

REVISION HISTORY				Pump Info:		Apparatus Type: Pumper	
REV	DESCRIPTION	DATE	DWN	Pump Location: Top	Chassis: FREIGHTLINER M2 106 4-DOOR	COMP #	DOOR OPENING SIZES
01	UPDATES	11/1/23	MLT	Pump Drive: Split Shaft	Tank Capacity: 1000	L1 & R1	48" WIDE X 62" HIGH X 12"/25" DEEP
02	CHASSIS CHANGE	11/17/23	CMS	Pump Make: Hale	Material: Aluminum	L2 & R2	57" WIDE X 27" HIGH X 12" DEEP
				Pump Model: DSD		L3 & R3	48" WIDE X 62" HIGH X 12"/25" DEEP
				Pump GPM: 1500		REAR	37" WIDE X 33" HIGH X 38" DEEP

COMPARTMENT DIMENSIONS	
COMP #	DOOR OPENING SIZES
L1 & R1	48" WIDE X 62" HIGH X 12"/25" DEEP
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REAR	37" WIDE X 33" HIGH X 38" DEEP

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE NOT CUMULATIVE

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

MAP PUMPER
 ALEXIS FIRE EQUIPMENT INC.
 ALEXIS, ILLINOIS

DECIMAL ±0.062 ANGULAR ±0.5°
 FRACTIONAL ±1/16 METRIC ±1.6 mm

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DRAWN: J. PAULEY 08/31/23
 MATERIAL: _____

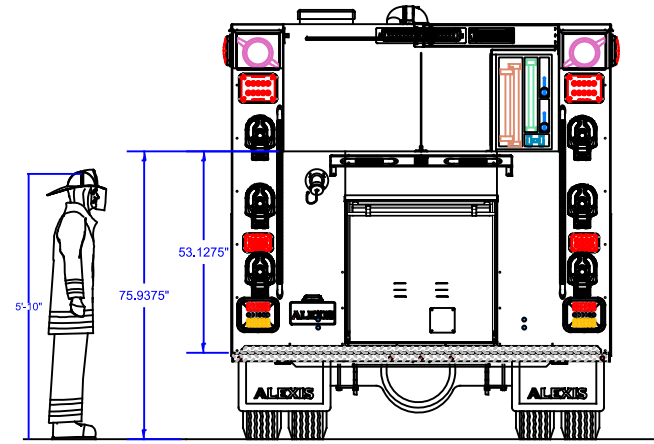
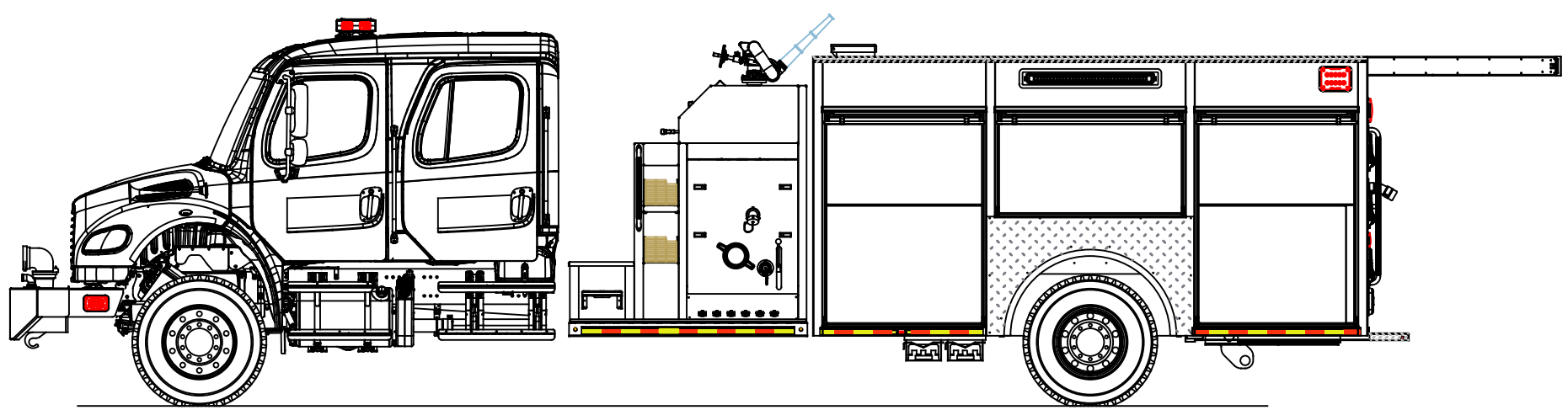
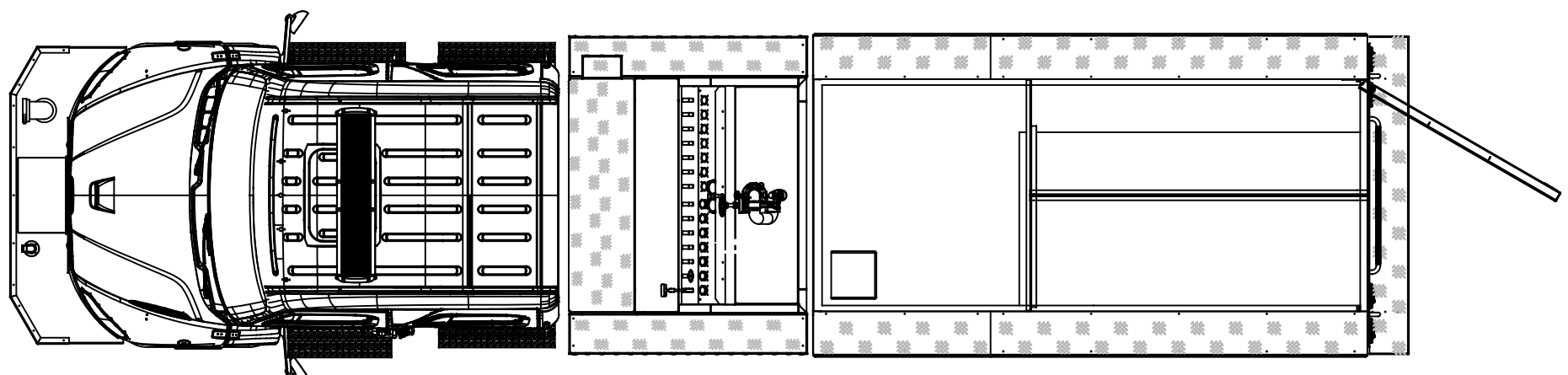
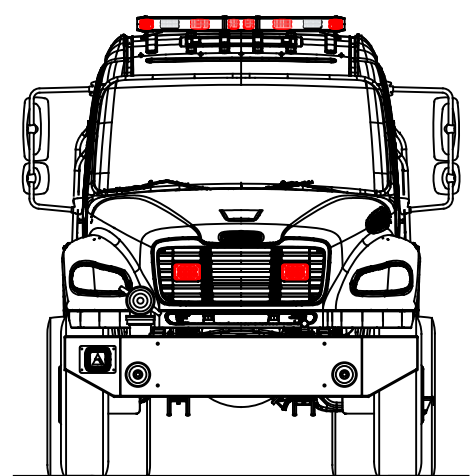
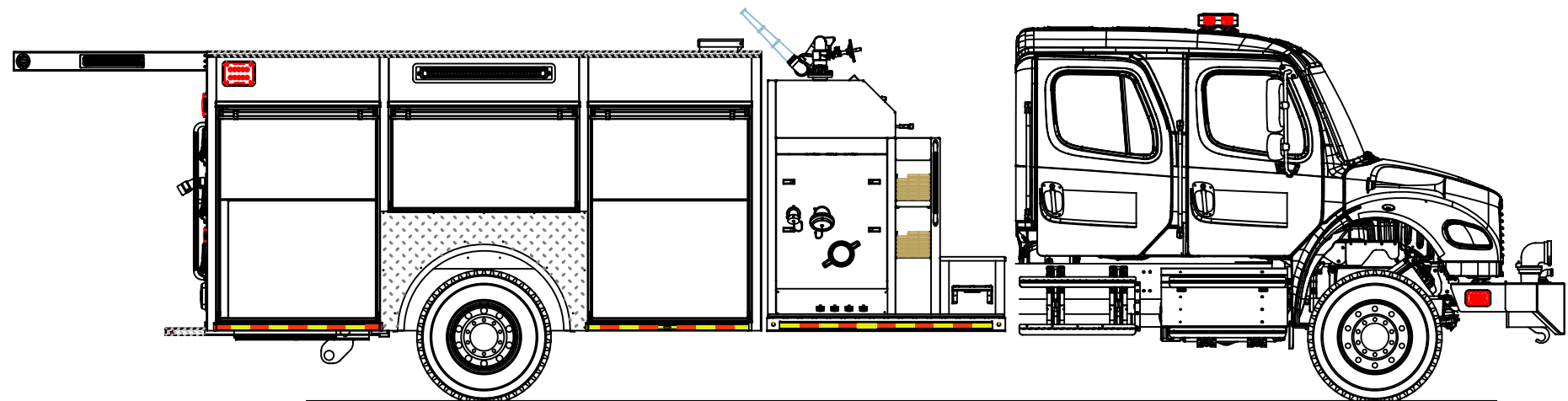
SIZE: D SCALE: 1/2" = 1'
 DWG NO: **MAP-A16**
 CONTRACT #: 2550 SHEET 1 OF 2

CUSTOMER APPROVAL SIGNATURE:

DATE:

AFE-2550

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



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Pump Make:	Hale
Pump Model:	DSD
Pump GPM:	1500

Apparatus Type:	Pumper
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Tank Capacity:	1000
Material:	Aluminum

