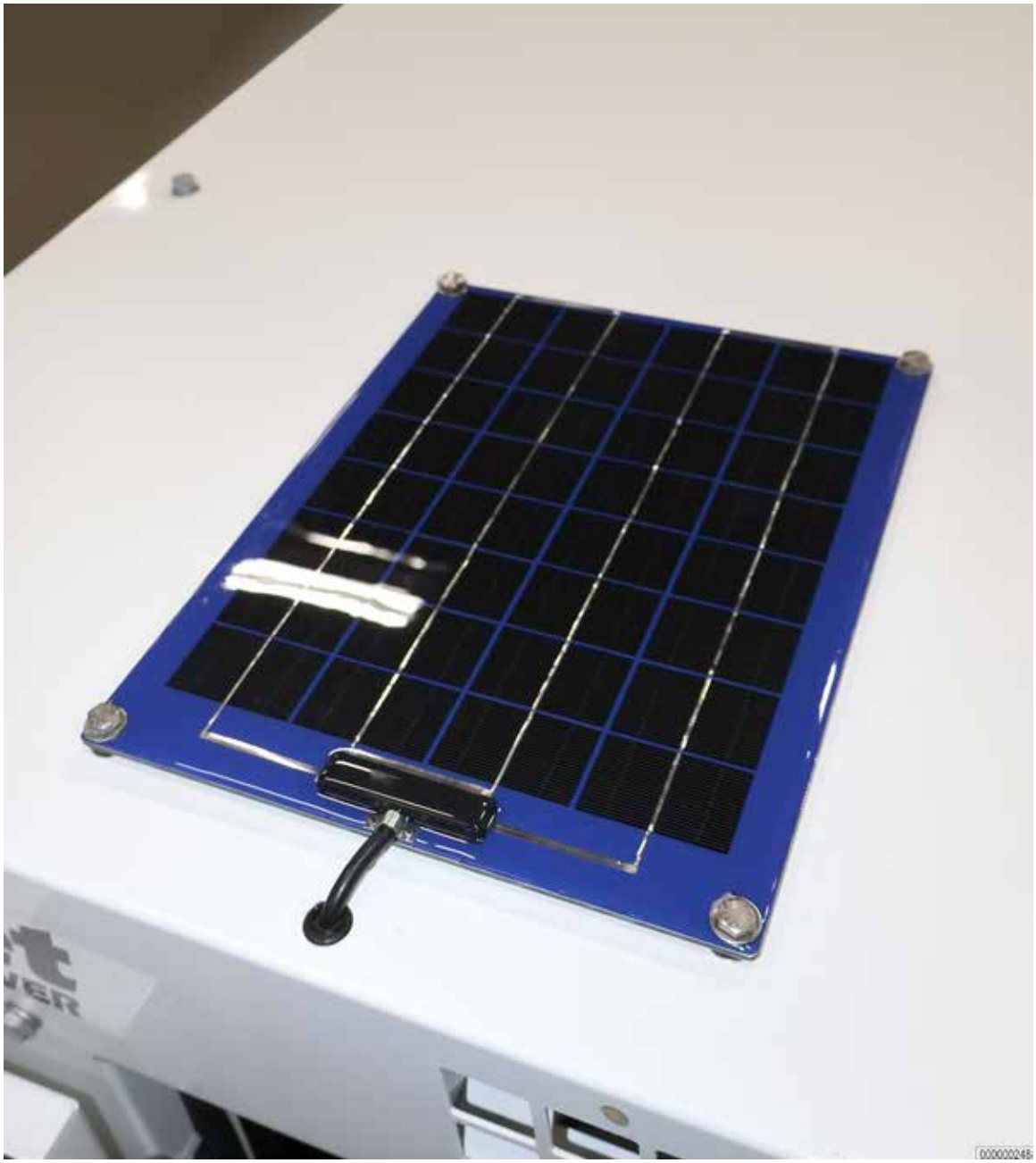
Installation Instructions

DGK25F\FU Solar Panel



 Part Number 99922238616 **Effective 02/27/26**

400 Oakwood Road, Lake Zurich IL 60047

Kit Contents:

