



**North Carolina
Sheriff's Association**



FES24-02 Light Duty Rescue

May 21, 2024

Attachment A



**SAFE
INDUSTRIES**



PROPOSAL

Fire Equipment Sales and Services is pleased to offer the proposed vehicle to meet the intent of the fire department specifications. Fire Equipment Sales and Services is a manufacturer in commercial fire fighting vehicles.

Fire Equipment Sales and Services

1665 Stamey Livestock Road

Sumter, SC 29153

Office: (803) 494-6000

After Hours Emergency Service Hotline: 1-864-845-7175 Option #3

GENERAL INFORMATION

The proposed apparatus will be constructed to withstand the severe and continuous use encountered during emergency fire fighting services. The apparatus will be of the latest type, carefully designed and constructed with due consideration to the nature and distribution of the load to be sustained.

This proposal details the general design criteria of cab and chassis components, aerial device (if applicable), fire pump and related components (if applicable), water tank (if applicable), fire body, electrical components, painting, and equipment.

All items of these proposal specifications will conform to the fullest extent possible with the National Fire Protection Association Pamphlet No. 1900, latest edition, except as noted in the Statement-of-Exceptions.

FES will furnish satisfactory evidence of our ability to construct, supply service parts and technical assistance for the apparatus specified.



FIRE APPARATUS COMPLETION DOCUMENTATION

Fire Equipment Sales and Services will provide, at the time of apparatus delivery, at least one (1) copy of the following documents.

The apparatus manufacturer's record of apparatus construction (build) details, including the information listed below:

- Apparatus Owner's name and address
- Apparatus manufacturer, model and serial number
- Apparatus Chassis make, model and serial number
- Front tire size, and total rated capacity (in pounds)
- Rear tire size, and total rated capacity (in pounds)
- Apparatus Chassis weight distribution in pounds, with water and equipment mounted, front and rear
- Apparatus Engine make, model, serial number, rated horse power, rated speed and governed speed.
- Type of fuel(s) used by apparatus and fuel tank(s) capacity
- Apparatus electrical system - Voltage and Alternator output (in amps)
- Battery make, model and total capacity (in cold crank amps)
- Transmission make, model and serial number: If equipped, chassis transmission PTO(s) make, model and gear ratio
- Pump make, model, rated capacity in gallons per minute (GPM) and serial number
- Apparatus water tank certified capacity in gallons
- Paint manufacturer and paint number(s)

The apparatus manufacturer shall include certification of "slip resistance" for all stepping, standing and walking surfaces.

If the apparatus has a fire pump, the following additional documents shall be provided:

- The pump manufacturer's certification of suction capability
- Copy of the apparatus manufacturer's approval for stationary pumping applications
- Engine manufacturer's certified brake horsepower curve for the engine provided, showing the maximum governed speed.
- Pump manufacturer's certification of hydrostatic test (if it applies)
- The independent third party certification of inspection and test for the apparatus fire pump

If the apparatus has a "fixed line" voltage power source, there shall be documentation of the fixed power source test certification.

If the apparatus features an air system, there shall be test results of the air quality, SCBA fill station and the installation of the air system.

The apparatus manufacturer shall provide documentation from a certified weight scale. This documentation shall show actual loading on the front axle, rear axle(s) and overall vehicle weight. This weight shall include the weight of the "full" apparatus water tank. This documentation shall be provided with the completed apparatus build to determine compliance with NFPA 1901 latest addition.

Electrical performance testing documentation and a written load analysis report shall be provided with the completed apparatus.

If the apparatus features a water tank, the water tank capacity certification shall be supplied by the tank manufacturer.



APPARATUS FMVSS CERTIFICATION

The proposed chassis will be certified by FES as conforming to all applicable Federal Motor Vehicle Safety Standards (FMVSS) in effect at the date of contract. This will be attested to by the attachment of a FMVSS certify caution label on the vehicle by FES, who will be recognized as the responsible final manufacturer.

APPARATUS RECORDS RETENTION

FES will be responsible for preparing and maintaining a record file of parts and assemblies used to manufacture the proposed apparatus.

These records will be maintained in FES's factory for a minimum of twenty (20) years.

The file will contain copies of any and all reported deficiencies, all replacement parts required to maintain the apparatus, and original purchase documents including specifications, contract, invoices, incomplete chassis certificates, quality control reports and final delivery acceptance documents. The purchaser will have access to any and all documents contained in this file upon official written request.

GENERAL CONSTRUCTION

The proposed apparatus, assemblies, subassemblies, component parts, etc., will be designed and constructed with the due consideration to the nature and distribution of the load to be sustained and to the general character of the service to which the apparatus is subjected to when placed in service. All parts of the apparatus will be designed with a factor of safety, which is equal to or greater than that which is considered standard and acceptable for this class of equipment in fire fighting service. All parts of the proposed apparatus will be strong enough to withstand general service under full load. The apparatus will be so designed that the various parts are readily accessible for lubrication, inspection, adjustment and repair.

The apparatus will be designed and constructed, and the equipment so mounted, with due consideration to distribution of the load between front and rear axles that all specified equipment, including a full complement of specified ground ladders, full water tank, loose equipment, and firefighters will be carried without overloading or injuring the apparatus.

SINGLE-LINE RESPONSIBILITY

FES engineers, designs, manufactures, builds and paints our own fire apparatus body, rescue apparatus body and electrical systems. All work is done in an FES owned and operated manufacturing facilities by FES direct employees. This capability provides consistent design and manufacturing procedures that will reduce warranty issues and provide ease in parts replacement.



CERTIFICATE OF LIABILITY INSURANCE

Fire Equipment Sales and Service maintains the following insurance limits:

- Total Garage Keepers Insurance: \$2,500,000.00
- Total Umbrella Liability per Occurrence Insurance: \$4,000,000.00
- Total Automobile Liability Insurance: \$5,000,000.00
- Total General Liability Insurance: \$6,000,000
- Workers Compensation and Employers Liability Insurance: \$6,000,000.00

Reference attached documentation.

PAINT PERFORMANCE CERTIFICATION

The proposed FES apparatus meets or exceeds the required Commercial Vehicle Paint Performance Standards.

SERVICE CENTER AND PARTS AVAILABILITY

Fire Equipment Sales and Services owns and operates a 35,000+ sq. ft. service, fabrication and office complex in Sumter, SC. In addition, our parent company, Safe Industries, has a 18,000 sq. ft. service facility in Piedmont, SC, a 20,000+ sq. ft. office/warehouse complex in Easley, SC and a 6,400 sq. ft. service center in Knoxville, TN.

Average daily parts inventory is in excess of \$500,000.00

FES FIRE APPARATUS SERVICE STATEMENT

Safe Industries is proud to offer over 100 years of combined experience in the fire service and apparatus industry. We offer a twenty-four hour service commitment with thirty (30) service technicians on call and twenty seven (27) service vehicles available across South Carolina, North Carolina and Tennessee.

Our certifications include EVT, ASE, Cummins, Hale, Waterous, Darley, Akron, and Bendix brakes.

We can perform all pump tests at your location with the Draft Commander 3000 mobile pump test trailer, to eliminate removing your apparatus from your department. In case of an emergency we can UN hook from the test and have the apparatus in operation in less than 5 minutes.

Safe Industries is fully insured with Workman's Compensation.

Contact:

Safe Industries

5031 Highway 153
Easley, SC, 29642
Office: (864) 845-7175
Fax: (864) 845-7176
Toll Free: 1-877-997-7233

After Hours Emergency Service Hotline: 1-864-845-7175 Option #3



SERVICE CENTER LOCATION

Safe Industries owns and operates three (3) facilities in the state of South Carolina and two (2) in Tennessee. Our headquarters office is located at 5031 HWY 153 Easley, South Carolina and our service building in the upstate is located at 116 Connector Park Court, Piedmont, SC 29673.

Fire Equipment Sales and Services, a wholly owned division of Safe Industries, is fully equipped with a metal fabrication and welding shop, electrical and plumbing shop, paint booths and in-house graphics.

Our 20,000 square foot facility in Nashville located at 1122 Lebanon Pike, Nashville, TN 37210 features five (5) service bays fitting up to a total of ten (10) trucks.

Our 21,000 square foot facility in Knoxville located at 3150 NW Park Drive, Knoxville, TN 37921, and is a full service facility conducts apparatus modifications, fabrication, collision repairs, pump repairs, NFPA pump and inspections tests and a wide range of diagnostic testing.

SERVICE TECHNICIANS

Safe Industries has company owned service vehicles that will be available 24 hours a day, seven days a week to respond to customer needs. The Service Vehicles will be operated by full time EVT Certified Technicians.

PRICES AND PAYMENTS

The apparatus bid price shall be FOB FES, based on a delivered and accepted apparatus by the Fire Department.

The total price on the Fire Equipment Sales and Services proposal sheet shall include all items listed in the apparatus specifications.

The computed pricing does not include federal, state or local taxes. Any applicable taxes shall be added to the proposed pricing. Tax-exempt forms may be provided if applicable for tax-exempt agencies.

APPARATUS DELIVERY TIME

Fire Equipment Sales and Services is proposing to complete the apparatus delivery time based on the number of working days, starting from the date an approved commercial chassis is received by the manufacturer.

Apparatus Delivery Time: One Hundred Eighty (180) working days after receipt of approved chassis by FES.

