PROPOSAL APPARATUS SPECIFICATIONS

FOR

FLORIDA SHERIFFS ASSOCIATION

SPEC 15

FLATBACK TANKER

MACK CHASSIS

FORMED STEEL BODY

January 2015

PROPOSAL

ETR is pleased to offer the proposed vehicle to meet the intent of the fire department specifications. KME Fire Apparatus is a leading manufacturer in custom and commercial fire fighting vehicles.

Questions or concerns pertaining to this proposal can be answered by contacting the following KME representative:

Jay Farrell
ERT,LLC
212 HIckman Drive
Sanford,FL 32771

Phone: (407) 339-6767
Fax: (407) 339-8198
Cell: (352) 299-3088
jfarrell@etrllc.org

GENERAL INFORMATION

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

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

All items of these proposal specifications will conform to the National Fire Protection Association Pamphlet No. 1901, latest edition.

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

FIRE APPARATUS DOCUMENTATION

KME will supply, at the time of delivery, at least one (1) copy of the following documents:

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

- Owners name and address
- Apparatus manufacturer, model and serial number
- Chassis make, model and serial number
- Front tire size and total rated capacity in pounds
- Rear tire size and total rated capacity in pounds
- Chassis weight distribution in pounds with water and manufacturer mounted equipment, front and rear
- Engine make, model, serial number, rated horsepower, rated speed and governed speed
- Type of fuels and fuel tank capacity
- Electrical system voltage and alternator output in amps.
- Battery make, model and total capacity in cold crank amps (CCA)

- Transmission make, model and serial number. If so equipped chassis transmission PTO(s) make, model and gear ratio
- Pump make, model, rated capacity in gallons per minute (liters per minute where applicable) and serial number
- Pump transmission make, model, serial number and gear ratio
- Auxiliary pump make, model, rated capacity in gallons per minute (liters per minute where applicable) and serial number
- Water tank certified capacity in gallons or liters
- Paint manufacturer and paint number(s)

Certification of slip resistance of all stepping, standing and walking surfaces.

If the apparatus has a fire pump or an industrial supply pump, the pump manufacturer's certification of suction capability.

If the apparatus has a fire pump or an industrial supply pump, a copy of the apparatus manufacturer's approval for stationary pumping applications.

If the apparatus has a fire pump or an industrial supply pump, the engine manufacturers certified brake horsepower curve for the engine furnished, showing the maximum governed speed.

If the apparatus has a fire pump or an industrial supply pump, the pump manufacturers certification of hydrostatic test.

If the apparatus has a fire pump or an industrial supply pump, the Underwriters Laboratory certification of inspection and test for the fire pump.

If the apparatus has an aerial device the Underwriters Laboratory certification of inspection and test for the aerial device.

If the apparatus has an aerial device, all the technical information required for inspections to comply with NFPA 1911, Standards for Testing Fire Department Aerial Devices.

If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source.

If the apparatus is equipped with an air system, test results of the air quality, the SCBA fill station, and the air system installation.

Weight documents from certified scale - showing actual loading on the front axle, rear axle(s) and overall vehicle (with the water tank full but without personnel, equipment and hose) will be supplied with the complete vehicle to determine compliance with NFPA-1901

Written load analysis and results of electrical performance tests.

If the apparatus is equipped with a water tank, the certification of water tank capacity by the tank manufacturer.

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

KME will be responsible for preparing and maintaining a record file of parts and assemblies used to manufacture the proposed apparatus. These records will be maintained in KME's factory for a minimum of twenty (20) years. The file will contain copies of any and all reported deficiencies, all replacement parts required to maintain the apparatus, and original purchase documents including specifications, contract, invoices, incomplete chassis certificates, quality control reports and final delivery acceptance documents. The purchaser will have access to any and all documents contained in this file upon official written request.

GENERAL CONSTRUCTION

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

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

SINGLE-LINE RESPONSIBILITY

KME is a true "sole source" manufacturer. KME engineers, designs, manufactures, builds and paints our own fire apparatus cab, chassis, body, aerial devices and electrical systems. All work is done in KME owned and operated manufacturing facilities by KME direct employees. This capability provides consistent design and manufacturing procedures that will reduce warranty issues and provide ease in parts replacement.

PRODUCT LIABILITY INSURANCE

KME provides liability and facility insurance equaling $30,000,000.00, which is one of the highest available in the fire industry. Reference attached documentation.

SERVICE CENTER AND PARTS DEPOT

ETR, LLC

KME FIRE APPARATUS SERVICE STATEMENT

The proposed KME Fire Apparatus vehicle is offered with service for in or out of warranty repairs can be promptly performed by the local KME authorized service center.

Service is provided by:

ETR, LLC
215 Hickman Drive
Sanford, FL 32771
Phone: (407) 339-6737
Fax: (407) 339-8198
Contact: Duff Freel

Service Center Capabilities

ETR, L.L.C. is a full service company devoted to the Emergency, Tactical, and Rescue industries. ETR, L.L.C. was incorporated in September, 2001. Our facility is located in Sanford FL. We are a new vehicle dealer for KME Fire Apparatus and AEV (American Emergency Vehicles). In addition to new vehicles sales we provide collision, conversions, parts, reconditioning, remounting, service, and warranty repairs. Our facility has 27,000 square feet of space, with the mechanical shop being 18,000 square feet, 6,000 square foot body shop, and a 1,000 square foot parts department. ETR maintains a parts inventory between $95,000.00 and $100,000.00. We have two service trucks for customer on site repairs and warranty work.

ETR, L.L.C. is the largest and oldest (continuous operated) reconditioning and remounting program in the state of Florida. ETR performed the first remount for Orlando Fire Rescue in February of 2002. Since then we are approaching 300 remounts to date.

ETR, L.L.C. is the largest minor/major ambulance and fire apparatus collision center in the state of Florida. In time of an accident ETR works with its customers to assist them in assuring that the customer receives complete corporation/funding from the Insurance agency for the unit to be repaired correctly and back in service with the least amount of down time.

ETR, L.L.C. offers twenty-four (24) hour service in which assigned service personnel are available for service needs.

The service facility provides service to handle sheet metal repair and fabrication, pump and electrical repair, aerial ladder service, and booster tank repair and replacement, and minor or major refurbishment capabilities.

Service and repairs to all makes of fire apparatus including trucks with Hale, Waterous and Darley

ETR, L.L.C. Service Center employees are fully insured with Workman's Compensation, Products Liability Insurance and Garage Keepers Insurance Coverage of $1,000,000.00 to protect your fire department in case of injury to personnel or your fire department equipment.

ETR, L.L.C. has a staff that consists of a general manager, office manager, shop supervisor, parts manager, four outside sales people, and fifteen technicians. Our management team has over 60 years of experience in the manufacturing and servicing of emergency vehicles. Our technicians have over 160 years of experience in the industry. Our technicians are manufacturer trained and EVT certified. Our painters are PPG and I-CAR certified and our welders are G3 and G4 certified in aluminum, stainless steel and steel in all positions.

PRICES AND PAYMENTS

The bid price will be F.O.B. Destination, on a delivered and accepted basis at the Fire Department.

Total price on KME's proposal sheet will include all items listed in these specifications.

KME has computed pricing less federal and state taxes. It is understood that any applicable taxes will be added to the proposed prices, unless the purchaser furnishes appropriate tax-exempt forms.

BOND REQUIREMENTS

An original bid bond will be submitted with the KME's proposal. The bond will be for an amount equal to 5% of the proposed bid price.

KME's bonding company will meet the following requirements:

- An acceptable surety as outlined by the United States Department of Treasury on their most recent Federal Register at a limit of at least $10,000,000;
- A.M. Best rating of "A" or better with a financial rating of at least "VIII"; and licensed as a surety in the state where the sale is to be made.

PERFORMANCE BOND

A performance bond can be supplied by KME upon acceptance of the signed sales contract for the apparatus if required by the end user. The performance bond will be for an amount equal to the full contract price (i.e. 100% bond).

FAIR, ETHICAL AND LEGAL COMPETITION

In order to ensure fair, ethical, and legal competition, neither original equipment manufacturer (O.E.M.) nor parent company of the O.E.M. will have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

NON-COLLUSIVE BIDDING CERTIFICATION

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

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

MATERIAL AND WORKMANSHIP

All equipment furnished will be guaranteed to be new and of current manufacture, to meet all requirements of purchaser's specifications.

All workmanship will be of high quality and accomplished in a professional manner so as to insure a functional apparatus with a pleasing, aesthetic appearance.

SALES ENGINEER

KME will designate an in house individual to perform KME's sales engineer functions. The sales engineer will provide a single point interface between the purchaser and KME on all matters concerning the contract.

APPROVAL DRAWING

A detailed drawing of the apparatus will be provided to the Florida Sheriffs Assoc KME Model #15 Mack Fl Alum for approval before construction begins. A copy of this drawing will also be provided to the manufacturer's representative. Upon Florida Sheriffs Assoc KME Model #15 Mack Fl Alum approval, the finalized drawing will become a part of the total contract.

The drawing will show, but is not limited to, such items as the chassis make and model, major components, location of lights, sirens, all compartment locations and dimensions, special suctions, discharges, etc. The drawing will be a visual interpretation of the apparatus as it is to be supplied.

DELIVERY

Delivery of the apparatus to the Fire Department will remain KME's responsibility.

A qualified and responsible representative of KME will deliver the apparatus to the Fire Department.

INSTRUCTION MANUALS/DRAWINGS, SCHEMATIC

KME will supply at time of delivery, two (2) CD copies of a complete operation and service manual covering the complete apparatus as delivered and accepted.

The manual will contain the following:

- Descriptions, specifications, and ratings of chassis, pump (if applicable), and aerial device.
- Wiring diagrams.
- Lubrication charts.
- Operating instructions for the chassis, any major components such as a pump and any auxiliary systems.
- Instructions regarding the frequency and procedures recommended for maintenance.
- Parts replacement information.

VEHICLE FLUIDS PLATE

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

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

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

KME OWNERSHIP

KME is a tightly held family owned corporation. All of the stockholders are members of the Kovatch family of Nesquehoning, PA. KME carries no (zero) long term debt and is the largest privately owned manufacturer of fire apparatus in the country.

PRIMARY PLANT CONSTRUCTION

In order to insure top quality construction, maximum assembly line and engineering communication and the highest level of manufacturing supervision the entire apparatus will be built at KME's (headquarters) manufacturing facility.

FAMA MEMBERSHIP

KME Fire Apparatus is a leading and proud member of the Fire Apparatus Manufacturer's Association (FAMA).

U.S.A. MANUFACTURER

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

QUALITY MANAGEMENT

KME is certified ISO 9001 at all company locations. KME received its certification from TÜV SÜD America Inc. after they assessed the company's quality system and found it to be in full compliance with ISO 9001. TÜV's is accredited as a registrar by ANSI-ASQ National Accreditation Board (ANAB), the organization responsible for qualifying registrars as competent to audit and certify organizations conforming to ISO 9001 or other management system standards.

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from 130 countries. Its ISO 9001 standard is a quality assurance model made up of 20 sets of quality system requirements. This model applies to organizations that design, develop, produce, install, and service products.

This business management system allows KME to monitor processes to ensure they are effective; keep adequate records; check output for defects, with appropriate and corrective action where necessary; regularly review individual processes and the quality system itself for effectiveness; and facilitate continual improvement.

A copy of KME's certificate is included in this proposal.

STEPPING, STANDING, & WALKING SURFACES

All stepping, standing, and walking surfaces on the body will meet NFPA #1901 anti-slip standards. Aluminum tread plate utilized for stepping, standing, and walking surfaces will be Alcoa No-Slip type. This material will be a minimum 3/16 (0.1875") in thickness. KME will supply proof of compliance with this requirement. All vertical surfaces on the body, which incorporate aluminum tread plate material, will utilize the same material pattern to provide a consistent overall appearance.

COOPERATIVE PURCHASING

KME is pleased to allow other public agencies to use the purchase agreement resulting from this invitation to bid. The condition of such use by other agencies will be that any such agency must make and pursue contact, purchase order/contract, and all contractual remedies with KME. Such tag-on's will be done so that the original purchasing agency has no responsibility for performance by either KME or the agency using the contract.

UNDERWRITERS LABORATORIES INC. (UL) EXAMINATION AND TEST PROPOSAL

If required by the specific chapters of NFPA-1901, the proposed unit will be tested and certified for KME Fire Apparatus by Underwriters Laboratories Inc. (UL) Underwriters Laboratories Inc. (UL) is recognized worldwide as a leading third party product safety certification organization for over 100 years. UL has served on National Fire Protection Association (NFPA) technical committees for over thirty years.

INDEPENDENT TESTING ORGANIZATION QUALIFICATIONS

- UL is a nationally recognized testing laboratory recognized by OSHA.
- UL complies with the American Society for Testing and Materials (ASTM) Standard ASTM E543 "Determining the Qualifications for Nondestructive Testing Agencies."
- UL has more than 40 years of automotive fire apparatus safety testing experience and 16 years of factory aerial device testing and Certification experience. UL has more than 100 years of experience developing and implementing product safety standards.
- UL does not represent, is not associated with, nor is in the manufacture or repair of automotive fire apparatus.
- All test work for fire pumps outlined in NFPA 1901, Edition will be conducted.
- UL has included a list of all factory aerial device manufacturers for whom testing is currently being conducted on a regular basis.
- UL carries ten million dollars in excess liability insurance for bodily injury and properly damage combined.

All work outlined in NFPA 1914, current Edition, including nondestructive testing, will be conducted at the manufacturer's facility.

The UL inspectors performing the test work on the units are certified to Level II in the required NDT methods, under the requirements outlined in ASNT document CP-189.

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

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

Prior to submittal to the automotive fire apparatus manufacturer, the final Report will be reviewed by the Supervisor of Fire Equipment Services and a Registered Professional Engineer, both of whom are directly involved with the aerial device certification program at UL.

When the unit successfully meets all the requirements outlined in NFPA 1901, 2009 Edition, UL shall issue a Certificate of Automotive Fire Apparatus Examination and Test stating the unit's compliance with NFPA- 1901.

GENERAL APPARATUS DESCRIPTION "MOBILE WATER SUPPLY"

The unit shall be designed to conform fully to the "Mobile Water Supply Fire Apparatus" requirements as stated in the NFPA 1901 Standard (2009 Revision), which shall include the following required chapters as stated in this revision:

- Chapter 1 Administration
- Chapter 2 Referenced Publications
- Chapter 3 Definitions
- Chapter 4 General Requirements
- Chapter 7 Mobile Water Supply Fire Apparatus
- Chapter 12 Chassis and Vehicle Components
- Chapter 13 Low Voltage Electrical Systems and Warning Devices
- Chapter 14 Driving and Crew Areas
- Chapter 15 Body, Compartments and Equipment Mounting
- Chapter 18 Water Tanks

CAB SAFETY SIGNS

The following safety signs shall be provided in the cab:

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

CHASSIS DATA LABELS

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

Fluid Data

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

Chassis Data

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

Manufacturers weight certification:

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

ROLLOVER STABILITY

The apparatus shall meet the criteria defined in 4.13.1 for rollover stability as defined in the 2009 NFPA Standard for Automotive Fire Apparatus.

