



an ISO 9001:2008 Registered Company

1967 CORVETTE

WITHOUT FACTORY AC

w/ FRESH AIR CABLE

561165

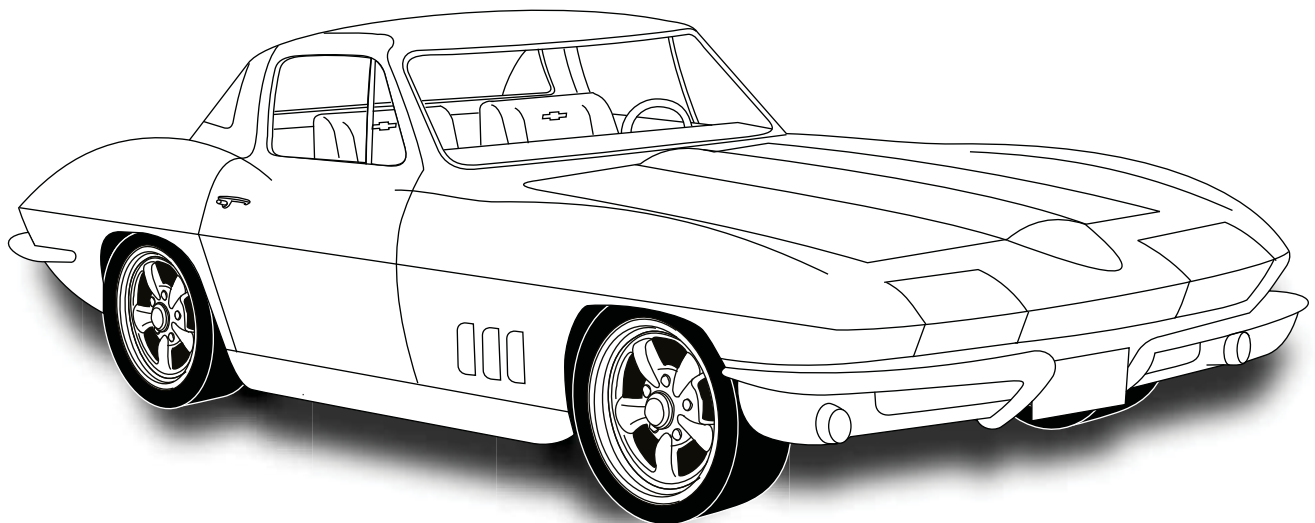




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EVAPORATOR KIT PACKING LIST

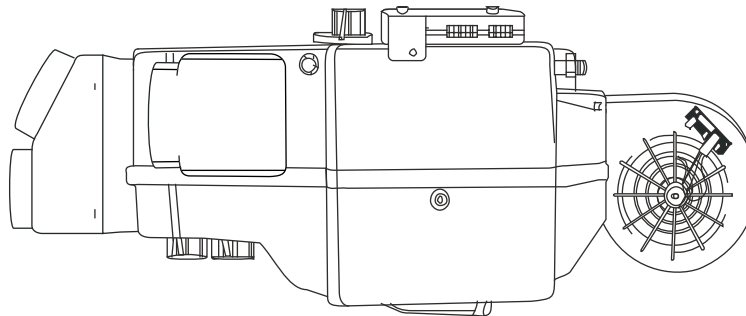
EVAPORATOR KIT
561165

No.	QTY.	PART No.	DESCRIPTION
1.	1	744009	63-67 VETTE EVAP SUB CASE
2.	1	781065	ACC KIT 67 VETTE wo AC w/ FAC

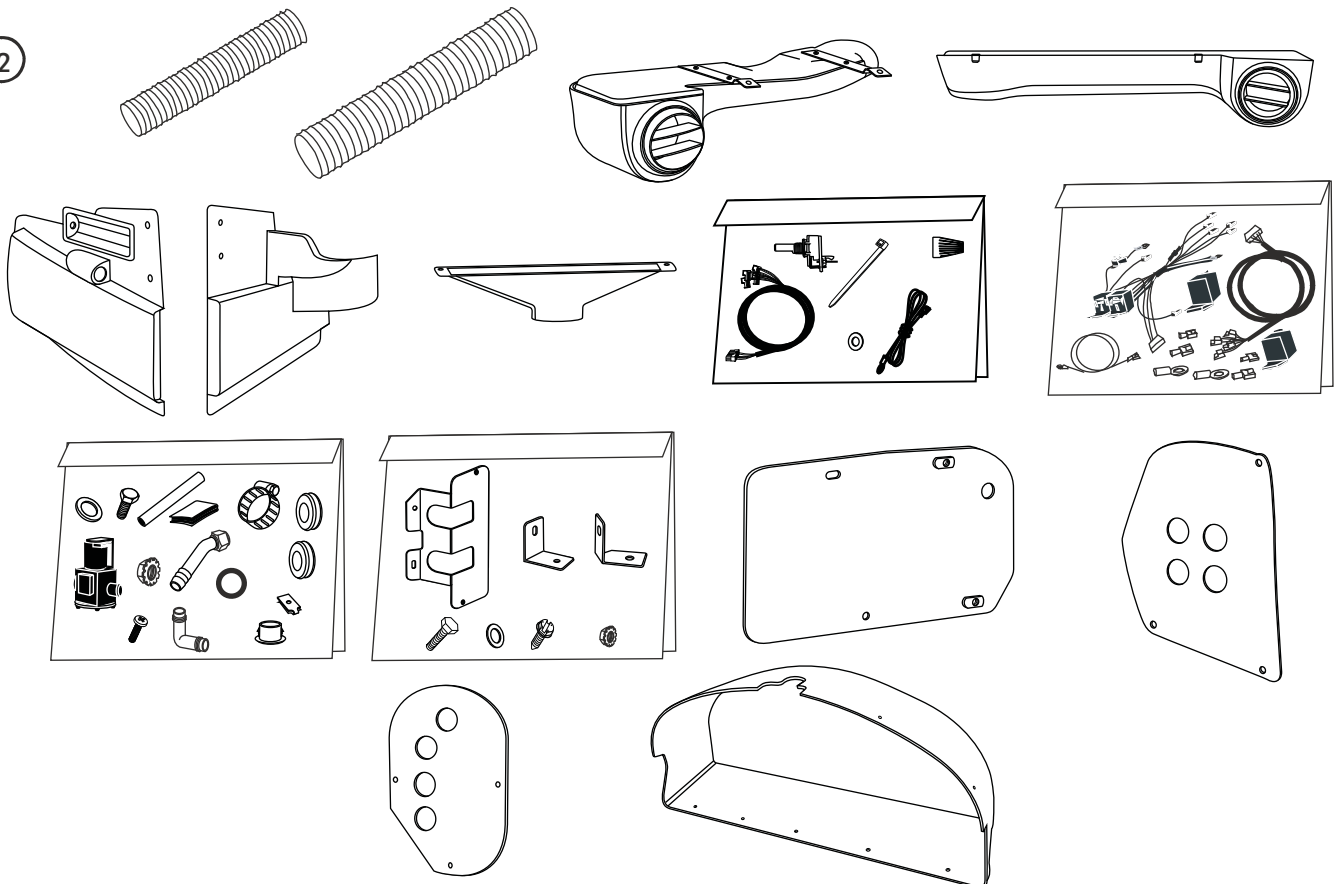
**** BEFORE BEGINNING INSTALLATION OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

1

**63-67 VETTE
EVAP SUB CASE
744009**



2



**ACCESSORY KIT
781065**

**NOTE: IMAGES MAY NOT DEPICT ACTUAL PARTS AND QUANTITIES.
REFER TO PACKING LIST FOR ACTUAL PARTS AND QUANTITIES.**



IMPORTANT NOTICE-PLEASE READ

FOR MAXIMUM SYSTEM PERFORMANCE VINTAGE AIR RECOMMENDS THE FOLLOWING:

THIS KIT DOES NOT CONTAIN HEATER HOSE. YOU MUST PURCHASE 12 FEET OF 5/8" DIA. HEATER HOSE FROM VINTAGE AIR (31800-VUD) OR FROM YOUR LOCAL PARTS RETAILER

SAFETY SWITCHES:

YOUR VINTAGE AIR SYSTEM IS EQUIPPED WITH A BINARY PRESSURE SAFETY SWITCH. A BINARY SWITCH (11078-VUS) DISENGAGES THE COMPRESSOR CLUTCH IN CASE OF EXTREME LOW PRESSURE CONDITION (REFRIGERANT LOSS) OR EXCESSIVELY HIGH HEAD PRESSURE (406 PSI), TO PREVENT COMPRESSOR DAMAGE OR HOSE RUPTURE. A TRINARY SWITCH (11076-VUS) COMBINES HI/LO PRESSURE PROTECTION WITH AN ELECTRIC FAN OPERATION SIGNAL AT 254 PSI., AND MAY BE SUBSTITUTED FOR USE WITH ELECTRIC CONDENSER FANS. COMPRESSOR SAFETY SWITCHES ARE EXTREMELY IMPORTANT SINCE AN A/C SYSTEM RELIES ON REFRIGERANT TO CARRY LUBRICATION THROUGH THE SYSTEM.

SERVICE INFO:

ATTENTION: SYSTEM COMPONENTS: THE COMPRESSOR, EVAPORATOR, CONDENSER & DRIER ARE CAPPED. CAPS MAY BE UNDER PRESSURE WITH DRY NITROGEN; BE CAREFUL REMOVING CAPS. DO NOT REMOVE CAPS PRIOR TO INSTALLATION. REMOVING CAPS PRIOR TO INSTALLATION WILL CAUSE COMPONENTS TO COLLECT MOISTURE AND LEAD TO PREMATURE FAILURE AND REDUCED PERFORMANCE.

EVACUATE THE SYSTEM FOR 35-45 MINUTES WITH SYSTEM COMPONENTS (DRIER, COMPRESSOR, EVAPORATOR AND CONDENSER) AT A TEMPERATURE OF AT LEAST 85° F. ON A COOL DAY THE COMPONENTS CAN BE HEATED WITH A HEAT GUN OR BY RUNNING THE ENGINE WITH THE HEATER ON BEFORE EVACUATING. LEAK CHECK AND CHARGE TO SPECIFICATIONS.

**VINTAGE AIR SYSTEMS ARE DESIGNED TO OPERATE WITH R134a
REFRIGERANT ONLY! USE OF ANY OTHER REFRIGERANTS RISKS A DANGER OF FIRE
AND COULD DAMAGE EITHER YOUR AIR CONDITIONING SYSTEM OR YOUR VEHICLE.**

**USE OF ANY OTHER REFRIGERANTS WILL VOID ALL WARRANTIES OF
THE AIR CONDITIONING SYSTEM AND COMPONENTS. USE OF THE PROPER
TYPE AND AMOUNT OF REFRIGERANT IS CRITICAL TO PROPER SYSTEM
OPERATION. VINTAGE AIR RECOMMENDS OUR SYSTEMS BE CHARGED BY
WEIGHT WITH A QUALITY CHARGING STATION OR SCALE.**

REFRIGERANT CAPACITY FOR VINTAGE AIR SYSTEMS (FOR OTHER SYSTEMS, CONSULT MANUFACTURER GUIDELINES)

134a SYSTEM

CHARGE WITH 1.8 lbs.
(1lbs. 12ozs) OF REFRIGERANT

LUBRICANT CAPACITIES: NEW COMPRESSOR - NO ADDITIONAL OIL NEEDED



IMPORTANT WIRING NOTICE-PLEASE READ

SOME VEHICLES MAY HAVE HAD SOME OR ALL OF THEIR RADIO INTERFERENCE CAPACITORS REMOVED. THERE SHOULD BE A CAPACITOR FOUND AT EACH OF THE FOLLOWING LOCATIONS:

- 1. ON THE POSITIVE TERMINAL OF THE IGNITION COIL**
- 2. IF THERE IS A GENERATOR, ON THE ARMATURE TERMINAL OF THE GENERATOR**
- 3. IF THERE IS A GENERATOR, ON THE BATTERY TERMINAL OF THE VOLTAGE REGULATOR**

MOST ALTERNATORS HAVE A CAPACITOR INSTALLED INTERNALLY TO ELIMINATE WHAT IS CALLED 'WHINING' AS THE ENGINE IS REVVED. IF WHINING IS HEARD IN THE RADIO, OR JUST TO BE EXTRA CAUTIOUS, A RADIO INTERFERENCE CAPACITOR CAN BE ADDED TO THE BATTERY TERMINAL OF THE ALTERNATOR.

