

# PREVOST

## Instruction Sheet

## IS-20004

### BRUSHLESS FAN INSTALLATION FOR VEHICLES EQUIPPED WITH OPTIONAL PARCEL RACK AIR CONDITIONING

First Release

11-16-2023

#### APPLICATION



#### IMPORTANT INFORMATION!

- This brushless fan kit is only intended for vehicles equipped with optional AC (cooling) in the parcel racks.
- This brushless fan kit should not be installed in H series vehicles equipped with a wheel chair lift system (WCL).

VEHICLES (with parcel rack AC cooling)	CATEGORY
H Series From W2285 up to 5-0167	<b>GROUP 1 (NOT AVAILABLE)</b> Pre-Multiplex 2 speeds motor
X Series : From Y6951 up to 7-8932	
H Series from 5-0168 up to G3128	<b>GROUP 2</b> Multiplex one speed motor
X Series from 7-8754 up to G5977/H7322 Commuter NYCTA 2012	
H Series from G-3129 up to J-0184	<b>GROUP 3</b> Multiplex two speed motor
X Series from G5978/H7323 up to H6181/H7416 Commuter NYCTA 2015-2016	
H Series from K-0185 up to now	<b>GROUP 4</b> EFD two speed motor
X Series from H6181/H7416 up to now	

## MATERIAL

Kit **#IS20004-2** includes the following parts for GROUP 2 vehicles:

Part No.	Description	Qty
950623	BLOWER ASSY.	2
453961	TRANSITION PLATE	2
0610572	RESISTOR FAN HARNESS (GROUP 2)	2
502698	SCR MA PAN PH SS NSS M4-0.7X16	10
500591	WSH FL Z050 4.3X9X.8 (M4,#8)	10
502636	WSH LO SPT Z050 4.1X7.6X.9 (M4,#8)	10
506071	FOAM TAPE AD1 PE CC BK 1/8"X1/2"	0.2 RL
562679	4 WAY ADH. SQUARE BACKED MOUNTS	4
502622	SCR CAP HEX SS NSS M6X20	8
502853	WSH LO SPT N500 6.1X11.8X1.6 (M6,#12)	8
504637	CABLE TIE, NYLON BLK (STD)	15
560784	SHRINK .250po .125po BLK -55C, +135C D/W	1 FT
560587	TERM,RING,ST,16-14,1/4,INS	1
562953	BUTT-SPLICE,16-14,INS	4
IS-20004	INSTRUCTION SHEET (EN)	1
FI-20004	INSTRUCTION SHEET (FR)	1

Kit **#IS20004-3** includes the following parts for GROUP 3 vehicles:

Part No.	Description	Qty
950623	BLOWER ASSY.	2
453961	TRANSITION PLATE	2
0610573	INTERFACE HARNESS (GROUP 3)	1
0610582	FAN HARNESS (GROUP 3 & 4)	2
502698	SCR MA PAN PH SS NSS M4-0.7X16	10
500591	WSH FL Z050 4.3X9X.8 (M4,#8)	10
502636	WSH LO SPT Z050 4.1X7.6X.9 (M4,#8)	10
506071	FOAM TAPE AD1 PE CC BK 1/8"X1/2"	0.2 RL
562679	4 WAY ADH. SQUARE BACKED MOUNTS	4
502622	SCR CAP HEX SS NSS M6X20	8
502853	WSH LO SPT N500 6.1X11.8X1.6 (M6,#12)	8
504637	CABLE TIE, NYLON BLK (STD)	15
560784	SHRINK .250po .125po BLK -55C, +135C D/W	1 FT

560587	TERM,RING,ST,16-14,1/4,INS	1
562953	BUTT-SPLICE,16-14,INS	4
IS-20004	INSTRUCTION SHEET (EN)	1
FI-20004	INSTRUCTION SHEET (FR)	1

Kit #IS20004-4 includes the following parts for GROUP 4 vehicles:

Part No.	Description	Qty
950623	BLOWER ASSY.	2
453961	TRANSITION PLATE	2
0610518	INTERFACE HARNESS (GROUP 4)	1
0610582	FAN HARNESS (GROUP 3 & 4)	2
502698	SCR MA PAN PH SS NSS M4-0.7X16	10
500591	WSH FL Z050 4.3X9X.8 (M4,#8)	10
502636	WSH LO SPT Z050 4.1X7.6X.9 (M4,#8)	10
506071	FOAM TAPE AD1 PE CC BK 1/8"X1/2"	0.2 RL
562679	4 WAY ADH. SQUARE BACKED MOUNTS	4
502622	SCR CAP HEX SS NSS M6X20	8
502853	WSH LO SPT N500 6.1X11.8X1.6 (M6,#12)	8
504637	CABLE TIE, NYLON BLK (STD)	15
560784	SHRINK .250po .125po BLK -55C, +135C D/W	1 FT
560587	TERM,RING,ST,16-14,1/4,INS	1
562953	BUTT-SPLICE,16-14,INS	4
IS-20004	INSTRUCTION SHEET (EN)	1
FI-20004	INSTRUCTION SHEET (FR)	1

**NOTE**

*Material can be obtained through regular channels.*

**PROCEDURE**



**DANGER**

Park vehicle safely, apply parking brake, stop engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position.

