

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

INTERNET IN-PROCESS SITE

The Bidder shall post and maintain a website where the Bennett Valley Fire Department will be able to view digital images of their apparatus as its being manufactured. The digital images shall be posted once a week starting when the body begins production or when the cab/chassis arrives and shall continue until the final completion of the apparatus.

MANUALS AND TECHNICAL SUPPORT DOCUMENTATION

Two (2) manuals shall be provided to assist, guide, and direct Bennett Valley Fire Department's personnel in their use of apparatus and equipment within its manufactured design criteria and limitations, as well as technical support regarding testing, maintenance, diagnosis and repair. These manuals shall be in three-ring notebook type binders, with reference tabs for each section of the vehicle. Within each section shall be:

1. Individual component manufacturer instruction and part manuals.
2. Warranty forms for body.
3. Warranty forms for all major components.
4. Warranty instructions and format to be used in compliance with warranty obligations.
5. Wiring diagrams.
6. Blueprints of final body and compartment fabrication.
7. Necessary normal routine service forms, publications, component of body portion of apparatus.
8. Technical publications on training and instruction for major body components.
9. Warning notices and safety related section for personnel protection.
10. Two (2) chassis parts, service and maintenance manuals shall be provided.

ELECTRICAL SCHEMATICS

The efficient maintenance and service of the vehicle is of prime importance to the Bennett Valley Fire Department. To properly maintain the vehicle electrical system, the apparatus must be constructed with the finest in electrical materials and components.

To maintain the vehicle electrical systems, the Bennett Valley Fire Department must be provided with the instructional manuals, complete electrical information and schematics on the vehicle. The electrical information shall be provided as follows:

12 AND 120/240 VOLT WIRING SYSTEMS

Individual 17" x 11" computer drawn schematics for each electrical circuit, noting the circuit number, wire size, switches, breakers and terminals for that particular circuit and appliance.

CONSTRUCTION PERIOD

The Bidder shall specify the number of days after award of the contract and after receipt of cab/chassis in which the apparatus will be completed. The maximum period for construction shall be two hundred ten (210) days after receipt of Purchase Order.

Bidder shall not be held liable for delays of chassis delivery due to accidents, strikes, floods or other events not subject to their control. Bidder shall provide immediate written notice to Bennett Valley Fire Department as to delays and to what extent these delays have in completing apparatus within the stated construction time period.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

WARRANTY

The Bidder shall provide a full statement of the warranty provided for the vehicle(s) being bid. This warranty should clearly describe the terms under which the vehicle's Manufacturer accepts responsibility for the cost to repair defects caused by faulty design, quality of work or material, and for the applicable period of time after delivery.

Cost of repairs refers to all costs related thereto including, but not limited to, the cost of materials, the cost of labor.

The Manufacturer shall warrant all materials and accessories used in the vehicle(s), whether fabricated by the Manufacturer or purchased from an outside source and will deal directly with the Bennett Valley Fire Department on all warranty work.

The warranty shall commence upon acceptance of the vehicle.

GENERAL WARRANTY - ONE (1) YEAR

The entire vehicle, apparatus and equipment shall be warranted, including parts and labor for a period of at least **one (1) year** commencing upon the placing of the unit in-service by the Bennett Valley Fire Department (except that warranty on the tires and tubes, batteries, electrical lamps, and other devices subject to deterioration is limited to the warranty of the manufacturer thereof and adjustments for same are to be made directly with the manufacturer). Extended warranties on the engine, transmission, or other major components shall be detailed by Bidder in proposal.

This warranty shall not apply to those items which are usually considered normal maintenance and repair; including but not limited to normal lubrication or proper adjustment of main functional operating components. All manufacturers' warranties (apparatus & equipment) shall be furnished and indicated in the manufacturer's bid. Any standard warranties, including, but not limited to engine, transmission, tires and axles furnished by the original equipment manufacturer (OEM) or the prime contractor will be passed on to the Bennett Valley Fire Department. Also include any available extended warranties that will start after the initial warranty period. Goods or property shall be as represented by these specifications as well as additional agreements as a result of discussions regarding these specifications and shall be as promised with implied liability on the manufacturer.

The Body Manufacturer must be the "single source" coordinator of all warranties on the vehicle.

STRUCTURAL WARRANTY - TEN (10) YEARS

The Manufacturer shall warrant that each new rescue body (exclusive of paint, finish, hardware, moldings, windows, and other appointments and accessories) is structurally sound and free of all structural defects of both material and workmanship and further warrants that it will maintain such structural integrity for a period of **ten (10) years** from the completion date listed on the Manufacturer's data plate attached to the vehicle inside the cab.

The Manufacturer further warrants that this structural integrity warranty may be transferred to a second Purchaser providing the vehicle is inspected by the Original Manufacturer or their authorized representative within thirty (30) days of ownership transfer. To maintain warranty coverage, the proper ownership transfer papers shall be kept on file at Manufacturer's facility.

In the event of a chassis remount, this structural warranty shall remain in effect providing that the re-chassis work is completed by the Manufacturer or a facility which obtains written authorization from the Manufacturer.

Should repairs become necessary under the terms of this warranty, the extent of the repair shall be determined solely by the Manufacturer and shall be repaired by the Manufacturer or an Authorized Service Center designated by the Manufacturer. The expense of any transportation to or from the ASC shall be the responsibility of the Bennett Valley Fire Department and is not an item covered by this warranty.

There shall be a Warranty Certificate supplied with the completed apparatus to detail the warranty configuration.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

TESTING

12 VOLT DC - NFPA TEST

The apparatus low voltage electrical system shall be tested and certified by the manufacturer per NFPA 1901. The test shall be performed with the air temperature between 0 degrees F and 110 degrees F.

TEST SEQUENCE

The following three (3) tests shall be performed in the order indicated below. Before each test, the batteries shall be fully charged. A full charge condition shall be when the charge voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for ten (10) minutes. Failure of any of these tests shall require a repeat of the sequence.

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 loads shall be activated for ten (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.

ALTERNATOR PERFORMANCE TESTS:

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 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 two (2) hours. Activation of the load management system shall be permitted during the test. However, an alarm sounded by excessive battery discharge, as detected by the system required to notify apparatus personnel of electrical system failure, or a system voltage of less than 11.7 volts DC for a 12 volt nominal system for more than 120 seconds, shall be considered a test failure.

LOW VOLTAGE ALARM TEST

Following completion of the above 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 activates.

The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts DC for a 12 volt nominal system shall be considered a test failure.

The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered test failure.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

DOCUMENTATION

Documentation of the electrical system performance test shall be provided with delivered apparatus. In addition a written load analysis, including the following;

- Nameplate rating of alternator.
- Alternator rating under the conditions specified in NFPA 1901, 13.3.2.
- Each component load specified in NFPA 1901, 13.3.3 comprising the minimum continuous load.
- Additional loads that when added to the minimum continuous load determine the total connected load.
- Each individual intermittent load.

120/240 VOLT AC NFPA TEST

The apparatus 120/240 volt electrical system shall be tested and certified by the manufacturer per NFPA 1901. Certification shall be provided with delivered apparatus.

The test shall be performed with the air temperature between 0 degrees and 110 degrees F.

TEST SEQUENCE

The following test shall be performed in the order indicated below.

The wiring and permanently connected devices (excluding utilization devices) are subjected to 900 VAC for one (1) minute. The test is conducted between live parts and the neutral conductor, as well as between the live parts and the vehicle frame with any switches in the circuit closed. The test is accomplished with a Biddle HiPot tester model 230315.

The generator output is tested at 100% of its nameplate rating for a minimum of two (2) hours, into a resistive load. The following information is recorded of the generator and its power supply at thirty (30) minute intervals during the test: voltage, amperage and frequency output of the generator, as well as the oil pressure, water temperature, transmission temperature, hydraulic temperature, and the battery charge rate, as applicable.

INSPECTION TRIPS

The Manufacturer shall provide four (4) individual inspection trip(s) to the factory. The quantity of people and number of trips can be configured to meet the needs of the Fire Department. The cost of transportation, food, and lodging shall be borne by the Manufacturer.

If the Fire Department is more than 250 miles from factory than the transportation shall be by commercial airline.

