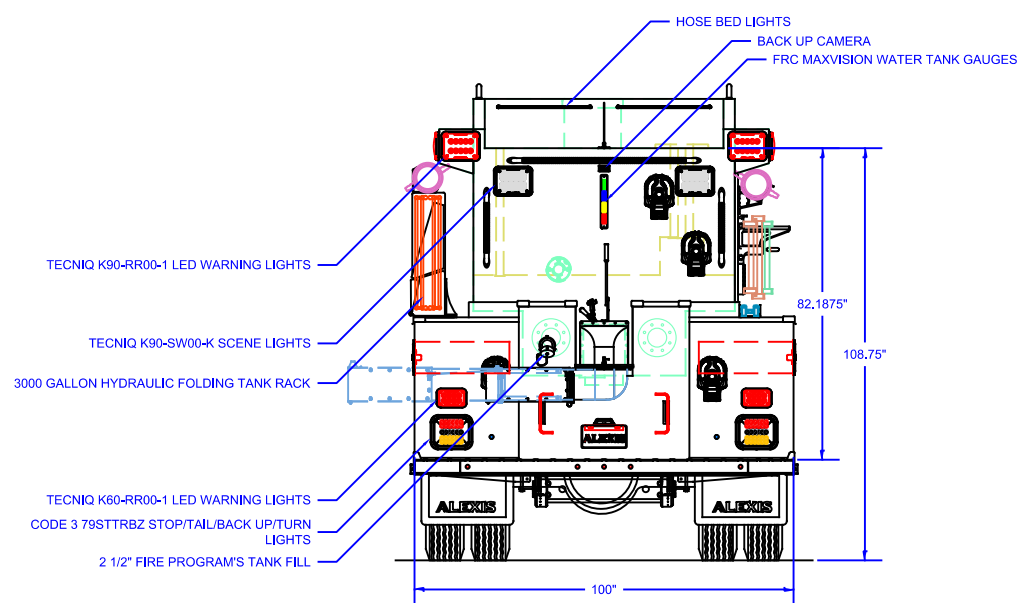
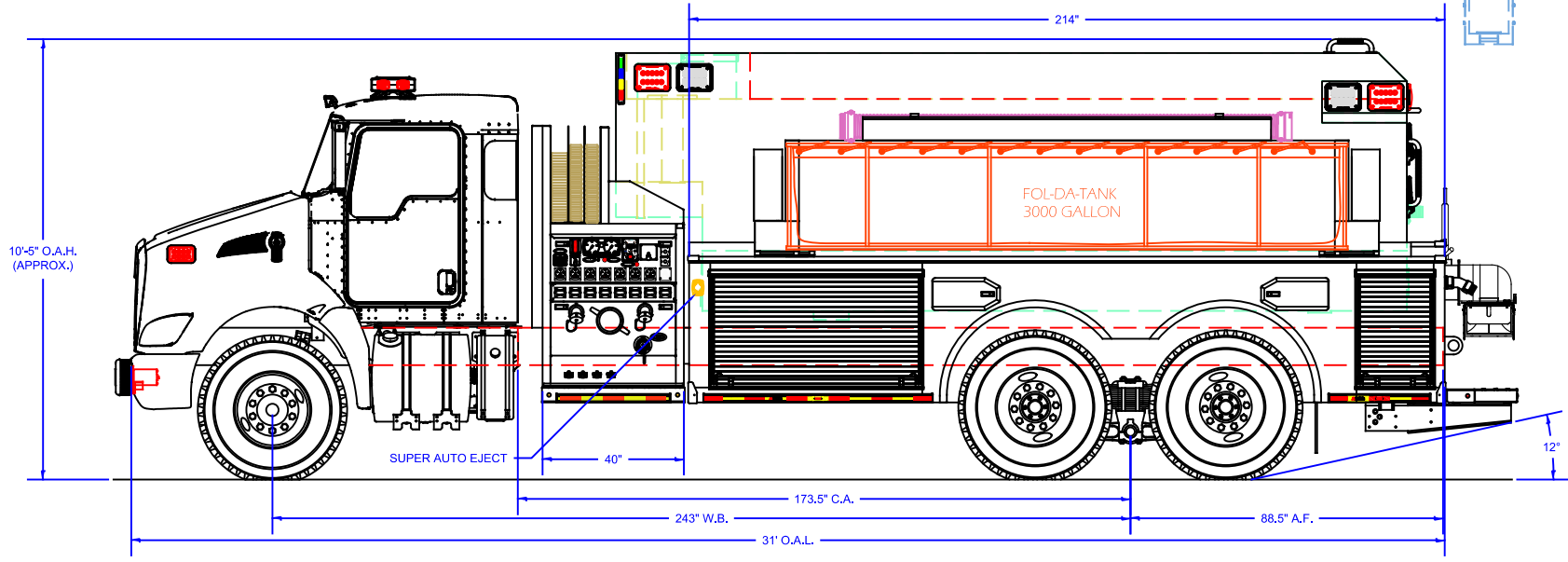
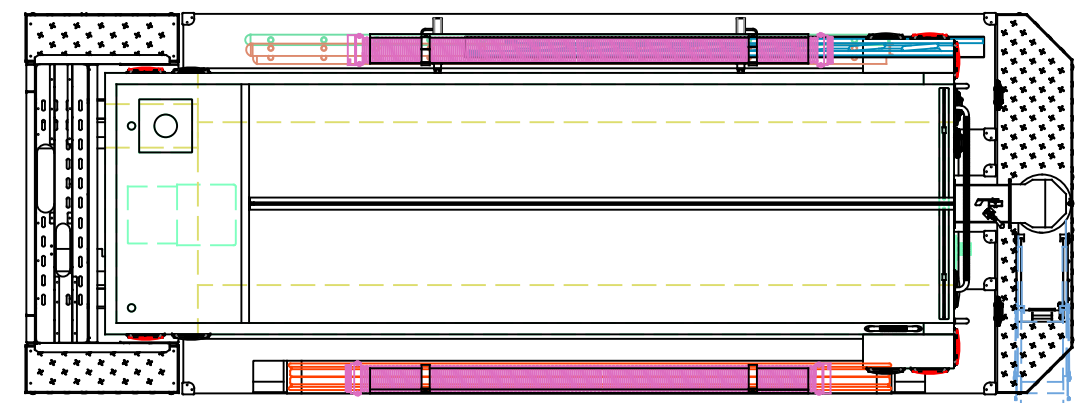
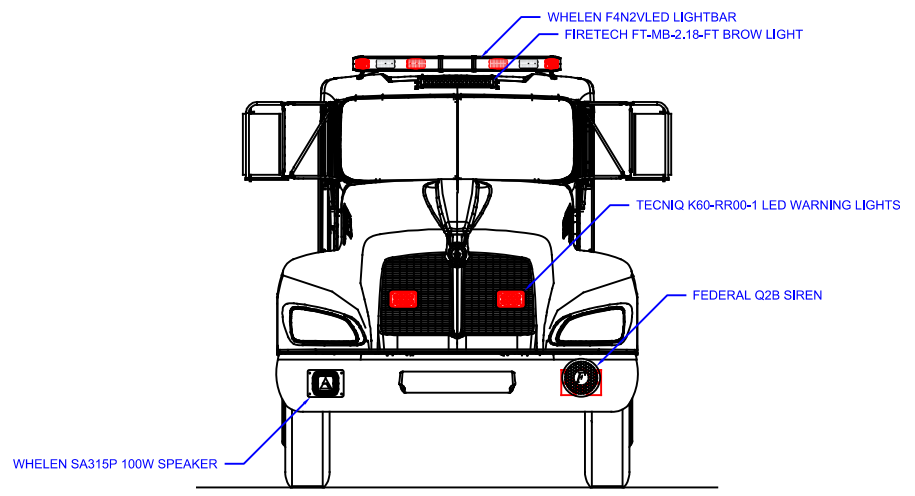
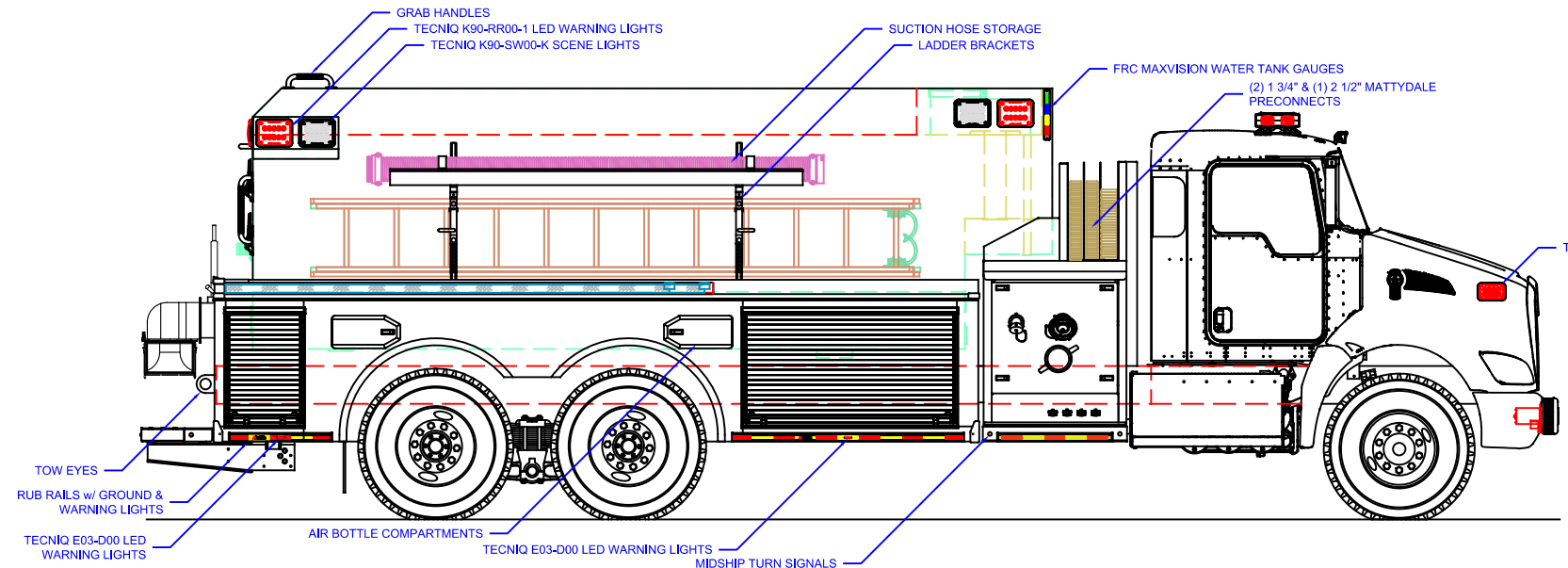


CUSTOMER APPROVAL SIGNATURE:

DATE:

AFE-2635

IN THE EVENT THERE ARE DISCREPANCIES BETWEEN THE DRAWING AND THE SPECIFICATIONS, THE SPECIFICATIONS SHALL PREVAIL.



REVISION HISTORY			
REV	DESCRIPTION	DATE	DWN

Pump Info:	Control Location: Under Tank	Apparatus Type: Tanker
Pump Drive: Split Shaft	Pump Make: Waterous	Chassis: KENWORTH T-480 2-DOOR
Pump Model: CXVC20	Pump Model: CXVC20	Tank Capacity: 3000
Pump GPM: 1500		Material: Stainless Steel

COMPARTMENT DIMENSIONS	
COMP #	DOOR OPENING SIZES
L1 & R1	58" WIDE X 27" HIGH X 25" DEEP
L2 & R2	19" WIDE X 27" HIGH X 25" DEEP

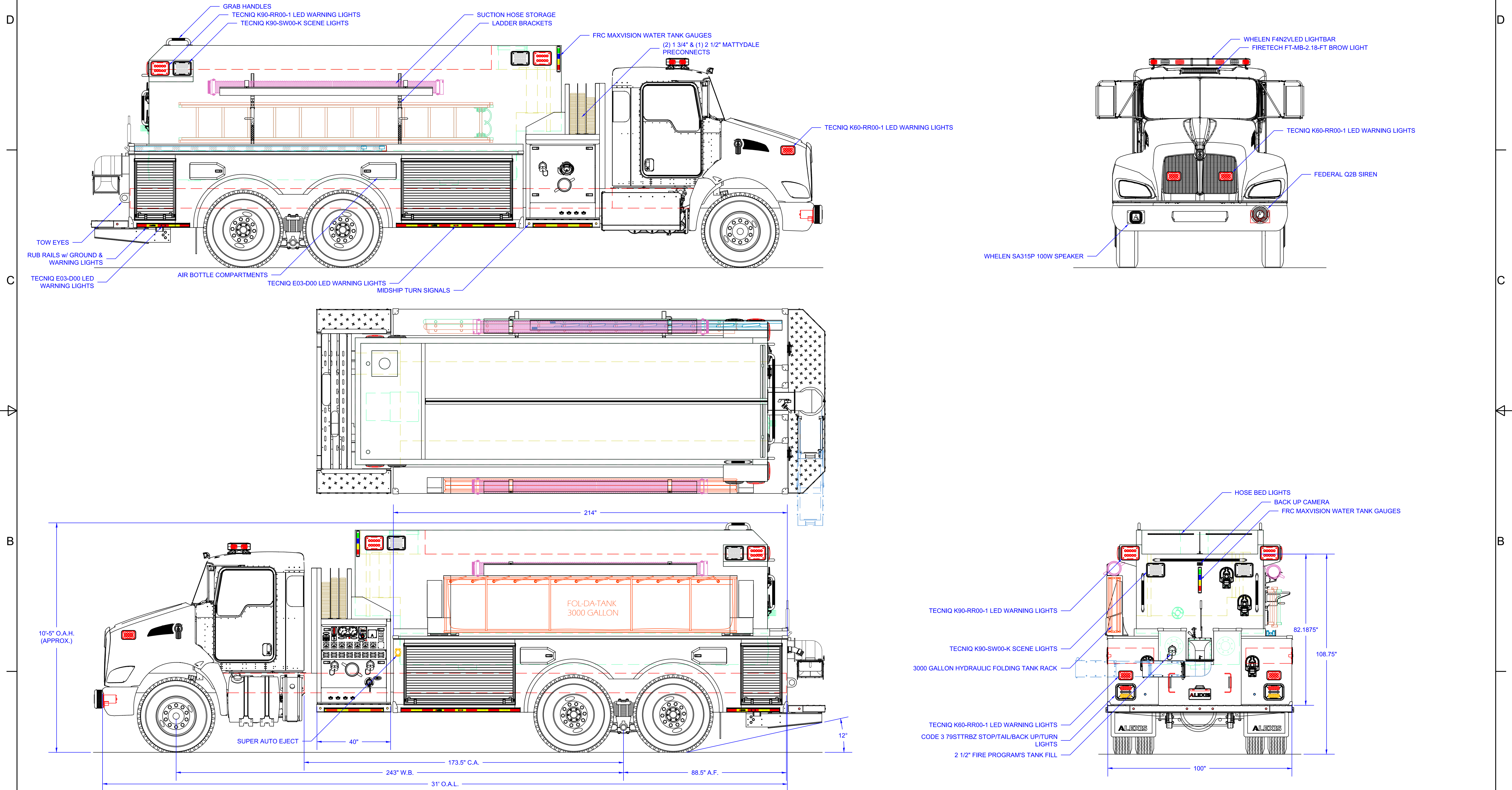
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE NOT CUMULATIVE
 DECIMAL ±0.062 ANGULAR ±0.5° FRACTIONAL ±1/16 METRIC ±1.6 mm

ALEXIS FIRE EQUIPMENT CO.
 P.O. BOX 549, ALEXIS, ILLINOIS 61412

TANKER
 ALEXIS FIRE EQUIPMENT
 ALEXIS, IL

The copyright of this drawing and design and the right of reproduction there is vested in and belongs to Alexis Fire Equipment Co.

