

PREVOST

Instruction Sheet

IS-21901

X3 SERIES ENVIROCARE - IONS AIR SANITIZER

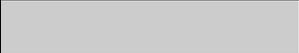
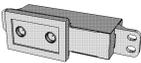
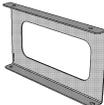
Effective vehicles: 2009+ (and up)

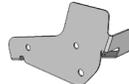
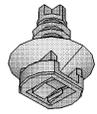
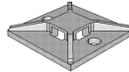
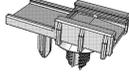
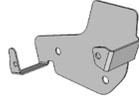
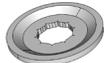
First Release

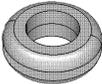
09-09-2021

MATERIAL

Kit #0611017 includes the following parts:

Part No.	Description		Qty
0610449	PLASMA CLUSTER		10
0610510	SUPPORT CONVERTER DC-DC (1)		1
0610511	SUPPORT CONVERTER DC-DC ASSY. (2)		1
314937	PLASMA CLUSTER BRACKET, PARCEL RACK		4
370377	PLASMA CLUSTER BRACKET, DEFROST UNIT		2
5001996	SCR MA PAN PH N500 M4-0.7X12		6
0610505	WIRING, PLASMA CLUSTER PARCEL RACK		1
5002071	NUT SPR U #8 .110-.187		14
0610503	WIRING, PLASMA CLUSTER DRIVER		1
500443	SCR TP PAN PH N500 #8X1/2		10
0610536	WIRING, PLASMA CLUSTER EVAPORATOR X3		1
500539	NUT HEX NYRT NX500 M4-0.7		2
0610535	WIRING, PLASMA CLUSTER DC/DC X3		1
500591	WSH FL Z050 4.3X9X.8 (M4,#8)		1
0610534	WIRING, PLASMA CLUSTER CONDENSER X3		1
504637	CABLE TIE, NYLON BLK (STD)		40

454774	CLOSING, CONDENSER DUCT		1
502799	SCR CAP HEX N500 M4-0.7X16 G8.8		24
500855	WSH FL N500 .188X.438X.049 (M4,#10)		24
504273	CABLE TIE, NYLON BLK (SMALL)		20
506268	TAPE AD1 URE OP GY 3/8"X1/2"X25'		0.25
454854	SUPPORT ASS.		1
504335	RVT POP DOME AL CLE 3/16 (0.063_0.125)		6
509815	FIR TREE MOUNTING (FT7 TYPE)		7
0611019	DECAL (EN)		1
562679	4 WAY ADH. SQUARE BACKED MOUNTS		10
0610528	DECAL (EN/FR)		1
564108	SELF-MOUNTING STUD		1
564288	DC/DC (24/12V) CONVERTER		1
454770	SUPPORT PLASMA CLUSTER, EVAP. DUCT ASSY		1
454853	SUPPORT ASS.		1
0610547	DC/DC CONVERTER DECAL		1
952624	CLAMP P STL ZP RUB 7.9 ID		1
500356	WSH LO SERR N500 6.1X16X.9 (M6)		4
5001744	SCR CAP HEX N500 M6-1.0X16 G8.8		4

504555	GROMMET .5MENBX.8125X.125X.3438X1.0625		1
680453	BUTYL CLEAR 1/32 X 1/2		0.2
504534	GROMMET .875X1.250X.1875X.5625X1.625		2
506071	TAPE AD1 PE CC BK 1/8"X1/2"X60'		0.1
5001155	SCR TP PAN PH N050 #8X3/4		22
504013	CABLE TIE MOUNT, BLACK 1/4"		2
454775	CUTTING TEMPLATE EVAP.		1
454776	CUTTING TEMPLATE COND.		1
IS-21901	INSTRUCTION SHEET (EN)		1
FI-21901	INSTRUCTION SHEET (FR)		1

Other parts that may be required:

Part No.	Description	Qty
7771197	AIR ION COUNTER (TESTER)	1

NOTE

Material can be obtained through regular channels.

PROCEDURE



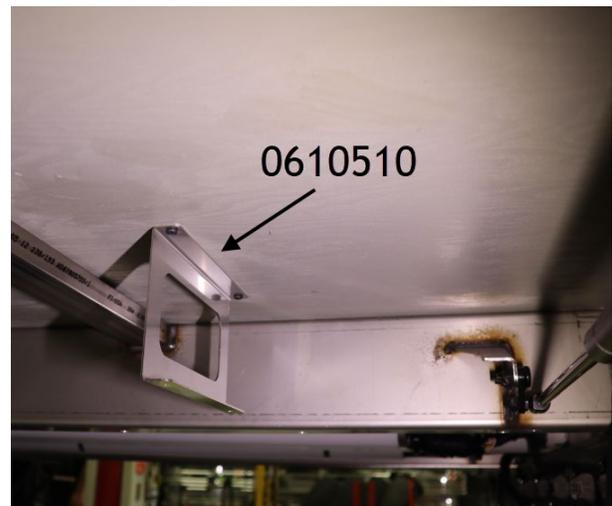
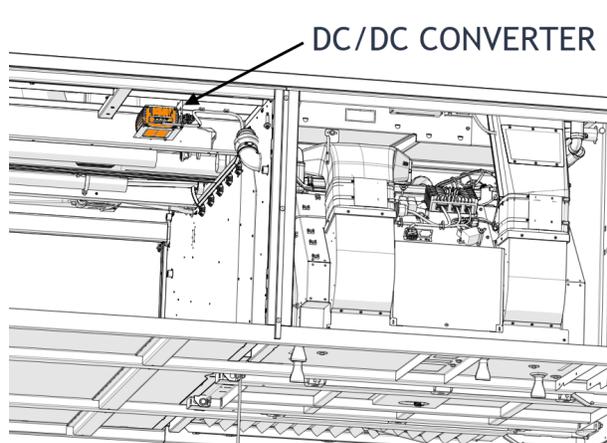
DANGER

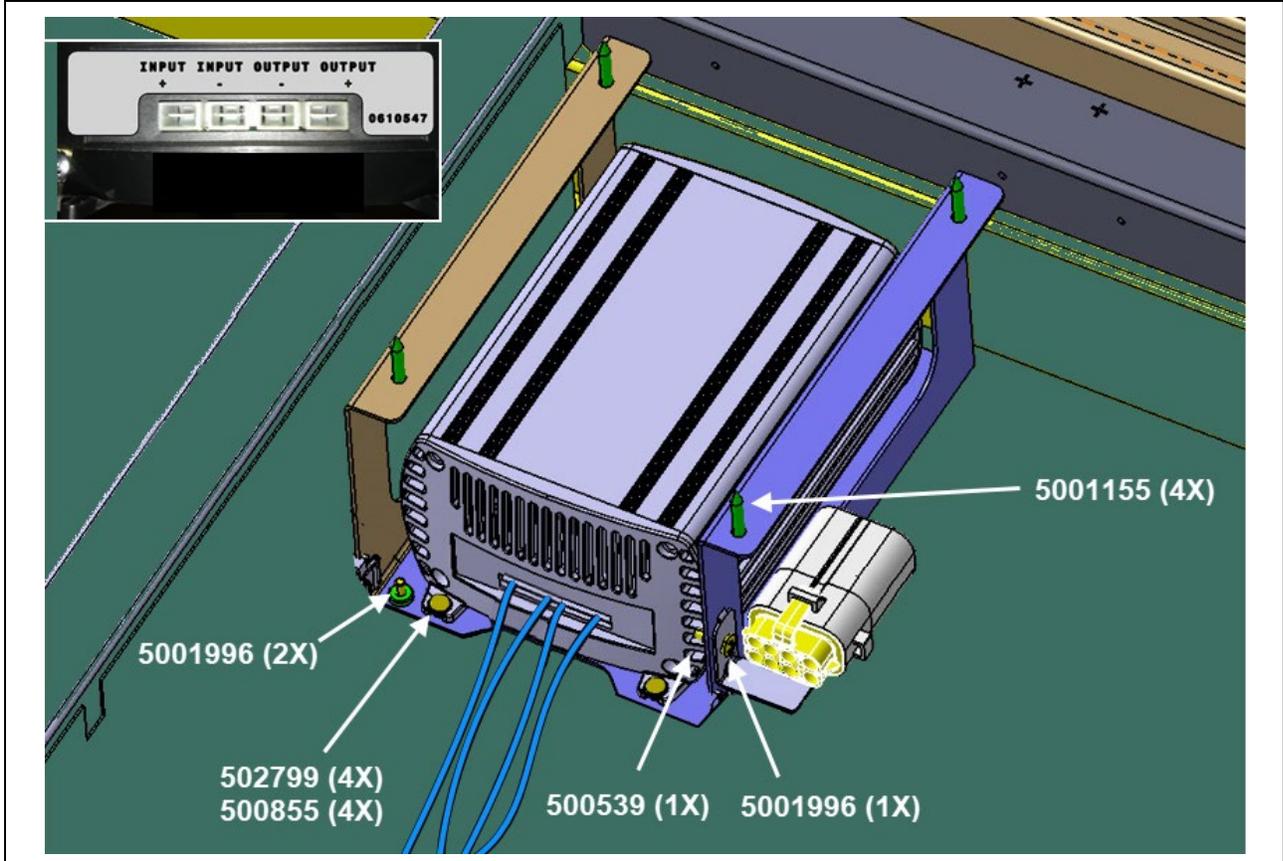
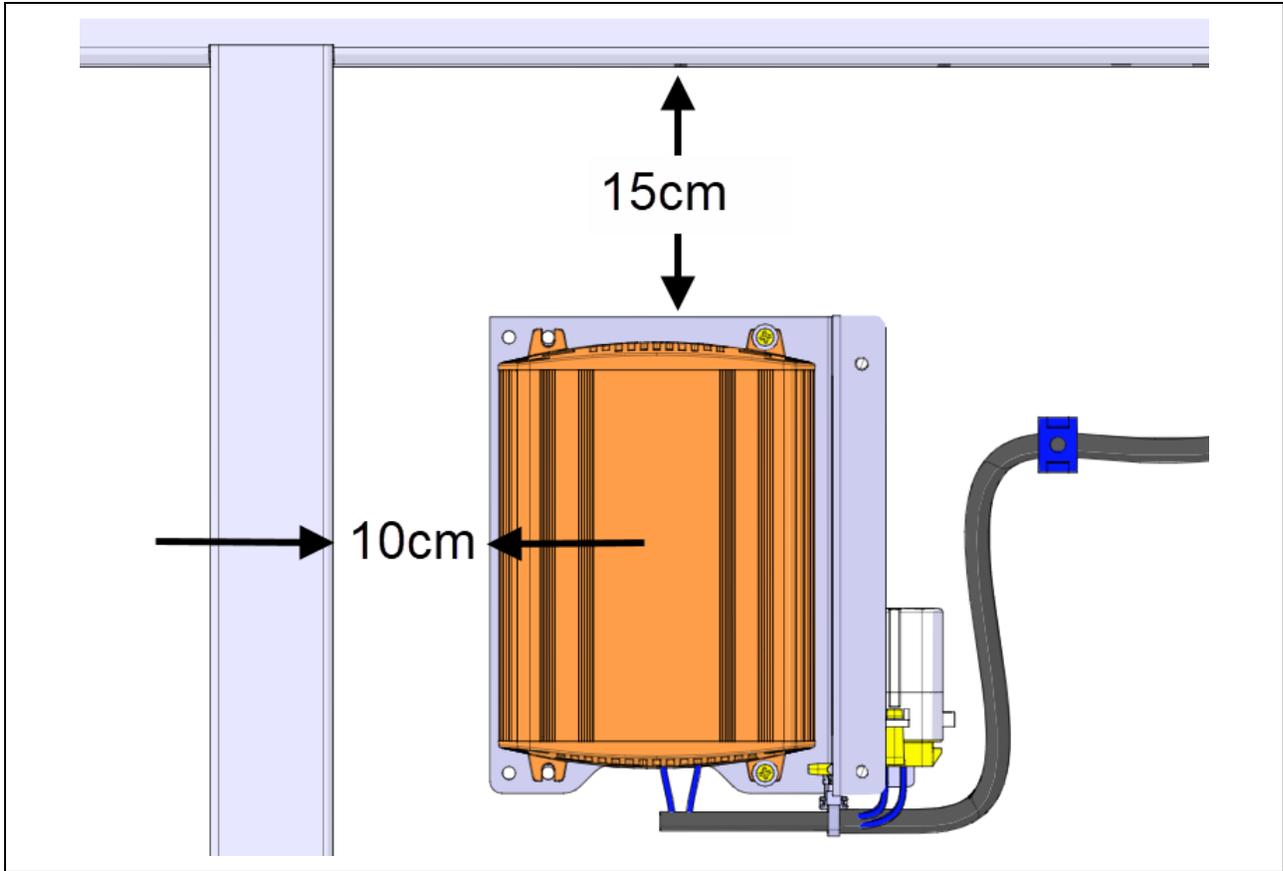
Park vehicle safely, apply parking brake, stop engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position.

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.

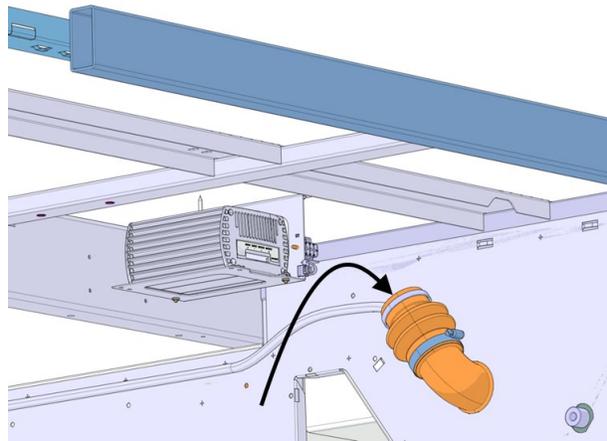
1. Install the # **564288** DC/DC converter in the vehicle last street side baggage compartment.

- Using 2 of the supplied # **5001155** screws, secure the # **0610510** part of the support to the vehicle ceiling (see picture for actual location). There should be +/-10cm gap between the support and the vehicle structure.
- Apply the # **0610547** decal to the front face of the DC/DC converter (inputs & polarity).
- Pre-install the DC/DC converter # **564288** to the other half of the support (# **0610511**). Use 4 # **502799** screws and 4 # **500855** washers.
- Secure that assembly to the previously installed support half in the vehicle, use 2 loosely screwed # **5001996** screws.
- Secure the top of the assembly to the ceiling using 2 other # **5001155** screws.
- Tighten the support # **5001996** screws to secure both parts of the support together.



