



We are pleased to submit a proposal to you for a **Pierce® Heavy Duty Rescue** per your request for quotation. The following paragraphs will describe in detail the apparatus proposed. Loose equipment not specifically requested will not be provided.

PIERCE MANUFACTURING was incorporated in 1917. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 50 years of experience in the fire apparatus market. Our plant is located in Appleton, Wisconsin with over 757,000 total square feet of floor space situated on approximately 97 acres of land. A multi-million dollar inventory of parts is available to keep your unit in service long after it has left the factory.

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning. We currently have a "Quality Achievement Supplier" program to insure the vendors and suppliers that we utilize meet the high standards that we demand. That is just part of our overall "Quality at the Source" program at Pierce. Another part of this program is employing experts in their fields, like a Certified American Welding Society Inspector to monitor our weld quality.

DELIVERY

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty.

INFORMATION

The manufacturer will supply at time of delivery, complete operation and maintenance manuals covering the completed apparatus as delivered. A permanent plate will be mounted in the driver's compartment which specifies the quantity and type of fluids required including engine oil, engine coolant, transmission and drive axle.

SAFETY VIDEO

At the time of delivery Pierce will also provide one 39-minute, professionally-produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, and safety during maintenance.

PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus will meet NFPA 1901 acceleration requirements



and NFPA 1901 braking requirements. The apparatus when fully loaded will not have less than 25% nor more than 50% on the front axle and not less than 50% nor more than 75% on the rear axle.

COMMERCIAL GENERAL LIABILITY INSURANCE

Certification of insurance coverage will be enclosed.

ISO COMPLIANCE

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the "International Organization for Standardization (ISO)" specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance Number 32454 is included with this proposal.

SINGLE SOURCE MANUFACTURER

Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our headquarters, all chassis, cab and body systems are engineered, tested and hand assembled to the customer's exact specifications. Pierce® vehicles are also backed by a network of sales and service organizations that are dedicated exclusively to the fire service who are ready to help you 24 hours a day, 7 days a week with parts, service and training. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance and a high level of quality.

NFPA 2004 STANDARDS

This unit will comply with the NFPA standards effective January of 2004.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.

Pierce Manufacturing has programs in place for training, proficiency testing and performance for any staff involved with certifications.

Pierce Manufacturing will designate, in writing, who is qualified to witness and certify test results.

PIERCE/VCOS PARTNERSHIP

For every fire or emergency apparatus sold to a volunteer or combination fire department, Pierce Manufacturing will make a \$100 donation to the Volunteer Chief Officers Section (VCOS) of the IAFC Partnership when the apparatus is delivered. The VCOS will invest



these funds in leadership education, NFPA Technical Committee representation and VCOS general operations.

NFPA COMPLIANCY

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution.

TOTAL VEHICLE ASSESSMENT CERTIFICATION

The apparatus will be third-party, independent, audit-certified through Underwriters Laboratory (UL) to the current edition of NFPA 1901 standards. The certification includes: all design, production, operational and performance testing of the apparatus.

GENERATOR TEST

If the unit has a generator, the generator will be tested, approved, and certified by Underwriters Laboratories at the manufacturer's expense. The test results will be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

If the unit has breathing air, Underwriters Laboratories will draw an air sample from the air system and certify that the air quality meets the requirements of NFPA 1989, *Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection*.

INSPECTION TRIP(S)

The bidder will provide two (2) factory inspection trip(s) for two (2) customer representative(s). The inspection trip(s) will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.

MAXIMUM OVERALL LENGTH

The maximum overall length of the apparatus will be 32 feet.

APPROVAL DRAWING

A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.

WARRANTY



PERFORM. LIKE NO OTHER.

Limited Warranty

Except as provided below, and provided the vehicle will have been placed in service within 60 days after delivery to the original purchaser as established by our original invoice, for a period of **12 months** after delivery to the original purchaser, Pierce Manufacturing Inc. ("Pierce") warrants to the user that its Fire and Rescue Apparatus vehicles are free of defects in material and workmanship. This limited warranty will apply only if the vehicle is properly maintained and used in service, which is normal to the particular vehicle. Normal service means service which does not subject the vehicle to stresses or impacts greater than normally result from the careful use of the vehicle or chassis. If the buyer discovers a defect or nonconformity, it must notify Pierce in writing within 30 days after the date of discovery. This limited warranty is not transferable by the first user.

A copy of the Pierce warranty is included with this proposal.

WARRANTY 3-YEAR CUSTOM CHASSIS

Each new custom chassis will be warranted to be free from defects in materials or workmanship under normal use and service. Each manufacturer will supply on company letterhead, as part of their bid package, a copy of the detailed warranty or warranties that they propose to provide, and in no case will the custom chassis warranty be less than **three (3) years**. It will include as the minimum the A/C, defroster and heater systems, spring suspension components, independent suspension components, steering gears on the independent suspension, gauge instrumentation, seats, instrument consoles, and a \$10,000 collateral damage warranty on the transmission cooler. The electrical system, cab structural, engine, transmission, frame and crossmembers are to be covered under separate warranties throughout these specifications.

Failure to provide the warranties as outlined throughout these specifications will be cause for rejection of the bid package.

CROSSMEMBERS WARRANTY

A Lifetime parts and labor warranty will be provided on all chassis frame crossmembers.

IMPEL CHASSIS

The chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility, eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required.

SEATING CAPACITY

The seating capacity in the cab will be six (6).

WHEELBASE

The wheelbase of the vehicle will be 184.00 inches.



GVW RATING

The gross vehicle weight rating will be 45,000lbs.

FRAME

The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to a 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 inch pounds over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 inch pounds over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat treated .38" thick steel, with 3.50" wide flanges.

FRAME RAIL WARRANTY

Limited Warranty

Except as provided below, and provided the vehicle will have been placed in service within 60 days after delivery to the original purchaser as established by our original invoice, for a period of **50 years**, which is the estimated useful life of the vehicle, after delivery to the original purchaser, Pierce Manufacturing Inc. ("Pierce") warrants to the user that its chassis frame rail manufactured by Pierce are free of defects in design, material or workmanship. This limited warranty will apply only if the vehicle is properly maintained and used in service, which is normal to the particular vehicle. Normal service means service which does not subject the vehicle to stresses or impacts greater than normally result from the careful use of the vehicle or chassis. If the buyer discovers a defect or nonconformity it must notify Pierce in writing within 30 days after the date of discovery. This limited warranty is not transferable by the first user.

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FRAME REINFORCEMENT

In addition, a main frame inverted "L" liner will be provided. It also will be heat treated steel measuring 12.00" x 3.00" x .25". Each liner will have a section modulus of 7.795 cu. in., yield strength of 110,000 psi and rbm of 857,462 inch pounds. Total rbm at wheelbase center will be 3,976,502 pounds per rail.

The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.

FRONT NON DRIVE AXLE

The Oshkosh TAK-4[®] front axle will be of the independent suspension design with a ground rating of 18,000 pounds.



Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load will be zero degrees for optimum tire life.

The kingpin bearing will be of low friction design and be sealed for life.

Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.

The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this cramp angle.

FRONT NON DRIVE AXLE WARRANTY

The Oshkosh TAK-4 system will have a **three (3) year** parts and labor warranty. This warranty applies to the TAK-4 suspension components only. All steering linkages, pumps etc., are covered under our standard chassis warranty (exception steer gears - see Steering for warranty).

OIL SEALS

Oil seals with viewing window will be provided on the front axle.



SHOCK ABSORBERS

Heavy-duty telescoping shock absorbers (KONI) will be provided on the front suspension.

REAR AXLE

The rear axle will be a Meritor™, Model RS-25-160, with a capacity of 27,000 pounds.

REAR AXLE WARRANTY

The Meritor™ **two (2) year, unlimited mileage, parts and labor** warranty will be provided with this axle.

TOP SPEED OF VEHICLE

A rear axle ratio will be furnished to allow the vehicle to reach an approximate top speed of 65 MPH.

OIL SEALS

Oil seals will be provided on the rear axle.

DRIVER CONTROL DIFFERENTIAL LOCK (DCDL)

A rear axle will be equipped with a driver controlled differential lock (DCDL).

The control will be located within easy reach of the driver. An indicator light will be provided next to the control switch.

FRONT SUSPENSION

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 18,000 pounds.

The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each front wheel end will have energy absorbing jounce bumpers to prevent bottoming of the suspension.

The suspension design will have at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.



The independent suspension completed durability testing that simulated 140,000 miles of inner city driving.

REAR SUSPENSION

The rear springs will be Standens semi-elliptical, 3.00" x 52.00", 12-leaf main with a ground rating of 27,000 pounds. Castings will be used for spring hangers with provisions for lubrication. The grease fittings will be 90 degree type and will be accessible without removing the wheels or cutting any sheet metal. The two (2) top leaves will wrap the forward spring hanger pin and the top leaf will wrap the rear spring hanger pin on both the front and rear suspensions.

Kaiser spring pins will be provided, with double "figure-eight" grease grooves and a layer of electroless nickel plating, 1.0 mil thick, around the entire pin. The bushing that holds the spring pin in place will also have a grease groove.

ANTI-LOCK BRAKE SYSTEM

The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels. It will be a digitally controlled system that utilizes microprocessor technology to control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

AUTOMATIC TRACTION CONTROL

An anti-slip feature will be included with the ABS. The Automatic Traction Control will be used for traction in poor road and weather conditions. The Automatic Traction Control will act as an electronic differential lock which will not allow a driving wheel to spin, thereby supplying traction at all times. The ABS electronic control unit (ECU) will work with the engine ECU, sharing information concerning wheel slip. Engine ECU will use information to control engine speed, allowing only as much throttle application as required for the available traction, regardless of how much the driver is asking for. A "mud/snow" switch will be provided on the instrument panel. Activation of the switch will allow additional tire slip to let the truck climb out and get on top of deep snow or mud.

ANTI-LOCK BRAKE SYSTEM & AUTOMATIC TRACTION CONTROL WARRANTY

The Wabco ABS/ATC system will come with a **three (3) year or 300,000 mile parts and labor** warranty provided by Meritor Wabco Vehicle Control Systems.

BRAKES

The service brake system will be full air type.



The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

The brake system will be certified, third party inspected, for improved stopping distance.

The rear brakes will be Meritor™ 16.50" x 7.00" cam operated with automatic slack adjusters.

ENGINE BRAKE

A Jacobs Engine Brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high and low setting.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor will be a Cummins/Wabco with 18.7 cubic feet per minute output.

BRAKE SYSTEM

The brake system will include:

- Bendix-Westinghouse dual brake treadle valve with vinyl covered foot surface.
- One heated automatic moisture ejector on air dryer.
- Total air system capacity of 4,362 cubic inches.
- Two (2) air pressure gauges with red warning light and audible alarm, that activates when air pressure falls below 60 psi.
- MGM spring set parking brake system.
- Parking brake operated by a Bendix-Westinghouse PP-1 control valve.
- A parking "brake on" indicator light on instrument panel.
- Bendix-Westinghouse SR-1 valve, in conjunction with a double check valve system, will



provide an automatic spring-brake application at 40 psi.

- Bendix AD-IP air dryer.

BRAKE LINES

Color coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.

AIR INLET

One (1) air inlet with male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located in the driver side lower step well of cab. A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female coupling will also be provided with the loose equipment.

ENGINE

The chassis will be powered by a Cummins electronic engine as described below:

- Model: ISL
- Number of Cylinders: Six (6)
- Bore and Stroke: 4.49" x 5.69"
- Displacement: 543 cubic inches
- Maximum Horsepower: 425 hp at 2100 rpm
- Torque: 1200 lb-ft at 1300 rpm
- Compression Ratio: 16.6:1
- Governed rpm: 2200

Standard equipment on the engine will include the following:

- Air Cleaner: Farr or equal
- Fuel Filters: Dual, with check valve, integrated water separator, and water in fuel sensor
- Coolant Filter: Spin-on with shut off valves on the supply and return line
- Governor: Limiting speed type



- Injectors: Cam operated, unit type, clean tip
- Lube Oil Cooler
- Lube Oil Filter: Full flow
- Starting Motor: 12-volt
- Turbocharger
- Charge Air Cooled
- Priming Pump

ENGINE WARRANTY

The engine will have a **five (5) year or 100,000 mile** warranty provided by Cummins. This warranty will provide the same coverage for the Diesel Particulate Filter "DPF" that is an integral component of the exhaust emissions system. Cummins will add a \$100.00 deductible during the extended basic coverage period in years 3, 4, and 5. There will be no deductible in the first 2 years of warranty.

ENGINE INSTALLATION CERTIFICATION

A letter stating Cummins approves of the engine installation will be provided at the time of the bid. We are also prepared to submit an engine manufacturer approval of the completed apparatus at time of delivery.

CONTROLS AND INDICATOR LIGHTS

The following amber indicator lights will be located on the driver's side of the cab to denote engine information:

- Diesel Particulate Filter (DPF)
- High Exhaust Temperature (HET)

A switch to initiate the diesel particulate filter regeneration cycle will be located on the driver's side instrument panel.

ENGINE AIR INTAKE

An air intake with an ember separator (to prevent road dirt, burning embers, and recirculating hot air from entering the engine) will be mounted at the front of apparatus, on the passenger side of the engine. The ember separator will be mounted in the air intake with a flame retardant, roto-molded polyethylene housing, and be easily accessible by the hinged access panel at the front of the vehicle.