The description of these factory trips must be included in Bid. If nothing is described or mentioned in the Bid pertaining to inspection trips, then it is assumed that the Bidder is taking exception to inspection trips required, and bid shall be rejected.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

DELIVERY AND DEMONSTRATION

The contractor shall be responsible for the delivery of the completed unit to the Bennett Valley Fire Departments location. On initial delivery of the fire apparatus, the contractor shall supply a qualified representative to demonstrate the apparatus and provide initial instruction to representatives of the Bennett Valley Fire Department regarding the operation, care, and maintenance of the apparatus and equipment supplied at the Bennett Valley Fire Departments location.

The delivery engineer shall set delivery and instruction schedule with the person appointed by Bennett Valley Fire Department.

After delivery of the fire apparatus, the Bennett Valley Fire Department shall be responsible for ongoing training of its personnel to proficiency regarding the proper and safe use of the apparatus and associated equipment as defined in NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, and NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

CAB CHASSIS SPECIFICATIONS

The Fire Department will provide and drop ship the cab/chassis to the successful body builders facility;

Make: Ford

Model: F550, 4-Door, 4x4

G.V.W.R.: 17,500 lbs.

Wheelbase: 176" (60" CA)

Engine: Ford 6.0L Diesel

Transmission: Automatic

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

CHASSIS MODIFICATIONS

LUBRICATION PLATE

A permanent plate shall be installed in the Driver's compartment which indicates the type and quantity of the following fluids in the vehicle:

- Engine Oil
- Engine Coolant
- Transmission Fluid
- Drive Axle Fluid
- Air Conditioning Refrigerant, Air Conditioner Oil (if applicable)
- Power Steering Fluid
- Cab Tilt Fluid (if applicable)
- Transfer Case Fluid (if applicable)
- Pump Transmission Fluid (if applicable)
- Pump Primer Fluid (if applicable)
- Equipment Rack, Air Compressor, Generator, etc. . . . (If applicable)

VEHICLE DATA PLATE

A permanent plate shall be installed in the Driver's compartment which indicates the following:

- Filter Part Numbers for the Engine, Transmission, air and fuel systems
- Serial Number for the Engine and Transmission
- Delivered Weights of the Front and Rear Axles
- Paint Code Brand and Code(s)
- Body Builder Project Number

OVERALL HEIGHT PLATE

There shall be a placard located in direct view of the Driver which shall indicate the overall height of the vehicle.

ACCIDENT PREVENTION

There shall be a placard in the cab seating area which reads, "ALL OCCUPANTS MUST BE SEATED AND BELTED WHEN THE APPARATUS IS IN MOTION".

PERSONNEL CAPACITY

There shall be a placard mounted in the Driver's compartment which specifies the maximum number of personnel the vehicle is design to carry per NFPA standards. The placard shall be located in clear view of the Driver.

ACCIDENT PREVENTION

If there is a rear bumper extension of 8" or more, there shall be a placard on the rear face of the body, in clear sight from the ground, which reads, "WARNING - DO NOT RIDE ON STEPS OR DECK AREAS WHILE THE APPARATUS IS IN MOTION. DEATH OR SERIOUS INJURY MAY RESULT".

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

WARN GRILLE GUARD

There shall be a Warn "Grille Guard" assembly provided and installed on the front of the cab grille area. The "Grille Guard" shall be black in color and shall have mounting provisions for a Warn winch. The grille guard mounting system shall be Trans4mer Model number 69680.

FRONT MOUNTED WINCH

The front bumper extension shall be provided with a heavy duty winch installation. The winch shall be a Warn M1200, 12 volt electric, 12,000 lb. capacity winch, part number PN 17801 CE (12V DC).

The winch shall be equipped with 125' of 3/8" wire rope.

The control of the winch shall be with a plug-in remote control unit. The unit shall have 25' of control cable, with forward, neutral, and reverse dead man type hand control.

The cable shall end with a clamp type loop and a drop forged heavy duty hook. The cable shall feed through a full captive type 4-way roller and guide assembly.

PAINT WHEELS JOB COLOR

Four (4) chassis wheels shall be removed and painted to match the exterior color of the body. The wheels shall be trimmed with silver paint.

MUDFLAPS

There shall be rubber mudflaps furnished and installed behind each set of tires.

ROAD EMERGENCY SAFETY KIT

One (1) set of three dual faced triangular warning flares with fold away base complete with storage case per DOT requirements shall be provided with the completed apparatus.

One (1) 2.5 lb. ABC type vehicle fire extinguisher with bracket shall be provided and mounted in the cab or the front streetside compartment.

FUEL FILL

There shall be a Cast Products aluminum fuel fill with hinged door located on the rear panel of the body, on the streetside. The fuel fill casting shall be connected to the chassis fuel tank.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

BODY DESIGN

The importance of public safety associated with emergency vehicles require that the construction of this vehicle meet the following specifications. These specifications are written to establish the minimum level of quality and design. All Bidders shall be required to meet these minimum requirements.

It is the intent of these specifications to fully describe the requirements for a custom built emergency type vehicle. In order to extend the expected service life of this vehicle, the body module shall be removable from the chassis frame and be capable of being installed on a new chassis.

The sheet metal material requirements, including alloy and material thickness, throughout the specifications are considered to be a minimum. Since such materials are available to all Manufacturers, the material specifications shall be strictly adhered to.

The fabrication of the body shall be formed sheet metal. Formed components shall allow the Bennett Valley Fire Department to have the body repaired locally in the case where any object has struck the body and caused damage. The use of proprietary extrusions will prevent the Bennett Valley Fire Department from such repair and shall NOT be used.

Following construction of the subframe which will support the apparatus body, the sheet metal portion of the body shall be built directly on the subframe. The joining of the subframe and body shall be of a welded integral construction.

The sheet metal fabrication of the body shall be performed using inert gas continuous feed welders only. The entire body shall be welded construction. The use of pop rivets in any portion of structural construction may allow premature failure of the body structure. Therefore, pop rivets shall NOT be used in the construction of the structural portions of the body. This includes side body sheets, inner panels of compartment doors, and any other structural portions of the body.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

EXTERIOR ALUMINUM BODY

The fabrication of the rescue body shall be constructed from aluminum 3003H-14 alloy smooth plate. This shall include compartment front panel, vertical side sheets, side upper rollover panels, rear panels and compartment door frames.

The body compartment floors and exterior panels shall be constructed with not less than 1/8" (.125) aluminum 3003H-14 smooth plate. Interior compartment dividing walls shall be constructed with not less than 1/8" (.125) aluminum 3003H-14 smooth plate. Lighter gauge sheet metal will not be acceptable in these areas.

The door side frame openings shall be formed "C" channel design. An electrical wiring conduit raceway running the full length of exterior compartments shall be provided. This raceway shall contain all 12 volt wiring running to the rear of the apparatus, permitting easy accessibility to wiring.

Individual compartment modules, with dead air space voids between compartments, will not be an acceptable method of compartment construction.

The compartments shall be an integral part of the body construction. Compartment floors from front of body to ahead of rear axle, also from rear axle to rear of body shall be single one-piece sections. Compartment floors shall be preformed, then positioned in body and welded into final position.

Compartment floors shall have a "sweep-out" design with door opening threshold positioned lower than compartment floor, permitting easy cleaning of compartments. Angles, lips, or door moldings are not acceptable in the base of compartment door opening. One-way rubber drain valves shall be provided in compartment floors so that a water hose may be used to flush-out compartment area.

All seams in sheet metal below frame, and around the rear wheel well area shall be welded continuous to prevent moisture from entering compartments. All other interior seams and corners shall be sealed with silicone based caulk prior to painting.

Only stainless steel bolts, nuts, and sheet metal screws shall be used in mounting exterior trim, hardware and equipment.

Exterior compartments shall be machine louvered in lower back wall of compartment for ventilation.

ROOF CONSTRUCTION

The roof shall be integral with the body and shall be all welded construction. The roof of the body shall not be less than 3/16" aluminum 3003H-14 alloy tread plate, fully and continuously welded. The roof shall be reinforced with 2" x 2" x 1/4" aluminum tubing running the full width of the body. A 2" rounded radius shall be provided along the body sides.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

BODY SUBFRAME

To assure proper body alignment and clearance, the body subframe shall be constructed directly on the chassis.

The chassis frame rails shall be fitted with 5/16" x 2" fiber reinforced rubber to isolate the body frame members from direct contact with chassis frame rails.