Lock out & Tag out (LOTO) must be performed during set-up, maintenance or repair activities. Refer to your local procedure for detailed information regarding the control of hazardous energy.

## PART ONE: PREPARATION

1. Locate the curb side parcel rack AC unit.

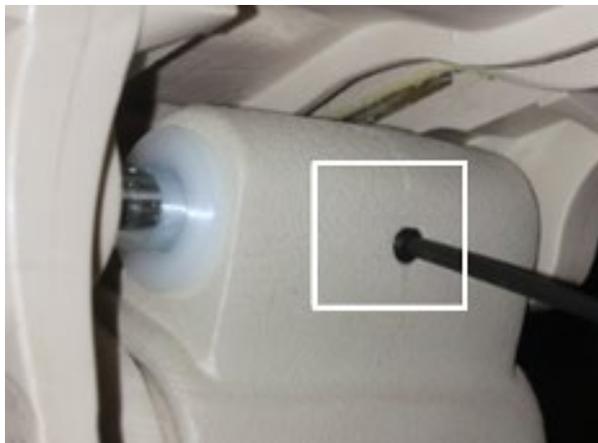


2. Remove the corresponding parcel rack door.

- Disconnect the door gas cylinder using a small flat screwdriver to unclip it from the ball screw.



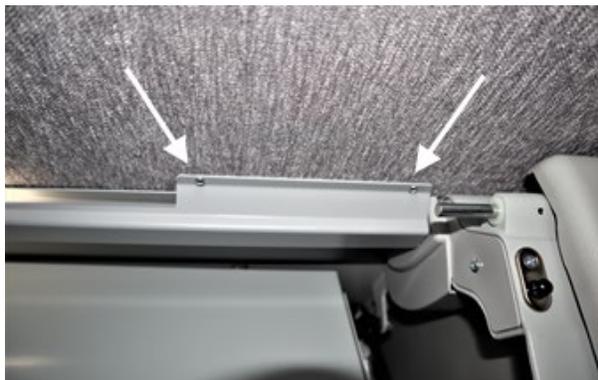
- At the other end, slightly unscrew the Allen head set screw (2mm) to allow sliding movement of the retaining pin.



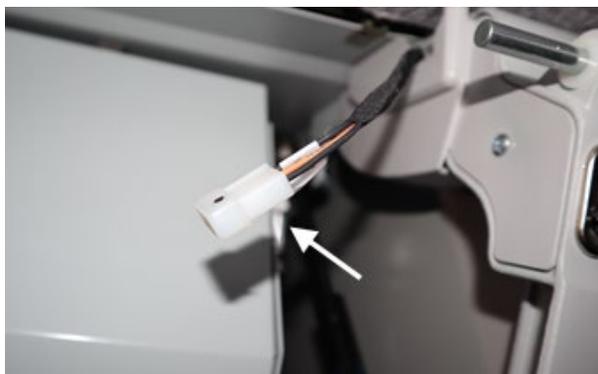
- Slide the pin and remove the door.

3. Remove the parcel rack light fixture.

- Remove all small screws holding the fixture along the upper part of the parcel rack.



- Disconnect the fixture and set it apart.



4. Remove the small access trap under the parcel rack.

- Remove the drain access trap by unscrewing the trap hold down screw.



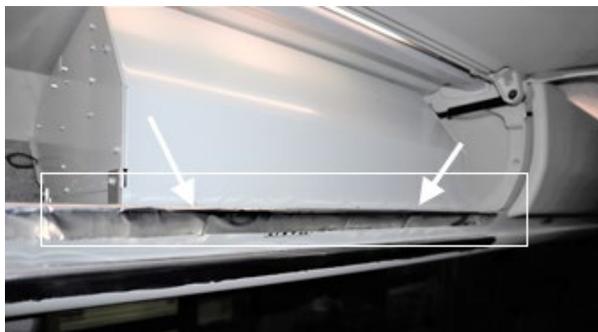
5. In the adjacent parcel rack, remove the plastic separator next to the AC unit.

- Remove all 6 screws to remove the separator and access the side of the AC unit.



6. Put a protective strip of tape along the lower edge of the parcel rack.

- Make sure that the edge is well protected with one or two strips of aluminum duct tape.