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EXHAUST SYSTEM

The exhaust system will be stainless steel from the turbo to the inlet of the diesel particulate filter and will be 4.00" in diameter. The exhaust system will include a diesel particulate filter and a diesel oxidation catalyst to meet current EPA standards. The exhaust will terminate horizontally ahead of the passenger side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. An insulation wrap will be provided on the exhaust pipe between the turbo and DPF inlet to minimize the transfer of heat to the cab. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

CLUTCH FAN

A Horton fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" and "Pump" position.

ENGINE HEATER

A 1000 watt, 120 volt, immersion type engine heater will be installed with the AC power inlet located to the rear of the driver's door.

HIGH IDLE

A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle".

COOLANT LINES

Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer.

Hose clamps will be stainless steel "constant torque type" to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.

RADIATOR

The radiator and the entire cooling system will meet or exceed all NFPA cooling system standards, as well as those specified by the engine manufacturer, under all truck operating conditions. The radiator will be a free floating design to reduce external stress. For visual inspection, the radiator will have a built-in low coolant sight glass and an electronically controlled low coolant display mounted on the instrument panel. An integral surge and deaeration tank, with a readily accessible remote mounted overflow tank, will be provided.



The cooling system will be designed to maintain a minimum pressure of 13 psi. A drain valve will be located at the lowest point of the cooling system and at other points to permit complete flushing of the coolant from the system. A heavy-duty fan, shrouded by recirculation shields, will draw in fresh, cool air through the radiator.

For maximum cooling performance the radiator core will be made of corrosion resistant aluminum alloy with serpentine fin design. The completed core will have a minimum of 1434 square inches of cooling area. The radiator will be mounted in a manner to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator core will be compatible with commercial antifreeze solutions.

There will be a full steel frame around the entire radiator assembly. This steel frame will be isolated from the frame rails with rubber in shear isolators. The radiator core will also be isolated with rubber within the steel frame to enhance cooling system reliability. Crimp on nylon tanks will serve as the supply and return header.

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be 17.75" wide x 12.75" high and be flush with the wall of the engine tunnel.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional tube will be provided for filling the engine oil.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush latch will be provided on the access door.

FUEL TANK

A 65-gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent.

A .75" drain plug will be located in a low point of the tank for drainage.

A fill inlet will be located on the driver's side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Diesel Fuel Only".

A .50" diameter vent will be installed from tank top to just below fuel fill inlet.

The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95% of tank volume.



All fuel lines will be provided as recommended by the engine manufacturer.

FUEL COOLER

An air to fuel cooler will be installed, in the engine fuel return line.

FUEL SHUTOFF

A shutoff valve will be installed in the fuel line, on both sides of the fuel filters.

TRANSMISSION

An Allison Gen IV, model EVS 3000P, electronic torque converting automatic transmission will be provided.

Two (2) PTO openings will be located on left side and top of converter housing (positions 9 o'clock and 3 o'clock).

A transmission temperature gauge with red light and audible alarm will be installed on the cab dash.

TRANSMISSION, SHIFTER

A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be: 1st - 3.49 to 1.00, 2nd - 1.86 to 1.00, 3rd - 1.41 to 1.00, 4th - 1.00 to 1.00, 5th - 0.75 to 1.00, 6th - 0.65 to 1.00, R - 5.03 to 1.00.

TRANSMISSION COOLER

A shell and tube transmission oil cooler will be provided, using engine coolant to control the transmission oil temperature. The cooler will have an aluminum shell, and copper tubes. The cooler will be assembled using pressed in rubber tube sheets to mechanically create a reliable seal between the coolant and the oil. No brazed, soldered, or welded connections will be used to separate the coolant from the oil.

TRANSMISSION COOLER WARRANTY

The Champ **three (3) year** parts, labor and collateral damage warranty will be provided with this cooler, plus an additional **two (2) years** of parts and labor only coverage. The collateral damage for the first three (3) years will not exceed \$10,000 per occurrence.

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100% parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be



getting on your Allison transmission. Please review your Allison transmission warranty for coverage limitations.

DRIVELINE

Drivelines will be a heavy duty metal tube and be equipped with Spicer 1710 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft, slip joint will be coated with Glidecoat or equivalent.

STEERING

Dual Sheppard M110 steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate a Vickers V20F three line hydraulic pump with integral pressure and flow control.

A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

A letter from the hydraulic pump manufacturer, stating they approve of the hydraulic pump selection, its operating temperature and flow, will be furnished with the bidder's proposal.

STEERING WARRANTY

The steering gear will have a three (3) year parts & labor warranty.

STEERING WHEEL

The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a four-spoke design.

TIRES

Front tires will be Michelin radials 315/80R22.50, 20 ply "all position" XZY 3 tread. The tires will be mounted on 22.50" x 9.00" steel disc-type wheels with a ten (10) stud, 11.25" bolt circle.

Rear tires will be four (4) XZY 3 Michelin radials 12R22.50, 16 ply "all position" tread. The tires will be mounted on 22.50" x 8.25" steel disc-type wheels with a ten (10)-stud 11.25" bolt circle.

LUG NUT COVERS

Chrome plated lug nut covers will be installed on all lug nuts.

WHEEL CHOCKS

There will be one (1) sets of folding Ziamatic SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle and SQCH-44-H horizontal mounting brackets provided.



The chocks will be mounted on the drivers side, head of the rear wheels.

AUTOMATIC TIRE CHAINS

One (1) pair of "Insta-Chain" automatic tire chains will be provided at the rear. System will be electric over air operated with "locking" switch on cab instrument panel to prevent accidental activation of the system. System may be engaged at speeds up to 25 mph and operated at speeds up to 35 mph.

CAB

The cab will be designed specifically for the fire service and will be manufactured by the chassis builder.

The cab will be constructed of 5052-H32 aluminum skins on extruded aluminum framing. For increased structural integrity and occupant protection, the cab structure will include, directly forward of the driver and passenger areas, a .25" firewall plate and .50" lateral support plate that will tie the forward corner posts to the engine tunnel. The cab roof will include a heavy one-piece aluminum extrusion with wall thickness up to .12", and will extend from side to side, and attach to the upper forward corner posts by customized aluminum castings. The sub-structure will include a .38" wall extrusion under the crew cab floor for support while tilting the cab. To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

The cab will be a full-tilt style to 80 degrees to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab. The cab will be tilted by an electric over hydraulic pump that is connected to two (2) cab lift cylinders 2.25" in diameter. The cab will be locked down by a two-point automatic locking mechanism actuated after the cab has been lowered. A three-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 102.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 112.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.



To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 62.95" in the center position and 68.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

STEPS

The forward cab and crew cab access steps will be a full size two-step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps. Three (3) step entrance designs will not be acceptable due to safety concerns. A slip-resistant handrail will be provided adjacent to each cab door opening to assist during cab ingress and egress.

ENGINE TUNNEL

To provide structural strength, the engine tunnel sidewalls will be constructed of .50" aluminum plate that is welded to both the .25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered.

The engine tunnel will be insulated on both sides for thermal and acoustic absorption. The underside of the tunnel will be covered with 1.00" thick polyether foam that is reinforced with an aluminized face. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The insulation will keep noise (dB) levels at or lower than the specifications in the current edition of the NFPA 1901 standards.

FENDER LINERS

Full-circular, aluminum, inner fender liners in the wheel wells will be provided.

REAR WALL COVERING

The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.

PANORAMIC WINDSHIELD

A one-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers; the outer light, the middle safety laminate, and the inner light. The .114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces



from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

SUNVISORS

Two (2) smoked Lexan sunvisors 7.75" x 28.12" long will be provided. The sunvisors will be located above the windshield with one (1) mounted on each side of the cab.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather. The wiper system will be tested and certified to 2,953,000 cycles.

The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD

A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the "Pierce" logo. The two-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

CAB INTEGRITY CERTIFICATION

The fire apparatus manufacturer will provide a cab integrity certification with this proposal. The certification will state that the cab has been tested and certified by an independent third-party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state-licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.



- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

- Roof Crush

The cab will be subjected to a roof crush force of 22,050 lbs. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of 10 metric tons.

- Additional Roof Crush

The same cab will be subjected to a roof crush force of 100,000 lbs. This value exceeds the ECE 29 criteria by nearly 4.5 times.

- Side Impact

The same cab will be subjected to dynamic preload where a 13,275 lb moving barrier slams into the side of the cab at 5.5 mph at a force of 13,000 ft-lbs. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

- Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lbs of force using a moving barrier in accordance with SAE J2420.

- Additional Frontal Impact

The same cab will withstand a frontal impact of 65,200 ft-lbs of force using a moving barrier, (twice the force required by SAE J2420).

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB FLOOR

The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a .25" thick closed cell foam (no water absorption), which offers a sound dampening material for reducing sound levels.

CREW CAB WINDOWS

One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 20.00" wide x 20.50" high.

The rear wall of the crew cab will have two (2) windows, each being 8.00" wide x 14.00" high.



DOORS

The forward cab and crew cab doors will be the half-height style door. To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 64.71" high. The crew cab doors will measure a minimum of 37.87" wide x 73.75" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of .125". The exterior door skins will be constructed from .090" aluminum.

Each forward cab and crew cab entry door will contain a roll-down laminated window. The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.

A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands. Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.

A full length, heavy duty, stainless steel, piano-type hinge with a .38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

The inner cab door panels will be constructed of brushed stainless steel and be removable without requiring the disconnection of door and window mechanisms. A dark grey vacuum formed ABS panel will house the window switches and will mold into the upper sill of the door panel.

The cab steps at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.

CAB DOOR SCUFFPLATES

Cab door scuffplates are not required due to s/s door panels on cab doors.

ELECTRIC WINDOW CONTROLS

Each cab entry door will be equipped with an electrically operated window. A window



control panel will be ergonomically molded into the armrest of the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1/2 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.

LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON

The steering wheel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for customer's department name. There will be a maximum of eight (8) characters in the first row, eleven (11) characters in the second row and eleven (11) characters in the third row.

The first row of text will be: Foothills

The second row of text will be: F.P.D.

The third row of text will be: .

RECESSED POCKET WITH ELASTIC COVER

To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be 6.50" wide x 2.12" high x 6.00" deep and will be constructed of rugged, impact resistant, roto-molded low density polyethylene. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed in all available mounting locations of the overhead console and instrument console.

GRILLE

A bright painted aluminum mesh grille screen, inserted behind the painted fiberglass cab front panel, will be provided on the front center of the cab, and will serve as an air intake to the radiator.

FENDER CROWNS

Stainless steel fender crowns will be installed at cab wheel openings.

FRONT CAB TRIM

Bright finished circular trim rings will be installed around the four (4) headlights for an enhanced, streamlined automotive appearance.

MOLDING (on sides of cab)

Chrome molding will be provided on both sides of cab.

CAB LIFT



A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves.

The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2' (coiled) to 6' (extended).

The rear of the cab will be locked down by a two-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2 1/4" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position.

For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.

INTERLOCK, CAB LIFT TO PARKING BRAKE

The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.

MIRRORS

A Velvac, model 2010, west coast mirror will be mounted on each side of the front cab door. Mirror dimensions will be 7.00" wide x 16.00" high, and will be heated and motorized. The shell will be bright annealed stainless steel.

Both mirrors will be heated and have a remote control that is convenient to the driver.

BUMPER

A one (1) piece, ten (10) gauge 304-2B polished stainless steel bumper, a minimum 10.00" high will be attached to the front of the chassis frame.

A 9.00" formed steel channel will be mounted directly behind bumper for additional strength.

LIFT AND TOW MOUNTS

Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems.

The lift and tow mounts with eyes will be painted the same color as the frame.



GRAVEL PAN

A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face.

TOW HOOKS

No tow hooks are to be provided. This truck will be equipped with a lift and tow package with integral tow eyes.

CAB INTERIOR

With safety as the primary objective, the wrap-around style, impact resistant, rugged, roto-molded cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road. The center console will be an impact resistant, roto-molded low density polyethylene, and will include an easily removable cover for the defroster. The defroster cover will include louvers strategically located for optimal air flow and defrost capability to the windshield. The center console will also provide two (2) recessed pockets to be used for radio chargers, or storage for miscellaneous items. The passenger side dashboard will be constructed of roto-molded heavy duty polyethylene, with a stylish, automotive appearance. For enhanced versatility, the passenger side roto-molded dash will include a flat painted aluminum working surface. To provide optional (service friendly) control panels, switches and storage modules, a three (3) piece, 4mm thick polyethylene roto-molded overhead console will also be provided. To complete the cab front interior design, roto-molded polyethylene modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a lockable glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.

To provide a deluxe automotive interior, the engine tunnel will be covered by a leather grain vinyl that is resistant to oil, grease, and mildew. For durability and ease of maintenance, the cab interior side walls and rear wall will be painted gray, vinyl texture paint aluminum.

For a customized appearance, the contoured inner door liners will be constructed of an impact resistant, roto-molded heavy duty polyethylene. The inner panels will include grab handles and control panels molded into the upper section of the door panel. The door panels will extend 36.50" down from the door window.

The headliner will be installed in both forward and rear cab sections. The crew cab headliner will be one piece. The headliner panel will be a composition of a corrugated high density polyethylene panel covered with a sound barrier and upholstery. For quick, easy access of electrical wiring, or to perform other maintenance needs without stripping screws, the headliner will be held in place by a dual lock fastening system that will require no tools for installation or removal.



PERFORM. LIKE NO OTHER.