IT IS ALSO IMPORTANT THAT THE BATTERY LEAD IS IN GOOD SHAPE AND THAT THE GROUND LEADS ARE NOT COMPROMISED. THERE SHOULD BE A HEAVY GROUND FROM THE BATTERY TO THE ENGINE BLOCK, AND ADDITIONAL GROUNDS TO THE BODY AND TO THE CHASSIS.

IF THESE PRECAUTIONS ARE NOT OBSERVED, IT IS POSSIBLE FOR VOLTAGE SPIKES TO BE PRESENT ON THE BATTERY LEADS. THESE SPIKES COME FROM IGNITION SYSTEMS, CHARGING SYSTEMS, AND FROM TURNING SOME OF THE VEHICLE'S OTHER SYSTEMS ON AND OFF. MODERN COMPUTER OPERATED EQUIPMENT CAN BE SENSITIVE TO VOLTAGE SPIKES ON THEIR POWER LEADS, WHICH CAN CAUSE UNEXPECTED RESETS, STRANGE BEHAVIOR, AND MAY ALSO CAUSE PERMANENT DAMAGE.

VINTAGE AIR STRIVES TO HARDEN THEIR PRODUCTS AGAINST THESE TYPES OF ELECTRICAL NOISE, BUT THERE IS A POINT WHERE A VEHICLE'S ELECTRICAL SYSTEM CAN BE DEGRADED SO MUCH THAT NOTHING CAN HELP.

RADIO INTERFERENCE CAPACITORS SHOULD BE AVAILABLE AT MOST AUTO & TRUCK PARTS SUPPLIERS. THEY TYPICALLY ARE CYLINDRICAL IN SHAPE, A LITTLE OVER AN INCH LONG, A LITTLE OVER A HALF INCH IN DIAMETER, THEY HAVE A SINGLE LEAD COMING FROM ONE END OF THE CYLINDER WITH A TERMINAL ON THE END OF THE WIRE, AND THEY WILL HAVE A MOUNTING CLIP WHICH IS SCREWED INTO A GOOD GROUND ON THE VEHICLE. THE SPECIFIC VALUE OF THE CAPACITANCE IS NOT TOO SIGNIFICANT, IN COMPARISON TO IGNITION CAPACITORS THAT ARE MATCHED WITH THE COIL TO REDUCE PITTING OF THE POINTS.

- CARE MUST BE TAKEN WHEN INSTALLING THE COMPRESSOR LEAD, NOT TO SHORT IT TO GROUND. THE COMPRESSOR LEAD MUST NOT BE CONNECTED TO A CONDENSER FAN OR ANY OTHER AUXILIARY DEVICE. SHORTING TO GROUND OR CONNECTING TO A CONDENSER FAN OR ANY OTHER AUXILIARY DEVICE WILL CAUSE SEVERE DAMAGE TO THE ECU.
- WHEN INSTALLING GROUND LEADS ON GEN IV SYSTEMS, THE BLOWER CONTROL GROUND AND ECU GROUND MUST BE CONNECTED DIRECTLY TO THE NEGATIVE BATTERY POST.
- THE HEATER CONTROL VALVE IS A NORMALLY OPEN VALVE. IT MUST BE CONNECTED TO THE ECU TO BLOCK WATER FLOW IN MAX AC MODE.



BEFORE STARTING THE INSTALLATION, CHECK THE FUNCTION OF THE VEHICLE (HORN, LIGHTS, ETC.) FOR PROPER OPERATIONS. STUDY THE INSTRUCTIONS, ILLUSTRATIONS, & DIAGRAMS.

ENGINE COMPARTMENT

REMOVE THE FOLLOWING

- ☐ HOOD FOR EASE OF INSTALLATION
- ☐ DRAIN RADIATOR.
- ☐ DISCONNECT BATTERY AND REMOVE, IF MOUNTED ON PASSENGER SIDE. IF MOUNTED ON DRIVER SIDE, DISCONNECT (-) TERMINAL.
- ☐ OEM BLOWER MOTOR ASSEMBLY (UNDER HOOD) (DISCARD).
- ☐ OEM HEATER HOSES (DISCARD). SEE FIGURE 1.
- ☐ REMOVE OEM RADIATOR EXPANSION TANK (RETAIN) (IF EQUIPPED).

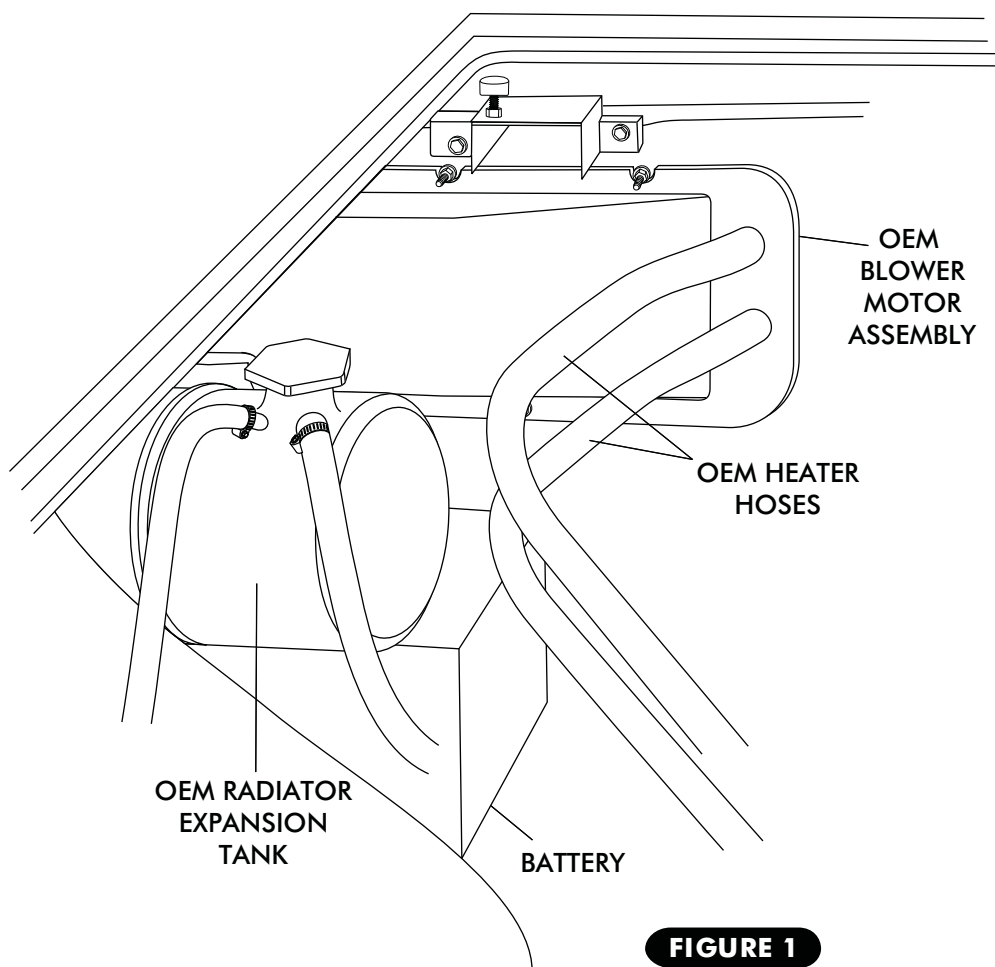


FIGURE 1



CONDENSER ASSEMBLY & INSTALLATION

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE CONDENSER KIT TO INSTALL THE CONDENSER.
- ☐ BINARY SWITCH INSTALLATION (REFER TO CONDENSER INSTRUCTIONS)

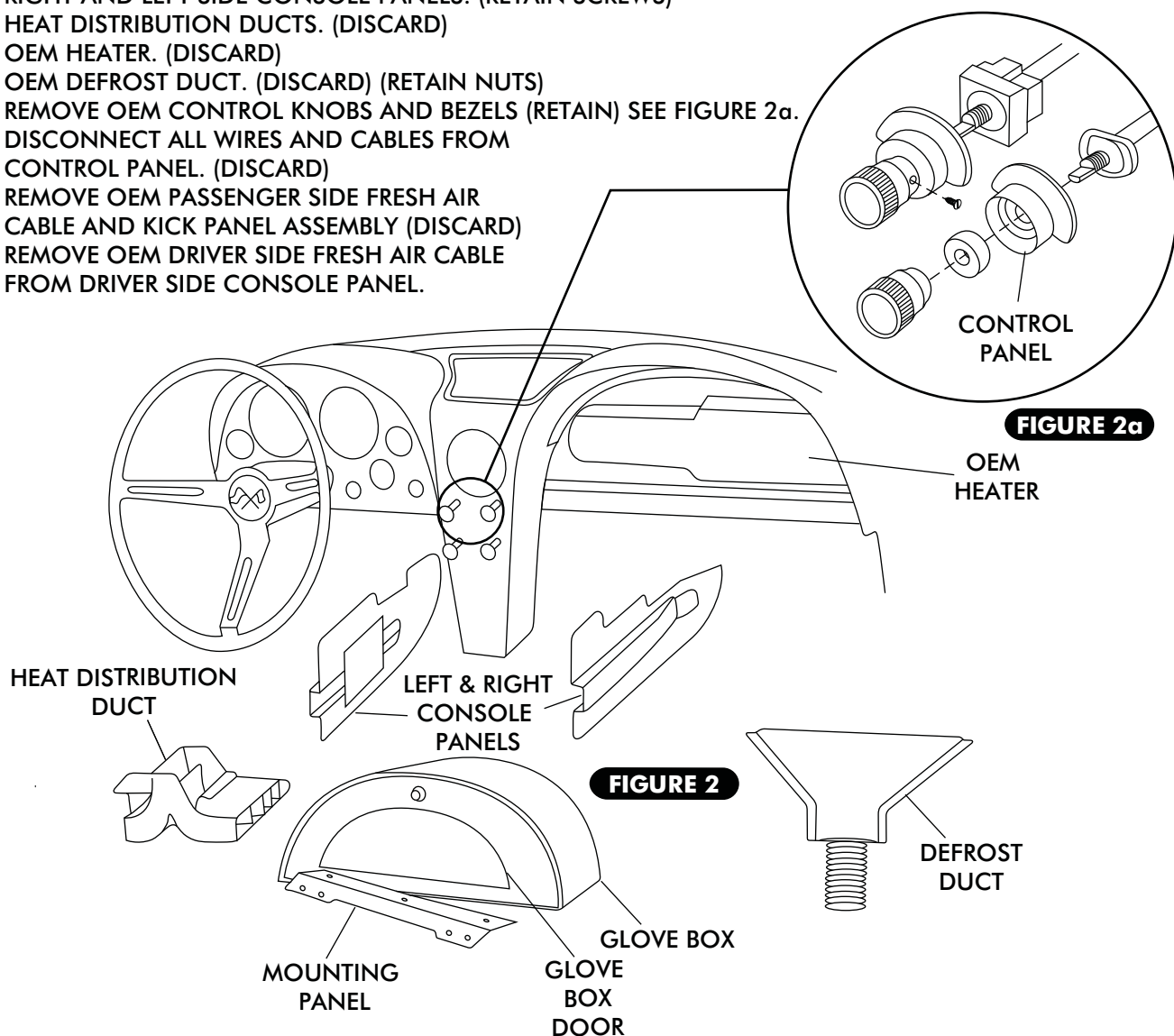
COMPRESSOR & BRACKETS

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE BRACKET KIT TO INSTALL THE COMPRESSOR BRACKET.

PASSENGER COMPARTMENT

REMOVE THE FOLLOWING:

- ☐ GLOVE BOX, DOOR AND MOUNTING PANEL (DISCARD GLOVE BOX) (RETAIN HARDWARE). (SEE FIGURE 2)
- ☐ RIGHT AND LEFT SIDE CONSOLE PANELS. (RETAIN SCREWS)
- ☐ HEAT DISTRIBUTION DUCTS. (DISCARD)
- ☐ OEM HEATER. (DISCARD)
- ☐ OEM DEFROST DUCT. (DISCARD) (RETAIN NUTS)
- ☐ REMOVE OEM CONTROL KNOBS AND BEZELS (RETAIN) SEE FIGURE 2a.
- ☐ DISCONNECT ALL WIRES AND CABLES FROM CONTROL PANEL. (DISCARD)
- ☐ REMOVE OEM PASSENGER SIDE FRESH AIR CABLE AND KICK PANEL ASSEMBLY (DISCARD)
- ☐ REMOVE OEM DRIVER SIDE FRESH AIR CABLE FROM DRIVER SIDE CONSOLE PANEL.





DEFROST DUCT INSTALLATION

- ☐ INSTALL DEFROST DUCT UNDER DASH AS SHOWN IN FIGURE 3 BELOW. SECURE USING OEM NUTS.

