



## MED ENG/ACSI TRUCK BODY Rev 5

### **1. GENERAL INFORMATION AND DIMENSIONS:**

1.1	Length of body:	18' - 0" (240")
1.2	Ceiling height :	7' - 0" (84")
1.3	Overall length – body & chassis:	28' - 0" (360") App
1.4	Width of body;	8' - 0" (96")
1.5	Overall height:	12' - 6" (150") App
1.6	Ground to underside of body – front:	18"
1.7	Ground to underside of body – rear:	22"

### **2. BODY CHASSIS:**

- 2.1 Chassis to be of current model year, (TBD)

### **3 CHASSIS ACCESSORIES:**

- 3.1 Mud flaps, plain, installed behind rear wheels.
- 3.2 Body mounting system to be according to chassis manufacturer's guidelines and consisting of u-bolts and shear plates to comply with FMVSS regulations. Cushion strip between body and chassis to be ½" UHMW strip.

### **4 BODY STRUCTURE:**

- 4.1 All steel frame construction.
- 4.2 Floor system designed to eliminate wheel boxes.
- 4.3 2" x 2" x 16ga steel tubing wall studs (16" OC).
- 4.4 2" x 2" x 16ga steel roof rafters (16" OC).
- 4.5 10 gauge carbon steel floor.
- 4.6 5" – 10.0# steel I-Beam sub-frame main rails, one-piece, full length of body – no splices.
- 4.7 Floor joist system, 4" high, installed over sub frame rails and comprised of 4" x 2" x 11ga rectangular tubing (16" OC) and at least four(4) 4"-5.4# structural channel cross members full body width located at strategic positions in the floor system.. These cross members are to be gusseted to the sub-frame main rails with ¼" thick 5" x 5" triangular gussets.
- 4.8 Rubber floor coating sprayed onto steel floor, and covered up the walls to provide a non-slip, durable, seamless, chemical resistant, waterproof floor. Color: GRAY
- 4.9 Exterior siding - aluminum, smooth, .090" mill finish. Aluminum sheets to be 48" wide and full body side height for a smooth butt joint fit. Sheets are attached to studs with (3M) VHB double sided tape. No rivets in exterior wall panels. Body painted to match cab.

- 4.10 Seamless Fiberglass Reinforced Plastic (FRP) 0.060" thick, laminated to 3/8" plywood on interior walls and ceiling with corner joints vinyl trimmed and caulked with a high quality silicone sealant to provide a waterproof, airtight interior.
- 4.11 Heavy duty extruded aluminum top rail installed around perimeter of roof.
- 4.12 Aluminum roof, .040" thick, one piece seamless, riveted to the top rail around the perimeter of the roof to keep all penetrations outside the body and eliminate the chance for leaks.
- 4.13 R12 rigid foam insulation installed in all walls and ceiling.
- 4.14 Spray in foam insulation installed in floor.
- 4.15 Belly pan, 20ga galvanized steel covering underside of wheel well areas.
- 4.16 Two (2) heavy duty, aluminum framed doors with fabricated galvanized steel panel inner cores, aluminum exterior skins, FRP interior skins, continuous ss hinges, full perimeter neoprene bulb seal and stainless cylindrical lever type lock sets with separate dead bolts with interior thumb latches. Door locks keyed alike. Stationary safety glass viewing window installed in entry/exit doors. Hydraulic hold-open door closers to restrain entry/exit doors and to close automatically. Custom built, low profile, aluminum drip rails installed over each door. Front side door to be 42" wide x 90" tall with window. Rear door to be 42" wide x 78" tall with window.
- 4.17 Grab rail system installed on interior of entry/exit doors to assist personnel entrance and exit. Grab rails are constructed of 1-1/4" dia. extruded aluminum tubing with ribbed rubber inserts that provide a positive grip even when wet. Tubing is mounted into chrome finished stanchions to provide strength and durability. One grab rail to be installed on exterior of body.
- 4.18 Compartment access doors constructed in the same manner as other doors to enclose the underbody storage boxes and generator compartment. All doors fitted with paddle handle slam latches keyed alike.
- 4.19 Three drop down pass through compartment doors will be installed on the streetside of the body. One drop down pass through compartment doors will be installed on the curbside of the body Size is 40"x15 3/8"
- 4.20 Rear bumper, 4" structural channel, 18" deep and full width of body with 3/16" smooth step plate and riser. Step bumper attached directly to chassis and body. All step surfaces coated with non-slip safety grip. Step box will be included in rear bumper.
- 4.21 Side door step wells for each side entry/exit door. Steps are incorporated into body floor and wall system. Steps to be 10" high, 10" deep, full width of door opening. Step wells to consist of three (3) steps of same height and step depth. All step surfaces coated with rubber to match floor.
- 4.22 Side doorsteps – heavy duty fabricated 12ga steel – telescopic, 1-step. Step assembly slides transversally across body. Slide tubes attached to body understructure after body is mounted on chassis. Do not attach to chassis. Step surfaces coated with non-slip safety grit. Retainer bar to hold steps in both transport and service positions. Rear door steps to be 12 gauge steel fold down steps.
- 4.23 Lower body side skirting to extend below floor to provide frontals to underbody storage boxes below floor line. Bottom of skirting to be 18" above ground ahead of rear wheels and 22" above ground behind rear wheels.
- 4.24 Underbody storage boxes constructed of 12ga galvanized steel hull. Installed on sides of body below floor line. All boxes to be 24" deep. All boxes will be constructed with "sweep out" design lower facings for easy cleaning.