The body subframe shall be constructed from 6061T6 aluminum alloy tubing. Subframe shall consist of two (2) 2" x 4" x 1/4" aluminum tubes minimum, the same width as the chassis frame rails. Welded to this tubing shall be crossmembers of 2" x 4" x 1/4" aluminum. Smaller dimension, lighter gauge tubing or angle material subframe shall not be accepted.

These crossmembers shall extend the full width of the body to support the compartments. Crossmembers shall be located at front and rear of the body, below compartment divider walls, and in front and rear of wheel well opening. Additional aluminum crossmembers shall be located as necessary to support walkways or heavy equipment.

To form the frame, the tubing shall be beveled and welded at each joint using 5356 aluminum alloy welding wire.

BODY MOUNTING

For optimum chassis frame and body life, the body subframe shall be fastened to the chassis frame with a minimum of six (6) 1/2" x 2" strap mounts, welded to the body subframe. The straps shall be bolted to the chassis frame work utilizing 1/2" Grade L9 bolts.

10" REAR STEP BUMPER

The full width rear bumper shall be constructed from 2" x 2" x 1/4" aluminum tubing frame and covered with 3/16" aluminum tread plate. Any stepping surface shall have a grip surface insert to meet NFPA requirements. The bumper shall extend from the rear vertical body panel 10" and provide a rear step with a 1" space at body for water drainage.

REAR TOW EYES

There shall be two (2) heavy duty rear mounted tow eyes securely attached to the chassis frame and mounted above the rear bumper. The tow eyes shall be fabricated from 1" thick steel plate and shall have a black powder coat finish.

WHEEL WELL EXTERIOR PANEL

The exterior panel of the body wheel well enclosure shall be constructed from 1/8" aluminum smooth plate.

DIEFORMED BEADED EDGE BODY FENDERS

A die formed beaded edge shall be provided along the radius of the wheel well opening for a finished appearance.

WHEEL WELL LINERS

The wheel wells shall be constructed by the compartment walls that surround the wheel well area. The interior wheel well area shall be designed so that it does not accumulate dirt or water.

SCBA BOTTLE COMPARTMENTS

There shall be four (4) SCBA compartments located adjacent to the rear wheels. There shall be two (2) on each side of the apparatus body. Each compartment shall have a Cast Products aluminum door assembly with a positive catch latch. Each compartment shall have a 8" diameter aluminum tube behind the wheel well panel, attached to the Cast Products door assembly.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

ALUMINUM BODY PAINT SPECIFICATIONS

The final finishing of this apparatus shall be to fire apparatus standards exhibiting excellent gloss, durability, and color retention properties. Commercial type paint finish shall not be acceptable. A warranty sheet with all conditions shall be provided with completed apparatus.

All flush mounted lights, drip moldings, windows, and other equipment shall be fitted to the apparatus prior to paint finishing, then removed to assure full paint coverage under all equipment.

The apparatus body shall be sanded smooth on all exterior surfaces to assure removal of all imperfections in metal surface and to assure good adhesion of paint to body. All metal surfaces shall be chemically cleaned and metal etched with acid cleaner prior to paint.

The body shall receive a corrosion resistant epoxy primer coat. The primer coat shall be lightly sanded to assure a smooth surface for a final coat. All seams and corners in sheet metal on interior and exterior shall be sealed with automotive type caulk prior to painting finish coat.

Prior to the assembly and reinstallation of lights, handrails, door hardware, and any miscellaneous items, an isolation tape, or gasket material must be used to prevent damage to the finish painted surfaces.

Touch-up paint shall be provided with completed apparatus.

PAINT FINISH

The apparatus body shall be painted single color with Akzo Nobel Inc. - Sikkens "Autocryl" Acrylic Urethane Finish paint for a high gloss, hard finish.

- Color: Red
- Paint Number: to match cab color.

The painted body shall be finished with a clear coat of acrylic urethane for paint protection and maximum quality finish.

PAINT WARRANTY

The apparatus shall be provided with a seven (7) year warranty to the original Owner. Warranty is provided by "Sikkens" sponsored by AKZO Nobel. A "Sikkens Warranty" sheet with all conditions shall be provided with the delivered apparatus.

BODY UNDERCOATING

The entire underside of apparatus body shall be sprayed with black automotive undercoating. Undercoating shall cover all areas to retard corrosion under the apparatus.

UNDERCOAT WARRANTY

The undercoating shall be provided with a warranty by its manufacturer for the lifetime of the vehicle. The re-spray warranty shall be transferable between vehicle owners. Should the coating applied to the underside of the body and wheel wells of the vehicle ever flake off, peel, chip or crack due to drying out, the damaged area shall be re-sprayed without charge to the vehicle owner.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

REFLECTIVE STRIPE - BODY

A 4" minimum reflective stripe shall be affixed to the perimeter of the vehicle per NFPA 1901 Standards. The stripe shall conform to ASTM 4965, *Standard Specifications for Retroreflective Sheeting for Traffic Control*, Type III, Class 1 or Class 3. The length of stripe shall be 50% of the cab and body length of each side, 50% of the rear of the body, and 25% of the front width of apparatus.

The stripe shall remain in a straight line from the front of the vehicle to the rear.

REFLECTIVE STRIPE - CAB

A 4" minimum reflective stripe shall be provided on specified cab in compliance with NFPA 1901 standards. The stripe color shall be White.

LETTERING

The following lettering shall be furnished and installed on the completed unit:

SIDE CAB DOOR LETTERING

There shall be forty eight (48) 3" high SuperGold letters with Balck shadow furnished and installed on the vehicle. Lettering shall have a clear Mylar overlay that extends a minimum of 1/8" around the perimeter of the reflective material.

Top line arched "BENNETT VALLEY"
Lower line straight "FIRE-RESCUE"

UPPER BODY SIDE LETTERING

There shall be eight (8) 6" high reflective letters furnished and installed on the vehicle. The reflective color shall be White. On roll-up doors of compartments C1 and S1 aligned with stripe; "7831"

REAR BODY LETTERING

There shall be seven (7) 6" high reflective letters furnished and installed on the vehicle. The reflective color shall be White. Located directly below rear compartment: "BVF 7831"

FRONT OF CAB LETTERING

There shall be four (4) 6" high reflective letters furnished and installed on the vehicle. The reflective color shall be White. Located driver side front bumper: "7831"
Bennett Valley FD to specify location due to addition of grille guard and front bumper layout.

CAB ROOF LETTERING

There shall be seven (7) 12" high reflective letters furnished and installed on the vehicle. The reflective color shall be white.
Centered cab roof "BVF 7831"

COMPARTMENT INTERIOR FINISH

The interior of compartments shall be painted with an epoxy primer then painted with a textured Zolotone paint finish. Paint color shall be grey.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

EXTERIOR COMPARTMENT DOORS

ROLL-UP DOOR CONSTRUCTION

The apparatus shall be equipped with Robinson Series III shutter exterior compartment doors. The doors shall be constructed of satin finished anodized aluminum slats. The slats exterior surface is flat, while the rear surface is concave to prevent loose equipment from interfering with door operation.

The aluminum extrusions shall be equipped with nylon end shoes that slide in extruded aluminum tracks for easy operation.

The shutter door shall have a pretension operator in a sealed alloy drum and positioned at the upper front portion of compartment to afford maximum clearances and head room for mounting equipment to ceiling of compartment.

Each shutter door shall be completely weather resistant assembly. Neoprene seals shall be provided on sides, bottom upper portion of the door and in between each slat.

Latching of the exterior compartment shutter door shall be with an aluminum, spring loaded full width lift bar. The lift bar shall latch itself under two (2) cam shaped strike blocks mounted on the outer door frame of the compartment. A magnetic door ajar switch system shall be provided and built into the striker blocks and the end caps of the lift bars. An extra wide finger pull shall be provided above each lift handle to assist in closing compartment doors.

Each shutter door shall decrease the compartment door frame opening approximately 2" in width and approximately 4-1/2" in height for the bottom section of door assembly.

EXTERIOR ROLL-UP DOOR FINISH

The roll-up doors shall have a satin aluminum finish on the door slats and the door trim components.

The reflective stripe shall be applied over the roll-up doors. The stripe shall be precision cut at each seam of the roll-up doors.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

COMPARTMENT OPTION DESCRIPTIONS

All interior compartment options shall be fabricated as follows:

ADJUSTABLE SHELVING HARDWARE

Adjustable shelving hardware shall be provided indicated in the numbered compartment list.

