FIRE TRUCKS

MODEL 34 "TARGHEE"

DETERMINATION OF APPARATUS WEIGHT

BME Fire Trucks, LLC. shall submit estimated "in-service" weight analysis required by applicable NFPA standards. This Excel computer weight analysis shall break down all major components of the apparatus and shall show the impact on percentage-of-load on the front and rear axles, total weight, and weight on each tire set.

The analysis shall evenly distribute the NFPA required minimum payload allowance or estimated equipment payload as provided by the purchaser into the specified compartments. The allowance for personnel, hose loads, water and foam fluids, and required NFPA equipment shall be outlined individually in the analysis and placed on the apparatus in its specific intended position.

CENTER-OF-GRAVITY ANALYSIS

BME Fire Trucks, LLC. shall perform an estimated center of gravity calculation as required by the applicable section of NFPA standards. This calculation shall include tilt angles, the estimated right to left load distribution, and load on each axle, including all specified major components.

LOW VOLTAGE TEST REQUIRMENTS

The fire apparatus low voltage electrical system shall be tested as required by this section and the test results shall be certified by the apparatus manufacturer. The certification shall be delivered to the purchaser with the documentation for the completed apparatus. The tests shall be performed when the air temperature is between 0 degrees Fahrenheit and 110 degrees Fahrenheit.

TEST SEQUENCE

The three tests defined below shall be performed in the order in which they appear. Before each test, the chassis batteries shall be fully charged until the voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for 10 minutes. The failure of any of these tests shall require a repeat of the test sequence.

RESERVE CAPACITY TEST

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

ALTERNATOR PERFORMANCE TEST AT IDLE

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

ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be applied with the chassis engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two hours. The activation of the electrical system load management system shall be permitted during this test. The activation of an alarm due to excessive chassis battery discharge, as detected by the system required by NFPA (current edition), or an electrical system voltage of less than 11.8 volts direct current for a 12 volt direct current nominal system, for more than 120 seconds, shall be considered a failure of this test.

LOW VOLTAGE ALARM TEST

Following the completion of the tests described above, the chassis engine shall be turned off. With the chassis engine turned off, the total continuous electrical load shall be applied and shall continue to be applied until the excessive battery discharge alarm activates. The chassis battery voltage shall be measured at the battery terminals.

The test shall be considered to be a failure if the low voltage alarm has not yet sounded 140 seconds after the voltage drops to 11.70 volts direct current for a 12 volt direct current nominal system. The chassis battery system shall then be able to restart the chassis engine. The failure of the chassis battery system to restart the chassis engine shall be considered a failure of this test.

The completed fire apparatus shall undergo a complete 12 volt electrical load and performance testing per applicable sections of NFPA standards with inspection and test sheets included in delivery documentation.

DOCUMENTATION

The apparatus manufacturer shall provide the results of the low-voltage electrical system performance test, certified in writing, with the documentation provided to the purchaser at the time of delivery of the completed apparatus.

The test results shall consist of the following documents:

(1) Documentation of the electrical system performance tests.
(2) A written electrical load analysis, including the following:

- (a) The nameplate rating of the alternator.
- (b) The alternator rating under the conditions specified in NFPA 1906 (current edition).
- (c) Each of the component loads specified that make up the minimum continuous electrical load.
- (d) Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load.
- (e) Each individual intermittent electrical load.

TEST RESULTS

BME Fire Trucks LLC. shall provide results of the apparatus testing and shall certify the following:

The weight of the completed apparatus, when loaded to its estimated in service weight, does not exceed the GVWR and GAWR of the chassis.

The complete unit, when loaded to its estimated in service weight, meets the weight distribution and vehicle stability requirements, as defined in the current NFPA guidelines.

The unit meets all required federal standards pertaining to the manufacturer and completion of the apparatus and a label tag has been affixed to the apparatus by the manufacturer stating same.

BME Fire Trucks LLC. shall provide all testing results, including engine, speed, acceleration, road ability, braking, and auxiliary braking to the Purchaser at the time of delivery.

DELIVERY REQUIREMENTS

The bidder shall not be responsible for delays in delivery due to strikes, acts of God, failure of suppliers to deliver, chassis shortage and other reasons beyond the reasonable control of the builder. Should BME Fire Trucks, LLC. be unable to comply with the proposed delivery date, we shall immediately contact the purchaser regarding delay information and actions to be taken by the company.

This vehicle shall be F.O.B. the BME Fire Trucks facility in Boise Idaho. Dealer shall be responsible for arrangement of delivery from factory.

GENERAL WARRANTY PROVISIONS

All materials and workmanship herein specified, including all equipment furnished, shall be guaranteed for a period of one (1) year after the acceptance date of the apparatus, unless otherwise noted, with the exception of any normal maintenance services or adjustments which shall be required. Under this warranty, BME Fire Trucks, LLC. shall be responsible for the costs of repairs to the apparatus that have been caused by defective workmanship or materials during this period.

This warranty shall not apply to the following:

- Any component parts or trade accessories such as chassis, engines, tires, pumps, valves, signaling devices, batteries, electric lights, bulbs, alternators, and all other installed equipment and accessories, in as much as they are usually warranted separately by their respective manufacturers, or are subject to normal wear and tear.

- Failures resulting from the apparatus being operated in a manner or for a purpose not recommended by the apparatus manufacturer.

- Loss of time or use of the apparatus, inconvenience or other incidental expenses.

- Any apparatus which has been repaired or altered without written consent or outside of the apparatus manufacturer's factory and or authorized service center in any way that affects its stability, or which has been subject to misuse, negligence, or accident.

- Delivery of the apparatus to repair site.

DISCLAIMER

NO WARRANTIES ARE GIVEN BEYOND THOSE DESCRIBED HEREIN. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. THE COMPANY SPECIFICALLY DISCLAIMS WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OTHER REPRESENTATIONS TO THE USER/PURCHASER AND ALL OTHER OBLIGATIONS OR LIABILITIES. FURTHER, THE COMPANY EXCLUDES LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES, ON THE PART OF THE COMPANY OR SELLER. No person is authorized to give any other warranties or to assume any liabilities on the Company's behalf unless made or assumed in writing by the seller; and no other person is authorized to give any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

OBTAINING SERVICE

Return the vehicle to any BME Fire Trucks, LLC. dealer/authorized service center; Return the vehicle to BME Fire Trucks, LLC. or contact BME Fire Trucks, LLC.. BME Fire Trucks, LLC. shall be solely responsible for determining the extent of repair under the terms of the warranty. Transportation costs shall be the responsibility of the purchaser.

MATERIAL AND WORKMANSHIP

All equipment provided shall be guaranteed to be new and of current manufacture, and unless specified otherwise, shall meet all requirements of these specifications and prevailing NFPA documents and be in condition at time of delivery for use as specified for this type of apparatus.

All workmanship shall be of the highest quality and accomplished in a professional manner so as to insure a functional apparatus with a high quality aesthetic appearance.

The construction shall be rugged and ample safety factors shall be provided to carry the loads specified to meet both on and off road requirements.

The apparatus shall be designed and the equipment mounted with due consideration to the distribution of load between the front and rear axles, so all specified equipment, with a full complement of personnel, can be carried without damage to the apparatus.

BODY AND STRUCTURAL WARRANTY

BME Fire Trucks, LLC. shall warrant each new apparatus body, if used in a normal and reasonable manner, against structural defects caused by defects in material, design or workmanship for a period of ten (10) years, covering parts & labor to the original purchaser which shall start on day of acceptance.

This warranty shall not apply to:

- Normal maintenance services or adjustments

- To any vehicle which will have been repaired or altered outside of our factory in any way so as, in the judgment of BME Fire Trucks, LLC., to affect it's stability, nor which has been subject to misuse, negligence, or accident, nor to any vehicle made by us which will have been operated to a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.

- Commercial chassis and associated equipment furnished with chassis, signaling devices, generators, batteries, or other trade accessories as they are usually warranted separately by their respective manufacturers.

- Shipping costs of parts or apparatus for purposes of repair or replacement of parts. This warranty is in lieu of all other warranties, expressed or implied. All other representations as to the original purchaser and all other obligations or liabilities, including for incidental or consequential damage on the company's behalf unless made in writing by the company.

FIRE PUMP WARRANTY

A seven (7) year warranty on the Waterous fire pump shall be provided. The provisions of this warranty shall be described in the completed apparatus documentation.

PLUMBING WARRANTY

The stainless steel fire pump plumbing shall carry a ten (10) year parts and labor warranty against defects in workmanship and perforation corrosion.

AKRON VALVE WARRANTY

The Akron valves shall carry a ten (10) year parts and labor manufacturer’s warranty. Provisions of this warranty shall be provided with the completed apparatus documentation.

FOAM TANK WARRANTY

The foam tank shall carry a “lifetime” warranty against defects in workmanship and perforation corrosion. The provisions of this warranty shall be provided in the delivery documentation. The tank manufacturer shall repair, at no cost to the purchaser, any problems caused by defective materials and/or workmanship. The warranty shall cover the reasonable costs of removing the water tank from the apparatus and reinstalling it after the completion of the covered warranty repairs, but shall not cover any liability for the loss of service or downtime costs of the apparatus.

WATER TANK WARRANTY

The polypropylene water tank that is specified to be supplied with this apparatus shall be warranted by the water tank manufacturer for a "lifetime" period from the date that the apparatus is put into service. The tank manufacturer shall repair, at no cost to the purchaser, any problems caused by defective materials and/or

workmanship. The warranty shall cover the reasonable costs of removing the water tank from the apparatus and reinstalling it after the completion of the covered warranty repairs, but shall not cover any liability for the loss of service or downtime costs of the apparatus.

PAINT WARRANTY

BME Fire Trucks, LLC. shall provide a seven (7) year paint warranty which shall cover peeling and/or de-lamination of the top coat and other layers of paint, cracking or checking, loss of gloss caused by cracking, checking or chalking, and any paint failure caused by defective paint materials covered by the paint manufacturer's material warranty.

CHASSIS WARRANTY

The specified chassis shall be provided with the chassis manufacturer's warranty. The exact provisions of this warranty shall be supplied with the completed apparatus documentation.

APPARATUS OPERATION MANUAL(S)

BME Fire Trucks, LLC. shall provide (2) electronic apparatus operational manual(s) on a USB thumb drive.

CHASSIS SPECIFICATION

Vehicle configuration

M2 106 plus conventional chassis

2024 model year specified

Set back axle - truck

Straight truck provision, non-towing

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: 10% (some) of the time, in transit, is spent on non-paved roads

Maximum 8% expected grade

Maintained gravel or crushed rock - most severe in-transit (between sites) road surface

Medium truck warranty

Expected front axle(s) load : 14000.0 lbs

Expected rear drive axle(s) load : 25000.0 lbs

Expected gross vehicle weight capacity : 41000.0 lbs

Truck service

Fire tank - no main driveline driven split-shaft pto/pump

Boise mobile equipment

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

75 mph road speed limit

Cruise control speed limit same as road speed limit

Pto mode engine rpm limit - 2100 rpm

Pto rpm with cruise set switch - 900 rpm

Pto rpm with cruise resume switch - 900 rpm

Pto mode cancel vehicle speed - 25 mph

Pto governor ramp rate - 250 rpm per second

Cruise control button pto control and three remote pto speeds

Pto speed 1 setting - 900 rpm null

Pto speed 2 setting - 1100 rpm

Pto speed 3 setting - 1300 rpm

Engine fan enabled with retarder

Pto minimum rpm - 900

Cummins emergency vehicle throttle control option

Regen inhibit speed threshold - 5 mph

Pto 1, dash switch, rolling operation (engage while parked, roll in neutral after engagement)

Engine equipment

2010 epa/carb/ghg21 configuration

2008 carb emission cert - clean idle (w/6x4 inch label shipped loose w/installation instructions) installed by final stage mfr on driver door or lh side hood

Oil pan for awd and awd conversions

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

(3) dtna genuine, flooded starting, min 2850cca, 525rc, threaded stud batteries

Battery box frame mounted

Standard battery jumpers

Lh battery box mounted as far aft as possible, no greater than 60 inches back of 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 with locking provision mounted outboard driver seat

Positive and negative posts for jumpstart located on frame next to starter

Progressive low voltage disconnect at 12.3 volts for designated circuits

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

C-brake by jacobs with high med low brake with brake lamps

Rh outboard under step mounted horizontal aftertreatment system assembly with rh horizontal tailpipe

Engine aftertreatment device, automatic over the road active regeneration and virtual regeneration request switch in cluster and dash mounted inhibit switch

Standard exhaust system length

Rh standard horizontal tailpipe

6 gallon diesel exhaust fluid tank

100 percent diesel exhaust fluid fill

Lh under cab diesel exhaust fluid tank location mount at -25mm height

Inboard mounted diesel exhaust fluid pump with above rail routing for 6 gallon diesel exhaust fluid tank, cummins engines

Standard diesel exhaust fluid tank cap

Horton 2-speed drivemaster advantage polarextreme fan drive

Automatic fan control with dash switch and indicator light, non engine mounted

Cummins spin on fuel filter

Combination full flow/bypass oil filter

1100 square inch aluminum radiator

Antifreeze to -60f, ethylene glycol pre-charged sca heavy duty coolant

Gates blue stripe coolant hoses or equivalent

Constant tension hose clamps for coolant hoses

Auxiliary engine cooling using water from fire pump

Lower radiator guard

Phillips-temro 1000 watt/115 volt block heater

Chrome engine heater receptacle mounted under lh door

Aluminum flywheel housing

Electric grid air intake warmer

Delco 12v 39mt hd/ocp starter with thermal protection and integrated magnetic switch

Transmission

Allison 3000 evs automatic transmission with pto provision

Transmission equipment

Allison vocational package 265 - 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

Primary shift schedule recommended by dtna and allison, this defined by engine and vocational usage

