



Specification for:
NWCG Type 5 Wildland Engine
Ford F550 - 4x4 - Gas - EXT Cab
Rescue Side, Alum, 114

Submitted To:

Lois Volunteer Fire Dept
12607 Marsh Rd Bealetton, VA 22712

Specification **2433**, Job No. **14400**
December 26, 2018

Prepared by:
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Skeeter Brush Trucks, LLC

Proposal

We are pleased to submit the following specifications to you for a **F550 Rescue side** per your request for quotation. The following paragraphs will describe in detail the apparatus proposed. Loose equipment not specifically requested will not be provided.

Skeeter Brush Trucks, LLC. a wholly owned company of Siddons-Martin Emergency Group, is a custom fire apparatus manufacturer specializing in Brush-Grass-Wildland fire fighting vehicles. Our 22,000 square foot manufacturing facility is located in Hillsboro, Texas and is operated by some of the most experienced wildland firefighting vehicle manufacturing individuals in the business. Our performance and quality minded approach to manufacturing generates some of the most reliable vehicles in the industry, thus yielding a very high return on investment.

Skeeter Brush Trucks, LLC. provides the very best sole source product and service solutions to the fire service. Skeeter Brush Trucks LLC carries \$1,000,000 in liability insurance, with \$3,000,000 in excess umbrella liability insurance. The opportunity to place this Skeeter Brush Truck in your department is greatly appreciated and we are certain it will fulfill your every requirement. We look forward to working for you.

Siddons-Martin Emergency Group sales and service professionals are dedicated and experienced in all aspects of the fire apparatus business. Our core business is the sales and service of fire apparatus.

Service Advantage

Siddons-Martin Emergency Group currently staffs sixteen (16) service centers located throughout Texas, Louisiana, and New Mexico, and maintains a fleet of service vehicles to provide on-site service of your SKEETER Brush Truck. The Siddons-Martin Emergency Group Service Department is dedicated to the fire service and provides service and maintenance exclusively on fire apparatus. Siddons-Martin Emergency Group employs numerous EVT trained technicians and is constantly engaged in continuing factory and EVT training classes and programs in order to stay abreast of the rapidly improving technologies incorporated within today's fire apparatus. SMEG is an authorized sales and service dealer for Pierce Mfg., and an authorized service center for Waterous, Hale, and Darley fire pumps, and an OEM distributor for all major fire equipment accessories.

Construction and Design

Skeeter Brush Trucks body and component designs are engineered. Body construction (unless otherwise noted) is done in-house, using the best in design and materials. RBM's for body frames are among the very highest in the industry. Wiring harnesses are custom manufactured in-house, and meet or exceed OEM standards. All wiring is protected, run through conduit, and distributed through one, easily accessed, sealed control box.

Chassis Operation Manual

The chassis manufacturer shall provide one (1) operational manual. This manual may be in either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Fire Pump Operational Manual

A fire pump service, instruction, and operational manual shall be supplied. This manual may be in either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Foam System Operational Manual

A foam system service, instruction, and operational manual shall be supplied. This manual may be in either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Apparatus Operational Manuals

The fire apparatus manufacturer shall provide two (2) operational manuals. These manuals may be in either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

100044.8 - PAINT

1. Cab Color: Custom Pierce Red 219
2. Cab Secondary Color: White 10
3. Description: MIMIC SANTA FE CAB PAINT LINE
4. Bumper Color: Brushed Aluminum
5. Wheel Color: Black
6. Body Color: Pierce RedRed, with diamond trays, and walking surface
7. Cab Steps: Black Bed Liner

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100034.7 - CHASSIS SPECIFICATIONS

CHASSIS SPECIFICATIONS

One (1) FORD F-550 two axle drive 4x4, dual rear wheels (DRW), Super Cab (extended) door XL cab and chassis

GVWR: 19,500#

Wheelbase: 169"

Cab to Axle: 60"

Grille: black

Tow Hooks: front loops

Driving Front Axle and Suspension: 6,000# HD front package, 6,000# suspension package, stabilizer bar, front shocks, manual hubs

Transfer Case: cab manual control high and low range HD front package, stabilizer bar, front shocks, manual hubs

Tires: two (2) front tires shall be 225/70R19.50, radial all weather/off road tread

Front Wheels: two (2) 19.50" x 6.00" steel disc, ten (10)-hole pattern steel disc wheels

Rear Axle and Suspension: 14,706# wide track rear axle, 14,706# suspension package, stabilizer bar, limited slip

Tires: four (4) 225/70R19.50 radial all weather/off road tread

Rear Wheels: four (4) 19.50" x 6.00" steel disc, ten (10)-hole pattern steel disc wheels

Braking System: four (4) wheel disc brake system with an Anti Lock (ABS)

Engine:

- Model: 6.8L V-10 SOHC, EFI, Flex Fuel gasoline engine
- Number of Cylinders: Ten (10) "V" configuration
- Displacement: 6.8 liters
- Rated Brake Horsepower: 288 hp @ 4000 rpm
- Torque: 424 ft lbs @ 3000 rpm

Cooling System: a coolant mixture protected to -30 degrees Fahrenheit

Exhaust System: horizontally mounted, discharge on passenger's side aft of wheels

Fuel Tank: 40 gallon rear mounted, driver's side filler extension

Transmission: six speed automatic

Steering: power steering system

Battery: 78 amp-hr 750CCA 12-volt battery

Alternator: single 200 amp 12 volt

Cab Construction: XL Series Super Cab (4) door aluminum construction, sun visors, tinted glass, roof clearance lights, grab handles interior

Mirrors: black manually telescope fold-away in/out for view adjustment

Cab Paint: single color

Climate Controls: controls for heat, defroster, and air conditioning

Window and Door Controls: manual

Air Bags: driver's and passenger's front, seat side, and side curtain

Cab Instruments: standard type, six (6) rocker switches

Drivers and Passenger Seat: 40/20/40 vinyl bucket type seats with three (3) point safety harness, center flip down seat back. Flip rear bench.