MACK TWO DOOR, TANDEM AXLE, COMMERCIAL CHASSIS

Base Model GU433 SFA 6 x 4 with 236" WB, 149" CA and 113" AF
Set Forward Front Axle
Straight Truck for Fire Service
LH Steering

Frame & Equipment

Main Frame Rail 11.81 x 3.54 x .37 with Partial Length 5mm Steel C Channel Inner Reinforcement
Section Modulus of 29.8 Cubic Inches and RBM of 3,580,000 in lbs Per Rail
Omit Rear Mudflaps and Hangers
Bright Finish Steel Channel Bumper, Swept Back Type, 10' high x 92.6" Wide
6" Bolt On Front Bumper Extension
Two (2) Front Tow hooks

Front Axle & Equipment

Mack FXL 16.5, 16,500 lb capacity
Ferrous Hubs with Grease seals
Multi Leaf Springs, 16,500 lb capacity
Double Acting Heavy Duty Shock Absorbers
Sheppard SD110 Power Steering Gear
Power Steering Reservoir
16-1/2 x 6 Q+ Meritor S Cam Brakes
Automatic Slack Adjusters
Outboard Mounted Brake Drums

Rear Axle & Equipment

46,000 lb Capacity Meritor RT-46-160 Single Reduction Tandem
Interaxle Diff Lock Power Divider Controlled by Switch in Dash with Warning Light and Buzzer
Magnetic Drain Plug in Each Axle
Ferrous Hubs with Oil Seals
Synthetic Lubricant
Spring Brake Modulation Valve
16-1/2 x 7 Q+ Meritor S Cam Brakes
Automatic Slack Adjusters
Outboard Mounted Drums
Two (2) 30/30 Spring Type Parking Brakes on Each Rear Axle
Rear Suspension, Hendrickson HMX-460, 46,000 lb Capacity
54" Axle Spacing, Walking Beam Type with Transverse Torque Rods
Meritor 17MXL "Xtended Lube" Inter-axle Driveline
Ratio for 60 mph

Powertrain

Cummins ISL, 345 hp @ 1600-1900 rpm and 1150 lb. ft. torque @ 1400 rpm
Idle Shutdown System Disabled
Engine Compression Brake with Hi-Lo-Off Switch on Dash
Magnetic Oil Drain Plug
Key Operated Engine Start and Shutdown
Governor Road Speed, Electronic
12 Volt Delco 39MT Starter with Gear Reduction
Texaco Long Life Coolant for -34F with Spin-On Filter
Under Hood Mounted Air Cleaner with NFPA Compliant Ember Screen
Black Aluminum Bug Screen Behind Grille
High Efficiency Cooling System with 1240 Sq. In, Radiator and EPDM Premium Hoses
Horton On/Off Fan Drive with Lightweight Fan
Exhaust System, DPF/SCR Frame Mounted RH Side Under Cab, Vertical Exhaust with Bright Finish Heat Shield

Transmission & Equipment

Five (5) speed Allison EVS 3000 Automatic 5th Generation with Overdrive
Synthetic Transmission Fluid
Internal Filter
Oil Level Sensor
Transmission Oil Pan Magnet in Oil Pan
Transmission Oil Cooler, External
Power take-off provision
Meritor 176 MXL “Xtended Lube” HD Driveline
Transmission Shift Control, Push Button Type in Dash
Auto Shift to Neutral When Park Brake Applied
Transmission Dipstick Under Hood

Air System

Dual Air Brake System
ABS System, All Wheel without Traction Control
Pull To Apply/Push To Release Control Knob Mounted in Dash
18.7 CFM Meritor/Wabco 318 Compressor
Meritor/Wabco Heated 1200 Air Dryer with Coalescing Oil Filter
Turn Type Petcock Valves on All Air Tanks
Nylon Brake Hose in Chassis with Steel Painted Air Tanks
One (1) Air Tank Under Battery Box with Remaining Tanks Between Frame Rails

Tires & Wheels

Front Wheels; Two (2) 22.5 x 9.00 Disc, Alcoa LVL One Aluminum, Outer Surface Dura-Brite Finish
Rear Wheels, Eight (6) 22.5 x 8.25 Disc, Alcoa LVL One Aluminum, Outer Surface of Outboard Wheel Dura-Brite Finish
Front Tires, Two (2) 315/80R22.5, Load Range L, 20 PR, Bridgestone M860A
Rear Tires, Eight (8) 11R22.5, Load Range G, 14 PR, Bridgestone R268 Ecopia

Fuel System

Fuel Tank, Non Polished Aluminum, Single, 66 Gallon, D Shaped, Mounted LH Side under Cab
6.6 gallon DEF Tank on Frame Rail Under Cab For Clear BOC
Wire Braided Fuel Lines
Davco 382 Fuel/Water separator with Mack Secondary Fuel Filter

Cab

Steel Cab 123" BBC with One Piece Roof and Insulated Fiberglass Hood
Air Intake Grille Painted Gray
Spring Tilt Hood Assist with Anti Blow Down Locking Mechanism
Two Piece Windshield
Tinted Glass in All Windows
Manual Window controls
RH Door Viewing Window
Grab Handle, Each Side Behind Cab Doors, NFPA Compliant
Wheel Splash Aprons
Cab Mounting; Four Point System with Shocks and Air Bags
Exterior Mirrors, Bulldog Stylized, LH and RH, Heated and Motorized with Integral Convex
Rubber Fender Extensions, Gray
Hood and Fenders, Composite Material
Radiator Mounted Black Finish Grille with Brushed Nickel Surround

Trim

Slate Gray with Two (2) Netted Storage Compartments
Center Overhead Console with CB Radio Mounting Provisions
Two (2) Cup Holders
Rear Panel with Storage Pouch
Gray, Full Length, Mack Signature Polyurethane Floor Covering
Integral Courtesy Lights in Each Door
Foam Padded Vinyl Covered Headliner

Seating and Interior

Driver Seat, Heavy Duty Bostrom Talladega, 915, Slate Gray Vinyl, Air Ride, High Back Bucket Type with NFPA Sensor and Switch,
Officer Seat, Heavy Duty Slate Gray Vinyl, Fixed High Back Bucket Type with NFPA Sensor and Switch
Orange Retractable Lap and Shoulder Belts for Both Seating Positions
Sandstone Door Panels and Trim, Padded Vinyl with Arm Rest Pads
Seat Belt Alarm System and VDR to Meet NFPA 1901
Tilt and Telescope Steering Column
Two (2) Spoke, Gray Urethane Cushion Grip Steering Wheel with Bulldog Horn Button
Two (2) Padded Sunvisors
Interior Grab handles, One Each Side
Air Conditioning, Integral with Heater & Defroster and Dedicated Side Window Defrosters
Four (4) Dome Lights, Door and Switch Activated

Electrical System

270 Amp Leece Neville Alternator
Two (2) Premium Batteries, 650 cca each, Group 31
Batteries Mounted on Right Side under Cab
Windshield Wiper Switch, 2-Speed with Wash and Intermittent Feature Integral with Turn Signal Lever
Two (2) 12V power Sources
Automatic Reset Circuit Breakers
Hazard Switch, Integral with Steering Column Cover
Headlight Dimmer Switch, Integral with Turn Signal Lever
Single Electric Horn
Parking Light, Integral with Front Turn Signal
Starter Switch, Electric Key Operated
Turn Signal Switch, Self-Canceling
Turn Signals, Front, Includes Reflectors and Auxiliary Side Turn Signals
Chassis Wiring, Number Coded
Flush Mounted Halogen Headlights
Five (5) Grote LED ICC Lights
Waterproof Electrical Connections

Instrumentation

Slate Gray Instrument Panel with Black Gauge Bezels
Electronic Speedometer with trip odometer
Tachometer
Oil Pressure Gauge
Engine Oil Temperature Gauge
Engine Coolant Temperature Gauge
Fuel Level Gauge
Transmission Fluid Temperature Gauge
Voltmeter
Pyrometer
Primary and Secondary Air Pressure Gauges
Visual and Audible Warning System for Low Air Pressure, Low Oil Pressure, High Engine Coolant Temp, Low Fuel Level
arking Brake On Indicator Light
Low/contaminated Diesel Exhaust Fluid Warning Light
Wait to Start Indicator Light
Air Filter Restriction Indicator in cab
DPF Smart Switch with No Inhibit DPF Regeneration Switch
Co-Pilot Display with 4.5” Enhanced LCD Display with 4 Button Control

Paint

Single Color, Base Coat/Clear Coat
Urethane Paint
Wheels Painted to Match Cab
Frame Painted Black

EMBER SEPARATOR

An air inlet shall be equipped with a stainless mesh screen for separating water and burning embers from the air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element.

SEAT BELT CLARIFICATION

Red seat belts shall be provided if available from the chassis manufacturer.

BUMPER

The front bumper shall be extended as provided by the chassis manufacturer.

WHEEL TRIM KITS

Wheel trim kits consisting of chrome baby moon hubcaps and chrome lug nut covers shall be installed on the front and rear axles of the tandem axle chassis.

MUD FLAPS

Black rubber mud flaps shall be provided on the front fenders.

TIRE PRESSURE MONITORING DEVICES

Each tire shall be equipped with an LED tire alert pressure management system (Vecsafe equal) that shall monitor tire pressure. A chrome plated brass sensor shall be provided on the valve stem of each tire.

The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops 8 psi.

Removing the cap from the shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start blinking.

AUXILIARY AIR MANIFOLD

All auxiliary air devices on the commercial chassis shall be fed from a common manifold. The common manifold shall be installed at an accessible location near the chassis air tanks. The manifold shall be fed by a 3/8" synflex air lined plumbed from the primary air tank using a pressure protection valve. Unused ports in the manifold shall be closed off using an appropriately sized plug.

SEAT BELT CUSHION SENSORS AND BELT SENSORS

The apparatus shall be equipped with an Akron/Weldon seat belt warning system. The system shall consist of a Seat Belt module, dash mounted display and an audible alarm.

Seat belt and seat cushion sensors shall be provided on the two (2) specified seating positions.

VEHICLE DATA RECORDER

An Akron/Weldon Vehicle Data Recorder (VDR) system shall be provided. The system shall include an NFPA compliant "Black Box" with reporting software that shall be capable of data storage to coincide with the NFPA requirements.

Data storage capabilities shall include interfaces with the following systems:

- Display module (Master Optical Warning Device)
- VDR, date & time stamp
- Max Vehicle speed (MPH)
- Vehicle acceleration / deceleration (MPH/Sec.)
- Engine Speed (RPM)
- ABS event
- Data password protected
- Data sampled once per second, in 48-hour loop
- Data sampled min by min for 100 engine hours
- Throttle position (% of Throttle)
- Data software
- PC / Mac Compatible
- Data summary reports

VEHICLE DATA RECORDER DOWNLOAD HARNESS

A Weldon model #0L40-2597-00 VDR download harness shall be supplied with the system to allow the data to be downloaded to a computer.

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

COMMERCIAL CHASSIS ELECTRICAL SYSTEM

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

12 VOLT ELECTRICAL SYSTEM TESTING

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

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

TEST #1-RESERVE CAPACITY TEST

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

TEST #2-ALTERNATOR PERFORMANCE TEST AT IDLE

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

TEST #3-ALTERNATOR PERFORMANCE TEST AT FULL LOAD

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

LOW VOLTAGE ALARM TEST

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

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

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

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

LOAD MANAGEMENT SYSTEM

A load management system shall be provided. The load manager shall have 16 programmable outputs to supply warning and load switching requirements. The load management system shall be capable of offering load sequencing, load shedding, fast idle control, low voltage warning, scene mode operation and response mode operation.

Outputs 1 thru 12 shall be independently programmable to activate during the scene mode, the response mode or both. These outputs can also be programmed to activate with the ignition or master warning switch, or to sequence and shed along with the priority. Output 13 shall be designated to activate a fast idle system. Output 14 shall provide a low voltage warning for an isolated battery. Output 15 is a user configurable output and shall be programmable for activating between 10.5 and 15 volts. Output 16 shall provide a low voltage alarm that activates at the NFPA required 11.8 volts.

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

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

CHASSIS DIAGNOSTICS SYSTEM

Diagnostic ports shall be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow engine and ABS systems to provide blink codes should a problem exist.

The diagnostic system shall include the following:

- A single port to monitor the engine, transmission and ABS system and diagnostics of the roll sensor (if applicable)
- Engine diagnostic switch (blink codes)
- ABS diagnostic switch (blink codes)
- Allison Transmission Codes (through touch pad shifter)

AUTOMATIC HIGH IDLE

This feature automatically increases engine rpm and the available alternator output current.

BATTERY DISCONNECT SWITCH

The chassis batteries shall be wired in parallel to a single 12 volt electrical system, controlled through a heavy duty master disconnect switch. The master disconnect switch shall be located within easy access of the driver upon entering or exiting the cab.

12 VOLT BATTERY CHARGING RECEPTACLE

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

SHORELINE POWER INLET PLATE

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

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

The shoreline receptacle shall be located in the area directly adjacent to the driver's side cab door.

"DO NOT MOVE APPARATUS" WARNING LIGHT WITH AUDIBLE ALARM

A 1" round, red flashing warning light with an integral audible alarm, shall be functionally located in the cab to signal when an unsafe condition is present such as an open cab door or body compartment door, an extended ladder rack, a deployed stabilizer, an extended light tower or any other device which is opened, extended or deployed which may cause damage to the apparatus if it is moved.

This light shall be activated through the parking brake switch to signal when the parking brake is released. This light shall be labeled "DO NOT MOVE TRUCK".

DOT MARKER LIGHTS AND REFLECTORS

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

Truck-Lite Model # 18 red LED marker lights with integral reflectors shall be provided at the lower side rear, one (1) each side.

Truck-Lite # 60115Y yellow LED side marker and turn lights shall be provided on the apparatus lower side, forward of rear axle, one (1) each side if the apparatus is 30' long or longer.

Truck-Lite Model #19 red LED clearance lights shall be provided on the apparatus rear upper, one (1) each side at the outermost practical location.

Truck-Lite Model # 33740R LED 3-lamp identification bar will be provided on the apparatus rear center. The lights shall be red in color.

Truck-Lite # 98034Y yellow reflectors shall be provided on the apparatus body lower side, as far forward and low as practical, one (1) each side if the apparatus is 30' long or longer.

Truck-Lite # 98034R red reflectors shall be provided on the apparatus rear, one (1) each side at the outermost practical location.

LED LICENSE PLATE LIGHT - REAR

One (1) Tecniq model #L10 LED license plate light shall be provided above the mounting position of the license plate. The light shall be clear in color and shall have a chrome finish.

TAIL, STOP, TURN AND BACK-UP LIGHTS

Two (2) Weldon LED #1017-9000-10 series, 7" diameter, red combination tail and stop lights, shall be mounted one each side at the rear of the body.

Two (2) Weldon LED #1017-9000-20 series, 7" diameter, amber turn signal lights, shall be mounted one each side at the rear of the body. The lights shall be mounted one each side, on a vertical plane with the tail/stop lights.

Two (2) Weldon LED #1017-9000-30 series, 7" diameter, white backup lights, shall be mounted, one each side on a vertical plane with the turn/tail/stop signals. These shall activate when the transmission is placed in reverse gear.

The lights shall be mounted in order, from top to bottom, as described above.

BODY STEP LIGHTS

Polished stainless steel, TecNiq Eon 3-LED horizontal surface mounted body step lights shall be provided and controlled with marker light actuation. Step lights shall be located to properly illuminate all body access steps and walkway areas and shall include a mounting gasket to provide a watertight seal.

DUNNAGE AREA LIGHTING

Two (2) stainless steel, TecNiq Eon 3-LED horizontal surface mounted lights shall be provided in the dunnage area to provide adequate illumination of this area.

DECK LIGHTS / WORK LIGHTS

Two (2) 6" Unity model AG chrome plated LED deck lights shall be provided and mounted on the rear stanchions, one (1) each side. Each individual deck light shall be controlled by an individual switch mounted on each light, as well as by a single master switch in the master warning switch console.

The deck lights shall also serve as rear work lights to illuminate the rear of the apparatus to meet NFPA-1901 requirements.

HOSE BED LIGHTS

Two (2) Whelen model PELCC chrome plated surface mounted lights shall be mounted in the hose bed to illuminate the hose bed area.

HOSE BED WORK LIGHT - SWITCH

The hose bed work light shall have a protected 12-volt switch at the rear body panel. The switch will be labeled "HOSE BED WORK LIGHTS".

GROUND LIGHTS - CAB

One (1) ROM V4 12" LED ground light shall be provided under each side cab door entrance step, two (2) total. The lights shall be mounted in ROM standalone aluminum mounting track with mounting slots at each end. The ground lights shall turn on automatically with each respective door jamb switch and also by a master ground light switch in the warning light switch console.

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

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

12 VOLT BODY ELECTRICAL SYSTEM

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

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

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

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

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

BODY ELECTRICAL JUNCTION COMPARTMENT

A weather resistant electric junction compartment shall be provided within the body or pump enclosure, depending on vehicle configuration. This compartment shall provide an easily accessible enclosure to house all of the body wiring junction points, terminal strips, solenoids, etc. The design of this compartment shall not decrease the storage capacity area of the compartment or area in which it is located. A removable panel shall be provided for access to this compartment.

PUMP ENCLOSURE WORK LIGHTS

Two (2) Grote model #61171 LED lights shall be provided inside the pump enclosure providing a minimum of 20 candlepower illumination. Each light shall have their own independent switch incorporated into the light head.

ENGINE COMPARTMENT WORK LIGHTS

Two (2) Grote model #61171 LED lights shall be provided inside the engine enclosure that will provide a minimum of 20 candlepower illumination. Each light shall have their own independent switch incorporated into the light head.

AMDOR LUMA BAR COMPARTMENT LIGHTS - LED

Each individual, equipment storage compartment shall be equipped with the AMDOR Luma Bar LED light fixture mounted on the forward (or rearward) vertical door frame.

NFPA AUDIBLE AND LIGHTING WARNING PACKAGE

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

LIGHT PACKAGE ACTUATION CONTROLS

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

WARNING LIGHT FLASH PATTERN

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

UPPER LEVEL LIGHTING - WHELEN

NFPA ZONE A, UPPER

Whelen # JE2NFPA "Justice", 56" LED cab roof warning light bar shall be furnished and rigidly mounted on top of the cab roof.

The light bar shall be equipped with the following:

- Clear Lenses
- Four Corner Red Linear 6 LED's
- Four Red Forward Facing CON 3 LED's
- Two White Forward Facing CON 3 LED's.

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

NFPA ZONE C, UPPER

Two (2) Whelen L31H*FN super LED beacon lights shall be mounted one (1) each side at the rear of the body.

Each light shall have red LED's and a colored lens.

NFPA ZONES B & D REAR, UPPER

The lighting requirement for this area is covered by the lights noted in Zone "C" - Upper.

NFPA ZONES B & D FRONT, UPPER

The lighting requirement for this area is covered by the lights noted in Zone "A" - Upper.

LOWER LEVEL LIGHTING - WHELEN

NFPA ZONE A, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

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

The lower zone A warning lights shall be mounted in the commercial chassis grille.

NFPA ZONE C, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side directly below the DOT stop, tail, turn and backup lights.

Each light head shall be equipped with red LED's and a colored lens.

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

NFPA ZONES B & D FRONT, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

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

The lower zone B & D warning lights shall be mounted on the sides of the commercial chassis hood.

NFPA ZONES B & D MIDSHIP, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

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

NFPA ZONES B & D REAR, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LED's and a colored lens.

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

WARNING LIGHT SYSTEM CERTIFICATION

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

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

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

BACK-UP ALARM

A Code 3, model # D450C, 87dBA back-up alarm, shall be provided and installed at the rear of the apparatus under the tailboard. The back-up alarm shall activate automatically when the transmission is placed in reverse gear and the ignition is "on".

