



# MIDWEST FIRE

**FRX 1250 Rescue Pumper and  
International 5-Man Cab  
Darley 1250 GPM Midship Pump  
Model 4300M7 SBA 4X2  
Specifications**

Prepared for:

**Stock Unit #2133**

Date: 04/20/10

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Date: \_\_\_\_\_

**FRX Series  
Commercial Pumper  
Specifications**

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## STANDARD

### Section 1:        Booster Tank

1.00

The 500 gallon tank shall be constructed of polypropylene/polyethylene sheet stock. This material shall be non-corrosive, stress relieved thermoplastic, and U.V. stabilized for maximum protection. The tank shall be of a special configuration and is so designed to be completely independent of the body and compartments. All joints shall be tested for maximum strength and integrity. All joints are to be scraped down to the virgin material prior to welding. All structural areas to be welded with hot air extrusion welder and shall meet DVS and AWS standards

**The Tank Shall Carry a Lifetime Warranty from its Manufacturer**

1.01

The transverse and longitudinal partitions (baffles) shall be manufactured of polypropylene/polyethylene material. All partitions shall be equipped with vent holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow and meet the latest incorporated NFPA 1901 guidelines. All partitions interlock with one another and are welded to each other as well as to the walls and floor of the tank.

1.02

The tank shall have a combination vent and fill tower. The fill tower shall be constructed of polypropylene/polyethylene. The tower shall have a removable polypropylene screen and an aluminum or polypropylene hinged-type cover. Inside the fill tower, there shall be a combination vent overflow pipe. The vent overflow shall be constructed of pipe with a minimum I.D. of 6" that is designed to run through the tank, and shall be piped behind the rear axle.

1.03

The tank cover shall be constructed of polypropylene/polyethylene; stress relieved, U.V. stabilized material. A minimum of two lifting dowels shall be drilled and tapped to accommodate the lifting eyes.

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1.04

There shall be one (1) 3" FNPT threaded, plugged outlet on the bottom of the tank. This shall be used as a combination cleanout and drain or tank to pump line with anti-swirl provision.

1.05

All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank when required, and be capable of withstanding sustained fill rates of up to 1,000 G.P.M at 100 PSI. All auxiliary outlets and inlets must meet N.F.P.A. 1901 guidelines in effect at the time of manufacture.

1.06

The tank shall be mounted in a way so that it is isolated from the chassis and/or cross members through the use of high density neoprene material with a minimum thickness and width dimension of 1/4" x 2" and a minimum Rockwell hardness of 60 durometer. Additionally, the tank must be mounted in a way such that it is limited from shifting excessively during vehicle operation. The water tank shall be separable from the body in the unlikely event that either should require service.

The top of the tank shall be fabricated from black textured polypropylene/polyethylene. Water drainage grooves shall be machined into the plastic for proper water drainage for the fire hose stored above the tank.

## **Section 2:           Booster Tank Piping, Fills, & Gauges**

2.00

Flanges, there shall be two (2) 3" NPT tank drain flanges and plugs located under the tank.

2.10.2

Water tank gauge, the apparatus shall be equipped with One (1) Innovative Controls, SL Series 14 LED light tank level gauge installed on the street side pump panel. The tank level gauge shall indicate the water level on an easy to read LED display and show increments of 1/8 of a tank.

2.11

Spanner and hydrant wrenches, there shall be two (2) adjustable hydrant wrenches, four (4) spanner wrenches, and holder installed per customer instructions.

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## Section 5: Apparatus Body and Components

### 5.05

Body, the body shall be fabricated from .125" and .188" thick 5052-H32 aluminum sheet metal. All aluminum panels shall be bent using a large radius die to prevent the material from cracking. A superstructure frame shall be fabricated from .188" wall thickness, 3.00" square, 6061-T6 aluminum tubing and shall be used to form the exterior of the body and provide a rigid body structure.