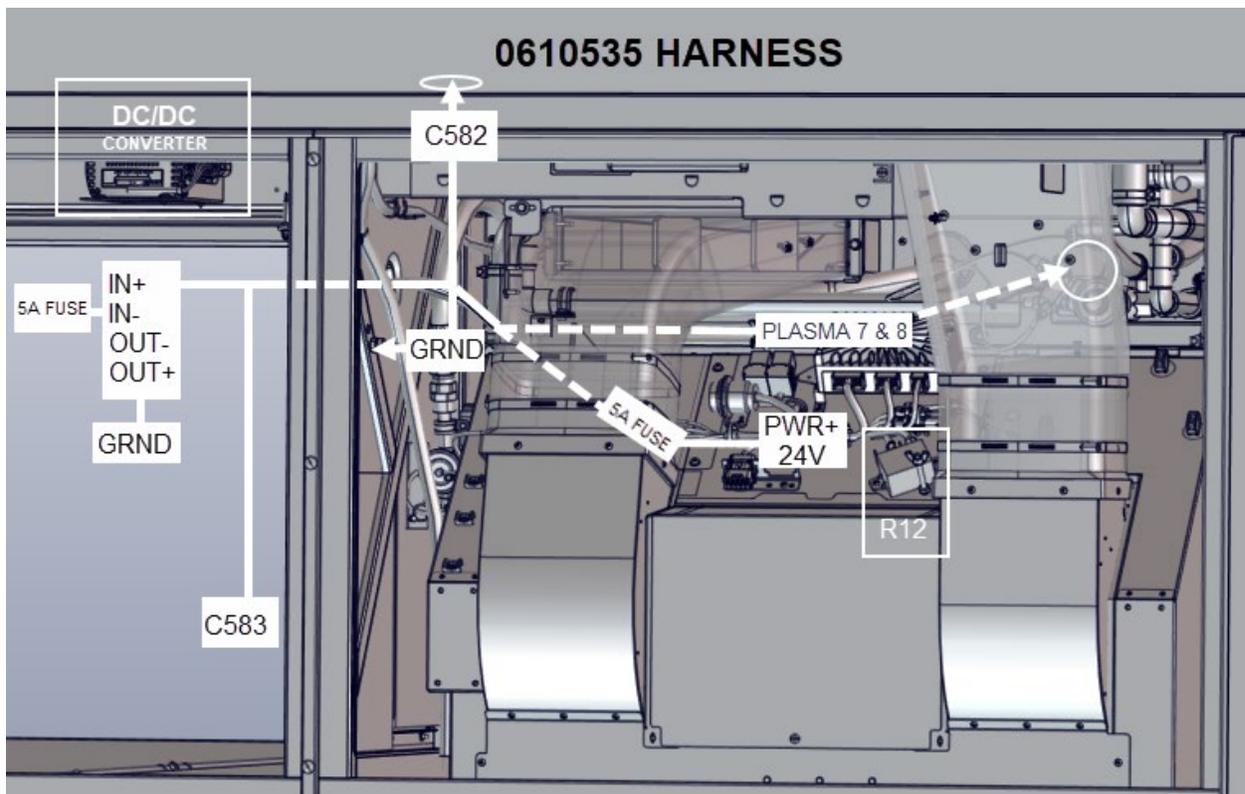


2. Pass the # **0610535** harness R12 connector (ring terminal with black fuse holder), the ground terminal, the C582, the PLASMA 7 & PLASMA 8 connectors in the evaporator compartment through the compartment harness opening (grommet).
 - Pass a fish tape or a flexible rod through the baggage/evaporator wall grommet (some cable ties may need to be removed around the rubber boot).



NOTE

- Do not connect the R12 connector (POWER+) and the GRND terminal yet.
- Keep wires loose, secure only after final connection.

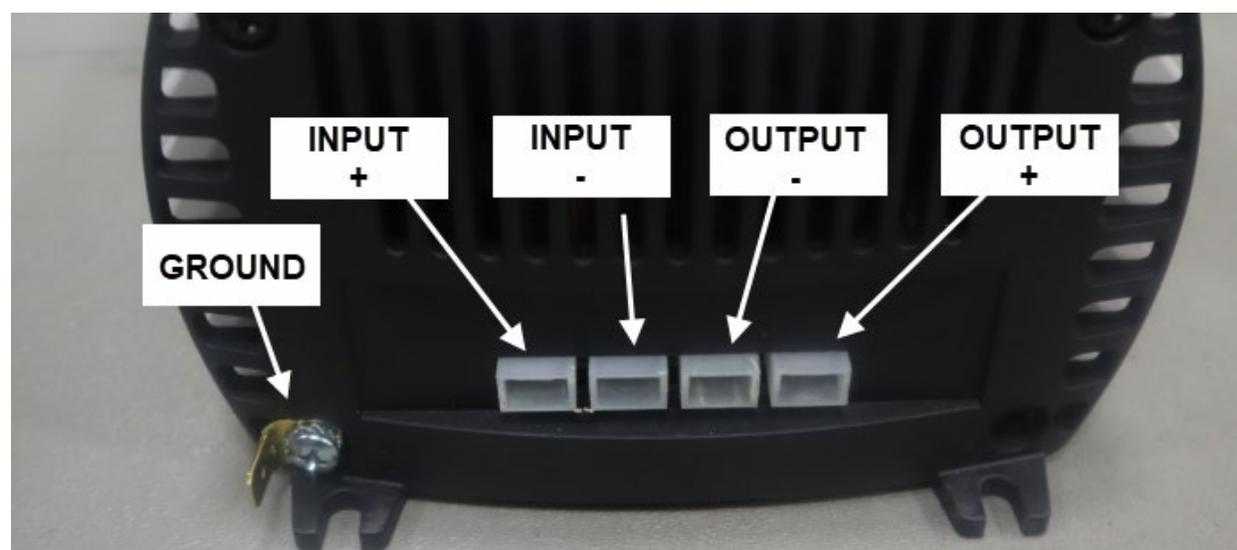
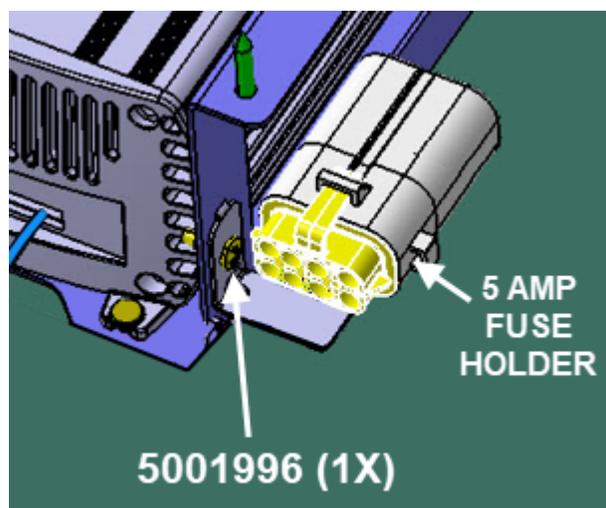


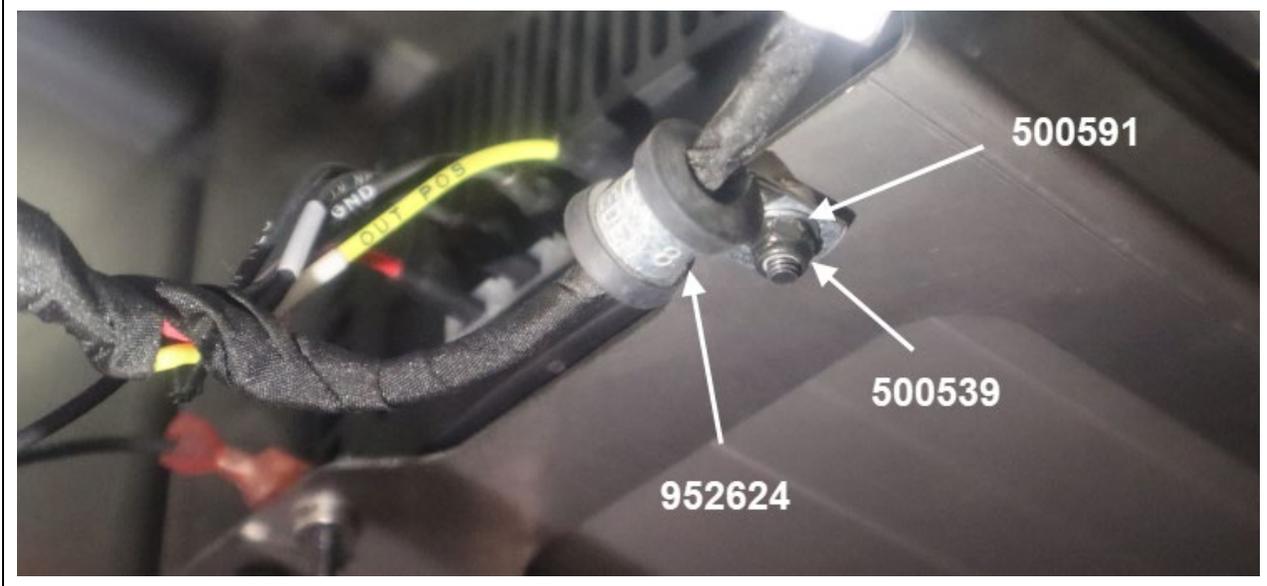
3. Connect the DC/DC converter to the # 061502 wiring harness.

- Connect the DC/DC converter outputs and input wires as shown in the picture below. Wires are numbered, make sure the order is correct.

NOTE: Make sure that the converter outputs & inputs are identified using the supplied # 0610547 decal.

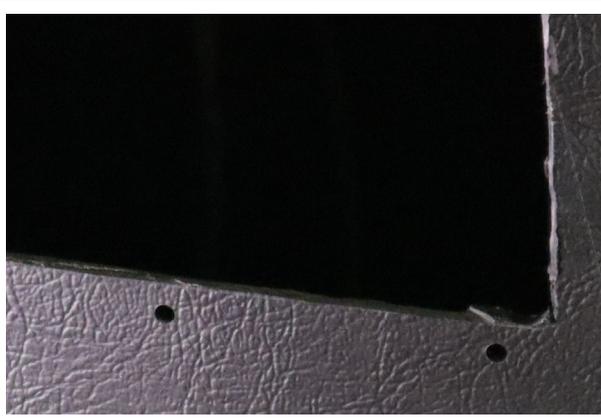
- Connect the DC/DC converter ground wire to the converter body.
- Secure the clear fuse holder to the side of the DC/DC converter support using a # 5001996 screw as shown (make sure that there is a good 5-amp fuse in the fuse holder).
- Secure the harness to the ceiling using the supplied # 504013 mounts # 5001155 screws and cable ties.
- Secure the fuse holder harness to the support using the supplied # 952624 clamp, # 500539 nylon lock nut and # 500591 washer. Use the free length of the previously installed converter to support screw as shown.

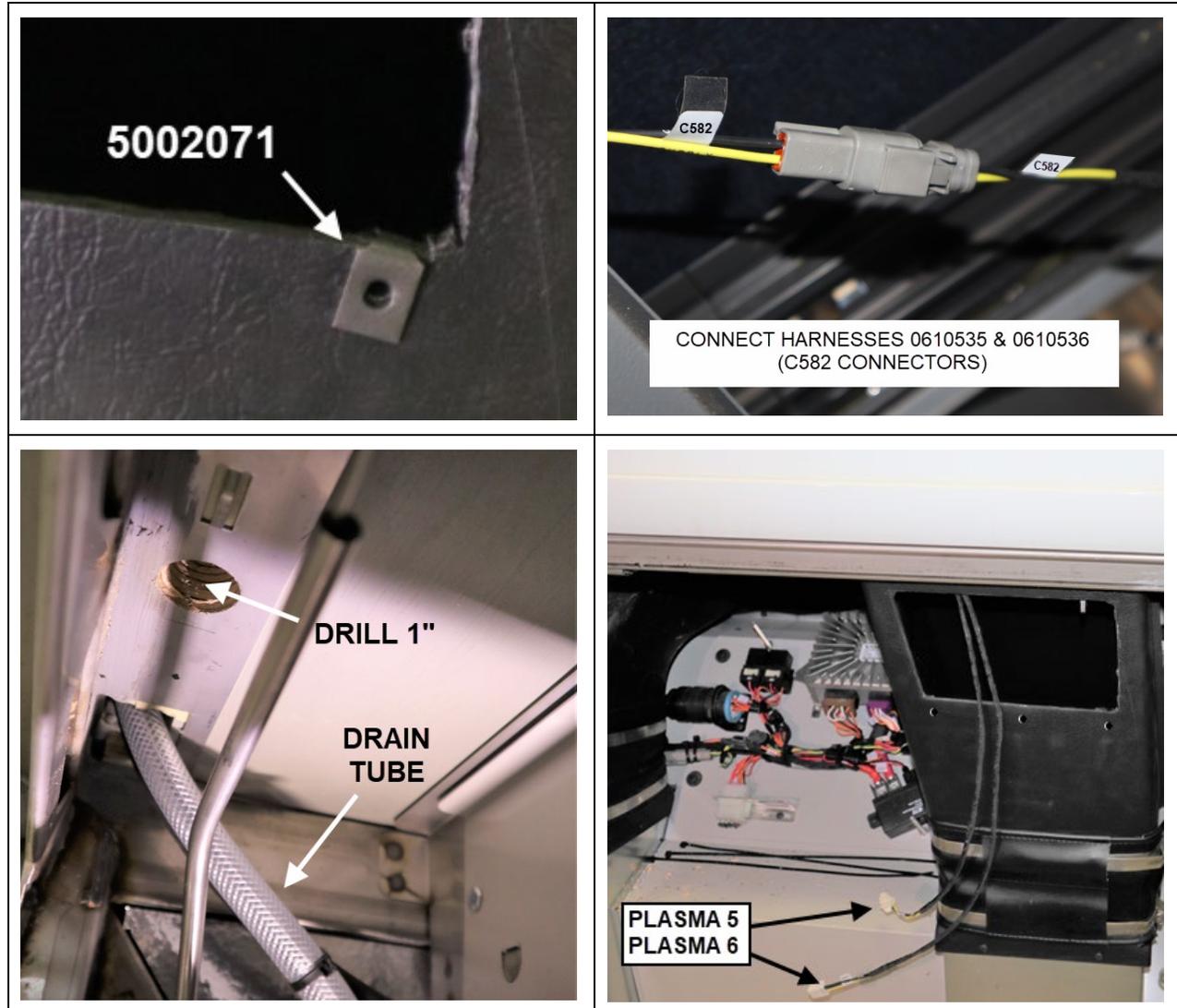




4. Route the # **0610536** harness inside the vehicle on the evaporator side.

- Position the supplied # **454775** template on the top part of the duct (template must contact the upper metal edge).
- Using a light-colored paint marker, draw the position of the opening.
- Also mark the position of the 6 support plate screws.
- Cut the opening in the duct.
- Drill all screw marks using a 1/4 inch drill bit.
- Install 6 of the supplied # **5002071** spring nuts over the screws openings.
- Connect the # **0610536** harness C582 connector to the C582 connector (# **0610535** harness previously routed in the grommet) in the evaporator compartment.
- Drill a one-inch hole in the evaporator compartment ceiling next to the AC drain tube.
- Pass the PLASMA 5 & PLASMA 6 connectors (# **0610536** harness) through the hole and route them to the inside of the evaporator duct.