AIR HORNS

Two (2) chrome plated air horns shall be at the front of the vehicle. The air horns shall be mounted in full compliance with NFPA-1901. The supply lines shall be dual 1/4" lines with equal distance from each horn.

Each air horn shall be mounted, one (1) each side, on the side of the hood.

The air horn(s) shall be controlled by a push button located on the dash, on the officer's side and the steering horn button for the driver. An air horn/ electric DOT horn selector switch shall be furnished on the dash for the drivers steering horn button.

ELECTRONIC SIREN

One (1) Whelen #295SLSA1, 200 watt electronic siren shall be provided featuring: bottom mount control head in cab, "Si-Test" self diagnostic feature, six (6) function siren, radio repeat and public address.

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

Two (2) Whelen, model # SA122FMP polished aluminum siren speakers shall be provided, recessed in the front bumper and wired to the electronic siren.

****** PUMP AND PLUMBING ******

PUMP

- **HALE AP-50**
- **500 GPM**
- **SINGLE STAGE**
- **PTO DRIVEN**

A Hale model AP-50 PTO driven pump shall be provided and installed.

PUMP BODY

The volute shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 pounds per square inch. The entire pump shall be hydro dynamically tested to 500 PSI.

The pump body shall have the capability of being rotated for various discharge positions.

PUMP SHAFT

The pump shaft shall be rigidly supported by two deep groove ball bearings for minimum deflection. The pump shaft shall be heat-treated, electric furnace, corrosion resistant, stainless steel.

IMPELLER

The pump impeller shall be hard, fine grain bronze of the mixed flow design: accurately machined, hand ground and individually balanced. The vanes of the impeller intake eye shall be hand ground. The impeller shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower. Impeller shall be keyed to pump shaft and locked in place with a stainless steel lock nut.

MECHANICAL SHAFT SEAL

Shaft seal to be sealed with a double lip oil seal to keep road dirt and water out of pump gearbox.

DRIVE UNIT

The drive unit, as well as the entire pump, shall be completely manufactured at the pump manufacturer's factory. The drive unit bearings shall be heavy duty and precision ground to size. The drive unit shall be of sufficient size to withstand the full torque of the pumping operation. The drive unit shall have ample capacity for lubrication reserve and maintaining the proper operating temperature.

All gears shall be of highest quality steel alloys. They shall have case hardened teeth, to give long life, smooth, quiet running and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

PUMP RATIO

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected.

The manufacturer shall supply at time of delivery copies of the pump manufacturer's certification of hydrostatic testing, the engine manufacturer's current certified brake horsepower curve.

POWER TAKE OFF (PTO)

A hot shift Power Take Off shall be provided to drive the Hale AP-50 pump. The PTO shall be controlled by an electric "Hot-Shift" lighted rocker switch on the cab dash.

PTO PUMP SHIFT INDICATOR LIGHTS

Three (3) green warning lights shall be provided to indicate to the operator when the PTO has completed the shift for Road to Pump position. The PTO switch shall illuminate and a light located on the instrument panel. One (1) green light shall be provided on pump operator's panel adjacent to the throttle control. All lights to have appropriate identification/instruction plates.

PTO PUMP MOUNTS

Extra heavy duty pump mounting brackets shall be furnished. These shall be bolted to the frame rails in such a position to perfectly align the pump with the PTO, so that the angular velocity of the drive line joints shall be the same on each end of the drive shaft. This shall assure full capacity performance with a minimum of vibration. Mounting hardware shall utilize Grade 8 bolts.

PUMP MANIFOLDS

A custom made suction and discharge manifold shall be constructed from stainless steel and/or flexible tubing. The manifold shall be designed to provide maximum efficiency for the suction inlets and the discharges. .

******* PRESSURE CONTROL & ACCESSORIES *******

DISCHARGE PRESSURE RELIEF VALVE

The pump shall be equipped with a Hale Model "P-25", automatic pressure control device. A single bronze, variable pressure setting relief valve shall be provided and be of ample capacity to prevent an undue pressure rise as per NFPA-1901,a PM control valve shall be located on the pump panel. The relief valve shall be normally closed and shall open against pump pressure, with a control light to signal when open. In event of relief valve control failure, the pump is to remain operable for the complete range of the pump's rated capacity, without requiring the closing of any emergency or "in case of failure" (off/on) valves.

INTAKE RELIEF VALVE

An Task Force Tips A1860 Series relief valve shall be provided. The valve shall be adjustable from 50 to 200 psi (3 to 14 bar) with easy to see 25 psi (2 bar) increments. The aluminum casting shall be hardcoat anodized, and powder coat finished inside and out for maximum corrosion protection.

PRIMING SYSTEM

The priming pump shall be a 12-volt Hale model ESP Oil-Less, positive displacement vane type primer, electrically driven. One priming control shall open the priming valve and start the priming motor. The primer shall be capable of priming without the use of primer oil. The primer shall be connected to the power source with a 300 amp fusible link.

The Hale primer shall be activated by a manual valve located on the pump operator's panel. The valve shall activate the primer motor, which shall create a vacuum. Valve actuation may be accomplished while the main pump is operational, if necessary to assure complete prime.

MASTER DRAIN VALVE

A rotary type, 12 port master drain valve shall be provided and controlled at the lower portion of the side pump panel. The valve shall be located in pump compartment lower than the main body and connected in such a manner as to allow complete water drainage of the pump body and all required accessories. Water shall be drained below the apparatus body and away from the pump operator.

INDIVIDUAL BLEEDERS AND DRAINS

All lines shall drain through the master drain valve or shall be equipped with individual drain valves, easily accessible and labeled.

One (1) individual "Innovative Control" lift up drain valve shall be furnished for each 1-1/2" or larger discharge port and each 2-1/2" gated auxiliary suction.

Drain/bleeder valves shall be located at the bottom of the side pump module panels.

All drains and bleeders shall discharge below the running boards.

SYNFLEX SUCTION, DISCHARGE, PRESSURE AND CONTROL LINES

Small lines within the pump enclosure shall be constructed from Synflex hose. Uses include, but are not limited to such lines as priming control, gauge lines, drain lines, air control valves, pump shift, supplemental cooling, foam flush and air bleeder valves.

PUMP MODULE

The pump module shall be a self-supported structure mounted independently from the body and chassis cab. The design must allow normal frame deflection without imposing stress on the pump module structure or side running boards. The pump module shall be securely mounted to the chassis frame rails.

The pump module shall be a welded frame work utilizing structural steel components properly braced to withstand the rigors of chassis frame flex.

DUNNAGE AREA

A dunnage area shall be provided above the pump enclosure for equipment mounting and storage. This area shall be furnished with a removable 3/16" aluminum tread plate floor and shall be enclosed on the sides.

NOTE: The size of this storage area may vary when top mounted crosslays, booster reel(s), etc., are specified and located in this area.

******* PUMP SUCTIONS & AUXILIARY INLETS *******

SUCTION INLET

One (1) 4 1/2" N.S.T. suction inlet shall be provided on the driver side pump panel. A removable strainer shall be installed.

PUMP SUCTION END

The main pump suction inlet shall be furnished with a short suction end, terminating with only the suction threads protruding through the side panel to minimize the distance an exterior appliance protrudes beyond the pump panel.

A 4 1/2" NST chrome plated long handle pressure vented cap shall be installed on the main inlet of the pump.

AUXILIARY SIDE SUCTION(S)

One (1) 2-1/2" auxiliary suction shall be provided at the driver side pump panel, to the rear of the main inlet. The 2-1/2" auxiliary suction shall terminate with a removable strainer, chrome plated 2-1/2" NST female swivel with a chrome plated plug and retaining chain.

An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the driver's side rear auxiliary suction. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

A 1/4 turn swing control handle shall be provide on the driver side rear auxiliary suction valve

All side gated inlet valves shall be recess mounted behind the side pump panels or body panels.

TANK TO PUMP

One (1) 4" tank to pump line shall be, piped through the front bulkhead of the tank with a 90 degree elbow down into the tank sump. This line shall be plumbed directly into the rear of the pump suction manifold for maximum efficiency.

A check valve shall be provided to prevent accidental pressurization of the water tank through the pump connection. Connection from the valve to the tank shall be made by using a non-collapsible flexible rubber hose.

An Akron Brass 3" Generation II Swing-Out™ Valve shall be provided between the pump suction manifold and the water tank. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

A push/pull control handle shall be located on the operator's panel with function plate.

TANK FILL

One (1) 2 1/2" gated full flow pump to tank refill line controlled at the pump panel shall be provided. A deflector shield inside the tank shall be furnished. Tank fill plumbing shall utilize 2 1/2" high pressure hose for tank connection to accommodate flexing between components.

An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided between the pump discharge manifold and the water tank. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

A push/pull control handle shall be located on the operator's panel with function plate.

******* DISCHARGES & ACCESSORIES - SIDE MOUNT *******

DRIVER'S SIDE MAIN DISCHARGE #1

A discharge shall be provided and located at the driver's side pump panel. The driver's side discharges # 1 shall terminate with NST threads, through the left panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the driver's side #1 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow.

A 2 1/2 " NST chrome plated pressure vented cap shall be installed on driver's side #1 discharge.

The driver's side # 1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

The driver's side # 1 discharge shall be equipped with a Class One Sub-Z II, 2 ½" diameter interlube filled pressure gauge with pulse and vibration dampening. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The gauge face shall be white with black numerals.

OFFICER'S SIDE MAIN DISCHARGE #1

A discharge shall be provided and located at the officer's side pump panel. The officer's side discharges #1 shall terminate with NST threads, through the officer's side panel above the main pump intake.

The main pump discharge shall be plumbed directly from the pump discharge manifold utilizing direct connect discharge valve flanges.

An Akron Brass 2 1/2" Generation II Swing-Out™ Valve shall be provided for the officer's side #1 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

The discharge valve shall be equipped with a straight 2 1/2" NST adapter that shall be equipped with a 2 1/2" NST, 30-degree, chrome plated elbow.

A 2 1/2" NST chrome plated pressure vented cap shall be installed on officer's side # 1 discharge.

The officer's side # 1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

The officer's side # 1 discharge shall be equipped with a Class One Sub-Z II, 2 ½" diameter interlube filled pressure gauge with pulse and vibration dampening. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The gauge face shall be white with black numerals.

HORIZONTAL CROSSLAY #1

A crosslay hose bed shall be provided and plumbed from the pump in a transverse design, located above the pump enclosure for quick attack deployment. The crosslay hose bed flooring shall be designed to be removable, constructed from brushed finish, perforated aluminum material.

Crosslay #1 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose.

Crosslay #1 hosebed shall be designed to accommodate the fire hose in a double stack configuration.

The crosslay discharge shall terminate below the hosebed floor with a 1 1/2" NSTM chicksan swivel adapter. The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

The crosslay #1 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to crosslay hose bed.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

An Akron Brass 2" Generation II Swing-Out™ Valve shall be provided for the crosslay #1 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

The crosslay #1 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

The crosslay #1 discharge shall be equipped with a Class One Sub-Z II, 2 ½" diameter interlube filled pressure gauge with pulse and vibration dampening. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The gauge face shall be white with black numerals.

HORIZONTAL CROSSLAY #2

A crosslay hose bed shall be provided and plumbed from the pump in a transverse design, located above the pump enclosure for quick attack deployment. The crosslay hose bed flooring shall be designed to be removable, constructed from brushed finish, perforated aluminum material.

Crosslay #2 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1-3/4" fire hose.

Crosslay #2 hosebed shall be designed to accommodate the fire hose in a double stack configuration.

The crosslay discharge shall terminate below the hose bed floor with a 1 1/2" NSTM chicksan swivel adapter. The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection.

The crosslay #2 discharge shall be plumbed utilizing 2" schedule 10 stainless steel piping and/or flexible hose, 45 degree elbows and a limited number of 90 degree sweep elbows in an assembly from the pump to crosslay hose bed.

A minimum of one (1) grooved pipe coupling shall be furnished in this assembly to allow for flex and serviceability.

An Akron Brass 2" Generation II Swing-Out™ Valve shall be provided for the crosslay #2 discharge. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats.

The crosslay #2 discharge valve shall be controlled by a push/pull handle located on the operator's panel.

The crosslay #2 discharge shall be equipped with a Class One Sub-Z II, 2 ½" diameter interlube filled pressure gauge with pulse and vibration dampening. To prevent internal freezing, the stem and Bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage. The gauge face shall be white with black numerals.

PUMP ENCLOSURE HOSEBED HOSE RETENTION

A vinyl cross lay cover shall be provided. It shall be securely fastened at the front with snaps and Velcro at the rear, with straps to secure each end flap.

The crosslay cover shall be red in color.

****** PUMP PANEL & ACCESSORIES *******

PUMP PANEL - SIDE MOUNT

The pump operator's control panel shall be located on the driver side of the apparatus. The pump enclosure side panels shall be completely removable and designed for easy access and servicing.

PUMP PANEL MATERIAL

The left side operator's panel, gauge panel, right side pump panel and right side access door shall be fabricated from 14-gauge 304L stainless steel with a #4, (150/180 grit), standard brushed finish.

HINGED GAUGE PANEL

A full width, vertically hinged gauge access panel shall be provided at the operator's position. Chrome plated positive locks shall be provided along with chain holders to prevent the front of the gauge panel from coming in contact with other panels when open.

VERTICALLY HINGED, SPLIT PUMP PANEL OFFICER SIDE

The officer's side pump panel shall be split, vertically hinged, to provide complete access to the pump and plumbing on the officer side of the pump enclosure. The panels shall be equipped with stainless steel hinges and secured with push type locks to hold the panels closed. The drains located on the officer's side panel shall be fastened to the lower panel, which shall be stationary.

PANEL FASTENERS

Stainless steel machine screws and lock washers shall be used to hold these panels in position. The panels shall be easily removable to provide complete access to the pump for major service.

CAPS AND ADAPTERS SAFETY TETHER

All applicable discharge and suction caps, plugs and adapters shall be equipped with chrome plated ball chain and secured to the vehicle.

PUMP PANEL TRIM PLATES

A high polished trim plate shall be provided around each discharge port and suction inlet opening to allow accessibility to the respective valve for service and repairs.

DISCHARGE GAUGE TRIM BEZELS

Each individual discharge gauge shall be installed into a decorative chrome-plated mounting bezel that incorporates valve-identifying verbiage and color labels.

COLOR CODED IDENTIFICATION TAGS

Color coded identification tags shall be provided for all gauges, controls, connections, switches, inlets and outlets.

PUMP OPERATOR'S PANEL LIGHT SHIELD

The pump operator’s panel shall be equipped with a light shield that shall be full width of the control panel, and shall be positioned to cover the lights and prevent glare.

The light shield shall be equipped with the following lights:

- Four (4) TecNiq 6" long LED lights.

One (1) light under the operator's panel light shield shall be actuated when fire pump is engaged in addition to the pump engaged light.

OFFICER SIDE PANEL LIGHTING

The officer's side pump panel and running board shall be illuminated by the following lights:

- Four (4) TecNiq Eon, 3-LED illumination lights mounted in horizontal stainless steel bezels and mounting gaskets.

The lights shall be switched with the main pump panel lights.

PUMP OPERATOR'S PANEL

Particular attention is to be given to functional arrangement of all controls. The pump operator's panel shall accommodate the following:

- Hinged gauge panel
- Water tank fill valve
- Auxiliary suction valve control
- All discharge valve controls
- Auxiliary engine cooler controls
- Water tank
- Low voltage light and audible alarm
- Pump panel light switch
- Speed counter (Underwriters)
- Pump performance plate (Underwriters)
- Pump serial No. plate
- Master pump drain valve
- Individual drains
- Voltmeter
- Air inlet/outlet at lower driver side panel
- 3/8" Pump cooler (Bypass Line).
- Fire research "ThrottleXcel" throttle control.

PUMP TEST PORTS

The pump panel shall be equipped with Vacuum & Pressure test plugs to allow for test equipment to monitor pump pressure and vacuum levels. Chrome plugs and labels shall be provided for the test ports.

MASTER GAUGES

One (1) 4-1/2" diameter pressure gauge (labeled: "PRESSURE") and one (1) 4-1/2" diameter compound vacuum gauge (labeled: "INTAKE") shall be provided. The master gauges shall be Class One Sub-Z II, interlube filled. The gauge faces shall be white with black numerals.

PRESSURE & COMPOUND GAUGE RANGES

All applicable pressure gauges shall have a range of 0 - 400 P.S.I., and the compound gauge shall have a range of -30" - 0 - 400 P.S.I.

FIRE RESEARCH "THROTTLEXCEL"

THROTTLE CONTROL AND MONITORING DISPLAY

The apparatus shall be equipped with a Fire Research ThrottleXcel model ELA200-A00 engine throttle and monitoring display shall be installed. The control module case shall be waterproof and have dimensions not to exceed 6 3/4" high by 4 5/8" wide by 1 1/2" deep. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The engine RPM shall be set to idle when the pump engaged interlock signal is recognized regardless of the throttle control knob position. Optical technology shall be used to detect the direction and speed that the control knob rotated for RPM control.

The following continuous displays shall be provided:

- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LEDs
- Oil pressure; shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- Transmission Temperature: shown on a dual color (green/red) LED bar graph display
- Battery voltage; shown on a dual color (green/red) LED bar graph display
- Interlock; OK TO PUMP LED is green to indicate throttle ready.

A dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. Operator selections and inputs shall be via push buttons on the front panel.