DRAWN C.SHUCK	DATE 3/15/24	SIZE D	SCALE 1/2" = 1'	DWG NO T-N14
MATERIAL	CONTRACT # 2635	SHEET 1 OF 2		



Pump Info:		Apparatus Type: Tanker	
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 DECIMAL ± 0.062 ANGULAR ± 0.5°
 FRACTIONAL ± 1/16 METRIC ± 1.6 mm

ALEXIS FIRE EQUIPMENT CO.
 P.O. BOX 549, ALEXIS, ILLINOIS 61412

TANKER
 ALEXIS FIRE EQUIPMENT
 ALEXIS, IL

DRAWN: C.SHUCK	DATE: 3/15/24	SIZE: D	SCALE: 1/2" = 1'	DWG NO: T-N14
MATERIAL:	CONTRACT #: 2635	SHEET 1 OF 2		

REVISION HISTORY			
REV	DESCRIPTION	DATE	DWN



 Alexis Fire Equipment
 109 East Broadway / Alexis, IL 61412
 800-322-2284  sales@alexisfire.com
 AlexisFire.com

Alexis Fire Equipment Company
Alexis, IL

We hereby propose to furnish, after your acceptance, approval, and proper execution of the accompanying contract, the fire apparatus as follows:

One (1) Alexis Demo #2635 3000 Gallon Tanker

As per specifications attached herewith.

TOTAL APPARATUS.....\$ *

* Does not include any applicable taxes. Any local or state tax, if applicable, must be added to the above price.

Shipment of completed apparatus shall be made within 550 calendar days after our approval of properly signed contract, subject to causes beyond our control. This proposal is made subject to your acceptance within thirty (30) days from date of same. If acceptance is delayed beyond that period, we will, upon request, advise you of any increase in said amount which may be occasioned by causes beyond our control.

Respectfully submitted,
ALEXIS FIRE EQUIPMENT COMPANY

By: _____

"QUALITY HAS NO SUBSTITUTE"



 Alexis Fire Equipment
109 East Broadway / Alexis, IL 61412
 800-322-2284  sales@alexisfire.com
 AlexisFire.com

PAYMENT TERMS

The chassis payment shall be made within ten (10) days of invoicing.

A progress payment of \$ shall be made within ten (10) days of invoicing, upon the initial construction of the apparatus body. The front page price reflects a discount of \$ for this payment.

The balance of the contract plus any contract alterations shall be payable upon the delivery of the finished unit.

Upon payment, the Alexis Fire Equipment Company shall furnish the purchaser a "Statement of Origin" or the necessary validated documents required for title application.

Additional payment terms available upon request.



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ISO 9001:

Alexis Fire Equipment Company operates a Quality Management System under the requirements of ISO 9001. These standards, sponsored by the "International Organization for Standardization (ISO)," specify the quality systems that shall be established by the manufacturer for design, manufacture, installation and service.



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SERVICE CENTER:

The Alexis Priority-One service team is staffed with factory trained mechanics ready to meet your service requirements. Our staff is continually working on maintaining updated EVT and ASE certification.

The Alexis Service Team is available 24 hours a day, 7 days a week for your service emergencies. We use the latest paging system for fast, efficient and reliable service.

Our service facility covers an area of approximately 14,000 square feet.

The Alexis Service Team can assist you in fire apparatus service, ambulance service, aerial device maintenance, generator and rescue tool maintenance and service, and air pack inspections. Our staff can provide our customers with a complete apparatus training program, meeting the latest training requirements.

Alexis is a single source warranty center for the following manufacturers: Spartan Motors, Darley, Hale, and Waterous.

Our service team has over 50 years of cumulative experience in the fire service industry. In addition, they are backed by our fabrication, electrical, and paint and finish departments. This combination of training and hands-on experience offers true reliability and dependability.

Alexis keeps detailed documentation of all repair, maintenance, and inspection performed by our personnel. With time and manpower at such a premium among many fire departments, why not allow the Alexis Service Team to set up and maintain records for your fleet?

The Alexis Service Team is committed to providing prompt and courteous service, quality products and fair pricing.

Business: Alexis Fire Equipment Company
Location: 109 East Broadway Alexis, IL 61412
Phone: 800-322-2284



 Alexis Fire Equipment
109 East Broadway / Alexis, IL 61412
 800-322-2284  sales@alexisfire.com
 AlexisFire.com

DELIVERY:

The finished apparatus shall be picked up by the dealer organization at the plant site of the Alexis Fire Equipment Company in Alexis, Illinois.

To ensure proper break-in of all drive train components while under warranty, the finished apparatus shall be delivered to the purchaser under its own power.

The apparatus shall be covered by comprehensive and liability insurance during the delivery period. The purchaser shall assume the insurance obligation on acceptance, and at that time shall present to the manufacturer's agent a certificate of verification, showing liability, comprehensive and collision insurance coverage.



GENERAL INFORMATION:

LOCATION

The Alexis Fire Equipment facilities are located at 109 East Broadway, Alexis, Illinois 61412. We maintain a complete stock of parts and services available around-the-clock. We also propose to maintain parts and service for a minimum period of twenty (20) years on all apparatus which is manufactured.

NOTATION

To further assure the customer of our ability to manufacture quality fire apparatus, we are proud of the fact that Alexis Fire Equipment Company is family-owned and has been in the fire apparatus business since 1947. All apparatus manufactured by Alexis Fire Equipment are designed and built to meet the requirements of the latest edition of NFPA 1901.

PERSONNEL CAPACITIES

To meet the spirit of N.F.P.A. 1500 paragraph 6.3.1, this apparatus has been designed to transport not more than two (2) people.

6.3 Riding in Fire Apparatus

6.3.1 All persons riding in fire apparatus shall be seated and belted securely to the vehicle by seat belts in approved riding positions and at any time the vehicle is in motion. Standing or riding on tailsteps, sidesteps, running boards or in any other exposed position shall be specifically prohibited.

MAXIMUM TOP SPEED:

To meet the intent of NFPA 1901 4.15.3, the top speed of the vehicle shall not exceed 60 MPH or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower.

INFORMATION TO BE PROVIDED:

Alexis Fire Equipment Company shall supply, at the time of delivery, the following documents:

- A) The manufacturer's record of apparatus construction details, including the following information:
1. Owner's name and address
 2. Apparatus manufacturer, model, and serial number.
 3. Chassis make, model, and serial number.
 4. GAWR of front and rear axles.
 5. Front tire size and total rated capacity in pounds.
 6. Rear tire size and total rated capacity in pounds.
 7. Chassis weight distribution in pounds with water and manufacturer mounted equipment.
 8. Engine make, model, serial number, number of cylinders, bore, stroke, displacement and compression ratio, rated horsepower and related speed, and no-load governed speed.
 9. Type of fuel and fuel tank capacity.
 10. Electrical system voltage and alternator output in amps.
 11. Battery make and model, capacity in CCA.
 12. Transmission make, model, and type.
 13. Pump to drive through the transmission (yes or no)
 14. Engine to pump gear ratio used
 15. Pump make, model, rated capacity in g.p.m., serial number, number of stages, and impeller diameter in inches.
 16. Pump transmission make, model, and serial number.
 17. Priming device type.
 18. Type of pump pressure control system.
 19. Auxiliary pump make, model, rated capacity in g.p.m., serial number, number of stages, and impeller diameter in inches.
 20. Water tank certified capacity in gallons.
 21. Aerial device type, rated vertical height in feet, rated horizontal reach in feet, and rated capacity in pounds.
 22. Paint numbers
 23. Company name and signature of responsible company executive.
- B) If the apparatus has a fire pump, the pump manufacturer's certification of suction capability.
- C) If the apparatus has a fire pump, a copy of the apparatus manufacturer's approval for stationary pumping applications.
- D) If the apparatus has a fire pump, the engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum no-load governed speed.
- E) If the apparatus has a fire pump, the pump manufacturer's certification of hydrostatic test.
- F) If the apparatus has a fire pump, the certification of inspection and test for the fire pump.
- G) If the apparatus has an aerial device, the certification of inspection and test for the aerial device.
- H) If the apparatus has an aerial device, all the technical information required for inspections to comply with NFPA.
- I) Weight documents from a 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) - shall be supplied with the completed vehicle.

- J) Written load analysis and results of the electrical system performance tests.
- K) If the apparatus is equipped with a water tank, the certification of water tank capacity.
- L) If the apparatus has a fire pump, two (2) copies of the pump operation and maintenance manual.
- M) Two (2) destination effective wiring diagrams.
- N) Copies of electrical and mechanical component manuals for equipment purchased on or with the apparatus.
- O) A sketch of the booster tank indicating all dimensions and baffle locations.
- P) If the apparatus has a pump, one (1) certification of third party test

WARRANTY:

Alexis Fire Equipment Co., Inc. warrants each new piece of Alexis fire and rescue apparatus to be free from defects in material and workmanship under normal use and service. Our obligation under this warranty is limited to repairing or replacing, as the company may elect, any part or parts thereof which shall be returned to us with transportation charges prepaid, and as to which examination shall disclose to the company's satisfaction to have been defective, provided that such part, or parts shall be returned to us not later than two years after delivery of such vehicle. Such defective part or parts will be repaired or replaced free of charge and without charge for installation to the original purchaser. All water tanks will be warranted as stated herein and may have extended warranty as explained elsewhere in the Alexis Fire Equipment Co. Proposal.

This warranty will not apply:

1. To normal maintenance service or adjustments.
2. To any vehicle which shall have been repaired or altered outside of our factory, in any way so as, in our judgement, to affect its stability, nor which has been subject to misuse, negligence, or accident, nor to any vehicle made by us which shall have been operated at a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.
3. To the chassis and associated equipment furnished with chassis, signaling device, generators, batteries or other trade accessories. These are usually warranted separately by their respective manufacturers.
4. To work performed by an outside service without prior authorization obtained from Alexis Fire Equipment.
5. To costs incurred from an outside service for non-warranty related items.



This warranty is in lieu of all other warranties, expressed or implied, and all other representations to the original purchaser and all other obligations or liabilities, including liability for incidental or consequential damages on the part of the company. We neither assume or authorize any other person to give or assume any other warranty or liability on the company's behalf unless made or assumed in writing by the company.

Surety Bond, if required, will cover standard two-year warranty period only and will not cover any extended warranties allowed by Alexis Fire Equipment co. or other component manufacturers.

LENGTH AND/OR HEIGHT LIMITATIONS:

OVERALL HEIGHT:

There shall be no overall height restrictions.

OVERALL LENGTH:

There shall be no overall length restrictions.

CHASSIS MODIFICATIONS:

MUD FLAPS:

Each rear fender shall be extended with a black rubber mud flap, thus preventing splash and road debris from damaging the apparatus body.

CHASSIS SUPPLIED WHEELS:

The wheel finish on the apparatus shall remain as specified in the chassis specifications.

LABELS:

A permanent plate in the driving compartment shall 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 (if applicable)
- Drive Axle(s) Lubrication Fluid
- Air-Conditioning Refrigerant
- Air-Conditioning Lubrication Oil
- Power Steering Fluid
- Cab Tilt Mechanism Fluid
- Transfer Case Fluid
- Equipment Rack Fluid
- CAFS Air Compressor System Lubricant
- Generator System Lubricant
- Front Tire Cold Pressure
- Rear Tire Cold Pressure
- Maximum Tire Speed Ratings

A final manufacturer's certification of the GVWR or GCWR along with a certification of each GAWR, shall be supplied on a label affixed to the vehicle.

A sign that reads "Occupants Must Be Seated and Belted When Apparatus Is in Motion" shall be provided. The sign shall be visible from each seated position.

A label that states the number of personnel the vehicle is designed to carry shall be located in an area visible to the driver.

A sign stating the overall height of the vehicle in feet and inches, the overall length of the vehicle in feet and inches, and the GVWR in tons shall be provided and mounted. The sign shall be visible to the driver of the vehicle while seated.

A label stating "Do Not Wear Helmet While Seated" shall be visible from each seating position.

A label stating "All Equipment Stored in the cab shall be properly secured" shall be visible from each seating position.

A "Do Not Ride" label shall be visible near all stepping and standing surfaces

EXHAUST MODIFICATION:

The chassis supplied exhaust shall terminate ahead of the rear wheels on the right side of the apparatus.

VEHICLE DATA RECORDER:

One (1) Weldon style vehicle data recorder (VDR) shall be provided. Recorded data includes: vehicle speed, acceleration, declaration, engine speed, engine throttle position, ABS event, seat occupied status, seat belt status, master optical warning switch, park brake, service brake, time, date and engine hours. VDR is password protected by user and has CAN ports for interface with engine and transmission as well as traditional wiring, V-MUX or other multiplexing systems. Data is extracted by USB. Meets NFPA 1901-2009 requirements

SEAT BELT WARNING SYSTEM

A Weldon style occupant restraint indicator, item 6204-0000-00 shall be provided. Designed and NFPA 1901-2009 compliant to alert drivers, indicating where safety restraints of occupied seats are properly fastened keeping personnel safe. Indicator is low profile and compact size fits in space equivalent to three standard rocker switches (2" x 3"). Features, dimming, built-in audible alarm and has an integral Deutsch DTM connector. Standard four (4) year warranty.

BATTERY RELOCATION:

The chassis supplied temporary batteries shall be permanently mounted on the floor in the R1 compartment.

AIR LIMITER:

A limiter valve shall be installed on the chassis air reserve tank, eliminating the use of all air accessories when the chassis air pressure is under 100 psi, thus reserving all available air for braking effort.

HELMET STORAGE:

To meet the intent of NFPA 14.1.8.4.1, the helmet for each occupant shall be stored in an exterior compartment.

PUMP AND PIPING:

WATEROUS CX-1500 SPLIT SHAFT PUMPING SYSTEM:

MANUFACTURER: Waterous
MODEL: CXVC20
CAPACITY: 1500 gpm at 150 psi

The CX 1250 shall be designed and have the capacity of 1500 GPM rated performance.

DESCRIPTION:

The efficient performance and modern design make the CX series pumps outstanding in their class. The combination of single-stage design and vertically-split volute and pump transmission provide a simple to operate, easy to maintain pump. The use of heavy-duty gears, bearings and shafts provides longer, more trouble-free service and a high reserve capacity. The pump shall utilize a Waterous C20 series chain drive transmission and shall be driven off the split shaft driveline.

The CX is equipped with Victaulic® intake and discharge fittings for rear mount applications.

PUMP SPECIFICATIONS:

CASING:

Two-Piece, vertically-split, high-tensile, close-grained gray iron

IMPELLER:

Flame Plated bronze impeller specifically designed for the fire service, double hubbed to eliminate axial thrust, and accurately balanced for vibration-free running.

WEAR RINGS:

Replaceable bronze wear rings to increase pump life and keep maintenance costs at a minimum.

IMPELLER SHAFT:

Stainless steel, heat treated, precisely ground to size, and polished under shaft seal. Supported by oil lubricated ball bearings.

BEARINGS:

All bearings are oil or grease lubricated, ball-type, located outside the pump casting to accurately align and support the impeller shaft assembly. Ball bearings are deep groove type designed to carry both radial and axial thrust.

GEARS:

Crown shaved, carburized and hardened gears are constant mesh, helical design, for quiet operation and

long life.

PRIMING PUMP:

The priming pump shall be a Trident Emergency Products compressed air-powered, high efficiency, multi-stage, venturi based AirPrime™ System. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. A single panel mounted control will activate the priming pump and open the priming valve to the pump. The priming system shall have a five year warranty.

The priming pump shall be controlled from the pump operator's panel.

DRIVELINES:

The chassis drivelines shall be modified to accept the pump drivelines. The pumping system drivelines shall be manufactured by the apparatus manufacturer. The drivelines shall be professionally balanced by the apparatus manufacturer to ensure complete system balance.

6" SUCTION:

One (1) 6" NST suction shall be located on each side of the apparatus body. The suctions shall be open and not gated. An inlet screen and a 6" handle cap shall be included.

STEAMER GATES:

One (1) Elkhart EB6D butterfly valve(s) shall be installed in the specified suction inlet(s) of the pump. The valve shall have a ductile iron body with aluminum/bronze disk and EPDM seat. The valve shall be pressure rated to 250psi with a Cv Value of 1950. The valve shall be capable of bi directional flow. The valve shall not require lubrication of seats or any internal waterway components, and must be capable of swinging out of the waterway for maintenance. The valve shall carry a 10-year manufacturer's warranty. This valve shall be operated using an electric gear drive actuator. The actuator shall be quickly adjustable to one of four positions. The clutchless electric drive shall open or close the valve in no less than 5 seconds.

