

W, S, Darley

One (1)
00-00-4100

Cover Sheet (NO DARLEY LOGO)

FIRE APPARATUS SPECIFICATIONS
750 GPM Vision Series Initial Attack CAFS
For
Jefferson County #3 Fire Department
Port Ludlow, WA

Date: 7-23-08

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One (1)
00-01-0000

---ADMINISTRATION SECTION---

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FIRE APPARATUS SPECIFICATIONS

One (1)
00-01-0700 Instruction To Bidders

ADMINISTRATION

One (1)
00-01-1000 -ITB - General Requirements (Date & Description)

GENERAL REQUIREMENTS

Sealed proposals are requested and shall be received by the "Purchaser", no later than the hour and date specified herein. The proposal shall be delivered in a sealed envelope, plainly marked as described herein.

No proposal shall be accepted except those submitted per the requirements herein, no exception. No oral, telephonic, telegraphic, facsimile, or other electronic means of submitting proposal shall be accepted.

The bidder shall submit a proposal document detailing the manufacturer's name and address, description of the apparatus proposed, apparatus price, and delivery of the completed apparatus. The bidder's proposal document shall be signed by an authorized representative of the manufacturer. By the signing of the proposal document, the bidder agrees the proposal is, in all respects, fair and without collusion or fraud. Proposals shall not be accepted from bidders who cannot meet this requirement.

The Purchaser reserves the right to reject any or all proposals or accept any deemed to be in the best interest of the Purchaser and shall not be bound to accept a low bid proposal.

ESTABLISHED MANUFACTURER

Proposals shall be considered only from companies who have an established quality reputation for manufacturing both fire apparatus and fire pumps.

Due to the importance of obtaining high quality, dependable apparatus, the length of time a bidder has been furnishing fire apparatus, under its present name submitted on their proposal, must be stated.

It is desired that the bidder has been furnishing apparatus under its present name for a minimum of fifty (50) years, and is a member of the Fire Apparatus Manufacturers Association in the United States.

One (1)
00-01-1500 -ITB - Instructions/Intent To Bidders

INTENT OF SPECIFICATIONS

It is the intent of these specifications and instructions to secure delivery of apparatus equipped as herein specified, properly designed and engineered for years of dependable service.

These specifications are not intended to limit any competent bidder from submitting a proposal, however, they are intended to detail the design and quality of the apparatus necessary to satisfy the needs and requirements of the Purchaser.

Components and brand names specified are commonly used in the industry and are readily available from reputable fire apparatus manufacturers. Components specified by brand name and model are identified as such due to their known quality, performance, and parts and service availability. The Purchaser shall be the sole judge of any "or equal" components proposed.

The apparatus and equipment proposed shall be new, unused, and the manufacturer's latest production design. Details of design, materials, and construction, where not otherwise specified, shall be the sole responsibility of the bidder.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified, and shall

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state the location of the facility where the apparatus is to be manufactured.

The bidder shall show capabilities to render prompt service and replacement parts for the apparatus. The bidder shall identify the service facility and contact person for warranty and service.

Each bid shall be accompanied by the bidder's detailed description (proposal specifications) of the apparatus and equipment they intend to furnish. The bidder's proposal shall be in the same sequence as the Purchaser's specifications. Due to the importance of analyzing bids in a competent manner, there is no exception to this requirement. Simply submitting a copy of the Purchaser's specifications and/or other literature or advertising materials is not acceptable and shall be cause for rejection.

All exceptions and clarifications shall be listed on a separate page titled "EXCEPTIONS TO SPECIFICATIONS". All items shall be identified by page number and topic. Where sections of the Purchaser specifications are specifically identified as "no exception", exceptions shall not be considered.
Product Quality And Workmanship

One (1)
00-05-1000

PRODUCT QUALITY AND WORKMANSHIP

The components provided and workmanship performed shall be of the highest quality available for this application. Special consideration shall be given to the following areas:

- A). Accessibility to various components that require periodic maintenance or lubrication checks.
- B). Ease of vehicle and pump operation.
- C). Features beneficial to the intended operation of the apparatus.

Construction of the complete apparatus shall be designed to carry the loads intended to meet the road and terrain conditions and speed requirements desired when specified by the purchaser.

Welding shall not be employed in the assembly of the apparatus in a manner that will prevent the removal of any major component part for service and/or repair.
NFPA Compliance

One (1)
00-10-1000

NFPA COMPLIANCE

The apparatus detailed herein shall meet applicable NFPA recommendations current at the time of the proposal.

One (1)
00-15-0600

Payment Terms

PAYMENT REQUIREMENTS

One (1)
00-15-1500

-ITB - Payment For Chassis - Then Balance When Complete

The Purchaser shall provide payment for the chassis upon chassis completion and invoice from the apparatus manufacturer.

One (1)
00-30-7300

The balance of the contract shall be paid by the Purchaser upon completion of the apparatus and invoice from the apparatus manufacturer.

Apparatus/Pump Parts Available

PARTS AVAILABILITY

One (1)
00-30-7400

- ITB - Apparatus 20 Yr Parts Available

APPARATUS PARTS

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The bidder shall provide a statement in the proposal to those replacement parts or equals for the proposed apparatus shall be available for a period of twenty (20) years from the date of apparatus completion at the manufacturer's facility.

One (1)
00-30-7800 - ITB - 72 Hr. Pump Parts Available

PUMP PARTS

The bidder shall provide a statement in the proposal to guarantee that replacement parts for the proposed fire pump shall be available within approximately 3 business days of notification of need for the part.
Delivery Requirements

One (1)
00-38-0300

DELIVERY REQUIREMENTS

One (1)
00-38-1500 -ITB - Delivery Days After Contract

DELIVERY AFTER CONTRACT

Each proposal shall clearly state the proposed delivery time, in calendar days, after signing of a contract.
-ITB - F.O.B. Manufacturer

One (1)
00-38-2200

F.O.B. MANUFACTURER

The purchaser shall be responsible to pick up the completed unit at the manufacturer's factory. The purchaser shall be responsible for all travel costs to and from the manufacturer's facility. The purchaser shall provided a certificate of insurance and any information required to drive the apparatus to its final destination. Bidders shall include the location and contact with their proposal.

One (1)
00-42-1000 - ITB - Meeting at Department (DEALER)

PRECONSTRUCTION MEETING

A pre-construction meeting shall be held at the purchaser's location prior to any construction processes at the bidders manufacturing facility. Authorized representatives of both the purchaser and the manufacturer shall be present. The manufacturer shall supply complete apparatus drawings and specifications at the meeting for review and purchaser approval.

One (1)
00-45-1000 -ITB - Inspection Trip - Bidder Expense

INSPECTION TRIP(S)

One (1)
00-45-4500 -Final Factory Inspection Trip (DEALER)

FINAL CONSTRUCTION INSPECTION TRIP

A final construction inspection trip to the manufacturer shall be supplied to verify the apparatus has been constructed as required by the contract.

One (1)
00-50-0600 Drawing Requirements

DRAWING REQUIREMENTS

One (1)
00-50-1000 - ITB - Apparatus Drawings W/Bid

APPARATUS PROPOSAL DRAWINGS

All bidders shall submit, with their proposal, a minimum of one (1) set of drawings of the apparatus as proposed. The drawings shall include left side, right side, top, front, and rear views of the apparatus.

Critical dimensions such as overall height, overall length, body width, cab dimensions, pump module dimensions (when applicable), compartment dimensions, and overall body dimensions shall be on the

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drawings.

One (1)
00-50-2000

Water tank size (when applicable) and pump gpm (when applicable) shall also be stated on the drawings.
- ITB - Apparatus Drawings For Approval

CONSTRUCTION APPROVAL DRAWINGS

Prior to construction, two (2) sets of apparatus drawings shall be supplied to the purchaser. The drawings shall include left side, right side, top, and rear views of the apparatus.

Critical dimensions such as overall height, overall length, body width, cab dimensions, pump module dimensions (when applicable), compartment dimensions, and overall body dimensions shall be on the drawings.

Water tank size (when applicable) and pump gpm (when applicable) shall also be stated on the drawings.

The purchaser shall review the drawings. Any discrepancies and/or mutually agreed upon modifications shall be noted on the drawings. The purchaser shall return one complete set of drawings, with authorized approval signature(s), to the manufacturer's representative.

One (1)
00-55-0710

Warranty Requirements (Vision Wildland)

WARRANTY REQUIREMENTS

One (1)
00-55-1410

Warranty Terms (Vision Wildland)

WARRANTY

The following warrantees shall be provided:

One (1)
00-55-2200

- ITB - One Year Apparatus Warranty

ONE YEAR APPARATUS WARRANTY

The complete apparatus detailed herein shall be warranted against defects in materials and workmanship for a period of twelve (12) months, effective upon pick up or delivery of the completed apparatus to the purchaser. The detailed warranty document shall be available upon request.

One (1)
00-55-4800

Other warrantees, as provided by individual component manufacturers may extend beyond this warranty.
- ITB - Lifetime Fire Pump Warranty

LIFETIME FIRE PUMP WARRANTY

The bidder shall provide a lifetime warranty against defects in material and workmanship for the fire pump as provided and installed in the apparatus proposed.

One (1)
00-55-5500

- ITB - Life "CoPoly" Tank Warranty

LIFETIME TANK WARRANTY

The copolymer material water tank and/or foam tank provided shall be warranted for the life of the apparatus as detailed and provided by the tank manufacturer.

One (1)
00-56-7055

- ITB - Lifetime Copoly Body Warranty

LIFETIME COPOLYMER APPARATUS BODY WARRANTY

The CoPolymer apparatus body as detailed herein shall have a structural and corrosion warranty against defects in materials and workmanship for a period of the life of the apparatus, effective upon final payment in full by the Purchaser, and pick up or delivery of the completed apparatus to the Purchaser. This warranty

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applies only to the original body as mounted by the apparatus manufacturer on the original chassis. Any unauthorized alterations or modifications to the original body, or remounting of the body shall void this warranty.

One (1)
00-57-2500 - ITB - 5YR Paint Warranty - CoPoly

FIVE YEAR PAINT WARRANTY

The finish paint as used on the proposed apparatus shall be warranted against defects in materials and workmanship for a prorated period of five (5) years, effective upon pick up or delivery of the completed apparatus to the purchaser.

One (1)
00-65-0600 Demonstration Requirements

DEMONSTRATION REQUIREMENTS

One (1)
00-65-2200 - ITB - Demo at Purchaser (2 Days) (DEALER)

TWO DAY DEMONSTRATION AT PURCHASER

Upon delivery of the completed apparatus, a minimum of one manufacturer authorized and trained individual shall conduct a two day demonstration session for purchaser personnel. Demonstration shall include all aspects of apparatus operation. The demonstration schedule shall be mutually agreed upon by the purchaser and the manufacturer's representative.

One (1)
00-68-0500 Manual And Data Requirements

MANUAL AND DATA REQUIREMENTS

One (1)
00-68-1500 - ITB - Document - 2 Construct Detail - 2 Operate Manuals

FIRE APPARATUS DOCUMENTATION

At the time of delivery, two (2) copies of the following shall be supplied:

The manufacturer's record of construction details, including the following:

- (a) Owner's Name and address.
- (b) Apparatus manufacturer, model and serial number.
- (c) Chassis manufacturer, make, model, and serial number.
- (d) GVWR of front and rear axles.
- (e) Front tire size and total rated capacity in lbs.
- (f) Rear tire size and total rated capacity in lbs.
- (g) Chassis weight distribution in pounds with water and manufacturer mounted equipment (front and rear).
- (h) Engine make, model, serial number, rated horsepower and related speed, and governed speed.
- (i) Type of fuel, and fuel tank capacity.
- (j) Electrical system voltage and alternator output in amps.
- (k) Battery make, model, and capacity in cold cranking amps (CCA.).
- (l) Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s), make model, and gear ratio.
- (m) Pump make, model, rated capacity in gallons per minute (liters per minute where applicable), and serial number.
- (n) Pump transmission make, model, serial number, and gear ratio.
- (o) Auxiliary pump make, model, rated capacity in gallons per minute (liters where applicable), and serial number.
- (p) Water tank certified capacity in gallons or liters.
- (q) Aerial device type, rated vertical height in feet, rated horizontal reach in feet, and rated capacity in pounds.
- (r) Paint manufacturer and paint numbers.
- (s) Company name and signature of responsible company representative.

