

INSTALLATION INSTRUCTIONS

PT-A-406 Rear HVAC System for 2014-2023 RAM PROMASTER

without OEM rear AC/Heat Prep Package Fittings

This system can also be used for a Promaster van with the OEM AC prep package, however the prep package connections will not be used.

**NOTE: Rear Evaporator mounts forward of driver side wheel well.
For Installation with Havis Prisoner Transport Insert**

Warning – Do not attempt to install A/C units unless you are experienced with servicing A/C systems!

TOOLS REQUIRED:

A/C Refrigerant Recovery Unit
3”Hole saw
Phillips screwdriver

Drill and Drill bits
Wire Cutter / Crimper Socket set
Straight screwdriver

1.25”Hole saw
CV Boot crimp tool

PARTS AND HARDWARE:

<u>QTY</u>	<u>DESCRIPTION</u>	<u>PART#</u>
1	O2 Cool Air Tech 2 Kit for Ram Promaster Van	PRM98230
1	O2 Cool Air Tech 2 fittings without prep package	PRM98232
1	Evaporator mounting bracket	KKM007189
2	2 ½” “Y” Duct Connectors	PRM97483
12	3” Hose Clamp	GSM20045
12	8 x 3/8” Screw	GSM33179
4	#10 x 1” Self-tapping screw	GSM33502
36	2 ½” Air Duct Hose (36 foot length)	PRM97475
20	15” Wire Tie	GSM20036
1	Switch Plate HS93361	C-PS-4-L
2	Switch Plate Labels	C-LABEL-REAR-AC-HEAT



NOTES:

- Check for obstructions (Wires, brake lines, fuel tank, etc.) before drilling any holes!
- **These instructions include specific details for installing AC /Heat system with the Havis, Inc. Prisoner Transport insert. Some details may be slightly different than the O2 Cool instructions**
 - Carefully read all instructions before installing any Havis, Inc. products.

O2 Cool Air Tech 2 Kit for Ram Promaster Van / Havis Kit # PRM98230 (includes the following)

O2 Cool Part Numbers

50 001 624	14,DPM 136" ATII H/C	
01 000 011	Harness, Wire 23' 3-Speed	
01 000 087	Harness, Resistor Air Tech / MiniMax	
01 000 632	Switch, Rocker Rear Mode	
01 000 633	Switch, Rocker Rear Blower LMH (Havis # 26933)	
01 000 634	Harness,11 Nissan Mode/ Blower Switch	
02 000 015	Linestake,2"	
02 000 018	Lockwasher,8mm	
02 000 023	TrimLock rubber edge molding	
02 000 043	Washer,1/4 Flat Zinc	
02 000 052	Wire tie, 14 x 3/16	
02 000 075	Screw, 10x3/4 hex washer tek zinc	
02 000 138	Linestake clamp, 3" vinyl clad	
02 000 169	Washer,#10 zinc	
02 000 240	Bolt,1/4-20 x 1 1/4 SS	
02 000 381	Washer,1/4 Flat SS	
02 000 390	Clamp,#10 Worm gear Heater Hose5/8"	
02 000 405	Bolt, 8mm -1.25 x 70	
02 000 492	Bolt, 10-24 x 3/4 hex washer SS	
02 000 531	Nut, 1/4-20 Nylon Lock, SS	
02 000 533	Nut, 10-24 Nylon Lock, SS	
04 000 025	Hose, 5/8 ID OEM Spec-Bulk	x 60' feet
04 000 053	Hose, 5/16" Refrig #4890 Redu B	x 30' feet
04 000 055	Hose, 1/2" Refrig #4890 Redu Ba	x 30' feet
05 000 020	Wye, 5/8 OD Wtr Plastic	
05 000 047	Valve, Kazoo 5/8" ID x 10'	
05 000 852	Valve, Water Elec 2-Port 12v (Havis # PRM97506)	
06 001 383	Brkt, 526/530 Mtg NV Rear	
06 001 593	Plate, DPM ATII Mtg	
06 001 594	Brkt, DPM ATII Mtg Support	
08 000 017	Tape, Prestite, Refrigerant	
60 001 523	Valve, Kazoo 3/4" ID x 3"	
66 000 257	Power Pak AT II plate fin coil	
40 000 462	Schm, Wire ProMaster Airtech	

