



# COOL-TECH I 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
10818-0170	Red Heat shrink	2

Items highlighted in green are provided by Horton

## 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

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

# Remove Closeouts Above Left Cabinet

- 1) Remove buttons by pulling off with fingers or channel locks
- 2) Remove screws with #2 Philips head screw driver or cordless drill



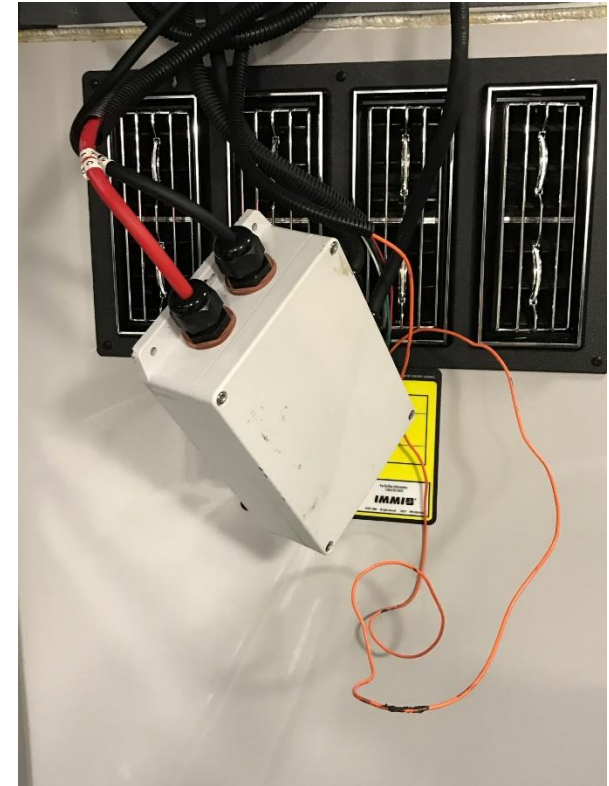
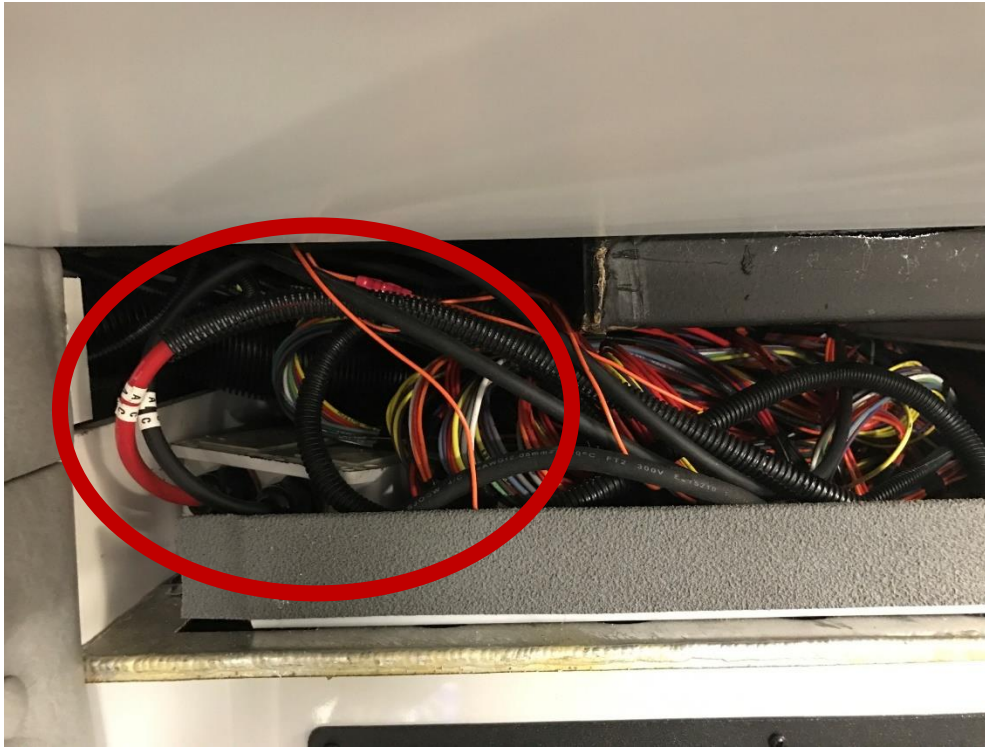
# Remove White Board Above Left Cabinet

- 1) Remove screws with #2 Philips head screw driver or cordless drill
- 2) Remove the White board from the current location



# Remove Controller from Above Left Cabinet

- 1) Remove current COOL-TECH module and the data error cable and let both of them hang in front of the left front cabinet as shown below.

