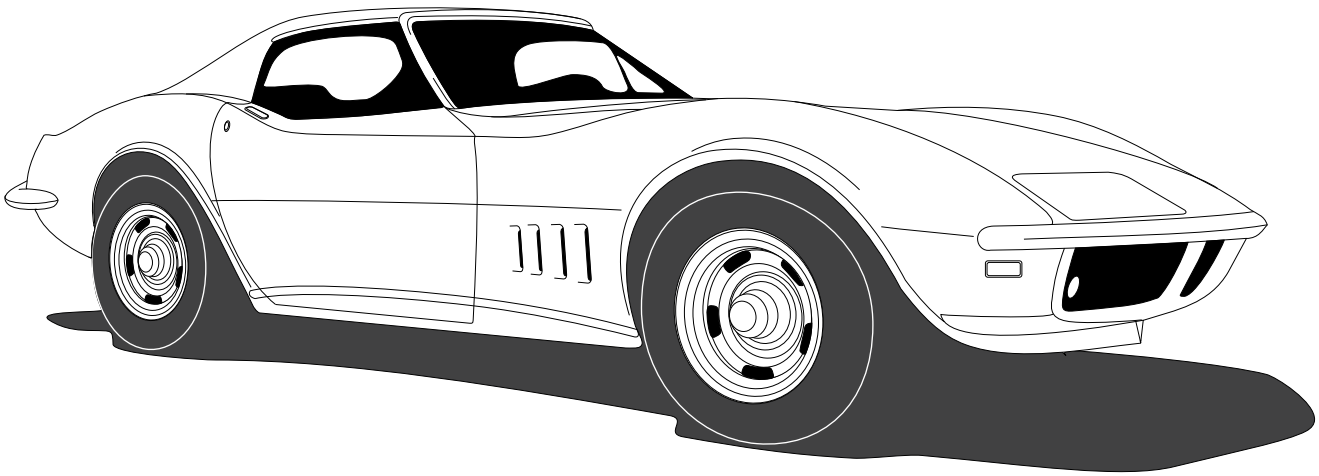
an ISO 9001:2000 Registered Company

1968-73 CORVETTE

GEN IV w/ FACTORY AIR

564173-PCZ



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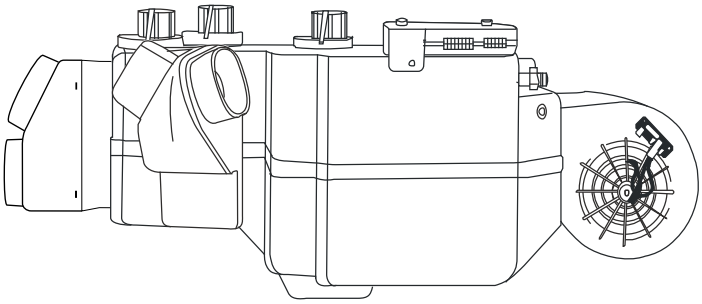
EVAPORATOR KIT
564173-PCZ

No.	QTY.	PART No.	DESCRIPTION
1.	1	764168	1968-73 CORVETTE w/ AC EVAP. SUBCASE
2.	1	784173-PCF	1968-73 CORVETTE w/ AC ACC. KIT