4.24.1 The body is to be equipped with four (4) underbody storage compartments.

54"W x 19-1/2" H x 24"D ( one streetside)

50"W x 19-1/2" H x 24"D (1 EA SIDE- CURB AND STREETSIDE)

41"W x 15 1/2"H x 24" D ( one curbside)

4.24.2 The front compartment on street side is designed to contain truck system batteries and deep cycle 12 V DC batteries. Interior of this compartment is coated with corrosion acid resistant coating (CARC).

4.24.3 Space in one under body box will be for the Med Eng cooling system. Two Med Eng systems will be provided:

DC-1000 –

- Attaches to vehicles existing refrigerant lines with minimal impact.
- Coolant delivery temperature, 59 – 69 degrees Fahrenheit
- Dimensions, 5.5x11x9
- Power requirements, 28 VDC, 1.5 Amp
- Weight, 17 Lbs
- 1000 Watts of cooling
- Capable of cooling 7 persons (or 5 persons and electronics)

DC-500 –

- Self-contained VCC (vapor compression cycle) chiller system
- Coolant delivery temperature, 59 – 69 degrees Fahrenheit
- Dimensions, 9.8x11.3x9.4
- Power requirements, 24-28 VDC, 18 Amp
- Weight, 30 pounds
- 500 Watts of cooling
- Capable of cooling 3 persons

4.25 Floor of all underbody boxes to be coated with same rubber floor coating as body floor, sprayed on, Color: GRAY

4.26 Rubber roll crown fender installed around rear wheel opening on body.

4.27 Restraint chains with "S" hooks installed on generator compartment doors and drop down pass through compartment doors. All underbody box doors will use the ACSI gas prop system.

4.28 All underbody compartments to have shielded drain holes in compartment bottoms to prevent water buildup. Shields to prevent drafting of dust into compartments when traveling.

4.29 A heavy-duty aluminum rain shield is installed above all body doors.

4.30 Solid roof deck of 3/8 plywood laid over roof rafters prior to aluminum roof installation for additional roof support.

## 5 **BODY INTERIOR:**

5.1 Desktop Area:

5.1.1 Streetside of the truck body to consist of one long work bench with over head storage cabinets above and one storage shelf below. Countertop, workstation, and cabinets to be dove grey.