A warning label stating "**Warning: serious injury or death could occur if inlet is supplied by a pressurized source when the valve is closed**" shall be supplied and mounted.

APEX-S VALVE CONTROLLER

An Elkhart Brass APEX-S Electric Valve Controller shall be provided. The controller shall be no greater than 3.75" wide. The controller shall be rated to IP67 and operate the electric valve from a

supply voltage of 12-24 VDC. Controller shall have CAN network capability. Valve position shall be monitored via true position feedback and displayed by 10 LED position indicators. The controller shall include OPEN/CLOSE buttons, a one-touch programmable preset valve position and auto-open/auto-close function. The controller shall include a top-mounted changeable visor available in colors to match the discharge.

Product Features

- Valve control with 10 segment LEDs for position indication
- CAN network compatible
- Oversized buttons for easy gloved-hand operation
- Programmable preset for automatic valve positioning
- AUTO open/close feature for quick operation
- Visors in NFPA colors to match pump discharge colors

The Apex-S Visor Color shall be Burgundy.

LOCATION: Left Side

PIPING:

The piping will be stainless steel material throughout the waterway system. The suction waterway shall be 6" 304 stainless steel material. The suction waterways shall be designed to flow a minimum of 17% in excess of the rated capacity from draft. The suction piping shall incorporate a 4" suction inlet to allow for full flow from the tank valve assembly. The suction piping shall be adapted from 6" TIPT to NST with a chrome adapter. The suction system shall be designed with 6" victaulic couplings to allow ease of access for maintenance or removal of the pumping system.

The discharge system shall incorporate a 4" stainless steel distribution system. The manifold shall be fed from the 4" piping system. The discharge system shall incorporate a 4" victaulic system to allow ease of access for maintenance or removal of the pumping system. Each discharge shall be fed from above the manifold system.

PUMP DRAINS:

The entire pump and its controls shall be drainable with a master drain piped to the lowest points of the pump and its control piping. The master drain shall be of a threaded design that will seal all drain points without allowing recycle.

WATEROUS MECHANICAL SEAL:

The mechanical seal must be 2" in diameter and shall be spring loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber cup, and a tungsten carbide seat with Teflon backup seal.

AIR PUMP SHIFT:

The shifting mechanism shall be a heat-treated, hard anodized aluminum power cylinder, with stainless steel shaft. The assembly shall be plumbed utilizing a 3/8" air line for maximum performance. An in-cab control for rapid shift shall be provided that locks in road or pump.

For automatic transmissions, three green warning lights shall be provided to indicate to the operator(s) when the pump has completed the shift from Road to Pump position. Two green lights to be located in the truck driving compartment and one green light on pump operators panel adjacent to the throttle control. For manual transmissions, one green warning light will be provided for the driving compartment. All lights shall have appropriate identification/instruction plates.

INTAKE PRESSURE RELIEF VALVE

One (1) Elkhart Model #40-20, relief valve shall be provided. The relief valve is designed to be installed permanently on the suction side of the pump..

The relief valve shall be fully adjustable from 75 to 250 PSI which will be pre-set at 125 PSI. The valve shall be brass construction with a stainless steel mechanism and it shall have a rubber seat to ensure a positive vacuum seal.

The relief valve shall be set at 125 PSI

HEATED PUMP ENCLOSURE:

The pump compartment shall be completely enclosed and shall incorporate a removable slide-out bottom to facilitate pump service. The compartment shall be heated with heat radiation from the exhaust lines.

REQUIRED PUMP TESTING:

If the fire pump has a rated capacity of 750 gpm or greater capacity, the pump shall be tested after the pump and all its associated piping and equipment have been installed on the apparatus. The tests shall be conducted at the Alexis facility and certified by an EVT Certified pump operator. The certification shall include (at least) the following tests: the pumping test, the pumping engine overload test, the pressure control system test, the priming device tests, and the vacuum test. If the apparatus is equipped

with a water tank, the water tank to pump flow test shall be included.

A test plate shall be provided at the pump operator's position that gives the following information: the rated discharges and pressures, the speed of the engine determined by the certification test for each unit, the position of the parallel/series pump as used, and the no-load governed speed of the engine stated by the engine manufacturer on a certified brake horsepower curve. The plate shall be completely stamped with all information at the factory and attached to the vehicle prior to shipping.

PUMP CERTIFICATION:

Upon final apparatus delivery, the original copy of the certificate of inspection by an independent third party shall be furnished.

The pumping system shall be capable of delivering:

100 % of rated capacity at 150 psi. net pump pressure

70 % of rated capacity at 200 psi. net pump pressure

50 % of rated capacity at 250 psi. net pump pressure

INTERMEDIATE PUMP MODULE:

A free standing pump module shall be located between the chassis cab and the tank of the apparatus. The tank shall project over the module assembly for better weight distribution and handling. The pump module shall be no wider than 40" to provide an optimal turning radius for the unit.

The pump module shall be a self-supported structure mounted to the frame separate from the cab and body. Pump module design beginning with a cage framework assemblies that are precision manufactured from corrosion free heavy 7 gauge stainless steel forms. This framework mounts to the truck frame through a mounting design complemented with four (4) VIBRA mount elastomer cushions. The result shall be a mounting system that allows for the twisting movement of the truck frame without undue stress loading of the pump module.

The pump operator's panel shall be located on the left side of the apparatus, and the suction/discharge panels shall be located on the left and right sides of the apparatus.

An automotive rubber seal shall be adhered to the pump panel to reduce vibration that may occur during pump operation or road application. The panel shall be attached to the framing with 3/16" pin, 1" knuckle, continuous stainless steel hinges. The hinges shall be attached with stainless steel fasteners.

Each panel shall be secured with latches at the top and bottom of the door opening.

The top left operator's panel shall be hinged for access to the individual gauges and the electrical components. No exceptions.

Once the module is designed, the valve control placements on a control module shall result in a neat and orderly layout. Open the access door on a side control module and peer inside. The horizontal control rods appear neat and orderly.

PUMP CONTROLS:

The pump panel shall incorporate push pull controls for each discharge, the tank fill recycle, and the tank to pump valve (if applicable.)

The control handles shall be placed on an even plane with the upper control panel.

PUMP OPERATOR'S PANEL:

The pump operator's panel shall include the following:

PRESSURE GOVERNOR and MONITORING DISPLAY

One (1) Fire Research PumpBoss Max series PBA501-D00 pressure governor and control module kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module housing shall be waterproof and have dimensions not to exceed 7 1/2" high by 3 5/8" wide. 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 2" from the front of the control module. The control LCD shall be 3.5" in size with a minimum brightness of 1000 nits and optically bonded to 3mm Borofloat Glass. Inputs for monitored engine information shall be from a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus. Inputs from the pump discharge and intake pressure sensors shall be electrical.

The following continuous displays shall be provided:

- Engine RPM; shown on LCD screen
- Check engine and stop engine warning; shown on LCD screen
- Engine oil pressure; shown on LCD screen
- Engine coolant temperature; shown on LCD screen
- Transmission Temperature; shown on LCD screen
- Battery voltage; shown on LCD screen
- Pressure and RPM operating mode LEDs
- Pressure / RPM setting; shown on LCD screen
- Throttle ready / Ok to Pump LEDs.

On screen (LCD) 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. LCD Screen and LED's intensity shall be automatically adjusted for day and nighttime operation. The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High Battery Voltage
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of Water (visual alarm only)
- No Engine Response (visual alarm only).

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.

The pressure governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready and Ok to Pump LED shall light when the interlock signal is recognized. The pressure governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the pressure governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The pressure governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor control module shall be programmed at installation for a Cummins engine.

MASTER GAUGES:

One (1) 4½" compound gauge with a range of 30-0-400 PSI.

One (1) 4½" pressure gauge with a range of 0-400 PSI

The compound and pressure gauges shall remain unlit as previously specified.

MAXVISION TANK LEVEL INDICATOR:



Fire Research TankVision model WLA280-A00 tank remote indicator shall be installed. The indicator shall show the volume of water in the tank on Ninety six (96) easy to see super bright Tri-color LEDs. The indicator case shall be waterproof, manufactured of Polycarbonate material with an integrated lens. The package includes a rubber gasket.

The remote indicator shall receive input information over a datalink from a Fire Research TankVision primary indicator model WLA300-A00. The remote indicator shall indicate the level as a single color in Red for 25% or less, Amber color for up to 50% volume, Blue color for up to 75% volume and Green color for up to 100% volume. When the level reaches 25%, the red LEDs will begin flashing. When the level is empty, the red LEDs will scroll in a down-chasing motion and then flash three times. It shall have the program capability to adjust the brightness level for day time and nighttime viewing.

There shall be three (3) MaxVision Tank Level strip lights provided on the apparatus, one (1) each side and one (1) at the rear.

In addition to the LED MaxVision displays, a FRC TankVision WLA300 water level gauge will be located on the pump operator's panel.

Each strip light shall be mounted utilizing a chrome plated flange.

COLOR CODED TAGS:

Color coded tags with chrome plated bezels shall be provided. Unless otherwise specified all tags shall be color coded to NFPA recommendations and shall be located at the control location, intake/discharge location, and at the drain port location.

A FAMA 25 label stating "Trained Personnel Only" shall be provided on the pump operator's panel.

Alexis Standard Tags:

Front Bumper Jump Line	Orange
Preconnect #1	Red
Preconnect #2	Yellow
Preconnect #3	Seafoam
Discharge #1	White
Discharge #2	Blue
Discharge #3	Black
Discharge #4	Green
Discharge #5/Water tower	Purple
Deluge/deck gun	Silver

Large-diameter hose
Foam line(s)
Booster reel(s)
Inlets

Yellow with white border
Red with white border
Gray
Burgundy

TEST PORTS:

Vacuum and pressure test ports shall be provided on the pump operator's panel for connection of the pump test gauges.

PUSH BUTTON ON PUMP PANEL FOR AIR HORNS:

There shall be a push button provided on the pump panel to activate the air horns.

RUNNING BOARDS

The running boards shall be constructed of 12 gauge star punched stainless steel material. The material meets NFPA standard 13-7.3: all exterior surfaces have a minimum slip resistance of .68.

RUB RAILS - RUNNING BOARDS:

Bolt on aluminum rub rails shall be installed one (1) each side on the running boards. Said rub rails will be fabricated of a polished "C" channel aluminum, mounted to the running board utilizing 1/4" plastic spacers.

The rub rails shall incorporate the LED ground lights. Each light strip shall run the full length of each rub rail.

The channel designed rub rail shall incorporate a highly reflective red and fluorescent yellow green reflective stripe to aid in apparatus protection.

STAINLESS STEEL PUMP MODULE:

The area above the side discharge panels on each side shall be manufactured of 14 gauge brushed stainless steel material.

STAINLESS STEEL PUMP PANELS:

The pump operator's panel and discharge panels shall be manufactured of 12-gauge stainless steel and shall include a full width light hood with one (1) E45 Series LED light strip

The side discharge panel on the passenger side of the apparatus shall be manufactured of 12-gauge stainless steel and shall include a full width light hood with one (1) E45 Series LED light strip

The lights shall be activated by a switch located on the pump operator's panel.

2 ½" DISCHARGE PIPING:

Two (2) 2 ½" discharge(s) shall be located on the left side of the apparatus. Each discharge valve shall be located behind the body panel and controlled from the side control pump operator's panel. Each discharge shall include a self-locking 2½" quarter-turn ball valve, a 2½" chrome cap with chain, and a sweep elbow of at least 30 degrees downward.

Each above valve shall be manually controlled.

One (1) IC line reading gauge supplied for each above discharge. The gauge shall have a 2½ diameter face with a graduated output scale of 0-400 PSI with black print on a bright white background.

2 ½" DISCHARGE PIPING:

One (1) 2 ½" discharge(s) shall be located on the right side of the apparatus. Each discharge valve shall be located behind the body panel and shall be controlled from the side control pump operator's panel. Each shall include a self-locking 2½" quarter-turn ball valve, a 2½" chrome cap with chain, and a sweep elbow of at least 30 degrees downward.

Each above valve shall be manually controlled.

One (1) IC line reading gauge supplied for each above discharge. The gauge shall have a 2½ diameter face with a graduated output scale of 0-400 PSI with black print on a bright white background.

3" DISCHARGE(S), APPARATUS RIGHT SIDE:

One (1) 3" discharge(s) shall be located on the right side of the apparatus with each valve behind the body panel. Each discharge shall be controlled from the side control pump operator's panel. The valve shall be a 3" slow close valve per NFPA.

DISCHARGE ADAPTER:

The 3" discharge shall incorporate one (1) 3" NST LHF x 5" Storz 30 degree elbow with blind cap.

Each above valve shall be manually controlled.

One (1) IC line reading gauge supplied for each above discharge. The gauge shall have a 2½ diameter face with a graduated output scale of 0-400 PSI with black print on a bright white background.

TANK TO PUMP LINE:

One (1) 3" tank to pump line shall be installed into the tank to the suction side of the pump. It shall have 4" piping and valved with a 3" full flow valve. Each valve shall be an air operated valve controlled from the pump operator's panel with a Williams Controls air shift. Each tank line shall incorporate a check valve in the line to meet NFPA 1901.

LINE DRAINS FOR DISCHARGES:

The drain valves shall be Innovative Controls ¾" ball brass drain valves with chrome-plated lift lever handles and ergonomic grips. Each lift handle grip shall feature built-in color-coding labels and a verbiage tag identifying each valve, also supplied by Innovative Controls. The color labels shall also include valve open and close verbiage.

VENTED DISCHARGE CAPS:

Each discharge shall incorporate a vented cap designed to relieve stored pressure in the line when disconnected.

GATED SUCTION, LEFT SIDE:

One (1) 2½" gated suction shall be located on the left side of the apparatus. It shall be piped 2½" i.d. including a 2½" Akron full flow quarter turn valve and a 2½" NST female swivel with plug and chain. It shall be remote controlled from the suction location.

Each above valve shall be manually controlled.

One (1) IC line reading gauge supplied for each above discharge. The gauge shall have a 2½ diameter face with a graduated output scale of 0-400 PSI with black print on a bright white background.

MATTYDALE PRECONNECT MODULE - (2) 1½" AND (1) 2½":

One (1) independent preconnect module shall be located directly behind the chassis cab, above the pump. The module shall be manufactured of stainless steel material, self supported, and shall incorporate three (3) deep cut single lay preconnect hose beds. The Mattydale preconnect shall be

designed to allow the extension of hose to the left or right side of the apparatus body.

Two (2) 1½" preconnects shall be provided in the module. The preconnect shall incorporate a 1½", 180° swivel adapted to 1½" fire hose thread. The waterway shall be 2" i.d. and include a 2" full flow quarter turn ball valve that is controlled from the operator's panel. The 1½" preconnect shall have the capacity to contain a minimum of 200 ft. of 1¾" hose with nozzle.

One (1) 2½" preconnect shall be provided in the module. The preconnect shall incorporate a 2½", swivel adapted to 2½" fire hose thread. The waterway shall be 3" i.d. and include a 2½" full flow quarter turn ball valve that is controlled from the operator's panel. The 2½" preconnect shall have the capacity to contain a minimum of 150 ft. of 2½" hose.

Each above valve shall be manually controlled.

One (1) IC line reading gauge supplied for each above discharge. The gauge shall have a 2½" diameter face with a graduated output scale of 0-400 PSI with black print on a bright white background.

MATTYDALE PRECONNECT COVER - HYPALON:

The Mattydale preconnect area shall be covered with a fire and chemical resistant material. It is to be retained to the apparatus with a shock cord and nylon clip system.

The hypalon cover shall be red in color.

TANK FILL RECYCLE:

One (1) 2" waterway shall be incorporated from the pressure side of the pump to the tank. The line shall be controlled from the pump panel and valved with a 2" ball valve to allow a pump cooling recycle or tank fill when pumping from draft. When fully opened, it shall have the capacity to refill the tank at 750 gpm when pumping at 100 psi.

Each above valve shall be manually controlled.

One (1) IC line reading gauge supplied for each above discharge. The gauge shall have a 2½" diameter face with a graduated output scale of 0-400 PSI with black print on a bright white background.