63 001 216 kit Promaster fittings kit / Havis #PRM98232
(#PRM98232 includes the following)

- | | | |
|-----|------------|------------------------------|
| (1) | 05 001 132 | Block Fitting, DPM Exp Valve |
| (2) | 05 000 502 | El, #6 FOR x 6 CF |
| (2) | 05 000 507 | El, #10 FOR x 10 CF |

Important Notes:

Make sure to remove protective plugs or caps on fittings prior to installation.

This kit may include extra parts not needed for this specific vehicle application.

**When recharging the Air Conditioning system, you will need to add -
3 lbs total refrigerant
2 ounces additional refrigerant oil**

Refrigerant total may vary slightly depending on final air duct temperature test results.

Check OEM vehicle specifications for proper Antifreeze/ Coolant. Approximately 1/2 gallon of additional coolant required.

After coolant is back in system, it is very important to drive vehicle in order to get out (burp) trapped air in the hoses. If air is not burped out, the coolant liquid will not flow properly causing minimum or no heat.



Dodge Promaster O2 Cool kit



Havis Vent Adaptor parts

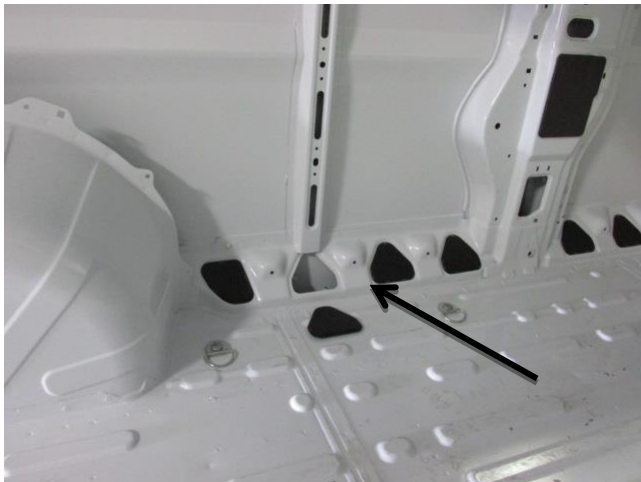


Evaporator mounting bracket # KNM007189

Note: Proair bracket for mounting behind rear wheel well is not used

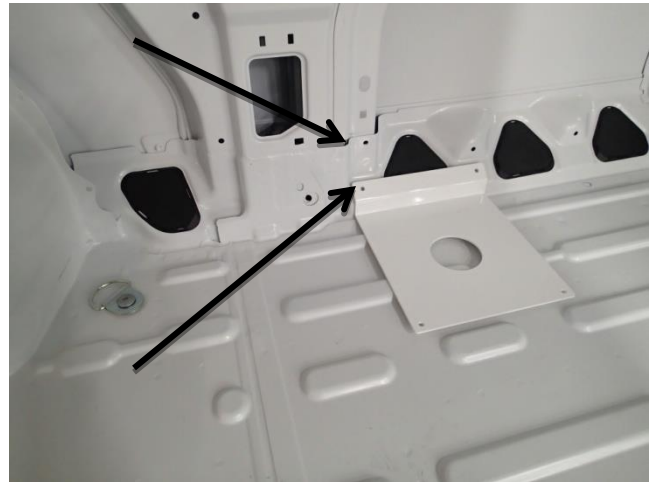


Evaporator and mounting bracket assembly

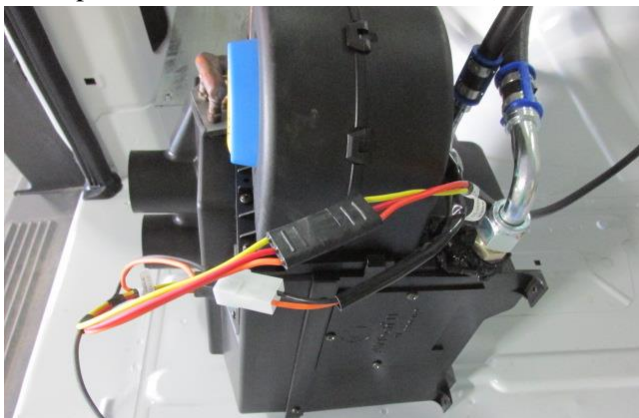


The mounting bracket lines up roughly to the edge of the body in front of the driver wheel well. Place bracket in mounting location and drill a 3/4" hole for drain hose.