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- 2.) Certification of slip resistance of all stepping, standing, and walking surfaces.
- 3.) Manufacturer's certification of pump suction capability (when a pump is present).
- 4.) A copy of the apparatus manufacturer's approval for stationary pumping applications (when a pump is present).
- 5.) Engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum no load governed speed (when a pump is present).
- 6.) If the apparatus has a fire pump or an industrial supply pump, the pump manufacturer's certification of the hydrostatic test.
- 7.) If the apparatus has a fire pump or an industrial supply pump, the certification of inspection and test for the fire pump, or the industrial supply pump.
- 8.) If the apparatus has an aerial device, the certification of inspection and test for the aerial device.
- 9.) If the apparatus has an aerial device, all the technical information required for inspections to comply with NFPA 1914.
- 10.) If the apparatus has a fixed line power source, the certification of the test for the fixed power source.
- 11.) If the apparatus is equipped with an air system, test results of the air quality, the SCBA fill station, and the air system installation.
- 12.) Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall fire apparatus [with the water tank full (when present) but without personnel, equipment, and hose].
- 13.) Written load analysis and the results of the electrical system performance tests required.
- 14.) When the apparatus is equipped with a water tank, the certification of water tank capacity.

OPERATIONS AND SERVICE DOCUMENTATION

A minimum of two (2) sets of complete operation and service documentation shall be supplied, covering the completed apparatus as delivered and accepted. The documentation shall address the inspection, service, and operation of the apparatus and major components thereof.

Documentation shall also be provided for the apparatus, and major components and operating systems as follows:

- 1.) Manufacturer's name and address.
- 2.) Country of Manufacturer.
- 3.) Source for service and technical information.
- 4.) Parts replacement information.
- 5.) Descriptions, specifications, and ratings of the chassis, pump (if present), and aerial device (when present).
- 6.) Wiring diagrams for low voltage, and line voltage systems, including the following:
 - a.) Pictorial representation of circuit logic for all electrical components and wiring.
 - b.) Circuit identifications.
 - c.) Connector pin identification.
 - d.) Zone location of electrical components.
 - e.) Safety interlocks.
 - f.) Alternator and battery power distribution circuits.
 - g.) Input/output assignment sheets, or equivalent circuit logic implemented in multiplexing systems.
- 7.) Lubrication charts.
- 8.) Operating instructions for the chassis, any major components, such as a pump or aerial device, and any auxiliary systems.
- 9.) Precautions related to multiple configurations of aerial devices, if applicable.
- 10.) Instructions regarding the frequency and procedure for recommended maintenance.
- 11.) Overall apparatus operating instructions.
- 12.) Safety considerations.
- 13.) Limitations of use.
- 14.) Inspection procedures.

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- 15.) Recommended service procedures.
 - 16.) Trouble shooting guide.
 - 17.) Apparatus body, chassis, and other components manufacturer's warranties.
 - 18.) Special data required by the standard.
 - 19.) Copies of required manufacturer's test data or reports, manufacturer certifications, and independent third party certifications of test results.
 - 20.) A material safety data sheet (MSDS) for any fluid that is specified for use on the apparatus.
- Performance Requirements

One (1)
00-70-0500

PERFORMANCE REQUIREMENTS

- ITB - Performance Requirements

One (1)
00-70-1000

The bidder shall comply with general apparatus requirements and requirements by apparatus type as recommended, including the following (if present on the apparatus proposed):

- Fire pump or pumps
- Water tank
- Aerial Device
- Foam Proportioning System
- Compressed Air Foam System
- Line Voltage Electrical System
- Command and Communications
- Air System
- Winch System
- Motor Vehicle Laws and Regulations
- Personnel Protection
- Controls and Instructions
- Component Protection
- Vehicle Stability
- Apparatus Performance
- Roadability
- Serviceability
- Road Tests

One (1)
00-80-0500

Chassis Supplied By

CHASSIS PROVIDER

- ITB - Bidder Supplied Chassis

One (1)
00-80-1000

The chassis, as detailed in these specifications, shall be ordered and supplied by the apparatus manufacturer. The chassis portion of the contract shall be paid for as detailed elsewhere in the specification package.

One (1)
00-99-2100

ITB - Manufacturer Rights

MANUFACTURER RIGHTS

The manufacturer shall be allowed to incorporate the latest technology or standards, including changes to apparatus features and brand names, or model or equipment being supplied with the vehicle, as long as the Purchaser is notified in advance of any changes of a major nature.

One (1)
05-00-0010

---CHASSIS SPECIFICATIONS---

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CHASSIS SPECIFICATIONS

One (1)
05-05-1450

GMC 5500 4x4 Crew Cab

CHASSIS SPECIFICATIONS

- 2008 GMC TC5E044 Crew Cab 4WD
- Wheelbase 194" with 84" CA
- Front Gross Axle Weight Rating....8,000
- Rear Gross Axle Weight Rating..13,500
- Gross Vehicle Weight Rating.....21,500

STANDARD EXTERIOR

- Exterior roof drip moldings
- Bumper, front, steel, 96" (243.8 cm) wide
- Steps under cab doors
- Integral grille and fenders - The grille is the same color as hood with single halogen headlamps
- Roof marker lamps
- Daytime running lamps
- Windows, Solar-Ray tinted
- Light tinted windshield and side window glass
- Windshield wipers, 2-speed and intermittent, with pulse washers
- Provisions for mounting front license plate
- Positive door stops

STANDARD INTERIOR

- Seat trim, vinyl - very dark pewter
- Interior trim - very dark pewter
- Two sided single common key for doors and ignition
- Headlamp warning buzzer
- Warning tone, key-in-ignition
- Tachometer with automatic and manual transmissions
- Electronic engine hour meter
- Engine "Check Gauges" telltale light and buzzer, oil pressure gauge
- Gauges, low oil pressure and coolant level, high coolant and engine oil temperature
- Vinyl door trim panels - with storage pocket on front doors, beverage holders, and reflector on all doors
- Step well storage areas at each door front and rear. Includes storage cover.
- Cloth headliner
- Sunshades, passenger side and driver side, cloth-covered
- Coat hooks (2) located on cab back panel
- Powerpoints - two in-cab power sources (in addition to optional cigarette lighter) for electrical plug-in accessories
- Underhood bodybuilder connections accessory power supply - Provides 12V power supply from the battery with two separate 30 amp fused circuits

DRIVE TRAIN RELATED STANDARD

- Air cleaner, dry type
- Cooling, anti-freeze protection temperature - -40 degrees f (-40 degrees c)
- Brakes, rear, power, 4-wheel disc, 4 channel abs 2-piston

- Diesel engine
- Duramax diesel 6.6l, 330 hp (246 kw) @ 3000 rpm, 620 lb-ft (840 n-m) torque @ 1600 rpm -maximum engine speed 3,250 rpm (includes kpj engine shutdown) oil level sensor: warning sensor for low oil levels

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- 21,500 lbs. (9750 kg) capacity
- Exhaust brake
- Air compressor
- Engine block heater
- 1000 watt, 120v receptacle located below driver side door
- Road speed governor 75mph (120 kph) speed governor controlled by the speed rating of tires
- Alternator dual 150 amp maximum
- Battery triple AC Delco, 700 cca, 12v -540-minute reserve capacity @ 27 degrees c, 700 cca @ -18 degrees
- Automatic engine shutdown with alarm -includes reset feature
- Single horizontal - driver side mounted inside frame rail with diesel engines 409 stainless steel exhaust, oxidation catalyst, diesel particulate filter and exhaust gas cooler
- Cruise control

TRANSMISSION

- Automatic, Allison 2350 EVS series 6 speed for emergency vehicle application only
- Parking pawl and column shift
- Oil cooler
- Transynd synthetic automatic transmission fluid
- Transfer case

FRONT AXLE

- 8000 lbs. (3629 kg) capacity -solid drive axle. up to 45 degree turn angle, includes 4-piston brake apply calipers and manual locking hubs
- Front suspension tapered leaf, 8000 lbs. (3629 kg) capacity (std)
- Front stabilizer bar
- Front wheel 19.5" x 6.75" (49.5 cm x 17.1 cm), steel disc - 8-hole
- Goodyear tire, highway traction tread

REAR AXLE

- Single speed rear axle
- Dana 13,500 lbs. (6123 kg) capacity
- Traction control
- Limited slip differential

REAR SUSPENSION

- Multi-leaf, 15,000 lbs. (6804 kg) capacity
- Rear shock absorber
- Rear stabilizer bar
- Rear wheel 19.5 x 6.75" (49.5 cm x 17.1 cm), steel disc - 8-hole, 20,000 lbs. (9072 kg) capacity
- Rear tire Goodyear tire, highway traction tread

OTHER

- Wheelbase 194" with 84" CA
- 80,000 psi (551,600 kpa) yield strength, steel frame
- Single, 32-gallon fuel tank with driver side fuel fill neck through the frame rail
- Rear in wheel park brake - hand lever operated
- Bumper - front, chromed steel
- Front tow hooks, frame-mounted

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CAB/HOOD EQUIPMENT

- Deluxe front appearance package - includes uplevel stationary grille, chrome front bumper, quad painted headlamps with chrome trim
- Wiring harness 7-wire - full trailer routed to end of the frame with receptacle
- Horn dual-note, electric - mounted inside engine compartment

- Heating & air conditioning - rear heater

POWER CONVENIENCE OPTIONS

- Power convenience package includes power door locks, power windows, and a tweeter speaker in each front door
- Driver convenience package includes tilt-wheel and cruise control
- Air cleaner restriction gauge-mounted on instrument panel
- Transmission temperature gauge

MISCELLANEOUS CAB EQUIPMENT

- Smokers package - cigarette lighter/muffin ashtray located on center console
- Interior roof lamp with courtesy and dual reading lamps
- Tilt wheel adjustable steering
- Air conditioning

- Driver seat - air suspension, high-back - National 2000 series, manual lumbar, and inboard armrest
- Passenger seat high back bucket, fixed height, manual back angle adjuster -storage in the seat riser with a small lip at the front to stop contents from sliding out
- Airbags
- Delco AM-FM stereo radio -with coaxial speakers in all door panels

- Exterior mirrors - electric remote control, lighted, heated, 102" wide load, integral arm, integral convex mirror black molded composite 12" x 7" (30.5 cm x 17.8 cm) with 6" x 7" (15.2 cm x 17.8 cm) convex section - heated mirrors only heat the upper flat glass portion. The lower convex portion is not heated.

- Paint GMC RED exterior paint
- Very dark pewter interior

---CHASSIS MODIFICATION SECTION---

One (1)
07-00-0000

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CHASSIS MODIFICATIONS

One (1)
07-00-1000 Chassis Modifications

CHASSIS MODIFICATIONS

The following modifications and installations shall be performed on the chassis upon delivery to the apparatus manufacturer:

One (1)
07-01-9900 12 Volt And Ground Power In Cab

12 VOLT POWER AND GROUND IN CAB

Provide 12 volt power and ground on each side under the rear crew seat, for Department supplied and installed rechargeable lights

One (1)
07-02-6700 Cabinet in Cab w/Roll Up Door (Behind Officer Seat)

INTERIOR CABINET

A 1/8" aluminum treadplate cabinet shall be installed and bolted to the floor of the cab and shall be located behind the officer seat.

The cabinet shall be approximately 40" high x 30" wide (across cab) x 26" deep (front to back).

Three (3) adjustable aluminum treadplate shelves shall be supplied inside the cabinet.

One (1) natural finish roll up door shall be supplied on the front of the cabinet.

One (1)
07-02-7200 Map Compartment In Cab (Aluminum)

STORAGE COMPARTMENT

One (1) map compartment shall be provided in the cab, between the driver and officer. It shall be unpainted smooth aluminum with a "DA" finish. The compartment shall have two (2) smooth aluminum dividers.

One (1)
07-02-8400 Control Console Between Seats W/Book Holder

CONTROL CONSOLE BETWEEN SEATS

A control console shall be installed, on the cab floor, between the driver and officer seats. The console shall be unpainted, "DA" finished, smooth aluminum material with a black vinyl covered aluminum top.

The top shall be hinged toward the rear to allow easy access to components and wiring inside the console. The cover shall be fastened on the sides and front.