The program shall store the accumulated operating hours for the pump and engine, previous incident hours, and current incident hours in a non-volatile memory. Stored elapsed hours shall be displayed at the push of a button. The program shall have calibration and self-diagnostic capabilities. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- Low Oil Pressure
- High Engine Coolant Temperature
- High Transmission Temperature
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Battery Voltage
- High Engine RPM.

The program features shall be accessed via push buttons located on the front of the control module. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

ENGINE COOLER

An auxiliary cooler or heat exchanger shall be installed in the engine compartment between the engine and the chassis radiator. The cooler shall permit the use of water from the pump for cooling the engine. The cooling shall be done without mixing engine and pump water.

TANK LEVEL GAUGE

An Innovative Controls model # 3030691-02 SL Plus Tank Level Monitor System shall be provided on the pump operator's panel. The master display module shall show the tank level using 16 super-bright easy-to-see LEDs. Tank level indication shall be achieved by the appropriate illumination of 4 horizontal rows of LEDs, with 4 LEDs per row.

A wide-angle polycarbonate diffusion lens in front of the LEDs shall produce a 180° viewing angle. The electronic display module shall be waterproof and shock resistant being encapsulated in a urethane-based potting compound. The potted display electronics shall be integral to a chrome-plated panel-mount reflector that is secured to the apparatus panel.

The gauge shall use a pressure transducer #3030376-01 installed near the bottom of the water tank to determine the correct volume in the tank.

WATER TANK

The water tank shall have a capacity of 2500 gallons, constructed from polypropylene material.

WATER TANK CONSTRUCTION

The Poly water tank shall be constructed of PT3 polypropylene material. This material shall be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection. Tank shell thickness may vary depending on the application and may range from 1/2 to 1" as required. Internal baffles are generally 3/8" in thickness.

The tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include PolyProSeal technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" PT3 polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength as part of the tank's unique Full Floor Design. Tolerances in design allow for a maximum variation of 1/8" on all dimensions.

WATER TANK CAPACITY CERTIFICATION

All tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale. Each tank shall be weighed empty and full to provide precise fluid capacity. Each Poly-Tank's III is delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight.

WATER TANK TANKNOLOGY TAG

A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.

WATER TANK ISO CERTIFICATION

The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2000 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

WATER TANK FILL TOWER

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" PT3 polypropylene and shall be a minimum dimension of 12" x 36" outer perimeter. The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall be located in the left front corner of the tank unless otherwise specified by the tank manufacturer to the purchaser. The tower shall have a 1/4" thick removable polypropylene screen and a PT3 polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid. Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

WATER TANK OVERFLOW AND VENT PIPE

The fill tower shall be fitted with an integral 6" I.D. schedule 40 P.V.C. combination overflow/vent pipe running from the fill tower through the tank to a 6" coupling flush mounted into the bottom of the tank to allow water to overflow behind the chassis rear axle.

WATER TANK SUMP

The tank sump shall be a minimum of 10" wide x 10" long x 3" deep. An anti-swirl plate shall be mounted inside the sump, approximately 1" above the bottom of the sump.

WATER TANK SUMP CONNECTION

The front bulkhead of the water tank shall be fitted with one (1).

WATER TANK 3" SUMP DRAIN

A 3" drain plug shall be provided.

WATER TANK FLANGES/OUTLETS - TANKER

There shall be two (2) standard tank outlets; one for tank-to-pump suction line which shall be a minimum of 4" coupling and one for a tank fill line which shall be a minimum of a 2" NPT coupling. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

WATER TANK MOUNTING

The tank shall rest on the body cross members spaced a maximum of 22" apart, and shall be insulated from these cross members with a minimum of 3/8" nylon webbing or 1/2" rubber, 2-1/2" wide. The tank shall sit cradle-mounted using four (4) corner angles of 6 x 6 x 4 x 0.250 welded directly to the body cross members. The angles shall keep the tank from shifting left to right or front to rear. The tank is designed on the free-floating suspension principle and shall not require the use of hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure. The hose bed cross braces shall act as water tank retainers.

10" NEWTON STAINLESS STEEL DUMP - REAR

The rear of the water tank shall be equipped with a 10" Newton Stainless Steel Dump Valve, model #1060-34 with a left side mounted manual actuation lever. The dump valve setup shall be capable of discharging the water tank contents at a rate of at least 1800 G.P.M.

REAR DUMP EXTENSION CHUTE AND ELBOW

The rear dump shall be supplied with a 90 degree stainless steel elbow chute (Model #2090-34), and a Newton slip-on stainless steel 36" extension chute (Model #2036-34). The extension chute and elbow shall be shipped loose. These devices shall provide the user with the ability to dump water to either side of the apparatus using the rear dump valve.

DIRECT TANK FILL - DRIVER SIDE

One (1) 2-1/2" NST direct tank fill shall be provided at the rear of the body, on the driver side, as low as possible. The direct tank fill shall be gated with a 2-1/2" Akron ball valve with a swing handle. The fill shall be equipped with a 30 degree elbow terminating with a 2-1/2" NST female swivel connection. A quarter turn drain valve shall be supplied to bleed off excess pressure with a drain hose routed beneath the rear step area.

DIRECT TANK FILL - OFFICER SIDE

One (1) 2-1/2" NST direct tank fill shall be provided at the rear of the body, on the officer side, as low as possible. The direct tank fill shall be gated with a 2-1/2" Akron ball valve with a swing handle. The fill shall be equipped with a 30 degree elbow terminating with a 2-1/2" NST female swivel connection. A quarter turn drain valve shall be supplied to bleed off excess pressure with a drain hose routed beneath the rear step area.

APPARATUS BODY DESIGN CONSTRUCTION

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

Special attention shall be taken to minimize corrosion on all fabricated parts and structural members of the body. All bolt-on components shall be provided with a dissimilar metals isolation barrier to prevent electric corrosion. The body design shall also incorporate removable panels to access spring hangers, rear body mounts and fuel tank sending units.

The body assembly shall be an all-welded configuration. The body shall be completely isolated from the cab and pump module structure.

BODY AND COMPARTMENT FABRICATION - GALVANNEAL STEEL

The body will be assembled in fixtures to ensure accurate body dimensions of the door openings. The parts used in the construction of the body weldment will be fabricated from the highest Grade 12 gauge galvanneal steel (ASTM A653) with a coating weight of A-60. After proper alignment is achieved, the body panels will be spot-welded together to ensure proper weld penetration and then stitch-welded on all exposed seams to minimize distortion of welded assemblies. A full seam weld will not be used due to the applied heat which will distort sheet metal and remove the protective coating from the perimeter of the welded area. All seams will be caulked prior to finish paint to ensure proper compartment seal.

100" WIDE FIRE BODY

The fire body shall be 100" wide to provide the maximum amount of usable hose bed space, approximately 76" wide, and to extend the body fenderettes outward for better tire tread coverage. All lower compartments shall be 26" deep overall, all upper compartments shall be 12" deep overall.

SUPER STRUCTURE - STEEL

The body super structure will be an all welded configuration utilizing a combination of 3” x 1-1/2” A500 Gr. B structural tubing and A36 structural channel.

The super structure will be designed to totally support the full length and width of the body. The structure will be welded to the body side compartments to incorporate the compartments into an integral part of the body weldment.

All crosstubes of the structure will be capped and butt welded at their point of termination to prevent water from lying inside the super structure. The super structure will be bolted to the sides of the chassis frame at four (4) points.

STEPPING, STANDING, & WALKING SURFACES

All stepping, standing, and walking surfaces on the body shall meet NFPA #1901 anti-slip standards. Aluminum tread plate utilized for stepping, standing, and walking surfaces shall be ALCOA No Slip type. Upon request by the Purchaser, the manufacturer shall supply proof of compliance with this requirement.

DRIVERS SIDE COMPARTMENTATION

One (1) low side compartment, with a rollup door, forward of the rear wheels. Compartment dimensions 36” High x 49” Wide, with a door opening of 32” High x 46” Wide.

One (1) low side compartment, with a rollup door, behind the rear wheels. Compartment dimensions 36” High x 55” Wide, with a door opening of 32” High x 52” Wide.

OFFICERS SIDE COMPARTMENTATION

One (1) low side compartment, with a rollup door, forward of the rear wheels. Compartment dimensions 36” High x 49” Wide, with a door opening of 32” High x 46” Wide.

One (1) low side compartment, with a rollup door, behind the rear wheels. Compartment dimensions 36” High x 55” Wide, with a door opening of 32” High x 52” Wide.

BODY COMPARTMENT STORAGE SPACE

The total body compartment storage space is 113 cu ft. .

ROLL-UP DOORS

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

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

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

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

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

AMDOR ROLL-UP DOORS

The roll-up doors shall be Amdor brand roll-up doors, equipped with a satin finish, with a dual durometer slat seal. The slats shall be made from 1” double-wall aluminum with a continuous ball and socket hinge joint. The interior of the door shall use a smooth interior door curtain to prevent equipment hang-ups. The bottom panel flange shall have a stainless steel lift bar latching system with cut-outs for ease of access with gloved hands.

SWEEP-OUT COMPARTMENT FLOORS

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

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

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

BEAVERTAILS

The rear body beavertail area shall be furnished with a squared off appearance to maximize the available compartment area, while providing added support to the rear step support structure. The beavertail panels shall be assembled in conjunction with the rear body corner panels. This assembly shall provide a vertical mounting surface for tail lights at the rear most portion of the body and additional storage space.

The inside of the beavertails shall be furnished with polished aluminum tread plate overlays.

COMPARTMENT TOPS

Compartment tops shall be covered with polished aluminum tread plate on both sides.

COMPARTMENT DRIP MOLDING

Compartment tops over all side compartments shall have a 45 degree flange formed out to provide protection against water runoff. A secondary extruded drip molding shall be provided between low compartments and auxiliary high side compartments, when auxiliary compartments are provided.

COATED FASTENERS

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

COMPARTMENT LOUVERS

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

ACCESS PANELS

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

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

REAR BODY PANEL

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

REAR STANCHIONS - CAST ALUMINUM

Two (2) Cast Products model #LB0029-1, polished stanchion brackets with wiring protectors, shall be provided at the rear of the body for upper rear warning light mounting, one (1) each side. These brackets shall be bolted to the sides of the body to minimize rear vehicle height.

BODY RUB RAILS

Sacrificial aluminum tread plate rub rails shall be mounted at the base of the body, extend outward a minimum 3/4", downward 2" and flange inward 1". The rub rails shall extend the full length of the main body and wrap around the rear body corners. Rub rails shall be designed to bolt to the body from the bottom side of the compartment area, so as not to damage the body side panels on initial impact and to provide for ease of replacement.

RUNNING BOARD STEPS

The driver and officer running board steps shall be fabricated of 3/16" polished aluminum tread plate. The outside edge on each step shall be fabricated with a double break, return flange. The steps shall be rigidly reinforced with a heavy duty support structure. The running boards shall not form any part of the compartment design, and shall be bolted into place with a minimum 1/2" clearance gap between any panel to facilitate water runoff.

REAR STEP

The rear step shall be twelve (12) inches deep, recessed between the rear portion of the rear side compartments. The step shall be fabricated from 3/16" polished aluminum tread plate, and shall be rigidly reinforced. The recessed design of the rear step shall reduce the rear side compartment depth at the rear 9 inch wide area to 12" deep with a 76" wide rear step.

The rear edge of the step shall be designed to accommodate the rear clearance lights, recessed for protection in the step reinforcement channel. This step shall be bolted into place with a minimum 1/2" clearance gap between it and the body panel.

DELETE REAR STEP COMPARTMENT

A rear step compartment shall not be provided.

GRAB RAILS

All hand rails shall be 1-1/4" outer diameter, knurled bright anodized aluminum extrusion, designed to meet NFPA 1901 requirements.

Molded gaskets shall be installed between the handrail stanchion castings and body surfaces to prevent electrolytic reaction between dissimilar metals and to protect paint.

GRAB RAIL LOCATIONS:

Grab rails shall be provided at the following specified locations. Additional grab rails shall be provided adjacent to any additional steps specified to comply with NFPA 1901.

Two (2) vertical rails shall be mounted on the rear edge of the beavertails, one (1) each side.

One (1) horizontal, full width handrail shall be installed on the rear, below the level of the hose bed.

FOLDING STEP(S) - BODY REAR DRIVER SIDE

Cast Products model SP4401-1-CH-A-BL LED lighted large folding step(s) with RG0005 gasket, with a textured chrome plate finish shall be provided on driver side body rear to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

Each step shall have an LED light at the top and bottom of each step to illuminate the stepping areas.

FOLDING STEP(S) - BODY REAR OFFICER SIDE

Cast Products model SP4401-1-CH-A-BL LED lighted large folding step(s) with RG0005 gasket, with a textured chrome plate finish shall be provided on officer side body rear to provide NFPA compliant access (maximum 18” height between steps) to an upper horizontal walking surface (compartment cap, dunnage area, fabricated step, or upper body compartments).

Each step shall have an LED light at the top and bottom of each step to illuminate the stepping areas.

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

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

REAR WHEEL WELL LINERS

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

REAR FENDERETTES

The rear fenders shall be equipped with easily replaceable, polished extruded aluminum fenderettes. The fenderettes shall be equipped with a rubber gasket molding between the body panel and the fenderette.

REAR MUD FLAPS

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

REAR TOW EYES

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

HOSE BED

The hose bed shall be located directly above the booster tank and shall be free from all sharp objects such as bolts, nuts, etc., to avoid damage to fire hose.

The hose bed storage area, shall have a minimum capacity of fifty (50) cubic feet, and shall accommodate 2-1/2" or larger fire hose as required by the Purchaser. The hose bed depth shall be 8".

The hose bed shall be located directly above the booster tank and shall be free from all sharp objects such as bolts, nuts, etc., to avoid damage to fire hose.

For added strength, rigidity and appearance, the hose bed side walls shall have the top edge flanged outward two (2) inches and downward one (1) inch. In a similar fashion, the top edge of the front wall shall be flanged inward two (2) inches and downward one (1) inch.

HOSE BED FLOORING

Flooring to be constructed from extruded aluminum and be properly spaced for ventilation. The flooring shall be smooth and free from sharp edges to avoid hose damage. The hose bed floor shall be removable to provide access to inner body framework.

HOSE BED PARTITION

One (1) fully adjustable 3/16", brushed finish, aluminum hose bed partition shall be provided. Partition shall be easily adjustable by means of Unistrut channels located at the front and rear of the hose bed. Partition shall be removable for access to the booster tank.

VINYL HOSE BED COVER - 1/4 TURN FASTENERS

A hose bed cover shall be provided and installed. The cover shall be made from 22 ounce; heavy-duty vinyl coated polyester fabric (TXN 226). The cover shall be sewn with ultraviolet resistant thread and shall have 2" wide nylon webbing sewn around the perimeter to provide additional strength.

The cover shall be secured to the top front body flange with quarter-turn fasteners. The cover shall be secured to the side body flanges with quarter-turn fasteners. A weighted flap shall be furnished on the rear of the cover with two (2) bungee cords.

The Hypalon material shall be red in color.

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

SUCTION HOSE STORAGE

The suction hoses shall be located on the body side panels, on the officer side of the apparatus.

HOSE TROUGH

Two (2) polished, extruded aluminum adjustable hose trough(s) shall be provided to accommodate the suction hoses. Two (2) Velcro hose holders shall be furnished on each trough.

EQUIPMENT CLARIFICATION

NFPA-1901 required hard suction hose shall "NOT" be provided by the apparatus manufacturer.

ADDITIONAL ITEMS SUPPLIED WITH THE VEHICLE

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

LOOSE EQUIPMENT

The following items shall be provided and shipped loose with the completed apparatus at the time of delivery:

WHEEL CHOCKS

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

****** PAINT SECTION ******

PAINT, PREPARATION AND FINISH

The PPG Delta, Low V.O.C., polyurethane finishing system, or equal, shall be utilized. A "Clear Coat" paint finish shall be supplied to provide greater protection to the quality of the exterior paint finish.

All removable items, such as brackets, compartment doors, etc. shall be painted separately to insure finish paint behind mounted items. All compartment unwelded seams exposed to high moisture environments shall be sealed using permanent pliable caulking prior to finish paint.

BODY PRIMER & PREPARATION

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

BODY FINISH PAINT

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

The entire body shall be buffed and detailed.

BODY PAINT

The inside and underside of the complete body assembly shall be painted job color using a PPG Delta System, prior to installation of the body on the chassis or torque box.

COMPARTMENT PAINT

The interior of the compartments shall be finish painted job color with a scuff resistant webbing type paint of a contrasting color applied over the painted surfaces.

BODY PAINT

The body paint finish shall be PPG Delta System in a single color, to match customer furnished paint codes and requirements.

PUMP / PIPING PAINT

The pump enclosure and pump/plumbing within the pump enclosure shall be painted black.

CHASSIS CAB PAINT

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

COMMERCIAL CAB PAINT FINISH GUIDELINES

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

WHEEL PAINT

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

TOUCH-UP PAINT

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

FINALIZATION & DETAILING

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

RUST PROOFING

The entire unit shall be thoroughly rust proofed utilizing rustproof and sound deadening materials applied in manufacturer recommended application procedures. Rust proofing shall be applied during the assembly process and upon completion to insure proper coverage in all critical areas.

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

LETTERING

Lettering shall not be provided any where on the apparatus.

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

SCOTCH-LITE STRIPE

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

The Scotch-Lite shall be white in color.

REAR CHEVRON STRIPING

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

The striping shall be 6" Scotch-Lite.