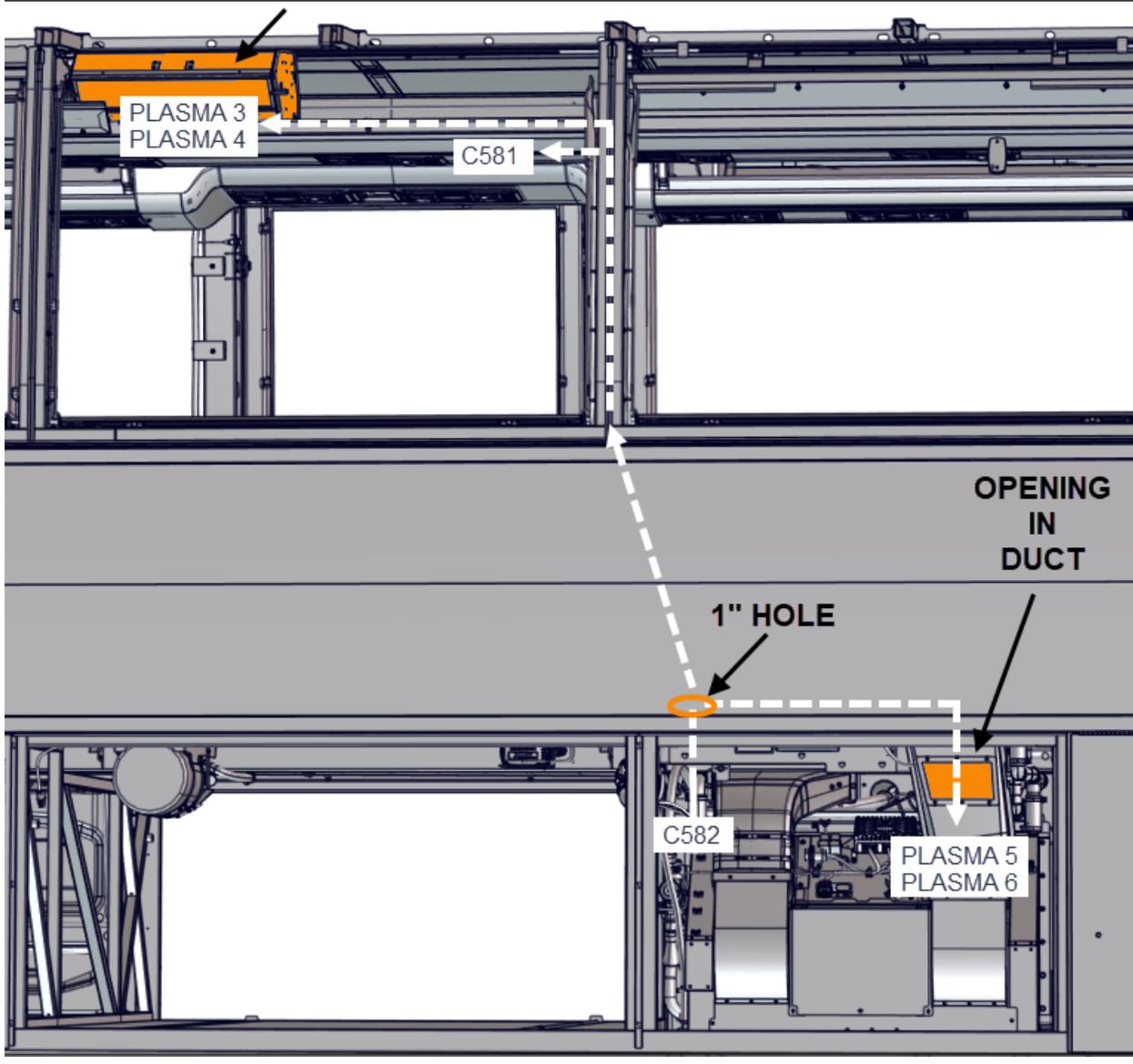


- Inside the vehicle, remove the window pillar cover (pillar just over the DC/DC converter)
- Using a fish tape or a flexible rod, pass the PLASMA3, the PLASMA 4 and the C581 connector behind the interior trim up to the base of the window pillar.
- Route the connectors along the window pillar (secure to the AC drain hose).
- Insert the PLASMA 3 & the PLASMA 4 connectors inside the cavity under the parcel rack floor and extend the connectors so they lay under the AC unit.



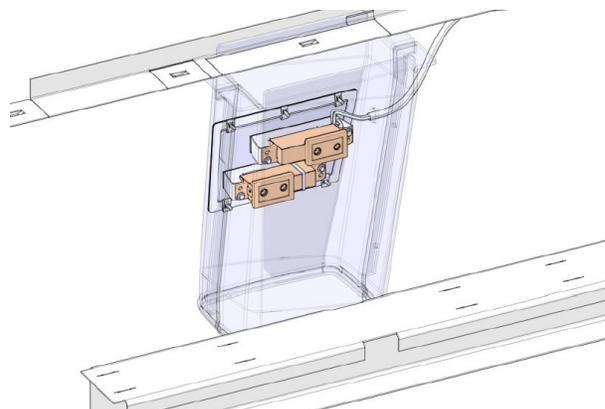
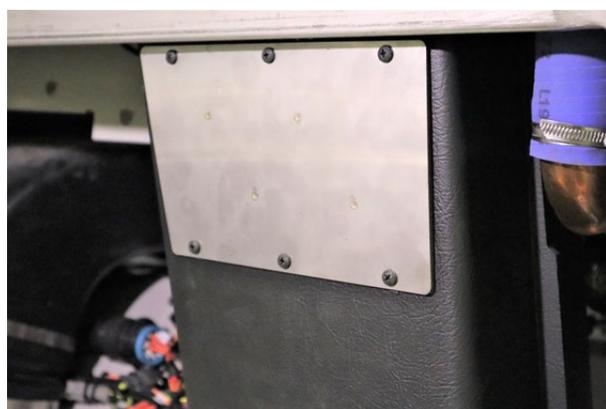
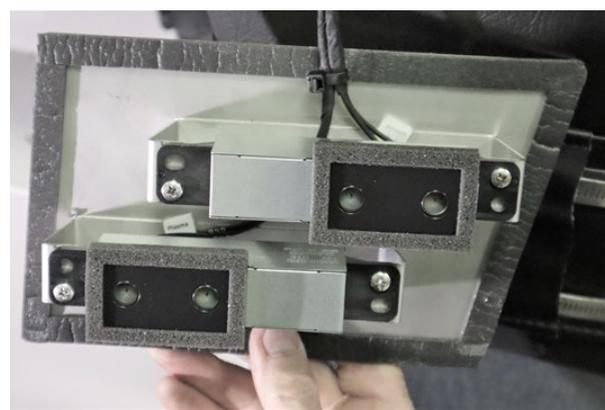
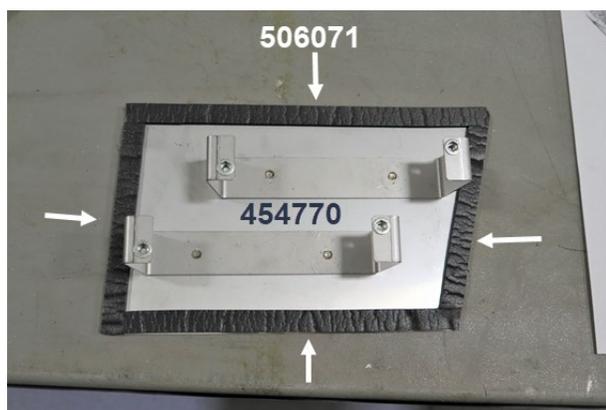
0610536 HARNESS

AC UNIT



5. Install two plasma cluster modules in the HVAC duct on the evaporator side.

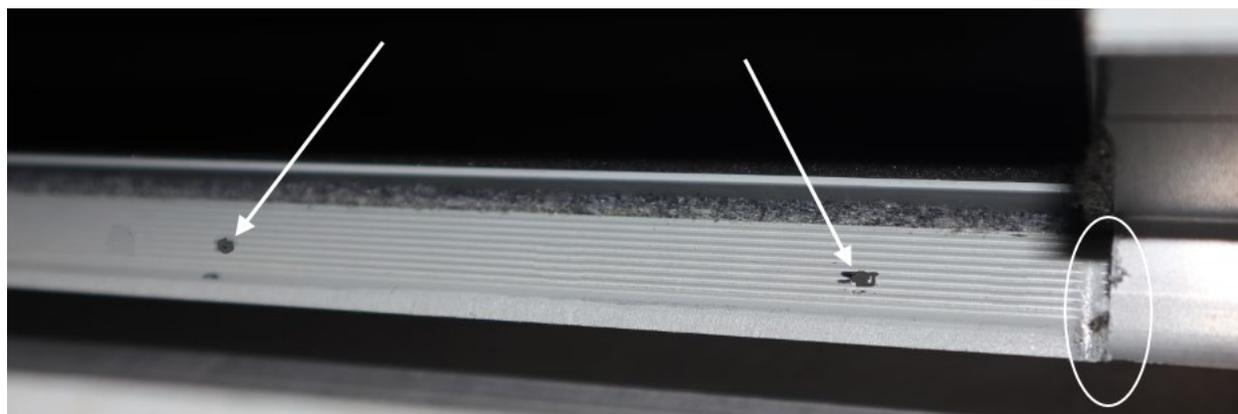
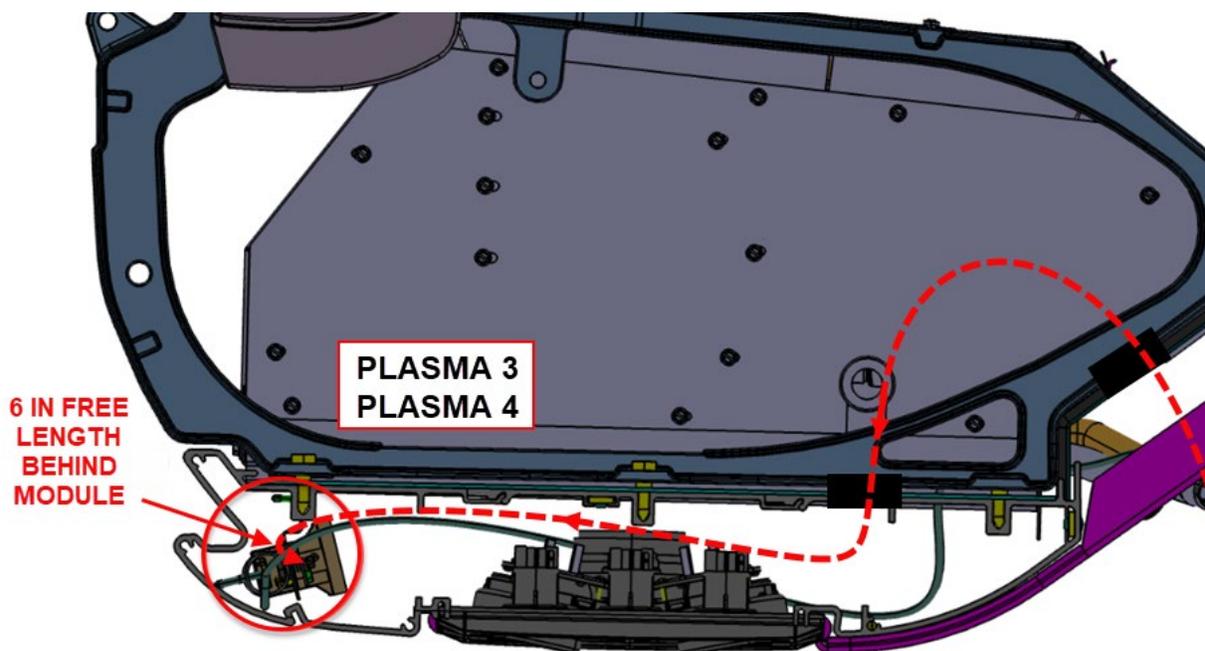
- Put a strip of # **506071** (thin 1/8") foam tape all around the # **454770** evaporator support assembly.
- Connect two # **0610449** plasma cluster modules to the PLASMA 5 & PLASMA 6 connectors in the evaporator duct opening.
- Secure the connected plasma cluster modules to the support assembly using supplied # **502799** screws & # **500855** washers.
- Secure the support assembly to the evaporator duct using 6 # **5001155** screws.

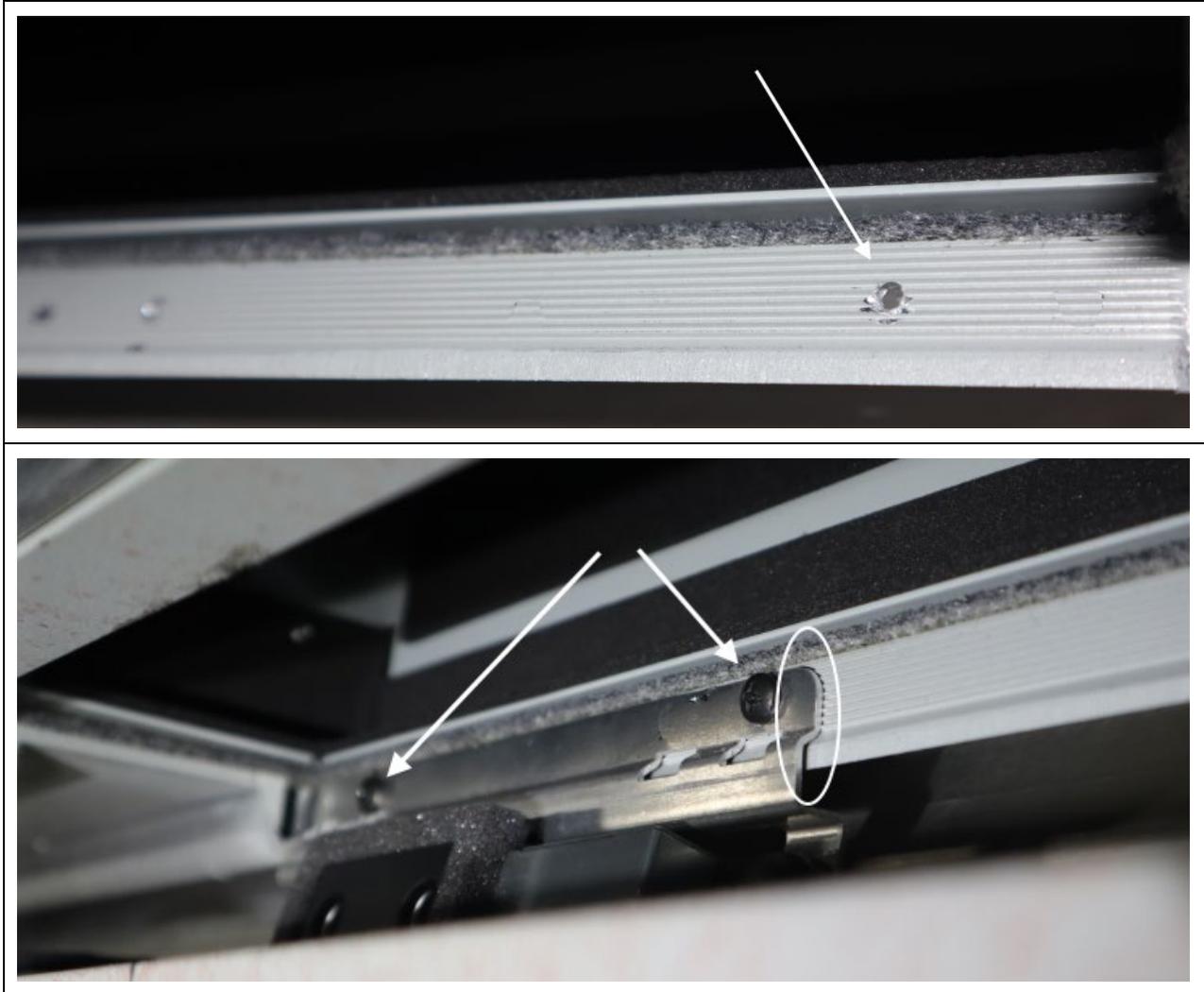


6. Install 2 plasma cluster modules # **0610449** in the area below the left parcel rack HVAC unit.

- With a sharpie, mark the location of the # **314937** supports (2X) on the inner parcel rack rail. Both supports must contact the extrusion edges, one on both sides (the support back shape must fit the ribbed extrusion profile horizontally as shown).
- Drill the 4 mounting points for a # 8 screw (1/8 or 9/64th inch drill bit).
- Install 2 of the supplied # **0610449** plasma cluster modules on the supports using supplied # **502799** screws and # **500855** washers.