VALVING:

Each and every apparatus valve must be a Stainless Steel Ball Valve, per the following specifications.



The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve shall be capable of bi-directional flow and incorporate a self-locking ball. The valve shall not require lubrication of seats or any other internal waterway components, and must be capable of swinging out of the waterway for maintenance. The valve shall be manufactured in the United States and shall carry a ten year warranty.

PIPING:

All waterways described herein shall be of schedule 40 threaded stainless steel pipe, schedule 10 welded stainless steel, or "aeroquip" hose. Each shall be installed with the proper couplings to allow apparatus twisting, flexing, and complete removal for service or replacement.

PLUMBING WARRANTY:

The stainless steel plumbing components and ancillary brass fittings used in the construction of the water/foam plumbing system shall be warranted for a period of ten (10) years or 100,000 miles. This covers structural failures caused by defective design or workmanship, or perforation caused by corrosion, provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original purchaser for a period of ten (10) years or 100,000 miles from the date of delivery.

PIPING CERTIFICATION:

Upon final apparatus delivery, a certification sheet shall accompany the unit stating that all piping and the pump have been hydrostatically tested to 250 psi.

BODY:

BODY WARRANTY:

Alexis Fire Equipment Company hereby extends its standard two-year fire and rescue apparatus warranty to include defects in materials and workmanship of the body as well as structural defects which, in the sole opinion of the company, substantially affect the total integrity of the body. This warranty is extended only to the original user-purchaser.

Alexis Fire Equipment warrants the 12 gauge stainless steel bodies, fabricated by Alexis Fire Equipment, under normal use and with reasonable maintenance, shall remain structurally sound for the lifetime of the apparatus per NFPA recommendations or 100,000 miles as long as the design of the apparatus complies with Alexis engineering practices.

The Company reserves the right to require any such repairs to be made either at Alexis Fire Equipment Company, Inc. or another approved service facility, at the option of Alexis Fire Equipment. Transportation cost to and from the servicing location is the responsibility of the user-purchaser.

The warranty shall be null and void if, upon inspection by the Company, the alleged defect is determined to have been caused by abuse, modification, accident, neglect, or lack of proper maintenance.

This warranty does not apply to the following items that are covered by a separate warranty: paint finish, hardware, door assemblies, moldings, and other accessories attached to the body. In addition, this warranty does not apply to any part or accessory manufactured by others and attached to the body.

Alexis Fire Equipment will be given a reasonable opportunity to investigate all claims. The purchaser must commence any action arising out of, based upon or relating to agreement or the breach hereof, within twelve (12) months from the date the cause of the action occurred.

Alexis Fire Equipment makes no other warranty, expressed or implied, with respect to the apparatus body and all implied warranties of merchantability and fitness for a particular purpose are hereby disclaimed.

BODY SUB FRAME – STAINLESS STEEL:

The body sub frame system shall be designed for the emergency service application. The sub frame shall be independent of the chassis frame and is to be constructed of heavy structural material to provide the maximum strength and body support necessary for units utilized in emergency service. The system not only is used for total support designed to carry the total load of the apparatus; the system also allows the unit to be a complete lift off transferable apparatus once completed.

The system is designed to carry the emergency apparatus on the chassis main frame in a European style method. This method allows the apparatus body to float independently from the chassis frame ahead of the rear wheels and shall be rigidly attached behind the rear axle area.

The sub frame system shall be isolated from the chassis frame with a custom full length rubber extrusion that totally locks onto each chassis frame rail. This system isolates the body from the frame while also acting as a cushion between the two units.

The sub frame system shall be manufactured completely of 304 stainless steel material. The stainless steel sub frame shall incorporate 1 x 3 flat 304 stainless steel which shall run the full length of each chassis frame rail from the back of the cab to the end of the frame.

K-Bracing shall be incorporated into the system for strength and compartment support. Each K-Brace shall consist of a 3 x 3 x 7 gauge 304 stainless steel tubing to continue the total sub frame support.

The tank cradle shall be incorporated within the sub frame system to allow for a lower vertical center of gravity and to allow the water load weight to be supported by the sub frame system. The tank cradle shall incorporate the heavy sub frame and 7 gauge 304 stainless steel channel placed in accordance with the poly tank manufacturer's recommendations. Each channel is covered with a custom extruded rubber channel to prevent the water tank from chaffing with the stainless steel sub frame.

It is important to note all welds on the sub frame system shall be welded in methods that are sanctioned by ASME and SAE standards as to allow complete structural integrity as stipulated and shall also follow the guidelines set forth by the Alexis Standards.

TANDEM AXLE BODY:

The sub-frame, body panels, and wheel well housing shall be modified for a tandem axle chassis. The same manufacturing process will be utilized for the single axle bodies to prevent sacrificing the structural integrity.

APPARATUS REAR PANEL:

The vertical surfaces at the rear, from the tailstep walkway to the top of the body, shall be manufactured of 14 gauge smooth stainless steel, in preparation for Chevron striping.

The rear of the tank shall remain poly material painted to match the body.

WHEEL HOUSING, PAINTED SMOOTH STAINLESS STEEL:

The rear wheel housing shall be constructed of painted 14 gauge stainless steel material. For ease of maintenance and repair, the wheel well area shall be of the bolted design.

WHEEL HOUSING TRIM:

The rear wheel housing shall incorporate a polished stainless steel fenderette.

WHEEL HOUSING INNER LINER:

The circular interliner shall be manufactured of 3/16" Tivar 1000 polymer material. The polymer material is a chemical and corrosion resistant material, thereby preventing excess wear and corrosion from occurring due to wintertime road chemicals. The polymer material shall be held in place by the

use of polymer retainers or bolts for ease of repair and access to the wheel well area.

TAIL STEP:

The tail step shall be constructed of 12 gauge star punched stainless steel material. The material meets NFPA standard 13-7.3: all exterior surfaces have a minimum slip resistance of .68.

The tail step shall incorporate 45° tapered corners.

The tail step shall be 20" deep

REAR TOW EYES:

Two (2) ¾" thick steel tow eyes shall be securely fastened to the rear frame rails, one (1) each side. Each tow eye shall extend through the rear body panel

DUAL BOTTLE AIR BOTTLE COMPARTMENT(S):

Four (4) Model 101400-1X air bottle storage compartment(s) shall be located in the apparatus wheel well assemblies. For ease of access, each bottle shall be stored within an individual storage tube manufactured of poly material. Each individual storage tube shall be designed in a tear drop profile with flex-tube configuration for optimal abrasion-less storage.

The compartment shall incorporate a double bottle vertically hinged stainless steel door with a black push button latch. Each compartment shall have the capacity to carry two (2) air bottles.

LOCATION: Two (2) Each Side

COMPARTMENTATION:

COMPARTMENT DESIGN:

The compartmentation shall be fabricated of bolted 14 gauge 304 stainless steel walls and 12 gauge 304 stainless steel floors. The compartmentation is designed to be an intricate part of the body and subframe for maximum compartment support. The compartment tops shall be fabricated of smooth stainless steel material and shall meet the intent of the latest edition of NFPA 15.7 regarding stepping, standing, and walking surfaces. The material shall be formed over each compartment top to act as drip protection over each compartment opening. The compartment flooring will be sweep out design. The front and rear corners of the body shall remain natural finish #4 stainless steel. The material be full height and shall wrap around each corner to the compartment door frame.

The specified lighting in each compartment shall be switched automatically with the doors. The lighting shall meet the requirements of NFPA 13.10.5

PAINTED ROLL-UP DOORS:

The side compartments shall have ROM Series IV Roll-up Shutter Doors with a **painted** finish. The doors shall be made of an anodized aluminum slat incorporating an exclusive seal that prohibits water intrusion, absorbs shock, eliminates clatter, and provides quiet, vibration-free performance. The lift bar shall be a D-shaped bar for strength and ease of use.

The rear compartment (if applicable) shall have ROM Series IV Roll-up Shutter Door with a **satín** finish. The door shall be made of an anodized aluminum slat incorporating an exclusive seal that prohibits water intrusion, absorbs shock, eliminates clatter, and provides quiet, vibration-free performance. The lift bar shall be a D-shaped bar for strength and ease of use.

ROLL UP DOOR GUARD:

Each roll-up door shall incorporate a stainless steel guard. The guard shall be located at the top of the compartment around the roll-up door header to protect the finish of the roll-up door when the door is in the up position. The door opening height as stated will be reduced by approximately 2" to accommodate the door guard.

TALL BOTTOM RAIL:

Each ROM door shall incorporate a tall bottom rail for improved accessibility.

The roll-up door side tracks and top drip rail shall remain **satín** finish.

LEFT SIDE BODY SHALL BE AS FOLLOWS:

L1

A roll-up door compartment assembly with a door opening of 58" wide x 27" high x 25" deep shall be incorporated on the apparatus left side ahead of the rear wheels.

The compartment shall include the following:

Unistrut Tracking

ROM DuroStrip V5 LED strip lighting to illuminate the entire area. The lights shall run the entire height of the compartment on each side of the door opening.

L2

A roll-up door compartment assembly with a door opening of 19" wide x 27" high x 25" deep shall be incorporated on the apparatus left side behind the rear wheels.

The compartment shall include the following:

Unistrut Tracking

ROM DuroStrip V5 LED strip lighting to illuminate the entire area. The lights shall run the entire height of the compartment on each side of the door opening.

RIGHT SIDE BODY SHALL BE AS FOLLOWS:

R1

A roll-up door compartment assembly with a door opening of 58" wide x 27" high x 25" deep shall be incorporated on the apparatus right side ahead of the rear wheels.

The compartment shall include the following:

Unistrut Tracking

ROM DuroStrip V5 LED strip lighting to illuminate the entire area. The lights shall run the entire height of the compartment on each side of the door opening.

R2

A roll-up door compartment assembly with a door opening of 19" wide x 27" high x 25" deep shall be incorporated on the apparatus right side behind the rear wheels.

The compartment shall include the following:

Unistrut Tracking

ROM DuroStrip V5 LED strip lighting to illuminate the entire area. The lights shall run the entire height of the compartment on each side of the door opening.

FOLDING TANK BRACKET:

One (1) Ziamatic hinged fol-da-tank bracket(s,) model PTS-HA, shall be mounted on the exterior of the apparatus in the specified location. Each assembly shall include one (1) control located adjacent to each folding tank rack location.

Flashing lights shall be provided on the front and rear of each bracket. Each flashing light shall operate when the rack is in the down position. In addition, red and white retro reflective conspicuity tape shall be applied on the outward ends of the rack that protrude beyond the body of the apparatus to indicate a hazard or obstruction.

The bracket shall be interlocked with the park brake to prevent activation unless the park brake has been activated. In addition, the bracket shall be tied to the "Do Not Move the Apparatus" light in the chassis cab to alert the driver when the park brake has been released and the bracket is not in the stowed position.

The bracket will be constructed of 1/8" (.125") smooth aluminum and shall be painted to match the body.

Each bracket shall have the capacity for a 3000 gallon fol-da-tank.

SUCTION HOSE STORAGE:

Storage for one (1) section(s) of suction hose shall be provided on the Fol-Da-Tank rack.

LOCATION: Left Side

SUCTION HOSE STORAGE:

One (1) suction gutter for a 10 ft. length of suction hose shall be installed on the exterior of the apparatus in the specified location. Each gutter shall be manufactured of 5052-H32 aluminum sheet and supported on aluminum brackets.

Each length of suction hose shall be retained with looped polyester straps and polyester Velcro #2000 loop, #80 hook. The retaining assembly shall be water proof, humidity proof and impervious to ultraviolet.

Each suction gutter shall remain natural finish aluminum.

LOCATION: Right Side

LADDER BRACKETS:

One (1) set of Cast Products FA0030-5 ladder brackets with chrome-plated retainers shall be installed on the apparatus. A retainer shall be included to hold the extension ladder in place with the roof ladder removed.

ATTIC LADDER BRACKET:

One (1) attic ladder bracket shall be provided in the ladder storage area.

The ladder storage shall have the capacity to contain the following:

One (1) 24' 2-Section Ladder

One (1) 14' Roof Ladder with Hooks

One (1) 10' Attic Ladder

LOCATION: Right Side

RUB RAILS:

Bolt on aluminum rub rails shall be installed, below the compartment doors. Said rub rails will be fabricated of a polished "C" channel aluminum, mounted to the body surface utilizing ¼" plastic spacers.

The rub rails shall incorporate the LED ground lights and LED lower warning lights. Each light strip shall run the full length of each rub rail.

The channel designed rub rail shall incorporate a highly reflective red and fluorescent yellow green reflective stripe to aid in apparatus protection.

DURATILE TILE ON FLOOR:

The floor of each main body compartment shall be covered with black Duratile Tile.

TANK:

WET SIDE WATER TANK:

The tank shall have a minimum capacity of 3000 US gallons complete with a lifetime warranty. The tank shall be of a specified configuration, and so designed to be completely independent of the compartment and/or fender modules. When placed on the chassis, the tank shall meet or exceed all federal DOT regulations regarding weight distribution, axle loading, and horizontal and vertical center of gravity locations.

TANK CONSTRUCTION:

The tank shall be constructed using a virgin polypropylene sheet with a minimum thickness of 3/4". This material shall be a high impact co-polymer (HIC), non-corrosive stress relieved thermo-plastic and U.V. stabilized for maximum protection.

This material shall be referred to in the rest of this specification as "HIC polypropylene".

All joints and seams shall be nitrogen welded and tested for maximum strength and integrity. All swash partitions shall interlock and be welded to each other as well as to the walls of the tank.

Care will be taken not to scratch the outer shell of the tank as the tank sides will be partially exposed in the finished product. All exposed corners shall be finish routed to eliminate sharp corners and to give the tank a neat appearance.

The tank shall incorporate two mounting blocks welded into the floor. These blocks will be designed to restrain the tank in the sub-frame. See the "Tank Sub-frame" section of this specification.

OUTLETS:

There will be a minimum of three (3) tank connections: one for the tank to pump suction line which will be a minimum 3" NPT coupling piped to the sump; one for a tank clean-out/drain which shall be a minimum 3" NPT coupling in the sump floor; and, one for a tank fill line which will be a minimum 2" NPT coupling. All tank fill couplings will be backed with flow deflectors to break up the stream of water entering the tank. All auxiliary outlets and inlets must meet the current NFPA recommended guidelines in effect at the time of manufacture.

SUMP:

There will be one (1) sump included with the tank which shall incorporate an anti-swirl device. The sump shall be constructed of HIC polypropylene and be located in the left front quarter of the tank.

OVERHANG:

The tank shall incorporate an overhang over the pump. The overhang area shall be adequately supported per the tank manufacturer's recommendations.

MOUNTING:

A sub-frame weldment shall be provided to adequately support the tank, compartments and fender modules in their fully loaded and equipped condition. This sub-frame shall be constructed of the same material as the main body subframe. The design shall allow for proper interface between all body and fender modules as well as ample clearances for the tank. The design shall also consider cross member spacing as it relates to unsupported area under the tank, which shall not exceed 530 square inches. On tanks over 40" in height, an unsupported area of not more than 400 square inches must be maintained. All tanks shall be isolated from the cross member with a minimum of ¼" thick 60 durometer rubber strips. Although the tank is designed on the free-floating principle, the sub-frame must incorporate provisions for capturing the tank both front and rear as well as side-to-side to prevent shifting during vehicle operation. This shall be accomplished through the use of preformed stainless steel retainer brackets, one on each end of the tank bottom. These brackets shall encapsulate a cross member support as part of the sub-frame. The completed sub-frame shall be attached to the truck frame rails using a hard non-metallic isolator between the frame rail and the sub-frame. Final clamping shall be accomplished through the use of heat treated U-bolts.

PLUMBING PROVISIONS:

The tank shall include two (2) 4" plates at the rear to accommodate tank fills. The tank shall also include one (1) 6" vertical sleeve at the front to accommodate deck gun piping.

FILL TOWER AND COVER:

The tank will have a manual fill tower with a 6" combination vent/overflow pipe. The fill tower will be constructed of HIC polypropylene and shall be large enough to provide filling by means of a conventional 2½" hose nozzle. The tower will be located at the front of the tank and will incorporate an anti-surge provision to minimize water surge during vehicle operation. A full width bulkhead will be provided to separate the fill tower from the balance of the hose bed. The tower will have a removable polypropylene screen and a polypropylene hinged type cover. The vent/overflow pipe shall run through the tank, and exit through the floor of the tank behind the rear axle to maximize traction.

