



SOLD BY:  
Glick Fire Equipment Company  
350 Mill Creek Road  
Bird In Hand, PA 17505

(800) 723-1055

Date: January 1 – March 31, 2009

BUILT BY:  
B.R.A.T. Pa. State Contract  
Firematic Manufacturing  
10 Ramsay Road  
Shirley, NY 11967  
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### **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, 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.

### **DRAWINGS**

Each bidder shall supply CAD designed drawings of the vehicle as proposed. Views shall include both side front and rear. **Drawings are to be included with bid.** *Failure to supply actual drawings as per the following specifications with the bid shall be cause for rejection of bid.* Shop sketches, or hand-drafted renderings are not acceptable. Drawing shall show full pump panel detail.

No Manufacturing or shearing shall take place until the drawings have been signed off at the pre construction conference. Any final design alterations shall be at the discretion off the Board of Fire Commissioners.

### **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.

### **DELIVERY**

Apparatus, to insure proper break in of all components while still under warranty, **shall be delivered under its own power** - rail or truck freight shall not be acceptable. A qualified delivery engineer representing the contractor shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in the proper operation, care and maintenance of the equipment delivered.

### **INFORMATION REQUIRED**

The manufacturer shall supply at time of delivery, complete operation and maintenance

manuals covering the completed apparatus as delivered. A permanent plate shall be mounted in the driver's compartment which specifies the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

**PERFORMANCE TESTS AND REQUIREMENTS**

A road test shall be conducted with the apparatus fully loaded and a continuous run of ten (10) miles or more shall be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts, and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus.

**FAILURE TO MEET TEST**

In the event the apparatus fails to meet the test requirements of these specifications on the first trial, second trials may be made at the option of the bidder within 30 days of the date of the first trial. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes to conform to any clause of the specifications, within 30 days after notice is given to the bidder of such changes, shall also be cause for rejection of the apparatus. Permission to keep or store 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 bidder shall not constitute acceptance.

**GENERAL CONSTRUCTION**

The apparatus shall be designed with due consideration to distribution of load between the front and rear axles. Weight balance and distribution shall be in accordance with the recommendations of the National Fire Protection Association.

**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	\$2,000,000
Products/Completed Operations Aggregate	\$1,000,000
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.

Coverage shall be provided by a carrier(s) rated "Excellent" by A.M. Bests.

### **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:               \$4,000,000  
Each Occurrence:     \$4,000,000

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.

Bidder agrees to furnish owner with a current Certificate of Insurance with the coverage listed above. 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.

### **MAXIMUM OVERALL HEIGHT**

The maximum overall height of the apparatus shall be 86.00”.

### **MAXIMUM OVERALL LENGTH**

The maximum overall length of the apparatus shall be 252”

### **WARRANTY**

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.

### **12-YEAR BODY WARRANTY**

The body and subframe assembly shall be warranted against defects in material and workmanship for a period of twelve (12) years from the date of delivery.

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 or 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.

## **CHASSIS**

2008 – Ford F-350 chassis 13,000 MGWW  
2 Door Cab and Chassis  
4 x 4 Drive Train  
4-Speed Electric OD Transmission  
Power Steering  
Power Brakes  
Vinyl bench seats  
F1 – Red Paint  
Wheel Base 141”  
Manual Mirrors  
4-Wheel ABS Brakes  
Driver and Passenger Air Bags  
Manual windows and locks  
Front and Rear Tow Hooks  
Radio ETR AM/FM Stereo with Clock  
Engine 6.4 Liter Diesel Power Stroke 350 H.P.  
Dual 78 AH Batteries  
Engine Block Heater  
Dual 115 AMP Alternators  
Maximum Front GAWR Package  
Air Conditioning  
Auxiliary Idle Kit  
Daytime Running Lights  
Fuel Tank Skid Plate  
Hi Idle Switch  
Roof clearance lights

All modifications, equipment, maximum manpower, and carrying capacity of water must not exceed the manufacturers (Ford) maximum GVWR of 13,000 lbs.