Secondary shift schedule recommended by dtna and allison, this defined by engine and vocational usage

Primary shift speed recommended by dtna and allison, this defined by engine and vocational usage

Secondary shift speed recommended by dtna and allison, this defined by engine and vocational usage

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

Driver switch input - default - no switches

Quickfit body lighting connector under cab, with bluntcuts

Electronic transmission wiring to customer interface connector

Customer installed chelsea 280 series pto

Pto mounting, lh side of main transmission allison

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

Meritor mtc-4210 and mtc-4213 transfer case oil cooler

Transmission oil check and fill with electronic oil level check

Meritor mtc 4210xl-ec 2-speed transfer case

Transfer case shift controls in dash

Synthetic transmission fluid (tes-295 compliant)

Front axle and equipment

Mx-14-120-evo 14,000# 1790mm kpi single front drive axle

4.88 front axle ratio

Mxl 16t meritor extended lube front steering axle driveline with half round yokes

Meritor 16.5x5 q+ mx drive axle cast spider heavy duty cam front brakes

Fire and emergency severe service, non-asbestos front lining

Meritor cast iron front brake drums

Front brake dust shields

Front oil seals

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

Current available synthetic 75w-90 front axle lube

Front suspension

14,600# taperleaf front suspension

Maintenance free rubber bushings - front suspension

Front shock absorbers

Rear axle and equipment

Rs-25-160 27,000# r-series fire/emergency service single rear axle

4.89 rear axle ratio

Iron rear axle carrier with standard axle housing

Mxl 17t meritor extended lube main driveline with half round yokes

Mxl 17t meritor extended lube intertransmission driveline with half round yokes

Driver controlled traction differential - single rear axle

(1) driver controlled differential lock rear valve for single drive axle

Indicator light for each differential lockout switch, engage at speeds 5 mph or less, disengage w/ign off or speeds exceeding 25 mph

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 heavy weight cast iron rear brake drums

Rear oil seals

Wabco tristop d longstroke 1-drive axle spring parking chambers

Haldex automatic rear slack adjusters

Current available synthetic 75w-90 rear axle lube

Rear suspension

27,000# flat leaf spring rear suspension with helper and radius rod for fire/emergency service

Spring suspension - no axle spacers

Standard axle seats in axle clamp group

Fore/aft control rods

Brake system

Air brake package

Wabco 4s/4m abs with traction control

Reinforced nylon, fabric braid and wire braid chassis air lines

Fiber braid parking brake hose

Standard brake system valves

Standard air system pressure protection and 85 psi pressure protection for air horn(s)

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 outboard on lh rail

Steel air brake reservoirs mounted inside rail; customer accepts tanks mounted in rear overhang/rear suspension mount over rear axle only, if additional tanks are required mount in overhang

Pull cable on wet tank, petcock drain valves on all other air tanks

Wheelbase & frame

4500mm (177 inch) wheelbase

11/32x3-1/2x10-15/16 inch steel frame (8.73mmx277.8mm/0.344x10.94 inch) 120ksi

1600mm (63 inch) rear frame overhang

Frame overhang range: 61 inch to 70 inch

8 inch bolt on front frame extension

Calc'd back of cab to rear susp c/l (ca): 64.37 in

Calculated effective back of cab to rear suspension c/l (ca): 59.87 in

Calc'd frame length - overall : 269.55 in

Calculated frame space lh side : 41.3 in

Calculated frame space rh side : 10.27 in

Square end of frame

Front closing crossmember

Standard weight engine crossmember

Standard crossmember back of transmission

Standard midship #1 crossmember(s)

Standard rearmost crossmember

Standard suspension crossmember

Chassis equipment

Omit front bumper, customer installed special bumper, does not comply with fmcsr 393.203

Betts b-25 painted mudflap brackets

Black mudflaps

Fender and front of hood mounted front mudflaps

Grade 8 threaded hex headed frame fasteners

D15-28195-000 center punch to mark centerline of rear suspension on top flange of frame

3d jt vehicle model

Tank body 0 to 1500 gallons

Clear frame rails (except air dryer) outboard both rails back of cab to rear suspension

Fuel tanks

70 gallon/264 liter aluminum fuel tank - lh

23 inch diameter fuel tank(s)

Plain aluminum/painted steel fuel/hydraulic tank(s) with polished stainless steel bands

Fuel tank(s) forward

Polished step finish

Chrome fuel tank cap(s)

Detroit fuel/water separator with water in fuel sensor and 12 volt preheater

Equiflo inboard fuel system

Auxiliary fuel supply and return ports located on lh fuel tank

High temperature reinforced nylon fuel line

Tires

Michelin xdn2 12r22.5 16 ply radial front tires

Michelin xdn2 12r22.5 16 ply radial rear tires

Hubs

Meritor iron front hubs

Conmet preset plus premium iron rear hubs

Wheels

Alcoa ula18x 22.5x8.25 10-hub pilot 5.81 inset aluminum disc front wheels

Alcoa ula18x 22.5x8.25 10-hub pilot aluminum disc rear wheels

Front wheel mounting nuts

Rear wheel mounting nuts

Cab exterior

8154 inch bbc high-roof aluminum conventional crew cab

Air cab mounting

Cab roof reinforcements for roof mounted components

Nonremovable bugscreen mounted behind grille

2-1/2 inch fender extensions

Lh and rh exterior grab handles with single rubber insert

Hood mounted chromed plastic grille

Chrome hood mounted air intake grille

Fiberglass hood

Cab floor, toe board and firewall heat shield

Valve and plumbing for customer furnished air horn, piping capped at firewall

Dual electric horns

Rear license plate mount end of frame

Integral led headlights with chrome bezels; non-compliant with fmvss 108 headlight height requirement

Led aerodynamic marker lights

Daytime running lights

Truck-lite 3 chamber modules with 45 series sealed beam lamps

Standard front turn signal lamps

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

Dual level cab entry steps on both sides

No rear window

Tinted door glass lh and rh with tinted non-operating wing windows

Rh and lh electric powered windows

1-piece solar green glass windsheld

2 gallon windshield washer reservoir with fluid level indicator, frame mounted

Cab interior

Rugged trim package

Gray & carbon vinyl interior "rugged"

Carbon with premium gunmetal accent (rugged)

Molded plastic door panel

Molded plastic door panel

Black mats with single insulation

Forward roof mounted console

Lh and rh door storage pockets integrated into molded door panels

Digital alarm clock in driver display

(2) cup holders lh and rh dash

M2/sd dash

Heater, defroster and air conditioner

Standard hvac ducting

Main hvac controls with recirculation switch

Standard heater plumbing

Valeo heavy duty a/c refrigerant compressor

Binary control, r-134a

Premium insulation

Solid-state circuit protection and fuses

12v negative ground electrical system

Premium led cab lighting

Door locks and ignition switch keyed the same

Key quantity of 4

Lh and rh electric door locks

Premium isringhausen high back air suspension drivers seat with 2 air lumbar, integrated cushion extension, tilt and adjustable shock

Premium isringhausen high back air suspension passenger seat with 2 air lumbar, integrated cushion extension, tilt and adjustable shock

Seats inc full width rear bench seat

Lh and rh integral door panel armrests

Vinyl with vinyl insert driver seat

Vinyl with vinyl insert passenger seat

Vinyl with vinyl insert rear passenger seat

High visibility orange seat belts with driver indicator light and audible alarm

Adjustable tilt and telescoping steering column

4-spoke 18 inch (450mm) black steering wheel with switches

Driver and passenger interior sun visors

Instruments & controls

Digital panel lamp dimmer switch in driver display

No instrument panel-driver

Configurable lower panel with integrated upper storage

Engine remote interface without interlocks

Bright argent finish gauge bezels

Low air pressure indicator light and audible alarm with (1) additional park switch for customer use

(1) single brake application air gauge

Dual needle primary and secondary air pressure gauge

Dash mounted air restriction indicator with graduations

87 decibels to 112 decibels automatic self-adjusting backup alarm

Electronic cruise control with controls on steering wheel spokes

Key operated ignition switch and integral start position; 4 position off/run/start/accessory

Manual remote engine stop/start with pto re-engage

Premium instrument cluster with 5.0 inch tft color display

Heavy duty onboard diagnostics interface connector located below lh dash

2 inch electric fuel gauge

Engine remote interface for remote throttle

Quickfit powertrain interface connector under cab with bluntcuts

Quickfit programmable interface connector(s) under cab with bluntcuts

Engine remote interface connector at powertrain interface connector

Electrical engine coolant temperature gauge

2 inch transmission oil temperature gauge

Electronic outside temperature sensor display in driver message center

Engine and trip hour meters integral within driver display

Pto controls for enhanced vehicle electric/electronic architecture

Electric engine oil pressure gauge

No overhead instrument panel

Quickfit programmable interface module + (4) 20 amp fused relays

Am/fm/wb world tuner radio with auxiliary input, j1939

Dash mounted radio

(2) radio speakers in cab

Multi-band am/fm/wb/cb lh mirror mounted antenna system

Standard radio wiring with steering wheel controls

Electronic mph speedometer with secondary kph scale, without odometer

Standard vehicle speed sensor

Electronic 3000 rpm tachometer

Detroit connect platform hardware

3 years daimler connectivity base package (features vary by model) powered by detroit connect

Tmc rp1226 accessory connector located behind passenger side removeable dash panel

Ignition switch controlled engine stop

Four extra hardwired switches in dash, route to between seats, bluntcut

Hardwire switch #1,on/off latching, 30 amps battery power

Hardwire switch #2,on/off latching, 30 amps ignition power

Hardwire switch #3, on/off latching, 20 amps ignition power

Hardwire switch #4,on/off momentary, 20 amps ignition power

(2) lh and rh foot switches with dash switch for horn button to control air horn, default to electric <85 psi

Digital voltage display integral with driver display

Single electric windshield wiper motor with delay

Rotary headlamp switch, marker lights/headlights switch with pull out for optional fog/road lamps

Alternating flashing headlamp system with body builder controlled engagement

One valve parking brake system with warning indicator

Self canceling turn signal switch with dimmer, headlamp flash, wash/wipe/intermittent

2integral electronic turn signal flasher with 40 amp (20 amp per side) trailer lamp capacity

Design

Paint: one solid color

Color

Cab color: Candy Apple Red

Black, high solids polyurethane chassis paint

Standard e coat/undercoating

Secondary factory options

Corporate pdi center option installation/modification only

CAB SEATING AND WEIGHT ALLOWANCE

A warning label shall be installed in the cab to indicate seating positions for four (4) people. A weight allowance of 250 pounds shall be calculated for each person.

LABELS, STANDARD PACKAGE SET

A standard set of labels shall be provided and installed on the inside of chassis cab area. The labels shall contain the required information based on the applicable components for the apparatus.

DATA PLAQUE

A data plaque shall be provided and installed on the inside of the driver's door. The data plaque shall contain the required information based on the applicable components for the apparatus:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Drive axle lubricant
- Power steering fluid
- Pump, generator, or other component lubrications
- Other NFPA applicable fluid levels or data as required
- Paint manufacturer, type, and color number
- Tire Speed Ratings

Location shall be in the driver's compartment or on the driver's door.

DATA PLAQUE

A data plaque shall be provided and installed. The plaque shall contain the following information.

- Pump make and model
- GPM capacity rating
- Truck serial and production number
- Pump performance (specific GPMs at rated pressures with engine RPM)
- Governed engine RPM
- Pump gear ratio

WARNING LABEL -- NO RIDING ON REAR

A warning label stating: "WARNING: DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION. DEATH OR SERIOUS INJURY MAY RESULT" shall be installed on the rear of the apparatus. The label shall be applied to the vehicle at the rear step area. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion, is prohibited.

WARNING LABEL -- SEAT BELT USAGE

A warning label, stating: "WARNING CRASH HAZARD OCCUPANTS MUST BE SEATED AND BELTED WHEN VEHICLE IS IN MOTION…" shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

LOUD NOISE WARNING LABEL

A final stage manufacturer shall install "hearing loss" potential warning labels on the vehicle in any areas or fixed equipment that produces excessive noise levels. (Exhaust outlet, sirens and air horns shall not be required for such equipment.)

AIR FILTER EMBER PROTECTION SCREEN WARNING LABEL

A warning label, stating: “THIS VEHICLE HAS AN AIR INTAKE EMBER SCREEN WHICH REQUIRES PERIODIC INSPECTION & CLEANING” shall be provided and installed in the apparatus cab interior.

FRESH AIR EMBER SEPARATOR WARNING LABEL

A warning label, stating: “THIS APPARATUS IS EQUIPPED WITH A CAB FRESH AIR INTAKE EMBER PROTECTION SCREEN. ROUTINE INSPECTION IS REQUIRED.” shall be provided and installed in the apparatus cab interior.

WARNING LABEL -- DO NOT WEAR HELMET

A warning label, stating: "CAUTION: DO NOT WEAR HELMET WHILE SEATED" shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

MANUFACTURER LOGO

The apparatus shall include a BME logo plaque which shall be affixed at the rear of the apparatus.

The BME plaque shall feature white reflective material on the outside of the Maltese cross and red reflective material in the middle.

FRONT TOW PLATE

A horizontal full frame width, ¾-inch thick steel plate, center pull, front tow eye shall be furnished and installed through or below the front bumper. The tow eye plate shall be triangle shaped extended 6 inches beyond the front bumper with a 3-inch X 4-inch rectangle tow eye.

The tow eye shall be braced and gusseted to prevent frame rail or bumper damage and bolted to the front frame rail web with eight (8) Grade 8 frame bolts and lock nuts.

The tow plate shall to be sprayed with black durabak.

FRONT RECEIVER

There shall be one 2" receiver hitch on the front of the apparatus. The receiver shall be mounted off set as to prevent towing use.

REAR RECEIVER

There shall be one 2" receiver hitch on the rear of the apparatus. The receiver shall be mounted off set as to prevent towing use.