The tank cover shall be constructed of HIC polypropylene with a minimum thickness of ½". It shall be of a flush bi-directional locking, design which allows for individual removal and inspection if necessary. Each one of the covers will have hold-downs which extend through the covers and will assist in keeping

the covers rigid under fast filling conditions. An adequate lifting provision shall be provided which is capable of suspending the empty water tank with a safety factor of at least 2:1. The lifting dowel thread configuration must withstand a torque input of 80 ft/lbs.

HOSEBED:

There shall be a hosebed area constructed of HIC polypropylene on top of the tank consisting of two side walls and one front panel. This hosebed shall be welded to the outside perimeter of the tank cover. Drain holes shall be provided at the forward end of the hosebed in each corner.

The hose bed side walls shall be tapered at the rear to provide a pleasing appearance and provide better clearance for the fire station doors.

HOSEBED FLOOR:

The floor of the hosebed shall incorporate a channel system for improved air flow and to aid in the drainage of accumulated moisture on the floor, NO EXCEPTIONS.

LIGHT BOXES:

The side wall of the hosebed on each side shall incorporate light boxes for mounting of rear upper warning lights and rear/side scene lights. The light boxes shall be built-in, manufactured of the same material as the hosebed and tank, and paint to match the apparatus body, NO EXCEPTIONS.

The light box on each side shall be lowered from the top of the hosebed to provide a lower profile.

HOSE BED CAPACITY:

The hose bed shall have the capacity to carry the following hose from left to right:

HOSE BED DIVIDER:

One (1) divider shall be located in the hose bed. It shall be constructed of 3/16" aluminum plate. The divider shall be designed for future adjustability with locking blocks in aluminum channels at the front and the rear of the hose bed.

Each hose bed divider shall incorporate hand hold cutouts to assist in accessing the hose bed.

HOSE BED COVER:

One (1) custom tailored hypalon hose bed cover shall be included with the apparatus body. It shall be manufactured of a flame retardant material with a grab tensile of 480 x 500 lbs. and a tongue tear of 160 x 150 lbs. It shall be crack resistant to -40° Fahrenheit and have an adhesion lbs./in of 10.0 lbs. The hose bed cover shall be fitted to the hose bed and retained with a double woven shock cord on the front and both sides. The shock cord shall system shall utilize nylon hooks spaced every 10"-12". The cover shall be sand weighted across the rear flap and shall also include two (2) 2" wide nylon straps with teflon buckle to meet NFPA requirements.

The hose bed cover shall include a 3 year warranty.

The end flap shall include reflexite striping in a chevron pattern. The striping shall alternate red and fluorescent lime yellow in color.

The hypalon cover shall be red in color.

The wetside tank shall be painted to match the apparatus body. All tank imperfections shall be addressed and repaired prior to paint, including all corners and joints.

TANK FILL - 2½":

One (1) 2½" NH tank fill connection shall be located at the rear of the apparatus. The assembly shall include a FirePrograms 4" Stainless Steel Fill Valve, Model 5001751, four-inch inside diameter internal check valve with appropriately sized hose connection. The assembly shall also include a ¾" quarter turn line drain. The tank fill shall incorporate a 4" x 2½" chrome adapter

The FirePrograms 4" Fill Valve is an internally mounted check-type fill valve, capable of flowing at a rate up to 1,000 GPM. The Fill Valve is available in a 4" Victaulic connection or 4" male NPT pipe thread connection for ease of installation. The Fill Valve is self-deflecting, requiring no additional diffusion device. The Fill Valve is constructed of 100% stainless steel avoiding the use of dissimilar metals. The spring actuated piston-type sealing mechanism minimizes seal wear and provides positive sealing of the valve after shutting off the valve at the feed source. The device is designed to be self-cleaning utilizing a replaceable EPDM rubber gasket. Less than 6psi is required to open the valve.

Utilizing two stainless steel internal tank mounting plates, the 4-bolt Fill Valve mechanism is attached directly through the tank wall. The valve design is suitable for simple retrofit installation into existing water tanks.

LOCATION: Rear Left Side

TANK DUMP:



One (1) 10" x 10" square Newton stainless steel swivel dump Model 6012SW-34 with a flip up gate valve shall be installed. It shall include an over center safety lock. The valve shall be bolted to the tank with stainless steel bolts.

The dump shall incorporate a swivel allowing 180° rotation from left to right.

The dump shall be manually controlled from the dump location.

DUMP EXTENSION:

One (1) Newton 36" manually controlled stainless steel extension, model 4036-34, shall be installed on each dump.

The dump shall be located at the rear of the apparatus.

12 VOLT ELECTRICAL:

ELECTRICAL WARRANTY:

Alexis Fire Equipment Co., Inc. warrants each new piece of Alexis fire and rescue apparatus to be free from defects in material and workmanship under normal use and service. Our obligation under this warranty is limited to repairing or replacing, as the company may elect, any part or parts thereof which shall be returned to us with transportation charges prepaid, and as to which examination shall disclose to the company's satisfaction to have been defective, provided that such part, or parts shall be returned to us within seven (7) years or 50,000 miles after delivery of such vehicle. Such defective part or parts will be repaired or replaced free of charge and without charge for installation to the original purchaser.

Items specifically covered are:

- Electrical harnesses and harness installation
- Printed circuit board
- Switches, circuit breakers and relays

Items excluded are:

- Chassis electrical systems and components installed by chassis manufacturer
- Separately manufactured items installed by Alexis Fire Equipment including, but not limited to; batteries, sirens, battery chargers, inverters, lightbars and similar equipment. (These are covered by warranties supplied by the manufacturer of the components).
- Periodic tightening and cleaning of connection terminals as this is considered routine maintenance

- Normal wear, abuse, accident, negligence or un-approved alteration of original parts.

Should repairs become necessary under the terms of this warranty, the extent of that repair shall be determined solely by Alexis Fire Equipment and shall be performed solely by Alexis Fire Equipment or a repair facility designated by Alexis. The expense of any transportation to or from such repair facility shall be that of the purchaser and is not an item covered by this warranty.

Alexis Fire Equipment reserves the un-restricted right at any time to make changes in design of and/or improvements on its products without thereby imposing any obligation on itself to make corresponding changes or improvements in or on its products theretofore manufactured.

12 VOLT ELECTRICAL SYSTEM:

Our electrical system is engineered to provide many years of dependable, trouble free service.

The 12 volt apparatus wiring shall be completely independent of the chassis electrical system. The system shall incorporate a state-of-the-art electrical distribution center. The center shall include a microprocessor, automatic reset circuit breakers, and switching relays.

The microprocessors are housed in a weather resistant enclosure. All processors are fully tested, and modern production processes guarantee long-term reliability in the most rigorous environments. The microprocessors handle the numerous switching functions without the excessive use of relays and the need for excess wiring.

The system can be expanded by adding additional processors and required components to meet desired specifications.

The weather tight modular service center shall be placed in a water-tight compartment in the apparatus body. The service center housing shall be manufactured of aluminum and shall incorporate an access door. Since the microprocessor is of weather resistant design and enclosed in the service center, the electrical system has redundant protection against moisture and corrosion. Redundant protection from the elements dramatically improves reliability and durability.

Wiring harnesses shall be custom made for each truck. Each harness shall be encased in a split barrel, nylon type loom which will be moisture resistant and flame resistant to a minimum of 280° F. Loop outs shall be made at the harness factory utilizing sealed sonic weld technology instead of open-ended butt splicing. The harnesses shall feature Deutsch heavy duty all metal connectors.

Unlike terminal strips, binding post and other open-wiring systems, the Deutsch HD series is a completely sealed unit. The elimination of open wiring systems does away with contamination from

moisture, dust, lubricating oils, road salt, and other environmental hazards encountered in heavy duty use. The connector shall provide a multiple keying system that positively prevents mis-mating and makes plug/receptacle coupling quick and easy. The modular harness system will allow for quick and efficient complete body transfer if needed.

An independent switching station shall be centrally located in the apparatus cab. The switches shall be of a rocker type illuminating design. Each switch shall be color coded, and include a description indicating its intended use. Each switch shall be removable for service and replacement. Each switch shall be rated at 10 amp at 250 volts AC and shall act as inputs for the microprocessor.

All electrical circuit feeder wiring supplied and installed by the apparatus manufacturer shall be stranded copper alloy conductors of a gauge rated to carry 125% of the maximum current for which the circuit is protected. Insulation shall be in accordance with SAE J1128, low tension primary cable, type SXL or GXL, and wired to SAE J1292, automobile, truck, truck-tractor, trailer and motor coach wiring, for such loading at the potential employed. Voltage drops in all wiring from the power source to the using device shall not exceed 10%. Overall covering of conductors shall be 280° F (143° C) minimum flame retardant, moisture resistant loom or braid. All connections shall be made with lugs or terminals mechanically secured to the conductors. Wiring shall be thoroughly secured in place and suitably protected against heat, oil, and physical damage. Wiring shall be color coded and printed with a circuit function code over each conductor's entire length.

Circuits shall be provided with properly rated low voltage over-current protective devices. Such devices shall be readily accessible and protected against excessive heat, physical damage and water spray, switches relays, terminals, and connectors shall have a direct current rating of 125% of maximum current for which the circuit is protected.

Wiring Diagrams: Two (2) destination effective wiring diagrams shall be furnished with the apparatus. The wiring diagrams shall incorporate notations to assist an individual with limited electrical experience in the service of the apparatus electrical system.

NOTE: All wiring and components shall meet or exceed current N.F.P.A. codes.

LOAD MANAGEMENT:

The 12 volt load management functions shall be incorporated within the microprocessor based 12 Volt electrical system without the need for a separate load manager.

12 VOLT DISTRIBUTION CENTER:

The 12 Volt distribution center shall be located in the L1 compartment on the front wall, behind an access panel. The access panel shall incorporate a laminated wiring diagram for ease of maintenance of the electrical system.

A 12 volt fan shall be provided in the distribution center to enhance the air flow around the electrical equipment. The fan shall be switched with the master switch.

ELECTRICAL SYSTEM PERFORMANCE TESTS:

The apparatus low voltage electrical system shall be tested and certified per the current NFPA standard. The certification shall be delivered to the purchaser with the apparatus.

DOCUMENTATION:

At the time of delivery, the manufacturer shall provide the following:

- (a) Documentation of the electrical system performance tests;
- (b) A written load analysis, including:
 - 1. The nameplate rating of the alternator;
 - 2. The alternator rating;
 - 3. Each component load comprising the minimum continuous load;
 - 4. Additional loads that, when added to the minimum continuous load, determine the total connected load;
 - 5. Each individual intermittent load.

BATTERY CHARGER/AIR COMPRESSOR:

One (1) Progressive Dynamics PD2140 battery charger shall be installed on the vehicle. The unit shall be located in the L1 compartment.

The PD2140 is a 40-amp Electronic Marine Converter/Charger capable of charging up to three separate banks of batteries at the same time. It incorporates a microprocessor that constantly monitors battery voltage, then automatically selects one of four operating modes to ensure safe, rapid recharging cycles. The Storage Mode and the Equalize Mode of operation ensures minimum battery gassing and water loss while preventing battery stratification and sulfation. All Inteli-Power chargers are designed to meet the stringent requirements of the Marine environment and are UL listed for safety. A digital meter displays current, voltage, operation mode, blown fuse indication, and battery type.

One (1) Viair Model 460C air compressor shall be installed on the vehicle. The air compressor is a fully

automatic system which is powered from the chassis battery bank through the PD2140 charger system.

REMOTE DISPLAY:

A Blue Sea 1733 Mini digital display shall be supplied and installed adjacent to the shoreline connection. The display monitors DC voltage on a bright, waterproof, daylight readable OLED screen.

KUSSMAUL SUPER AUTO EJECT - 120V:

One (1) Kussmaul super auto eject Model 091-55-20-120 shall be installed on the apparatus. The super auto eject is a completely sealed automatic power line disconnect.

The Kussmaul mating connector supplied with the Auto Eject shall be shipped loose with the apparatus.

The Kussmaul Super Auto Eject shall incorporate a yellow weatherproof cover

The shoreline connection shall be located in the left front body post ahead of the L1 compartment.

MASTER SWITCH:

A 12 Volt Cole-Hersee Rotary switch shall be installed on the side of the floor mounted console. When in the OFF position, the master switch system shall isolate all electrical power from the apparatus. It shall not interrupt any primary battery/starter wiring originally furnished by the chassis manufacturer.

FLOOR MOUNTED CONSOLE FOR EMERGENCY SWITCHES:

One (1) 12 volt floor mounted console shall be installed in the apparatus. The console shall be manufactured of black textured composite material. The console shall incorporate the switch row and two (2) slots, one (1) for the electronic siren and one (1) slot for the radio.

MAP/BINDER STORAGE:

There shall be a stainless steel map/binder storage area incorporated into the console at the rear. The storage area shall incorporate one (1) divider, providing two (2) slots for map/binder storage.

RADIO PROVISIONS:

One (1) customer supplied single head radio provision shall be provided in the chassis cab. The cutout shall accommodate the radio make and model specified and shall include a bezel specific to the radio specified.



RADIO WIRING:

Radio wiring shall be provided for the customer supplied and installed radio. The wiring shall include power and ground leads, battery direct and master switched.

ANTENNA:

One (1) Alexis Fire Equipment supplied antenna base, for use with an NMO type antenna, shall be mounted on the cab roof. The antenna base shall be a Motorola base designed for either thick or thin roof material as appropriate for the application and shall include a custom length of RG58 A/U cable with no connector at the radio end of the cable. The cable shall terminate at the center console area.

The radio make and model shall be: _____

TIRE PRESSURE MONITORING DEVICE:

One (1) set of Real Wheels LED Air Guard tire pressure indicators shall be shipped loose with the completed apparatus. Features and benefits of the LED Air Guards include

- Safety – Improper tire pressure has a detrimental effect on handling, braking and control.
- Longer Tire Life – According to the D.O.T., 95% of all premature tire wear is caused by underinflation.
- Self-calibrating – LED AirGuard Set & Go memorizes pressure when initially installed and can be easily recalibrated by simply removing and reinstalling.
- Improved Fuel Economy – Proper tire inflation can save an estimated 3% to 5% in fuel costs.
- Battery Standby Time is 2 Years from the date stamped on the LED Air Guard

OPTICAL WARNING SYSTEM:

The optical warning system on the fire apparatus shall be capable of two separate signaling modes during emergency operations. One mode shall signal to drivers and pedestrians that the apparatus is responding to an emergency and is calling for the right-of-way. The other mode shall signal that the apparatus is stopped and is blocking the right-of-way.

EMERGENCY WARNING LIGHTS:

For the purpose of defining and measuring the required optical performance, the apparatus shall be divided into four warning zones. The four zones shall be determined by drawing lines through the geometric center of the apparatus at 45° to a line lengthwise of the apparatus through the geometric

center. The four zones shall be designated A, B, C, and D in a clockwise direction with zone A to the front of the apparatus. Each zone shall have an upper and lower warning level.

Effective coverage of all four zones, both upper and lower, as required by the latest NFPA Edition shall be provided.

LED LIGHTBAR:

One (1) Whelen Model F4N2VLED 55" LED lightbar shall be mounted on the cab roof. The lightbar shall be switched from the in cab switch panel. This lightbar fills the requirements of Zone A Upper, Zone B Upper, and Zone D Upper.

The light bar shall feature four (4) corner red LED modules, two (2) forward facing red LED modules, and two (2) forward facing clear LED Modules.

The clear modules shall extinguish when blocking the right of way per NFPA. A stinger switch shall also be provided for control of the white lights in inclement weather.

WARNING LIGHTS (FRONT):

Two (2) Tecniq Model K60-R*00-1 Red LED warning lights shall be mounted on the front cab face, one (1) on each side. These lights shall be switched from the in cab switch panel. These lights fill the requirements of Zone A Lower.

Each light shall be mounted utilizing a chrome plated flange.

Each light shall incorporate a colored lens.