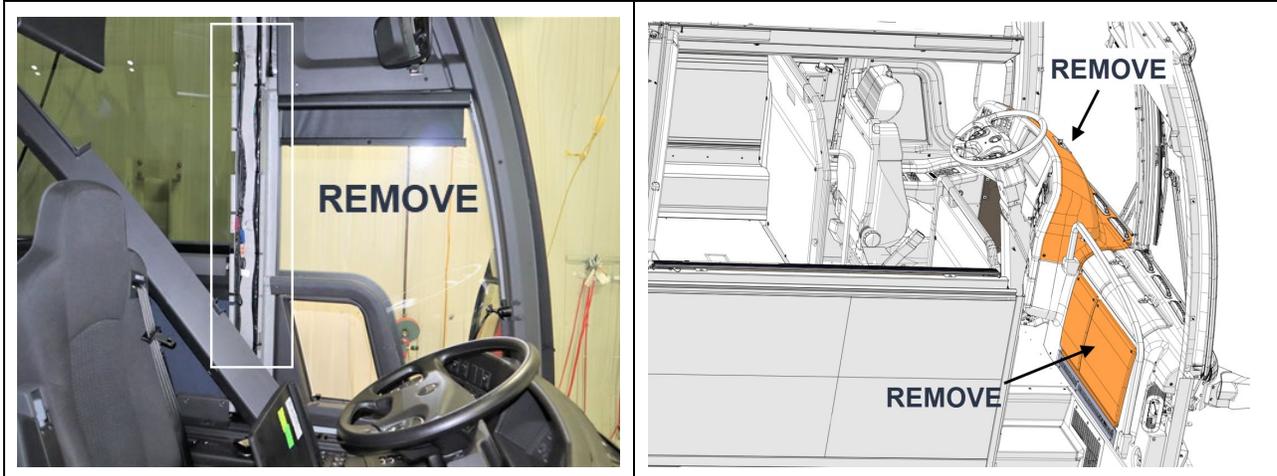
- Connect the PLASMA 3 and the PLASMA 4 connectors (previously routed to the underside of the parcel rack) to the two modules. Leave +/- 6 inches of wire behind the module to ease future removal / installation during maintenance.
- Secure the supports (and modules) to the extrusion using the supplied # 500443 screws.



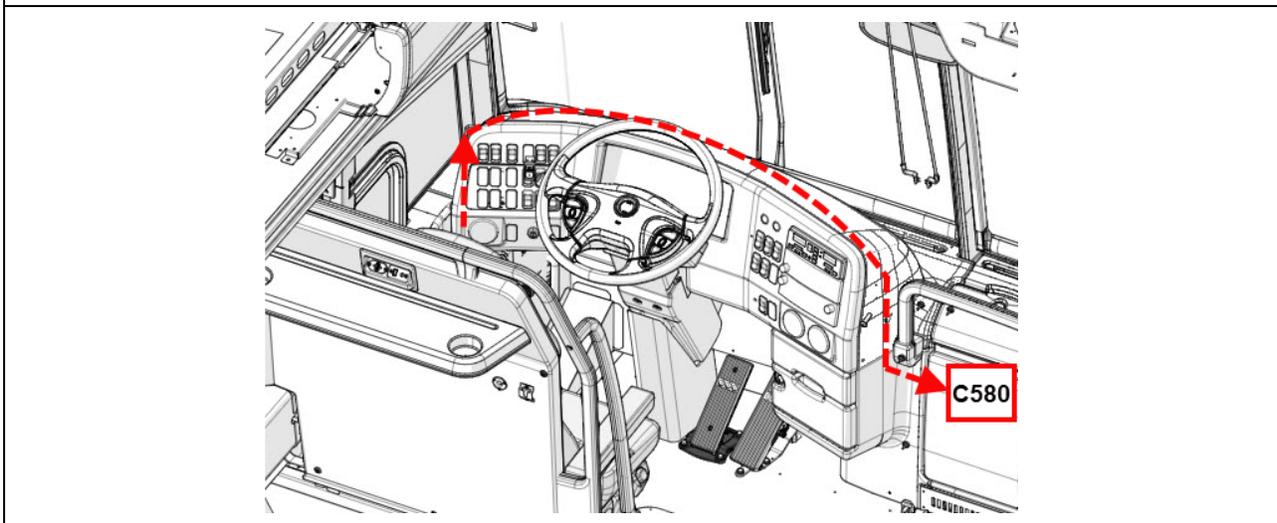
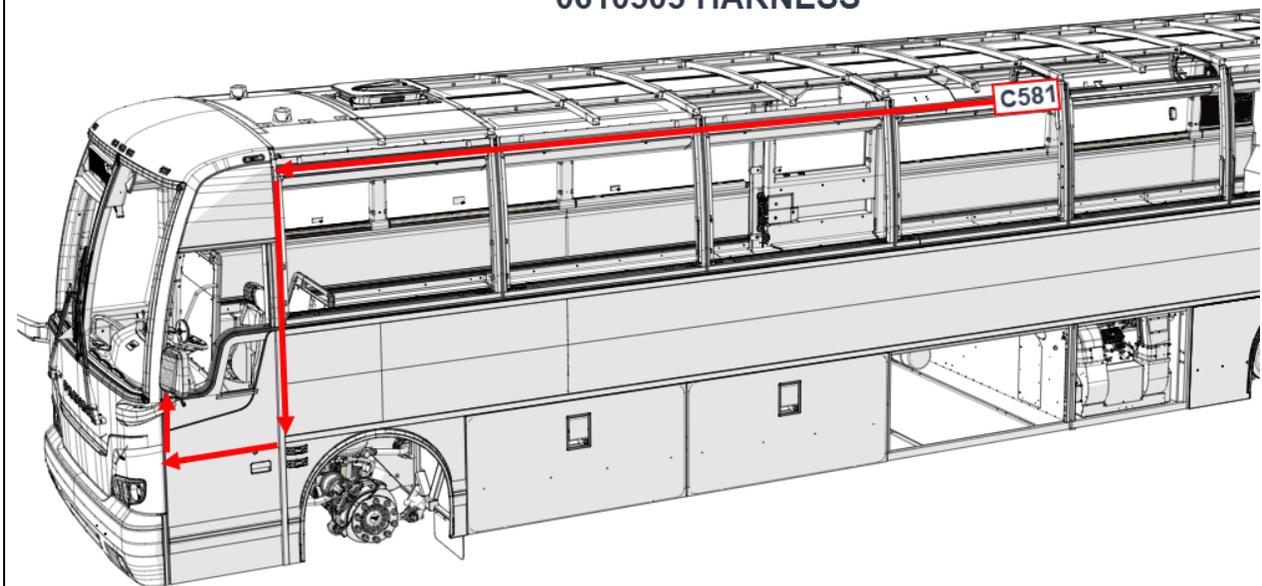


7. Route the # **0610505** harness from the HVAC unit to the front defrost unit area.

- Remove the driver window pillar cover. Also remove the dash cover and the defrost unit cover.
- Connect the C581 connector of the # **0610536** harness (previously routed under the HVAC unit with PLASMA 3 & 4 connectors) to the C581 connector of the long # **0610505** extension harness.
- Using a fish tape or a long flexible rod, pass the # **0610505** harness inside the parcel rack frame up to the driver's pillar area.
- Follow the pillar down (use cable ties) and using a flex rod, fish the harness inside the front electrical junction box.
- Secure the harness inside the front junction box (in the upper area from rear to the front)
- Still using the flex rod, route back the harness C580 connector inside the vehicle up to the dashboard area.
- Pass the harness over the dash cluster (secure with supplied cable ties) and make the C580 connector exit near the front defrost unit cover.

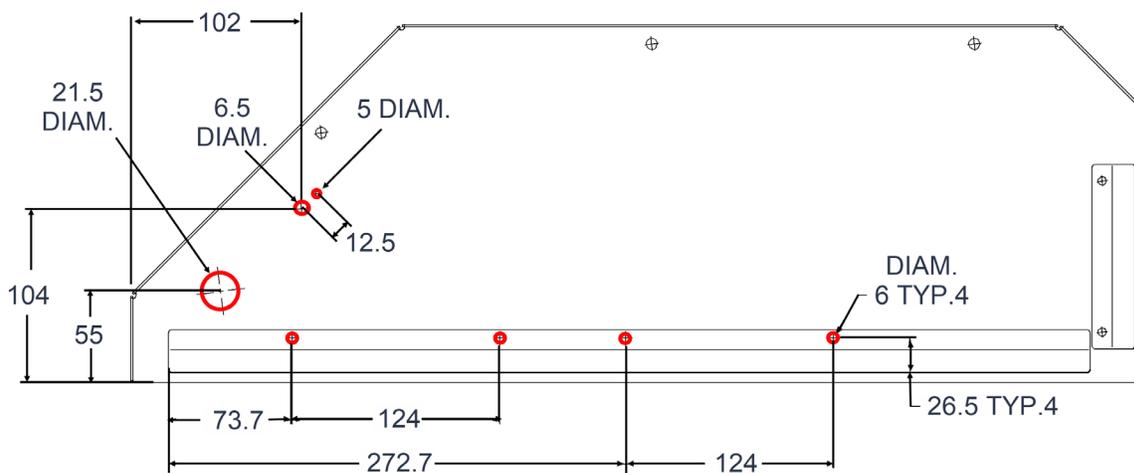


0610505 HARNESS



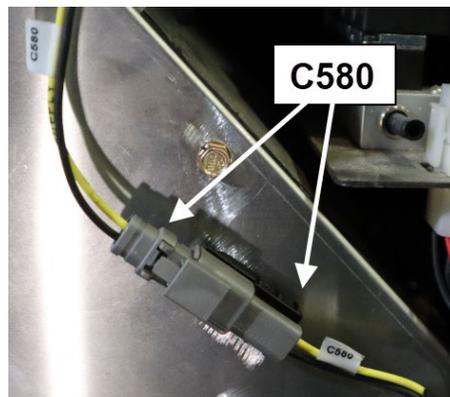
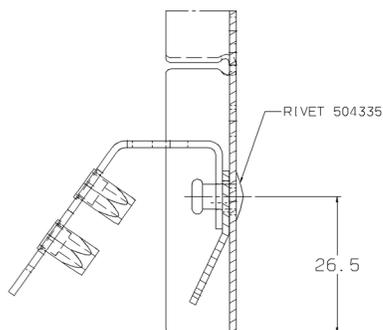
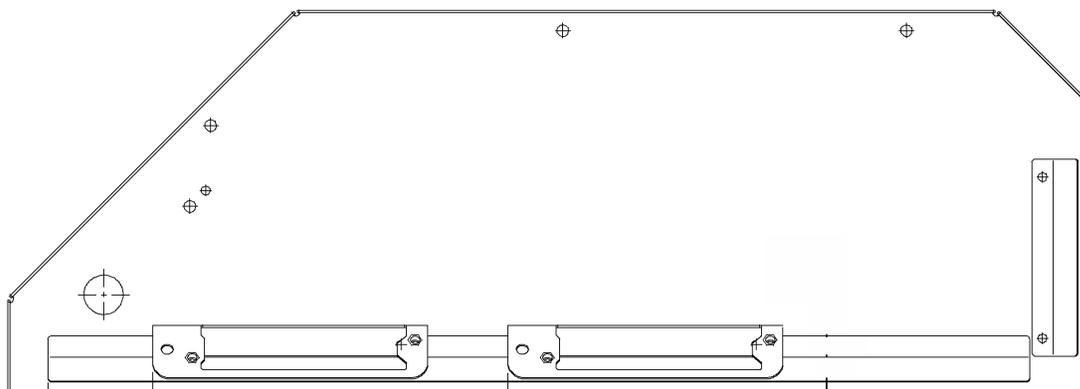
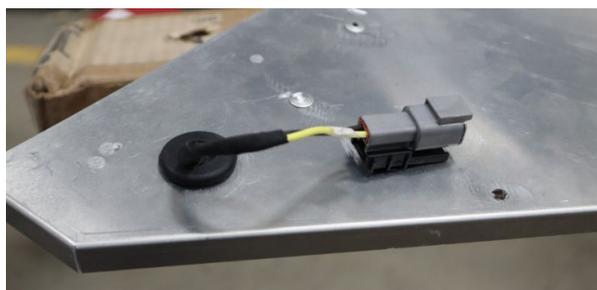
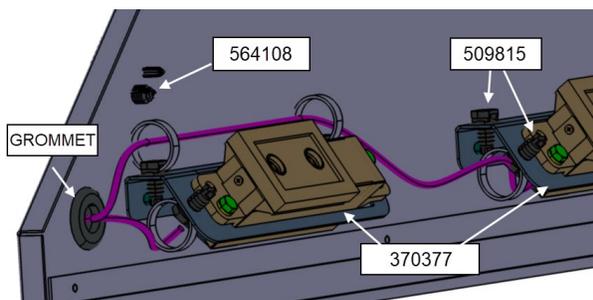
8. Install two # **0610449** plasma cluster modules in the front defrost unit.