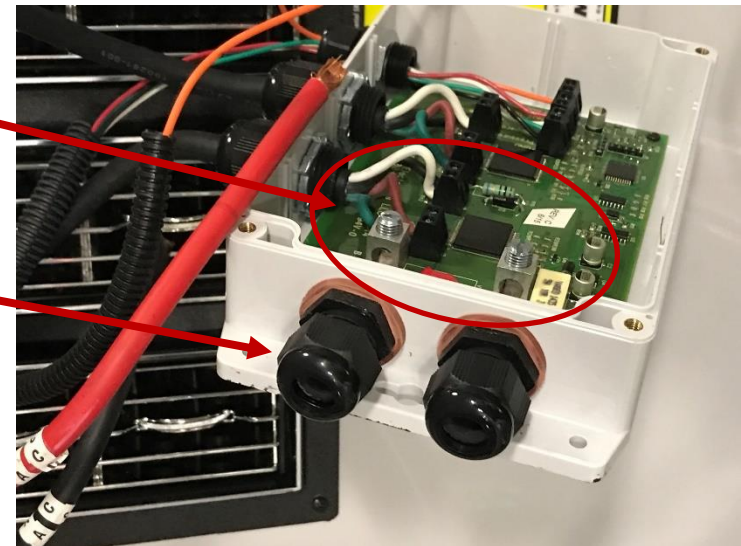


# Disconnect Power Wires from Current Module

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

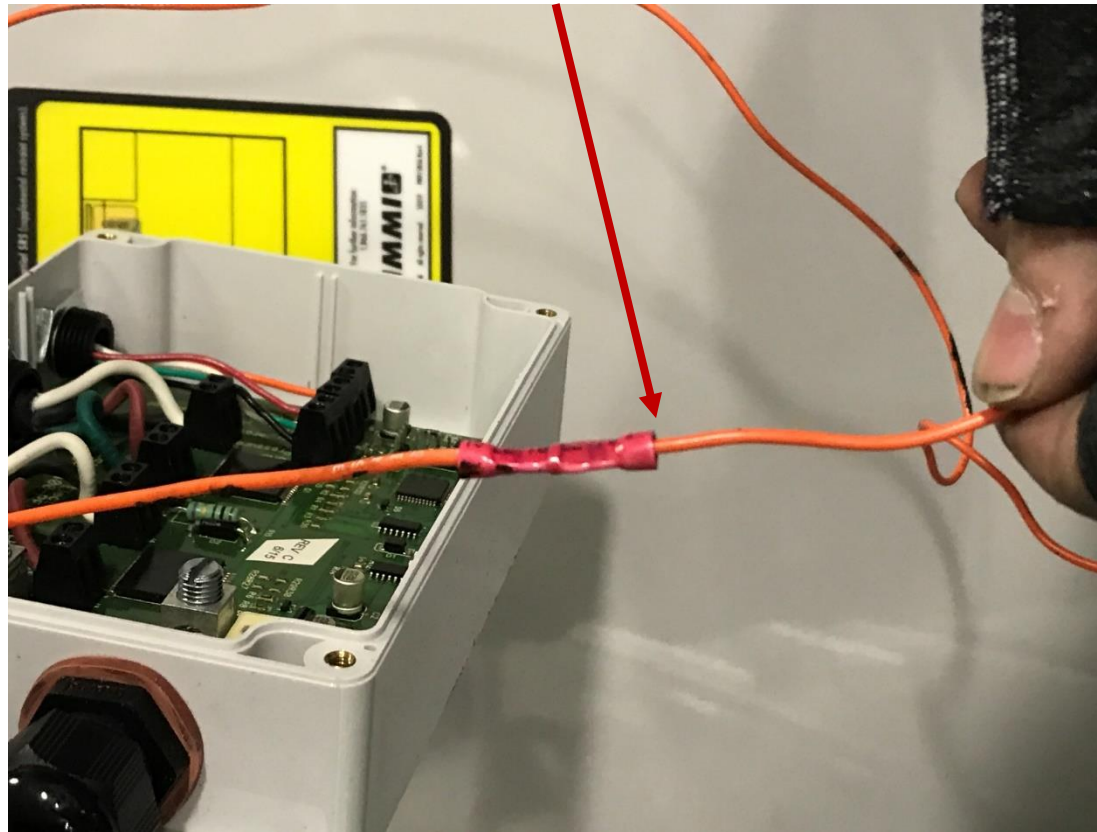


2) Use flathead screw driver to loosen up screws holding power wires. Unscrew both black