WARNING LIGHTS (SIDE):

One (1) Tecniq Model K60-R*00-1 Red LED warning light shall be mounted on the right (officer's) side of the cab. The light shall be switched from the in cab switch panel. The light fills the requirements of Zone B Lower.

One (1) Tecniq Model K60-R*00-1 Red LED warning light shall be mounted on the left (driver's) side of the cab. The light shall be switched from the in cab switch panel. The light fills the requirements of Zone D Lower.

The rub rails on each side of the body shall incorporate integral outward facing Red LED strip lights. In addition to the Red LED strip light, the rub rail on each side ahead of the rear wheels shall

incorporate one (1) TecNiq E03-D001-1 LED light. These lights shall be switched from the in cab switch panel.

In addition to the TecNiq Red Eon LED light in the rub rail ahead of the rear wheels on each side, one (1) additional TecNiq Red Eon LED light shall be provided in the rub rail behind the rear wheels on each side. These lights shall be switched from the in cab switch panel.

Each cab side light shall be mounted utilizing a chrome plated flange.

Each light shall incorporate a colored lens.

WARNING LIGHTS (SIDE):

Two (2) TecNiq Model K90-R*00-1 Red LED warning lights shall be mounted on the right (officer's) side of the vehicle in the upper area. These lights shall be switched from the in cab switch panel.

Two (2) TecNiq Model K90-R*00-1 Red LED warning lights shall be mounted on the left (driver's) side of the vehicle in the upper area. These lights shall be switched from the in cab switch panel.

These lights fill the requirements of Zones B & D Upper.

Each light shall be mounted utilizing a chrome plated flange.

Each light shall incorporate a colored lens.

WARNING LIGHTS (REAR UPPER):

Two (2) TecNiq Model K90-R*00-1 Red LED lights shall be mounted on the rear of the vehicle, in the upper area. The lights shall be switched from the in cab switch panel. These lights fill the requirements of Zone C Upper.

Each light shall be mounted utilizing a chrome plated flange.

Each light shall incorporate a colored lens.

WARNING LIGHTS (REAR):

Two (2) TecNiq Model K60-R*00-1 Red LED warning lights shall be mounted on the lower rear area of the vehicle. These lights shall be switched from the in cab switch panel. These lights fill the requirements of Zone C Lower.

Each light shall be mounted utilizing a chrome plated flange.

Each light shall incorporate a colored lens.

REAR DRIVING SIGNALS:

The rear driving signals shall consist of two (2) Code 3 7X9STTRBZ LED lights, one (1) each side of the apparatus at the rear. The 7X9 LED lights shall incorporate red brake/tail, amber turn, and white backup in a single light head. The mounting shall include a chrome bezel.

ELECTRONIC SIREN:

One (1) Whelen Model 295SLSA1 siren shall be installed in the apparatus. The siren shall be mounted in the cab and shall include a noise-canceling microphone.

FEDERAL Q2B SIREN:

One (1) Federal Model Q2B 12 volt siren shall be surface mounted in the front bumper. The siren shall be activated from the left and right side by a Linemaster foot switch. The siren switch power shall be interlocked with the master warning switch.

There shall be a siren brake switch located on the console.

The Q2B siren shall be finished in standard Chrome.

SIREN SPEAKER:

One (1) Whelen Model SA315 100 watt siren speaker shall be installed in the apparatus bumper.

BACKUP ALARM:

One (1) 12 volt electronic backup alarm shall be incorporated on the apparatus. The backup alarm shall be a minimum of 97db and switched with the backup light circuitry.

TURN SIGNALS-MIDSHIP:

One (1) S34 Series amber LED midship turn light shall be mounted on each side of the apparatus ahead of the rear wheels.



ICC LIGHTING:

Tecniq S34 Series LED Clearance lights shall be installed on the apparatus. They shall be hermetically sealed cartridge lights for ease of service and durability.

LED REAR LICENSE PLATE BRACKET:

There shall be a Cast Products LED license plate bracket provided at the rear of the apparatus.

ENGINE COMPARTMENT LIGHT:

The engine compartment shall incorporate one (1) E10 Series LED light. The light shall be switched with the pump panel lights.

PUMP COMPARTMENT LIGHT:

One (1) 5" T44 Series LED light shall be installed in the pump compartment. The light shall be switched with pump panel lights.

HAZARD LIGHT:

A red, LED flashing light located in the driving compartment shall be illuminated automatically whenever the apparatus parking brake is not fully engaged and any passenger or equipment compartment door is open, any ladder or equipment rack is not in the stowed position, a stabilizer system is deployed, a powered light tower is extended, or any other device is opened, extended, or deployed that creates a hazard or is likely to cause damage to the apparatus if the apparatus is moved. The light shall be marked "Do Not Move Apparatus When Light Is On".

LED COURTESY LIGHTS (UNDER CARRIAGE LIGHTING):

One (1) 5" 12-volt T44 Series LED light shall be located under each cab door and one (1) shall be located below the rear tail step in the center. All ground area lighting shall be controlled by the master switch and shall be switched with the parking brake.

In addition to the 5" lights, clear LED strip lights shall be provided integral to the rub rails on each side. The strip lights shall face downward and be activated with the balance of the undercarriage lighting.

LED TAILBOARD COURTESY LIGHTS:

Two (2) S34 Series LED courtesy lights shall be mounted one (1) each side low on the rear panel. The



lights shall illuminate the rear tailboard. They shall be switched with the parking brake.

LED RUNNING BOARD COURTESY LIGHTS:

One (1) S34 Series LED courtesy light shall be mounted on each side low on the front of the body. Each light shall illuminate the running board area. The lights shall be switched with the parking brake.

SCENE LIGHTS:

Four (4) LED scene light(s), Model K90-SW00-1 with 5000 lumen output, shall be mounted at the specified location(s). Each scene light shall be switched from the cab console.

Each light shall be mounted utilizing a chrome plated flange.

SIDE SCENE LIGHT LOCATION(S): Two (2) Each Side

SCENE LIGHTS:

Two (2) LED scene light(s), Model K90-SW00-1 with 5000 lumen output, shall be mounted at the specified location(s). Each scene light shall be switched from the cab console.

Each light shall be mounted utilizing a chrome plated flange.

SIDE SCENE LIGHT LOCATION(S): One (1) Each Side

HOSEBED STRIP LIGHTING - LED:

Two (2) E45 Series LED Strip lights shall be provided at the front of the apparatus hose bed. The lights shall be switched with the parking brake.

12 VOLT BROW LIGHT - LED:

One (1) 21" FireTech Model FT-MB-2.18-FT-* 19,008 lumen LED light bar shall be mounted above the center of the windshield. The light shall be switched from the in-cab switching console.

Each Firetech Hi-Viz scene light shall be white in color.

DUAL USB CHARGING PORT:

One (1) Blue Sea Systems Part # 1045 12-volt dual USB charging port with dust cover shall be located

in the console with constant power for charging phones. The USB charging port shall feature intelligent device recognition to maximize the charge rate for phone, tablets, or other mobile devices. The USB charging port shall have a maximum output current of 4.8 amps DC and shall be wired battery direct.

BACK-UP CAMERA:

There shall be one (1) RV Cams Voyager Color Observation back-up camera system installed on the apparatus. The system includes one (1) 7" mirror mount color video monitor, color camera, three (3) camera input receiver, and camera cable.

The camera shall feature one-way audio from the rear of the apparatus to the cab.

BRACKETING:

LED LIGHTED FOLDING STEP(S):

Four (4) IC dual LED lighted large folding step(s) shall be furnished on the apparatus. Each step shall feature a light for the stepping surface and a down facing light below the step. The step lights shall be switched with the park brake.

Each step shall be mounted in the specified location.

Each folding step shall have a chrome finish

LOCATION: 4 apparatus rear

GRAB HANDLES:

Two (2) 18" knurled bright stainless steel 1¼" O.D. grab rails shall be installed vertically at the rear of the apparatus.

Each grab handle shall have a natural stainless steel finish

GRAB HANDLE:

One (1) 48" knurled bright stainless steel 1¼" O.D. grab rail shall be installed horizontally below the apparatus hose bed.

Each grab handle shall have a natural stainless steel finish

GRAB HANDLES:

Two (2) 1¼" o.d. 12" knurled bright stainless steel grab handle(s) shall be provided.

Each grab handle shall have a natural stainless steel finish

LOCATION: apparatus

WHEEL CHOCKS:

One (1) pair of Worden Safety Model WC2556A one-piece rubber wheel chocks shall be provided with the apparatus. Each chock features a molded in grab handle, an elbow fixture for rope or chain attachment, and utilizes a very sticky live rubber to ensure high coefficient of friction.

FINISH:

APPARATUS BODY FINISH:

The final finish of the apparatus shall conform to fire apparatus standards, exhibiting excellent gloss durability and color retention properties.

PREPARATION:

Since the removal of all contaminants and oxidation is essential to the final effect of a finish system, the apparatus shall be pre-cleaned with wax and grease remover and towel dried prior to evaporation.

A 10-step standard body preparation shall be completed.

When the substrate is prepared, the entire body shall be cleaned by washing again with wax and grease remover and towel dried.

PRETREAT AND PRIMERS:

The pretreat and primer applications shall be made in two (2) independent steps. A application of a combined pretreat/primer product will not be allowed as a substitute.

The prepared substrate shall be pretreated with Acid Curing 2 Component Transparent Primer. This pretreat shall be designed to provide corrosion protection and to create an adhesive bond between the substrate and the surface applications.

To enhance adhesion and top coat gloss, a 2 component epoxy primer shall be applied.

All the primed surfaces shall be sanded smooth, thus removing all texture and surface imperfections and creating a finish base that will meet the rigid requirements of the fire and emergency services.

TOP COATS:

Two (2) coats (0.5 - 2.0 mils) urethane base coat shall be applied in a professional manner. After the base coats have cured properly, two (2) coats of a high solids urethane clear coat shall be applied.

All surface imperfections shall be removed by buffing and polishing.

PAINT WARRANTY:

The apparatus shall be covered by a ten -(10) year paint warranty. Following are the covered defects and exclusions.

Covered Defects shall include only the following list of defects:

- Peeling or delaminating of the topcoat and/or other layers of paint.
- Cracking or checking.
- Loss of gloss caused by cracking, checking or hazing.

Defects resulting from the following conditions are excluded from the Warranty:

- Hazing, chalking or loss of gloss caused by improper care, abrasive polishes, cleaning agents, heavy-duty pressure washing, or aggressive mechanical wash systems
- Rock chips are not covered under this warranty.
- Paint deteriorating caused by abuse, scratches, chips, gloss reduction, accidents, acid rain, chemical fallout or acts of nature
- Claims presented without proper Warranty documentation
- Failure on finishes performed by Non-PPG Commercial Certified Technicians
- Failures on finishes due to inadequate film builds
- Failures due to improper cleaning or surface preparation or failure to follow the product use instructions

COMPARTMENT INTERIOR FINISH:

The interior of the compartments shall be natural finish stainless steel



APPARATUS COLOR:

The color of the apparatus shall be as follows:

COLOR: _____

CAB LETTERING:

Vinyl lettering as described below shall be applied to the chassis cab door, one (1) each side. Each letter shall be 2½" to 3½" high and hand applied.

Vinyl letters/numbers shall be applied to the chassis cab fender area, one (1) each side. Each letter/number shall be 2½" to 3½" high and hand applied.

The lettering vinyl style shall be simulated gold leaf.

The lettering font style shall be Eurostile Bold.

The lettering font highlight type shall be shadow.

LAMINATION WARRANTY:

The apparatus shall be covered by a three (3) year warranty against defects in material and workmanship with the graphics process

REFLECTIVE STRIPING:

The finished apparatus shall be striped with 6" reflective Scotchlite striping.

The reflective striping shall be white in color.

REFLECTIVE STRIPING IN THE CAB:

Two-inch red and white striped retro-reflective material shall be placed on the inside of each opening cab door. The material will be at least 96 square inches, meeting current NFPA standards.

DIAMOND GRADE CHEVRON STRIPING:

The rear of the apparatus shall be striped with Diamond Grade retro-reflective striping. The striping shall be applied in a chevron pattern sloping downward and away from the centerline of the apparatus at



a 45° angle. The Chevron striping shall be applied in the following locations: all vertical surfaces at the rear, from the tail step to the top of the body

The striping shall be single color alternating between red #3992 and fluorescent yellow-green #3983.

EQUIPMENT:

One (1) bottle of touch up paint for each color on the apparatus

One (1) bag of hardware - nuts, bolts, drill, and tap.

Two (2) 10' Length(s) of 6" diameter hard suction hose, coupled 6" LHF x 6" RLM. (Not rated for hydrants)

NFPA EQUIPMENT CLARIFICATION:

Any equipment specified in the “Minor Equipment” section (e.g. hose, nozzles, adapters, AED, traffic cones, traffic safety vests, etc.) of NFPA 1901 for each apparatus classification (see below) which is not specified in this proposal shall be considered to be customer supplied and installed.

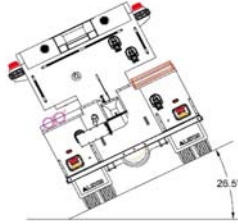
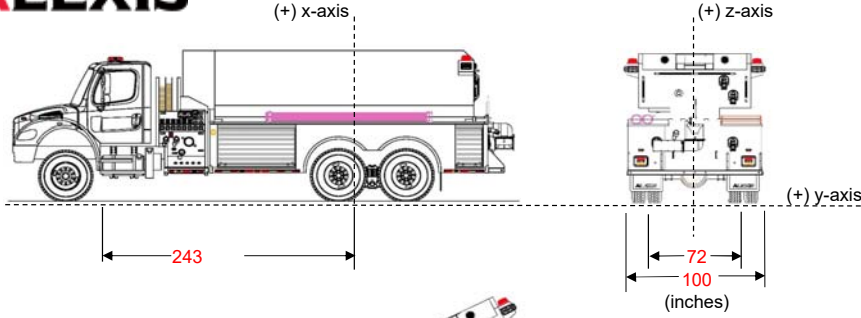
Apparatus Type	NFPA Section
Pumper	5.8
Initial Attack	6.7
Mobile Water Supply	7.7
Aerial	8.8
Quint	9.8
Special Service	10.5
Mobile Foam	11.9

VERTICAL CENTER OF GRAVITY / WEIGHT DISTRIBUTION

DWG NO. T-N14

3/15/2024

ALEXIS



Contract No: **2635**
 Proposal Name: **Alexis Fire Equipment**
 Calculated By: **C. Shuck**
 Revision:
 Type of Chassis: **Kenworth T-480 Tandem**
 Type of Pump: **Waterous CXVC20 1500 g**
 Cab to Axle: **173.5**
 Tank Capacity: **3000** Water
0 Foam

Item	Weight (lbs)	Coordinates Local C.G. (in)			% Rear	Weight (lbs)		% Left	Right	Left
		z	x	y		Front	Rear			
Chassis	14612	0	157	44	35%	9450	5162	50%	7306	7306
Poly Tank (w/water)	27750	-0.1	29.375	80.7	88%	3355	24395	50%	13861	13889
Officer & Driver	500	0	193	54	21%	397	103	50%	250	250
Men & Equip.	0	0	0	0	0%	0	0	0%	0	0
Body Module	1842	0	0	43.475	100%	0	1842	50%	921	921
Subframe	2012	0	6.6	36.3	97%	55	1957	50%	1006	1006
Add. Equip. front	1451	0.00	89	42.0625	63%	532	920	50%	726	726
Add. Equip. rear	549	0.00	-74.938	42.0625	131%	-169	718	50%	274	274
Hose bed	1000	0	33.5	114.25	86%	138	862	50%	500	500
Pump module	1193	0	146.5	63.25	40%	719	474	50%	597	597
Pump	1356	0	136.9	37	44%	764	592	50%	678	678
					0%			0%		
Ladder Storage	150	40.6	18.25	80	92%	11	139	30%	105	45
Folding Tank Rack	500	-46.3	3	80.2	99%	6	494	73%	134	366
Dump	150	0	-101.5	45.32	142%	-63	213	50%	75	75
Suction Gutter	60	40.1	17.7	99.1	93%	4	56	30%	42	18
					0%			0%		
					0%			0%		
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Total	53124.576	Global Center of Gravity				15199	37926		26475	26649
GAWR	62000	z	x	y		18000	44000			
Load as % of Total	100%	-0.3	69.5	65.0		29%	71%		50%	50%
						OK	OK		TRUE	
Truck Tipping Angle:	29	degrees (Full Water Tank)			OK					
Maximum vertical center of gravity "z" =	57.60						SC			
		(Maximum "z" is 80% of the rear axle track width)								



HOSE CAPACITIES

DWG NO.

