

# SVI Trucks

SVI #705

## **INTERNET IN-PROCESS SITE**

The Bidder shall post and maintain a website where the Chelmsford 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.

## **CONSTRUCTION DOCUMENTATION**

The contractor shall supply, at the time of delivery, at least one copy of the following documents:

1. The manufacturers record of apparatus construction details, including the following information:
  - a. Owners name and address
  - b. Apparatus manufacturer, model, and serial number
  - c. Chassis make, model, and serial number
  - d. GAWR of front and rear axles
  - e. Front tire size and total rated capacity in pounds (kg)
  - f. Rear tire size and total rated capacity in pounds (kg)
  - g. Chassis weight distribution in pounds with water and manufacturer mounted equipment (front and rear)
  - h. Engine make, model, serial number, rated horsepower and related speed, and governed speed
  - i. Type of fuel and fuel tank capacity
  - j. Electrical system voltage and alternator output in amps
  - k. Battery make, model, and capacity in cold cranking amps (CCA)
  - l. Chassis transmission make, model, and serial number; and if so equipped, chassis transmission PTO(s) make, model, and gear ratio
  - m. Pump make, model, rated capacity in gallons per minute (liters per minute where applicable), and serial number
  - n. Pump transmission make, model, serial number, and gear ratio
  - o. Auxiliary pump make, model, rated capacity in gallons per minute (liters per minute where applicable), and serial number
  - p. Water tank certified capacity in gallons or liters
  - q. Paint manufacturer and paint number(s)
  - r. Company name and signature of responsible company representative
2. Certification of slip resistance of all stepping, standing, and walking surfaces
3. If the apparatus has a fire pump, a copy of the following shall be provided: pump manufacturers certification of suction capability, apparatus manufacturers approval for stationary pumping applications, engine manufacturers certified brake horsepower curve showing the maximum governed speed, pump manufacturers certification of the hydrostatic test, and the certification of inspection and test for the fire pump
4. If the apparatus has a fixed line voltage power source, the certification of the test for the fixed power source
5. If the apparatus is equipped with an air system, test results of the air quality, the SCBA fill station, and the air system installation
6. Weight documents from a certified scale showing actual loading on the front axle, rear axle(s), and overall fire apparatus (with the water tank full but without personnel, equipment, and hose)
7. Written load analysis and results of the electrical system performance tests
8. When the apparatus is equipped with a water tank, the certification of water tank capacity

# SVI Trucks

SVI #705

## **OPERATION AND SERVICE DOCUMENTATION**

The contractor shall supply, at time of delivery, at least two sets of complete operation and service documentation covering the completed apparatus as delivered and accepted.

The documentation shall address at least the inspection, service, and operations of the apparatus and all major components thereof.

The contractor shall also provide documentation of the following items for the entire apparatus and each major operating system or major component of the apparatus:

1. Manufacturer's name and address
2. Country of manufacture
3. Source of service and technical information
4. Parts and replacement information
5. Descriptions, specifications, and ratings of the chassis, and pump
6. Wiring diagrams for low voltage and line voltage systems to include the following information: representations of circuit logic for all electrical components and wiring, circuit identification, connector pin identification, zone location of electrical components, safety interlocks, alternator-battery power distribution circuits, and input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems
7. Lubrication charts
8. Operating instructions for the chassis, any major components such as a pump or any auxiliary systems
9. Instructions regarding the frequency and procedure for recommended maintenance
10. Overall apparatus operating instructions
11. Safety considerations
12. Limitations of use
13. Inspection procedures
14. Recommended service procedures
15. Troubleshooting guide
16. Apparatus body, chassis, and other component manufacturer's warranties
17. Special data required by this standard
18. Copies of required manufacturer test data or reports, manufacturer certifications, and independent third-party certifications of test results
19. A material safety data sheet (MSDS) for any fluid that is specified for use on the apparatus

The contractor shall deliver with the apparatus all manufacturer's operations and service documents supplied with components and equipment that are installed or supplied by the contractor.

## **NFPA REQUIRED MANUALS**

The construction, operation, and service documentation shall be provided on a CD-ROM. These manuals shall be written in a "step by step" format for ease of reference. There shall be two (2) copies of the CD provided with the apparatus as standard.

# SVI Trucks

SVI #705

## **BID BOND AND/OR SECURITY**

Each bid must be accompanied by a bid bond in the amount of 10% of the maximum amount of the bid, or in lieu thereof, a deposit of cash or, certified check payable to Chelmsford Fire Department in an amount equal to 10% of the maximum amount of the bid, to assure the Chelmsford Fire Department of the adherence of the Bidder to their bid, and the execution of the contract, if their bid is accepted.

Within ten (10) days after the opening of bids, the deposits of all but the three (3) lowest responsible Bidders who comply with these specifications will be returned.

Within ten (10) days after the award of the contract, if an award is made, the deposits of the remaining two (2) unsuccessful Bidders will be returned, or if all bids are rejected, the deposits of said three (3) lowest Bidders will be returned.

Within ten (10) days after the execution of the contract and acceptance of the Bidder's bond by the Chelmsford Fire Department, the deposit of the successful Bidder will be returned.

No plea of mistake in such accepted bid shall be available to the Bidder for the recovery of their deposit or as a defense to any action based upon such accepted bid.

## SHOP NOTES

Requested 7/2/2008

## **PERFORMANCE BOND**

The successful Bidder will be required to provide a 100% performance bond the amount equivalent to the amount of its bid. Performance bond shall be provided within two (2) weeks after notice of award.

If the Bidder to whom the contract is awarded, refuses or neglects to execute, or fails to furnish the required 100% performance bond within two (2) weeks after notice, the amount of his deposit may be forfeited and retained by the Chelmsford Fire Department as liquidated damages.

The terms of performance bond shall continue one (1) year after completion and delivery of the apparatus.

## **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 Chelmsford Fire Department on all warranty work.

The warranty shall commence upon acceptance of the vehicle.

# SVI Trucks

SVI #705

## **GENERAL WARRANTY - ONE (1) YEAR**

The entire body and all Manufacturer installed components 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 Chelmsford 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 Chelmsford 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 Chelmsford 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.

## **OVERALL HEIGHT**

The overall height of the vehicle shall be approximately 117" from the ground. This measurement shall be taken with the tires properly inflated with the apparatus in the unloaded condition. The actual measurement shall be taken that highest point of the apparatus.

# SVI Trucks

SVI #705

## **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.

# SVI Trucks

SVI #705

## **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.
- Each component load specified in NFPA 1901, 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 - BY UNDERWRITERS LABORATORIES**

The apparatus 120/240 volt electrical system shall be tested and certified Underwriters Laboratories. The certification shall be delivered to the customer with the apparatus.

The test shall be performed with the air temperature between 0 degrees F 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 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 Bidder 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 Chelmsford Fire Department. The cost of transportation, food, and lodging shall be borne by the Bidder.

If the Chelmsford 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.

The Chelmsford Fire Department reserves the right to approve/disapprove travel itinerary regarding flight departure and return airport location and flight schedule.

# SVI Trucks

SVI #705

## **DELIVERY AND DEMONSTRATION**

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

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

After delivery of the apparatus, the Chelmsford 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*.

# SVI Trucks


SVI #705

## CHASSIS SPECIFICATION

### Model Profile 2009 4300 SBA LP 4X2 (MH025)

**APPLICATION:** Rescue

**MISSION:** Requested GVWR: 29000. Calc. GVWR: 28000 Calc. Start / Grade Ability: 24.20% / 2.87% @ 55 MPH  
Calc. Geared Speed: 80.3 MPH


**DIMENSION:** Wheelbase: 187.00, CA: 119.90, Axle to Frame: 75.00 

**ENGINE, DIESEL:** {International MaxxForce DT} 255 HP, 660 lb-ft Torque @ 1400 RPM, 2600 RPM Governed Speed, # 2 Bell Housing

**TRANSMISSION, AUTOMATIC:** {ALLISON 2500\_EVS\_P} 4th Generation Controls; Wide Ratio, 5-Speed, With Overdrive; With PTO Provision, Less Retarder, With 33,000-lb GVW & GCW Max.