REAR BUSTLE

A single, frame mounted, 3-inch X 4-inch diameter, rear towing eye shall be provided. It shall be manufactured from ¾-inch thick steel plate and bolted between the rear frame rail webs with a minimum of eight (8), four (4) on each side, SAE Grade 8 frame bolts and lock nuts.

The tow eye shall be braced and gusseted to prevent damage to the frame rails, bumper or apparatus body while being towed from various angles. Access to the tow eye shall be below the bumper and designed not to interfere with the required angle of departure. The bustle shall be painted job color.

FRONT FRAME EXTENSION

The front frame rails shall be extended 16” ahead of the cab grill or fender area.

BUMPER PLATFORM

The front bumper extended frame rails shall feature an overlay constructed of .125 inch, 5052 grade, aluminum embossed diamond plate which shall offer space for mounting components necessary to the apparatus. The bumper extension shall measure approximately sixteen (16) inches from the cab to the front face of the extension and shall be approximately eight (8) inches in height.

BUMPER

There shall be an International 15 degree bumper installed on the apparatus.

FRONT BUMPER COLOR

The front bumper shall be painted job color.

BUMPER SIDE WINGS

The bumper shall have steel side wings.

FRONT BUMPER WINGS COLOR

The front bumper wings shall be painted job color.

REPLACEMENT FRONT BUMPER

The front bumper on the Freightliner shall be replaced with an International front bumper.

DRIVERS SIDE -- FRONT BUMPER COMPARTMENT

One (1) recessed hose storage compartment shall be installed in the drivers side of the bumper. The compartment shall be constructed of smooth aluminum. The floor of the compartment shall have drain holes provided.

BUMPER COMPARTMENT NYLON HOLD DOWN STRAP

One (1) nylon strap with a buckle shall be installed on the specified front bumper compartment. The nylon strap shall act as a hold down mechanism for the hose in the compartment.

The straps shall be black in color.

BUMPER COMPARTMENT GRATING

The specified bumper compartment shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

CENTER -- FRONT BUMPER COMPARTMENT

One (1) recessed hose storage compartment shall be installed in the center front bumper. The compartment shall be constructed of smooth aluminum. The floor of the compartment shall have drain holes provided.

BUMPER COMPARTMENT DOOR

An aluminum tread plate door shall be installed on the specified front bumper compartment. The non-skid surface door shall have a stainless steel hinge at the rear, latch, and hold open device installed.

The specified door(s) shall have a Polished stainless-steel D-ring door handle.

BUMPER COMPARTMENT GRATING

The specified bumper compartment shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

PASSENGER SIDE -- FRONT BUMPER COMPARTMENT

One (1) recessed hose storage compartment shall be installed in the passenger side of the bumper. The compartment shall be constructed from smooth aluminum. The floor of the compartment shall have drain holes provided.

BUMPER COMPARTMENT NYLON HOLD DOWN STRAP

One (1) nylon strap with a buckle shall be installed on the specified front bumper compartment. The nylon strap shall act as a hold down mechanism for the hose in the compartment.

The straps shall be black in color.

BUMPER COMPARTMENT GRATING

The specified bumper compartment shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

BUMPER DISCHARGE SWIVEL STOPPER

There shall be a swivel elbow stopper installed just behind the front discharge(s).

AIR HORN

One (1) Buell brand, Model #1063 15" air horn shall be provided and mounted on the frame rail of the passenger's side frame, behind the bumper.

AIR HORN FOOT SWITCH

One (1) foot switch shall be provided and installed. The foot switch shall be located on the driver's side of the floor and shall activate the air horn system.

AIR HORN PUSH BUTTON SWITCH

One (1) push button switch shall be provided on the pump panel. The switch shall activate the air horn system.

EXHAUST SYSTEM MODIFICATION

The chassis exhaust system shall be modified to exit on the passenger side of the apparatus ahead of the rear wheel.

EXHAUST HEAT WRAP

The exhaust pipe shall be wrapped with heat wrap from the diesel particulate filter to just shy of the end of the tailpipe.

BUMPER BOX PROTECTIVE FLAP

The protective flap shall be a cut down mud flap installed on the rear edge of the front bumper to eliminate debris from being deposited on the top of the front bumper and in the hose boxes.

REAR MUD FLAPS

The chassis shall be supplied with mud flaps with BME's logo. The mud flaps shall be installed behind the rear wheels.

DRIVER SIDE CAB STEP

The apparatus shall be equipped with a chassis fuel tank and step area. The fuel tank and step area shall be located on the drivers side of the commercial chassis. The fuel tank shall be covered with aluminum tread plate.

DRIVER'S SIDE UNDER CAB COMPARTMENT

The apparatus shall be equipped with an enclosed stainless steel compartment located under the crew door on the drivers side of the cab. The compartments clear door opening shall measure approximately 32" wide x 12.5" high x 19.25" deep with a hinged aluminum door and a D-ring style latch.

The doors shall be painted job color.

BRASS BOX SLIDE TRAY

The left under cab compartment shall have these additional items installed, a 10-gauge reinforced plain anodized aluminum sliding drawer-type tray with a 4-inch vertical flange on all sides to be utilized for the storage of nozzles and adapters.

The tray shall utilize the maximum available space within this compartment and have extra heavy duty 500 pound lock-in/lock-out roller glides with stops to prevent it from sliding all the way out and to hold it securely in place when the compartment door is opened or closed.

The brass box tray shall feature adjustable 16 section slotted 4-inch high "egg-crate" divider designed for vertical storage of various nozzles and adapters.

COMPARTMENT LIGHTING

One (1) Code 3 800 Series Corner LED lights shall be installed in the specified compartment(s).

COMPARTMENT LIGHT SWITCHES

Each interior compartment light shall be automatically controlled by a door activated "On-Off" switch.

PASSENGER'S SIDE UNDER CAB COMPARTMENT

The apparatus shall be equipped with an enclosed stainless steel compartment located under the crew door on the passenger side of the cab. The compartments clear door opening shall measure approximately 35" wide x 12.5" high x 15.25" deep with double hinged aluminum doors.
The doors shall be painted job color.

SLIDE TRAY

A 250# capacity slide tray shall be installed in the specified under cab compartment.

COMPARTMENT LIGHTING

One (1) Code 3 800 Series Corner LED lights shall be installed in the specified compartment(s).

COMPARTMENT LIGHT SWITCHES

Each interior compartment light shall be automatically controlled by a door activated "On-Off" switch.

CAB STEPS

Aggressive, extruded aluminum surfaces shall be installed on each of the cab steps areas.

CAB DOOR REFLECTIVE PANELS

The cab doors shall include reflective trim installed inside each door.

Specified part shall include Red and White DOT approved reflective striping.

CAB SEATING

The apparatus shall be equipped with four (4) Bostrom Sentinel Air-100 EXT HBLX air ride seats. The seat(s) shall feature left and right arm rest, seat occupancy sensor, and a embroidered BME logo on the head rest.

The specified seat(s) covers shall be dark grey vinyl.

AIR HOSE OUTLET

There shall be one (1) female quick connect air outlet provided and installed. The quick connect fitting shall provide connection to a utility air hose and shall be located on the drivers side pump operator's panel. There shall be a shut off located at the tank.

AIR TANK RELOCATION

The air tanks shall be relocated to the rear of the truck between the frame rails.

BATTERY RELOCATION

The chassis batteries are to be relocated to the passenger side of the chassis, below the rear cab door in a custom made under cab box.

UNDERHOOD LIGHTS

There shall be two (2) Tecniq LED light(s) installed under the hood of the chassis. Lights shall have local switching on the driver side under the hood.

AIR FILTER EMBER PROTECTION SCREEN AND WARNING LABEL

The chassis air intake shall be protected by an ember guard of 18 Mesh, 0.017-inch wire diameter, and a maximum mesh opening of 0.039 inches. The ember guard shall be sized to fit and located at the intake opening. The screen shall be readily accessible for inspection and maintenance. The ember guard shall maintain a minimum ½ inch separation from the air filter.

EMBER SEPARATOR -- FRESH AIR INTAKE TO CAB

The cabin air filter shall be protected by an ember guard with a maximum mesh opening of 0.039 inches.

EMBER SEPARATOR

The final stage manufacturer shall install a stainless steel ember separator within the auxiliary fire pump engine air intake system.

FUEL TANK SKID PLATE

A heavy duty removable skid plate shall be fastened to the bottom side of the fuel tank. The skid plate shall have the front and rear sides turned up to prevent digging into the ground when the apparatus is in off road conditions.

EXTERIOR CAB TRIM

A rubber debris skirt will be installed to prevent debris and embers from entering between the cab and frame. The debris skirt will be attached with a 12 gauge stainless steel trim piece the full length along the lower cab seam below the cab doors. The trim shall be fastened to the body seam with evenly spaced 10/32 stainless steel Phillips head machine screws and nylock nuts.

AIR, FUEL, ELECTRICAL LINE PROTECTION

All air lines, fuel lines and electrical harnesses below the chassis frame rails shall be protected with fire resistive sleeves.

FUEL TANK VENTING

The O.E.M fuel tank vent line shall be extended from the fuel tank and vented to the atmosphere. The vent line shall extend vertically from the tank to the bottom of the cab rear window and then bend 180 degrees towards the ground. A vent plug orifice (#60 drill size) shall be installed into the upper end of each line. No fuel tank roll over protection check valves shall be removed from the fuel system. Any chassis fuel system modifications shall be fully compliant CARB regulations, CVC and FMVSS.

All fuel vent lines shall be copper, steel, or Aeroquip hose, and shall be loomed, “grommeted”, and firmly clamped in position to prevent chafing or damage and all synflex fuel hoses shall be wrapped with fire wrap lagging capable of withstanding temperatures in excess of 250°C.

The fuel tanks and lines shall be protected as necessary from exhaust heat through the use of heat shields or baffles. Use only metal fasteners, coated or insulated for maximum fuel line protection.

TIRE PRESSURE INDICATOR SYSTEM

There shall be a tire pressure indicator at each tire's valve stem on the vehicle that shall indicate if there is insufficient pressure in the specific tire.

WATEROUS PUMP CPK-3 500GPM 2-STAGE

The CPK-3 is a compact two-stage pump with “pump and roll” capability making it ideal for extinguishing grass and brush fires. Equipped with a K-Series, gear-driven transmission designed for use with a side-mounted PTO. Has the following features:

High tensile, close-grained gray iron casing (bronze/gunmetal optional), one-piece volute body

Bronze double-hubbed, precision-balanced impellers

Separable impeller shaft for ease of serviceability

Push-pull manual bronze transfer valve

Available in either rotation of input shaft

4-inch (101.4mm) NPT tee adapter intake; two 2-inch (50mm) or 2.5-inch (64mm)

NPT tee adapter (or 2.5-inch (64mm) tapped flange) discharge

K Transmission consists of a close-grained, gray iron casing with constant-mesh, stainless steel helical gears.

PRIMING SYSTEM

A Waterous model #VPOS electrically driven, positive displacement, rotary vane type 'oil less' priming pump shall be installed. The pump shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds with the pump dry, through 20 feet of suction hose of appropriate size. It shall be capable of developing a vacuum of 22" at an altitude of up to 1000 feet. The system shall be activated with a push button switch.

PRIMING VALVE

A Waterous model #82507-2T VAP priming valve shall be installed on the apparatus.

PTO PUMP SHIFT SPECIFICATIONS - PUMP AND ROLL

An electric powered PTO pump shift shall be installed in the cab driver's area where not subject to accidental engagement. The pump shift system shall permit "PUMP AND ROLL" operations, as well as stationary pumping operations.

The following indicator lights shall be included with pump shift.

1. An amber indicator light, labeled "PUMP ENGAGED" shall indicate pump shift has successfully been completed.
2. A green indicator light, labeled "OK TO PUMP" shall indicate the chassis transmission is in the proper gear and the parking brake is engaged.
3. A green indicator light, labeled "OK TO PUMP AND ROLL" shall indicate the parking brake is released and the chassis transmission is in the proper gear to pump and roll.
4. Pump shift and interlocks shall comply with applicable sections of NFPA standards.
5. The pump shift shall have an instruction label and nameplate to indicate proper pump shift instructions.

RELIEF VALVE

The power-take-off fire pump system shall be equipped with an adjustable relief valve. The relief valve shall be positive and quick acting and have instantaneous "ON/OFF" control. The unit shall meet applicable sections of NFPA standards for pressure control device. The control for adjusting pressure shall be elliptical shaped for positive grip. An easily removable pilot valve strainer shall be provided and shall be accessible from the pump operator's panel. Two (2) indicator lights shall be furnished to show position of the relief valve - "OPEN" or "CLOSED".

MECHANICAL SHAFT SEAL

The Waterous pump shall be equipped with self-adjusting, maintenance free, 'mechanical shaft seal' which is designed to be functional in the unlikely event of a seal failure.

FIRE PUMP TEST

The fire pump shall undergo factory fire pump tests for a minimum of 30 minutes of continuous pump at rated capacity at rated net pump pressure prior to delivery of the completed apparatus. the complete pump test shall include a pressure control test, a priming system test, a vacuum test and a water tank to pump flow test. The factory pump testing results shall be furnished on delivery.

FIRE PUMP PTO AND DRIVELINES

A "Hot Shift" power-take-off shall be installed on the transmission PTO opening with the controls located in the chassis cab, with an AMBER warning light to note engagement. The drive shaft and universals shall be sized for intended usage and pump rating.

INTAKE DUMP VALVE

An Waterous brand intake dump valve shall be provided and mounted on the suction side of the pump. The discharge piping of the dump valve shall be a minimum of 2-1/2" diameter and shall terminate with a 2-1/2" male NST adapter. The excess water shall be discharged to the ground. A label shall be provided indicating: "DUMP VALVE DISCHARGE, DO NOT CAP".