## **OVERALL DESIGN**

The body for the brush truck will be manufactured entirely of aluminum. The roll bars and aluminum diamondette will also be aluminum. No exceptions will be allowed in regards to the aluminum material. The body will be 112" overall length and the overall width shall not be less than or exceed the overall width of the factory Ford rear axle, including the hubs, which is approximately 90".

There will be a Pro Poly water tank with a lifetime warranty.

The four (4) compartments will be .125" diamond plate with diamond plate lift up doors.

The pump will be a Hale HPX200- B18 pump driven by a Briggs and Stratton 18 hp gasoline engine unit with its own attached 2.5 gallon fuel tank.

The one (1) booster reel will be all aluminum construction by Hannay. One (1) #SBEF 30-23-24RT.

One (1) Class A hitch will be supplied at the rear body. The entire body assembly will be manufactured from aluminum.

## **FLAT DECK BODY**

The body will have a 6" x 4" x 1/4" aluminum angle perimeter and the front corners will have tapered ends. The taper should be angles of 55 and 35 degrees from front inboard to outboard respectively.

The sub-structure will be made of 2" x 5" x .187" aluminum 5052 fabricated sheet. Two main front to rear rails will be installed, made of 2" x 4" x .250" aluminum 6061 T6 rectangular box tubing.

The floor will be 3/16" brite dip polished aluminum and the entire flat bed will be stitch welded.

The body will be 112" long and approximately 90" wide as stated in above paragraph and secured to the truck chassis with 2-5/8" U-bolts, two 3/8" aluminum plates welded to the rails and bolted to the truck frame rails midway along the body and two steel 1/2" plates at the rear which will be bolted to both the body rails and frame rails.

There will be a 1/2" x 3" die cut #70 durometer rubber isolation plate installed between the body and truck frame rails.

A rear apron made with 5086 aluminum tubing with a .145" wall and .125" diamondplate will be installed to house the brake and turn signal lighting. The tubing will be bent on a movable Mandrel hydraulic bender with a 6.5" bend radius to reduce stress and provide a wrinkle free and continuous wall thickness.

The diamondplate will cut to the shape of the apron and stitch welded to the front side of the tubing. The entire apron will bolt on to the underside rear corners of the bed with stainless 3/8" button head cap screws.

### **ROLL BAR**

The roll bar will be made of 1 1/2" 5086 aluminum tubing with a .145" wall. It will be crossed braced with the same tubing. The roll bar will be braced into the compartments and act as an integral ladder to the water tank and be mounted to the front of the deck by welded on 1/4" aluminum bases and 3/8" s/s bolts.

### **FRONT GRILL AND BRUSH GUARD**

A Warn Trans4mer chromed steel grill guard will be installed on the front of the truck. A 2" receiver tube will also be installed and the portable winch will be mounted there.

### **NERF BARS AND SIDE STEPS**

A custom 5086 aluminum, 1.5" pipe brush guard will be fabricated and tied into the grill guard. It will wrap around the headlights and follow the front wheel well curve downward. The nerf bars will tie into the custom mounted 1.5" 5086 aluminum pipe side steps, topped with skid resistant NFPA compliant diamond plate.

### **UNDERBODY SKID PLATE**

Install one 1/4" steel skid plate under the oil and transmission pan that bolts on at four spots for easy removal. Skid plate will be painted black.

### **SUPER SINGLE WHEEL CONVERSION**

The apparatus will be delivered with special steel wheels to allow single rear wheels and new front wheels. The wheel offsets will be adjusted for aligning the front and rear truck width to within 1/8".

The wheels will be 17" diameter with matching hub and stud location. They will be powder coated to match cab color.

## **TIRES**

Goodyear Wrangler MT/R 37x12.50R17LT with a 36" diameter and 4080 lbs load rating will be installed on the special rims. Brass valve stems will be required. The entire rim and tire will be balanced. The rims will be powder coated to match the Ford paint. Inflation pressure will be 65 psi.