weather head fittings with channel locks and pull out power and ground cables



# Disconnect COOL-TECH Error Cable

1) Cut COOL-TECH data error cable with cable cutters.



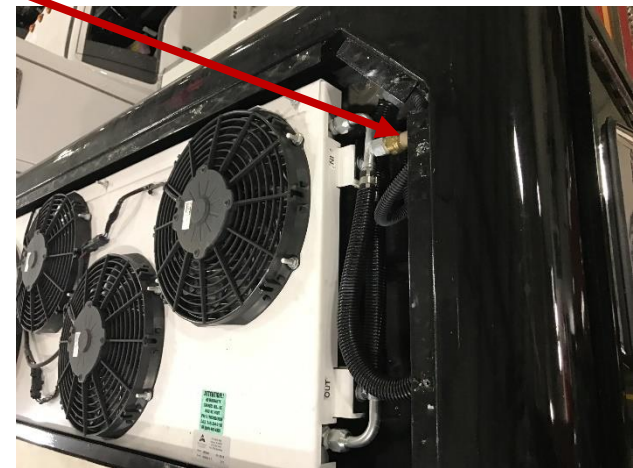
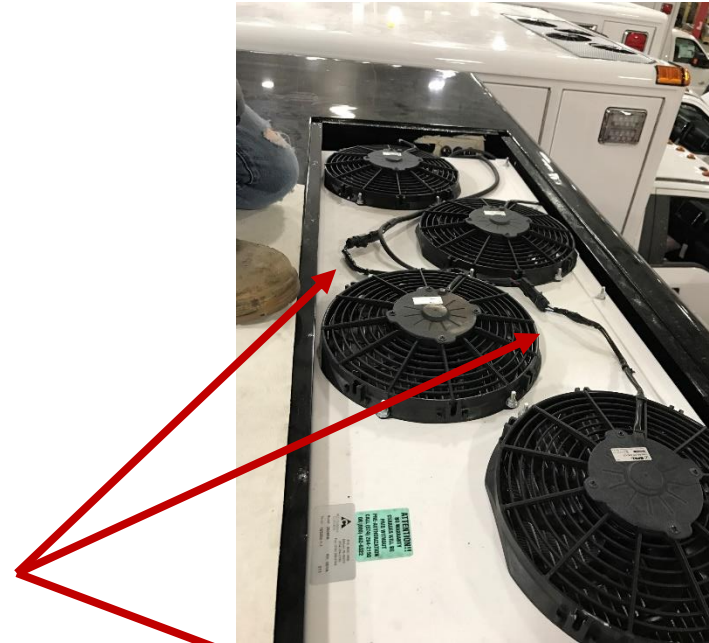
# Remove COOL-TECH Cage