The shelving hardware shall include a minimum of four (4) aluminum "Uni-Strut" C-channel supports mounted vertically on compartment side walls or vertical partitions. There shall be one (1) cast aluminum shelf bracket per vertical "Uni-Strut" to mount each shelf, tray, or adjustable storage module. Shelving hardware shall be of heavy duty quality with unlimited vertical adjustment settings.

ADJUSTABLE SHELF/SHELVES

Adjustable shelf/shelves shall be provided in exterior compartment as indicated in the numbered compartment list. Shelves shall be fabricated from 3/16" (.188) aluminum 3003H-14 alloy smooth plate with a 2" vertical flange along the front and rear edges. Shelves shall be designed to be used with flanges either in the upward position to hold various equipment on shelf, or in the downward position for sweep-out shelf surface.

All shelves shall be fully adjustable, from top to bottom of the compartment. There shall be at least four (4) vertical mounting channels and shelving hardware, two (2) each side of compartment. Shelving hardware shall be of heavy duty quality with unlimited vertical adjustment settings.

HEAVY DUTY DUAL DIRECTION SLIDE-OUT EQUIPMENT TRAYS - (1,000# CAPACITY)

Heavy duty slide-out equipment tray(s) shall be provided in exterior compartment as indicated in the numbered compartment list.

Trays shall be fabricated from 3/16" (.188) aluminum 3003H-14 alloy smooth plate. Each tray shall be built with a 4" high vertical lip with welded corners to form a box type tray surface. Tray shall be mounted on a 2-rail heavy duty structural steel frame with twelve (12) sealed 1,000 lbs. static load ball bearings. The slide-out tray shall be rated for a maximum 1,000 lbs. distributed load, and a 500 lbs. concentrated end load.

The tray shall be locked in its stored position as well as at 40%, and 70% of extension for loading or as a stationary work surface.

HEAVY DUTY EQUIPMENT TRAYS - SLIDE-OUT/TILT-DOWN - (250# CAPACITY)

Heavy duty slide-out/tilt-down equipment tray(s) shall be provided in exterior compartment as indicated in the numbered compartment list.

Trays shall be fabricated from 3/16" (.188) aluminum 3003H-14 alloy smooth plate. Trays shall be built with a 4" high vertical lip with welded corners to form a box type tray surface. Tray shall be mounted on a 2-rail heavy duty structural steel frame with sealed 500 lbs. static load ball bearings. The slide-out tray shall be rated for a maximum 250 lbs. distributed load.

The tray shall be locked in its stored position and 100% of extension for loading. There shall be a plate attached to the lower bar of the tray that will automatically swing the locking mechanism over the outer structural cross member.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

SLIDE-OUT TOOL BOARD (SMOOTH ALUMINUM)

Slide-out tool board(s) shall be provided in the exterior compartment as indicated in the numbered compartment list.

Tool boards shall be fabricated of 3/16" (.188) aluminum 3003H-14 alloy smooth plate with double flange at the outer edge to provide an easy grip handle. The top and bottom of tool board shall be provided with Accuride 502 series slide tracks. The length shall be per numbered compartment list and the extension shall be 100% of the slide length. Slide tracks shall be constructed from formed steel with ball bearings in triple track rails.

Tool board(s) shall utilize a pneumatic cylinder to hold the tool board in both the opened and closed positions. Both the upper and lower roller slide shall be mounted to "Uni-Strut" C-channel to allow the tool board to be adjusted horizontally for best fit in the compartment.

TRANSVERSE STORAGE MODULE

Transverse storage module for long equipment shall be provided as indicated in the numbered compartment list.

The module shall be fabricated from 1/8" (.125") thick smooth aluminum. Exact size and layout shall be approved prior to construction.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

BODY HEIGHT MEASUREMENTS

The vertical body dimensions shall be as follows:

AHEAD OF REAR AXLE

| <u>Description</u> | <u>Dimension</u> |
|--|------------------|
| A Bottom of Subframe to Top of Body | 59.0" |
| B Bottom of Subframe to Bottom of Body | 18.0" |
| C Vertical Door Opening | |
| -with roll-up door | 55.5" |
| -with hinged door | 59.5" |

ABOVE REAR AXLE

| <u>Description</u> | <u>Dimension</u> |
|--|------------------|
| D Vertical Door Opening - Above Rear Wheel | |
| -with roll-up door | 32.0" |
| -with hinged door | 35.0" |

BEHIND REAR AXLE

| <u>Description</u> | <u>Dimension</u> |
|--|------------------|
| E Bottom of Subframe to Bottom of Body | 15.0" |
| F Vertical Door Opening | |
| -with roll-up door | 53.0" |
| -with hinged door | 57.0" |

GENERAL

| <u>Description</u> | <u>Dimension</u> |
|--------------------------------------|------------------|
| G Bottom or Drip Rail to Top of Body | 13.5" |

(dimensions are generic and subject to change during the actual design process)

BODY WIDTH DIMENSIONS

The body shall be 96.0" wide, not including drip rail or non-permanent fixtures. Interior compartment depth dimensions shall be:

| <u>Area Description</u> | <u>Dimension</u> |
|-------------------------|------------------|
| Transverse Area: | 91.5" |
| - Above Top of Subframe | |
| Compartment Depth: | 21.5" |
| - Below Top of Subframe | |
| - Ahead of Rear Axle | |
| Compartment Depth: | 20.0" |
| - Below Top of Subframe | |
| - Behind the Rear Axle | |

(dimensions are generic and subject to change during the actual design process)

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

STREETSIDE COMPARTMENT - FRONT (S1)

The interior useable compartment width shall be approximately 32.0" wide.

The approximate compartment door opening shall be 25.0" wide (with roll-up style doors).

This compartment shall have a Robinson Roll-up door with an exterior satin aluminum finish.

There shall be NO keyed locks on the roll-up compartment doors.

This compartment shall have the following items:

- There shall be vertically mounted Uni-Strut for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 46" deep.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a SlideMaster base approximately 94" deep and as wide as the compartment layout or door opening permits, capable of extending out either side of the body located above the level of the chassis frame rails.
- This Slide Master tray shall have a gravity activated twist lock that shall hold the tray in its stored position. The twist lock mechanism shall also lock the tray in its fully extended position.
- There shall be one (1) transverse module for the following equipment:

One (1) adjustable shelf, approximately 46" deep, to be in upper portion of compartment and make up half of a transverse platform to be used to store two (2) FD supplied backboards . Backboards to be accessed on curbside only.

Backboard dimensions: 18"W x 2-1/2" H x 72"L

Two (2) horizontally adjustable vertical dividers approximately 6" high and approximately 46" deep to be supplied with the transverse platform. Dividers and mounting hardware to be shipped loose with truck.

Other half of transverse platform noted in compartment curbside 1.

- The 12 volt electrical distribution panel
- The controls for the specified light tower(s).

There shall be one (1) OnScene Solutions LED light stick mounted vertically inside this compartment. Each light stick shall include a 36" section above the subframe and an 18" section below the subframe. There shall be 30 LEDs per 18" light and 60 LEDs per 36" light. The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty,

- The floor of the compartment above the frame rails shall be extended to the interior edge of the door. The floor shall have a 2" vertical lip and a 1" return to increase strength.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

STREETSIDE COMPARTMENT - ABOVE REAR WHEEL (S2)

The interior useable compartment width shall be approximately 45.0" wide.

The approximate compartment door opening shall be 38.0" wide (with roll-up style doors).

This compartment shall have a Robinson Roll-up door with an exterior satin aluminum finish.

There shall be NO keyed locks on the roll-up compartment doors.

This compartment shall have the following items:

- There shall be vertically mounted Uni-Strut for shelving installation.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a SlideMaster base approximately 94" deep and as wide as the compartment layout or door opening permits, capable of extending out either side of the body located above the level of the chassis frame rails.
- This Slide Master tray shall have a gravity activated twist lock that shall hold the tray in its stored position. The twist lock mechanism shall also lock the tray in its fully extended position.
- There shall be one (1) 250 lbs. slide-out and tilt down tray(s) with a SlideMaster base approximately 46" deep and as wide as the compartment layout or door opening permits. It will be located above the level of the chassis frame rails and will be vertically adjustable in height.
- This Slide Master tray shall have a gravity activated twist lock that shall hold the tray in its stored position. The twist lock mechanism shall also lock the tray in its fully extended position.
- There shall be two (2) OnScene Solutions LED light sticks mounted vertically inside this compartment. Each light stick shall include a 36" section above the subframe and an 18" section below the subframe. There shall be 30 LEDs per 18" light and 60 LEDs per 36" light. The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty,

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

STREETSIDE COMPARTMENT - REAR (S3)

The interior useable compartment width shall be approximately 35.0" wide.

