

CONRAD FIRE EQUIPMENT

Apparatus Proposal

Customer Name:

Sales Rep:

Submitted Date:

Expiration Date:

Apparatus Detail

Qty.	Description	Price
1	<input type="text" value="Light Rescue/Patrol Unit (Per Spec)"/>	<input type="text" value="\$ 201,195.59"/>

Proposal Bid No.:

Proposal Doc Date:

Performance Bond:

Warranty Period:

Estimated Build Time:

Payment Options

OPTION 1 (with Pre-Payment Discount)

Apparatus Purchase Price	\$ 201,195.59
Trade-in Value	\$ 0.00
Price After Trade-in	\$ 201,195.59
Pre-Payment Discount	-\$ 1,900.00
Extrication Rescue Tools	\$ 0.00
Loose Equipment	\$ 0.00
Options	\$ 0.00
Due Upon Order	\$ 199,295.59

OPTION 2 (w/o Pre-Payment Discount)

Apparatus Purchase Price	
Trade-in Value	
Price After Trade-in	\$ 0.00
Pre-Payment Discount	N/A
Extrication Rescue Tools	
Loose Equipment	
Options	
Due Upon Delivery	\$ 0.00

Payment Terms

Option 1 is based on payment being made at time of order in the amount of \$199,295.59. Option 2 is N/A.

Price is based off of the GPO Contract.

Notes

There shall be a final inspection trip for 4 fire department personnel. All costs such as travel, lodging, and meals shall be the responsibility of Conrad Fire. The final inspection shall be held at the EJ Metals, Inc. facility, 1201 Maple Creek Lane, New London, Wisconsin 54961.

NOTE: Pre-payment discounts quoted may vary based on final purchase price, prevailing interest rates, and manufacturing build time and are subject to change up to the time an order is placed. If deferred payment arrangements are required, the Customer must make such financial arrangements through a financial institution acceptable to Company. All taxes, excises and levies that Company may be required to pay or collect by reason of any present or future law or by any governmental authority based upon the sale, purchase, delivery, storage, processing, use, consumption, or transportation of the Product sold by Company to the Customer shall be for the account of the Customer and shall be added to the Purchase Price. All delivery prices or prices with freight allowance are based upon prevailing freight rates and, in the event of any increase or decrease in such rates, the prices on all unshipped Product will be increased or decreased accordingly. Delinquent payments shall be subject to a carrying charge of 1.5 percent per month or such lesser amount permitted by law. Company will not be required to accept payment other than as set forth in this Agreement. Company shall have and retain a purchase money security interest in all goods and products now or hereafter sold to the Customer by Company or any of its affiliated companies to secure payment of the Purchase Price for all such goods and products. In the event of nonpayment by the Customer of any debt, obligation or liability now or hereafter incurred or owing by the Customer to Company, Company shall have and may exercise all rights and remedies of a secured party under Article 9 of the Uniform Commercial Code (UCC) as adopted by the state of [KANSAS].



E.J. Metals Inc. was founded in 1998 by Kevin Quinn, a 21 year veteran of the fire and emergency vehicle manufacturing industry. E.J. Metals began as a custom fabricator of specialty components, and soon outgrew the original facility and moved into a 15,000 square foot facility. It was at this time that the New Maddic Dump System for Fire Apparatus was conceived. Today, E.J. sells the New Maddic Dump System to over 40 apparatus manufacturers all over the world. In 2002 E.J. Metals introduced the "Assault Force" high pressure fire fighting system. The "Assault Force" is a patented system of water, foam, high pressure and a special patented nozzle for fire fighting. These systems have been shipped all over the world. In addition, over the last few years, E.J. Metals has developed many more systems such as the Magnum 440 & 480 RIV rapid response vehicles, the "Assault Force 70 and 704" hydraulic driven high pressure system and EMT systems on a base Kubota RTV chassis, the "Red Box" container system for rapid disaster situations, etc. In addition, E.J. Metals manufactures other products such as mini pumpers, rescues, command vehicles, brush trucks, off road fire fighting systems and skid mounted platforms refurbishment of apparatus and a wide array of systems to fit the fire fighting needs and demands.

In 2010, E.J. Metals outgrew their current facility and moved to New London, Wisconsin, into a brand new state of the art manufacturing facility custom built for the needs of the business. This building includes a customer showroom, front office, meeting space, manufacturing space with product flow characteristics, a pump test facility, and off road testing grade to suit any situation that arises.

Our Mission:

"To meet or exceed customer expectations, in a timely manner with competitive pricing. It is our goal to have highly trained and knowledgeable employees applying their skills to produce high quality products on time every time"

- Firefighter safety is Priority #1
- High Quality Apparatus at Competitive prices
- "True" Custom Builder....Built to order!
- Over 100 years of combined manufacturing experience
- Utilize only Premium Materials and Components
- Precise Manufacturing Techniques and Processes
- Progressive and Innovative Engineering
- State-of-the-Art Equipment and Machinery
- "Old-School" Philosophy and Attitude
- 100% Corporate Commitment to Customers Needs
- We take every order Personal*



Olathe KS, Squad/light rescue



1201 Maple Creek Lane
New London WI 54961
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Visit our webpage www.ejmetals.com



SPECIFICATIONS
Olathe Emergency Services/Fire Dept.,
Olathe KS
F550 Squad/Light Rescue Unit
November 28, 2018



CONRAD
FIRE EQUIPMENT, INC.
(800) 779-5521 www.CONRADFIRE.com (913) 780-5521

THANK YOU

Thank you for the opportunity to present these specifications. Our company looks forward to working with you to provide the best product possible, with the best service possible, as detailed within these specifications.

INTENT OF SPECIFICATIONS

It shall be the intent of these specifications to cover the furnishing and delivery of a completed apparatus equipped as hereinafter specified. These specifications cover only the general requirements as to the type of construction and test to which the apparatus shall conform,

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together with certain details as to finish, equipment and appliances with which the successful bidder shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features. Loose equipment shall be provided only as stated in the following pages.

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus sales and service and have been in business for a minimum of 16 years. Further, bidder shall maintain dedicated service facilities for the repair and service of products. Evidence of such a facility shall be included in bidder proposal with color photos of the interior and exterior of the facility.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified and shall state the location of the factory where the apparatus is to be built. The bidder shall also show that the company is in position to render prompt service and to furnish replacement parts for said apparatus.

Each bid shall be accompanied by a set of "Contractor's Specifications" consisting of a detailed description of the apparatus and equipment proposed and to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all component parts and equipment.

The "Contractors Specifications" shall be signed by the customer / dealer representative and returned to the manufacturer. The customer / dealer representative signed specifications shall become an integral part of the contract and provide the "As Built" information to the manufacturer in the apparatus construction process. The customer / dealer signed "Contractors Specifications" shall supersede any / all other documents in the building of the apparatus.

QUALITY AND WORKMANSHIP

The design of the apparatus shall embody the latest approved automotive engineering practices. The workmanship shall be of the highest quality in its respective field. Special consideration shall be given to the following points: Accessibility of the various units, which require periodic maintenance, ease of operation (including both pumping and driving) and symmetrical proportions. Construction shall be rugged and ample safety factors shall be provided to carry the loads specified and to meet both on and off road requirements and speed conditions as set forth under "Performance Tests and Requirements". Welding shall not be employed in the assembly of the apparatus in a manner that shall prevent the ready removal of any component part for service or repair.

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COMMERCIAL GENERAL LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:

General Aggregate	Waived
Products/Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Each Occurrence	\$1,000,000

Coverage shall be written on a Commercial General Liability form. The policy shall be written on an occurrence form and shall include Contractual Liability coverage. The policy shall include owner as an additional insured as their interest may appear.

The required limits can be provided by one or more policies provided all other insurance requirements are met.

COMMERCIAL AUTOMOBILE INSURANCE

The successful bidder shall, during the performance of the contract, keep in force at least the following minimum limits of commercial automobile insurance:

Each Accident:	\$500,000
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Coverage shall be written on a Commercial Automobile form.

UMBRELLA/EXCESS LIABILITY INSURANCE

The successful bidder shall, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Aggregate:	\$1,000,000
Each Occurrence:	\$1,000,000

The policy shall be written on an occurrence basis and at a minimum provide the same coverage's as Bidder's General Liability, Automobile Liability and Employer's Liability policies. Owner shall be included as an additional insured on the General Liability and Automobile Liability policies as their interest may appear. The required limits can be provided by one or more policies provided all other insurance requirements are met.