The Scotch-Lite shall be Ruby Red and Lemon Yellow in color.

******* WARRANTIES & REQUIRED INFORMATION *******

WARRANTY - NEW PRODUCT - COMMERCIAL CHASSIS

Kovatch Mobile Equipment Corporation ("KME"), hereby warrants to the original purchaser (first end users) that any new products manufactured by KME will be free from defects in material and workmanship under normal use, maintenance and service for a period of one (1) year from date of delivery, subject to the conditions and exceptions stated herein.

Under this warranty, KME'S obligation is limited to the repair or replacement at KME'S option, at its factory, by its representative, or by its authorized service facility, of any part found to be defective by KME. If KME deems it necessary, all parts for which warranty claim is made, will be returned to KME, transportation charges prepaid, for examination by KME who will be the sole judge as to whether such part was defective in material or workmanship under normal use, maintenance or service.

WARRANTY - BODY STRUCTURE

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

WARRANTY - CORROSION

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

WARRANTY - PAINT

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

WARRANTY - BRIGHTWORK

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

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

WARRANTY - STAINLESS STEEL PLUMBING WARRANTY

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

WARRANTY - WATER TANK

The proposed water tank will be warranted by the water tank manufacturer for the "Lifetime" of the unit. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

WARRANTY - FIRE PUMP

Hale Products, Incorporated ("Hale") hereby warrants to the original buyer that products manufactured by Hale will be free of defects in material and workmanship for a period of five (5) years from the date product is first placed into service or five and one-half (5 1/2) years from date of shipment by Hale, whichever period will be first to expire. Within this warranty period Hale will cover parts and labor for the first two (2) years and parts only for years three (3) through five (5).

WARRANTY - CLASS 1 - PRODUCTS

Class 1 warrants that any equipment of our own manufacture (or manufactured for us pursuant to our specifications) found to have defects in material or workmanship during normal use and service, will be repaired or replaced (at our opinion) free of charge, provided that written notice of such defect is received by us within two (2) years, (three 3 years on liquid filled gauges) after initial shipment.

WARRANTY - HEAVY DUTY VALVES

Akron Brass warrants Heavy Duty Swing-Out Valves for a period of ten (10) years after purchase against defects in material or workmanship. Akron Brass will repair or replace any Heavy Duty Swing Out Valve which fails to satisfy this warranty.

NFPA REQUIRED LOOSE EQUIPMENT, PROVIDED BY FIRE DEPARTMENT

The following loose equipment as outlined in NFPA 1901, 2009 edition in accordance with the applicable requirements, will be provided by the fire department. All loose equipment will be installed on the apparatus before placed in emergency service, unless the fire department waives NFPA section 4.21.

Section 7.6 Suction Hose or Supply Hose.

It is the responsibility of the purchaser to ensure that all required equipment has been supplied and installed on the apparatus in order to achieve compliance with the standard prior to placing it in service.

7.6.1 A minimum of 20 ft (6 m) of suction hose or 15 ft (4.5 m) of supply hose shall be carried.
7.6.1.1 Where suction hose is provided, a suction strainer shall be furnished.
7.6.1.2 Where suction hose is provided, the friction and entrance loss of the combination suction hose and strainer shall not exceed the losses listed in Table 16.2.4.1 (b) or Table 16.2.4.1(c).
7.6.1.3 Where supply hose is provided. It shall have couplings compatible with the local hydrant outlet connection on one end and the pump intake connection on the other end.
7.6.2 Suction hose and supply hose shall meet the requirements of NFPA 1961, Standard on Fire Hose.

Section 7.7 Minor Equipment.

7.7.2.1 The mobile water supply apparatus shall be equipped with at least 200 fl (60 m) of 2 1/2 in. (65 mm) or larger fire hose.

7.7.2.2 If the mobile water supply apparatus is equipped with a fire pump, the following shall be provided:

(1) 400 ft (120m) of 1 1/2 (38mm), 1 3/4 in. (45mm),or 2 in.(52mm) fire hose

(2) Two handline nozzles, 95 gpm (360 L/min) minimum. It is the responsibility of the purchaser to ensure that all required equipment has been supplied and installed on the apparatus in order to achieve compliance with the standard prior to placing it in service.

7.7.3 Miscellaneous Equipment. The following additional equipment shall be carried on the apparatus:

(1) One 6 lb (2.7 kg) flathead axe mounted in a bracket fastened to the apparatus

(2) One 6 lb (2.7 kg) pickhead axe mounted in a bracket fastened to the apparatus

(3) Two portable hand lights mounted in brackets fastened to the apparatus

(4) One approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus

(5) One 2 1/2 gal (9.5 L) or larger water extinguisher mounted in a bracket fastened to the apparatus

(6) One self-contained breathing apparatus (SCBA) complying with NFPA 1981, Standard on Open-Circuit Self Contained Breathing Apparatus (SCBA) for Emergency Services, for each assigned sealing position. But not fewer than four, mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer

(7) One spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space

(8) One first aid kit

(9) Two combination spanner wrenches mounted in brackets fastened to the apparatus

(10) One hydrant wrench mounted in brackets fastened to the apparatus

(11) One double female 2 1/2 in. (65 mm) adapter with National Hose (NH) threads, mounted in a bracket fastened to the apparatus

(12) One double male 2 1/2 in. (65 mm) adapter with NH threads, mounted in a bracket fastened to the apparatus

(13) Two or more wheel chocks. Mounted in readily accessible locations, that together will hold the apparatus. When loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade with the transmission in neutral and the parking brake released

(14) One traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, Standard for High-Visibility Public Safety Vests, and have a five-point breakaway feature that includes two at the shoulders, two at the sides, and one at the front

(15) Five fluorescent. orange traffic cones not less than 28 in. (711 mm) in height, each equipped with a 6 in. (152 mm) retroflective white band no more than 4 in. (102 111m) from the top of the cone, and an additional 4 in. (102 mm) retroflective white band 2 in. (51 mm) below the 6 in. (152 mm) hand

(16) Five illuminated warning devices such as highway flares, unless the live fluorescent orange traffic cones have illuminating capabilities

(17) One automatic external defibrillator (AED)

7.7.3.2 If the mobile water supply apparatus is equipped with a fire pump and none of the intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side shall be carried. Any intake connection larger than 3 in. (75 mm) shall include a pressure relief device that meets the requirements of 16.6.6.

7.7.3.3 If the mobile water supply apparatus is equipped with a fire pump, a rubber mallet, for use on suction hose connections shall be carried in a bracket fastened to the apparatus.

7.7.3.4 If the apparatus does not have a 2 1/2 in. intake with NH threads, an adapter from 2 1/2 in. NH female to a pump intake shall be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.

7.7.3.5 If the supply hose carried has other than 2 1/2 in. NH threads, adapters shall be carried to allow feeding the supply hose from a 2 1/2 in. NH thread male discharge and to allow the hose to connect to a 2 1/2 in. NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

14.1.8.4 Fire Helmet.

It is the responsibility of the purchaser to ensure that "Fire helmets shall not be worn by persons riding in enclosed driving and crew areas any time the apparatus in placed in service.

14.1.8.4.1 A location for helmet storage shall be provided.

14.1.8.4.2 If helmets are to be stored in the driving or crew compartment, the helmets shall be secured in compliance with 14.1.11.2.

14.1.10 SCBA Mounting.

It is the responsibility of the purchaser to ensure that any SCBA equipment has been supplied and installed on the apparatus in order to achieve compliance with the standard prior to placing it in service.

14.1.10.1 Where SCBA units are mounted within a driving or crew compartment, a positive latching mechanical means of holding the SCBA device in its stowed position shall he provided such that the SCBA unit cannot be retained in the mount unless the positive latch is engaged.

14.1.10.2 The bracket holding device and its mounting shall retain the SCBA unit when subjected to a 9 G force and shall be installed in accordance with the bracket manufacturer's requirements.

14.1.10.3 If the SCBA unit is mounted in a seatback, the release mechanism shall be accessible to the user while seated.

14.1.11 Equipment Mounting.

It is the responsibility of the purchaser to ensure that any equipment installed on the apparatus by them or their subcontractor meets the following requirements prior to placing it in service.

14.1.11.1 All equipment required to be used during an emergency response shall be securely fastened.

14.1.11.2 All equipment not required to be used during an emergency response, with the exception of SCBA units, shall not be mounted in a driving or crew area unless it is contained in a fully enclosed and latched compartment capable of containing the contents when a 9 G force is applied in the longitudinal axis of the vehicle or a 9G force is applied in any other direction, or the equipment is mounted in a bracket(s) that can contain the equipment when the equipment is subjected to those same forces.

Section 15.9.3 Reflective Striping.

It is the responsibility of the purchaser to ensure that Reflective Striping has been supplied and installed on the apparatus in order to achieve compliance with the standard prior to placing it in service.

15.9.3.1'" A retroreflective stripe(s) shall be affixed to at least 50 percent of the cab and body length on each side, excluding the pump panel areas, and at least 25 percent of the width of the front of the apparatus.

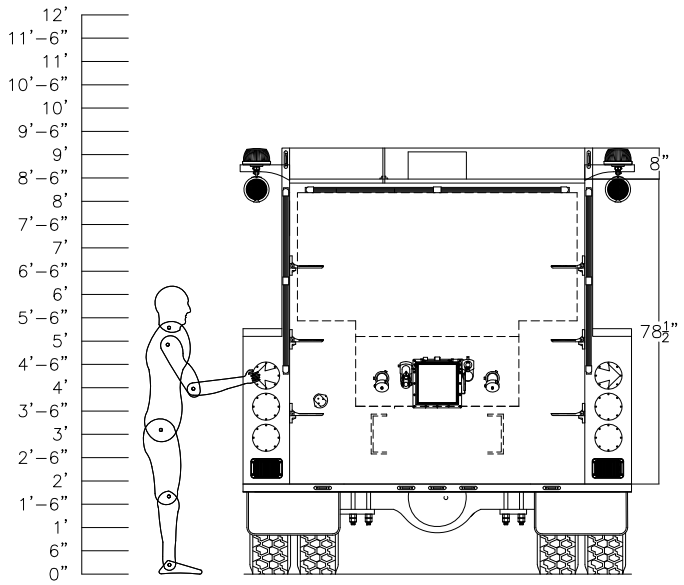
15.9.3.1.1 The stripe or combination of stripes shall be a minimum of 4 in. (100 mm) in total width.

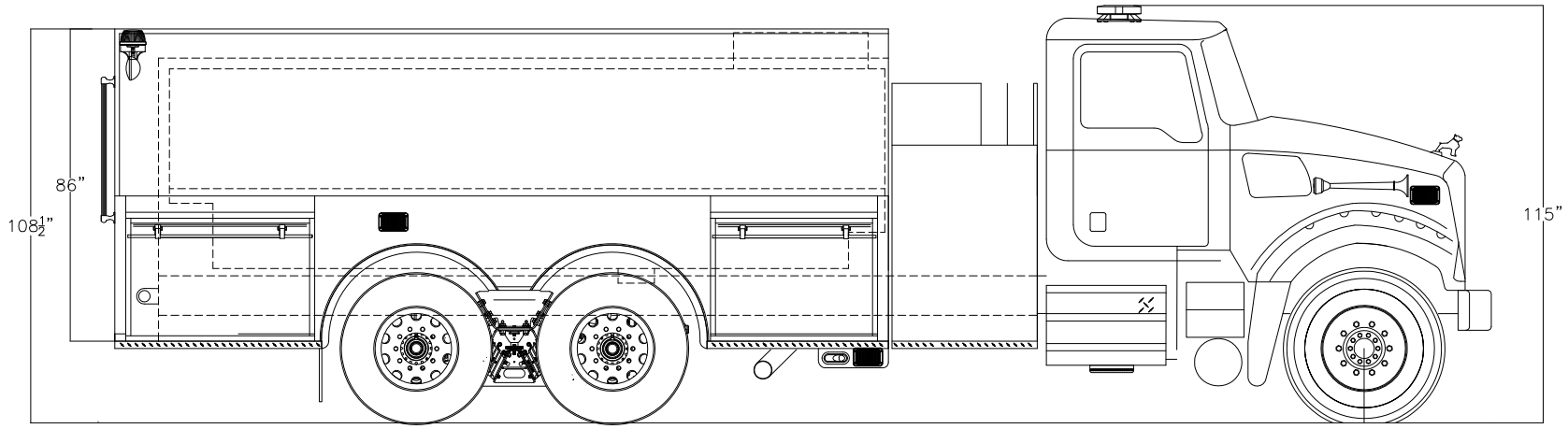
15.9.3.1.2 The 4 in. (100 mm) wide stripe or combination of stripes shall be permitted to be interrupted by objects (i.e., receptacles, cracks between slats in roll up doors) provided the full stripe is seen as conspicuous when approaching the apparatus.

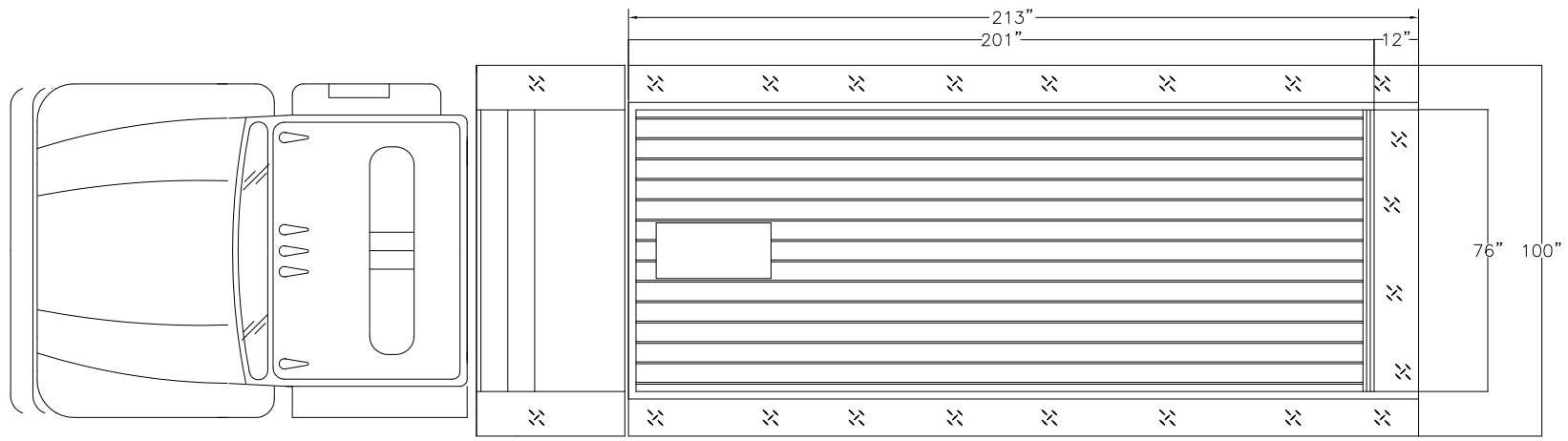
15.10 Hose Storage.

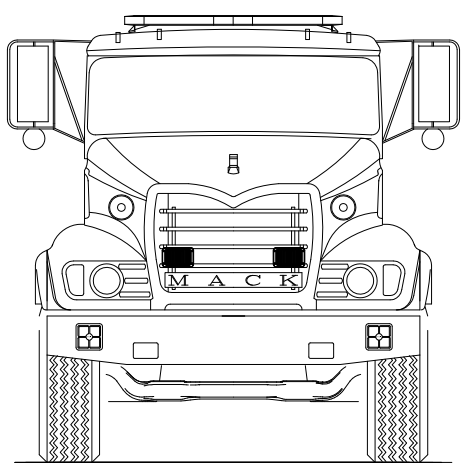
It is the responsibility of the purchaser to ensure that any hose storage area includes a positive means to prevent unintentional deployment in order to achieve compliance with the standard prior to placing it in service.