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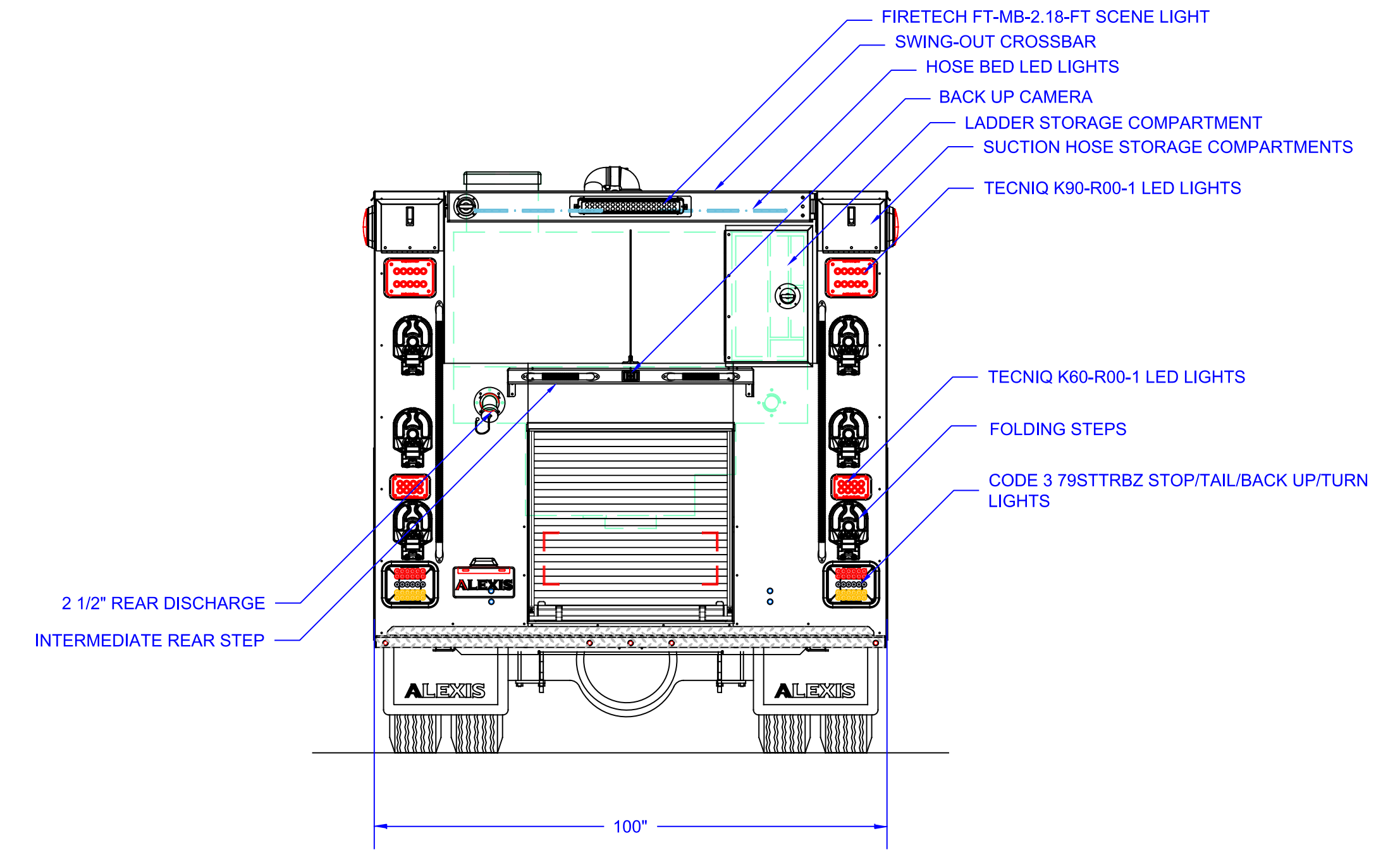
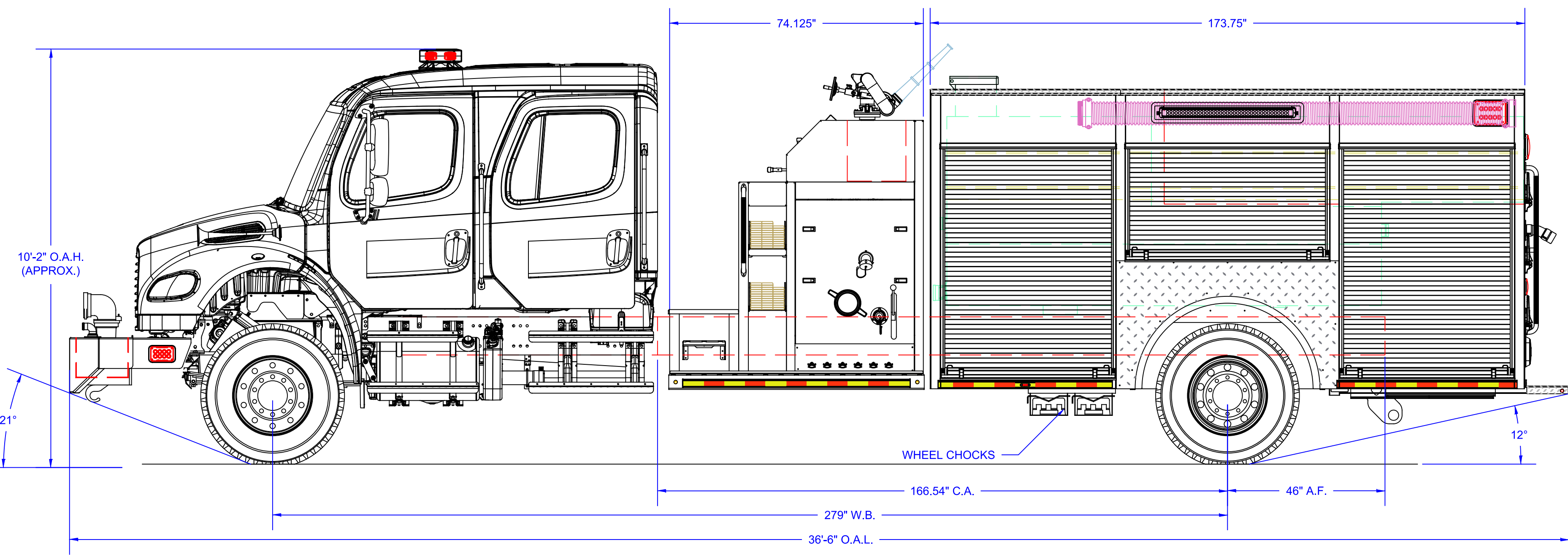
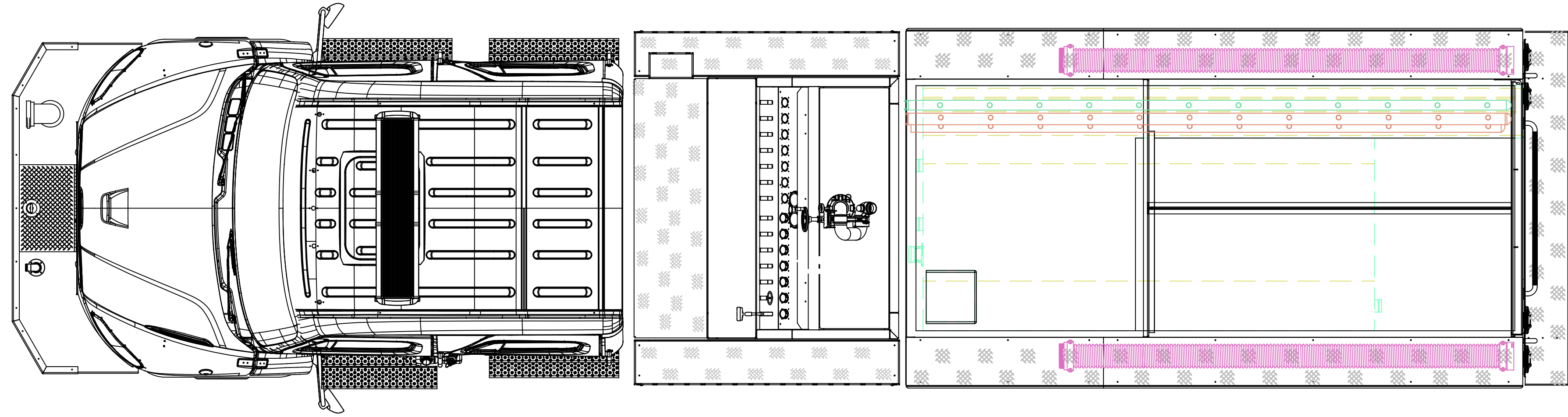
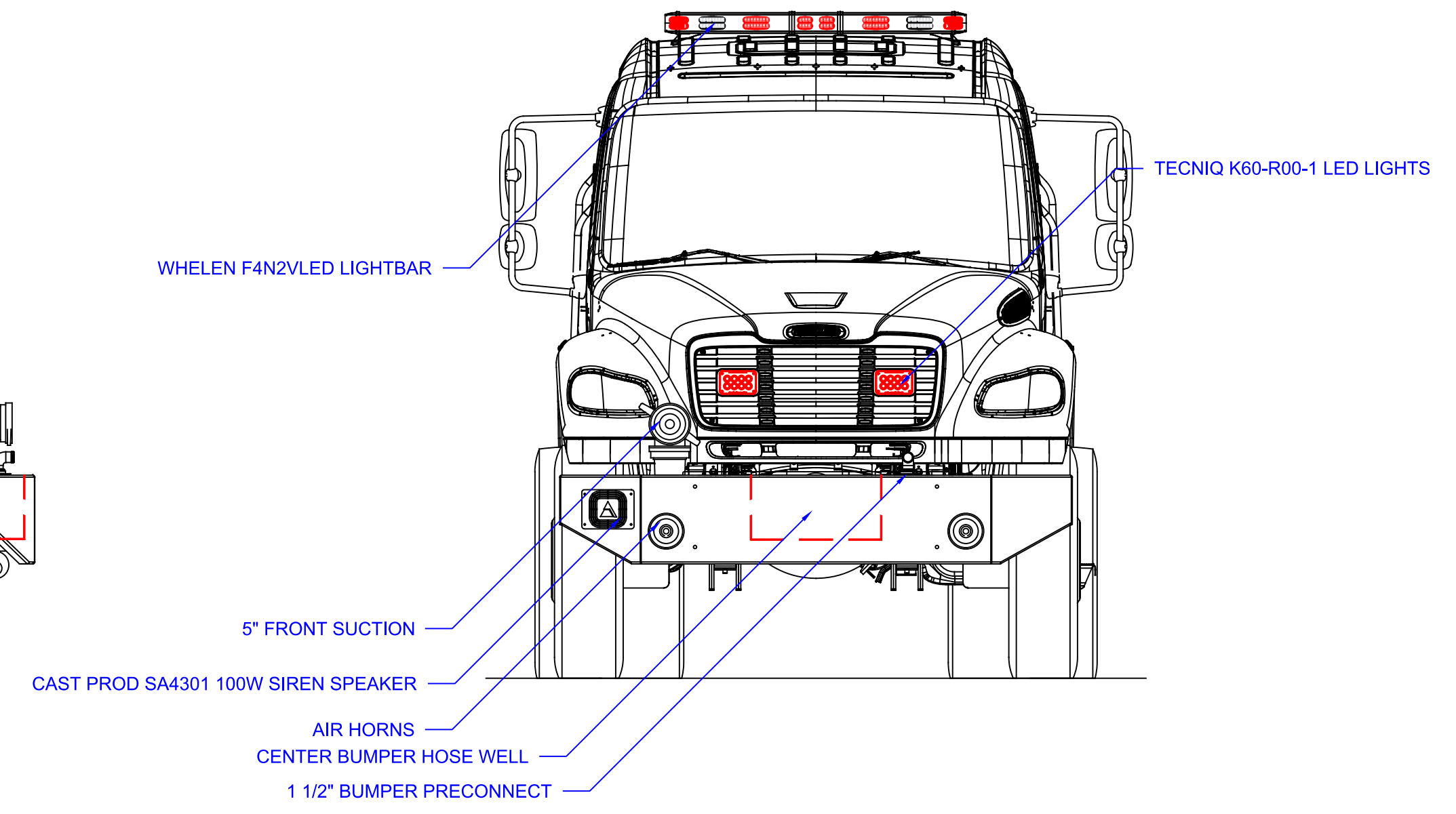
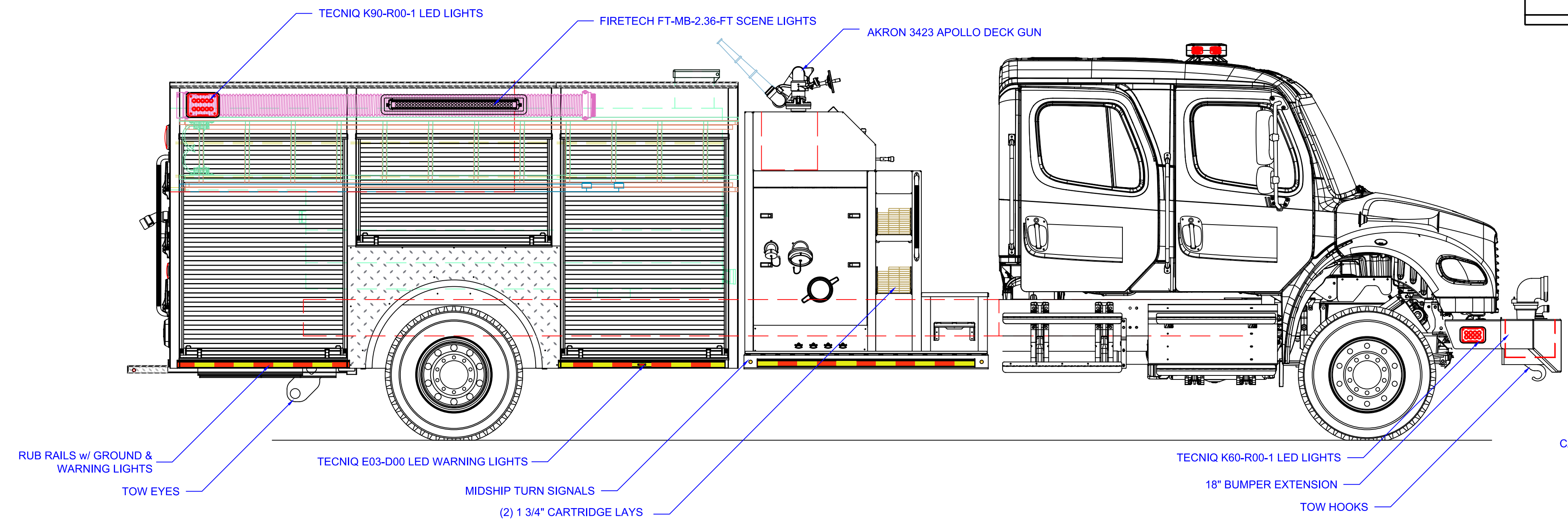
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MAP PUMPER
ALEXIS FIRE EQUIPMENT INC.
ALEXIS, ILLINOIS

