

## INSTALL INSTRUCTIONS PT-A-409 HVAC UNIT for 2003-2023 CHEVROLET/GMC VAN (For 2007 and newer Prisoner Transport Inserts ONLY)

**\*\*Does not work for 2.8L Duramax Turbo-Diesel 4-cylinder engine application because of lack of space needed for ac fittings.**

**\*\*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	Drill and Drill bits	1.25”Hole saw
Wire Cutter / Crimper Socket set	Phillips screwdriver	3”Hole saw
CV Boot crimp tool	Straight screwdriver	

### PARTS AND HARDWARE:

<u>QTY</u>	<u>DESCRIPTION</u>	<u>PART#</u>
<u>Main AC/Heat system parts</u>		
1	O2 Cool Air Tech 2 Kit for Chevy Express Van	PRM98344
<u>Parts for Air blower ductwork</u>		
4	Ceiling Vent	25567
2	2 ½” “Y” Duct Connectors	PRM97483
36	2 ½” Air Duct Hose (36 foot length)	PRM97475
12	3” Hose Clamp	GSM20045
12	8 x 3/8” Screw	GSM33179
20	15” Wire Tie	GSM20036
1	Console Switch Plate	C-PS-4-L
2	Switch Plate Labels	C-LABEL-REAR-AC-HEAT

Other switch labels that can be used with C-PS-4-L are included in KK-DOME-2-LED dome light kit and PT-A-909 Power vent kit.

### 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. All parts may not be used for Chevy system.**
  - Carefully read all instructions before installing any Havis, Inc. products.

**O2 Cool Air Tech 2 Kit for Chevy Express Van / Havis Kit # PRM98344 (includes the following)**

**Miscellaneous Parts /O2 Cool Part Numbers**

(10)	02 000 015	Linestake clamp, 2"	
(1)	02 000 021	7/8 Clamp for Drain Hose	
(1)	02 000 043	Washer, 1/4 Flat Zinc	
(1)	02 000 053	Grommet, 1" hose, 1 1/4" OD	
(1)	02 000 054	Grommet, 3" hose	
(20)	02 000 074	Screw, 14x1 Hex Washer Tek Zinc	
(3)	02 000 132	Linestake clamp, 2" twisted ends	
(20)	02 000 378	Wire tie, 14 x 5/16, 120# Pull	
(16)	02 000 390C	Clamp, #10 Worm gear Heater Hose 5/8"	
(2)	02 000 418	Screw, 10x1/2 hex washer type AB	
(1)	02 000 448	Bolt, 1/4-20 x 7/8"	
(1)	02 000 520	Nut, 1/4-20 Hex Zinc	
(.5 ft)	04 000 007	Hose, 1/2 ID Drain - clear	
(6 ft)	04 000 010	Tube, Convo 1"	
(6 ft)	04 000 077	Tube, Convo 1/4"	
(2)	05 000 020	Plastic Wye, 5/8 OD	
(2)	05 000 050	Splice, 5/8 Heater Hose	
(2)	05 000 110	Ell, 60 5/8 ID x 4.5" Rubber Heater hose	
(.666ft)	08 000 017	Tape, Prestite, Refrigerant	
(3 ft)	08 000 124	Sleeve, Fire Protective 2" I.D.	
(1)	63 000 007	Trim lock, 1' 7"	
(1)	63 000 705	Valve kazoo 5/8" ID x 3"	
(1)	62 000 493	Hose 5/8 OEM Heater	x 50' feet
(1)	62 000 574	Hose #6 RB	x 25' feet
(1)	62 000 778	Hose #10 RB	x 25' feet
(1)	05 000 479	Strt, #6 FOR x 6 CF	AC fitting
(1)	05 000 507	Ell, 90 #10FOR x 10 CF	AC fitting
(1)	64 000 226	Elec kit ATII	
(1)	68 000 032	Harness assy, 20A 239 Power Relay	
(1)	65 000 011	Warranty Bag, Commercial	
(1)	66 000 257	Evaporator Blower (Power Pak AT II)	