FAIR, ETHICAL AND LEGAL COMPETITION

In order to provide fair, ethical and legal competition, the original equipment manufacturer (OEM) or the parent company of the OEM will not have ever been fined or convicted of the following in any domestic or international fire apparatus market:

- **Price Fixing**
- **Bid Rigging**
- **Collusion**



NON-COLLUSIVE BIDDING CERTIFICATION

By submission of this bid, FES and each person signing on behalf of any bidder, certifies, and in the case of a joint bid, each party thereof certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief:

- The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for purpose of restricting competition, as to any matter relating to sell prices with any other bidder or any competitor.
- Unless otherwise required by law, the prices that have been quoted in this bid have not been knowingly disclosed by FES and will not knowingly be disclosed by FES prior to opening, directly or indirectly, to any other bidder or to any competitor
- No attempt has been made by FES to induce any other person, partnership, or corporation to submit or not to submit a bid for the purpose of restricting competition.
- That all requirements of the law including amendatory provisions as to non-collusive bidding have been complied with.

MATERIAL AND WORKMANSHIP

All equipment provided will be guaranteed by Fire Equipment Sales and Services to be new and of current manufacture to meet all requirements of the purchaser's specifications.

All workmanship will be of highest quality meeting accepted standards of the apparatus industry and will be accomplished in a professional manner so as to insure a functional apparatus with a pleasing, aesthetic appearance.

FES ENGINEER

Fire Equipment Sales and Services will designate a representative to perform FES's sales engineer functions. The sales engineer will provide a single point interface between the purchaser and FES on all matters concerning the apparatus contract.

PROPOSAL BLUEPRINT

FES is providing a scaled drawing of the specific apparatus being proposed with the bid. The drawing has been generated by FES's engineering department in order to maintain the accuracy of the drawing.

APPARATUS DELIVERY

Final approval, acceptance, payment and delivery shall take place at the manufacturing facility, Fire Equipment Sales and Service, at the final inspection of the apparatus.

INSTRUCTION MANUALS / DRAWINGS

Fire Equipment Sales and Services will supply upon delivery two (2) copies of operation and service manual(s) for the completed apparatus as delivered and accepted by the customer.

These manuals will contain the items below:

- Specifications, descriptions and ratings of chassis, and pump (if provided).
- Lubrication (fluids) charts
- Operational instructions for the apparatus chassis and any major components such as a pump or auxiliary system.
- Instructions regarding the frequency and maintenance procedures recommended for the apparatus.
- Replacement parts information.



VEHICLE FLUIDS PLATE

As required by NFPA-1901, FES will affix a permanent plate in the driver's compartment specifying the quantity and type of the following fluids used in the vehicle:

A permanent plate in the driving compartment will specify the quantity and type of the following fluids used in the vehicle:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Pump transmission lubrication fluid
- Pump primer fluid
- Drive axle(s) lubrication fluid
- Air-conditioning refrigerant
- Air-conditioning lubrication oil
- Power steering fluid
- Transfer case fluid
- Equipment rack fluid
- Air compressor system lubricant
- Generator system lubricant

LOCATION OF MANUFACTURING FACILITY

Fire Equipment Sales and Services is located at 1665 Stamey Livestock Road in Sumter, South Carolina, 29153. We maintain a 36,000 square foot facility that is state of the art in fire apparatus manufacturing. It is the largest Fire Apparatus Manufacturing and service facility in Virginia, North Carolina and South Carolina.

Our equipment includes a precision water-jet cutter, 65' downdraft environmentally friendly paint booth as well as tig, mig, heliarc welders as well as plasma cutters.

FIRE APPARATUS MANUFACTURER'S ASSOCIATION MEMBERSHIP

Fire Equipment Sales and Services, a wholly owned division of Safe Industries, is honored to be a member of the Fire Apparatus Manufacturers Association.

SOUTH CAROLINA DEALER'S LICENSE

Safe Industries is a fully licensed South Carolina Motor Vehicle Dealer. A copy of a valid, current license will be included with the submission of this proposal.

U.S.A. MANUFACTURER

The entire apparatus will be assembled within the borders of the Continental United States to insure more readily available parts (without added costs and delays caused by tariffs and customs) and service.



TAG ON'S/ADDITIONAL ORDERS

At its sole discretion, the Manufacturer may allow the terms of this contract to be extended to both the purchaser and similar agencies for the purchase of a similar unit(s) under similar terms for a period of 36 months from the date of the execution of this contract. Should the Manufacturer choose to exercise this option, it will be permitted to adjust the contract pricing to account for equitable price adjustments associated with the change in the cost of the materials used to produce the unit as well as normal manufacturer yearly price increases. If there are any changes between the unit(s) purchased via this contract and any subsequent orders, those changes must be documented via properly signed and executed change orders, including any necessary price adjustments. If the purchasing agency is not the purchaser, a separate contract will be required to complete the additional purchases. This includes any similar Apparatus, Loose Equipment options, and Service and Warranty Plans.

EXAMINATION & TEST PROPOSAL COMPLETED BY CERTIFIED THIRD PARTY

If required by the specific chapters of NFPA-1900, the proposed unit shall be tested by a company certified third party company.

A complete written examination and test report will be provided for each inspection performed at the manufacturer's facility. This report specifies the points of inspection and results of such examinations and tests.

The company providing the test work on the units shall be certified to Level II in the required NDT methods, under the requirements outlined in ASNT document CP-189.

The actual person(s) performing the inspection shall present for review proof of Level II Certification in the required NDT methods.

FES will designate, in writing, who is qualified to witness and certify these test results.

Prior to submittal to the automotive fire apparatus manufacturer, the final Report shall be reviewed by an authorized representative of Fire Equipment Sales and Services and a Registered Professional Engineer.

When the unit successfully meets all the requirements outlined in NFPA 1900, the company completing these tests shall issue a Certificate of Automotive Fire Apparatus Examination and Test stating the unit's compliance with NFPA- 1900.

FULL TIME SERVICE AND WARRANTY STAFF

Safe Industries has ten (10) full time employees on staff dedicated to our service center's apparatus parts and warranty division. Safe Industries also employees one (1) dedicated full time employee to warranty.

GENERAL APPARATUS DESCRIPTION "SPECIAL SERVICE FIRE APPARATUS"

The unit shall be designed to conform fully to the "Special Service Fire Apparatus" requirements as stated in the NFPA 1900, which shall include the following required chapters as stated in this revision:

- Chapter 1 Administration
- Chapter 2 Referenced Publications
- Chapter 3 Definitions
- Chapter 4 General Requirements
- Chapter 10 Special Service Fire Apparatus
- Chapter 12 Chassis and Vehicle Components
- Chapter 13 Low Voltage Electrical Systems and Warning Systems
- Chapter 14 Driving and Crew Areas
- Chapter 15 Body, Compartments and Equipment Mounting



CAB SAFETY SIGNS

The following safety signs shall be provided in the cab:

- A label displaying the maximum number of personnel the vehicle is designed to carry shall be visible to the driver.
- "Occupants will be seated and belted when apparatus is in motion" signs shall be visible from each seat.
- "Do Not Move Apparatus When Light Is On" sign adjacent to the warning light indicating a hazard if the apparatus is moved (as described in subsequent section).
- A label displaying the height, length, and GVWR of the vehicle shall be visible to driver.
- This label shall indicate that the fire department will revise the dimension if vehicle height changes while vehicle is in service.

CHASSIS DATA LABELS

The following information shall be on labels affixed to the vehicle:

Fluid Data:

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Pump Transmission Lubrication Fluid
- Pump Primer Fluid (if applicable)
- Drive Axle(s) Lubrication Fluid
- Air Conditioning Refrigerant
- Air Conditioning Lubrication Oil
- Power Steering Fluid
- Cab Tilt Mechanism Fluid
- Transfer Case Fluid (if applicable)
- Equipment Rack Fluid (if applicable)
- Air Compressor System Lubricant
- Generator System Lubricant (if applicable)
- Front Tire Cold Pressure
- Rear Tire Cold Pressure
- Aerial Hydraulic Fluid (if applicable)
- Maximum Tire Speed Rating

Chassis Data:

- Chassis Manufacturer
- Production Number
- Year Built
- Month Manufactured
- Vehicle Identification Number

Manufacturers weight certification:

- Gross Vehicle (or Combination) Weight Rating (GVWR or GCWR)
- Gross Axle Weight Rating, Front
- Gross Axle Weight Rating, Rear



PRINCIPAL APPARATUS DIMENSIONS & G.V.W.R.

- Overall Length: TBD"
- Overall Width: 100"
- Overall Height: TBD"
- Wheelbase: TBD"

The axle and total weight ratings of the completed apparatus will not be less than the following minimum acceptable weight ratings:

- Minimum Total G.V.W.R.: 19,500 lbs.

FES will include the principal dimensions, front G.A.W.R., rear G.A.W.R., and total G.V.W.R. of the proposed apparatus. Additionally, FES will provide a weight distribution of the fully loaded, completed vehicle; this will include a filled water tank, specified hose load, miscellaneous equipment allowance in accordance with NFPA-1901 requirements, and an equivalent personnel load of 250 lbs. per seating position.