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Bidder agrees to furnish owner with a current Certificate of Insurance with the coverage listed above along with its bid. The certificate shall be made out to the purchaser and be an original, no photocopies shall be accepted. The Certificate of Insurance shall provide that owner be given 30 days advance notice of cancellation, nonrenewable or material change in coverage.

WARRANTY

The following warranty shall be supplied with each bidders proposal and be printed on company letterhead.

The manufacturer shall warranty each piece of new fire or rescue apparatus to be free from defects in materials or workmanship under normal use and service. The manufacturer's obligation under this warranty is limited to repairing or replacing, as the company may elect, any parts thereof which are returned to them, with transportation costs prepaid and as to which examination is disclose to the company's satisfaction to have been defective. The part, or parts, shall be returned to the manufacturer not later than **One (1), year** from delivery of the apparatus. Such defective part, or parts, shall be repaired or replaced free of charge and without charge for installation to the original purchaser.

This warranty shall not apply:

- 1) To normal maintenance and adjustments.
- 2) To any vehicle which has been repaired or altered outside of the factory in any way so that, in the manufacturer's judgment, it would affect the stability. Also it shall not apply to any vehicle, which has been subject to misuse, neglect, or accident, or to any vehicle, which shall operate at any speed, exceeding the factory rated speed, or loaded beyond the factory rated load capacity.
- 3) To commercial chassis and associated equipment furnished with the chassis, signaling devices, generators, batteries, or other trade accessories in which they are usually warranted separately by their respective manufacturers.

This warranty is in lieu of all other warranties, expressed or implied, all others representations to the original purchaser and all other obligations or liabilities, including liability for incidental or consequential damages on the part of the company. The manufacturer neither assumes nor authorizes any other person to give or assume any other warranty or liability on the company's behalf, unless made or assumed in writing by the company.

NFPA COMPLIANCE

The apparatus detailed herein shall meet applicable NFPA recommendations current at the time of the proposal.

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APPROVAL DRAWINGS

Prior to the construction of the apparatus, a detailed CAD-generated drawing shall be supplied to the Fire Department for approval. The drawing shall be signed by authorized personnel and returned to the factory within 30 days of receipt. Construction of the apparatus shall not commence until the approved drawing is returned to the factory.

The signed drawing shall become an integral part of the final contract and shall be kept on file at the factory for future reference.

PRE-CONSTRUCTION CONFERENCE

The contractor shall have a pre-construction conference prior to any manufacturing. The purpose of this meeting is to finalize all construction details. The location of the meeting shall be at the E.J. Metals Inc. facility, 1201 Maple Creek Lane, New London, Wisconsin 54961.

All travel expenses associated with the conference shall be paid by the customer.

FINAL INSPECTION

There shall be a final inspection trip for two (2) fire department personnel. All costs such as travel, lodging, and meals shall be the responsibility of the bidder. The final inspection shall be held at the EJ Metals, Inc. facility, 1201 Maple Creek Lane, New London, Wisconsin 54961.

PERFORMANCE TEST AND REQUIREMENTS

A road test shall be conducted with the apparatus fully loaded while being driven on a continuous fifty mile trip minimum. The unit shall be tested under all driving conditions during which time no loss of power or overheating may take place. The transmission drive shaft(s) and rear axle(s) shall run quietly and free from abnormal vibration or noise throughout the operating range of the apparatus. The vehicle shall adhere to the following guidelines:

- 1) The unit must be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.
- 2) The service brakes shall be capable of stopping the fully loaded vehicle in 35 feet at 20 mph on a level concrete highway.
- 3) The apparatus, when fully loaded, shall be capable of obtaining a speed of 50 mph on a level concrete highway with engine not exceeding its governed rpm.

FAILURE TO MEET REQUIRED TEST

In the event the apparatus fails to meet the test requirements of these specifications on the first trial, a second trial may be made at the option of the quoter within thirty (30), days of the date of the first trial.

The results of such trials shall be made final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes as the purchaser may consider necessary to conform to any clause of the specifications within thirty (30), days after the notice is given to the quoter of such changes shall be cause for rejection of the apparatus.

Permission to keep or house the apparatus in any building owned or occupied by the purchaser or its use by the purchaser during the above specified period with the permission of the quoter shall not constitute acceptance.

APPARATUS COMPLETION

Construction of the apparatus shall be completed within 150 days after the receipt of the chassis at the manufacturer's facility.

CHASSIS SPECIFICATIONS

Model: 201X Ford F-550 Super Duty XL DRW, 4x4
Cab Type: 4-Door Crew Cab
Wheelbase: 179"
Cab to Axle: 60"
GVWR: 19,500 lbs. (Pay-Load Plus Package)
Engine: 6.7 Liter Power Stroke Diesel
300 Horse Power @ 2800 RPM
660 Lb.-Ft. Torque @ 1600 RPM
32 Valves
16.20 to 1 Compression Ratio
Transmission: Six speed automatic with overdrive w/PTO provisions
1st Gear Ratio: 3.974 2nd Gear Ratio: 2.318
3rd Gear Ratio: 1.516 4th Gear Ratio: 1.149
5th Gear Ratio: 0.858 6th Gear Ratio: 0.674
Reverse Gear: 3.128
Transfer Case: ESOF - (electronic shift on the fly), automatic front hubs

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Fuel Capacity: 40 gallons
Batteries: Two (2), heavy-duty 750 CCA
Alternators: Dual HD (357 Amp Combined)
Brakes: 4-wheel ABS disc
Axle / Front: Front Rating: 7000 lb.
Front GAWR: 7000 lb.
Front Spring Rating: 7000 lb.
Front Capacity: 7000 lb.
Front Tire/Wheel Capacity: 7500 lb.
Axle / Rear: Rear Rating: 15000 lb.
Rear GAWR: 14706 lb.
Rear Spring Rating: 15000 lb.
Rear Capacity: 14706 lb.
Rear Tire/Wheel Capacity: 15000 lb.
Limited Slip / 4.88 Axle Ratio
Curb Weight: Front: 5052 lb.
Rear: 3610 lb.
8662 lb. (Total Curb Weight)
Pay Load Capacity: 11031 lb.
Towing Capacity: 16000 lb.
Steering: Power steering with tilt wheel
Wheels/Tires: Six (6), 225/70R19.5G steel belted radials, BSW MAX Traction
19.5" Argent painted steel
Interior:
Front Leg Room: 41.1"
Front Head Room: 40.7"
Front Hip Room: 67.6"
Front Shoulder: 68.0"
Rear Leg Room: 42.1"
Rear Head Room: 40.8"
Rear Hip Room: 67.6"
Rear Shoulder: 68.0"
Pass Area Vol: 133.5 cu.ft.

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- Instrument Panel:
- LCD odometer
 - Oil pressure warning light
 - Transmission temperature gauge
 - Temperature gauge
 - Fuel level gauge w/ indicator lights
- Radio: AM/FM stereo and digital clock
- Driver's Seat: 40/20/40 - Vinyl
- Crew Seat: Folding vinyl bench
- Exterior:
- Length: 261.9"
- Body Width: 93.9"
- Body Height: 80.8"
- Axle to Frame End: 47.6"
- Front Tread: 74.8"
- Rear Tread: 74.0"
- Turning Radius: 25.8'
- Other options:
- XL trim package
 - Chrome front bumper with tow hooks
 - Aero-composite head lamps
 - Cab clearance lights
 - Chrome grille
 - Rear stabilizer bar
 - Dual electric horns
 - Driver and passenger side air bags
 - Power windows w/ tinted safety glass
 - Telescoping mirrors, day/night mirrors, turn indicators
 - Power door locks
 - Engine block heater
 - Black vinyl floor mat
 - License plate bracket
 - Molded black cab steps
 - Skid plates
 - Low deflection package

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- Hi Cap trailer tow package
- Trailer brake controller
- Snow plow prep package
- AC / Tilt / Cruise
- Race red paint
- Operator command regeneration

EMBER SEPARATOR

The commercial chassis engine air in-let shall be equipped with a means of separating water and burning embers from the air intake system such that particulate matter larger than 0.039 in. (1.0 mm) in diameter cannot reach the air filter element.

The ember separator shall be constructed from stainless steel screen.