BYPASS FIRE PUMP COOLER

The fire pump shall be equipped with 3/8" cooling line from the pump to the water tank. This re-circulation line shall be controlled by a pump panel control valve with nameplate label noting it as the "fire pump bypass cooler".

THERMAL PUMP COOLER

The fire pump shall be equipped with an overheat protection device which monitors the temperature of the water inside the pump and relieves water when the temperature inside the pump exceeds 140 degrees Fahrenheit. The Waterous Model #OPM shall also have an warning light on the pump panel to provide additional protection in the event the temperature inside the pump continues to rise with the overheat protection valve open. The warning light and test button shall be mounted to a heavy polished casting that is mounted to the pump operator's panel.

MASTER PUMP DRAIN

One (1) Trident, multiple-port drain valve, fabricated from bronze, shall be provided and controlled at the pump operator’s control panel. The valve shall be opened by turning a rotary hand wheel. The valve shall be plumbed to drain both the discharge and intake sides of the pump, the relief valve and other plumbing components as required.

The valve shall be placed as low as possible to provide proper drainage of the components plumbed to it. The valve shall be rated to 600 PSI minimum and suitable for daily valve actuation.

MAIN PUMP PLUMBING

The PTO main pump plumbing system shall utilize stainless steel piping incorporating hosing to allow for flex. The piping shall utilize TIG welding to provide a complete seal. Hard angles shall be avoided when possible to improve water flow characteristics. The piping shall utilize Victaulic couplers whenever possible to allow flex as the body module flexes.

Threaded sections of piping shall be avoided to reduce the leak potential of the system. Victaulic couplers shall be used in place of threading to reduce leak potential. Schedule 10 stainless steel piping shall be used for transport type piping. Schedule 40 stainless steel shall be used for areas requiring threading to provide a stable threading base. Brackets shall be installed to support threading locations thereby reducing the potential for leaks.

All hoses shall be connected directly to the tank due to the different flex ratios of the tank to body. Any front discharges, any rear discharges, and all cross lays shall use hose to reach the actual discharge. The use of hose shall be utilized due to the difference in flex or movement between the discharge location and the pump connection. Drain lines shall be provided at the lowest points in the plumbing system to allow for complete drainage. Bleeders shall be provided for all gauges to relieve pressure after use.

FIRE PUMP

A Waterous Model E511-C auxiliary pump rated by the manufacturer to meet 50 GPM @ 190 PSI and 275 GPM @ 50 PSI. shall be furnished and mounted on the apparatus

The pump shall include the following components:

- Spring loaded, silicone carbide Mechanical Pump Seal.
- Bronze Alloy Impeller double hubbed to balance hydraulic thrust, mechanically balanced to eliminate vibration.
- Renewable type, solid Bronze Impeller Wear Ring.
- Precision-ground Stainless Steel Pump Shaft.
- Deep Groove Radial-Type Ball Bearings for pump shaft.
- High-strength aluminum alloy pump casing anodized for superior corrosion resistance.
- Kubota, D902-E3B, 3-cylinder diesel powered engine, water-cooled engine with radiator.
- Pressure feed oil lubrication system with spin-on oil filter.
- Packaged push button contol module .
- 12-volt electric start.

AUXILIARY PUMP CONTROL PANELS

There shall be two (2) Waterous auxiliary deluxe panel controllers, one (1) shall be located in the cab console and one (1) shall be located on the pump panel.

PRIMING VALVE

A Waterous model #82507-2T VAP priming valve shall be installed on the apparatus.

PRIMING VALVE

Both main and auxiliary pumps shall share a single primer.

PUMP PERFORMANCE TEST AND CERTIFICATION

Upon completion, the apparatus shall undergo a complete pumping test that conforms to the requirements of NFPA Standard 1906 (latest edition) for the size and type of pump provided. The test shall consist of a continuous one-half hour test pumping at rated capacity and rated net pump pressure, a vacuum test of the primer system and plumbing, a tank discharge flow test and a pressure test of the apparatus piping.

The chassis engine and transmission, the pump and other components of the apparatus shall show no undue heating, leaks, or other defect. The results of the test shall be documented to establish the performance of the apparatus and to further insure that the unit shall perform satisfactorily when placed into service. The test results shall be certified in writing, with the certification provided to the purchaser for their records at the time of delivery of the completed apparatus.

AUXILIARY PUMP PLUMBING

The auxiliary fire pump plumbing system shall utilize stainless steel piping incorporating hosing to allow for flex. The piping shall utilize TIG welding to provide a complete seal. Hard angles shall be avoided when possible to improve water flow characteristics. The piping shall utilize Victaulic couplers whenever possible to allow flex as the body module flexes.

Threaded sections of piping shall be avoided to reduce the leak potential of the system. Victaulic couplers shall be used in place of threading to reduce leak potential. Schedule 10 stainless steel piping shall be used for transport type piping. Schedule 40 stainless steel shall be used for areas requiring threading to provide a stable threading base. Brackets shall be installed to support threading locations thereby reducing the potential for leaks.

All hoses shall be connected directly to the tank due to the different flex ratios of the tank to body. Any front discharges, any rear discharges, and all cross lays shall use hose to reach the actual discharge. The use of hose shall be utilized due to the difference in flex or movement between the discharge location and the pump connection.

The plumbing shall be unpainted.

AUXILIARY FUEL SYSTEM

The fuel system for the auxiliary fire pump shall be plumbed to the chassis fuel system. There shall be a separate fuel pickup tube mounted in the chassis fuel tank specifically for a separate engine driven pump assembly. There shall be an electric fuel pump with regulator and fuel hose furnished between the chassis fuel tank and the auxiliary pump.

AUXILIARY FIRE PUMP ELECTRIC START WIRING TO CHASSIS

Properly sized 12 volt positive and negative cables shall be provided from the chassis battery to the auxiliary fire pump.

AUXILIARY AND MAIN PUMP PLUMBING

The auxiliary fire pump shall be plumbed to the main pump discharge.

4" UNGATED INTAKE -- LEFT SIDE

One (1) 4" un-gated suction intake shall be installed on the left side pump panel to supply the fire pump from an external water supply. The threads shall be 4" NH male and equipped with a removable screen.

One (1) chrome brass 4" NH rocker lug cap with a securing chain or cable shall be installed on the intake.

2-1/2” GATED INTAKE -- LEFT SIDE

One (1) 2-1/2" gated suction intake shall be recessed mounted on the left side pump panel to supply the fire pump from an external water supply. The valve shall be a quarter-turn ball valve with the appropriate handle and shall have 2-1/2" NH female thread.

The intake shall be equipped with a South Park Corp. 3/4" Push-pull type drain valve mounted to the bottom of the valve.

One (1) Akron 8825 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

One (1) chrome brass 2-1/2" NH rocker lug plug with a securing chain or cable shall be installed on the intake.

2-1/2” GATED INTAKE -- RIGHT SIDE

One (1) 2-1/2" gated suction intake shall be recess mounted on the right side pump panel to supply the fire pump from an external water supply. The valve shall be a quarter-turn ball valve with the appropriate handle and shall have 2-1/2" NH female thread.

The intake shall be equipped with a South Park Corp. 3/4" Push-pull type drain valve mounted to the bottom of the valve.

One (1) Akron 8825 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

One (1) chrome brass 2-1/2" NH rocker lug plug with a securing chain or cable shall be installed on the intake.

WATER TANK SUPPLY LINE TO FIRE PUMP

A 3" water tank to pump line shall be installed, with a 3" full flow quarter turn ball valve and 3" piping. The line shall be equipped with a hump hose with stainless steel hose clamps and a 3" check valve to prevent pressurization of the water tank.

One (1) Akron 8830 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated 'local' control, Akron Model R1 valve handle.

The 3" valve shall be equipped with an air operated cylinder and control actuator installed on pump panel.

PUMP TO TANK

There shall be a pump to tank line provided from the discharge side of the pumps and plumbed to the top of the tank. The plumbing shall be 2-inch with a 2-inch Akron 8800 series ¼-turn full flow ball valve, and shall be controlled at the left pump panel by a push/pull T-handle and linkage. The pump to tank shall be plumbed to flow water from both the main and auxiliary pumps

One (1) Akron 8820 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated 'local' control, Akron Model R1 valve handle.

The valve shall be equipped with a Thuemling manually operated pull rod, with quarter-turn locking feature.

2-1/2" DISCHARGE LEFT SIDE -- FORWARD PUMP PANEL

One (1) 2-1/2" discharge shall be installed on the left side forward pump panel area controlled by a quarter turn ball valve with the appropriate handle. The discharge shall have 2-1/2" NH male hose threads, bleeder valve, and chrome brass cap, with a label adjacent the control handle.

A Class 1 quarter-turn 3/4" drain and bleeder valve shall be installed on the discharge valve.

One (1) Akron 8825 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated 'local' control Akron Model TSC valve handle.

One (1) chrome brass 2.5" NH rocker lug cap with a securing chain or cable shall be installed on the discharge.

LINE PRESSURE GAUGE

There shall be one (1) 2.5” diameter -30-0-600 PSI pressure gauge internally lit.

The specified gauge shall feature a drain located at the gauge inlet to help prevent freezing. The drain shall be a twist open and close type.

Gauge(s) shall include internal, back-lit 12 volt lighting. Replaceable, White, LED bulb in a water-resistant holder.

Gauge(s) shall be supplied with a white dial face with black lettering and black gauge marks.

Gauge bezel shall be Chrome in color.

2.5" DISCHARGE -- REAR LEFT

One (1) 2.5" discharge shall be installed on the rear left panel with controlled by a quarter turn ball valve. The discharge shall have 2.5" NH male hose threads and nameplate label adjacent the control handle.

One (1) Akron 8825 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

(1) chrome plated brass 30 degree elbow with 2.5" swivel female NH x 2.5" male NH thread with rocker lugs shall be provided on the discharge.

One (1) chrome brass 2.5" NH rocker lug cap with a securing chain or cable shall be installed on the discharge.

2” DISCHARGE -- REAR RIGHT

One (1) 2" discharge shall be installed on the rear right panel, controlled by a quarter turn ball valve on pump panel. The discharge shall have 2" NPT x 1-1/2" NH male hose threads and nameplate label adjacent the valve control handle.

One (1) Akron 8820 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

One (1) chrome plated brass reducing adapter with a 2" female NH x 1.5" male NH thread with rocker lugs shall be provided on the discharge.

One (1) chrome plated brass 30 degree elbow with 1.5" swivel female NH x 1.5" male NH thread with rocker lugs shall be provided on the discharge.

One (1) chrome plated brass 1.5" NH rocker lug cap with a securing chain or cable shall be installed on the discharge.

1-1/2" CROSSLAY DISCHARGES

Two (2) pre-connected 1-1/2" hose cross lays shall be installed over pump enclosure. One (1) each side. They shall be arranged in a single stack design with a divider in the center of the storage area. Each storage area shall extend from the side of the pump house to the center of the pump house. The dimensions shall be approximately 4-1/2" wide x 36" deep x 32" tall.

Two (2) Akron 8820 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated 'local' control Akron Model TSC valve handle.

The crosslay hosebed shall be equipped with an aluminum diamond plate hinged cover and vinyl end flap enclosures on each side, installed in compliance with applicable NFPA #1900 standards. The cover shall be equipped with rubber bumpers and lift up handle on each end of the cover.

The specified crosslay flaps shall be red.

CROSSLAY EDGES

The crosslay side sheets shall be rolled on each side to act as a guide for the hose to come out of the tray.

Two (2) chrome plated brass reducing adapter with a 2" female NH x 1.5" male NH thread with rocker lugs shall be provided on the discharge.

Two (2) chrome plated brass 1.5" NH rocker lug cap with a securing chain or cable shall be installed on the discharge.

1-1/2" BUMPER AREA DISCHARGE (LEFT SIDE)

One (1) 2" discharge shall be provided at the driver's side of the front bumper extension. The discharge shall be plumbed with 2" flexible high pressure hose with reusable fittings or welded stainless steel pipe. The front bumper discharge shall be equipped with a 2" quarter turn ball valve. The discharge shall have a 90 degree full swivel elbow, terminating in 1-1/2" NST male threads, to allow the hose to be pulled in any direction without kinking.

One (1) Akron 8820 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum

environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

One (1) chrome plated brass 1.5" NH rocker lug cap with a securing chain or cable shall be installed on the discharge.

1-1/2" BUMPER AREA DISCHARGE (RIGHT SIDE)

One (1) 2" discharge, shall be provided at the passenger’s side of the front bumper extension. The discharge shall be plumbed with 2" flexible high pressure hose with reusable fittings or welded stainless steel pipe. The front bumper discharge shall be equipped with a 2" quarter turn ball valve. The discharge shall have a 90 degree full swivel elbow, terminating in 1-1/2" NST male threads, to allow the hose to be pulled in any direction without kinking.

One (1) Akron 8820 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

One (1) chrome plated brass 1.5" NH rocker lug cap with a securing chain or cable shall be installed on the discharge.

2” ISOLATION VALVE

One (1) 2" inline valve, labeled, shall be provided to isolate the front bumper extension discharge piping in the case of a hose or piping failure. This valve shall normally be left in the open position. Control for this valve shall be through the use of a R1 handle, painted red, located at the valve.

One (1) Akron 8820 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control, Akron Model R1 valve handle.

HOSE REEL

There shall be one (1) Hannay aluminum hose reel(s) Model #SBSEPF17-28-29-RT shall be installed. The reel shall have leak proof ball bearing swing joint, adjustable friction brake, electric 12 volt rewind and manual crank rewind provisions. The reel shall be plumbed with wire reinforced, high-pressure hose coupled with brass fittings. The reel shall be designed to hold 125% of the specified hose capacity.

The reel shall be provided with a 12 volt electric motor of appropriate size for rewinding. The hose reel shall have provisions for being rewound manually. The pinion shaft for the manual rewind gear shall be equipped with an adjustable tension brake, controlled at the hose reel.