The top of the console shall contain items such as the rocker switch panel and door and accessory ajar lighting. It shall also contain the electronic siren head, fire pump shift control, and generator controls (as applicable).

One (1)
07-06-5000 Officer SCBA Seat - Non-Air (IPOS)

SCBA OFFICER SEAT

The officer seat shall be replaced with a fixed hi back manual adjusting seat with an SCBA bottle provision in the seat back. Note that the SCBA seat back area shall have a headrest installed.

There shall be storage in the seat riser, beneath the seat, with a small lip at the front to stop contents from sliding out.

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One (1)
07-06-6100
The seat color shall match the existing color of other seating in the cab.
SCBA Seat In Crew Section

CREW SECTION SCBA SEAT

One (1)
07-07-1200
Behind the driver seat, there shall be an individual seat with an SCBA seat back. The upholstery color shall match the color of the existing cab seats.
SCBA Bracket(s) In Cab - 6.75" Ziamatic

AIR PACK BRACKET(S)

One (1) Ziamatic SCBA air pack mounting bracket(s) with a 6.75" clamp shall be provided. The bracket(s) shall include a collision restraint strap.

Each bracket specified shall have a positive mechanical latch designed to hold an SCBA in place. The design shall be such, that if the latch is not engaged, the SCBA shall not be able to be retained in the stowed position. If the bracket is mounted in a seat back, the latch shall be accessible to the user while seated.

One (1)
07-27-0550
NOTE: The bracket shall be mounted on the back of the EMS cabinet in the crew section of the cab.
Fuel Fill - Side Body

FUEL FILL

The chassis fuel fill inlet line shall be routed to a recess area at the side of the body, near the rear wheels. A fuel cap shall be provided. A label designating the type of fuel to be used shall be installed near the fuel fill.

One (1)
07-28-2310
Treadplate Running Boards (Four Door F550/GMC Type)

TREADPLATE RUNNING BOARDS

Running boards, fabricated from bright aluminum treadplate, shall be supplied and installed below the cab doors. An intermediate step shall be provided, if the stepping height from the top of the running board to the floor of the cab exceeds 18". The running board height, from the ground to the top of the first step shall not exceed 24". A bright aluminum diamond plate vertical back splash, from the top of the running board to below the cab shall be provided and installed. The back splash shall be mounted to allow for independent movement of the cab.

One (1)
07-30-1500
Master Battery Switch (Commercial Cab)

MASTER SWITCH - CHASSIS ON/OFF

A master switch shall be provided in the cab in a convenient location. This switch shall cut all power to the cab and body accessories. This master switch shall include a green/master switch "on" pilot light.

One (1)
07-31-0500
Kussmaul #1000 Battery Charger

BATTERY CHARGER

A Kussmaul #091-56-12, automatic Auto Charge 1000 battery charger, designed for single battery systems, shall be installed in the cab and connected to the chassis batteries. The maximum output shall be 15 amps. The system automatically becomes inactive when the batteries are fully charged.

A built in battery saver feature shall be included for auxiliary electrical loads such as handlights and portable radios.

A weatherproof bar graph display shall be included and mounted in a remote location outside the cab.

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One (1)
07-31-7700

Kussmaul 120V Super Auto-Eject (20 amp)

120V SUPER AUTO-EJECT

A Kussmaul #091-55-20-120, 20 amp, 120 volt Super Auto Eject receptacle with yellow weatherproof cover shall be provided and connected to the on board combination charger/compressor, specified elsewhere.

The receptacle shall be wired so when the vehicle ignition is energized, the receptacle automatically ejects the external plug from the receptacle.

The Super Auto Eject shall be a completely sealed assembly to prevent internal contamination. The internal switch arrangement shall eliminate the possibility of arcing at the contacts.

A mating plug shall be furnished and shipped loose.

The receptacle shall be located below the driver door area.

One (1)
07-32-0200

Collins Pulsar 750 Hand Held Light(s)

PULSAR 750 HAND LIGHT(S)

One (1) Collins Pulsar #750 hand held spot light(s) shall be mounted in the cab, on the officer's side. The light(s) shall be wired to a 12 volt electrical source and shall have an on/off switch on the light. A mounting bracket shall be supplied.

One (1)
07-52-1000

Mud Flaps (Front) (2)

FRONT MUDFLAPS

Two (2) black hard rubber mudflaps shall be installed behind the front wheels, one each side. Mud Flaps (Small Chassis) (Rear) (2) With ANTI SAIL Feature

One (1)
07-52-2200

REAR MUDFLAPS WITH ANTI SAIL FEATURE

Two (2) black hard rubber mudflaps shall be installed behind the rear wheels, one each side.

Each rear mudflap shall have a chrome anti sail framework installed to hold the mudflap in position, and not allow it to "sail" and rest against the chassis tailpipe located behind the rear wheels, on this type of chassis.

One (1)
07-80-0185

Exhaust Ahead of Right Rear Wheels (Wildland Type)

CHASSIS EXHAUST

The chassis exhaust pipe shall discharge at the front of the right rear wheels and shall be pointed downward.

One (1)
07-90-0500

"General" Back Up Alarm

BACK-UP ALARM

One (1) electronic back up alarm shall be provided at the rear of the apparatus. The alarm shall sound when the transmission is placed in reverse.

One (1)
07-95-0500

Identification Data Plate - Drivers Compartment

IDENTIFICATION DATA PLATE

An identification plate shall be installed in the driver's area of the cab, specifying the quantity and types of fluids used in the vehicle (as applicable):

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

The ID plate shall also include the following:

- 1.) Build Date
- 2.) Delivery Date
- 3.) Paint Information
- 4.) VIN Number

One (1)
07-95-2000
Occupant Plate - Drivers Compartment

OCCUPANT PLATE

An identification plate shall be installed in the driver's area of the cab, specifying the quantity of personnel allowed to ride in the apparatus.

One (1)
07-95-4000
Travel Height & GVWR Label

TRAVEL HEIGHT AND GVWR LABEL

A "high visibility" plate shall be permanently mounted in the cab, visible to driver when seated.

The plate shall show the overall height of the completed apparatus in feet and inches (or meters), the overall length of the completed apparatus in feet and inches (or meters).

The plate shall also show the gross vehicle weight rating (GVWR) in pounds or kilograms.

Text shall also be supplied on the plate, indicating that the information shown is current upon completion of the apparatus. If the overall height of the apparatus changes after the apparatus is put into service, then the purchaser must revise the dimensions on the plate.

One (1)
09-00-0050
---PUMP, MODULE, AND RELATED ITEMS---

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PUMP, MODULE, AND RELATED ITEMS

One (1)
17-00-0750 Pump Operation - Side Panel LSMC (CAFS)

SIDE DESIGN PUMP OPERATOR'S PANEL & MODULE

One (1)
17-02-1000 Pump Module - Side LSMC - Alum. Tubing (CAFS)

SIDE PANEL MODULE

A pump operator's side panel pump module shall be provided. It shall be assembled and mounted independently from both the chassis and the body, to allow sufficient flexing and prevent component fatigue. .

The module shall be constructed using square aluminum tubing. The welded ends of the tubing shall be chamfered prior to welding and shall be ground smooth prior to finishing.

A heavy duty rubber isolation material shall be provided between dissimilar metals during the mounting process. The substructure shall be painted before mounting to the chassis frame.

One (1)
17-10-3000 Side Operated Pump Panel (LSMC)

SIDE OPERATED PUMP PANEL

The pump operator's control panel shall be located on the left side of the pump module.

PANELS

The pump panels shall be removable.

TRIM RINGS

All suction and discharge ports shall be fitted with removable polished stainless steel trim rings.

GAUGES AND CONTROLS

All controls and gauges shall be functionally grouped and installed to allow easy access for service and replacement.

One (1)
17-10-5200 Gauges (and/or flowmeters if present) shall be located as nearly adjacent to the valve control as possible.
Side Pump Panels - Brushed Stainless Steel

SIDE PANELS

The pump compartment module shall have left and right side pump panels constructed of brushed stainless steel sheets. The side pump panels shall be removable.

One (1)
17-30-1500 Stainless Upper Gauge Panel - Vertical Hinge (Left)

GAUGE PANEL - STAINLESS STEEL

The pump operator's upper gauge panel shall be located on the left side of the pump module above the main control panel. It shall be constructed from brushed stainless steel. It shall be vertically hinged and shall have two latches.

One (1)
17-30-2500 Stainless Upper Access Panel - Vertical Hinge (Right)

ACCESS PANEL - STAINLESS STEEL

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There shall be a hinged upper access panel located above the main pump panel on the right side of the pump module. It shall be constructed from brushed stainless steel. It shall be vertically hinged and shall have two latches.

One (1)
17-35-2000
Color Coded Pump Labels

COLOR CODED LABELS

A set of color coded and function described labels shall be provided on the apparatus for the pump operator's controls, gated inlets, discharge outlets, drains, and pressure gauges (as applicable). The labels shall be a high quality plastic material with a durable adhesive on the back.

One (1)
17-32-1000
Light Shield - Left Pump Panel

PUMP PANEL LIGHT SHIELD - LEFT

One (1) polished, extruded aluminum light shield assembly shall be provided above the left side pump panel area. There shall be a minimum of two (2) weather resistant lights installed within the shield. A switch, located on the pump operator's panel shall be provided to activate the lights.

One (1)
17-32-2200
Pump Compartment Lights (2)

PUMP COMPARTMENT LIGHTS

Two (2) 5" round dome style lights shall be provided inside the pump compartment area. Each shall be switched on the light itself. The lights shall have a minimum 20 candlepower.

One (1)
17-32-3000
Running Boards - Treadplate/Side Panel

RUNNING BOARDS

Running boards shall be installed on each side of the pump compartment module. The running boards shall be constructed of 1/8" embossed fire apparatus bright aluminum treadplate. Each shall be a minimum of approximately 11" deep x the width of the side panel module. The running boards shall have a 1-1/4" upward bend on the inside edge to act as a kick plate.

The aluminum treadplate shall meet recommendations for slip resistant surfaces at the time of proposal.

The running boards shall be attached to a frame mounted outrigger support structure. Each running board to have a 3" downward bend on the front and side faces with a 1" underside return for superior strength.

One (1)
17-33-3300
Discharge Hose Well - Right Running Board

PRECONNECT HOSE WELL

One (1) smooth aluminum hose storage well shall be built into the right side pump compartment running board. Drain holes shall be provided.

One (1)
17-34-6800
Treadplate Cover For Hose Well (1)

ALUMINUM HOSE WELL COVER

There shall be an aluminum cover for the hose well. The cover shall be 1/8" bright aluminum treadplate and shall be hinged with a stainless steel hinge. The cover shall open and swing up toward the pump module. The cover shall latch in the closed position.

One (1)
17-30-2600
Open Bin Access Door

OPEN BIN ACCESS DOOR

There shall be a side hinged, aluminum treadplate door with latch, on the right side open bin, as large as practical.

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One (1)
10-43-0750

Pump System - LSMC 750 Single Stage

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SINGLE STAGE FIRE PUMP (CAFS)

The pump shall be a Darley LSMC single stage pump, rated at 750 GPM.

A split shaft driven centrifugal pump rated up to 750 GPM @ 150 PSI, shall be provided. The pump shall be placed in gear from the chassis cab. The pump shift shall be clearly labeled.

The pump shall have a nickel alloy casing. A bronze, double hubbed impeller, mechanically and hydraulically balanced, shall be installed on a splined stainless steel shaft.

The impeller shaft shall be supported by oil lubricated ball bearings. The pump gear case shall be silent running, with helically cut gears, fully supported by ball bearings, and shall have two (2) replaceable, bronze seal rings.

CAFS COMPATIBLE

The pump transmission shall be designed to accommodate an integrated continuous duty, rotary screw air compressor for CAFS.

One (1)
10-47-1200

Mechanical Seal

DARLEY MECHANICAL SEAL

The pump shall be furnished with a Darley maintenance free mechanical seal. The mechanical seal shall be a non-contacting, non-wearing dual seal design. The lip seal eliminates leakage on a wet pump while parked on standby. The second seal shall allow a drip rate for cooling and lubrication while pumping.

One (1)
10-90-0700

U.L. Certification 750 GPM

U.L. CERTIFICATION - 750 GPM

The fire pump shall meet and perform the following tests to receive a U.L. Certification.