RUNNING BOARDS

Running boards shall be installed below the cab on both sides of the apparatus. The running boards shall be constructed of steel support channels covered by embossed bright aluminum tread plate. The distance from the ground to the running board shall not exceed 24". If the vertical distance between the running board and the cab floor exceeds 18", an intermediate step shall be provided.

EXHAUST EXTENSION, FORD "F" SERIES

The exhaust tail pipe shall be extended to the edge of the body.

CAB CONSOLE

An EJM aluminum console shall be provided between the driver and officer seats in the chassis cab for the mounting of equipment and equipment controllers outlined later in these specifications.

The console shall be constructed from formed and welded .125" aluminum plate and powder coated with a buck-stop black textured finish for protection and a pleasing appearance.

The top cover of the console shall be removable in two (2), sections. The forward section shall provide for access to the apparatus wiring and the rear section for the control modules.

EMS CABINET, CAB

An additional aluminum EMS compartment shall be provided between the rear seats. The compartment shall be designed to meet the individual requirements of the customer. The compartment shall not be more than 14" deep (allowing personnel sitting in the outboard seats to see around), as wide and tall as possible. The compartment shall have a roll-up door and two (2) adjustable shelves. The compartment shall also be equipped with automatic lighting to match the rest of the unit (AMDOR brand).

The compartment shall have a "DA" finish.

12-VOLT POWER LEADS

One (1) set of 12-volt power lead(s) shall be installed on the apparatus. The power leads shall terminate inside the cab center console. The power leads shall consist of One (1), 12ga. B+ power and One (1), 12ga. ground. Both leads shall be approx. 24.0" long and terminate with solder-less barrel type connectors. The leads shall be connected battery direct and be un-fused.

12-VOLT POWER POINTS

One (1), 12-Volt power points shall be provided. The power points shall be cigar lighter type. The power points shall be wired to battery direct and 15 amp fused.

The power points shall be located in the cab console.

12-VOLT POWER POINT - (USB DUAL PORT)

One (1), USB dual port 12-Volt, 4.2 Amp, power point shall be provided. The power point shall be a dual port USB type. The power point shall be wired to battery direct and 5 Amp fused.

The power points shall be located in the cab console.

FUEL / UREA FILL - (DUAL DOORS)

Two (2), Cast Products model FG2103 fill cover shall be installed on the apparatus. The covers shall be constructed of bead-blasted aluminum and shall be vertically hinged on the forward side. The fill cover flanges shall be constructed of polished aluminum.

The fuel fill cover and flange shall be located on the rear section of the driver's side rear fender panel.

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The urea fill cover and flange shall be located on the forward section of the driver's side rear fender panel.

RELOCATE UREA TANK/FILL

The chassis urea tank and fill shall be moved to the LS frame rail, ahead of the rear axle. Fill to be in the LS forward fender panel. Chassis wiring harness shall be extended via an extension harness. Urea line also to be extended.

MASTER BATTERY SWITCH - (ELECTRONIC)

An electronic master battery switch shall be provided in the center console switch panel within easy reach of the driver. The master battery switch shall provide power to all body components.

OEM chassis wiring is not affected by this switch.

All battery terminals shall be coated with battery terminal protection spray.

KUSSMAUL AUTO CHARGE 1000 SUPER KIT

A Kussmaul Auto Charge 1000 15 amp, 12 volt automatic battery charging system shall be provided to maintain charge in the apparatus battery system. The charger shall be powered by the 120v shoreline.

The Auto Charge 1000 is a high output automatic battery charger. Unique electronic sensing circuits sense the true battery voltage while eliminating the need for external sense wires. Charging is completely automatic. The maximum output of the charger is 15 amperes. When the battery is fully charged, all charging will stop. There is no overcharging and no water boil off.

A common problem with electrical systems is the loading on the battery caused by rechargeable hand lights, portable radios and other loads. The Auto Charge 1000 handles these loads with a built in "BATTERY SAVER". Auxiliary electrical loads are connected to the Battery Saver output. During normal vehicle operation these auxiliary loads are connected to the battery. When the vehicle is plugged in to A.C. power, the auxiliary loads are automatically removed from the battery and powered from the "BATTERY SAVER" circuit. A maximum of 3 amperes is available from the "BATTERY SAVER". An automatic overload protector limits the 3 ampere output. A yellow overload indicator is illuminated whenever the "BATTERY SAVER" output limit is exceeded.

The Auto Charge 1000 indicator may be mounted remotely from the charger assembly. Connected by 3 wires to the charger, the indicator contains a bar graph display. The display indicates the "state of charge" and the general condition of the battery. An old or defective battery is displayed as a low reading which remains low after an extended charging period. A

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discharged battery also is indicated by a low reading. Precise indications of battery condition appear, independent of the distance between the charger and the display.

The battery condition indicator shall be mounted on the driver's side rear fender panel, above the auto eject receptacle.

Kit shall include shoreline connector.

AUTO EJECT FOR SHORELINE - BACKWIRE

One (1), shoreline receptacle shall be provided to operate the 120-volt circuits on the vehicle without the use of a generator.

The shoreline receptacle shall be provided with a NEMA 5-20, 120 volt, 20 amp, straight blade Kussmaul Super Auto Eject plug with a weatherproof cover. The cover shall be spring loaded to close, preventing water from entering when the shoreline is not connected.

The unit shall be completely sealed to prevent road dirt contamination.

A solenoid wired to the vehicle's starter shall be energized when the engine is started. This shall instantaneously drive the plug from the receptacle.

An internal switch shall be provided to disconnect the load prior to ejection to eliminate arcing of the connector contacts.

The shoreline shall be connected to the battery charger/compressor.

The color of the shoreline cover shall be yellow.

The shoreline shall be located on the forward section of the driver's side rear wheel well.

LOAD MANAGER

A Kussmaul Load Manager 2 shall be installed on the apparatus. The load manager shall monitor the 12-volt system of the vehicle while the parking brake is engaged. It shall sequentially shut down two (2), individual electrical loads when the system voltage drops below a preset value. The load manager shall sequentially re-energize the electrical loads as the system voltage recovers.

The two electrical loads to be managed shall be determined.

ALUMINUM WHEELS

One (1), set of polished forged aluminum wheels shall be provided. The wheels will be aftermarket purchased and installed. The OEM tires shall be removed from the chassis, mounted, balanced and reinstalled. The set will consist of four (4), aluminum wheels. The inner rear wheels on the rear shall remain the OEM standard.

REAR TOW EYES

Two (2), tow eyes shall be installed at the rear of the apparatus. The tow eyes shall be constructed from .75" Stainless Steel plate and shall be bolted directly to the chassis frame rails with grade 8 bolts. The tow eyes shall have a 3" inside diameter eye.

The tow eyes shall be integrated with the rear bumper mounting brackets.

REAR RECEIVER HITCH

A Class IV receiver hitch shall be installed at the rear of the apparatus. The hitch assembly shall have a glossy black, pebble textured finish for protection and a pleasing appearance.

TRAILER RECEPTACLE

One (1) 7-prong trailer wiring receptacle with a weatherproof cover shall be installed at the rear of the apparatus near the receiver hitch.

REAR MUD FLAPS

Two (2), black hard rubber mud flaps shall be installed behind the rear wheels, one each side.

The EJ Metals logo shall be on each mud flap.

BACK-UP ALARM

An automatic 97 db electronic back-up alarm shall be provided at the rear of the apparatus. The alarm shall sound when the transmission is placed in reverse.

PLATES AND LABELS

The following plates and/or labels shall be provided:

A permanent plate specifying the quantity and type of fluids used in the apparatus for normal maintenance shall be affixed in the front left side driver's compartment. Where a fluid is not applicable to the unit, the plate shall be marked N/A to inform the service technician who may not be familiar with the apparatus:

APPARATUS FLUIDS	
Engine Oil	Pump Transmission Lubrication Fluid
Engine Coolant	Pump Primer Fluid
Transmission Fluid	Air Compressor System Lubricant
Drive Axle Lubrication Fluid	Generator System Lubricant
Transfer Case Fluid	Equipment Rack Fluid
Power Steering Fluid	Front Tire Cold Pressure
Air Conditioning Refrigerant	Rear Tire Cold Pressure
Air Conditioning Lubrication Oil	Other:
Cab Tilt Mechanism Fluid	Misc:

A plate indicating the overall height of the apparatus shall be installed in a location visible to the driver.

A plate indicating the maximum occupancy of the apparatus shall be installed in an easily visible location.