Printed Manuals: one (1) printed chassis operation manual

Cab Accessories: AM/FM radio, two radio speakers and antenna

Jack lug wrench set

Color: Ford White [More](#)

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100046.1 - CHASSIS LIFT KIT

A 6" heavy duty, 4 link, off road suspension lift kit with heavy-duty off road shocks shall be installed on the Ford chassis. The system is designed to significantly increase wheel travel, in addition to giving the chassis increased ground clearance.

NOTE: THE END USER MUST BE AWARE THAT LIFTING THE CHASSIS AND ADDING LARGER TIRES WILL ALTER THE VEHICLES CENTER OF GRAVITY. THIS WILL AFFECT THE VEHICLES HANDLING CHARACTERISTICS.

IN ADDITION, THE LARGER TIRES WILL AFFECT STOPPING DISTANCE. THE SYSTEM IS NOT RECOMMENDED FOR VEHICLES THAT OPERATE PRIMARILY IN AN ON ROAD ENVIRONMENT. THE SYSTEM IS HIGHLY RECOMMENDED FOR VEHICLES THAT OPERATE IN OFF ROAD OR ROUGH TERRAIN ENVIRONMENTS.

THE SPEEDOMETER WILL NOT BE ACCURATE, AND A GPS UNIT WITH BUILT IN SPEEDOMETER SHALL BE INSTALLED.

TURNING RADIUS MAY BE REDUCED (if needed) 1-3 DEGREES TO PREVENT TIRE RUB.

100048.1 - FRONT AND REAR SUPER SINGLE TIRES AND WHEELS

There shall be four (4) super single front and rear tires, They shall be 335/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "M".

There shall be four (4) wheels for the front and rear tires. They shall be 20" x 11.00" three (3) piece bolt together disc, ten (10)-hole pattern special order for Military/Government on/off road application. The weight rating of the wheels will be 11,000# each.

100053.1 - SPARE SUPER SINGLE TIRE AND WHEEL

There shall be one (1) super single spare tire, They shall be 335/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "M".

There shall be one (1) wheel for the spare tire. The wheel shall be a 20" x 11.00" three (3) piece bolt together disc, ten (10)-hole pattern special order for Military/Government on/off road application. The weight rating of the wheel will be 11,000#.

100055.1 - MOUNTING SPARE TIRE AND WHEEL

The spare tire and wheel shall be mounted on top of the water tank.

100062.1 - FRONT BUMPER

The factory bumper shall be removed and replaced with a custom fabricated, heavy duty aluminum bumper and grille guard protection assembly.

100058.1 - REAR MUD FLAPS

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

100063.1 - FRONT BUMPER SKID PLATE

A .250" aluminum skid plate will be installed from the bumper area extending below the bumper extension and chassis radiator area.

100111.1 - CAB STEPS

The cab shall be equipped with steel tubing step assemblies, on each side of the cab.

100086.1 - CUSTOM FABRICATED CONSOLE AND SWITCH PANEL

A custom fabricated poly (plastic) electrical console and enclosure shall be located between the driver's and passenger's seats. It shall house the siren, switches, cup holder, and auxiliary equipment.

100075.1 - FRONT RECEIVER

The front of the chassis shall be equipped with one (1) square steel tube receiver assembly for high or low angle rescue or winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame and bumper extension assembly. The receiver shall be rated at approximately 10,000#.

100077.1 - WINCH POWER SUPPLY

Two (2) Anderson type 12 volt quick disconnect electrical receptacles shall be installed for the portable winch. Power cables shall be color coded "red" positive and "black" neutral; rated at 125% of winch power requirement including line drop; protected with conduit for mechanical abrasion and equipped with circuit breaker protection at the battery area.

Location shall be: one (1) front of the apparatus and one (1) rear of the apparatus

100078.2 - WINCH POWER SUPPLY

A 500 amp 12 volt industrial series solenoid shall be installed to supply power to the winch. The solenoid shall be activated by the upfitter switch.

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100079.1 - PORTABLE WINCH

A Warn Winch Company Model 9.5cti PN85760 9,500# capacity 12-volt electric portable winch shall be provided incorporating a portable mounting system with two carrying handles. The unit shall include the following:

- a) extreme duty seals for weather resistance
- b) thermo-metric indicator for motor monitoring
- c) A cable guide and 125 feet of 5/16" diameter galvanized cable and hawse fairlead & safety hook assembly shall be supplied.
- d) Winch speed shall be constant with forward and reverse modes controlled with a push button device at the end of a twelve foot control cable which connects to the winch through a weatherproof receptacle.
- e) Carrying handles

The winch shall be attached to the body at the specified locations with a steel tube insert secured with steel pins. Power shall be supplied through a 12 volt pigtail with an Anderson type plug.

100178.1 - REAR RECEIVER

The rear of the chassis shall be equipped with one (1) square steel tube receiver assembly for high or low angle rescue, trailer use, and winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame assembly. The receiver shall be rated at approximately 10,000#.