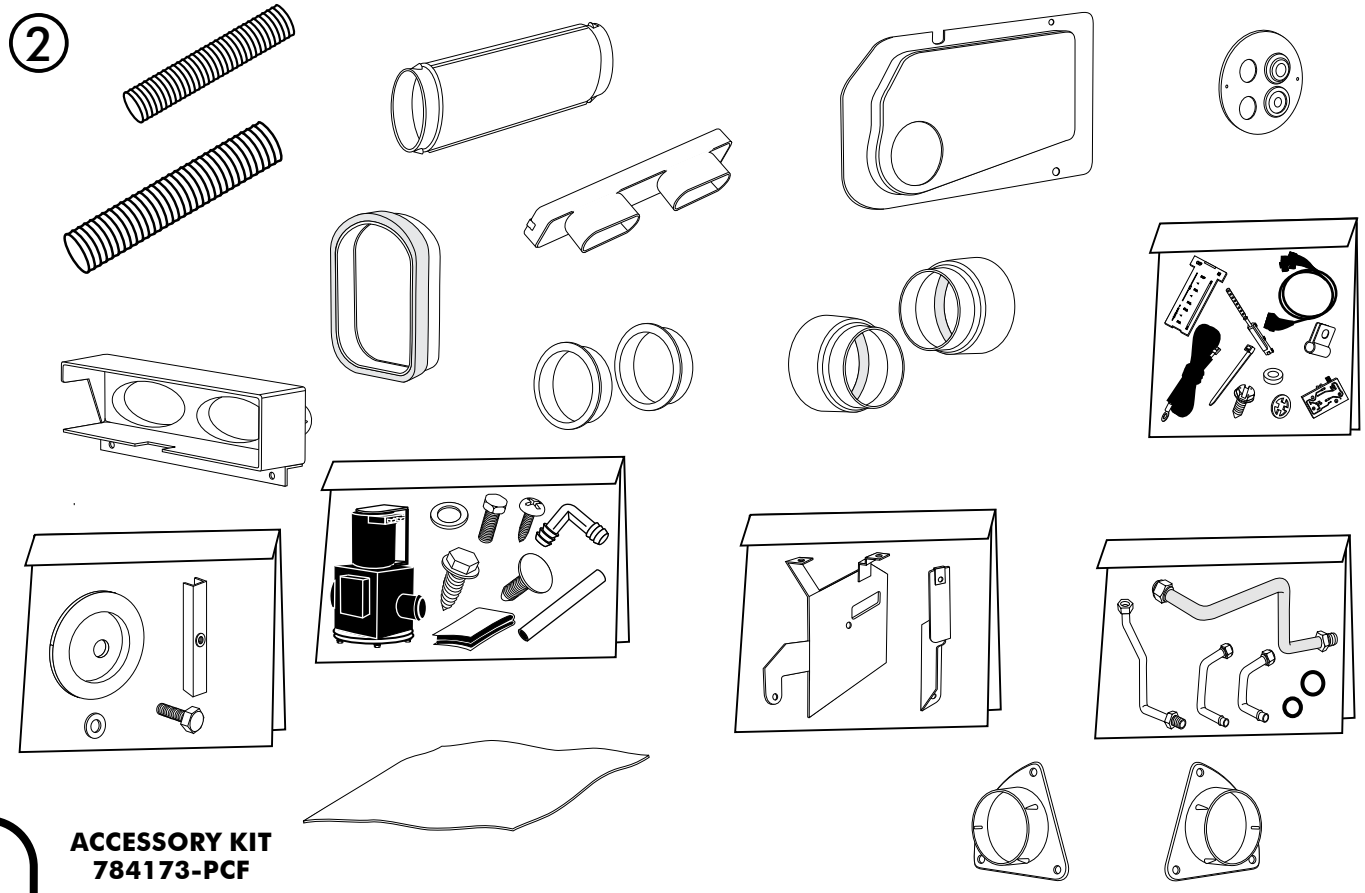
***** BEFORE BEGINNING INSTALLATION OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.***

①



1968-73 CORVETTE
w/ AC EVAP. SUB CASE
764168

②



ACCESSORY KIT
784173-PCF

1968-73 CORVETTE
w/ FACTORY AIR

IMPORTANT NOTICE - PLEASE READ

FOR MAXIMUM SYSTEM PERFORMANCE VINTAGE AIR RECOMMENDS THE FOLLOWING:

THIS KIT DOES NOT CONTAIN HEATER HOSE. YOU MUST PURCHASE 8 FEET OF 5/8" DIA. HEATER HOSE FROM VINTAGE AIR(31800-VUD) OR FROM YOU 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 or R-12 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 CAPACITIES FOR VINTAGE AIR SYSTEMS

(FOR OTHER SYSTEMS, CONSULT MANUFACTURER GUIDELINES)

134a SYSTEM

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

R-12 SYSTEM

CHARGE WITH 2.0 lbs. OF REFRIGERANT

LUBRICANT CAPACITIES: NEW COMPRESSOR - NO ADDITIONAL OIL NEEDED
USED COMPRESSOR - CONSULT VINTAGE AIR

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 AC MODE.