#### 5.05.1

Cradle, the cradle assembly shall be designed to support the body and the booster tank. The cradle shall be fabricated from structural 46 KSI yield steel tubing. All joints to be MIG welded. The tank supporting members of the cradle shall be assembled in accordance with the tank manufactures specifications. The tank shall be held in place by using rubber lined channels located at the tank's center point to reduced strain on the tank from normal chassis frame flex. Large tank retainer angles shall be installed at each corner of the tank. The cradle shall be mounted to the chassis frame with spring loaded "U" bolts.

#### 5.05.2

Fender wells shall be constructed with full circular polypropylene/polyethylene plastic inner liners for ease of cleaning and maintenance.

#### 5.05.3

Fenderettes, there shall be bright polished aluminum fenderettes installed on the wheel wells to prevent splash and to give the body a pleasing appearance. The fenderettes shall extend approximately 1" beyond the body side. The fasteners shall not be exposed to the exterior of the fenderettes.

#### 5.05.4

Rub-rail, to provide a pleasing appearance, the bottom edge of the entire apparatus shall have an extruded bright finish anodized aluminum rub-rail.

#### 5.05.5

Dissimilar metals, all stainless steel, aluminum, and steel assemblies to be fastened together with type 316 stainless steel fasteners. An insulating material shall be used between all dissimilar metals. All components shall be sealed and/or fastened using application appropriate 3M® products.

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5.05.6

Body fasteners, all body fasteners shall be secured by the use of thread locker or nylon insert lock nuts. Lock washers that penetrate the paint shall not to be used.

5.05.7

Tow eye, there shall be one (1) tow eye located above rear step and attached directly to the chassis frame.

## **Section 6: Apparatus Body Compartments**

6.50

Compartments, the apparatus body shall consist of large high side compartments in front of and behind the rear wheels and a large compartment above the rear wheels. All compartments shall be sweep out style with raised floors and shall be equipped with Unistrut™ aluminum framing channels to provide user definable attachment points for shelving, etc. Vents, floor drains, and ventilated plastic floor tiles shall be provided in each compartment.

6.51

Roll up doors, all compartments shall have (ROM) Roll-o-matic anodized aluminum roll up doors and include door activated LED compartment lighting.

### **Street Side Body Compartments**

6.52

Front compartment, the street side front compartment shall be 37" wide x 74" tall x 28" deep, and include a 31" wide x 64" tall roll up door.

6.52.1

Over-wheel compartment, the street side over-wheel compartment shall be 68" wide x 40 tall x 28 deep, and include a 68" wide x 33" tall roll up door.

6.52.2

Rear compartment, the street side rear compartment shall be 37" wide x 74" tall x 28" deep, and include a 31" wide x 64" tall roll up door.

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**Curb Side Body Compartments**

6.53

Front compartment, the curb side front compartment shall be 37" wide x 74" tall x 28" deep, and include a 31" wide x 64" tall roll up door.

6.53.1

Over-wheel compartment, the curb side over-wheel compartment shall be 68" wide x 40 tall x 28 deep, and include a 68" wide x 33" tall roll up door.

6.53.2

Rear compartment, the curb side rear compartment shall be 37" wide x 74" tall x 28" deep, and include a 31" wide x 64" tall roll up door.

**Body Compartments Shelving and Racking**

6.56.2

Tall vertical slide-out, two (2) vertical slide-out equipment racks, approximately 60" tall shall be provided in the street side front locker. The slide-out racks shall be constructed with roller bearing equipped, linearly sliding mechanisms which are lockable in both the "In" and "Out" positions. The racks shall be constructed of ¼" thick aluminum panels and in such a manner as to provide the end-user with the ability to easily install and/or reconfigure various brackets, holders, and the like. The outward ends of the equipment rack which protrude beyond the body of the apparatus shall have retro-reflective material to indicate an obstruction.

6.56.3

Standard shelf, three (3) horizontal locker shelves, approximately 28" wide shall be provided, one (1) in the street side rear locker and two (2) in the curb side rear locker. The shelves shall be constructed of formed and welded 3/16" thick aluminum and securely fastened to the Unistrut™ aluminum framing channels located in the locker sides. The vertical location of the shelves shall be specified by the customer.