One (1) Akron 8810 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated 'local' control Akron Model TSC valve handle.

HOSE REEL MOUNTING

The hose reel shall be mounted over the pump enclosure.

Two (2) Cole Hersee #M-608 push button hose reel rewind controls shall be installed supplied and installed to rewind the hose reel. One (1) button shall be installed on the left pump panel and one (1) button shall be installed on the right panel.

HOSE REEL ROLLERS

The hose reel shall include one horizontal and two vertical chrome fairlead rollers. Two (2) additional sets of fair lead rollers shall be located on the auxiliary pump cover for guiding the hose across the top of the apparatus.

FOAM SYSTEM

A FoamPro electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a control module suitable for installation on the pump panel. There shall be a microprocessor incorporated within the motor driver that shall receive input from the system's flowmeter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump. A "foam capable" paddlewheel-type flowmeter shall be installed in the discharge side of the piping system.

The control module shall enable the pump operator to:

- Activate the foam proportioning system
- Select the proportioning rates from 0.1% to 1.0%
- See a "low concentrate" warning light flash when the foam tank level becomes low and in two (2) minutes, if the foam concentrate has not been added to the tank, the foam concentrate pump shall be capable of shutting down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity range shall be 0.1 to 1.7 GPM (6.4L/min) at 200 PSI (13.8 BAR) with a maximum operating pressure up to 400 PSI

(27.6 BAR). The system shall draw a maximum of 30 amps at 12 volts. The motor shall be controlled by the microprocessor which shall be mounted to the base of the pump. It receives signals from the control module and power the 1/3 horsepower (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

A full flow check valve shall be provided in the discharge piping to prevent foam contamination of the fire pump and water tank. A 5 PSI (.35 BAR) opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

- Operator control module
- Paddlewheel flowmeter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch
- Foam tank
- Foam injection check valve
- Main waterway check valve
- Flowmeter and tee with 2" male NPT threads.

The foam system shall be installed and calibrated to manufacturer's requirements. In addition the system shall be tested and certified by the apparatus manufacturer to applicable NFPA standards.

The foam system design shall be tested and pass environmental testing in accordance to SAE standards.

An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

The FoamPro 1600 Series foam system shall be provided with a control cable from the controller to the foam pump assembly.

The FoamPro 1600 Series foam system shall be provided with a standard pump panel mounted FoamPro control head.

A FoamPro brass flowmeter shall be provided. The flowmeter shall be installed in the "foam capable" discharge line. The flowmeter shall have maximum accuracy between the flow range of 15 GPM and 520 GPM and be capable of operation between 5 GPM to 625 GPM. The tee shall have NPT and Victaulic inlet and outlets connections.

A FoamPro instruction and system rating label shall be provided. The label shall display information for a FoamPro 1600 Series foam system and shall meet applicable sections of the NFPA standards.

A FoamPro foam system schematic label shall be installed on the pump panel near foam controls. The label shall be a diagram of the FoamPro 1600 series foam system layout and shall meet applicable sections of the NFPA standards.

FOAM SYSTEM OUTLETS

The following discharges shall have foam distributed to them.

Front bumper discharges
Front bumper monitor (if applicable)
Pump house crosslay pre connects
Booster hose reel
Rear 1-1/2" discharge

FOAM SYSTEM CAB CONTROL

A FoamPro on-off control switch shall be installed in the cab console.

FOAM UPLOAD SYSTEM

There shall be a Hale EZ Foam upfill system supplied and installed on the apparatus.

PUMP MODULE ENCLOSURE

The PTO fire pump enclosure shall be a separate unit from the body unit and shall be attached and supported at the chassis frame rails. This module shall allow for independent flexing of the pump enclosure from the body, chassis, and tank, and shall permit quick removal. The module shall have Polypro mounting pads and shall be attached to the frame rails. The pump module shall also house the auxiliary pump and hose reel mounted up above the plumbing. The bolt-on pump enclosure support structure shall be constructed of steel tubing.

The pump enclosure shall be approximately 27" front to rear, 72" right to left, and 60" high.

The top portion above the pump panel (operators side), and above the pump house compartment (right hand side) shall have an stainless steel overlay. The overlay shall contour around the front and rear of the pump module approx 3" and extend down the outer edges of the module on both sides left and right to the bottom of the module. On the front of the pump house module there shall be an ALDP overlay that extends from left to right along the top approx 8" tall.

There shall be polished stainless steel bezels around panel mounted discharge and intake valves, they will be removable for ease of service.

AUXILIARY PUMP COVER

A louvered hinged cover with suitable latches shall be provided over the pump and power unit assembly. The area around the assembly shall remain open for maintenance and air circulation and the radiator shall be located behind ventilated side sheet.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

PUMP ENCLOSURE RUNNING BOARD

Both the drivers and passenger side shall be equipped with a side running board a minimum of 12" deep. The running board shall extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab. The exterior edge of the running board shall be constructed of a non-slip aggressive surface, supported by the pump enclosure framework, and bolted in place with stainless steel fasteners.

PUMP ACCESS SERVICE DOOR -- UPPER LEFT SIDE

The upper left side of the side mount pump enclosure shall be provided with a pump service access door. The hinged door shall be constructed of stainless steel powder coated satin black, with push button type lever latches for service access.

PUMP PANELS

The pump panels shall be constructed of stainless steel, bolted to the pump enclosure with stainless steel fasteners. The operators side pump panel shall be powdercoated satin black, while the right side panel shall be brushed stainless steel.

MASTER PUMP DISCHARGE AND INTAKE GAUGES

MASTER INTAKE PRESSURE GAUGE

One (1) master intake pressure gauge shall be provided on the operator's panel. The gauge shall be a Span brand, or equivalent, 30-0-150 PSI graduated, with a minimum diameter of 4-1/2", backlit for nighttime operations and silicone liquid filled to prevent condensation inside the gauge and to dampen the movement.

The gauge housing shall be constructed of Zytel nylon with a 1/4" NPT brass male fitting centrally located on the rear of the housing. The gauge shall be filled with low-temperature liquid with an operating range of -40 to +150 degrees Fahrenheit, which prevents bouncing of the readout needle and provides for an accuracy rating of 3% or 1" hg on the vacuum side and 5% or 15 PSI on the pressure side of the gauge.

The specified gauge shall feature a drain located at the gauge inlet to help prevent freezing. The drain shall be a twist open and close type.

Gauge(s) shall include internal, back-lit 12 volt lighting. Replaceable, White, LED bulb in a water-resistant holder.

Gauge(s) shall be supplied with a white dial face with black lettering and black gauge marks.

Gauge bezel shall be Chrome in color.

MASTER DISCHARGE PRESSURE GAUGE

One (1) master discharge pressure gauge shall be provided on the operator's panel. The gauge shall be a Span brand, or equivalent, 0-600 PSI graduated, with a minimum diameter of 4-1/2", backlit for nighttime operations and silicone liquid filled to prevent condensation inside the gauge and to dampen the movement.

The gauge housing shall be constructed of Zytel nylon with a 1/4" NPT brass male fitting centrally located on the rear of the housing. The gauge shall be filled with low-temperature liquid with an operating range of -40 to +150 degrees Fahrenheit, which prevents bouncing of the readout needle and provides for an accuracy rating of 5% or 15 PSI on the pressure side of the gauge.

Gauge(s) shall include internal, back-lit 12 volt lighting. Replaceable, White, LED bulb in a water-resistant holder.

Gauge(s) shall be supplied with a white dial face with black lettering and black gauge marks.

Gauge bezel shall be Chrome in color.

TEST TAPS

Test taps for pump intake and pump pressure with name plate labels shall be provided on the pump instrument panel.

PRESSURE GOVERNOR and ENGINE MONITORING DISPLAY

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.

WATER TANK GAUGE

One (1) Fire Research TankVision model WLA300-A00-S20 tank gauge shall be installed on the pump panel. The water tank indicator 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 LEDs.

The specified level gauge shall be active anytime the chassis battery switch is turned on.

WATER TANK GAUGE

One (1) Fire Research TankVision model WLA300-A00-S20 tank gauge shall be installed on the cab console. The water tank indicator 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 LEDs. The gauge shall be powered when the parking brake is released and the aux pump is engaged.

WATER TANK VOLUME REMOTE INDICATOR

Two (2) Fire Research TankVision model WLA280-A00 tank remote indicator shall be installed. The indicator shall show the volume of water in the tank on Ninety six (96) easy to see super bright Tri-color LEDs. The indicator case shall be waterproof, manufactured of Polycarbonate material with an integrated lens. The package includes a rubber gasket.

The remote indicator shall receive input information over a datalink from a Fire Research TankVision primary indicator model WLA200-A00, WLA300-A00 or WLA400-A00. The remote indicator shall indicate the level as a single color in Red for 25% or less, Amber color for up to 50% volume, Blue color for up to 75% volume and Green color for up to 100% volume. When the level reaches 25%, the red LEDs will begin flashing. When the level is empty, the red LEDs will scroll in a down-chasing motion and then flash three times. It shall have the program capability to adjust the brightness level for day time and nighttime viewing.

The specified level gauge shall be active anytime the chassis battery switch is turned on.

CLASS A FOAM TANK GAUGE

One (1) Fire Research brand, Model WLA360-A00 tank level gauge shall be provided on the pump operator's panel to monitor the foam concentrate storage tank level. The gauge shall indicate the foam concentrate storage tank liquid level on an LED bar graph display.

The specified level gauge shall be active anytime the chassis battery switch is turned on.

NOMENCLATURE PLATES

The apparatus shall be equipped with color coded labels. The labels shall be furnished for discharges, intakes, and for other controls and indicators. All labels shall be in English format.

MIDSHIP PUMP PANEL LIGHTS -- DRIVERS SIDE

There shall be three Tecniq brand LED lights installed under a stainless steel light shield mounted above the pump panel. The two outer lights shall be operated by a panel mounted switch, while the middle light will only be activated upon pump engagement.

One (1) of the pump panel lights shall illuminate at the time the fire pump is engaged.

MIDSHIP PUMP PANEL LIGHTS -- PASSENGER SIDE

There shall be one Tecniq brand LED light installed under a stainless steel light shield mounted above the pump panel. The light shall activate upon pump engagement.

PUMP ENCLOSURE WORK LIGHTS

Two (2) LED work lights shall be installed in the pump enclosure. The work lights shall have clear lenses and shall have a control switch.

DESIGN AND SCOPE OF WILDLAND BODY

The body shall be designed and constructed of commonly available structural components for ease of repair and maintenance. The body shall be of a modular design with the body structure independent of the chassis frame rails. The body module shall be mounted to the chassis frame rails utilizing a unique double spring mounting system for flexibility and durability over the lifetime of the apparatus. The fabrication of the body shall be of welded construction to withstand the rigors of fire service use.

The body shall be designed to incorporate and support the tank, hose bed, compartments, and all other equipment intended to be stored in or mounted to the body module. The body skeleton and compartment framework shall be designed of tubular members for increased strength and stress resistance. There shall be no sheet metal or extrusions utilized in the foundation or structural components of the body module due to their critical role in assuring lifetime durability, functionality and usability.

BODY FRAMEWORK

The entire body framework shall be fabricated from steel tubing. The body framework shall be a completely welded unit, forming a connected, stable frame for strength, longevity and providing the skeleton of the body module. The internal upright members of the framework shall act as support for the top layer of the body module. The external upright members shall act as an exoskeleton providing form and support for compartments while acting as the external surfaces of the module. The framework shall define the compartment openings and provide a rigid mounting location for all compartments and doors.

The foundation cross-members shall be placed perpendicular to the chassis frame rails in the wheel well area extending the full width of the body and shall be constructed of 3 inch high x 2 inch wide x .25 inch tubing. The foundation members parallel to the chassis frame rails shall be constructed of 3 inch square x .25 inch tubing and shall connect the foundation cross members and extend the full length of the body.

All tank support cross members shall be placed to support the water tank as per the tank manufacture's recommendation. These supports shall be constructed of 3 inch high x 2 inch wide x .25inch steel tubing. The tank support angles shall be constructed of 4 inch x 4 inch x .25 inch thick angles and shall be placed at the tank sides parallel to the chassis frame rails to provide lateral support for the tank and protection from debris from the wheels.

The internal upright supports for top layer components shall be placed to provide support for all components located on the top layer of the body module and shall be constructed of steel tubing measuring 2 inch square x .25 inch wall thickness. All front to rear connecting members shall be 3 inches high x 2 inches wide x .125 inch wall thickness and shall be placed in between the interior upright support members to provide rigidity, stability and support to all top layer components. All gussets shall be constructed of 2 inches high x 3 inches wide x .25 inch thick plate which shall be placed on the top and bottom of the foundation cross members where they intersect with the exterior members.

BODY MOUNTING SYSTEM

The mounting assembly shall be designed to isolate and protect the body module from vibration and twisting stresses imparted by the flexing of the chassis frame rails. The body module shall employ spring loaded body mounting assemblies. Each two piece mounting assembly shall be designed to positively position the body on

the frame rails while allowing lateral and forward or aft movement. Mounting assemblies shall be placed forward and rearward of the rear axle as necessary to provide a strong and stable mounting of the body module

Each mounting assembly shall consist of a “male” upper mounting bracket and a “female” lower mounting bracket. The upper mounting brackets shall be fabricated from .25 inch thickness steel plate, with .250 inch painted steel lower mounting brackets. The upper mounting brackets shall be welded directly to the foundation connecting members. The lower mounting brackets shall be bolted to the exterior side facing surface of the chassis frame rails.

The mounting brackets shall be aligned and connected by two (2) 5/8 inch diameter grade 8 bolts equipped with compression springs. The springs shall be of the appropriate tension rating for the weight requirements of the body module. The mounting assembly shall be designed to completely eliminate sheering forces on the mounting bolts.