NOTE: DEFROST DUCT MOUNTING HOLES TOWARDS FIREWALL AS SHOWN BELOW IN FIGURE 3a.

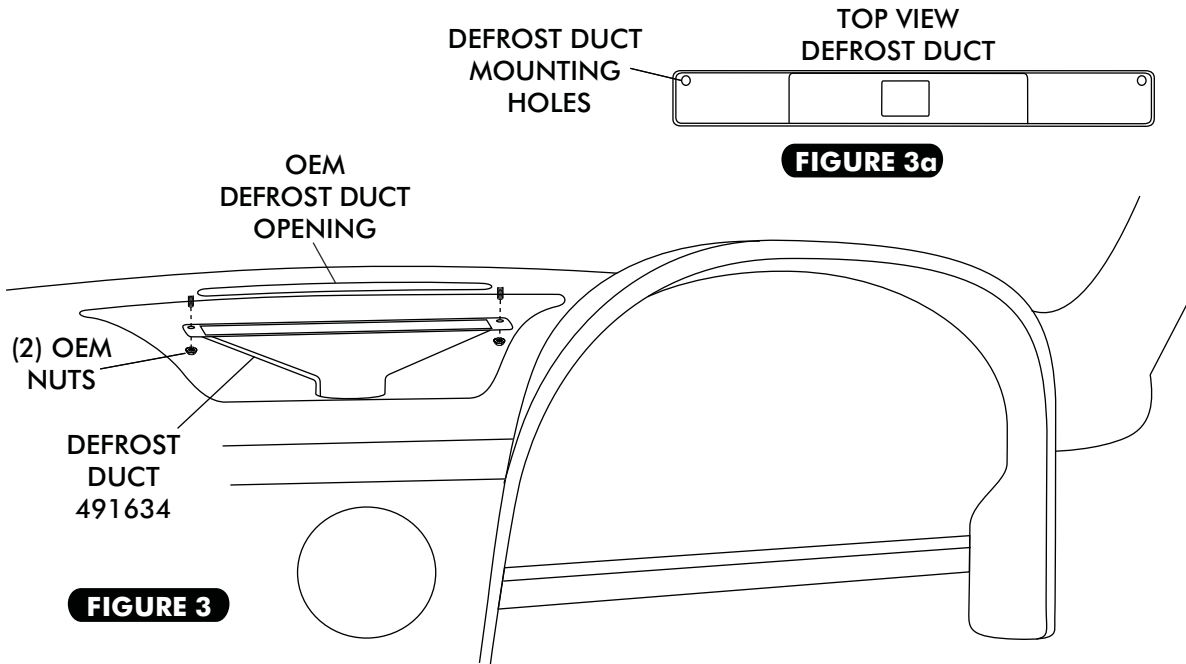


FIGURE 3

FIGURE 3a

FIREWALL BLOWER COVER INSTALLATION

- ☐ INSTALL (4) GROMMETS IN FIREWALL BLOWER COVER. SEE FIGURE 4 BELOW
- ☐ ROUTE #10 HOSE THROUGH FIREWALL BLOWER COVER AS SHOWN BELOW.
- ☐ DO NOT ATTACH TO FIREWALL AT THIS TIME.

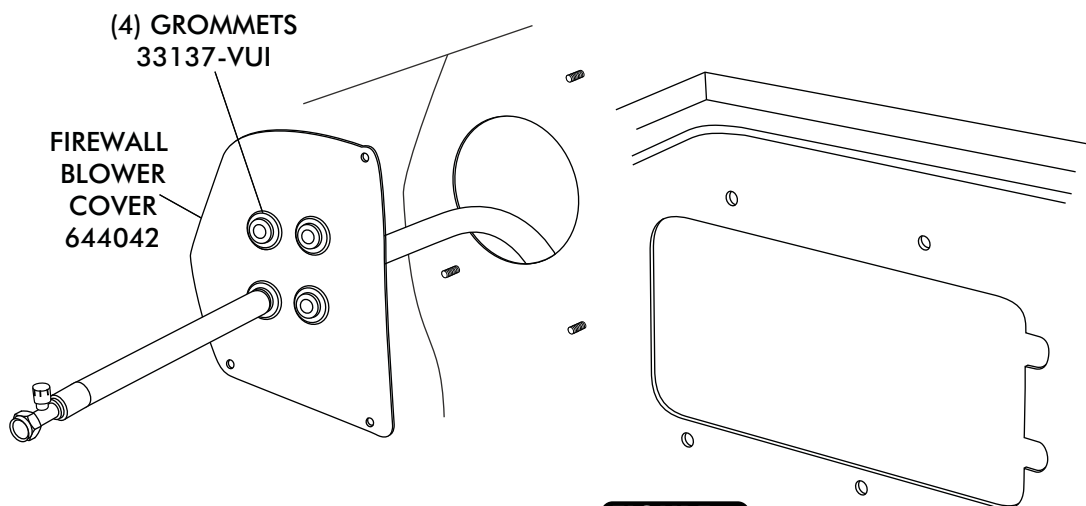


FIGURE 4



FIREWALL COVER INSTALLATION

- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 5, BELOW.
- ☐ FROM INSIDE THE CAR, INSTALL FIREWALL COVER ON FIREWALL USING (2) 1/4-20 x 1 1/4" HEX BOLTS AND (2) FLAT WASHERS, SEE FIGURE 5, BELOW. (NOTE: USE SEAM SEALER TO FILL GAP BETWEEN COVER & LIP IN FIREWALL BEFORE PAINTING.)
- ☐ INSTALL 3/8 GROMMET IN FIREWALL COVER AS SHOWN BELOW.

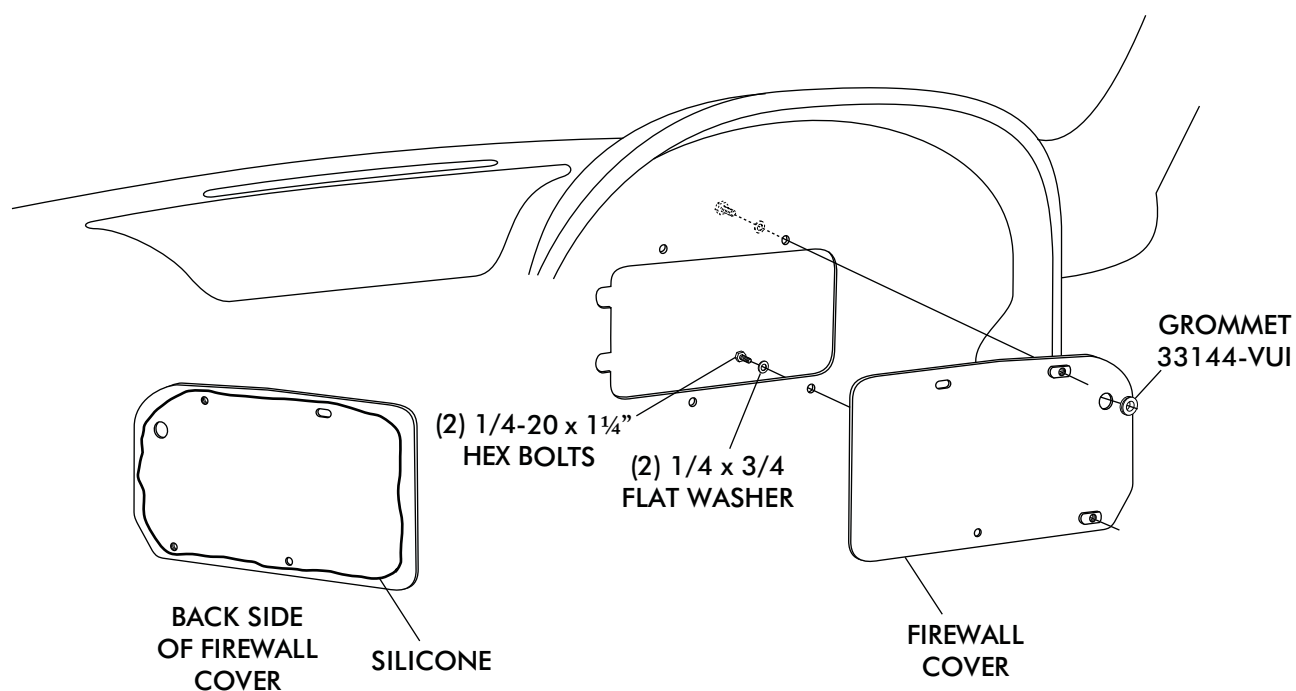


FIGURE 5



KICK PANEL COVER INSTALLATION

- ☐ INSTALL (4) GROMMETS IN KICK PANEL COVER, SEE FIGURE 6b BELOW.
- ☐ REMOVE TAB FROM KICK PANEL AS SHOWN IN FIGURE 6a.
- ☐ ROUTE A/C AND HEATER HOSE THROUGH FIREWALL BLOWER COVER AND KICK PANEL COVER AS SHOWN IN FIGURE 6 AND 6c, BELOW.
- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF KICK PANEL COVER AS SHOWN IN FIGURE 6b, BELOW.
- ☐ SECURE KICK PANEL COVER USING OEM SCREWS, AS SHOWN IN FIGURE 6c BELOW.

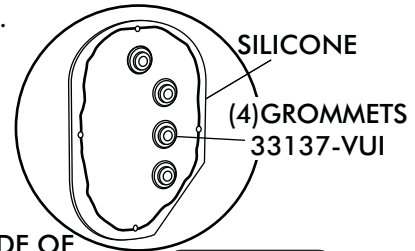


FIGURE 6b

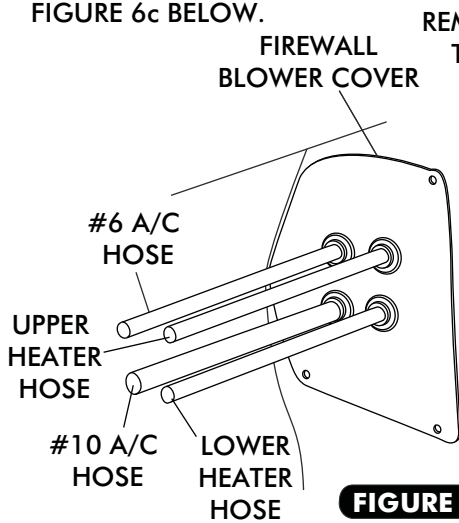


FIGURE 6

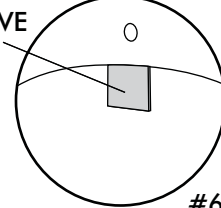


FIGURE 6a

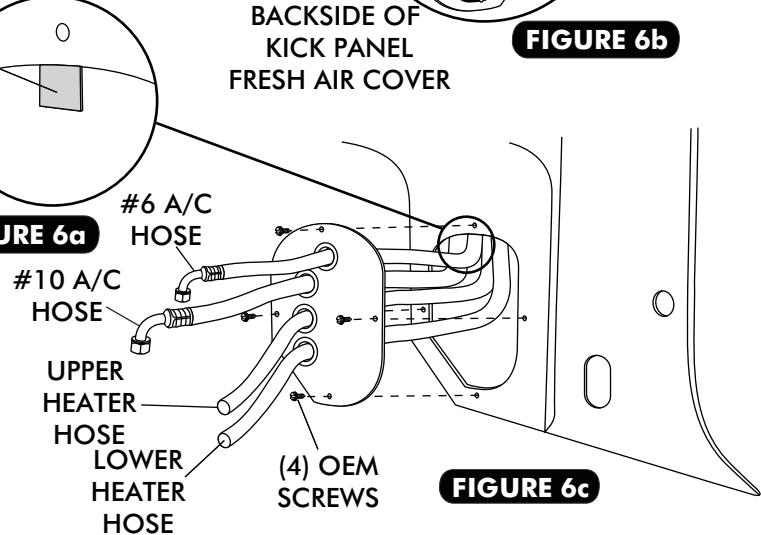


FIGURE 6c

EVAPORATOR INSTALLATION

- ☐ ON A WORK BENCH INSTALL (2) HEATER FITTINGS WITH PROPERLY LUBRICATED O-RINGS. (SEE FIGURE 12, PAGE 13, AND FIGURE 8, PAGE 11.) FOR HEATER HOSE ROUTING SEE PAGE 12, 14 AND PAGE 15.
- ☐ INSTALL EVAPORATOR REAR MOUNTING BRACKET ON EVAPORATOR USING (2) 1/4-20 x 1/2 HEX BOLTS AS SHOWN IN FIGURE 8, PAGE 11.
- ☐ LAY EVAPORATOR SUBCASE ON PASSENGER SIDE FLOOR BOARD. INSTALL #6 AC HOSE & HEATER HOSE ON EVAPORATOR AS SHOWN IN FIGURE 9, PAGE 12.
- ☐ FOR EVAPORATOR INSTALLATION IT MAY BE NECESSARY TO PULL BACK CARPET FROM FIREWALL AS SHOWN BELOW. AFTER EVAPORATOR IS INSTALLED PUSH CARPET BACK IN PLACE.
- ☐ THIS WILL BE A VERY CLOSE FIT. TAKE CARE NOT TO DAMAGE STEPPER MOTORS DURING INSTALLATION.