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6.56.5

Standard slide-out shelf, one (1) horizontal slide-out locker shelf, approximately 28" wide shall be provided in the curb side front locker. The slide-out shelf shall be constructed with roller bearing equipped, linearly sliding mechanisms which are lockable in both the "In" and "Out" positions. The shelf shall be constructed of formed and welded 3/16" thick aluminum and securely fastened to the Unistrut™ aluminum framing channels located in the locker sides. The vertical location of the shelf shall be specified by the customer. The outward ends of the equipment rack which protrude beyond the body of the apparatus shall have retro-reflective material to indicate an obstruction.

6.56.8

Wide Slide-out/Tip-down Tray. Two (2) horizontal slide-out/Tip-down locker shelves, approximately 60" wide shall be provided, one (1) in the street side middle locker and one (1) in the curb side middle locker. The slide-out shelves shall be constructed with roller bearing equipped, linearly sliding mechanisms which tip down approximately 30 degrees for ease of access in the full "Out" position and are lockable in both the "In" and "Out" positions. The shelf shall be constructed of formed and welded 3/16" thick aluminum and securely fastened to the Unistrut™ aluminum framing channels located in the locker sides. The vertical location of the shelves shall be specified by the customer. The outward ends of the equipment rack which protrude beyond the body of the apparatus shall have retro-reflective material to indicate an obstruction.

6.60

SCBA bottle holders, four (4) SCBA air cylinder, 8" diameter, holders shall be installed at the rear wheel area of the apparatus. The cylinders shall be held in place by an aluminum-hinged door casting with a positive catch latch. The aluminum-hinged door shall include a door seal for increased protection against the weather elements. One (1) each storage holder shall be installed ahead and behind the rear wheels on the street side and on the curb side of the apparatus.

**Section 7: Running Boards, Catwalks, & Rear Step**

7.02

For a safer walking surface, the rear step shall be NFPA 1901 compliant and made of Diamondback® deck plate. The rear step shall be 12" deep with a 4" tall "kick" plate.

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**Section 8: Grab Rails & Foot Steps**

8.50

Grab rails, there shall be two (2) vertical grab rails provided at rear of the body, one each side. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.50.1

Grab rails, there shall be two (2) horizontal grab rails provided at rear of the body, one (1) above the street side hard suction hose compartment and one (1) above the curb side cargo storage compartment. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.50.2

Grab rails, there shall be a horizontal grab rail provided above the street and curb side pump control panel. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.50.3

Grab rail, there shall be a horizontal grab rail provided on the street and curb upper front of the body for ease of loading and unloading hose cross-lays. The grab rails shall be made of 1 1/4" diameter extruded aluminum tubing with knurled finish and chrome plated stanchion brackets.

8.51

Footsteps, there shall be six (6) CPI model SP2701-1-LED, 8" x 8" bright finished cast aluminum surface mount footsteps provided at the rear of the body, three (3) each side for access to the hose bed area. Footsteps shall feature upper/lower LED lights with integral grab handles.

8.51.1

Footsteps, there shall be six (6) CPI model SP4401, 6.750" x 8.875" bright finished cast aluminum folding footsteps provided at the front of the body, three (3) each side for access to the hose cross-lay area. Footsteps shall feature integral grab handles

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## **Section 9: Electrical Equipment**

### 9.00

Battery master switch, a single "on/off" position master battery switch shall be mounted in the chassis cab. When in the off position, all electrical power to the apparatus shall be disconnected. There shall be a green pilot light, visible to the driver, which illuminates when the master switch is activated.

#### 9.00.1

The body and chassis shall be wired as independent modules and connected as a completed unit at the final assembly via electrical connectors located in the electrical compartment. Seals shall be provided on each individual wire and the assembly as a whole. All wiring for the apparatus body shall be within a temperature resistance harness. All wires in each harness shall be color-coded. Wiring shall be run along structural rails and tied in a neat and orderly manner.