**AXLE, FRONT NON-DRIVING:** {International I-100S} I-Beam Type, 9,000-lb Capacity

**AXLE, REAR, SINGLE:** {Dana Spicer 19060S} Single Reduction, 19,000-lb Capacity, Hypoid Gearing With 190 Wheel Ends Gear Ratio: 4.33

**CAB:** Conventional 

**TIRE, FRONT:** (2) 265/70R19.5 UNISTEEL G159 (GOODYEAR) 606 rev/mile, load range G, 14 ply

**TIRE, REAR:** (4) 265/70R19.5 UNISTEEL G124 M+S (GOODYEAR) 606 rev/mile, load range G, 14 ply

**SUSPENSION, RR, SPRING, SINGLE:** Vari-Rate; 20,000-lb Capacity

**PAINT:** Cab Schematic 100GA Location 1: 2353, Red Safeway (Prem) Chassis Schematic N/A

**FRAME RAILS** High Strength Low Alloy Steel (80,000 PSI Yield); 9.125" x 3.062" x 0.312" (231.8mm x 77.8mm 253 x 8.0mm) With Transition to 6.500" x 3.062" x 0.312" (165.1mm x 77.8mm x 8.0mm) 388.4" (9864mm) Maximum OAL; For LP Chassis

**BUMPER, FRONT** Full Width, Aerodynamic, Steel; 0.142" Material Thickness

Includes :

BUMPER, FRONT Powder Coated Gray (Argent) Color WHEELBASE RANGE 134" (340cm) Through and Including 197" (500cm)

**AXLE, FRONT NON-DRIVING** {International I-100S} I-Beam Type, 9,000-lb Capacity

**SUSPENSION, FRONT, SPRING** Parabolic, Taper Leaf; 9,000-lb Capacity; With Shock Absorbers

Includes

: SPRING PINS Rubber Bushings, Maintenance-Free



# SVI Trucks

SVI #705

## **BRAKE SYSTEM**, AIR Dual System for Straight Truck Applications

### Includes

- : AIR COMPRESSOR AIR SUPPLY LINE International Engines, Naturally-Aspirated
- : BRAKE CHAMBERS, SPRING (2) Rear Parking
- : BRAKE LINES Color Coded Nylon : DRAIN VALVE Twist-Type
- : DUST SHIELDS, FRONT BRAKE
- : DUST SHIELDS, REAR BRAKE
- : GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument Cluster
- : PARKING BRAKE VALVE Color-Coded Yellow Knob, Located on Instrument Panel
- : SLACK ADJUSTERS, FRONT Automatic
- : SLACK ADJUSTERS, REAR Automatic
- : SPRING BRAKE MODULATOR VALVE

**AIR BRAKE ABS** {Bendix AntiLock Brake System} Full Vehicle Wheel Control System (4-Channel)

**AIR DRYER** {Meritor-Wabco System Saver 1200} Mounted in Standard Location

**BRAKES, FRONT**, AIR CAM S-Cam; 15.0" x 4.0"; Includes 20 Sq. In. MGM Long Stroke Brake Chambers

**BRAKES, REAR**, AIR CAM 15.0" x 8.63", Includes MGM TR2430 Long Stroke Brake Chambers and Heavy Duty Spring Actuated Parking Brake

**AIR COMPRESSOR** {Bendix Tu-Flo 550} 13.2 CFM Capacity

**STEERING COLUMN** Tilting

**STEERING WHEEL** 2-Spoke, 18" Diam., Black

**STEERING GEAR** {Sheppard M-100} Power

**EXHAUST SYSTEM** Single, Horizontal, Aftertreatment Device, Frame Mounted Right Side Back of Cab, Includes Horizontal Tail Pipe

**EXHAUST BRAKE, DLOGIC** {Diamond Logic} for MaxxFoerce DT Engines; Exhaust Brake, Electronically Activated

**SWITCH, FOR EXHAUST** 2 Position, Lighted & Latching, ON/OFF Type, Mounted in IP, Inhibits Diesel Particulate Filter Regeneration as Long as Switch is in ON Position

# SVI Trucks

SVI #705

## **ELECTRICAL SYSTEM** 12-Volt, Standard Equipment

### Includes

- : BATTERY BOX Steel; Mounted Left Side, Under Cab
- : DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab
- : FUSES, ELECTRICAL SAE Blade-Type
- : HAZARD SWITCH Push On/Push Off, Located on Top of Steering Column Cover
- : HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever
- : HORN, ELECTRIC Single
- : JUMP START STUD Located on Positive Terminal of Outermost Battery
- : PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light
- : RUNNING LIGHT (2) Daytime, Included With Headlights
- : STARTER SWITCH Electric, Key Operated
- : STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector
- : TURN SIGNAL SWITCH Self-Cancelling with Lane Change Feature
- : TURN SIGNALS, FRONT Includes Reflectors and Auxiliary Side Turn Signals, Solid State Flashers; Flush Mounted
- : WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set Delays), Integral with Turn Signal Lever
- : WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted
- : WIRING, CHASSIS Color Coded and Continuously Numbered

## **IGNITION SWITCH** Keyless

**ALTERNATOR** {Leece-Neville 4949PA} Brush Type; 12 Volt 270 Amp. Capacity, Pad Mounted

**BODY BUILDER WIRING** Back of Standard Cab at Left Frame or Under Extended or Crew Cab at Left Frame; Includes Sealed Connectors for Tail/Amber Turn/Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn

**BATTERY SYSTEM** {International} Maintenance-Free, (2) 12-Volt 1850CCA Total

**HORN, AIR** Black, Single Trumpet, Air Solenoid Operated, Mounted Behind Bumper on Right Rail

**WINDSHIELD WIPER SPD CONTROL** Force Wipers to Slowest Intermittent Speed When Park Brake Set and Wipers Left on for a Predetermined Time

**HEADLIGHTS** Halogen; Composite Aero Design for Two Light System; Includes Daytime Running Lights

**TEST EXTERIOR LIGHTS** Pre-Trip Inspection will Cycle all Exterior Lamps Except Back-up Lights

**HEADLIGHTS ON W/WIPERS** Headlights Will Automatically Turn on if Windshield Wipers are turned on

**STARTING MOTOR** {Delco Remy 38MT Type 300} 12 Volt; less Thermal Over-Crank Protection -30/0 -30

**INDICATOR, LOW COOLANT LEVEL** With Audible Alarm

**CIRCUIT BREAKERS** Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5-Amp Fuses

# SVI Trucks

SVI #705

**GRILLE** Chrome

**FRONT END** Tilting, Fiberglass, With Three Piece Construction

**PAINT SCHEMATIC**, PT-1 Single Color, Design 100

Includes : PAINT SCHEMATIC ID LETTERS "GA"

**PAINT TYPE** Base Coat/Clear Coat, 1-2 Tone

**PAINT CLASS** Premium Color.

**KEYS**, - ALL ALIKE, ID Z-001

**BLOCK HEATER, ENGINE** {Phillips} 120 Volt/1250 Watt

Includes

: BLOCK HEATER SOCKET Receptacle Type; Mounted below Drivers Door

**ENGINE, DIESEL** {International MaxxForce DT} 255 HP, 660 lb-ft Torque @ 1400 RPM, 2600 RPM Governed Speed, # 2 Bell Housing

Includes

: COLD STARTING EQUIPMENT Intake Manifold Electric Grid Heater with Engine ECM Control

: CRUISE CONTROL Electronic; Controls Integral to Steering Wheel

: ENGINE OIL DRAIN PLUG Magnetic

: ENGINE SHUTDOWN Electric, Key Operated

: FAN Optimized Position

: FUEL/WATER SEPARATOR and FUEL FILTER in a Single Assembly; With Water-in-Fuel Sensor; Mounted on Engine

: GOVERNOR Road Speed, Electronic

: OIL FILTER, ENGINE Spin-On Type

**FAN DRIVE** {Horton Drivemaster} "Two Speed" Direct Drive, With Residual Torque Device for Disengaged Fan Speed

Includes

: FAN Nylon

**FEDERAL EMISSIONS** for 2004; for International VT365, DT466 and DT570 Engines 0/0 0

**RADIATOR** Aluminum; 2-Row, Cross Flow, Over Under System, 717 SqIn Louvered, With 313 SqIn Charge Air Cooler. With In-Tank Transmission Cooler

Includes

: DEAERATION SYSTEM with Surge Tank

**AIR CLEANER** Single Element

Includes

: GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted

**THROTTLE, HAND CONTROL** Engine Speed Control for PTO; Electronic, Stationary Pre-Set, Two Speed Settings; Mounted on Steering Wheel

CHEMAHR-0005

# SVI Trucks

SVI #705

**ENGINE CONTROL, REMOTE MOUNTED** - No Provision Furnished for Remote Mounted Engine Control

**FEDERAL EMISSIONS 2007** for International MaxxForce DT Engines (DT466)

**EXPANDED ENGINE TEMP EFFECTS** to Allow Higher Engine Operating Temperature Range; Includes Nylon Surge Tank and 15 psi Pressure Cap

**EMISSION COMPLIANCE** Federal, Does Not Comply With California Clean Air Regulations

**OIL COOLER, AUTO TRANSMISSION** Air to Oil Type; for Auto or Auto Shift Transmissions

**TRANSMISSION, AUTOMATIC** {ALLISON 2500\_EVS\_P} 4th Generation Controls; Wide Ratio, 5-Speed, With Overdrive; With PTO Provision, Less Retarder, With 33,000-lb GVW & GCW Max.