- (1) 12v-12 Watt Solar Panel w\12v Pulse Charger

- (4) 1/4-20x3/4" stainless steel bolts
- (1) 1/4-20x1" stainless steel bolt
- (8) 1/4-20 stainless steel flat washers
- (4) 1/4-20 stainless steel lock nuts.
- (2) 8-32x3/4" stainless steel screws
- (2) 8-32 stainless steel flat washers
- (2) 8-32 stainless steel lock nuts
- (1) M8x1.25x20mm stainless steel bolt

- (1) 1/2"x 6" Black Heat Shrink Tubing
- (2) 18-22 ga Heat Shrink Butt Connectors
- (1) 1/8"x7/16" Grommet
- Black Cable Ties

- (1) DGK25F\FU Solar Panel Installation Template
- (1) DGK25F\FU Solar Panel Installation Template

Tools & Materials Required:

- Masking tape
- Electrical tape
- Measuring tape
- Scissors
- Safety knife
- Center punch
- Deburring tool
- 1/8" drill bit
- 3/16" drill bit
- 5/16" drill bit
- 13/64" drill bit
- Drill (electric or cordless)
- 11/32 socket & 1/4 drive
- 10 mm socket - 3/8 drive
- 17 mm socket - 3/8 drive
- 3/8 impact driver with 3" extension
- 13 mm combination ratchet wrench
- #2 Phillips screwdriver
- Needle Nose Pliers
- Wire cutter\stripper & crimper
- Heat Gun or equivalent
- Clear silicone sealant

NOTES

INSTALLATION INSTRUCTIONS

- **Step 1: Verify Kit Contents**
- **Step 2: Read through installation instructions before beginning the procedure.**
- **Step 3: Release the Right Enclosure rear door latch, then open both right enclosure doors. (Figure 1)**

Figure 1

- **Step 4: Turn the wingnut on the NEGATIVE battery terminal counter-clockwise to remove. (Figure 2)**

Figure 2

- **Step 5: Remove the lockwasher then the NEGATIVE battery cable. Position the negative battery cable out of the way, then reinstall lockwasher and wingnut to battery terminal. (Figure 3)**


Figure 3

- **Step 4: Using a 10 mm ratchet wrench or equivalent, remove four (4) bolts securing the Air Filter Housing mounting bracket to the underside of the Top Enclosure. (Figure 4)**

Figure 4

- **Step 5: Using a 10 mm ratchet wrench or equivalent, remove six (6) bolts securing the Air Duct Cover to the underside of the Top Enclosure. (Figure 5)**

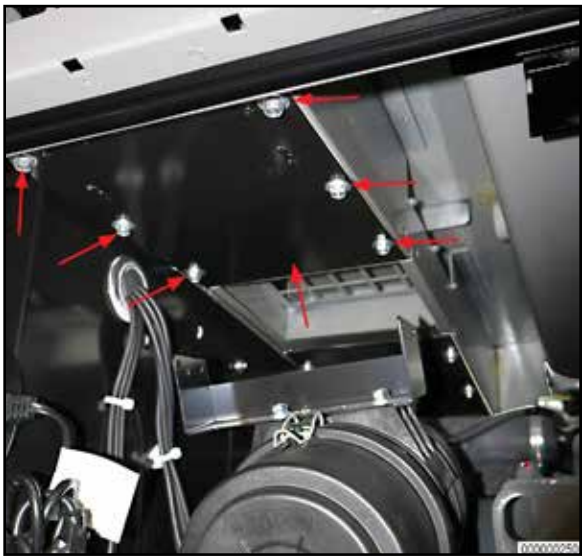


Figure 5

- **Step 6: Prepare the Solar Panel Template (included with kit) for use by using scissors or safety knife; cut along dashed lines as indicated.**
- **Step 7: Place the Solar Panel Template on the Top Enclosure surface. Using the notes and arrows on template, align the Right Side Edge of the template with the edge of the top enclousre, and the Top Edge of the template with the Pocket Edge as shown. Secure in place with masking tape. (Figure 6)**
- **Step 8: Using center punch and hole location indicated on template, transfer hole center locations to the Top Enclosure surface.**

NOTE: All drilling is inteded to be done with template remaining taped in place.