## PART TWO: TAKING THE OLD BLOWER ASSEMBLY OUT

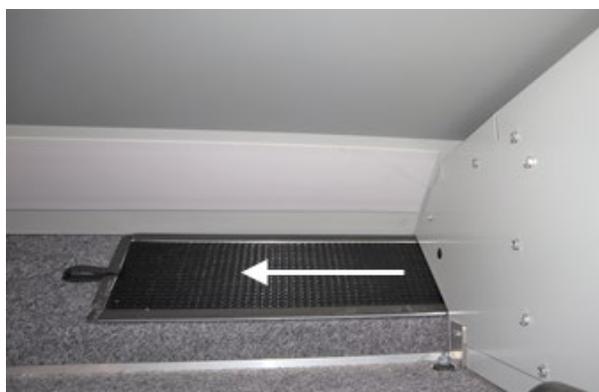
### 1. Disconnect the blower assembly.

- Cut the cable ties and disconnect the 6 PIN connector on the side of the AC unit.



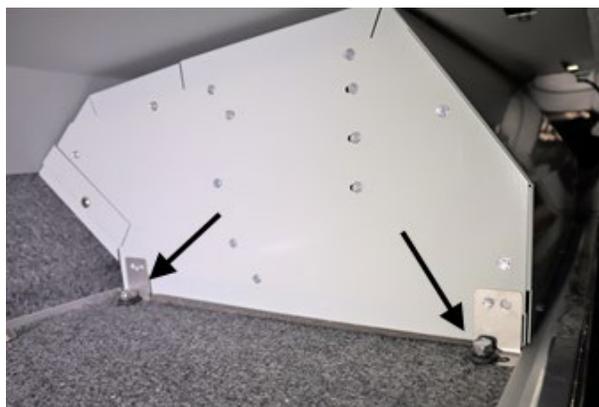
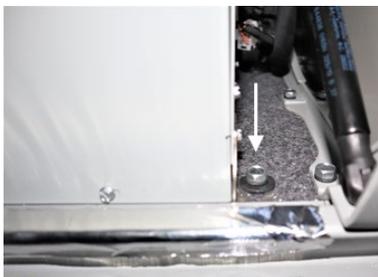
### 2. Remove the AC unit air filter.

- Pull the tab and slide the filter out of the AC unit.



### 3. Unscrew the AC unit from the parcel rack.

- Remove the three screws holding the AC unit to the parcel rack floor.



4. Remove the AC unit large side cover (air filter side).

- Unscrew all the small screws holding the cover to the AC unit and remove the cover.



5. Remove cover on the other side of the AC unit (two pieces cover).

- Remove all small screws holding the two pieces cover to the other side of the AC unit.
- Remove the larger part of the cover.
- On the small cover, remove the lower bracket screw and the P-clamp holding the AC hose to the bracket.
- Move away the smaller part of the cover (smaller part can't be removed with the motors in place).



6. Disconnect the drain pipe at the back of the AC unit.

- From the small access trap under the parcel rack, unscrew (hose clamp) & disconnect the drain tube from the AC unit.



7. Remove the blower assembly and the rear cover.

- Slightly lift the AC unit and *rotate the filter side 35 to 45deg. over the lower edge of the parcel rack* to access the rear of the unit (make sure that duct tape was installed to protect the edge).
- Disconnect the large blower resistor bolted to the inside of the rear panel between the two motors.



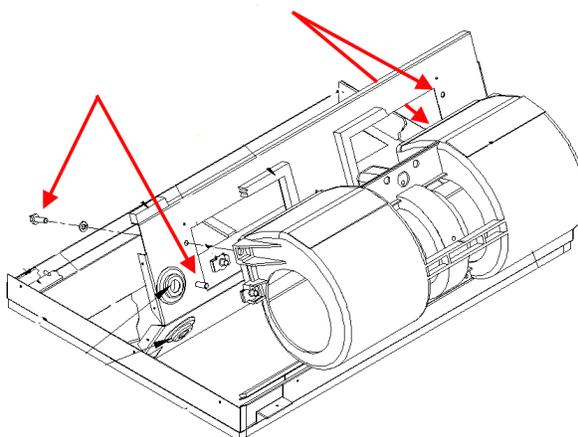
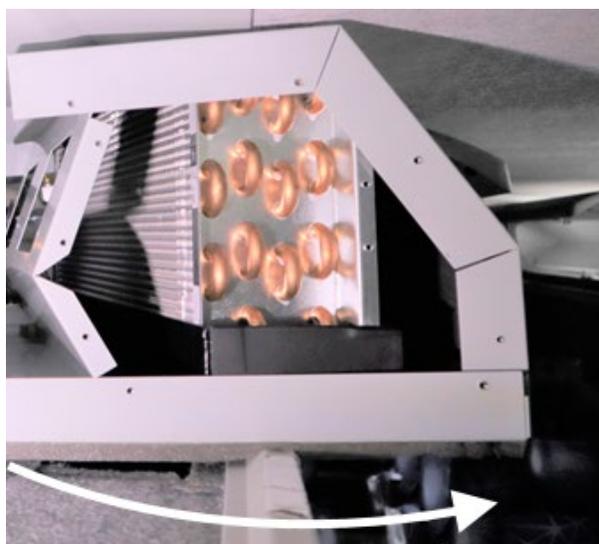
- Remove the four screws (two at each end) holding the blower assembly to the AC unit.