Includes

: OIL FILTER, TRANSMISSION Mounted on Transmission

: TRANSMISSION OIL PAN Magnet in Oil Pan

**AXLE, REAR, SINGLE** {Dana Spicer 19060S} Single Reduction, 19,000-lb Capacity, Hypoid Gearing With 190 Wheel Ends

Includes

: REAR AXLE DRAIN PLUG (1) Magnetic, For Single Rear Axle

**SUSPENSION, RR, SPRING, SINGLE** Vari-Rate; 20,000-lb Capacity

**FUEL TANK** Top Draw; D Style, Steel, 50 U.S. Gal., 189 L Capacity, 16" Deep, With Quick Connect Outlet, Mounted Right Side, Under Cab

**CAB** Conventional

Includes

: ARM REST (2) Molded Plastic; One Each Door

: CLEARANCE/MARKER LIGHTS (5) Flush Mounted

: COAT HOOK Located on Rear Wall, Centered Above Rear Window

: DOME LIGHT, CAB Rectangular, Door Activated, Timed Theater Dimming, Center Mounted, Integral to Console

: GLASS, ALL WINDOWS Tinted

: GRAB HANDLE, CAB INTERIOR (1) "A" Pillar Mounted, Passenger Side

: GRAB HANDLE, CAB INTERIOR (2) "B" Pillar Mounted, One Each Side

: STEP (2) One Step Per Door

**GAUGE CLUSTER** English With English Electronic Speedometer

Includes

: GAUGE CLUSTER (5) Engine Oil Pressure (Electronic), Water Temperature (Electronic), Fuel (Electronic), Tachometer (Electronic), Voltmeter

: ODOMETER DISPLAY, Miles, Trip Miles, Engine Hours, Trip Hours, Fault Code Readout

: WARNING SYSTEM Low Fuel, Low Oil Pressure, High Engine Coolant Temp, and Low Battery Voltage (Visual and Audible)

**GAUGE, OIL TEMP**, ALLISON TRAN

# SVI Trucks

SVI #705

**IP CLUSTER DISPLAY** On Board Diagnostics Display of Fault Codes in Gauge Cluster

**SEAT, DRIVER** {National 2000} NFPA Compliant, Air Suspension, High Back With Integral Headrest, Vinyl, Isolated, With 2 Position Front Cushion Adjustment, -3 to +14 Degree Seat Back Adjustment, Single Chamber Air Lumbar Support

Includes

: SEAT BELT 3-Point, Lap and Shoulder Belt Type

**SEAT, PASSENGER** {National 2000} NFPA Compliant, Air Suspension, High Back With Integral Headrest, Vinyl, Isolated, With 2 Position Front Cushion Adjustment, -3 to +14 Degree Seat Back Adjustment, Single Chamber Air Lumbar Support

Includes

: SEAT BELT 3-Point, Lap and Shoulder Belt Type

**GRAB HANDLE** (2) Chrome Towel Bar Type With Anti-Slip Rubber Inserts; for Cab Entry Mounted Left and Right

**MIRRORS** (2) {Lang Mekra} Rectangular, 7.44" x 14.84", Brackets Breakaway Type, With 102" Wide Spacing, With 7.44" sq. Convex Both Sides, With All Heated Heads, Thermostatically Controlled

**SEAT BELT** All Red; 1 to 3

**INSTRUMENT PANEL** Center Section, Flat Panel

**AIR CONDITIONER** {International Blend-Air} With Integral Heater & Defroster

Includes

: HEATER HOSES Premium

: REFRIGERANT Hydrofluorocarbon HFC-134A

CAB INTERIOR TRIM Deluxe

Includes

: "A" PILLAR COVER Molded Plastic

: CAB INTERIOR TRIM PANELS Cloth Covered Molded Plastic, Full Height; All Exposed Interior Sheet Metal is covered Except for the Following: with a Two-Man Passenger Seat the Back Panel is Only Partially Covered and with a Full Bench Seat the

: CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets and Retainer Nets and CB Radio Pocket

: DOOR TRIM PANELS Molded Plastic; Driver and Passenger Doors

: FLOOR COVERING Rubber, Black

: HEADLINER Printed Cloth

: INSTRUMENT PANEL TRIM Molded Plastic with Black Center Section, Hidden Cup Holder and Ash Tray (Pull-Out)

: STORAGE POCKET, DOOR (1) Molded Plastic, Full-Length; Driver Door

: SUN VISOR (2) Padded Vinyl with Driver Side Toll Ticket Strap, Integral to Console

# SVI Trucks

SVI #705

**WHEELS, FRONT DISC;** 19.5" Painted Steel, 5 Hand Hold, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 7.50 DC Rims; With Steel Hubs

Includes

: PAINT IDENTITY, FRONT WHEELS White

: WHEEL SEALS, FRONT Grease Lubricated, Includes Wheel Bearings

**WHEELS, REAR DUAL DISC;** 19.5" Painted Steel, 5 Hand Hole, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 7.50 DC Rims; With Steel Hubs

Includes

: PAINT IDENTITY, REAR WHEELS White

: WHEEL SEALS, REAR Oil Lubricated, Includes Wheel Bearings

**(4) TIRE,REAR** 265/70R19.5 UNISTEEL G124 M+S (GOODYEAR) 606 rev/mile, load range G, 14 ply

**(2) TIRE,FRONT** 265/70R19.5 UNISTEEL G159 (GOODYEAR) 606 rev/mile, load range G, 14 ply

# SVI Trucks

SVI #705

## **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".

### **AIR HORNS**

Two (2) Grover 24" Stuttertone chrome plated air horns shall be mounted, one (1) each side of the cab hood. An emergency air shut off valve shall be provided in cab.

# SVI Trucks

SVI #705

## **AIR HORN ACTIVATION**

The air horn(s) shall be operated by a foot switch on the cab floor located at both the driver and officer positions.

## **EXHAUST**

The existing exhaust tailpipe shall be extended to **BEHIND** the rear axle on the streetside.

## **EXHAUST SYSTEM**

Chassis exhaust shall be set up for Plymoveny system.

## **RE-PAINT CAB - TWO COLORS**

The cab shall be re-painted with Akzo Nobel Inc. - Sikkens "Autocryl" acrylic urethane finish paint for a high gloss, hard finish.

- Upper Color: WHITE
- Upper Paint Number: PPG FBCH 2185 White
- Lower Color: RED
- Lower Paint Number: PPG FBCH 71096 ALT Red

Chassis cab white color runs along edges of engine hood to top corners of the grille.

The portion of the cab/chassis painted by the Body Builder shall be finished with a clear coat of acrylic urethane for paint protection and maximum quality finish.

## **CHASSIS PAINT WARRANTY**

The portion of the chassis painted by the Body Manufacturer shall be provided with a seven (7) year paint warranty to the original Owner. The warranty shall be provided by Akzo Nobel Inc. A "Sikkens Warranty" sheet with all conditions and maintenance procedures shall be provided with the delivered apparatus.

## **PAINT WHEELS JOB COLOR**

Six (6) chassis wheels shall be removed and painted to match the exterior color of the body. The wheels shall be trimmed with silver paint.

## **BATTERY JUMPER STUDS**

Battery jumper studs shall be provided in the driver's step area. The studs allow the vehicle to be jump started in an emergency due to battery failure.