The rear receiver assembly shall be equipped with two (2) heavy duty rear tow loops, one (1) each side.

203475.1 - FIRE PUMP SPECIFICATIONS

Darley model number 2 BE 23 Vanguard gasoline powered, skid mounted centrifugal portable pump shall be provided. The

medium pressure, high volume pump, direct drive, engine mounted shall meet the following performance requirements:

390 GPM @ 30 PSI
200 GPM @ 110 PSI
100 GPM @ 140 PSI

Pump Design

Pump casing shall be of anodized aluminum and vertically split, with a minimum tensile strength of 33,900 PSI - bronze-fitted. Pump ratio to be selected by the manufacturer's Engineering Department. Seal rings shall be renewable, double labyrinth, wrap around bronze type. Bearings are to be heavy duty, deep groove, radial-type ball bearings, oversized for long life. Bearings to be protected at all openings from road dirt and water splash with oil seals and water slingers.

The pump unit shall be supplied with a control panel for remote mounting, panel light, hour meter / tachometer, pressure gauge, on/off ignition switch, and a low oil pressure light, engine choke, engine throttle

Mechanical Seal

The pump shall be furnished with a Darley maintenance free mechanical seal. The mechanical seal shall be a non-contacting, non-wearing seal design. Seal shall be a Silicon Carbide Mechanical seals with welded springs. The stationary face of mechanical seals shall be made from Silicon Carbide, and be extremely hard and of a heat dissipative material, which resists wear and dry running damage much better than conventional Ni-resist and Tungsten Carbide materials

Pump Shaft

Pump drive shaft shall be precision ground, heat treated alloy steel, with a 1-3/8 spline. Gears shall be helical design, and shall be precision ground for quiet operation and extended life. The pump shaft shall be splined to receive broached impeller hubs, for greater resistance to wear, torsional vibration, and torque imposed by engine, as well as ease of maintenance and repair. Pump shaft to be precision-ground 416 stainless steel.

Impeller

The impeller shall be a high strength bronze alloy, splined to the pump shaft for precision fit, durability, and ease of maintenance.

Impeller shaft oil seals shall be constructed to be free from steel components except for the internal lip spring. The impeller shaft oil seals shall carry a lifetime warranty against damage from corrosion from water and other fire-fighting fluids.

Exhaust-Type Primer

The mufflers are coated with High Temp Powder Coat. The primer bodies are bronze with stainless steel components. The outlet of the primer is equipped with a 1.5" male NPT . Is easily operated via push-pull control wire connected to an internal butterfly valve. The venturi components are sized for the most efficient priming time and height possible utilizing the exhaust pressure available from the engine. Significantly lighter than a 12V electric primer.Requires much less physical effort by the operator than a mechanical hand primer.

Dimensions & Weight

27"L x 21"W x 25"H, 145lbs (66kg)

Suction - 3" NPTF

Discharge - (2) 1.5" NPTF and (1) 2.5" NPTF

Documentation

Pump Warranty/Guarantee to be included with each proposal. Pump warranty shall be for three (3) years or 3,000 hrs. Additional details about the warranty can be found in the Skeeter user's manual of this vehicle.

Engine

The pump shall be powered by an 23 horsepower, Briggs and Stratton Vanguard gasoline engine with a 16 amp regulated alternator and 12 volt electric starter with a backup recoil starter. A 6 gallon plastic fuel tank shall be supplied.

100272.1 - STAINLESS STEEL PLUMBING SYSTEM

The auxiliary fire pump plumbing system shall be built mostly of stainless steel piping, fittings, and connections. Victaulic couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Tank connections and remote plumbing shall use high-pressure flexible piping. Flexible hose couplings shall be threaded stainless steel or Victaulic connections.

100285.1 - VALVES

All valves used in the plumbing installation shall be stainless steel quarter turn full flow type.

The plumbing installation shall include quarter turn ball valves with local "on-valve" handle control, with custom embossed labeling for each valve.

100483.1 - HOSE THREADS

The hose threads shall be National Hose Standard (NH) on all base threads on the apparatus intakes and discharges, unless otherwise specified.

100263.1 - EXHAUST SYSTEM

The auxiliary fire pump and engine assembly shall have a muffler and vertical exhaust pipe. The exhaust pipe shall be directed upward and away from the pump operator. A rain cap will be installed on the vertical exhaust outlet.

100267.1 - FUEL SYSTEM FROM CHASSIS FUEL TANK

The fuel system for the auxiliary fire pump shall be plumbed from the chassis fuel system. There shall be a separate fuel pickup tube mounted in the chassis fuel tank specifically for a separate engine driven pump assembly.

There shall be an electric fuel pump with spin on fuel filter and flexible fuel hose furnished between the chassis fuel tank and the auxiliary pump.

100256.1 - ELECTRIC START WIRING TO CHASSIS

The 12 volt positive and negative cables shall be provided from the chassis battery to the fire pump area, wired through the master disconnect solenoid system. The cables shall have a circuit breaker installed at the chassis battery.

100474.2 - AUXILLIARY FIRE PUMP MOUNTING PROVISIONS

The auxiliary fire pump shall be installed at the center rear of the body. The sub-structure shall have welded in mounting sub-plates between the structural members.

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100254.1 - PUMP ENGINE OIL DRAIN

The fire pump engine shall have an oil drain line installed. It shall allow for easy oil draining.