- Remove the defrost unit cover screws and slide the cover out.
- From inside the cover, mark the required new holes center point with a sharpie and drill the holes using the appropriate step drill bit (see image below for hole size and positioning). Use # **370377** bracket as a template to mark and drill the remaining holes as shown.



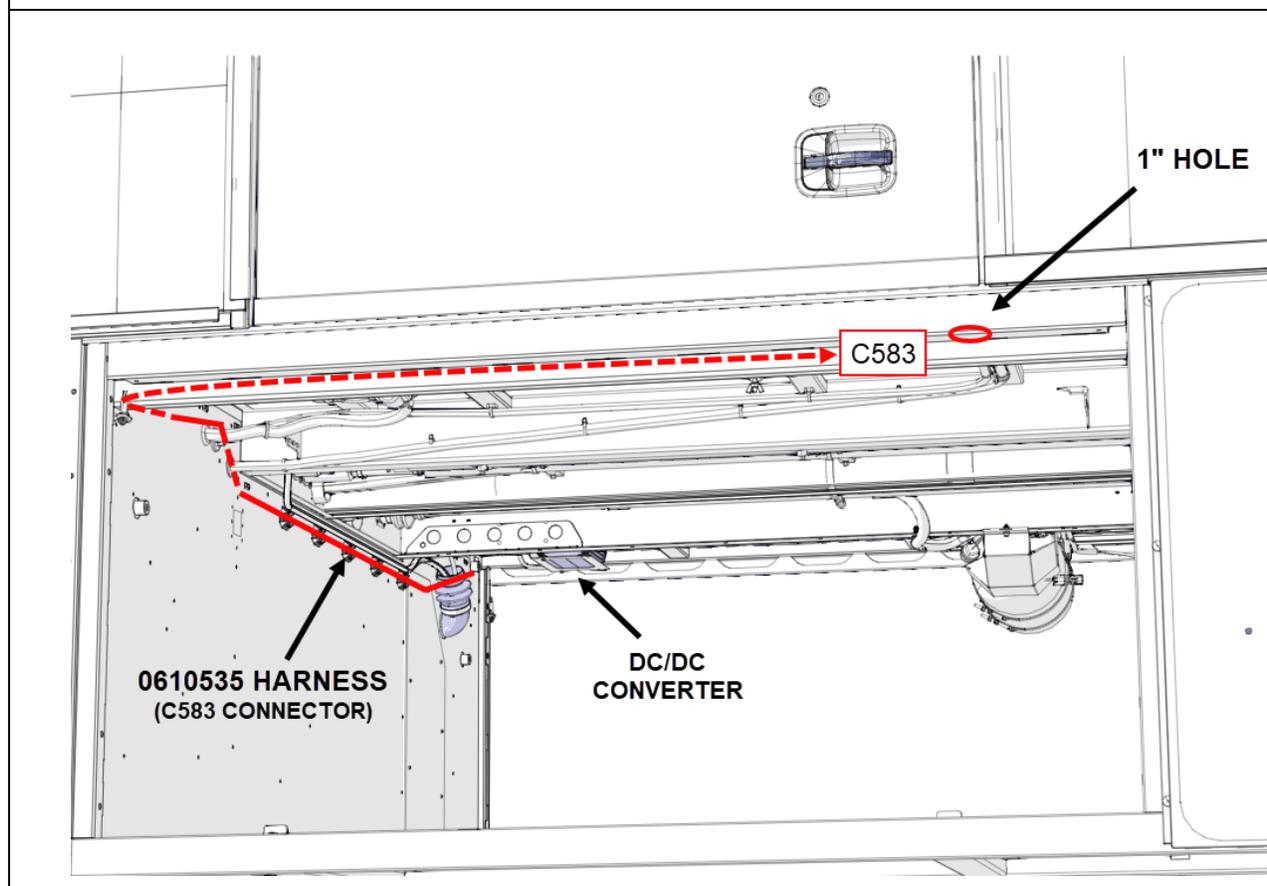
- Using the supplied # **504335** rivets, fasten the two # **370377** supports to the inside of the cover.
- Insert the # **0610503** harness through the larger 21.5mm hole making sure that the C580 connector is positioned outside the cover and that the PLASMA 1 and PLASMA 2 connectors are inside.
- Insert the harness grommet in the 21.5mm hole.
- Clip the # **564108** self-mounting support on the outside of the cover (5mm & 6.5 mm holes) and secure the C580 connector to it (connector pointing upward).

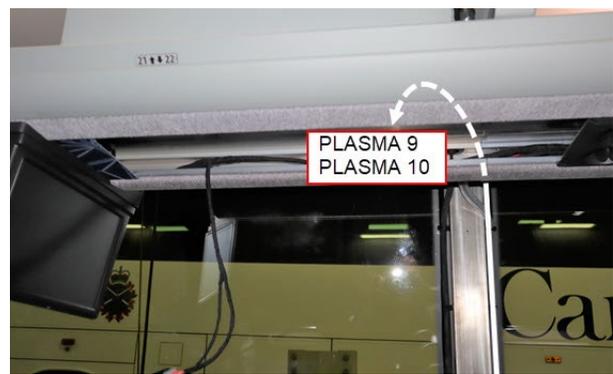
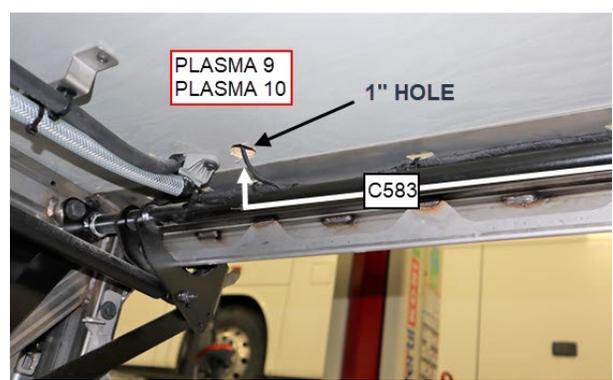
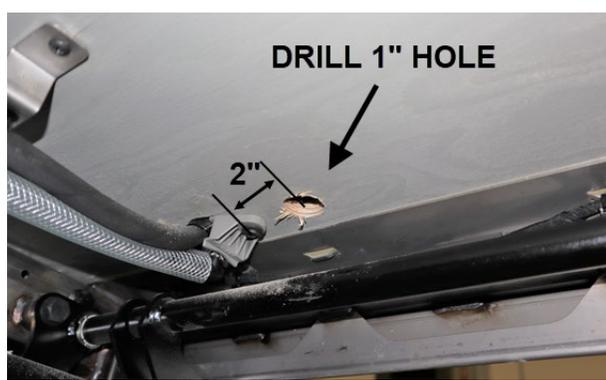
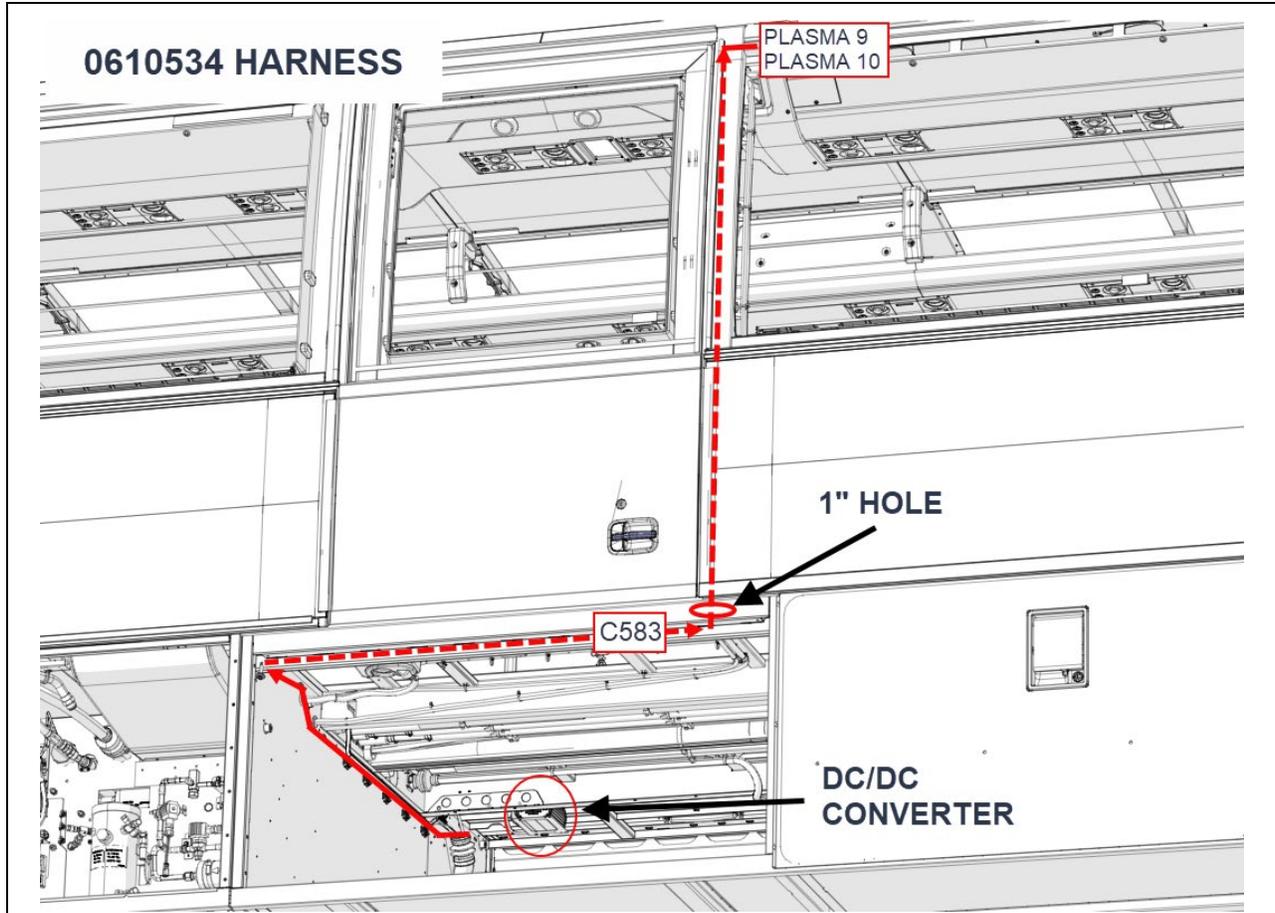
- Connect 2 # **0610449** plasma cluster modules to the PLASMA 1 and PLASMA 2 connectors.
- Install the plasma cluster modules to the brackets using supplied # **502799** screws and # **500855** washers.
- Install the supplied # **509815** cable tie mounting clips and secure the harness (use supplied cable ties).
- Reinstall the defrost unit cover.
- Connect the # **0610503** harness C580 connector to the C580 connector previously routed under the dashboard cover (# **0610505** harness).
- Secure the wiring on top of the defrost unit & reinstall all covers previously removed in the driver's area.



9. Install the # **0610534** harness inside the vehicle under the curb side HVAC unit

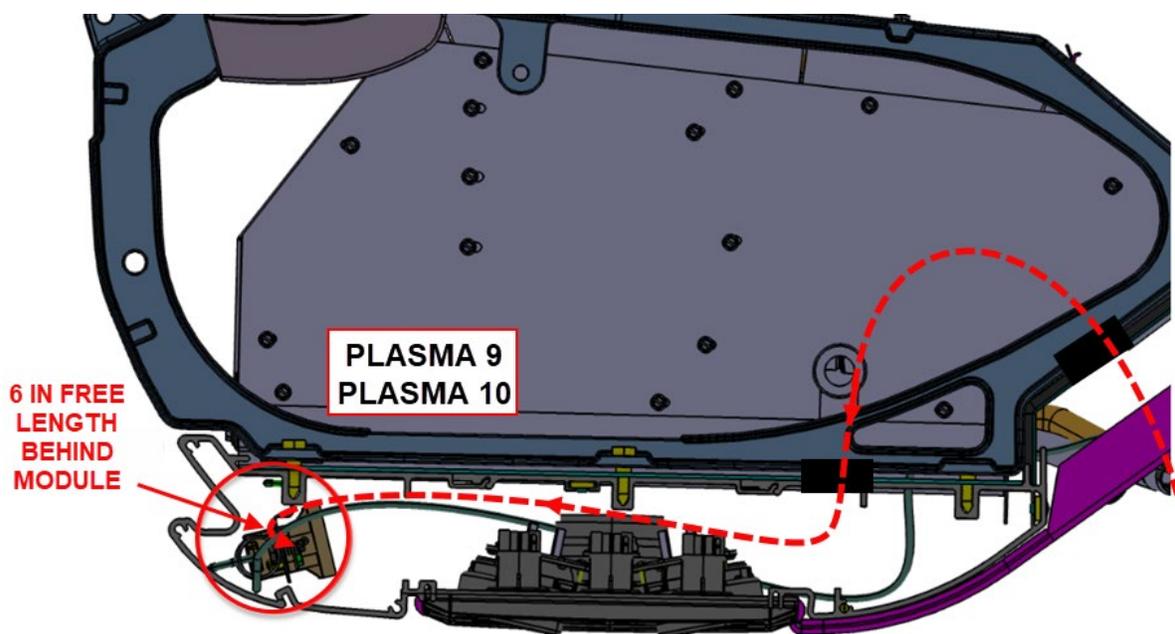
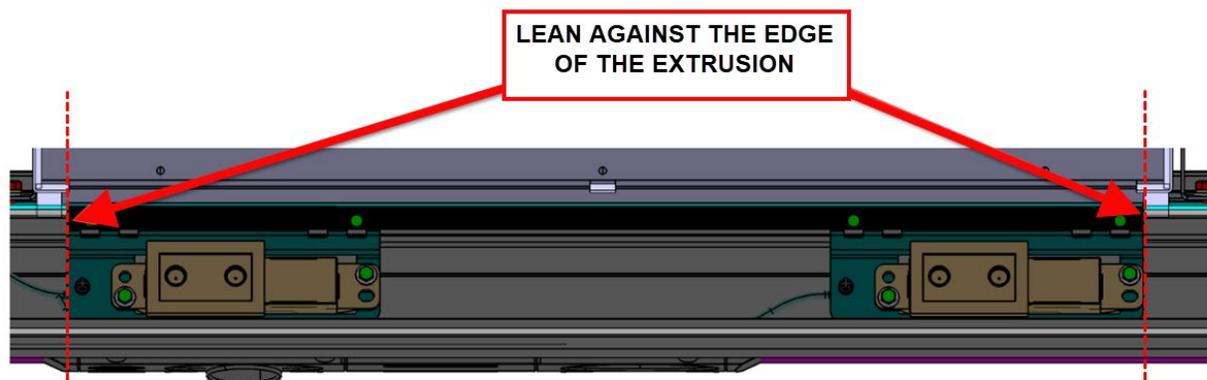
- Drill a 1-inch hole in the last baggage compartment ceiling at the opposite corner of the DC/DC converter (front right of the compartment). The hole should be drilled about 2 inches next to the AC drain hoses as shown in the pictures below.
- Secure the C583 connector and wires of the # **0610535** wiring harness (harness connected to the DC/DC converter) along the walls of the baggage compartment next to the 1-inch hole as shown.
- Inside the vehicle, remove the window pillar covers adjacent to the HVAC unit in the parcel rack.
- Using a fish tape or a flexible rod, pass the PLASMA 9 & the PLASMA 10 behind the interior trim up to the base of the window pillar.
- Route the connectors along the window pillar (secure to the HVAC drain hose).
- Insert the PLASMA 9 & the PLASMA 10 connectors inside the cavity under the parcel rack floor and extend the connectors so they lay under the HVAC unit.

