

Event 8871 - Line (3) Specifications

SPECIFICATIONS FOR FREEWAY SERVICE PATROL SUPERVISOR P/U EXT. CAB TRUCK, W/SERVICE BODY, 10,500 LB. GVWR, 4X4, 8' BED

ACCEPTABLE BRANDS/MODELS: FORD F350 SUPERCAB, CHEVROLET 3500 EXT. CAB OR EQUAL.

SPECIAL INSTRUCTIONS

All bidders are expected to quote upon a manufacturer's latest standard conventional model truck complete with all standard equipment plus any optional or special equipment required meeting these specifications. Specifications include a p/u truck with extended cab and service body with all specified special equipment meeting all requirements of these specifications.

Specifications require complete chassis pre-delivery service. It shall be the responsibility of the successful bidder to perform the pre-delivery service and inspect each unit for specification compliance prior to delivery to the State of Tennessee, Department of Transportation.

It shall be the responsibility of the successful bidder to guarantee delivery within the quoted time and to require manufacturers or suppliers to complete the installation of auxiliary equipment in accordance with the quoted delivery time.

NOTE: Units shall meet the latest U.S. EPA emission standard.

MILEAGE, ODOMETER READING

The maximum mileage allowable for any vehicle to be considered acceptable shall be 300 miles (including the pilot model). It shall be the responsibility of the successful bidder to make the required arrangements to insure that the mileage/odometer reading does not exceed the maximum miles listed when the vehicles are delivered to the using agency for final acceptance.

DELIVERY REQUIREMENTS – 180 DAYS

Delivery does not mean acceptance. As each unit is delivered, each unit will be inspected and must be 100% operational before payment is processed. If any unit is not 100% operational, the successful bidder must make necessary adjustments/repairs before the units will be acceptable. TDOT regional garage superintendent at each delivery location shall be responsible for final inspection/approval.

PILOT MODEL INSPECTION

The Department of Transportation requires a pilot model fully assembled, operational and ready for service be made available for inspection and approval purposes prior to production of the remaining units. All functions shall be tested during the pilot model inspection. Pilot model shall be included in the mileage odometer limitation of 300 miles. Contact Bryan Sweeney at 615-741-4803 to schedule the pilot model inspection.

DOCUMENTS

Owner's manual, warranty papers, extra key, invoice and manufacturer's statement of origin are to be furnished with each unit. Manufacturer's statement of origin shall be executed in the name of:

Tennessee Department of Transportation
505 Deaderick Street
Nashville, TN. 37243-0346

Manuals for equipment (arrow board, siren, etc.) along with wiring diagrams for additional equipment shall be provided with delivery of the units.

2015 MODEL YEAR

TRUCK, PICK-UP, W/SERVICE BODY, 10500 LB. GVWR, 4X4, WB 141" TO 162"

1. All standard equipment as listed by the manufacturer or as required for 10,500 lb. w/8' bed. GVWR. GVWR to govern over all components.
2. Axles: Front and rear to meet GVWR
3. Springs: Front and rear to meet GVWR

4. Cab Type: Extended cab w/8' bed.
5. Engine: 6.6L turbo diesel, 300 hp, 660 lbs. torque at mfg's rated RPM, heavy-duty cooling system capacity, engine hour meter.
6. Engine Block Heater: 110V
7. Cruise Control w/Tilt Wheel: Required
8. Transmission: Automatic, 6-speed w/over drive
9. Tires: Five (5) tubeless, truck type, radial, blackwall, shall be mud/snow tread, all terrain or off road. All season not acceptable. Shall meet GVWR (18"). **NOTE:** Aluminum wheels are not acceptable.
10. Brakes: Power assist, ABS, disc front
11. Trailer Brakes: Truck to be prewired with integrated trailer brakes and 4 and 7 pin connections.
12. Batteries: Dual, 730 CCA each, maintenance free (minimum)
13. Alternators: Dual, 125 amps/hrs. each (minimum)
14. Auxiliary low voltage idle control which shall maintain proper engine rpm to operate alternator at optimum amperes is required. This is to maintain battery voltage while operating variable message board and all remote warning lights. Dash mounted switch for idle control to be included and may be dealer installed. (**NOTE:** If auxiliary idle control can be accessed through the cruise control, no dash switch is required. Elevated idle control shall be pre-set at 1300 RPM).
15. Auxiliary upfitter switch(s) shall be a minimum of one (1) switch with a 30 amp circuit. Switch(s) shall be instrument panel mounted, factory installation required.
16. Steering: Power
17. Headlights: Dual beam (jewel effect)
18. Mirrors: Below eye level, right & left side, minimum 40 sq. inch mirror area each, swing away. Electric, power adjustable, heated.
19. Front Push Bumper: To be a flora winch bumper with a 12,000 lb. worm gear winch mounted out of site behind the bumper. All cables or rollers should be mounted recessed in the bumper so no damage will occur when pushing a car. Color shall be gloss black. To include a bolt-on grill guard.