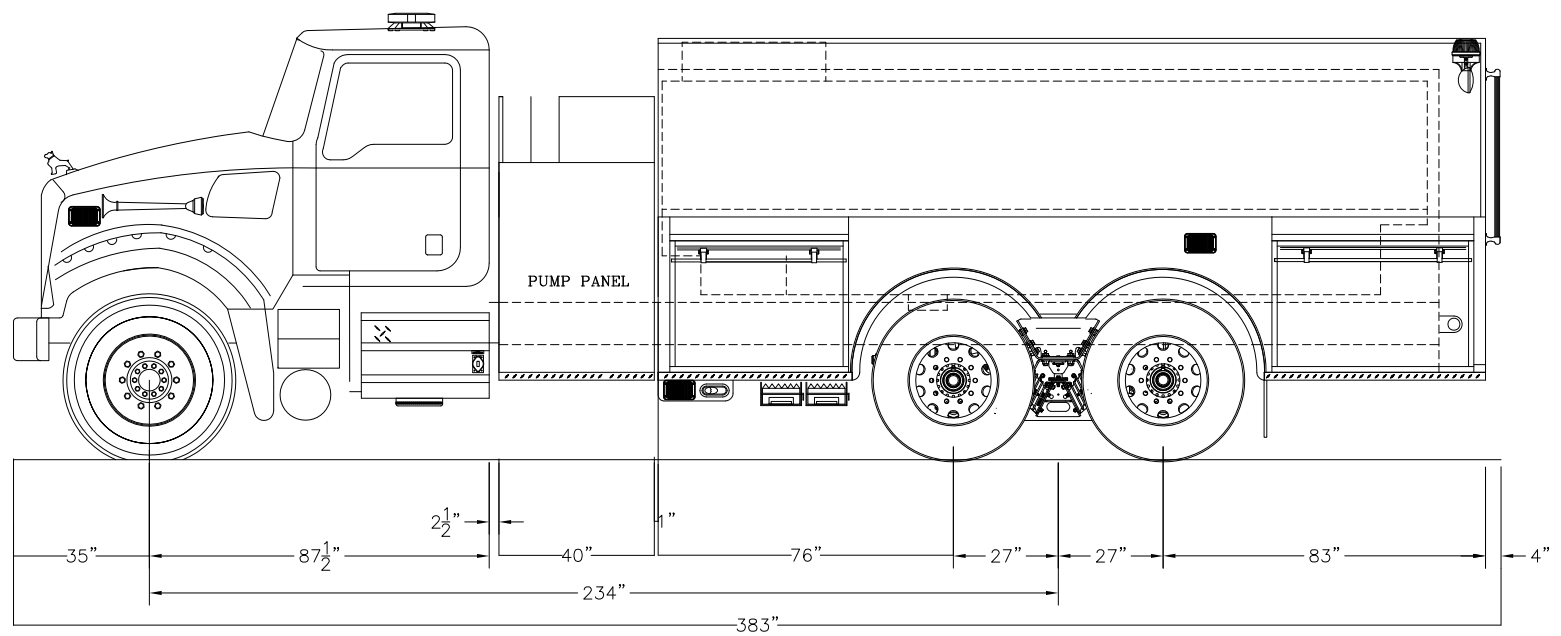
15.10.7 Any hose storage area shall be equipped with a positive means to prevent unintentional deployment of the hose from the top, sides, front, and rear of the hose storage area while the apparatus is underway in normal operations.











CHASSIS

CHASSIS: MACK GU433 SFA 6X4
CAB: 2 DOOR
ENGINE: CUMMINS ISL 345 HP
TRANSMISSION: ALLISON 3000 EVS
FRONT AXLE: 16,500 LB
REAR AXLE: 46,000 LB

PUMP

PUMP: HALE AP-50 500 GPM PTO

INTAKES
DRIVER SIDE: 4 1/2" & 2-1/2"
OFFICER SIDE: 4 1/2"
FRONT: N/A
REAR: N/A

DISCHARGES
DRIVER SIDE: (1) 2-1/2"
OFFICER SIDE: (1) 2 1/2"
FRONT: N/A
REAR: N/A
DECK GUN: N/A
OTHER: (2) 1 3/4" CROSSLAYS

TANK

TANK: POLY
WATER: 2,500 GALLONS
FOAM: N/A
EXTRA FILLS: (2) 2 1/2" AKRONS AT REAR
DUMPS: REAR NEWTON

BODY

BODY TYPE: 213" FLAT BACK
MATERIAL: 12 GA GALVANEAL

COMPARTMENTATION
DRIVER SIDE: LOW SIDE
OFFICER SIDE: LOW SIDE

HOSEBED
DIVIDERS: ONE (1) 8" DEEP
HOSE LOAD:

MISC.

GENERATOR: N/A
FOAM SYSTEM: N/A

CUSTOMER APPROVAL:

NAME:

TITLE:

DATE:

THIS DRAWING IS A GENERAL CONFIGURATION AND MAY NOT NECESSARILY REFLECT ALL CONTRACTUAL REQUIREMENTS. CONTRACT SPECIFICATIONS SHALL PREVAIL OVER DRAWING

SYM	DATE	REVISION DESCRIPTION	APP'D
A		PROPOSAL	TM

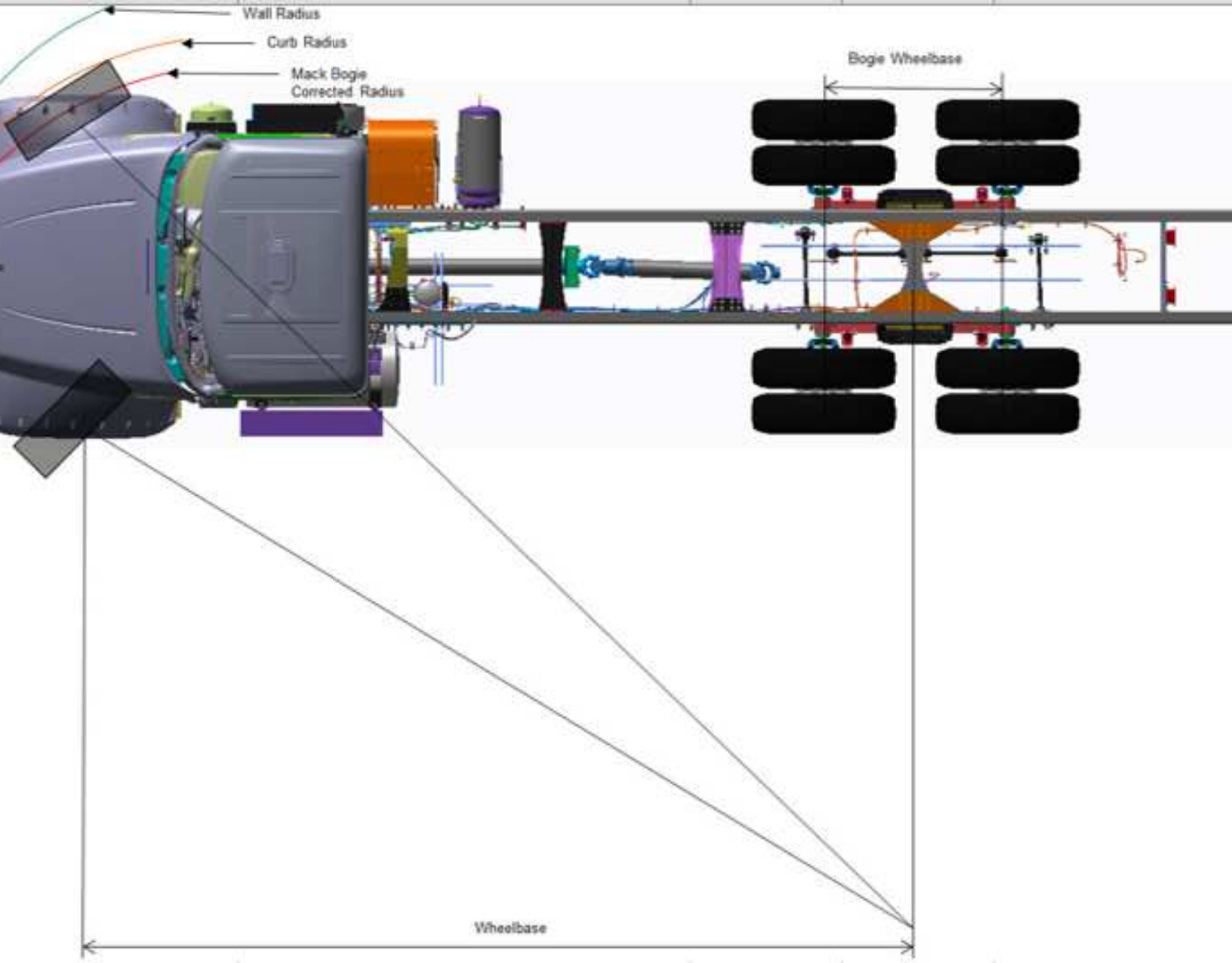
SALES ENGINEER : TBD

KOVATCH MOBILE EQUIPMENT
ONE INDUSTRIAL COMPLEX - NESQUEHONING, PA 18240

DIMENSIONS ARE APPROXIMATE & MAY VARY DUE TO BUILD ADJUSTMENTS

DATE	SCALE	DWG SIZE	DRAWN BY
1/7/2015	1"=24"	D	JJM
			APPROVED BY

KME COMMERCIAL FLBK TANKER
FLORIDA SHERIFFS ASSOCIATION
PROPOSAL MODEL 15 MACK GS



SALES ENGINEER	SalesENG	
DATE	1/12/2015	
TRUCK MODEL	GU4	FXL 16.5
CHASSIS WHEELBASE (IN.)	236	INCHES
BOGIE WHEELBASE (IN.)	54	INCHES
FRONT AXLE PIVOT CENTERS (IN.)	69.92	INCHES
FRONT AXLE TREAD CENTERS (IN.)	82.18	INCHES
INSIDE WHEEL TURNING ANGLE	42	DEGREES
OUTSIDE WHEEL TURNING ANGLE	34.07	DEGREES
MACK TURNING RADIUS	38.8	FEET
MACK CURB RADIUS	39.3	FEET
MACK WALL RADIUS	44.5	FEET

Amps/Weight Report

Florida Sheriffs Assoc KME Model #15 Mack Fl GS
Becky Keillor
2617 Mahan Drive
Tallahassee, FL 32308
850-877-2165
850-878-8665

Quote No:	10093-0009	
1 MODEL:	00DEVICE26	COMMERCIAL TANDEM AXLE TANKER
2 LETTER:	LETTER 25	LETTERING & STRIPING, TANKER
3 COMP ACC:	000COMP007	COMPARTMENT ACCESSORIES TANKER
5 MISC EQU:	000EQIUP06	MISC AND LOOSE EQUIPMENT (TANKER)
6 WARRANTY:	WARNTY-14	COMMERCIAL TANKER WARRANTY PACKAGE W/PUM

01/10/2015 07:40:14

PART NO	S	DESCRIPTION	QTY	RESP	SCENE	IT
AC-05-101		<1> CHASSIS GRADE - SPECIAL OR CUSTOMER/DEALER FURNISHED	1	65.0	54.0	0.00
BF-00-500		DOOR OPEN INDICATOR W/ INTEGRAL AUDIBLE ALARM	1	0.00	0.00	1.00
BG-00-161		TRUCK-LITE MARKER/TURN LIGHTS @ EA SIDE OF BODY	1	0.60	0.20	0.00
BG-00-166		TRUCK-LITE MARKER LIGHTS @ REAR OF BODY	1	0.30	0.30	0.00
BG-00-291		TECNIQ #L10 LED LICENSE PLATE LIGHT @ DS REAR OF BODY	1	0.10	0.10	0.00
BG-02-154		WELDON #1017 LED BRAKE, TURN & REVERSE (7")	1	1.50	1.00	0.00
BH-04-113		BODY STEP LIGHTS, TECNIQ EON 3 LED, ALL DEVICES	2	0.00	0.40	0.00
BH-05-162		DUNNAGE AREA LIGHTING, TECNIQ EON 3 LED	1	0.00	0.20	0.00
BH-05-201		UNITY LED SPOTLIGHTS ON REAR BODY STANCHIONS	1	0.00	0.00	5.00
BH-05-207		WHELEN #PELCC HOSE BED LIGHTS	1	0.00	0.00	8.00
BH-11-100		NFPA (2) ROM V4 LED GROUND LIGHTS, BELOW CAB DOORS	1	0.00	0.40	0.00
BJ-00-5110		PUMP ENCLOSURE WORK LIGHTS - GROTE LED	1	0.00	0.00	1.20
BJ-00-5160		ENGINE COMPARTMENT WORK LIGHTS - GROTE LED	1	0.00	0.00	1.20
BJ-02-0400		COMPT. LIGHTS, AMDOR LUMA BAR LED LIGHTING - SINGLE	4	0.00	2.80	0.00
BM-01-008		A-UPPER, WHELEN LED JE2NFPA, JUSTICE 56" LIGHT BAR	1	6.00	5.00	0.00
BM-01-101		C-UPPER, WHELEN LED L31 BEACON, RED	1	4.00	4.00	0.00
BM-08-001		A-LOWER FRONT, WHELEN 600 SUPER LED'S	1	1.50	1.50	0.00
BM-08-107		C-LOWER REAR, WHELEN 600 SUPER LED'S	1	1.50	1.50	0.00
BM-08-202		B/D-LOWER FRONT, WHELEN 600 SUPER LED'S	1	1.50	1.50	0.00
BM-08-308		B/D-LOWER MID, WHELEN 600 SUPER LED'S	1	1.50	1.50	0.00
BM-08-408		B/D-LOWER REAR, WHELEN 600 SUPER LED'S	1	1.50	1.50	0.00
BW-00-056		CODE 3, #D450C, BACK-UP ALARM - 87DBA	1	0.00	0.00	0.50
BW-00-500		DUAL CHROME AIR HORNS (COMMERCIAL)	1	0.20	0.00	0.00
BW-01-011		SIREN, WHELEN #295SLSA1, 200W	1	9.00	0.00	0.00
DC-01-862		PTO PUMP SHIFT INDICATOR LIGHTS	1	0.00	0.00	0.50
DC-05-311		HALE OIL-LESS PRIMING SYSTEM - HALE PUMP	1	0.00	0.00	275.
DD-66-012		TECNIQ 6" LED LIGHTS - LIGHT SHIELD	1	0.00	2.80	0.00
DD-66-213		TECNIQ EON 3 LED LIGHTS - OS PUMP PANEL	1	0.00	0.60	0.00
DD-72-026		IC, SL PLUS SUPER BRIGHT 16 LED WATER TANK GAUGE - PUMP	1	0.70	0.70	0.00
TF-13-7570		CAST PRODUCTS CHROME LIGHTED FOLDING STEP(S), BODY REAR, DS	1	0.00	0.60	0.00
TF-13-7670		CAST PRODUCTS CHROME LIGHTED FOLDING STEP(S), BODY REAR, OS	1	0.00	0.60	0.00
		Totals		94.9	81.2	292.

Quote SO

Florida Sheriffs Assoc KME Model #15 Mack FB GS
Becky Keillor
2617 Mahan Drive
Tallahassee, FL 32308
850-877-2165
850-878-8665

Exp. Date: 10/22/2014
Quote No: 10093-0010

1 MODEL:	00DEVICE26	COMMERCIAL TANDEM AXLE TANKER
2 LETTER:	LETTER 25	LETTERING & STRIPING, TANKER
3 COMP ACC:	000COMP007	COMPARTMENT ACCESSORIES TANKER
5 MISC EQU:	000EQIUP06	MISC AND LOOSE EQUIPMENT (TANKER)
6 WARRANTY:	WARNTY-14	COMMERCIAL TANKER WARRANTY PACKAGE W/PUM

PART NO	S	DESCRIPTION	QTY	ID
		== COMMERCIAL TANDEM AXLE TANKER - 914.018 09/18/14 ==	***1***	***KMEM***
		== LETTERING & STRIPING, TANKER - 914.018 09/18/14 ==	***1***	***KMEM***
		== COMPARTMENT ACCESSORIES TANKER - 914.018 09/18/14 ==	***1***	***KMEM***
		== MISC AND LOOSE EQUIPMENT (TANKER) - 914.018 09/18/14 ==	***1***	***KMEM***
		== COMMERCIAL TANKER WARRANTY PACKAGE W/PUM - 914.018 09/18/14 ==	***1***	***KMEM***
		QUOTE DATA VERSION: 0914.018 - 2014 DATA SET	**1**	**KMEM**
		****** HEADER - CONTRACTS, PROPOSAL FORM, ETC @ FRONT OF SPECS**	**1**	**KMEM**
02-00-0010	***S***	***PROPOSED BY - ERT - JAY FARRELL***	***1***	***KMEM***
		****** PROPOSED - COMM TANKER SPEC BOILERPLATE**	**1**	**KMEM**
04-00-0000		PROPOSED - GENERAL INFORMATION - NFPA 1901	1	KMEM
04-00-0033		***PROPOSED - COMPLETION INFO***	***1***	***KMEM***
04-00-0040		***PROPOSED - FMVSS CERTIFICATION***	***1***	***KMEM***
04-00-0060		***PROPOSED - RECORDS***	***1***	***KMEM***
04-00-0100		***PROPOSED - GENERAL CONSTRUCTION***	***1***	***KMEM***
04-00-0120		***PROPOSED - SINGLE LINE RESPONSIBILITY***	***1***	***KMEM***
04-00-0130		***PROPOSED - PRODUCT LIABILITY - $30,000,000.00***	***1***	***KMEM***
04-00-0200	***S***	***PROPOSED - SERVICE CENTER & PARTS DEPOT - ETR***	***1***	***KMEM***
04-00-0490		***PROPOSED - PRICES & PAYMENTS***	***1***	***KMEM***
04-00-0540	***S***	***PROPOSED - BOND REQUIREMENTS 5%***	***1***	***KMEM***
04-00-0560	***S***	***PROPOSED - PERFORMANCE BOND***	***1***	***KMEM***
04-00-0573		PROPOSED - FAIR, ETHICAL AND LEGAL COMPETITION	1	KMEM
04-00-0580		***PROPOSED - NON-COLLUSION AGREEMENT***	***1***	***KMEM***
04-00-0630		***PROPOSED - MATERIAL & WORKMANSHIP***	***1***	***KMEM***
04-00-0660		***PROPOSED - SALES ENGINEER***	***1***	***KMEM***
04-00-0680		***PROPOSED - APPROVAL DRAWING***	***1***	***KMEM***
04-00-1200		***PROPOSED - DELIVERY***	***1***	***KMEM***
04-00-1215		PROPOSED - INSTRUCTION MANUALS, TWO (2) SETS - CD	1	KMEM
04-00-1300		***PROPOSED - VEHICLE FLUIDS PLATE***	***1***	***KMEM***
04-00-1430		***PROPOSED - KME OWNERSHIP***	***1***	***KMEM***
04-00-1445		***PROPOSED - UNIT BUILT AT HEADQUARTERS***	***1***	***KMEM***
04-00-1520		***PROPOSED - FAMA MEMBERSHIP***	***1***	***KMEM***
04-00-1540		***PROPOSED - MANUFACTURED IN THE UNITED STATES***	***1***	***KMEM***
04-00-1550		PROPOSED - ISO 9001 QUALITY MANAGEMENT SYSTEM	1	KMEM
04-00-1570		***PROPOSED - NFPA TREAD PLATE CERTIFICATION***	***1***	***KMEM***
04-00-1700		PROPOSED - COOPERATIVE PURCHASING	1	KMEM
04-00-2445		***PROPOSED - UNDERWRITERS LABORATORIES (UL) TESTING***	***1***	***KMEM***