## **MUDFLAPS**

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



# SVI Trucks

SVI #705

## **AIR SHORE LINE**

There shall be one (1) air shore inlet connection to provide air to the chassis air tanks from an external source. The air shore line connection shall have a male Milton type quick connector. The female end of the connector shall be supplied by the Chelmsford Fire Department.

## **AUTOMATIC TIRE CHAINS**

The apparatus chassis shall be provided with "ONSPOT" air operated automatic tire chains at the rear driving axle. Tire chains shall offer the traction of a single set of conventional snow chains at the touch of a button on the dash, without having to stop the vehicle.

## **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.

# SVI Trucks

SVI #705

## **BODY DESIGN**

The importance of public safety associated with emergency vehicles requires 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 Chelmsford 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 Chelmsford Fire Department from such repair and shall NOT be used.

Following construction of the subframe, which supports 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.

# SVI Trucks

SVI #705

## **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 3/16" (.187) 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 have louvers 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 shall be reinforced with 2" x 2" tubing running the full width of the body. All seams in the roof area shall be welded prior to paint to prevent entry of moisture.

# SVI Trucks

SVI #705

## **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 1/4" custom extruded UHMW polyethylene rail cap 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**

The body subframe shall be fastened to the chassis frame with a minimum of six (6) spring loaded body mounts. Each mount shall be configured using a two-piece encapsulated slide bracket. The two (2) brackets shall be fabricated of heavy duty 1/4" thick steel and shall have a powder coat finish to prevent any corrosion. Each mounting assembly shall utilize two (2) 5/8" diameter x 6" long grade 8 bolts and two (2) heavy duty springs. The assembly design shall allow the body and subframe to act as one (1) component, separate from the chassis. As the chassis frame twists under driving conditions, the spring mounting system shall eliminate any stress from being transferred into the body. The spring loaded body mounts shall also prevent frame side rail or body damage caused by unevenly distributed stress and strains due to load and chassis movement.

Body mountings that do not allow relief from chassis movement will not be acceptable.

## **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 minimum of 1/2" space at body for water drainage.

## **REAR TOW EYES**

There shall be two (2) heavy duty rear mounted tow eyes securely attached to the body subframe, below the apparatus body. The tow eyes shall be fabricated from steel plate and shall have a black powder coat finish.

# SVI Trucks

SVI #705

## **TRAILER HITCH INSTALLATION**

A Class III, 7,500 lbs. weight carrying capacity (gross trailer weight) rear hitch receiver shall be provided below the rear bumper. The receiver shall be attached to the apparatus body frame.

The hitch shall be complete with a 2" square receiver. Safety chain attachment and a 7-pin trailer wiring plug receptacle shall be provided at the rear bumper.

### **NOTE: Make trailer plug to be 7 pin flat ILO round**

Without the use of a "weight distribution" ball hitch the Class III receiver shall have a capacity of 5,000 lbs. gross trailer weight.

## **GROUND LIGHTS**

Two (2) OnScene Solutions 9" LED Nightstik ground lights shall be mounted below the rear bumper. The ground lights shall be activated when the parking brake is set. There shall be 15 LEDs per 9" light. The light stick shall be rated at 100,000 hours of service. Each light stick shall be provided with a 5 year free replacement warranty.

## **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 provided with an easily removable polymer, full depth circular inner fender liner. The inner liner shall be bolted to the wheel well with stainless steel bolts and spaced away from the wheel well so the liner will 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 be capable of storing three SCBA bottles (not more than 5-3/4" in diameter). Each compartment shall have a vertically hinged door and a positive catch latch installed on the exterior of the wheel well panel.

# SVI Trucks

SVI #705

## **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 two-tone with Akzo Nobel Inc. - Sikkens "Autocryl" Acrylic Urethane Finish paint for a high gloss, hard finish.

- Upper Color: WHITE
- Upper Paint Number: PPG FBCH 2185 White
- Lower Color: RED
- Lower Paint Number: PPG FBCH 71096 ALT Red

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.

# SVI Trucks

SVI #705

## **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.

## **COMPARTMENT INTERIOR FINISH**

The interior of all exterior body compartments shall be a "Maintenance Free" smooth unpainted finish. All body seams shall be finished with a caulk sealant for both appearance and moisture protection.

# SVI Trucks

SVI #705

## **REFLECTIVE STRIPE**

The stripe shall conform to ASTM 4965, *Standard Specifications for Retroreflective Sheeting for Traffic Control*, Type III, Class 1 or Class 3.

## **REFLECTIVE STRIPE - CAB**

A 4" minimum reflective stripe shall be affixed to the cab.

- The stripe material shall be 3M Scotchlite 680.
- This reflective stripe shall be white in color.

There shall be a 1" Scotchcal reflective stripe located 1" above and a second 1" Scotchcal reflective stripe located 1" below the main stripe.

- This reflective stripe shall be white in color.

## **REFLECTIVE STRIPE - BODY SIDES**

A 4" minimum reflective stripe shall be affixed to the sides of the body.

- The stripe material shall be 3M Scotchlite 680.
- This reflective stripe shall be white in color.

There shall be a 1" Scotchcal reflective stripe located 1" above and a second 1" Scotchcal reflective stripe located 1" below the main stripe.

- This reflective stripe shall be white in color.

The stripe shall extend from the chassis to the body where it will angle up and then extend straight back to the rear of the body.

## **REFLECTIVE STRIPE - REAR OF BODY**

A 4" minimum reflective stripe shall be affixed to the rear face of the body.

- The stripe material shall be 3M Scotchlite 680.
- This reflective stripe shall be white in color.

There shall be a 1" Scotchcal reflective stripe located 1" above and a second 1" Scotchcal reflective stripe located 1" below the main stripe.

- This reflective stripe shall be white in color.

## **LETTERING**

No lettering shall be provided on the completed unit.



# SVI Trucks

SVI #705

## **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 machine cut for each seam of the roll-up doors.

# SVI Trucks

SVI #705

## **BODY HEIGHT MEASUREMENTS**

The vertical body dimensions shall be as follows:

### **AHEAD OF REAR AXLE**

	<b><u>Description</u></b>	<b><u>Dimension</u></b>
A	Bottom of Subframe to Top of Body	74.0"
B	Bottom of Subframe to Bottom of Body	25.0"
C	Vertical Door Opening	
	-with roll-up door	67.5"
	-with hinged door	71.5"

### **ABOVE REAR AXLE**

	<b><u>Description</u></b>	<b><u>Dimension</u></b>
D	Vertical Door Opening - Above Rear Wheel	
	-with roll-up door	34.0"
	-with hinged door	37.0"

### **BEHIND REAR AXLE**

	<b><u>Description</u></b>	<b><u>Dimension</u></b>
E	Bottom of Subframe to Bottom of Body	20.0"
F	Vertical Door Opening	
	-with roll-up door	62.0"
	-with hinged door	66.0"

### **GENERAL**

	<b><u>Description</u></b>	<b><u>Dimension</u></b>
G	Bottom of Drip Rail to Top of Body	23.5"

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

# SVI Trucks

SVI #705

## **UPPER BODY COMPARTMENTS**

There shall be four (4) compartments parallel to the sides of the body, two (2) on each side. Each of these compartments shall be 66.0" wide x 26.0" long x 18.5" deep. The side compartments shall be open under each door sill to allow for long equipment.

Each compartment shall have a lift-up type compartment door hinged on the outboard side. Each door shall be fabricated from 3/16" aluminum treadplate with a pair of pneumatic type cylinders mounted to hold the door in both the opened and closed positions. Each door shall be mounted using a full length 14 gauge stainless steel hinge, with 1/4" stainless steel pin. Each door shall have two (2) pneumatic spring devices, one (1) at each end, attached to cast aluminum brackets mounted to the interior surface of the door. The gravity-driven, sealed, ball-style switch shall be mounted to one of the cast aluminum mounting brackets to drive the door open indicator system and active the interior compartment light. A polyester barrier film gasket shall be placed between stainless steel hinge and any dissimilar metals as necessary to prevent corrosion.

Each compartment door shall overlap a 2" vertical lip on the body roof to prevent entry of moisture and sealed with automotive type rubber molding to provide a weather resistant seal.

Each compartment shall have a horizontally mounted LED light stick on the underside of the door that will be automatically activated when the door is opened and wired to the compartment door ajar warning light provided in cab.

## **SIDE ROOF COMPARTMENT - SHELF TRAC**

There shall be four (4) roof compartment(s) provided with horizontally mounted Shelf Trac on front and rear walls for vertical partition installation.