#### 9.00.2

The electrical junction box for all apparatus connections, relays, circuit breakers, etc., shall be located in the forward curb side compartment. The apparatus circuits requiring load protection shall utilize sealed relays and automatic reset circuit breakers.

#### 9.01.2

FMVSS DOT lighting, DOT marker, clearance, I.D. lights, and reflectors shall be installed in conformance to current FMVSS DOT standards at the time of manufacture.

#### 9.03.3

Two (2) Whelen model 600 Series, LED Quad-Cluster combination red LED stop/tail, clear halogen backup light, amber LED arrow type turn signal, and red LED warning light assemblies shall be supplied and installed on the rear of the apparatus. Individual lights shall measure 6 1/2" wide by 4 1/8" tall. Light assemblies shall be provided in chrome plated housing. Each light assembly shall be installed using a gasket between the housing and body.

### 9.06

Compartment "door ajar" warning light, there shall be a "red" pilot light that is visible to the driver and it shall illuminate when a compartment door is open.

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9.08

Illuminated license plate bracket, there shall be one (1) illuminated license plate bracket installed at rear of the apparatus.

**Section 10: Emergency Siren & Lighting Equipment**

10.00

Control Center, all accessory and emergency lighting shall be controlled at a master control center in the cab. The control center shall contain lighted rocker switches and shall be heavy duty rated to service the maximum imposed electrical load. The control center shall have lighted identification plates on a non-glare panel face that clearly identify each switch and its function. The control center shall control all warning lights, scene lights, and include the "Master On" and "Open Door" indicator lights.

10.01.3

Light bar, the upper level warning package shall be fully NFPA 1901 compliant and shall be certified by the lighting component manufacture to meet all requirements. The front and front side zones shall be covered by one (1) Whelen model JE2NFPA Justice Series, Super-LED low-profile 56" light bar mounted on the chassis cab roof. The light bar shall have four (4) linear corner modules with nine (9) Super-LED light heads per module, and six (6) CON3 modules with three (3) CON3 Super-LED light heads per module. Activation of the light bar shall be via the control center located in the chassis cab.

10.02.1

Siren, one (1) Whelen model 295SLSA1, 100 watt, six function Class A electronic siren shall be mounted in the chassis cab in a location convenient to the driver. The electronic siren shall include "hands-free" operation, full function, 17 Scan-Lock siren tones, and hard wired microphone. The siren control head shall be lighted for easy night operation.

10.03.1

Speaker, one (1) Cast Products 100-watt polished aluminum siren speaker shall be "flush" mounted through the chassis front bumper.

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10.04.3

LED Flashing lights, the lower level warning package shall be fully NFPA 1901 compliant. The front zone shall be covered by two (2) Whelen model LINZ6 Series, flush mounted red LED flashers with chrome plated bezels. These lights shall be 4" wide by 2" tall and be mounted at the front of the chassis. The rear zone shall be covered by two (2), Whelen model 600 Series, flush mounted red LED flashers. These lights shall be 6 1/2" wide by 4 1/8" tall and be mounted on the rear Whelen model 600 Series, Quad-Cluster combination red stop/tail, clear backup light, and amber arrow type turn signal assemblies.

10.05.5

LED Flashing lights, the upper level warning package shall be fully NFPA 1901 compliant and shall be certified by the lighting component manufacture to meet all requirements. The rear zone shall be covered by two (2) Whelen model LINZ6 Series, flush mounted red LED flashers with chrome plated bezels. The two (2) LED flashers shall be positioned at the upper rear corners of the apparatus. Activation of the LED flashers shall be via the control center located in the cab.

10.06.4

LED Intersection lights, the lower level warning package shall be fully NFPA 1901 compliant and shall be certified by the lighting component manufacture to meet all requirements. There shall be two (2) Whelen model LINZ6 Series, flush mounted red LED flashers with chrome bezels shall cover each of the side zones. These lights shall have approximate dimensions of 4" wide by 2" tall. One of the lights shall be mounted at the rear of the body and one shall be mounted on the front corner of the chassis for use as an intersection style light.