- **Step 9: Drill a pilot hole in all five (5) hole locations using 1/8" drill bit and drill.**
- **Step 10: Enlarge all five (5) holes using 5/16" drill bit and drill.**
- **Step 11: Enlarge Grommet hole using 7/16" drill bit and drill.**
- **Step 12: Remove and discard the template.**
- **Step 13: Deburr all holes.**
- **Step 14: Install grommet into 7/16" grommet hole. Make certain the gommit edges sit flush with surface. (Figure 7)**
- **Step 15: Using scissors or utility knife, remove a 1" square portion of foam insulation from the under side of the Top Enclosure to access the the solar panel power cord. (Figure 8)**

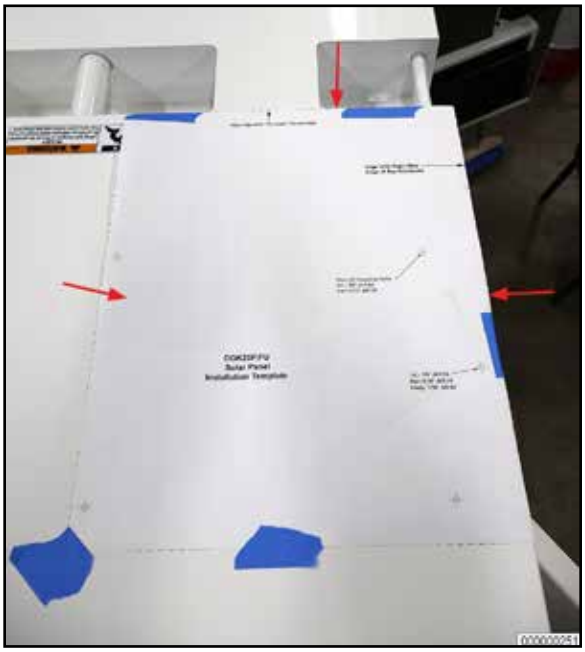


Figure 6

Figure 6

Figure 7

Figure 8

- **Step 16: In preparation to attaching the solar panel to the Top Eclosure, select three (3) 1/4-20x3/4" bolts and the 1/4-2-x1" bolt. Place a pea size bead of silicone RTV sealant to the underside of each of the 1/4-20 bolt heads as shown. (Figure 9) The remaining 1/4-20x3/4" bolt is not needed and may be discarded.**

Figure 9

- **Step 21: Remove Solar Panel from packaging; set panel on Top Eclosure.**
- **Step 22: Uncoil power cable and using measuring tape, measure out approximately 13 inches as shown. Cut power cable with wire cutters. DO NOT DISCARD remaining portion of power cable - it will be used later in the installation. (Figure 10)**
- **Step 23: Insert short end of cable (attached to solar panel) into the grommet, pushing the cable through till approximately an inch and a half (1-1/2") is remaining.**

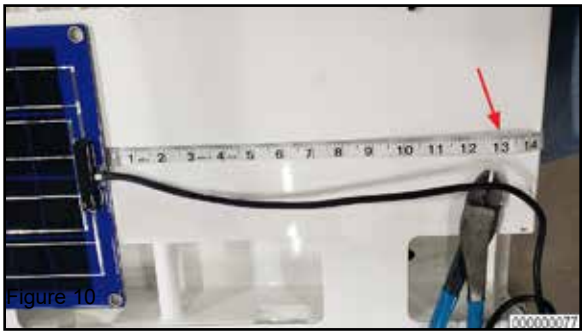


Figure 10

NOTE: If the power cable is difficult to push through the grommet, use of a lubricant such as glass cleaner or alcohol on the cable can be used.

- **Step 24: Attach solar panel to Top Enclosure. Using three (3) 1/4-20x3/4"stainless steel bolts, one (1) 1/4-20x1" stainless steel bolt (as shown) along with four (4) 1/4-20 stainless steel flat washers on top of the solar panel mounting holes and four (4) 1/4-20 stainless steel flat washers under the solar panel mounting holes, and securing to the underside of top enclosure with four (4) stainless steel 1/4-20 locknuts. DO NOT OVERTIGHTEN - Snug the bolts and locknuts only. (Figure 11)**

NOTE: The farthest back mounting hole requires the use of a one inch (1") bolt due to thick foam insulation. The clearance is tight and challenging to install.