100% of rated capacity at 150 PSI net pump pressure
100% of rated capacity at 165 PSI net pump pressure
70% of rated capacity at 200 PSI net pump pressure
50% of rated capacity at 250 PSI net pump pressure
Pump Shift (Air) Air Add On Package Required

One (1)
11-00-2000

PUMP SHIFT

One (1) air powered pump shift shall be installed in the cab. The shift shall engage the fire pump. The apparatus pump shift shall be engaged only when apparatus is in a stationary position and the parking brake is engaged. The following indicator lights shall be included with pump shift.

A green indicator light labeled "**PUMP ENGAGED**" shall indicate pump shift has successfully been completed.

A green indicator light labeled "**OK TO PUMP**", shall indicate the chassis transmission is in pump gear and parking brake is engaged.

One (1)
11-00-4100

Air System Package (Pump) For Non Air Chassis

AIR SYSTEM PACKAGE (Pump)

An air package shall be installed on the chassis to provide air for the pump shift.

One (1)
10-44-3000

Anodes For Pump - (2) - LDM/EM/N -

PUMP ANODES

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The pump shall be supplied with two (2) anodes for corrosion protection. The anodes shall be mounted at a 3/4" tap location on the pump manifolds. One (1) anode shall be mounted on the suction side of the pump and one (1) anode on the discharge side of the pump.

One (1)
10-48-5700
Pump System Lock-Up On Chassis Transmission

TRANSMISSION LOCK-UP DEVICE

The automatic chassis transmission shall be delivered to the body builder with high gear lock up device installed on the automatic transmission, to allow proper gear ratio for pump operation. The transmission shall be programmed by the chassis manufacturer to include this feature.

One (1)
10-49-0100
Driveline Modification - Pump Installation

DRIVELINE MODIFICATION

The chassis driveline shall be modified to accommodate any changes required by the installation of the fire pump.

One (1)
11-00-0000
Pump Operation DVD

PUMP OPERATION DVD

One (1) DVD explaining proper fire pump operating procedures and maintenance for the fire pump shall be included upon delivery. This DVD shall be produced and provided by the same company that manufactures the fire apparatus.

One (1)
11-00-5000
CAFS Air Compress Shift - Dash Mount (Elec/Air)

AIR COMPRESSOR SHIFT

An electric over air powered (CAFS) air compressor shift shall be installed to engage the air compressor complete with indicator lights located on the cab dash. The air compressor shift shall include an interlock system, installed to eliminate the possibility of improperly shifting the air compressor while the water pump is rotating. The air compressor can be engaged only when the water pump is disengaged and the apparatus is in a stationary position.

One (1)
11-01-2000
Primer - Fluidless - (1) Electric

ELECTRIC PRIMER (FLUIDLESS)

One (1) 12V positive displacement type rotary vane primer of a fluidless design shall be provided for the fire pump priming system

A single, push-pull control shall be located on the pump operator's panel with a "Pull to Prime - Push To Close" label. The primer shall not require a lubrication tank. The priming pump shall be constructed of heat treated aluminum and hard coat anodized.

One (1)
11-01-2800
Primer "ON" Light

The pump priming system shall include a light to indicate when the pump priming system has been activated. The light shall be red in color and shall be labeled "WARNING - Primer Engaged".

One (1)
17-64-5200
Pressure Governor - FRC PumpBoss

PRESSURE GOVERNOR

One (1) Fire Research PumpBoss pressure governor shall be provided.

The PumpBoss governor shall have a 4-digit LED display for engine RPM, three LED bar graphs providing a constant display of the engine oil pressure, engine coolant temperature, and battery voltage.

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The PumpBoss shall have a message display that shows the pressure or RPM setting during normal operations and fault warning alarms as they occur. When selected by the operator it shall show information, stored data, and program options.

STANDARD FEATURES

- J1939 Databus for Engine Control (Newer Engines Only)
- Always Starts From IDLE RPM
- Large RPM Display
- Three Bi-Color LED Bar Graphs
- PSI/RPM Setting Shown on a Dot Matrix Message Display
- CHECK and STOP ENGINE Warning LEDs
- Interlock Signal Recognition
- Records Date and Time of Warning Alarm Occurrences
- Red IDLE Button - Brings the Engine to idle RPM Quickly
- Large Control Knob - Easy to Operate with a Gloved Hand
- Gauges - 4-1/2" Master Pressure & Intake Gauges

One (1)
17-42-2250

4-1/2" MASTER PRESSURE GAUGE

A 4-1/2" liquid filled master pressure gauge with stainless steel bezel shall be provided, reading from from -30" Hg. to 600 psi. It shall be accurate to within 1%. The gauge shall have a black face with white markings. The gauge shall be located on the pump operator's panel.

4-1/2" MASTER INTAKE GAUGE

A 4-1/2" liquid filled master intake gauge with stainless steel bezel shall be provided, reading from -30" Hg. to 600 psi. It shall be accurate to within 1%. The gauge shall have a black face and white markings. The gauge shall be located on the pump operator's panel.

One (1)
11-02-4000

Relief Valve - Elkhart Intake

INTAKE RELIEF VALVE

One (1) bronze, Elkhart intake relief valve shall be provided and mounted on the suction side of the pump, adjustable from 50-250 psi, on the valve itself. The valve shall be factory preset at approximately 125 psi. The system does not include an on/off control.

One (1)
11-04-1000

Heat Exchanger & Heated Pump Core System

HEAT EXCHANGER & HEATED PUMP CORE

An automatic heat exchanger system shall be provided in the pump. Antifreeze from the vehicle engine shall flow through the pump core jacket. Water flow from the fire pump shall be used to cool the engine antifreeze. This feature shall assist against the pump freezing in cold climates.

One (1)
11-11-1000

Master Drain - Isolated Rotary Type

MASTER DRAIN

One (1) rotary style master drain shall be installed on the lower portion of the side control panel. It shall be of brass construction and use a rotary screw mechanism against a rubber sealing surface. Each port shall be isolated. An "open and closed" label with arrows indicating direction shall be installed.

One (1)
11-11-5000

Individual 1/4 Turn Drains

1/4 TURN DRAINS

Each gated 1-1/2" or larger inlet and discharge shall have a quarter turn drain valve installed. The drain

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valves shall be located along the bottom on each pump panel. Inlets & discharges shall be plumbed to each drain at the lowest point. Each drain shall be plumbed with low pressure hose to drain below bottom of the apparatus and be directed away from the pump operator. Each drain valve shall have a T-handle control with a recess in the "T" for a color coded function label.

One (1)
12-01-4000

Main Suction Inlets (4" to 5")

SUCTION INLETS

One (1)
12-03-6000

Suction Inlet - Left Side - 5"

5" LEFT SIDE INLET

A 5" suction steamer inlet with male NH threads shall be provided, on the left side pump panel. A polished stainless steel trim ring shall be provided and installed around opening on pump panel.

The inlet shall have a removable screen.

One (1)
12-05-5200

Suction Inlet Adapter - 5" NST F x 5" Storz 30 deg Elbow

INLET ADAPTER

The inlet shall have a Kochek model SKE 5" NSTF LH swivel x 5" Storz 30 degree elbow with blind cap with cable provided and installed.

One (1)
12-03-6600

Suction Inlet - Right Side - 5"

5" RIGHT SIDE INLET

A 5" suction steamer inlet with male NH threads shall be provided, on the right side pump panel.

The inlet shall have a removable screen.

One (1)
12-04-2000

Suction Inlet Cap (With Logo)

INLET CAP

The inlet shall have a polished chrome cap, engraved with the pump manufacturer's logo and name. The logo and name shall be painted with a high quality urethane paint.

One (1)
17-35-1000

Pump ID Plate On Panel

PUMP PANEL ID PLATE

An identification plate, prepared by the fire pump manufacturer, shall be installed on the pump operator control panel to identify the fire pump serial number, model number, and performance.

One (1)
17-35-1200

Warning - Pump Operator

WARNING - PUMP OPERATOR

A warning plate shall be installed on the pump operator's panel, that states the following:

WARNING: Death or serious injury might occur if proper operating procedures are not followed. The pump operator as well as individuals connecting supply or discharge hoses to the apparatus must be familiar with water hydraulics hazards and component limitations.

One (1)
11-10-1000

Plumbing System - General - Pumper

PLUMBING SYSTEM

The plumbing system shall consist of hard piping, or flexible high pressure hose with stainless steel ends, as deemed necessary for the application. Upon completion, the entire system shall be fully pressure

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tested.

The plumbing and valve arrangement shall be capable of delivering water to the pump at a minimum flow rate of 500 GPM while pumping at 150 psi pressure.

Each gated intake shall be equipped with a 3/4 inch bleeder valve located in close proximity to the intake. All intakes shall be provided with suitable closures (valves or caps) capable of withstanding 500 PSI.

When any 3" or larger intake or discharge is gated (except tank to pump valve), the valve shall have a mechanism to allow the valve to fully open or fully close no faster than 3 seconds.

Any 2-1/2" or larger discharge outlet, mounted 42" or higher from ground, which hose is to be connected, and which is not in a hose storage area, shall be supplied with a sweep elbow of at least 30 degrees.

All 1-1/2" and larger intakes and discharges shall be equipped with drains. All drain valves shall be operational without the operator having to get under the apparatus. All drains shall be detailed elsewhere in these specifications.

All discharges and intakes shall terminate with chrome NST adapters, with chrome caps and chains, unless detailed otherwise in these specifications.

One (1)
12-07-1000

Suction(s) - 2-1/2" Left - Darley (Side Control)

2-1/2" SUCTION(S) - LEFT SIDE (Darley)

One (1) 2-1/2" brass suction valve(s) shall be installed on the left pump panel with the valve body mounted behind the pump panel. The control handle(s) shall be the quarter turn ball type, of the fixed pivot design, and located along side the suction valve.

The suction(s) shall terminate with a 2-1/2" female NST chrome inlet swivel, a chrome male plug, chain, and a brass inlet strainer.

One (1)
12-13-1000

The valve(s) shall be Darley brand with a polished stainless steel ball.
Rear Suction - 2-1/2" (Manual)

2-1/2" REAR SUCTION

One (1) 2-1/2" suction shall be provided at the rear of the apparatus with 2-1/2" pipe and valve. It shall terminate with a chrome 2-1/2" female NST adapter, chrome male plug, and chain. The 2-1/2" valve shall be manually operated with a control at the pump operator's panel.

One (1)
12-18-0500

Tank To Pump 3" (Manual)

TANK TO PUMP LINE (MANUAL)

One (1) 3" tank to pump line shall be provided for connection between the water tank and the fire pump. The valve shall be a 3" bronze, quarter turn ball type. The valve shall be manually controlled from the pump operator's panel.

One (1)
12-19-2000

Integral Check Valve

TANK TO PUMP CHECK VALVE

The Darley fire pump suction inlet manifold shall be provided with an integral tank to pump check valve. The check valve shall be designed to automatically open when drafting from an onboard water tank, and close if the pump suction receives water pressure from an outside source.

One (1)
13-01-2000

Tank Fill - 2" (Manual)

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2" TANK FILL

One (1) 2" pump to tank fill shall be provided with a 2" inline bronze valve. The valve shall be manually controlled and properly labeled at the pump operator's panel.

One (1)
14-03-2500

Darley AutoCAFS I - 120 CFM Package (LSMC)

AUTOCAFS - COMPRESSED AIR FOAM SYSTEM

There shall be provided, a high energy, automatic compressed air foam system (AutoCAFS). The system shall be designed to meet all applicable NFPA requirements. It shall be sized to provide at least 240 gallons per minute water flow and 120 cubic feet per minute air flow at 125 PSI.

The air compressor shall be a high quality, industrial rated, modulating, continuous duty, rotary screw design. The air compressor shall be mechanically gear driven by the main pump split shaft transfer case and shall be so designed as to provide optimum performance at 70% of rated engine RPM.

The air compressor gear train shall provide a means to engage and disengage air compressor as required.

The air compressor system shall include a pressurized oil lubrication system, oil separator, oil filter, inlet air filter, and modulating inlet air control. The air compressor shall be provided with an (Auto/Manual) air pressure control valve located at the panel to permit either automatic balancing of air to water pressure for CAFS use or, if desired, manual air pressure adjustment for operating air tools at idle. The air compressor system shall also have mounted on the panel a compressor engaged light, hydraulic oil temperature gauge, and a high temperature oil warning light/buzzer.