- 5.1.2 One workstation will be installed on the front curbside of the truck body behind the entry door. Workstation to be 18" deep. One five point rolling chair with restraints will be provided. Overhead cabinets will have plexiglass sliding doors.
- 5.1.3 Room for a 26" flat panel monitor will be available on the streetside wall in the forward command area.
- 5.1.4 A CAT 5 cable will be installed and will be accessible at three different locations, two on the streetside desktops and one at the curbside workstation.
  - 5.1.4.1 A panel shall be placed in a weather tight enclosure on the exterior of the body for the purpose of bringing phone and cat 5 connections into the vehicle.
- 5.1.5 A Norcold refrigerator/freezer 12VDC/120AC will be installed below the desktop. A plug will be provided on the front of the body to power the fridge.

## 5.2 Storage:

- 5.2.1 A storage rack will be installed on the curbside wall with four adjustable shelves and a cargo net to secure the cargo.
- 5.2.2 One roll up suit storage compartment will be located on the curbside. The compartment will be accessed from the exterior via the roll up door and from the interior via a cargo net. The compartment will have two bomb suits and use the Med Eng suit hanger bar (to be supplied by Med Eng). Both suits to be accessed by the same roll up door, with a clear opening of 37".
- 5.2.3 A small storage rack with two adjustable shelves will be installed in the rear streetside above the generator compartment. A cargo net will also be included.

## 5.3 Robot Area:

- 5.3.1 The robot storage area will be located in the rear of the truck body and accessible via a door on the rear of the body. The robot will enter and exit the truck via an aluminum ramp.
- 5.3.2 An aluminum ramp capable of handling 800 pounds will provide elevating system for a robot. Ramp to be 10' long and maximum width for the possum belly storage.
- 5.3.3 Four (4) 'D' type recessed folding tie down rings will be located in the floor to secure the robot.
- 5.3.4 One (1) Kussmaul 20 amp Super Auto Eject system is installed in the forward streetside body wall to provide power to robot's battery charger to maintain batteries when robot is stored inside body.
- 5.3.5 The floor will be aluminum brite tread plate.

## 6 HVAC SYSTEM:

- 6.1 Two (2) roof mounted A/C units with heat strips are included and installed. Each A/C unit produces 13,500 BTUs of cooling and 5,600 BTUs of heat.
- 6.2 Two additional recessed wall heaters will be installed in the front of the body.

## **7 120/240 VAC ELECTRICAL SYSTEM:**

- 7.1 All AC electrical functions are controlled by one (1) 100 amp load center with main circuit breaker. Each breaker is properly sized to suit the specific applications. Load center is located on the front interior wall. The face of the circuit breaker panel is permanently labeled with the circuit name or function of each individual breaker.
- 7.2 One (1) 100 amp manual transfer switch, NEMA 3R, transfer power from the generator or shore line power to AC load center. One (1) shore line power cord, 25' long will be attached to transfer switch for hook up to outside electrical supply. Transfer switch located near load center and cord to be located in an under body box No plug furnished on the end of the shore line. Plug to be installed by customer.
- 7.3 Seventeen GFI duplex receptacles will be installed. Three installed in the robot area (one to be dedicated for the robot charger), Eight installed in the streetside desktop area and two installed in the curbside workstation, and four are installed on the exterior (one near each corner).
- 7.4 The Control Panel enclosure shall be mounted in the workstation area in the front of the unit
  - 7.4.1 Enclosure shall have a NEMA rating of 3, 3R, 4, 4X, 12 & 13. Enclosure is designed to meet the Joint Industrial Council (JIC) standards in the United States and made from corrosion resistant hot compression molded fiberglass reinforced polyester.
  - 7.4.2 The enclosure includes four (4) stainless steel captive screws that secure the cover to the base by means of four (4) threaded brass inserts contained in the base.
  - 7.4.3 Mounting face shall be non-metallic.
  - 7.4.4 Control panel
    - 7.4.4.1 Generator switch.
    - 7.4.4.2 Generator hour meter.
    - 7.4.4.3 Generator fuel gauge.
    - 7.4.4.4 Generator temperature gauge.
    - 7.4.4.5 Generator oil pressure gauge.
    - 7.4.4.6 Battery charge monitor.
    - 7.4.4.7 Pole light switches
    - 7.4.4.8 125 V illuminated round rocker switches.
    - 7.4.4.9 12V illuminated round rocker switches. All switch functions will be labeled.
- 7.5 One (1) Generator, 12KW, 60 HZ, 240-120V equipped with:
  - 7.5.1 Diesel fuel system.
  - 7.5.2 Remote control located in the control panel.
  - 7.5.3 Generator to be housed in a sound attenuated compartment on the rear streetside of the body. Aluminum louvers will be installed to provide adequate ventilation to the generator.
  - 7.5.4 Fuel supply to generator is provided by the fuel system onboard the truck.
  - 7.5.5 A 12V DC fuel pump is installed in the line to provide adequate fuel delivery from truck fuel tank to generator.