The approximate compartment door opening shall be 28.0" wide (with roll-up style doors).

This compartment shall have a Robinson Roll-up door with an exterior satin aluminum finish.

There shall be NO keyed locks on the roll-up compartment doors.

This compartment shall have the following items:

- There shall be vertically mounted Uni-Strut for shelving installation.
- There shall be three (3) adjustable shelf/shelves approximately 19" deep located on right side of vertical partition
- There shall be one (1) slide-out smooth aluminum vertical tool board located in center of space on left side of vertical partition
- There shall be one (1) full height vertical compartment partition located approximately 10" from rearward (right side) of compartment wall.
- There shall be one (1) OnScene Solutions LED light stick mounted vertically inside this compartment. Each light stick shall include a 36" section above the subframe and an 18" section below the subframe. There shall be 30 LEDs per 18" light and 60 LEDs per 36" light. The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty,
- The floor of the compartment above the frame rails shall cover the area directly above the frame rails ONLY (non-extended floor).

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

CURBSIDE COMPARTMENT - FRONT (C1)

The interior useable compartment width shall be approximately 32.0" wide.

The approximate compartment door opening shall be 25.0" wide (with roll-up style doors).

This compartment shall have a Robinson Roll-up door with an exterior satin aluminum finish.

There shall be NO keyed locks on the roll-up compartment doors.

This compartment shall have the following items:

- There shall be vertically mounted Uni-Strut for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 46" deep.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a SlideMaster base approximately 96" deep, capable of extending out either side of the body located above the level of the chassis frame rails.

One (1) adjustable shelf, approximately 46" deep, to be in upper portion of compartment and make up the other half of a transverse platform to be used to store two (2) FD supplied backboards . Backboards to be accessed on curbside only.

Two (2) horizontally adjustable vertical dividers approximately 6" high and approximately 46" deep to be supplied with the transverse platform. Dividers and mounting hardware to be shipped loose with truck.

Other half of transverse platform noted in compartment streetside 1.

- The 120/240 volt electrical load center.
- There shall be one (1) OnScene Solutions LED light stick mounted vertically inside this compartment. Each light stick shall include a 36" section above the subframe and an 18" section below the subframe. There shall be 30 LEDs per 18" light and 60 LEDs per 36" light. The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty,

underbody curbside CHASSIS BATTERY RE-LOCATION

SVI shall re-locate the spare chassis battery to compartment C1 ILO standard location underbody curbside cab. The battery shall have a cover to be protected as necessary.

- The floor of the compartment above the frame rails shall be extended to the interior edge of the door. The floor shall have a 2" vertical lip and a 1" return to increase strength.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

CURBSIDE COMPARTMENT - ABOVE REAR WHEEL (C2)

The interior useable compartment width shall be approximately 45.0" wide.

The approximate compartment door opening shall be 38.0" wide (with roll-up style doors).

This compartment shall have a Robinson Roll-up door with an exterior satin aluminum finish.

There shall be NO keyed locks on the roll-up compartment doors.

This compartment shall have the following items:

- There shall be vertically mounted Uni-Strut for shelving installation.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a SlideMaster base approximately 96" deep, capable of extending out either side of the body located above the level of the chassis frame rails.
- There shall be one (1) 250 lbs. slide-out and tilt down tray(s) with a SlideMaster base approximately 46" deep and as wide as the compartment layout or door opening permits. It will be located above the level of the chassis frame rails and will be vertically adjustable in height.
- This Slide Master tray shall have a gravity activated twist lock that shall hold the tray in its stored position. The twist lock mechanism shall also lock the tray in its fully extended position.
- One (1) 120 volt electrical cable reel(s).
- There shall be two (2) OnScene Solutions LED light stick mounted vertically inside this compartment. Each light stick shall include a 36" section above the subframe and an 18" section below the subframe. There shall be 30 LEDs per 18" light and 60 LEDs per 36" light. The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty,

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

CURBSIDE COMPARTMENT - REAR (C3)

The interior useable compartment width shall be approximately 35.0" wide.

The approximate compartment door opening shall be 28.0" wide (with roll-up style doors).

This compartment shall have a Robinson Roll-up door with an exterior satin aluminum finish.

There shall be NO keyed locks on the roll-up compartment doors.

This compartment shall have the following items:

- There shall be vertically mounted Uni-Strut for shelving installation.
- There shall be two (2) adjustable shelf/shelves approximately 19" deep located on right side of vertical partition. Shelves to be full width in upper section of compartment.

There shall be one (1) OnScene Solutions LED light stick mounted vertically inside this compartment. Each light stick shall include a 36" section above the subframe and an 18" section below the subframe. There shall be 30 LEDs per 18" light and 60 LEDs per 36" light. The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty,

- The floor of the compartment above the frame rails shall be extended to the interior edge of the door. The floor shall have a 2" vertical lip and a 1" return to increase strength.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

REAR COMPARTMENT - CENTER (R1)

The rear center compartment shall start at the top of the frame and be as high as the body permits.

The interior useable compartment width shall be approximately 45.0" wide.

The approximate compartment door opening shall be 38.0" wide (with roll-up style doors).

This compartment shall have a Robinson Roll-up door with an exterior satin aluminum finish.

There shall be NO keyed locks on the roll-up compartment doors.

This compartment shall have the following items:

- There shall be vertically mounted Uni-Strut for shelving installation.
- There shall be one (1) permanent shelf located on back wall of compartment for HRT power unit.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a SlideMaster base approximately 36" deep and as wide at the compartment door opening permits located above the chassis frame rails.
- This Slide Master tray shall have a gravity activated twist lock that shall hold the tray in its stored position. The twist lock mechanism shall also lock the tray in its fully extended position.
- There shall be two (2) slide-out smooth aluminum vertical tool boards mounted, one (1) each side of door opening.
- One (1) hydraulic power unit(s).
- Two (2) hydraulic hose reel(s).
- Mounting provisions for one (1) hydraulic ram.

Dimensions: 31.25"L x 17.5"W x 4.5"H

- Mounting provisions for one (1) hydraulic cutter(s).

Dimensions: 32.5"L x 8.75"W x 7.63"H

- Mounting provisions for one (1) hydraulic spreader(s).

Dimensions: 39.5"L x 11.38"W x 8"H

There shall be one (1) OnScene Solutions LED light stick mounted vertically inside this compartment. Each light stick shall include a 36" section above the subframe and an 18" section below the subframe. There shall be 30 LEDs per 18" light and 60 LEDs per 36" light. The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty,

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

COMPARTMENT THRESHOLD PROTECTION

Compartment threshold protection plates shall be provided, fabricated from brushed stainless steel. The protection plates shall be installed on the lower door opening sills of the each exterior compartment.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

12 VOLT ELECTRICAL SYSTEM

The apparatus shall be equipped with a heavy duty 12 volt wiring system installed with proper devices for the fire service. The system shall include all components necessary for complete operation. The low voltage electrical system shall meet or exceed current NFPA 1901 Standards and SAE J1292 requirements.

System wiring shall be stranded copper conductors of a gauge rated to carry 125% of the maximum current for which the circuit is protected. All wiring shall be XLPE cross linked type conductors with function identification at least every 3" by color coding and permanent marking with circuit identification. Identification shall correspond with schematics provided with the vehicle. Wiring shall be mounted in high temperature protective loom secured to body with bolted on clips with nylon wire ties. The XLPE wiring shall have an operating temperature range of minus 84 degrees Fahrenheit to plus 302 degrees Fahrenheit. Cross-linking changes thermoplastic polyethylene to a thermosetting material which has greater resistance to environmental stress cracking, cut-through, ozone, solvents and soldering than either low or high density polyethylene.

Where wire passes through sheet metal, grommets shall be used to protect wire and wire looms. Wiring shall be protected against heat, liquid contamination and damage. Electrical connections shall be with double crimp water-tight heat shrink connectors. Wire nut, insulation displacement, or insulation piercing connections shall NOT BE ACCEPTABLE.