100253.1 - FIRE PUMP MASTER DRAIN

The fire pump shall have a master drain at the bottom of the water pump housing.

100270.1 - 2-1/2" GATED INTAKE -- REAR

One (1) 2-1/2" gated suction intake shall be installed on rear area to supply the fire pump from an external water supply. The valve shall be controlled with a direct quarter-turn ball valve control handle and shall have 2-1/2" NH female thread with removable screen with plug.

100283.1 - TANK TO PUMP LINE INSTALLATION

The 2.5" tank to pump line shall be installed with a flexible hump hose connection and stainless steel clamps to the water tank. The valve shall be controlled with a manually operated handle directly on the valve.

100281.1 - WATER TANK FILL AND COOLING LINE

One (1) 1" fire pump to water tank refill and bypass cooler line shall be provided. The pump to tank valve shall be a 1" full flow quarter turn ball valve with local control handle. A 1" flex hose shall be installed to the water tank.

100278.1 - 3/4" GARDEN HOSE DISCHARGE -- REAR

One (1) .75" garden hose discharge shall be installed on the rear pump area, controlled by a quarter turn ball valve with local control handle. The discharge shall have a .75" male garden hose threads and cap.

100274.1 - 2-1/2" DISCHARGE -- REAR

One (1) 2-1/2" discharge shall be installed at the rear pump area, controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NH male hose threads. The discharge shall be equipped with 2-1/2" female x 1-1/2" chrome plated brass reducer, 1-1/2" chrome cap and chain.

100290.2 - HOSE REELS

Two (2) Hannay aluminum hose reels shall be installed. The reels shall have leak proof ball bearing swing joints, adjustable friction brakes, electric 12 volt rewind and manual crank rewind provisions. The reels shall be plumbed with wire reinforced, high-pressure hose coupled with brass fittings. The reels shall be designed to hold 125% of the specified hose capacity.

The reels shall be installed at the rear outside corners of the body, above the bed, facing outward, one (1) each side. Control valves for the reels shall be located at the reels.

100291.2 - REEL CAPACITY (Qty: 2)

Each hose reel shall have a capacity of 200 feet of hose.

100295.3 - HOSE REEL DISCHARGES (2) (Qty: 2)

Two (2) 1" discharge shall be piped from the fire pump to each hose reel with flexible high pressure hose. The quarter turn ball valve shall be on manifold.

100302.3 - NOZZLE MOUNTS (Qty: 2)

Each 1" flexible hose discharge shall have a nozzle bracket installed to hold the nozzle in place.

LOCATIONS TBD AT FINAL

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100297.2 - HOSE REEL HOSE (Qty: 2)

One (1) 150' foot length of 1" water hose shall be installed on each hose reel. The hose shall be equipped with NH threaded couplings and have a 300 PSI working pressure.

100303.2 - HOSE REEL ROLLERS (Qty: 2)

The hose reels shall be provided with a Hannay center mounted stainless steel roller assembly.

100280.1 - GROUND SWEEP DISCHARGES -- FRONT BUMPER

Two (2) ground sweep discharge nozzles shall be installed, one each side of the front bumper. Each nozzle shall have a 1" electric control valve, switched independently in the cab. The discharges shall be equipped with removable ground sweep nozzles angled accordingly with a 180 degree total front sweep pattern. The flow rate shall be 15-30 gpm.

Each nozzle shall have a custom fabricated brush guard installed to protect from damage when off road. The valves and manifold shall be protected from damage by the front bumper and skid plate.

One (1) 1.5" front bumper ground sweep discharge shall be piped to the front bumper area. The discharge shall be controlled by a 1.5" manual override valve at the rear pump area. Flexible 1.5" diameter high pressure hose shall be provided from the pump to the sweep nozzles with low point drains where necessary.

100279.1 - FRONT BUMPER MONITOR

One (1) Akron 3462 Forestry Monitor with quick disconnect (34621103, FM 2NPTX1.5NH, 12V, 125NZ, JY, QD, VLV, RED) shall be installed. The remote monitor shall be located on the front bumper of the apparatus. The monitor shall be an all-electric single waterway monitor constructed of lightweight Pyrolite, with a 2" electric valve.

The monitor shall have a fully enclosed 12-volt motor and gears with a manual override for both horizontal and vertical rotation and may be operated simultaneously. The vertical travel shall be from 45-degrees below to 90-degrees above horizontal with adjustable stops at -20 degrees and +45 degrees. The horizontal rotation shall be 320-degrees with adjustable stops at +-90-degrees.

The logic box shall include coated, solid state components to resist water corrosion. The control joystick shall control the vertical and horizontal rotation of the monitor and the pattern of the nozzle.

The nozzle shall be 30-125 gpm adjustable.

The Akron "FireFox" monitor shall include a weather-tight enclosure and joystick controls mounted on the center cab console area. The joystick control shall include a valve trigger and following controls functions:

Water Valve: ON/OFF

Monitor: RIGHT/LEFT
Monitor: UP/DOWN
Pattern Control: STRAIGHT/FOG

100198.1 - WATER TANK SPECIFICATIONS

The water tank shall have a capacity of 300 gallons.

100205.1 - NFPA COMPLIANCE

The water tank construction shall conform to applicable NFPA standards.

100206.1 - WATER TANK SIGHT GAUGE

The water tank shall be equipped with translucent water level sight gauge in the rear wall of the tank.

100207.1 - FILL TOWER LOCATION

The tank fill tower shall be located in the driver's side rear corner of the water tank.