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by a decorative composite panel. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place, not pulled through holes drilled in aluminum tubing. Once laid in place, all harnesses will be held in position by a hook and loop fastening system. The hook and loop system will allow for bracket fastener points to not puncture harnesses. The raceways will include removable covers, providing maintenance personnel with quick and easy access for trouble shooting, or the addition of accessories. Harnesses will be located within the raceway behind the wire way cover.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be dark silver gray. All cab interior materials will meet FMVSS 302 (flammability of interior materials).

INTERIOR PAINT (Cab)

A rich looking interior will be provided by painting all the metal surfaces inside the cab gray, vinyl texture paint.

GRAB HANDLE

A black rubber covered grab handle will be mounted on the door post of the driver side cab door to assist in entering the cab. The grab handle will be securely mounted to the post area between the door and windshield.

A reinforced grab handle with 14.9" wide hand clearance will be designed as an integral part of the roto-molded dash panel, and will be located directly in front of the front passenger seat.

DRIVER SEAT

A Pierce PS6 seat will be provided in the cab for the driver. The seat design will be a cam action type with air suspension. To maintain optimal seat position and ride quality for a broader range of occupant sizes, the suspension will be provided with a height control valve that automatically positions the seat in the center of the suspension travel (1.88") when the occupant sits down. For increased convenience, the seat will include electric controls to adjust the rake (15 degrees), height (1.12" travel) and horizontal (7.75" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. Providing for maximum comfort, the seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and



will include minimum 7.50" deep side bolster pads for maximum support. The lumbar adjustment lever will be easily located at the lower outboard position of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control).

The seat will include the following features incorporated into the side roll protection system.

Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.

A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt, then retract the seat to its lowest travel position.

The seat will be furnished with a three-point, shoulder type seat belt. To provide quick, easy use for occupants wearing bunker gear, the seat belt will have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat belt webbing will be red in color.

PASSENGER SEAT, FRONT

A Pierce PS6 seat will be provided in the cab for the passenger. The seat will be a cam action type with air suspension. To maintain optimal seat position and ride quality for a broader range of occupant sizes, the suspension will be provided with a height control valve that automatically positions the seat in the center of the suspension travel (1.88") when the occupant sits down. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control will be a towel-bar style located below the forward part of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not belted.

The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system.

Side air curtain will be mounted integral to the outboard bolster of the seat back. The air



curtain will be covered by a decorative panel when in the stowed position.

A suspension seat safety system will be included. When activated, this system will pretension the seat belt and then retract the seat to its lowest travel position.

The seat will be furnished with a three-point, shoulder type seat belt. To provide quick, easy use for occupants wearing bunker gear, the seat belt will have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat belt webbing will be red in color.

REAR FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) rear facing, Pierce PS6 seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system.

Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.

A seat safety system will be included. When activated this system will pretension the seat belt and firmly hold the occupant in the event of a side roll.

The seat will be furnished with a three-point, shoulder type seat belt. To provide quick, easy use for occupants wearing bunker gear, the seat belt will have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat belt webbing will be red in color.



REAR FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) rear facing, Pierce PS6 seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle. It will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system.

Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.

A seat safety system will be included. When activated this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

The seat will be furnished with a three-point, shoulder type seat belt. To provide quick, easy use for occupants wearing bunker gear, the seat belt will have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat belt webbing will be red in color.

FORWARD FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) forward facing seat provided at the passenger side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with a 15.00" deep, foldup, foam cushion, and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system.



Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.

A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

The seat will be furnished with a three-point, shoulder type seat belt. To provide quick, easy use for occupants wearing bunker gear, the seat belt will have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat belt webbing will be red in color.

FORWARD FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) forward facing, seat provided at the driver side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be provided with a 15.00" deep, foldup, foam cushion, and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will include the following features incorporated into the side roll protection system.

Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.

A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.

The seat will be furnished with a three-point, shoulder type seat belt. To provide quick, easy use for occupants wearing bunker gear, the seat belt will have a minimum 120.00" shoulder length and 55.00" lap length. The seat belt tongue will be stored at waist position for quick application by the seat occupant. The seat belt receptacle will be provided on a cable conveniently nested next to the seat cushion, providing easy accessibility. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The seat belt webbing will be red in color.

EMS COMPARTMENT

An EMS compartment, 42.00" wide x 48.00" high x 24.00" deep with one (1) Gortite



roll up door, non-locking, with white finish will be provided in the crew cab. The compartment will be provided with no false floor.

The compartment will be constructed of smooth aluminum, and painted to match the cab interior.

COMPARTMENT LIGHT

Two (2) Krystal-lite, Model "Super Bright", strip lights will be provided and mounted vertically along the side of the door framing. The lights will be held in place with clear strips supplied with the lights. The lights will be controlled by an automatic door switch.

This storage compartment will be compliant per NFPA standard for automotive fire apparatus.

RADIO COMPARTMENT

A compartment for the radio amplifier will be located on the floor of the cab behind the front passenger seat. A lift-up door with a chrome plated lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior. The radio control will be located in the overhead console on the passenger side.

SEAT UPHOLSTERY

All Pierce PS6 seat upholstery will be gray woven with black Imperial 1200 material.

AIR BOTTLE HOLDERS

All SCBA type seats in the cab will have a Ziamatic model ULLH SCBA holder bracket. This bracket will be compliant with the current NFPA 1901 standard and will include a backplate, two seats, a footplate and the model LLS ("Load & Lock") strap to hold the bottle in the bracket. The bracket seats will be a "one size fits all" style seat and will accommodate SCBA cylinders from the high pressure 30-minute to the high pressure 60-minute. Seats will be adjustable up and down by unbolting, relocating, and rebolting in the desired position.

SEAT BELTS (red)

All seating positions in cab and crew cab will have red seat belts.

INDICATOR LIGHT

The seat belt not fastened light and alarm will be designed so a seat must be occupied and the respective seat belt is not buckled to activate the alerts.

A red indicator light located on the cab gauge panel will be furnished. The indicator light and alarm will operate as follows if an occupant is not buckled:

Parking brake engaged:



The indicator light will be active (steady)
The audible alarm will be inactive

Ignition switch on and the parking brake disengaged:

The indicator light will operate as follows:

Flash for the first 30 seconds

Remain active (not flashing) for the next 60 seconds

Continue by flashing quickly for 5 seconds at every 30-second interval until all occupants seat belts are buckled.

An audible alarm will chime quickly whenever the indicator light flashes quickly.

The alarm will repeat this process until all occupants are buckled.

The indicator light and alarm will deactivate when all occupants seat belts are buckled.

All folding and non-folding seats in the cab will contain the seat belt not buckled feature.

SHOULDER HARNESS HEIGHT ADJUSTMENT

All seating positions furnished with three (3)-point shoulder type seat belts, will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter.

A total of six (6) seating positions will have the adjustable shoulder harness.

FRONTAL IMPACT PROTECTION

The cab will be equipped with a frontal impact protection system consisting of one (1) air bag in front of the driver, one (1) knee bolster air bag in front of the forward passenger seating position, and S4 for suspension seats or belt pretensioner for fixed seats in the driver and forward passenger positions. The air bags will be designed specifically for the cab configurations they are used in.

The cab and chassis design will have been subjected, via third party test facility, to a 21 MPH crash impact during frontal and oblique impact testing. Testing will include all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspension components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing will provide configuration specific information used to optimize the timing for firing the air bags.

The driver side air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt, in the event of a frontal or oblique impact. The passenger side knee



bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt, in the event of a frontal or oblique impact.

In the event of a frontal or oblique impact, the system will deploy the front driver and passenger side air bags, and activate the following components integrated into the driver and front passenger cab seats:

- Suspension seats will be retracted to lowest travel position.
- Seat belts will be pretensioned to firmly hold the occupants in place.

SIDE ROLL PROTECTION PACKAGE

Firefighter safety is of utmost importance to Pierce Manufacturing, Inc. As part of our total commitment to the safety of the personnel, an advanced side roll protection system is being provided. This package is a supplemental restraint system that is designed for use with the seat belts. Pierce has designed this system to react to either a fast or a slow 90-degree roll to the side, in which the vehicle comes to rest on its side. The system will consist of the following key components:

A side roll sensor will be installed in the cab above the engine tunnel between the headliner and the cab roof skin. The sensor analyzes the vehicle's angle and rate of roll to activate the advanced occupant restraints 120 ms before the cab reaches 60 degrees from vertical. In the event of a side roll, the sensor will activate the advanced occupant restraints. The sensor does not activate in the event of a frontal impact, side impact, or any other incidents not involving a vehicle side rollover. If more than eight protective devices are required, a slave side roll sensor will be provided, with the capacity for additional protective devices. This sensor performs real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll event.

A fault-indicating light will be provided on the vehicle's instrument panel.

In the event of a side roll, the system will activate the following components integrated into the cab seats.

A side air curtain will be mounted in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.

Suspension seats will be retracted to lowest travel position, and seat belts will be pretensioned to firmly hold the occupant in place.

CAB WARRANTY



Limited Warranty

Except as provided below, and provided the vehicle will have been placed in service within 60 days after delivery to the original purchaser as established by our original invoice, for a period of **ten (10) years** after delivery to the original purchaser **or the first 100,000 miles** of use, whichever first occurs, Pierce Manufacturing Inc. ("Pierce") warrants to the user that its custom fire and/or rescue vehicle cab are free of defects in design or workmanship in the cab tubular support and mounting supports and other cab structural components identified in Pierce specifications. This limited warranty will apply only if the vehicle is properly maintained and used in service which is normal to the particular vehicle. Normal service means service which does not subject the vehicle to stresses or impacts greater than normally result from the careful use of the vehicle or chassis. If the buyer discovers a defect or nonconformity it must notify Pierce in writing within 30 days after the date of discovery. This limited warranty is not transferable by the first user.

A copy of the Pierce warranty is included with this proposal.

ENGINE COMPARTMENT LIGHT

An engine compartment light will be installed under the engine hood, of which the switch is an integral part. Light will have a .125" diameter hole in its lens to prevent moisture retention.

CAB DOME LIGHTS

There will be two (2) Weldon Model 8081, incandescent dome lights installed in the cab providing an overall lower cost of ownership. The lights will be mounted above the inside shoulder of the driver and officer. The forward, clear, light will be controlled by the door switch and the lens switch. The rear, red, light will be controlled by the lens switch only.

In addition, there will be two (2) adjustable map lights with an integral switch recessed into the cab ceiling. One (1) light will be located above the driver's seat and one (1) light will be located above the officer's seat.

CREW CAB DOME LIGHTS

There will be two (2) Weldon Model 8081, incandescent dome lights installed in the crew cab. The forward, clear, light will be controlled by the door switch and the lens switch. The rear, red, light will be controlled by the lens switch only.

STEP LIGHTS

For reduced overall maintenance costs compared to incandescent lighting, there will be four (4) Ritar, Model M27HW2, LED, step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step, in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep.



The lights will be activated when the adjacent door is opened.

CAB DEFROSTER

To provide maximum defrost and heating performance, a 54,961-BTU heater-defroster unit with 558 SCFM of air flow will be provided inside the cab. The defroster unit will be strategically located under the center forward portion of the roto-molded instrument panel. For easy access, a removable roto-molded cover will be installed over the defroster unit. The defroster will include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the one piece windshield. The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance. The defroster will be capable of clearing 98% of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees F for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 (minimum defrosting system performance requirements).

CAB/CREW CAB HEATER

Two (2) 36,702-BTU auxiliary heaters with 276 SCFM (each unit) of air flow will be provided inside the crew cab, one in each outboard rear-facing seat riser. The heaters will include high performance dual scroll blowers (one for each unit). Outlets for the heaters will be located below each rear-facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum will be incorporated in the cab structure that will transfer heat to the forward cab seating positions.

The heater-defroster and crew cab heaters will be controlled by a single integral electronic control panel. The heater control panel will allow the driver to control heat flow to the front and rear simultaneously. The control panel will include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel will include highly visible, progressive LED indicators for both fan speed and temperature. For increased convenience, an optional dual control for the passenger position will also be available.

CAB INSTRUMENTATION

The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, audible warning and control switches. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the label wording for after dark operation. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauges and emergency vehicle switches will be installed on removable panels for ease of service and low cost of ownership.

GAUGES

The gauge panel will include the following nine (9) black faced gauges with black bezels to



PERFORM. LIKE NO OTHER.

monitor vehicle performance:

- Voltmeter gauge
- Tachometer
- Speedometer
- Fuel level gauge
- Engine oil pressure gauge
- Front air pressure gauge
- Rear air pressure gauge
- Transmission oil temperature gauge
- Engine coolant temperature gauge

All gauges will perform prove out at initial power-up to ensure proper performance.

INDICATOR LAMPS

To promote safety, the following telltale indicator lamps will be located on the instrument panel in clear view of the driver. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols. The following amber telltale lamps will be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Aux brake overheat (Auxiliary brake overheat)
- Air rest (air restriction)
- Caution (triangle symbol)
- Water in fuel
- DPF (engine diesel particulate filter regeneration)
- Trailer ABS (where applicable)
- Wait to start (where applicable)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- Side roll fault (where applicable)

The following red telltale lamps will be present:

- Warning (stop sign symbol)
- Seat belt
- Parking brake
- Stop engine
- Rack down

The following green telltale lamps will be provided:

- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:



High beam

Indicator lamps will perform prove out at initial power-up to ensure proper performance.

CONTROL SWITCHES

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Ignition switch: For ease of use in low light conditions, the switch will contain a red indicator light which will activate when the battery switch is on and a green indicator light which will activate whenever the ignition switch is on.