The foundation connecting members shall be placed on top of the chassis frame rails for added strength and stability. The foundation members shall be isolated from the steel chassis frame rails by .25 inch thickness steel plates which have .5 inch thick 80 durometer rubber pads vulcanized to the bottom surface of each plate. The steel plates shall be welded to the bottom of the foundation, doubling as additional gussets at foundation cross member joints.

COMPARTMENT FLOOR, SWEEP OUT STYLE

Each compartment shall feature a raised floor sufficient enough so the lip of the compartment shall clear the frame rail of the body module to allow debris to be removed easily from the compartment.

BODY MATERIAL

All materials utilized shall be of the correct type, alloy, and thickness to withstand the intended usage and provide protection against cracking, corrosion or metal fatigue. The body compartments shall be fabricated using 14 gauge steel for most compartments unless otherwise stated. Any use of proprietary parts or materials in the construction of the body shall be unacceptable, due to potential delays or difficulties in an unlikely event of future repairs or when service becomes necessary.

All external upright supports for integral compartments shall incorporate a second set of upright supports constructed of 3 inch wide x 2 inch deep x .250 inch wall thickness and shall be located outboard of the internal upright supports to provide a rigid structure for the compartments to be mounted to. The compartment openings shall be constructed of 3 inch high x 2 inch wide x .125 inch wall thickness cross members and shall be placed in between the external upright supports to define the openings of all enclosed body compartments again, providing a rigid mounting location for compartments.

COMPARTMENTATION

All compartments shall be constructed of 14 gauge E.G. steel welded for strength and shall be sealed from the elements. The compartments shall be attached to the steel superstructure only, in order to maintain a truly modular design. Each compartment shall feature a smooth edges and surfaces from the walls to each weld without burs or sharp edges in the material.

DRIVER'S SIDE BODY COMPARTMENTS

COMPARTMENT D1

One compartment shall be provided on the driver's side of the apparatus body above the rear wheels. This compartment shall span from just behind the pump panel to the back of the rear wheel well quarter panel. The compartments approximate "clear door opening" is 51" wide by 39" high with a variable depth of 13.5/23".

COMPARTMENT VENTILATION

A minimum 2-inch single "Weber" style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) vertical channels on the back wall of the compartment.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical and one (1) horizontal Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

COMPARTMENT D2

One full height compartment shall be provided on the driver's side of the apparatus body aft of the rear wheels. This compartment shall span from behind the rear wheel well quarter panel to the rear of the body in width and from the top of the body to the rub rail in height. The compartments approximate "clear door opening" is 34" wide by 58" high with a variable depth of 13.5"/22.5".

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) vertical channels on the back wall of the compartment.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical and one (1) horizontal Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

PASSENGER SIDE BODY COMPARTMENTS

COMPARTMENT P1

One compartment shall be provided on the passenger's side of the apparatus body above the rear wheels. This compartment shall span from just behind the pump panel to the back of the rear wheel well quarter panel in width and from the top of the body side to the wheel well in height. The compartments approximate "clear door opening" is 51" wide by 39" high with a depth of 12".

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) vertical channels on the back wall of the compartment.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical and one (1) horizontal Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

COMPARTMENT P2

One compartment shall be provided on the passenger's side of the apparatus body aft of the rear wheels. This compartment shall span from behind the rear wheel well quarter panel to the rear of the body in width and from below the walkway to the rub rail in height. The compartments approximate "clear door opening" is 34" wide by 58" high with a variable depth of 12"/22".

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) vertical channels on the back wall of the compartment.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical and one (1) horizontal Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

BACK BODY COMPARTMENTS

COMPARTMENT B1

One compartment shall be provided at the back of the apparatus body, below the hose bed and above the tailboard. This compartment shall span just center of the tank. The compartments approximate "clear door opening" is 27" wide by 34" high with a depth of 25".

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) horizontal channels on the back wall of the compartment.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

PUMP HOUSE COMPARTMENT (PH1)

There shall be a compartment located on the upper passenger side of the pump house. The compartment dimensions shall be approximately 21" wide x 23" high x 12" deep.

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

PUMP HOUSE COMPARTMENT (PH2)

There shall be a compartment located on the lower passenger side of the pump house. The compartment dimensions shall be approximately 11.5" wide x 18" high x 18" deep.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

SLIDE-IN REAR LADDER COMPARTMENT - PASSENGER SIDE

The rear passenger side of the apparatus body shall have a vertically mounted slide-in ladder storage compartment. The compartment shall be **capable** of storing one (1) *20-foot three-section Duo Safety model #912 ladder, one (1) *backboard minimum dimensions 72" L x 16" W x 2" H (Ferno "Najo Light NB5500" or similar), one (1) *8-foot long pike pole and one (1) *5-foot digging bar, one (1) *8-foot rubbish hook, *New York Roof Hook with locking pins to secure each item.

*Items are to be purchased by the end user.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

SLIDE-IN REAR SUCTION HOSE COMPARTMENTS

Two (2) suction hose storage compartments will be located above the side storage compartments on both sides of the apparatus. The compartments will hold a combined total of three (3) eight (8) foot sections of four (4) inch hard suction hose and strainer.

Both compartments will be capable of holding two (2) eight (8) foot sections of hose if needed. Each compartment will have a stainless steel painted hinged door on the rear of the compartment. Each compartment door will have a locking positive latching door latch.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

TOP COMPARTMENT TC1

The hose bed shall be provided with a compartment down the center of the hosebed. The top compartment shall have a one piece aluminum treadplate cover. Approximate "clear door opening" dimensions shall be 13" wide by 75" deep and 16" high.

ALUMINUM TREADPLATE DOOR

This compartment shall feature an embossed aluminum diamond plate lid. The lid shall be bare embossed aluminum diamond plate.

DOOR LATCH

The specified hinged door(s) shall be equipped with a sealed, black lever latch(es). Latch(es) shall be non-locking style.

LIGHTING

The specified compartment shall have no compartment lighting.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

PAINTED ALUMINUM PANEL

There shall be a smooth aluminum panel bolted to the rear of the center top storage box.

WHEEL WELL PANEL CONSTRUCTION

The outer wheel well panel shall be galvanneal steel of the same gauge as compartment construction and an integral part of the overall body design. The exterior wheel well area shall be painted to match the body.

WHEEL WELL LINERS

Wheel well liners designed to protect the body from impact resulting from road debris thrown by the tires shall be installed. The removable liners shall be constructed from UHMW material to encompass the entire inner wheel well area. The liners shall be secured with stainless steel threaded fasteners.

REAR WHEEL FENDERETTES

Polished stainless steel fenderettes shall be installed at each rear wheel opening. The fenderettes shall be positioned outside of the wheel well panel to cover the tire area that extends past the body. The fenderettes shall

be secured with stainless steel threaded fasteners.

DRIVERS SIDE BODY -- SCBA CYLINDER STORAGE PROVISIONS

A storage area for an SCBA cylinder shall be provided in the forward area of the driver's side wheel well. Dimensions shall be 8" diameter x 26" deep.

The SCBA door shall be a Cast Products door.

The SCBA cylinder storage tube shall be made from plastic. There shall be rubber matting to cusion the bottle glued into the tube.

DOOR LATCH

The specified hinged door(s) shall be equipped with (1), textured chrome lever latch(es). Latch(es) shall be non-locking style with a raised button.

SCBA CYLINDER STRAPS

There shall be a 1" nylon tether installed to secure the bottle in the storage tube.

DRIVERS SIDE BODY -- SCBA CYLINDER STORAGE PROVISIONS

A storage area for an SCBA cylinder shall be provided in the rearward area of the driver's side wheel well. Dimensions shall be 8" diameter x 26" deep.

The SCBA door shall be a Cast Products door.

The SCBA cylinder storage tube shall be made from plastic. There shall be rubber matting to cusion the bottle glued into the tube.

DOOR LATCH

The specified hinged door(s) shall be equipped with (1), textured chrome lever latch(es). Latch(es) shall be non-locking style with a raised button.

SCBA CYLINDER STRAPS

There shall be a 1" nylon tether installed to secure the bottle in the storage tube.

PASSENGER SIDE BODY -- SCBA CYLINDER STORAGE PROVISIONS

A storage area for an SCBA cylinder shall be provided in the forward area of the passenger’s side wheel well. Dimensions shall be 8" diameter x 26” deep.

The SCBA door shall be a Cast Products door.

The SCBA cylinder storage tube shall be made from plastic. There shall be rubber matting to cusion the bottle glued into the tube.

DOOR LATCH

The specified hinged door(s) shall be equipped with (1), textured chrome lever latch(es). Latch(es) shall be non-locking style with a raised button.

SCBA CYLINDER STRAPS

There shall be a 1" nylon tether installed to secure the bottle in the storage tube.

PASSENGER SIDE BODY -- SCBA CYLINDER STORAGE PROVISIONS

A storage area for an SCBA cylinder shall be provided in the rearward area of the passenger's side wheel well. Dimensions shall be 8" diameter x 26" deep.

The SCBA door shall be a Cast Products door.

The SCBA cylinder storage tube shall be made from plastic. There shall be rubber matting to cusion the bottle glued into the tube.

DOOR LATCH

The specified hinged door(s) shall be equipped with (1), textured chrome lever latch(es). Latch(es) shall be non-locking style with a raised button.

SCBA CYLINDER STRAPS

There shall be a 1" nylon tether installed to secure the bottle in the storage tube.

RUB RAILS, CLEARANCE LIGHTS, AND REFLECTIVE TAPE

The sides of the lower body area fore and aft of the wheel well area shall be provided with 2" x 1.25" x .250" extruded aluminum rub rails, with end caps or angled corners.

Specified part shall include White reflective striping.

FRONT OF BODY -- PROTECTIVE SURFACE

The entire front of the apparatus body shall include a protective surface, constructed of aluminum tread plate material.

FRONT CORNERS OF BODY -- PROTECTIVE SURFACES

The front corners of the apparatus body shall include a protective surface installed. The surface shall be constructed of polished stainless steel material.

REAR BODY PANELS

The entire rear of the apparatus body shall be painted apparatus color.

OUTER REAR BODY PANELS -- PROTECTIVE COVERING

The rear outer panels of the body shall have protective surfaces installed on the corners. The protective covering shall be constructed of polished stainless steel material.

TOP OF BODY COMPARTMENTS -- PROTECTIVE SURFACES

The top of the side compartments shall have a protective surfaces installed. The surface shall be constructed of aluminum tread plate material.

ANODIZED ALUMINUM DRIP RAIL

All enclosed compartment doors shall be provided with an aluminum drip rail above the doors.

ALUMININUM – COMPARTMENT DOOR, HINGED OVERLAP

One (1) single, vertically hinged door shall be provide and fabricated from aluminum. The frame of the door shall be constructed of 1.75” x 1.75” x .125” aluminum tubing to prevent corrosion and provide structural support. The spacing created by the frame tubing shall filled with Styrofoam for added support, dent resistance, insulation and noise reduction. The exterior surface shall be .125” aluminum for durability. The interior surface shall be .080” aluminum. There shall be no mechanical fasteners, such as bolt heads or rivets on the inside or outside of the doors.

The exterior of the door shall overlap the opening of the compartment. A .75” lip shall be constructed around the opening of the compartment and the exterior of the door. A rubber seal shall be installed on the .75” lip on both the compartment and the door to provide for a double seal against water and dust. A rain gutter shall be mounted above the door creating a third layer of water protection.

The door shall be designed utilizing a D-ring style latch system. A 6” stainless steel D-ring latch, large enough to accommodate a gloved hand, shall be mounted on the exterior of the door. A stainless steel bezel shall be installed to house and protect the D-ring locking mechanism. The easily serviced bezel shall be mounted utilizing stainless steel screws. The D-ring locking mechanism shall be a double catch design. The first catch shall engage to secure the door in the event of improper closure. The second catch shall seal the door from water and other elements once the door has been properly closed.

The door shall be mounted using a stainless steel piano style hinge and a .25” diameter hinge pin for stability. The vertical hinge shall be mounted to the body frame with threaded inserts and stainless steel screws to preserve functionality and ease of maintenance in the event of damage.

Gas struts shall be utilized to hold the door in the open position and to prevent the door from slamming during closing. The gas struts shall be mounted directly to the door with a stainless steel bracket assembly for stability and ease of maintenance. The gas struts shall be mounted to the interior of the compartment with a fully adjustable assembly.

The exterior of the compartment doors and the door frames shall be painted to match the body in quality and tone. The interior surface shall not be painted, it shall be sanded utilizing a dual orbital technique.

The specified door(s) shall have a Polished stainless-steel D-ring door handle.

The specified door(s) D-ring handles shall be equipped with manual key door locks keyed to use the 1250 key.

COMPARTMENT DOOR EDGE STRIPING

The hinged compartment doors shall have reflective striping applied on the edges. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

ALUMININUM – COMPARTMENT DOOR, HINGED OVERLAP

There shall be five (5) double, vertically hinged sets of doors fabricated from aluminum and installed on the apparatus body. Each door shall feature exterior surfaces which overlaps the opening of the compartment. The exterior surface shall be .125” aluminum for durability and damage resistance. The interior surface shall be .080” aluminum for structural support and overall appealing appearance of the compartment. The frame of the doors shall be constructed of 1.75” x 1.75” x .125” aluminum tubing to prevent corrosion and provide structural support. The spacing created by the frame tubing shall be filled with Styrofoam for added support and dent resistance, temperature insulation, and noise reduction.

A .75” lip shall be constructed around the opening of the compartment and the exterior of the door. A rubber seal shall be installed on the .75” lip of both the compartment and the door to provide for a double seal against water and dust. A rain gutter shall be mounted above the latch type door for an added third layer of water protection.