10.07.4

Scene lights, there shall be two (2) Whelen, 50-watt internal optic scene lights mounted two (2) 508 series at rear. The lights shall be controlled from a switch on the control center located in the chassis cab.

10.07.10

Deck lights, there shall be two (2) Akron Brass model Extenda-Lite® E-4150SB, 150W, 12VDC low profile quartz halogen non-telescoping swivel base deck lights provided at the front of the apparatus and above the hose bed. The lights shall be controlled from individual switches on the control center located in the chassis cab.

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10.08

Backup alarm, there shall be a backup alarm installed. Alarm shall be energized automatically when the chassis is placed into reverse.

10.09

Ground lights, there shall be four (4) ground lights installed to illuminate the area below the apparatus. Two (2) lights shall be installed below left and right front body, and two (2) lights shall be installed below left and right rear step area. Grounds lights shall be activated when parking brake is applied.

10.20

Generator, there shall be one (1) engine driven, portable electric generator provided. The generator unit shall be completely self-contained and stowable in the apparatus locker. The generator shall be driven by a 13 HP, recoil start gasoline engine with a fuel capacity of 6.5 gallons. Electrical output of the generator shall be 5,000 watts continuous with a surge capacity of 6,000 watts. The generator unit shall be capable of 42 amps at 120 volts, 60HZ AC or 21 amps at 240 volts, 60HZ AC and shall be equipped with two (2) 120V outlets, one (1) 120V locking plug outlet, one (1) 120V/240V locking plug outlet, one (1) 12V DC outlet at 8.3 Amps.

### **Section 11: Painting, Lettering, Striping, and Signs**

11.00

All components shall be back-primed prior to assembly where necessary.

11.01

Exterior aluminum surfaces of apparatus not covered by trim or other finished material shall be covered with 3M Products Controltac Plus graphic film with Comply Performance Series 180C. The cast vinyl film, non-reflective, shall be backed by permanent adhesive.

11.05

Gold leaf vinyl lettering with a black back shadow shall be provided on the chassis doors per customer instructions. Clear protective vinyl shall be installed on all gold leaf vinyl lettering.

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11.05.2

Gold leaf vinyl lettering with a black back shadow shall be provided for the customer unit number on the left and right chassis fenders. Clear protective vinyl shall be installed on all gold leaf vinyl lettering.

11.06.4

Reflective striping, the body and chassis shall have a 1"-6"-1" wide white reflective stripe on each side and front of the apparatus per NFPA 1901 standards. Striping shall form a reverse "Z" across each side from front cab door of chassis to rear corner of apparatus.

11.06.2

Retro-reflective material, per NFPA 1901 standards any door of the apparatus designed to allow persons to enter or exit the apparatus shall have a minimum of 96 square inches of retro-reflective material affixed to the inside of the door.

11.07

Complete rear of vehicle, except at access doors, steps, handrails, and at transition edges, shall include Chevron retro-reflective striping a minimum of 6" wide. Chevron covering shall exceed NFPA 1901 standards that require a minimum of 50 percent coverage of the rear of the apparatus

11.20

There shall be a permanent plate located in the chassis cab with the following information:

- Quantity and type of fluids used in the vehicle. This plate shall include engine oil, engine coolant, chassis transmission fluid, pump transmission fluid, drive axle lubrication fluid, air conditioning refrigerant, air conditioning lubrication oil, and power steering fluid.
- Front and rear cold tire pressures.
  
- Number of personnel the vehicle is designed to carry shall be located in an area visible to the driver.
- Height and length of the vehicle in feet and inches
- Gross vehicle weight rating (GVWR) in pounds

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**Section 12: Rust Proofing & Mud Flaps**

12.00

Corrosion protection, to protect from corrosion, the cradle and all necessary components shall be coated with Durethane® 2-part urethane Mastic.

12.02

Mud flaps, there shall be two (2) mud flaps installed on rear of apparatus behind the rear wheels.