Momentary engine start switch: For ease of use in low light conditions, an integral red indicator light will activate with the battery switch.

Heater and defroster controls

Headlight / Parking light switch: A three (3)-position switch will be provided. The first switch position will deactivate all parking lights and the headlights. The second switch position will activate the parking lights. The third switch position will activate the headlights.

Turn signal arm:

Self canceling turn signal

Wiper controls:

Wash function

Hi/Low/Intermittent (4 speeds)

Hazard switch will be incorporated into the steering column.

Parking brake control

Chassis horn control will be provided in the center of the steering wheel

Audible steady tone warning alarm

Audible pulsing tone caution alarm: Any active audible alarms will be silenced by holding the ignition switch at the top position for 3-5 seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm conditions no longer exist. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. For added convenience, any new warning or caution conditions will enable again the steady or pulsing tones respectively.

DIAGNOSTIC PANEL

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

Engine diagnostic port

Transmission and ABS diagnostic port

Roll sensor diagnostic port



Command Zone USB diagnostic port
Engine diagnostic switch (blink codes)
ABS diagnostic switch (blink codes)

CAB LCD DISPLAY

An integral digital 4 row by 20 character dot matrix display will be incorporated into the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into 3 sections. For ease of use each section will have a dedicated function. Section one (1) will provide informational messages such as the odometer. Section two (2) will display user friendly caution and warning text messages. The text messages will automatically activate anytime an audible caution or warning tone exists to provide information to the operator of the caution or warning condition. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist. Section three (3) will indicate additional information such as outside temperature.

SWITCHES

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer.

- High Air Restriction Warning Indicator Light: LCD message with amber warning indicator and audible alarm.

WIPER CONTROL

For simple operation and easy reach, the windshield wiper control will be an integral part of the directional light lever located on the steering column. The wiper control will include high and low wiper speed settings, a five (5) speed intermittent wiper control and windshield washer switch. The control will have a "return to park" provision, which allows the wipers to re-turn to the stored position when the wipers are not in use.

INSTRUMENT CONSOLE WITH CUP HOLDER

The center console will include an impact resistant, roto-molded, low density polyethylene extension. The console extension will provide additional control and optional instrumentation mounting with easy accessibility for both the driver and passenger. For convenience, the rear portion of the console extension will provide a molded cup holder insert on the passenger side.

- Pyrometer gauge for engine exhaust (temperature).

RADIO WITH CD PLAYER



A Panasonic AM/FM stereo radio with compact disc player with the minimum following specifications will be included :

Audio

4-channel high power amp (45W x 4 speakers, max)
2V rear channel preamp-out
Loudness, muting

CD Player

Playback compatible with digital audio CD-R (when disc is finalized)
Hologram pickup
One-chip digital circuit
1-bit 4-DAC digital-to-analog conversion
Multi-stage noise shaping
Digital servo optical control
12-track direct access, track scan, search, repeat, and random play
Anti-shock floating mechanism
Auto loading mechanism
Frequency Response (+/- 1dB) - 20Hz-20kHz
S/N Ratio - 96dB
THD (1kHz) - 0.01%
Channel Separation (1kHz) - 75dB

Radio

Alphatuner V
18 FM channels and 6 AM channels preset with preset scan
Auto preset memory followed by auto scan
FM Optimizer (FMO), Adaptive FM Front End (AFE), and Impulse Noise Quieting (INQ)
AM Usable Sensitivity (S/N 20dB) - 28dB
FM Usable Sensitivity (75 ohms, S/N 30dB) - 11dBf
50 dB Quieting Sensitivity (75 ohms) - 15.2 dBf
Alternate Channel Selectivity - 75dB
Stereo Separation (1kHz) - 42dB
S/N Ratio (FM mono) - 70 dB

Display and other features

Removable faceplate
Built-in quartz clock

The compact disc stereo radio will be mounted within reach of the driver.

The quantity and location of the speakers will be one (1) pair of 5.25" speakers located in the



cab and one (1) pair of 5.25" speakers located in the crew cab.

The type and location of the antenna will be a roof-mounted rubber antenna located in an open space, on the cab roof.

RADIO ANTENNA MOUNT

There will be two (2) standard antenna mounting bases, model MATM with 17 feet of coax cable and weatherproof cap, will be provided for 2-way radio installation. The standard mount will be located on the cab roof, just to the rear of the officer seat and the additional mount(s) will be located on the drivers side to the rear of the light bar. The cable will be routed to the radio box with enough cable for the customer to route it to the instrument panel if needed.

SWITCH PANELS

The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located on the driver and passenger side overhead to allow for easy access. For ease of use, an additional emergency light master switch will be located to the left of the steering column below the gauge panel and work in conjunction with all other emergency master switches.

The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever backlighting is activated and illuminated red whenever the switch is active. For ease of use, a 2-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.

ELECTRICAL POWER CONTROL SYSTEM

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be accessible without the need for additional tools.

Distribution centers located throughout the vehicle will contain battery powered studs for surrounding and customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect



electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125% of the maximum current for which the circuit is protected per NFPA.

SOLID-STATE CONTROL SYSTEM

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

- Green LED indicator light for module power
- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators
- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to this vehicle's configuration
- Factory and field reprogrammable to accommodate changes to the vehicles operating parameters
- Complete operating and troubleshooting manuals
- USB connection to the main control module for advanced troubleshooting

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

- Module circuit board will meet SAE J771 specifications.
- Operating temperature from -40C to +70C
- Storage temperature from -40C to +70C
- Vibration to 50g
- IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and 1 meter)
- Operating voltage from 8 volts to 16 volts DC



The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

CIRCUIT PROTECTION AND CONTROL DIAGRAM

Copies of all job-specific, computer network input and output (I/O) connection will be provided with each chassis. The Sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

ON-BOARD ELECTRICAL SYSTEM DIAGNOSTICS

Advanced on-board diagnostic messages will be provided to support rapid troubleshooting of the electrical power and control system. The diagnostic messages will be displayed on the information center located at the driver's position.

The on-board information center will include the following diagnostic information:

- Text description of active warning or caution alarms
- Simplified warning indicators
 - Amber caution light with intermittent alarm
 - Red warning light with steady tone alarm

ADVANCED DIAGNOSTICS

An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with an IBM compatible computer.

The service and maintenance software will be easy to understand and use, have the ability to view system input/output (I/O) information, and include a USB cable for connection from a computer to the vehicle.

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

VOLTAGE MONITOR SYSTEM

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

DEDICATED RADIO EQUIPMENT CONNECTION POINTS



There will be four (4) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment.

The studs will consist of the following:

- 12-volt 40-amp battery switched power
- 12-volt 100-amp ground
- 12-volt 60-amp ignition switched power
- 12-volt 60-amp direct battery power

ENHANCED SOFTWARE

The solid-state control system will include the following software enhancements:

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released

Cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors close. The dome lights will dim after 10 seconds or immediately if the vehicle is put into gear.

Cab and crew cab perimeter lights will remain on for 10 seconds for improved visibility after the doors close. The dome lights will dim after 10 seconds or immediately if the vehicle is put into gear.

EMI/RFI PROTECTION

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to insure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10Khz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10Khz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.



INFORMATION CENTER

A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.

RADIO INTERFACE

Due to the combination of the mobile radio and the brand of intercom system, a mobile radio interface adapter is not required for this application.

HITCH RECEIVER

A hitch receiver will be provided at the front of the vehicle, center position under the bumper extension. The hitch will be a receiver for a 2.00" trailer ball insert and a portable winch with a maximum weight rating of 9,000 pounds.

BATTERY SYSTEM

Four (4) 12 volt, Exide, Model: 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 3800 CCA at 0 degrees Fahrenheit
- 760 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

BATTERY SYSTEM

A single starting system will be provided.

An ignition switch and starter button will be located on the instrument panel.

MASTER BATTERY SWITCH

A master battery switch, to activate the battery system, will be provided inside the cab within easy reach of the driver.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.



BATTERY COMPARTMENTS

The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 10 gauge steel, and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy duty roto-molded polyethylene battery tray inserts on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access. A tag will be provided for positive/negative terminals.

BATTERY CHARGER/ AIR COMPRESSOR

A Kussmaul Pump Plus 1200, model 091-9-1200 single output battery charger/air compressor system will be provided. A display bar graph indicating the state of charge will be included.

The automatic charger will maintain one (1) set of batteries with a maximum output current of 40 amps.

The 12-volt air compressor will be installed to maintain the air system pressure when the vehicle is not in use.

The battery charger/compressor will be wired to the 120-volt shoreline to activate automatically when power is connected.

Battery charger/compressor will be located in the front left body compartment.

The battery charger indicator will be located behind the driver's door on the outside of the cab.

ELECTRIC POWER FOR WINCH

Electric power provisions will be furnished for the portable winch from the chassis battery system.

The receiver plug will be located at the front, sides, and rear receivers.

A total quantity of four (4) receptacles will be provided.

ALTERNATOR

A Leece-Neville, model 4890JB, alternator will be provided. It will have a rated output current of 320 amps, as measured by SAE method J56. The alternator will feature an



integral, self diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

THIRD SPARE CIRCUIT

There will be four (4) pair of wires installed.

The above wires will have the following features:

- Wires will be connected directly to the battery power.
- Wires are protected to 20 amps.
- Power and ground will end on the passenger side of the engine tunnel.
- Termination is with 15 amp, power point plug with rubber cover.
- Wires will be sized to 125% of the protection.

SPARE CIRCUIT

There will be two (2) pair of wires installed.

The above wires will have the following features:

- Wires will be connected directly to the battery switched power.
- Wires will be protected to 20 amps.
- Power and ground will end in location determined at pre-construction.
- Termination will be with 3/8" studs and plastic covers.

Wires will be sized to 125% of the protection.

SECOND SPARE CIRCUIT

There will be two (2) pair of wires installed.

The above wires will have the following features:

- Wires will be connected directly to the battery power.
- Wires are protected to 20 amps.
- Power and ground will end at location determined at pre-construction.
- Termination is with heat shrinkable butt splicing.
- Wires will be sized to 125% of the protection.

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not



be allowed.

The system will include the following features:

- System voltage monitoring.

- A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.

- Sixteen available electronic load shedding levels.

- Priority levels can be set for individual outputs.

- High Idle will activate before any electric loads are shed and deactivate with the service brake.

 - If enabled:

 - “Load Man Hi-Idle On” will display on the information center.

 - Hi-Idle will not activate until 30 seconds after engine start up.

- Individual switch "on" indicator to flash when the particular load has been shed.

- The information center indicates system voltage.

The information center includes a "Load Manager" screen indicating the following:

- Load managed items list, with priority levels and item condition.

- Individual load managed item condition:

 - ON = not shed

 - SHED = shed

SEQUENCER

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights will be activated one by one at half second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half second intervals:



Cab Heater and Air Conditioning
Crew Cab Heater (if applicable)
Crew Cab Air Conditioning (if applicable)
Exhaust Fans (if applicable)
Third Evaporator (if applicable)

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- 1) Documentation of the electrical system performance tests.
- 2) A written load analysis, which will include the following:
 - A) The nameplate rating of the alternator.
 - B) The alternator rating under the conditions specified per:
Applicable NFPA 1901 or 1906 (Current Edition).
 - C) The minimum continuous load of each component that is specified per:
Applicable NFPA 1901 or 1906 (Current Edition).
 - D) Additional loads that, when added to the minimum continuous load, determine the total connected load.
 - E) Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

EXTERIOR LIGHTING

Exterior lighting will comply with Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at time of proposal.

Front headlights will be round halogen lights mounted in the front trim housing. Headlights will consist of two (2) lights mounted in the front trim on each side of the cab grill. The outside light on each side will contain a low and high beam. The inside light on each side will contain of a high beam light only.

The following LED lighting package will provide long life lights for a lower cost of ownership:



- One (1) Whelen 600 series LED combination directional/marker light will be located in the outside corners of the headlamp trim housing on each side.

- Three (3) Ri-Tar LED clearance lamps will be installed in the center of the cab on the trim above the windshield.

- Four (4) Ri-Tar LED identification lamp will be installed, one (1) each side, facing forward and one (1) each side, facing the side on the trim above the windshield.

WARNING LIGHTS (Cab Face)

Two (2) pair of Whelen model 60*02F*R LED lights will be installed on the cab face, above the headlights and will be provided without 6E or 64 flange kit.

The outer LEDs will be required for NFPA and will meet or exceed the NFPA required light output for the front lower zone. The color of these LEDs will be DS red Super LED/red lens, PS blue Super LED/blue lens.

The inner LEDs will be additional lighting. The color of these lights will be two (2) clear Super LED one each side.

Both sets of lights will be activated by the same switch in the cab.

BACK-UP ALARM

An ECCO, Model SA917-PM2, solid state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum five (5) dBa above surrounding environmental noise levels.

MANUAL, FIRE APPARATUS PARTS

Two (2) custom parts manuals for the complete fire apparatus will be provided in hard copy with the completed unit.

The manual will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in Alphabetical order
- Instructions on how to locate a part

The manual will be specifically written for the chassis and body model being purchased. It



will not be a generic manual for a multitude of different chassis and bodies.

SERVICE PARTS INTERNET SITE

The service parts information included in this manual is also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

MANUALS, CHASSIS SERVICE

Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit.

The manuals will contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

MANUALS, CHASSIS OPERATION

Two (2) chassis operation manuals will be provided.