## **UPPER BODY WALKWAY**

A recessed walkway shall be provided recessed at the center of the roof area. The walkway shall be finished with NFPA compliant 3/16" aluminum tread plate with continuously welded seams to prevent moisture penetration into apparatus body. Drains shall be installed in the walkway to allow moisture to drain to the ground through flexible drain hose.

There shall be a minimum of two (2) OnScene Solutions 9" LED Nightstik lights provided to illuminate the upper body walkway area. Each light shall be mounted in a cast housing to protect against damage from personnel or equipment. The lights shall be activated when the parking brake is set.

## **ROOF ACCESS LADDER**

The ladder shall be weld constructed of vertical aluminum extrusion tubing and aluminum grip surface ladder rungs with slip resistant tread grip pattern. It shall be set off from body 8 inches and mounted to body with chrome plated end stanchions bolted to the body with stainless steel bolts. The ladder shall NOT extend above the body roof. The location shall be on the rear curbside of the apparatus body.

## **ROOF ACCESS HANDRAIL**

There shall be one (1) handrail mounted on top of body to assist in roof access. Handrails shall be NFPA compliant 1-1/4" extruded aluminum tubing with chrome plated end stanchions.

**Move location of the hand rail on the upper body to inside the walkway – mount vertical**

# SVI Trucks

SVI #705

## **BODY WIDTH DIMENSIONS**

The body shall be 100.0" wide, not including drip rail or non-permanent fixtures. Interior compartment depth dimensions shall be:

<b><u>Area Description</u></b>	<b><u>Dimension</u></b>
Transverse Area:	95.5"
- Above Top of Subframe	
Compartment Depth:	24.5"
- Below Top of Subframe	
- Ahead of Rear Axle	
Compartment Depth:	23.5"
- Below Top of Subframe	(Eng. Note)
- Behind the Rear Axle	

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

# SVI Trucks

SVI #705

## STREETSIDE COMPARTMENT - FRONT (S1)

The interior useable compartment width shall be approximately 41.0" wide.



The compartment door opening shall be approximately 34.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

## COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with an OnScene Solutions 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.
- There shall be one (1) transverse module(s) for the following long tools and equipment:
  - The list of items to be stored in the transverse module shall be determined at the pre-construction meeting. 
  - One (1) Chelmsford Fire Department supplied backboard(s). Manufacturer, model number and dimensions of the backboard(s) shall be provided during the pre-construction meeting.
  - One (1) Chelmsford Fire Department supplied ladder(s). Manufacturer, model number and dimensions of the ladder(s) shall be provided during the pre-construction meeting.
  - There shall be two (2) OnScene Solutions cargo straps provided to secure the stored equipment. 
- A fire extinguisher storage rack shall be provided fabricated from aluminum capable of holding three (3) Chelmsford Fire Department supplied fire extinguishers. Final design and layout shall be determined at pre-construction conference.
- 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.
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.
- The 12 volt electrical distribution panel shall be located in the streetside front lower compartment.

# SVI Trucks

SVI #705

## **STREETSIDE COMPARTMENT - AHEAD OF REAR WHEEL (S2)**

The interior useable compartment width shall be approximately 41.0" wide.

The compartment door opening shall be approximately 34.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

### COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 46" deep.
- There shall be one (1) 400 lbs. slide-out tray(s) approximately 24" deep and as wide as the compartment layout or door opening permits.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with an OnScene Solutions base approximately 60" deep and as wide as the compartment layout or door opening permits located above the level of the chassis frame rails.
- 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.

# SVI Trucks

## SVI #705

- One (1) Hannay ECR1618-17-18 cable reel(s) capable of storing 200' of 10/3 electric cable. The rewind switch for each reel shall be located adjacent to the reel it controls.
  - The cable reel shall be equipped with 200' of 10/3 SEOW black cable, a molded plastic ball clamp, and a single heavy duty L5-30 twist-lock female plug at the end.
  - One (1) Akron model EJB electrical junction box with yellow powder coat finish. The junction box shall include:
    - A 12" pigtail that terminates in an L5-30 configuration to match the cable on the cord reel. The outlet configuration shall include:
      - One (1) L5-15 single twist lock receptacle
      - One (1) L5-15 single twist lock receptacle
      - One (1) L5-15 single twist lock receptacle
      - One (1) 5-20 duplex straight-blade receptacle
  - One (1) EJB vertical apparatus mounting bracket - treadplate
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

# SVI Trucks

SVI #705

## **STREETSIDE COMPARTMENT - ABOVE REAR WHEEL (S3)**

The interior useable compartment width shall be approximately 59.0" wide.

The compartment door opening shall be approximately 52.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

### COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 46" deep.
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.
- Air storage module consisting of six (6) 6,000 psi, DOT air storage cylinders. Cylinders and valves shall be customer supplied.

### SHOP NOTES

Cylinders and valves to be customer supplied.



# SVI Trucks

SVI #705

## STREETSIDE COMPARTMENT - REAR (S4)

The interior useable compartment width shall be approximately 49.0" wide.

The compartment door opening shall be approximately 42.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

### COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 24" deep.
- There shall be one (1) 400 lbs. slide-out tray(s) approximately 24" deep and as wide as the compartment layout or door opening permits.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with an OnScene Solutions base approximately 30" deep and as wide as the compartment layout or door opening permits located above the level of the chassis frame rails. It shall be vertically adjustable in height.
- There shall be two (2) removable UPF brand plastic tool box(s) with handholes for carrying.

Hose storage module for customer provided hydraulic hoses.

- The floor of the compartment above the frame rails shall cover the area directly above the frame rails ONLY (non-extended floor).
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

# SVI Trucks

SVI #705

## CURBSIDE COMPARTMENT - FRONT (C1)

The interior useable compartment width shall be approximately 41.0" wide.

The compartment door opening shall be approximately 34.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

## COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) 400 lbs. slide-out tray(s) approximately 24" deep and as wide as the compartment layout or door opening permits.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with an OnScene Solutions base approximately 94" deep, capable of extending out either side of the body located above the level of the chassis frame rails.
- There shall be one (1) transverse module(s) for long tools and equipment which extends to the opposite side of the body.
  - There shall be two (2) OnScene Solutions cargo straps provided to secure the stored equipment.
- 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.
- There shall be three (3) 12V outlet(s) provided, locate next to frog D (wire battery direct)
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.
- One (1) 120/240 volt load center.
- The FROG-D generator monitoring panel.
- One (1) 120 volt, 20 amp, duplex, straight-blade receptacle ( NEMA 5-20R ).

**Locate 120 outlet on forward wall next to the frog D (tie into both generator and shore power)**

# SVI Trucks

SVI #705

## CURBSIDE COMPARTMENT - AHEAD OF REAR WHEEL (C2)

The interior useable compartment width shall be approximately 41.0" wide.

The compartment door opening shall be approximately 34.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

### COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- 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.
- One (1) Hannay ECR1618-17-18 cable reel(s) capable of storing 200' of 10/3 electric cable. The rewind switch for each reel shall be located adjacent to the reel it controls.
  - The cable reel shall equipped with 200' of 10/3 SEOOOW black cable, a molded plastic ball clamp, and a single heavy duty L5-30 twist-lock female plug at the end.
  - One (1) Akron model EJB electrical junction box with yellow powder coat finish. The junction box shall include:
    - A 12" pigtail that terminates in an L5-30 configuration to match the cable on the cord reel. The outlet configuration shall include:
      - One (1) L5-15 single twist lock receptacle
      - One (1) L5-15 single twist lock receptacle
      - One (1) L5-15 single twist lock receptacle
      - One (1) 5-20 duplex straight-blade receptacle
    - One (1) EJB vertical apparatus mounting bracket - treadplate
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.
- One (1) Resolve Specialty Products LLC "Space Saver" (Containment Type), Class 2, dual position filling station(s).
  - Space Saver four (4) bank, cascade air control panel.

# SVI Trucks

SVI #705

## CURBSIDE COMPARTMENT - ABOVE REAR WHEEL (C3)

The interior useable compartment width shall be approximately 59.0" wide.

The compartment door opening shall be approximately 52.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

### COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) 150 lbs. slide out and down tray(s) with an OnScene Solutions base approximately 46" deep and as wide as the compartment layout or door opening permits. It shall be located above the level of the chassis frame rails and shall be vertically adjustable in height.