- 7.6 Three, 2 bulb, 2', 40 watt light fixtures and Four, 2 bulb, 4', 40 watt light fixtures will be installed inside the body.

## **8. 12 VDC ELECTRICAL SYSTEM:**

- 8.1 Two (2) 12V DC deep cycle batteries (Trojan SCS 225: 225 minutes at 25 amps), installed in underbody box, are supplied to provide the power for the scene lights, Interior of compartment to be coated with corrosion and acid resistant paint.
- 8.2 All batteries will be installed in the forward streetside underbody box.
- 8.3 One (1) battery charger with bar graph charging indicator is to be installed in control panel. Dual high output system produces 40 amps. Connect charger output to charge truck batteries on one system and auxiliary batteries on other system. Battery charger is connected to 120V electrical system on board in order to provide charging current to batteries when generator is operating or shore power is connected
- 8.4 One (1) Kussmaul 20 amp Super Auto Eject system is installed in body wall adjacent to battery compartment, to provide power to battery charger to maintain batteries when unit is not connected to shore power or generator is not operating. Provide a current sensing relay to protect systems from back feed when auto eject is connected. Plug will be located in the forward streetside, next to the robot charging plug.
- 8.5 The electrical control panel/enclosure located on the front wall.
- 8.6 Scene Light Package consisting of four (4) Whelen 810CAOZR (8 & 32 degree dual-optic light pattern). Light to be surface mount, 50 Watt halogen, with Whelen #810 TRIM polished chrome trim bezel. Lights are mounted three (2) on each side of body. Lights are powered by deep cycle batteries and controlled by two (2) switches located on control panel in workstation area and the truck console. All scene light switches to be lighted rocker type.
- 8.7 One (1) step well light, installed in step well, for lighting step area. Light to be Weldon #8025-9100-30 clear lens.
- 8.8 Compartment lights, surface mounted, located at ceiling of underbody compartments. Lights to be Weldon #9185-80351. Lights to be controlled by a door jamb switch mounted in corner of door facing. Lights are connected to truck electrical system.
- 8.9 Rear directional lighting shall consist of one (1) light each side, [combo system for stop, tail, and rear directional lights], mounted on the rear wall of the body at a height to provide the best visibility for an approaching vehicle; but must be within the height guidelines of FMVSS-108. Lights to be Truck-Lite LED #60 series, grommet mount with stainless steel grommet covers. Lights are to be recessed into the body wall. Back-up lights (2) mounted low at rear of body. Lights to be Truck-Lite #60 series, grommet mount with stainless steel grommet covers. Lights are to be recessed into the body wall.
- 8.10 Clearance, marker, and ID lights are to be installed in the recessed cavity of the roof rail. Five (5) red lights shall be installed across the rear. Two (2) red lights, one each side at the rear. Two (2) yellow lights, one each side at the front All lights to be Truck-Lite LED #35 series, or equal.
- 8.11 Clearance and marker lights are to be installed on the sides of the body at the lower rub rail area. Two (2) red lights, one each side at the rear. Two (2) yellow wide turn indicator lights, one on each side located at the mid point, and connected to the directional and the marker light circuits. All lights to be Truck-Lite LED# 21 series, or equal.
- 8.12 Reflectors, Class A, Reflex type, are installed on rear and side mid points of body to meet

FMVSS108 regulations

- 8.13 License plate light and bracket is installed on the right side rear of the vehicle wired to turn on with the headlights. Light to be Truck Lite # LED 15 series.
- 8.14 All body lighting branch wire to terminate in a Truck Lite 50 series junction box and terminal plate. Box located for easy access underside of body.
- 8.15 Door ajar indicator system with flashing red indicator light installed in truck cab in clear visibility of driver. One indicator light for exterior compartment doors, and entry/exit doors.
- 8.16 A 300 amp battery isolator will be installed in underbody compartment with batteries.