The doors shall be designed utilizing a D-ring latch system. A 6 inch stainless steel D-ring latch, large enough to accommodate a gloved hand, shall be mounted on the exterior of the door to allow the door to seal and fasten in the closed position. A stainless steel bezel shall be installed to house and protect the D-ring locking mechanism. The easily serviced bezel shall be mounted utilizing stainless steel screws for added stability of the mechanism and ease of maintenance in the event of damage. The D-ring locking mechanism shall be of a double catch design. The first catch shall engage to secure the door in the event of improper closure. The second catch will seal the door to water and other elements once the doors has been properly closed.

The doors shall be mounted with a stainless steel hinges with .25” diameter hinge pin for stability. The vertical hinges shall be mounted to the body frame with threaded inserts and stainless steel screws to preserve functionality with use or age and ease of maintenance in the event of damage.

Gas struts shall be utilized to hold the door in the open position and to prevent the door from slamming during closing. The gas struts are mounted directly to the door with a stainless steel bracket assembly for stability and ease of maintenance. The gas struts shall be mounted to the interior of the compartment with fully adjustable assembly for ease of adjustment and maintenance while increasing stability.

A polished stainless steel scuff guard shall be installed on the bottom of the compartment opening to prevent damage and wear to the paint and finish of the body module due to the removal and storage to equipment in the compartment.

The exterior of the compartment doors and the door jambs shall be painted to match the body in quality and tone. The interior of the door shall not be painted due to lack of exposure and inherent resistance to corrosion. The interior of the door shall be sanded utilizing a dual orbital technique. The sanding shall provide for a smooth, regular, scratch free surface on the interior of the door. The exterior skin to door frame joining seam shall be caulked and painted to provide a moisture proof seal.

Each compartment shall be provided with two vertically hinged doors with one (1) D-ring latch on each door in the set of doors.

The specified door(s) shall have a Polished stainless-steel D-ring door handle.

The specified door(s) D-ring handles shall be equipped with manual key door locks keyed to use the 1250 key.

COMPARTMENT DOOR EDGE STRIPING

The hinged compartment doors shall have reflective striping applied on the edges. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

REAR STEP

The rear bumper shalll be made from aluminum diamondback grip strut. The design of the grip strut shall allow for no debris or dust buildup and will allow for easy clean out with just water.

The step shall be of a three piece design each section to operate independently during body and chassis flexing. The step will be full body width by a minimum 8-inch deep stand off type. When mounted, the loaded rear departure angle will be no less then 22 degrees.

The drop step will have locking positions to allow for up position storage and rear compartment door opening access. The drop step will incorporate a stop in the down position to prevent movement when in use.

AUXILIARY FIXED STEP -- DRIVERS SIDE REAR

Three (3) Cast Products 8" square cast aluminum auxiliary step(s) shall be provided. The step shall be installed on the rear drivers side of the body.

AUXILIARY FIXED STEP -- PASSENGER SIDE REAR

Three (3) Cast Products 8" square cast aluminum auxiliary step shall be provided. The step shall be installed on the rear passenger side of the body.

HANDRAILS

One (1) knurled type non-slip handrail, approximately 18” in length, shall be vertically installed.

HANDRAILS

Two (2) knurled type non-slip handrail, approximately 42” in length, shall be vertically installed.

HANDRAILS

Two (2) knurled type non-slip handrail, approximately 12” in length, shall be horizontally installed.

HANDRAILS

Two (2) knurled type non-slip handrail, approximately 18” in length, shall be horizontally installed.

HANDRAILS

One (1) knurled type non-slip handrail, approximately 60” in length, shall be horizontally installed.

HOSE BODY CONSTRUCTION SPECIFICATIONS

The hose bed side sheets and floor shall be constructed from aluminum material. The hosebed shall provide two separate hose beds one on the left and one on the right side of the top loaded center dunnage. The hose body shall be free of sharp corners, bolts, or other obstructions that may catch hose and other equipment.

HOSE STORAGE BRACKETS

There shall be two (2) I-Zone hose bracket(s) provided on the rear of the apparatus body one on each side left and right. The mount(s) shall be mounted under CPI fixed step(s). Approx length of the I-zone pole shall be 24".

ALUMINUM HOSEBED GRATING

The hose bed compartment deck shall be constructed entirely from maintenance-free, extruded aluminum slats. The slats shall feature an anodized, contoured, ribbed top surface. The slats shall be of widths approximately 3/4" high x 4.5" wide and shall be welded into a one-piece grid system to prevent the accumulation of water and allow ventilation to assist in drying hose.

ALUMINUM HOSEBED COVER

Two (2) separate aluminum tread plate hose bed covers shall be installed, ⅛-inch aluminum alloy diamond plate reinforced with a ⅛-inch aluminum alloy hat section as needed to support walking on the hose bed covers. The covers shall be hinged on the outboard side using full length polished stainless steel hinges with a minimum ⅜-inch pin and 1-inch joint length and installed to avoid any hindrance in walking on hose bed covers.

The hose bed covers shall have full length handrails installed along the rear lip of the covers and two (2) mechanisms on each cover to assist with opening and closing of the hose bed covers. Each hose bed cover shall have a mechanism to hold the hose bed cover in the open position and will be substantial enough to prevent accidental closing in extreme wind conditions.

The covers shall be reinforced so that they will support the weight of a person walking on the cover and shall be sloped to the outboard side of the apparatus to aid in water run-off.

HOSEBED REAR ENCLOSURE

A vinyl end skirt with three (3) straps, and large quick release buckles (minimum 2-inch) shall be installed on each hose bed cover. Quick release buckles and nylon tie down straps shall be attached to the end skirts. The end skirts will be weighted at the bottom end with a full width flat strip of metal sewn into the hem of the skirt. The end skirts, straps, buckles, etc. will be exposed to direct sun light and shall be protected against UV rays.

The flaps shall be red in color.

HOSEBED -- AREA LIGHTS

(4) Tecniq E10 lights shall be provided and installed on hosebed door(s).

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

WATER TANK SPECIFICATIONS

A United Plastics Fabricating (UPF), 500 gallon booster tank (Poly Tank) shall be fabricated from a minimum of .500” polypropylene complete with a minimum of .375” polypropylene internal full height baffles that are raised 4” off the tank floor for maximum water flow between baffles. In addition, provisions for the main pump outlet, direct tank filler inlet, a pump to tank filler/churn valve inlet, a back pump filler outlet, a fitting for an electronic water level gauge sensor and clean outs for manual tank flushing shall be provided. The tank shall be structurally reinforced and restrained to prevent deformities or damage to the tank or apparatus body during stressed off road operations. The booster tank shall be a rectangular design, and shall be capable of being completely removable from the body without cutting or bending of any components. The tank and cradle assembly shall be mounted to the chassis frame in strict accordance to the tank manufacturer’s installation guidelines.

The water tank shall be constructed of polypropylene, nitrogen-welded and tested inside and out. The tank manufacturer shall define the floor, top, sides, ends, and baffles material thicknesses. The tank shall carry a lifetime warranty. The water tank shall be manufactured by United Plastic Fabrication.

The transverse and longitudinal swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments. The .cover shall be recessed .375" from the top of the side walls. Hold down dowels shall extend through and be welded to both the covers and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the water tank.

The water tank manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's record of construction and the certification shall be provided to the purchaser when the apparatus is delivered. Tank construction shall conform to applicable NFPA standards.

The water tank shall be configured in a rectangular style with consistent widths on the sides from top to bottom.

TANK FILL AND OVERFLOW PROVISIONS

The water tank shall have a combination vent and manual fill tower. The fill tower shall be fabricated from 1/2" polypropylene and shall have a minimum outer perimeter dimension of 8" x 8". The tower shall have a 1/4" thick polypropylene screen and a polypropylene hinged cover. Inside the fill tower, halfway down from the top, shall be fastened a vent overflow pipe. The vent overflow shall be fabricated from Schedule 40 polypropylene pipe, with a minimum I.D. of 4”. The vent overflow shall be designed to run through the tank interior and shall be designed to exit the water tank interior behind the rear wheels.

The tank cover shall be fabricated from 1/2" thick polypropylene and shall incorporate a three-piece design which allows for the removal of each individual cover section for inspection or repair of the tank interior, if necessary. The tank cover shall be recessed 3/8" from the top of the tank sides and shall be welded to both the sides and the longitudinal baffles. Each of the three cover sections shall have hold downs to assist in keeping the cover rigid under fast filling conditions. These hold downs shall consist of 2" polypropylene dowels, spaced a maximum of 30" apart, fitted and then welded to the transverse partitions. The dowels shall extend through the cover sections and be welded to them. Two of the dowels shall be drilled and tapped to accommodate the tank lifting eyes.

The sump shall have a minimum dimension of 8" x 6" with a 3/4" thick bottom. On all tanks with a bulkhead suction inlet, a 3" Schedule 40 polypropylene pipe sweep shall be provided from the front of the tank to the sump location. The sump shall have a threaded plug located at the bottom of it for a tank drain and clean out.

There shall be two standard tank outlets: one for the tank to pump suction line, which shall be a minimum of a 3" NPTF coupling, and one for a tank fill line, which shall be a minimum of a 1-1/2" NPTF coupling. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

The water tank shall rest on the body subframe cross members, which shall be spaced a maximum of 22" apart. The tank shall be insulated from those cross members by hard rubber insulators, with a minimum thickness of 1/4", glued and mechanically fastened to the cross members to protect the tank from direct contact with the steel body subframe. The tank shall be designed on a free-floating suspension principle and shall not require the use of additional hold downs. The tank shall be completely removable without disturbing or dismantling the apparatus body structure.

VENT AND OVERFLOW

The fill tower shall incorporate a vent and overflow system shall be designed into the water tank. The system shall include a 3" diameter PVC pipe that functions both as an air vent while emptying the tank and as an overflow when filling the tank. The overflow shall discharge excess water below the frame rails of the vehicle.

TANK SUMP AND DRAIN PROVISIONS

A one (1) cubic foot (minimum) polypropylene sump, with anti-swirl baffles shall be provided. The sump shall be located as close to the center of the tank floor as the chassis cross members, and differential driveline will allow.

One (1) 3-inch or 4-inch National Pipe Thread (NPT) outlet and plug shall be provided in the sump floor for flushing of the tank. A 1½-inch drain valve shall be provided in the tank sump for flushing of the booster tank. The valve will be located as to provide for adequate clearance from cross members and differential during extreme twisting motions of the chassis and buildup

The sump shall also be provided with a 1-inch NPT outlet for the back pump filler hose.

Due to space constraints, it may be necessary to locate the main pump suction outlet in the tank sump for maximum water usage. The main pump suction tube will be of an adequate size to supply the main pump with enough water to meet pump ratings.

A minimum 3-inch direct tank fill NPT inlet and internal manifold shall be provided on the left rear of the tank. If the direct tank fill inlet is located on the rear tank wall, the inlet manifold shall pass through the first baffle and feature a turn down to eliminate any possible damage to the tank or baffles while filling the tank.

WATER TANK DRAIN PROVISIONS

A 3" plugged drain provision shall be installed in the bottom of the water tank, sump, or plumbing for water tank draining and the flushing-out of debris.

CLASS A FOAM TANK SPECIFICATIONS

The Class A foam tank shall have a capacity of 20 gallons. The foam tank shall be manufactured by UPF and have a lifetime warranty.

The tank shall be equipped with a positive sealing pressure/vacuum vent type cap, a low foam concentrate sensor that turns off the foam pump at a pre-set level, a visual sight gauge, an easily accessible brass or stainless steel drain valve located at the lowest point of the foam tank and an accessible brass or stainless steel cleanable strainer installed in the supply line from the foam tank to the foam pump.

The foam tank shall be mounted on a removable sub-structure. The tank will have a positive tie down. The tie down will allow for easy removal of the foam tank.

The foam tank will have two (2) quarter turn brass or stainless shut off valves at the pump supply and fill lines to allow for the removal of the tank without loss of foam. The float switch harness and the foam concentrate supply and fill lines shall have connections located adjacent to the tank to facilitate foam tank removal.

FOAM TANK FILL AND VENTING PROVISIONS

The foam concentrate tank shall be provided with a fill pipe having a volume of not less than 2 percent of the total tank volume. The filler opening shall be capped with a sealed air-tight threaded cover. The fill opening shall be designed to incorporate a removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped into the tank.

The foam tank filler shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

A color coded label or visible permanent marking that reads "CLASS A -- FOAM TANK FILL" shall be placed at or near the foam concentrate tank fill opening. An additional label shall be placed at or near any foam concentrate tank fill opening stating the type of foam concentrate the system is designed to use.

Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, along with a warning message that states "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM."

A 3/4" diameter connection, piping, and gate type valve shall be installed for the foam tank for draining purposes.

DIRECT TANK FILL - REAR DRIVERS SIDE

A valve for direct filling of the tank shall be supplied. The 1/4 turn valve shall be configured with 2-1/2" NH female threads, debris screen, threaded plug with retention chain and lever handle. The valve shall be located on the drivers side rear of the apparatus.

One (1) Akron 8825 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

One (1) chrome brass 2-1/2" NH rocker lug plug with a securing chain or cable shall be installed on the intake.

(1) chrome plated brass 30 degree elbow with 2.5" swivel female NH x 2.5" male NH thread with rocker lugs shall be provided on the direct tank fill.

BACK PACK FILL SYSTEM

There shall be one (1) back pack fill system provided and installed on the lower area of the pump panel. The valve plumbing shall be 3/4" I.D. hose.

12 VOLT ELECTRICAL SPECIFICATIONS

The following describes the low voltage electrical system on the apparatus including all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The apparatus manufacturer shall conform to the latest Federal DOT standards, current automotive electrical system standards, and the applicable requirements of the NFPA 1906.

Wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops shall not exceed 10 percent in all wiring from the power source to the using device. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. Exposed wiring shall be run in a loom with a 290 degree Fahrenheit rating. Wiring looms shall be properly supported and attached to body members. Electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

All wiring connections and terminations shall provide positive mechanical and electrical connections and be installed in accordance with the device manufacturer's instructions. When wiring passes through metal panels, electrical connections shall be with mechanical type fasteners and rubber/plastic grommets.