**NOTE**

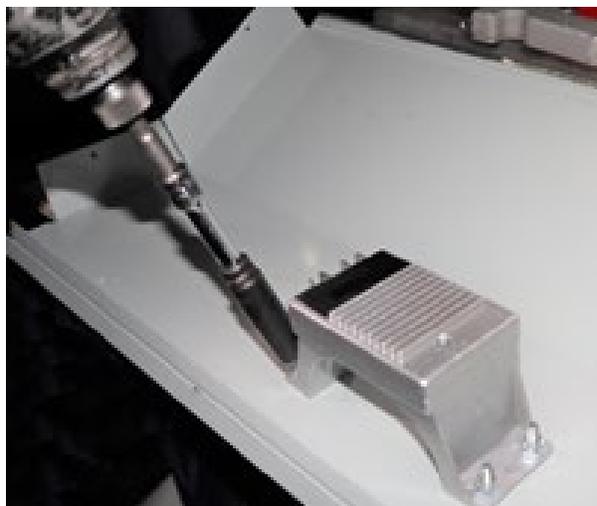
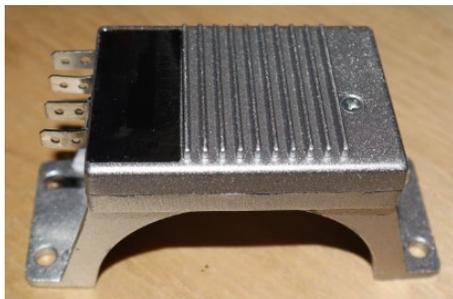
*For this operation, the use of a 7/16" ratcheting & articulated combo wrench is highly recommended for the upper screws.*



- Slide out together the rear cover (and resistor) and the blower assembly.



8. Remove the resistor from the rear cover.
  - Remove and discard the large resistor from the AC unit rear cover.



### PART THREE: INSTALLING THE NEW BLOWER ASSEMBLY

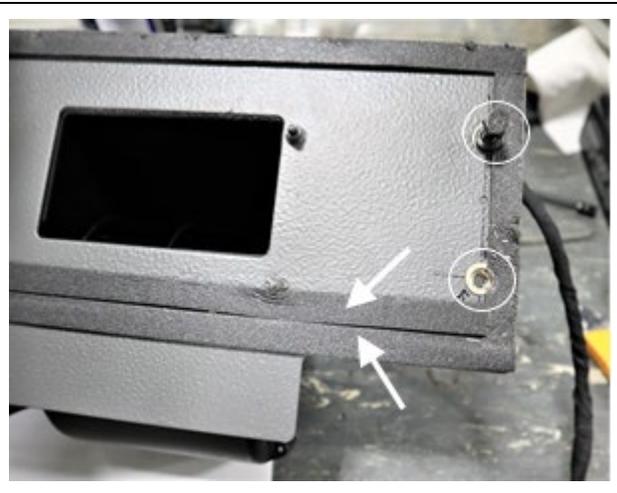
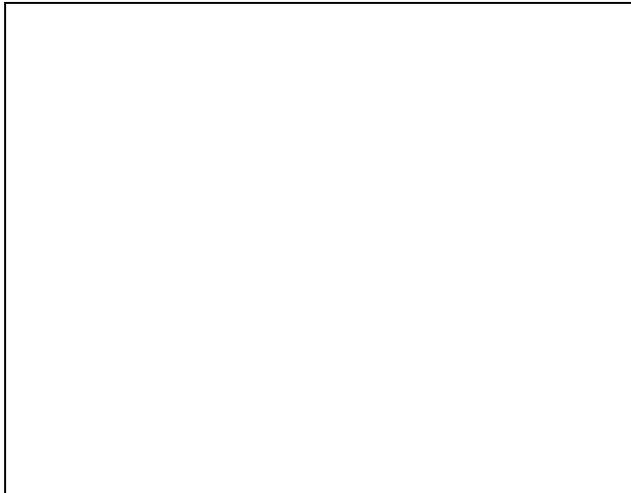
1. Enlarge the blower fans opening at the back of the AC unit.
  - Locate both fan openings at the back of the AC unit
  - Using a pneumatic cut-off tool, cut the central metal section to make one large opening.



- Discard the central part and debur carefully the new opening.