#### **9.0 EMERGENCY LIGHTING PACKAGE:**

- 9.1 One (1) Whelen #295HFSA1 electronic siren, 200 watt output. Mounted in cab within easy reach of driver and officer.
- 9.2 Two Whelen #SA314 projector series, 100 watt siren speakers. Mounted behind bumper at the front of the truck.
- 9.3 Eight (8) 900 series (4 blue #90B00FBR and 4 red #90R00FRR) LED strobe warning lights surface mounted on body. Two (2) lights installed at extreme corners, as high as possible, on each of the four sides of the body. Light pattern is to be such that each of the sides has one (1) red strobe and one (1) blue strobe. Light pattern to be arranged so that one blue and one red are adjacent to each other on the adjoining corners of the body. Lights are to be mounted in chrome plated flanges(#9EFLANGE).
- 9.4 Two LED (2) Whelen Red/Blue twin side beam #70BR6FCR, chrome plated light heads mounted in the grille FLAMNGE #7EGRILP at front of vehicle. Lights to have alternating flasher installed in the system.
- 9.5 Two HEAD LIGHT FLASHER WIG-WAG #UHF2150A
- 9.6 One (1) Federal SW300, switch control panel having six (6) SPST rocker switches, mounted in cab. Switch control panel controls all 12 volt emergency lighting, warning devices, and scene lights.

#### **10. ELECTRICAL SYSTEMS – GENERAL:**

- 10.1 Circuits must be provided with properly rated, low voltage over current protective devices. Such devices must be readily accessible and protected against heat in excess of the component's rating, mechanical damage, and water spray. Circuit protection must be accomplished by utilizing fuses, circuit breakers, and/or fusible links.

#### **11. PAINT SPECIFICATIONS – BODY:**

- 11.1 The exterior of the body shall be painted to match the truck cab.
- 11.2 Body to be painted Dupont Imron sealed with clear coat.
- 11.3 Underside of truck body is to be painted gloss black polyurethane after all components are installed.
- 11.4 All exposed metal surfaces on the body will be thoroughly cleaned and prepared for painting.
- 11.5 All exposed open joints, interior of boxes, etc. to be caulked with Sika Flex #221 gray automotive

sealant.

- 11.6 The aluminum surfaces will be properly cleaned. All steel surfaces will be treated to remove all dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well.
- 11.7 A self-etching variprime system of 0.5 mil dry film is to be applied to all aluminum components after cleaning and prior to any other coatings being applied.
- 11.8 A minimum of (2) mil dry film of two component urethane primer / surfacer will be applied to the metal surfaces to provide a corrosion protective base coat.
- 11.9 Two (2) coats of automotive grade, two component acrylic urethane paint is applied. The urethane top coat contains a clear coat resin that creates the high gloss and depth of image.

## **12. MISCELLANEOUS:**

- 12.1 Labeling: All control switches, function indicators, etc., to be labeled with engraved vinyl signs.
- 12.2 Two (2) complete sets of service manuals and two (2) sets of parts manuals are to be furnished upon delivery of the unit.
- 12.3 A 17' 6" awning will be installed on curbside and one 13' awning will be installed on the streetside of the truck body.
- 12.4 One (1) Safety Vision rear view vision video monitor system, consisting of the following:
  - 12.4.1 TFT color monitor
  - 12.4.2 Camera is mounted on the rear of body.
  - 12.4.3 Monitor is mounted in the cab of truck for easy viewing by operator.