1) Remove all screws from the cage and pull the cage off



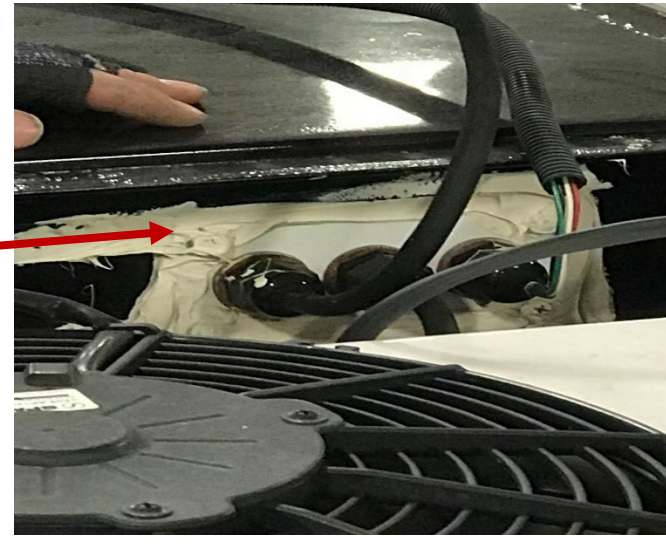
# Disconnect COOL-TECH Fan Plugs

- 1) Unplug all COOL-TECH harness plugs from fans (5 total plugs)
- 2) Pull all fan connectors wires down to place where they come into the pan



# Detach Connector Plate from Pan

1) Remove Sikaflex from the plate with a knife or flat head screw driver and remove 4 screws from the plate

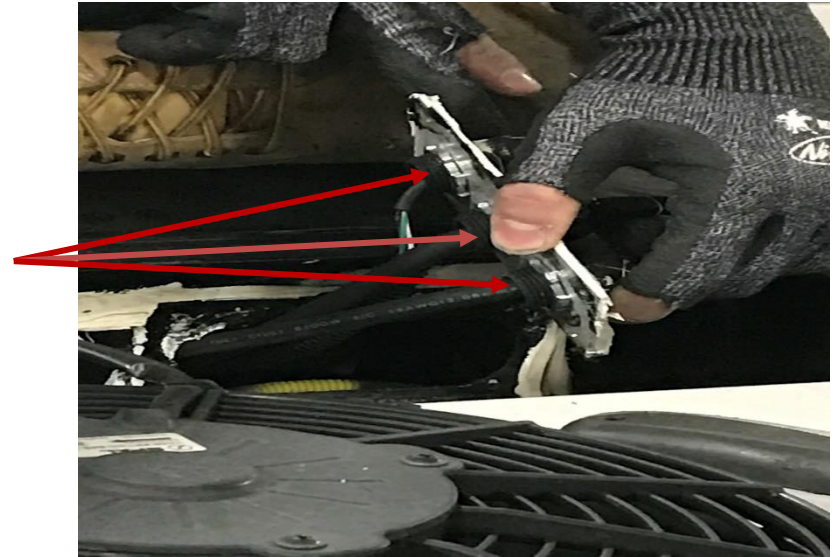


2) Pry the plate away from the side of the pan with flat head screw driver



# Remove Current COOL-TECH Cables

1) Loosen 3 nuts on the back side of the plate with channel locks



2) Cut all 3 cables with cable cutters and pull the cables back through the inside of the truck. Dispose of the cables.



# Enlarge Hole between Pan and Inside of Truck

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

- 1) Clean up Sikaflex around the hole. Hole has to be large and low enough for conversion plate to sit flush with the bottom and side of the pan.
- 2) Verify that opening of the plate and pan are flush with one another. If the pan is above or below the conversion plate lip make it even so cables do not rub.