100209.1 - VENT AND OVERFLOW

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

100215.1 - PUMP TO TANK CONNECTION

An 1-1/2" connection shall be provided on the water tank for connection of the discharge side of the pump to the tank for filling purposes. The valves and hose required to complete this connection shall be supplied by the final assembler.

100216.1 - WATER TANK DRAIN PROVISIONS

A 1.5" plugged drain provision shall be installed in the bottom of the water tank, sump, or plumbing for water tank draining and flush-out of debris.

100549.5 - CUSTOM RESCUE SIDE ALUMINUM BODY, 6" RAILS

The body will be a custom fabricated severe service rescue-side type, constructed of all aluminum. The body shall be 114" long by 96" wide, designed for a 60" cab to axle dimension. The body shall be specifically designed and engineered for off-road wildland firefighting.

MAIN FRAME

The body shall have 6" x 1.75" structural aluminum channel main frame rails. The body frame rails shall be isolated from the truck frame by .500" industrial isolators.

SUB-FRAME

The cross-members shall be 3" x 2 5/16" structural aluminum I beams with cross-members on 12" centers.

MOUNTING

The body shall be bolted to the chassis frame rails at the rear end of the frame. There shall be brackets installed at the middle of the body frame to prevent side to side movement. The body shall be spring mounted at the front of the body frame. The flexible mounting system shall allow for body/chassis flexing during extreme off road conditions.

SQUARE CORNERS

The front corners of the flat-bed body shall be square.

HEADACHE RACK

The front of the body shall have a 2" formed aluminum tube headache rack. The rack shall extend the full width of the body and be attached to the front body corners. The assembly shall extend above the chassis cab and have mounting platform for installation of the light bar and two work lights. Wiring for the lights will be placed inside the tubing for protection. The headache rack shall have four (4) vertical 2" tubes for extra strength.

FUEL FILLER

The fuel filler tube and cap shall be installed at the driver's side, rear of the body.

FENDER PANELS

The lower portion of the flat-bed body shall have fender panels over and aft of the rear wheel panel area. The panels shall be

constructed of SMOOTH aluminum. The wheel well openings will be cut out to conform to the wheels.

REAR BODY PANEL

A vertical body panel shall be installed at the rear of the body constructed of .125" smooth aluminum. The panel shall house the running lights, taillights, back-up lights, and emergency lights. The body panel shall be angled to allow for a 27 degree angle of departure.

PROTECTIVE RAILS

The upper body area shall be protected with radius corner 1" diameter aluminum tube railing assembly installed around the top of the body. The corners of the body shall have vertical risers space in critical areas. The railings shall act as protection for the upper body structures when off road in heavy brush conditions. The rear upper body corner rails shall house the upper emergency lights and work lights.

SIDE BODY COMPARTMENTS, FRONT BODY -- DRIVER AND PASSENGER'S SIDES

Two (2) body equipment storage compartments shall be installed at the front of the body just behind the headache rack, one each side of the apparatus. The dimensions shall be approximately: 30" wide, 44" high, and 24" deep. The compartments shall be constructed of .125" SMOOTH aluminum on all exterior surfaces. Each compartment shall be equipped with a vertically hinged door with a single latch installed. The doors shall be equipped with gas operated door opening assistant cylinders.

Each vertical compartment shall have one (1) fixed shelf.

The compartment floors shall be lined with turtle tile.

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100141.1 - FRONT BODY TRANSVERSE COMPARTMENT

A transverse compartment 96" long x 18" wide x 24" high will be installed in front of the water tank. The compartment floor shall be lined with Turtle Tile.

100144.4 - DRIVERS SIDE UPPER BODY COMPARTMENT

A body equipment storage compartment shall be installed on the flatbed surface, driver's side of the apparatus. The exterior dimensions shall be approximately 48" wide, 24" high, and 18" deep. The compartment shall be constructed of .125" SMOOTH aluminum on all exterior surfaces. The compartment shall be equipped with a lift up door with latch installed. The door shall be equipped with dual gas operated door opening assistant cylinders. Turtle tile shall be installed on the floor.

The actual door opening shall be approximately 3" smaller in dimension.

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100148.4 - PASSENGERS SIDE UPPER BODY COMPARTMENT

A body equipment storage compartment shall be installed on the flatbed surface, passenger's side of the apparatus. The exterior dimensions shall be approximately 48" wide, 24" high, and 18" deep. The compartment shall be constructed of .125" SMOOTH aluminum on all exterior surfaces. The compartment shall be equipped with a lift up door with latch installed. The door shall be equipped with dual gas operated door opening assistant cylinders. Turtle tile shall be installed on the floor.

The actual door opening shall be approximately 3" smaller in dimension.

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100159.3 - UNDER BODY COMPARTMENT -- REAR CENTER

An under body equipment storage compartment shall be installed under the flatbed surface located in the center rear of the apparatus. The dimensions shall be approximately: 33" wide, 6" high, and 108" front to rear. The compartment shall be between the vertical body beams, upper floor surface, and an aluminum lower floor area. The compartment shall be equipped with a hinged drop down door with dual latches installed.

COMPARTMENT SHALL HAVE TWO DIVIDERS FOR HARD SUCTION, 6" APART, ON DRIVER'S SIDE

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100166.2 - REAR SLIDE-OUT TRAY

The rear center compartment shall be equipped with an .190" aluminum slide out tray on UHMW plastic slide pads and poly rollers. The tray shall be full width and full length of the compartment interior.