	
<p>2. Apply sealing foam tape to the blower assembly</p> <ul style="list-style-type: none"><li>– Apply a length of the supplied <b>506071</b> foam tape around the new <b>950623</b> fan assembly flange.</li><li>– Also apply a strip of foam along the center part of the flange as shown.</li></ul>	
<p>3. Install the blower assembly transition plate</p> <ul style="list-style-type: none"><li>– Secure the blower assembly to the <b>453961</b> transition plate using the five supplied <b>502698</b> screws, <b>502636</b> locks &amp; <b>500591</b> washers.</li><li>– Make sure to compress the foam tape evenly.</li></ul>	 
<p>4. Apply sealing foam tape to the transition plate.</p> <ul style="list-style-type: none"><li>– Apply foam tape around the transition plate as shown (there is no need to apply foam tape around the shorter part of the plate).</li><li>– Apply a second strip of tape over the lower one as shown.</li><li>– Remove part of the foam tape covering the plate threaded inserts as required.</li></ul>	



5. Connect the interface harness to the blower assembly.

- **GROUP 2 VEHICLES:** Connect one of the **0610572** interface harnesses to the blower assembly harness.

**OR**

- **GROUP 3 & 4 VEHICLES:** Connect one of the **0610582** interface harnesses to the blower assembly harness.

- Install two **562679** square cable tie holders on the top of the left (viewed from back) fan.
- Wrap the cable excess over the fan using two **504637** cable ties.



6. Secure the new blower assembly to the AC unit.

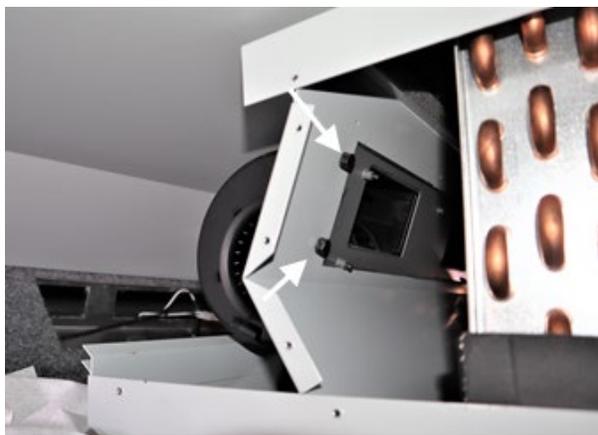
- Slide the new blower assembly into position at the back of the AC unit.
- Tighten halfway the two first **502622** screws (and **502853** washers) on the side.
- Slide your hand between the assembly and the AC core and tighten the two other screws & washers on the hose side of the AC unit.

**WARNING:** The core fins are sharp, use protective gloves for this operation.

- Tighten the two previously installed screws to final torque.

**NOTE**

*For this operation, the use of a ratcheting & articulated combo wrench is highly recommended.*



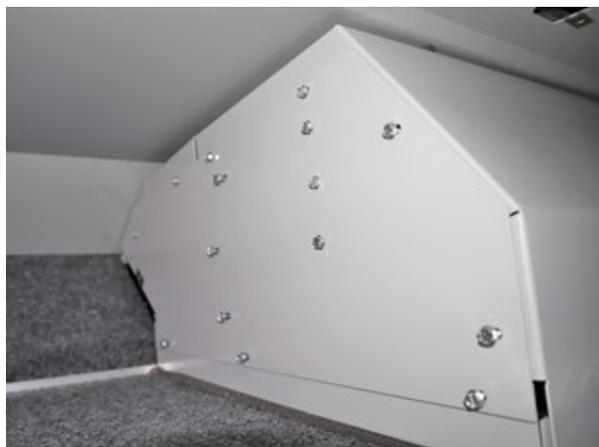
7. Install the top cover.

- First make sure that the hose side small cover is in position (small cover will not slide in place if the top cover is installed)
- Slide the top cover in position.
- Slide back the AC unit in its original position in the parcel rack.



8. Install the larger cover

- Secure the cover to the AC unit.
- Also install the two hold down L-bracket at the cover lower extremities.



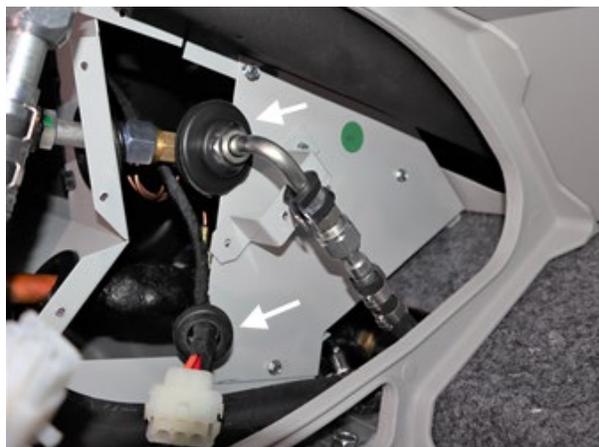
9. Reinstall the drain tube.

- Reinstall the drain tube at the back of the AC unit.
- Tighten the hose clamp (do not over tight and make sure the tube is free of any kink).



10. Install the hose side covers.

- Install the small cover on the side of the unit (make sure the grommets are correctly inserted).