**Note: this tray will be utilized for the Paratech rescue Struts (as detailed in the paper furnished to SVI by FD at the Pre Construction)**

- There shall be one (1) air bag storage module(s). The make, model and exact dimensions of the air bags shall be provided during the pre-construction meeting.

**Air bag Dimensions and make are as follows Paratech: (all dimensions are including fill nipples stated by the FD at pre con meeting)**

- (1) 6" X 6"
- (1) 22" X 15"
- (1) 20" X 21"
- (1) 10" X 10"
- (1) 24" X 24"
- (1) 12" X 6"
- (1) 15" X 16"
- (1) 16" X 43"

- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

# SVI Trucks

SVI #705

## CURBSIDE COMPARTMENT - REAR (C4)

The interior useable compartment width shall be approximately 49.0" wide.

The compartment door opening shall be approximately 42.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

## COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be three (3) adjustable shelf/shelves approximately 30" deep.
- There shall be one (1) 400 lbs. slide-out tray(s) approximately 24" deep and as wide as the compartment layout or door opening permits.
- There shall be one (1) slide-out smooth aluminum vertical tool board(s).
- There shall be one (1) vertical compartment partition(s). Location and height shall be determined on the Sales Drawing.
- A storage hopper shall be provided in this compartment for approximately 150 pounds of "Floor-Dry". The hopper shall be loaded from the upper body compartment and shall dispense through a flex tubing stored inside the body. A PVC 1/4-turn valve shall be provided in the lower section of the body compartment to control floor-dry flow.
- The floor of the compartment above the frame rails shall cover the area directly above the frame rails ONLY (non-extended floor).
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

# SVI Trucks

SVI #705

## REAR COMPARTMENT - CENTER (RC1)

The rear center compartment shall be closed to both side rear compartments.

The rear center compartment shall start at the bottom of the body and shall be as high as the body permits. The frame shall extend at least 20" into the Rear Center Compartment to allow for the spring mounts.

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

The compartment door opening shall be approximately 38.0" wide.

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

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.



Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

## COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 30" deep.
- There shall be one (1) 400 lbs. slide-out tray(s) approximately 24" deep and as wide as the compartment layout or door opening permits.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a OnScene Solutions base approximately 46" deep and as wide as the compartment layout or door opening permits located above the level of the chassis frame rails.
- One (1) Hannay EF2016-17-18 hydraulic hose reel(s) capable of storing 100' of dual line hydraulic hose. The rewind button for each reel shall be located adjacent to the reel it controls.
  - The hydraulic reel shall be equipped with 100' of Hurst hydraulic hose. The hose shall be Orange in color.
  - The hydraulic reel shall connect to the hydraulic pump with a 6' Hurst pigtail. The hose shall be Orange in color.
- One (1) Hannay EF2016-17-18 hydraulic hose reel(s) capable of storing 100' of dual line hydraulic hose. The rewind button for each reel shall be located adjacent to the reel it controls.
  - The hydraulic reel shall be equipped with 100' of Hurst hydraulic hose. The hose shall be Green in color.
  - The hydraulic reel shall connect to the hydraulic pump with a 6' Hurst pigtail. The hose shall be Green in color.

# SVI Trucks

SVI #705

- Two (2) vertically mounted OnScene Solutions LED Nightstiks. 
- One (1) Chelmsford Fire Department supplied electric hydraulic power unit(s). One (1) 240 VAC twist lock receptacle with switch shall be provided on wall within easy reach of operator for turning the power unit ON/OFF.
- Mounting provisions for three (3) Chelmsford Fire Department supplied hydraulic ram(s). 

## SHOP NOTES

HURST:

(1) 20" Ram

(1) 30" Ram

(1) 60" Ram

(layout in 3D – PDF and send to customer for approval)

- Mounting provisions for one (1) Chelmsford Fire Department supplied hydraulic cutter(s).

## SHOP NOTES

HURST:

(1) X-tractor 2 cutter

(layout in 3D – PDF and send to customer for approval)

- Mounting provisions for one (1) Chelmsford Fire Department supplied hydraulic spreader(s).

## SHOP NOTES

HURST:

(1) Model 28 spreader

(layout in 3D – PDF and send to customer for approval)

# SVI Trucks

SVI #705

## **COMPARTMENT COMPONENTS DESCRIPTIONS**

All interior compartment components 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 shelf tracs mounted vertically on compartment side walls or vertical partitions. There shall be one (1) cast aluminum shelf bracket per vertical shelf trac 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.

### **SLIDE-OUT EQUIPMENT TRAY - (400 # CAPACITY)**

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. Trays shall be built with a 3" vertical lip, with welded corners, to form a box type tray surface. Sliding tracks shall be Accuride 502 series. The length shall be per numbered compartment list and the extension shall be 100% of the slide length. Slides shall be constructed of formed steel with ball bearings mounted in triple track rails.

Tray(s) shall utilize a pneumatic cylinder mounted on underside to hold the tray in both the extended and closed positions.

### **HEAVY DUTY 100% EXTENSION EQUIPMENT SLIDE - (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. Trays shall be built with a 4" high vertical lip with welded corners to form a box type tray surface. The tray shall be mounted on a slide frame constructed of anodized aluminum extrusion(s). The frame shall be assembled using stainless steel fasteners (no welds). Each slide shall use a three extrusion rail design utilizing twelve to sixteen (12 - 16) urethane rollers. Each roller shall contain two (2) precision roller bearings mounted in an aluminum hub with a molded on urethane cover. The rollers shall not lose contact with the rail extrusion during operation of the slide unit. Each slide shall have a cable operated, spring loaded latch complimented by a large hand opening and red pull handle (Pull to Release). The slide shall lock in the closed and full extension positions. The slide shall be rated for a maximum distributed load of 1,000# and a 500# end load.



# SVI Trucks

SVI #705

## **HEAVY DUTY EQUIPMENT TRAYS - SLIDE OUT AND DOWN ( 250 # 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. The tray shall be mounted on a slide frame constructed of anodized aluminum extrusion(s). The frame shall be assembled using stainless steel fasteners (no welds). Each slide shall use a two extrusion rail design utilizing four (4) urethane rollers. Each roller shall contain two (2) precision roller bearings mounted in an aluminum hub with molded on urethane cover. The roller shall not lose contact with the rail extrusion during operation of the slide unit. Each slide shall have a cable operated, spring loaded latch complimented by a large hand opening and red pull handle (Pull to Release). The slide shall lock in the closed position. The slide shall be rated for a maximum distributed load of 250#.

## **HEAVY DUTY EQUIPMENT TRAYS - SLIDE OUT AND DOWN ( 250 # 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. The tray shall be mounted on a slide frame constructed of anodized aluminum extrusion(s). The frame shall be assembled using stainless steel fasteners (no welds). Each slide shall use a two extrusion rail design utilizing four (4) urethane rollers. Each roller shall contain two (2) precision roller bearings mounted in an aluminum hub with molded on urethane cover. The roller shall not lose contact with the rail extrusion during operation of the slide unit. Each slide shall have a cable operated, spring loaded latch complimented by a large hand opening and red pull handle (Pull to Release). The slide shall lock in the closed position. The slide shall be rated for a maximum distributed load of 150#.

## **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 Shelf Trac to allow the tool board to be adjusted horizontally for best fit in the compartment.

## **COMPARTMENT PARTITIONS**

Vertical compartment partitions shall be provided as indicated in the numbered compartment list. Partitions shall be fabricated of 3/16" thick (.188) smooth aluminum with 1" "L" outer edge. Bolted angles shall be provided at top and bottom of partition to secure partition in place, but allow future removal without cutting of partition.

## **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.

# SVI Trucks

SVI #705

## AIR BAG MODULE

An air bag module rack shall be supplied in the exterior compartment located as indicated in the numbered compartment list.

The module shall be fabricated of 1/8" (.125) smooth aluminum plate with individual sections for each air bag.

Circular notches shall be provided along the front edge for ease of removing air bags with gloved hand. Modules shall be large enough for specified air bag and matching plywood panels. Exact size and layout shall be approved prior to construction.

## REMOVABLE TOOL BOX - (PLASTIC)

Removable tool box(s) shall be provided in exterior compartment as indicated in the numbered compartment list.

The tool box(s) shall be fabricated of 1/2" (.50) thick polypropylene and shall have handhold cut-out at each end. Exact dimensions and layout of the tool box shall be determined at the pre-construction meeting.