SIZE: D SCALE: 1/2" = 1' DWG NO: MAP-A16
CONTRACT #: 2550 SHEET 2 OF 2

CUSTOMER APPROVAL SIGNATURE: _____ DATE: _____

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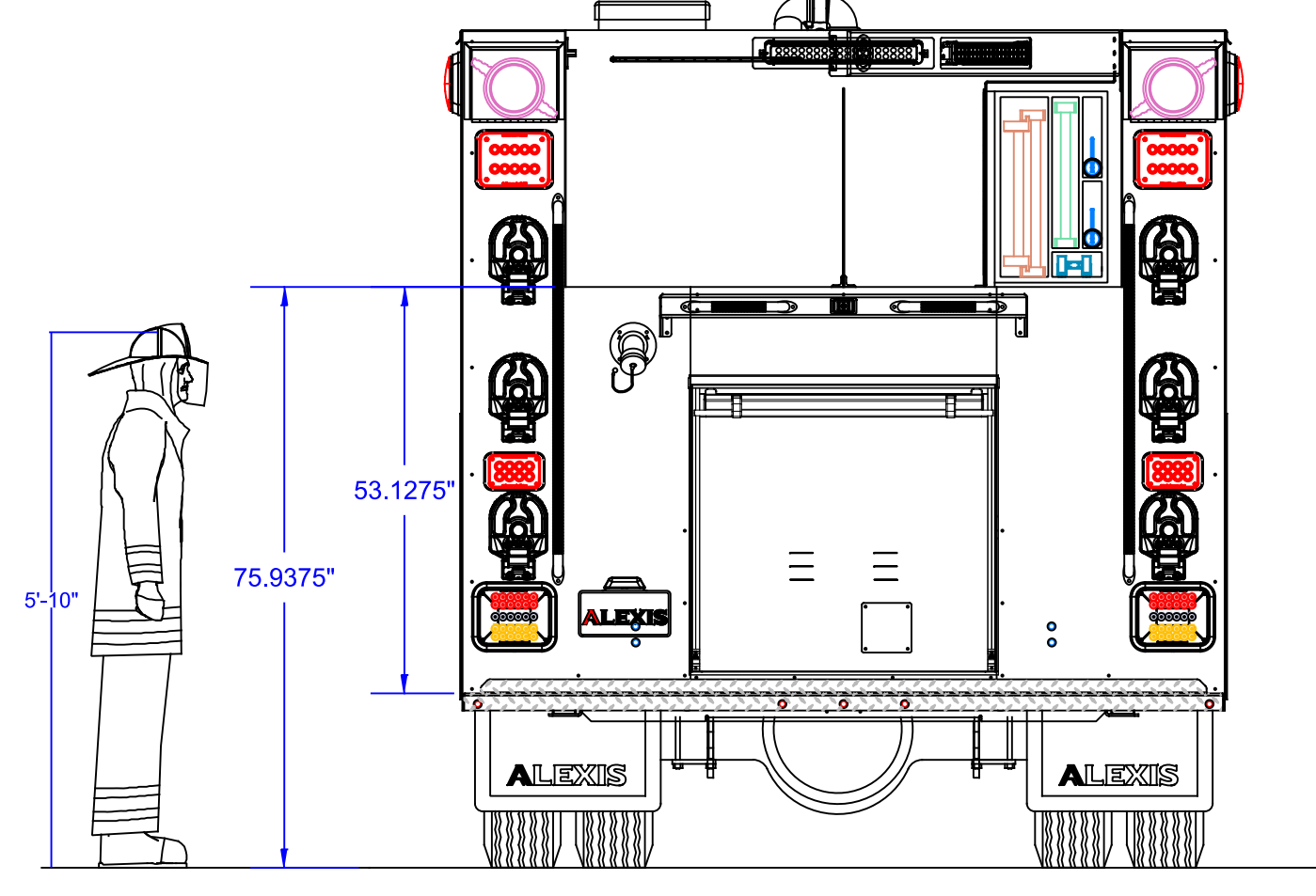
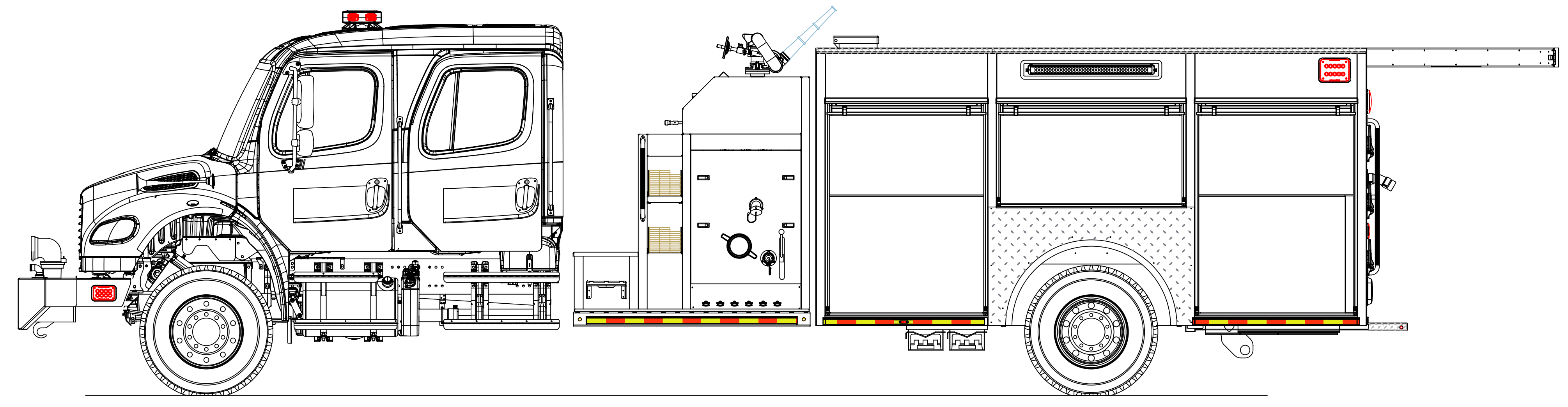
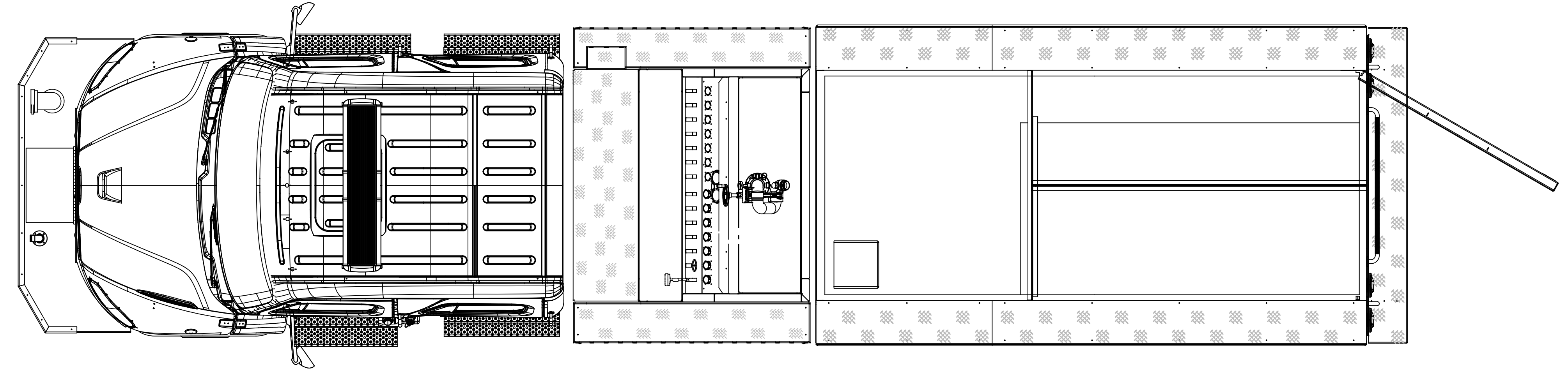
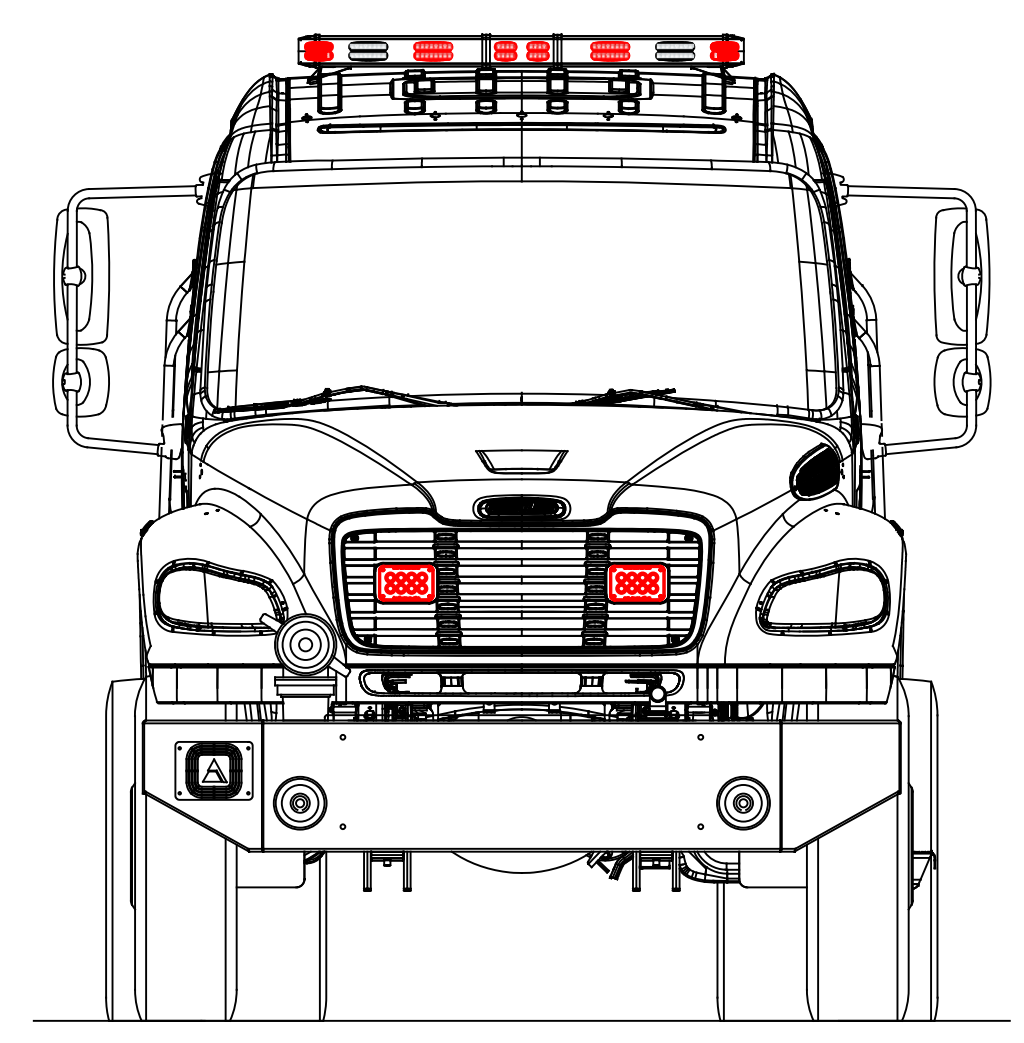
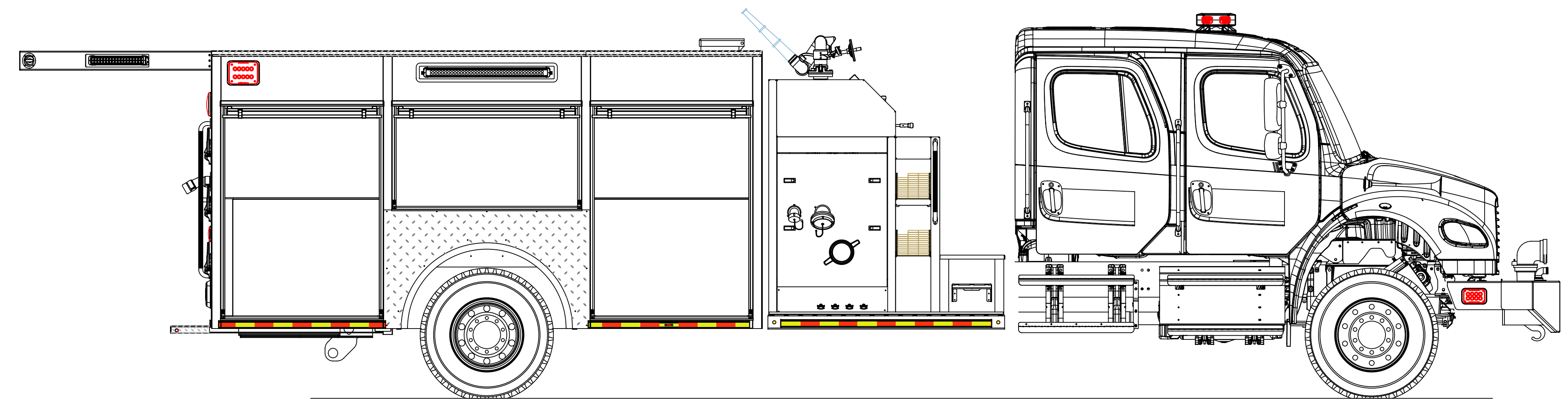
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 DRAWN: J. PAULEY
 MATERIAL: 08/31/23

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 ALEXIS FIRE EQUIPMENT INC.
 ALEXIS, ILLINOIS
 SIZE SCALE DWG NO
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 CONTRACT # 2550 SHEET 1 OF 2

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DRAWN: J. PAULEY
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SIZE: D SCALE: 1/2" = 1'
 DWG NO: MAP-A16

MATERIAL: _____ CONTRACT #: 2550 SHEET 2 OF 2



 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 #2550 Top Mount Pumper

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 ____ Fire Department may **DEDUCT \$ ____** from the front page price 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
Contact Person: Barb Lafferty
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 insure 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 five (5) 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 4.15.2, the top speed of the vehicle shall not exceed 68 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 Ashland Series 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 one year 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:

- 24. To normal maintenance service or adjustments.
- 25. 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.
- 26. 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.
- 27. To work performed by an outside service without prior authorization obtained from Alexis Fire Equipment.



28. 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 o the company’s behalf unless made or assumed in writing by the company.

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:

RUNNING BOARDS:

Polished aluminum treadplate shall be installed behind the chassis furnished running boards.

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.

WHEEL DRESS HUB AND NUT COVERS:

The front and rear wheels shall be dressed with polished hub covers and lug nut covers.

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

WALK-AWAY AIR PAK BRACKETS:



Four (4) SCBA brackets shall be installed in the chassis cab, one (1) at each applicable seat area. The bracket will use a positive latching mechanical means of holding the SCBA device in its stowed position such that the SCBA unit cannot be retained in the mount unless the positive latch is engaged. (Zico ULLH)

TYPE: _____

BUMPER EXTENSION:

The chassis shall be supplied with extended frame rails. The existing front chassis bumper shall be removed from the apparatus. The chassis bumper shall be replaced with a stainless steel 4B finish bumper. The extension shall be decked with .188 polished aluminum treadplate.

The front bumper extension shall incorporate tapered corners

The bumper shall be extended 18 inches.

TOW HOOKS:

Two (2) drop forged tow hooks shall be securely fastened to the frame, one (1) on each side of the frame rail, under the front bumper.

HOSE WELL:

A hose well shall be recessed in the bumper extension at the center. It shall be constructed of 5052 H32 aluminum sheet. The hose well shall incorporate drain holes in the corners.

HOSE WELL DURATILE:

Black Duratite shall be installed in the bottom of the hose well to insure proper hose ventilation and drying.

HYPALON HOSE WELL COVER:

There shall be a Hypalon cover installed on the hose well.

The hypalon cover shall be black in color.



The hose well shall have the capacity to contain 150' of 1¾" hose.

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:

MIDSHIP PUMP:

MANUFACTURER: Hale Fire Pump Co.

MODEL: DSD150

CAPACITY: 1500 gpm. @ 150 psi.

SUCTION SIZE: 6" NST

PUMP ASSEMBLY

The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis, and have the capacity of 1500 gallons per minute (U.S. GPM), NFPA-1901 rated performance.

The entire pump shall be assembled and tested at the pump manufacturer's factory.

The pump shall be driven by a driveline from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.

The entire pump shall be hydrostatically tested to a pressure of 600 psi. The pump shall be fully tested at the pump manufacturer's factory to the performance spots as outlined by the latest NFPA Pamphlet No. 1901. Pump shall be free from objectionable pulsation and vibration.

The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 psi. (2069 bar.) All metal moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron not acceptable.



Pump body shall be vertically split, on a single plane for easy removal of entire impeller assembly including clearance rings

Pump shaft to be rigidly supported by two bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined hand ground and individually balanced. The vanes of the impeller intake eyes shall be hand ground and polished and be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.

Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body.

The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless steel. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.

GEARBOX

Pump gearbox shall be of sufficient size to withstand up to 16,000 lbs. ft. of torque of the engine. The drive unit shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.

The gearbox drive shafts shall be of heat-treated chrome nickel steel and at least 2³/₄" in diameter, on both the input and output drive shafts. They shall withstand the full torque of the engine.

All gears, both drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated and hardened, to give an extremely accurate gear for long life, smooth, quiet running, and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust. (No exceptions.)

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

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.

ADDITIONAL PRIMER CONTROL:

One (1) additional primer control valve shall be furnished to prime the specified auxiliary inlet individually. The Trident Emergency products RPV (remote priming valve) shall activate using the same air that powers the AirPrime™ system when the coinciding panel valve is depressed. Priming the remote suction line evacuates air from that line and minimizes cavitation during remote suction operations. The valve control is to be co-located next to the main priming valve control on the pump operator's panel.

AUXILARY INLET: Front Intake

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.

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.

HALE 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

There shall be one (1) suction side stainless steel relief pump valve provided on the pump system. The connection shall be Victaulic, NST, or NPT.

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

PUMP MODULE - TOP MOUNT:

A free standing pump module shall be located between the chassis cab and the body.

The pump module shall be a self-supported structure mounted to the frame separate from the cab and body. The pump module shall be designed and constructed to withstand the normal stress and flexing of the chassis frame. The pump module shall be attached to the frame in a minimum of four (4) locations using a rubber cushion mounting system. No exceptions.

The pump operator's panel shall be located across the top 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 discharge panel shall be secured with two Southco latches.

The top mount operator's panel shall be hinged for access to the individual gauges and the electrical components. The suction/discharge panels shall be hinged for pump, valve, and piping access. No exceptions.

PUMP CONTROLS:



The top mount pump panel shall incorporate Innovative Controls Pistol Grip controllers.

PUMP OPERATOR'S PANEL:

The pump operator's panel shall include the following:

PRESSURE GOVERNOR and MONITORING DISPLAY

One (1) Fire Research PumpBoss series PBA401-D00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 6 3/4" high by 4 5/8". The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1 3/4" from the front of the control module. Inputs for monitored engine information and outputs for engine control shall be on the J1939 databus. Inputs from the pump discharge and intake pressure sensors shall be electrical.

The following continuous displays shall be provided:

- Engine RPM; shown with four daylight bright LED digits more than 1/2" high
- Check engine and stop engine warning LEDs
- Engine oil pressure; shown on a dual color (green/red) LED bar graph display
- Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
- Transmission Temperature; shown on a dual color (green/red) LED bar graph display
- Battery voltage; shown on a dual color (green/red) LED bar graph display
- Pressure and RPM operating mode LEDs
- Pressure / RPM setting; shown on a dot matrix message display
- Throttle ready LED.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time 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 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 LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the 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 governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor and display shall be programmed to interface with 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

WATER TANK INDICATOR

One (1) Fire Research TankVision Pro model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of Polycarbonate/Nylon material, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a datalink to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall be placed on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.



The gauge shall be located at the pump operator’s panel.

LINE READING GAUGES:

One (1) line reading gauge supplied for each 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. The gauge shall be constructed with a Zytel housing, acrylic lens and polished stainless steel bezel. The Zytel nylon case shall be temperature compensated with an internal breathing diaphragm to permit a fully filled case and to allow for a rigid lens with a distortion free viewing area.

A 1/4" brass male NPT fitting shall be centrally located on the rear of the housing and feature the Kem-X socket and freeze protection system that isolates the gauge from contaminants. The gauge utilizes a phosphor bronze Bourdon tube filled with a freeze proof liquid isolated by a diaphragm. The gauge shall be filled with low temperature glycerin for an operating range of -40 to +150 degrees Fahrenheit, which prevents bouncing of the readout needle and provides for an accuracy rating of plus or minus 1% across the entire scale of the gauge.

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.

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	Yellow with white border
Foam line(s)	Red with white border
Booster reel(s)	Gray



Inlets

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.

MIDSHIP WALKWAY

A 22" wide walkway shall be incorporated behind the cab and ahead of the body. The walkway shall be framed and supported with an extruded aluminum frame work. The walkway shall be constructed of 3/16" thick 3003-H12 polished aluminum treadplate and attached to the substructure with stainless steel threaded fasteners.

RUNNING BOARDS

The running boards shall be constructed of 3/16" thick 3003-H14 aluminum treadplate and shall be attached to the outriggers on the pump module. The aluminum treadplate 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 top mount pump operator's panel and discharge panels shall be manufactured of 12 gauge stainless steel material. The pump operator's panel shall include a full width light hood.

The operator's panel shall have three (3) E10 Series LED lights and the discharge panels shall each have two (2) Eon E03 Series LED lights .

The lights activated by the pump panel light switch.

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

2 ½" DISCHARGE PIPING:

One (1) 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 top mount 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.

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 controlled from the top mount 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.