# Install Conversion Plate

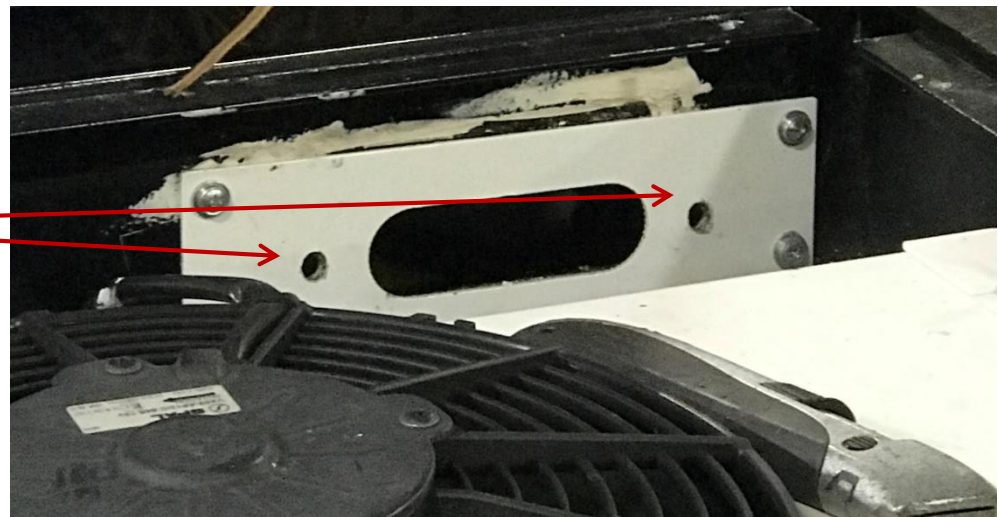
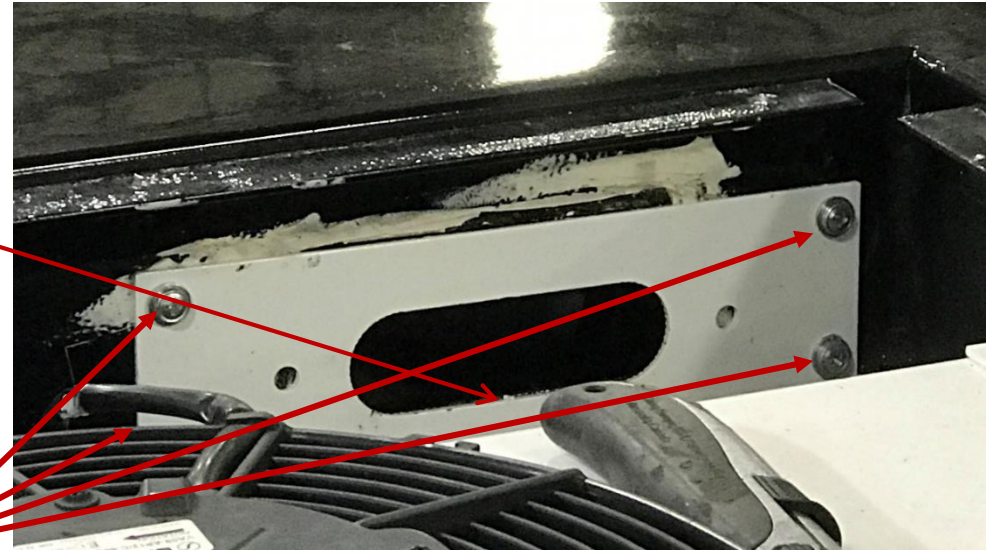
1) Align conversion plate on fan side of the unit, ensure narrow edge of the plate is on the bottom

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

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

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

5) Using a small vacuum sweep around the plate. This is to make sure no metal shavings end up in the Sikaflex



# Seal Conversion Plate and Bucket

Use Sikaflex to seal any gaps between the fan side and the inside of the truck

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



# Connect Current Wires with New Wires

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



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



3) Run the conversation harness up through the hole into the pan as shown to the right.



# Install COOL-TECH Module

1) Plug the conversion harness into the COOL-TECH module as shown



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



3) Place the nuts and washers on the bolts that are inside of the truck and tighten COOL-TECH module to the pan with 7/16" socket or wrench



# Plug Module on Fan Side

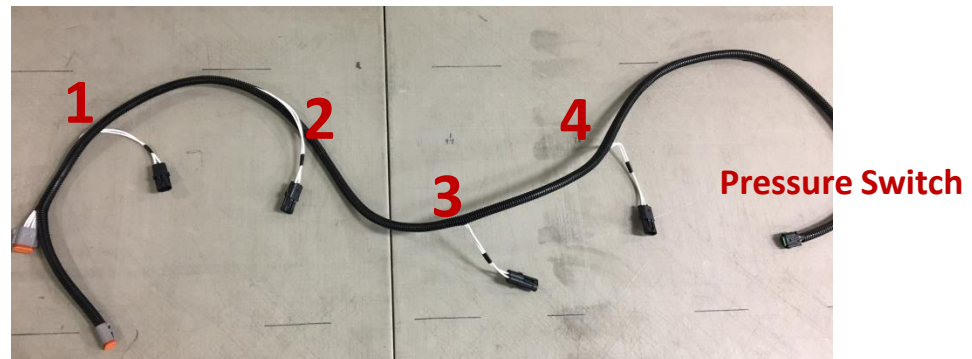
1) Sikaflex around COOL-TECH module to prevent future leaks