INSTALLATION INSTRUCTIONS FOR 1968-1973 CORVETTE

BEFORE STARTING THE AIR CONDITIONER INSTALLATION, CHECK FOR PROPER OPERATION OF ALL COMPONENTS (RADIO, LIGHTS, WIPERS, ETC.). STUDY THE INSTRUCTIONS, ILLUSTRATIONS AND DIAGRAMS. FOR EASE OF INSTALLATION CHECK OFF (☑) EACH PROCEDURE PRIOR TO MOVING ON TO THE NEXT STEP.

ENGINE COMPARTMENT

- ☐ DISCONNECT BATTERY
- ☐ REMOVE HOOD TO EASE INSTALLATION
- ☐ DRAIN RADIATOR
- ☐ EVACUATE THE A/C SYSTEM IF NECESSARY
- ☐ REMOVE O.E.M. CONDENSER AND DRIER
- ☐ REMOVE O.E.M. A/C LINES FROM COMPRESSOR TO EVAPORATOR
- ☐ REMOVE O.E.M. COMPRESSOR AND COMPRESSOR BRACKET
- ☐ REMOVE O.E.M. BLOWER ASSEMBLY AND COVER
- ☐ REMOVE O.E.M. EVAPORATOR AND COVER
- ☐ REMOVE O.E.M. A/C HARNESS AND VACUUM HARNESS. (DISCARD)
- ☐ INSTALL 1 ½" PLUGS IN FIREWALL AS SHOWN IN FIGURE 1a.