All 12 volt wiring running from front to back of apparatus body shall be run in full length electrical wiring raceway down each side of body.

All 12 volt circuits shall be protected with properly rated low voltage over current devices. Such devices shall be readily accessible and protected against overheating, mechanical damage, and water spray. All switches, relays, terminals and connectors shall have a rating of 125% of maximum current for which the circuit is protected.

A complete electrical wiring schematic of actual system shall be provided with finished apparatus. Similar or generic type electrical schematics shall NOT BE ACCEPTABLE.

A low voltage final test certification shall be provided with delivered apparatus.

12 VOLT DIAGNOSTIC RELAY CONTROL CENTER

The 12 volt power distribution shall be conveniently located with easy access for service. All relays and circuit breakers shall be plug-in type allowing for removal for repairs without necessitating soldering or tools. The sockets mounts for both the relays and circuit breakers shall be of a design that permits the use of standard automotive type components. All circuit breakers shall be reset type.

The 12 volt distribution panel shall utilize printed circuit boards mounted in high strength enclosure. Each printed circuit board shall be provided with twelve (12) heavy duty independent switching relays. Each relay shall have the ability to be configured either normally open or normally closed and be protected by a 20 amp automatic reset breaker. Each circuit will be provided with a LED for visual diagnostic.

Power distribution panel shall be located in apparatus body within a protected enclosure with removable or hinged cover.

- The 12 volt electrical distribution panel shall be located in the lower S1 compartment.

WARNING LIGHT CONTROL

The control of 12 volt warning lights on unit shall be done through the specified siren control head.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

ELECTRICAL SYSTEM MANAGER

The apparatus 12 volt electrical system shall be provided with a system manager for:

- Monitoring chassis battery voltage
- Shedding pre-determined electrical circuits
- Sequencing pre-determined electrical circuits
- Automatically controlling chassis engine fast-idle
- Monitor master switch and parking brake applications
- Automatically control warning light modes ("Calling-For" and "Blocking Right of Way")
- Provide low voltage alarm
- Programmable control circuits
- Remote system status indicator panel

System manager shall perform all electrical functions required by current NFPA 1901 Standards.

BATTERY MONITORING

The system manager shall monitor the vehicle battery voltage. When electrical loads exceed the alternator output and the voltage drops, the load manager shall start shutting down electrical outputs. The system shall shut down only as many outputs required to maintain the system voltage. A special indicator to show different states of the electrical system by flashing at rate proportional to the battery discharge.

LOAD SEQUENCING AND SHEDDING

The system shall be capable of sequentially switching and shedding 12 volt loads. The Master light switch starts the sequential switch when it is turned "On". Likewise turning the Master Switch "Off" will sequentially de-energize the loads.

CAB CONSOLE

A center cab console shall be provided and located in the center of the cab, on the floor just ahead of the seat. Console shall be as large as possible and fabricated of 1/8" smooth aluminum. A textured powder coat paint finish shall be provided for durability and finished appearance.

The console shall contain the Ford computer information center. There shall be room available for one (1) siren control head, one (1) traffic advisor control head, and mounting provisions for one (1) TK-790 customer supplied radio head with remote mounted RF unit.

BATTERY SYSTEM

The battery connectors shall be heavy duty type with cables terminating in heat shrink loom. Heavy duty battery cables shall provide maximum power to the electrical system. The cables shall be shielded from exhaust tubing and the muffler. Large rubber grommets shall be provided where cables enter the battery compartment.

BATTERY SWITCH

One (1) battery "On/Off" switch with green "BATTERY ON" indicator shall be installed in cab within easy reach of Driver to activate the battery system.

SVI shall wire the master battery switch to the amber center cab clearance light. The light shall illuminate anytime the master battery switch is activated.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

BATTERY SOLENOID

Battery switch shall consist of a minimum 200 ampere, constant duty solenoid to feed from positive side of battery.

BATTERY CONDITIONER

One (1) Kussmaul model Auto Charge 1000 single battery conditioner, with 120 VAC input and 15 amp, 12 volt output. This system shall monitor the condition of batteries and provide an electrical current at variable rates to overcome battery failure. A display shall be provided with charge indicator, remote mounted.

SHORE POWER PLUG

One (1) Kussmaul 20 amp "Super Auto-Eject" shore power plug shall be furnished and installed. The shore power connection shall automatically disengage from vehicle when chassis ignition is engaged. The shore power plug shall be located on streetside front of body.

- The Auto-eject outlet cover shall be red.

ENGINE COMPARTMENT LIGHT

There shall be one (1) light(s) mounted in the engine compartment with a switch mounted on each light. The engine compartment light(s) shall only operate when the master battery switch is turned "On".

MAP LIGHT

There shall be one (1) 24" goose neck 12 volt map light(s) furnished and installed in the cab. Light shall be located on forward face of SVI console, offset to officer's side.

CAB HAZARD WARNING LIGHT

A red "HAZARD" warning light shall be provided in chassis cab. Light shall illuminate automatically to warn the Driver of the following when the apparatus parking brake is not fully engaged:

- Any passenger or compartment door is open
- Equipment rack is not in stowed position
- Light tower is extended

The light shall be labeled "DO NOT MOVE APPARATUS WHEN LIGHT IS ON".

An audible alarm shall be provided for the door ajar light.

BACK-UP ALARM

Furnish and install one (1) 102 db electronic backup alarm. Backup alarm to actuate automatically when the transmission gear selector is placed in reverse.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

TAIL LIGHTS

Rear body tail lights shall be vertically mounted per Federal Motor Vehicle Safety Standards. The following lights shall be furnished:

- Two (2) Whelen amber LED 600 Series 60A00TAR turn signal lights
- Two (2) Whelen red LED 600 Series 60R00XRR stop/tail lights
- Two (2) Whelen halogen 600 Series 60J000CR back-up lights with clear lens
- Two (2) Whelen warning lights as detailed in the warning light section

Two (2) Whelen CAST-4V, 4-light polished aluminum bezels shall be provided, one (1) each side vertically mounted on the rear of the apparatus body for the above tail lights.

MIDSHIP MARKER/TURN SIGNAL

Two (2) LED midship body turn signal lights shall be installed. There shall be one (1) light on each side of the body, in the wheel well, ahead of the rear axle. Both lights shall have an amber lens and operate with the chassis turn signals.

MARKER LIGHTS

The apparatus body shall be equipped with all necessary clearance lights and reflectors in accordance with Federal Motor Vehicle Safety Standards (FMVSS) regulations. All body clearance lights shall be LED to reduce the need for maintenance and lower the amp draw. Clearance lights shall be wired to the headlight circuit of the chassis.

STEP LIGHTS / GROUND LIGHTS

There shall be five (5) clear lens door/step area scene light(s) provided on the apparatus. Lights shall be placed at each apparatus entry door and step where personnel climb on or descend from apparatus to ground level. All of the ground lights shall be activated when the transmission is placed in "Park". NFPA required ground light switch to be Unitrol electronic siren switch #4.

LICENSE PLATE LIGHT

One (1) Arrow #437 chrome plated license plate light shall be installed on the rear of the apparatus body. License plate light shall be wired to the headlight circuit of chassis. Nutsert inserts shall be provided for license plate installation.

12 VOLT ACCESSORIES CONNECTION

There shall be one (1) 12 volt terminal strip(s) provide in center console for use by Fire Department for use with installation of mobile radio.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

ELECTRONIC SIREN

One (1) Unitrol Touch Master UTM4-1 electronic siren with standard microphone shall be provided in the cab. The siren shall operate independently of the rocker switches. Siren shall be wired as follows:

- Position 0 - Off.
- Position 1 - Arrow Stick and four (4) lower zone emergency lights
- Position 2 - All emergency lights and steady burning CA DOT light (excluding lightbar, wig/wag, and siren)
- Position 3 - All emergency lights, lightbar, wig/wag, and siren

Accessory Switches as follows:

- First switch Streetside scene lights
- Second switch Rear scene lights
- Third switch Curbside scene lights
- Fourth switch Step/ground lights

The siren shall be wired to the radio auxiliary speaker for the outside radio speaker in the "radio" mode.

A Unitrol noise canceling type microphone shall be provided for the PA system.

SIREN SPEAKER

One (1) Cast Products Inc. model SH500-4 100 watt siren speaker shall be mounted under the chassis bumper on the streetside.