T-N14**3/15/2024**Customer Alexis Fire Equipment
Calculated By C. ShuckContract No. 2635
Rev. No. 0**HOSE BED**Length 186
Width 63
Height 13
Cu. Ft. 88.16 0.00Total 88.16

Hose

Size
Amount
DF 0 0 0 0 0
Cu. Ft. 0.00 0.00 0.00 0.00 0.00Total 0.00Need 0.00**MATTYDALES**Length 73 73 73
Width 5 4.5 4.5
Height 27 27 27
Cu. Ft. 5.70 5.13 5.13Total 15.97

Hose

Size 2 1/2 1 3/4 1 3/4
Amount 150 200 200
DF 41 26 26
Cu. Ft. 3.56 3.01 3.01Total 9.58**CARTRIDGE LAYS**Length
Width
Height
Cu. Ft. 0.00 0.00 0.00Total 0.00

Hose

Size
Amount
DF 0 0 0
Cu. Ft. 0.00 0.00 0.00Total 0.00**HOSE TRAYS**Length
Width
Height
Cu. Ft. 0.00 0.00 0.00Total 0.00

Hose

Size
Amount
DF 0 0 0
Cu. Ft. 0.00 0.00 0.00Total 0.00**HOSE WELLS**Length
Width
Height
Cu. Ft. 0.00 0.00 0.00Total 0.00

Hose

Size
Amount
DF 0 0 0
Cu. Ft. 0.00 0.00 0.00Total 0.00**Standard Hose Dimensions per NFPA (2003 Edition)**

1 3/4" lays 3 1/4" wide	DF=	26	1" FORESTRY lays 1 3/4" wide	DF=	10
2" (ANGUS) lays 3 3/4" wide	DF=	32	1 1/2" FORESTRY 2 1/2" wide	DF=	14
2 1/2" lays 4 1/2" wide	DF=	41			
3" lays 5 1/4" wide	DF=	50			
4" lays 6 1/2" wide	DF=	58			
5" lays 8" wide - Angus	DF=	96			
5" lays 8-1/2" wide - Cotton	DF=	102			
6" lays 9 1/2" wide	DF=	108			



CIT TRUCKS - MORTON (C258)
 1945 NORTH MORTON AVE.
 MORTON, Illinois 61550

ALEXIS FIRE EQUIPMENT CO
 109 EAST BRDWAY
 ALEXIS, Illinois 61412
 United States of America

Lucas Smith
 Cell Phone:
 Office Phone:
 Email: lucassmith@cittrucks.com

Vehicle Summary

Model:	Unit T480 Series Conventional	Fr Axle Load (lbs):	18000#	16000
Type:	FULL TRUCK	Rr Axle Load (lbs):		44000
Description 1:	T480 Tandem PX9 450hp	G.C.W. (lbs):		60000
Description 2:	BASE SPEC			
	Application	Road Conditions:		
Intended Serv.:	Fire Truck Service: Vehicles used in fi	Class A (Highway)		80
Commodity:	Water	Class B (Hwy/Mtn)		15
		Class C (Off-Hwy)		5
		Class D (Off-Road)		0
Type:	Body Fire Truck-Pumper	Maximum Grade:		6
Length (ft):	16.5	Wheelbase (in):	243"	207
Height (ft):	13	Overhang (in):		57
Max Laden Weight (lbs):	4000	Fr Axle to BOC (in):		69.5
		Cab to Axle (in):		137.5
		Cab to EOF (in):		194.5
No. of Trailer Axles:	0	Overall Comb. Length (in):		304
Type:				
Length (ft):	0			
Height (ft):	0	Special Req.		
Kingpin Inset (in):	0	U.S. Domestic Registry, 50-state.		
Corner Radius (in):	0			
	Restrictions			
Length (ft):	75			
Width (in):	102			
Height (ft):	13.5			

Approved by: _____

Date: _____

Note: All sales are F.O.B. designated plant of manufacture.



Sales Code	Std/Opt	Description	\$ List	Weight
Model				
0000480	S	T480 Series Conventional	123,353	10,386
0071000	O	T480 Aero Hood	0	0
0072000	O	Chassis Operation Will Not Incl. Stationary application. Stationary operation is defined as running the engine under load while stationary at a substantial fraction of engine gross horsepower (60% or greater) for an extended period of time (longer than 5 - 10 minutes).	0	0
0080070	O	CARB Exempt Application Emergency Vehicle Only.	0	0
0090162	O	T480 Tandem	0	0
0098413	O	State of Registry: Illinois	0	0
Engine & Equipment				
0130231	O	PACCAR PX-9 450EV 450@2100 1250@1200, 2024 Emergency Vehicle, With Turbo Exhaust Brake (VGT Brake) N09420 C333 0.....Reserve Speed Limit Offset (N09380 C334 0.....Maximum Cycle Distance (N202 N09360 C400 252...Reserve Speed Function Reset N09200 C399 120...Standard Maximum Speed Limit N09400 C401 10....Maximum Active Distance (N20 N09220 C402 0.....Expiration Distance (N207) N09540 C395 0.....Expiration Distance (N209) N09260 C121 64....Max Vehicle Speed in Top Gea N09440 C234 NO....Engine Protection Shtdwn N09460 C231 NO....Gear Down Protection N09580 C133 5.....Idle Shtdwn Time N09680 C233 NO....Idle Shtdwn Override N09480 C132 1400..Max PTO Speed N09300 C128 64....Max Cruise Control Speed N09500 C239 NO....Cruise Control Auto Resume N09520 C238 NO....Auto Engine Brake in Cruise N09780 C190 80....High Ambient Temperature Thr N09740 C188 40....Low Ambient Temperature Thre N09760 C189 60....Intermediate Ambient Tempera N09720 C382 YES...Enable Hot Ambient Automatic N09600 C396 YES...Enable Impending Shutdown Wa N09620 C397 60....Timer For Impending Shutdown N09640 C206 35....Engine Load Threshold N09560 C225 YES...Enable Idle Shutdown Park Br	10,863	0
1000046	O	EPA Emissions Warranty Engine	0	0
1000151	S	PremierSpec	0	0
1000243	O	Gearing Analysis: Performance	0	0

Price Level: January 1, 2024
 Deal: T480 Tandem PX9 450hp
 Printed On: 1/16/2024 9:08:10 AM

Date: January 16, 2024
 Quote Number: QUO-1007567-Z6K6W7

Sales Code	Std/Opt	Description	\$ List	Weight
		power before economy results.		
1000251	O	Customer's Typical Operating Spd: 60 MPH	0	0
1000524		RegistrationYear Year of Registration: 2024	0	0
1000684		Effective VSL Setting NA	0	0
1000858	O	Engine Idle Shutdown Timer Disabled	0	0
1000859	O	Enable EIST Ambient Temp Overrule	0	0
1000891		Eff EIST NA Expiration Miles Use only with MX and Cummins engines	0	0
1002060	S	Air Compressor: Cummins 18.7 CFM For Cummins And PACCAR PX engines.	0	0
1041399	S	Air Cleaner: MD Composite Engine Mounted	0	0
1099300	O	Air Inlet Ember Separator NFPA Compliant for Fire Applications.	297	8
1105231	S	Fan Hub: Horton On/Off for PX-9 or L9N	0	0
1121231	S	Cooling Module: 2.1M MD - Aero Hood 1000 Square Inches	0	0
1160214	O	Bug Screen: Behind Grille	108	2
1247247	S	EXH: Single Can 2024 RH Under with RH Horizontal Tailpipe Below Rail	0	0
1321102	S	Fuel Filter: PACCAR 2.1M MD for PX-7 or PX-9 Fuel/water separator for 2021 and later engines.	0	0
1321205	O	Run Aid:Fuel Heat *For Fuel Filter	41	0
1321305	O	Start Aid:12V Heat *For Fuel Filter	22	1
1500029	O	Kenworth Fuel Cooler Required for Cummins engines with a single fuel tank. Required for PACCAR MX-13 engine with a single fuel tank and stationary use: High RPM, low vehicle speed, sustained for longer than 1 hour. Optional for all other applications.	170	0
1504006	O	Block Heater: PACCAR 750 watt 120V for PX-7 and B6.7N. 1000 watt for PX-9 and ISL9 Engines.	26	2
1812451	O	Alternator: Delco 40SI 320 amp Brushless with battery voltage sense	759	0
1821210	O	Batteries: 3 PACCAR GP31 Threaded Post (700-730) 2100-2190 CCA dual purpose.	182	62
1836106	S	Mitsubishi 105P55 12V Starter with Cummins and PX PACCAR 12 volt electrical system. W/ centralized power distribution incorporating plug-in style relays. Circuit protection for serviceability, 12-volt light system w/circuit protection circuits number & color coded. Only for Cummins or PX engines.	0	0

Price Level: January 1, 2024

Deal: T480 Tandem PX9 450hp

Printed On: 1/16/2024 9:08:10 AM

Date: January 16, 2024

Quote Number: QUO-1007567-Z6K6W7

Sales Code	Std/Opt	Description	\$ List	Weight
1840065	S	12V Low Voltage Disconnect for Battery Protection	0	0
1840066	O	Cab Power Cutoff SW on Cab Floor NFPA Compliant - Engine Shut off. Includes gauge.	316	2
1900996	O	Jump Start Terminals Under Hood.	71	0
1901018	S	Remote PTO/Throttle, 12-Pin, 250K, Back of Cab OR Back of Sleeper, J1939, Remote Control Provision	0	0
Transmission & Clutch				
2011615	O	Transmission: Allison 3000EVS 6-speed, With PTO Provisions at 4 and 8 o'clock. 6th Generation controls. Includes heat exchanger & oil level sensor. Emergency Vehicle Series for vocational applications. Transynd transmission fluid is standard on all Allison 1000, 2000, 3000 & 4000 series transmissions.	9,822	399
2406452	O	Driveline: 2 Dana SPL170XL 1 Centerbearing	478	16
2409941	S	One Heavy-Duty One-Piece Aluminum Crossmember This option upgrades an existing crossmember. The cost does not include the centerbearing and bracket. Crossmember location will be in accordance with Kenworth engineering standards, using the major components specified on the DTPO.	0	0
2410018	O	Torque Converter Included W/ Allison Transmission.	0	0
2410153	O	Push Button Shifter Controls, Center Console Mounted for Allison Transmission. 2.1m Medium Duty only.	0	0
2410212	O	Allison Transmission Mobile PTO Operation - Change max output speed to 4500 RPM	0	0
2410244	O	J1939 Park Brake Auto Neutral	0	0
2429358	O	Rear Transmission Support Springs for transmission PTO applications are required to ensure that engine flywheel housings are not overloaded when transmission PTO's are installed.	93	0
2429378	O	Customer Installed Transmission PTO in the LH Mounted position (8 o'clock) for Allison 3000 & 4000 transmissions.	0	0
2460070	O	Supplemental Allison Oil to Water Trans Cooler	513	16
Front Axle & Equipment				
2534001	O	PACCAR FX-20 ST Fr Axle rated @ 16K 4" drop	2,317	0
2621078	O	Front Brakes: 22K Bendix ES S-Cam 16.5x6 in.	-83	-46
2690035	O	Front Brake Drum: 22K 16.5x6 in. cast.	40	104
2702018	O	Front Hubs Iron Hub Pilot 18,000 lbs. 16.5x6in. or 7in. or air disc brakes. 10 Bolt, 11-1/4 in. bolt circle. Consider Wheelguards (5850002) with aluminum wheels.	339	80
2741970	S	ConMet PreSet Plus Hub Package; Front Axle.	0	0

Price Level: January 1, 2024

Deal: T480 Tandem PX9 450hp

Printed On: 1/16/2024 9:08:10 AM

Date: January 16, 2024

Quote Number: QUO-1007567-Z6K6W7

Sales Code	Std/Opt	Description	\$ List	Weight
2750001	S	Hubcap: Front Vented.	0	0
2765001	S	Front Auto Slack Adjuster for Drum Brakes.	0	0
2864074	O	Front Springs: Taperleaf 16K W/ Shock Absorbers w/ maintenance-free elastomer spring pin bushings.	266	99
2895300	O	Dual Power Steering Gears: 16K.	1,044	75
2899336	O	Power Steering Cooler:Radiator Mounted Air-to-Oil	327	11
2900059	O	40 mm Front Suspension Spacer Block	0	0
2900612	O	Threaded Front Spring Bushings in Place of elastomeric.	62	0
Rear Axle & Equipment				
3132246	O	Dual Meritor MT44-14x5 Plus Rear Axle Rated At 44K. W/ 12.7MM Housin. Tandem Rear Axles.	11,671	1,909
3200614	O	Rear Axle Ratio - 6.14.	0	0
3334004	O	Dual Rear Brakes 16-1/2x7 in. to 46K; Bendix ES-extended service S-cam.	0	0
3392005	O	Dual Rear Brake Drums: Cast. For use with 16.5X7" or 16.5X8.625" brake.	0	0
3407050	O	Dual Rear Hubs: Aluminum Hub Pilot 46K; 11.25" bolt circle. Requires "R" series outer ends.	0	0
3441972	O	ConMet PreSet Plus Hub Package; Dual Rear Axle.	0	0
3465002	O	Tandem Rear Axle Automatic Slack Adjusters. For use with drum brakes.	0	0
3485207	O	Spring Brake: 3030 Long Stroke Dual 30 Square inches travel. For drum brakes. Helps keep brakes in adjustment longer.	102	4
3495232	O	Bendix 6S/6M Anti-Lock Brake System W/ Air traction control (ATC) and electronic stability program (ESP) for full truck. Must code for additional body information.	1,919	15
3500057	O	Interaxle Driveline: 1 Dana SPL170XL Tandem Rear Axles Only	513	96
3500073	O	Tanker Height between 75 in. and 85 in. from Top of frame rail.	0	0
3511420	O	Driver Controlled Differential Lock (Crosslock) for Meritor Axles 40K to 52K forward rear & rear rear axle. Under Speed Interlock is standard on T680.	2,163	39
3742940	O	Tandem Hendrickson HAULMAAX EX (HMX) 460 46K. 54 in. axle spacing, 16.5 in. saddle height. With shocks, track rods and rubber bolster bushings. Unladen Height: 11.5 in. Laden Height: 9.5 in.	5,557	482

Tires & Wheels

Sales Code	Std/Opt	Description	\$ List	Weight
4017181	O	Front Tires: Michelin XZY3 385/65R22.5 18PR 42.4 in. Diameter, All Position. 19.6 in. SLR.	1,156	130
4283250	O	Rear Tires: Yokohama TY517 MC2 11R22.5 14PR	-392	72
4900008	O	Rear Tire Quantity: 8	0	0
5045216	O	Front Wheel: Alcoa 82362 22.5x12.25 aluminum, with LM One [TM] finish High Polish, hub-pilot mount. 11400lb. maximum rating. Super single. Standard track axles may be over 102 in. w/425 tires. Air disc brake compatible.	743	-11
5243550	O	Rear Wheel: Alcoa ULA18 22.5x8.25 MagnaForce aluminum alloy, hub-pilot mount. 7400lb maximum rating. Air Disc Brake compatible. High polish.	1,628	-204
5859010	O	Single Front Axle: 2 wheels Dura-Bright Mirror Polish Dura-Bright outboard surface of aluminum wheels.	238	0
5859012	O	Dual Rear Axle Wheels: 4 Wheels Dura-Bright Mirror Polish Dura-Bright outboard surface of outer dual or single aluminum wheels.	735	0
5900008	O	Rear Wheel/Rim Quantity: 8	0	0
Frame & Equipment				
6056400	O	Frame Rails: 10-3/4 x 3-1/2 x 3/8in. Steel 285in. to 336 in. Truck frame weight is 3.48 lb.-in. per pair of rails. Section modulus is 17.80, RBM is 2,132,000 in.-lbs per rail. Frame rail availability may be restricted based upon application, axle/suspension capacity, fifth wheel setting, or component/dimensional specifications. The results of the engineering review may result in a change to the requested frame rail. If a change is required Kenworth Application Engineering will advise the dealer of the appropriate material specification for a substitute rail.	583	234
6141400	O	Full Steel Insert: for 10-5/8 in. or 10-3/4 in. Steel 285 in. to 336 in. or 2nd insert for 11-5/8 in. steel frame. Adds 1,149,000 in.-lb to main rail RBM. Truck insert weight is 2.05 lb.-in. per pair of rails. Full frame insert length is equal to wheelbase plus rear frame cutoff plus dimension forward of front axle by model. See databook addendum section 7.2.	1,580	596
6308715	O	Bumper: Aerodynamic Chrome Requires a Bumper setting code.	1,094	68
6319040	S	40 in. Bumper Setting. Requires a Bumper Code.	0	0
6321010	S	Front Tow Loops: Two	0	0
6400633	O	Battery Box: Temporary Across the Rails. Includes maximum cable length available.	191	-99
6409908	O	Battery Box Location: BOC Across the Rails.	0	0
6451125	S	DPF/SCR Box Natural End Plates and Natural cover.	0	0
6490139	S	Heavy-Duty One-PC Aluminum Intermediate/ Fill-In crossmember.	0	0