Prepared by: Matt Peterson
10/25/2023

Randy Marion Ford Lincoln, LLC | 1030 Gateway Crossing Drive Statesville North
Carolina | 28677

2024 F-550 Chassis 4x4 SD Crew Cab 203" WB DRW XL (W5H)

Price Level: 420

As Configured Vehicle

Code	Description
Base Vehicle	
W5H	Base Vehicle Price (W5H)
Packages	
660A	Order Code 660A <i>Includes:</i> - Transmission: TorqShift 10-Speed Automatic 10R140 with neutral idle. Includes SelectShift and selectable drive modes: normal, tow/haul, eco, slippery roads and off-road. - Tires: 225/70Rx19.5G BSW A/P - Wheels: 19.5" x 6" Argent Painted Steel Hub covers/center ornaments not included. - HD Vinyl 40/20/40 Split Bench Seat Includes center armrest, cupholder, storage, 2-way adjustable driver/passenger headrests and driver's side manual lumbar. - Radio: AM/FM Stereo w/MP3 Player Includes 6 speakers. - SYNC 4 Communications & Entertainment System Includes enhanced voice recognition, 911 Assist, 8" LCD center stack screen, AppLink, 1 smart-charging USB port and trailer brake controller.
Powertrain	
99T	Engine: 6.7L 4V OHV Power Stroke V8 Turbo Diesel B20 <i>Includes Operator Commanded Regeneration (OCR), Diesel Exhaust Fluid (DEF) tank, intelligent oil-life monitor and manual push-button engine-exhaust braking.</i> <i>Includes:</i> - Dual 68 AH/65 AGM Battery
44G	Transmission: TorqShift 10-Speed Automatic <i>10R140 with neutral idle. Includes SelectShift and selectable drive modes: normal, tow/haul, eco, slippery roads and off-road.</i>
X4L	Limited Slip w/4.30 Axle Ratio
68M	GVWR: 19,500 lb Payload Plus Upgrade Package <i>Includes upgraded frame, rear-axle and low deflection/high capacity rear springs. Increases max RGAWR to 14,706 lbs. Note: See Order Guide Supplemental Reference for further details on GVWR.</i>
Wheels & Tires	
TGJ	Tires: 225/70Rx19.5G BSW A/P

Prices and content availability as shown are subject to change and should be treated as estimates only. Actual base vehicle, package and option pricing may vary from this estimate because of special local pricing, availability or pricing adjustments not reflected in the dealer's computer system. See salesperson for the most current information.



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10/25/2023

Randy Marion Ford Lincoln, LLC | 1030 Gateway Crossing Drive Statesville North
Carolina | 28677

2024 F-550 Chassis 4x4 SD Crew Cab 203" WB DRW XL (W5H)

Price Level: 420

As Configured Vehicle (cont'd)

Code	Description
64Z	Wheels: 19.5" x 6" Argent Painted Steel <i>Hub covers/center ornaments not included.</i>
Seats & Seat Trim	
A	HD Vinyl 40/20/40 Split Bench Seat <i>Includes center armrest, cupholder, storage, 2-way adjustable driver/passenger headrests and driver's side manual lumbar.</i>
Other Options	
PAINT	Monotone Paint Application
203WB	203" Wheelbase
STDRD	Radio: AM/FM Stereo w/MP3 Player <i>Includes 6 speakers.</i> <i>Includes:</i> <i>- SYNC 4 Communications & Entertainment System</i> <i>Includes enhanced voice recognition, 911 Assist, 8" LCD center stack screen, AppLink, 1 smart-charging USB port and trailer brake controller.</i>
535	High Capacity Trailer Tow Package <i>Includes trailer brake wiring kit and upgraded rear axle. Increases GCW from 32,500 lbs. to 40,000 lbs. Note: Salesperson's Portfolio or Trailer Towing Guide should be consulted for specific trailer towing or camper limits and corresponding required equipment, axle ratios and model availability. See Supplemental Reference for vehicle height consideration.</i>
41P	Transfer Case Skid Plates
86M	Dual 68 AH/65 AGM Battery
67B	410 Amp Dual Alternators <i>Includes 250 Amp + 160 Amp.</i>
153	Front License Plate Bracket Standard in states requiring 2 license plates and optional to all others.
872	Rear View Camera & Prep Kit <i>Pre-installed content includes cab wiring and frame wiring to the rear most cross member. Upfitters kit includes camera with mounting bracket, 20' jumper wire and camera mounting/aiming instructions.</i>
Fleet Options	
47J	Fire/Rescue Prep Pkg w/EPA Special Emissions (LPO) Requires valid FIN code.

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Randy Marion Ford Lincoln, LLC | 1030 Gateway Crossing Drive Statesville North
Carolina | 28677

2024 F-550 Chassis 4x4 SD Crew Cab 203" WB DRW XL (W5H)

Price Level: 420

As Configured Vehicle (cont'd)

Code	Description
	<i>Includes upgraded front springs/GAWR rating, please see Supplemental Order Guide or visit fordabas.com for complete details. Incomplete vehicle package - requires further manufacture and certification by a final stage manufacturer. Ford urges Fire/Rescue vehicle manufacturers to follow the recommendations of the Ford Incomplete Vehicle Manual and the Ford Truck Body Builders Layout Book (and pertinent supplements). Note 1: Stationary Elevated Idle Control (SEIC) has been integrated into the engine control module. Note 2: Engine calibration significantly reduces the possibility of depower mode when in stationary PTO operation. Note 3: Must meet the definition of an emergency vehicle, an Ambulance or Fire Truck per 40 CFR 86.1803.01 in the federal register. Note 4: California Code of Regulations allows for the sale of federally certified emergency vehicles in California.</i>
	<i>Includes: - 410 Amp Dual Alternators Includes 250 Amp + 160 Amp.</i>
FLADCR	Fleet Advertising Credit
WARANT	Fleet Customer Powertrain Limited Warranty Requires valid FIN code. <i>Ford is increasing the 5-year 60,000-mile limited powertrain warranty to 5-years, 100,000 miles. Only Fleet purchasers with a valid Fleet Identification Number (FIN code) will receive the extended warranty. When the sale is entered into the sales reporting system with a sales type fleet along with a valid FIN code, the warranty extension will automatically be added to the vehicle. The extension will stay with the vehicle even if it is subsequently sold to a non-fleet customer before the expiration. This extension applies to both gas and diesel powertrains. Dealers can check for the warranty extension on eligible fleet vehicles in OASIS. Please refer to the Warranty and Policy Manual section 3.13.00 Gas Engine Commercial Warranty. This change will also be reflected in the printed Warranty Guided distributed with the purchase of every new vehicle.</i>
Emissions	
425	50-State Emissions System
Exterior Color	
PQ_01	Race Red
Interior Color	
AS_03	Medium Dark Slate w/HD Vinyl 40/20/40 Split Bench Seat

Prices and content availability as shown are subject to change and should be treated as estimates only. Actual base vehicle, package and option pricing may vary from this estimate because of special local pricing, availability or pricing adjustments not reflected in the dealer's computer system. See salesperson for the most current information.



CENTER CONSOLE

A center console fabricated from 1/8" aluminum shall be furnished and shall be located between the driver and officer's seats.

The forward area of the console shall have a mounting surface for emergency lighting switch panels and/or electronic siren control boxes within reach of the driver or officer. In addition, the console shall be equipped with two (2) map/notebook storage pockets at the rear of the console.

The console shall be finished with a brushed aluminum finish.

ANTENNA INSTALLATION

One (1) antenna mounting base(s) model #MATM with 17' of coaxial cable shall be provided and installed on the cab roof. The attached antenna wire(s) shall be run to the center console.

The Fire Department is responsible to have the correct antenna whip installed once the apparatus is delivered.

CAB STEP LIGHTS

TecNiq E-03 step lights shall be provided, one (1) near each cab door to illuminate the cab stepping surfaces. The step lights shall be mounted in a convenient location so as to provide appropriate illumination to the cab stepping surfaces. The step lights shall automatically activate when the exit doors are opened, parking brake is applied, and marker lights are active.

Light Duty Rescue - 84" CA - 9' - 12'

3M REFLECTIVE CAB DOOR MATERIAL - RED/WHITE

There shall be 3M Brand reflective alternating Red/White striping material with the FES logo installed on the inside of the driver, officer and crew side cab doors.



**** CHASSIS/BODY ELECTRICAL & ACCESSORIES ****

COMMERCIAL CHASSIS ELECTRICAL SYSTEM

The commercial chassis electrical system shall be provided as furnished by the original manufacturer. A customized interface shall be provided and designed, so as not to disturb any of the required chassis functions. The necessary interfaces shall only be provided in areas where load management is allowed or with accessory components provided on the chassis.

12 VOLT ELECTRICAL SYSTEM TESTING

The apparatus low voltage electrical system shall be tested and certified by the manufacturer. The certification shall be provided with the apparatus. All tests shall be performed with air temperature between 0°F and 100°F.

The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.

TEST #1-RESERVE CAPACITY TEST

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for 10 minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test failure.

TEST #2-ALTERNATOR PERFORMANCE TEST AT IDLE

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

TEST #3-ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be activated with the engine running up to the engine manufacturers governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of less than 11.7 volts DC for a 12 volt system, for more than 120 seconds, shall be considered a test failure.



LOW VOLTAGE ALARM TEST

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated.

The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

At time of delivery, documentation shall be provided with the following information:

- Documentation of the electrical system performance test
- A written load analysis of the following;
- Nameplate rating of the alternator
- Alternator rating at idle while meeting the minimum continuous electrical load
- Each component load comprising the minimum continuous electrical load.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

LOAD MANAGEMENT SYSTEM

An "Intelligent" load management system shall be provided. The load management system shall be capable of offering load sequencing, load shedding, fast idle control, low voltage warning, scene mode operation and response mode operation.

The load management shall have a digital display to indicate system voltage in normal operation mode and also indicate the output configuration during programming mode.

The load management shall also be protected against reverse polarity and shorted outputs and be enclosed in a metal enclosure to enhance EMI/RFI protection.