2 ½" DISCHARGE, APPARATUS REAR:

One (1) 2½" discharge shall be located on the rear of the apparatus. Each discharge shall be controlled from the top mount 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.



LOCATION: _____

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 top mount pump operator's panel. A 2½" gauge shall be adjacent to each control. Each 3" and larger discharge shall include an Akron Slo-Cloz adapter.

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.

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

FRONT SUCTION:

One (1) 5" suction shall be located at the front of the apparatus. It is to be piped with 5" SS piping. An inlet screen and a long handle cap shall be included. The operator shall have an open-closed indicator device showing the valve position at all times. The butterfly valve shall be made of lightweight aluminum alloy with a bronze valve disc and a one (1) piece rubber seat. It shall be rated at 250 psi. working pressure. The electric actuator shall have a worm gear drive system with emergency manual override. All of the controls shall be within a single mountable panel package that utilizes current limiting for fully open and closed stopping. Switches in the gear actuator housing will not be acceptable.

INTAKE RELIEF VALVE:

One (1) TFT A1860 intake relief valve shall be installed on the auxiliary intake of the pump. The minimum range shall permit control from 75 to 250 psi. (per NFPA 4-5.1).

FRONT SUCTION ELBOW - PAINTED:

The front suction shall incorporate a 5" Elkhart 348 swivel elbow terminating as described below. The Elkhart swivel shall be painted job color.

The auxiliary suction shall terminate 5" NSTM.

SUCTION LINE DRAINS:

Each 2½" gated suction and those of larger sizes shall incorporate a ¾" quarter turn drain hoses to ground. The drain shall be located behind the body panel, remote controlled from the suction location.

FIXED MONITOR PIPING:

One (1) 3" discharge shall be located on the deck over the pump compartment. The discharge shall be flanged to adapt to a permanent mounted deck pipe. The piping shall be reinforced to allow rated deck pipe flow without piping distortion. The discharge valve shall be a quarter turn 3" full flow valve located in the pump compartment. It shall be controlled from the pump panel. The deluge and its control shall be positioned so the pump operator shall have complete control. The valve shall be a slow close valve per NFPA requirements.



Each above valve shall be manually controlled.

DECK GUN:

One (1) Akron Apollo monitor Model 3423 shall be supplied. The monitor shall include a stream shaper, stacked tips, and fixed and ground mounts.

The deck gun finish shall remain as supplied by the manufacturer.

CARTRIDGE LAY PRECONNECT MODULE - (2) 1½":

One (1) independent preconnect module shall be located ahead of the pump module, above the frame rails. The module shall be manufactured of stainless steel material, self supported, and shall incorporate two (2) preconnect hose beds.

Two (2) 1½" cartridge lay preconnects shall be located in the module. The preconnects shall incorporate a 1½", 180° Elkhart 348 swivel adapted to 1½" fire hose thread. The waterways shall be 2" i.d. and include a 2" full flow quarter turn ball valve that is controlled from the operator's panel (NFPA 4-7.2).

Each preconnect shall have the capacity to contain a minimum of 200 ft. of 1¾" hose with nozzle. The preconnects shall be designed as to allow the extension of hose to the left or right side of the apparatus body.

Each above valve shall be manually controlled.

Aluminum trays shall be incorporated with the system. Each tray shall be constructed of .1875" 5052 - aluminum sheet that is fabricated to accommodate the intended usage. Each cartridge shall be securely retained in the apparatus when in place.

CARTRIDGE LAY PRECONNECT COVER - HYPALON:

The Cartridge Lay preconnect area shall be covered with a fire and chemically resistant material. It is to be retained to the apparatus with a slotted track retainer across top and heavy duty velcro on each side

The hypalon cover shall be black in color.

1½" PRECONNECT, BUMPER EXTENSION:

One (1) 1½" preconnect shall be incorporated within the bumper extension. The piping shall measure 2"



i.d. and shall be valved with 2" full flow quarter turn ball valves that are controlled from the operator's panel. It shall include a bumper deck mounted 1½" swivel adapted to 1½" fire hose thread

Each above valve shall be manually controlled.

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.

VALVING:

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

An Akron Brass Generation II Swing-Out™ Valve, shall be provided. The valve shall have an all brass body with flow optimizing stainless steel ball and dual polymer seats. The valve body shall be of universal design and accept multiple actuators. The valve shall be capable of dual directional flow while incorporating a self-locking ball feature using an automatic friction lock design and specially designed flow optimizing stainless steel ball. The stainless steel ball shall have HydroMax™ technology. All stainless steel parts must be 316 grade for increased resistance to corrosion. The valve shall not require lubrication of seats or any other internal waterway parts, and must be capable of swinging out of the waterway for maintenance by the removal of six bolts. The valve shall be compatible with a slow closing device. This valve shall be actuated using a manual handle. The handle shall be quickly adjustable to one of eight handle positions and require only 90° travel. The valve shall be manufactured and assembled in the United States. Product must carry a 10 year manufacturer's warranty.

WARRANTY, AKRON BRASS BALL VALVE:

We warrant Akron Brass Swing-Out Valves for a period of ten (10) years after purchase against defects in material or workmanship. Akron Brass will repair or replace any Swing-Out Valve which fails to satisfy this warranty. Repair or replacement shall be at the discretion of Akron Brass. Electrical Components shall carry our standard five (5) year warranty. We will not be responsible for: Wear and tear; and by improper installation use, maintenance; negligence of the owner or user; repair or modification after delivery; failure to follow our instructions or recommendations; or anything else beyond our control. WE MAKE NO WARRANTIES EXPRESS OR IMPLIED, OTHER THAN THOSE INCLUDED IN THIS WARRANTY STATEMENT, AND WE DISCLAIM ANY IMPLIED



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WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Further we will not be responsible for any consequential, incidental, or indirect damages (including, but not limited to, any loss of profits) from any cause whatsoever. No person has authority to change this 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 one-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 3/16" aluminum bodies, under normal use and with reasonable maintenance, shall remain structurally sound for a period of 10 years 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.

ASHLAND SERIES BODY:

BODY SUB FRAME:

The body subframe system shall be independent of the chassis frame and is to be constructed of aluminum structural material. The subframe shall be mounted in a manner that allows the body to float independent of the chassis frame. However, the unit will be secured in compliance with all chassis manufacturers' frame requirements, as well as with all SAE FMVSS standard requirements. The chassis frame shall be completely cushioned from the subframe system with closed cell rubber.

APPARATUS FRONT PANEL:

The vertical surfaces at the front of body shall be manufactured of .190" aluminum treadplate.

ALUMINUM BODY PANELS:

The apparatus body panels shall be full height and independent of the tank's sides. The body panels shall be constructed of .190 thick 5052 aluminum material.

APPARATUS REAR PANEL:



The vertical surfaces between the body rails at the rear, from the tailstep walkway to the hose bed, shall be manufactured of smooth aluminum, in preparation for Chevron striping.

FLAT BACK TRUCK DESIGN:

The apparatus shall be of a flat back design so as to allow for ease of access to the hosebed.

WHEEL HOUSING, ALUMINUM TREADPLATE:

The rear wheel housing shall be constructed of aluminum treadplate and shall incorporate a black rubber fenderette. The circular interliner shall be manufactured of 1/8" smooth aluminum

HOSE MAT:

The hose mat shall be constructed of 5052 aluminum and shall be of a slatted design to provide proper drainage of hose bed.

TAILSTEP:

The tailstep shall be constructed of .190 thick 3003-h14 aluminum treadplate. The tailstep shall be a bolt-on tailstep for ease of removal and repair. The aluminum treadplate 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 12" deep

REAR TOW EYES:

Two (2) 3/4" thick steel tow eyes shall be provided, one (1) on each side below the body at the rear.

HOSE BED:

The hose bed shall be located over the booster tank, and must be accessible from the tail step and from its open top. The hose bed floor shall be lowered for improved access. The hose bed compartment shall have a minimum capacity of 55 cu. ft. and a minimum width of 71".

HINGED HOSE BED CROSSBAR:



One (1) hinged hose bed crossbar shall be installed at the rear top of the hose bed. The crossbar shall allow for mounting of any rear scene light(s), arrow stick or backup camera.

The crossbar shall be hinged at the side of the body and secured with a D ring rotary latching system

The crossbar shall be hose bed width and approximately 6" wide. The crossbar system shall be fabricated of .125" smooth aluminum material.

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.

Each divider shall be cut down through the middle section to facilitate ease of loading the hose.

HOSE BED COVER:

One (1) 2-piece 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 hose bed cover shall include a 3 year warranty.

One (1) Die Cut Hypalon end flap shall be provided. The end flap shall be retained at the top with shock cord and nylon clips. 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 hypalon cover shall be black in color.



COMPARTMENTATION:

COMPARTMENT DESIGN:

The compartmentation shall be fabricated of 3/16" (.1875") thick 5052 H32 aluminum. 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 aluminum treadplate material. 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 face of the compartments shall be aluminum treadplate and the rear face the compartments shall be smooth aluminum in preparation for Chevron striping.

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

NON-PAINTED ROLL-UP DOORS:

The compartments shall have ROM Series IV Roll-up Shutter Doors with a satin 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.

TALL BOTTOM RAIL:

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

LEFT SIDE BODY SHALL BE AS FOLLOWS:

L1

A roll-up door compartment assembly with a door opening of 48" wide x 62" high x 12" deep in the upper area and 25" deep in the lower area shall be incorporated on the apparatus left side ahead of the rear wheels.

The compartment shall include the following:

Unistrut Tracking

E45 Series LED strip lights to illuminate the entire area. The lights shall run the entire height of the



compartment on each side of the door opening.

L2

One (1) compartment with a roll-up door shall be located above the wheel well on the left side. It shall have a door opening of 57" wide x 27" high x 12" deep.

The compartment shall include the following:

Unistrut Tracking

E45 Series LED strip lights to illuminate the entire area. The lights shall run the entire height of the compartment on each side of the door opening.

L3

A roll-up door compartment assembly with a door opening of 48" wide x 62" high x 12" deep in the upper area and 25" deep in the lower area shall be incorporated on the apparatus left side behind the rear wheels.

The L3 compartment shall extend to the rear body panel.

The compartment shall include the following:

Unistrut Tracking

E45 Series LED strip lights 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 48" wide x 62" high x 12" deep in the upper area and 256" deep in the lower area shall be incorporated on the apparatus right side ahead of the rear wheels.

The compartment shall include the following:



Unistrut Tracking

E45 Series LED strip lights to illuminate the entire area. The lights shall run the entire height of the compartment on each side of the door opening.

R2

One (1) compartment with a roll-up door shall be located above the wheel well on the right side. It shall have a door opening of 57" wide x 27" high x 12" deep.

The compartment shall include the following:

Unistrut Tracking

E45 Series LED strip lights to illuminate the entire area. The lights shall run the entire height of the compartment on each side of the door opening.

R3

A roll-up door compartment assembly with a door opening of 48" wide x 62" high x 12" deep in the upper area and 25" deep in the lower area shall be incorporated on the apparatus right side behind the rear wheels.

The R3 compartment shall extend to the rear body panel.

The compartment shall include the following:

Unistrut Tracking

One (1) 5" 12-volt T44 Series LED light(s)

REAR COMPARTMENT SHALL BE AS FOLLOWS:

A roll-up door compartment assembly with a door opening of 37" wide x 33" high x 38" deep shall be located at the rear of the apparatus.

TRANSVERSE OPENING:

The side compartments behind the wheel shall be made transverse or interconnecting with the rear



compartment. This transverse compartment will be full body width and must be accessible from the left side, right side or the rear compartment area.

The rear compartment shall include the following:

One (1) 5" 12-volt T44 Series LED light(s)

HARD SUCTION HOSE STORAGE- LEFT SIDE:

One (1) hard suction hose storage compartment shall be designed into the left upper compartment area. The suction hose shall be accessible from the rear of the apparatus through a drop down door with a single point latch. The door shall be manufactured of the same material as the rear body panel and finished to match (treadplate, painted, chevron, etc.) The suction hose compartment shall be an integral part of the compartment area.

HARD SUCTION HOSE STORAGE- RIGHT SIDE:

One (1) hard suction hose storage compartment shall be designed into the right upper area. The suction hose shall be accessible from the rear of the apparatus through a drop down door with a single point latch. The door shall be manufactured of the same material as the rear body panel and finished to match (treadplate, painted, chevron, etc.)

LADDER STORAGE:

The ladders shall be stored in a compartment located in the apparatus hose bed on the right side. The ladders shall be stored on "beam" edge and the compartment shall incorporate individual poly slides for ease of removal of the ladders. The ladders shall be accessible from the rear of the apparatus through a vertically hinged door with single point latch. The door shall be manufactured of the same material as the rear body panel and finished to match (treadplate, painted, chevron, etc.)

ATTIC LADDER BRACKET:

One (1) attic ladder bracket shall be provided. It shall have the capacity to carry an attic ladder. Abrasion pads shall be installed to prevent body finish damage.

The ladder storage shall have the capacity to contain the following: One (1) 26' 3-section ladder; one (1) 12' roof ladder with hooks; and one (1) attic ladder

One (1) 24' 2-Section Ladder



One (1) 14' Roof Ladder with Hooks

One (1) 10' Attic Ladder

DURATILE TILE ON FLOOR:

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

VERTICAL UNISTRUT IN COMPARTMENT:

The unistrut tracking as previously specified shall be vertically installed on the compartment walls for use with adjustable shelving. The tracking will allow the shelving to be adjustable to height with an eight (8) bolt lock. The tracking shall be installed from the floor of the compartment to approximately 4" below the ceiling of the compartment, allowing full height adjustability.

TANK:

BOOSTER TANK:

The tank shall have a capacity of 1000 US gallons complete with a lifetime warranty. The tank manufacturer shall mark the tank and furnish notice that indicates proof of warranty. The purpose of the markings and notice is to inform department personnel who store, stock, or use the tank that the unit is under warranty. Markings may be brief but should include a short statement that a warranty exists, the substance of the warranty, its duration, and who to notify if the tank is found to be defective.

The tank shall be constructed of ½" thick PT2E polypropylene sheet stock. This material shall be non-corrosive stress relieved thermo-plastic and U.V. stabilized for maximum protection.

The booster tank shall be of a specific configuration and so designed to be completely independent of the body and compartments. All joints and seams shall be nitrogen welded and tested for maximum strength and integrity. The transverse swash partitions shall be manufactured of 3/8" PT2E polypropylene (natural in color) and extend from approximately 4" off the floor to just under the cover. The longitudinal swash partitions shall be constructed of 3/8" PT2E polypropylene (natural in color) and extend from the floor of the tank through the cover to allow for positive welding and maximum integrity. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are welded to each other as well as to the walls of the tank.



FILL TOWER AND COVER

The tank will have a combination vent and manual fill tower. The fill tower will be constructed of ½" PT2E polypropylene and shall be a minimum dimension of 8" x 8" outer perimeter. The tower will be located in the left front corner of the tank. The tower will have a ¼" thick removable polypropylene screen and a PT2E polypropylene hinged type cover. Inside the fill tower, approximately 4" down from the top, shall be fastened a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of 4" that is designed to run through the tank and shall be piped behind the rear wheels.

The tank cover is constructed of ½" thick PT2E polypropylene and UV stabilized, to incorporate a multi three-piece design which allows for individual removal and inspection if necessary. The tank cover will be recessed 3/8" from the top of the tank and shall be welded to both sides and longitudinal partitions for maximum integrity. Each one of the three covers will have hold-downs consisting of 2" polypropylene dowels spaced a maximum of 30" apart. These dowels will extend through the covers and be welded to the transverse partitions. This will assist in keeping the cover rigid under fast filling conditions. A minimum of two (2) lifting dowels shall be drilled and tapped ½" x 13" to accommodate the lifting eyes.