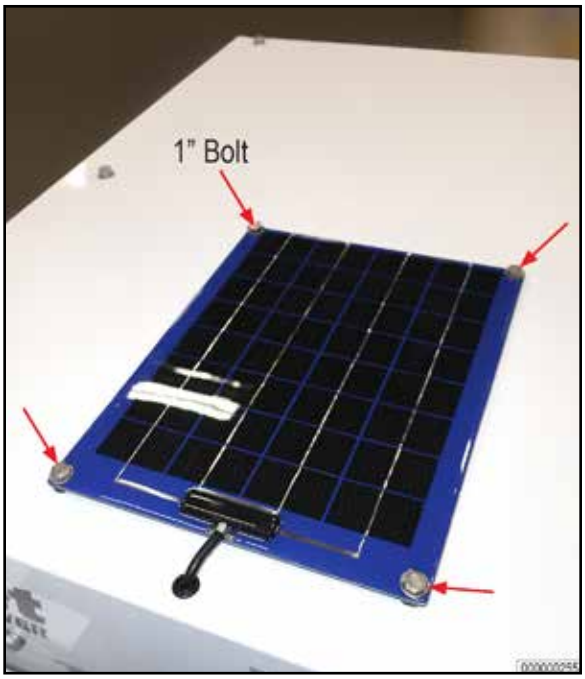


Figure 11

- **Step 25: Locate the DGK25F\FU Solar Pulse Charger Mounting Template; prepare it for use by cutting it out using scissors or safety knife.**

- **Step 16: Position the template on the lower right rear corner of the Control Box as shown. Secure in place with masking tape. (Figure 12)**
- **Step 17: Using center punch, indicate hole locations.**
- **Step 18: Use 3/16" drill bit and drill to create solar pulse charge mounting holes through template. Remove and discard template.**
- **Step 19: Deburr mounting holes.**

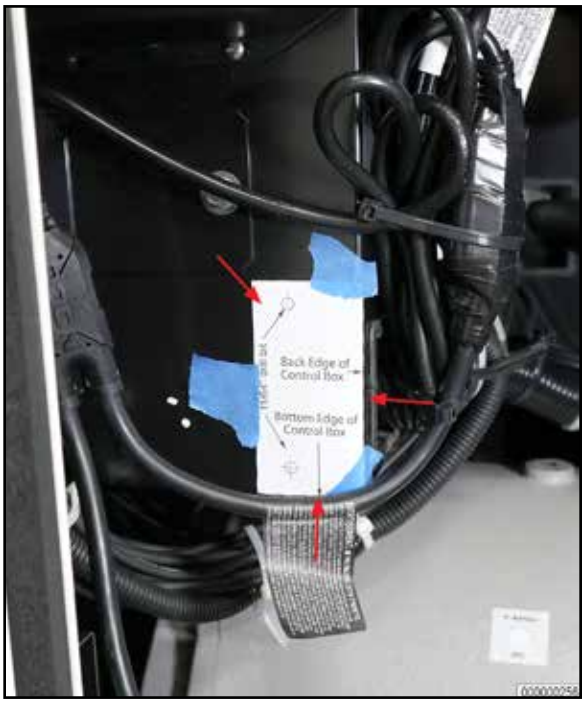


Figure 12

- **Step 20: Attach Solar Pulse Charger to upper rear corner of Control Box using two (2) stainless steel 8-32x3/4" bolts,flat washers and locknuts using 11/32"socket and driver and #2 Phillips screwdriver. DO NOT OVERTIGHTEN - Snug bolts and nuts. (Figure 13)**

Figure 13

Figure 14

- **Step 21: Using the power cable previous cut in step 22, measure approximately 10 inches from the red plug end, and cut the cable once again.**