VOLTAGE MONITOR SYSTEM

A voltage monitoring system shall be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system shall provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm shall activate if the system falls below 11.8 volts DC for more than two (2) minutes.



ELECTRICAL HARNESS REQUIREMENT

To ensure dependability, all 12-volt wiring harnesses installed by the manufacturer shall conform to the following specifications:

- SAE J 1128 - Low tension primary cable
- SAE J 1292 - Automobile, truck, truck-tractor, trailer and motor coach wiring
- SAE J 163 - Low tension wiring and cable terminals and splice clips
- SAE J 2202 - Heavy duty wiring systems for on-highway trucks
- NFPA 1901 - Standard for automotive fire apparatus
- FMVSS 302 - Flammability of interior materials for passenger cars, multipurpose passenger vehicles, trucks and buses
- SAE J 1939 - Serial communications protocol
- SAE J 2030 - Heavy-duty electrical connector performance standard
- SAE J 2223 - Connections for on board vehicle electrical wiring harnesses
- NEC - National Electrical Code
- SAE J 561 - Electrical terminals - Eyelet and spade type
- SAE J 928 - Electrical terminals - Pin and receptacle type A.

For increased reliability and harness integrity, harnesses shall be routed throughout the cab and chassis in a manner which allows the harnessing to be laid into its mounting location. Routing of harnessing which requires pulling of wires through tubes is never allowed at the manufacturer.

Wiring shall be run in loom or conduit where exposed and have grommets or other edge protection where wires pass through metal. Wire colors shall be integral to each wire insulator and run the entire length of each wire. Harnessing containing multiple wires and uses a single wire color for all wires shall not be allowed. Function and number codes shall be continuously imprinted on all wiring harness conductors at 3.00" intervals. All wiring installed between the cab and into doors shall be protected by a wire conduit to protect the wiring. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids. Electrical wiring and equipment shall be installed utilizing the following guidelines:

- All holes made in the roof shall be caulked with silicon. Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body.
- For low cost of ownership, electrical components designed to be removed for maintenance shall be quickly accessible. For ease of use, a coil of wire shall be provided behind the appliance to allow them to be pulled away from the mounting area for inspection and service work.
- Corrosion preventative compound shall be applied to non-waterproof electrical connectors located outside of the cab or body. All non-waterproof connections shall require this compound in the plug to prevent corrosion and for easy separation of the plug.
- Any lights containing non-waterproof sockets in a weather-exposed area shall have corrosion preventative compound added to the socket terminal area.
- All electrical terminals in exposed areas shall have protective coating applied completely over the metal portion of the terminal.
- Rubber coated metal clamps shall be used to support wire harnessing and battery cables routed along the chassis frame rails.
- Heat shields shall be used to protect harnessing in areas where high temperatures exist. Harnessing passing near the engine exhaust shall be protected by a heat shield.
- Cab and crew cab harnessing shall not be routed through enclosed metal tubing. Dedicated wire routing channels shall be used to protect harnessing therefore improving the overall integrity of the vehicle electrical system. The design of the cab shall allow for easy routing of additional wiring and easy access to existing wiring.



ELECTRICAL HARNESS REQUIREMENT, CONT'D.

- All standard wiring entering or exiting the cab shall be routed through sealed bulkhead connectors to protect against water intrusion into the cab.

BATTERY CABLE INSTALLATION

All 12-volt battery cables and battery cable harnessing installed by the apparatus manufacturer shall conform to the following requirements:

- SAE J 1127 - Battery Cable
- SAE J 561 - Electrical terminals, eyelets and spade type
- SAE J 562 - Nonmetallic loom
- SAE J 836 A - Automotive metallurgical joining
- SAE J 1292 - Automotive truck, truck-tractor, trailer and motor coach wiring
- NFPA 1901 - Standard for automotive fire apparatus.

Battery cables and battery cable harnessing shall be installed utilizing the following guidelines:

- Splices shall not be allowed on battery cables or battery cable harnesses.
- For ease of identification and simplified use, battery cables shall be color coded. All positive battery cables shall be marked red in color. All negative battery cables shall be black in color.
- For ease of identification, all positive battery cable isolated studs throughout the cab and chassis shall be red in color.
- For increased reliability and reduced maintenance, all electrical buss bars located on the exterior of the apparatus shall be coated to prevent corrosion.
- An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

12 VOLT BATTERY CHARGING RECEPTACLE

A 12 volt, polarized battery charging receptacle, with a weather tight cover, shall be provided. This receptacle shall allow a purchaser supplied external 12 volt battery charger to be utilized. A label shall be provided indicating voltage and amperage ratings.

SHORELINE POWER INLET PLATE

A shoreline power receptacle information plate shall be permanently affixed at or near the power inlet. The plate shall indicate the following:

- Type of Line Voltage
- Current Rating in Amps Power Inlet Type (DC or AC).

The shoreline receptacle shall be located in the driver's cab step well in a pre-determined location by FES.

SWITCH CONTROL CONSOLE

A four (4) switch control console shall be provided and located within easy reach of the driver and or officer. This switch package shall separate the emergency/auxiliary electrical functions from the regular chassis functions. A minimum of four (4) switches with integral indicator lights shall be provided.

The four (4) switches shall be green backlit and located in the cab near the driver for warning lights and auxiliary controls.



All switches, (other than the master switch), shall have switch function labeling and an integral indicator light.

"DO NOT MOVE APPARATUS" WARNING LIGHT WITH AUDIBLE ALARM

A Truck-Lite 2.5" round, red flashing warning light with an audible alarm, shall be functionally located in the cab and shall be activated automatically whenever the apparatus parking brake is not fully engaged and of the following conditions exist:

- Any driver, passenger or equipment compartment door is not closed
- Any ladder or equipment rack is not in the stowed position
- Stabilizer system is not in its stowed position
- Powered light tower is not stowed
- Any other device permanently attached to the apparatus is open, extended or deployed in a manner that is likely to cause damage to the apparatus if the apparatus is moved

This light shall be labeled "Do Not Move Apparatus When Light Is On."

BLUE SEA FUSE BLOCK - 6 CIRCUIT IN CENTER CONSOLE

One (1) Blue Sea 5025B, 6 circuit fuse block shall be installed. This block has a maximum amperage of 60 Amps per block and 30 Amps per circuit.

VISION & CAMERA SYSTEM EQUIPMENT

BACKUP CAMERA SYSTEM

The backup camera system shall be provided by the chassis manufacturer.



****** BODY ELECTRICAL SYSTEM ******

12 VOLT BODY ELECTRICAL SYSTEM

All electrical lines in the body shall be protected by automatic circuit breakers, conveniently located to permit ease of service. Flashers, heavy solenoids and other major electrical controls shall be located in a central area near the circuit breakers.

All lines shall be color and function coded every 3", easy to identify, oversized for the intended loads and installed in accordance with a detailed diagram. A complete wiring diagram shall be supplied with the apparatus.

Wiring shall be carefully protected from weather elements and snagging. Heavy duty loom shall be used for the entire length. Grommets shall be utilized where wiring passes through panels.

In order to minimize the risk of heat damage, wires run in the engine compartment area shall be carefully installed and suitably protected by the installation of heat resistant shielded loom.

All electrical equipment shall be installed to conform to the latest federal standards as outlined in NFPA 1901.

DOT MARKER LIGHTS AND REFLECTORS

Cab marker lights and signaling devices shall be as provided on the commercial chassis cab from the original chassis manufacturer. FMVSS reflectors shall be provided as required.

Two (2) low profile, flush mount rectangular red LED marker lights with reflex lens shall be provided at the lower side rear, one (1) each side.

Two (2) red LED with clear lens clearance side marker lights shall be provided on the apparatus rear upper, one (1) each side at the outermost practical location.

Three (3) low profile, flush mount rectangular red LED marker lights with reflex lens shall be provided on the apparatus rear center.

LED LICENSE PLATE LIGHT - DRIVER SIDE REAR

One (1) LED license plate light shall be provided above the mounting position of the license plate driver's side rear of the body. The light shall be clear in color and shall have a chrome finish.



WHELEN TAIL, STOP, TURN AND BACK UP LIGHTS

Two (2) Whelen M6 Series Model M62BTT brake, tail and turn lights shall be provided. The M62BTT configuration shall consist of 72 red 5mm Super-LEDs® and a red non-optic polycarbonate lens. The M62BTT shall include two Scan-Lock™ flash patterns of Steady (Brake) Default and SignalAlert™ Steady.

Two (2) Whelen M6 Series Model M62BU back-up light shall be provided. The steady burn back-up light shall incorporate Linear Super-LED® and technology. The M62BU configuration shall consist of 12 clear Super-LEDs and a clear optic polycarbonate lens. The M62BU shall utilize optic collimators, a metalized reflector, and optic lens for maximum illumination.

The encapsulated assembly shall be resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The light engine shall be installed at the rear of the unit and be vacuum tested to ensure proper sealing. The PC board shall be conformal coated for additional protection.

The brake/tail/turn and backup lights shall meet SAE specifications J1398, J585, J1395, J586, and J1330. The M62BTT is covered by a five year factory warranty.

Two (2) Whelen M6 series chrome flanges model # M6FCV3 shall be provided.

TECNIQ EON-3 LED BODY STEP LIGHTS

Two (2) polished stainless steel, TecNiq Eon 3-LED horizontal surface mounted body step lights shall be provided. The lights shall automatically activate with the parking brake and marker lights activation. Step lights shall be located to properly illuminate all body access steps and walkway areas and shall include a mounting gasket to provide a watertight seal.