REFLECTIVE STRIPE SHALL BE INSTALLED 18" FROM FRONT END OF TRAY

Special: James Webb changed component. 01/17/2018 14:07

100160.1 - INTERIOR COMPARTMENT VENTILATION LOUVERS

Compartments shall be provided with louvered ventilation units.

100161.2 - COMPARTMENT DOOR KEY LOCKS (Qty: 2)

The hinged compartment doors shall be equipped with key type door locks.

100720.2 - COMPARTMENT LIGHTING, STRIP LIGHTS (Qty: 2)

Each upper body compartment shall be equipped with a white LED strip light.

100163.2 - AUTOMATIC COMPARTMENT DOOR LIGHT SWITCHES (Qty: 2)

Each exterior compartment light shall be automatically controlled by a door activated switch.

100164.1 - DOOR AJAR LIGHT

A "door ajar" warning light shall be installed on cab dash. The light shall be flashing red LED light with a clear lens.

100169.2 - HOSE TRAY -- DRIVERS SIDE

A hose storage tray shall be installed over the driver's side equipment compartment, on the driver's side of the apparatus. The dimensions shall be approximately: 16" wide, 8" high, and 72" long. The hose tray shall be constructed entirely of .125" aluminum tread plate on all exterior surfaces. The assembly shall be equipped with a hinged lift up aluminum tread plate door on top, enclosed front panel, and open rear area. The hose tray shall be equipped with Turtle Tile floor covering.

LID SHALL BE HINGED AT OUTBOARD EDGE

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100382.2 - TOOL STORAGE TRAY/COMPARTMENT - PASSENGER SIDE

A tool storage compartment shall be installed over the passenger's side equipment compartment, on the passenger's side of the apparatus. The dimensions shall be approximately: 16" wide, 8" high, and 72" long. The compartment shall be constructed of .125" aluminum tread plate on all exterior surfaces. The compartment shall be equipped with a hinged lift up aluminum tread plate door with a latch installed. The compartment shall be equipped with Turtle Tile floor covering.

LID SHALL BE HINGED AT OUTBOARD EDGE

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100180.1 - REAR PULL OUT STEP

There shall be a rear "Pull-Out-Fold-Down" step located at the driver's side rear of the apparatus, step shall be stowed in a pocket under the rear of the unit. Storage pocket shall be fabricated to allow easy access to deploying for operation.

100181.1 - FOLDING STEP

A Signature 4 lighted 8" square folding step of die cast zinc shall be installed. The step shall comply with NFPA non-slip standards and shall be installed on the rear driver's side of the body. The step shall be equipped with lighting to NFPA standard.

100325.1 - ELECTRICAL ENCLOSURE

An electric wiring enclosure for the 12 volt wiring shall be installed in the forward wall of the driver's side upper body compartment with an access panel. The dimensions of the enclosure shall be approximately 20" high, 14" wide, and 4" deep.

100326.1 - 12 VOLT ELECTRICAL SPECIFICATIONS

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

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

conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

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

Wiring between cab and body shall be split using connectors or enclosed in a terminal junction panel allowing body removal with minimal impact on the apparatus electrical system. 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 the system.

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

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage.

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

The electrical system shall include the following:

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

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

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

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

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

A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.

All lights in a weather exposed area that have their sockets shall have corrosion preventative compound added to the socket terminal area.

100327.1 - ELECTRICAL HARNESS AND WIRING

All wiring shall be hidden, enclosed, or protected under the body in protective material, or within the apparatus body components. In addition, split loom conduits shall be installed and enclosed, suitably secured and protected against heat and physical damage.

100090.1 - BATTERY MASTER DISCONNECT

A battery disconnect system shall be installed to control the 12 volt power supply from the battery system to the body and cab final stage manufacturer installed equipment. The solenoid shall be controlled by the standard key starter switch.

100094.2 - BATTERY CHARGER AND 120 VOLT SHORE POWER RECEPTACLE

A Kussmaul Autocharge 1000 model #091-215-12-194B, high output automatic battery charger shall be provided. The battery charger shall be wired to the 12 volt battery system. The unit shall be mounted in a clean, dry area accessible for service and/or maintenance. It shall be wired to the specified shore power receptacle.

It shall include a 091-194-IND Digital Status Display Center.

It shall also include a 091-55-15-120 15 amp "auto-eject" shore power receptacle with hinged weatherproof cover and an enclosure for protection from dirt and damage. The shore power plug shall be "ejected" when the chassis' engine starter is engaged and the receptacle shall be wired to any 120 volt A/C equipment requiring shore power.

Location shall be: D/S FENDER PANEL, AFT OF WHEEL WELL, RED COVER

Components wired hot: NONE

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100328.1 - DOT IDENTIFICATION LIGHTS

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

100329.1 - LICENSE PLATE MOUNTING

An LED license plate light shall be installed on the rear vertical wall of the body.

100330.1 - BRAKE, TURN, TAIL LIGHTS

Two (2) Whelen M6 Series Model M6BTT 4-5/16" x 6-3/4" brake, turn, tail lights with M6FC chrome flanges shall be provided. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lighthouses shall be surface mountable via two screws.

The lighthouses shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination. The lighthouse shall include 164 flash patterns including: a variety of CA Title 13 compliant, sinkable, left/right, top/bottom, in/out, and steady burn. The lighthouses shall have the Whelen exclusive NERM (Non-Emergency Recognition Mode) feature.