COMMAND ZONE WARRANTY

The Command Zone modules, membrane switches, and display(s) will be warranted against defective materials or workmanship for a period of **five (5) years** from the date of delivery to the original purchaser. The warranty will also include a standard repair time for covered components.

A copy of the fire apparatus manufacturer's warranty will be included with the bid.

ELECTRICAL WIRING DIAGRAMS



Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.

HEAVY DUTY RESCUE BODY CONSTRUCTION

The rescue body will be of all aluminum construction. The body will use .125" and .188" 5052 aluminum with a tensile strength of 38,000 psi and a yield strength of 31,000 psi for the front, rear and side panels. The compartment dividers and compartment backs will also use aluminum. The structural support framing and the gussets used will be of 2.00" square .125" wall 6061 aluminum alloy tubing. All exterior body corners will be 3.00" radius aluminum, corrosion resistant alloy 6061 extrusions. Spacing of the 2.00" vertical supports will not exceed 14.00" on center. The roof and corner extrusions will be reinforced with interconnecting gusset supports at all stress points. The body will be properly welded into a unitized construction. Proper reinforcing and supports will be utilized throughout all construction to ensure strength and rigidity.

MODULE FABRICATION AND DESIGN

The substructure for the body will not be integral with the body but be a separate assembly. The body will be built as a separate module prior to being mounted onto the substructure.

BODY AND COMPARTMENT SUPPORT

The body will be supported by 2.00" x 2.00" x .25" wall aluminum tubing. The cross sill tubes will be spaced approximately 15.00" on center and interconnected to the body from the front to rear.

A 1.00" x 3.00" aluminum bar will be used as a stringer and will be welded to the cross sills. The stringer will be used to mount the body to the chassis frame rails. A 3.00" x .75" rubber liner will be placed on top of the chassis frame rails. The liner is used to prevent metal to metal contact where the body stringer rests on the chassis frame rails.

The body will be secured to the chassis frame by a minimum of six tie-down assemblies. Each tie-down assembly will consist of two 2.00" x 6.25" x .75" steel plates and two .50" steel rods, 14.00" long. The tie downs will be easily accessible so that the body may be removed.

The bottom of each lower compartment floor will be supported by an underslung steel angle grid. The underslung support will be constructed of .50" (13 mm) x 2.50" x 2.50" steel angle vertical supports. Horizontal members will be .38" x 2.00" x 3.00" and .38" x 2.50" x 3.50" steel angle. The compartment floors will be bolted to the underslung substructure. The support will transfer major stress to the chassis frame and not through the body.

The underslung structure will be bolted to the chassis frame rails with Grade 8 bolts. The complete substructure will be washed, primed and finish painted before being bolted to the chassis frame.



A rubber coating will be applied over the painted underslung support structure for an additional corrosion barrier.

ROOF CONSTRUCTION

The roof will be integral with the body construction. The roof will be constructed of .125" bright aluminum treadplate and supported by 2.00" square .125" wall tubing welded in place approximately 12.00" on center. The roof will be further reinforced with 2.00" square gussets welded approximately every 48.00". The roof perimeters will be constructed of a 3.00" radius extrusion with an integral drip molding. The roof extrusion will also have an inset allowing the roof panel to be recessed into the extrusion giving further support and sealing effect at the outside edge.

The roof panel will be welded to the roof extrusions and supports. All roof seams will be continuously welded using a gas metal arc welding (GMAW) spray transfer mode process that uses ER5356 welding wire.

BODY WARRANTY

A copy of the fire apparatus manufacturer's warranty will be included with the bid. The warranty will state that the body will be free of structural failures caused by defective design or workmanship for a warranty period of **fifteen (15) years** from the date the new vehicle is first delivered **or 100,000 miles**, whichever occurs first, and that defective parts under the warranty will be repaired or replaced without charge to the original purchaser.

BODY LENGTH

The length of the body will be 197.00" (5,004 mm).

BODY HEIGHT

The height of the body will be 90.00" without any roof mounted options.

ROOF CONFIGURATION

Recessed Light Mast

A transverse recessed area in the forward section of the roof, which is 12.00" deep x 52.00" wide x 88.00" long, will be provided for a light mast. The recessed area will be constructed of .125" bright aluminum treadplate with drain holes that are 1.00" in diameter in opposite corners of the recessed area. The drains will be routed to drain below the body.

ROLL-UP DOORS

N/A Eight (8) compartment doors shall be installed on the side compartments that are an anodized satin finish. The doors shall be double faced aluminum construction manufactured by A&A Manufacturing (Gortite).

Lath sections shall be an interlocking rib design and shall be individually replaceable



without complete disassembly of the door.

Between each slat at the pivoting joint shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals shall allow door to operate in extreme temperatures ranging from plus 180 to minus 40 degrees Fahrenheit. Side, top and bottom seals shall be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces shall be nylon 66. All nylon components shall withstand temperatures from plus 300 to minus 40 degrees Fahrenheit. Hardened plastic shall not be acceptable.

A polished stainless steel lift bar shall be provided for each roll-up door.. The lift bar shall be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge shall be supplied over lift bar for additional area to aid in closing the door.

The doors shall be constructed from an aluminum box section. The exterior surface of each slat shall be flat. The interior surfaces shall be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly shall not exceed 3.00" in diameter. A roll-up door that retracts below the compartment ceiling (garage door style) shall not acceptable.

The header for the roll-up door assembly shall not exceed 4.00".

A heavy-duty magnetic switch shall be used for control of the interior compartment lights and the "open compartment door" warning light in the cab.

All mechanical components of the door shall be warranted to be free from defects in materials and workmanship for the lifetime of the vehicle. All parts covered under this warranty shall be to the original owner.

Except as provided below, and provided the vehicle has been placed in service within 60 days after delivery to the original purchaser as established by our original invoice, for a period of six (6) years after delivery to the original purchaser, A&A Manufacturing Inc. ("A&A") warrants to the user that its roll up doors (if painted) are free of blistering, peeling, bubbling, or any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces of the roll up doors. This limited warranty will apply only if the vehicle is properly maintained and used in service which is normal to the particular vehicle. Normal service means service, which does not subject the vehicle to stresses or impacts greater than normally



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result from the careful use of the vehicle. If the buyer discovers a defect or nonconformity, the buyer must notify Pierce in writing within 30 days after the date of discovery. This limited warranty is not transferable by the first user and is applicable to the vehicle in the following percentage costs of warranty repair, if any:

Months Retention	Adhesion	Blistering	Bubbling	Corrosion	Cracking	Gloss	Color
0 to 12	100%	100%	100%	100%	100%	100%	100%
13 to 24	100%	100%	100%	100%	100%	100%	100%
25 to 36	100%	100%	100%	100%	100%	100%	100%
37 to 48	50%	50%	50%	50%	100%	100%	100%
49 to 60	25%	25%	25%	25%	50%	50%	50%
61 to 72	25%	25%	25%	25%	50%	50%	50%.

In addition, the door shall also be warranted against corrosion perforation for a period of ten (10) years.

EXTERIOR COMPARTMENTS

The exterior compartment layout, dimensions and requirements shall be minimum specifications. The doors shall be able to withstand years of rugged service and wear. For this reason, the compartment door design, metal thickness and attachments shall be strictly adhered to. The compartment shall be constructed of .125" (3 mm)-corrosion resistant aluminum alloy, including all interior panels, floor and sides. The assemblies shall be held inside fixtures while being welded.

Compartment flooring shall be of the sweep out design with the floor higher than the compartment door frame. All compartments shall be supported on top, rear and bottom. The rear wall of each exterior compartment shall be welded to the cross sills. Drip protection shall be provided over all door openings with an integral roof extrusion or aluminum extrusion.

WHEEL WELLS

The rear fenders shall be an integral part of the body sides and compartments. The inside of the fender shall be fitted with a full circular inner fender liner. All screws and bolts, which protrude into a compartment, shall have acorn nuts attached.

LEFT FORWARD COMPARTMENTS

First Compartment

Located behind the cab will be the first compartment. The compartment dimensions will be 38.50" (978 mm) wide x 66.88" (1699 mm) high x 26.00" (660mm) deep at the floor level. The area over the frame rails will be 38.50" (978 mm) wide x 49.25" (1251 mm) high and will extend through to the right side of the body. The compartment door frame opening will be 36.00" (914 mm) wide x 64.00" (1626 mm) high. The



compartment clear door opening will be 33.50" (851 mm) wide x 58.00" (1473 mm) high.

Second Compartment

Located behind the first compartment, and ahead of the rear wheels, will be the second compartment. The compartment dimensions will be 38.88" (988 mm) wide x 66.88" (1699 mm) high x 26.00" (660mm) deep at the floor level. The area over the frame rails will be 38.88" (988 mm) wide x 49.25" (1251 mm) high and will extend through to the right side of the body. The compartment door frame opening will be 36.00" (914 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening will be 33.50" (851 mm) wide x 58.00" (1473 mm) high.

Compartment Loading

Each compartment will be capable of holding 800 pounds (363 kg). The area over the frame rails in each compartment will be capable of holding an additional 1,000 pounds (454 kg). Strain gauge test certification of the compartment loading capacities will be provided upon request.

LEFT OVER WHEEL COMPARTMENT

Located above the rear wheels will be a compartment. The compartment dimensions will be 62.50" (1588 mm) wide x 39.13" (994 mm) high. The compartment will extend through to the right side of the body. The compartment door frame opening will be 57.00" (1448 mm) wide x 36.25" (921 mm) high. The compartment clear door opening will be 54.50" (1384 mm) wide x 31.25" (794 mm) high.

Compartment Loading

The compartment will be capable of holding 1,200 pounds (545 kg). The area over the frame rails will be capable of holding an additional 1,000 pounds (454 kg).

LEFT REAR SIDE COMPARTMENT

Located behind the rear wheels will be the left rear side compartment. The compartment dimensions will be 50.50" (1283 mm) wide x 66.88" (1699 mm) high x 26.00" (660mm) deep. The compartment door frame opening will be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening will be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.

Compartment Loading

The compartment will be capable of holding 1,100 pounds (499 kg).

RIGHT FORWARD COMPARTMENTS

First Compartment

Located behind the cab will be the first compartment. The compartment dimensions will be 38.50" (978 mm) wide x 66.88" (1699 mm) high x 26.00" (660mm) deep at the



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floor level. The area over the frame rails will be 38.50" (978 mm) wide x 49.25" (1251 mm) high and will extend through to the left side of the body. The compartment door frame opening will be 36.00" (914 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening will be 33.50" (851 mm) wide x 58.00" (1473 mm) high.

Second Compartment

Located behind the first compartment, and ahead of the rear wheels, will be the second compartment. The compartment dimensions will be 38.88" (988 mm) wide x 66.88" (1699 mm) high x 26.00" (660mm) deep at the floor level. The area over the frame rails will be 38.88" (988 mm) wide x 49.25" (1251 mm) high and will extend through to the left side of the body. The compartment door frame opening will be 36.00" (914 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening will be 33.50" (851 mm) wide x 58.00" (1473 mm) high.

Compartment Loading

Each compartment will be capable of holding 800 pounds (363 kg). The area over the frame rails in each compartment will be capable of holding an additional 1,000 pounds (454 kg). Strain gauge test certification of the compartment loading capacities will be provided upon request.

RIGHT OVER WHEEL COMPARTMENT

Located above the rear wheels will be a compartment. The compartment dimensions will be 62.50" (1588 mm) wide x 39.13" (994 mm) high. The compartment will extend through to the left side of the body. The compartment door frame opening will be 57.00" (1448 mm) wide x 36.25" (921 mm) high. The compartment clear door opening will be 54.50" (1384 mm) wide x 31.25" (794 mm) high.

Compartment Loading

The compartment will be capable of holding 1,200 pounds (545 kg). The area over the frame rails will be capable of holding an additional 1,000 pounds (454 kg).

RIGHT REAR SIDE COMPARTMENT

Located behind the rear wheels will be the right rear side compartment. The compartment dimensions will be 50.50" (1283 mm) wide x 66.88" (1699 mm) high x 26.00" (660mm) deep. The compartment door frame opening will be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening will be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.

Compartment Loading

The compartment will be capable of holding 1,100 pounds (499 kg).

REAR COMPARTMENT



Roll-Up Door

A roll-up door will be installed on the rear compartment that is an anodized satin finish. The door will be double faced aluminum construction manufactured by A&A Manufacturing (Gortite).

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of the door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from plus 180 to minus 40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from plus 300 to minus 40 degrees Fahrenheit.

A polished stainless steel lift bar shall be provided for each roll-up door.. The lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

The door will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surfaces will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

The header for the roll-up door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of the interior compartment lights and the "open compartment door" warning light in the cab.

All mechanical components of the door will be warranted to be free from defects in materials and workmanship for the lifetime of the vehicle. All parts covered under this warranty will be to the original owner.

Except as provided below, and provided the vehicle has been placed in service within 60 days after delivery to the original purchaser as established by our original invoice, for a period of six (6) years after delivery to the original purchaser, A&A Manufacturing Inc.. ("A&A") warrants to the user that its roll up doors (if painted) are free of blistering, peeling, bubbling, or any other adhesion defect caused by defective



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manufacturing methods or paint material selection for exterior surfaces of the roll up doors. This limited warranty will apply only if the vehicle is properly maintained and used in service which is normal to the particular vehicle. Normal service means service, which does not subject the vehicle to stresses or impacts greater than normally result from the careful use of the vehicle. If the buyer discovers a defect or nonconformity, the buyer must notify Pierce in writing within 30 days after the date of discovery. This limited warranty is not transferable by the first user and is applicable to the vehicle in the following percentage costs of warranty repair, if any:

Months Retention	Adhesion	Blistering	Bubbling	Corrosion	Cracking	Gloss	Color
0 to 12	100%	100%	100%	100%	100%	100%	100%
13 to 24	100%	100%	100%	100%	100%	100%	100%
25 to 36	100%	100%	100%	100%	100%	100%	100%
37 to 48	50%	50%	50%	50%	100%	100%	100%
49 to 60	25%	25%	25%	25%	50%	50%	50%
61 to 72	25%	25%	25%	25%	50%	50%	50%

In addition, the door will also be warranted against corrosion perforation for a period of ten (10) years.