Location shown for 159" long wheel base van
(plastic cover removed for reference)



Location shown for 136" long wheel base van
Line up hole in bracket to the factory hole in the body as shown by the arrow in the above picture
Start refrigerant evacuation on factory system



Attach 04 000 053- Hose, 5/16" Refrig #4890 and 04 000 055- Hose, 1/2" Refrig #4890 A/C lines to the evaporator as shown. Place "O" rings on fittings lubricate with mineral oil and wrap with 08 000 017 Prestite tape.

Note: CV Boot crimp tool required to properly tighten metal clamp rings.



Plug 01 000 011- harness into the evaporator. Attach 04 000 025- Hose, 5/8 ID OEM Spec-Bulk heater hoses to core using (2) 02 000 390- clamps. Mark one of the heater hoses (Red). (BE SURE TO REMOVE RUBBER PLUGS FROM THE COIL.) Attach 60 001 523- drain hose and 05 000 047- kazoo valve to bottom of evap.



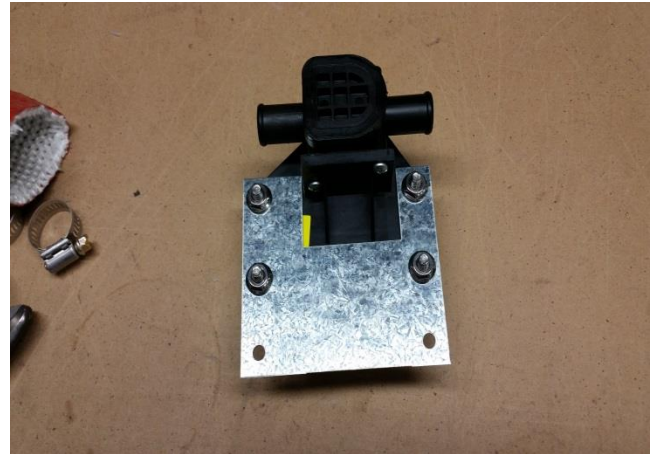
Install the bracket into the van using two (2) #10 x 1" screws towards the rear of the bracket into the van lower wall. Then install the evaporator on the bracket using two (2) 1" self-tapping screws (GSM33502). Drill 3" hole in floor corresponding with the above picture. Route hoses and harness through holes to under vehicle



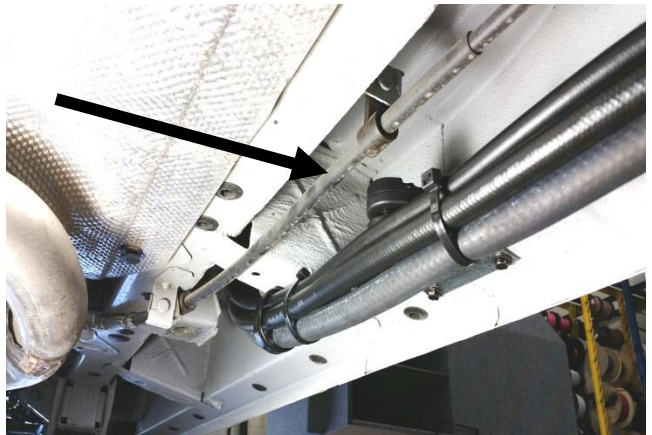
Secure hoses & harness to frame rail with 02 000 138- line-stake clamps and 02 000 075- screws as shown.



Continue routing hose along the frame rail up towards engine compartment.



Attach the heat valve to the provided bracket for mounting underneath the van. Take note of the arrow on the housing.