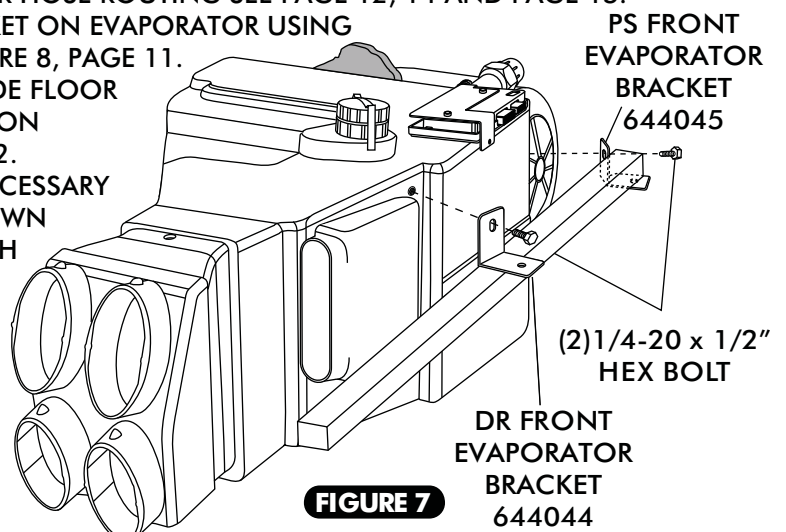
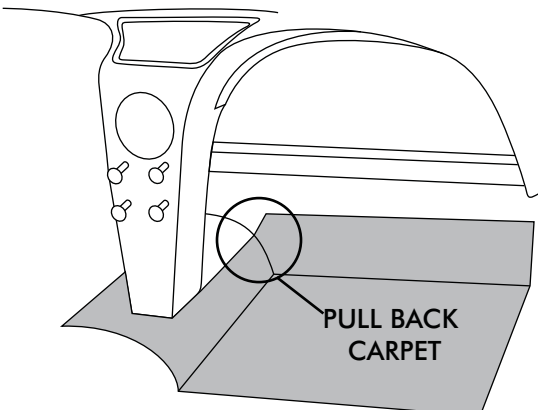


FIGURE 7





BRACKET INSTALLATION

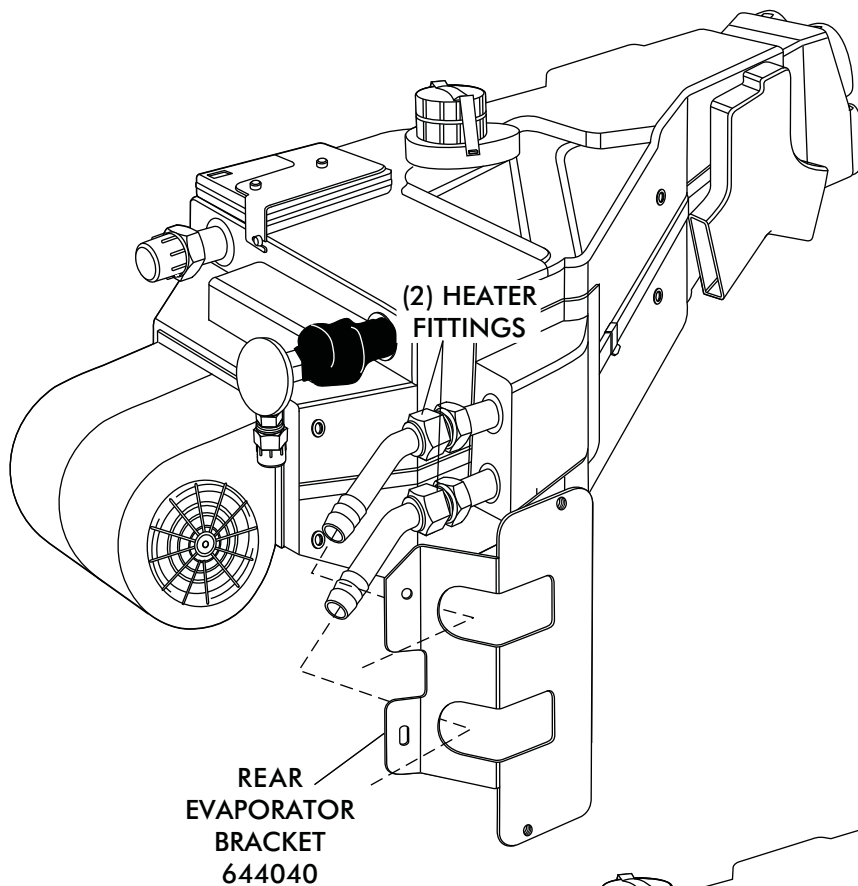
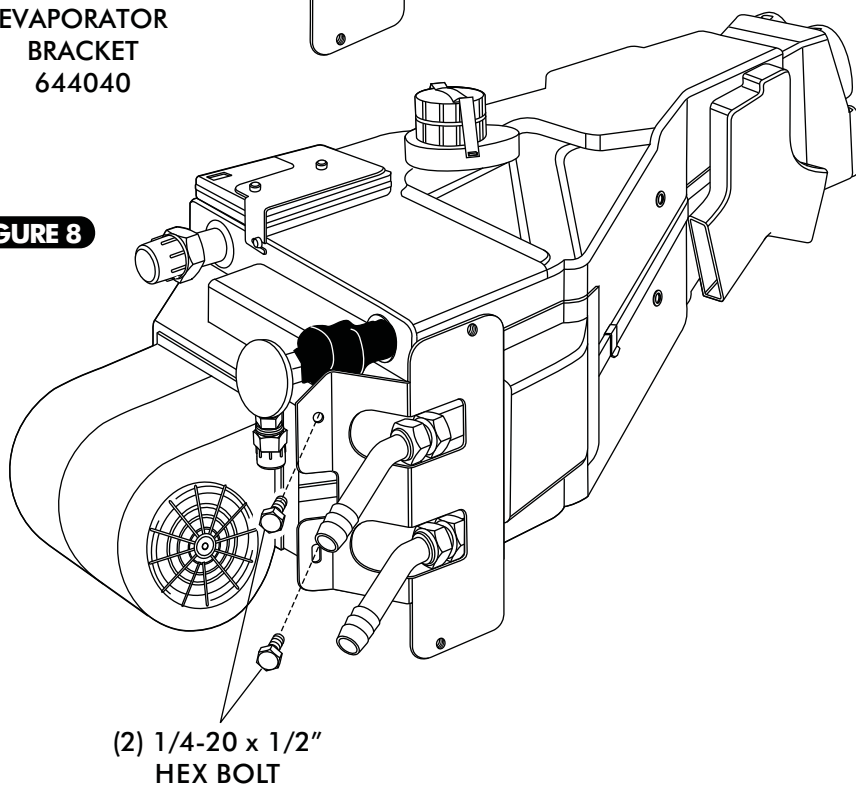


FIGURE 8

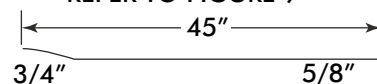




EVAPORATOR INSTALLATION CONT.

- ❑ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD. SECURE TO THE FIREWALL FROM THE ENGINE COMPARTMENT SIDE USING (2) 1/4-20 x 1 1/4" BOLTS AND (2) 1/4" FLAT WASHERS, SEE FIGURE 10 BELOW.
- ❑ INSTALL EVAPORATOR DRIVER/ PASSENGER FRONT MOUNTING BRACKETS ON EVAPORATOR USING (2) 1/4-20 x 1/2" HEX BOLTS AS SHOWN IN FIGURE 7, PAGE 10.
- ❑ SECURE PASSENGER SIDE FRONT MOUNTING BRACKET TO PASSENGER SIDE DASH BRACE USING #14 x 3/4" HEX SHEET METAL SCREW IN OEM HOLE. **NOTE:** IN SOME MODELS IT MAY REQUIRE TO DRILL 3/16" HOLE, USE DIMENSION BELOW. (SEE FIGURE 10 BELOW.)
- ❑ DRILL 3/16" HOLE IN PASSENGER SIDE DASH BRACE USING DRIVER SIDE FRONT MOUNTING BRACKET AS TEMPLATE. (SEE FIGURE 10 BELOW.)
- ❑ SECURE DRIVER SIDE FRONT MOUNTING BRACKET TO PASSENGER SIDE DASH BRACE USING #14 x 3/4" HEX SHEET METAL SCREW. (SEE FIGURE 10 BELOW.)
- ❑ VERIFY THAT EVAPORATOR UNIT IS LEVEL AND SQUARE TO THE DASH, THEN TIGHTEN ALL MOUNTING BOLTS. (**NOTE: TIGHTEN THE BOLTS ON FIREWALL FIRST, THEN THE FRONT MOUNTING BRACKETS.**)
- ❑ CONNECT #10 AC HOSE TO EVAPORATOR AS SHOWN IN FIGURE 10.
- ❑ (**NOTE: WRAP THE #10 FITTING CONNECTION WITH PRESS TAPE. SEE FIGURE 10.**)

NOTE: HEATER HOSE MODIFICATION
REFER TO FIGURE 9



THIS END TO
RADIATOR
EXPANSION TANK
(IF EQUIPPED) OR
WATER PUMP

THIS END TO
EVAPORATOR
TOP FITTING

OPTION 1

GATES 18084

3/4" TO 5/8" x 60" HEATER HOSE

NOTE: CUT TO LENGTH

OPTION 2

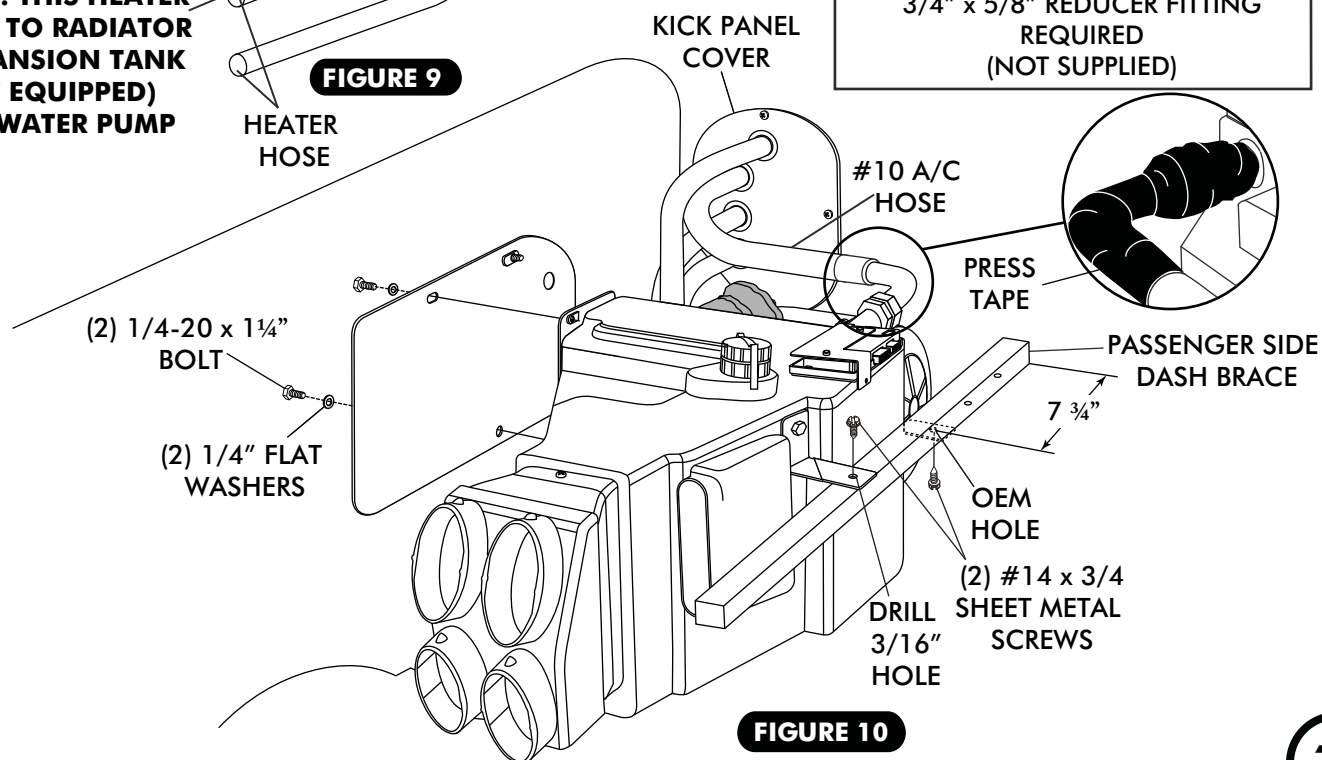
3/4" x 5/8" REDUCER FITTING
REQUIRED
(NOT SUPPLIED)