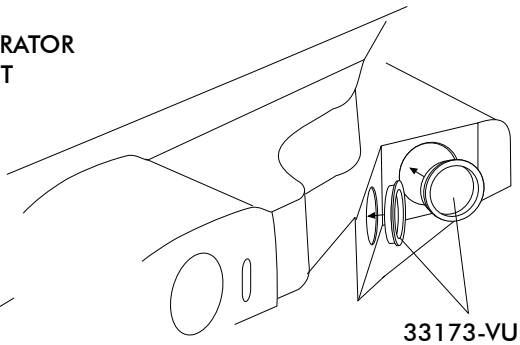


FIGURE 1a

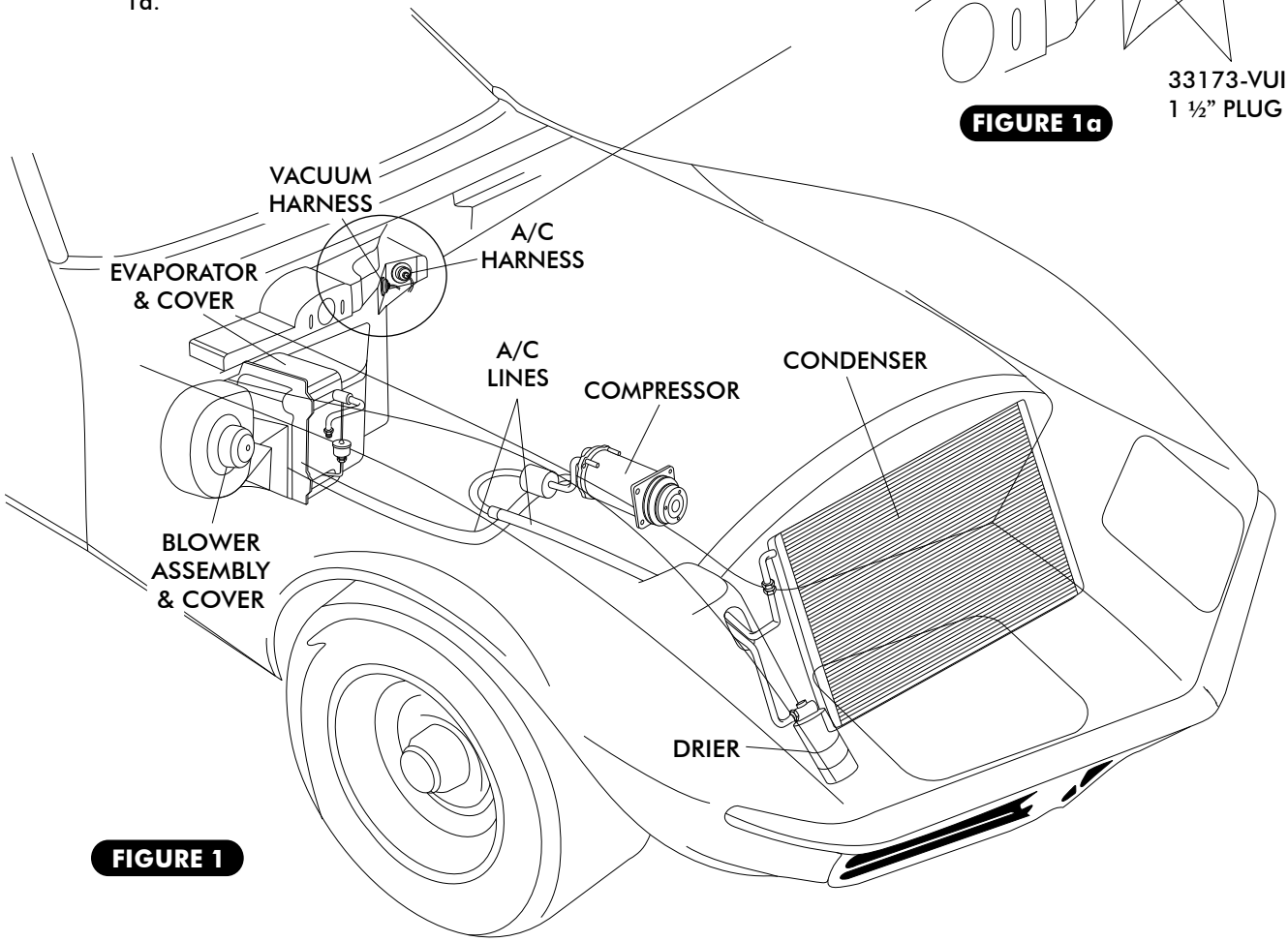


FIGURE 1

PASSENGER COMPARTMENT

- ☐ REMOVE PASSENGER SIDE DASH
- ☐ DISCONNECT CENTER DASH AND PULL FORWARD TO REMOVE OEM A/C DUCT
- ☐ REMOVE OEM RADIO
- ☐ REMOVE CONTROL PANEL (RETAIN), REFER TO CONTROL PANEL CONVERSION KIT TO ASSEMBLE CONTROL PANEL.
- ☐ DROP STEERING COLUMN
- ☐ DISCONNECT DRIVER SIDE DASH AND PULL FORWARD

