Horton
EMERGENCY VEHICLES
REV GROUP

COOL-TECH II Module Retrofit Work Instructions

Parts and Tools Required

Below are the required tools and parts to complete this job

Required Parts

Part Number	Part Name	Qty
10017324	COOL-TECH module	1
10017325	COOL-TECH harness	1
114124-0	Conversion (power) harness	1
114124-0	COOL-TECH error plug	1
114457	Conversion plate	1
04530011	Sikaflex	1
02750135	Screws/Washers	4
10818-01469	Black Heat shrink	2
10818-01470	Red Heat Shrink	2

Required Tools

Tool
Utility knife
#2 Flat head screw driver
#2 Philips head screw driver
Wire cutters/strippers
Angled drill
Body saw
Blackburn crimper
22-18 gauge crimper
Heat source for heat shrink (ie. torch or heat gun)
Channel locks
3/8" drill bit
9/64" drill bit
5/16" drill bit
7/16” Socket or wrench

Items highlighted in green are provided by Horton

CRITICAL - Power OFF Unit

Prior to starting any work on the unit ensure the vehicle is turned off and battery disconnect switch is in the OFF position

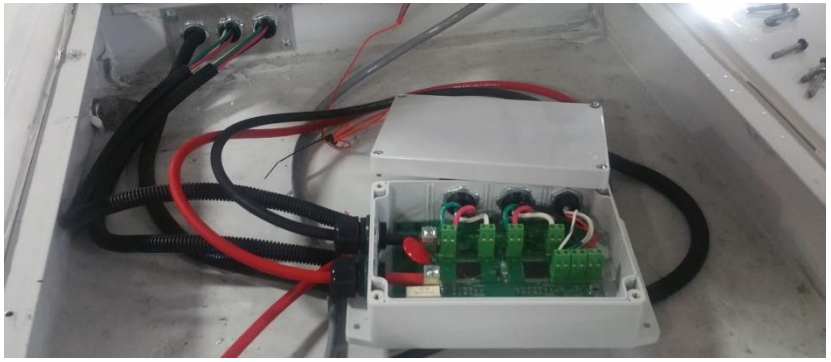
Remove Fan Cover and Solar Panel Plate

1) Cut Sikaflex on solar panel plate with a utility knife
2) Remove all solar panel plate screws and prop open panel
3) Remove all fan cage screws and prop open cage

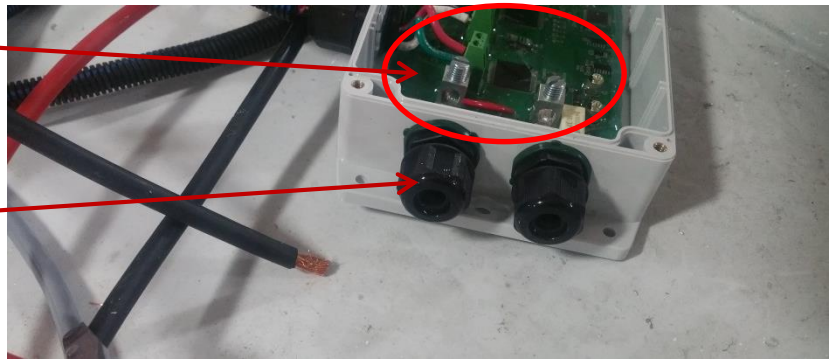
Disconnect Power Wires from Current Module

1) Current COOL-TECH module should be two face taped on solar panel. Pull off COOL-TECH module from solar panel