**Section 13: Pump & Plumbing**

13.00

Pump compartment, the pump compartment superstructure frame shall be fabricated from .125" wall X 2.00" square type 304 brushed 4B finish stainless steel tubing. The front and rear of the pump compartment shall have type 304 brushed 4B finish stainless steel sheets to enclose the perimeter of the water pump. The street and curb sides of the pump compartment shall be equipped with side running boards. The running boards shall extend along the width of the pump compartment from the rear of the chassis cab to the forward end of the body module with extruded aluminum rub rail extending the length of the running boards. The running boards shall be constructed of Diamondback® deck plate. The step surfaces shall be in compliance to applicable sections of NFPA 1901 requirements. The interior of the pump compartment shall be illuminated by a door activated compartment light.

13.17

The pump shall be a Darley, model PSM 1250, single-stage construction, mid-ship mounted pump, and shall comply with all applicable requirements of the latest standards for automotive fire apparatus of the National Fire Protection Association and shall have a rated capacity of 1000 GPM. Pump features include helical design and precision-cut gears to reduce noise and minimize wear, double seal ring design solid bronze impeller, stainless steel pump shaft and maintenance free mechanical seal.

Pump Ratings: 1250 GPM @ 150 PSI  
875 GPM @ 200 PSI  
625 GPM @ 250 PSI

13.17.2

The pump compartment shall have full width vertically hinged access doors located in the upper portion of the curb and street

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side pump compartment. The access doors shall be constructed entirely of aluminum, and be covered with black vinyl material. A "lift & turn" type latch shall be furnished to hold the doors closed and have a retainer attached to prevent the door from opening too far. A full panel width light hood shall be provided to illuminate the right and left side pump panels. Lights shall be controlled by the operator's panel light switch.

### 13.17.3

Gauges, the pump operator's panel shall include:

a. (1) Fire Research "In Control Auto Governor" Features:

- \*Discharge pressure in PSI.

- \*Pump adjustment back idle.

- \*Engine monitoring of oil pressure, water temperature, battery voltage, and engine RPM.

- \*Preset function for instant and reliable operation.

- \*Overheat pump protection system.

b. (7) Discharge, "Innovative Controls" 2 1/2" 400# liquid filled stainless steel pressure gauges and control handles.

### 13.17.4

Color-coded pump panel identification labels shall be provided for all gauges, controls, connections, switches, inlets, and outlets.

### 13.17.5

Pump shift shall be electric operated and shall incorporate standard automotive shifting mechanism for ease of maintenance. The pump shift switch shall be mounted in the cab and identified as "PTO Engagement". The pump shift assembly shall include an indicating light to show when the PTO has been engaged.

### 13.17.7

The primer shall be a 12-volt electric, positive displacement, rotary vane type, oil-less primer for 20' to 30' suction lifts. Priming system includes a bronze push-pull valve with electric switch.

### 13.17.9

Master pump drain, a manifold type drain valve shall be provided with all pump drains connected to it and operate from the pump operators panel so the entire pump system may be drained by one single control.

#### 13.17.9.1

Individual discharge drains, per NFPA 1901 standards all discharges and pre-connects 1 1/2" or larger shall have drains or

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bleeder valves, having a minimum 3/4" pipe thread connection, for bleeding off pressure from the hose connection to the outlet.

13.17.10

Master intakes, there shall be two (2) 6" NST male intakes located, one (1) on the street and one (1) on the curb side pump panel to provide easy connection for drafting or to a fire hydrant. The intakes shall have a removable strainer provided and 6" chrome plated long handle caps.

13.17.10.1

Suction(s), there shall be one (1) auxiliary 2 1/2" NST female chrome plated swivel suction located on the street side pump panel. The suction shall have a 2 1/2" Akron Full-Flow swing out valve and be equipped with a 2 1/2" chrome plated swivel adapter with screen, and a 2 1/2" chrome plated plug and chain.