2) Plug in the COOL-TECH module on the fan side using the new COOL-TECH harness and other end of the harness to each of the four fans

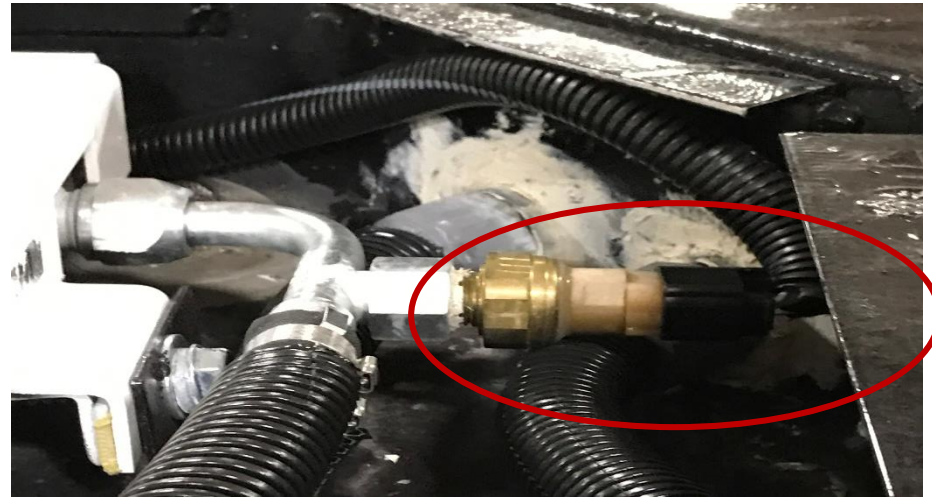


3) Harness picture on the right shows the COOL-TECH harness and its plugs. Numbers represent fan to plug harness into

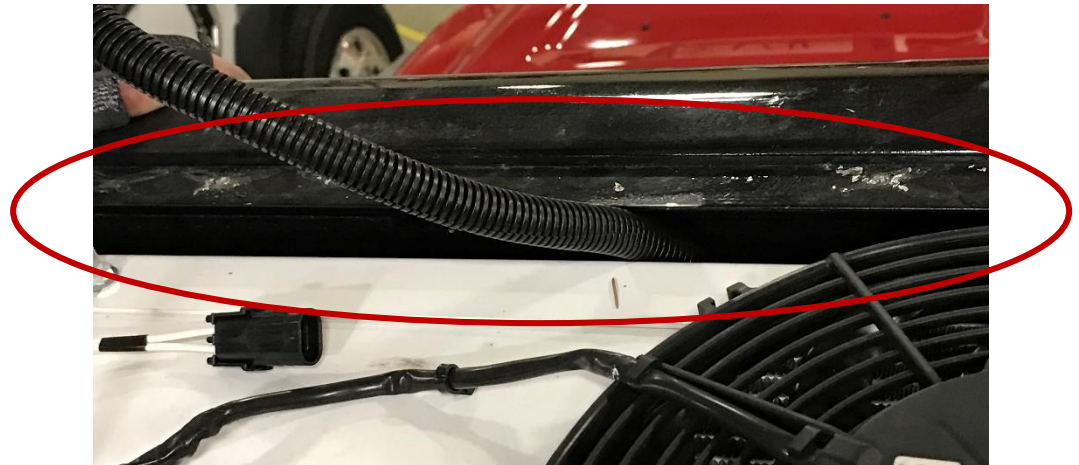


## Plug Module on Fan Side (cont.)

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



# Reinstall Fan Cage and Closeouts

1) Reinstall the fan cage using the 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.



2) Reinstall White board and cushion closeouts inside the truck



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

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