Wiring between cab and body shall be split using Deutsch type connectors or enclosed in a terminal junction panel allowing body removal with minimal impact on the apparatus electrical system. Connections shall be insulated with heat shrink crimp-type tubing to resist moisture and foreign debris such as grease and road grime. Weather resistant connectors shall be provided throughout the system.

Electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. When required, automatic reset breakers and relays shall be housed in the main body junction panel.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage and shall be uniquely identified at least every six inches (6") by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA 1906 standards.

Low voltage protective devices shall be provided for the electrical circuits. The devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. Over current protection devices shall be automatic reset type suitable for electrical equipment and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. Electro-magnetic interference suppression shall be provided in the system as required in applicable SAE standards.

The electrical system shall include the following:

Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. All terminal plugs located outside of the cab or body shall be treated with a corrosion preventative compound.

All electrical wiring shall be placed in a protective loom or be harnessed.

Exposed connections shall be protected by heat shrink material and sealed connectors.

Large fender washers shall be used when fastening equipment to the underside of the cab roof and all holes made in the roof shall be caulked with silicone.

Electrical components installed in exposed areas shall be mounted in a manner that will not allow moisture to accumulate inside.

A service loop shall be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.

Upon completion of the vehicle and prior to delivery, the apparatus shall be electrically tested and the electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of NFPA 1906.

ELECTRICAL WIRING HARNESS

The electrical system shall be divided into separate harnesses. The individual harness shall be connected with Deutsch type quick connectors. The wiring and appliances shall be protected by automatic reset type circuit breakers.

REAR CENTER CONSOLE

There shall be a center console located between the rear bucket seats. The rear console shall feature a recessed top storage area with a single front drawer.

CUP HOLDER

The console shall have two (2) cup holders installed. Exact location to be determined at the preconstruction meeting.

The specified compartment(s) shall be coated with Hamlet Black colored Multi-Spec paint.

12 VOLT POWER SOURCE

There shall be two (2) 12 volt plug-in utility power connection(s) rated at 20 amps provided and installed in the cab console.

The specified power source shall be wired to the switched battery circuit.

USB CHARGING PORT

Two (2) USB charging port(s) shall be installed in the cab of the truck for the fire departments accessory devices. The USB charging port shall have two (2) USB connections and shall have a 5 volt, 4.8A output with Intelligent Device Recognition capabilities.

The specified power source shall be wired to the switched battery circuit.

CUSTOM FABRICATED CONSOLE

A custom fabricated electrical console and enclosure shall be located between the driver's and the officer's seating positions. The console shall feature an angled console lid that will be populated with havis style plates.

CONSOLE MAP BOX

There shall be a map box attached to the rear of the console. The map box shall be painted to match the console.

The specified compartment(s) shall be coated with Hamlet Black colored Multi-Spec paint.

12 VOLT POWER SOURCE

There shall be one (1) 12 volt plug-in utility power connection(s) rated at 20 amps provided and installed in the cab console.

The specified power source shall be wired to the switched battery circuit.

USB CHARGING PORT

One (1) USB charging port(s) shall be installed in the cab of the truck for the fire departments accessory devices. The USB charging port shall have two (2) USB connections and one USB-C connection.

The specified power source shall be wired to the switched battery circuit.

BATTERY SWITCH - MASTER DISCONNECT

A battery cutoff switch shall be provided in the cab within easy reach of the driver; by the chassis manufacturer. The switch shall be rated for 300 amps.

BATTERY CHARGER

A Kussmaul Autocharge 1000 PLC, model #091-215-12, automatic battery charger shall be provided. The battery charger shall be wired to the 12 volt battery system. The unit shall be mounted in a clean, dry area accessible for service and/or maintenance. It shall be wired to the specified shore power receptacle. Included in the package is a Kussmaul Super 20 Auto Eject Deluxe with built in bar graph display. Mounting location shall be determined in pre-con

The specified auto eject cover shall be yellow.

IDENTIFICATION LIGHTS

All LED identification lights shall be installed on the vehicle as required by applicable highway regulations.

LICENSE PLATE MOUNTING AND LIGHT

A predrilled backing plate and LED light shall be installed on the rear for mounting of the license plate.

Stop, Tail, Turn Lights, Whelen M Series, Package

STOP AND TAIL LIGHTS

Two (2) Whelen Model #M62BTT, 4" x 6" LED stop and tail lights with red lenses shall be provided. The light shall be furnished with a optic polycarbonate lens for maximum light spread and furnished with a 6" wire pigtail.

TURN SIGNALS

Two (2) Whelen M62T light heads shall be installed on the apparatus. The light heads shall feature an amber lens with sequential chevron arrow, with multi flash pattern.

BACK-UP LIGHTS

Two (2) Whelen M-Series M62BU, 4" x 6" rear LED back-up lights shall be installed.

TAILLIGHT BEZELS

Two chrome (2) Whelen M Series housings shall be installed at the rear of the apparatus for four (4) Whelen M-Series stop-tail-turn-backup and warning lights.

ZONE C-- LOWER REAR WARNING LIGHTS

Two (2) Whelen M6 Series Model # M6RC warning light shall be provided. The warning light shall incorporate Linear Super-LED® and Smart LED® technology. The M6RC configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses.

MAP LIGHT

One (1) Havis Shields #C-MAP-T-LED 12" LED map light, 12 volt, with a gooseneck arm an on-off switch located on the base of the light shall be installed on the dashboard.

FRONT BUMPER -- GROUND LIGHTS

There shall be two (2) Tecniq E10, LED ground light(s) installed under the front bumper.

The ground lights shall be activated when parking brake is set, or the transmission is placed into park (where applicable).

CAB GROUND LIGHTS

There shall be four (4) Tecniq E10, LED ground lights installed under the cab door(s).

The ground lights shall be activated when parking brake is set, or the transmission is placed into park (where applicable).

GROUND LIGHTS - PUMP PANEL

There shall be two (2) Tecniq E10, LED ground lights installed under the pump panel running board(s).

The ground lights shall be activated when parking brake is set, or the transmission is placed into park (where applicable).

GROUND LIGHTS - UNDER REAR STEP

There shall be two (2) Tecniq E10, LED ground lights installed under the rear step area.

The ground lights shall be activated when parking brake is set, or the transmission is placed into park (where applicable).

PIONEER MICRO

There shall be two (2) Whelen Pioneer Micro lights provided and installed on the apparatus.

The lights shall be located:

- Two located under the middle steps on the back of the apparatus. They shall be operated by the "Rear Scene" switch located on the Whelen siren controller

PIONEER FLOOD/SPOT SURFACE MOUNT LIGHTHEAD

Six (6) Whelen Pioneer Plus™ Model # PCPSM1C shall be provided and installed on the apparatus. The light head shall have a chrome housing.

The scene lights shall be activated by individual buttons or switches on the cab center console. Left, right, and rear scene light controls.

WHELEN SCENE LIGHT

One (1) Whelen, Pioneer Summit 30" light bar shall be provided and installed in the center cutout in the front bumper.

The lightbar light shall be activated by an individual button or switch on the cab center console.

DOOR OPEN WARNING LIGHT

The door ajar warning system shall be separated into four zones, a Front, Left, Right, and Rear zone. Each zone shall have an individually labeled warning light and also activate an audible alarm. The door ajar lights and audible alarm shall activate only when the apparatus parking brake has been released.

RADIO ANTENNA INSTALLATION

There shall be four (4) radio antenna installed on the apparatus and routed to the cab center console.

BACK UP ALARM

One (1) solid state back up alarm shall be provided at the rear of the apparatus. The back up alarm shall be wired to the reverse circuit of the transmission, and shall provide an audible alarm to the rear of the apparatus when reverse gear is selected. The alarm shall have a volume of 87 to 112 db while in operation.

HEADLIGHT FLASHER

The headlights shall be set to alternate flash (Wig-Wag).

The wig wag shall be triggered by the siren controller slide switch position 3.

ELECTRONIC SIREN

A Whelen CenCom Core C399 electric siren and lighting control module shall be installed.

WHELEN CORE CONTROL HEAD

There shall be a Whelen model CCTL6 control head supplied with the Cencom Core system. It features a 3 section control head, with 8 push buttons, 4- position slide switch with a 7 position rotary knob. A manual siren and air horn button, and 3 traffic advisor control buttons.

WHELEN CORE WECANX TRAFFIC ADVISOR MODULE

There shall be a Whelen model CTA Traffic Advisor module interfaced with the Cencom Core system.

SIREN SPEAKER

One (1) Whelen Model #SA315P siren speaker shall be provided. The 100 watt siren speaker shall be designed in a black nylon composite housing with 123 decibel rating.

ZONE A FRONT UPPER -- LIGHTBAR

One (1) Whelen Model # TB0DDDD Cenator series WeCanx light bar shall be installed on the apparatus. The lightbar shall feature the following:

- Eight forward facing RED/WHT LIN6 lights
- Two forward facing LED take down lights.
- A left and right facing LED take down light.
- Two rear facing LED take down lights.
- Four corner RED/WHT LIN6 lights.
- Two rear facing amberLIN6 lights.

ZONE A -- LOWER FRONT WARNING LIGHTS

Two (2) Whelen M6 Series Model # M6D warning light shall be provided. The warning light shall incorporate Linear Super-LED® and Smart LED® technology.

The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The M6D light shall include a split design including red and white LEDs, with a clear lens.

The specified Whelen M6 lights shall be equipped with chrome plastic flange type light bezel mountings.

ZONE A -- LOWER FRONT WARNING LIGHTS

Two (2) Whelen ION series lights, model TLIR shall provided. The light head shall have red LEDs.

ZONE B AND D-- FRONT INTERSECTION

Two (2) Whelen M6 Series Model # M6RC warning light shall be provided. The warning light shall incorporate Linear Super-LED® and Smart LED® technology. The M6RC configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses.

The specified Whelen M6 lights shall be equipped with chrome plastic flange type light bezel mountings.

ZONE B AND D LOWER MID-BODY WARNING LIGHTS

Two (2) Whelen M6 Series Model # M6RC warning light shall be provided. The warning light shall incorporate Linear Super-LED® and Smart LED® technology. The M6RC configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.
The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses.

The specified Whelen M6 lights shall be equipped with chrome plastic flange type light bezel mountings.

ZONE B AND D-- UPPER SIDE REAR WARNING LIGHTS

Two (2) Whelen M6 Series Model # M6RC warning light shall be provided. The warning light shall incorporate Linear Super-LED® and Smart LED® technology. The M6RC configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses.

The specified Whelen M6 lights shall be equipped with chrome plastic flange type light bezel mountings.

ZONE C UPPER REAR

Two (2) Whelen M6 Series Model # M6RC warning light shall be provided. The warning light shall incorporate Linear Super-LED® and Smart LED® technology. The M6RC configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

The lens/reflector assembly shall be sealed and resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses.

The specified Whelen M6 lights shall be equipped with chrome plastic flange type light bezel mountings.

REAR TRAFFIC ADVISOR, EIGHT (8) L.E.D. LAMPS

A Whelen TAZ86 eight lamp LINZ6 Super-LED Traffic Advisor with all amber lights shall be provided and mounted at the rear of the body. The solid state traffic advisor shall include model TACTL5 control head, or it can be directly connected to a Whelen CenCon Siren Head Controller.

PAINT CODES/COLORS

The apparatus shall be painted Candy Apple Red.

BODY PAINTING SPECIFICATIONS

All exposed surfaces shall be prepared and painted using a multi-step process to ensure a blemish-free, protective coating for the base metal materials.

All removable items, such as brackets and compartment doors, shall be removed and painted separately to insure finish paint behind them after they are reinstalled.

Due to its modular design, the apparatus body shall be completely finish painted prior to its installation on the chassis.

The body shall be sanded, and cleaned. Any imperfections or defects in the metal shall be corrected with

premium body filler and then sanded smooth.

An epoxy primer shall be utilized on all painted and coated surfaces and shall prepare the metal for the final paint. The direct-to-metal primer shall be used to create a first level seal allowing secure adhesion between the base metal and the subsequent substrates.

All body and components shall then be primed, thoroughly sanded, and meticulously inspected for any imperfections; which shall be properly corrected..

All surfaces shall then be painted with a base coat of premium paint following the guidelines as established by the paint manufacturer. The body shall be painted using a single color to match the cab primary color, and then shall be buffed to a high gloss finish.

INTERIOR COMPARTMENT FINISH

The interior wall, floor and ceiling surfaces of compartments shall be finished with Rust-Oleum brand Multispec color flecked paint. The final color combination shall be determined in pre-con.

The specified compartment(s) shall be coated with Hamlet Black colored Multi-Spec paint.

TOUCH-UP PAINT

Touch-up paint shall be furnished with the completed truck at final delivery.

VALVE PAINTING

All exposed valves shall be painted to match the color of the exterior body.

STRIPING PACKAGE- SINGLE 4" STRIPE

There shall be a single 4" reflective stripe installed one on each side of the apparatus. The stripe is limited to single color only.

WHEEL CHOCKS

Two (2) Worden brand, Model #HWC-7WH wheel chocks shall be provided.

5# DRY CHEMICAL FIRE EXTINGUISHER

One (1) 5# ABC dry chemical fire extinguisher and mounting bracket shall be provided on the apparatus. The extinguisher shall have a pressure gauge and shall be filled with a dry chemical extinguishing agent.

HYDRAULIC JACK

One (1) hydraulic jack shall be provided. The jack shall be designed for lifting capacity of twelve (12) tons.

LUG WRENCH

There shall be one (1) lug wrench provided and shipped loose with the completed apparatus.

REFLECTOR

A set of three (3) triangular reflectors shall be provided.