Flow and pressure gauges shall be provided to monitor CAFS system total air and water discharge conditions. Gauges and controls shall be positioned and clearly marked so as to provide simple and easy operation.

Each of the components of this Automatic Compressed Air Foam System - (air compressor, drive system, foam proportioner, control and instrumentation system) shall be sized, driven and controlled to produce a well operating and reliable CAFS unit.

This automatic compressed air foam system (AutoCAFS) shall be completely installed and tested before delivery by the factory.

FOAM OUTLETS

The compressed air foam system shall be plumbed to provide both foam solution and compressed air to the specified discharges. Detailed descriptions of these discharges shall be provided elsewhere in these specifications.

One (1)
11-00-5000

CAFS Air Compress Shift - Dash Mount (Elec/Air)

AIR COMPRESSOR SHIFT

An electric over air powered (CAFS) air compressor shift shall be installed to engage the air compressor complete with indicator lights located on the cab dash. The air compressor shift shall include an interlock system, installed to eliminate the possibility of improperly shifting the air compressor while the water pump is rotating. The air compressor can be engaged only when the water pump is disengaged and the apparatus is in a stationary position.

One (1)
14-10-3500

CAFS Air Pressure Gauge

CAFS AIR PRESSURE GAUGE

The compressed air foam system shall utilize an air pressure gauge. It shall be installed on the operator control panel. This CAFS gauge shall be installed by the CAFS pumping system manufacturer.

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One (1)
14-10-4500

CAFS Pressure Control - Mounted On Panel

The compressed air foam system shall utilize an air pressure control system. The system includes a 1/4 turn auto/manual selector valve and an adjustable pressure regulator. It allows the pump operator to choose between automatic air pressure balancing of air and water pressure or manual regulating of the air compressor pressure. It shall be mounted on the pump operator's control panel near the air pressure gauge.

One (1)
14-12-1000

Air Outlet - 1/4" - CAFS

AIR OUTLET 1/4" CAFS SUPPLY

There shall be a brass 1/4" female air hose quick disconnect fitting mounted on the right side pump panel. The fitting shall be connected to the apparatus CAFS air compressor. There shall be an adjustable regulator installed to provide compressed air to the side panel. A male quick disconnect fitting shall also be supplied.

One (1)
14-14-1000

CAFS Operation Manuals

CAFS OPERATORS MANUALS

Two (2) CAFS, compressed air foam system, instruction manuals shall be provided upon delivery. The manuals shall be a guide for operation and maintenance of the CAFS, and shall be as prepared and supplied by the apparatus and CAFS manufacturer.

One (1)
14-14-2500

Proposal - CAFS In Service Requirements

CAFS IN SERVICE REQUIREMENTS

The Darley Company is the leader in compressed air foam technology. Darley has CAFS systems throughout the United States and around the globe, operating successfully and effectively.

A listing of CAFS customers names with addresses, phone numbers, contact persons, and in service dates is available upon request.

One (1)
14-14-2800

Proposal - CAFS Test/Demo/Manual Requirements

CAFS TESTING - DEMONSTRATION - MANUALS

Every Darley compressed air foam system is tested and run for a minimum of eight (8) hours prior to delivery. After testing is completed, the foam system and CAFS oil system strainers are removed and flushed. The system is then tested once again to ensure all strainers, fittings, and components are installed properly.

Demonstration for proper operation and maintenance is provided for the Purchaser's designated personnel at a location mutually agreed upon between the Purchaser and Darley.

One (1)
14-20-2000

Two (2) manuals for the CAFS pumping system are provided upon delivery.
FoamPro 2001 (For Single Tank) (CAFS)

FOAM PROPORTIONER (2001 System)

A FoamPro 2001 Class A automatic, electronic, direct injection, foam proportioning system shall be installed on the discharge side of the pump. It shall provide foam to predetermined foam discharge(s). This foam system is completely automatic and requires only one push button to turn it on before the system is functioning.

The system shall incorporate a paddle wheel flow meter to measure the water flow, and based on the foam percentage selected at the controller the direct injection pump shall inject the proper amount of foam into

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the foam discharge(s).

The system is capable of providing precise foam solution concentration rates from 0.1% to 3%, and is operator adjustable with the push button digital display control.

System Capacity - Foam Pump is capable of 2.5 gpm of foam output @ 150 psi. Pump motor is 1/2 HP 12 volt.

Foam Concentration.....Water Flow Range

0.1%.....	20-2600 gpm
0.2%.....	20-1300 gpm
0.3%.....	20-833 gpm
0.5%.....	20-520 gpm
1.0%.....	20-260 gpm
3.0%.....	20-85 gpm

A check valve shall be installed between the flowmeter and the injection fitting to avoid foam contamination back into the rest of the pump.

System Features: Four (4) selectable modes for operator information:

1) Flow mode: Displays the total amount of water being flowed out of the foam discharge(s). Foam system need not be enabled to function in this mode.

2) Total Water mode: When selected shows the total amount of water flowed out of the foam discharge(s) since the unit was in operation.

3) Foam Percentage % mode: When selected shows the percentage rate that foam is being injected at if the system was turned on. This percentage can be changed by pressing the up or down arrow buttons at the bottom of the display.

4) Total Foam mode: When selected shows the total amount of foam that has been injected since the unit was turned on.

System shall be provided with a low foam tank level switch which shall alert operator of low foam concentrate level and shall automatically shut unit off after two minutes.

Foam system flushing is achieved by simply turning off the unit and flowing water out of the discharge(s) that were previously flowing foam solution.

System shall be completely installed inside pump compartment, with digital control unit and instruction plate mounted on the pump operators control panel. An installation and operation manual shall be included with the system, and a one year warranty shall also be provided. The system shall be installed by a certified FoamPro dealer only, and shall be fully calibrated and tested for proper operation prior to delivery.

One (1)
15-20-0300

Discharge - One (1) 2-1/2" Left Side - Darley

2-1/2" LEFT SIDE DISCHARGE (Darley)

One (1) 2-1/2" discharge outlet with 2-1/2" pipe and valve and chrome NST threads shall be supplied at the left side panel. The valve shall be a quarter turn ball type, self locking, fixed pivot design and shall be operated with a lever control from the operator's panel.

One (1)

The valve shall be Darley bronze valve with a high polished stainless steel ball.
Discharge Elbow - Chrome (1) (1-1/2" - 3")

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15-50-6100

The valve shall have a chrome 30 degree elbow, with a chrome cap and a stainless steel retaining chain.
Gauge - 2-1/2" Dia. Press -30 to +600

One (1)
17-42-3200

PRESSURE GAUGE

A 2-1/2" liquid filled gauge with a stainless steel bezel shall be provided for the discharge. The gauge shall be located on the pump operator's panel near the discharge control.

One (1)
15-30-0400

Discharges- Two (2) 2-1/2" Right Side - Darley

2-1/2" RIGHT SIDE DISCHARGES (Darley)

Two (2) 2-1/2" discharge outlets with 2-1/2" pipe and valve with chrome NST threads shall be supplied at the right side panel. Each valve shall be a quarter turn ball type, self locking, fixed pivot design and shall be operated with a lever control from the pump operator's panel.

One (1)
15-50-6150

Each valve shall be Darley bronze valve with a high polished stainless steel ball.
Discharge Elbows - Chrome (2) (1-1/2" - 3")

One (1)
17-42-3300

Each valve shall have a chrome 30 degree elbow, with a chrome cap and a stainless steel retaining chain.
Gauge - 2-1/2" Dia. Press -30 to +600 (2)

PRESSURE GAUGES

Two (2) 2-1/2" liquid filled gauges, each with a stainless steel bezel shall be provided, one for each discharge. The gauges shall be located on the pump operator's panel near the respective discharge control.

One (1)
15-68-2500

Crosslays - Two (2) 1-3/4" - 2" Plumb (CAFS)

TWO CROSSLAYS (CAFS)

Two (2) 1-3/4" crosslays shall be installed above the pump. Each crosslay shall have capacity for 200 ft. of 1-3/4" double jacket fire hose. The crosslays shall each have 2" plumbing and 2" self locking valve and terminate with a 2" NPT x 1-1/2" NST chicksan type swivel up through the center of the crosslay flooring. The swivels shall allow hose out either side of the crosslay.

The outside edges of each side opening shall be trimmed with polished stainless steel. A manual control shall be furnished at the pump operator's panel for each.

Each crosslay shall be piped, including required check valves and 1/4 turn air flow injection valve, to provide water, foam, or compressed air foam.

One (1)
15-69-3605

FRC Jack Strap (2)

HOSE STRAPS

Two (2) Fire Research JackStraps shall be provided; designed to attach hose ends to the apparatus, to help prevent fire hose from inadvertently coming off the apparatus while responding to or returning from an incident.

The JackStraps shall be made of heavy duty 2-inch wide polypropylene webbing. An adjustable hose loop shall fit on supply and working hose from 1-1/2 to 5 inches. A separate shoulder loop shall help the firefighter when pulling a supply line or help support a working hand line. When used on a hydrant line, the shoulder loop shall be capable of firmly holding hose to the hydrant during a hose stretch. There shall be a side pocket on the shoulder loop to hold a hydrant tool.

One (1)

Gauge - 4" Dia. Press & Flow Meters (2)

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17-42-8600

GAUGES-FLOWMETERS

Two (2) 4" combination analog pressure gauge and digital flow meters shall be provided, one for each discharge. The gauges shall be located on the pump operator's panel near the respective discharge control.

One (1)
15-69-3000

Cover - Aluminum Crosslay

ALUMINUM CROSSLAY COVER

There shall be an aluminum cover for the crosslay(s). The cover shall be constructed of a minimum of 1/8" aluminum tread plate and be hinged with a stainless steel knuckle hinge. The cover shall be hinged to open toward the chassis cab. The cover shall have a hold down system that shall hold the cover down. A rubber type bumper shall be used to protect the cab paint from the cover.

One (1)
15-76-2300

Preconnect - One (1) 2-1/2" - Right Front Bed (CAFS)

RIGHT FRONT HOSEBED PRECONNECT (CAFS)

One (1) 2-1/2" preconnect with 2-1/2" pipe and 2-1/2" self-locking valve shall be piped to the right front of the hosebed. The preconnect shall terminate with a chrome 2-1/2" adapter. The preconnect shall be controlled manually at the operator's panel.

The preconnect shall be piped, including required check valves and 1/4 turn air flow injection valve, to provide water, foam, or compressed air foam.

One (1)
17-42-8500

Gauge - 4" Dia. Press & Flow Meter

GAUGE-FLOWMETER

A 4" combination analog pressure gauge and digital flow meter shall be provided. The gauge shall be located on the pump operator's panel near the discharge control.

One (1)
17-34-1200

Recessed Dunnage Above Pump (One Piece Remove)

DUNNAGE AREA

A recessed, removable dunnage (storage) compartment shall be provided above the pump compartment and shall be full width of the pump compartment. The compartment shall be smooth aluminum material and shall be one piece. It shall be removable if needed.

One (1)
17-41-7010

Water Level Gauge - FRC Tank Vision - Operator Panel

WATER LEVEL GAUGE

One (1) Fire Research "**TankVision**" water tank level gauge shall be installed on the pump operator's panel. The gauge shall have an LED display, which flashes when the tank level reaches 25% of capacity. A built in calibration system shall allow a bottom tank mounted transducer to be mounted with any tank configuration.

One (1)
17-41-7200

Foam Level Gauge - Fire Research - Tank Vision

FOAM LEVEL GAUGE

One (1) Fire Research electronic "**Tank Vision**" foam tank level gauge shall be installed on the pump operator's panel. The gauge shall have a LED display which flashes when the tank level reaches 25% of capacity. A built in calibration system shall allow the two transducers to be mounted with any tank configuration.

One (1)
19-00-5100

Vision - Initial Attack POLY Body Const (General)

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WATER TANK, FIRE BODY & RELATED COMPONENTS

BODY CONSTRUCTION

The body and water tank shall be fabricated using special high strength copolymer materials; providing a durable, impact resistant, corrosion resistant, and lightweight design.