#6 A/C
HOSE

**NOTE: THIS HEATER
HOSE TO RADIATOR
EXPANSION TANK
(IF EQUIPPED)
OR WATER PUMP**

HEATER
HOSE

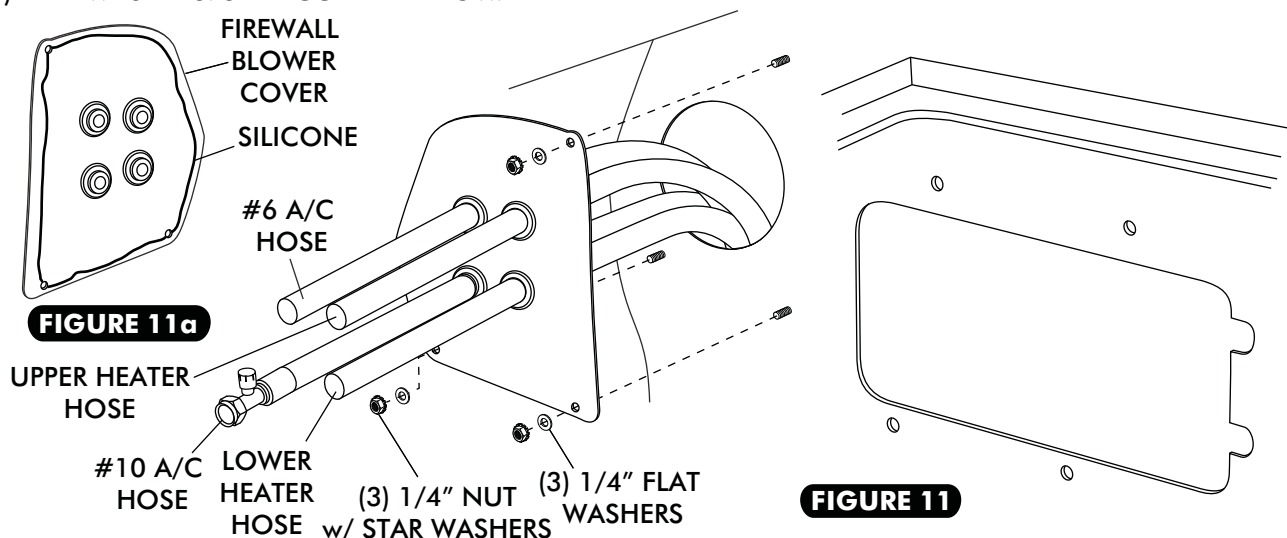
FIGURE 9



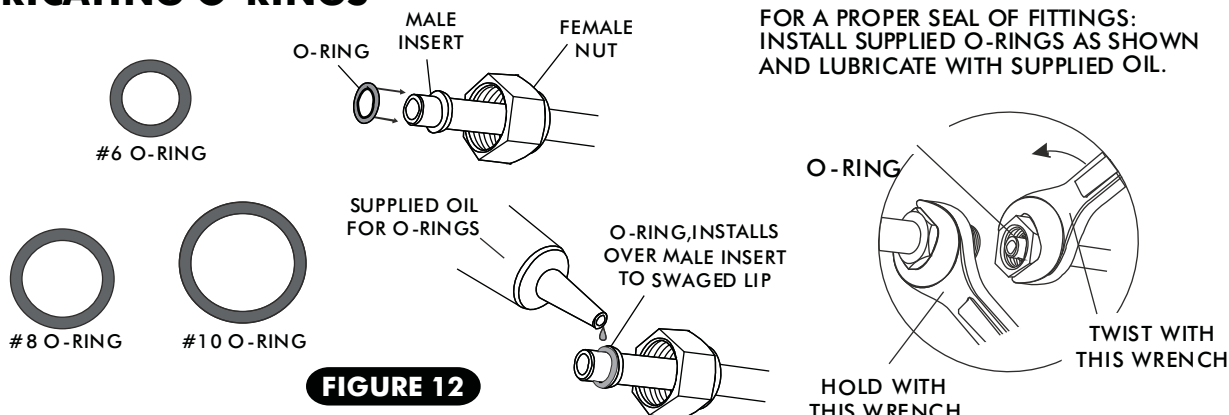


FIREWALL BLOWER COVER INSTALLATION CONT.

- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL BLOWER COVER AS SHOWN IN FIGURE 11a BELOW.
- ☐ ATTACH FIREWALL BLOWER COVER TO FIREWALL USING (3) 1/4" NUT w/ STAR WASHERS AND (3) FLAT WASHERS. SEE FIGURE 11 BELOW.



LUBRICATING O-RINGS



A/C HOSE INSTALLATION

STANDARD HOSE KIT

- ☐ LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 12, ABOVE) AND CONNECT THE 135° FEMALE FITTING TO THE #8 DISCHARGE PORT ON THE COMPRESSOR. ROUTE THE STRAIGHT FEMALE FITTING w/ 134a SERVICE PORT TO THE #8 CONDENSER HARDLINE COMING THROUGH CORE SUPPORT. SEE FIGURE 13 PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 12 ABOVE.
- ☐ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 12, ABOVE) AND CONNECT THE #10 STRAIGHT FEMALE FITTING w/134a SERVICE PORT TO THE #10 SUCTION PORT ON THE COMPRESSOR. ROUTE THE 90° FEMALE FITTING TO THE #10 EVAPORATOR. SEE FIGURE 10, PAGE 12 AND FIGURE 13, PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN 12 ABOVE.
- ☐ LOCATE THE #6 EVAPORATOR A/C HOSE. LUBRICATE (2) #6 O-RINGS (SEE FIGURE 12, ABOVE) AND CONNECT THE 90° FEMALE FITTING TO THE DRIER HARDLINE. ROUTE THE 90° FEMALE FITTING TO THE #6 EVAPORATOR. SEE FIGURE 9, PAGE 12 AND FIGURE 13, PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 12, ABOVE.

MODIFIED A/C HOSE KIT

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH MODIFIED HOSE KIT.



HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

- ROUTE A PIECE OF HEATER HOSE FROM THE RADIATOR EXPANSION TANK (IF EQUIPPED) OR WATER PUMP TO THE TOP HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 9, PAGE 12 AND FIGURE 13 BELOW. SECURE USING HOSE CLAMPS. **NOTE: OEM RADIATOR EXPANSION TANK OUTLET IS 3/4". (OPTION 1) USE GATES HEATER HOSE PART # 18084 3/4" x 5/8" x 60" (REFER TO PAGE 12) FOR HEATER HOSE MODIFICATION. (OPTION 2) 3/4 x 5/8 REDUCER FITTING IS REQUIRED (NOT SUPPLIED)**
- ROUTE A PIECE OF HEATER HOSE FROM THE INTAKE TO THE BOTTOM HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 9, PAGE 12 AND FIGURE 13, BELOW. INSTALL HEATER CONTROL VALVE IN-LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE, SECURE USING HOSE CLAMPS AS SHOWN IN FIGURE 13, BELOW. **NOTE PROPER FLOW DIRECTION. IS OPPOSITE MOLDED ARROW ON VALVE**

AC & HEATER HOSE ROUTING

NOTE: VINTAGE AIR SYSTEM REQUIRES
5/8" HOSE NIPPLE (NOT SUPPLIED)

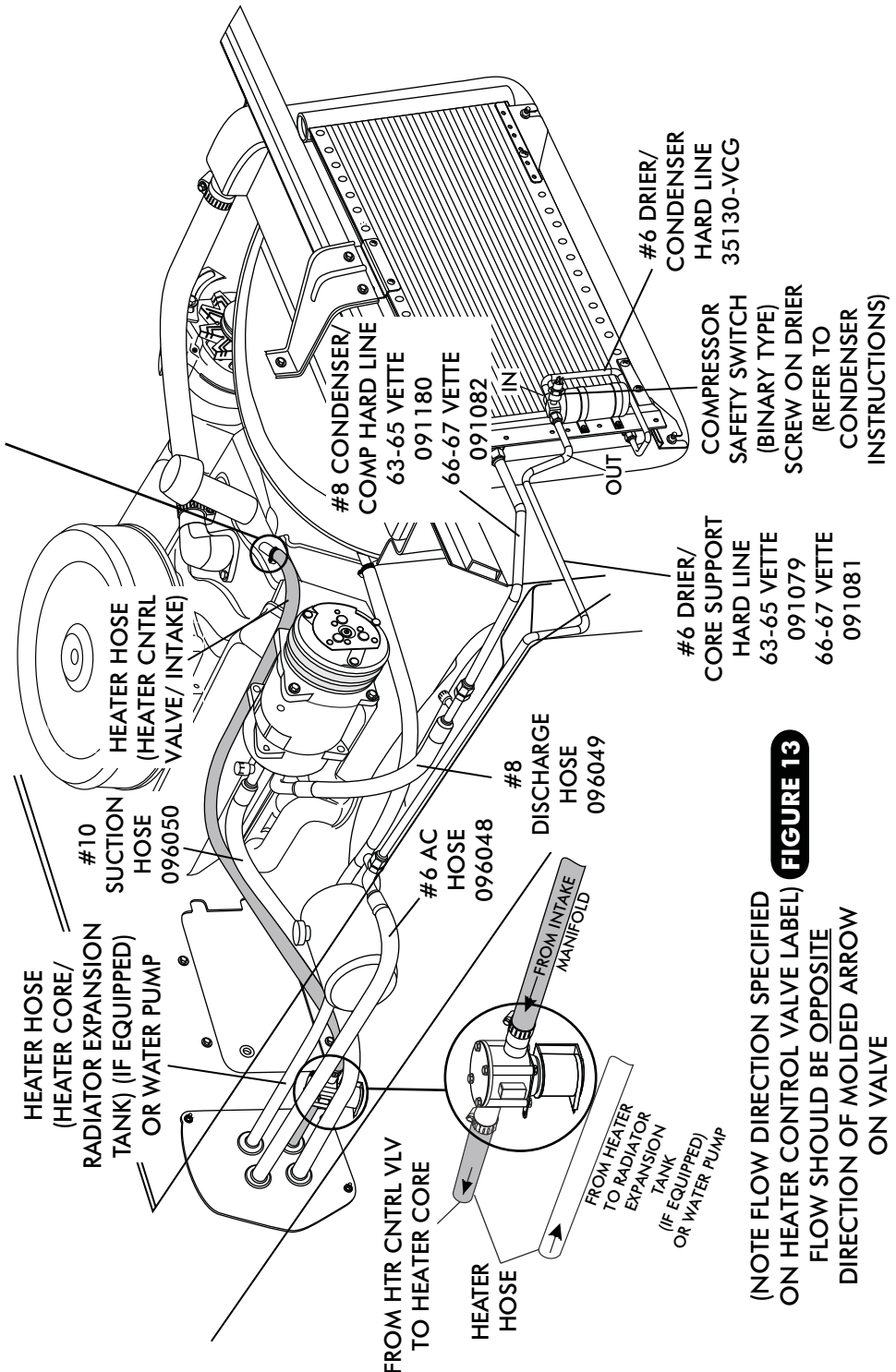


FIGURE 13

(NOTE FLOW DIRECTION SPECIFIED ON HEATER CONTROL VALVE LABEL) FLOW SHOULD BE OPPOSITE DIRECTION OF MOLDED ARROW ON VALVE



DRAIN HOSE INSTALLATION

- ☐ LOCATE EVAPORATOR DRAIN ON BOTTOM OF EVAPORATOR CASE.
- ☐ IN-LINE WITH DRAIN, LIGHTLY MAKE A MARK ON THE FIREWALL MEASURE 1" DOWN AND DRILL A 5/8" HOLE THROUGH THE FIREWALL. SEE FIGURE 14 BELOW.
- ☐ INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. INSTALL 1/2" 90° DRAIN ELBOW ON DRAIN HOSE SEE FIGURE 14.