PART NO	S	DESCRIPTION	QTY	ID
07-00-0055		"MOBILE WATER SUPPLY FIRE APPARATUS" NFPA 2009 CHAPTERS OF COMPLIANCE	1	KMEM
08-00-0000		VEHICLE DATA PLATE DESCRIPTION	1	KMEM
14-00-0000		NFPA ROLLOVER STABILITY GENERAL STATEMENT	1	KMEM
AC-05-1015		***> <1> CHASSIS GRADE - SPECIAL OR CUSTOMER/DEALER FURNISHED***	***1***	***KMEM***
AC-07-1010	***XS***	***> <2> TANKER - MACK GU433 TA SBA - 2DR 6X4, 62.5GVW - 16.5F/46R***	***1***	***KMEM***
		OTHER CHASSIS OPTIONS - 2 DOOR TANDEM AXLE	***1***	***KMEM***
AC-07-9008	***S***	***> OTHER - CHASSIS FINANCE/FLOOR PLAN CHARGE (3%)***	***1***	***KMEM***
AC-07-9012		***> OTHER - CHASSIS HANDLING FEE***	***1***	***KMEM***
AC-07-9015		***OTHER - EMBER SEPARATOR FOR COMMERCIAL CHASSIS***	***1***	***KMEM***
AC-07-9020		***OTHER - SEAT BELT CLARIFICATION FOR NFPA 1901, REV 2003***	***1***	***KMEM***
AC-07-9030		***> OTHER - COMMERCIAL CHASSIS STANDARD FRONT BUMPER EXTENSION***	***1***	***KMEM***
AC-07-9300		***> OTHER - WHEEL TRIM KITS, CHROME BABY MOONS/LUG NUT COVERS - T/A***	***1***	***KMEM***
AC-07-9330		***OTHER - FRONT MUD FLAPS***	***1***	***KMEM***
AC-07-9705		***OTHER - TIRE PRESSURE MONITORING - LED VALVE STEM CAPS - TEN TIRES***	***1***	***KMEM***
AC-10-5000		***AUXILIARY AIR MANIFOLD FOR COMMERCIAL CHASSIS***	***1***	***KMEM***
BA-00-6600		COMMERCIAL TANDEM AXLE TANKER	1	KMEM
BA-02-8250		<3> HEADER, TA FLATBACK TANKER (COMMERCIAL)	1	KMEM
		******* HEADER - VEHICLE DATA RECORDER SYSTEMS***	***1***	***KMEM***
BA-06-9070		***> AKRON/WELDON SEAT BELT WARNING SYSTEM - UP TO 6 SEATS***	***1***	***KMEM***
BA-06-9105		***TWO (2) SEATING POSITIONS***	***1***	***KMEM***
BA-06-9320		***AKRON/WELDON VEHICLE DATA RECORDER***	***1***	***KMEM***
BA-06-9330		***AKRON/WELDON VDR DOWNLOAD HARNESS***	***1***	***KMEM***
		******* HEADER, CHASSIS ELECTRICAL, 2-DOOR OTHER (OPTIONS)***	***1***	***KMEM***
		****** HEADER, TA TANKER BODY ELECTRICAL COMMERCIAL (OPTIONS)**	**1**	**KMEM**
BE-01-0050		***COMMERCIAL CHASSIS ELECTRICAL SYSTEM DESCRIPTION***	***1***	***KMEM***
BE-01-0200		***12 VOLT ELECTRICAL SYSTEM TESTING - ALL UNITS***	***1***	***KMEM***
BE-05-0326		***LOAD MANAGED ELECTRICAL SYSTEM - COMMERCIAL CHASSIS***	***1***	***KMEM***
BE-05-0900		***CHASSIS DIAGNOSTICS SYSTEM***	***1***	***KMEM***
BE-05-1210	***S***	***AUTOMATIC FAST IDLE OPTION***	***1***	***KMEM***
BE-15-1500		***BATTERY DISCONNECT SWITCH, ALL UNITS***	***1***	***KMEM***
BE-20-1600		***12 VOLT POLARIZED CHARGE RECEPTACLE***	***1***	***KMEM***
BE-20-1715		***SHORELINE RECEPTACLE LABEL - NFPA***	***1***	***KMEM***
BE-20-1750		***SHORELINE LOCATION - ADJACENT TO DRIVER'S DOOR***	***1***	***KMEM***
BF-00-5000		***DOOR OPEN INDICATOR W/ INTEGRAL AUDIBLE ALARM***	***1***	***KMEM***
		******* HEADER, 12V POWER/ USB CHARGING/ POWER - GROUND CIRCUITS, COMM *******	***1***	***KMEM***
		****** HEADER, REAR/SIDE VISION CAMERA SYSTEMS ******	**1**	**KMEM**
BG-00-0470		COMMERCIAL CHASSIS MARKER LIGHTS AND REFLECTORS	1	KMEM
BG-00-1610		TRUCK-LITE MARKER/TURN LIGHTS @ EA SIDE OF BODY	1	KMEM
BG-00-1660		TRUCK-LITE MARKER LIGHTS @ REAR OF BODY	1	KMEM
BG-00-1800		TRUCK-LITE DOT AMBER REFLECTORS @ SIDE OF BODY	1	KMEM
BG-00-1810		TRUCK-LITE DOT RED REFLECTORS @ REAR OF BODY	1	KMEM
BG-00-2915		***TECNIQ #L10 LED LICENSE PLATE LIGHT @ DS REAR OF BODY***	***1***	***KMEM***
BG-02-1540		***WELDON #1017 LED BRAKE, TURN & REVERSE (7")***	***1***	***KMEM***
BH-04-1130		***BODY STEP LIGHTS, TECNIQ EON 3 LED, ALL DEVICES***	***2***	***KMEM***
BH-05-1625		***DUNNAGE AREA LIGHTING, TECNIQ EON 3 LED***	***1***	***KMEM***
BH-05-2017		***UNITY LED SPOTLIGHTS ON REAR BODY STANCHIONS***	***1***	***KMEM***
BH-05-2070		***WHELEN #PELCC HOSE BED LIGHTS***	***1***	***KMEM***
BH-05-2250		***HOSE BED WORK LIGHT - SWITCH***	***1***	***KMEM***
		****** HEADER, SCENE LIGHTS - BODY**	**1**	**KMEM**
BH-11-1000		***NFPA (2) ROM V4 LED GROUND LIGHTS, BELOW CAB DOORS***	***1***	***KMEM***
		******* HEADER, BROW LIGHTS - COMMERCIAL CHASSIS***	***1***	***KMEM***
BI-00-0310		TANKER BODY ELECTRICAL SYSTEM	1	KMEM
BI-00-0315		TANKER BODY JUNCTION COMPARTMENT	1	KMEM
BJ-00-5110		***PUMP ENCLOSURE WORK LIGHTS - GROTE LED***	***1***	***KMEM***
BJ-00-5160		***ENGINE COMPARTMENT WORK LIGHTS - GROTE LED***	***1***	***KMEM***
		COMPARTMENT LIGHTS - T- TANKER TANDEM AXLE	***1***	***KMEM***

PART NO	S	DESCRIPTION	QTY	ID
BJ-02-0400		***> COMPT. LIGHTS, AMDOR LUMA BAR LED LIGHTING - SINGLE***	***4***	***KMEM***
		****** HEADER, 12V BODY FLOOD LIGHTING - TANKER ******	**1**	**KMEM**
		****** COMMERCIAL T-TANKER NFPA WARNING LIGHT PACKAGE**	**1**	**KMEM**
BL-95-0000		NFPA COMPLIANT WARNING LIGHT PACKAGE - ALL UNITS	1	KMEM
BL-95-0100		LIGHT PACKAGE ACTUATION/CONTROLS - ALL UNITS	1	KMEM
BL-98-0000		WARNING LIGHT FLASH PATTERN - NFPA FLASH PATTERN	1	KMEM
BM-00-0122		***WHELEN UPPER PACKAGE - COMMERCIAL T-TANKER***	***1***	***KMEM***
BM-01-0080		***> A-UPPER, WHELEN LED JE2NFPA, JUSTICE 56" LIGHT BAR***	***1***	***KMEM***
BM-01-1012		***C-UPPER, WHELEN LED L31 BEACON, RED***	***1***	***KMEM***
BM-01-2000		***B/D-UPPER REAR, COVERED BY LIGHTS IN ZONE C-UPPER***	***1***	***KMEM***
BM-01-3000		***B/D-UPPER FRONT, COVERED BY LIGHTS IN ZONE A-UPPER***	***1***	***KMEM***
BM-07-0122		***WHELEN LOWER PACKAGE - COMMERCIAL T-TANKER***	***1***	***KMEM***
BM-08-0019		***A-LOWER FRONT, WHELEN 600 SUPER LED'S***	***1***	***KMEM***
BM-08-0100		***A-LOWER FRONT MOUNTING, COMMERCIAL CHASSIS***	***1***	***KMEM***
BM-08-1075		***C-LOWER REAR, WHELEN 600 SUPER LED'S***	***1***	***KMEM***
BM-08-2022		***B/D-LOWER FRONT, WHELEN 600 SUPER LED'S***	***1***	***KMEM***
BM-08-2100		***B/D-LOWER FRONT MOUNTING, COMMERCIAL CHASSIS***	***1***	***KMEM***
BM-08-3080		***B/D-LOWER MID, WHELEN 600 SUPER LED'S***	***1***	***KMEM***
BM-08-4085		***B/D-LOWER REAR, WHELEN 600 SUPER LED'S***	***1***	***KMEM***
BM-15-0000		LIGHT PACKAGE NFPA CERTIFICATION - ALL UNITS	1	KMEM
		****** HEADER, OPTIONAL WARNING LIGHTS**	**1**	**KMEM**
		****** HEADER, AUDIBLE WARNING & COM. EQUIPMENT (COMMERCIAL CAB)**	**1**	**KMEM**
BW-00-0560		CODE 3, #D450C, BACK-UP ALARM - 87DBA	1	KMEM
BW-00-5001		***> DUAL CHROME AIR HORNS (COMMERCIAL)***	***1***	***KMEM***
BW-00-5125		***DUAL AIR HORNS SIDE MOUNT ON HOOD, 1-DS & 1-OS***	***1***	***KMEM***
BW-00-5210		***AIR HORN CTRL - DASH BUTTON FOR OFFICER & STEERING WHEEL***	***1***	***KMEM***
BW-01-0115		***> SIREN, WHELEN #295SLSA1, 200W***	***1***	***KMEM***
BW-01-1005		***TWO (2) WHELEN SA122FMP SPEAKERS***	***1***	***KMEM***
		****** HEADER, PUMP, TANK & ACCESSORIES, TA FLATBACK TANKER (COM)**	**1**	**KMEM**
DC-00-3130		***HALE AP-50, 500 GPM PUMP - PTO***	***1***	***KMEM***
DC-01-4590		***HALE AP-50 MECHANICAL PUMP SEAL***	***1***	***KMEM***
DC-01-6118		***HALE AP-50 PUMP DRIVE UNIT - PTO***	***1***	***KMEM***
DC-01-6490		***PUMP RATIO (HALE, WATEROUS OR DARLEY)***	***1***	***KMEM***
DC-01-6530		***"PTO" UNIT HALE AP-50 PTO PUMP***	***1***	***KMEM***
DC-01-8620		***PTO PUMP SHIFT INDICATOR LIGHTS***	***1***	***KMEM***
DC-02-1910		***PUMP MOUNTS - PTO PUMPS***	***1***	***KMEM***
DC-04-0100		***MANIFOLD - DISCHARGE & SUCTION FOR UP TO 500 GPM PUMPS***	***1***	***KMEM***
		******* HEADER, HALE AP-50, PRESSURE CONTROL***	***1***	***KMEM***
DC-05-1130		***HALE "P-25" PRESSURE RELIEF VALVE***	***1***	***KMEM***
DC-05-1295		***TASK FORCE TIPS INTAKE RELIEF VALVE***	***1***	***KMEM***
		HALE, PUMP PRIMING PUMP AND CONTROLS	***1***	***KMEM***
DC-05-3110		***HALE OIL-LESS PRIMING SYSTEM - HALE PUMP***	***1***	***KMEM***
		HALE, DRAINS & ACCESSORES	***1***	***KMEM***
DC-05-5110		***ROTARY MASTER DRAIN VALVE***	***1***	***KMEM***
DC-05-5400		***DRAINS/BLEEDER "INNOVATIVE CONTROLS" LIFT UP @ ALL 1-1/2" OR LARGER***	***1***	***KMEM***
DC-05-5500		***SYNFLEX SUCTION, DISCHARGE, PRESSURE AND CONTROL LINES***	***1***	***KMEM***
DC-10-2402		SIDE MOUNT PUMP MODULE, TANKER	1	KMEM
DC-10-2500		PUMP MODULE - STEEL CONSTRUCTION	1	KMEM
DC-10-2770		SIDE MOUNT DUNNAGE AREA	1	KMEM
		****** HEADER, SUCTIONS - TANKER**	**1**	**KMEM**
DC-14-1410	***S***	***HALE MAIN SUCTION INLETS 4 1/2" NST - 500 GPM PUMP***	***1***	***KMEM***
DC-14-5300	***S***	***SHORT NECK MAIN PUMP SUCTION INLET - DS***	***1***	***KMEM***
DC-14-5540	***S***	***> 4 1/2" NST MAIN PUMP SUCTION PRESSURE VENTED CAP***	***1***	***KMEM***
		HEADER - AUXILIARY SUCTION/S - TANKER	**1**	**KMEM**
DC-20-1000		2 1/2" AUX. SIDE SUCTION @ DS PANEL TO REAR OF MAIN INLET	1	KMEM
DC-20-1100		2 1/2" AKRON #8800 S.S. BALL VALVE, DS REAR AUX SUCTION	1	KMEM
DC-20-1200		SWING CONTROL @ VALVE, DS REAR AUX SUCTION	1	KMEM
DC-20-9500		BEHIND PANEL MOUNT	1	KMEM
		****** HEADER - TANK TO PUMP - TANKER, SIDE MOUNT PANEL**	**1**	**KMEM**

