 LB/FT torque, 2018 emissions Engine to be located in front of forward axle. Engine block heater. Heated fuel/water separator, Racor. Automatic air intake pre-heater to assist cold starting Fan clutch, electrically controlled 15 Gallon DEF tank located to the rear of the step well with a locking door.	
Exhaust	Tail pipe to exit below the rear bumper.	
Fuel tank	Aluminized steel, 100 gallon 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 and buzzer Low coolant warning light and buzzer. Hour meter Headlights "left on" warning chime Transmission temperature gauge

Lights	Two halogen headlights, daytime running lights.
Manuals	Maintenance manual and parts list of all parts used in the bus with part numbers.
Shock absorbers	Front and rear, double action piston type.
Suspension	Front: Parabolic springs 13,200 lbs. capacity. Rear: Springs 21,000 lbs. capacity.
Transmission	Allison automatic, model 2500PTS. Transmission oil cooler separate from radiator. Transynd fluid.
Tires	11R 22.5, 16 ply radial tubeless steering tires front and rear.
Tow hooks	Two front and rear, frame mounted.
Warranty	Minimum required, Chassis 2 years 24,000 miles, Engine 5 years 100,000 miles, Transmission 5 year unlimited miles.
Wheels	10 Stud disc type, hub-piloted, 22.5x8.25.
Wheelbase	Maximum of 232", curb turning radius not to exceed 35.6 feet.
Wiring	Color and number coded wiring.

## **BODY SPECIFICATIONS**

Arm rest	Driver's arm rest to left of driver on rear portion of switch panel.
Battery compartment	Enclosed compartment with tray. Tray to be held in place with a retaining pin. Door hinged at the side with a recessed handle. Frame mounted.
Bumpers	3/16" plate steel front and rear, one piece, die-formed. Frame mounted, front and rear at least 12" in height. Bumpers and bracing to be designed to permit lifting vehicle with a bumper jack. 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 19 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	Electric operated outward opening. Grab rails located on both sides and a vandal lock.
Door, emergency	Rear emergency door is required 52.5" x 37.7". Door to have dual 6" hinges with grease fittings and a positive retainer to hold the door open.
Floor	5/8" Treated or marine grade plywood installed over steel floor, fastened with screws. Interior wheel housings to be protected with a one piece molded cover.
Heaters	All heaters with the exception of the driver's are required to have cleanable filters. 90,000 BTU right front heater, three speeds, with defroster for entrance door and windshield. Heater cutoff valves to be ball type 1/4 turn shutoff.  12,000 BTU driver's heater located to the left of the driver. 50,000 BTU midship heater located in front of rear wheelhouse with a two speed fan. 80,000 BTU rear heater located behind wheelchair lift with dual two speed fans.  Two 6" auxiliary fans located above the windshield to assist with defrosting.
Insulation	Fiberglass insulation R value of 5.77 located in the ceiling and side walls with additional insulation in driver's area, and roof bows. 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 Led stop arm. LED Marker lights
Mirrors	Interior, rearview 6"x30", sun visor 6"x30" Plexiglas. All exterior mirrors heated, 15 minute timer, and side mirrors remote control.
Paint	Exterior, heat cured polyurethane. White roof. Rub rails painted black full width of the rails.
Radio	AM/FM/CD/MP3/PA radio 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
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. Last two rows of seats track mounted Left hand barrier to have a cover with a storage pocket. Minimum body length 40' 4" for maximum seat spacing.

Service access panels	Swing up fiberglass engine hood with an aluminum insert for access to engine and transmission items. Cover to be no more than 7.5" above the floor. A handle and hood prop are required. Swing out front panels for access to radiator and wiper motors. All exterior access panels to be lockable and keyed alike.
Step well	Three step, non- skid, rubber covered steps constructed of stainless steel. Rubber insulation with aluminum kick panels.
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 and placed within easy reach of the driver. Must have a cutoff switch for interior noise. (aka railroad/quiet switch)
Undercoating	Unit to be fully undercoated before mounting on chassis and baked on.
Wheelchair equipment	Braun L919 lift rear mounted. One QRT Max wheelchair restraint.
Windshield	Two piece curved, shaded, and bonded. Assist handles installed above the windshield 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.