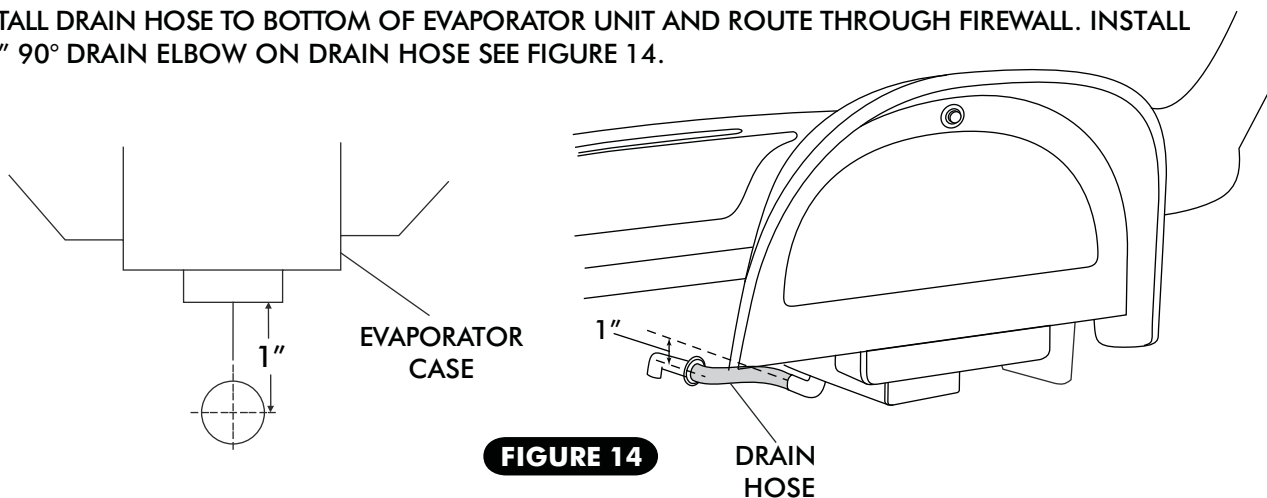


FIGURE 14

DRIVER & PASSENGER SIDE CONSOLE PANEL INSTALLATION

- ☐ INSTALL CONTROL SWITCHES AND WIRING. (SEE CONTROL PANEL INSTRUCTIONS)
- ☐ INSTALL DUCT HOSE AS SHOWN IN FIGURE 19, PAGE 18.
- ☐ INSTALL DRIVER SIDE FRESH AIR CABLE ASSEMBLY IN NEW DRIVER SIDE CONSOLE PANEL.
- ☐ INSTALL DRIVER AND PASSENGER SIDE CONSOLE PANELS USING OEM SCREWS AS SHOWN BELOW IN FIGURE 15. **NOTE:** LOWER MOUNTING HOLE MUST BE DRILLED IN OEM CONSOLE TO MOUNT NEW CONSOLE. USE DRIVER/ PASSENGER CONSOLE PANEL AS GUIDE TO DRILL 3/16" HOLE IN CONSOLE. RELOCATE OEM J NUT AND ATTACH AS SHOWN.

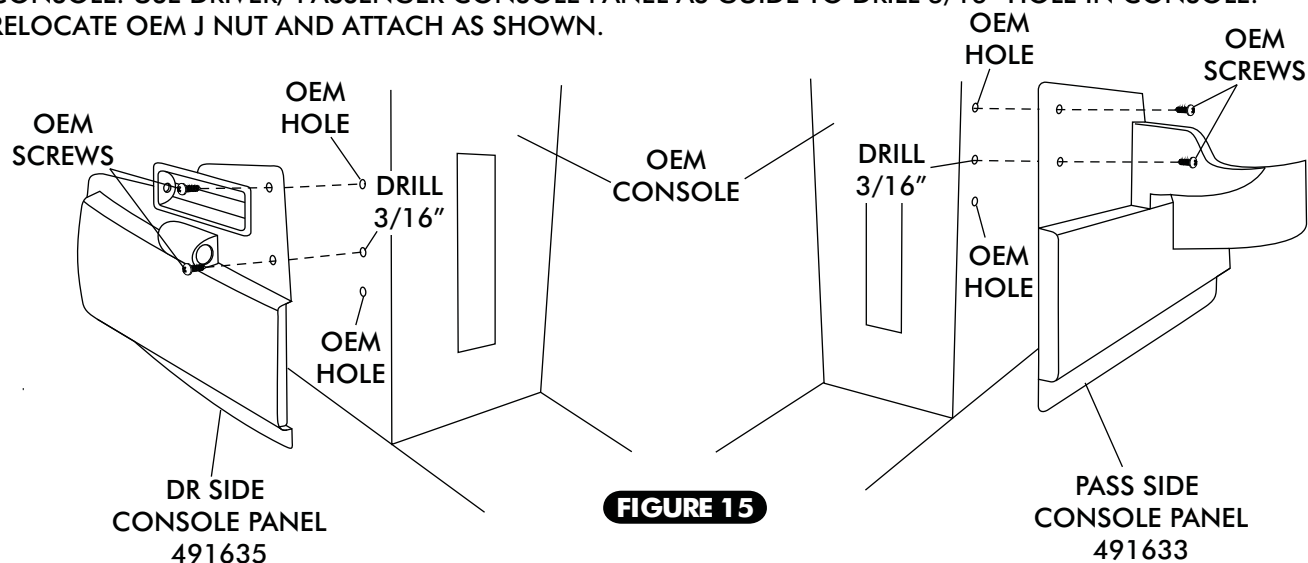


FIGURE 15



DRIVER SIDE UNDER DASH LOUVER INSTALLATION

- REMOVE THE (2) BOLTS AND NUTS FROM STEERING COLUMN BRACE AND SECURE LOUVER HOUSING TO UNDER DASH STEERING COLUMN BRACE USING THE (2) OEM BOLTS AND NUTS AS SHOWN IN FIGURE 16 BELOW.

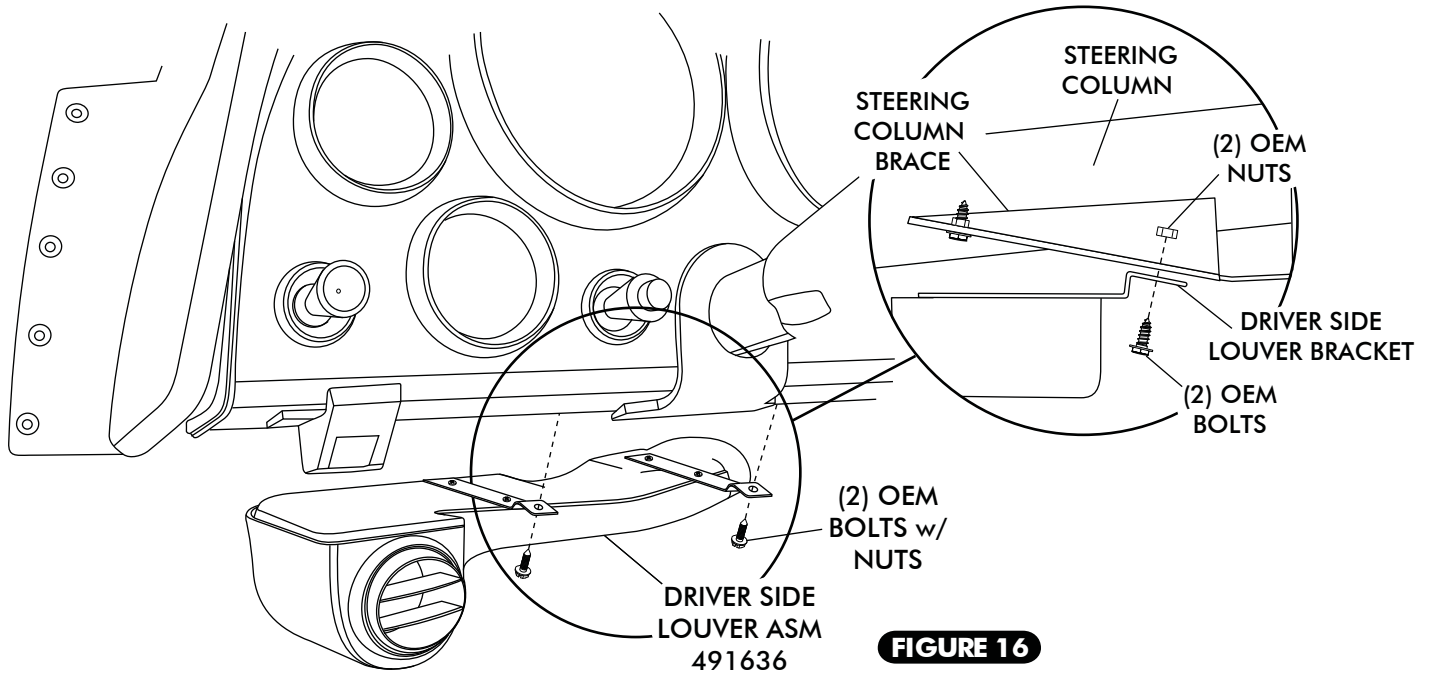


FIGURE 16

PASSENGER SIDE UNDER DASH LOUVER INSTALLATION

- ALIGN PASSENGER SIDE UNDER DASH LOUVER TO DASH BRACE USING PASSENGER SIDE FRONT EVAP BRACKET AND #14 x 3/4" SHEET METAL SCREW, DRILL (2) 1/8" HOLES IN DASH BRACE AND SECURE USING (2) #10 x 1/2" SHEET METAL SCREW AS SHOWN BELOW IN FIGURE 17.
- INSTALL 1/2" PLASTIC PLUG IN LOUVER ASM.

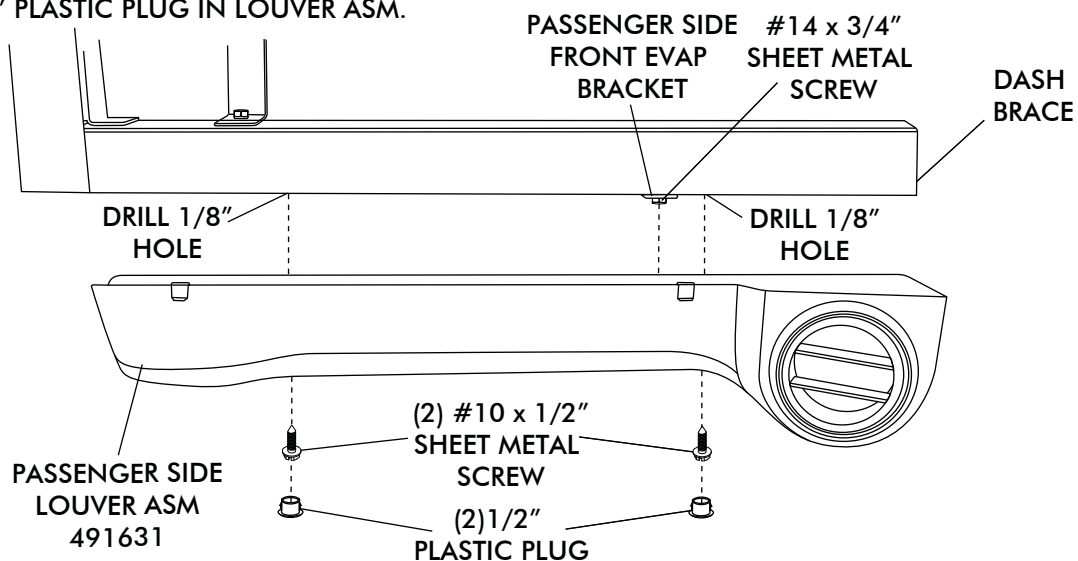
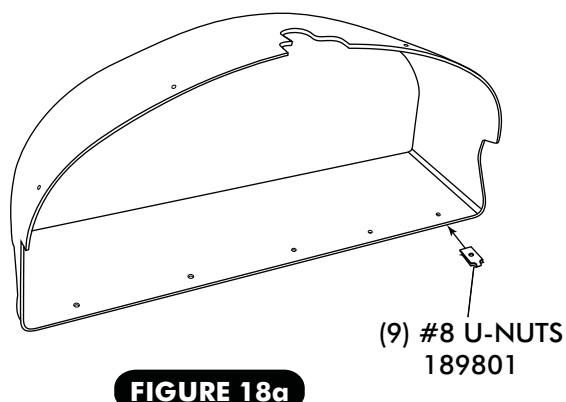
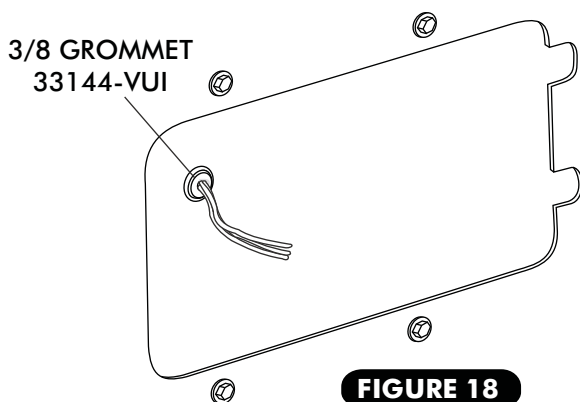