2) Open COOL-TECH module lid by removing four corner screws

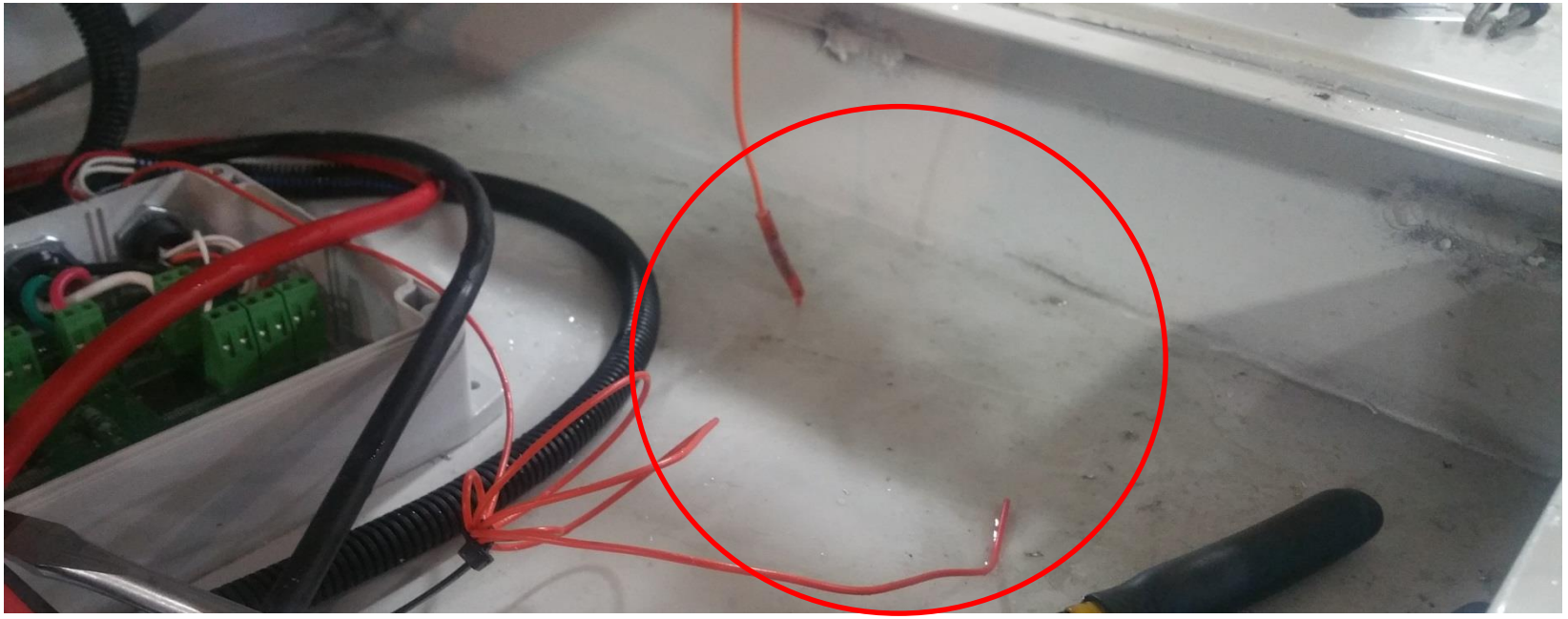


3) Use flathead screw driver to loosen up screws holding power wires. Unscrew both black weather head fittings with channel locks and pull out power and ground cables



Disconnect COOL-TECH Error Cable

1) Cut COOL-TECH data error cable



Disconnect Fan Plugs

1) Unplug all COOL-TECH harness plugs from fan (5 total plugs)

2) On solar panel side remove plate by removing 4 screws

3) From the solar panel side completely pull out the current harness and plate

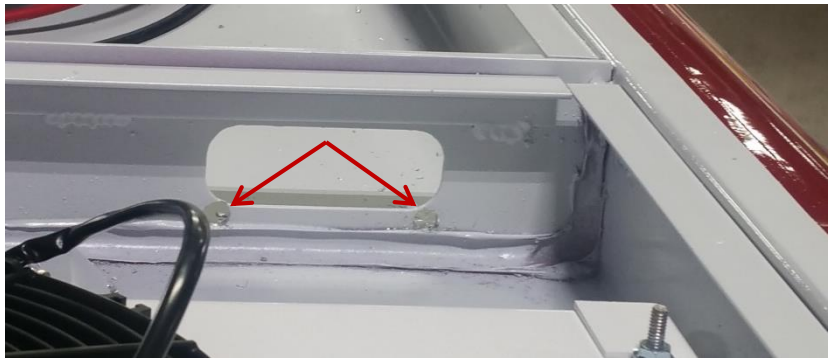
Enlarge Hole between Solar Panel and Fan