Compartment Size

The rear compartment will be 40.00" (1016 mm) wide x 83.75" (2127 mm) high x 26.00" (660 mm) deep at the floor level. The area over the frame rails will be 51.63" (1286 mm) deep. The compartment door frame opening will be 40.00" (1016 mm) wide x 79.75" (2025 mm) high. The clear door opening will be 37.50" (953 mm) wide x 73.00" (1854 mm) high.

Compartment Loading

The compartment will be capable of holding 1,000 pounds (454 kg). The area over the frame rails will be capable of holding an additional 2,000 pounds (908 kg).

Step Lights

A recessed light switch will be provided on the rear bulkhead to control two (2) step lights installed over the rear step bumper.

HITCH RECEIVER

There will be three hitch receivers provided on the apparatus. One receiver will be installed at the rear, with the remaining two located at the sides of the apparatus in front of the rear wheels through the body fender panel. The hitch receivers will be constructed of heavy steel tubing and reinforced to the apparatus framework.

Rear Receiver

The rear hitch receiver will have a Class IV rating of 10,000 pounds towing and 1000 pounds



tongue weight when used with a weight distributing hitch assembly. Included with the rear receiver will be a heavy-duty slide-in tube and ball assembly held in place with a retaining pin.

Trailer Wiring

A seven prong trailer wiring plug will be provided at the rear with a weatherproof snap cover.

Side Receivers

The side hitch receivers will be capable of retaining a 9,000 pound portable winch. There will be stainless steel doors provide on the exterior of the body covering the ends of receivers in the fender area. The spring loaded hinged doors will have a flush latch provided to prevent them from opening while not in use. A stainless steel trim ring will be provided to prevent damage to the exterior finish around the opening.

Access to the side receiver pins will be provided through the compartment ahead of the receiver and through the fender liner. The liner access will have a small hinged door provided to prevent debris from entering the area of the retaining pin. The access inside the forward compartment will be provided with a rubber cover to prevent road dust from entering the compartment.

PREMIX FOAM SYSTEM

A 100 gallon premix foam tank with regulator will be installed D2/P2. This system will be supplied air by the cascade system. An air powered refill pump will be supplied with a pick-up hose next to the system control panel. The system will supply foam to the 1.5" speedlay.

REAR STORAGE RACK

A storage rack will be provided for a 17' Little Giant ladder and a 10' attic ladder. The rack will be located in the rear compartment and extend through the center of the body.

Construction will be of .12" thick aluminum. Stainless steel slides will be provided for the ladders.

Paint will be provided on the outside to match that of the compartment.

No paint will be applied to the inside of the rack.

A .12" aluminum treadplate door with stainless hinge and pawl latch will be provided to retain the equipment in the rack.

This option is for the equipment rack only. The equipment described is not included with this option.

SHELVING

Compartments will include shelving.



The construction will consist of .188" thick aluminum formed to provide a 2.00" high wall around the perimeter.

Corners will be welded to provide a rigid unit.

Shelving will be secured within the compartment by means of adjustable threaded fasteners. These fasteners will slide in an extruded aluminum track to provide height adjustment.

Load capacity will be 400 pounds.

There will be four (4) provided, D/P4, D/P3.

SLIDE-OUT FLOOR MOUNTED TRAY

A sliding tray will be provided. The construction will consist of .18" thick aluminum formed to provide a 2.00" high wall around the perimeter. The corners will be welded to form a rigid unit.

The capacity rating will be 500 pounds minimum in the extended position. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slide assembly will be manufactured by General Device.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The tray will be built to fit the size of the floor area where the tray is installed.

A total of nine (9) will be provided all compartment floors.

SLIDE-OUT/TILT-DOWN TRAY

Slide-out tilt-down tray will be provided.

The capacity rating (in the extended position) will be 200 pounds minimum.

The interior tray dimensions will be approximately 22.00" long x 3.00" deep.

Approximately two-thirds of the tray will slide-out from its stored position and will tip 30 degrees down from horizontal. The vertical position within the compartment will be adjustable.

Construction will consist of .188" thick aluminum for the tray bottom and end, and special aluminum extrusions for the tray sides, front and tracks.



The tray corners will be welded for strength and rigidity.

The tray will be equipped with ball bearing rollers for smooth operation.

Two spring loaded locks will be provided at the front of the tray, one on each end.

Rubber padded stops will be provided for both the in out tray position.

There will be four (4) trays provided.

D/P4, D/P3.

TILT TRAY

A slide-out tilt-down tray will be provided.

The capacity rating will be 200 pounds minimum in the extended position.

Interior tray dimensions will be 42.00" long x 3.00" deep.

Two-thirds of the tray will slide out from its stored position and will tip 30 degrees down from horizontal.

The vertical location of the tray within the compartment will be adjustable.

The construction will consist of .188" thick aluminum for the tray bottom and end, and special aluminum extrusions for the tray sides, front, and tracks.

Corners will be welded to form a rigid unit.

Tray will be equipped with ball bearing rollers for smooth operation.

Two (2) spring-loaded locks will be provided at the front of the tray, one (1) on each end.

Rubber padded stops will be provided for both the in and out tray positions.

There will be four (4) provided.

D/P3, D/P4.

REAR BUMPER

A rear bumper will be provided that is an integral part of the rear body substructure.



The bumper will be approximately 13.00" deep x 90.00" wide x 2.00" high.

The bumper will have an aluminum treadplate deck with a 3.00" radius on each of the two outside corners.

The body will have a kickplate behind the bumper from the bottom of the body and up past the top of the bumper 3.38".

TOW EYES

Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the chassis frame rails. The inner and outer edges of the tow eyes will have a radius.

RUB RAIL

Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS

Stainless steel fender crowns will be provided around the rear wheel openings.

A rubber welting will be installed between the body and the crown to seal the seam and restrict moisture from entering.

A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

HARD SUCTION HOSE

There will be no hard suction hose provided.

AIR BOTTLE STORAGE BIN

A storage bin will be provided for storage of twelve (12) air bottles. This storage bin will be installed D2. Each separate air bottle storage compartment will be 7.50" square x 23.00" deep. The storage bin will be formed out of aluminum and the flooring lined with rubber.

SPEEDLAYS WITH POLY TRAY

One (1) 1.75" speedlay hose bed will be provide and located in D2/P2. The bed will have a 2.00" preconnect line with a 2.00" quarter-turn ball valve and terminate with a 1.50" National Standard hose thread 90 degree swivel. The swivel will be located at the top of the speedlay



compartment to allow easy removal of the hose in either direction.

Individual manual "T" handle valve control for the speedlay will be at the pump operator's panel.

The compartment will be capable of carrying 150 feet of 1.75" double jacketed hose in a single stack.

A removable tray will be provided for the speedlay hosebed. The speedlay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the tray will be perforated to allow for drainage and hose drying. The bottom of the speedlay compartment will be lined with stainless steel to allow the tray to slide with ease. Scuffplates will be provided on both sides, at the sides and bottom of each opening to protect the paint.

DISCHARGE CAPS

Fire Department will provide caps for discharge outlets as required in the current NFPA 1901 specifications. The number of outlets the Fire Department will supply caps for is one (1) discharge outlet.

ELECTRICAL HARNESSING INSTALLATION

All 12-volt wiring and harnessing installed by the apparatus manufacturer will conform to specification PM-QA W-101: Pierce manufacturing Wiring Harness Specification.

To ensure rugged dependability, all wiring harnesses installed by the apparatus manufacturer will conform to the following specifications:

- SAE J1128 - Low tension primary cable
- SAE J1292 - Automobile, truck, truck-tractor, trailer and motor coach wiring
- SAE J163 - Low tension wiring and cable terminals and splice clips
- SAE J2202 - Heavy duty wiring systems for on-highway trucks
- NFPA 1901 - Standard for automotive fire apparatus
- FMVSS 302 - Flammability of interior materials for passenger cars, multipurpose passenger vehicles, trucks and buses
- SAE J1939 - Serial communications protocol
- SAE J2030 - Heavy-duty electrical connector performance standard
- SAE J2223 - Connections for on board vehicle electrical wiring harnesses
- NEC - National Electrical Code
- SAE J561 - Electrical terminals - Eyelet and spade type
- SAE J928 - Electrical terminals - Pin and receptacle type A

For increased reliability and harness integrity, harnesses will be routed throughout the cab



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and chassis in a manner which allows the harnessing to be laid into its mounting location. Routing of harnessing which requires pulling of wires through tubes will not be allowed.

Wiring will be run in loom or conduit where exposed, and have grommets or other edge protection where wires pass through metal. Wiring will be color, function and number coded. Wire colors will be integral to each wire insulator and run the entire length of each wire. Harnessing containing multiple wires and uses a single wire color for all wires will not be allowed. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. All wiring installed between the cab and into doors will be protected by an expandable rubber boot to protect the wiring. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids. Electrical wiring and equipment will be installed utilizing the following guidelines:

- (1) All wire ends not placed into connectors will be sealed with a heat shrink end cap. Wires without a terminating connector or sealed end cap will not be allowed.
- (2) All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
- (3) Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
- (4) For low cost of ownership, electrical components designed to be removed for maintenance will be quickly accessible. For ease of use, a coil of wire will be provided behind the appliance to allow them to be pulled away from the mounting area for inspection and service work.
- (5) Corrosion preventative compound will be applied to non-waterproof electrical connectors located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation of the plug.
- (6) Any lights containing non-waterproof sockets in a weather-exposed area will have corrosion preventative compound added to the socket terminal area.
- (7) All electrical terminals in exposed areas will have DOW 1890 protective Coating applied completely over the metal portion of the terminal.
- (8) Rubber coated metal clamps will be used to support wire harnessing and battery cables routed along the chassis frame rails.
- (9) Heat shields will be used to protect harnessing in areas where high temperatures exist. Harnessing passing near the engine exhaust will be protected by a heat shield.
- (10) Cab and crew cab harnessing will not be routed through enclosed metal tubing. Dedicated wire routing channels will be used to protect harnessing therefore improving the overall integrity of the vehicle electrical system. The design of the cab will allow for easy routing of additional wiring and easy access to existing wiring.
- (11) All braided wire harnesses will have a permanent label attached for easy identification of the harness part number and fabrication date.



- (12) All standard wiring entering or exiting the cab will be routed through sealed bulkhead connectors to protect against water intrusion into the cab.

BATTERY CABLE INSTALLATION

All 12-volt battery cables and battery cable harnessing installed by the apparatus manufacturer will conform to the following requirements:

SAE J1127 - Battery Cable

SAE J561 - Electrical terminals, eyelets and spade type

SAE J562 - Nonmetallic loom

SAE J836A - Automotive metallurgical joining

SAE J1292 - Automotive truck, truck-tractor, trailer and motor coach wiring

NFPA 1901 - Standard for automotive fire apparatus

Battery cables and battery cable harnessing will be installed utilizing the following guidelines:

- (1) All battery cables and battery harnesses will have a permanent label attached for easy identification of the harness part number and fabrication date.
- (2) Splices will not be allowed on battery cables or battery cable harnesses.
- (3) For ease of identification and simplified use, battery cables will be color coded. All positive battery cables will be red in color or wrapped in red loom the entire length of the cable. All negative battery cables will be black in color.
- (4) For ease of identification, all positive battery cable isolated studs throughout the cab and chassis will be red in color.
- (5) For increased reliability and reduced maintenance, all electrical buss bars located on the exterior of the apparatus will be coated to prevent corrosion.

ELECTRICAL COMPONENT INSTALLATION

All lighting used on the apparatus will be, at a minimum, a two (2) wire light grounded through a wired connection to the battery system. Lights using an apparatus metal structure for grounding will not be allowed.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order. The results of the tests will be recorded and provided to the purchaser at time of delivery.

STEP LIGHTS

Two (2) Ri-Tar, Model M27HW2 LED, step lights will be provided. The step lights will be provided at the rear body, one (1) each side of the rear compartment.

The step lights will be controlled by a switch installed at the rear of the unit, in an easily accessible area.



REAR FMVSS LIGHTING

The rear stop/tail and directional LED lighting will consist of the following:

Two (2) Whelen model 60R00XRR red LED stop/tail lights.

Two (2) Whelen model 60A00TAR amber LED arrow turn lights .

Each light will be installed separately at the rear with a flange.

Four (4) red reflectors will be provided.

A Weldon, Model 23882-2600-00, license plate bracket will be mounted on the driver's side above the warning lights. A Weldon, Model 9186-23882-30, step lamp will illuminate the license plate.

Two (2) Whelen, Model: 60J000CR, backup lights, with flange, will be provided.

Both lights will be installed with 6E or 64 flange kit.

The three (3) identification lights located at the rear will be installed per the following:

As close as practical to the vertical Centerline.

Centers spaced not less than six (6) inches or more than twelve (12) inches apart.

Red in color.

All at the same height.