SUMP

There will be one (1) sump standard per tank. The sump shall be constructed of ½" PT2E polypropylene and be located in the left front quarter of the tank. The sump will have a minimum 3" NPT threaded outlet on the bottom for a drain plug. This shall be used as a combination cleanout and drain. All tanks shall have an anti-swirl plate located approximately 2" above the sump.

OUTLETS

There will be two (2) standard tank outlets: one for the tank to pump suction line which will be a minimum of a 3" NPT coupling and one for a tank fill line which will be a minimum of a 2" NPT coupling. All tank fill couplings will be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates of up to 1000 GPM. All auxiliary outlets and inlets must meet all NFPA guidelines in effect at the time of manufacture.

MOUNTING

The tank shall rest on the body cross members with an unsupported area not to exceed 530 sq. inches on tanks up to 40" in height. On tanks over 40" in height, an unsupported area of not more than 400 sq. inches must be maintained. All tanks shall be isolated from the cross members through the use of hard rubber strips with, a minimum thickness and width dimension of .250 x 2" and a minimum Rockwell



hardness of 60 durometer. Additionally, the tank must be supported around the entire bottom outside perimeter and captured both front and rear as well as side to side to prevent the tank from shifting during vehicle operation. A picture frame type cradle mount shall be utilized with a minimum of 2" x 2" x .250 structural material.

Although the tank is designed on the free-floating suspension principle, it shall be required that the tank have hold down restraints half way between the front and the rear of the tank. These restraints shall be made of 3" x 3" x 1/4" angle approximately 6" long. The restraints shall be mounted to the side walls of the hose bed and extend down so that they rest approximately 1/2" above the top of the tank. The tank shall be completely removable without disturbing or dismantling the apparatus structure.

Upon final apparatus delivery, proper evidence and certifications shall be presented indicating the tank has the capacity of flow to the pump 80% of its rated capacity at a flow rate of 1000 GPM.

12 VOLT ELECTRICAL:

ELECTRICAL WARRANTY:

Alexis Fire Equipment Co., Inc. warrants each new piece of Ashland Series 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 three (3) years or 30,000 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.

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.

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.

EMERGENCY WARNING SWITCH:

There shall be an emergency warning switch installed on the unit. The entire warning system shall be activated by a single switch.

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.

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.

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.

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

Each light shall incorporate a colored lens.

WARNING LIGHTS (SIDE):



One (1) Tecniq Model K90-R*00-1 Red LED warning light shall be mounted on the right (officer's) side of the vehicle in the upper area. The light shall be switched from the in cab switch panel.

One (1) Tecniq Model K90-R*00-1 Red LED warning light shall be mounted on the left (driver's) side of the vehicle in the upper area. The light 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.

SIREN SPEAKER:

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

AIR HORNS:

Two (2) Hadley air horns shall be installed in the front bumper. The air horns shall be powered from the chassis air brake reserve, and actuated mechanically with a center lanyard chain pull from the driver and officer positions.

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.

FIRETECH 12-VOLT LED SCENE LIGHT(S):

One (1) FireTech FT-MB-2.36-FT-* 40" Double Stack 38,016 lumen LED bar scene light(s) shall be mounted in the specified location(s). The lights shall be switched from the in-cab switching station.

Each Firetech Hi-Viz scene light bar shall be recessed mounted in the specified location



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

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

FIRETECH 12-VOLT LED SCENE LIGHT(S):

One (1) FireTech FT-MB-2.18-FT-* Double Stack 21" 19,008 lumen LED bar scene light(s) shall be mounted in the specified location(s). The lights shall be switched from the in-cab switching station.

Each Firetech Hi Viz scene light bar shall be surface mounted in the specified location.

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

REAR SCENE LIGHT LOCATION(S): On the Hinged Hose Bed Crossbar

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.

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:

FOLDING STEPS:

Six (6) large folding steps shall be furnished on the apparatus.

Location: Three (3) each side at the rear tail step area.

Each folding step shall have a chrome finish



INTERMEDIATE REAR STEP:

A 45" wide intermediate rear step constructed of 12 gauge star punch stainless steel material shall be located at the rear of the apparatus below the hose bed. The step shall be 8" deep.

The intermediate rear step shall incorporate a cutout in the center for backup camera mounting, if applicable.

GRAB HANDLES:

Two (2) 48" knurled bright stainless steel 1¼" O.D. grab rails shall be installed vertically on the rear of the body.

Each grab handle shall have a natural stainless steel finish

GRAB HANDLES:

Two (2) 12" knurled bright stainless steel 1¼" O.D. grab handles shall be installed at the on the face of the rear intermediate step, outboard on each side

Each grab handle shall have a natural stainless steel finish

WHEEL CHOCKS:

One (1) pair of Ziamatic #2-SAC-44 folding wheel chocks shall be provided with the apparatus. The chocks shall be mounted in a location that is easily accessible.

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 contaminates 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 five (5) 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

BODY UNDERCOATING:

The apparatus body assemblies shall be undercoated.

The hose bed interior walls shall remain natural finish.

COMPARTMENT INTERIOR FINISH:

The interior of the compartments shall be natural finish aluminum

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 two (2) 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 striping shall be applied in the following locations: all vertical surfaces at the rear, outboard of the rear compartment door, from the tailstep walkway to the hose bed

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

EQUIPMENT:

One (1) Duo-Safety #10-585A aluminum folding 10' attic ladder(s).

One (1) Duo-Safety 14-775A, 14' Roof Ladder(s) with hooks.

One (1) Duo-Safety #24-900A, 24' 2 Section ground ladder(s).

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



hydrants)

NFPA EQUIPMENT CLARIFICATION:

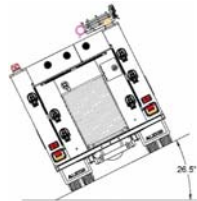
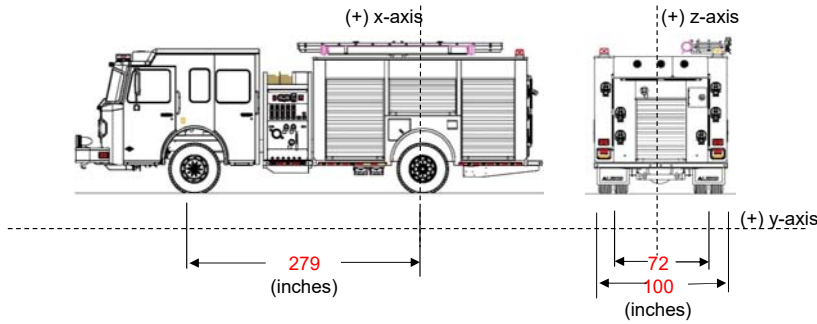
Any equipment specified in the “Minor Equipment” section (e.g. hose, nozzles, adapters, AED, traffic cones, traffic safety vests, etc.) of NFPA 1901 for each apparatus classification (see below) which is not specified in this proposal shall be considered to be customer supplied and installed.

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. MAP-A16

11/17/2023



Contract No: 2550
 Proposal Name: Alexis Fire Equipment Inc
 Calculated By: J. Pauley
 Revision: 02 CMS
 Type of Chassis: Freightliner M2 106 4-dr
 Type of Pump: Hale DSD 1500gpm
 Cab to Axle: 166.54
 Tank Capacity: 1000 Water
0 Foam

Item	Weight (lbs)	Coordinates Local C.G. (in)			% Rear	Weight (lbs)		% Left	Right	Left
		z	x	y		Front	Rear			
Chassis	14272	0	170	38.27	39%	8706	5566	50%	7136	7136
Poly Tank (w/water)	9250	-1.2	24.55	73.22	91%	814	8436	51%	4570	4681
Officer & Driver	500	0	225	67	19%	403	97	50%	250	250
Men & Equip.	1000	0	178	67	36%	638	362	50%	500	500
Body Module	3837	0.00	0	66.56	100%	0	3837	50%	1918	1918
Subframe	1349	0	-12	42	104%	-58	1407	50%	674	674
Add. Equip. front	846	0.00	58.25	61.5	79%	177	670	50%	423	423
Add. Equip. rear	1154	0.00	-58.25	61.5	121%	-241	1394	50%	577	577
Hose bed	1000	0	-34.2	93.7	112%	-123	1123	50%	500	500
Pump module	1931	0	126.2	57	55%	873	1058	50%	966	966
Pump	1496	0	103.3	52.7	63%	554	942	50%	748	748
Bumper Ext	250	0	320	32	-15%	287	-37	50%	125	125
Ladders	150	27	0	90	100%	150	150	37%	95	55
Suction Hose	120	0	-20.3	103.5	107%	-9	129	50%	60	60
					0%			0%		
					0%			0%		
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Total	37154.15	Global Center of Gravity				12022	25132		18542	18612
GAWR	47000	z	x	y		16000	31000			
Load as % of Total	100%	-0.2	90.3	55.9		32%	68%		50%	50%
						OK	OK		TRUE	

Truck Tipping Angle: **33** degrees (Full Water Tank) **OK**
 Maximum vertical center of gravity "z" = **57.60** **OK**
 (Maximum "z" is 80% of the rear axle track width)



HOSE CAPACITIES

DWG NO.

MAP-A16**11/17/2023**Customer Alexis Fire Equipment Inc.
Calculated By J. PauleyContract No. 2550
Rev. No. 02 CMS

HOSE BED				Hose				
Length	105			Size				
Width	71			Amount				
Height	33			DF	0	0	0	0
Cu. Ft.	142.37	0.00		Cu. Ft.	0.00	0.00	0.00	0.00
Total			142.37	Total				0.00
				Need				0.00

MATTYDALES				Hose				
Length				Size				
Width				Amount				
Height				DF	0	0	0	
Cu. Ft.	0.00	0.00	0.00	Cu. Ft.	0.00	0.00	0.00	
Total			0.00	Total				0.00

CARTRIDGE LAYS				Hose				
Length	73	73		Size	1 3/4	1 3/4		
Width	10	10		Amount	200	200		
Height	8	8		DF	26	26	0	
Cu. Ft.	3.38	3.38	0.00	Cu. Ft.	3.01	3.01	0.00	
Total			6.76	Total				6.02

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

HOSE WELLS				Hose				
Length	23.5			Size	1 3/4			
Width	15			Amount	150			
Height	11.5			DF	26	0	0	
Cu. Ft.	2.35	0.00	0.00	Cu. Ft.	2.26	0.00	0.00	
Total			2.35	Total				2.26

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			



COMPARTMENT SPACE CALCULATOR

DWG NO.	MAP-A16
	11/17/2023

Department Name:	Alexis Fire Equipment Inc.		
	Calc. By:	J. Pauley	
Contract Number:	2550	Rev. Number:	02 CMS

Compartment	Width	Height	Depth	Cubic Feet
L1 UPPER	50.7500	29.6250	12.0000	10.4408
L1 LOWER	50.7500	36.8750	26.0000	28.1577
L2	59.2500	32.0000	12.0000	13.1667
L3 UPPER	50.7500	29.6250	12.0000	10.4408
L3 LOWER	50.7500	36.8750	26.0000	28.1577
R1 UPPER	50.7500	29.6250	12.0000	10.4408
R1 LOWER	50.7500	36.8750	26.0000	28.1577
R2	59.2500	32.0000	12.0000	13.1667
R3 UPPER	50.7500	29.6250	12.0000	10.4408
R3 LOWER	50.7500	36.8750	26.0000	28.1577

REAR	39.7500	37.5000	38.0000	32.7799
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TOTAL in CUBIC FT.				213.51
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Prepared by:
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GROUP
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Phone: 815-509-9079

SPECIFICATION PROPOSAL

Description

Price Level

M2 PRL-27M (EFF:MY24 ORDERS)

Data Version

SPECPRO21 DATA RELEASE VER 016

Vehicle Configuration

M2 106 CONVENTIONAL CHASSIS
2024 MODEL YEAR SPECIFIED
SET BACK AXLE - TRUCK
STRAIGHT TRUCK PROVISION
LH PRIMARY STEERING LOCATION

General Service

TRUCK CONFIGURATION
DOMICILED, USA 50 STATES (INCLUDING CALIFORNIA AND CARB OPT-IN STATES)
FIRE SERVICE
EMERGENCY VEHICLES BUSINESS SEGMENT
LIQUID BULK COMMODITY
TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS
MAXIMUM 8% EXPECTED GRADE
SMOOTH CONCRETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE
MEDIUM TRUCK WARRANTY
EXPECTED FRONT AXLE(S) LOAD : 16000.0 lbs
EXPECTED REAR DRIVE AXLE(S) LOAD : 31000.0 lbs
EXPECTED GROSS VEHICLE WEIGHT CAPACITY : 47000.0 lbs

Truck Service

Application Version 11.7.603
Stock M2 CC for Q1 CY23 M2 L9 CC
MY24...



10/14/2022 11:05 AM

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Description

FIRE TANK/PUMPER - MAIN DRIVELINE DRIVEN
SPLIT-SHAFT PTO/PUMP
EXPECTED TRUCK BODY LENGTH : 16.0 ft
ALEXIS FIRE EQUIPMENT COMPANY
EXPECTED BODY/PAYLOAD CG HEIGHT ABOVE
FRAME "XX" INCHES : 32.0 in

Engine

CUM L9 360EV HP @ 2200 RPM, 2200 GOV RPM,
1150 LB-FT @ 1200 RPM, R/F/E

Electronic Parameters

65 MPH ROAD SPEED LIMIT
CRUISE CONTROL SPEED LIMIT SAME AS ROAD
SPEED LIMIT
PTO MODE BRAKE OVERRIDE - SERVICE
BRAKE APPLIED
PTO RPM WITH CRUISE SET SWITCH - 1100
RPM
PTO RPM WITH CRUISE RESUME SWITCH - 1100
RPM
PTO MODE CANCEL VEHICLE SPEED - 5 MPH
PTO GOVERNOR RAMP RATE - 250 RPM PER
SECOND
PTO MINIMUM RPM - 700
REGEN INHIBIT SPEED THRESHOLD - 5 MPH

Engine Equipment

2010 EPA/CARB/GHG21 CONFIGURATION
2008 CARB EMISSION CERTIFICATION - CLEAN
IDLE (INCLUDES 6X4 INCH LABEL ON LOWER
FORWARD CORNER OF DRIVER DOOR)
STANDARD OIL PAN
ENGINE MOUNTED OIL CHECK AND FILL
SIDE OF HOOD AIR INTAKE WITH NFPA
COMPLIANT EMBER SCREEN AND FIRE
RETARDANT DONALDSON AIR CLEANER
LN 12V 320 AMP 4962PGH PAD MOUNT
ALTERNATOR
(2) DTNA GENUINE, FLOODED STARTING, MIN
2000CCA, 370RC, THREADED STUD BATTERIES
BATTERY BOX FRAME MOUNTED
STANDARD BATTERY JUMPERS