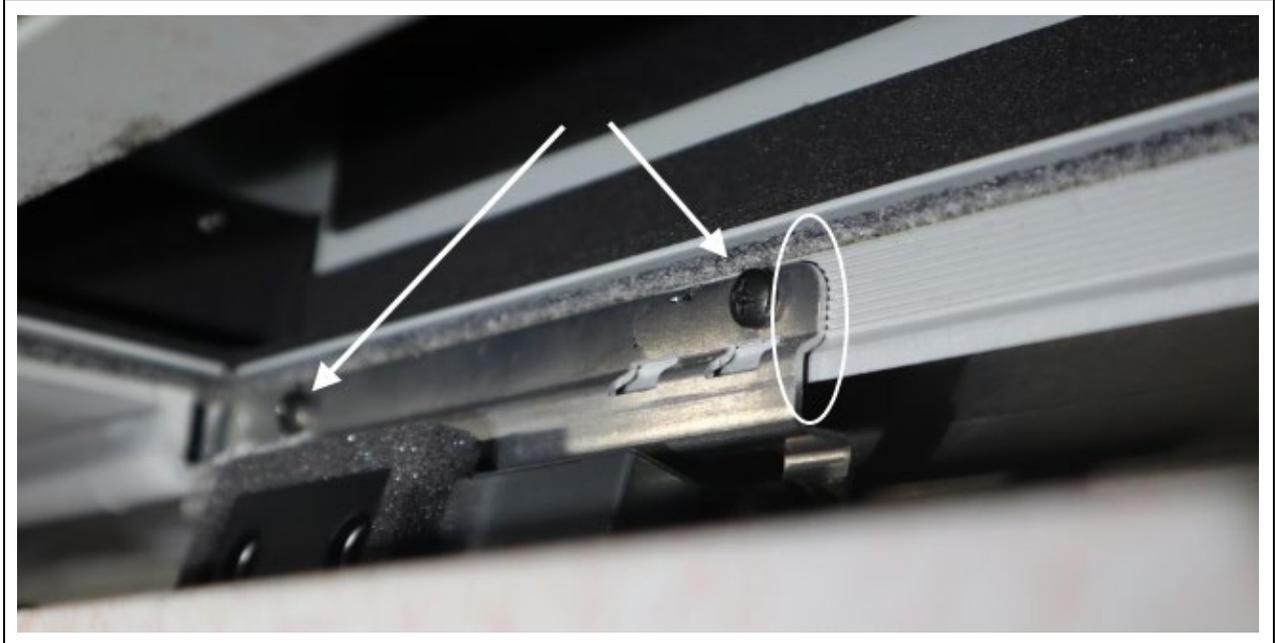
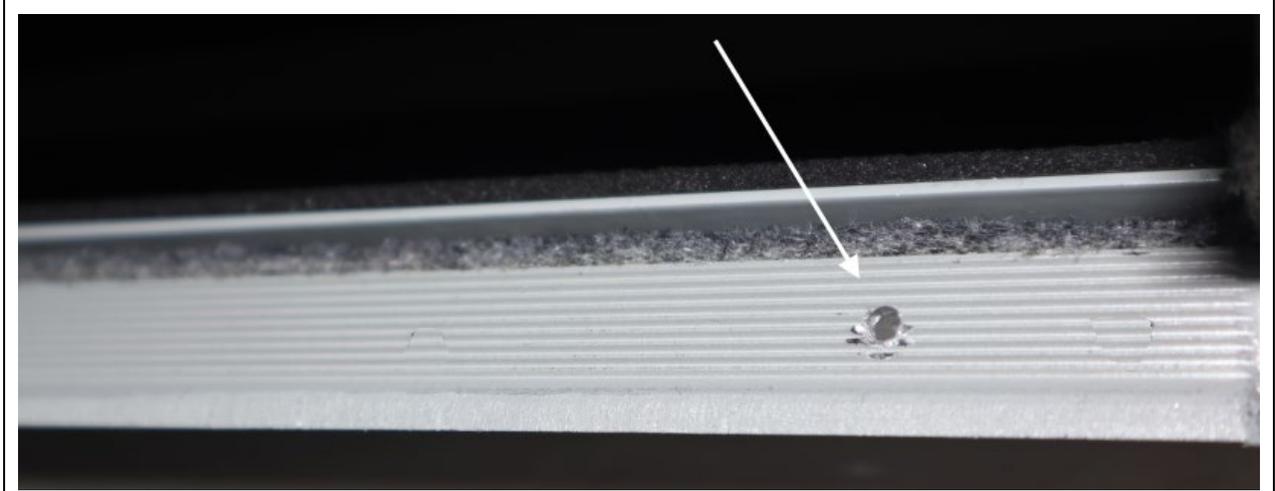
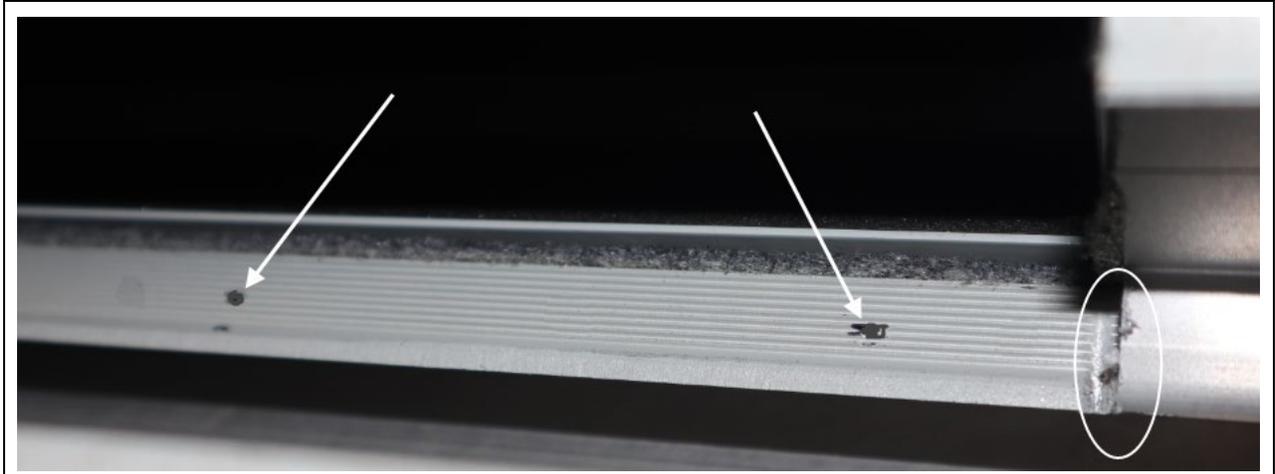




10. Install 2 plasma cluster modules # **0610449** in the area below the right parcel rack HVAC unit.

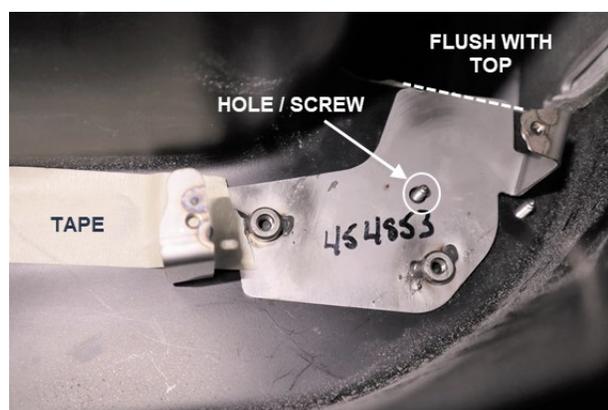
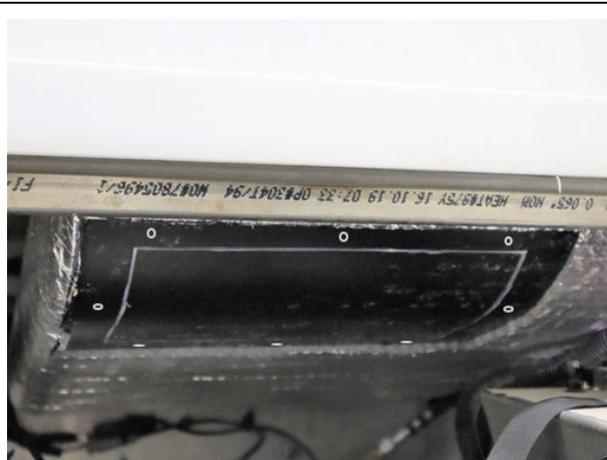
- With a sharpie, mark the location of the # **314937** supports (2X) on the inner parcel rack rail. Both supports must contact the extrusion edges, one on both sides (the support back shape must fit the ribbed extrusion profile horizontally as shown).
- Drill the 4 mounting points for a # 8 screw (1/8 or 9/64th inch drill bit).
- Install 2 of the supplied # **0610449** plasma cluster modules on the supports using supplied # **502799** screws and # **500855** washers.
- Connect the PLASMA 9 and the PLASMA 10 connectors (previously routed to the underside of the parcel rack) to the two modules. Leave +/- 6 inches of wire behind the module to ease future removal / installation during maintenance.
- Secure the supports (and modules) to the extrusion using the supplied # **500443** screws.

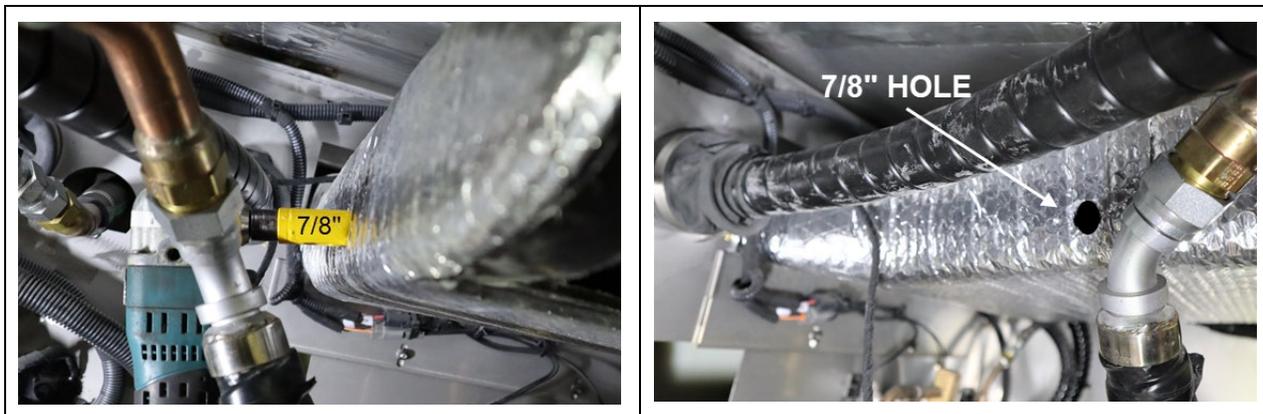




11. Drill and cut the necessary opening and holes through the condenser compartment duct.

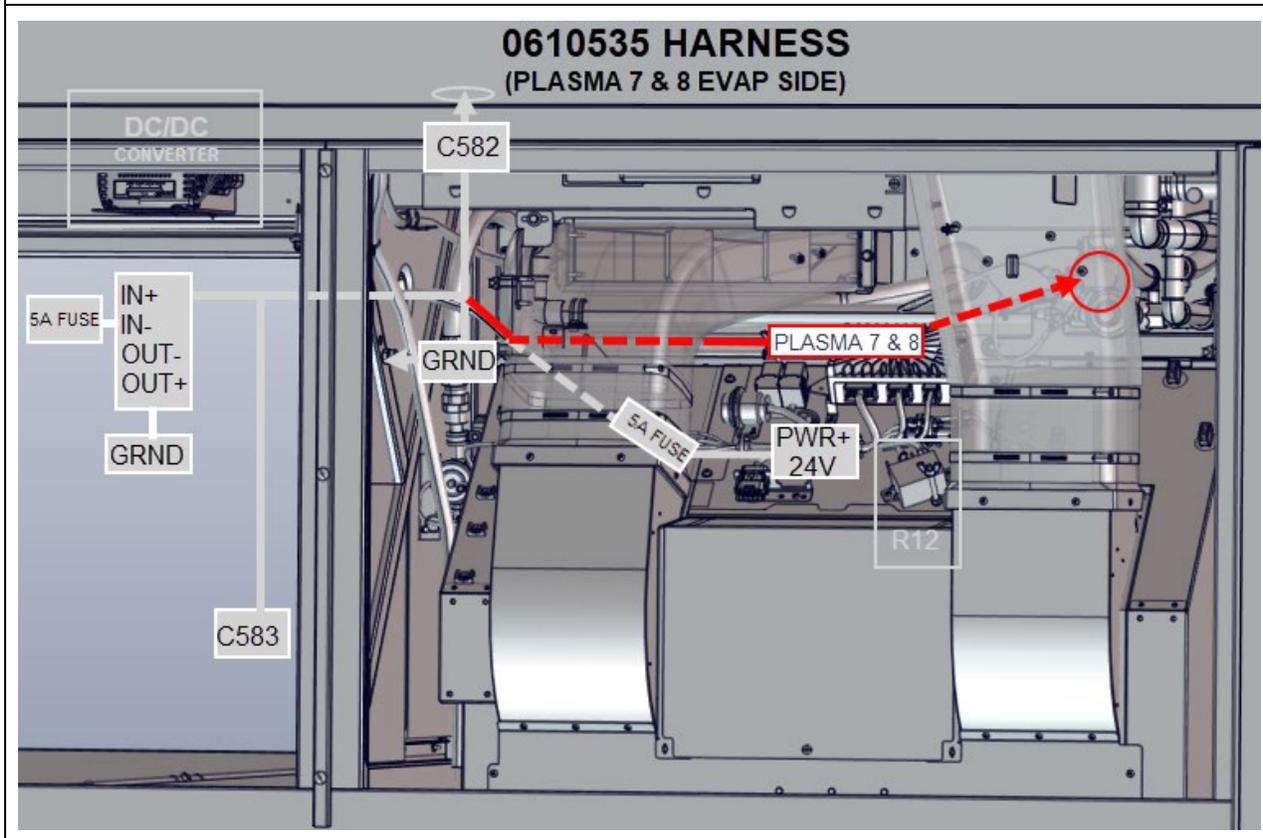
- Using the supplied # **454776** template, cut an opening in the condenser duct. Use the outside of the template to cut through the insulation material and the inside edge to cut through the plastic duct as shown.
- Also use the template to mark and drill the 8 mounting screw holes.
- Inside the duct, trial fit the # **454853** & # **454854** supports and mark the mounting screws position.
 - Two screws (on both sides) are already passing through the duct plastic shell. The supports center holes must fit over the lower screws to position them in the duct.
 - Adjust the top of the supports flush with the top duct opening as shown.
 - Use some masking tape to hold the supports in place and mark the supports mounting screws position with a paint marker.
- Drill the screw mounting holes on both sides of the duct (an angle drill will be necessary).
- On the exterior side of the duct, drill a 7/8 inch opening +/- 3 inches before the previously drilled mounting hole as shown.