One (1)
19-01-0425

NON INTEGRAL CONSTRUCTION

BODY CONSTRUCTION

The body shall be fabricated using special high strength copolymer materials; providing a durable, impact resistant, corrosion resistant, and lightweight design.

One (1)
31-03-0100

Vision Series Body Construction (Detailed)

COPOLYMER PUMPER BODY CONSTRUCTION

The body shall be fabricated using special high strength, copolymer sheet materials, providing a durable, impact resistant, corrosion resistant, and lightweight body. The body shall be fabricated using Aristech TI-4007-L copolymer (or equal) extruded sheets. Sheet thicknesses shall be 3/8", 1/2" and 3/4". All seams shall be welded. All outside corners on body shall have a minimum 1/2" radius. The entire body shall be a welded one piece module, assembled and painted prior to mounting on the subframe and the chassis.

Due to the importance of the strength and impact resistance of the copolymer material, there shall be no exception to these requirements.

Only builders who can show examples of previous copolymer constructed bodies shall be accepted.

One (1)
31-19-1500

Rear Tow Eyes - Frame Mounted (2)

REAR TOW EYES

Two (2) heavy duty laser cut steel tow eyes, 1/2" thick with a 3" I.D. cutout, shall each be bolted to the rear chassis frame rails with two 3/4" grade 8 bolts. The tow eyes shall extend through the rear panel (or into the back wall of the rear compartment, if present).

The tow eyes shall be painted black unless specified otherwise.

One (1)
31-24-3050

Vision Body - Compt Construction

COMPARTMENT CONSTRUCTION

The compartments, including the floors, shall be constructed of the same heavy duty smooth copolymer material as used for the body. All seams shall be completely welded. Divider walls between compartments shall be single wall construction with a minimum wall thickness of 3/8". Compartment floors shall be a minimum of 1-1/8" thick and shall have a minimum of a 3/4" lip above bottom of the door opening, providing a sweep out design.

All compartment door opening lips shall be protected with polished stainless steel trim.

For adequate ventilation and air displacement, each compartment shall be properly louvered with square black heavy plastic vents

The forward wall of the front compartments, and rearmost wall of the rear compartments, shall have removable panels, constructed from the same body material, to cover and protect all 12 volt electrical accessories mounted on the walls. The panels shall be removable to provide access to those components.

Compartment interiors shall be provided in a natural unpainted finish.

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One (1)
31-30-1000 Vision Body - Fenders and Liners

FENDER PANELS

Side fender panels above the rear wheels shall be heavy duty smooth copolymer material. Each shall be painted the same color as the exterior body.

FENDER LINERS

Copolymer fender liners shall be welded into the wheel well area, above the rear wheels. Adequate clearance shall be provided for the installation of single tire chains. The inner liners shall be textured black copolymer material.

One (1)
31-40-0300 FRC Jack Strap (Each)

HOSE STRAP(S)

One (1) Fire Research JackStrap(s) shall be provided; designed to attach hose ends to the apparatus, to help prevent fire hose from inadvertently coming off the apparatus while responding to or returning from an incident.

The JackStrap shall be made of heavy duty 2-inch wide polypropylene webbing. An adjustable hose loop shall fit on supply and working hose from 1-1/2 to 5 inches. A separate shoulder loop shall help the firefighter when pulling a supply line or help support a working hand line. When used on a hydrant line, the shoulder loop shall be capable of firmly holding hose to the hydrant during a hose stretch. There shall be a side pocket on the shoulder loop to hold a hydrant tool.

One (1)
31-40-1050 Vision Hose Bed Interior (Attack)

HOSE BED CONSTRUCTION

The hose bed walls shall be of the same copolymer material as the body, reinforced at the corners. The upper, outer edges shall have a solid tube type design for strength and stiffness. The hose bed shall be free from all projections, which may interfere with the unloading of hose.

One (1)
31-41-1155 Hose Bed Capacity

HOSE BED CAPACITY

The hose bed shall have the capacity for the following hose load:

- 300 ft of 4" hose
- 200 ft of 2-1/2" hose
- 200 ft of 2-1/2" hose

One (1)
31-42-4250 Vision Hose Bed Floor (Attack Body) Generic

HOSE BED FLOORING

A hose bed floor shall be provided to allow passage of air between the hose and the booster tank.

Two (2)
31-43-1500 Hose Bed Divider(s) - Adj. Poly

HOSE BED DIVIDER(S)

Two (2) adjustable copolymer hose bed divider(s) shall be provided and installed in extruded tracks to allow adjustment from side to side for alternate hose capacities. The divider(s) shall have a textured black finish, and shall have a radius corner on the rear portion.

Two (2)
31-46-6015 FRC Jack Strap (Each)

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HOSE STRAP(S)

Two (2) Fire Research JackStrap(s) shall be provided; designed to attach hose ends to the apparatus, to help prevent fire hose from inadvertently coming off the apparatus while responding to or returning from an incident.

The JackStrap shall be made of heavy duty 2-inch wide polypropylene webbing. An adjustable hose loop shall fit on supply and working hose from 1-1/2 to 5 inches. A separate shoulder loop shall help the firefighter when pulling a supply line or help support a working hand line. When used on a hydrant line, the shoulder loop shall be capable of firmly holding hose to the hydrant during a hose stretch. There shall be a side pocket on the shoulder loop to hold a hydrant tool.

One (1)
31-46-0550

No Hose Bed Cover Required

HOSE BED COVER (NONE REQUIRED)

There is no hose bed cover required on this apparatus.
Vision Body - Fasteners

One (1)
31-50-0100

FASTENERS

All fasteners used to mount or secure components to the body shall be of stainless steel construction. Items fastened directly into the copolymer shall use sheet metal screws, stainless steel T-nuts or threaded brass inserts, depending on application. Upon request by the department, the manufacturer shall be required to provide a sample of the fasteners to be used in the body construction.

One (1)
31-51-0575

Vision Body - Treadplate & Trim (Initial Attack)

TREADPLATE AND TRIM

All treadplate shall be bright aluminum. Any horizontal surfaces with aluminum treadplate shall be overlaid with embossed 1/8" bright aluminum treadplate. The aluminum treadplate shall meet recommended requirements for non slip surfaces.

One (1)
31-70-1100

Rubrail - Black Rubber - Initial Attack

RUBRAILS

Rubrills shall be installed using solid black rubber material designed to help protect the lower body and cushion against accidental contact. Each shall be mounted below the lower side compartments. Each end shall have a hard black rubber end cap.

One (1)
31-80-0050

There shall be bright polished scuff strips mounted between the body surface and the rub rails.
NO Left Front Body Steps Required

NO LEFT FRONT BODY STEPS

One (1)
31-80-2050

There are no access steps provided on the left front body face of this apparatus.
NO Right Side Front Steps Required

NO RIGHT FRONT BODY STEPS

One (1)
31-80-4300

There are no access steps provided on the right front body face of this apparatus.
Folding Steps At Rear (4) (Two Each Side)

REAR FOLDING STEPS

Four (4) large, heavy duty chrome folding steps shall be furnished and located, two each side, at the

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One (1)
31-92-0100 apparatus rear. There shall be a barrier material installed between the body surface and the steps.
No Rear Vertical Handrails Rqd (See Telescoping Lights)

NO REAR VERTICAL HANDRAILS (See Telelights)

One (1)
31-92-4200 There shall be no separate vertical handrails provided at the rear. The telescoping telelights specified at the rear shall be ordered with the NFPA handrail hand grip surface built into the telescoping pole.
Rear Crossrail - Horizontal (1)

HORIZONTAL REAR CROSSRAIL

One (1)
20-03-5100 One (1) horizontal rear crossrail shall be provided at the upper rear portion of the rear body panel. The rail shall be the approximate width of the rear body, between the width of any side compartments. It shall be 1-1/4" extruded aluminum tubing with rubber grip inserts, mounted in chrome stanchions. There shall be a barrier material installed between the body surface and the handrail.
300 Gallon Tank - Poly

300 GALLON TANK - COPOLYMER

Booster tank shall be constructed of a CoPolymer, material properly baffled.

The tank shall be provided with at least one (1) full length swash partition (baffle) and a sufficient number of widthwise baffles so that the maximum dimension of any spaces in the tank, either transverse or longitudinal, shall not exceed 46", and not less than 23".

Baffles shall have openings at both the top and bottom to permit movement of air and water between spaces to allow maximum flow requirements. Baffles shall form an integral part of the tank, and design shall be to provide and maintain safe road stability regardless of water level.

Tank shall have an overflow designed to prevent damage to the tank under high flow conditions and enclosed in front tank filler. The overflow is to be designed and located to prevent water loss on fast stops or starts, and is also to be located not to affect traction on the rear tires.

Tank outlet connection shall be designed with a 12" anti swirl baffle plate above tank outlet to prevent air from mixing with the water when pumping from the tank.

A fill tower shall be installed in the tank top. It shall be of adequate size, minimum 10" X 10", to accommodate overflow and vents, to have a hinged cover and screen installed.

One (1)
21-10-2000 The tank shall be mounted to the chassis frame, per manufacturer's requirements.
Foam Tank - 25 Gallon Integral Poly (1)

FOAM TANK

One (1) 25 gallon foam tank shall be provided, integral with the water tank and shall have a rectangular fill tower, approximately 10" x 10", with a hinged cover and a removable screen. A tank drain shall be provided inside the pump compartment.

One (1)
31-12-0375 Vision Body - Subframe (Initial Attack) CoPoly

SUBFRAME

The body shall be attached to and supported by a heavy duty, spring loaded, steel subframe bolted to the truck frame. The subframe shall be spring mounted to the chassis frame to allow for independent flexing of the body in relation to the chassis frame. The subframe shall be constructed from structural steel angle and C-channels. The subframe shall be completely powder coated prior to installation of the subframe on the

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chassis. No welding shall be allowed to the truck frame. Rubber isolator strips shall be installed at all contact points between body and subframe.

Due to the importance of the subframe flexibility and corrosion resistance, there shall be no exception to these requirements.

One (1)
31-31-1000

Vision Body - Fenderettes - Anodized Aluminum - Single Axle

FENDERETTES

Bright anodized aluminum fenderettes shall be bolted to the wheel well openings.

One (1)
31-61-2200

Tailboard - Vision Body - Initial Attack (Recessed)

REAR TAILBOARD

The rear tailboard shall be bolted to a heavy duty steel support assembly attached to the chassis frame. The rear tailboard shall be approximately 14" deep and constructed of embossed fire apparatus quality bright aluminum treadplate with a "DiamondBack" extruded aluminum punched deck plate inset (or equal). The insert and aluminum treadplate shall meet recommended requirements for non-slip surfaces.

A section of the tailboard shall be full width between the extended side compartments, and shall be approximately 10" deep. The outside portions shall extend full width of the apparatus behind the body side compartments, approximately 8" deep.

The rear tailboard shall be bolted to the support assembly with a drain gap shall be provided at the rear and each side of the tailboard.

The step height from ground to first step shall not exceed 24".

One (1)
33-01-1140

IA005/8 Midi Initial Attack CoPoly Compt - (84"CA)

COPOLYMER COMPARTMENTS

LEFT SIDE

1.) One (1) compartment ahead of the left side rear wheels, approximately 17" wide x 56" high x 22" deep. The door opening shall be approximately 15" wide x 54" high.

2.) One (1) compartment over the left side rear wheels, approximately 45" wide x 39" high x 22" deep. The door opening shall be approximately 40" wide x 37" high.

3.) One (1) compartment behind the left side rear wheels, approximately 36" wide x 56" high x 22" deep. The door opening shall be approximately 33" wide x 54" high.

RIGHT SIDE

4.) One (1) compartment ahead of the right side rear wheels, approximately 17" wide x 56" high x 22" deep. The door opening shall be approximately 15" wide x 54" high.

5.) One (1) compartment over the right side rear wheels, approximately 45" wide x 39" high x 22" deep. The door opening shall be approximately 40" wide x 37" high.

6.) One (1) compartment behind the right side rear wheels, approximately 36" wide x 56" high x 22" deep. The door opening shall be approximately 33" wide x 54" high.

One (1)
33-07-0140

Initial Attack Rear Compartment IA005/8 (Roll Up Door)

REAR COMPARTMENT

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7.) One (1) compartment at the apparatus rear, approximately 48" wide x 32" high x 22" deep. The door opening shall be approximately 42" wide x 29" high.