TECNIQ E10 LED GROUND LIGHTS - BELOW CAB DOORS

One (1) TecNiq LED, 6" long ground light with stainless steel mounting bracket, shall be provided under each side cab door entrance step, four (4) total.

Each light shall illuminate an area at a minimum 30" outward from the edge of the vehicle.

TECNIQ E10 LED GROUND LIGHTS - BELOW PUMP PANEL

One (1) TecNiq LED, 6" long ground light with stainless steel mounting bracket, shall be provided under each side pump panel running board, two (2) total.

TECNIQ E10 LED GROUND LIGHTS - BELOW TAILBOARD

One (1) TecNiq LED, 6" long ground light with stainless steel mounting bracket, shall be provided under the apparatus' tailboard, one (1) on each side.

GROUND LIGHT SWITCHING - ENGAGE WITH PARKING BRAKE

The cab and body ground lights shall activate by engaging the parking brake.

On a Ford chassis, the cab and body ground lights shall activate by shifting to park.

COMPARTMENT LIGHT ACTIVATION

Compartment lighting shall be switched from an integral switch as provided by the roll up door manufacturer.



AMDOR LUMA BAR COMPARTMENT LIGHTS - LED

Three (3) compartments shall be equipped with 32" AMDOR Luma Bar Standalone White LED light fixtures mounted one each side of the forward (and rear) vertical door frame.

AMDOR LUMA BAR COMPARTMENT LIGHTS - LED

Four (4) compartments shall be equipped with 52" AMDOR Luma Bar Standalone White LED light fixtures mounted one each side of the forward (and rear) vertical door frame.



NFPA AUDIBLE AND LIGHTING WARNING PACKAGE

The following warning light package shall include all of the minimum warning light and actuation requirements for the current revision of NPFA 1901 Fire Apparatus Standard. The lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" which includes disabling all white warning lights when the apparatus is in "Blocking Right of Way" mode.

LIGHT PACKAGE ACTUATION CONTROLS

The entire warning light package shall be actuated with a single warning light switch located on the cab switch panel. The wiring for the warning light package shall engage all of the lights required for "Clearing Right of Way" mode when the vehicle parking brake is not engaged. An automatic control system shall be provided to switch the warning lights to the "Blocking Right of Way" mode when the vehicle parking brake is engaged.

WARNING LIGHT FLASH PATTERN

All of the perimeter warning lights shall be set to an NFPA compliant flash pattern by the apparatus manufacturer.

UPPER LEVEL LIGHTING - WHELEN

NFPA ZONE A, UPPER

A Whelen #F4N2VLED "Edge Freedom Series IV", 55" LED cab roof warning light bar shall be furnished and rigidly mounted on top of the cab roof.

The light bar shall be equipped with the following:

- Clear Lenses
- Four Corner Red Linear LEDs
- Two Red Forward Facing Linear LEDs
- Two White Forward Facing Linear LEDs

If equipped, the forward facing white lights shall be automatically disabled for the "Blocking Right of Way" mode.

NFPA ZONE C, UPPER

Two (2) Whelen M9 Series Model # M9R warning lights shall be furnished and mounted one (1) each side on the upper rear face of the body, facing rear. The warning light shall incorporate Linear Super-LED® and Smart LED® technology.

Each light head shall be equipped with red LED lights and red colored lens.

The lights shall be installed with a chrome plated mounting flange, M9FC.

NFPA ZONES B & D REAR, UPPER

Two (2) Whelen M9 Series Model M9R warning lights shall be furnished and mounted one (1) each side on the upper side face, towards the rear of the body, facing to each side of the unit.

Each light head shall be equipped with red LED lights and red colored lens.

The lights shall be installed with a chrome plated mounting flange, M9FC.



NFPA ZONES B & D FRONT, UPPER

Two (2) Whelen M9 Series Model M9R warning lights shall be furnished and mounted one (1) each side on the upper side face, towards the front of the body, facing to each side of the unit.

Each light head shall be equipped with red LED lights and red colored lens.

The lights shall be installed with a chrome plated mounting flange, M9FC.

LOWER LEVEL LIGHTING - WHELEN

NFPA ZONES A, LOWER

Two (2) Whelen M6 Series Model M6R warning lights shall be furnished and mounted one (1) each side.

Each light head shall be equipped with red LED lights and red colored lens.

The lights shall be installed with a chrome plated mounting flange, M6FC.

The lower zone A warning lights shall be mounted in the commercial chassis grille no higher than 62" from ground level.

NFPA ZONE C, LOWER

Two (2) Whelen M6 Series Model M6R warning lights shall be furnished and installed one (1) each side directly below the DOT stop, tail, turn and backup lights.

Each light head shall be equipped with red LED lights and red colored lens.

The lights shall be installed with a chrome plated mounting flange, M6FC.

NFPA ZONES B & D FRONT, LOWER

Two (2) Whelen M6 Series Model M6R warning lights shall be furnished and installed one (1) each side.

Each light head shall be equipped with red LED lights and red colored lens.

The lights shall be installed with a chrome plated mounting flange, M6FC.

The lower zone B & D warning lights shall be mounted on the sides of the commercial chassis hood at or forward of the centerline of the front axle. The light shall be mounted no higher than 62" from ground level.

NFPA ZONES B & D REAR, LOWER

Two (2) Whelen M6 Series Model M6R warning lights shall be furnished and installed one (1) each side.

Each light head shall be equipped with red LED lights and red colored lens.

The lights shall be installed with a chrome plated mounting flange, M6FC.



WARNING LIGHT SYSTEM CERTIFICATION

The warning light system(s) specified above shall not exceed a combined total amperage draw of 45 AMPS with all lights activated in either the "Clearing Right of Way" or the "Blocking Right of Way" mode.

The warning light system(s) shall be certified by the light system manufacturer(s), to meet all of the requirements in the current revision of the NFPA 1901 Fire Apparatus Standard as noted in the General Requirements section of these specifications. The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus.

Any large truck as defined by NFPA shall have the lower zone warning lights mounted no higher than 62" to the optical center of the warning light from ground level.

***** AUDIBLE WARNING EQUIPMENT *****

BACK-UP ALARM

A 97 dB(A) back-up alarm, shall be provided and installed at the rear of the apparatus under the tailboard. The back-up alarm shall activate automatically when the transmission is placed in reverse gear and the ignition is "on".

ELECTRONIC SIREN AND SPEAKER

One (1) Whelen # 295HFS2, 100 watt electronic siren shall be provided featuring: flush mount remote control head recessed in center dash panel as space allows, "Si-Test" self diagnostic feature, six (6) function siren, radio repeat and public address.

The electronic siren and speaker shall meet the NFPA required SAE certification to ensure compatibility between the siren and speaker.

ELECTRONIC SIREN SPEAKER - DRIVER'S SIDE OF FRONT BUMPER

One (1) Whelen, model # SA315P composite black siren speaker, shall be provided, recessed on the driver's side of the front bumper and wired to the electronic siren



RESCUE BODY DESIGN CONSTRUCTION

The body side and compartment assemblies shall be designed and assembled to provide maximum strength and durability under all operating conditions.

Special attention shall be taken to minimize rust on all fabricated parts and structural members of the body. All bolt-on components shall be provided with a dissimilar metals isolation barrier to prevent electric corrosion.

The body shall be an all Heliarc welded construction for maximum strength and integrity for the entire life of the apparatus. The body assembly shall be a single unit completely isolated from the cab.

BODY AND COMPARTMENT FABRICATION - 3/16" ALUMINUM

All compartment floor and back wall panels shall be entirely 3/16" aluminum (5052-H32). All compartment roof and side wall panels, component storage sleeves (unless specified otherwise), and body side sheets shall be entirely 1/8" aluminum (5052-H32). Each compartment panel and/or body side sheet shall be both plug welded and stitch welded to ensure proper weld penetration on all panels while avoiding the possible warping caused by a full seam weld. A full seam weld shall not be used due to the applied heat which could distort sheet metal and remove the protective coating from the perimeter of the welded area. All seams shall be caulked prior to finish paint to ensure proper compartment seal.

92" WIDE RESCUE BODY

The rescue body shall be 92" wide to provide the maximum amount of usable compartment space, and to extend the body fenderettes outward for better tire tread coverage.

BODY SUBFRAME - ALUMINUM

The main body subframe shall be an all-welded configuration utilizing a combination of 3" x 2" 6061-T6 aluminum 1/4" (.250") wall tubing and 2" x 2" 6061-T6 aluminum 3/16" (.1875") wall tubing.

The rest of the body subframe structure shall be an all-welded configuration utilizing a combination of 4"x 2" 6061-T6 aluminum 1/4" (.250") wall tubing, 3" x 2" 6061-T6 aluminum 1/4" (.250") wall tubing, 2" x 2" 6061-T6 aluminum 3/16" (.1875") wall tubing, 2" x 1" 6061-T6 aluminum 1/8" (.125") wall tubing, 3" x 1" 6061-T6 aluminum 1/8" (.125") wall tubing, and 3" x 3/4" (.75") 6061-T6 aluminum flatbar.

The body subframe shall also utilize 2" x 2" 6061-T6 aluminum 1/4" (.25") angle and 3" x 1.5" 6061-T6 aluminum 1/4" (.25") c-channel in areas that require additional support or mounting locations. This body subframe shall be designed to totally support the full length, height, and width of the body.

STEPPING, STANDING, & WALKING SURFACES

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards. 3/16" (.1875") 3003-H22 aluminum tread plate utilized for stepping, standing, and walking surfaces shall be ALCOA no slip type. Upon request by the Purchaser, the manufacturer shall supply proof of compliance with this requirement.