The lens/reflector assembly shall be wet sealed and resistant to: water, moisture, dust, and other environmental conditions. The outer lens shall have a hard coating applied to increase strength and ensure longevity. The light engine shall be installed at the rear of the unit and be completely sealed. The pc board shall be conformal coated for additional protection.

The lights shall be furnished with five 6" wire pigtailed, a Santoprene rubber gasket and the #M6FC chrome flanges shall be included for installation.

100331.1 - BACK-UP LIGHTS

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

100067.1 - NO HID LIGHTS

No HID off road lights shall be installed.

100070.1 - NO BUMPER GROUND LIGHTS

There shall be no under bumper ground lights installed.

100073.1 - GROUND LIGHTS - CAB

Two (2) Grote #61E41 LED ground lights shall be installed under the cab step area in compliance with NFPA standards, one (1) on each side of the apparatus, wired to a switch in the cab.

100182.1 - GROUND LIGHTS - UNDER REAR STEP

Two (2) Grote #61E41 LED ground lights shall be installed under the rear step area, one on each side of the apparatus.

100184.1 - WORK LIGHTS

Four (4) Grote #61E41 LED step lights with clear lens shall be installed, wired to switch on the Cencom. Location shall be: in each corner of the protective tubing assembly to light the pump panel and the front body walkway area.

100322.1 - SCENE LIGHTS

Six (6) Rigid Manufacturing Dually 20211 scene lights shall be installed. The LED scene lights shall incorporate clear LEDs with a clear optic polycarbonate lens for maximum illumination.

Location shall be: Two (2) outward facing, each side of body, two (2) rear facing.

100433.2 - SCENE LIGHTS

Two (2) Whelen Model PFP1 Pioneer scene lights shall be installed on the front bumper. The flood-type scene lights shall be 75 watts 12 volts. The lights shall incorporate clear 3/16" LED's with a clear optic polycarbonate lens for maximum illumination.

Location shall be: front bumper

100438.1 - GPS UNIT

A Garmin NUVI 57 LM dash mounted GPS unit shall be installed. It has a 5" display, lane assist with junction view, displays speed limit with accurate arrival time, and spoken turn-by-turn directions.

100324.1 - BACK-UP ALARM

One (1) Buyers #BA107 back up alarm shall be installed.

100312.1 - ELECTRONIC SIREN

One (1) Whelen, Model #CCSRN3 CENCOM siren and twenty-one (21) auxiliary switches with noise canceling microphone shall be provided. Siren head will be mounted on the center console in easy reach of the driver.

100313.1 - SIREN SPEAKER

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

Location shall be: Behind the front bumper.

100310.1 - MOUNTING OF LIGHT BAR WITH PROTECTIVE GUARD

The lightbar shall be mounted on the headache rack shelf with an aluminum brush guard protective assembly.

100309.1 - LIGHTBAR

A Whelen Legacy low profile Super-LED NFPA lightbar shall be installed. The 54" lightbar shall be designed to meet the minimum clearing requirements for Zone A Upper. The internal components of the lightbar shall be housed within a two piece extruded aluminum base/top. The outer shell shall be clear optic polycarbonate lenses designed to maximize light output and shield against environmental elements.

The lightbar shall utilize snap-in brackets to hold in the lighthoods. The brackets shall give the end user the ability to make quick repairs. The lightbar shall have all solid state components. The lightbar shall have two wire harnesses exiting the unit: one (1) 17 conductor 22 gauge control cable which controls all internal light functions; and one (1) 2 conductor 10 gauge cable for main power and ground. Each cable shall be 15' long.

The lightbar shall have four (4) red Linear Super-LED corner modules to provide off angle protection for the front and rear of the vehicle. Each corner module shall consist of twelve (12) Super-LEDs mounted within a vacuum metalized parabolic reflector. The corner module shall also utilize an optic collimator for maximum light output. The twelve (12) LEDs shall be mounted in one straight line.

The solid state I/O board shall be microprocessor controlled. The I/O board shall have built-in reverse-polarity protection and output-short protection. The board shall have the ability to flash sixteen (16) LED warning lights. There shall be a data bank of 13 Scan-Lock flash patterns including steady burn. The board shall also have outputs to add takedown and alley lights. Low power and cruise light function shall also be included. The cruise light function shall allow the user to employ the four (4) corner modules as marker courtesy lights.

The lightbar shall include clear "Take Down" and "Alley Lights".

The lightbar shall have an amber "Traffic Advisor" built into the rear portion of the lightbar.

100315.2 - NFPA WARNING LIGHTS

ZONE A -- LOWER FRONT WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights and a chrome flange shall be in the front forward facing area of the front bumper. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lighthoods shall be surface mountable via two screws. The lighthoods shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination.

RED/CLEAR

ZONE B AND D -- INTERSECTION LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights and a chrome flange shall be installed on bumper extension, as far forward as possible. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse

configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

RED/CLEAR

ZONE B AND D -- LOWER SIDE REAR CORNER WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights and a chrome flange shall be installed in lower rear side corner body area. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

RED/CLEAR

ZONE B AND D -- UPPER SIDE REAR WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights and a chrome flange shall be installed in the upper rear body side panel. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

RED/CLEAR

ZONE C -- UPPER REAR WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights and a chrome flange shall be installed in the upper rear corner of the handrails. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

RED/CLEAR

ZONE C -- LOWER REAR WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7RC 3" x 7" warning lights and a chrome flange shall be lower rear of body. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lighthouse configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens.