13.17.10.3

Intake suction relief, per NFPA 1901 standards there shall be a suction relief valve installed on the intake side of the pump.

13.17.11

Discharges, there shall be three (3) 2 1/2" NST male chrome plated discharges located, one (1) on the curb and two (2) on the street side pump panel. The discharges shall have a 2 1/2" Akron Full-Flow swing out valve and be equipped with a 2 1/2" chrome plated cap and chain. The valves shall be controlled by a "tee" handle control provided on the pump panel.

13.17.12

Tank to pump line, there shall be a 3" tank to pump line provided from the water tank to the pump. The line shall have a 3" Akron Full-Flow swing out valve with 4" galvanized piping and victaulic coupling. The flex connections installed between the pump and water tank shall give the plumbing system flex, thus minimizing stress on the line. The valve shall be controlled by a "tee" handle control provided on the pump panel.

13.17.13.1

Tank fill/pump re-circulating line, there shall be a 2" tank fill/pump re-circulating line provided from the pump to the water tank. The line shall have a 2" Akron Full-Flow swing-out valve with 2" high-pressure flexible hose. The flex connections installed between the pump and water tank shall give the plumbing system flex, thus minimizing stress on the line. The valve shall be controlled by a "tee" handle control provided on the pump panel.

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13.17.14

Test ports, per NFPA 1901 standards there shall be pump system test ports mounted on the pump panel.

13.30.2

Rear discharge, there shall be one (1) 2 1/2" rear discharge, gated with an 2 1/2" Akron Full-Flow, swing out quarter turn, self locking ball valve with chrome plated 2 1/2" NST cap & chain. Discharge shall have an "Innovative Controls" 2 1/2" 400# liquid filled stainless steel individual pressure gauge and control handle.

13.30.10

2 1/2" 30-degree elbow, discharges shall be equipped with a chrome plated 2 1/2" NST male swivel, 30-degree elbow fitting.

13.32.99

Foam system, one (1) Foamlogix®, model #FLX21, class "A" foam system shall be plumbed to the 1 1/2" pre-connected cross-lays. Foam system shall have a 10-gallon tank with low level tank sensor, pump assembly, foam injection check valve, main line check valve, flow meter, and control module with instructions. Control module shall be mounted on street side pump panel. A 10-gallon foam tank shall be integrated as part of the water tank and located in the front street side area of the hose bed. The foam tank shall have two fittings one shall be used for the foam system and one for a clean out.

13.33

Master Stream, one (1) Akron, model 3426, Apollo Single Waterway Monitor shall be mounted above pump compartment. Monitor shall be plumbed with 2 1/2" plumbing and shall be gated with a 2 1/2" Akron Full-Flow swing out valve. Monitor shall have an "Innovative Controls" 2 1/2" 400# liquid filled stainless steel individual pressure gauge and control handle.

13.38

Heat shield, there shall be a removable vinyl heat shield installed over the opening at the rear of the pump compartment.

#### **Section 14: Hose Trays, Cross Lays, & Pre-connects**

14.52

Hose cross-lay, the hose cross-lay above the pump house shall be an area for pre-connected hose cross-lays and/or hose storage. The

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cross-lay shall be attached to the top of the pump compartment and shall be constructed of a polypropylene/polyethylene floor with integral planking designed to provide drainage and ventilation to the cross-lay area. The front and rear shall be constructed of .188" aluminum.

#### 14.52.2

Hose cross-lay pre-connected, there shall be two (2) 1 1/2" NST swivel male pre-connects gated with 2" Full-Flow swing out valves. Pre-connects shall have "Innovative Controls" 2 1/2" 400# liquid filled stainless steel individual pressure gauges and control handles. The hose cross-lay shall have two (2) adjustable .188" aluminum dividers.

#### 14.55

Hose bed, there shall be a hose bed that runs the full length of the tank. The hose bed shall be made of a polypropylene/polyethylene floor with integral planking designed to provide drainage and ventilation to the hose bed area. Access to the hose bed area shall be provided by the front and rear steps. The hose bed shall be capable of storing adequate hose to meet pertinent NFPA requirements for Class A Pumper applications.