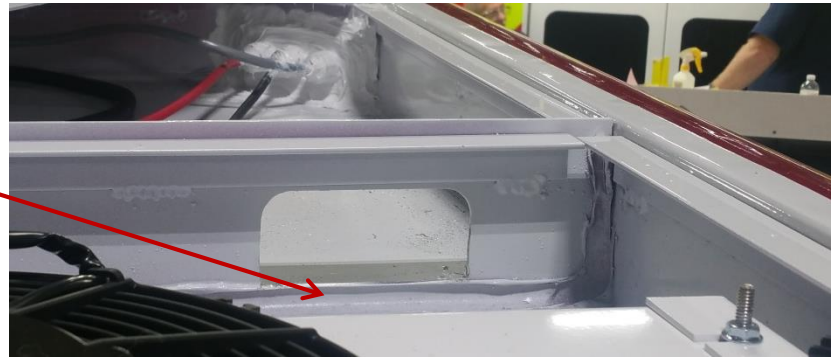
Objective is for conversion plate to sit flush on bottom of pan. If plate is already flush skip steps on this page

1) Drill two 3/8” holes under existing pass through hole as shown

2) Cut the bottom of the holes from one hole to the other

3) Clean up the hole as shown. Cut and smooth out the Sikaflex under the hole. Hole has to be large and low enough for conversion plate to sit flush





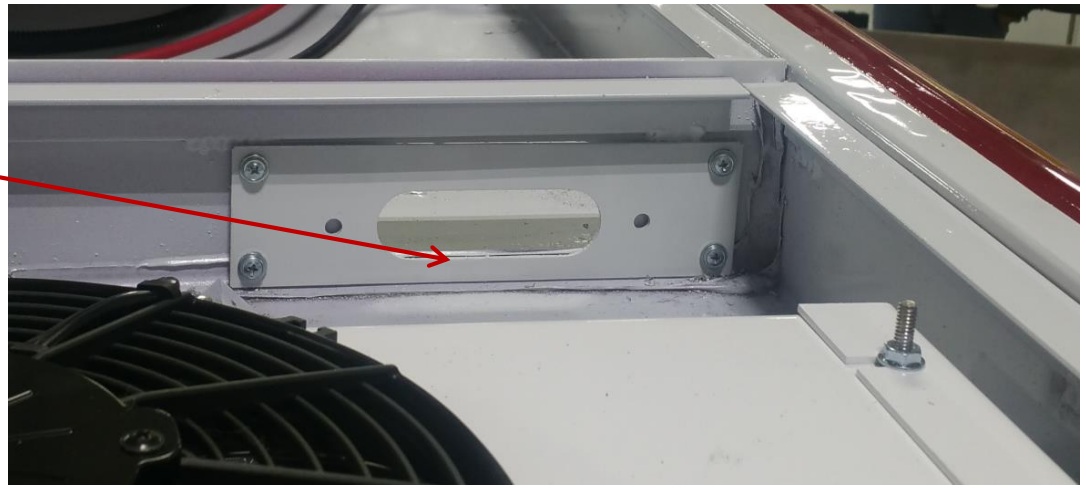
Install Conversion Plate

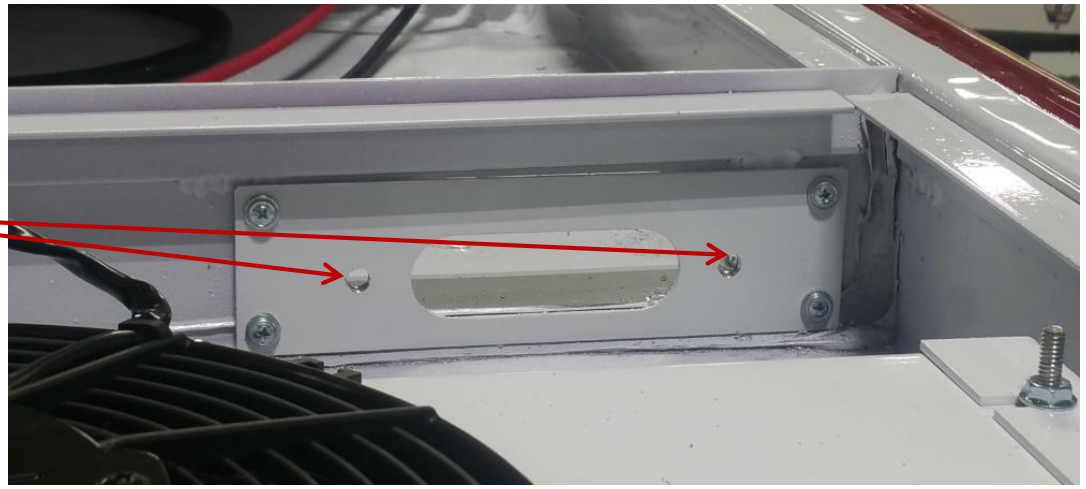
1) Align conversion plate on fan side of the unit, ensure narrow edge of the plate is on the bottom