Sales Code	Std/Opt	Description	\$ List	Weight
6490433	S	Heavy-Duty 5-Piece Rear Cab Support, Hucked assembly. Huck fastened to frame.	0	0
6679995	O	Customer Will Install Structural End-of-Frame crossmember before vehicle is placed in service.	0	0
6722000	S	Rear Mudflap Shields: White Plastic Antisail W/ Kenworth logo.	0	0
6742009	S	Square End-of-Frame W/O Crossmember; Non-Towing.	0	0

Fuel Tanks & Equip

7140050	O	50 US Gallon D-Shape Rectangular Aluminum Under fuel tank, replace. With non-slip step.	75	22
7722170	S	Small DEF Tank, 5.5 Gallons.	0	0
7839006	O	Polished Fuel Tank Steps.	29	0
7840015	O	Polish Only One Aluminum Tank.	142	0
7840038	O	Polished Cover for 1 DEF Tank Any Size.	241	3
7889061	O	Polished Stainless Steel Tank Straps for 1 Tank.	95	0
7889203	O	DEF to Fuel Fill Ratio 2:1 or Greater.	0	0
7889606	O	DEF Tank Location is LH Under Cab.	0	0
7920050	O	Location: 50 gal fuel tank LH under cab	0	0

Cab & Equipment

8024311	S	Cab: Stamped Aluminum with Curved Windshield LED markers. Requires separate roof code.	0	0
8090155	O	Hood: Med Aero w/ Chrome Crown	95	0
8108011	S	Cab HVAC - Day Cab and 40 in. Sleeper System With Defrost, A/C, and 48,000 BTU/hr Heater. Includes automatic temperature control with one touch defrost operation and dash mounted cab temperature and solar intensity sensors. Pleated fresh air filter and cabin recirculation air filter standard. The Kenworth HVAC system is designed to provide optimal heating and cooling in all operating environments without need for additional insulation. Cab HVAC without sleeper heater AC is available with 40in sleeper.	0	0
8201047	O	Kenworth Smartwheel: 18 in. Non-Leather With Integrated Radio and Cruise Controls.	116	0
8201200	S	Adjustable Telescoping Tilt Steering Column.	0	0
8203044	O	Four Position Ignition Switch, Keyless. Available for fire truck service & EMT/emergency service only.	56	0
8203060	O	5 Sets of Keys. Replaces Standard 2 Sets of Keys.	34	0

Sales Code	Std/Opt	Description	\$ List	Weight
8205177	O	Dash Switch:1st Allison-Mounted PTO. Electric switch and wiring are factory-installed to control the 1st Allison Trans mounted PTO.	167	0
8205229	O	Two (2) Spare Accessory Electric-Over-Air Switches with Latching Air Solenoid. Mounted on dash for customer-installed option. Latching means the output air pressure will remain on, while there is air remaining in the air tank, when the ignition is off and switch position is on. Not intended for Trailer Lift Axle controls, see 8208607 and 8208608.	160	0
8205283	O	Info for C/I PTO: Chelsea 10 Bolt	0	0
8208497	O	Four Spare Switches: Wired to Power.	79	0
8222409	O	Gauge: DD Virtual Gauge - Air Filter Restriction	0	0
8222413	O	Gauge: DD Virtual Gauge - Manifold Pressure Boost	0	0
8222414	O	Gauge: DD Virtual Gauge - Engine Percent Torque	0	0
8222418	O	Gauge: DD Virtual Gauge - Engine Hours Instrument Cluster	0	0
8222419	O	Gauge: DD Virtual Gauge - Volts Instrument Cluster	0	0
8282024	S	Main Instrument Package: 7" Digital Display Cluster. Includes Physical (Analog): Speedometer, Tachometer, Oil Pressure, and Coolant Temp; and Digital: Fuel Level #1, DEF Level, DPF Filter Status, Fuel Economy, Volts Telltale, OAT and Primary Air Pressure, Secondary Air Pressure, and Air Application for air brake trucks.	0	0
8282109	O	Large Flat Panel on Dash For C/I Controls. Replaces Storage Bucket.	11	0
8330591	S	Interior Trim Package: 2.1M MD Gray Foam Backing/Cloth Headliner W/Gray Sunvisor & Seat Color Three Underdash Center Console Cupholders (Two If Allison Transmission Is Selected).	0	0
8410361	O	Driver Seat: NFPA Compliant KW Air Seat HB Vinyl No Armrests, w/ Susp Bellows Cover and Isolator.	124	0
8460361	O	Rider Seat: NFPA Compliant KW Air Seat HB Vinyl No Armrests, w/ Susp Bellows Cover, Isolator and Occupancy Sensor.	479	0
8489912	O	NFPA Compliance Kit: 2.1 m Includes Seat occupancy sensors. Seat belt switches, VDR & seat sensor harness, reflective labels, and a second copy of operators manual.	700	5
8490161	O	Seat Color: Black Replacing Standard Gray	0	0
8496575	O	Driver & Rider Seat Belts: Red, NFPA, Replaces Standard Seat Belts. (Available for NFPA RD Bench)	60	0

Sales Code	Std/Opt	Description	\$ List	Weight
8601432	O	Kenworth Radio DEA710 AM/FM/WB/USB, Bluetooth	394	0
8698965	O	Speaker Package For Cab: (2) Speakers B-Pillar	51	0
8700196	S	Turn Signal: Self-Cancelling	0	0
8700283	S	LH and RH Trip Ledge Rain Deflectors	0	0
8700663	O	Kenworth TruckTech+: This system provides the World's Best reporting of engine and aftertreatment fault codes, as well as enhanced support for the truck owner through rapid communication of fault severity and recommended actions. This is standard on all Kenworth models with a PACCAR MX engine, Cummins X15 engine, PX engine or Natural Gas engine.	0	0
8800272	O	Grabhandle: RH, Exterior, Side of Cab - Ergonomic Grab Handle Mounted To The Right Hand Exterior Of The Cab For Entry and Exit.	122	3
8800372	O	Grabhandle: LH, Exterior, Side of Cab - Ergonomic Grab Handle Mounted To The Left Hand Exterior Of The Cab For Entry and Exit.	119	3
8800402	S	Dual Cab Interior Grabhandles: A Pillar Mounted Dash Wrap and B Pillar Mounted Grabhandles	0	0
8832113	S	Kenworth Daylite Door With Standard LH/RH electric door locks and LH/RH electric window controls.	0	0
8841411	S	Single Air Horn Under Cab.	0	0
8850139	S	Look-Down, Pass. Door, Black 11x6	0	0
8850841	O	Mirror Shell: Dual Aero Chrome	148	0
8860852	O	Mirror: Dual KW Aero Rear View Motor, heated with Integral CX	66	0
8871446	S	Rear Cab Stationary Window 19in x 36in	0	0
8890101	S	One-Piece Bonded-In Windshield With Curved Glass. Standard.	0	0
8890135	O	Exterior Stainless Steel Sunvisor.	761	11
8890874	O	Kenworth Cab Air Suspension.	133	0
8891011	O	Roof: Raised Profile, Stamped Aluminum w/ Additional Head Room & Interior Overhead Storage	160	0
Lights & Instruments				
9010803	S	Headlamps: Single Halogen Complex Reflector w/ Turn Indicator, Reflector and DRL. Fender Mtd.	0	0
9022137	S	Marker Lights: Five, Rectangular, LED	0	0

Sales Code	Std/Opt	Description	\$ List	Weight
9030052	S	LED Stop, Turn, Tail: With Two LED Backup Lights and With An LED License Plate.	0	0
9049825	O	Customer-Installed Road/ Fog Lights Switch & wiring.	54	0
9080206	O	Switch and Wiring: Cust. Installed Beacon Lights With Additional 20ft Jumper Harness Shipped Loose	203	1
9090039	O	Marker Lights: Interrupter Switch. Included in Turn Signal For All Models Except T3. The T3 Switch Is In The Dash.	7	0
9090180	O	Backup Alarm: Tail Light Bracket Mounted Variable self-adjusting 82-102 DBA.	135	0
9090221	O	Switch & Wiring: For Customer-Installed Sign lamp w/o insulators.	63	0
9090312	O	Body Builder Lighting Harness Coiled End Of Frame For Additional Customer Installed Exterior Lighting. Harness Includes Circuits for Additional Customer Installed Tail Lamps, Turn Lamps, Stop Lamps, and Marker Lamps.	154	0
9090316	O	Junction Box: End of Frame	239	1
9090849	O	Polyswitches Replacing Fuses. Switch Will automatically reset after removal of excess load.	43	0
Air Equipment				
9101218	S	Air Dryer: Bendix AD-HF Puraguard Heated	0	0
9108001	S	Moisture Ejection Valve W/ Pull Cable Drain.	0	0
9140020	S	Nylon Air Tubing in Frame & Cab, Excluding Hoses subject to excessive heat or flexing.	0	0
Extended Warranty				
9200008	S	Base Warranty - PACCAR PX-9 Engine 24 months / 250,000 miles / 402,336 km / 6250 hours.	0	0
9200113	O	Severe Service Medium-Duty Warranty: 12 months/ 50,000 miles & km	0	0
9212659	O	TruckTech+ RD - 3YR Sub PACCAR PX Engines	499	0
9220001	O	Base Warranty: Emissions 5YR/100K MI - EPA Engine	0	0
Miscellaneous				
9409852	O	GHG Secondary Manufacturer: Does Not Apply	0	0
9490206	O	Warning Triangle Reflector Kit: Shipped Loose. Kit consists of 3 triangles in plastic carrying case. Not floor mounted.	58	4
9490404	O	One 5 lb. Dry Chemical Type Fire Extinguisher mounted outboard of driver seat. Class ABC.	126	11
9490645	O	Zinc Phosphate Frame Rail Paint Processing. Requires frame rail code. Code is for 1 pair of rails.	314	0

Sales Code	Std/Opt	Description	\$ List	Weight
9490647	O	Zinc Phosphate Frame Insert Paint Processing. Requires any 1st frame insert code. Code is for 1 pair of any frame inserts.	314	0
9491659	S	VMUX Architecture	0	0

Promotions

Paint

9700000	O	Paint Color Number(s). N9702 A - L3781 VIPER RED N9720 FRAME N0001 BLACK	0	0
9943004	S	Bumper Unpainted	0	0
9943051	O	Day Cab Premium Paint	621	0
9944820	S	1 - Color Paint - Day Cab Color will be White if no other color is specified.	0	0
9965510	S	Base Coat/ Clear Coat. The Kenworth Color Selector contains additional instructions, as well as information on Kenworth paint guidelines and surface finish applications. Kenworth is standard with Dupont Imron Elite paint.	0	0

Special Requirements

Special Requirement 1 0098025
 Special Requirement 2
 Special Requirement 3
 Special Requirement 4

Order Comments



Total List Price (W/O Freight & Warranty & Surcharges)	\$187,855
Marketing and Service Support Fee	\$1,395
Prepaid Freight	\$3,625
Total Surcharge/Options Not Subject To Discount	\$499
Total Weight	14,612

Prices and Specifications Subject to Change Without Notice.

Unpublished options may require review/approval.
 Dimensional and performance data for unpublished options may vary from that displayed in CRM.

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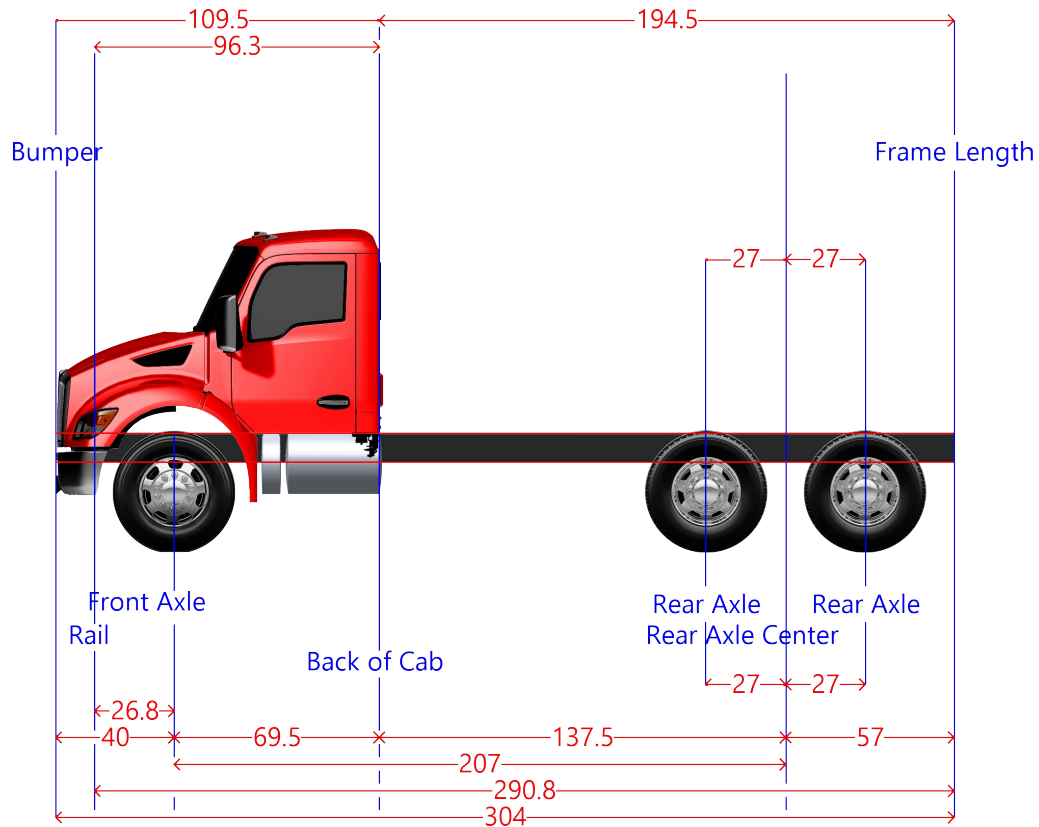


Shipping Destinations

Intermediate Destination:

Final Destinations	Quantity
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HORIZONTAL DIMENSIONS



Dimension	Measurement	Start	End
Axle Spacing	54	180	234
Bumper to Back of Cab	109.5	-40	69.5
Bumper to Front Axle	40.0	-40	0
Bumper to Front Frame	13.2	-40	-26.8
Cab to End of Frame	194.5	69.5	264
Cab to Rear Axle	137.5	69.5	207
Effective Bumper to Back Of Cab	109.5	-40	69.5
Frame Length	290.8	-26.8	264
Front Axle to Back of Cab	69.5	0	69.5
Front of Frame to Axle	26.8	-26.8	0
Load Space	194.5	69.5	264
Overall Length	304.0	-40	264
Overhang	57.0	207	264
Pusher Offset #1	27.0	180	207
Pusher Offset #2	27.0	180	207
Pusher Offset #3	27.0	180	207
Tag Offset	27.0	207	234
Wheelbase	207	0	207