(**NOTE:** 12" minimum ground clearance as measured from the bottom of the bumper). Ramsey winch model RE1200 or equal.

20. Rear Bumper: step type, painted, (black with non-skid coating) manufacturer or dealer installed.
21. Towing Package: Required, to include wiring with 7/4 pin combination connector, factory integrated trailer brake controls and 2" receiver hitch, frame mounted.
22. Carrier, Spare Tire: Spare wheel & tire shall be mounted under the body.
23. Shocks: Heavy-duty front & rear
24. Radio: AM/FM, factory installed
25. Power Door Locks and Windows: Required
26. Cab Entrance Steps: Front and rear steps, durable steel construction. Factory installed.
27. Dome light and full headliner required. Auxiliary power point for mobile phones required.
28. Integral Heater/Air Conditioner: Required, factory installed
29. Tinted Glass: All windows
30. Front Tow Hooks: Required
31. Winterized: units shall be completely winterized
32. Fuel Tank: 26 gallons (minimum)
33. Fuel: ¼ tank upon delivery (minimum)
34. Transfer case: Two speed
35. Front Hubs: Auto locking
36. Differential: Limited slip
- 37. Seats: Full rear foldable seat. Front seats – driver & passenger individual bucket seats; console delete option, space is needed to mount a communications console between seats for mounting multiple radios, arrow board controller, strobe light control, etc. Console shall be Havis Shields Consolidator model #C-3201 or equal and shall include accessories for mounting radios and controllers. (NOTE: Driver side arm rest (right side) is required and may be dealer installed). Fuse blocks will not be placed in the compartment for radios. Any wires that run into the console or siren box shall have enough slack wire to allow for adjustment of the**

console (forward, back, etc.). Radio console or storage area is for storage and radio mounts only. Up to 5 radios shall be mounted in the console. **NO FUSE BLOCKS, RELAYS OR OTHER WIRING HARDWARE SHALL BE PLACED IN THE COLSOLE.**

38. Air Bags: Driver & passenger side required
39. Color: Lime yellow – decal delete option. Factory paint preferred. Dealer installed paint is acceptable. Doors and hood shall be painted in such a way as only lime yellow shall be visible. All door jams to be painted. Paint shall be base coat/clear with as near factory quality automotive finish. (NOTE: Any questions concerning paint, please contact Bryan Sweeney at 615-741-4803 or Robert Warren at 615-741-1753)
40. Dealer invoice to include key numbers
41. Pre-delivery according to manufacturer's standard requirements.
42. Warranty: Three (3) years/36,000 miles, bumper to bumper, to begin on date vehicle is placed in service, which is approximately 30 days or less from receipt of vehicle.
43. **NOTE:** Bidders have the option of furnishing pick-up style truck bodies and removing the bed in lieu of cab & chassis. Disposal of the box bed shall be the responsibility of the bidder.

END OF TRUCK SPECIFICATIONS

SPECIFICATIONS FOR SERVICE BODY MOUNTED ON EXTENDED CAB TRUCK

1. Body Length: 78" (minimum)
2. Body Width Outside: 76 ½"
3. Body Width Inside: 48 ½"
4. Compartment Depth: 14"
5. Horizontal Compartment Height: 19"
6. Floor Material: 12 gauge safety tread plate
7. Double Paneled doors with built-in drainage and neoprene door seals to make compartments weatherproof. Horizontal compartment to have stop