PART NO	S	DESCRIPTION	QTY	ID
DC-25-1710		TANK TO PUMP - 3" VALVE - TANKER	1	KMEM
DC-25-3110		3" AKRON #8800 SERIES - S.S. BALL, VALVE , TANK TO PUMP	1	KMEM
DC-25-5110		3" PUSH/PULL CONTROL FOR TANK TO PUMP	1	KMEM
		****** HEADER - TANK FILL - TANKER, SIDE MOUNT PANEL**	**1**	**KMEM**
DC-30-2120		***TANK FILL LINE 2-1/2" FROM PUMP - SIDE MOUNT***	***1***	***KMEM***
DC-30-2400		***2 1/2" AKRON #8800 S.S. BALL VALVE FOR TANK FILL - SIDE PA***	***1***	***KMEM***
DC-30-6500		***PUSH/PULL CONTROL FOR TANK FILL***	***1***	***KMEM***
		****** DISCHARGES & ACCESSORIES, TANKER - SIDE MOUNT**	**1**	**KMEM**
		DRIVER'S SIDE #1 MAIN DISCHARGE	**1**	**KMEM**
DC-35-0010		DS MAIN DISCHARGE #1 - SIDE MOUNT	1	KMEM
DC-35-0110		2 1/2" AKRON #8800 SERIES - S.S. BALL, DS #1, SIDE MOUNT	1	KMEM
DC-35-1815		DS #1 DISCH - 2 1/2" STRAIGHT NST & 30-DEGREE NST ELBOW	1	KMEM
DC-35-2010		2 1/2" NST PRESSURE VENTED CAP - DS DISCHARGE #1	1	KMEM
DC-35-2410		PUSH/PULL CONTROL FOR DS DISCHARGE #1 -SIDE MOUNT	1	KMEM
DC-35-3130		***CLASS ONE LIQUID FILLED 2 1/2" PRESS GAUGE - DS DISCHARGE #1***	***1***	***KMEM***
DC-35-5005		***DELETE DS MAIN PUMP DISCHARGE #2***	***1***	***KMEM***
		OFFICER'S SIDE #1 MAIN DISCHARGE	**1**	**KMEM**
DC-39-0010	>	OS MAIN DISCHARGE #1 - SIDE MOUNT	1	KMEM
DC-39-0110		2 1/2" AKRON #8800 SERIES - S.S. BALL, OS #1, SIDE MOUNT	1	KMEM
DC-39-1815		OS #1 DISCH - 2 1/2" STRAIGHT NST & 30-DEGREE NST ELBOW	1	KMEM
DC-39-2010		2 1/2" NST PRESSURE VENTED CAP - OS DISCHARGE #1	1	KMEM
DC-39-2410		PUSH/PULL CONTROL FOR OS DISCHARGE #1 -SIDE MOUNT	1	KMEM
DC-39-3130		***CLASS ONE LIQUID FILLED 2 1/2" PRESS GAUGE - OS DISCHARGE #1***	***1***	***KMEM***
DC-39-5005		***DELETE OS MAIN PUMP DISCHARGE #2***	***1***	***KMEM***
		CROSSLAY #1 DISCHARGE	**1**	**KMEM**
DC-47-0900		CROSSLAY #1, 1 1/2" - TANKER	1	KMEM
DC-47-1110		CROSSLAY #1 CAPACITY - 200' OF 1 3/4" HOSE	1	KMEM
DC-47-1410		CROSSLAY #1 - DOUBLE STACK HOSE DESIGN	1	KMEM
DC-47-1510		1 1/2" NST CHICKSAN SWIVEL - CROSSLAY #1	1	KMEM
DC-47-2110		CROSSLAY #1, PLUMBING, 2" STAINLESS STEEL PIPING	1	KMEM
DC-47-2210		2" AKRON #8800 SERIES - S.S. BALL, VALVE CROSSLAY #1, DISCH	1	KMEM
DC-47-2610		PUSH/PULL 1/4 TURN CONTROL CROSSLAY #1	1	KMEM
DC-47-3230		***CLASS ONE LIQUID FILLED 2 1/2" PRESS GAUGE - CROSSLAY #1***	***1***	***KMEM***
		CROSSLAY #2 DISCHARGE	**1**	**KMEM**
DC-47-5900		CROSSLAY #2, 1 1/2" - TANKER	1	KMEM
DC-47-6110		CROSSLAY #2 CAPACITY - 200' OF 1 3/4" HOSE	1	KMEM
DC-47-6410		CROSSLAY #2 - DOUBLE STACK HOSE DESIGN	1	KMEM
DC-47-6510		1 1/2" NST CHICKSAN SWIVEL - CROSSLAY #2	1	KMEM
DC-47-7110		CROSSLAY #2, PLUMBING, 2" STAINLESS STEEL PIPING	1	KMEM
DC-47-7210		2" AKRON #8800 SERIES - S.S. BALL, VALVE CROSSLAY #2,	1	KMEM
DC-47-7610		PUSH/PULL 1/4 TURN CONTROL CROSSLAY #2	1	KMEM
DC-47-8230		***CLASS ONE LIQUID FILLED 2 1/2" PRESS GAUGE - CROSSLAY #2***	***1***	***KMEM***
		CROSSLAY OPTIONS - TANKER	**1**	**KMEM**
DC-50-7015	>	VINYL CROSS LAY COVER	1	KMEM
DC-50-7030		CROSSLAY COVER RED IN COLOR	1	KMEM
		PUMP PANELS & ACCESSORIES	**1**	**KMEM**
DD-65-1010		SIDE MOUNT PUMP PANEL - TANKER	1	KMEM
DD-65-4110		SIDE MOUNT PANELS - 14 GAUGE BRUSHED STAINLESS STEEL	1	KMEM
DD-65-4710		VERTICALLY HINGED GAUGE PANEL - SIDE MOUNT	1	KMEM
DD-65-4810		OFFICER SIDE VERTICALLY HINGED PUMP ACCESS DOOR - SIDE MOUNT	1	KMEM
DD-65-5150		PANEL FASTENERS	1	KMEM
DD-65-5510		CAPS AND ADAPTERS SAFETY TETHER - BALL CHAIN	1	KMEM
DD-65-8820		PUMP PANEL DISCH./SUCTION TRIM PLATES, HIGH POLISHED	1	KMEM
DD-65-9000		DISCHARGE GAUGE TRIM BEZELS	1	KMEM
DD-65-9110		IDENTIFICATION PLATES	1	KMEM
DD-66-0100		PUMP OPERATOR'S PANEL LIGHT SHIELD	1	KMEM
DD-66-0125		***TECNIQ 6" LED LIGHTS - LIGHT SHIELD***	***1***	***KMEM***
DD-66-2100		OS PUMP PANEL LIGHTING	1	KMEM
DD-66-2130		***TECNIQ EON 3 LED LIGHTS - OS PUMP PANEL***	***1***	***KMEM***
		PUMP OPERATOR'S PANEL - SIDE MOUNT, TANKER	**1**	**KMEM**

PART NO	S	DESCRIPTION	QTY	ID
DD-70-2260		***3/8" PUMP BY-PASS COOLER ON PUMP PANEL***	***1***	***KMEM***
DD-70-2336		***FIRE RESEARCH "THROTTLE XCEL" THROTTLE CONTROL @ PANEL***	***1***	***KMEM***
DD-70-2410		PUMP PRESSURE & VACUUM TEST PORTS @ PANEL	1	KMEM
DD-70-4120		MASTER PRESSURE & COMPOUND GAUGES - 4" NOMINAL GAUGES	1	KMEM
DD-70-4210		***4 1/2" CLASS ONE MASTER PRESSURE AND COMPOUND GAUGES***	***1***	***KMEM***
DD-70-4680		***PRESSURE & COMPOUND GAUGE RANGES - SINGLE STAGE***	***1***	***KMEM***
DD-70-4715		***FIRE RESEARCH "THROTTLE XCEL"***	***1***	***KMEM***
DD-70-4900		AUXILIARY ENGINE COOLER	1	KMEM
		WATER TANK LEVEL GAUGE - TANKER (WITH PUMP)	**1**	**KMEM**
DD-72-0260		***IC, SL PLUS SUPER BRIGHT 16 LED WATER TANK GAUGE - PUMP***	***1***	***KMEM***
DD-72-1100		***IC WATER LEVEL - 1/4" NPT PRESS TRANSDUCER @ BOTTOM OF TANK***	***1***	***KMEM***
		WATER TANKS/OPTIONS TANKERS	***1***	***KMEM***
DE-30-2500		***WATER TANK 2500 GAL POLY***	***1***	***KMEM***
DE-34-1000		***WATER TANK CONSTRUCTION POLY***	***1***	***KMEM***
DE-34-2120		***WATER TANK FILL TOWER POLY (TANK CAPACITY 2500+)***	***1***	***KMEM***
DE-34-3000		***WATER TANK 6" OVERFLOW & VENT PIPE - TANKER***	***1***	***KMEM***
DE-34-4000		***WATER TANK SUMP***	***1***	***KMEM***
DE-34-5000		WATER TANK SUMP CONNECTION; ONE (1) FRONT	1	KMEM
DE-34-5100		***WATER TANK 3" SUMP DRAIN***	***1***	***KMEM***
DE-34-6000		***WATER TANK FLANGES/OUTLETS - TANKER***	***1***	***KMEM***
DE-34-7000		***WATER TANK MOUNTING ALL "T" TANKS - TANKER***	***1***	***KMEM***
DE-35-0100		***WATER TANK REAR DUMP - T TANKS***	***1***	***KMEM***
DE-35-0990		***TANK MODIFICATION FOR REAR SQUARE DUMP***	***1***	***KMEM***
DE-35-1000		***> 10" SQUARE NEWTON DUMP, MANUALLY OPERATED - REAR - T TANK***	***1***	***KMEM***
DE-35-1235		***> 90 DEGREE ELBOW CHUTE AND SLIP ON EXTENSION CHUTE***	***1***	***KMEM***
DE-35-4975		***TANK MODIFICATION FOR DUAL DIRECT TANK FILLS***	***1***	***KMEM***
DE-35-5002		***DRIVER'S & OFFICER'S SIDE REAR DIRECT TANK FILLS***	***1***	***KMEM***
DE-35-5010		***> DIRECT TANK FILL, DS REAR, 2-1/2" AKRON, 2-1/2" NST FITTING***	***1***	***KMEM***
DE-35-5050		***> DIRECT TANK FILL, OS REAR, 2-1/2" AKRON, 2-1/2" NST FITTING***	***1***	***KMEM***
JA-00-0505		APPARATUS BODY GENERAL DESCRIPTION (TANKER)	1	KMEM
JA-10-0205		***BODY 12 GAUGE GALVANNEAL STEEL; 213"***	***1***	***KMEM***
JA-20-0305		100" WIDE BODY WITH NO COMPARTMENT CHANGE (TANKER)	1	KMEM
JA-20-5000		***SUPER STRUCTURE FOR STEEL BODIES***	***1***	***KMEM***
JH-01-0160		***TA 213-FLATBACK TANKER ROLLUP NO SIDE DUMPS (3000 MAX)***	***1***	***KMEM***
JH-01-4200		***TA TANK FB-213-R, DS LOW SIDE; ND***	***1***	***KMEM***
JH-01-4250		***TA TANK FB-213-R, OS LOW SIDE; ND***	***1***	***KMEM***
JH-10-0011	***X***	***BODY COMPARTMENT STORAGE SPACE 113 CU FT***	***1***	
		****** HEADER, TA FLATBACK TANKER BODY OPTIONS**	**1**	**KMEM**
TF-10-1100		***> ROLL-UP DOORS ON ALL COMPARTMENTS, ANY COMPATIBLE BODY***	***1***	***KMEM***
TF-10-1605		***AMDOR BRAND ROLL-UP DOORS, SATIN FINISH***	***1***	***KMEM***
TF-10-6005		***SWEEP-OUT COMPARTMENTS (NON-AERIALS)***	***1***	***KMEM***
TF-10-7005		BEAVERTAIL DESCRIPTION, TANKER BODIES	1	KMEM
TF-11-0602		COMPARTMENT TOPS (TANKERS)	1	KMEM
TF-11-0605		> DRIP MOLDING	1	KMEM
TF-11-0610		COATED FASTENERS	1	KMEM
TF-11-0620		COMPARTMENT LOUVERS	1	KMEM
TF-11-0630		ACCESS PANELS	1	KMEM
TF-11-1500		REAR BODY PANEL DESCRIPTION	1	KMEM
TF-11-2015		CAST ALUMINUM SIDE MOUNTED REAR STANCHIONS	1	KMEM
TF-11-3030		BODY RUB RAILS, TREAD PLATE	1	KMEM
TF-12-1005		RUNNING BOARD STEPS (NON-AERIALS)	1	KMEM
TF-12-3580		REAR STEP - RECESSED 12"D X 76" W (FB TANKER)	1	KMEM
TF-12-5000		***DELETE INTERMEDIATE REAR STEP***	***1***	***KMEM***
TF-12-6500		***DELETE REAR STEP COMPARTMENT (TANKER)***	***1***	***KMEM***
		HEADER - HANDRAIL DESCRIPTION & OPTIONS	**1**	**KMEM**
TF-13-5190		GRAB RAILS, KNURLED ALUMINUM EXTRUSION	1	KMEM
TF-13-5200		TWO (2) VERTICAL RAILS ON REAR	1	KMEM
TF-13-5210		ONE (1) HANDRAIL, BELOW HOSE BED LEVEL	1	KMEM
TF-13-7570		***CAST PRODUCTS CHROME LIGHTED FOLDING STEP(S), BODY REAR, DS***	***1***	***KMEM***
TF-13-7670		***CAST PRODUCTS CHROME LIGHTED FOLDING STEP(S), BODY REAR, OS***	***1***	***KMEM***

PART NO	S	DESCRIPTION	QTY	ID
TF-13-9000		SAFETY SIGNS (NFPA REQUIRED)	1	KMEM
TF-14-1000		ALUMINUM WHEEL WELL LINERS	1	KMEM
TF-14-1710		POLISHED ALUMINUM FENDERETTES, TANDEM AXLE BODIES	1	KMEM
TF-14-5000		REAR MUD FLAPS	1	KMEM
TF-14-6500		PAINTED REAR TOW EYES, THROUGH REAR SHEET	1	KMEM
TF-15-1250		HOSE BED, TANKER BODIES	1	KMEM
TF-15-1505		HOSE BED 8" DEEP	1	KMEM
TF-15-1915		ALUMINUM HOSE BED FLOORING - TANKER	1	KMEM
TF-15-2790		***ONE (1) - 3/16" ADJUSTABLE HOSE BED PARTITION***	***1***	***KMEM***
TF-15-3110		HOSE BED COVER, VINYL WITH QTR TURNS	1	KMEM
TF-15-3190		HYPALON MATERIAL RED IN COLOR	1	KMEM
		****** HEADER, COMPARTMENT ACCESSORIES - TANKER**	**1**	**KMEM**
		****** HEADER, SUCTION HOSE STORAGE, TANKER (w/ PUMP)**	**1**	**KMEM**
TN-15-0520		***SUCTION HOSE STORAGE SIDE OF BODY (OFFICER SIDE)***	***1***	***KMEM***
TN-15-1005		***SUCTION HOSE TROUGH***	***2***	***KMEM***
TN-15-2000		***DELETE SUCTION HOSE***	***1***	***KMEM***
TN-20-0005		ADDITIONAL ITEMS SHIPPED WITH VEHICLE, ALL NON-AERIALS	1	KMEM
		****** HEADER, LOOSE EQUIPMENT - TANKER**	**1**	**KMEM**
TN-35-1015		TWO (2) ZICO #SAC-44 FOLDING WHEEL CHOCKS, (2) MTD DRIVER SIDE	1	KMEM
		****** HEADER - PAINT SECTION - ALL UNITS ******	**1**	**KMEM**
UA-00-1100		GENERAL PAINT DESCRIPTION - ALL	1	KMEM
UA-00-1245		GENERAL PRIMER & PREP DESCRIPTION - "T" TANKER	1	KMEM
UA-00-1445		GENERAL FINISH PAINT DESCRIPTION - "T" TANKER	1	KMEM
UA-00-2740		BODY BUFFING & FINISH - "T" TANKER	1	KMEM
		****** HEADER - 'T' TANKER BODY PAINT ******	**1**	**KMEM**
UA-03-0235		***INSIDE/UNDERSIDE BODY PAINTED JOB COLOR - 'T' TANKER***	***1***	***KMEM***
UA-03-0335		JOB COLOR COMPARTMENT INT W/SPATTER PAINT - 'T' TANKER	1	KMEM
UA-03-0935		SINGLE COLOR BODY PAINT SCHEME - 'T' TANKER	1	KMEM
UA-03-2115		PUMPHOUSE & PLUMBING PAINTED BLACK - TANKER	1	KMEM
UA-03-3070		***NO FENDER STORAGE COMPARTMENTS - DELETE PAINT SECTION***	***1***	***KMEM***
		******* HEADER - OTHER 2 DOOR COMMERCIAL CHASSIS PAINT - TA *******	***1***	***KMEM***
UA-04-0400	***>***	***OTHER 2-DR SINGLE COLOR BY CHASSIS MFTR (LIMITED COLORS)***	***1***	***KMEM***
UA-04-0650		***COMMERCIAL CAB PAINT FINISH - OTHER***	***1***	***KMEM***
UA-04-0700		***COMMERCIAL CHASSIS WHEEL AND HUB PAINT - AS PROVIDED***	***1***	***KMEM***
UA-06-2200		PINT OF TOUCH-UP PAINT	1	KMEM
UA-06-2545		FINALIZATION & DETAILING - "T" TANKER	1	KMEM
UA-06-2850		RUSTPROOFING WARRANTY, TEN (10) YEAR	1	KMEM
		****** HEADER, LETTERING & STRIPING - TANKER**	**1**	**KMEM**
UA-12-0500		***DELETE KME SUPPLIED LETTERING***	***1***	***KMEM***
UA-50-0600		NFPA REQUIRED SCOTCH-LITE STRIPING - TANKER	1	KMEM
UA-50-0610		4" SCOTCH-LITE STRIPE ON CAB AND BODY - TANKER	1	KMEM
UA-58-5100		WHITE SCOTCH-LITE	1	KMEM
UA-80-6000		REAR CHEVRON STRIPING	1	KMEM
UA-80-6002		50% VERTICAL SURFACE	1	KMEM
UA-80-6030		6" REAR SCOTCH-LITE CHEVRON STRIPING	1	KMEM
UA-80-6070		RUBY RED & LEMON YELLOW SCOTCH-LITE	1	KMEM
		****** PROPOSED - COM TANKER WARRANTY PKG, W/PUMP @ REAR OF SPE**	**1**	**KMEM**
W6-00-0105	***>***	***DELETE - BASE INTERNATIONAL WARRANTY***	***1***	***KMEM***
W6-00-0123		PROPOSED - COMMERCIAL CHASSIS -1 YEAR NEW PRODUCT WARRANTY	1	KMEM
W6-00-0330		PROPOSED - 10 YEAR BODY STRUCTURAL WARRANTY	1	KMEM
W6-00-0410		PROPOSED - 10 YEAR BODY CORROSION WARRANTY, USE W/COMM CHASS	1	KMEM
W6-00-0450		***PROPOSED - PAINT FINISH WARRANTY, TEN (10) YEAR***	***1***	***KMEM***
W6-00-0483		***PROPOSED - 1 YEAR BRIGHTWORK WARRANTY***	***1***	***KMEM***
W6-00-0490		***PROPOSED - 10 YEAR STAINLESS STEEL PIPING WARRANTY***	***1***	***KMEM***
W6-00-0710		PROPOSED - LIFETIME POLY/FIBERGLASS TANK WARRANTY - ALL TANK	1	KMEM
W6-00-0750		PROPOSED - HALE FIRE PUMP LIMITED STANDARD WARRANTY	1	KMEM
W6-00-1060		***PROPOSED - CLASS 1 - PRODUCT WARRANTY***	***1***	***KMEM***
W6-00-1340		PROPOSED - AKRON HEAVY DUTY VALVE - 10 YEAR WARRANTY	1	KMEM
WA-00-0050		"MOBILE WATER SUPPLY FIRE APPARATUS" NFPA 2009 STATEMENT OF EXCEPTIONS	1	KMEM