LEFT SIDE COMPARTMENT #1

- 60" high x 52" wide x 24" deep
- Roll-Up door

Compartment L-1 shall be transverse over the frame rails.

LEFT SIDE COMPARTMENT #2

- 36" high x 58" wide x 24" deep
- Roll-Up door

Compartment L-2 shall be transverse over the frame rails.

LEFT SIDE COMPARTMENT #3

- 60" high x 46" wide x 24" deep
- Roll-Up door

RIGHT SIDE COMPARTMENT #1

- 60" high x 52" wide x 24" deep
- Roll-Up door

Compartment R-1 shall be transverse over the frame rails.

RIGHT SIDE COMPARTMENT #2

- 36" high x 58" wide x 24" deep
- Roll-Up door

Compartment R-2 shall be transverse over the frame rails.

RIGHT SIDE COMPARTMENT #3

- 60" high x 46" wide x 24" deep
- Roll-Up door

REAR COMPARTMENT

- 48" high 48" wide
- Roll up door



ROLL-UP DOORS

Roll-up doors shall be provided on all compartments. The roll-up doors shall be constructed from aluminum extruded slats which shall have a flexible seal between each slat for proper sealing of the door.

A synthetic rubber seal shall be provided at each side, top and bottom edge of the door to prevent entry of dirt into the compartment.

The door shall be equipped with a lift bar style latch mechanism which shall latch at the bottom of the door mounting extrusion.

The roll-up door assembly shall be furnished with a spring-loaded, counter balance assembly to assist in door actuation.

All running board and high side compartments shall be equipped with roll-up doors.

ROM SERIES IV ROLL-UP SHUTTER DOORS - BRUSHED FINISH

R•O•M Series IV roll-up shutter doors shall be installed. Each shutter slat, track, bottom rail, and drip rail shall be constructed from anodized 6063 T6 aluminum.

The Shutter slats shall feature a double wall extrusion 0.315" thick with a concave interior surface to minimize loose equipment jamming the shutter door closed. The Shutter slats shall feature an interlocking end shoe to prevent side to side binding of the shutter door during operation. The Slats must have interlocking joints with an inverted locking flange. The Slat inner seal shall be a one piece PVC extrusion; seal design will be such to prevent metal to metal contact while minimizing dirt and water from entering the compartment.

The Shutter door track shall be one piece design with integral overlapping flange to provide a clean finished look without the need of caulk. The Door track shall feature an extruded Santoprene rubber double lip low profile side seal with a silicone co-extruded back to reduce friction during shutter operation.

The Shutter bottom rail shall be a one piece double wall extrusion with integrated finger pull. The Finger pull shall be curved upward with a linear striated surface to improve operator grip while operating the shutter door. The Bottom rail shall have a smooth contoured interior surface to prevent loose equipment from jamming the shutter door. The Bottom rail seal shall be made from Santoprene; it shall be a double "V" seal to prevent water and debris from entering compartment. The Bottom rail lift bar shall be a one piece "D" shaped aluminum extrusion with linear striations to improve operator grip during operation. The Lift bar shall have a wall thickness of 0.125". The Lift bar shall be supported by no less than two pivot blocks; pivot blocks shall be constructed from Type 66 Glass filled reinforced nylon for superior strength. The Bottom rail end blocks shall have incorporated drain holes which will allow any moisture that collects inside the extrusion to drain out.

The Shutter door shall have an enclosed counter balance system. The Counter balance system shall be 4" in diameter and held in place by 2 heavy duty 18 gauge zinc plated plates. The Counter balance system shall have 2 over-molded rubber guide wheels to provide a smooth transition from vertical track to counter balance system; no foam material of any kind shall be permitted or used in this area.

Shutter door assembly shall be manufactured and assembled in the United States, no exceptions.

The roll-up doors shall be Robinson (ROM) brand roll-up doors, equipped with a brushed aluminum finish, with a PVC inner seal to prevent metal to metal contact and to repel moisture. The slats shall be double-wall extrusion 1.366" high by .315" thick with interlocking end shoes to prevent the slats from moving side-to-side and binding the door. All slats are to have interlocking joints to prevent penetration by sharp objects.



UNPAINTED TOP GUTTER AND SIDE FRAMES

The top gutter and side frames shall remain unpainted.

SWEEP-OUT COMPARTMENT FLOORS

Compartment floors shall be welded to the compartment walls and have a sweep out design for easy cleaning.

Compartments with hinged doors shall have the door opening flanges bend down to produce the sweep-out design.

Compartments with roll-up style doors shall have the external floor flange stepped down, 1/2" high x 2" deep, to produce a sealing surface for the roll-up doors below the compartment floor. The sweep out design shall also permit easy cleaning.

COMPARTMENT DRIP MOLDING

Drip molding shall be provided directly over all of the compartment doors.

COATED FASTENERS

All exterior fasteners shall be coated stainless steel screws. Screw threads shall be coated with reusable, self-locking, sealing material to provide vibration resistance. Screw heads shall be coated with a sealing element to prevent galvanic corrosion between dissimilar metals. Non-coated screws shall only be provided as part of vendor supplied component installations.

COMPARTMENT LOUVERS

Ventilation between compartments to atmosphere shall be provided and located to avoid water entry into compartments.

ACCESS PANELS

Removable access panels shall be provided in all lower compartments (if applicable) to access spring pins, fuel tank sender, electrical junction compartment and rear body mounts.

Protective panels shall be located in the rear compartments providing access to the lights and associated wiring. The covers shall also serve as protective covers to prevent inadvertent damage to lights or wiring from tools or equipment located in the compartment.

BODY PROTECTION PANELS

The front face of the side compartments, next to the driver and officer side pump panels shall be overlaid with aluminum tread plate full height protection. The protection panel shall cover the entire front face of the compartment and shall wrap around the corner to the door opening.

REAR BODY PANEL

The rear body panel shall extend the full width of the body. This panel shall be full height from the rear step to the hose bed floor. The panel shall be bolted on and removable, with no part of the rear panel attached to the booster tank. The rear body panel material shall be aluminum tread plate as standard. If Chevron striping is specified for the rear of the body then smooth aluminum shall be utilized.



BODY RUB RAILS

Sacrificial C-Channel style rub rails shall be mounted at the base of the body, extend outward from the body. The rub rails shall extend the full length of the main body. The rub rails shall be designed to provide for ease of replacement.

REAR STEP

The rear step shall be fabricated from 3/16" polished aluminum tread plate, and shall be rigidly reinforced. The rear step shall extend 12" past the rear edge of the body, and shall be 96" wide with tapered corners.

The rear edge of the step shall be designed to accommodate the rear clearance lights, recessed for protection in the step reinforcement channel. The step tread plate overlay shall be bolted to the step frame for ease of replacement.

FOLDING STEP(S) - BODY REAR DRIVER SIDE

No folding steps shall be provided in this location.

FOLDING STEP(S) - BODY REAR OFFICER SIDE

No folding steps shall be provided in this location.

SAFETY SIGN(S) AT REAR STEP AND CROSS WALKWAY(S)

Safety sign(s) shall be located on the vehicle at the rear step, and at any cross walkway(s), to warn personnel that riding in or on these areas while the vehicle is in motion is prohibited.

WELDED ALUMINUM REAR WHEEL WELL LINERS

Fully removable, 1/8" aluminum fender liners shall be provided. The wheel well liners shall be welded to the body and extend from the outer wheel well body panel, into the truck frame. Removable vertical splash shields, inward of the wheels, shall be provided to give access to the hydraulic components. The completely washable fender liners shall be designed to protect the front and rear compartments and main body supports from road salts, dirt accumulation and corrosion.

REAR FENDERETTES

The single rear fenders shall be equipped with easily replaceable, polished stainless steel fenderettes. The fenderettes shall be equipped with a rubber gasket molding between the body panel and the fender. Integral welded crown type liners shall not be acceptable.

***** BODY FENDER STORAGE COMPARTMENTS *****

TWO (2) BOTTLE STORAGE DRIVER FRONT FENDER

A storage compartment shall be inserted into the front driver side body fender. The compartment shall be sized large enough to store two (2) SCBA cylinders or fire extinguishers, with a maximum length of 26". The compartment shall have a non-abrasive floor area for the two (2) devices. The compartment shall be enclosed by a hinged door with a thumb latch. The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment.



NYLON STRAP FOR SCBA CYLINDER(S)

Two (2) nylon strap shall be provided, one (1) for each SCBA bottle body fender storage compartment to provide a secondary means to hold each SCBA bottle in place. The strap shall be a 1" nylon webbing formed in a loop. The strap shall be secured to the SCBA bottle tray and shall loop around the SCBA cylinder to hold in place.

TWO (2) BOTTLE STORAGE OFFICER FRONT FENDER

A storage compartment shall be inserted into the front officer side body fender. The compartment shall be sized large enough to store two (2) SCBA cylinders or fire extinguishers, with a maximum length of 26". The compartment shall have a non-abrasive floor area for the two (2) devices. The compartment shall be enclosed by a hinged door with a thumb latch. The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment.

NYLON STRAP FOR SCBA CYLINDER(S)

Two (2) nylon strap shall be provided, one (1) for each SCBA bottle body fender storage compartment to provide a secondary means to hold each SCBA bottle in place. The strap shall be a 1" nylon webbing formed in a loop. The strap shall be secured to the SCBA bottle tray and shall loop around the SCBA cylinder to hold in place.