A plate instructing occupants to fasten safety belts shall be installed in an easily visible location.

A label shall be installed near the fuel fill to designate the chassis fuel type.

A label shall be installed at all stepping surfaces stating "Warning: Death or serious injury may result from riding on any stepping surface while the vehicle is in motion"

SEAT, REAR CREW, NON-SCBA

The apparatus cab rear bench seat shall be removed and replaced with a Bostrom non-scba Sierra model seat, PN 7542-3309F in the outboard seating position. Lower seat shall be a flip up style. Seat covering shall be grey durawear.

SUB-FRAME

An extruded aluminum sub-frame shall be installed to support the body of the apparatus. All structural members shall be constructed of 6061-T6 extruded aluminum tube for maximum strength.

Sub-frame cross members shall be constructed of 2" x 2" x 1/4" 6061-T6 extruded aluminum square tubing.

Two (2), longitudinal stringers shall be installed between the cross members and chassis frame. The stringers shall be constructed of .375" x 3" extruded aluminum flat bar and welded to each cross member. Rubber strips shall be installed between the stringers and the chassis frame.

The front of the sub-frame shall be mounted to the chassis frame using U-bolts, which allows for flexing in the chassis frame. The rear of the sub-frame shall be bolted through the upper chassis frame rail flange behind the rear axle. This mounting method provides the greatest combination of strength and flexibility, allowing for maximum body life.

60" Cab to Axle Brush Truck - 4" Header - 30° Angled Rear - Lap Doors

<u>COMPARTMENT</u>	<u>FRONT SIDE</u>
Door Frame to Door Frame	29.0"W x 56.0"H
Clear Door Opening	26.0"W x 54.5"H
Usable Area	32.0"W x 59.0"H x 22.0"D
Usable Cubic Feet	24.0
Door Type	Vertical Single

<u>COMPARTMENT</u>	<u>OVER WHEEL</u>
Door Frame to Door Frame	46.0"W x 33.0"H
Clear Door Opening	44.5"W x 30.0"H
Usable Area	51.5"W x 36.0"H x 22.0"D
Usable Cubic Feet	23.6
Door Type	Vertical Double

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<u>COMPARTMENT</u>	<u>REAR SIDE</u>
Door Frame to Door Frame	23.0"W x 50.0"H
Clear Door Opening	20.0"W x 48.5"H
Usable Area	23.0"W x 53.5"H x 22.0"D
Usable Cubic Feet	15.7
Door Type	Vertical Single

<u>COMPARTMENT</u>	<u>REAR</u>
Door Frame to Door Frame	50.00"W x 38.00"H
Clear Door Opening	47.00"W x 36.50"H
Usable Area	50.00"W x 37.00"H x 118.0"D
Usable Cubic Feet	126.4
Door Type	Roll-up

SWEEP-OUT COMPARTMENTS

All compartments shall be sweep-out style unless otherwise specified.

REAR STEP

A 10" step shall be installed at the rear of the apparatus. The step shall extend the entire width of the apparatus.

The step structure shall be 3" steel channel bolted to the chassis frame. The structure shall be powder coated with a glossy black, pebble textured finish to prevent corrosion.

The step shall be covered with embossed aluminum diamond plate.

FLIP DOWN STEP

Two (2), stainless steel flip down steps shall be provided. The steps shall be welded to the drivers side and passenger's side of the rear 3.0" stainless steel bumper. The flip down steps shall have an NFPA compliant non-slip stepping surface.

REAR VERTICAL HANDRAILS

Two (2), vertically mounted handrails shall be installed at the rear of the apparatus. The handrails shall be constructed of NFPA compliant 1.25" diameter extruded aluminum with a knurled finish. The handrails shall be attached to the body with chrome stanchions.

One (1) handrail shall be installed on each side of the body.

COMPARTMENT VENTS

All body compartments shall be equipped with a louvered panel attached to a compartment wall to provide proper ventilation inside of the compartment.

COMPARTMENT DRAINS

Two (2) .25" drain holes shall be installed in the floor of each compartment. Each drain hole shall be covered to prevent road debris from entering while still allowing fluid to drain out of the compartment.

ADJUSTABLE SHELVING

Adjustable shelving shall be installed in six (6) compartment(s), for a total of nine (9) shelves. Each shelf shall be constructed of .125" 5052 aluminum with 2.0" sides and bed liner coated black for protection. Shelf tracks shall be installed on the forward and rear vertical surfaces of the compartment containing the shelving. Shelf position shall be easily adjusted using common hand tools.

Each shelf shall be rated for a 250 lb. load.

Shelving shall be installed in the following locations:

- Two (2) in the L1 side forward compartment.
- One (1) in the L2 over the wheel compartment.
- One (1) in the L3 side rear compartment.
- Two (2) in the R1 side forward compartment.
- One (1) in the R2 over the wheel compartment.
- Two (1) in the R2 side rear compartment.

PULL-OUT TRAY, ADJUSTABLE

One (1) adjustable pull-out tray(s) rated for a 500-pound load shall be provided. The tray(s) shall be bed liner coated black to protect from corrosion and damage from equipment. Shelf tracks shall be installed on the forward and rear vertical surfaces of the compartment containing the tray(s). Tray position shall be easily adjusted using common hand tools.

The tray(s) shall be installed in the L3 side rear compartment.

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ROLL-OUT TRAY - (FLOOR MOUNTED)

One (1) floor mounted roll-out tray(s) rated for a 500-pound load shall be provided. The tray(s) shall be bed liner coated black to protect from corrosion and damage from equipment.

The tray(s) shall be installed in the L3 side rear compartment.

ROLL-OUT TRAY

One (1) roll-out tray(s) rated for a 750-pound load shall be provided. The tray(s) shall be bed liner coated black to protect from corrosion and damage from equipment. Each tray shall be capable of 100% extension.

The tray(s) shall be installed in the rear compartment, LS, approximately 2/3 the width of the compartment and full depth.

ADJUSTABLE TOOL BOARD - (TRAY MOUNTED)

One (1) adjustable tool board shall be installed on the apparatus. Extruded aluminum shelf tracking shall be installed at each end and the center of the tray to enable the position of the tool board to be adjusted forward and aft. Each tool board shall be constructed of .188" aluminum and have a D.A. finish.

The tool board shall be installed on the roll out tray in the rear compartment.

VERTICAL PARTITION

One (1) vertical partition shall be installed on the apparatus. The partition(s) shall be constructed of .125" aluminum.

The partition shall be installed in the rear compartment, RS, approximately 1/3 of the compartment width creating a separate storage area for vertical backboard/stokes basket storage.

BACKBOARD STORAGE

A vertical slide in backboard storage compartment shall be provided. The backboard storage compartment shall be located in the rear compartment, right side.

STOKES BASKET STORAGE

A vertical slide in stokes basket storage compartment shall be provided. The storage compartment shall be located in the rear compartment, right side.

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STAINLESS STEEL FASTENERS

All fasteners used in the construction of the body or mounting of equipment shall be stainless steel.

ROLL-UP DOOR, REAR COMPARTMENT

An Amdor brand roll-up door shall be provided for the rear body compartment.

Amdor roll-up doors have the thickest doors slats available on the market. The slats shall be double-wall box frame extrusions. Door slats shall be anodized to prevent corrosion. The exterior of the slats shall be flat. The interior surface of the door shall be smooth to eliminate equipment hang-ups.

Door tracks shall be one-piece construction with an attaching flange and a finishing flange incorporated into the design. The flange design eliminates any requirement for additional trim or caulk. Each track shall have a replaceable rubber seal to prevent water and rust from entering the compartment.

The doors shall be equipped with a stainless steel, full-width lift bar latching system. A 4" counterbalance spring in the roller assembly shall assist in lifting and prevent the door from accidentally closing. The doors shall be capable of one-handed operation.

An anodized aluminum drip rail with a replaceable wiper seal shall be installed above each door.

Amdor roll-up doors can be cleaned with a pressure washer and are guaranteed to not leak.

Each door shall be provided with a proximity switch that shall indicate if the door is not closed. The proximity switch shall activate the "Do Not Move Truck" light located in the cab.

Replacement parts shall be available within 2-3 working days.

PAINTED ROLL UP DOOR

The roll up door shall be painted to match the body and chassis cab. Pierce 100 Red.

LAP DOORS

Eight (8) lap-style doors shall be provided for the following compartments: COMPARTMENTS WITH LAP DOORS.