FIGURE 17



FINAL STEPS

- ☐ INSTALL DUCT HOSES AS SHOWN IN FIGURE 19, PAGE 18.
- ☐ ROUTE A/C WIRES THROUGH 3/8 GROMMET AS SHOWN IN FIGURE 18 BELOW.
(12 VOLT/ GROUND/ BINARY SWITCH/ HEATER VALVE).
- ☐ PLUG THE WIRING HARNESS IN THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 19, PAGE 18
(WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 19 AND 20.)
- ☐ INSTALL (9) #8 U-NUTS IN GLOVE BOX AS SHOWN IN FIGURE 18a.
- ☐ INSTALL NEW GLOVE BOX USING OEM SCREWS.
- ☐ REINSTALL KICK PANEL.
- ☐ REINSTALL ALL PREVIOUSLY REMOVED ITEMS.
- ☐ FILL RADIATOR WITH AT LEAST A 50/50 MIXTURE OF APPROVED ANTIFREEZE AND DISTILLED WATER. IT IS THE OWNER'S RESPONSIBILITY TO KEEP THE FREEZE PROTECTION AT THE PROPER LEVEL FOR THE CLIMATE IN WHICH THE VEHICLE IS OPERATED. FAILURE TO FOLLOW ANTIFREEZE RECOMMENDATIONS WILL CAUSE HEATER CORE TO CORRODE PREMATURELY AND POSSIBLY BURST IN AC MODE AND/OR FREEZING WEATHER, VOIDING YOUR WARRANTY.
- ☐ DOUBLE CHECK ALL FITTINGS, BRACKETS AND BELTS FOR TIGHTNESS.
- ☐ VINTAGE AIR RECOMMENDS THAT ALL AC SYSTEMS BE SERVICED BY A CERTIFIED AUTOMOTIVE AIR CONDITIONING TECHNICIAN.
- ☐ EVACUATE THE SYSTEM FOR A MINIMUM OF 45 MINUTES PRIOR TO CHARGING AND LEAK CHECK PRIOR TO SERVICING.
- ☐ CHARGE THE SYSTEM TO THE CAPACITIES STATED ON THE INFORMATION PAGE (PAGE 4) OF THIS INSTRUCTION MANUAL.
- ☐ SEE OPERATION OF CONTROLS PROCEDURES ON PAGE 21.





CONTROL PANEL & DUCT HOSE ROUTING

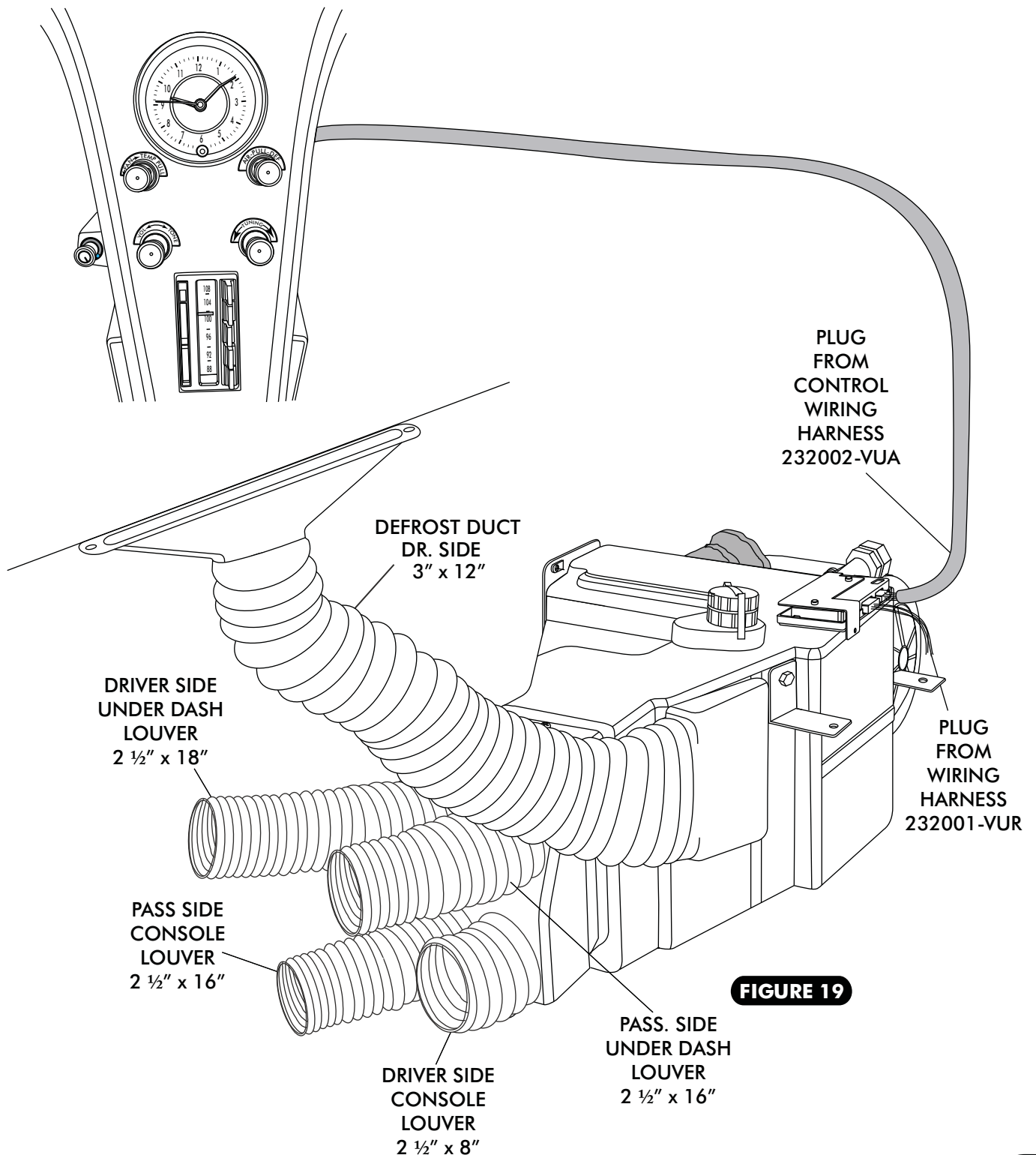
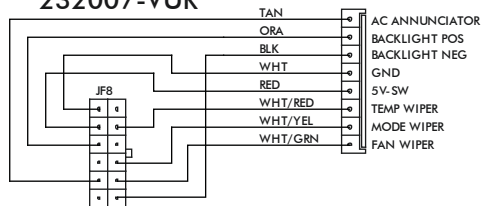


FIGURE 19



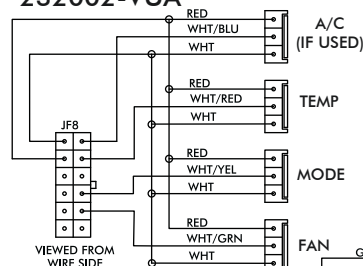
WIRING DIAGRAM

232007-VUR



VIEWED FROM WIRE SIDE

232002-VUA

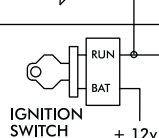


VIEWED FROM WIRE SIDE

PROGRAM

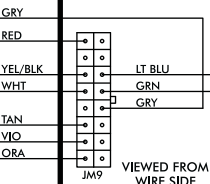
N/A
* DASH LAMP (IF USED)

*** WIDE OPEN THROTTLE SWITCH (OPTIONAL)



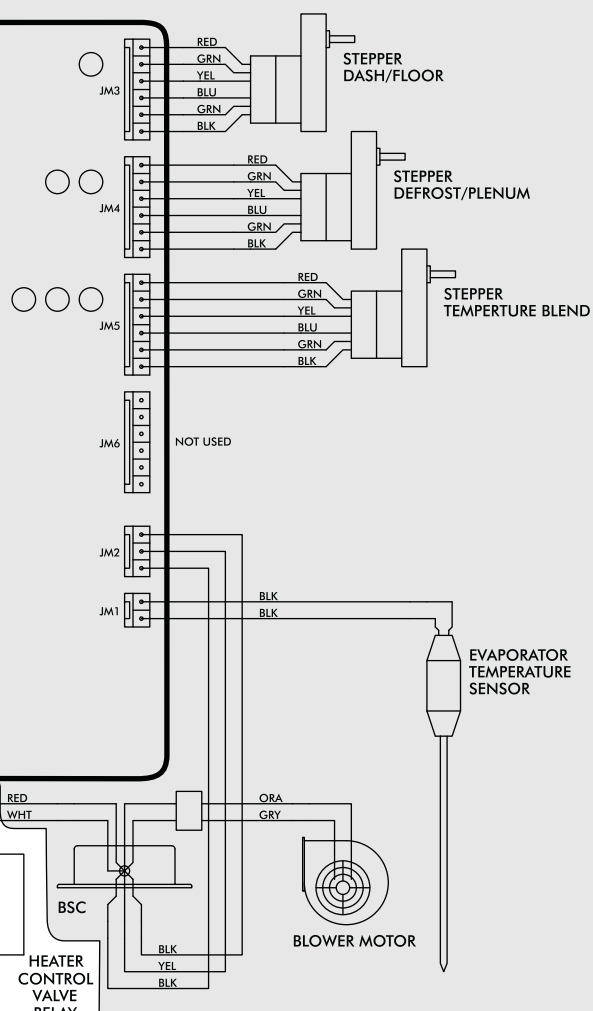
GEN IV ECU

GEN IV WIRING DIAGRAM
REV C, 11/24/2009



VIEWED FROM WIRE SIDE

PRE-WIRED



NOTE: = CHASSIS GROUND

* DASH LAMP IS ONLY USED WITH TYPE 232007-VUR HARNESS

** WARNING: ALWAYS MOUNT CIRCUIT BREAKER UNDER THE HOOD IN THE ENGINE COMPARTMENT AND AS CLOSE TO THE BATTERY AS POSSIBLE.

*** WIDE OPEN THROTTLE SWITCH CONTACTS CLOSE ONLY AT FULL THROTTLE, WHICH DISABLES AC COMPRESSOR.





OPERATION OF CONTROLS

THE TEMPERATURE KNOB TOGGLES BETWEEN A/C AND HEAT MODES. FOR A/C MODE ROTATE THE TEMPERATURE KNOB ALL THE WAY LEFT, FOR HEAT MODE ROTATE THE KNOB ALL THE WAY TO THE RIGHT TO DISENGAGE THE COMPRESSOR, THEN MOVE THE KNOB TO SELECT DESIRED TEMPERATURE.

NOTE: EACH TIME THE SYSTEM TOGGLES BETWEEN MODES, THE BLOWER WILL MOMENTARILY CHANGE SPEEDS.

ALL SWITCHES ARE VARIABLE BETWEEN POSITIONS, SYSTEM WILL PERFORM A BLEND BETWEEN THE FUNCTIONS.