One (1)
35-17-0202
The compartment shall have a roll up door.
Brushed Finish Roll Up Door (Rear)

REAR ROLL UP DOOR FINISH

One (1)
35-90-5110
The rear roll up door shall be in a natural aluminum brushed finish.
Door Lock (1) - Rear

REAR DOOR LOCK

One (1)
35-02-1050
One (1) key lock assembly shall be provided for the rear compartment. The lock shall be integral with the door latch assembly, with keys included.
Roll Up Side Doors - IA005-8 Vision Attack

One (1)
35-90-1170
The side compartment door openings shall be fitted with roll-up style doors.
Robinson Roll-Up Door Const (Vision Initial Attack)

ROLL UP DOOR CONSTRUCTION

Robinson brand roll-up style doors shall be provided at the specified door locations.

Each door shall be manufactured in the United States. Replacement parts shall be available within 2-3 working days.

The door slats shall be double wall box frame extrusion. The exterior surface of slat shall be flat and interior surface to be concave to prevent loose equipment from jamming the door. Door slats shall be anodized to prevent oxidation. Door slats to have interlocking end shoes on every slat to be secured by a punch dimple process. The door slats shall have interlocking joints with a folding locking flange. A PVC/vinyl inner seal to prevent any metal to metal contact shall be provided between each slat.

Each track shall be one piece construction with attaching flange and finishing flange incorporated into the design. The flange design eliminates any requirement for additional trim or caulk. Each track shall have a replaceable seal to prevent water and dust from entering the compartment.

Each assembly shall include an aluminum drip rail with a replaceable wiper seal.

Each roll-up door shall have a 4" counterbalance spring in the roller assembly to assist in lifting and help prevent the accidental closing.

One (1)
35-17-0102
A full width lift bar shall secure each door.
Brushed Finish Roll Up Doors (Side)

SIDE ROLL UP DOOR FINISH

One (1)
37-01-1200
The side roll up doors shall be in a natural aluminum brushed finish.
Ladder Brackets - Side Body - Horizontal (Right)

GROUND LADDER BRACKETS

One (1) set of mounting brackets for the specified ground ladders shall be provided on top of the right side apparatus body. Each shall contain spring operated holding devices.

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One (1)
37-01-1250 Ladder Capacity

LADDER STORAGE CAPACITY

The ladder storage area shall accommodate the following ladders:

---One (1) Duo Safety aluminum 20 ft three section ladder

---One (1) Duo Safety aluminum 8 ft folding ladder

One (1)
37-50-7600 Air Bottle Rack - ALUMINUM (4 Bottles)

AIR BOTTLE RACK

An aluminum air bottle shelf designed to hold four (4) SCBA air bottles shall be mounted. It shall consist of two shelves mounted on compartment unistrut type shelf tracks.

The bottle rack shall be a four bottle rack, sized for 6.85 bottles. It shall be a stationary rack, allowing space above to install a shelf.

Each shelf shall have a non-skid top surface to prevent damage to the SCBA bottles.

Seven (7)
38-00-0200 Unistrut Shelving Tracks (Each Compt)

SHELVING TRACKS

Unistrut type tracks shall be provided in seven (7) body compartment(s). The tracks shall be mounted vertically from floor to ceiling. A minimum of four (4) tracks shall be provided for each compartment specified.

Eight (8)
38-02-1100 Adjustable Shelving - CoPoly (Each)

ADJUSTABLE SHELVING

Eight (8) heavy duty adjustable black copolymer shelving shall be provided and installed. The shelving floor and sides shall be constructed from 1/2" black textured copolymer. The sides shall be 3" high and welded to the floor and corners. The top edges shall be rounded to eliminate sharp edges.

One (1)
38-24-3000 CoPoly Roll Out Tray(s) - 500 lb. (Each)

ROLLOUT TRAY(S)

One (1) textured black copolymer 500 lb. capacity rollout tray(s) shall be provided. Each tray specified shall have 3" edges and welded corners, and shall be installed on roller slides. The tray(s) shall lock at the in and out positions.

One (1)
38-47-2300 Hinged Tool Board - CoPoly (Each)

TOOL BOARD (COPOLY)

One (1) two side and hinged tool board shall be supplied and installed.

The tool board shall be mounted in the specified compartment.

The toolboard specified shall utilize a gas shock to hold the tool board in the open and closed positions.

The tool board shall be constructed from 3/4" textured black copolymer sheet. The sheet shall have smooth rounded edges. There shall be a handhold cutout provided, and the edges of the cut out shall be rounded and smooth.

One (1) ---PAINT, STRIPING, AND LETTERING---

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PAINT, STRIPING, AND LETTERING SECTION

One (1)
40-10-1950

Paint Finish - Vision Body (Initial Attack)

PAINT FINISH

The apparatus shall be finish painted with DuPont Chroma system paint. The compartment doors, if painted, shall be painted separately to ensure proper paint coverage on the body edges.

The apparatus shall be prepared and painted using the following procedures.

All surfaces to be painted shall be prepared and cleaned using soap and water. Prep Sol 3919S or Kwik Clean 3949S shall be used to remove any tar, wax, polish and grease.

All surfaces to be painted shall be scuffed using 80-150 grit sandpaper. All surfaces shall receive a final wipe using Lacquer and Enamel Cleaner 3939S followed up with Plastic Prep 2319S.

Two medium wet coats of adhesion promoter for Plastics 2322S shall be applied to all surfaces to be painted.

All surfaces to be painted shall be primed with URO Primer Filler 1140S. The primer mixture shall contain four (4) parts primer, one (1) part Activator 1125S, one and a half (1.5) parts Converter 1130S, and one half (.5) parts Flex Additive 2350S.

Two applications of primer shall be applied. The first application shall be four (4) coats and the second application shall be three (3) coats.

A final application of sealer shall be applied using URO Primer Filler 1140S. The sealer mixture shall contain four (4) parts primer, one (1) part Activator 1125S, two (2) parts Converter 1130S and one half (.5) Flex Additive 2350S.

The base coat shall be Dupont ChromaBase. The paint shall be applied according to DuPont base coat application instructions. The base coat shall be ChromaBase mixed with 5% Flex Additive 2350S.

The clearcoat shall be DuPont ChromaClear. The clearcoat shall be applied according to DuPont clear coat application instructions. The clear coat shall be ChromaClear Multi Use 7500S and mixed with 5% Flex Additive 2350S.

The compartment interiors shall be unpainted and in their natural white finish.

A pint of touch up paint shall be provided for each color used.

A five (5) year warranty from the paint manufacturer shall be included. The warranty shall include 100% product and 100% labor.

Paint Color - Match Chassis

One (1)
40-12-0950

PAINT COLOR

The apparatus body paint shall be "cross referenced" from the chassis paint, and shall be painted to match the main chassis color as close as possible.

Wheel Rims - As Provided with Chassis

One (1)
40-13-4000

WHEEL RIMS

The chassis wheels shall be as furnished by the chassis OEM. No additional finishes shall be provided by

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One (1)
40-14-3020 apparatus manufacturer.
Repaint Small Cab Upper

REPAINT CAB UPPER

The upper portion of the chassis cab shall be repainted. The paint break line shall be just below the bottom of the chassis windows. The paint color shall be provided at order entry.

One (1)
40-20-0100 Lettering - Customer Supplied

LETTERING

The lettering for the apparatus shall be supplied and installed by the Purchaser/End User following payment and delivery of the apparatus.

One (1)
40-25-0200 (*) Reflective Striping - Pmpr/Tnkr - Single Axle

REFLECTIVE STRIPE

To comply with current NFPA standards, reflective striping shall be applied to the side of the vehicle chassis and body on at least 50% of the overall length of the vehicle. At least 50% of the rear and 25% of the front of the vehicle width shall have reflective striping applied.

One (1)
40-25-1000 Striping shall be 3M CONTROLTAC reflective striping (or equal).
4" Reflective Stripe

One (1)
40-25-2100 The stripe shall be a 4" wide reflective stripe
Reflective Stripe Color - BLACK

One (1)
40-25-4000 The reflective stripe color shall be **BLACK**.
Reflective Stripe Design - Straight - NFPA Height

One (1)
40-26-4100 The reflective stripe shall be applied in a straight line along each side of the apparatus. The height of the stripe from the ground to the center of the stripe shall be per NFPA recommendations.
Reflective Material On Cab Door Interiors

CAB DOOR REFLECTIVE MATERIAL

There shall be a minimum of 96 square inches of reflective material installed on the lower interior portion of each cab door.

One (1)
40-26-4125 Reflective On Cab Door Interior (2 Door)

CAB DOOR REFLECTIVE MATERIAL

One (1)
40-26-4330 The reflective material shall be installed on the lower interior portion of the driver and officer cab doors.
Reflective Color - RED/WHITE Chevron Design

One (1)
40-27-8100 The reflective material shall be a striped Chevron design, with alternating **RED** and **WHITE** reflective stripes.
Rear Chevron Striping

REAR CHEVRON STRIPING

There shall be alternating reflective striping provided at the apparatus rear, in a chevron stripe pattern. The stripes shall be a minimum of 4" wide.

The chevron pattern shall slant downward on both sides of the vehicle at an angle of 45 degrees, pointing

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in the direction of the bottom rear corners of the apparatus. The pattern shall resemble an inverted "V", with the point of the chevron pattern at the top center of the apparatus.

One (1)
40-27-8210

Chevron 4" Stripes

CHEVRON STRIPE WIDTH (4")

The chevron stripes shall each be 4" wide.

One (1)
40-27-8310

Chevron Colors - (Red & Yellow)

CHEVRON COLORS

The chevron pattern shall be alternating RED and YELLOW stripes.

One (1)
50-00-0000

---12 VOLT ELECTRICAL SECTION---

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12 VOLT ELECTRICAL SECTION

One (1)
50-00-0720

12V & Multiplex System (Small)

12 VOLT ELECTRICAL SYSTEM (Multiplexing)

MULTIPLEXING

A multiplexed wiring system shall be installed, controlling all electrical functions installed by the apparatus manufacturer. The system shall be driven by "nodes" in key locations around the vehicle.

ELECTRICAL LOAD MANAGEMENT

Electrical Load management shall also be part of this multiplex system, allowing diminished and load shedding capabilities of particular functions.

GENERAL WIRING

Apparatus body wiring shall be high temperature compatible wire, insulated with chemically cross-linked polyethylene and to withstand prolonged temperatures of up to 350 degrees Fahrenheit. The wiring shall be resistant to grease, oil, fluids, and abrasion and shall meet or exceed S.A.E. Certification J1128. It shall be stranded copper alloy conductors of a gauge rated to carry 125% of the maximum current for which the circuit is protected. Wiring not within the multiplexed system shall be individually color coded and function labeled every three (3) inches on the insulation.

All required testing shall be performed before the apparatus is delivered. All required test documents shall be supplied at the time of apparatus delivery.

All wiring for the apparatus shall be installed in accordance with quality electrical standards, protected in loom or conduit. Grommets shall be installed where wire passes through body panels, where applicable.

WIRING DIAGRAMS

Electrical wiring diagrams of the specific apparatus shall be furnished with the completed apparatus. Master & Warning Light Switches - Cab Console (Commercial)

One (1)
50-00-2300

12 VOLT SWITCHES (CENTER CONSOLE)

There shall be a rocker switch panel provided in the cab console between the driver and officer seats.

This switch panel shall control warning lights and 12 volt accessories. The switches shall be rocker style switches. Each switch shall have a pilot light indicating the "on" position. There shall be a main master rocker switch to cut power to all warning light rocker switches. The master switch shall be red in color with a red pilot light. Each switch shall be labeled as to its function.

One (1)
50-01-0100

D.O.T. Running Lights

RUNNING LIGHTS & REFLECTORS

There shall be running lights and reflectors mounted on the body. Lights shall be recessed in the body or rubrails. They shall be along any running boards, body sides, and rear tailboard. The lights and reflectors shall meet USA Federal Motor Vehicle Safety Standard # 108.

One (1)
50-01-0800

License Plate Holder & Light

LICENSE PLATE HOLDER & LIGHT

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A license plate light and holder shall be provided on the rear of the apparatus body. The light shall be wired to illuminate with the parking/headlights.