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Description

SINGLE BATTERY BOX FRAME MOUNTED LH
SIDE UNDER CAB

WIRE GROUND RETURN FOR BATTERY CABLES
WITH ADDITIONAL FRAME GROUND RETURN

NON-POLISHED BATTERY BOX COVER

POSITIVE LOAD DISCONNECT WITH CAB
MOUNTED CONTROL SWITCH MOUNTED
OUTBOARD DRIVER SEAT

CUMMINS TURBOCHARGED 18.7 CFM AIR
COMPRESSOR WITH INTERNAL SAFETY VALVE

STANDARD MECHANICAL AIR COMPRESSOR
GOVERNOR

AIR COMPRESSOR DISCHARGE LINE

GVG, FIRE AND EMERGENCY SERVICE
VEHICLES ENGINE WARNING

CUMMINS ENGINE INTEGRAL BRAKE WITH
VARIABLE GEOMETRY TURBO ON/OFF

RH OUTBOARD UNDER STEP MOUNTED
HORIZONTAL AFTERTREATMENT SYSTEM
ASSEMBLY WITH RH HORIZONTAL TAILPIPE
EXITING FORWARD OF REAR TIRES

ENGINE AFTERTREATMENT DEVICE,
AUTOMATIC OVER THE ROAD REGENERATION
AND DASH MOUNTED REGENERATION
REQUEST SWITCH

STANDARD EXHAUST SYSTEM LENGTH

RH HORIZONTAL TAILPIPE, EXIT FORWARD OF
REAR TIRES

6 GALLON DIESEL EXHAUST FLUID TANK

100 PERCENT DIESEL EXHAUST FLUID FILL

LH UNDER CAB DIESEL EXHAUST FLUID TANK
LOCATION

STANDARD DIESEL EXHAUST FLUID PUMP
MOUNTING

STANDARD DIESEL EXHAUST FLUID TANK CAP

AIR POWERED ON/OFF ENGINE FAN CLUTCH

AUTOMATIC FAN CONTROL WITHOUT DASH
SWITCH, NON ENGINE MOUNTED

CUMMINS SPIN ON FUEL FILTER

COMBINATION FULL FLOW/BYPASS OIL FILTER

1100 SQUARE INCH ALUMINUM RADIATOR

ANTIFREEZE TO -34F, OAT (NITRITE AND
SILICATE FREE) EXTENDED LIFE COOLANT



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Description

GATES BLUE STRIPE COOLANT HOSES OR
EQUIVALENT
CONSTANT TENSION HOSE CLAMPS FOR
COOLANT HOSES
RADIATOR DRAIN VALVE
LOWER RADIATOR GUARD
ALUMINUM FLYWHEEL HOUSING
ELECTRIC GRID AIR INTAKE WARMER
DELCO 12V 38MT HD STARTER WITH
INTEGRATED MAGNETIC SWITCH

Transmission

ALLISON 3000 EVS AUTOMATIC TRANSMISSION
WITH PTO PROVISION

Transmission Equipment

ALLISON VOCATIONAL PACKAGE 198 -
AVAILABLE ON 3000/4000 PRODUCT FAMILIES
WITH VOCATIONAL MODEL EVS
ALLISON VOCATIONAL RATING FOR FIRE
TRUCK/EMERGENCY VEHICLE APPLICATIONS
AVAILABLE WITH ALL PRODUCT FAMILIES
PRIMARY MODE GEARS, LOWEST GEAR 1,
START GEAR 1, HIGHEST GEAR 6, AVAILABLE
FOR 3000/4000 PRODUCT FAMILIES ONLY
SECONDARY MODE GEARS, LOWEST GEAR 1,
START GEAR 1, HIGHEST GEAR 6, AVAILABLE
FOR 3000/4000 PRODUCT FAMILIES ONLY
S5 PERFORMANCE LIMITING PRIMARY SHIFT
SCHEDULE, AVAILABLE FOR 3000/4000
PRODUCT FAMILIES ONLY
S5 PERFORMANCE LIMITING SECONDARY
SHIFT SCHEDULE, AVAILABLE FOR 3000/4000
PRODUCT FAMILIES ONLY
2200 RPM PRIMARY MODE SHIFT SPEED
2200 RPM SECONDARY MODE SHIFT SPEED
ENGINE BRAKE RANGE PRESELECT
RECOMMENDED BY DTNA AND ALLISON, THIS
DEFINED BY ENGINE AND VOCATIONAL USAGE
ENGINE BRAKE RANGE ALTERNATE
PRESELECT RECOMMENDED BY DTNA AND
ALLISON, THIS DEFINED BY ENGINE AND
VOCATIONAL USAGE
FUEL SENSE 2.0 DISABLED - PERFORMANCE -
TABLE BASED



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Description

DRIVER SWITCH INPUT - DEFAULT - NO SWITCHES
 VEHICLE INTERFACE WIRING CONNECTOR WITH BLUNT CUTS, AT BACK OF CAB
 ELECTRONIC TRANSMISSION CUSTOMER ACCESS CONNECTOR FIREWALL MOUNTED
 (2) CUSTOMER INSTALLED MUNCIE CS10 SERIES PTO'S
 PTO MOUNTING, LH AND RH SIDES OF MAIN TRANSMISSION
 MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN
 PUSH BUTTON ELECTRONIC SHIFT CONTROL, DASH MOUNTED
 TRANSMISSION PROGNOSTICS - ENABLED 2013
 WATER TO OIL TRANSMISSION COOLER, IN RADIATOR END TANK
 TRANSMISSION OIL CHECK AND FILL WITH CROSSOVER TO CLEAR LH PTO AND DIRECT MOUNT PUMP
 SYNTHETIC TRANSMISSION FLUID (TES-295 COMPLIANT)

Front Axle and Equipment

DETROIT DA-F-16.0-5 16,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE
 MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
 FIRE AND EMERGENCY SEVERE SERVICE, NON-ASBESTOS FRONT LINING
 CAST IRON OUTBOARD FRONT BRAKE DRUMS
 FRONT OIL SEALS
 VENTED FRONT HUB CAPS WITH WINDOW, CENTER AND SIDE PLUGS - OIL
 STANDARD SPINDLE NUTS FOR ALL AXLES
 MERITOR AUTOMATIC FRONT SLACK ADJUSTERS
 TRW TAS-85 POWER STEERING
 POWER STEERING PUMP
 2 QUART SEE THROUGH POWER STEERING RESERVOIR



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Description

CURRENT AVAILABLE SYNTHETIC 75W-90
FRONT AXLE LUBE

Front Suspension

16,000# FLAT LEAF FRONT SUSPENSION
GRAPHITE BRONZE BUSHINGS WITH SEALS -
FRONT SUSPENSION
FRONT SUSPENSION WITH LEFT HAND OFFSET
SHACKLE BRACKET
FRONT SHOCK ABSORBERS

Rear Axle and Equipment

RS-30-185 31,000# U-SERIES FIRE/EMERGENCY
SERVICE SINGLE REAR AXLE
5.63 REAR AXLE RATIO
IRON REAR AXLE CARRIER WITH STANDARD
AXLE HOUSING
JACKSHAFT, TEMPORARY DRIVELINE FOR
CUSTOMER FURNISHED FIRE PUMP,
TEMPORARILY INSTALLED FOR SHIPPING TO
CUSTOMER/TEM
MXL 17T MERITOR EXTENDED LUBE MAIN
DRIVELINE WITH HALF ROUND YOKES
MERITOR 16.5X7 P CAST SPIDER CAM REAR
BRAKES, DOUBLE ANCHOR, CAST SHOES
FIRE AND EMERGENCY SEVERE SERVICE NON-
ASBESTOS REAR BRAKE LINING
BRAKE CAMS AND CHAMBERS ON FORWARD
SIDE OF DRIVE AXLE(S)
WEBB CAST IRON REAR BRAKE DRUMS
REAR OIL SEALS
BENDIX EVERSURE LONGSTROKE 1-DRIVE
AXLE SPRING PARKING CHAMBERS
HALDEX AUTOMATIC REAR SLACK ADJUSTERS
CURRENT AVAILABLE SYNTHETIC 75W-90 REAR
AXLE LUBE

Rear Suspension

31,000# FLAT LEAF SPRING REAR SUSPENSION
WITH RADIUS ROD FOR FIRE/EMERGENCY
SERVICE
SPRING SUSPENSION - NO AXLE SPACERS
STANDARD AXLE SEATS IN AXLE CLAMP
GROUP



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Description
FORE/AFT CONTROL RODS
Brake System
AIR BRAKE PACKAGE WABCO 4S/4M ABS WITH TRACTION CONTROL, WITH ATC OFF-ROAD SWITCH REINFORCED NYLON, FABRIC BRAID AND WIRE BRAID CHASSIS AIR LINES FIBER BRAID PARKING BRAKE HOSE STANDARD BRAKE SYSTEM VALVES STANDARD AIR SYSTEM PRESSURE PROTECTION SYSTEM STD U.S. FRONT BRAKE VALVE RELAY VALVE WITH 5-8 PSI CRACK PRESSURE, NO REAR PROPORTIONING VALVE BW AD-9SI BRAKE LINE AIR DRYER WITH HEATER AIR DRYER MOUNTED INBOARD ON LH RAIL STEEL AIR TANKS MOUNTED AFT INSIDE AND/OR BELOW FRAME JUST FORWARD OF REAR SUSPENSION, NO TRIPLE OR TORPEDO TANKS PULL CABLES ON ALL AIR RESERVOIR(S)
Trailer Connections
UPGRADED CHASSIS MULTIPLEXING UNIT UPGRADED BULKHEAD MULTIPLEXING UNIT
Wheelbase & Frame
6400MM (252 INCH) WHEELBASE 7/16X3-9/16X11-1/8 INCH STEEL FRAME (11.11MMX282.6MM/0.437X11.13 INCH) 120KSI 1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT 1950MM (77 INCH) REAR FRAME OVERHANG FRAME OVERHANG RANGE: 71 INCH TO 80 INCH CALC'D BACK OF CAB TO REAR SUSP C/L (CA) : 139.17 in CALCULATED EFFECTIVE BACK OF CAB TO REAR SUSPENSION C/L (CA) : 136.17 in CALC'D FRAME LENGTH - OVERALL : 358.16 in CALCULATED FRAME SPACE LH SIDE : 151.7 in



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Description

CALCULATED FRAME SPACE RH SIDE : 86.58 in
 SQUARE END OF FRAME
 FRONT CLOSING CROSSMEMBER
 LIGHTWEIGHT HEAVY DUTY ALUMINUM ENGINE
 CROSSMEMBER
 STANDARD CROSSMEMBER BACK OF
 TRANSMISSION
 STANDARD MIDSHIP #1 CROSSMEMBER(S)
 STANDARD REARMOST CROSSMEMBER
 STANDARD SUSPENSION CROSSMEMBER

Chassis Equipment

THREE-PIECE 14 INCH CHROME STEEL
 BUMPER WITH COLLAPSIBLE ENDS AND LH
 WING CUTOUT FOR FEDERAL
 MS100/ES100/ES100C SPEAKER
 FRONT TOW HOOKS - FRAME MOUNTED
 BUMPER MOUNTING FOR SINGLE LICENSE
 PLATE
 FENDER AND FRONT OF HOOD MOUNTED
 FRONT MUDFLAPS
 GRADE 8 THREADED HEX HEADED FRAME
 FASTENERS
 D15-16004-000 CENTER PUNCH TO MARK
 CENTERLINE OF REAR SUSPENSION ON
 FRAME WEB
 3D STEP VEHICLE MODEL
 TANK BODY 1501 TO 3000 GALLONS
 CLEAR FRAME RAILS 48 INCHES FROM BACK
 OF CAB INSIDE/OUTBOARD AND BELOW BOTH
 FRAME RAILS

Fuel Tanks

50 GALLON/189 LITER SHORT RECTANGULAR
 ALUMINUM FUEL TANK - LH
 RECTANGULAR FUEL TANK(S)
 POLISHING OF FUEL/HYDRAULIC TANK(S) WITH
 PAINTED BANDS
 FUEL TANK(S) FORWARD
 POLISHED STAINLESS STEEL STEP FINISH
 FUEL TANK CAP(S)



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Description

DETROIT FUEL/WATER SEPARATOR WITH
 WATER IN FUEL SENSOR, HAND PRIMER AND
 12 VOLT PREHEATER"
 EQUIFLO INBOARD FUEL SYSTEM
 HIGH TEMPERATURE REINFORCED NYLON
 FUEL LINE

Tires

MICHELIN XZU-S2 315/80R22.5 20 PLY RADIAL
 FRONT TIRES
 MICHELIN X WORKS XDY 315/80R22.5 20 PLY
 RADIAL REAR TIRES

Hubs

CONMET PRESET PLUS PREMIUM IRON FRONT
 HUBS
 WEBB IRON REAR HUBS

Wheels

ALCOA ULTRA ONE 89U64X 22.5X9.00 10-HUB
 PILOT 5.99 INSET ALUMINUM FRONT WHEELS
 ALCOA ULTRA ONE 89U64X 22.5X9.00 10-HUB
 PILOT 5.99 INSET ALUMINUM REAR WHEELS
 POLISHED BOTH SIDES FRONT WHEELS WITH
 DURA-BRIGHT FINISH
 POLISHED OUTER (DISHED SIDE) REAR
 WHEELS WITH OUTER ONLY DURA-BRIGHT
 FINISH
 FRONT WHEEL MOUNTING NUTS
 REAR WHEEL MOUNTING NUTS
 NYLON WHEEL GUARDS FRONT AND REAR ALL
 INTERFACES

Cab Exterior

154 INCH BBC HIGH-ROOF ALUMINUM
 CONVENTIONAL CREW CAB
 AIR CAB MOUNTING
 CAB ROOF REINFORCEMENTS FOR ROOF
 MOUNTED COMPONENTS
 LH AND RH EXTERIOR GRAB HANDLES WITH
 SINGLE RUBBER INSERT
 HOOD MOUNTED CHROMED PLASTIC GRILLE
 CHROME HOOD MOUNTED AIR INTAKE GRILLE
 FIBERGLASS HOOD



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Description

DUAL 25 INCH ROUND STUTTER TONE HOOD
 MOUNTED AIR HORNS WITH DUAL LANYARDS
 SINGLE ELECTRIC HORN
 DUAL HORN SHIELDS
 REAR LICENSE PLATE MOUNT END OF FRAME
 INTEGRAL HEADLIGHT/MARKER ASSEMBLY
 WITH CHROME BEZEL
 LED AERODYNAMIC MARKER LIGHTS
 OMIT STOP/TAIL/BACKUP LIGHTS AND PROVIDE
 WIRING WITH SEPARATE STOP/TAIL WIRES TO
 7 FEET BEYOND END OF FRAME
 STANDARD FRONT TURN SIGNAL LAMPS
 AUTOMATIC ON/OFF, ENGINE COMPARTMENT,
 HOOD ACTIVATED WORK LIGHT WITH MANUAL
 OVERRIDE
 DUAL WEST COAST BRIGHT FINISH HEATED
 MIRRORS WITH LH AND RH REMOTE
 DOOR MOUNTED MIRRORS
 102 INCH EQUIPMENT WIDTH
 LH AND RH 8 INCH BRIGHT FINISH CONVEX
 MIRRORS MOUNTED UNDER PRIMARY
 MIRRORS
 STANDARD SIDE/REAR REFLECTORS
 RH AFTERTREATMENT SYSTEM CAB ACCESS
 WITH POLISHED DIAMOND PLATE COVER
 63X14 INCH TINTED REAR WINDOW
 TINTED DOOR GLASS LH AND RH WITH TINTED
 NON-OPERATING WING WINDOWS
 MANUAL DOOR WINDOW REGULATORS
 1-PIECE SOLAR GREEN GLASS WINDSHIELD
 2 GALLON WINDSHIELD WASHER RESERVOIR
 WITHOUT FLUID LEVEL INDICATOR, FRAME
 MOUNTED