BLOWER SPEED

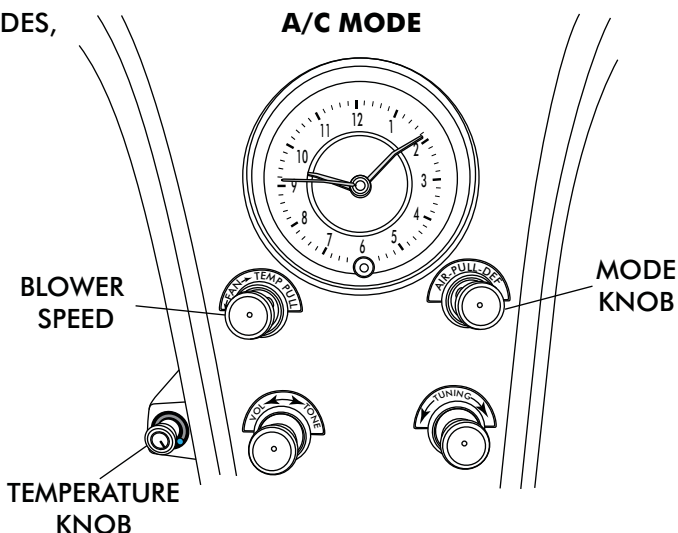
THIS KNOB CONTROLS THE BLOWER SPEED, FROM OFF TO HI

MODE KNOB

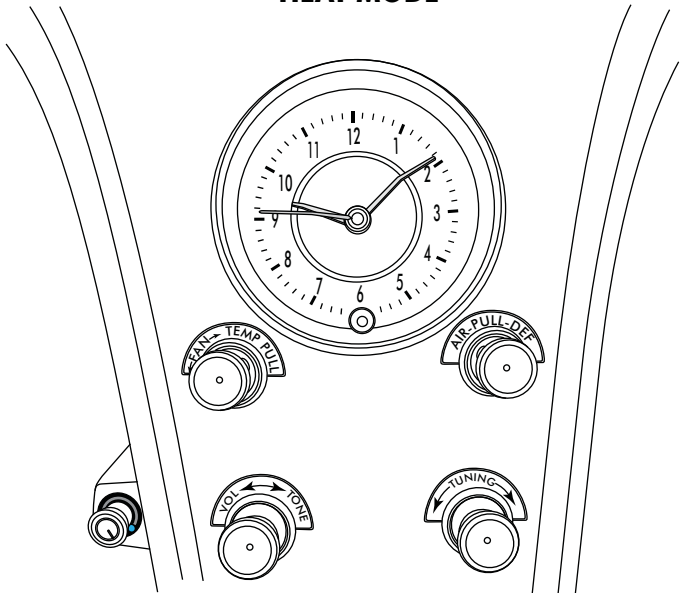
ROTATE THE KNOB TO THE LEFT TO DIRECT AIR FLOW TO THE DASH VENTS

TEMPERATURE KNOB

ROTATE THE TEMPERATURE KNOB ALL THE WAY RIGHT TO THE COLD POSITION TO ENGAGE COMPRESSOR. (ROTATE KNOB LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)



HEAT MODE



BLOWER SPEED

ROTATE KNOB RIGHT TO DESIRED BLOWER SPEED FROM OFF TO HI.

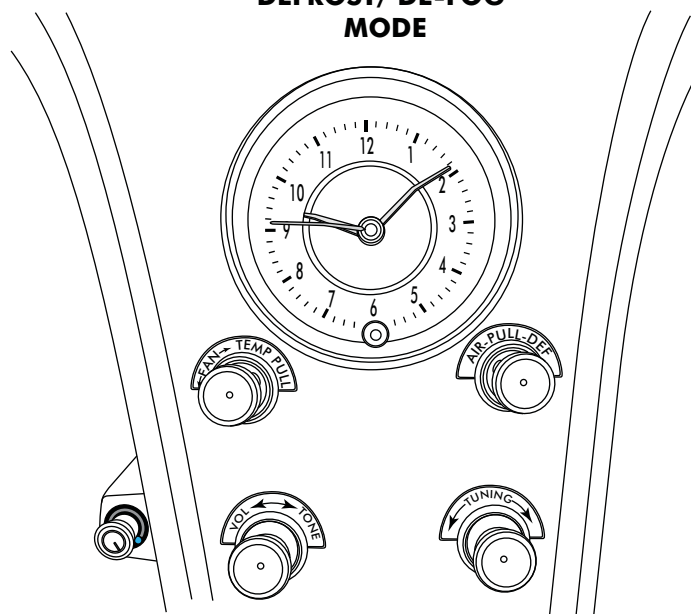
MODE KNOB

ROTATE THE KNOB TO THE CENTER TO DIRECT AIR FLOW TO THE FLOOR.

TEMPERATURE KNOB

ROTATE THE TEMPERATURE KNOB ALL THE WAY LEFT TO THE HOT POSITION. (ROTATE KNOB LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)

DEFROST/ DE-FOG MODE



BLOWER SPEED

ROTATE KNOB RIGHT TO DESIRED BLOWER SPEED FROM OFF TO HI.

MODE KNOB

ROTATE THE KNOB TO THE RIGHT TO DIRECT AIR FLOW TO THE DEFROST VENTS.

TEMPERATURE KNOB

ROTATE KNOB LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE. (COMPRESSOR IS AUTOMATICALLY ENGAGED)



TRUBLE SHOOTING INFORMATION

SYMPTOM	CONDITION	CHECKS	ACTIONS	NOTES
1. BLOWER STAYS ON HIGH SPEED WHEN IGNITION IS ON	NO OTHER FUNCTIONS WORK	CHECK FOR DAMAGED PINS OR WIRES IN CONTROL HEAD PLUG. CHECK FOR DAMAGED GROUND WIRE (WHITE) IN CONTROL HEAD HARNESS.	VERIFY ALL PINS ARE INSERTED INTO PLUG. INSURE NO PINS ARE BENT OR DAMAGES IN ECU. VERIFY CONTINUITY TO CHASSIS GROUND WITH WHITE CONTROL HEAD WIRE AT VARIOUS POINTS	LOSS OF GROUND ON THIS WIRE RENDER CONTROL HEAD IN OPERABLE
	ALL OTHER FUNCTIONS WORK	CHECK FOR DAMAGED BLOWER SWITCH OR POT AND ASSOCIATED WIRING.		SEE BLOWER SWITCH CHECK PROCEDURE
BLOWER STAYS ON HIGH SPEED WHEN IGNITION IS ON OR OFF		UNPLUG 3 WIRE BSC CONTROL CONNECTOR FROM ECU. IF BLOWER SHUTS OFF; ECU IS EITHER IMPROPERLY WIRED, OR DAMAGED. UNPLUG 3 WIRE BSC CONTROL CONNECTOR FROM ECU. IF BLOWER STAYS RUNNING, THE BSC IS EITHER IMPROPERLY WIRED, OR DAMAGED.	BE SURE SMALL, 20 GA WHITE GROUND WIRE IS CONNECTED TO THE BATTERY GROUND POST. IF IT IS, REPLACE ECU. CHECK TO INSURE THAT NO BSC WIRING IS DAMAGED OR SHORTED TO VEHICLE GROUND. THE BSC OPERATES THE BLOWER BY GROUND SIDE PWM SWITCHING. THE POSITIVE WIRE TO THE BLOWER WILL ALWAYS BE HOT. IF THE "GROUND" SIDE OF THE BLOWER IS SHORTED TO CHASSIS GROUND, THE BLOWER WILL RUN ON HI.	
			REPLACE BSC. (THIS WILL REQUIRE EVAPORATOR TO BE REMOVED FROM VEHICLE.)	NO OTHER PART REPLACEMENTS SHOULD BE NECESSARY

2. COMPRESSOR WILL NOT TURN ON (ALL OTHER FUNCTIONS WORK)	SYSTEM IS NOT CHARGED	SYSTEM MUST BE CHARGED FOR COMP. TO ENGAGE	CHARGE SYSTEM OR BYPASS PRESSURE SWITCH.	DANGER- NEVER BYPASS SAFETY SWITCH WITH ENGINE RUNNING, SERIOUS INJURY CAN RESULT.
		CHECK FOR FAULTY A/C POT OR ASSOC. WIRING (NOT APPLICABLE TO 3 POT CONTROLS)	CHECK CONTINUITY TO GROUND ON WHITE CONTROL HEAD WIRE. CHECK FOR 5V ON RED CONTROL HEAD WIRE.	TO CHECK FOR PROPER POT FUNCTION, CHECK VOLTAGE AT WHITE/ BLUE WIRE. VOLTAGE SHOULD BE BETWEEN 0 AND 5V, AND WILL VARY WITH POT LEVER POSITION.
		CHECK FOR DISCONNECTED OR FAULTY THERMISTOR.	CHECK TWO PIN CONNECTOR AT ECU HOUSING	DISCONNECTED OR FAULTY THERMISTOR WILL CAUSE COMPRESSOR TO BE DISABLED.

3. COMPRESSOR WILL NOT TURN OFF (ALL OTHER FUNCTIONS WORK)		CHECK FOR FAULTY A/C POT OR ASSOC. WIRING	REPAIR/REPLACE POT/ CONTROL WIRING	RED WIRE @ A/C POT SHOULD HAVE APPROX. 5V WITH IGNITION ON. WHITE WIRE WILL HAVE CONTINUITY TO CHASSIS GROUND. WHITE/ BLUE WIRE SHOULD VARY BETWEEN 0V AND 5V WHEN LEVER IS MOVED UP AND DOWN.
		CHECK FOR FAULTY A/C RELAY	REPLACE RELAY	



TRUBLE SHOOTING INFORMATION CONT.

4. SYSTEM WILL NOT TURN ON OR RUNS INTERMITTENTLY	WORKS WHEN ENGINE IS NOT RUNNING. SHUTS OFF WHEN ENGINE IS STARTED. (TYPICALLY EARLY GEN 4, BUT POSSIBLE ON ALL VERSIONS)	NOISE INTERFERENCE FROM EITHER IGNITION OR ALTERNATOR	INSTALL CAPACITORS ON IGN. COIL, AND ALTERNATOR. ENSURE GOOD GROUND AT ALL POINTS. RELOCATE COIL AND ASSOCIATED WIRING AWAY FROM ECU AND ECU WIRING. CHECK FOR BURNED OR LOOSE PLUG WIRES. IGNITION NOISE (RADIATED OR CONDUCTED) WILL CAUSE THE SYSTEM TO SHUT DOWN DUE TO HIGH VOLTAGE SPIKES. IF THIS IS SUSPECTED, CHECK WITH A QUALITY OSCILLOSCOPE. SPIKES GREATER THAN 16V WILL SHUT DOWN ECU. INSTALL A RADIO CAPACITOR AT THE POSITIVE POST OF THE IGNITION COIL (SEE RADIO CAPACITOR INSTALLATION BULLETIN). A FAULTY ALTERNATOR OR WORN OUT BATTERY CAN ALSO RESULT IN THIS CONDITION FOR ALTERNATOR REGULATOR TO FUNCTION PROPERLY.
	WILL NOT TURN ON UNDER ANY CONDITIONS	VERIFY CONNECTIONS ON POWER LEAD, IGNITION LEAD, AND BOTH WHITE GROUND WIRES	CHECK FOR POSITIVE POWER AT HEATER VALVE GREEN WIRE, AND BLOWER RED WIRE. CHECK FOR GROUND ON CONTROL HEAD WHITE WIRE
		VERIFY BATTERY VOLTAGE IS GREATER THAN 10 VOLTS AND LESS THAN 16.	VERIFY PROPER METER FUNCTION BY CHECKING A KNOWN GOOD BATTERY'S VOLTAGE.

5. LOSS OF MODE DOOR FUNCTION	NO MODE CHANGE AT ALL	CHECK FOR DAMAGED MODE SWITCH OR POT AND ASSOCIATED WIRING	TYPICALLY CAUSED BY EVAPORATOR HOUSING INSTALLED IN A BLIND IN THE VEHICLE. BE SURE ALL MOUNTING LOCATIONS LINE UP AND DON'T HAVE TO BE FORCED INTO POSITION.
	PARTIAL FUNCTION OF MODE DOORS	CHECK FOR OBSTRUCTED OR BINDING MODE DOORS	
		CHECK FOR DAMAGED STEPPER MOTOR OR WIRING	

6. BLOWER TURNS ON AND OFF RAPIDLY	BATTERY VOLTAGE IS AT LEAST 12V. BATTERY VOLTAGES IS LESS THAN 12V	CHECK FOR AT LEAST 12V BETWEEN GREEN HEATER VALVE WIRE AND CHASSIS GROUND. CHECK FOR FAULTY BATTERY OR ALTERNATOR	INSURE ALL SYSTEM GROUNDS AND POWER CONNECTION ARE CLEAN AND TIGHT. CHARGE BATTERY SYSTEM SHUTS OFF BLOWER AT 10V. POOR CONNECTIONS OR WEAK BATTERY CAN CAUSE SHUT DOWN AT UP TO 11V
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7. ERATIC FUNCTIONS OF BLOWER, MODE, TEMP, ETC.		CHECK FOR DAMAGED SWITCH OR POT AND ASSOCIATED WIRING	REPAIR OR REPLACE
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8. WHEN THE IGNITION IS TURNED ON, THE BLOWER MOMENTARILY COMES ON, THEN SHUTS OFF. THIS IS WITH THE BLOWER SWITCH IN THE OFF POSITION		THIS IS AN INDICATOR THAT THE SYSTEM HAS BEEN RESET. BE SURE THE RED POWER WIRE IS ON THE BATTERY POST AND NOT ON A SWITCHED SOURCE. ALSO, IF THE SYSTEM IS PULLED BELOW 7V EVEN FOR A SPLIT SECOND, THE SYSTEM WILL RESET.	RUN RED POWER WIRE DIRECTLY TO BATTERY
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