One (1) Truck Lite model 15050R LED ID bar

The outside clearance lights located at the rear will be installed per the following:

To indicate the overall width of the vehicle.

At least one (1) each side of the vertical Centerline.

All at the same height.

As near the top as practical.

To be visible from the rear and the side.

Four (4) Ri-Tar red Model M27 LED lights

Per FMVSS 108 and CMVSS 108 requirements.

LIGHT, INTERMEDIATE

There will be one (1) pair, of Truck-Lite, Model: 60115Y, amber, LED, turn signal, marker lights furnished, one (1) each side, horizontally in the rear fender panel.

A stainless steel trim will be included with this installation.

"DO NOT MOVE APPARATUS" INDICATOR



A Whelen, Model 50R00FRR, red flashing LED light (located in the driving compartment) will be illuminated automatically per NFPA (1996 addition, 9-11 or 1999 addition 11-11). The light will be labeled "Do Not Move Apparatus If Light Is On".

An audible alarm will be provided with the open door indicator light.

The alarm will be controlled by the parking brake, so that it will deactivate when the parking brake is set.

DO NOT MOVE TRUCK MESSAGES

Messages will be displayed on the gauge panel LCD located forward of the steering wheel directly in front of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

Do Not Move Truck

DS Cab Door Open (Driver Side Cab Door Open)

PS Cab Door Open (Passenger's Side Cab Door Open)

DS Crew Cab Door Open (Driver Side Crew Cab Door Open)

PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)

DS Body Door Open (Driver Side Body Door Open)

PS Body Door Open (Passenger's Side Body Door Open)

Rear Body Door Open.

DS Ladder Rack Down (Driver Side Ladder Rack Down)

PS Ladder Rack Down (Passenger Side Ladder Rack Down)

Deck Gun Not Stowed

Lt Tower Not Stowed (Light Tower Not Stowed)

Hatch Door Open



Fold Tank Not Stowed (Fold-A-Tank Not Stowed)

Aerial Not Stowed (Aerial Device Not Stowed)

Stabilizer Not Stowed

Steps Not Stowed

Handrail Not Stowed

Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.

COMPARTMENT LIGHTING

6.00" diameter Truck-Lite, model 79384, light/s will be provided in each enclosed compartment. Each light will have a number 1076 one filament, two wire bulb.

Opening the compartment door will automatically turn compartment lighting on.

PERIMETER SCENE LIGHTS, CAB

There will be a Truck-Lite, model 60, grommet mount weatherproof light provided for each cab door. Lighting will be designed to provide illumination on areas under the driver, officer, and crew cab riding area exits, which will be activated automatically when the exit doors are opened and by the same means as the body perimeter lights.

The lighting will be capable of providing illumination at a minimum level of one (1) foot-candle on ground areas within 30.00" of the edge of the apparatus in areas which personnel climb in or out of the apparatus or descend from the apparatus to the ground level.

PERIMETER SCENE LIGHTS, BODY

There will be two (2) Truck-Lite model 60 lights provided under the rear step area. The lights will be spaced one (1) each side of apparatus and have a clear lens. The perimeter scene lights will be activated by a cab and crew cab door opening.

The lighting will be capable of providing illumination at a minimum level of one (1) foot-candle on ground areas within 30.00" of the edge of the apparatus in areas designed for personnel to climb onto the apparatus or descend from the apparatus to the ground level.

SCENE LIGHTS

One (1) pair of Whelen, Model 60*000*U, halogen scene lights will be installed one each side, high, on the rear body.



These lights will have thirteen degree internal optics.

The lights will be controlled by the following:

- From the first switch feature, a control at the driver side switch panel.
- From the second switch feature, there shall be no control of this option.
- From the third switch feature, there shall be no control of this option.
- From the fourth switch feature, there shall be no control of this option

These lights will be installed with a flange.

SIDE SCENE LIGHTS

Two (2) pair of Whelen, Model 60F000*U scene lights will be installed one (1) to the front and rear on each side of the body.

These lights will have a thirteen degree internal optics to redirect light downward.

The lights will be controlled by the following:

- From the first switch feature, a control at the driver side switch panel
- From the second switch feature, there shall be no control of this option
- From the third switch feature, there shall be no control of this option
- From the fourth switch feature, there shall be no control of this option

These lights will be installed with a flange.

AIR HORN SYSTEM

Two (2) Hadley round air horns with 6.00" bell will be provided and located, in the front bumper, recessed between the frame rails. The horn system will be piped to the air brake system wet tank utilizing .38" tubing. A pressure protection valve will be installed in-line to prevent the loss of air, in the air brake system.

AIR HORN CONTROL

The air horns will be actuated by a foot switch on the officer's side and by the horn button in the steering wheel. The driver will have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.



ELECTRONIC SIREN

A "Code 3", model 3692, electronic siren with noise canceling microphone will be provided.

Electronic siren head will be recessed in the overhead console above the engine tunnel on the driver side.

Siren will be actuated by a foot switch on the officer's side and by the horn button in the steering wheel. The driver will have the option to control the siren or the chassis horns from the horn button by means of a selector switch.

SPEAKER

A Federal, Model BP200-EF, 200 watt speaker will be recessed mounted in the drivers side front bumper. A chrome-plated "EF" flat grille will be installed in front of the speaker.

MECHANICAL SIREN, (Auxiliary)

A Federal Q2B siren will be furnished. A siren brake button will be installed on the switch panel.

The mechanical siren will be recessed in the front bumper in the center. The siren will be properly supported using the bumper framework.

The mechanical siren will be actuated by two (2) foot switches, one (1) located on the officer's side and one (1) on the driver's side.

LIGHTBAR

One (1) N/A Whelen, Model: Freedom LED lightbar will be mounted on the cab roof.

This lightbar will include the following:

- Two (2) red flashing forward facing LED modules.
- Two (2) clear flashing forward facing LED modules.
- Two (2) blue flashing forward facing LED modules.
- Two (2) red flashing front corner LED modules.
- One (1) red flashing driver side facing LED module.
- One (1) red flashing officer side facing LED module.

One (1) switch located in the cab on the switch panel will control this lightbar.

The lens color will be clear.

To meet NFPA requirements, all clear lights will be deactivated when the parking brake is applied.

SIDE ZONE LOWER LIGHTING



Six (6) Whelen model 60*02F*R flashing "Super" LED lights will be located at the following positions:

- Two (2) lights, one each side on the bumper extension - blue Super LED/blue lens each side.
- Two (2) lights, behind crew cab door - amber Super LED/amber lens each side.
- Two (2) lights, N/A - red Super LED/red lens each side.

The lights will be controlled by a lighted switch on the cab instrument panel.

These lights will be installed with three (3) pair of flange kits.

REAR ZONE LOWER LIGHTING

Two (2) Whelen model 60*02F*R flashing "Super" LED warning lights will be located at the rear of the apparatus, required to meet or exceed the lower level optical warning and optical power requirements of NFPA.

The color of these lights will be DS blue Super LED/blue lens, PS red Super LED/red lens.

One (1) switch in the cab on the switch panel will control these lights.

These lights will be installed with a flange.

WARNING LIGHTS (Rear)

One (1) pair of Whelen amber Super LED/amber lens 60*02F*R flashing Super LED lights will be provided.

These lights will be located at the rear of the body each side high on rear compt bulkheads, and activated with a separate switch in cab.

These lights will be installed with a flange.

WARNING LIGHTS (Rear of Truck)

Two (2) Whelen, Model: RB6T*P, warning lights will be provided at the rear of the truck, located one (1) on each side.

One (1) switch located in the cab on the switch panel will control these lights.

The color of the lights will be driver side dome blue and passenger side dome red.

ELECTRICAL SYSTEM GENERAL DESIGN for ALTERNATING CURRENT

The following guidelines will apply to the 120/240 VAC system installation:

General



Any fixed line voltage power source producing alternating current (ac) line voltage will produce electric power at 60 cycles plus or minus five (5) cycles.

Except where superseded by the requirements of NFPA 1901, all components, equipment and installation procedures will conform to NFPA 70, National Electrical Code (herein referred to as the NEC).

Line voltage electrical system equipment and materials included on the apparatus will be listed and installed in accordance with the manufacturer's instructions. All products will be used only in the manner for which they have been listed.

Grounding

Grounding will be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems will not be used. Only stranded or braided copper conductors will be used for grounding and bonding.

An equipment grounding means will be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC.

The grounded current carrying conductor (neutral) will be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor will be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.

In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure will be bonded to the vehicle frame by a copper conductor. This conductor will have a minimum ampere rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements will be permitted to be used.

All power source system mechanical and electrical components will be sized to support the continuous duty nameplate rating of the power source.

Operation

Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, will be permanently attached to the apparatus at any point where such operations can take place.

Provisions will be made for quickly and easily placing the power source into operation. The control will be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train will be equipped with a means to prevent the unintentional movement of the control device from its set position.



A power source specification label will be permanently attached to the apparatus near the operator's control station. The label will provide the operator with the information detailed in Figure 19-4.10.

Direct drive (PTO) and portable generator installations will comply with Article 445 (Generators) of the NEC.

Overcurrent protection

The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device will not exceed 144 inches. (3658 mm) in length.

For fixed power supplies, all conductors in the power supply assembly will be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degrees Fahrenheit (90 degrees Celsius).

For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device will be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit (90 degrees Celsius).

Wiring Methods

Fixed wiring systems will be limited to the following:

- Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius)

or

- Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius)

Electrical cord or conduit will not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring. In addition the wiring will be run as follows:

- Separated by a minimum of 12 inches (305 mm), or properly shielded, from exhaust piping

- Separated from fuel lines by a minimum of six (6) inches (152 mm) distance.

Electrical cord or conduit will be supported within six (6) inches (152 mm) of any junction box and at a minimum of every 24 inches (610 mm) of continuous run. Supports will be



made of nonmetallic materials or corrosion protected metal. All supports will be of a design that does not cut or abrade the conduit or cable and will be mechanically fastened to the vehicle.

Wiring Identification

All line voltage conductors located in the main panel board will be individually and permanently identified. The identification will reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends will be labeled showing function and wire size.

Wet Locations

All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, will be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

All receptacles located in a wet location will be not less than 24 inches (610 mm) from the ground. Receptacles on off-road vehicles will be a minimum of 30 inches (762 mm) from the ground.

The face of any wet location receptacle will be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle will be installed in a face up position.

Dry Locations

All receptacles located in a dry location will be of the grounding type. Receptacles will be not less than 30 inches (762 mm) above the interior floor height.

All receptacles will be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they will be so marked.

Listing

All receptacles and electrical inlet devices will be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards. Receptacles used for direct current voltages will be rated for the appropriate service.

Electrical System Testing

The wiring and associated equipment will be tested by the apparatus manufacturer or the installer of the line voltage system.

The wiring and permanently connected devices and equipment will be subjected to a dielectric voltage withstand test of 900 volts for one (1) minute. The test will be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame



with any switches in the circuit(s) closed. This test will be conducted after all body work has been completed.

Electrical polarity verification will be made of all permanently wired equipment and receptacles to determine that connections have been properly made.

Operational Test per Current NFPA 1901 Standards

The apparatus manufacturer will perform the following operation test and will certify that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order.

The prime mover will be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.

The power source will be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current NFPA 1901 standard.

Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current NFPA 1901 standard will be applied to the low voltage electrical system during the operational test.

ONAN 30kW SINGLE PHASE GENERATOR

The apparatus will be equipped with a complete electrical power system. The wiring and generator installation will conform to the present National Electrical Code Standards of the National Fire Protection Association. The installation will be designed for continuous operation without overheating and undue stress on components.

The generator will be a single phase, four (4)-wire, Onan 30kW driven by a transmission "power takeoff" attached to the side of the transmission.

Generator performance will meet the American National Standards Institute (ANSI) C84.1-1982 voltage requirement as utilized from the receptacle.

Generator will have a built in automatic voltage control.

Generator will have a NEMA MG21 rating.

- Continuous Duty Rating: 30,000 watts
- Phase: Single
- Nominal Cycles: 60 hertz
- Nominal Amp Rating: 125 at 240-volts
- Engine Speed at Engagement: Idle



- Engine Speed Engaged: 1100/1400 rpm range
- Generator RPM: 1800 rpm

The output of the generator will be controlled by an electronic governor. The truck engine will be programmed so the generator's output is at 60 hertz.

The main chassis transmission PTO will power the generator. A stainless steel splash guard will be installed to reduce the amount of road spray on this frame-mounted generator.

The generator will be operable in the stationary mode with a shift control located inside the cab with an indicator light to note engagement. For safety, the automatic high idle will be activated through interlocks only after the chassis parking brake control is in the park position, the generator PTO transmission has made a complete shift and the truck transmission is in neutral.

An electric/hydraulic valve will supply hydraulic fluid to the clutch engagement unit provided on the chassis PTO drive.

To properly monitor the generator performance and load demands during operation, the generator will be equipped with a full instrument and control package. This panel will be mounted adjacent to the load center. The following instruments will be installed in the panel:

- One (1) Voltmeter
- Two (2) Ammeters
- One (1) Frequency Meter
- One (1) Hour Meter
- One (1) "Power On" Green Indicator Light
- One (1) PTO Engagement Indicator Light
- Two (2) Fuse Holders: With two (2) amp fuses for gauge protection

The meter and indicators will be installed near eye level in the compartment. Instruments will be flush mounted in an appropriate sized weatherproof electrical enclosure. All instruments used will be accurate within +/- two (2) percent.