Install 05 000 852- water valve in the push line on frame under van as shown. Make sure arrow on the side of the valve points to the rear unit.

See attached print for heater hose hook up (40 000 479).



Attaching a clamp underneath the battery tray as shown will help keep the hoses clear of moving parts in the suspension.



Route hoses over sub-frame. Heading towards topside of engine compartment.

Note: Orange Heat protective tube may be silver.



Remove factory bolt and install 06 001 383-bracket as shown.

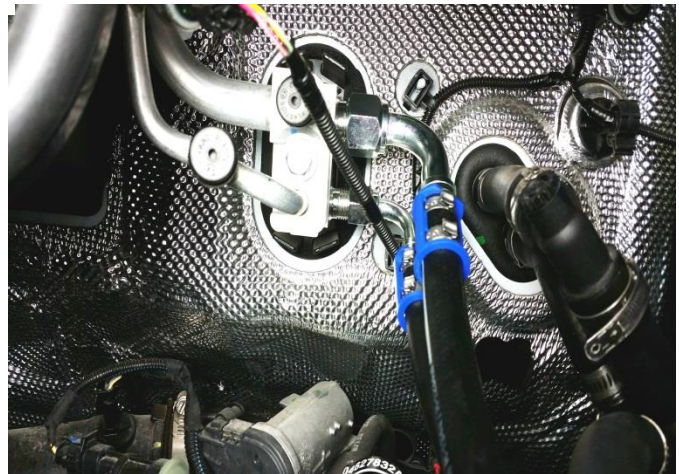


Route hoses under the coolant reservoir.
(Be sure to apply rubber edge molding to all sharp edges)

This hose connects to heat valve



Install the (2) 05 000 020 water wye using (6) 02 000 390-worm gear hose clamps as shown. Notice the push line from the engine goes back to the water valve. **Add approximately 1/2 gallon of additional coolant and burp air out of system by driving vehicle. Add more coolant if needed.**



Make sure OEM system has been recovered. Remove the nut and stud from the OEM manifold. Pull OEM hoses back and install 05 001 132- tie-in adapter manifold with 02 000 405-Bolt, 8mm -1.25 x 70 02 000 043-Washer, 1/4 Flat Zinc and 02 000 018- Lockwasher, 8mm Attach 04 000 053-Hose, 5/16" Refrig #4890 and 04 000 055-Hose, 1/2" Refrig #4890 hoses to the tie-in manifold.

Recharge the air conditioning system with 3 lbs. total refrigerant and 2 ounces additional refrigerant oil.



Carefully remove plastic dash insert on driver side of steering column. **See Note on next page.**

NOTE:

2022 and newer Promaster vans may have a parking brake switch in this OEM Dash location. Switches for the rear HVAC system will need to be installed in console or alternate location in dash.



Cut the backside off the plastic insert. Enough that harness will run through.



Install (1) 01 000 632- switch and (1) 01 000 633-switch to the metal faceplate as shown.



Attach metal faceplate to the plastic housing as shown. Plug 01 000 634- wire harnesses into the switches following schematic attached. 40 000 462. Reinstall the switch assembly into dash.



This shows console mounted HVAC switches for 2022 and newer Promaster van.



Optional mounting location for fuses and wiring



Run two lengths of hose up the wall and attach at the top with wire ties or tape.

Note: Carefully measure length of duct hose needed for each vent and "Y" connections before cutting.



Attach the “Y” and split the hose into two vents in driver and passenger side front and rear ceiling. This will provide a total of four ceiling vents



Install insert leaving the ceiling panels out. Loop the hoses over the side of the wall



Run hoses to their respective openings in the ceiling and drop excess through the top.



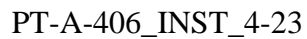
This shows the rear access panel removed and the AC/Heat evaporator / blower. This cover is easily removable for service.



Route hose into ceiling holes and **cut off any extra slack.** Attach the hose to the vent bracket using a 3” hose clamp.



Align the three mount holes of the vent adaptor cover the three pre-punched holes in ceiling. Attach each vent to ceiling using #8 x 3/8” flat head sheet metal screws. (Screws included with standard insert)



[illegible]