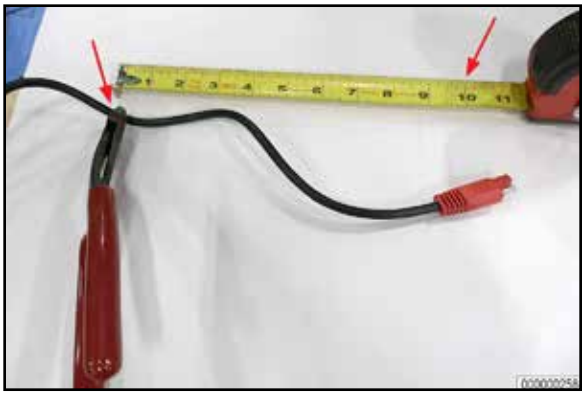


Figure 14

- **Step 22: Using wire strippers, remove approximately two (2) inches of outer sheathing from the solar panel power cable and from the red plug end cable from step 21, exposing the red and black wire within. Take care not to cut through into either of the wires. (Figure 15)**


Figure 15

- **Step 23: Place a "Butt" connectors (supplied in kit) over the exposed ends of each wire and using a wire crimper, secure the butt connectors to each wire. (Figure 16)**

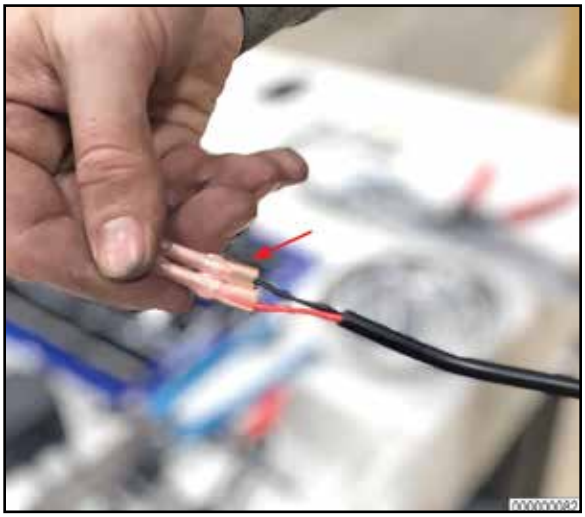


Figure 16

- **Step 24: Place a 1/2"x 6" piece heat shrink tube (supplied in kit) over plug end portion of cable, exposing the wire butt connection as shown. Use a heat gun to shrink\seal the butt connecters to the wires. (Figure 17)**

Figure 17

- **Step 25: Place ends of wires from solar panel cable into the butt connectors of the same color, securing each connection by crimping. (Figure 18)**
- **Step 26: Using heat gun or equivalent, shrink butt connectors to seal wires.**

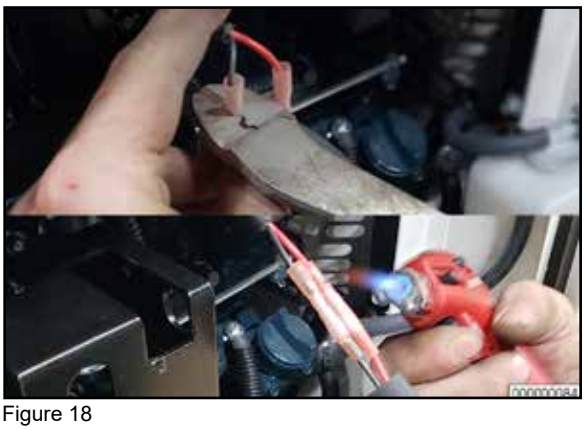


Figure 18

- **Step 27: Slide the 1/2" x 6" heat shrink tube up over butt wire connections. Starting from the bottom, working upward using the heat gun, slowly shrink the tubing over the power cable, wires and butt connectors. (Figure 19)**

Figure 19

- **Step 28: Connect plug ends of solar panel to solar pulse charger. To prevent plugs from separating, secure with electrical tape (Figure 20)**

Figure 20

- **Step 33: Remove nut securing cables to POSITIVE side of battery using a 13 mm ratchet wrench or equivalent.**
- **Step 34: Route the RED wire lead from solar pulse charger connector through the RED POSITIVE Cable cover and combine with Positive battery cable on terminal. Secure red wire lead from pulse charger with positive battery cable using previously removed nut using a 13 mm ratchet wrench or equivalent. DO NOT OVERTIGHTEN - Snug bolt (Figure 21)**