**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 -**

**3.5 to 4 lbs. total refrigerant  
2 ounces 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.**

(1)	<b>63 001 049</b>	Water Valve Bag, 12 Volt 2 Port ( <i>63 001 049 kit includes the following</i> )
(1)	01 000 136	Relay, 12v 50/20 Amp
(1)	01 000 644	Water valve relay harness
(4)	02 000 075	#10 x 3/4 Hex washer screw
(2)	02 000 390	Worm gear clamp
(1)	05 000 852	12 v Electric water valve ( <i>Havis # PRM97506</i> )

(1)	<b>63 000 735 kit</b>	<i>Chevy Express (GM) under hood fittings kit (63 000 735 includes the following) (Havis # 26933)</i>
(1)	05 000 502	Ell 90 #6 FOR x 6 CF
(1)	05 000 507	90 #10FOR x 10 CF
(1)	05 000 367	High side tie-in block fitting with O ring
(1)	05 000 307	Low side tie-in block fitting with O ring
(2)	02 000 252	8mm-1.25 x 65mm bolts

**Note:**

**Some of the following photos may not specifically be from a Chevy Van.  
However the application and installation process is the same.**



Chevy Express PRM98344 kit

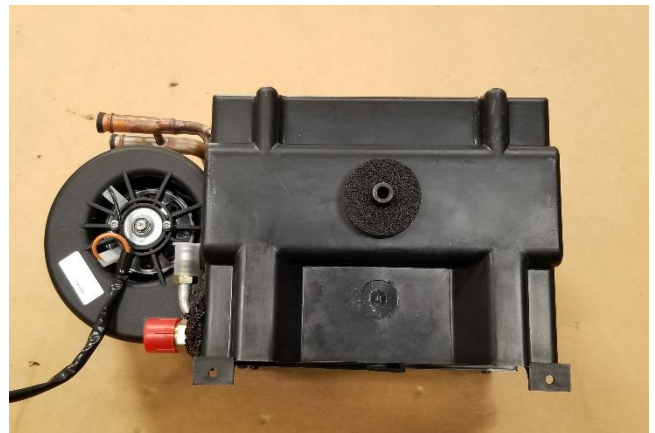


Havis vent adaptor parts



Uncoil all of the hoses.

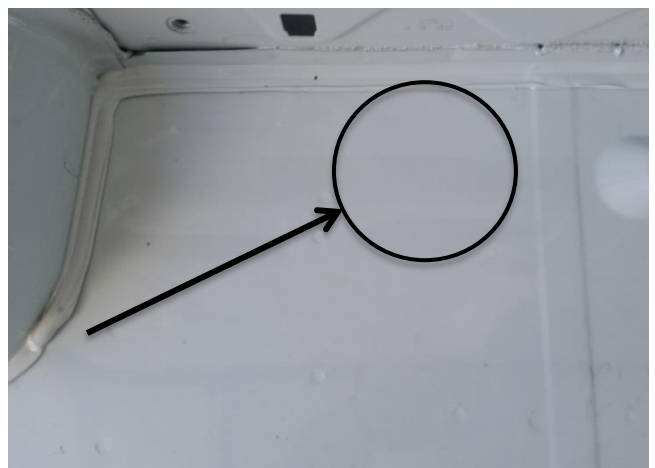
**NOTE:** The 5/8" heater hose comes in a 50 ft length that must be cut in half. Mark one of the heater hoses using tape. The marked hose will be the push line.



Bottom view of the evaporator blower unit shown. Determine location behind driver side rear wheel well and drill 3/4" hole in floor for center drain. Attach clear drain hose with 7/8" clamp and place unit on floor with hose through the hole.



Attach heater hoses to unit with (2) worm gear clamps. The push line connects to the bottom of the coil. Crimp on the #6 evap fitting to the #6 liquid line. Crimp on the #10 evap fitting to the #10 suction line. Now attach the A/C fittings using the appropriate "O" rings. Make sure to lube rings with mineral oil. Wrap the suction line with pre-tite tape. Plug in the wire harness and ground the black wire to body.