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100332.1 - CAB REFLECTIVE LETTERING

The cab lettering shall be Scotchlite reflective material, shaded in black. A quantity of up to fifty (50) three inch (3") letters shall be installed as directed by Fire Department.

100335.2 - CUSTOM GRAPHICS

The apparatus shall be provided with two (2) custom designed sign gold graphics, emblems, or seals. The installation shall be designed primarily with letters and numbers as specified.

The purchaser shall approve of the design graphics to installation.

100337.1 - CAB AND BODY STRIPING

The cab and body shall have a straight Scotchlite reflective stripe applied horizontally. The stripe shall be a 4" minimum in width and be applied horizontally around the cab and body in accordance with NFPA standards. The purchaser shall specify the color and location of the stripe.

100343.1 - FRONT CHEVRON STRIPING

There shall be alternating chevron striping installed across the front bumper where permitted. The chevron striping shall consist of 6" diamond grade striping.

100345.1 - REAR CHEVRON STRIPING

There shall be alternating chevron striping installed on the rear vertical body panel. The chevron striping shall consist of 6" diamond grade striping.

100346.1 - CAPACITIES PLACARD

The apparatus shall have a reflective placard that provides the following information:

Water Tank Capacity
Pump Capacities
NWCG Typing
Skeeter Contact Information

100040.1 - CHASSIS PREPARATION

The chassis cab shall be "prepped" for fire apparatus production as follows:

- a) Wash and clean chassis
- b) Weigh chassis for NFPA reports
- c) Quality control check in.

100041.1 - SEATING

There shall be a label identifying the number of seat belted locations on the unit.

100042.1 - WARNING LABEL -- SEAT BELT USAGE

A warning label for use of seat belts shall be installed in the cab by the chassis manufacturer.

100043.1 - LOUD NOISE WARNING LABEL

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

100135.1 - WARNING LABEL -- NO RIDING ON REAR

A warning label stating: "NO RIDING ON REAR OF APPARATUS" shall be installed on rear of the apparatus. The label shall be applied to the vehicle at the rear step area. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion, is prohibited.

100136.1 - SKEETER BRUSH TRUCK EMBLEMS

Three (3) Skeeter Brush Trucks emblems will be affixed to the cab and body.

100196.1 - FINAL ASSEMBLY AND APPARATUS FINISHING PREP SPECIFICATIONS

The apparatus shall be assembled in a high quality and controlled environment. The fit, form, and finish of the body shall be to the highest level fire apparatus manufacturing standards. Upon completion, the apparatus shall be ready for final inspection and road testing as required herein.

100361.1 - FIRE PUMP OPERATIONS TEST

The fire pump shall have a operational pump test performed by a Skeeter Brush Trucks technician with a run time of one (1) hour to confirm proper operations of all pump related components.

100362.1 - ELECTRICAL LOAD ANALYSIS

A 12 volt electrical load analysis shall be performed in order to test response and stationary modes of electrical amp load.

100363.1 - COMPLIANCE

The fire apparatus shall be built to the purchaser's requirements in compliance to all State, Local, and Federal highway safety requirements. The vehicle is not intended to meet any or all standards of the NFPA.

100365.1 - ROAD TEST

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise.

100366.1 - APPARATUS WARRANTY SKEETER MANUFACTURED ITEMS

A five (5) year parts and labor warranty on items manufactured by Skeeter Brush Trucks. Skeeter Brush Trucks is a subsidiary of Siddons/Martin Emergency Group, a Pierce Platinum Dealer, which has 13 service centers between Texas, Louisiana, and New Mexico. In the event the apparatus is deployed outside of its normal area of operation, warranty and service can be performed at any Siddons-Martin facility at the discretion of the fire department. For warranty issues please contact your local Siddons-Martin or Skeeter Brush Truck service center and request warranty from the service advisor at that location.

100369.1 - WATER TANK WARRANTY

MANUFACTURER'S LIMITED WARRANTY AND NOTICE OF DISCLAIMER OF EXPRESS AND IMPLIED WARRANTIES

Manufacturer issues this limited warranty to the customer who is the original retail purchaser ("Customer") of a polypropylene tank (the "Tank") (10 to 4000) gallons.

100351.1 - PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be conducted at the manufacturer's plant. The transportation to this meeting shall be the responsibility of purchaser.

100651.1 - DRAWINGS

There shall be design drawings submitted to the customer prior to the pre-construct conference. The drawings shall include all sides of the apparatus. The customer shall agree to the drawings reflecting the correct apparatus design and layout prior to construction.

100353.1 - TERMS OF PAYMENT AND PREPAYMENT PROVISIONS

Terms of payment for the specified vehicle shall be only cash or equivalent on delivery and acceptance for the unit. No bid will be considered which requires the purchaser to deposit with the bidder a down payment, prepayment of chassis, or any other such consideration as a condition of the bid. Such a requirement shall be grounds for immediate rejection of the bid.

100356.1 - DEMONSTRATION AND FAMILIARIZATION OF VEHICLE

The bidder shall demonstrate and familiarize the purchaser regarding the vehicle's operation. This shall include operation of chassis, major components, review of delivery information and documentation. This demonstration shall be completed at Skeeter Brush Trucks factory location in Hillsboro, Texas.

100358.1 - DELIVERY REQUIREMENTS

The apparatus shall be picked up at the manufacturer's plant by the purchaser.