Each door shall be of lap style design utilizing inner/outer pan construction. Both the inner and outer door panels shall be constructed of .090" 5052-H34 aluminum sheet. The doors shall be a

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minimum of 1.25" thick with a full interior panel. A C-channel shall be glued between the inner and outer panels for door stiffness and strength.

A 1/4" D-style rubber gasket shall be installed on the lap section of each door. In addition, a 1/2" D-style rubber gasket shall be installed on the doorframe of the body. This gasket shall seal against the interior panel of the door, preventing road spray and debris from entering the compartment.

D-ring style polished stainless steel door handles shall be installed on each lap door. Double door compartments shall be equipped with a secondary L-handle polished stainless steel latch to secure the secondary door.

Compartment doors shall be securely attached to the body using a full-length, 3/16" pin diameter, electro-polished stainless steel hinge. The hinge shall be secured with stainless steel fasteners. Isolation tape shall be installed between the hinge and the body surface.

Vertically-hinged lap doors shall be secured in the open position by a positive door holder system. Horizontally-hinged lap doors shall be secured in the open position with chains protected by heat shrink tubing.

BODY ROOF SURFACE

The body roof, including the tops of all compartments, shall be covered with .125" embossed aluminum diamond plate. The roof surface shall be bent downward over the sides of the body.

FENDERETTES

Bright anodized aluminum fenderettes shall be installed in the wheel wells of the apparatus body.

FENDER LINERS

Black plastic (HDPE), fender liners shall be installed in the body wheel wells and attached with stainless steel fasteners. The liners shall be removable for body access during maintenance.

RUB-RAILS

Extruded aluminum rub-rails shall be installed on the body to minimize damage to the body and doors in the event of a collision. The rub-rails shall be mounted horizontally below the compartment doors. The rub-rails shall be spaced 3/8" from the body with nylon spacers.

DIAMOND PLATE - (FRONT BODY SURFACE)

The entire front surface of the apparatus body shall be covered with .100" bright aluminum diamond plate.

12 VOLT SYSTEM SPECIFICATIONS

The following specifications describe the 12 volt electrical system on the specified fire apparatus. The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses, and other electrical components.

The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest federal DOT standards, and the requirements of NFPA 1901 or 1906 (as applicable).

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. Wiring, wiring harnesses, and insulation shall be in conformance to applicable SAE and NFPA standards. Wiring harnesses shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. Electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

Wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall utilize large rubber / plastic grommets where wiring passes through metal panels.

All connections shall be crimp-type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

All electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. The main body junction panel shall house automatic-reset breakers and relays (as required).

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless they are enclosed in an electrical junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified every 4 inches by either color coding or permanent marking with a circuit function code identified on a reference chart or

electrical wiring schematic per requirements of applicable NFPA 1901 or 1906 standards (as applicable).

Electrical circuits shall be provided with low voltage over-current protective devices. These devices shall be accessible and located in required terminal connection locations or weather-resistant enclosures. Over-current protection shall be suitable for electrical equipment, automatic reset type, and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of the maximum current for which the circuit is protected.

The electrical system shall have the following features:

- The electrical wiring shall be harnessed or be placed in protective loom.
- Heat shrink material and sealed connectors shall be used to protect exposed connections.
- Holes made in the roof of the apparatus shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in the component.
- A sufficient length of wiring shall be provided behind any electrical appliance to allow the device to be pulled away from the panel for inspection and/or service work.

All electrical equipment switches shall be mounted on a switch panel in the cab convenient to the operator. Warning light switches shall be of the rocker or paddle type. For easy night-time operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function by backlighting or panel light.

WIRING DIAGRAMS

Electrical wiring diagrams of the specific apparatus shall be furnished with the completed apparatus.

ELECTRICAL LOAD ANALYSIS

The apparatus shall have a load analysis completed prior to the delivery of the unit. A copy of the load analysis shall be supplied with the vehicle at the time of delivery. A load test shall be performed in accordance with NFPA requirements.

ALTERNATOR NFPA TESTING

The apparatus low voltage electrical system shall be tested and certified by the apparatus manufacturer. The certification shall be provided with the apparatus.

The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.

TEST #1 - (RESERVE CAPACITY TEST)

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

TEST #2 - (ALTERNATOR PERFORMANCE TEST AT IDLE)

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

TEST #3 - (ALTERNATOR PERFORMANCE TEST AT FULL LOAD)

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of less than 11.7 volts DC for a 12 volt system, for more than 120 seconds, shall be considered a test failure.

LOW VOLTAGE ALARM TEST

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

At time of delivery, documentation shall be provided with the following information:

- Documentation of the electrical system performance test
- A written load analysis of the following;
- Nameplate rating of the alternator

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- Alternator rating at idle while meeting the minimum continuous electrical load
- Each component load comprising the minimum continuous electrical load.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

SWITCH PANEL

Two (2) six (6) place switch panel shall be installed in the chassis cab to control the emergency lighting package. All switches shall be rocker type with integral indicator lights to show when the light being controlled is energized. All switches shall be appropriately identified by a back-lit indicator.

See customer approval drawing for switch positions and panel lay-out.

SWITCH PANEL

A four (4) place switch panel shall be installed in the chassis cab to control the emergency lighting package. All switches shall be rocker type with integral indicator lights to show when the light being controlled is energized. All switches shall be appropriately identified by a back-lit indicator.

LOW VOLTAGE ALARM

A Kussmaul model 091-85-12, low voltage alarm shall be provided. There shall be both an audio and visual indication when the system voltage drops below the 11.8 VDC pre-determined level, as specified by NFPA 1901.

The audio alarm shall consist of 2900Hz slow pulse tone @ 88dBA. The visual indicator shall be a 5/16" red led light. The two (2), indicators shall be marked "LOW 12Vdc VOLTAGE"

Both Audio and Visual indicators shall be mounted in the cab center console.

TIRE PRESSURE MANAGEMENT

There shall be a TIRE WATCH LED tire pressure management alert system provided that shall monitor each tire's pressure. A chrome plated brass sensor shall be provided on the valve stem of each tire for a total of six (6).

The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops eight (8), psi.

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Removing the cap from the sensor shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start blinking.

FMVSS LIGHTING - (REAR)

The following FMVSS lighting shall be provided:

Two (2) Truck Lite Model 44 red 4" round LED stop/tail lights shall be provided.

Two (2) Truck Lite Model 44 amber 4" round LED turn lights shall be provided.

Two (2) Truck Lite Model 40 4" round reverse lights shall be provided.

CLEARANCE LIGHTS

Four (4), RED LED clearance lights shall be installed at the upper rear corners of the apparatus body. One (1), pair of lights shall be facing the rear of the apparatus one each side. One (1), pair of lights shall be facing the side of the apparatus one each side.

Four (4), AMBER LED clearance lights shall be installed at the upper front corners of the apparatus body. One (1), pair of lights shall be facing the front of the apparatus one each side. One (1) pair of lights shall be facing the side of the apparatus one each side.

IDENTIFICATION LIGHTS

Three (3), RED LED identification lights shall be installed at the rear of the apparatus, as close to the vertical center line as possible. The center spacing shall be no less than six (6) inches, and no more than twelve (12) inches.

LICENSE PLATE BRACKET

A license plate bracket shall be installed at the rear of the apparatus. An LED light shall be provided above the bracket.

NFPA LIGHTING PACKAGE

The following warning light package includes all of the minimum warning light and actuation requirements for the current version of the NFPA 1901 Fire Apparatus Standard. The following lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" as noted.

The warning light system shall be certified by the light system manufacturer, to meet all of the requirements in the current version of the NFPA 1901 Fire Apparatus Standard. The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus.

12-VOLT DISTRIBUTION BOX (NON-MULTIPLEXED, HARD WIRED)

A 12-volt distribution box containing the lighting package control components such as relays, circuit breakers, and flashers shall be installed . The box shall be constructed of smooth aluminum. A removable aluminum cover shall be installed to protect the components and allow for easy access.