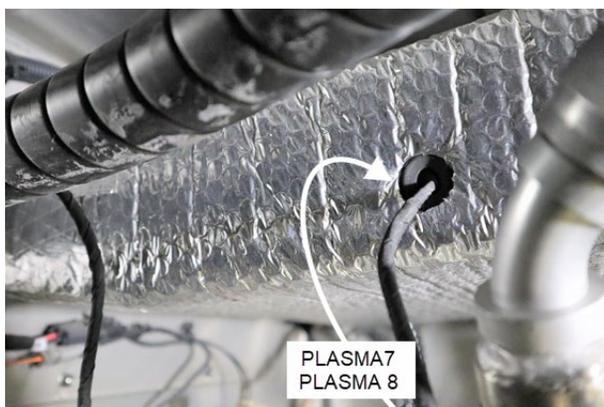
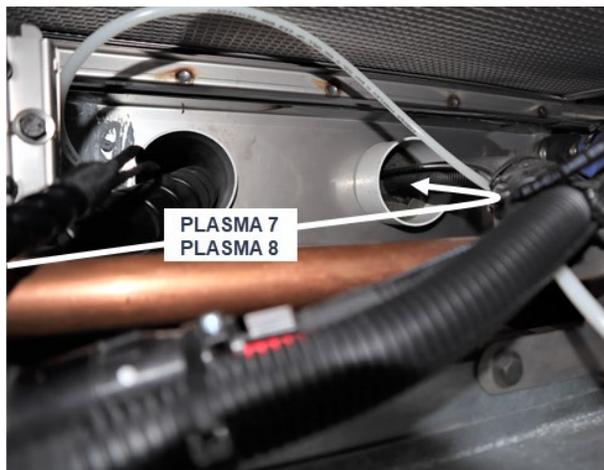
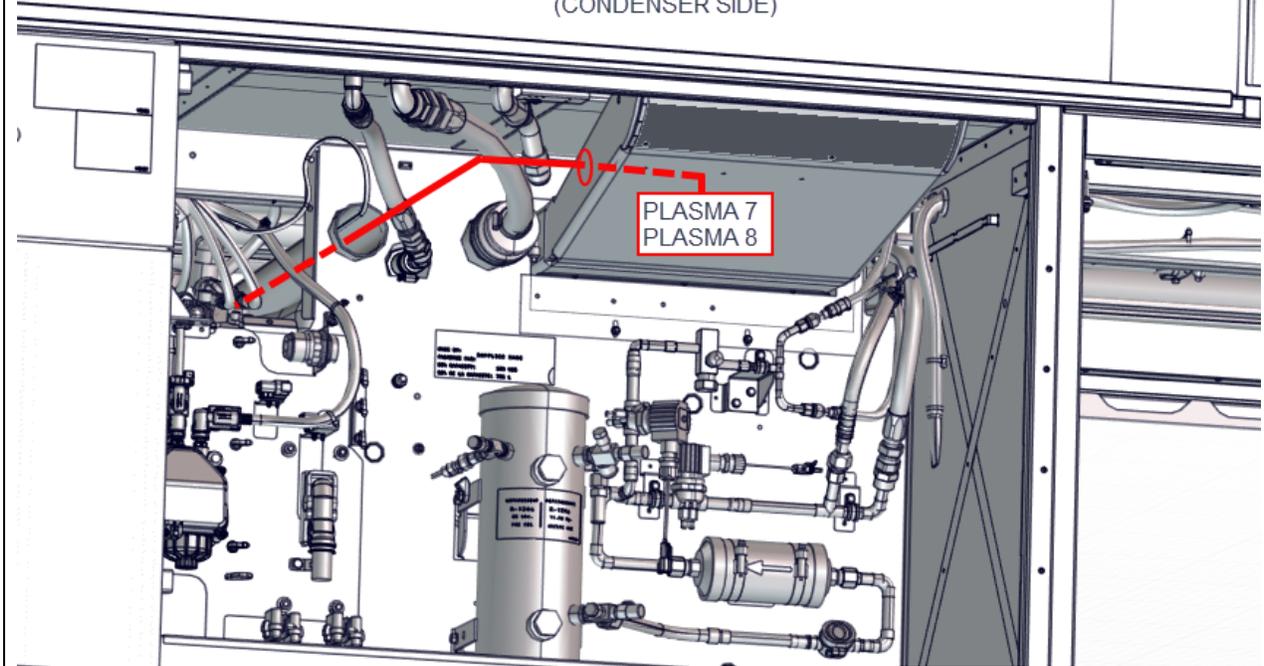


12. Route the PLASMA 7 & PLASMA 8 connectors (# **0610535** harness) from the evaporator compartment up to the inside of the condenser duct.

- Locate the PLASMA 7 & PLASMA 8 connectors in the evaporator compartment (part of the # **0610535** harness).
- Pass both connectors in the condenser compartment through the electrical PVC conduit as shown below (use a long rod to fish the connectors out of the grommet).
- Insert both connectors in the previously drilled 7/8 inch hole on the side of the condenser duct.
- Insert the harness grommet in the hole to secure the harness in the duct.

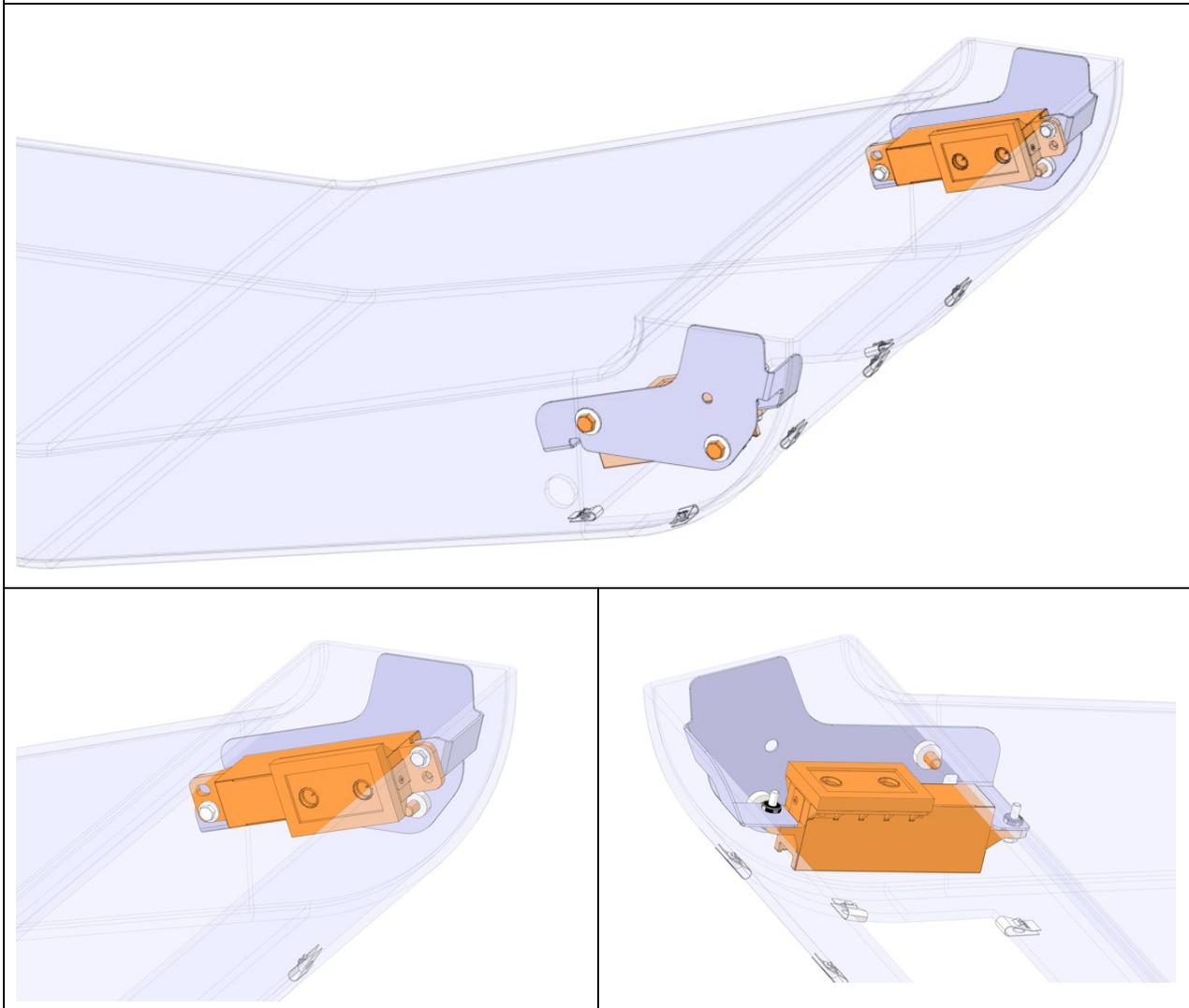


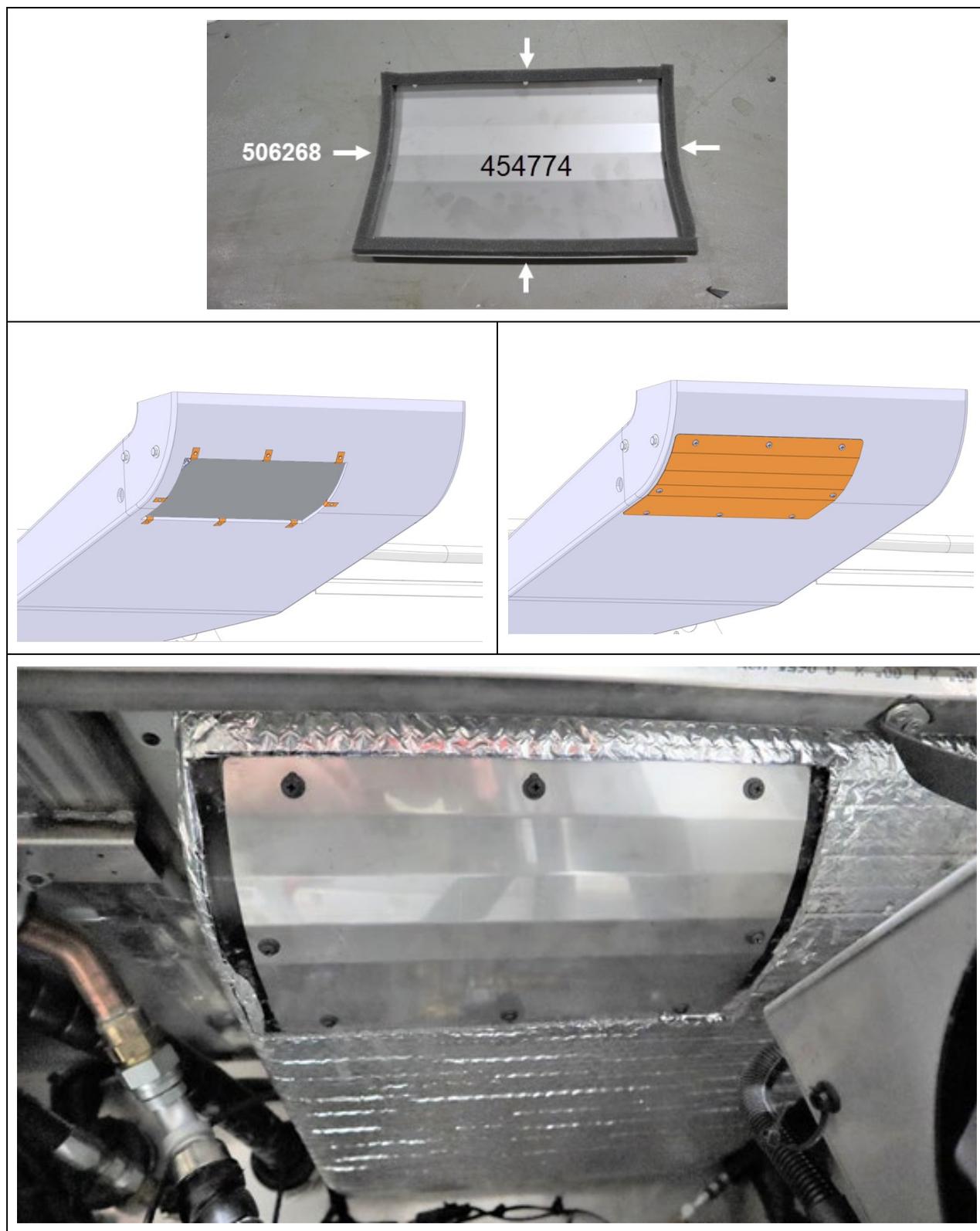
0610535 HARNESS
(CONDENSER SIDE)