Cab Interior

OPAL GRAY VINYL INTERIOR
 MOLDED PLASTIC DOOR PANEL WITHOUT
 VINYL INSERT WITH ALUMINUM KICKPLATE
 LOWER DOOR
 MOLDED PLASTIC DOOR PANEL WITHOUT
 VINYL INSERT WITH ALUMINUM KICKPLATE
 LOWER DOOR
 BLACK MATS WITH SINGLE INSULATION



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Description

FORWARD ROOF MOUNTED CONSOLE WITH
UPPER STORAGE COMPARTMENTS WITHOUT
NETTING
IN DASH STORAGE BIN
(2) CUP HOLDERS LH AND RH DASH
GRAY/CHARCOAL FLAT DASH
SMART SWITCH EXPANSION MODULE
HEATER, DEFROSTER AND AIR CONDITIONER
STANDARD HVAC DUCTING WITH SNOW
SHIELD FOR FRESH AIR INTAKE
MAIN HVAC CONTROLS WITH RECIRCULATION
SWITCH
STANDARD HEATER PLUMBING
VALEO HEAVY DUTY A/C REFRIGERANT
COMPRESSOR
BINARY CONTROL, R-134A
STANDARD INSULATION
SOLID-STATE CIRCUIT PROTECTION AND
FUSES
12V NEGATIVE GROUND ELECTRICAL SYSTEM
DOOR ACTIVATED DOME/RED MAP LIGHTS,
FORWARD LH AND RH AND REAR LH, RH AND
CENTER
DOOR LOCKS AND IGNITION SWITCH KEYED
THE SAME
KEY QUANTITY OF 2
CAB DOOR LATCHES WITH MANUAL DOOR
LOCKS
(1) 12V POWER SUPPLY (1) DUAL 2.1 AMP USB
CHARGER IN DASH
SEATS INC 911 UNIVERSAL SERIES HIGH BACK
AIR SUSPENSION DRIVER SEAT WITH NFPA
1901-2009/2016 COMPLIANT SEAT SENSOR
SEATS INC 911 UNIVERSAL SERIES SCBA HIGH
BACK AIR SUSPENSION PASSENGER SEAT
WITH NFPA 1901-2009/2016 COMPLIANT SEAT
SENSOR
SEATS INC 911 UNIVERSAL SERIES SCBA NON
SUSPENSION LH, RH AND CENTER REAR
PASSENGER SEATS WITH UNDER SEAT
STORAGE AND NFPA 1901-2009/2016
COMPLIANT SEAT SENSOR
LH AND RH INTEGRAL DOOR PANEL ARMRESTS



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Description

GRAY VINYL DRIVER SEAT COVER WITH GRAY
 CORDURA CLOTH BOLSTER AND HEADREST
 GRAY VINYL FRONT PASSENGER SEAT COVER
 WITH GRAY CORDURA CLOTH BOLSTER AND
 HEADREST
 GRAY VINYL REAR PASSENGER SEAT COVER
 WITH GRAY CORDURA CLOTH BOLSTER AND
 HEADREST
 NFPA 1901-2009 HIGH VISIBILITY ORANGE SEAT
 BELTS
 ADJUSTABLE TILT AND TELESCOPING
 STEERING COLUMN
 4-SPOKE 18 INCH (450MM) STEERING WHEEL
 DRIVER AND PASSENGER INTERIOR SUN
 VISORS
 INTERFACE CONNECTORS AND WIRING FOR
 CUSTOMER PROVIDED LED STEP LIGHTING

Instruments & Controls

GRAY DRIVER INSTRUMENT PANEL
 GRAY CENTER INSTRUMENT PANEL
 ENGINE REMOTE INTERFACE WITH PARK
 BRAKE INTERLOCK
 BLACK GAUGE BEZELS
 LOW AIR PRESSURE INDICATOR LIGHT AND
 AUDIBLE ALARM
 2 INCH PRIMARY AND SECONDARY AIR
 PRESSURE GAUGES
 INTAKE MOUNTED AIR RESTRICTION
 INDICATOR WITHOUT GRADUATIONS
 ELECTRONIC CRUISE CONTROL WITH
 SWITCHES IN LH SWITCH PANEL
 KEY OPERATED IGNITION SWITCH AND
 INTEGRAL START POSITION; 4 POSITION
 OFF/RUN/START/ACCESSORY
 ICU3S, 132X48 DISPLAY WITH DIAGNOSTICS, 28
 LED WARNING LAMPS AND DATA LINKED
 HEAVY DUTY ONBOARD DIAGNOSTICS
 INTERFACE CONNECTOR LOCATED BELOW LH
 DASH
 2 INCH ELECTRIC FUEL GAUGE
 ENGINE REMOTE INTERFACE NOT
 CONFIGURED



Prepared for:
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Prepared by:
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Description

ENGINE REMOTE INTERFACE CONNECTOR AT
BACK OF CAB
ELECTRICAL ENGINE COOLANT TEMPERATURE
GAUGE
2 INCH TRANSMISSION OIL TEMPERATURE
GAUGE
ENGINE AND TRIP HOUR METERS INTEGRAL
WITHIN DRIVER DISPLAY
WIRING PROVISION FOR CUSTOMER
FURNISHED ROOF MOUNTED LIGHTBAR WITH 2
WIRES HANDLE UP TO 30 AMPS OF CURRENT
CUSTOMER FURNISHED AND INSTALLED PTO
CONTROLS
NO DR ASSIST SYSTEM
ELECTRONIC STABILITY CONTROL
ELECTRIC ENGINE OIL PRESSURE GAUGE
OVERHEAD INSTRUMENT PANEL
NFPA VEHICLE DATA RECORDER AND
SEATBELT DISPLAY
AM/FM/WB WORLD TUNER RADIO WITH
BLUETOOTH, USB AND AUXILIARY INPUTS,
J1939
DASH MOUNTED RADIO
(2) RADIO SPEAKERS IN CAB
AM/FM ANTENNA MOUNTED ON FORWARD LH
ROOF
ELECTRONIC MPH SPEEDOMETER WITH
SECONDARY KPH SCALE, WITHOUT
ODOMETER
STANDARD VEHICLE SPEED SENSOR
ELECTRONIC 3000 RPM TACHOMETER
IGNITION SWITCH CONTROLLED ENGINE STOP
PRE-TRIP LAMP INSPECTION, ALL OUTPUTS
FLASH, WITH SMART SWITCH
(2) OVERHEAD MOUNTED LANYARD
CONTROLS: (1) OFFICER AIR HORN AND (1)
DRIVER AIR HORN
DIGITAL VOLTAGE DISPLAY INTEGRAL WITH
DRIVER DISPLAY
SINGLE ELECTRIC WINDSHIELD WIPER MOTOR
WITH DELAY
MARKER LIGHT SWITCH INTEGRAL WITH
HEADLIGHT SWITCH



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Description

ONE VALVE PARKING BRAKE SYSTEM WITH
WARNING INDICATOR

SELF CANCELING TURN SIGNAL SWITCH WITH
DIMMER, WASHER/WIPER AND HAZARD IN
HANDLE

INTEGRAL ELECTRONIC TURN SIGNAL
FLASHER WITH HAZARD LAMPS OVERRIDING
STOP LAMPS

Design

PAINT: ONE SOLID COLOR

Color

CAB COLOR A: L3781EY VIPER RED ELITE EY
BLACK, HIGH SOLIDS POLYURETHANE CHASSIS
PAINT

STANDARD E COAT/UNDERCOATING

Certification / Compliance

U.S. FMVSS CERTIFICATION, EXCEPT SALES
CABS AND GLIDER KITS

Secondary Factory Options

CORPORATE PDI CENTER IN-SERVICE ONLY

Extended Warranty

TOWING: 1 YEAR/UNLIMITED MILES/KM EXTENDED TOWING
COVERAGE \$1200 CAP FEX APPLIES

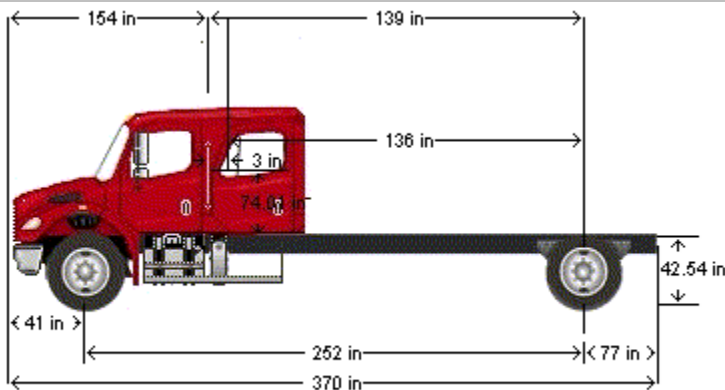
(***) All cost increases for major components (Engines, Transmissions, Axles, Front and Rear Tires) and government mandated requirements, tariffs, and raw material surcharges will be passed through and added to factory invoices.



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D I M E N S I O N S



VEHICLE SPECIFICATIONS SUMMARY - DIMENSIONS

Model	M2106
Wheelbase (545)	6400MM (252 INCH) WHEELBASE
Rear Frame Overhang (552)	1950MM (77 INCH) REAR FRAME OVERHANG
Fifth Wheel (578)	NO FIFTH WHEEL
Mounting Location (577)	NO FIFTH WHEEL LOCATION
Maximum Forward Position (in)	0
Maximum Rearward Position (in)	0
Amount of Slide Travel (in)	0
Slide Increment (in)	0
Desired Slide Position (in)	0.0
Cab Size (829)	154 INCH BBC HIGH-ROOF ALUMINUM CONVENTIONAL CREW CAB
Sleeper (682)	NO SLEEPER BOX/SLEEPER CAB
Exhaust System (016)	RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH HORIZONTAL TAILPIPE EXITING FORWARD OF REAR TIRES



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TABLE SUMMARY - DIMENSIONS

Dimensions	Inches
Bumper to Back of Cab (BBC)	153.5
Bumper to Centerline of Front Axle (BA)	40.7
Front Axle to Back of Cab (AC)	112.8
Min. Cab to Body Clearance (CB)	3.0
Back of Cab to Centerline of Rear Axle(s) (CA)	139.2
Effective Back of Cab to Centerline of Rear Axle(s) (Effective CA)	136.2
Back of Cab Protrusions (Exhaust/Intake) (CP)	2.0
Back of Cab Protrusions (Side Extenders/Trim Tab) (CP)	0.0
Back of Cab Protrusions (CNG Tank)	0.0
Back of Cab Clearance (CL)	3.0
Back of Cab to End of Frame	216.0
Cab Height (CH)	74.0
Wheelbase (WB)	252.0
Frame Overhang (OH)	76.8
Overall Frame Length	358.2
Overall Length (OAL)	369.5
Rear Axle Spacing	0.0
Unladen Frame Height at Centerline of Rear Axle	42.5

Performance calculations are estimates only. If performance calculations are critical, please contact Customer Application Engineering.



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G V W R

VEHICLE SPECIFICATIONS SUMMARY - GVWR

Model	M2106
Cab Size (829).....	154 INCH BBC HIGH-ROOF ALUMINUM CONVENTIONAL CREW CAB
Expected Front Axle(s) Load (lbs).....	16000.0
Expected Pusher Axle(s) Load (lbs).....	0.0
Expected Rear Axle(s) Load (lbs).....	31000.0
Expected Tag Axle(s) Load (lbs).....	0.0
Expected GVW (lbs)	47000
Expected GCW (lbs)	0.0
Front Axle (400).....	DETROIT DA-F-16.0-5 16,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE
Front Suspension (620)	16,000# FLAT LEAF FRONT SUSPENSION
Front Hubs (418)	CONMET PRESET PLUS PREMIUM IRON FRONT HUBS
Front Disc Wheels (502)	ALCOA ULTRA ONE 89U64X 22.5X9.00 10-HUB PILOT 5.99 INSET ALUMINUM FRONT WHEELS
Front Tires (093).....	MICHELIN XZU-S2 315/80R22.5 20 PLY RADIAL FRONT TIRES
Front Brakes (402).....	MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES
Steering Gear (536).....	TRW TAS-85 POWER STEERING
Rear Axle (420)	RS-30-185 31,000# U-SERIES FIRE/EMERGENCY SERVICE SINGLE REAR AXLE
Rear Suspension (622).....	31,000# FLAT LEAF SPRING REAR SUSPENSION WITH RADIUS ROD FOR FIRE/EMERGENCY SERVICE
Rear Hubs (450)	WEBB IRON REAR HUBS
Rear Disc Wheels (505).....	ALCOA ULTRA ONE 89U64X 22.5X9.00 10-HUB PILOT 5.99 INSET ALUMINUM REAR WHEELS
Rear Tires (094)	MICHELIN X WORKS XDY 315/80R22.5 20 PLY RADIAL REAR TIRES
Rear Brakes (423)	MERITOR 16.5X7 P CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, CAST SHOES
Pusher / Tag Axle (443).....	NO PUSHER OR TAG AXLE
Pusher / Tag Suspension (626)	NO PUSHER OR TAG SUSPENSION
Pusher / Tag Hubs (449).....	NO PUSHER OR TAG HUBS
Pusher/Tag Disc Wheels (509)	NO PUSHER/TAG DISC WHEELS
Pusher / Tag Tires (095).....	NO PUSHER/TAG TIRES
Pusher / Tag Brakes (456).....	NO PUSHER/TAG BRAKES



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TABLE SUMMARY - GVWR

	Front	Rear
Axle Component Weight Ratings		
Axles	16000	31000
Suspension	16000	31000
Hubs	23000	31000
Brakes	20000	32500
Wheels	20000	40000
Tires	20000	33080
Power Steering	18000	N/A
GAWR (per axle)	16000	31000
GAWR (per axle system)	16000	31000
Expected Load (per axle system)	16000	31000
GVWR due to Frame	90000	
GVWR due to Transmission	300000	
Vehicle GVWR Summary		
Calculated GVWR	47000	
Expected GVWR	47000	
All weights displayed in pounds		

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F R A M E R B M

VEHICLE SPECIFICATIONS SUMMARY - FRAME RBM

Wheelbase (545)6400MM (252 INCH) WHEELBASE
 Frame Rails (546)..... 7/16X3-9/16X11-1/8 INCH STEEL FRAME (11.11MMX282.6MM/0.437X11.13 INCH) 120KSI(546)
 Yield Strength (psi) 120000
 Section Modulus (per rail) (cu in) 21.6
 RBM (per rail) (lbf-in) 2592000
 Inner Frame Reinforcement (547) 1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT
 Outer Frame Reinforcement (548) NO OUTER FRAME REINFORCEMENT

TABLE SUMMARY - FRAME RBM

Item	Description / Value
Wheelbase	6400MM (252 INCH) WHEELBASE
Frame	7/16X3-9/16X11-1/8 INCH STEEL FRAME (11.11MMX282.6MM/0.437X11.13 INCH) 120KSI
Inner Frame Reinforcement	1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT
Outer Frame Reinforcement	NO OUTER FRAME REINFORCEMENT
Yield Strength (psi)	120000
Section Modulus - per rail (cu. in.)	31.00
Frame RBM - per rail (lbf-in)	3715200

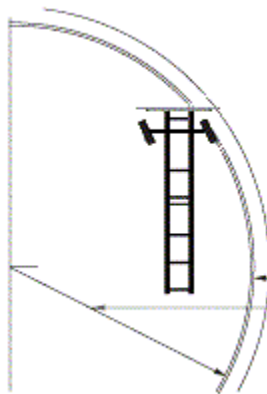
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TURNING RADIUS



Turning radius graphic and data provided strictly for comparisons between model configurations. Weather, road surfaces, and tire treads affect the results. It is strongly suggested that actual vehicles be measured before constructing any roads/driveways using this information. For specific figures regarding your configuration, please contact your CAE representative.