The system will be installed by highly qualified electrical technicians to assure the required level of safety and protection to the fire apparatus operators. The wiring, electrical fixtures and components will be to the highest industry quality standards available on the domestic market. The equipment will be the type designed for mobile installations subject to vibration, moisture and severe continuous usage.

All electrical wiring from the load center will be fine stranded copper S.O. type with a 600 volt jacket. The wire will be sized to the load and circuit breaker rating. The wire size will be ten (10)-gauge on 30 amp circuits, 12-gauge on 20 amp circuits and 14-gauge on 15 amp



circuits. The S.O. cable will be run in corner areas and extruded aluminum pathways built into the body for easy access. Any S.O. cord not run in an enclosed raceway or cable tray will have an additional abrasion resistant covering.

The main load center will have circuit breakers rated to load demand.

Individual breakers will be provided for all receptacles to isolate a tripped breaker from affecting any other on-line equipment.

GENERATOR LOCATION

The generator will be mounted under the body between the frame rails.

GENERATOR START

A switch will be located on the cab instrument panel to engage the generator.

CIRCUIT BREAKER PANEL

The circuit breaker panel will be located D4.

COMMAND LIGHT

The apparatus will be provided with an all electric Command Light model 615

The two (2) stage articulating device with a light bank on top of the second stage capable of 360 degree continuous rotation. Light will be elevated by two (2) 12 volt electric linear actuators, one actuator will elevate the light bank, one actuator will adjust the light bank angle from 0-110 degrees. The overall extended height from the base to the top pair of lights will be 126.50".

The light bank will be provided with six (6) weatherproof 1500 watt, 240 volt quartz halogen floodlights. Power to the lights will be transmitted through collector rings allowing a 360 degree rotation in either direction.

The Command Light assembly will be all aluminum construction with stainless steel shafts and bronze bushings.

The light tower will be controlled with a hand held remote control on a power cord.

Command light features:

- (3) three switches, one for each light bank
- (1) one light bank rotation switch
- (1) one switch for elevating lower stage
- (1) one switch for elevating upper stage
- (1) one indicator light to indicate not to move the truck when the light is out of the nested position



(1) one "Auto Park"/ hand held controller attached to a 20' umbilical cord.

The overall size of the nested light tower will be 14.00" high x 40.00" wide x 73.50" long and weights 310 pounds.

The hand held controller will be installed in D4.

A total of N/A will be provided.

The light tower will be installed in the recessed area of the roof, mounted one facing each side.

ELECTRIC CORD REEL

Furnished with the 120 volt AC electrical system will be a Hannay, series 1600, cord reel. The reel will be provided with a 12-volt electric rewind switch, that is guarded to prevent accidental operation and labeled for its intended use. The switch will be protected with a fuse and installed at a height not to exceed 72 inches above the operators standing position.

A Nylatron guide shall be provided to aid in the payout and loading of the reel. A ball stop will be provided to prevent the cord from being wound on the reel.

A label will be provided in a readily visible location adjacent to the reel. The label will indicate current rating, current type, phase, voltage and total cable length.

A total of one (1) cord reel will be provided drivers rear compartment.

The cord reel will be configured with three (3) conductors.

CORD

Provided for electric distribution will be one (1) length installed on the reel of 100 feet of yellow 10/3 electrical cord, weather resistant 105 degree C to -50 degree C, 600 volt jacketed SOOW cord. No connector will be installed on the end of the cord.

PORTABLE JUNCTION BOX

There will be four (4) 120 vac 20 amp twist lock receptacles provided in a portable junction box. The junction box will be of weatherproof construction and have flip up lids lined with soft neoprene rubber at each outlet opening.

No connector.

A total of one (1) will be provided.

20 AMP RECEPTACLE



Wired to the power supply will be nine (9) receptacles that are a 120 volt 20 amp three wire twist-lock NEMA L5-20 type with weather resisting cover located one (1) in each compartment, located at pre-construction.

12 VOLT INTERIOR/EXTERIOR RECEPTACLE

Receptacle will be a 12 volt, 20 amp, straight blade, two (2) wire single unit without a cover.

There will be nine (9) receptacles provided.

one (1) in each body compartment.

SHORELINE

There will be two (2) shoreline receptacles provided to operate the 120-volt circuits on the truck without the use of the generator.

The shoreline receptacle (s) will be provided with a NEMA 5-20, 120 volt, 20 amp, straight blade plug and gray cast cover.

The shoreline will be connected to (1) to the battery charger, and (1) to the block heater.

A mating connector body will also be supplied with the loose equipment.

The shoreline receptacle will be located on the driver side of cab, above wheel.

TOOL AIR SOURCE

A DOT air bottle will be installed over the rear axle.

The bottle will be securely mounted in a rack

The weight of the bottle will be 144 pounds and will hold 444 scf of compressed air at 4500 psi.

The fire department will receive training with this breathing air system. A demonstration of the operation of the breathing air system will be provided at the factory.

This demonstration will include the following:

- _ - Review of all safety items in the system
- _ - Review of all component manuals
- _ - A walk around review of all the components that make up the system
- _ - A hands-on system demonstration of each functional item in the system, during



which proper use of the system components will be described

- A demonstration of how to properly shutdown and maintain the system

HYDRAULIC REEL WITH CAPACITY FOR 150' OF HOSE

A hydraulic hose reel will be provided. The reel will be operated by a 12 volt electric motor controlled by a rewind switch. The motor will be protected by a circuit breaker and the rewind circuit will be protected by a fuse. The switch will be guarded to prevent accidental operation and installed at a height not to exceed 72 inches above the operators standing position.

The reel capacity will be a minimum of 150 feet of .25" I.D. dual hydraulic hose. Surfaces where the hose comes in contact with the reel roller will be constructed of stainless steel, chrome plated steel or plastic.

A Nylatron guide to be provided to aid in the payout and loading of the reel. A ball stop will be provided to prevent the hose from being wound around the reel.

A label will be provided in a readily visible location adjacent to the reel. The label will indicate maximum flow pressure and total hose length.

A total of two (2) reels will be installed P1.

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

PAINT

The exterior custom cab and body painting procedure will consist of a six- (6) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Surfaces that will not be painted include chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate. Each imperfection on the exterior metal surface will be removed or filled and then sanded smooth for a smooth appearance. All seams will be sealed before painting.
2. Chemical Cleaning and Treatment - The aluminum surfaces will be properly cleaned using a 4-phase, high pressure and high temperature acid etching system. All steel surfaces will be properly treated using a 3-phase, high temperature, cleaning/phosphatizing system.



Surfaces are chemically cleaned to remove all dirt, oil, grease and metal oxides to ensure the subsequent coatings bond well. The chemical treatment converts the metal surface to a passive condition to prevent corrosion. An ultra pure water final rinse of 25 parts per million solids or less, will be applied to final rinse all metal surfaces, (excluding undercarriage components), at the conclusion of the metal treatment process. This final rinse ensures all chemical residues are removed and that no minerals, (salts), from the water dry onto the metal surface and remain under the primers and topcoats. These salts can lead to blistering and under film corrosion. The pH of the final rinse drainage coming off the treated metal will be measured and within 1.0 pH of the pure water supply, (5.0 pH).

3. Primer/Surfacer Coats - A minimum of two (2) mil dry, (.002), of two component urethane primer/surfacer will be hand applied to the chemically treated metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. The primer is a high solids and low VOC paint.

4. Hand Sanding to Ultra Fine Finish - The primer/surfacer coat is lightly sanded with mild abrasive paper to an ultra smooth finish. This hand finish process is critical to produce the smooth mirror like finish in the topcoat.

5. Sealer Primer Coat - A two- (2) component sealer primer coat is applied over the sanded primer to again build toward the final smooth finish. This layer of primer sealer also gives additional corrosion protection.

6. Topcoat Paint - Two (2) coats of an automotive grade, two component acrylic urethane paint are applied to provide the lasting beauty and durability. The acrylic urethane topcoat contains a clear coat resin chemistry that creates the high gloss and depth of image. This type of topcoat provides the best resistance against acid rain and other more common chemicals. The paint finish will have a surface gloss of no less than 90.00 percent reflection measured on a 60-degree geometry.

A cyclic corrosion test, (General Motors test GM-9511P), of 20 cycles will be required before making changes to the exterior coating process. Exterior coating systems, (excluding the undercarriage components), must achieve a 1/16 or less maximum creep from the scribe for aluminum and an 1/8 or less maximum creep from the scribe for galvaneal after 20 cycles in the General Motors GM-9511P test. Traditional salt spray tests have been proven in multiple studies to not accurately predict real world corrosion performance.

Each batch of color topcoat, together with the finish painted vehicle, is tested for precise color match. Visual color match will be checked following ASTM D-1729, (American Standard Testing Methods), procedures using CIE, (International Commission on Illumination), D75 Northern Daylight light source. Instrumental color match will follow ASMT D-2244 procedures with a maximum delta E of 1.0 for whites, 1.4 for yellows, blues, greens and 1.5 for reds.



All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately to insure paint behind all mounted items. Body assemblies that can not be finish painted after assembly will be finish painted before assembly.

The cab and the body will be painted red.

Prior to reassembly and reinstallation of lights, handrails, door hardware and any miscellaneous items an isolation tape, gasket or dielectric material will be used to prevent damage to the finish painted surfaces. A nylon washer will be installed under each acorn nut or metal screw that is fastened directly to an exterior painted surface.

PAINT - ENVIRONMENTAL IMPACT

Pierce will meet or exceed our current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter means is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient.
- Water from water wash booths will be reused. Solids will be removed mechanically on a continual basis to keep the water clean.
- Paint wastes will be disposed of in an environmentally safe manner.
- Empty metal paint containers will be crushed and recycled to recover the metal.
- Solvents used in cleanup operations will be collected, sent off-site for distillation and returned for reuse. Residue from the distillation operation will be used as fuel in off-site kilns.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Pierce will, upon demand, present evidence that their manufacturing facility meets the above conditions and that it is in compliance with our State



EPA rules and regulations.

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be painted black before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc. Components that are included with the chassis frame assembly will be painted black are frame rails, cross members, axles, suspension, steering gear, fuel tank, body substructure supports, miscellaneous mounting brackets, etc.

PAINT, WHEELS

All wheel surfaces, inside and outside, will be painted job color red to match the exterior truck color.

WARRANTY - PAINT AND CORROSION

Limited Warranty

Except as provided below, and provided the vehicle has been placed in service within 60 days after delivery to the original purchaser as established by our original invoice, for a period of **ten (10) years** after delivery to the original purchaser, Pierce Manufacturing Inc. ("Pierce") warrants to the user that its cab and body are free of blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces of the cab and body of the vehicle. This limited warranty will apply only if the vehicle is properly maintained and used in service which is normal to the particular vehicle. Normal service means service which does not subject the vehicle to stresses or impacts greater than normally result from the careful use of the vehicle or chassis. If the buyer discovers a defect or nonconformity it must notify Pierce in writing within 30 days after the date of discovery. This limited warranty is not transferable by the first user, and is applicable to the vehicle in the following percentage costs of warranty repair, if any:

Topcoat Durability & Appearance: Gloss, Color Retention & Cracking	Integrity of Coating System: Adhesion, Blistering/Bubbling	Corrosion: Dissimilar Metal and Crevice
0-72 months 100%	0-36 months 100%	0-36 months 100%
73-96 months 50%	37-84 months 50%	37-48 months 50%
97-120 months 25%	85-120 months 25%	49-72 months 25%
		73-120 months 10%

This limited warranty applies only to cab and body exterior paint. Paint on the vehicle's undercarriage, cab and body interior is warranted only under the Pierce Basic One Year Limited Warranty.

In addition to the foregoing, and subject to all of the terms and conditions of this Limited Warranty, except cost allocations, Pierce warrants its cab and body exterior paint for a period of **ten (10) years** against corrosion perforation.



A copy of the Pierce warranty is included with this proposal.

This warranty text is an illustration only. For actual details, refer to the warranty document.
A copy of the Pierce warranty is included with this proposal.

PAINT, COMPARTMENT INTERIOR

The compartment interior will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

REFLECTIVE STRIPES

Three (3) reflective stripes will be provide across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" blue stripe at the top with a .25" gap then a .50" gold stripe with a .25" gap and a 4.50" black stripe on the bottom. A 4.00" band will be provided at the rear of the apparatus.

The reflective band provided on the cab face will be below the headlights on the fiberglass.

"Z" JOG IN REFLECTIVE STRIPE

There will be one (1) "Z"-shaped jog/s provided in the reflective stripe design.

CHEVRON/INVETED "V" STRIPING ON REAR BULKHEADS

There will be alternating chevron striping located on the rear bulkheads.

The striping will consist of the following colors:

The first color will be red diamond grade

The second color will be lime yellow diamond grade

The size of the striping will be 6.00".

REFLECTIVE STRIPE, CAB DOORS

A 6.00" x 16.00" lemon yellow reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

REFLECTIVE LETTERING

Eight (8) letters, 6.00" high black reflective will be installed on the lower rear compartment door, each side.

REFLECTIVE LETTERING

Four (4) letters, 12.00" high black reflective will be installed on the roof.



PERFORM. LIKE NO OTHER.

REFLECTIVE LETTERING, ROLL-UP DOORS

Twenty-two (22) letters, 6.00" high letter(s), made of black reflective vinyl will be installed on the roll-up doors on center of the body (FIRE & RESCUE).

DECAL INSTALLATION

There will be one (1) pair of decals furnished by the fire department and applied by the apparatus manufacturer.