LIGHT BAR

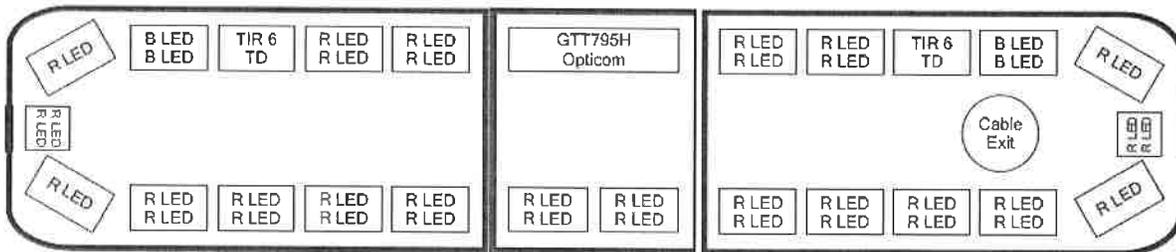
One (1), Whelen 60", Freedom IV LED light bar shall be provided. All lenses on the light bar shall be clear.

The light bar shall consist of the following elements:

- Four (4), forward facing RED, LED modules.
- Two (2), forward facing BLUE, LED modules
- Two (2), forward facing WHITE, LED TIR take down modules.
- One GTT795H center mounted Opticom emitter.
- Two (2), 45° forward facing RED, LED modules.
- Two (2), 45° rear facing RED, LED modules.
- Two (2), side facing RED, LED short modules.
- Ten (10), rear facing RED, LED modules.

The light bar shall be mounted: On the light bar mount provided with the UHP gull wing skid assembly.

Configuration



FRONT LOWER WARNING LIGHTS

Two (2), Whelen M2 series Super LED warning lights shall be installed on the front grille of the chassis. The dimensions of the lights shall be 3.65" x 2.07". Each light shall be mounted in a chrome bezel. The lights shall be controlled by a switch in the cab instrument panel.

The lens color shall be clear with red LED's.

FRONT LOWER WARNING LIGHTS

Two (2), Whelen M2 Super LED warning lights shall be installed. The dimensions of the lights shall be 3.65" x 2.07". Each light shall be mounted in a chrome bezel. The lights shall be controlled by a switch in the cab instrument panel.

The lens color shall be clear with red LED's.

The lights shall be installed on the front fenders of the chassis, one each side.

SIDE LOWER WARNING LIGHTS

Two (2), Whelen M4 Super LED red warning lights shall be installed. Each light shall be mounted in a chrome bezel. The lights shall be installed near the rear wheel wells.

The lens color shall be clear with red LED's.

BEACONS

Two (2), Whelen Model L360, L31HRFN LED beacons shall be installed on the upper rear corners of the apparatus. The beacons shall be controlled by a switch located at the cab control panel.

Lens colors shall be red.

REAR LOWER ZONE WARNING

Two (2), Whelen M4 series Super LED lights shall be installed on the lower rear of the body. Each light shall be mounted in a chrome flange.

The lens color shall be clear with red LED's.

TRAFFIC ADVISOR

A Whelen model TAM65, two piece traffic advisor shall be installed at the rear of the apparatus. The traffic advisor shall contain six (6) lamps total and each section shall be approximately 23" in length. The control head for the traffic advisor shall contain and LED display which duplicates the visual pattern of advisor.

The controller for the traffic advisor shall be located in the cab console. The traffic lights shall be located one per side of the rear body, as high as possible, surface mounted.

SIREN

A Whelen model 295SLSA1 200-watt output electronic siren shall be installed in the cab. The siren shall be controlled by the "Horn Button" and have "Hands Free" (NFPA) operation as well as manual.

The siren shall have the following features:

- Radio rebroadcast
- Public address
- Manual
- Wail
- Yelp
- Air-horn sound
- Piercer
- Hard-wired microphone

SIREN SPEAKER

One (1), Whelen Model SA315P 100-watt siren speaker kit shall be installed on the apparatus. Speaker shall have a black composite construction.

BACKUP CAMERA

130° CAMERA WITH 18 INFRARED ILLUMINATORS & 7" DIGITAL MONITOR

A Fire Research inView™ TrueSight™ model BCA111-A00 kit shall include: (1) one 130° camera with 18 infrared illuminators and (1) one 7" digital monitor.

The 130° Camera shall include the following features: SONY® Color CCD Sensor, 250,000 pixels for Picture Elements and Gamma Correction with R=0.45 to 1.0. Camera shall have Mirror Image capability. (1) One 66 ft. Extension Cable shall be included for the camera. (1) One Screw Kit shall be provided for camera installation. The camera shall have a built-in high

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gain microphone. The Image Sensor shall provide 600 TV Lines PAL: 500(H) *582(V), NTSC: 510(H) *492(V). The 2.1MM Lens shall have a 130° Viewing Angle. The Waterproof rating shall be IP69K. The 130° Camera shall include an Internal Synchronization Sync System. Infrared Distance shall be 50 Ft. (18 Infrared IR). The Usable Illumination shall be 0 Lux (with IR ON). The Power Source shall be DC 12V (+/-10%). Signal-to-Noise ratio (S/N Ratio) shall be rated for higher than 48DB. The Electronic Iris rating shall be 1/50, 1/60-1/100,000 seconds. Video Output rating shall be 1VP.P 75 The IR Switch Control shall have a CDS Automatic Control. Vibration and Impact Rating shall be 20G/100G. The Operating and Storage Temperature ratings both shall be -40°F ~ +176°F / RH 95% Max.

The model BCA111-A00 kit shall also include (1) one **7" TFT LCD Digital Color Monitor**. The specifications shall be as follows for the monitor:

- Dot Resolution: 800 x 3 (RGB) x 480
- Display Format/Contrast: 16:9 / 500:1
- Display Brightness: 400 CD/m²
- Viewing Angle: U:50° D:60° L/R:70°
- 3 Channel Video Input
- 1 VP-P, 75
- Power Supply DC 12V-24V (+/-10%)
- Power Consumption 5W
- Operating Temperature: -22°F ~ +176°F
- Video System: Auto NTSC/PAL
- Overall Dimensions: 7" (L) x 5" (H) x 1" (D)
- Weight: 400G
- Vibration Rating: 5G
- Dot Pitch: 0.192 (H) x 0.1805 (V)
- Internal Sync System

Location of the 130° camera with 18 infrared illuminators and 7" digital monitor shall be in the cab IPO of the windshield mounted rear view mirror.

REAR SCENE/FLOOD LIGHT

Two (2) Whelen Pioneer™ SlimLine™ series Model # PSL1R5 shall be provided. The 35 watt DC +12v SlimLine Pioneer single light-head configuration shall incorporate 12 white Super-LED® with a TIR reflector installed in a white die-cast powder coated aluminum housing. The PSL1R5 shall have a standard 8° spot light lens with the ability to change to a 40°x 20° flood lens provided with the SlimLine Pioneer. The PSL1R5 shall include a white aluminum alloy 15°

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recess mount and a chrome trim ring with mounting hardware. The SlimLine Pioneer light shall have 3,600 usable lumens.

A cast aluminum alloy lens retainer with a liquid injected silicone gasket shall protect against environmental conditions. The hard coated lenses shall provide extended life/luster protection against UV and chemical stresses. The PSL1R5 shall be shall be vibration resistant. The Pioneer PC boards shall be conformal coated for additional protection. The PSL1R5 shall have extended LED operation with low current consumption and low operating temperature. Two breathable membrane patches shall be installed to the bottom of the housing to maintain a consistent internal pressure. The PSL1R5 shall be furnished with a 6' 2/C 18GA unterminated cable. The PSL1R5 is covered by a five year factory warranty.

Voltage: +12v DC

Size: H=6.34", W=9.88", D=2.0"

Amp Draw: Spot Light = 3 Amps

Lens Color: Clear

LED TELESCOPIC FLOOD LIGHT

PIONEER FLOOD LIGHTHEAD WITH POLE/PEDESTAL MOUNT

Whelen Pioneer Plus™ Model # PFH1P shall be provided. The 75 watt +12v DC Pioneer light head shall incorporate Super-LED® single flood light installed in a die-cast white powder coated aluminum housing. The PFH1P configuration shall consist of 18 clear Super-LEDs with a clear optic collimator/metalized reflector assembly, and a clear non-optic polycarbonate lens. The flood light shall be installed with a pole/pedestal adaptor with a 1 1/8" adjustable sleeve, junction box, and a large anodized aluminum alloy ergonomic knob at the knuckle. The PFH1P shall be installed with a black fiberglass enforced polycarbonate handle. The Pioneer flood light shall have 8,875 usable lumens.