11. Install the larger hose side cover.

- Install the remaining cover making sure again that the grommets are correctly inserted.
- Install the hold-down L-bracket.
- Secure the AC hose bracket.
- Secure the hose P-clamp to the bracket.



12. Secure the AC unit to the parcel rack.

- Secure the AC unit to the parcel rack at the three L-bracket positions.



13. Connect the blower assembly.

- Connect the blower assembly interface harness to the vehicle harness.



14. Proceed to the driver's side AC unit blower replacement.

- Repeat part one, two and three of the procedure with the other parcel rack AC unit.
- Once completed, reinstall both parcel rack doors & light fixtures.

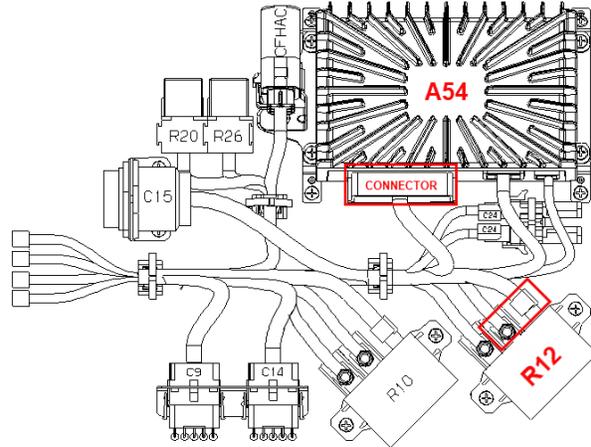
## PART FOUR: CONNECTION TO THE VEHICLE (GROUP 3 & 4 ONLY)

### Group 3 vehicles\*

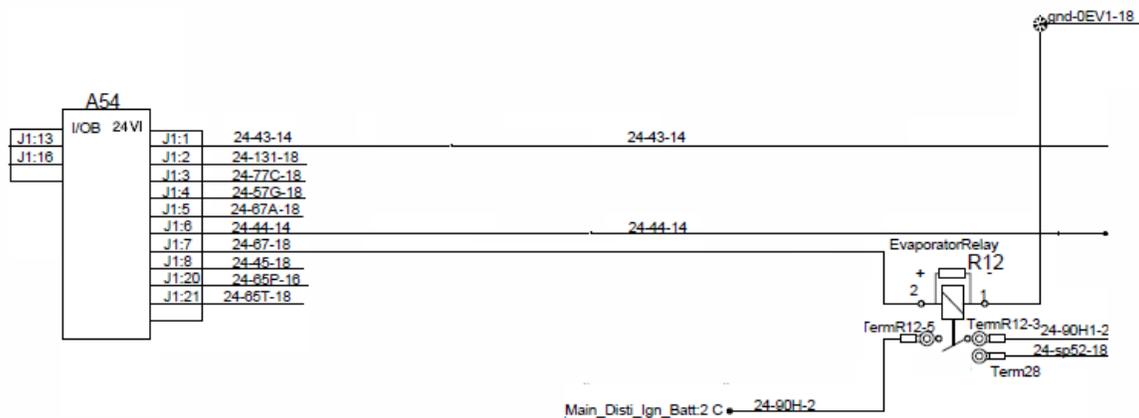
\*(H Model from G-3129 up to J-0184 / X Model from G-5978/H-7323 up to H-6179/H-7416 / Commuter 2015-2016)

1. Connect the **0610573** interface harness to the vehicle **A54** module and the **R12** relay.

- In the evaporator compartment, remove the plastic protective cover.
- Under the cover, locate the A54 module and the R12 relay.
- Disconnect the A54 module main connector.