Determine a location on floor in front of the wheel well that also has proper clearance under van. Drill a 3" hole at this location and insert 3" grommet. Fasten with three (3) 5/16" self-tapping screws.

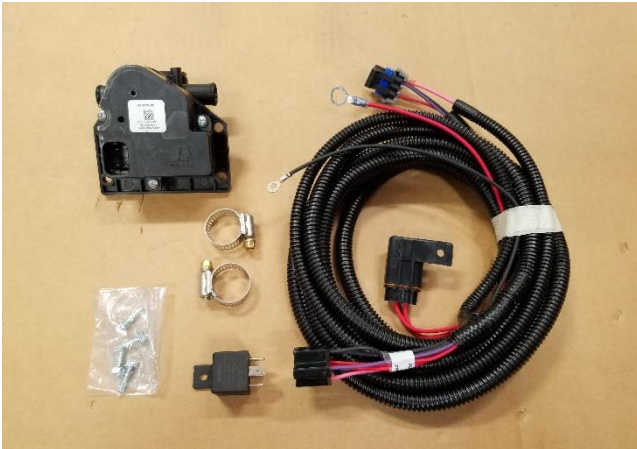




Run hoses and harness over the wheel well. Use tie-wraps to keep hoses and harness together. Determine what wiring is needed to go under van and what wiring needs to go to the switches. Run wiring accordingly.



Run hoses and harness down through 3" hole and out the bottom of van. The access hole must be sealed after all parts are installed and the system is tested.



Water shutoff valve kit # 63 001 049  
(Water valve only Proair # 05 000 852)  
(Water valve only Havis # PRM97506)



Mount water valve and connect heater hoses as per attached water plumbing schematic.



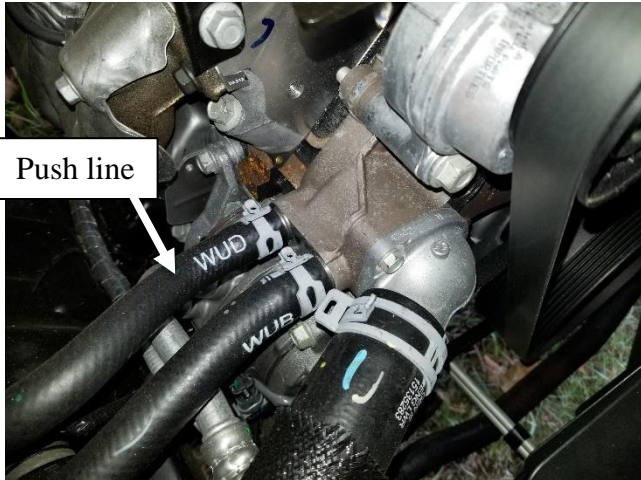
Continue forward to the engine compartment. Route the hoses to the inside of the sub frame. Use hose clamp's to keep hoses clear of any sharp edges.



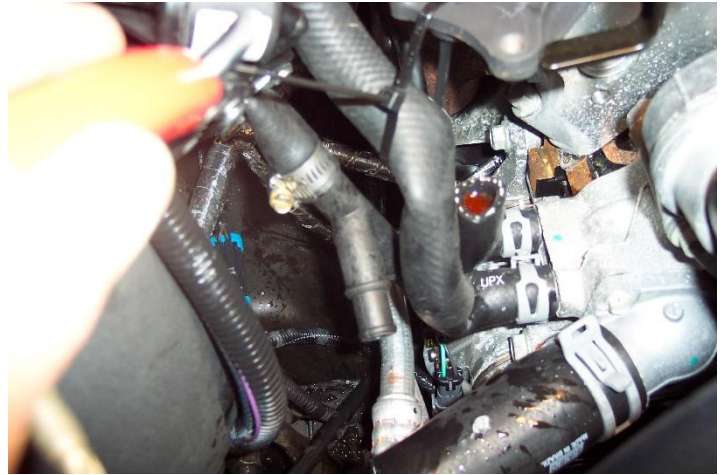
When routing the hoses up towards the engine add the heat sock. Also be sure to clamp the hoses clear of any moving parts.

