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## **BID SPECIFICATION FOR ONE TON WILDLAND GRASS/BRUSH APPARATUS**

The following bid specifications are provided for a custom built brush/grass fire apparatus to be installed by the manufacturer on a Ford, General Motors, or Dodge cab and chassis.

### **APPARATUS BODY**

The body shall be constructed of aluminum with broke and/or welded seams. The complete apparatus structure shall be free of sharp edges and exposed nuts and bolts that could cause injury. Construction should be as such to handle the rigors of off road wild land fire fighting.

The total weight of the body, pump/motor, tank full of water, three 250# firemen, hoses, hose reel, and all other accessories shall not exceed 95% of the Gross Vehicle Weight Rating nor shall the Gross Axle Weight Rating be exceeded on either axle of the chassis that it is attached to.

Tow hooks secured to the frame and capable of handling the weight of the apparatus shall be provided on both the front and rear.

The body along with the cab shall have a 3M 4-inch wide reflective stripe on both sides of the apparatus that extends from the front wheel well to the end of the bed.

### **Headache Rack**

The headache rack shall be a minimum width of 80" and shall be fabricated from 2" square tubing, by using four continuous smooth bend corners thus creating an outside frame which houses the rear window. The rear window will be protected by a series of vertical bars that are spaced to provide protection but yet do not impede visibility to the rear.

### **Emergency Light Bar Mount**

An emergency light bar mount will be provided on the headache rack but still provide ample clearance from the platform to the top of the cab.

### **Electrical Panel**

An electrical enclosure with a removable panel will be provided within the headache rack that will contain all the additional electrical circuitry that is used on the apparatus body. This enclosure shall be designed for easy access from the traverse crosswalk and so that water cannot gain access to the electrical components.

### **Traverse Crosswalk**

There will be a traverse crosswalk located directly behind the front headache rack. This crosswalk will be 20" minimum width with passageway to either side of the apparatus. The walkway will provide protection all around the fire fighters, with safety of the fire fighters being paramount in the design process.

The traverse crosswalk will have inward swinging self-closing safety gates on each exit with positive stops that prevent outward swinging. Minimum height of the doors shall be 48" from the crosswalk floor.

The crosswalk shall be equipped with pump control valves and all pump controls. Two 1" whip lines shall be installed for use in the traverse crosswalk, and be long enough to use on either side of the apparatus and beside the apparatus when dismantled.

The traverse crosswalk shall have Grip Strut safety grating and the floor shall be protected from flame-up from the ground. The floor grating shall be removable thus allowing cleanout.

### **WATER TANK**

The water tank will be a 300 Gallon polypropylene. The water tank will be recessed into the bed to provide the lowest possible center of gravity for the apparatus.

The tank will have baffles that form approximately 2 foot square sections within the tank. A fill tower of approximately 8" x 8" x 8" shall be located on the front passenger corner. An overflow vent pipe will be provided in order to assure no pressure buildup on the tank cover. A sump with 3" suction will be built into the tank. A sight glass will be provided to confirm the level of the water.

### **PUMP/MOTOR**

The pump shall be a Waterous PB18-2515 or Hale HPX-200 with a Briggs and Stratton 18 Horsepower Vanguard overhead valve engine. The fuel tank shall hold at least 3 Gallons of gasoline. The pump will have an exhaust venturi priming system. The suction of the pump shall be located such that it is below the bottom of the tank.

### **PUMP PANEL AND PLUMBING**

The pump panel will contain all the pump controls, Start/Stop switch, Idle control, Choke, Oil pressure light and Pump outlet pressure gauge. The pump panel will also contain the foam proportioner controls if so equipped.

The pump panel will be tilted to provide a more direct view of all operations.

All plumbing will be stainless steel pipe or high-pressure hose. All discharges will originate from a manifold made from 2-1/2" stainless pipe.

All pressure valves shall be swing out quarter turn style. Each valve handle will have a black knob and will be legibly marked and color-coded. The pump panel shall contain 5 control valves: One 1-1/2" pre-connect for cross lay, One 1" Tank fill, One 1" Booster Reel, Two 1" Whip lines

The suction line on the pump shall contain two 2-1/2" valves, with one between the pump and the tank and the other outboard of the pump to accommodate either hydrant fill or drafting. The hydrant side of the pump shall be fitted with a 2-1/2" Swivel Female Fire Hose connector and chained plug.

A 1/4" full time bypass line will be provided to prevent pump overheating.

### **HOSE REEL**

A hose reel shall be all aluminum and have electric rewind and roller guides. The electric rewind shall be controlled by a solenoid with a button located near the reel. 100' of 1" 800 psi booster hose shall be supplied with the reel.

### **TRUCK LIGHTING**

All truck lighting will meet DOT standards and be LED type. There will be a minimum of 5 red clearance lights on the rear of the truck (3 in the center and one on each corner), one red clearance light on each side rear corner, and one yellow clearance light on each side front corner. The rear will also contain a minimum of two red Stop/Turn/Tail lights, two clear reverse lights, and a tag light.

All lighting and wiring will be completely enclosed in order to prevent being torn loose by brush or weeds. All wiring connections are to be soldered and covered with shrink wrap.

### **EMERGENCY ELECTRICAL and LIGHTING**

A master cutout solenoid controlled by the truck ignition switch will shutoff power to all electrical equipment that wasn't furnished originally on the cab chassis. Breakers will be used to protect all emergency electrical equipment. Relays will be used to control all electrical equipment that has more than a 10-amp rating. Electrical switches located in the cab within easy access of the driver and passenger shall be used to control all electrical components. All wiring will be color-coded and clearly marked. Wiring schematics will be supplied with the apparatus.

Ground effect lights shall be installed towards the front and rear on each side of the bed illuminating the ground around the apparatus. Work lights will be installed in the traverse crosswalk area, the pump panel area, the pump area, and in any other working area that is not illuminated otherwise

A 52" light bar with 4 rotators with red, clear, blue lenses shall be installed on the mount located on the headache rack. Flashing LED strobe lights will be installed on each side of the rear panel.