Rear and front of the deck body mudflaps made of ¼" rubber will be installed.

## **WATER TANK**

The water tank skid will be supplied by Pro Poly and will have a lifetime guarantee. The tank will be of rectangular design 48" wide x 60" length x 24" high and holds 250 gallons of water. The skid platform will be 48" wide x 30" long. The tank will have a bucket fill hinged door located at the forward portion of the tank. The water tank will have a 4" overflow thru the floor of the tank and will be part of the top fill box assembly.

A tank to pump line will be provided via a 3" NPT bushing. The bushing will be installed at the rear of the tank on the driver's side one inch from the floor and eight inches in from the left side.

A tank refill line will be provided in the center of the rear wall 18" from the floor, the bushing will be 1 ½" NPT. A 2" wide clear poly strip will be installed on the passenger side for water level sighting.

The tank will have two booster reel mounting strips built into the top of the tank for a single booster reel. A strip of ¼" #70 durometer rubber will be installed in between the tank and flat bed.

## **ENGINE**

The engine shall be a 4 cycle gasoline Briggs and Stratton ® Vanguard series 350400 V Twin, overhead valve, air cooled design. Engine rating shall be 18 BHP at 4000 rpm with a torque of 28 lb-ft at 2600 rpm. Engine displacement shall be 570cc and shall be designed to meet CARB (California Air Resources Board) standards.

A 12-volt electric system shall be provided with electric starter and a 16 amp alternator. Recoil backup engine starting shall be provided. The engine shall be equipped with a residential muffler with USDA approved spark arrestor. It will be equipped with a 6 gallon fuel tank mounted to the side of the engine.

### **MOUNTING PLATFORM**

The pump/engine shall be isolation mounted onto a moulded 2.5 gallon fuel tank base. The engine and pump will all be mounted onto the base of the water tank.

### **BALL VALVES**

The valves shall be cast of 316 stainless steel including the ball with full flow capability. The valve shall be warranted for a period of 10 years on all stainless steel components against defects in design and manufacturing processes. The wear items such as the seats, seals, and "O" rings shall have a warranty of two years on replacement parts only.

### **PIPING AND MANIFOLDS**

All the piping and pump body attached manifolding shall be stainless steel. The complete piping system shall be designed to direct mount all 1" (2.54 cm) or larger ball valves onto the pump body or stainless steel manifolds attached directly to the pump body.

There will be two 1" valves, one for tank fill and one for the booster reel. There will also be two 1 ½" valves, one direct discharge off the rear of the manifold and one for a rear preconnect.

### **TANK FILL**

There shall be a 1" (2.54 cm) pump to tank fill stainless steel valve.

### **TANK TO PUMP**

The tank to pump valve shall be 3" inline, installed between the water tank and the pump. The valve shall be a quarter turn ball type, fixed pivot design and be constructed of stainless steel. The tank to pump 3" (7.62 cm) valve shall have a hose barb connection.

### **GATED SUCTION CONNECTION**

The Gated Suction valve shall be 2.5" inline, with a 2.5" NST male coupling. The valve shall be a quarter turn ball type, fixed pivot design and be constructed of stainless steel. The tank to pump 2.5" (6.35 cm) valve shall have a hose barb connection

### **WIRING HARNESS**

The Class 1 electrical wiring harness shall be constructed using GXL wire per SAE J1128. Terminals shall meet the minimum pull test as required by the manufacturers pull test and crimp measurement data. All splices shall be manufactured using the ultra sonic splice process. Harness shall be 100% connected to a Dynalab® circuit tester to insure continuity and correct assembly.

### **BOOSTER REEL**

One Hannay #SBEF30-23-24 RT booster reel will be mounted on top of the tank. It will come with 200 feet of 1" red Reeltex booster hose.

### **REAR PRECONNECT**

A 14" by 104" diamond aluminum hose trough will be mounted above the passenger side compartment from front to back and be open from the rear. It will have one 1 1/2" NH outlet and accommodate a minimum of 200' of 1 3/4" hose.