**Note: Orange Heat protective tube may be silver.**

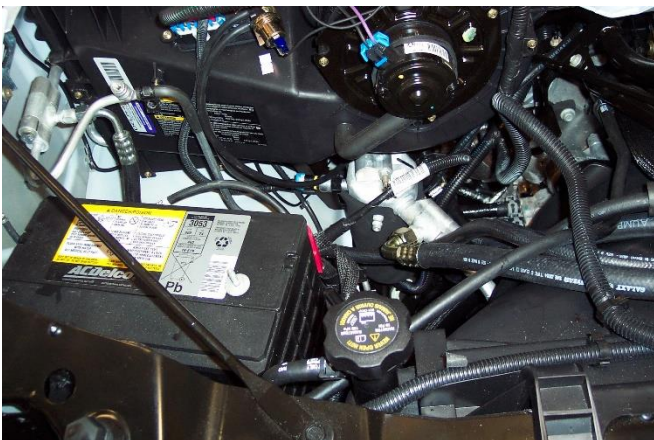




Carefully run rear HVAC heater hoses to engine compartment lower passenger side near the thermostat housing. The push line is connected to the rear cylinder head fitting.



Drain coolant.  
Cut the factory heater lines and install plastic Wye's with hose clamps. Make sure that the Wye's are installed in the direction as shown in the plumbing schematic.



Properly evacuate refrigerant from OEM system. Carefully run rear HVAC refrigerant hoses to upper passenger side of engine compartment.

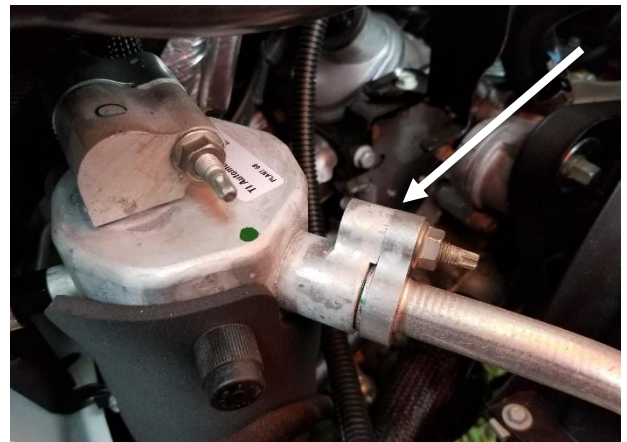


OEM high side line is located at passenger side fender area. Disconnect OEM fitting.



Install high side block / tee fitting into OEM line with supplied bolt and "O" ring. Attach #6 hose to tee with 90° hose fitting.

**Note: Use mineral oil to lubricate "O" rings.**



Install low side block / tee fitting to OEM Accumulator / Drier connection with supplied bolt and "O" ring. Attach #10 hose to tee with 90° hose fitting.  
**Add refrigerant oil and properly recharge refrigerant.**

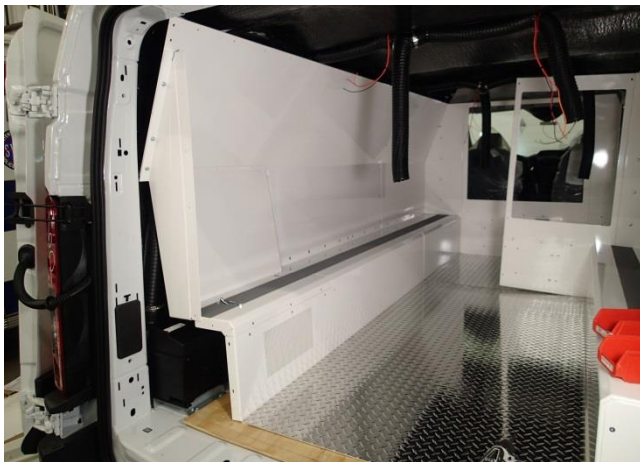




Attach the air duct hose and clamps to the HVAC blower assembly **Note: Carefully measure length of duct hose needed for each vent and "Y" connections before cutting.**



Run a single long length of hose and attach the "Y" and split the hose into two vents in driver and passenger side front 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. Install ceiling panels and drop the hoses into their respective holes.