SIDE SCENE LIGHTS

Four (4) Whelen 810 series (8" x 6") Opti-Scene lights with 8-32 lens and chrome flange shall be provided, two (2) each side of upper body.

Two (2) switches shall be provided, one (1) for the streetside scene lights, and one (1) for the curbside scene lights.

REAR SCENE LIGHTS

Two (2) Whelen 810 series (8" x 6") Opti-Scene lights with 8-32 degree lens and chrome flange shall be provided on upper rear body.

One (1) switch shall be provided for rear scene lights.

The rear scene lights shall also be activated when the apparatus is in reverse.

TRAFFIC DIRECTIONAL LIGHT

One (1) Whelen TA-850, 45" eight (8) LED light, traffic directional warning device with 30' control cable shall be located on upper rear body. The control head shall be located in the cab within easy reach of Driver.

The traffic directional light shall be surface mounted on upper rear body, centered horizontally and centered vertically between rear upper warning lights.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

WARNING LIGHT PACKAGE

The following lighting package includes all of the minimum warning light requirements to comply with the most recent NFPA 1901 Fire Apparatus Standard.

UPPER WARNING LIGHT SYSTEM

ZONE A - FRONT WARNING LIGHT

There shall be one (1) Whelen Edge FN60QLED LED 60" lightbar permanently mounted to the cab roof.

The lightbar configuration (streetside to curbside) shall be:

| <u>SECTION</u> | <u>INTERNAL COMPONENTS</u> | <u>LENS COLOR</u> |
|----------------|--|-------------------|
| Section 1: | - One (1) Red Linear LED - Side Facing - One (1) Red Corner LED | Clear |
| Section 2: | Red Linear LED | Clear |
| Section 3: | Blank | Clear |
| Section 4: | Clear Linear LED | Clear |
| Section 5: | Blank | Clear |
| Section 6: | Blank | Clear |
| Section 7: | Clear Linear LED | Clear |
| Section 8: | Blank | Clear |
| Section 9: | Red Linear LED | Clear |
| Section 10: | - One (1) Red Linear LED - Side Facing - One (1) Red Corner LED | Clear |

The lightbar shall be separately switched at the 12 volt control panel.

All clear lights shall shut down when the parking brake is set to comply with "Blocking" mode requirements as outlined in NFPA 1901.

There shall be no rear facing lights in lightbar.

The lightbar shall be supplied with one (1) steady red halogen light to comply with California DOT requirements.

ZONES B AND D - SIDE WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") surface mount LED lights provided, one (1) on each side of the apparatus in the upper rearward corners. Each light shall have a red lens and chrome finished flange.

The lights shall be switched at 12 volt control panel in cab.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

ZONE C - REAR WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") LED lights provided on the rear of the body, one (1) each side in the upper corners. Each light shall have a red lens and chrome finished flange.

There shall be two (2) Whelen 700 series (7" x 3") Linear LED lights provided on the rear of the body, one (1) each side adjacent to the 900 series lights described above. Each light shall have a red lens and chrome finished flange.

The lights shall be switched at 12 volt control panel in cab.

LOWER LEVEL WARNING LIGHTS

ZONE A - FRONT WARNING LIGHTS

There shall be two (2) Whelen 400 series (4" x 3") Linear Super-LED lights (40R02ZRR) provided, one (1) each side. Each light shall have a red lens and chrome finished flange. The lights shall be switched at 12 volt control panel in cab.

There shall be two (2) Whelen 600 series (6" x 4") LED lights provided on the front face of the apparatus, one (1) each side near the corners. Each light shall have a red lens and chrome finished flange.

The lights shall be switched at 12 volt control panel in cab.

ZONES B AND D - SIDE WARNING LIGHTS

There shall be four (4) Whelen model 700 (7" x 3") LED lights provided, two on each side, located near the corners of the apparatus. Each light shall have a red lens and a chrome finished flange.

The lights shall be switched at the 12 volt control panel in the cab.

ZONE C - REAR WARNING LIGHTS

There shall be two (2) Whelen 600 series (6" x 4") LED lights provided on the rear face of the apparatus, one (1) each side near the corners. Each light shall have a red lens and chrome finished flange.

The lights shall be switched at 12 volt control panel in cab.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

LINE VOLTAGE SYSTEM

GENERATOR SYSTEM

The apparatus shall be equipped with an AuraGen 8,500 watt (continuous), 120/240 volt single phase, 70/35 amp, 60 Hertz under hood electrical generator. The generator shall be belt driven from the front of the engine and shall be capable of operating from engine idle to maximum engine RPM without affecting generator operation.

The overall generator size shall be approximately 12.2" in diameter by 6.4" long. It shall be mounted under the hood in the engine compartment with vehicle and engine specific mounting brackets.

The Electronic Control Unit (ECU) shall be mounted in a weather proof location, preferably in unusable space of body compartment, but still have access for programming.

The generator control switch shall be mounted in the cab area near the Driver's seat for turning the generator system on and off.

The generator system, when engaged, shall operate normally whether the vehicle is stationary or being driven. The generator system shall NOT produce any noise greater than the engine produces during normal operation.

The unit shall produce AC current that is plus or minus 0.1 Hertz total frequency deviation, and has less than 3% total harmonic distortion.

The generator system shall NOT require any scheduled maintenance. The AuraGen generator shall carry a full three (3) year warranty from the date of installation.

On a Ford F550 with 6.0L diesel engine the secondary battery may need to be relocated to a front body compartment location.

Portable gasoline, or diesel generators, or hydraulic driven generators will NOT be an acceptable alternative to the AuraGen generator system. NO Exceptions.

MANUALS AND SCHEMATICS

Two (2) complete manuals on parts list, maintenance, wiring schematics, hydraulic schematics, circuit boards, voltage regulator board and other components shall be provided on delivery.

GENERATOR MONITORING PANEL

To properly monitor the generator performance and load demand during operation, the generator installation shall be equipped with a full instrument monitor panel.

This unit shall be manufactured by FRC model FROG-D and mounted next to the circuit breaker panel. This generator output display shall be LCD readouts for the following:

- Voltmeter
- Ammeter (per line)
- Hourmeter (accumulated run time)
- Frequency meter

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

GENERATOR GROUNDING

The generator system shall be provided with a Hannay spring rewind grounding reel with 20' of stranded copper ground cable and heavy duty welding clamp.

One (1) end to be permanently attached to apparatus frame, forming a low resistance ground to the generator and all 120 volt circuits.

Ground rod shall be 3' long with an integrated weight hammer to drive the rod into the ground. Ground rod shall be stored in a compartment.

OUTLETS AND CIRCUITS

The generator shall supply the electrical equipment and outlets outlined below. Proper circuit protection shall be installed as noted:

- Two (2) 120 volt exterior outlets, one (1) each side near rear wheel well area.

The outlet(s) will be 120 volt, 20 amp twist lock style, NEMA L5-20R. Outlet(s) shall be protected by a 20 amp circuit breaker.

- Two (2) 120 volt exterior outlets, one (1) each side rear of body, located under each tripod light.

The outlet(s) will be 120 volt, 20 amp twist lock style, NEMA L5-20R. Outlet(s) shall be protected by a 20 amp circuit breaker.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

ELECTRIC CABLE REEL

The apparatus shall be equipped with one (1) electric cable reel(s) in exterior compartments as noted under each compartment description section.

Each cable reel shall be a Hannay ECR1616-17-18 with electric rewind, equipped with fully enclosed 45 amp, three (3) conductor collector rings.

The 12 volt reel rewind system shall be directly wired to the chassis battery system with heavy duty stranded copper wire, with guarded finger type rewind button located within easy reach of the Operator.

The wiring from the generator system shall be through Carflex electrical weatherproof conduit, with stranded copper wiring. The wiring shall terminate in a sealed conduit box at the reel with mechanical type connectors for quick removal of wiring.

- One (1) 120 volt circuit for each 120 volt electric cable reel 30 amp circuit breaker protection for each circuit.

The reel shall be equipped with 150' of 10/3 SOWY black cable with a single heavy duty L5-30 twist-lock female plug at the end.

Each reel shall have a 4-way roller assembly to permit cable to feed directly off the reel and away from compartment. Roller assemblies shall have stainless steel roller with Delrin bearing inserts and die cast corner mounting blocks.

Cable shall have a molded plastic ball clamp to stop hose at 4-way roller.