2) Use existing corner holes in conversion plate to drill holes in bucket using a 9/64” drill bit

3) Screw on conversion plate using screws and washer provided. Bolt and nut not required

4) Drill two 5/16” holes into bucket using the conversion plate as a template





Seal Conversion Plate and Bucket

Use Sikaflex to seal any gaps between the fan side and the solar panel side

1) Around conversion plate
2) Seal around screw holes
3) Seal top lip of the bucket

Install and Seal COOL-TECH Module

1) Position COOL-TECH module as shown to the right

2) On solar panel side fasten module using nuts and bolts provided with the module

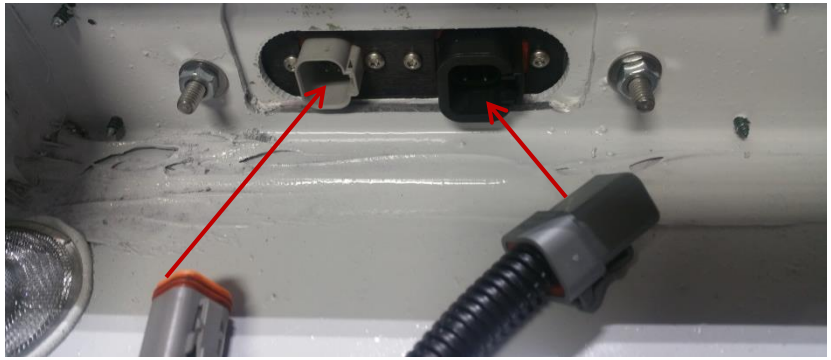
3) Sikaflex around COOL-TECH module to further prevent leaks

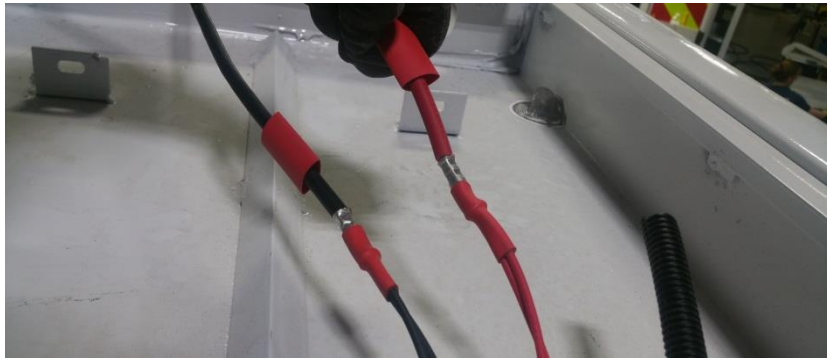
Plug Module on Solar Panel Side

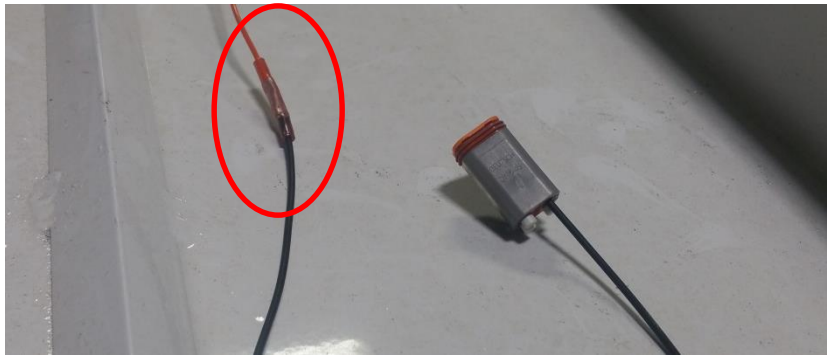
1) Plug in conversion power harness on solar panel side as shown

2) Put heat shrink on each side of the power wires, two per splice. Connect existing power wires to conversion harness using butt splice terminal and crimp using Blackburn crimpers (blue setting). Heat to complete process.