- chains or cable. Vertical compartments to have double spring or gas props over center door closure that keep door in positive open or closed position.
8. Flush type door latches with cylinder locks keyed alike.
 9. Body to be immersed in electrically charged gray epoxy primer.
 10. Rear stop, tail, directional & backup lights necessary to comply with Federal Std. #108. Flush lighting to have interior guard to protect from damage where applicable.
 11. Compartmentation: One (1) front vertical each side full height of body, one (1) rear vertical each side full height of body & one (1) horizontal each side over wheel well to extend from front vertical to rear of body. Front vertical & horizontal to have material trays & dividers. Compartments shall be constructed of not less than 16 gauge steel. Interior of compartment trays & dividers to be galvanized. Top of bed compartment (right & left side) shall be covered with 1/8" aluminum tread plate. (Plate helps to reinforce top of boxes where arrow board is mounted. Also, provides a non-skid surface if boxes have to be walked on, ie, at bus accidents trucks have been used for responders to enter through windows).
 12. Slamable Tailgate: 12" high (minimum) w/pick-up style release handle located in center of tailgate, double panel. Add reflectorized chevron to the back of the truck (according to the NFPA code 1901 for fire trucks and emergency vehicles: At least 50% of the rear-facing vertical surfaces, visible from the rear of the apparatus, excluding any pump panel areas not covered by a door/tailgate. **Area between the bottom of the tailgate and the top of the bumper shall be equipped with reflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees) Each stripe in the chevron shall be a single color alternating between black and yellow/green. Each stripe shall be 6" in width. Striping shall be diamond grade material or high intensity.**
 13. Rear Bumper: Step plate manufactured from tread plate or grip strut material. Hitch & mounting shall be included. Hitch shall be drop forged combination pintle hook/ball hitch with 2" interchangeable hitch ball. Capacity shall be 3000 lbs. maximum vertical load & 16,000 lbs. capacity of hitch. Forged lashing rings (D-rings) for trailer safety chains shall be mounted in suitable location. Top of bumper shall be sprayed with a non-skid material.
 14. Tie Down "D" Rings: Six (6) each, mounted in floor equally distributed front, middle & rear to fold down flush with floor.

15. Two (2) grab handles, one left & one right mounted on upper rear of bed.
16. Painted surface to be primed & painted with two (2) finish coats of paint. It is the responsibility of the body manufacturer to match truck cab & chassis paint color.
17. Backup Alarm: Required
18. Mud Flaps: Required
19. Master Locking System: Required on each side, spring loaded and must lock all compartments on each side at the same time when engaged. Master locks with two (2) keys each shall be provided.
20. Warranty: One (1) year on fabrication, five (5) years on rust through. Five (5) years on hinges, paddle lock and key cylinder failure.

ADDITIONAL EQUIPMENT TO BE INCLUDED

ROTATING LED CHANGEABLE MESSAGE BOARD – MINIMUM SPECIFICATIONS

The body shall have a vehicle mounted rotating message board permanently affixed which is legible at a minimum distance of 650 ft. for 10" characters, 950 ft. for 16" characters and 1250 ft. for 20" characters in both day and night conditions. To include the rotating mount.

1. The message sign outer cabinet shall be fabricated of aluminum.
2. The dimensions of the sign outer cabinet shall be approx. 75" x 41" x 5".
3. The dimensions of the sign display shall be approx. 71.5" x 33.75".
4. The display side of the message sign shall contain a clear window, which is an UV stabilized polycarbonate material designed to protect against the effects of weather.
5. The polycarbonate window material shall have a scratch resistant surface to reduce degradation of message legibility due to scratches building up on the window.
6. The overall weight of the sign cabinet shall not exceed approx. 112 lbs.
7. The sign enclosure shall be thermostatically controlled and be equipped with a fan and rain-tight vents. Intake and exhaust vents associated with

this fan shall restrict water from entering the enclosure when the sign is in either the horizontal (stowed) or vertical (display) position, whether vehicle is stationary or moving.

8. The sign cabinet shall have no louvered vents.
9. The sign shall have an effective weather-sealing gasket between window and cabinet. Gasket shall provide shock resistance, minimizing window vibration, while preventing dust and water entry.
10. The back of the sign shall be powder coated white to reflect light and reduce heating in the cabinet.
11. LED color must be amber, nominally, 592 nm.
12. The sign shall automatically dim upon reduced levels of ambient light.
13. The sign shall have four (4) LED's per pixel.
14. The sign shall have a 24 pixel x 48 pixel display matrix (1,152 total pixels).
15. The removal of one character panel will not adversely affect any other part of the sign.
16. The sign must conform to MUTCD type B arrow board requirements.
17. The sign shall have the ability to display three (3) lines of text with eight (8) characters per line, each character shall have a nominal height of 10".
18. The sign shall have the ability to display two (2) lines of text with six (6) characters per line, each character shall have a nominal height of 16".
19. The sign shall have the ability to display one (1) line of text displaying four (4) characters, with a character height of at least 20".
20. The sign shall be capable of automatically centering the displayed message page horizontally.