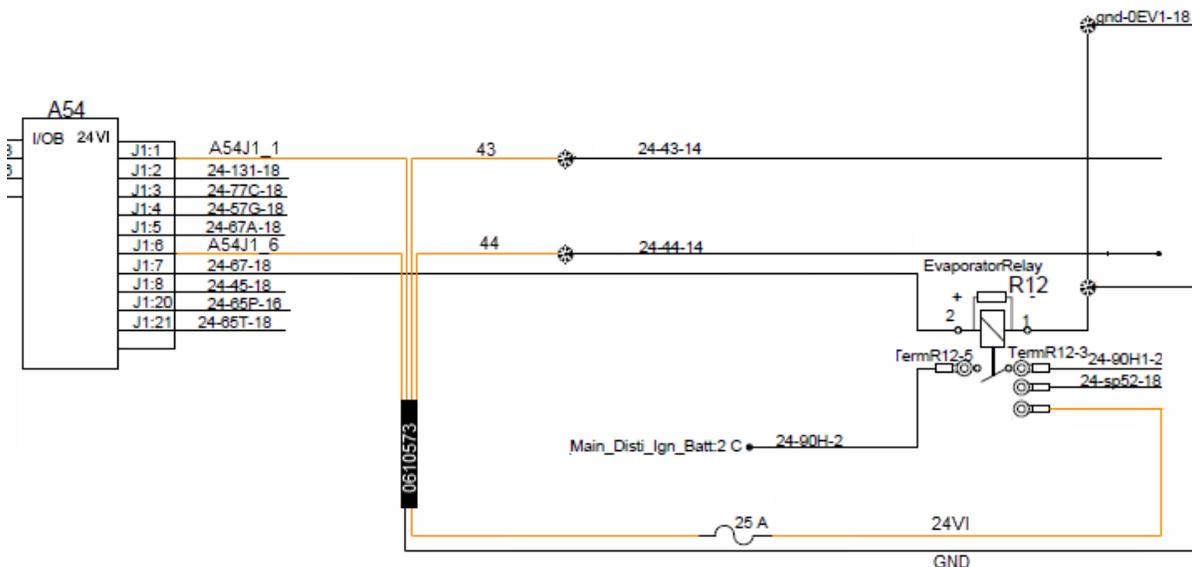


- Locate the **J1:1** and **J1:6** terminals (24-43-14 & 24-44-14 wires).





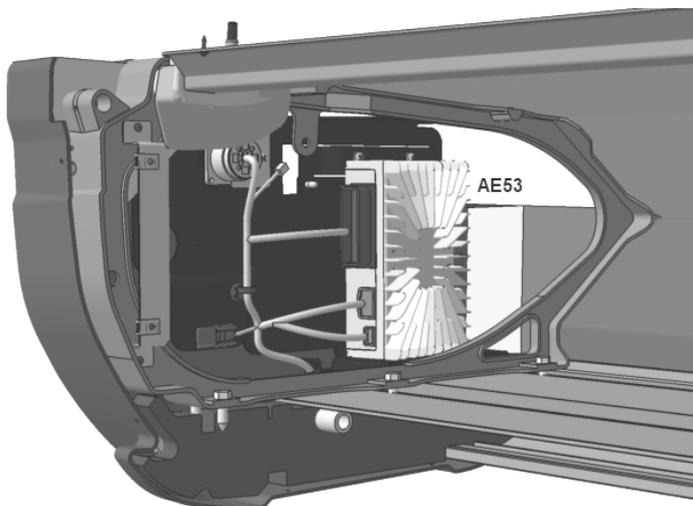
- Connect the 24VI wire to the R12 relay center connector (stud).
- Connect the interface harness ground wire (GND) to the R12 relay ground wire (black 0EV1-18 wire / two PIN connector of the relay). Use supplied **562953** butt splice connector.



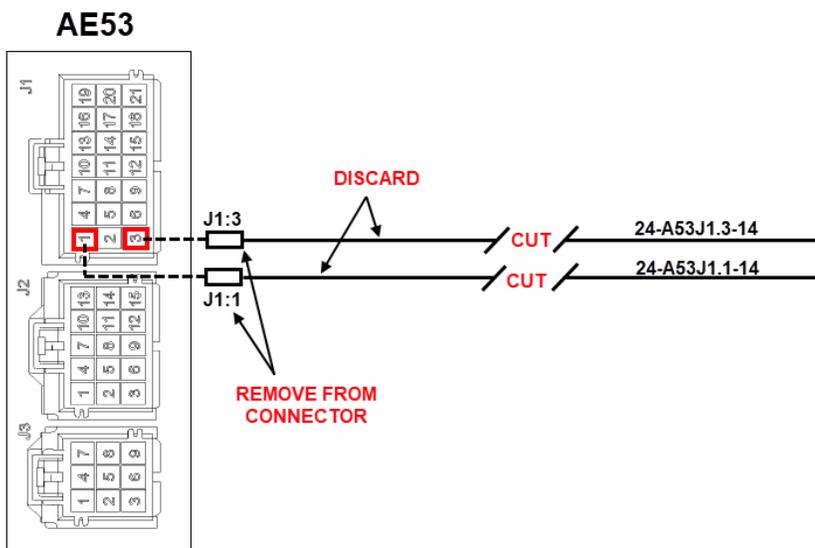
### Group 4 vehicles\*

\*NAE Vehicles (H Model K-0185 and up / X Model H-6180/H-7417 and up).