One (1)
50-02-2100
Tail & Back Up Lights - Whelen 64 4 X 6 LED

REAR DIRECTIONALS

Rear directional lighting shall be supplied as follows:

Two (2) Whelen 6" x 4" LED stop and tail lights, one each side, red lens.

Two (2) Whelen 6" x 4" LED turn signals, one each side, amber lens.

Two (2) Whelen 6" x 4" LED back up lights, one each side, clear lens.
4 Light Bezel For Whelen Directionals

One (1)
50-02-5200

HOUSINGS FOR DIRECTIONALS

The Whelen signal lights shall each be housed in a model CAST4 cast aluminum bezel designed to hold four (4) lights each. The fourth light location shall be utilized for lower rear warning lights.

One (1)
50-03-0200
Step Lights At Rear (One Each Side)

REAR STEP LIGHTS

Two (2) step lights with non-corrosive rubber shock mounting shall be furnished and shall be located, one each side at the apparatus rear to illuminate respective stepping surfaces.

The lights shall be activated with a switch located in the cab.
Step Lights Front Body (One Each Side)

One (1)
50-03-0800

FRONT BODY STEP LIGHTS

Two (2) step lights with non-corrosive rubber shock mounting shall be furnished and located, one each side, at the front face of the apparatus body to illuminate the respective stepping surfaces. The lights shall be activated with a switch located in the cab.

One (1)
50-05-4050
Compt "Strip" Lights (ROM) (Roll Doors) Wildland PolyPak

COMPARTMENT LIGHTING

Each body compartment shall contain one (1) clear vertical strip light assembly, as provided by ROM. Wide and shallow compartments over a wheel well shall have two strip lights, one on each side of the door.

Each light strip provided shall be full height of the compartment. Strip lighting provides uniform light dispersion throughout the compartment even when shelves are installed. The compartment strip lighting shall be automatically activated whenever a compartment door is opened.

One (1)
50-05-5100
Door Open Switch and Warning Light - Roll Up Doors

Each roll up door shall have an integral "door open" indicator magnet in the lift bar. If the bar is not properly closed, it shall activate the "Door Open" light in the cab.

One (1)
50-05-5550
"Do Not Move Apparatus" Light in Cab (IA&Wildland)

"DO NOT MOVE APPARATUS" LIGHT

A flashing red light, properly labeled with the words "Warning - Do Not Move Apparatus When Light is On", shall be located in the cab. The light shall be activated automatically when any cab or body compartment door is opened, as long as the chassis is not in the park position.

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In addition, accessories such as a telescoping light shall also be connected to this ajar circuit, to activate the light when any of these items are not properly nested, and the vehicle is not in park.

One (1)
50-07-0400

Ground Lighting - Four (4) Door Cab

FOUR DOOR CAB GROUND LIGHTING

The four (4) door cab shall have a ground light below each stepping area of each entry door to illuminate the ground at the step area. The lights shall be wired to activate when the apparatus is in the "park" position.

One (1)
50-07-1000

Ground Lights - Pumper Module & Tailboard (4)

UNDER BODY GROUND LIGHTS

Four (4) ground lights shall be provided. Each shall have a clear lens and shall be mounted on brackets, angled outward, beneath the apparatus. The lights shall be wired to activate when the apparatus is in the "park" position.

The lights shall be mounted as follows:

--Two (2) at the pump module running boards, one each side.

--Two (2) at the rear tailboard, one each side.

One (1)
51-00-1100

Warning Lights (Initial Attack)

WARNING LIGHT SYSTEM

The following warning lights shall be installed in zones and properly switched.

One (1)
54-12-1350

Whelen - Light Bar - 60 - FN60VLED

LIGHT BAR

Zone A - (Upper Front) - One (1) Whelen FN60VLED 60" LED light bar system shall be supplied and installed.

Clear warning lights shall be shut down with the parking braking for "Blocking Right-Of-Way" mode.

One (1)
54-20-1000

Whelen - Light Bar - Mounted on Cab Roof

Light bar shall be mounted on the centered forward section of the cab roof.

One (1)
54-21-1200

Whelen - Light Bar Lens - Red/Clear

The lens colors shall be as follows:

Driver's Side of Lightbar - **Red**, Officer' Side of Lightbar - **Red** Two Center Front Sections of Lightbar - **Clear**

One (1)
54-30-4075

Whelen - Lower A - (2) 400 Series LED - Front Cab or Grille

Zone A (Lower Front) - Two (2) Whelen 400 series LED warning lights, approximately 3" high x 5" long, shall be mounted, one each side, on the front face of the cab or cab grille.

One (1)
54-32-1000

Whelen - Lower Zones A - Lens Color - Red

The lens color shall be as follows:

Driver's Side - **Red**, Officer's Side - **Red**

One (1)
54-40-3120

Whelen - Lower Zones B & D - 400 Series LED (4)

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Zone B (Right Side-Lower) - Two (2) Whelen 400 series LED warning lights, approximately 3" high x 5" long, shall be mounted at the lower front side corner, and rear side corners of the apparatus.

One (1)
54-42-1000

Zone D (Left Side-Lower) - Two (2) Whelen 400 series LED warning lights, approximately 3" high x 5" long, shall be mounted at the lower front side corner, and rear side corners of the apparatus.
Whelen - Lower Zones B & D - Lens Color - Red - (6)

The lens colors shall be as follows:

Driver's Side - **Red**

Officer's Side - **Red**

One (1)
54-60-0400

Whelen - Upper Zone C - (2) RB6 Beacons

Zone C (Rear-Upper) - Two (2) Whelen RB6 series rotating beacons shall be mounted, one each side, at the upper rear corners of the apparatus.

One (1)
54-62-1050

Whelen - Upper Zones C - Lens Color - Red/Amber (2)

The lens colors shall be as follows:

Driver's Side Rotator - **Red.**

Officer's Side Rotator - **Amber.**

One (1)
54-70-0425

Whelen - Lower Zone C - 400 Series LED (2)

Zone C (Rear-Lower) - Two (2) 400 series LED warning lights, approximately 3" high x 5" long, shall be mounted, one each side, at the lower rear of the apparatus.

One (1)
54-72-1000

Whelen - Lower Zones C - Lens Color - Red - (2)

The lens colors shall be as follows:

Driver's Side - **Red.**

Officer's Side - **Red.**

One (1)
58-00-0610

Whelen Siren #295SLSA1

SIREN

One (1) Whelen electronic siren, model # 295SLSA1 shall be furnished and installed. It shall be 100 watts and feature wail, yelp, phaser, air horn and manual wail. The microphone shall have noise canceling circuitry and Public Address override.

One (1)
58-09-1400

Mounting Location - Recessed In Center Console

The electronic siren control shall be recessed in center console between driver and officer seats.

One (1)
58-10-1600

Siren Speaker - Bumper (100W) (1)

SIREN SPEAKER

One (1) siren speaker, with a 100 watt driver shall be provided and installed at the front bumper.

One (1)
58-10-9000

Siren Speaker - Recessed In Left Side of Bumper

The siren speaker(s) shall be recessed in the left side front bumper.

One (1)
59-00-0200

(* 12 VOLT SCENE LIGHTS (WILDLAND)

12V SCENE LIGHTING

There shall be 12 volt scene lighting installed on the apparatus as follows:

One (1)

Scenelight (2) - Whelen 600 - 32 Deg (REAR)

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59-00-5195

Two (2) Whelen 600 series 4" x 6" scenelights, each with 32 degree downward angled optics and clear lenses shall be surface mounted on the upper rear body, one each side.

One (1)
59-09-9110

Scenelight - Switched At Left Rear

SCENELIGHT SWITCHING

The 12 volt scenelights shall be switched at the left rear of the apparatus with one (1) switch.

REVERSE GEAR

The scenelights shall also be wired to activate when apparatus is placed in reverse gear.
FRC Optimum 12V 150W Bottom Raise Tele Light(s)

Two (2)
59-10-3550

TELESCOPIC 150 WATT HID FLOODLIGHT(S)

Two (2) Fire Research Optimum model OPA530-HD15 side mount push up telescopic light(s) shall be installed. The light pole(s) shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole(s) shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 2-3/4" offset. Wiring shall extend from the pole bottom with a 4 ft retractile cord.

The lamphead(s) shall have one (1) high intensity discharge (HID) 150 watt 12 volt bulb. The bulb will draw 12.5 amps and generate 11,250 lumens. The bulb shall be accessible through the front. The lamphead(s) shall incorporate a vacuum deposit polished reflector and two optimizing mirrors to produce a uniform beam that lights up an area 100 degrees vertically by 150 degrees horizontally. The lamphead(s) shall have a heat dissipating curved front lens. The curve of the lens shall have a radius of 5.16 inches to optimize light emission. The lamphead(s) shall be no more than 5-3/4" deep by 5-1/8" high by 8-3/4" wide. The lamphead(s) and brackets shall be powder coated white.

Two (2)
65-90-0500

Located On Apparatus Rear

LIGHT LOCATION

The light(s) shall be mounted on the apparatus rear.
Remote Light Switch - Pump Panel

Two (2)
65-92-2200

LIGHT SWITCHING

Two (2) remote 12 volt weather resistant switch(es) shall be provided and installed on the pump operator's panel for the specified light(s). Each switch shall be properly labeled to indicate the light it controls.

Two (2)
59-11-1000

12 Volt Outlets

12 VOLT OUTLETS

Two (2) 12 volt outlets shall be provided.
(*) 120V Electrical Section (Wildland)

One (1)
60-00-1600

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120/240 VOLT ELECTRICAL SECTION

One (1)
60-00-1700

120V Electrical System (Wildland)

120 VOLT ELECTRICAL SYSTEM

The 120 Volt AC electrical system shall conform to applicable standards for automotive fire apparatus at the time of the bid.

All required testing shall be performed before the apparatus is delivered. All required test documents shall be supplied with the owners manual at the time of delivery.

All wiring shall be installed in a professional manner, protected in loom or conduit. Grommets shall be installed where wire passes through body panels. All wiring shall be of adequate size to carry the required necessary load.

A power source system specification label shall be provided and permanently attached near the operator's control station. It shall contain the following information:

Rated voltage(s) and Type (AC or DC)
Phase
Rated frequency (at rated voltage(s))
Rated amperage
Continuous rated watts
Power source engine speed

The power source shall meet all applicable installation and testing requirements.

An exact electrical diagram of the apparatus wiring as delivered shall be supplied at time of delivery, without exception, including gauge of wire used.

One (1)
60-13-1600

3000 Watt Inverter

3000W INVERTER

One (1) 3000 watt inverter shall be supplied and installed.
Receptacle - 110V Duplex 20 Amp (Inside Compt) (Each)

One (1)
62-23-2000

110V DUPLEX RECEPTACLE(S) (COMPT)

One (1) 20 amp, Duplex "Household-Type" receptacle(s) (NEMA 5-20), shall be provided.
Equipment to be Supplied

One (1)
70-00-0050

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EQUIPMENT SECTION

EQUIPMENT

The following equipment (if listed below) shall be supplied with the apparatus. It shall be shipped loose unless detailed below or otherwise in these specifications.

One (1)
70-00-0700

08 ft Duo #585-A Alum Fold Ladder

One (1) 8 ft. Duo Safety #585-A aluminum folding ladder, with slip resistant safety end shoes, shall be provided.

One (1)
70-01-3300

20 ft Duo #925-A Alum 3-Section

One (1) 20 ft Duo Safety #925-A three-section aluminum extension ladder(s), with prong feet, shall be provided.

One (1)
75-01-0700

Wheel Chocks - Solid - For up to 44" wheel

One (1) pair of wheel chocks shall be provided. These chocks shall comply with NFPA 1901-1904 and meet SAE-J348 standard. These chocks are 12" tall and 11-1/4" wide and 21" long and weight is 15.3 lbs. These chocks meet SAEJ348 for up to 44" wheel diameter.(AC-44).

One (1)
75-01-1400

Wheel Chock Bracket - Horizontal Mount - 44"

One (1) pair of horizontal mount wheel chock holders shall be provided. These holders are 16 gauge steel, zinc plated.

One (1)
99-99-1000

Purchaser NFPA Responsibility

PURCHASER RESPONSIBILITY

It shall be the responsibility of the Purchaser to furnish any NFPA recommended items not detailed in these specifications.