21. The sign shall automatically center and default to the largest font size available, when a message is displayed.
22. The sign shall be capable of displaying the following symbols using the full height of the LED display: Four corner caution, left & right flashing arrow, flashing double arrow, left & right sequencing arrow, left & right chevron, and flashing double diamond caution.
23. The sign control board or CPU shall be contained within the sign cabinet. No external box or separate component shall be stored or mounted in the operator compartment of vehicle or other location that is exterior from the sign.
24. All user programmable messages shall be stored on the control board or CPU, not on the input device.
25. The keypad controller shall have the capability to save a backup of all user programmable messages stored on the sign control board.
26. The sign cabinet shall be easily accessible, without the aid of tools, for general maintenance and repair.

KEYPAD HANDHELD CONTROLLER

1. The handheld terminal must be a Keypad Control unit. All programming, message selecting and viewing must be performed on this device.
2. A laptop or PC shall not be required to perform any sign functions including creating new messages, message editing, or message selection.
3. There shall be 40 user programmable messages.
4. Each message shall be able to display up to three (3) pages, or flashes of information.
5. The messages shall be organized into 5 groups of 8 messages. The user must have the ability to make each message group.

6. The user shall navigate through groups using the left/right arrow buttons and through messages within a group using the up/down arrow buttons on the keypad controller.
7. A single button press will instantly display any of the 8 messages programmed within the selected group using the corresponding number on the keypad.
8. There shall be a message library of 92 messages available for editing messages.
9. The message library shall be divided into 3 categories: Paint Striping, Incident Response, and General Maintenance.
10. The sign shall be capable of linking up to 4 messages, displaying up to 12 pages in sequence.
11. Keypad must have a supervisor password protection option for message editing.
12. Keypad Controller must have 5 buttons dedicated and marked for displaying symbols with a single button press. The 5 symbol buttons must be: 4 corner caution, left arrow, right arrow, left chevron and right chevron.
13. Approx. Keypad dimensions: 9" x 5" x 1.5".
14. Approx. dimensions of display screen: 2" x 3".
15. The Keypad Controller must have a display screen that previews all three pages of a message prior to being displayed on the sign.
16. The Keypad Controller shall have the capability of uploading and saving user programmable messages, which are stored on the sign control board.
17. The Keypad Controller shall have the capability of downloading saved user programmable messages into other, identical vehicle mounted sign models, for the purposes of standardizing messages in the fleet.

18. The Keypad Controller shall have the capability to connect and operate other vehicle mounted sign models within the fleet, without any additional setup or programming.

LOW PROFILE UPPER MOUNT

(Upper portion of support structure mechanism that holds and rotates the sign from a horizontal to vertical position that can be adapted to various structures attached to a vehicle)

1. A 12 volt linear actuator rated at 500 lbs. dynamic load and 3000 lbs. of static load shall be installed on the support structure that will automatically rotate the message sign from horizontal (stow) to vertical (display) position.
2. The support structure must rotate the message sign from horizontal (stow) to vertical (display) position within 14 seconds, while the vehicle is traveling at 65 mph.
3. The upper mount and sign, in a horizontal (stowed) position, shall be no taller than 13”.
4. The upper mount support structure shall be constructed of tubular and plate steel with a black protective powder coated finish.
5. Drawings are requested showing the layout of the upper mount support structure arrangement (submitted with bid).
6. When in the horizontal (stow) position, the sign must be resting on a bumper or rest to support the sign and minimize vibration. A 90 degree tilt mount that hangs and does not have a support is not acceptable.
7. All cables, harnesses, plugs and connectors required making the installed equipment operational in a vehicle configuration shall be provided.

LOWER MOUNT

(Lower portion support structure that attaches the upper mount to the bed of the truck)

1. Drawings are requested showing the layout of the lower mount support structure arrangement (submitted with bid).
2. Uprights and supports shall be constructed of tubular and plate steel with a black protective powder coated finish.
3. Mounting support structure shall be suitable for use on a vehicle allowing the sign to be visible above the cab at a minimum of 7 ft. from the ground to the bottom of the sign. All necessary hardware needed to attach the mounting support structure to the vehicle shall be provided for installation by the awarded vendor.
4. To maximize utility of vehicle bed space, mount shall be installable directly behind the cab.

JUMP START SYSTEM

The truck shall be equipped with a pair of 25' jumper cables and two (2) polarized quick connect/disconnect receptacles. A receptacle shall be flush mounted in a convenient location on the front push bumper/grille guard structure and at the rear of the utility body. The receptacles shall be mounted in such a manner as to provide maximum protection for the plug-in assembly while pushing a broken down vehicle or towing a trailer. The jump start system shall include a polarity indicator light. The light automatically indicates an incorrect battery hook-up. A set of side post terminal adapters shall be furnished with the system. Associated #GL-80/12/200 or equal.