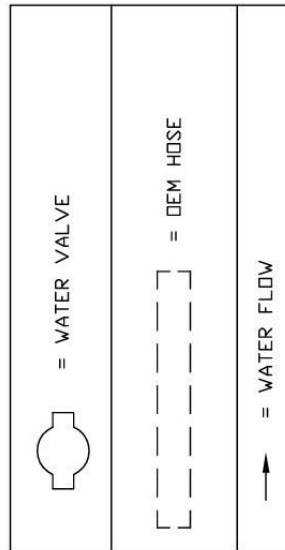
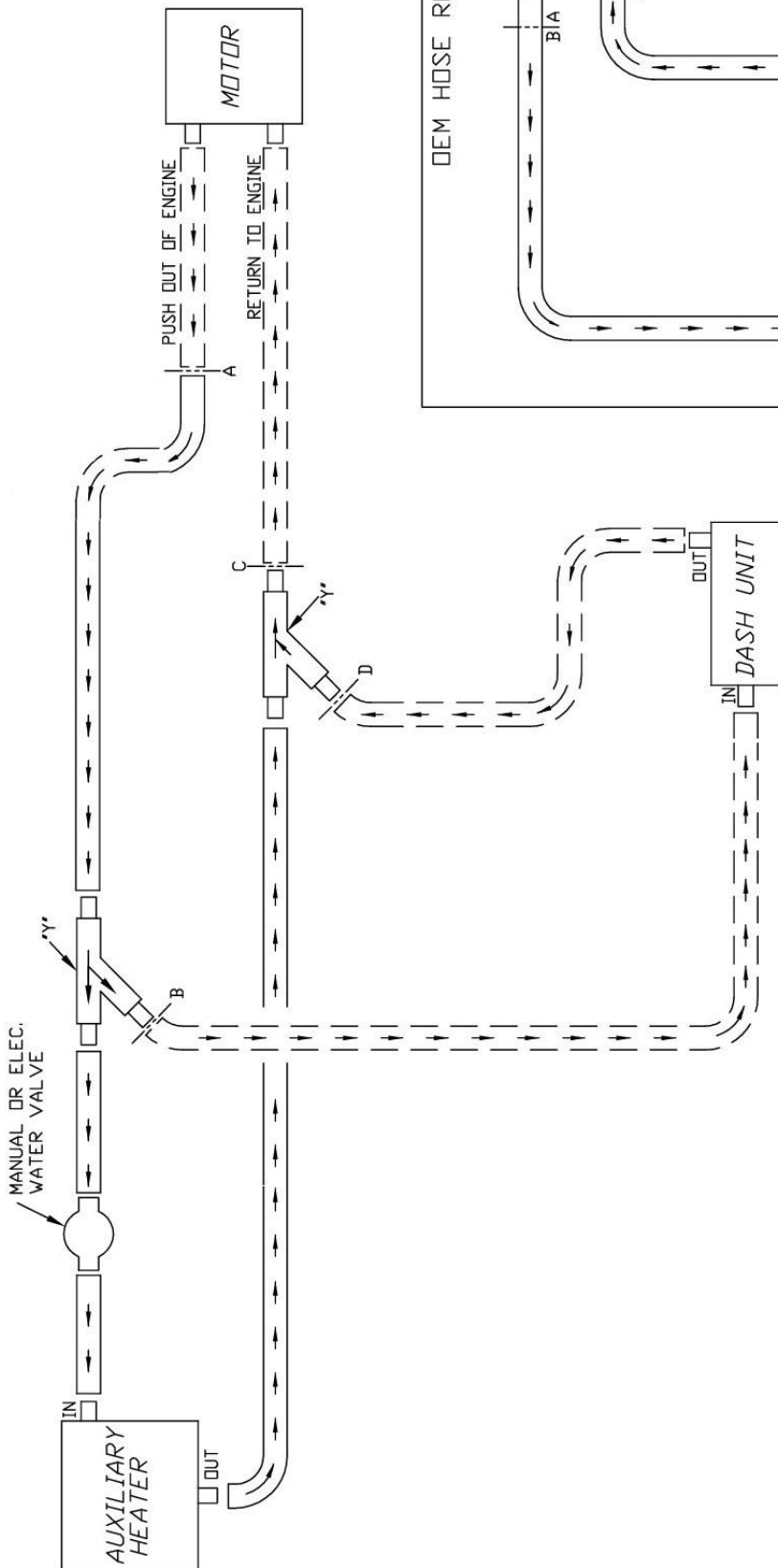
Route hose into ceiling holes and **cut off any extra slack.** Attach the hose to the vent bracket using a 3" hose clamp



