

Vehicle Build Specification

FastLane Emergency Vehicles | 37241 E Richardson Lane | Purcellville, VA 20132 | (877) 327-8526



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SUV Response, FL-SUV-RSP

37241 E Richardson Lane | Purcellville, VA 20132 | (877)

327-8526 Job/Quote ID: Q00275.1

Client/Department Name: NCSA

Rep: Sean Swanson

Conversion Up-fit of a(n) Expedition

FastLane to supply vehicle? YES

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Chassis Specifications

If indicated above and vehicle is supplied by FastLane, the following specifications shall be considered "included in contract" Only specifications listed herein shall be considered inclusive. FastLane shall not be responsible for chassis specifications outside this document.

The vehicle, a(n) Expedition shall be supplied by FastLane.

Please see the chassis specification document attached to the quote.

GENERAL BUILD SPECIFICATIONS

This section describes the minimum standards for how your new FastLane vehicle shall be converted/upfitted; specifically for the wiring, connections & terminations, mounting of equipment and power distribution.

WIRING

Wiring to be automotive type meeting or exceeding SAE J1128-GXL rated for minimum of +125 degrees centigrade. All wiring to be stamped with permanent, indelible marking describing both circuit identification and plain word function not less than 6 inches apart for the entire length of the wire. Each run to be rated for 125% the specified ampacity of the connected load. All wires to be run in split corrugated, nylon loom with minimum temperature rating of +115 degrees Centigrade. Loomed harnesses to be wire tied to frame and chassis not greater than 16 inches apart. All communication and data lines to be shielded and in independent harness from all other wires. All pass-through holes cut in body of vehicle where wire harnesses travel to have standard Heyco style bushings to protect from chaffing. All holes that pass to exterior of body to have approved, expanding sealing compound to seal wires from weather.

CONNECTIONS & TERMINATIONS

All connections made within the body, away from possible weather to be standard crimp style terminals with nylon insulation. Terminals must be crimped with approved tool specific to connector being used. All exterior or engine compartment connections (made on outside vehicle cabin) to be either heat shrink crimp style or Deutsch style, sealed connector and must protect against moisture, dirt and dust, minimum rating of -40 to 120 degrees Centigrade. All ground connections made on chassis frame or body on remote appliances to utilize star (toothed) ring terminal and be coated from weather and corrosion with silicon or approved sealant. Interface to OEM wiring shall be done in accordance with body builder and up-fitter specifications. Where possible any connection to OEM wiring shall use a tee style no-cut harness or shall be soldered into place using standard no-clean flux solder. This soldered connection shall then be covered in a dual wall, polyolefin, sealant lined heat-shrink tubing and heated into place with heat gun or portable torch. Under no circumstances shall fuse taps or crimp tee-taps be used to interface with OEM wiring.

MOUNTING OF EQUIPMENT

All FastLane added equipment to be mounted in accordance with manufacturers specifications. All interior cab items to be mounted with airbag safety standards followed. Modifications to the OEM frame assembly or suspension systems are prohibited. Any modification to bumper systems must be done such that not more than 10% of the entire surface area of the bumper assembly is breeched or modified. All cuts made to any chassis or body panel must be sealed with self-galvanizing, anti-rust sealer prior to equipment being mounted. All exterior hardware including screws and fasteners to be minimum of 18-8 stainless steel. All exterior lighting and thru-body equipment shall be fastened to the sheet metal of the vehicle using approved rivet nut fasteners, allowing the use of machine thread screws. The use of sheet metal screws directly into the body skin is prohibited.

POWER DISTRIBUTION (noise free power)

The main FastLane power feed is rated for 200% of total expected ampacity of the carried load. One large gauge cable run from vehicle's battery bank must be circuit protected within a minimum distance of 16 inches from power source (battery) and can be disconnected by user quickly in the event of emergency or maintenance. This protected power feed will power all FastLane added appliances and warning systems. Specified, lug style power studs will be in vehicle console and rear cabinet (if specified) to provided clean, capable power. Additionally main ground studs shall be placed in the

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front console and rear cabinet (if specified) for clean, noise free central grounding of all equipment. These ground cables shall be of matching size to main power feed and be bolted to frame rails using stainless steel fasteners and coated with approved sealing compound.