DOME LIGHT, CAB INTERIOR

A 5" dome light shall be surface mounted on cab interior roof above the steering wheel to aid operator in low light condition while preparing incident reports. Lights shall be controlled with a push button or toggle switch mounted on light. Whelen model CL25C or equal.

CAB MOUNTED LED SPOTLIGHT

Cab shall have a left post-mounted LED spotlight. Spotlight shall have fingertip switch, provide 360 degree continuous horizontal rotation and up to 120 degrees vertical adjustment, Left hand application.

LIGHTS

Stop, tail lights with signal alert, amber LED turn arrow indicators and clear back-up lights to be installed. Rear lighting shall have two (2) polished cast aluminum housings for scene lights on rear of vehicle. Scene lights shall be clear opti-scene lights.

PA SYSTEM

The truck shall be equipped with a PA system. The PA system shall use a high efficiency, 200 watt rms loudspeaker. The loudspeaker shall be designed for mounting on the top center of the front bumper behind the push guard and be compatible with the electronic PA system. The loudspeaker shall have a round aluminum horn and be compact in design. The PA amplifier shall be remote head design. The amplifier shall be capable of 200 watt output. The amplifier shall have an air horn (hi-low tone), public address, two-way radio re-broadcast wail, yelp, and piercer. Control head and amplifier shall be pre-wired with mated, quick-disconnect plugs for easy installation. (**Note:** Control mounted on a double swivel mounted on top of the console. This will allow the operator to see the buttons better. Ram mount or equal) The control switch shall be programmed as follows: **1st** position is off; **2nd** position yellow lights on in back; **3rd** position red lights on in back; **4th** position all warning lights yellow, red, light bar, etc. The PA system shall over-ride all other functions when the microphone is activated. Control head dimensions: 2" H x 4 ½" W x 2 ½" D. Remote amplifier dimensions: 2 3/8" H x 6" W x 5 ½" L. The remote amplifier shall be mounted in an area to avoid being struck by tools, etc. The control head mounted in the console area system shall have a two (2) year warranty. Federal PA300 PA control head and remote 200 amp. or equal. (**NOTE:** Currently speakers are mounted under hood and have gotten hot enough to melt. Because of several lawsuits in other states, no sirens

should be mounted under the hood according to NFPA). Speaker Federal BP-200 or equal.

LIGHT BAR

The light bar shall be constructed of extruded aluminum which conforms to the design of the unit and sized to fit the truck. All pre-drilled holes not used by lighting functions shall be filled with metallic insert of the same base material to preclude the entrance of dust and moisture. The light bar shall have a built-in sunshade. The light bar is to have no rotating oscillating lights. The light bar shall be designed to provide maximum fuel efficiency. The light bar shall be between 46" to 54" in length, 12" to 18.5" in width, and 2" to 3" in height (excluding mounting brackets). Domes and inserts shall be constructed of polycarbonate. All light functions shall be mounted inside the primary domes and configured to provide the following functions: **1)** The outer position shall be linear red LED with red lens; **2)** The middle position shall be linear white LED with clear lens; **3)** The inner position shall be linear red LED with red lens; **4)** Front should have two (2) alley lights and two (2) clear work lights in the front.

All lenses shall be polycarbonate, high impact material. Strobes shall be capable of "Comet Flash". This pattern incorporates a strobe flash into four (4) pulses of light. These pulses are less than 85 milliseconds apart. The power supply shall have a minimum five (5) year warranty and one (1) year minimum on strobe tubes.

REAR AND SIDE WARNING LIGHTS

The rear of the body shall have four (4) LED light-head assemblies mounted approx. 2" below the corner of the body above the tail lights on the right and left side. One (1) red LED and one (1) amber LED per side. Warranty on light-heads shall be five (5) years. All lighting must meet Federal Motor Vehicle Safety Standards #108 (FMVSS).

WIRING AND CONNECTORS

Color-coded wiring harness encased in plastic loom and secured to the body. Loom retained by mechanical fastening system. All wire connectors shall be 3M special terminals (heat shrink terminals and connectors). Example: Heat shrink brazed seam ring tongue terminals, heat shrink brazed seam locking fork terminals, heat shrink nylon fully insulated female disconnects, heat shrink nylon fully insulated butted seam male disconnects, heat shrink seamless butt connectors. All in-line taps shall be and any end connectors shall be waterproof.

NOTE: All wires and connectors/harnesses are to be routed in such a manner as to not interfere or impede access to other components within the engine compartment (batteries, air cleaner, etc.). All color wiring is to be consistent. Wiring will not tie into factory fuse block and fuses.