### **TRANSVERSE COMPARTMENT**

A 9" by 86" x 24" high open transverse will be installed in front of the deck compartments. The area can be configured for long forestry tools and/or stokes basket.

### **COMPARTMENTS**

Provide two compartments 48" long by 18" deep x 30" high, side by side on the driver's side of the deck. The walls and roof will be made of .125" brite dip aluminum diamondette. The doors will be made of 1/8" aluminum diamond plate and will flip up with a gas assisted piston on each side.

Both compartments will have 'sweep out' style floors and lights mounted on the ceiling in the center of each door and will have magnetic door switches to control the lights. An adjustable shelf will be provided for each compartment.

A door switch will be wired to the "Door Open" warning light on the dash for each compartment.

### **REAR RECEIVER**

The steel structure shall be designed to accommodate the weight ratings associated with a class four hitch. The hitch shall be centered under the rear apron.

The assembly shall also have tube style struts, which stretch from chassis to rear outer edge of bed. There shall be two rear step weldments provided, to allow the use of the winch snatch block.

Two fold down steps will be installed on the back of the bed.

### **BACK UP ALARM**

There will be an electronic beeper that sounds when the truck is placed in reverse. The beeper will be heard over all engine noise to warn persons near or on the truck.

### **CONSOLE**

An all Aluminum #3003 alloy console will be manufactured and powder coated black. The console will hold all radios, siren controls, and lighting controls on the face. The console will be permanently installed below the factory radio on the dash and a pedestal will be attached on the passenger side if the optional Sidewinder deck gun joystick is installed. A Whelen CCSRN Centcom control head will be installed to all lights and sirens. A 100 watt siren speaker will be mounted under the deck of the front bumper.

## **WIRING CENTER**

An all Aluminum #3003 alloy wiring center cover will be manufactured and powder coated black. The front section of the cover will have a removable door for access and entire unit will be located behind the seat.

## **LIGHTING**

Roof light – A Whelen Edge Ultra led light bar will be installed with red and clear lenses with two take down lights in the front and two alley lights one on each side. A brush guard made of 1 1/4" aluminum tubing will be installed to protect the lite bar.

The brush guard shall be attached to the front of the roll bar. It shall provide adequate clearance between guard and the cab roof. The guard shall have a minimum four 1.25" tube protectors with a 1.25" bottom rail. All bulbs will be LED.

Grill lights – Whelen grill lights will be provided. The lights will be 500 series red led, mounted on the truck grill area in aluminum housings. Also headlight flashers will be installed.

Side lights - Four Whelen 500 series red led lights, two on either side of the front fenders and two inset on either side of the rear outside corners of the deck body will be installed. All D.O.T. mandated lighting will be installed.

Under body lights – 4" diameter halogen lights (1) front (1) rear with switch on console.

Rear lights – A triple cluster rectangular brake –tail – directional lights will be mounted horizontally below the body. The lights will be mounted in their own al box for protection.

Two Whelen 600 series led warning lights, one red and one amber will be installed on the two rear walls of the deck compartments.

## **Winch**

A 12 volt portable Warn X9.5ti winch will be provided. The winch will be left attached to the front bumper with a black vinyl cover.

Two Class 4 hitches will be installed in the front and rear bumpers for winch use with direct battery plug hook ups.

Two 12-volt night-lights will be installed next to the winch hook ups. 90 ft. of cable, 7/16" diameter aircraft cable with remote control will be supplied.

## **SHORE LINE**

One (1) 110 volt Kussmaul on board charger with auto eject receptacle shall be installed on the left rear door post behind the rear most door.

## **LETTERING**

The doors of the cab will have lettering as per the Fire Districts designation. A white scotchlite stripe will be installed down the truck on each side. There will be "Keep back 200 ft." on the rear deck of the truck. All letters will be vinyl in color of departments choice.

End of Specifications