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LIGHTBARS

As it is necessary to make an opening in the vehicle roof for lightbar cable(s) to be routed, proper and effective sealing of these hole(s) is of paramount importance. All wire holes through the vehicle roof will be protected with self-sealing, waterproof, hole-grommets when clearance is available (otherwise FastLane shall seal the hole using standard pliable "duct" seal agent).

FASTLANE SHALL SUPPLY/INSTALL THE FOLLOWING ITEMS:

The following lightbar shall be installed on the vehicle:

Type: NFORCE

Model: ENNLB011E1-26F

Description: 54" nFORCE NXT Lightbar with R/G/W Corners, R/B/W Front, R/B/A Rear

BODY & WARNING LIGHTS

All exterior lighting shall be installed using approved rivnut fasteners and stainless-steel machine screws. Any holes or cuts in the vehicle's body shall be back primed with a self-etching primer to prevent corrosion. All connections between fixtures and cabling will be made with either heat shrink sealed or Delphi Deutsch style weatherproof connectors, wherever the likelihood of extensive exposure to the elements exists.

FASTLANE SHALL SUPPLY/INSTALL THE FOLLOWING ITEMS:

Item	Mounting Location	Quantity	Special Instructions
EMPS1STS4RBW: 3" mpower Grille Stud Mount, Black Housing, 12 LED, Tricolor - Red/Blue/White	Grill - Built-In	4	Mount to the cross bars on front grille.
EMPS2004X-F: 4' mpower Fascia with Quick Mount White Housing AMBER/WHITE	Bumper, Rear - Built-In	2	Flash Amber with emergency lights. Burn WHITE steady in REVERSE or when rear liftgate open.
EMPSA05BZ-8: mpower® Fascia 4x2 Light w/ Screw Mount, Black Housing, Red/Blue/White (must include bezel color)	Fenders (Both) - Front	2	
EMPSA05BZ-8: mpower® Fascia 4x2 Light w/ Screw Mount, Black Housing, Red/Blue/White (must include bezel color)	Fenders (Both) - Rear Center Over Wheel	2	
EMPSA05BZ-8: mpower® Fascia 4x2 Light w/ Screw Mount, Black Housing, Red/Blue/White (must include bezel color)	Liftgate, Rear - Exterior	2	
PMP SABZ02C: Chrome Mounting Flange for mPower 4x2 LED		6	Mount for 4x2 LEDs

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SIRENS & AUDIBLE DEVICES

The following represents any audible warning devices being provided and/or installed as part of this upfit/conversion.

FASTLANE SHALL SUPPLY/INSTALL THE FOLLOWING ITEMS:

Siren Model: FP100WSIREN, FastPlex 100W Siren, 15 Tone Selectable, with Hands-Free

Speaker (Qty: 1): ETSS100U, 100U Series Composite Speaker w/ Universal Bail Bracket - 100 watt,

WORK LIGHTING

FastLane shall supply and/or install the following work lighting in your vehicle:

Qty Rear Hatch Liftgate Lighting: 3

Qty Front Off-Road Bar Light:

Spotlight:

FRONT CONSOLE

FastLane will provide and install a custom front console to house all necessary switching, signaling and communications controls, as well as cup holders, map books and 12-volt power-points, as specified below. The primary console construction, if fabricated by FastLane (sides, front, rear), shall be of cabinet grade " lumber core or veneer core ply material, covered a durable polyurea coating, black. Where map book or other slots are provided, these spaces shall also feature the same coating. Whenever functions of the OEM installation are interrupted by the console such as rear radio, HVAC controls and ducting, these features shall be reintegrated into the new console (where possible). Installation of console includes mounting of all equipment listed herein for control and use by driver and passenger. FastLane reserves the right for production changes that require adjusting console appliance locations to fit according to size and use. Any mic clips will be shipped loose for installation at time of delivery. Consoles are fastened to vehicle chassis using threaded fasteners to floor. Dashboard support may be added for stability if needed. The face surface (top) of all front consoles shall be constructed of .090 aluminum sheet. These faceplates will be cut to size using CNC machining (not hand cut). All holes necessary in the faceplate (radios, switching, etc.) will be die-cut to a maximum allowable tolerance of +/- 0.05" through the aluminum. Gaps around mounted appliances will not be tolerated and shall be deemed unacceptable. The finished product will feature rounded edges and corners to prevent injury to people or equipment. These faceplates shall be finished with a black polyester powder-coat finish, producing a textured/wrinkle, scratch resistant coating.