3) Strip data error wire. Connect existing COOL-TECH data error cable to conversion error plug and crimp using 22-18 gauge crimpers. Heat up butt splice to complete connection

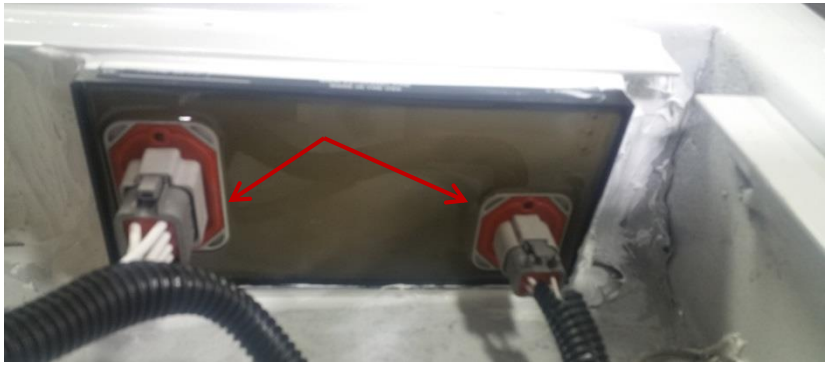






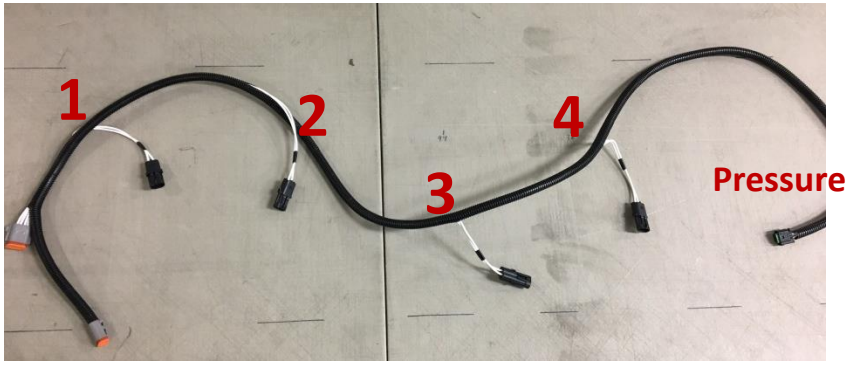
Plug Module on Fan Side

1) Plug in the COOL-TECH module on the fan side using the COOL-TECH module harness as shown to the right



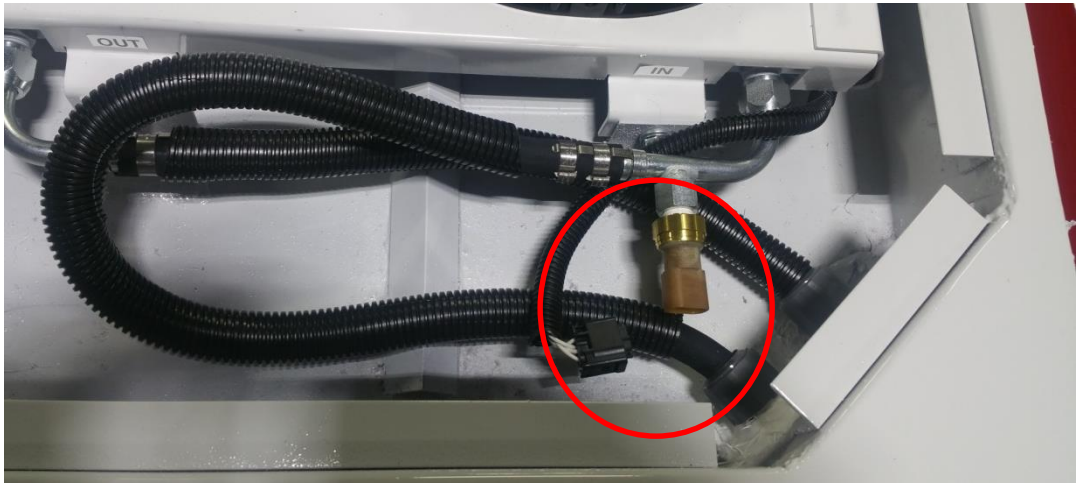
2) Plug in the other end of the module harness to each of the four fans

3) Harness picture on the right shows the COOL-TECH module harness and its plugs. Numbers represent fan to plug harness into