DRIVER REAR FENDER STORAGE - SCBA AIR PACK STORAGE COMPARTMENT

A storage compartment shall be inserted into the rear driver side body fender. The lower portion of the compartment shall be non-abrasive to absorb shock. The compartment shall be 20" H x 20" W x 26" D and shall hold one (1) SCBA air pack with cylinder in the upper portion of the compartment and one (1) spare cylinder in the lower portion of the compartment. The compartment shall be enclosed by a hinged door with a thumb latch. The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment.

NYLON STRAP FOR SCBA CYLINDER(S)

One (1) nylon strap shall be provided, one (1) for each SCBA bottle body fender storage compartment to provide a secondary means to hold each SCBA bottle in place. The strap shall be a 1" nylon webbing formed in a loop. The strap shall be secured to the SCBA bottle tray and shall loop around the SCBA cylinder to hold in place.

OFFICER REAR FENDER STORAGE - SCBA AIR PACK STORAGE COMPARTMENT

A storage compartment shall be inserted into the rear officer side body fender. The lower portion of the compartment shall be non-abrasive to absorb shock. The compartment shall be 20" H x 20" W x 26" D and shall hold one (1) SCBA air pack with cylinder in the upper portion of the compartment and one (1) spare cylinder in the lower portion of the compartment. The compartment shall be enclosed by a hinged door with a thumb latch. The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment.

NYLON STRAP FOR SCBA CYLINDER(S)

One (1) nylon strap shall be provided, one (1) for each SCBA bottle body fender storage compartment to provide a secondary means to hold each SCBA bottle in place. The strap shall be a 1" nylon webbing formed in a loop. The strap shall be secured to the SCBA bottle tray and shall loop around the SCBA cylinder to hold in place.

FENDER STORAGE DOOR - PAINTED

The fender storage area shall be painted the primary body color.



FENDER STORAGE COMPARTMENTS PAINTED JOB COLOR

The interior of the fender storage compartments (if fender compartments are specified) shall be finish painted job color.

REAR MUD FLAPS

Heavy duty mud flaps shall be provided behind the rear wheels.

PAINTED REAR TOW EYES

Two (2) painted tow eyes shall be furnished on the rear of the vehicle. The tow eyes shall be made from plate steel and shall be bolted directly to the chassis frame rails with grade 8 bolts and shall extend below the body. The tow eyes shall be smooth and free from sharp edges and have a minimum eyelet hole of 2-1/2". The tow eyes shall be painted.

WINCH RECEIVER POINT- REAR OF BODY

A 2" square receiver point shall be provided below the rear of the body for a portable winch. The receiver point shall be a 2 1/2" x 2 1/2" x 1/4" seamless steel tube welded and gusseted to 3" x 1 1/2" steel channel directly bolted to four points on the chassis frame rails. A 12V electrical connection with a quick disconnect compatible with the portable winch shall be provided adjacent to the receiver point. A plastic end cap shall be provided for the quick disconnect.

ADDITIONAL ITEMS SUPPLIED WITH THE VEHICLE

- 1 - Pint of touch up paint for each color
- 1 -Bag of assorted stainless steel nuts and bolts

****** COMPARTMENT ACCESSORIES ******

ADJUSTABLE SHELVING

Compartment shelving shall be constructed of 3/16" brush finish aluminum with a 2" upward bend at front and rear, and side supports. Shelving shall be vertically adjustable with spring nuts in aluminum strut channel.

Adjustable shelves shall be located as follows:

- Four (4) adjustable shelf(s) shall be provided and mounted as directed by the fire department.

SLIDE OUT FLOOR MOUNT SHELVING

Slide out floor mount compartment shelving shall be constructed of 3/16" brush finish aluminum with a 2" upward bend at front and rear, and side supports attached to #300 rated slides. Slide out floor mount shelving shall have gas shocks to hold the tray in and out.

Slide out floor mount shelving shall be provided as follows:

- Two (2) roll out tray(s) shall be provided and mounted as directed by the fire department.

One (1) compartments shall have Austin slides.



120/240 VOLT ELECTRICAL SYSTEM TESTING

All line voltage wiring and permanently connected devices and equipment shall be subjected to a dielectric voltage withstand test of 900 volts for one minute. The test shall be conducted between live parts and the neutral conductor and between live parts and the vehicle frame with any switches in the circuits closed. The test shall be conducted after all bodywork has been completed. The dielectric tester shall have a minimum 500 VA transformer with a sinusoidal output voltage that can be verified.

Electrical polarity verification shall be made of all permanently wired equipment and receptacles to determine that connections have been properly made.

OPERATIONAL TESTING

The apparatus manufacturer shall perform the following operation test and shall certify that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order.

The generator shall be started from a cold start condition and the line voltage electrical system shall be loaded to 100 percent of the nameplate voltage rating.

The following items shall be monitored and documented every 15 minutes:

- The cranking time until the generator starts and runs.
- The voltage, frequency, and amperes at continuous full rated load.
- The generator oil pressure, water temperature, transmission temperature, hydraulic temperature, and the battery rate charge, as applicable.
- The ambient temperature and altitude.

The generator shall operate at 100 percent of its nameplate wattage for a minimum of two (2) hours.



HARRISON 6000-WATT HYDRAULIC DRIVEN GENERATOR

One (1) Harrison MSV Hydraulic Driven Generator rated at 6,000 watts, 50/25 amps, 120/240 VAC, 60Hz, 1-phase shall be provided.

The system shall be designed and assembled by a company with no less than 30 years experience in the manufacture of hydraulic driven generators. The system shall be tested at the full nameplate load prior to shipping and be accompanied with the test report. The test report shall document the generators performance at various loads from no load to full load to ensure reliable power delivery at those loads.

The motor/generator shall be placed in a frame which affords protection to the components and provides a unitized mounting module containing the motor/generator, reservoir, oil cooler, filtration, on/off manifold containing a cross port check valve allowing unit to be started and shut down remotely.

The generator shall be a commercial type with a heavy-duty bearing and of brush less design to ensure low maintenance. No brushes or slip rings shall be allowed. The reservoir shall include an oil level sight gauge, oil temperature gauge; fill cap, oil filter, and a venturi boost unit to provide positive pressure to the pump suction port.

The generator and motor shall be close coupled and aligned using a Morse taper with a through bolt to secure the motor to the generator. No two (2) bearing generators shall be permitted.

The system must be capable of producing the full nameplate power when driven from the vehicle PTO from idle to maximum engine speed.

The generator system must be able to operate on either a Constant Engaged PTO or a Hot Shift PTO. The generator must be able to be used while vehicle is either stationary or in motion.

The hydraulic motor and pump shall be of axial piston design to provide low internal leakage and a high degree of frequency stability. No gear pumps or motors shall be used. The pump shall match the system with the proper orifice, pressure compensator, and load sense settings to provide stable output regardless of engine rpm or electrical load demands.

The system shall be capable of normal operations using a commonly available ISO 46 hydraulic fluid. All fluid service points shall be in close proximity to the reservoir for ease of scheduled maintenance.

When properly installed, the system shall be warranted for a period of not less than two (2) years or 2000 hours, whichever should come first.

The generator shall be remotely turned on/off by using a 12 VDC switch mounted on the cab dash.

A weatherproof digital Quadra meter containing the volt, amp, and frequency shall be installed near the breaker panel.

GENERATOR PTO

A hot shift PTO shall be provided on the transmission for the Harrison generator. The PTO shall be controlled from the cab. The control shall include a PTO engagement switch and a PTO engaged indicator light.

GENERATOR SOFT START

The hydraulic generator shall have a soft start system installed to protect all AC equipment from damage.



GENERATOR WARRANTY

The specified generator shall have a two (2) year or two thousand (2000) hour warranty as provided by the generator manufacturer. A copy of the generator warranty shall be provided at time of delivery.

LINE VOLTAGE ELECTRICAL SYSTEM CERTIFICATION

When the unit successfully meets all the requirements outlined in NFPA 1901, 2016 Edition, UL shall issue a Certificate of Automotive Fire Apparatus Examination and Test stating the unit's compliance with the required line voltage section of NFPA.

GENERATOR LOCATION

The generator shall be permanently mounted on top of the body.

Locating the generator greater than 144" from the main breaker panel may require the installation of an additional power disconnecting means.

120/240 VOLT LOAD CENTER

The generator output line conductors shall be wired from the generator output connections to a Square D, model #QO112L125G breaker panel. The breaker panel shall be equipped with a properly sized main breaker using two (2) of the twelve (12) spaces which leaves a total of ten (10) available spaces.

The generator output conductors shall be sized to 115% of the main breaker rating and shall be installed as indicated in the wiring section.

Ten (10) appropriately sized, 120 volt, circuit breakers shall be provided.

The breaker panel shall be located on the rear wall of the driver side front compartment.

120/240 VOLT WIRING METHODS

Wiring/conduit shall not be attached to any chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components or low voltage wiring.

All wiring shall be installed at a minimum of 12 inches away from any exhaust piping and a minimum of 6 inches from any fuel lines.

All wiring shall be securely clamped within 6 inches of any junction box and at a minimum of every 24 inches of run. All supports shall be of nonmetallic material or corrosion protected metal. All supports shall not cut or abrade conduit or cable and shall be mechanically fastened to the vehicle.

All power supply assembly conductors, including neutral and grounding conductors, shall have an equivalent amperage rating and shall be sized to carry not less than 115% of the main breaker rating.

All Type SO or Type SEO cable not installed in a compartment shall be installed in wire loom. Where Type SO or Type SEO cable penetrates a metal surface, a rubber or plastic grommet or bushing shall be provided.

The installation of all 120/240 wiring shall meet the current NFPA-1901 Standards.