## COMPARTMENT LIGHTING

OnScene Solutions LED Nightstik shall be provided with 12 LEDs per 18" light section. The following are minimum lighting requirements:

- Full Height Compartments 54" Section ( 36 LEDs )
- Wheel well Compartments 36" Section ( 24 LEDs )
- Rear Rescue Compartment 54" Section ( 36 LEDs )
- Low Compartments 18" Section ( 12 LEDs )
- Low Compartments - Horizontal 36" Section ( 24 LEDs )

The light stick shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty.

## ELECTRIC CABLE REEL

Electric cable reel(s) shall be provided in exterior compartment as indicated in the numbered compartment list.

The 120 volt cable reel(s) shall be Hannay 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.

Each reel shall have a Hannay 4-way roller assembly to permit cable to feed directly off the reel and away from compartment. **Plastic roller assemblies are not acceptable.**

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.

# SVI Trucks

SVI #705

## **STEP / GROUND LIGHTS**

OnScene Solutions 9" LED Nightstick light(s) shall be placed at each entry door and step where personnel climb on or descend from the apparatus to ground level. All of the ground lights shall be activated when the parking brake is set. There shall be 15 LEDs per 9" light. The light stick shall be rated at 100,000 hours of service. Each light stick shall be provided with a 5 year free replacement warranty.

# SVI Trucks

SVI #705

## **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 Type GXL, XLP Cross-Linked Polyethylene, 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 XLP wiring shall have an operating temperature range of -60°F/-51°C to 257°F/125° C. 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.

# SVI Trucks

SVI #705

## **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.

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.

## **ROCKER SWITCH PANEL**

The control of the 12 volt equipment installed on chassis and body shall be centrally located in the cab. The individual rocker style switches shall be located on a separate electrical panel, complete with backlit name tags describing function of each individual switch. The back lighting shall have two (2) levels of intensity, low level lights activated when the vehicle lights or ignition switch is turned "On", and high level lights activated when individual switch is turned "On". An internally lighted rocker switch shall be furnished to the left of specified emergency lighting switches, and identified as "MASTER EMERGENCY SWITCH".

Switch circuitry shall be on a printed circuit board. The lights shall be solid state type and have a 100,000 hour life span.

The rocker switch panel shall be located in a fabricated box located on the chassis dash, centered from side to side for access by the Driver or Officer. The switch module shall contain all master switches and emergency light switches. The box and faceplate shall be fabricated with black "Laminol" aluminum.

## **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.

# SVI Trucks

SVI #705

## **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.

## **FLOOR MOUNTED CAB CONSOLE**

A center cab console shall be provided between the Driver's and Officer's seats. 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 forward portion of console shall be slanted for mounting of siren head, radio or 12 volt control panel, and etc, with easy access to both Driver and Officer.

One (1) 12 volt terminal block shall be provided in console wired battery direct.

One (1) 12 volt terminal block shall be provided in console wired to battery master switch.

## **MAP CONSOLE**

The rear portion of the console shall be provided with open top storage for notebooks or maps. Two (2) adjustable dividers shall be provided in the storage area. The console shall hold three (3) binders up to 2-1/2" thick.

The final design of console shall be determined by the Chelmsford Fire Department at the pre-construction meeting.

## **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**

The chassis ignition key shall activate a heavy duty relay to provide 12 volt battery power to the apparatus. There shall be a green "BATTERY ON" indicator installed in cab within direct sight of the Driver.

## **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 091-9-1000) "Pump-Plus 1000" single battery charger/air compressor, with 120 VAC input and 12 VDC, 15 amp output battery conditioner and a 12 volt, 80 psi air compressor shall be provided. This system shall monitor the condition of battery(s) and provide an electrical current at variable rates to overcome battery failure. The air compressor shall maintain air pressure in the chassis air brake system. A Kussmaul bar graph type indicator panel shall be provided for showing status of battery conditioner.

# SVI Trucks

SVI #705

## **SHORE POWER INLET**

One (1) Kussmaul 20 amp "Super Auto-Eject" shore power inlet(s) shall be furnished and installed. The shore power connection shall automatically disengage from vehicle when chassis ignition is engaged.

- The Auto-eject outlet cover shall be yellow.
- The shore power plug shall be located near the driver door area in drivers step area.

## **ENGINE COMPARTMENT LIGHT**

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

## **CAB HAZARD WARNING LIGHT**

A red "HAZARD" warning light shall be provided in chassis cab. The 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
- Step is not fully stowed

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**

The body manufacturer shall furnish and install one (1) 107 dB(A) electronic back-up alarm. Back-up alarm to actuate automatically when the transmission gear selector is placed in reverse.

## **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) Whelen LED midship body clearance marker/turn signal lights (T0A00MAR) 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 clearance marker and turn signals.

# SVI Trucks

SVI #705

## **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 two (2) OnScene Solutions 9" LED Nightstik light(s) installed on the apparatus. Lights shall be placed at each entry door and step where personnel climb on or descend from the apparatus to ground level. All of the ground lights shall be activated when the parking brake is set.

The location of each light shall be determined at the preconstruction meeting.

## **LICENSE PLATE MOUNTING BRACKET**

There shall be one (1) Cast Products aluminum license plate mounting with chrome shielded license plate light mounted on the rear of the body.

## **ELECTRONIC SIREN**

One (1) Whelen model 295SLSA1 electronic siren control with standard hard wired microphone and user programmable siren tones. Siren to be installed in cab within easy access of Driver.

## **SIREN SPEAKER**

One (1) Cast Products Inc. model SAP/D-4307 100 watt siren speaker shall be provided, recessed in the front bumper.

- The siren speaker shall be located at the streetside of the front bumper.

## **SIDE SCENE LIGHTS**

There shall be four (4) Whelen 810 series (10" x 8") surface mounted Opti-Scene lights (810CA0ZR) provided on the upper body. Each light will have a 8-32 degree lens and chrome flange. They will be equally divided between the curbside and streetside.

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 (10" x 8") surface mounted Opti-Scene lights (810CA0ZR) will be provided on the upper rear body. Each light will have a 8-32 degree lens and chrome flange.

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

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



# SVI Trucks

SVI #705

## TRAFFIC DIRECTIONAL LIGHT

One (1) Whelen TAL85, 47" 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.

# SVI Trucks

SVI #705

## 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 LIGHTS

#### FRONT UPPER WARNING LIGHT

One (1) Whelen Delta Independence DI4S2N 56" halogen lightbar permanently mounted to the cab roof.

The lightbar configuration (streetside to curbside) shall be:

<u>SECTION</u>	<u>INTERNAL COMPONENTS</u>	<u>COLOR</u>
1	- One (1) Rotator - One (1) Diagonal Mirror	Red
2	One (1) Rotator	Clear
3	Blank	Red
4	One (1) Rotator	Clear
5	- One (1) Rotator - One (1) Diagonal Mirror	Red

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

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

### ZONES B AND D - SIDE WARNING LIGHTS

#### UPPER REAR CORNER WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") Linear Super-LED lights (90RR5FRR) provided, one (1) each side. Each light shall have a red lens and chrome flange. The lights shall be switched at the 12 volt control panel in the cab.

#### UPPER FORWARD CORNER WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") Linear Super-LED lights (90RR5FRR) provided, one (1) each side. Each light shall have a red lens and chrome flange. The lights shall be switched at the 12 volt control panel in the cab.

# SVI Trucks

SVI #705

## ZONE C - REAR WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") Linear Super-LED lights (90RR5FRR) provided, one (1) each side. Each light shall have a red lens and chrome flange. The lights shall be switched at the 12 volt control panel in the cab.

## LOWER LEVEL WARNING LIGHTS

### ZONE A - FRONT WARNING LIGHTS

There shall be two (2) Whelen 600 series (6" x 4") Linear Super-LED lights (60R02FRR) 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.

### ZONES B AND D - CAB INTERSECTOR LIGHT (CAB FRONT CORNERS)

There shall be two (2) Whelen 600 series (6" x 4") Linear Super-LED lights (60R02FRR) 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.

### ZONES B AND D - BODY INTERSECTOR LIGHT (BODY WHEELWELL AREA)



There shall be two (2) Whelen 600 series (6" x 4") Linear Super-LED lights (60R02FRR) 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.