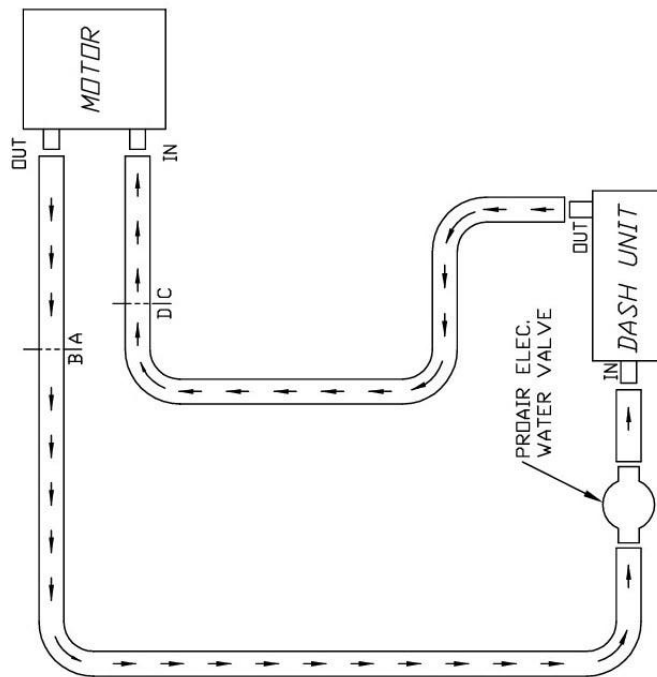
Align the three mount holes of the vent adapter cover with the pre-punched holes in ceiling. Attach each vent to ceiling using #8 x 3/8" flat head sheet metal screws. **(Screws included with standard insert hardware)**

Follow Heater Hose plumbing and Wiring diagrams as shown below.

C-PS-4-L switch plate included with PT-A-409 kit for when using a Havis, Inc. Console.