120/240 VOLT WIRING IDENTIFICATION

All line voltage conductors located inside the main breaker panel box shall be individually and permanently identified. When pre-wiring for future power wiring installations, the non-terminated ends shall be labeled showing function and wire size.



120/240 VOLT GROUNDING

The neutral conductor of the power source shall be bonded to the vehicle fame only at the power source.

The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray.

In addition to the bonding required for the lower voltage return current, each body and driving/crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor. The conductor shall have a minimum amperage rating of 115 percent of the name plate current rating of the power source specification label.

120/240 VOLT CIRCUIT BREAKER / RECEPTACLE INSTALLATION

The system shall be installed by highly qualified electrical technicians to assure the required level of safety and protection to the fire apparatus operators. When multiple circuit are required, the circuits shall be wired to the breaker panel in a staggered configuration to minimize electrical loads on each breaker or generator (leg) circuit. The wiring, electrical fixtures and components shall be to the highest industry quality standards available on the domestic market. The equipment shall be the type as designed for mobile type installations subject to vibration, moisture and severe continuous usage.

WHEEL CHOCKS

Two (2) ZICO #SAC-44-E folding wheel chocks shall be mounted forward of the rear wheels on the driver side below the side running board compartments.



PAINT, PREPARATION AND FINISH

The apparatus body shall be painted Sikkens [#COL]. The paint process shall meet or exceed current state regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically or horizontally hinged smooth-plate compartment doors shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature Sikkens high solid LV products and be performed in the following steps:

- Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.
- Sikkens Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Sikkens High Solid LVBT650 (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where the material is penetrated after painting, for the purpose of mounting steps, hand rails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, hand rails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

BODY PRIMER & PREPARATION

All exposed welds shall be ground smooth for final finishing of areas to be painted. The compartments and doors are totally degreased and phosphatized. After final body work is completed, grinding (36 and 80 grit), and finish sanding shall be used in preparation for priming.

BODY FINISH PAINT

The body shall be finish sanded and prepared for final paint. Upon completion of final preparation, the body shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint. Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

The entire body shall be buffed and detailed.

UNDERBODY BODY PAINT

The inside and underside areas of the complete body assembly shall be painted black using a Sikkens paint system, prior to the installation of the body on the chassis.



GRAY ZOLATONE COMPARTMENT PAINT

The interior of the compartments shall be finish painted with gray Zolatone scuff resistant paint to provide a protective application over all of the compartment interior surfaces.

SINGLE COLOR BODY PAINT

The body paint finish shall be Sikkens paint system in a single color, to match customer furnished paint codes and requirements.

SINGLE COLOR CHASSIS CAB PAINT

The commercial cab exterior shall be finish painted in a single color by the chassis manufacturer with Purchaser's choice of color as available.

COMMERCIAL CAB PAINT FINISH GUIDELINES

The chassis shall be painted and detailed as provided from the chassis OEM and shall meet their quality guidelines.

WHEEL PAINT

The chassis wheels shall be painted as provided by the commercial chassis manufacturer.

TOUCH-UP PAINT

One (1) pint of each exterior color paint for touch-up purposes shall be supplied when the apparatus is delivered to the end user.

FINALIZATION & DETAILING

Prior to delivery of the vehicle, the interior and exterior be cleaned and detailed. The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc.

UNDERBODY ANTI-CORROSION PAINT TREATMENT

Upon completion, the underside of the apparatus, from the pump enclosure-back, shall have anti-corrosion textured paint applied to help inhibit rust and the corrosion process. The Quick Dry Rubberized undercoat paint shall be applied using an air driven spray gun. The paint shall be applied as a minimum to the following areas: body substructure, underside of all body compartments, running board supports and rear step supports. No paint shall be applied directly to the exhaust system or wheel wells.

****** LETTERING AND STRIPING ******

COMPUTER GENERATED LETTERING

The lettering and striping shall be custom designed utilizing state of the art computer software and computerized cutting machines. The manufacturer shall employ a full time artist / designer to generate all lettering, decals, and striping to meet the requirements of the Fire Department. The artwork for the lettering and striping shall be kept on record by the apparatus manufacturer to allow for ease in duplication for the Fire Department.



****NFPA REQUIRED SCOTCH-LITE STRIPING ****

SCOTCH-LITE STRIPE

A four (4) inch high "Scotch-Lite" stripe shall be provided. The stripe shall be applied on a minimum of 60 percent of each side of the unit, 60 percent on the rear of the unit and 40 percent on the front of the unit. The Scotch-Lite stripe layout shall be determined by the Fire Department.

The Scotch-Lite shall be white in color.

REAR CHEVRON STRIPING

At least 50% of the rear facing vertical surface shall be covered with alternating strips of reflective striping.

The striping shall be 6" Diamond Grade Scotch-Lite.

The Diamond Grade Scotch-Lite shall be Red and Fluorescent Yellow Green in color.



FES WARRANTY, STARTING ON IN-SERVICE DATE

Warranty coverage by FES will begin when the customer places the unit in service. This date may not exceed 60 days from the date of delivery to the customer.

The Customer must email feswarranty@safeindustries.com within 60 days of delivery, or the warranty start date will default to the original delivery date.

ONE (1) YEAR - NEW PRODUCT MATERIAL AND WORKMANSHIP WARRANTY

FES (the "Company") warrants each new item of fire and rescue apparatus manufactured by it against defects in material and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of one year from the date of delivery to the original user-purchaser.

FES's obligation under this warranty is strictly limited to replacing or repairing, as the Company may elect, any part or parts of such apparatus which the Company's examination discloses to be defective in material or workmanship.

The Company reserves the right to require any such repairs to be made either at a Company owned service facility or another approved service facility at the Company's option. Transportation cost to and from the servicing location is the responsibility of the user-purchaser.

The FES warranty shall not apply to:

- Major components or trade accessories such as purchased chassis, engines, transmissions, tires, pumps, signaling devices, or batteries that have a separate warranty by the original manufacturer or to ancillary equipment used in fire fighting.
- Normal adjustments and maintenance services.
- Replacement of consumable parts including, but not limited to; filters, lubricants, belts, light bulbs, wiper blades, brake linings and brake pads.
- Failure resulting from the apparatus being operated in a manner or for a purpose not recommended by FES.
- Any apparatus, which shall have been repaired, modified or altered in any way so as, in the Company's sole judgment, to have adversely affected the unit's stability or reliability.
- Items subjected to misuse, negligence, accident or improper maintenance.
- Loss of time or use of the vehicle, inconvenience or other incidental expenses.

Nothing contained in this warranty shall make FES liable beyond the express limitations hereof, for loss, injury or damage of any kind to any person or entity resulting from any defect or failure in this vehicle.

To the extent permitted by law, THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

To the extent permitted by law, this warranty is also in lieu of all other obligations or liabilities on the part of FES or the Seller, including liability for incidental and consequential damages.

FES makes no representation that the vehicle has the capacity to perform any functions other than as contained in the Company's written literature, catalogs or specifications accompanying delivery of the vehicle.

No person or affiliated Company representative is authorized to give any other warranties or to assume any other liability on behalf of FES in connection with sale, service or repair of any apparatus manufactured by the Company.



ONE (1) YEAR - NEW PRODUCT MATERIAL AND WORKMANSHIP WARRANTY, CONT'D.

FES reserves the right to make design changes or improvements in its products without imposing any obligation upon itself to change or improve previously manufactured products.

Whenever a performance bond is required under a contract or purchase order, coverage under the performance bond shall only extend for one year from the delivery date of the equipment. This limitation under the performance bond shall not affect any extended warranties offered by FES or any OEM's.

TEN (10) YEAR BODY STRUCTURE WARRANTY

The proposed body will be warranted against structural defects for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

TEN (10) YEAR CORROSION WARRANTY

The proposed body will be warranted against rust-through or perforation, due to corrosion from within, for a period of ten (10) years. Perforation is defined as a condition in which an actual hole occurs in a sheet metal panel due to rust or corrosion from within. Surface rust or corrosion caused by chips or scratches in the paint is not covered by this warranty.

SEVEN (7) YEAR PAINT WARRANTY

The proposed paint finish will be warranted for a period of seven (7) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

FIVE (5) YEAR LETTERING WARRANTY

Fire Equipment Sales and Services (FES) shall provide a five (5) year warranty against defects in material and workmanship for all graphic processes. Any valid claims must be made in writing within 15 days of the determination of any defects to FES. FES will at its option make any necessary repairs either at a local authorized service center or at the factory, if required. FES will make the final decision as to where the repairs are to be made and any transportation cost are the owners responsibility, FES will at its option repair or replace any verified defects in workmanship or materials at no cost to the owner provided all the requirements of this warranty have been met.

FES shall not be liable to the original purchaser or anyone else for consequential, incidental, special or direct damages, including, but not limited to, any claims for loss of profits, down time, loss of use or inconvenience. THE COMPANY MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND SPECIFICALLY, DISCLAIMS ANY IMPLIED WARRANTY INCLUDING THE WARRANTY OF MERCHANTABILITY.

FES continually strives to improve its products and therefore, reserves the right to make improvements or changes without incurring any obligations to make such changes or additions on equipment previously sold.



ONE (1) YEAR BRIGHTWORK WARRANTY

Fire Equipment Sales and Services (FES) warrants all bright finish components used in the construction of FES Apparatus against defects and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of one (1) year from the date of delivery / acceptance to the original user-purchaser, whichever occurs first.

The expressed warranty excludes corrosion or degradation of bright finished components caused by damage to the component.