### ZONES B AND D - BODY INTERSECTOR LIGHT (BODY REAR CORNERS)

There shall be two (2) Whelen 600 series (6" x 4") Linear Super-LED lights (60R02FRR) 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.

### ZONE C - REAR WARNING LIGHTS (LOWER REAR CORNERS)

There shall be two (2) Whelen 600 series (6" x 4") Linear Super-LED lights (60R02FRR) 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.

# SVI Trucks

SVI #705

## **LINE VOLTAGE SYSTEM**

### **ONAN PTO GENERATOR**

The apparatus shall be equipped with a Onan "Protec AC" PTO generator system with a capacity of 20,000 watts at 120/240 volt, 166/83 amps, single phase, 60 cycles.

### **GENERATOR SPLASH GUARD**

A powder coat painted splash cover shall be installed to reduce the amount of road spray on the frame mounted PTO generator. A V-ring seal shall also be installed in the cover to provide additional protection against contaminants reaching the generator front seals.

### **GENERATOR MOUNTING**

The generator shall be mounted between the chassis frame rails. The generator mounting brackets shall be fabricated using heavy duty steel tubing, or structural channel. The generator mounting shall be bolted and removable so that the generator can be lowered from under apparatus for service, if necessary. The generator case shall not extend below the bottom edge of the apparatus body.

### **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.

### **POWER-TAKE-OFF GENERATOR DRIVE**

There shall be a "Hot Shift" power-take-off (PTO) installed on the transmission PTO opening of the chassis. The "Hot Shift" PTO is provided to allow the engagement of the PTO at higher engine RPM. speeds. The PTO output shall be connected to the generator through hollow tube type driveline with heavy duty universals.

The engagement of the PTO shall be in the chassis cab with a rocker switch and red pilot light to note engagement of the PTO.

The power supply to the PTO engagement control shall be wired to the parking brake and a neutral position transmission switch to prevent engagement unless the vehicle is stopped and transmission has been placed in neutral.

### **ENGINE GOVERNOR - ELECTRONIC SPEED CONTROL**

The apparatus shall be equipped with Electronic Speed Controls to maintain a stable cycle output from generator. The governor system shall be activated after the vehicle parking brake is applied and the transmission selector is placed in neutral.

# SVI Trucks

SVI #705

## 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 consolidate five (5) generator monitoring instruments into one device. The display case shall be waterproof and have dimensions not to exceed 4 1/4" high by 4 1/4" wide by 3 1/4" deep.

The following continuous displays shall be provided with super bright LED digits more than 1/2" high:

- Generator frequency in hertz
- Line 1 current in amperes
- Line 2 current in amperes
- Generator voltage in volts

The program shall support the accumulation of elapsed generator hours and the monitoring of engine oil temperature. Generator hours and oil temperature shall be displayed at the push of a button.

## LOADCENTER

The loadcenter shall be a Cutler Hammer, BR Series, specifically designed for protection and distribution of 120/240 volt AC, such as lighting and small motor branch circuits. The loadcenter enclosure shall be made of 16 gauge galvanized sheet steel. The galvanized coating provides corrosion protection and as such does not require paint. All trims used on the BR Loadcenter shall be chromate sealed and finished with electro disposition epoxy paint (ASA61) which exceeds requirements for outdoor and indoor applications. A combination surface/flush cover with integral door shall be supplied.

The loadcenter shall be UL / CSA listed, **NO EXCEPTIONS** will be allowed.

## 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 receptacle shall be 20 amp, twist-lock ( NEMA L5-20R ).
- Two (2) 120 volt exterior outlets, one (1) each side rear of body.
  - The receptacle shall be 20 amp, twist-lock ( NEMA L5-20R ).

# SVI Trucks

SVI #705

## **ELECTRICAL SYSTEM GENERAL DESIGN 120/240 VAC SYSTEM**

### General

Any fixed line voltage power source producing alternating current (ac) line voltage shall produce electric power at 60 cycles plus or minus 5 cycles.

Except where superseded by the requirements of NFPA 1901, all components, equipment and installation procedures shall conform to NFPA 70, National Electrical Code (herein referred to as the NEC).

Line voltage electrical system equipment and materials included on the apparatus shall be listed and installed in accordance with the manufacturer's instructions. All products shall be used only in the manner for which they have been listed.

### Grounding

Grounding shall be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC.

Ungrounded systems shall not be used.

Only stranded or braided copper conductors shall be used for grounding and bonding.

An equipment grounding means shall be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC.

The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.

In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor. This conductor shall have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements shall be permitted to be used.

All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.

# SVI Trucks

SVI #705

## Operation

Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the apparatus at any point where such operations can take place.

Provisions shall be made for quickly and easily placing the power source into operation.

The control shall be marked to indicate when it is correctly positioned for power source operation.

A power source specification label shall be permanently attached to the apparatus near the operators control station.

Portable generator installations shall comply with Article 445 (Generators) of the NEC.

## Overcurrent Protection

The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device shall not exceed 144 inches in length.

For fixed power supplies, all conductors in the power supply assembly shall be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit.

For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device shall be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit.

## Wiring Methods

Fixed wiring systems shall be limited to either Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit or Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit.

Electrical cord or conduit shall be supported within six (6) inches of any junction box and at a minimum of every 24 inches of continuous run.

Supports shall be made of nonmetallic materials or corrosion protected metal.

All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.

## Wiring Identification

All line voltage conductors located in the main panel board shall be individually and permanently identified.

The identification shall reference the wiring schematic or indicate the final termination point.

When pre-wiring for future power sources or devices, the non-terminated ends shall be labeled showing function and wire size.

# SVI Trucks

SVI #705

## Wet Locations

All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, shall be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

All receptacles located in a wet location shall be not less than 24 inches from the ground. Receptacles on off-road vehicles shall be a minimum of 30 inches from the ground.

The face of any wet location receptacle shall be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle shall be installed in a face up position.

## Dry Locations

All receptacles located in a dry location shall be of the grounding type. Receptacles shall be not less than 30 inches above the interior floor height.

All receptacles shall be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps.

If the receptacles are direct current, or other than single phase, they shall be so marked.

## Listing

All receptacles and electrical inlet devices shall be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards.

Receptacles used for direct current voltages shall be rated for the appropriate service.



# SVI Trucks

SVI #705

## 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 TRIPOD SCENE LIGHTS

One (1) Fire Research Focus, model FCA656-S75, tripod telescopic light shall be provided. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall extend 28" and rotate 360 degrees. An internal brake shall slow the extension pole during lowering. The outer pole shall be a grooved aluminum extrusion. The folding legs shall be anodized aluminum tubing with plastic endcaps. The fully extended tripod system shall exceed a height of 8' and be less than 5' when collapsed. Wiring shall extend from the pole bottom with a 4' retractile cord.

The lamphead shall have one (1) quartz halogen 750 watt 120 volt bulb. The bulb shall draw 6.3 amps and generate 19,600 lumens. The bulb shall be accessible through the front. The lamphead shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 10" wide.

A weatherproof on-off toggle switch shall be mounted in a switchbox below the lamphead.

A wire guard shall be furnished to protect the lamphead glass.

A tripod truck mount bracket set shall be provided for each light. Each set shall include a lower base plate, an upper lock with a quick release spring loaded locking pin, and a shim set.

### SHOP NOTES

Make: Fire Research

Model: Focus

P/N: FCA656-S75-ON-6F3

# SVI Trucks

SVI #705

## **COMMAND LIGHT TOWER - PRE-WIRE**

The apparatus shall be pre-wired for the later installation of one (1) Command Light flood light(s). The pre-wire provisions shall include:

- Circuit breaker in the breaker box (rated for proper amperage).
- Wiring from the circuit breaker box to the future light tower location, terminating in a weatherproof box.
- Wiring from the mounting area to the pre-determined location of the Command Light controller. (If no location is specified, the control wires shall terminate near the 12 volt distribution panel).
- Mounting plates welded into the structure and pre-drilled.

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.

**Tub will be for a knight light 2**

# SVI Trucks

SVI #705

## **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.

- There shall be two (2) NFPA approved aluminum wheel chocks provided for 44" diameter tires that together will hold the vehicle when loaded to its GVWR or GCWR, on a hard surface with a 20 % grade, with the transmission in neutral, and the parking brake released.
  - The wheel chock(s) shall be mounted on the apparatus, location as per the Chelmsford Fire Department.

**Will be done at the final inspection**