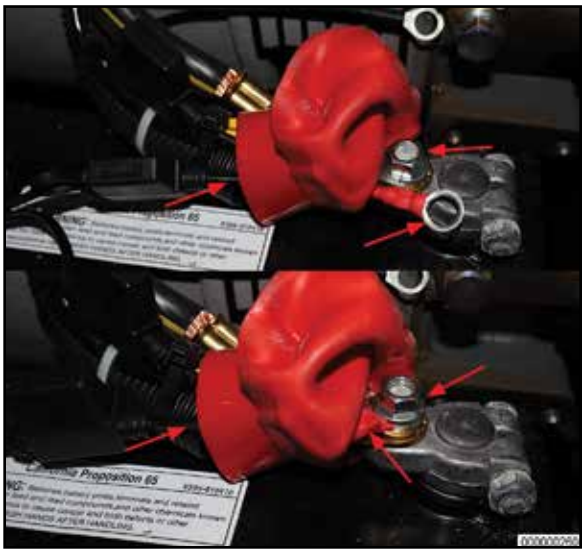


Figure 21

- **Step 35: Secure positive wire lead with fuse holder to existing cables with cable tie. (Figure 22)**

Figure 22

- **Step 36: Connect plug ends (from solar charger and to the the battery). To prevent plugs from separating, secure with electrical tape. (Figure 23)**

Figure 23

- **Step 37: Secure power cables from both solar panel and solar charger to existing wire harness using a cable ties. (Figure 24)**

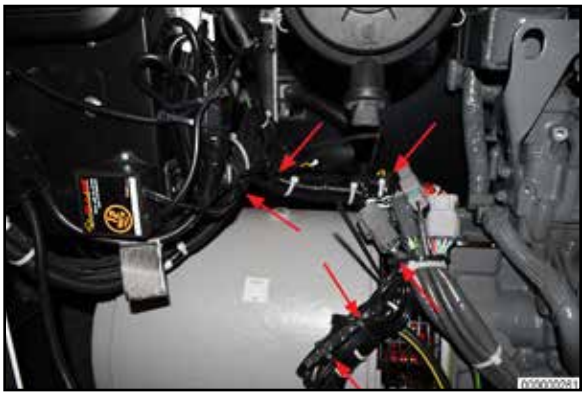


Figure 24

- **Step 38: Remove wingnut and locknut from NEGATIVE battery terminal and combine new negative wire lead from solar charger to Negative battery cable terminal. Reinstall wingnut and locknut, securing cables as shown. (Figure 25)**

Figure 25

- **Step 39: Reinstall Air Duct Cover to the underside of the Top Enclosure, securing in place with six (6) previously removed bolts (Step 5), using a 10 mm ratchet wrench or equivalent. (Figure 26)**

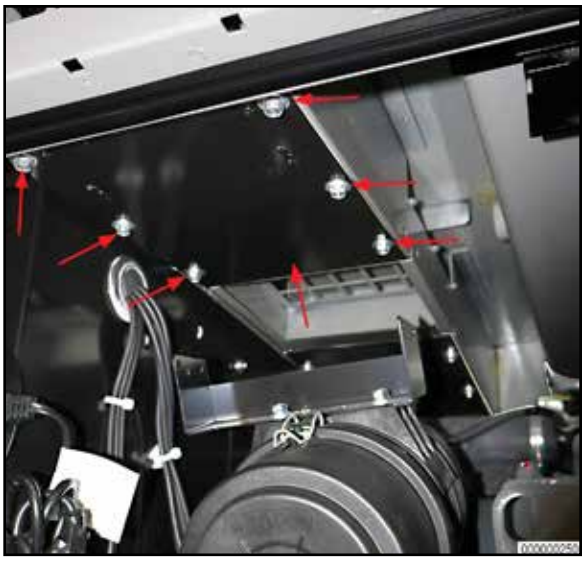


Figure 25

- **Step 40: Reinstall the Air Filter Housing mounting bracket to the underside of the Top Enclosure, securing in place with four (4) previously removed bolts (Step 4),using a 10 mm ratchet wrench or equivalent. (Figure 27)**

Figure 27

- **Step 41: Close the Right Enclosure rear doors, making sure the latch completely engages. (Figure 28)**

The Installation of the Solar Panel is now complete

Figure 28