	Dimensions	Tolerance
Wall to Wall Diameter (ft)	73.1	+/- 3.0
Curb to Curb Diameter (ft)	71.6	+/- 3.0
Turning Radius (ft)	35.3	+/- 1.5

VEHICLE SPECIFICATIONS SUMMARY - TURNING RADIUS

Model	M2106
Cab Size (829).....	154 INCH BBC HIGH-ROOF ALUMINUM CONVENTIONAL CREW CAB
Wheelbase (545)	6400MM (252 INCH) WHEELBASE
Front Tires (093).....	MICHELIN XZU-S2 315/80R22.5 20 PLY RADIAL FRONT TIRES
Width (in)	12.5
Front Axle (400).....	DETROIT DA-F-16.0-5 16,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE
Kingpin Intersection (in)	71
Bumper (556)	THREE-PIECE 14 INCH CHROME STEEL BUMPER WITH COLLAPSIBLE ENDS AND LH WING CUTOUT FOR FEDERAL MS100/ES100/ES100C SPEAKER
Width (in)	92.5
Bumper Miter to Front Axle (in)	21.458
Primary Steering Location (003)	LH PRIMARY STEERING LOCATION
Steering Gear (536).....	TRW TAS-85 POWER STEERING
Dual Steering Gear	NONE
Ram.....	NONE
Rear Axle (420)	RS-30-185 31,000# U-SERIES FIRE/EMERGENCY SERVICE SINGLE REAR AXLE
Axle Spacing (624)	NO AXLE SPACING

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Q U O T A T I O N

M2 106 CONVENTIONAL CHASSIS

SET BACK AXLE - TRUCK	DETROIT DA-F-16.0-5 16,000# FL1 71.0 KPI/3.74 DROP
CUM L9 360EV HP @ 2200 RPM, 2200 GOV RPM, 1150 LB-FT @ 1200 RPM, R/F/E	SINGLE FRONT AXLE
ALLISON 3000 EVS AUTOMATIC TRANSMISSION WITH PTO PROVISION	16,000# FLAT LEAF FRONT SUSPENSION
RS-30-185 31,000# U-SERIES FIRE/EMERGENCY SERVICE SINGLE REAR AXLE	154 INCH BBC HIGH-ROOF ALUMINUM CONVENTIONAL CREW CAB
31,000# FLAT LEAF SPRING REAR SUSPENSION WITH RADIUS ROD FOR FIRE/EMERGENCY SERVICE	6400MM (252 INCH) WHEELBASE
	7/16X3-9/16X11-1/8 INCH STEEL FRAME (11.11MMX282.6MM/0.437X11.13 INCH) 120KSI
	1950MM (77 INCH) REAR FRAME OVERHANG
	1/4 INCH (6.35MM) C-CHANNEL INNER FRAME REINFORCEMENT

ADDITIONAL TERMS AND CONDITIONS

- As used in this Sales Order the terms (a) Dealer; shall mean the authorized Dealer to whom this Sales Order is addressed and who shall become a party hereto by its acceptance hereof, (b) Purchaser; shall mean the party executing this Sales Order as such on the face hereof, and (c) Manufacturer; shall mean the Corporation that manufactured the vehicle or chassis, it being understood by Purchaser and Dealer that Dealer is not the agent of Manufacturer, that Dealer and Purchaser are the sole parties to this Sales Order and that reference to Manufacturer herein is for the purpose of explaining generally certain contractual relationships existing between Dealer and Manufacturer with respect to new motor vehicles.
- Manufacturer has reserved the right to change the price the Dealer charges for new motor vehicles without notice. In the event the price to Dealer of a new motor vehicle of the series and body type ordered hereunder is changed by Manufacturer prior to delivery of the new motor vehicle ordered hereunder to Purchaser, Dealer reserves the right to change the cash delivered price of such motor vehicle to Purchaser accordingly.
- Notwithstanding any terms and conditions contained in Purchaser's Purchase Order, Purchaser agrees that Dealer's terms and conditions set forth in this Sales Order shall be the only terms and conditions regarding any purchase by Purchaser from Dealer. Purchaser expressly waives the provisions of Purchaser's terms and conditions and agrees to be bound exclusively by Dealer's terms and conditions as set forth herein. If Purchaser is an entity, the undersigned represents and warrants to Dealer that the undersigned has authority to bind Purchaser to the terms and conditions outlined herein, and the terms and conditions as outlined herein are enforceable against Purchaser in accordance with their terms.
- All used motor vehicles which are to be traded in as part of the consideration for the motor vehicle ordered hereunder are subject to Dealer's Trade Terms and Conditions which are incorporated herein by reference. Although Dealer may provide Purchaser with an initial appraisal(s) of the value of and allowance for any used motor vehicle, such initial appraisal and allowance are not binding. Each used motor vehicle shall be reappraised at that time of actual delivery to Dealer for acquisition, and such reappraisal value shall determine the actual allowance made for such motor vehicle. If such reappraised value is lower than the original appraised value and allowance therefor shown on the front of this Sales Order, Purchaser may, if dissatisfied herewith, cancel this Sales Order, provided, however, that such right to cancel must be exercised prior to the delivery of the motor vehicle ordered hereunder to the Purchaser.
- Purchaser agrees to deliver to Dealer satisfactory evidence of title to any used motor vehicle traded in as part of the consideration for the motor vehicle ordered hereunder at the time of delivery of such used motor vehicle to



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Dealer. Purchaser warrants any such used motor vehicle to be his or its property free and clear of all liens and encumbrances except as otherwise noted within.

6. Dealer shall have the right, upon failure or refusal of Purchaser to accept delivery of the motor vehicle ordered hereunder or to comply with any of the other terms of this Sales Order, to retain any cash deposit made by Purchaser without the waiver of any other right or remedy available to Dealer.

7. Manufacturer has reserved the right to change the design of any new motor vehicle, chassis, accessories or parts thereof at any time without notice and without obligation to make the same or any similar change upon any motor vehicle, chassis, accessories or parts thereof previously purchased by or shipped to Dealer or being manufactured or sold in accordance with Dealer's orders. Correspondingly, in the event of any such change by Manufacturer, Dealer shall have no obligation to Purchaser to make the same or any similar change in any motor vehicle, chassis, accessories or parts thereof covered by this Sales Order either before or subsequent to delivery thereof to Purchaser.

8. Dealer shall not be liable for failure to deliver or delay in delivering the motor vehicle covered by this Sales Order where such failure or delay is due, in whole or in part, to any cause beyond the control or without the fault or negligence of Dealer.

9. The price for the motor vehicle specified on the face of this Sales Order includes reimbursement for Federal Excise taxes, but does not include sales taxes, use taxes or occupational taxes based on sales volume, (Federal, State or Local) unless expressly so stated. Purchaser assumes and agrees to pay, unless prohibited by law, any such sales, use or occupational taxes imposed on or applicable to the transaction covered by this Sales Order, regardless of which party may have primary tax liability therefor.

10. There are no warranties, whether expressed or implied, made by the Dealer herein, or the Manufacturer, on the vehicle or chassis described on the face hereof except in the case of a new vehicle or chassis for which the warranty shall be limited to such warranty as provided for in writing on the face of this Sales Order or in a separate writing furnished to and signed by Purchaser and Dealer. The printed new vehicle warranty delivered to Purchaser with such vehicle or chassis is made a part hereof as though fully set forth herein, and it is the only warranty applicable to such new vehicle or chassis and is expressly in lieu of all other warranties, whether expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose.

11. Any used motor vehicle sold to Purchaser by Dealer under this Sales Order is sold at the time of delivery by Dealer without any guarantee or warranty, whether expressed or implied, including without limitation, any implied warranty of merchantability or fitness for a particular purpose, as to its condition or the condition of any part thereof except as may be otherwise specifically provided in writing on the face of this Sales Order or in a separate writing furnished to and signed by Purchaser by Dealer.

12. The Purchaser, before or at the time of delivery of the motor vehicle covered by this Sales Order will execute such forms of agreement or documents as may be required by the terms and conditions of payment indicated on the front of this Sales Order.

13. In the event Purchaser desires to modify or otherwise change the equipment content of a vehicle specifically ordered for him from the Manufacturer, the change will be made only if the Manufacturer has sufficient time to accommodate the request. Moreover, any service charge or fee made by the Manufacturer as a result of such request will be borne by the purchaser.

14. The parties agree that they will comply with all Federal, State, and local laws and regulations, including those governing and/or restricting export of products or any technical data relating thereto outside of the United States. In carrying on Purchaser's business, each of Purchaser, its officers, directors, employees or agents (collectively and individually in this clause "Purchaser") must comply with its obligations under the law including without limitation, the following: (a) not violate any anti-bribery or anti-corruption law of any jurisdiction applicable to this Order, including those of the United States of America's Foreign Corrupt Practices Act (FCPA); and any similar anti-corruption or anti-bribery laws and regulations applicable to the Purchaser or related to this Order: (b) not pay, offer or promise to pay, or authorize the payment of, any monies or anything of value, directly or indirectly, to any government official or employee, any official or employee of a state-run



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or state-owned or controlled enterprise or entity, any official or employee of a public international organization, any candidate for political or public office, any official or employee of any political party, or any family member or relative of such persons or any political party for the purpose of influencing any act or decision of any such official, employee, candidate, political party, enterprise or entity, public organization, or government to obtain or retain business, or direct business to any person or entity, or for any other improper advantage or purpose; (c) warrants that as at the date of this Order, none of its owners, officers, directors, employees or agents or any immediate family member of such persons, is presently (or has been recently) an official or employee of any government, state-run or state-owned or controlled enterprise or entity, or political party, or a candidate for political or public office. Purchaser must provide written notification to Dealer within ten (10) days of any of the above persons becoming such official, employee or candidate; (d) comply with all applicable export and import laws and regulations, including associated embargo and sanction regulations; and (e) certifies that no vehicle or chassis subject to this Order, nor any direct products thereof, will be made available or re-exported, directly or indirectly, by Purchaser (or by any employee or contractor of Purchaser) to any prohibited person, entity or country (including to nationals of any prohibited country, wherever they may be located) unless such prior written authorization as may be required is obtained by Purchaser from the appropriate U.S. government agency(ies), including, as applicable, the U.S. Office of Export Licensing of the U.S. Department of Commerce, in accordance with the U.S. Export Administration Regulations (15 CFR, Parts 779 et seq. or any similar regulation) issued by the Department of Commerce of the United States in the administration of the Export Administration Act of 1979, as amended from time to time, or any subsequently issued similar rule, law or regulation. Purchaser will designate an officer to be responsible for compliance with all such legislation and upon the request of Dealer will certify compliance with such legislation. In the event Purchaser breaches its obligations under this paragraph, or Dealer learns of or has a reasonable suspicion that Purchaser has breached this paragraph, notwithstanding any other provision hereunder to the contrary, Dealer may immediately terminate this Order and Purchaser hereby waives any and all claims against Dealer for any loss, cost or expense, including, but not limited to, loss or profits, incidental or consequential damages, that Purchaser may incur by virtue of such termination.

15. Purchaser shall, from the execution of this Order and for a period of one (1) year after the completion of this Order maintain all records, together with such supporting or underlying documents and materials, related to the motor vehicle ordered hereunder, including but not limited to all records related to the use, the location(s) of such use, the repair and the sale, lease or other transfer of such motor vehicle or any interest therein, as well as Purchaser's compliance with the FCPA and any other applicable anti-corruption or anti-bribery laws or regulations. Purchaser shall at any time requested by Dealer whether during or after completion of this Order, with five (5) days' notice and at Purchaser's own expense make such records available for inspection and audit (including copies and extracts of records as required) by Dealer. Such records shall be made available to Dealer during normal business hours at a time and location that is convenient for Dealer.

16. **Documentary Fee.** Documentary fee is not an official fee. A documentary fee is not required by law, but may be charged to buyers for handling documents and performing services related to closing of a sale. The base documentary fee beginning 1/1/20 was \$300. The maximum amount that may be charged for a documentary fee is the base documentary fee of \$300, which shall be subject to an annual rate adjustment equal to the percentage of change in the Bureau of Labor Statistics Consumer Price Index. This notice is required by law.

17. Purchaser shall pay on demand all of Dealer's cost and expenses, including its attorney's fees incurred in enforcing the terms of this Sales Order, including but not limited to defending any claims by Purchaser, collecting any payments due hereunder or repossessing the vehicle.

18. The remedies herein reserved shall be cumulative and in addition to any further remedies provided to Dealer whether at law or in equity. No delay or failure by the Dealer to exercise or enforce at any time, any right or provision in this Sales Order, will be considered a waiver thereof or of Dealer's right thereafter to exercise or enforce each and every right and provision of this Sales Order. To be valid, any waiver shall be in writing, but need not be supported by consideration. No single waiver shall constitute a continuing or subsequent waiver.

19. This Sales Order has been negotiated, executed and delivered in Illinois, and shall be construed and enforced in accordance with the laws of the State of Illinois, without reference to the choice of law or conflicts of law principles of any other state.

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20. Purchaser hereby consents to the exclusive jurisdiction of any state or federal court located in DuPage County, Illinois regarding any disputes regarding this matter. Purchaser waives any trial by jury and waives any objection based on improper venue or forum non conveniens in any action or proceeding to which Purchaser and Dealer may be parties arising out of, or in connection with, or in any way pertaining to this Sales Order. It is agreed and understood by Purchaser that this waiver constitutes a waiver of trial by jury of all claims by Purchaser against the Dealer. This waiver is knowingly, willingly and voluntarily made by Purchaser and Purchaser hereby represents that no representations of fact or opinion have been made by any individual to induce this waiver of trial by jury or to, in any way, modify or nullify its effect. Purchaser further represents and warrants that it either has been represented in the signing of this Sales Order and the making of this Sales Order by the attorney of its choosing, or it has had time to seek independent counsel selected of Purchaser's own free will, and to discuss the terms and conditions of this Sales Order with such counsel.

21. In the event that any provision of this Sales Order shall be deemed to be invalid by reason of the operation of any law or by reason of the interpretation placed on this Sales Order by any court, this Sales Order shall be construed as not containing such provision to the extent of the invalidity and the invalidity of such provision shall not affect the validity of any and all provisions hereby which are otherwise lawful and valid, and such other provisions shall remain in full force and effect.

22. All notices and other communications required hereunder shall be in writing and delivered by personal delivery, overnight delivery service, or certified or registered mail, postage prepaid, return receipt requested. Any such notice shall be deemed to have been given on the date it is received during regular office hours at the address listed on the applicable order or at such other address as the affected party may have previously designated for notices.

23. To the full extent permitted by laws, Purchaser waives all rights against Dealer for any damage to its property or that of third parties, or for injury to any person, however caused. In no event shall Dealer's total liability exceed Dealer's anticipated net profit on the specified purchase price of the vehicles covered by this Sales Order.

24. This Sales Order constitutes the entire agreement between the parties hereto relating to the subject matter hereof and supersedes all prior oral and written and all contemporaneously oral negotiations, commitments and understandings of the parties, except as otherwise expressly set forth in this Sales Order. This Sales Order may not be changed or amended except by writing and executed by both Purchaser and Dealer.

IN WITNESS WHEREOF, the Purchaser has executed these terms and conditions as of the date herein written below.

Purchaser
V2020.1

Title

Date