Floor Console Selected: Full Floor Console

Standard Options:

12V Power Points: 1

Adjustable Armrest: 2

Cup Holders: 2

USB Power Points: 1

Overhead Console Selected:

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Additional items for this section:

Item	Quantity	Special Instructions
MAPSLOT: Open Map Storage (one per divider)	1	

REAR CABINET

Installation of cabinet includes sizing and fitting to vehicle interior. FastLane shall utilize a minimum of four 3/8" diameter grade 5 carriage bolts to fasten the cabinet system to vehicle substructure or frame. Where possible cabinets shall be mounted through structural floor members such as frames or reinforcing plates; however, where mounting to body floor skin only FastLane shall utilize a minimum 4" diameter reinforced 3/16" thick steel plate for connection strength. All hardware utilized shall be rated at 150% of anticipated use and shall be coated to avoid rust and corrosion. All wood used in construction shall be lumber or veneer core ply. The cabinet shall be constructed using " LC/VC ply and be nailed, glued and screwed together at all fixed joints. All exposed edges shall be covered in a coordinating laminate or rubber edging. FastLane reserves the right for minor (cosmetic) modifications to the cabinet's design during final mounting.

Please refer to any FastLane supplied construction drawings for better illustration. However, the specifications within this document shall always supersede any illustrations, depictions or references made by any drawing, design or sketch. Equipment or installation of equipment not listed herein shall be considered for illustrative purposes only and not part of contract.

A base cabinet to fit within a Expedition shall be provided and include the following features:

Cabinet Type: CUSTOM

Item	Quantity	Special Instructions
RCC: Rear Cabinet Control Center	1	
SD24: Sundry Drawer, 24" Deep	1	
RCL: 12V Accessory Plug Adapter Socket	1	
RUSB: Dual USB Charging Port - 4.2 Amps	1	
HDTRAY36: Heavy Duty Tray, 36" Deep	2	
DOORHDP: Door, High Density Poly 1/2Inch (Starboard) Black	1	
LOCKDOOR: Locking Door Option, Compt.	1	

ELECTRICAL ANALYSIS & UPGRADES

Vehicle OEM Alternator	140
Total Amperage Added	13.3
Reserve %	90

FastPlex Control System

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The FastPLEX Multiplexed Electrical System is an advanced CAN BUS based control system specifically engineered for FastLane to provide reliability, vehicle specific function and control for this type of conversion. FastPLEX features J-1939 CAN BUS communications, scalable control modules, solid-state switching of ALL loads, integrated flasher and specialized functions, primary touch screen message display center for operator interface, audible prompts. All functions are fully programmable via laptop computer. The actual distribution of power occurs using solid-state module(s) which are standard and interchangeable with other like conversions produced by FastLane. FastPLEX features built-in load management and control and provides system status feedback to the user via a full color 4.3-inch touch screen located in view of the driver. Real time switch feedback tells the user the status of each output during automatic operation. FastPLEX features quick start for all "eMaster" switched circuits allowing soft start turn on prolonging charging systems and extended load life. All loads are protected using solid-state circuit protection. This system shall interface with the OEM circuitry via a no-load interface. This module shall sense all OEM functions via computer signal and relay that information on the CAN BUS network for use by any module via programmable function. The front touch screen panel is unitized, modular and communicates with all modules via CAN BUS communications on two wires running a redundant loop. This control panel is a common part found in all conversions produced by FastLane, such that it could be interchanged with a panel from a similar vehicle. This touch screen panel features full color display with vehicle icon feedback of system status, CAN BUS communications and is fully programmable for easy screen reconfiguration in the future. The touch screen is fully IP67 compliant and is fully weather resistant. Every FastPLEX system includes one front touch screen display (FP3860) and one main control module (FP2820) yielding 24 inputs and 24 solid state outputs. Additional modules provided if specified below.

Shoreline PN: 091-20WP-120 Description: Auto Eject 20-Amp 120V Color: White
Battery Charger: 45-AMP CHARGER, WITH BUILT-IN CHARGE WIZARD
Inverter: None

END OF BUILD SPECIFICATIONS