ELECTRICAL JUNCTION BOX

There shall be one (1) Extenda-Lite junction box(s) with snap shut outlet covers and backlit face plate. The junction box shall be equipped with a 1' pig tail with a twist lock male plug for connecting to the cable reel.

A bracket shall be installed on the compartment wall to store the junction box when it is not being used.

The electrical junction box shall have a cast aluminum finish.

The outlet(s) will be 120 volt, 20 amp twist lock style, NEMA L5-20R. Outlet(s) shall be protected by a 20 amp circuit breaker.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

120/240 VOLT WIRING SYSTEM

The complete wiring and electrical installation shall conform to present National Electrical Code and the National Fire Protection Association standards.

The wiring, electrical fixtures and components shall be to the highest industry quality standards available on the market. The equipment shall be the type as designed for mobile type installations subject to vibration, moisture, and severe continuous usage. The following electrical components and wire shall be the minimum acceptable standard for this type of apparatus.

Wiring: All electrical wiring shall be fine stranded copper type THHN. The wire shall be sized to load and circuit breaker rating. Wiring shall be color coded and printed with function every 3" for easy identification.

Conduit: All 120/240 volt wiring in the apparatus body shall be through flexible moisture resistant reinforced conduit, with proper seal tight connectors and hardware.

Labeling of Equipment: All circuit breakers shall be labeled to indicate purpose. Metal engraved or plastic coded labels shall be provided for all exterior and interior outlets indicating output amperage.

Schematic: An "As-Built" electrical wiring diagram schematic will be supplied with the completed apparatus.

120 / 240 VOLT SCENE LIGHTING

REAR TRI-POD TELESCOPIC FLOODLIGHT

Two (2) Fire Research Focus 500 watt 120 volt quartz tri-pod floodlight(s) shall be installed on the rear of the apparatus body. Each light shall have a twist lock plug and shall have a matching twist lock outlet near the mounting location of the light.

Each telescoping floodlight shall have a hand operated locking device to secure the floodlight at any level and to revolve to any 360 degree position. Each floodlight shall be protected with circuit breakers rated at the proper amperage and wire size.

Make: Fire Research
Model: Focus
P/N: FC642-S50

There shall be one (1) on/off switch located on the light(s).

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

COMMAND LIGHT - KNIGHT TOWER

The apparatus shall be equipped with one (1) all-electric floodlight tower(s). The unit shall not require tapping into vehicle braking system to be operated, eliminating the chance for vehicle brake problems. Hydraulic or pneumatic type floodlights are not acceptable alternatives to the all-electric light tower specified. NO EXCEPTIONS.

The light tower shall have six (6) weatherproof, 500 watt, 120 volt quartz halogen lights. Light heads shall be mounted in three (3) pairs, giving two (2) vertical lines of three (3) when the lights are in the upright position. The light tower shall have slip-rings for a full 360 degree rotation and capable of rotating either direction from a stowed position, NO EXCEPTIONS. The bottom bank shall be capable of rotating to face the opposite direction for backlighting capabilities.

The light tower shall be capable of overhanging the side or back of the vehicle (depending on mounting location) to provide maximum illumination and a warming area adjacent to the vehicle, NO EXCEPTIONS. Positioning of the light bank shall be accomplished with maintenance free, heavy duty 12 volt linear actuators.

The light tower shall be all aluminum construction, with stainless steel shafts and bronze bushings for long life and low maintenance.

Light tower shall be controlled with a hand-held umbilical line remote control. The storage station for the remote control unit shall be equipped with a button to activate the "Auto-Park" automatic nesting feature.

Command Light controls shall include:

- Three (3) switches, one (1) for each light bank.
- One (1) light bank rotation switch.
- One (1) switch for elevating lower stage.
- One (1) switch for elevating upper stage.
- One (1) light to indicate when light bank is out of roof nest position.
- One (1) light to indicate when light bank is rotated to proper nest position.
- One (1) "On/Off" switch for the top mounted strobe (optional)

The controls shall be located per the itemized compartment list.

The light tower shall have a full extension over 7' from mounted position and extend from nest position to full upright in 15 seconds. The overall size of nested light tower shall be approximately 23" wide x 47" long x 11 3/4" high, and weight approximately 120 lbs.

A flashing warning light shall be provided in cab, indicating when a light tower is not in nested position as required by NFPA 1901. The operational envelope of the mast shall be automatically illuminated whenever the mast assembly is being raised, lowered, or rotated as required by NFPA 1901.

The Command Light shall be covered by a one (1) year limited warranty from defects in materials and workmanship. An operation, maintenance, and parts manual shall be provided with the delivered apparatus.

The floodlight tower shall have a strobe indicator located on the top of the upper section.

The lens color for the strobe light shall be green.

The specified light tower(s) shall be recessed into the roof of the apparatus body so that no part of the light tower extends above the roof line. The recessed area shall have two (2) water drain holes (in opposite corners) with flexible 1" diameter hose routed to the area below the body.

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

HYDRAULIC RESCUE SYSTEM

The following hydraulic equipment shall be furnished and installed as described:

HYDRAULIC POWER UNIT

A Holmatro model DPU 60 E, 2 HP, 240 VAC electric hydraulic power unit shall be provided and installed in compartment as noted under the individual compartment description section.

The power unit shall be capable of simultaneous rescue tool operation of two (2) individual tools. It shall be mounted in compartment, but easily removable from the apparatus for maintenance purposes. Power unit shall be approx. 17" wide x 24" high x 21" deep and weight 120 lbs.

A 240 VAC twist lock receptacle with proper amperage rating shall be located in compartment where the power unit is to be stored. A switch shall be provided on wall within easy reach of operator for turning the power unit ON/OFF.

One (1) 240 volt twist lock outlet(s) located inside exterior body compartments as listed in the itemized compartment descriptions.

The outlet(s) will be 240 volt, 30 amp twist lock style, NEMA L6-30R. Outlet(s) shall be protected by a 30 amp circuit breaker.

HYDRAULIC HOSE REEL

The apparatus shall be equipped with two (2) hydraulic hose reel(s) in the exterior compartments as noted under the individual compartment description section.

Hydraulic hose reel shall be Hannay E2014-17-18 high pressure, electric rewind, dual hydraulic hose reel with a capacity of 100' of dual hose.

The 12 volt electrical rewind circuit shall be directly wired to the chassis battery system with heavy duty stranded copper cable. The rewind button shall be located adjacent to the hose reel within easy access of operator.

Each reel shall have a 4-way roller assembly to permit cable to feed directly off the reel and away from compartment. Roller assemblies shall have stainless steel roller with Delrin bearing inserts and die cast corner mounting blocks.

Hose shall have a molded plastic ball clamp to stop hose at 4-way roller.

The specifications for the hose are as follows:

| | |
|----------------------|-------------------------|
| Brand: | Holmatro |
| Length of dual hose: | 100' single length |
| Inside Diameter: | 1/4" |
| Outside Diameter: | 1/2" |
| Burst Pressure: | 10,500 lbs. |
| Fittings: | Quick connect couplings |
| Color: | (1) Orange (1) Blue |

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

POWER UNIT TO REEL PIGTAIL(S)

There shall be two (2) pigtail(s) to connect the reel to the hydraulic rescue tool pump. These lines shall be the supply and return lines for rescue tool operation. Each reel shall be equipped with quick disconnect type fittings for hose removal.

HYDRAULIC RAM MOUNTING

There shall be mounting provisions for one (1) customer supplied hydraulic ram(s).

Make: Holmatro Model: 2005U

HYDRAULIC CUTTER MOUNTING

There shall be mounting provisions for one (1) customer supplied hydraulic cutter(s).

Make: Holmatro Model: 2001U

HYDRAULIC SPREADER MOUNTING

There shall be mounting provisions for one (1) customer supplied hydraulic spreader.

Make: Holmatro Model: 2008U

Bennett Valley Fire Department

SVI Trucks Production Specification CO#5

EQUIPMENT

The following equipment shall be furnished with the completed apparatus:

ASSORTED FASTENERS

One (1) container of assorted stainless steel nuts, bolts, screws and washers used in the construction of the apparatus shall be provided with the completed apparatus.

WHEEL CHOCKS

There shall be two (2) NFPA approved aluminum wheel chocks provided for 32" diameter tires.

Wheel chocks shall be Zico model AC-2.

The wheel chock(s) shall be mounted on the apparatus, in lower, rearward section of compartment S3.