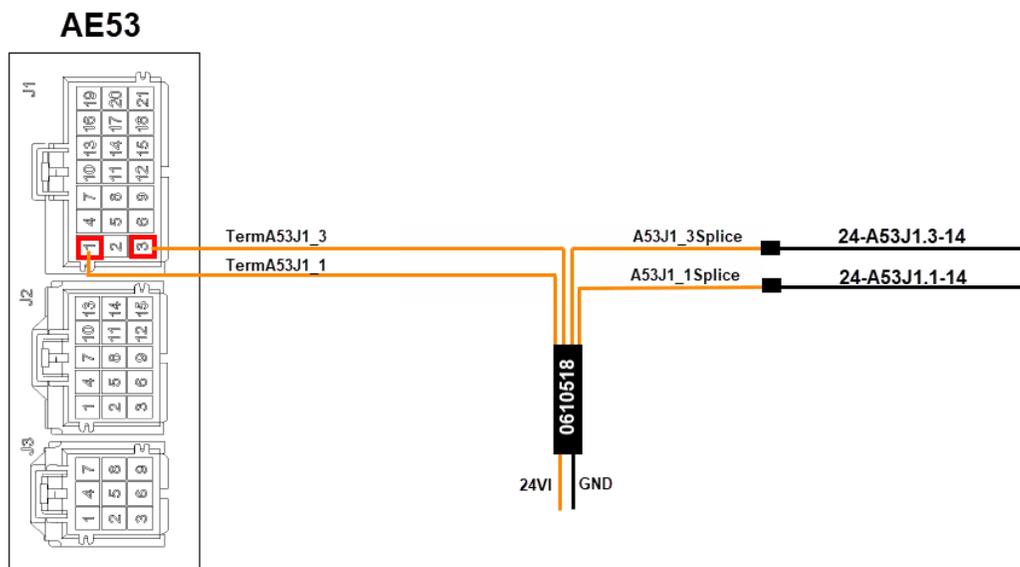
1. Connect the **0610518** interface harness to the vehicle AE53 module.
  - In the last LH parcel rack, remove the trim and cover to locate the AE53 module.
  - Disconnect the module J1 (top) connector.



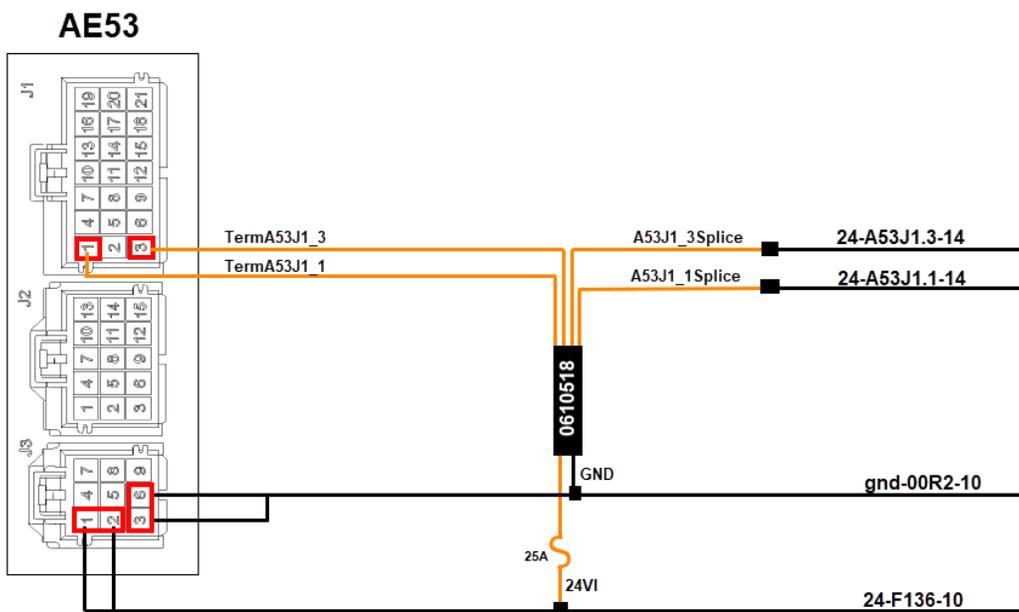
- Remove terminals **J1:1** (24-A53J1.1-14 wire) and **J1:3** (24-A53J1.3-14 wire) from the connector (unlock the connector tab and use a suitable extractor tool).
- Cut the terminals from the wires and splice the ends.



- Insert the **0610518** interface harness A53J1\_1 wire (with installed terminal) in the connector J1:1 cavity.
- Insert the **0610518** interface harness A53J1\_3 wire (with installed terminal) in the connector J1:3 cavity.
- Connect the **0610518** interface harness **A53J1\_1** wire (spliced end) to the previously cut 24-A53J1.1-14 wire (use supplied **562953** butt splice connector)
- Connect the **0610518** interface harness **A53J1\_3** wire (spliced end) to the previously cut 24-A53J1.3-14 wire (use supplied **562953** butt splice connector).



- Connect (splice using supplied **562953** butt splice connector) the **0610518** interface harness **24VI** wire (with 25A fuse) to the **J3** connector 24-F136-10 wire (connected to the J3:1 & J3.2 position of the J3 connector).
- Connect the **0610518** interface harness **GND** wire (black ground) to the **J3** connector gnd-00R2-10 wire (connected to the J3:3 & J3.6 position of the J3 connector).



## PARTS / WASTE DISPOSAL

Discard waste according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)