#### 14.55.1

Hose bed divider, the hose bed shall have one (1) adjustable .250" aluminum divider.

#### 14.56.1

Hose cross-lay webbing, there shall be webbing installed on the hose cross-lay ends to secure hose.

#### 14.56.2

Hose bed cover, a heavy-duty flame retardant vinyl hose bed cover shall be supplied and custom fitted to the apparatus hose bed. The cover shall be attached across the front of the hose bed with a rail and bead system to prevent wind from getting under the cover. The rear of the cover shall be provided with an elastic draw string cord to cover the back of the hose bed and to retain the hose in the bed during travel as required by NFPA 1901. The cover shall be black in color.

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**Hard Suction, Attic Ladder, and Pike Pole Compartment**

15.50

Street side compartment, there shall be a full length compartment provided above the street side compartments accessed through a latched access door at the rear of the apparatus. This compartment shall be approximately 28" wide x 12" tall x 142" long. This compartment is designed to carry attic ladders, pike poles, and two (2) hard suction hoses.

**Cargo Compartment**

15.55

Curb side compartment, there shall be an "open top" full length compartment provided above the curb side compartments. This compartment shall be approximately 28" wide x 12" tall x 142" long. An elastic cargo net shall be provided and used to secure the items in the cargo compartment. The footsteps on the front and rear of the body shall be orientated to allow access to front and rear of this compartment. The compartment shall be equipped with floor drains and ventilated plastic floor tiles.

**Ladder Compartment**

15.60

Ladder compartment, there shall be one (1) fully enclosed ladder compartment constructed of polypropylene/polyethylene material and large enough to accommodate a 24' two-section and a 14' roof ladder. The ladder compartment shall have a latching hinged door and accessed from the rear of the apparatus. The ladder compartment shall be designed so that the ladders are "nested" on the top of the tank and below the hose bed.

**Section 17: Chassis Accessories**

17.00.2

Hub and lug Nut covers, there shall be stainless steel hub and lug nut covers installed on front and rear wheels of single rear axle chassis

17.05

Wheel chocks, there shall be two (2) wheel chocks with holders installed, under body on driver's side of apparatus.

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17.08

Air horns, there shall be two (2) emergency stutter tone air horns mounted, one each side of chassis hood.

17.10

Tire pressure indicator, there shall be tire pressure indicators installed to allow for visual inspection of tire pressure at the tire.

17.11.1

Vehicle data recorder, there shall be an FRC vehicle data recorder installed on the chassis.

17.12

Seat belt monitor, there shall be a seat belt monitor system installed. System shall indicate when someone is seated in a seat and if the seat belt is in use.

17.16

"C" Clips, SCBA seats in chassis cab shall be equipped with "C" clips for securing firefighter air packs per department's specifications.

## **Section 18: Loose Equipment**

18.00.3

There shall be one (1) Alco-lite #FL-10, 10' aluminum folding type attic ladder.

18.00.12

There shall be one (1) Alco-lite, model #PEL-24, 24' two-section aluminum pumper type extension ladder.

18.00.22

There shall be one (1) Alco-lite PRL-14, 14' aluminum pumper type roof ladder.

18.01.1

There shall be one (1) 6' fiberglass handled pike pole and brackets installed.

18.01.2

There shall be one (1) 8' fiberglass handled pike pole and brackets installed.

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18.02.1

There shall be one (1) fiberglass handled pick head axe and brackets installed at the rear of the apparatus.

18.02.2

There shall be one (1) fiberglass handled flat head axe and brackets installed at the rear of the apparatus.

18.05.5

There shall be two (2), 6" X 10', PVC flexible hard suction hoses provided.

**Section 19: Chassis**

19.01

Midwest Fire Equipment furnished 2010 International 5-Man Cab, Model 4300M7 SBA 4X2 per specification attached.

Initial: \_\_\_\_\_  
Date: \_\_\_\_\_