The lens/reflector assembly shall utilize a liquid injected molded silicone gasket to be resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The PFH1P shall be shall be vibration resistant. The Pioneer™ PC boards shall be conformal coated for additional protection. Two breathable membrane patches shall be installed to the bottom of the housing to maintain a consistent internal pressure. The PFH1P shall have extended LED operation with low current consumption and low operating temperature.

The PFH1P shall be furnished with a 6" non-terminated pigtail in the junction box. The PFH1P will have the ability to mount on a 1 1/8" diameter pole and is secured by four set screws. Adapters are available for retro fitting to FRC and Havis/ROM poles. The PFH1P is covered by a five year factory warranty. Pole and pedestal mount options are purchase separately.

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Voltage: +12v DC

Size: H=9.75", W=10.81", D=6.06"

Amp Draw: Spot Light = 6.50 Amps

Lens Color: Clear

The light heads shall be mounted in pole assembly #86930WB3 2" side mount with cradle & sensor. Bottom mount push-up 12" outer body, 57 silver with 4C internal input wire.

COMPARTMENT LIGHTING

Amdor Luma-Bar LED lighting shall be provided in each compartment. This lighting system shall consist of flush-mount LED lights mounted in a clear PVC tube, offering 120-degree illumination. There shall be two (2) LED light strips per compartment, mounted vertically on either side of the door opening.

The lighting shall be activated by a door switch in the roll-up door.

STEP LIGHTS

Two (2), Technique LED step lights shall be provided at the rear of the apparatus body. The lights shall be located LOCATION.

The step lights shall be activated when the chassis transmission is placed in the "PARK" position.

PERIMETER LIGHTING

Six (6), 4" round LED perimeter lights shall be provided below the body and chassis. Each light shall have a clear lens and shall be mounted on a bracket, angled downward, beneath the apparatus to provide lighting under and around the apparatus. The lights shall be mounted as follows:

- Two (2), lights under the chassis steps.
- Two (2), lights under the front side portion of the body, one each side.
- Two (2), lights under the rear step of the body, one each side.

The perimeter lights shall be activated when the chassis transmission is placed in "PARK" position.

PAINT

The body of the apparatus shall be painted Pierce 100 Red.

Product, Seven (7), year system:

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Pigmented wash primer
Urethane Primer
Polyurethane Basecoat
Urethane Clear

Polyurethane 3.5 VOC Basecoat designed to produce ultimate durability with the wet look appearance. 3.5 VOC Urethane Clear coat is a premium-quality urethane. The clear coat offers gloss and durability features that meet the demands if the Fire and Emergency markets.

The body shall be wet sanded, buffed and polished.

A container of touch-up paint shall be provided for each color used.

PAINT CHASSIS TO MATCH BODY

The entire chassis cab shall be painted to match the apparatus body. The paint color shall be COLOR.

AKZONOBEL FLEET & COMMERCIAL VEHICLE REFINISH LIMITED WARRANTY

This Limited Warranty is dated ___/___/___ and is between AkzoNobel and AkzoNobel Fleet and Commercial Vehicle Refinish Customers.

The customer is purchasing a Coating System from AkzoNobel for refinish application on the commercial vehicles. This Limited Warranty is dependent on the Coating System being applied in accordance with the current published Technical Data Sheets for the specific products that make up the Coating System.

AkzoNobel and the customer therefore agree as follows:

1. Limited Warranty. AkzoNobel hereby warrants to the Customer that from the Commencement Date (“Warranty Period”), there will be no degradation below the “Performance Standards”. The “Commencement Date” is defined as the date that the Coating System application is completed. *After the Warranty Period, AkzoNobel no longer warrants the Coating System and the customer agrees that it can obtain no compensation for defect or deterioration after the expiration of the Warranty Period.*

Clearcoat systems will have a limited warranty period of **7 years**.

Performance Standards

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- Loss of gloss below the following specification;
- For the first 5 years the gloss will not fall below sixty gloss units.
- For the remaining 2 years the gloss will not fall below 40 gloss units.
- Gloss measurements will be taken at twenty (20) degree geometry.

- Loss of color greater than the following specification;
- For the first 5 years color shift will be no greater than a Delta E of 3.
- For the remaining 2 years the color shift will be no greater than a Delta E of 6.

- Cracking of the paint system as set defined by ASTM D661-86, rating of six (6) or lower.

- Loss of adhesion of the applied coating system to existing substrate resulting in appearance below the standards defined by ASTM D1654-79A, table two (2), rating 6 or lower.

Topcoat (no Clearcoat) systems will have a limited warranty period of **5 years**.

Performance Standards

- Loss of gloss below the following specification;
- For the first 3 years the gloss will not fall below sixty gloss units.
- For the remaining 2 years the gloss will not fall below 40 gloss units.
- Gloss measurements will be taken at twenty (20) degree geometry.

- Loss of color greater than the following specification;
- For the first 3 years color shift will be no greater than a Delta E of 3.
- For the remaining 2 years the color shift will be no greater than a Delta E of 6.

- Cracking of the paint system as set defined by ASTM D661-86, rating of six (6) or lower.

- Loss of adhesion of the applied coating system to existing substrate resulting in appearance below the standards defined by ASTM D1654-79A, table two (2), rating 6 or lower.

2. Application Not Warranted. For this Limited Warranty to remain valid, all surface preparation and coating applications of the Coating System must be performed strictly in accordance with current published Technical Data Sheets and any additional specification AkzoNobel supplies to the Customer before or during the application. AkzoNobel does not warrant the workmanship or conduct of any third-party contractor or applicator, and AkzoNobel shall not be responsible for damages, failure or deteriorations in the Coating System resulting, directly or indirectly, from faulty workmanship in any inspection, application (during surface preparation), installation or maintenance of the Coating System by any third-party contractor or applicator, or any other person or entity.

3. Exclusive Remedies. THE CUSTOMERS SOLE CAUSE OF ACTION AGAINST AKZONOBEL ARISING OUT OF THE USE OF THE COATING SYSTEM SHALL BE

A CLAIM FOR BREACH OF THIS LIMITED WARRANTY AND THE CUSTOMERS SOLE REMEDY SHALL BE DESCRIBED IN THIS SECTION. The customer waives all other causes of action for breach of this warranty, including product liability or other common law claims and any claims under state law. Akzo Nobels sole liability and the Customers sole remedy for breach of this Limited Warranty, or any defect, deterioration or failure of the Coating System, shall be as follows:

a. TO REPLACE THE COATING SYSTEM: AkzoNobel shall provide the Customer, free of charge, a sufficient quantity of Coating System(s) materials necessary to recoat the areas where any such defect, deterioration or failure of the Coating System occurred (the “Defective Areas”). The Warranty Period defined above *shall not* be extended by the provision of replacement Coating Systems.

b. TO COMPENSATE FOR APPLICATION COSTS: AkzoNobel shall reimburse the Customer for the 100% of cost for applying the replacement Coating System which shall be calculated by multiplying an hourly labor cost by the number of hours required to repair the Defective Areas and shall not include supervisory labor or overhead costs.

c. MAXIMUM TOTAL LIABILITY: AkzoNobels total liability to the Customer under this Limited Warranty and, in particular, section 4(a) and 4(b) (whether from a single claim or a series of claims) shall not exceed the total price the Customer paid for the applied coatings and the labor cost charged to the vehicle owner.

d. In no event shall AkzoNobel be liable to the Customer for any indirect, consequential, special, incidental, punitive or contingent damages, or costs of litigation or loss relating to the Customers purchase or use of the Coating System.

4. FURTHER EXCLUSIONS. This Limited Warranty specifically excludes all Coating System failures that result from:

a. Causes beyond the control of AkzoNobel, including welding, or other heating, mechanical, electrical or electrolytic damage or malfunction, settling, warping or other failure of the surface to which the Coating System is applied, or any other condition that develops between the coating and the substrate;

b. Improper cleaning or maintenance or use of other cleaning or other solvents, chemicals or fluids not approved by AkzoNobel in writing;

c. Abrasion, collision or similar impact with the Coating System or other vehicles

d. Environmental pollution, vandalism or other malicious damage, Acts of God or adverse weather;

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e. Severe microclimates

f. Any deterioration in or of the Vehicles caused by electro-chemical action or reaction arising from the presence of metals in the Coating System or elsewhere which are cathodic to the metal(s) compromising the Vehicles;

g. The use of any paint or coating not manufactured by AkzoNoble; or

h. The failure to comply with any provision of this Limited Warranty or its Appendices.