13. Install two plasma cluster modules & supports in the condenser duct.

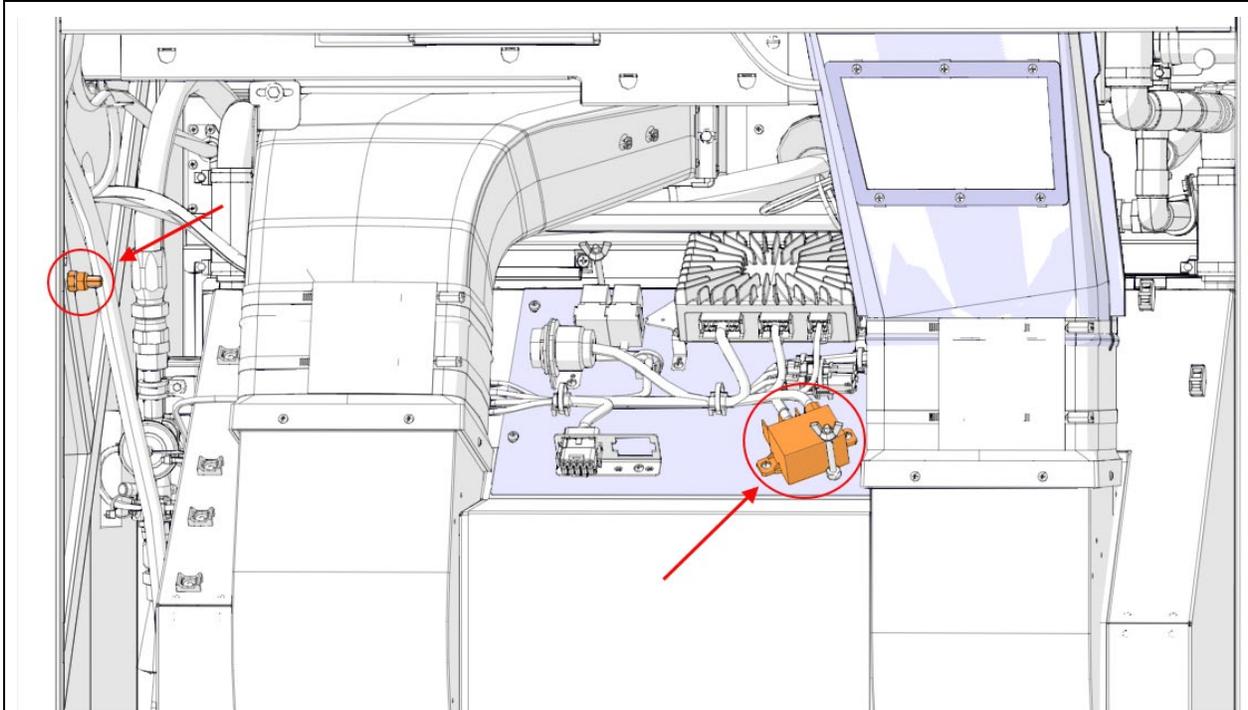
- Connect a plasma cluster module to the PLASMA 7 & PLASMA 8 connectors inside the duct.
- Mount the connected modules to their supports using the supplied # **502799** screws & # **500855** washers. For this particular location, the left side module will be pointing up.
- Secure the supports to the sides of the duct using the supplied # **500356** screws and # **5001744** toothed washers.
- Install the 8 # **5002071** spring nuts over the duct cover screw holes.
- Apply a strip of # **506268** 3/8" foam tape around the # **454774** condenser closing cover.
- Seal the duct opening with the cover using supplied # **5001155** screws.

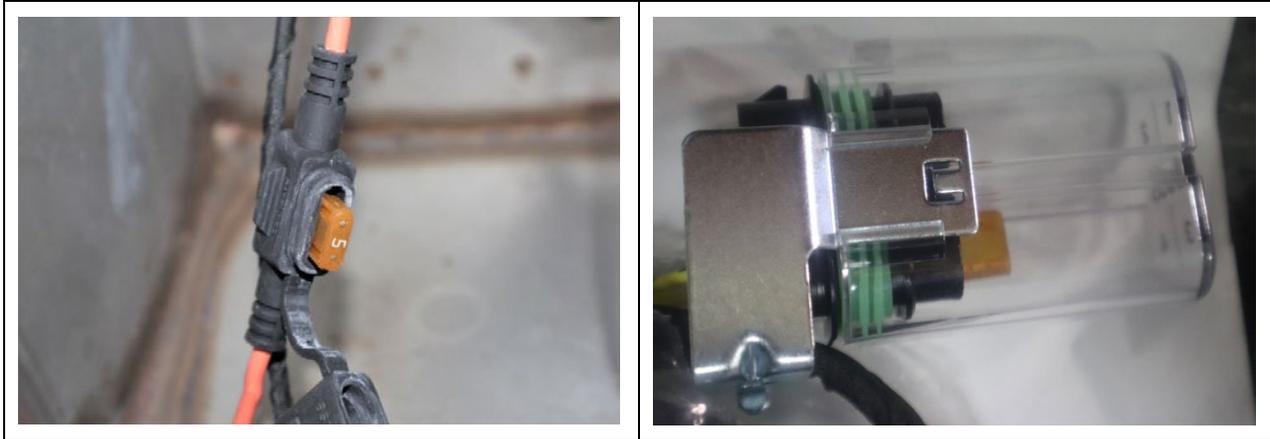




14. Connect the plasma cluster system to the vehicle power source.

- In the evaporator compartment, locate the R12 relay and the ground stud on the firewall.
- Connect the power terminal of the plasma cluster system to the middle terminal of the R12 relay.
- Connect the ground terminal of the system to the ground stud.
- Make sure both 5 amp fuses in the system are good before powering the vehicle.





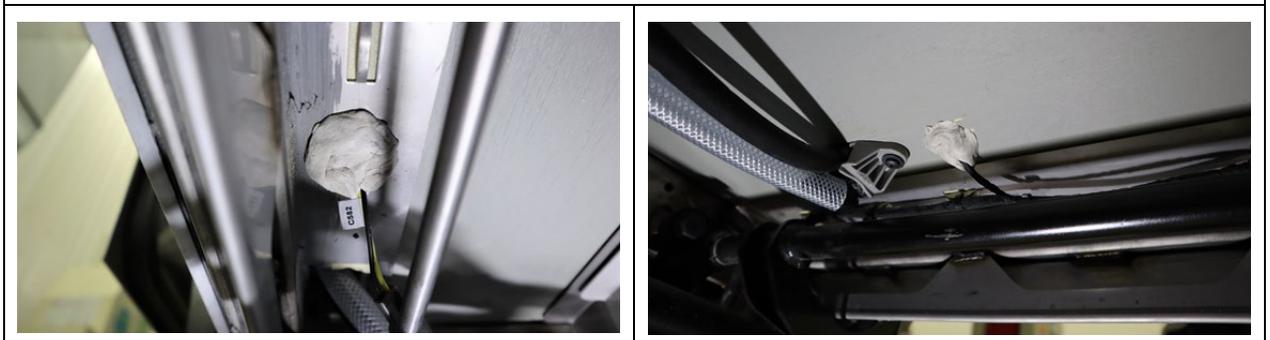
15. Apply the Prevost EnviroCare decal on the vehicle body.

- Clean the area just over the X345 crest near the entrance door. Use isopropyl alcohol or anti silicone (some other decals may also be present in the area).
- In Canada, carefully apply the bilingual decal # **0610528** just above any already installed factory decals (leave around 10mm gap between decals).
- In the United States, carefully apply the English decal # **0611019** just above any already installed factory decals .Leave around 10mm gap (3/8in) between decals.

IMPORTANT: Make sure the surface is clean and dry. Do not apply in cold temperature, heat the area as necessary to ensure proper adhesion.

16. Finish the installation and proceed to the system tests.

- Seal the two 1 inch openings in the baggage compartment using the supplied # **680453** butyl paste.
- Secure all loose wires & harnesses using supplied cable ties.
- Reinstall all trim parts & covers in the vehicle.
- Proceed with the test procedure at the end of this document to ensure proper function.



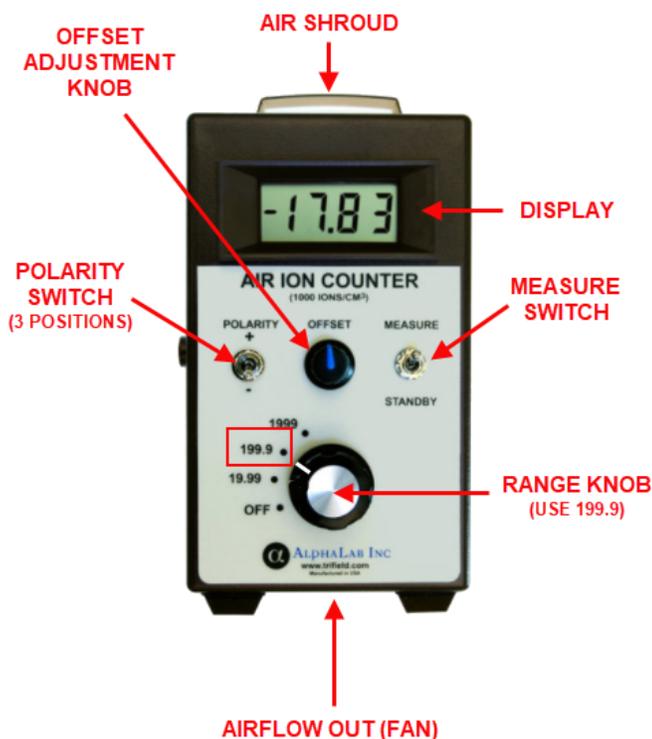
PLASMA CLUSTER INSTALLATION - IN VEHICLE TESTS

TESTER CALIBRATION

1. To operate the meter, flip the POLARITY switch to its center position, halfway between "+" and "-", and the MEASURE switch to the STANDBY position.
2. Turn the RANGE knob to the 199.9 position.
3. Wait until the display becomes stable to within +/-2 counts. This will take about 10 seconds after the meter is turned on.
4. Adjust the OFFSET knob so that the display reads zero +/- 2 counts (+/- 0.02). After this step, the OFFSET might not need to be readjusted again, ever. However, it should be checked at the beginning of each measurement session or if the temperature changes significantly.

NOTE

If you change the knob to another range like "19.99", you will not need to readjust the OFFSET.

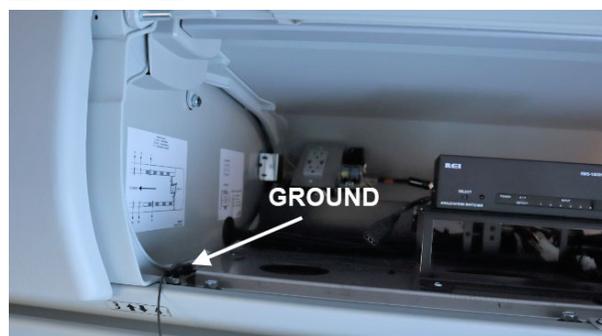


TEST POINTS & EXPECTED RESULTS:

AT LOWER WINDOW EXITS

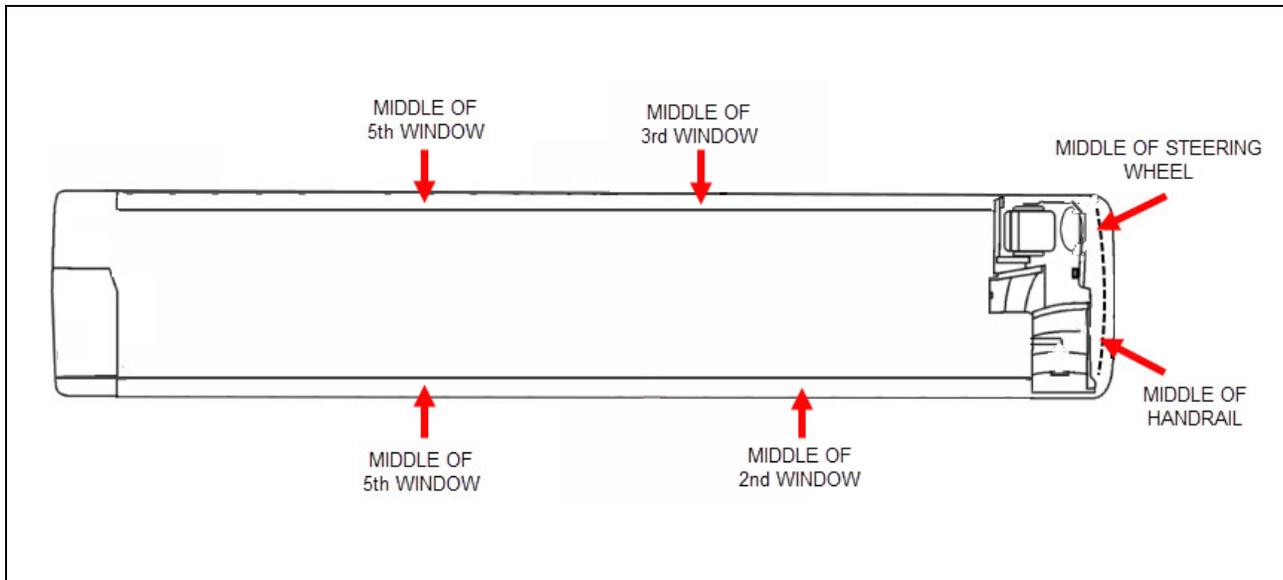
1. At the lower window height, the removable air shroud must be removed for accurate measurements.
2. Ground the tester to the Audio/Video mounting plate in the first parcel rack or the AC unit bodies in the parcel racks.
3. Flip the POLARITY switch to whichever polarity ("+" or "-") you want to measure (the MEASURE switch set at the STANDBY position). Wait for the display to become stable.
4. Wait at least 10 seconds after flipping the POLARITY switch then flip to the MEASURE position (switch upward). This will turn on the fan.
5. Place the tester opening in the middle of the airflow exiting from the grille.
 - Take a reading in the center of the steering wheel.
 - Take a second measurement in the middle of the entrance handrail.
 - On the curb side of the vehicle, take a reading in the middle of the 2nd and the 5th windows.
 - On the curb side of the vehicle, take a reading in the middle of the 3rd and the 5th windows.
6. At the 199.9 scale, the readings should top off and read $-I$ (INFINITE).

On vehicles equipped with a *Wheel Chair Lift*, a slightly lower reading of 150+ is acceptable at the 5th window (behind the WCL).



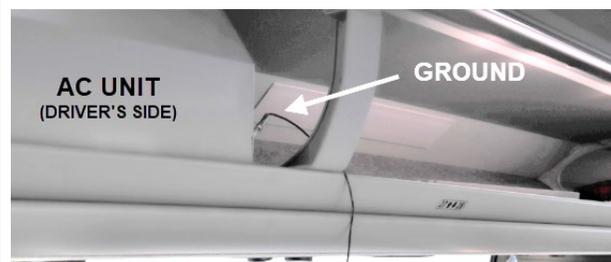
WARNING !

Make sure that the tester airflow (rear fan area) is not blocked by either your hand, body, vehicle component (Ex: steering wheel) or other solid object.



AT PARCEL RACKS OVERHEAD AIR REGISTERS

1. At the overhead registers, the removable air shroud must be removed for accurate measurements.
2. Ground the tester to the AC unit body in the parcel racks.
3. Flip the POLARITY switch to whichever polarity ("+" or "-") you want to measure (the MEASURE switch set at the STANDBY position). Wait for the display to become stable.
4. Wait at least 10 seconds after flipping the POLARITY switch then flip to the MEASURE position (switch upward). This will turn on the fan.



WARNING !

Make sure that the tester airflow (rear fan area) is not blocked by either your hand, body, vehicle component (Ex: steering wheel) or other solid object.

5. Place the tester opening in the airflow stream exiting from the register grille.

- Take a reading at the register right in front of the AC unit.
- Take a reading at the register located just after the AC unit.
- Do both sides of the vehicle (4 readings total).

6. At the 199.9 scale, the reading should top off and read -/ (INFINITE).