DEM HOSE ROUTING

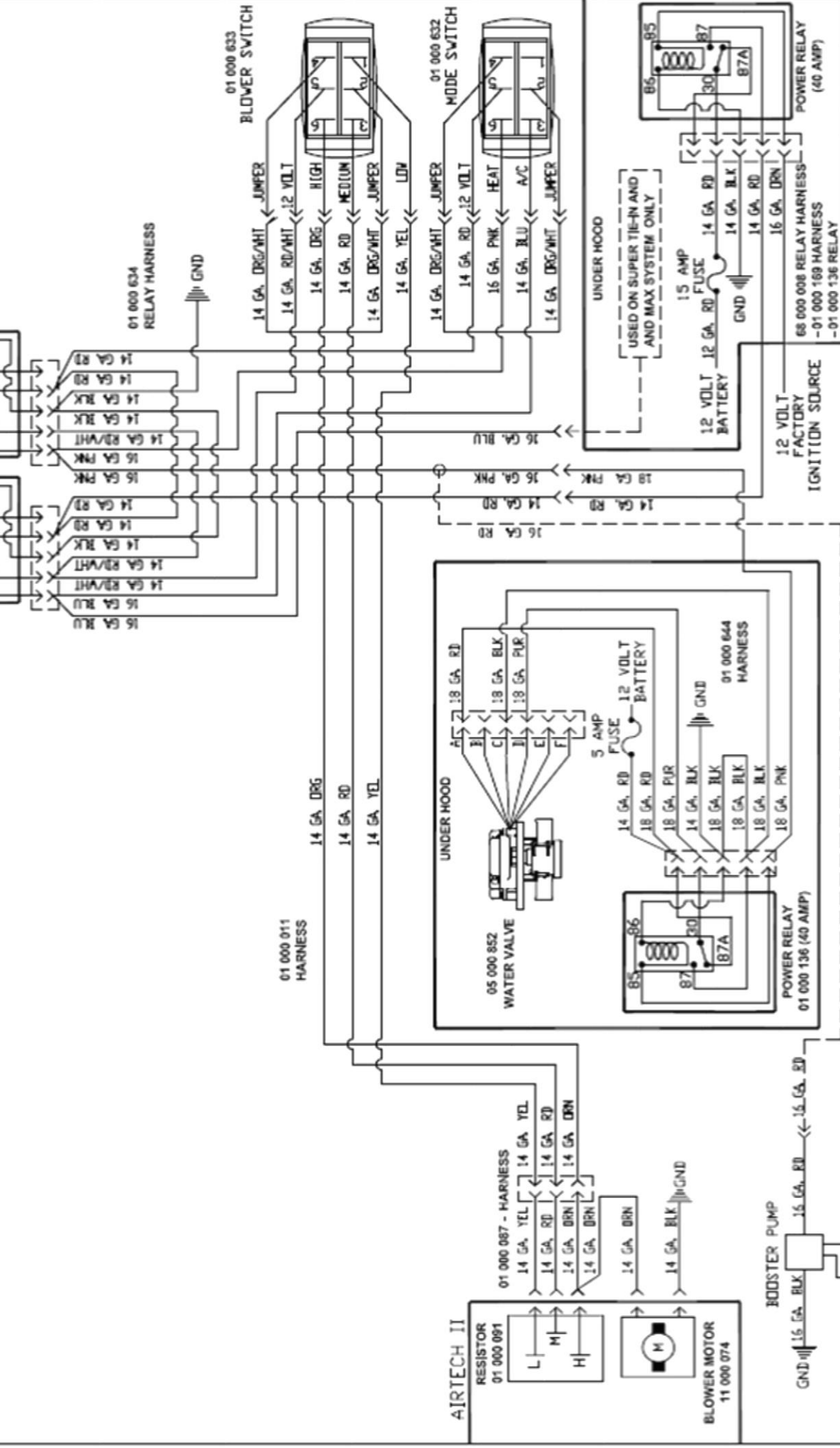


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REV. A

LET. NO.	A	14-166	RELEASED TO PRODUCTION	BY	MM	10/07/14	DATE	APPROVED	12	DATE	10/07/14	SIGNATURES	M. R. M.	10/07/14	DATE	10/07/14	TITLE	WATER PLUMBING SCHEMATIC	PART NO.	40 000 493	SCALE	3/8" = 1"	SIZE	A	SHEET	1	OF	1
																		USAGE	STR									

NOTES:  
1) HARNESS - 125" INSULATED WIRE EQUIVALENT TO SAE SPECIFICATION J1128 TYPE GXL  
2) ALL GROUND WIRES SHOULD BE FASTENED SECURELY TO THE CHASSIS. DASHED WIRE DENOTES O.E.M. WIRES.



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TITLE WIRE SCHEMATIC	PART NO 40 000 462 SCALE: 1" = 1'-0" SIZE A SHEET 1 OF 1
USAGE AIRTECH II TIE-IN JUDGE PROMASTER	REV. A
SIGNATURES DESIGNED BY: B.L.V. CHECKED BY: R.I. APPROVED BY: [Signature]	DATE 1/10/14 1/17/14
RELEASED DRAWING REVISION	BY: BLY DATE: 1/17/14