5. Any repair or attempted repair by the Customer or its agents or representatives of any Coating System shall render this Limited Warranty void, unless such repair is carried out in accordance with AkzoNobels written instructions. All repairs or replacement hereunder must be carried out as soon as practicable; AkzoNobel does not assume any liability for delay incurred in connection with such repair or replacement.

6. This Limited Warranty may not be amended without the written consent of both parties.

7. All supplies of the Coating System or any component thereof shall be subject to AkzoNobels standard terms and conditions of sale. In the event of any inconsistency or conflict between this Limited Warranty and AkzoNobels standard terms and conditions of sale, this Limited Warranty shall govern and take precedence. Any money that AkzoNobel owes to the Customer pursuant to this Limited Warranty will be decreased by the outstanding balance the Customer owes to AkzoNobel for products purchased.

8. THE CUSTOMER ACKNOWLEDGES THAT THIS LIMITED WARRANTY HAS BEEN READ AND FULLY UNDERSTANDS ITS TERMS AND CONDITIONS.

APPENDIX 1

AkzoNobel Commercial Vehicle Limited Warranty Notice Provision, Claims and Dispute Resolution Procedure

1. Notice Provision

a. All notices, requests, demands or other communications to or upon the respective parties shall be made in writing to the following address;

(i) To AkzoNobel: 3587 Parkway Lane,

(ii) To the Customer: [INSERT ADDRESS]

2. Claim Procedure

a. Any claim by the Customer under this Limited Warranty must be submitted in writing within the Warranty Period and within (i) thirty days of the detection by the Customer of or (ii) thirty

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days following the date the Customer reasonably should have first noticed, whichever is sooner, any failure warranted herein (the "Notice Period") to AkzoNobel at the address listed above.

(i) In the written claim, the Customer shall set forth in reasonable detail the nature of the failure and the circumstances under which it was discovered, including the date of detection.

(ii) If the written claim is received after the expiration of the Notice Period or the Warranty Period, whichever is sooner, the Limited Warranty will be void with respect to the alleged failure.

b. Upon request of AkzoNobel, the customer shall make the Vehicles available for inspection by AkzoNobel and its respective agents and representatives, within 7 days following the request.

c. The Customer shall make available to AkzoNobel records showing the environment to which all areas of the Vehicles have been exposed since the initial coating application, including without limitation surface treating, washing and cleaning procedures, heating cycles and other data that AkzoNobel may request to ascertain whether proper maintenance and servicing of the Vehicle occurred.

d. The acceptance of any claims by AkzoNobel shall be effective only if AkzoNobel communicates such acceptance to the Customer in writing.

e. AkzoNoble agrees to provide written acceptance or rejection of a claim within a reasonable time period following receipt of the written claim described in Section 2(a) above. Costs associated with repairing or recoating the Vehicles will not be reimbursed if the Customer repairs or recoats the Vehicles prior to receiving written acceptance of the claim.

3. Dispute Resolution Procedure

If a dispute arises from or relates to this Limited Warranty and if the dispute cannot be settled through negotiation, the parties agree that any controversy or claim arising out of or relating to this Limited Warranty shall be settled by arbitration administered by the American Arbitration Association ("AAA") in accordance with its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction. The place of the arbitration shall be

Each party is signing this Limited Warranty on the date stated below that party's signature.

AKZONOBEL	Distributor	Customer
By: _____	By: _____	By: _____
Print: _____	Print: _____	Print: _____
Title: _____	Title: _____	Date: _____
Date: _____	Date: _____	

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COMPARTMENT INTERIOR FINISH, SPATTER PAINT

The interior of all compartments shall be spatter painted a gray color.

BODY UNDERCOATING

The underside of the apparatus body shall be sprayed with a black finish undercoating before being mounted on the chassis.

GRAPHICS PACKAGE, CUSTOM

A custom graphics package shall be supplied and installed on the apparatus per the department's request, Olathe KS, Fire & Rescue. Details of graphics are as follows;

- 20 feet 6" White Scotchlite
- 40 feet 1" OAW Gold Scotchlite w/ 0.25" printed Black border - laminated
- (2) - 13" x 17" Scotchlite cab Door Seal - laminated
- (2) - 5.75" H Gold Scotchlite lettering w/ printed Black outline & right hand drop shade "CLASS 1 ISO" - laminated
- (2) - 5.75" H Scotchlite Star of Lives (Rt. Slant) - laminated
- (2) - 2" H #75 Blue Scotchlite lettering (Rt. Slant) "PARAMEDIC" & "NURSE PRACTITIONER"
- (2) - 5" H Transparent Blue printed (to match #76 Lt. Blue as close as possible) lettering w/ White Scotchlite outline "Sxx"
- (1) - 21" x 27.5" Scotchlite rear roll up Door Seal (pre-cut for slats)
- 20 feet 6" 983-72 Red Diamond Grade Conspicuity striping
- 20 feet 6" 983-23 Fl. Yellow-Green Conspicuity striping

All graphics that are in/on/through the striping will be applied as a separate layer.
All graphics that are printed will be laminated, all graphics not being printed will not be.
The xx noted in the Sxx text is a TBD number.

REFLECTIVE STRIPE - (CHASSIS DOORS)

A red / white reflective stripe shall be applied to the lower interior surface of each chassis door to provide visibility when the door is in the open position.

DEPARTMENT LOGO - (CAB DOORS)

The logo of the fire department shall be applied to both cab doors.

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LOOSE EQUIPMENT

The following loose equipment shall be included with the apparatus:

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

One (1), 3.50 oz. tube of ECK (Electrolysis Corrosion Kontrol), grease.

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

One (1), 3.50 oz. tube of ECK (Electrolysis Corrosion Kontrol), grease.

One (1) DOT approved first aid kit

One (1), pair of Zico AC-32 wheel chocks with mounting brackets. The wheel chocks shall be shipped loose or mounted at final inspection as directed by the customer.

One (1) 2.5 lb ABC DOT approved fire extinguisher

WARRANTY

EJ Metals, Inc. shall warranty the complete apparatus against defects in material and workmanship for a period of **One (1), year** after the delivery date.

For the purposes of this warranty, the delivery date is defined as the date when the apparatus leaves the EJ Metals, Inc. facility; 1201 Maple Creek Lane, New London, Wisconsin 54961.

WARRANTY

E.J. Metals Inc. shall warranty the complete apparatus against defects in material and workmanship for a period of one (1) year after the delivery date.

20-YEAR BODY WARRANTY

The body and sub-frame assembly shall be warranted against defects in material and workmanship for a period of **Twenty (20), years** from the date of delivery.

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TERMS

Upon order confirmation a construction deposit of 50% of the purchase price is required with the remaining 50% due at the time of vehicle pick-up.

The down payment for the apparatus shall be made at the time of the contract signing. The balance of the contract plus any alterations shall be payable upon the pick-up of the finished unit.

Upon final payment, EJ Metals, Inc., "Statement of Origin" or the necessary required for title application.



shall furnish the purchaser a validated documents

EJ METALS INC.

1201 Maple Creek Lane
New London, WI. 54961

Phone: 920-779-9913
Fax: 920-779-9914

Specifications Authorization

Dealer: **Conrad Fire Equipment**

Customer: **Olathe Emergency Services, Olathe KS**

Prior to construction of the apparatus, this (Specifications Authorization) form shall be signed by authorized personnel, and returned to the factory (E.J. Metals, Inc.) via the fax number above.

Construction of the apparatus shall **NOT** commence until the approved and signed Specifications Authorization form is returned to the factory, (E.J. Metals, Inc.).

The apparatus will be constructed to the specifications outlined in the preceding pages that were approved and signed. E.J. Metals, Inc. reserves the right to substitute components/parts as needed, due to availability, excessive lead time, quality issues, or incompatibility.

Any changes to the specifications **AFTER** they have been approved and signed, shall be subject to additional Material, Labor and/or Administrative charges.

The signed Specifications Authorization form, shall become an integral part of the final contract, and shall be kept on file at the factory, (E.J. Metals, Inc.) for future reference.

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TERMS: The final payment transaction for the apparatus / equipment must be made prior to the unit leaving EJ Metals, Inc.

Authorizing Signature(s):

Dealer Representative: _____ (print)

Dealer Representative: _____ (signature) Date: _____

Optional Signature(s):

Department Representative: _____ (print)

Department Representative: _____ (signature) Date: _____

E.J. Metals, Inc. Representative: _____ Date RCVD: _____