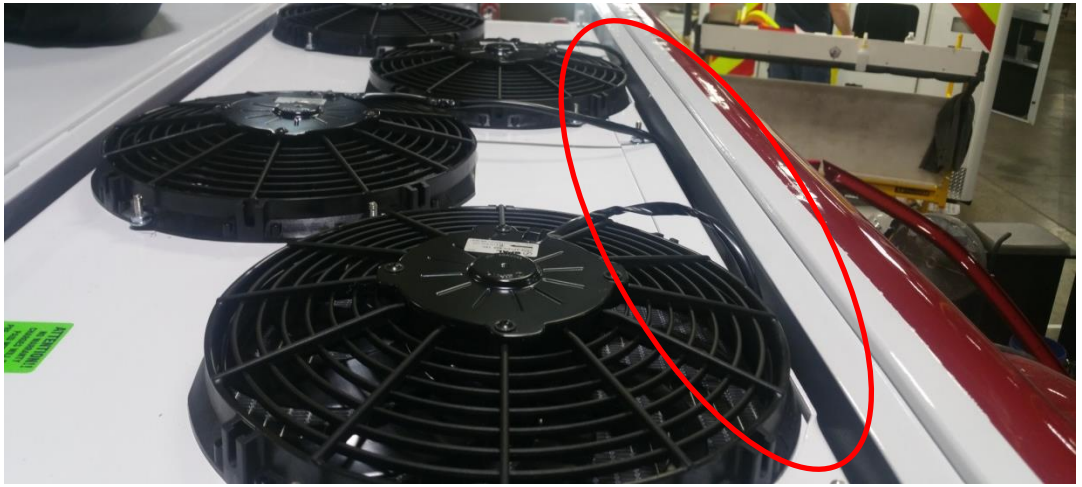


Plug Module on Fan Side (cont.)

4) Install the pressure switch transducer plug (longest harness plug), into the fan



5) Move excess COOL-TECH module harness in between the front of fan and the bucket as shown



Test System

At this point the functional aspect of the job is complete. Test the COOL-TECH assembly prior to closing up the unit

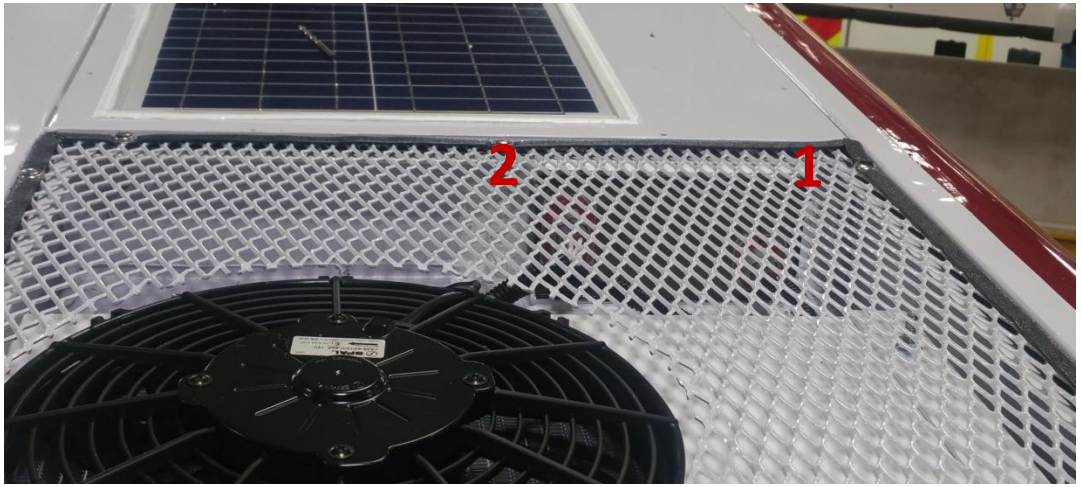
1) Start the engine
2) Turn on the A/C system to the mod/rear of the truck
3) Observe fans for rotation. At least one fan should turn on within 30 seconds as pressure builds. Extreme cold weather may require longer time.

If at least one COOL-TECH fan does not turn on, revisit previous steps for any errors. If COOL-TECH fan continues to not function, contact the Horton Tech Support

Reinstall Solar Panel and Fan Cage

1) Reinstall the solar panel plate as shown. Sikaflex plate on all sides

2) Reinstall the fan cage using existing hardware and screw pattern. Note: screw located towards the front driver side needs to be relocated due to the new module. **DO NOT DRILL THROUGH MODULE**. Move this screw from location 1 to location 2.



Additional Information

This concludes the installation of the new COOL-TECH module. For any questions or general tech support contact the Horton Technical Support Desk

Please return the old COOL-TECH module to Bruce Temple at Horton Emergency Vehicles