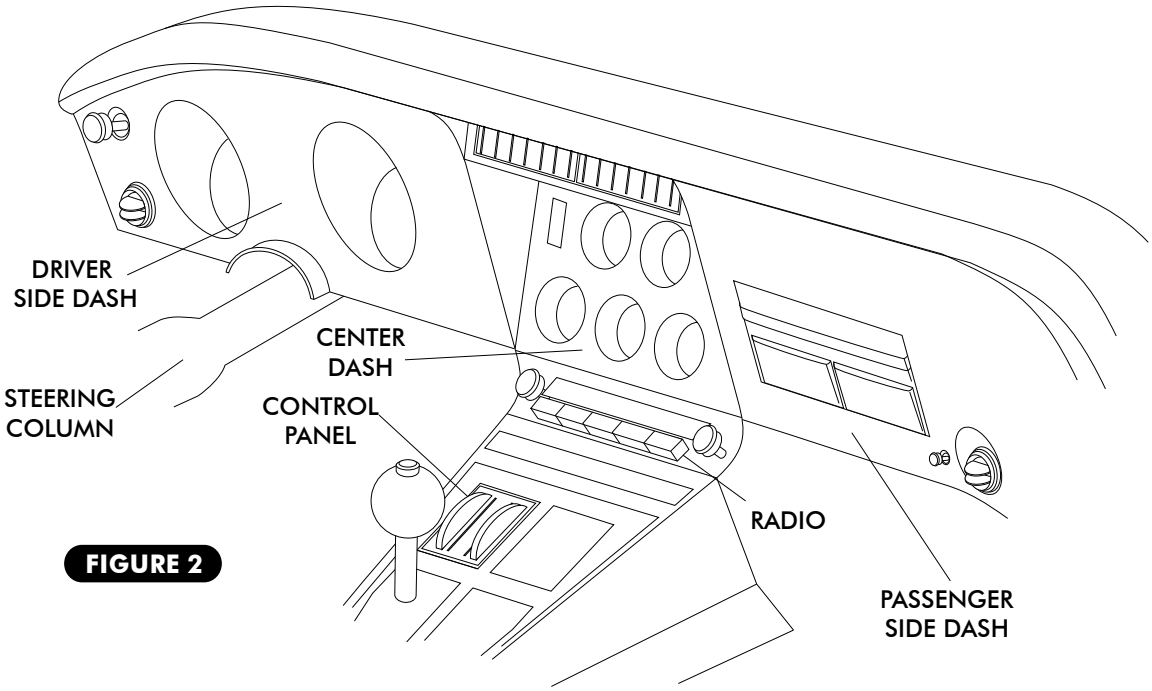


FIGURE 2

- ☐ REMOVE THE PASSENGER SIDE, CENTER, AND DRIVER SIDE A/C DUCTS AS SHOWN IN FIGURE 3 BELOW.
- ☐ REMOVE THE FLOOR HEATER DUCT AS SHOWN.

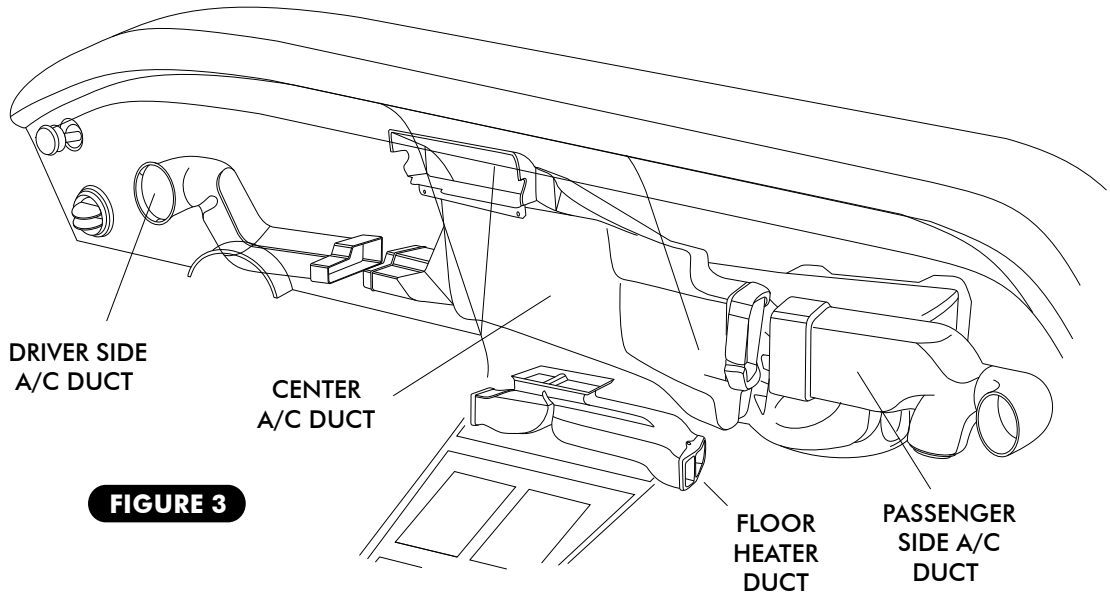


FIGURE 3

- ☐ REMOVE THE DEFROST DUCT. (RETAIN)
- ☐ REMOVE THE HEATER HOUSING FROM UNDER THE DASH.
- ☐ REMOVE THE KICK PANEL VACUUM CONTROL ASM AND DISCARD. SEE FIGURE 4a BELOW.
- ☐ USING (2) 8 x ½ PH PAN HEAD SCREWS INSTALL THE KICK PANEL FRESH AIR CAP AS SHOWN IN FIGURE 4a BELOW.

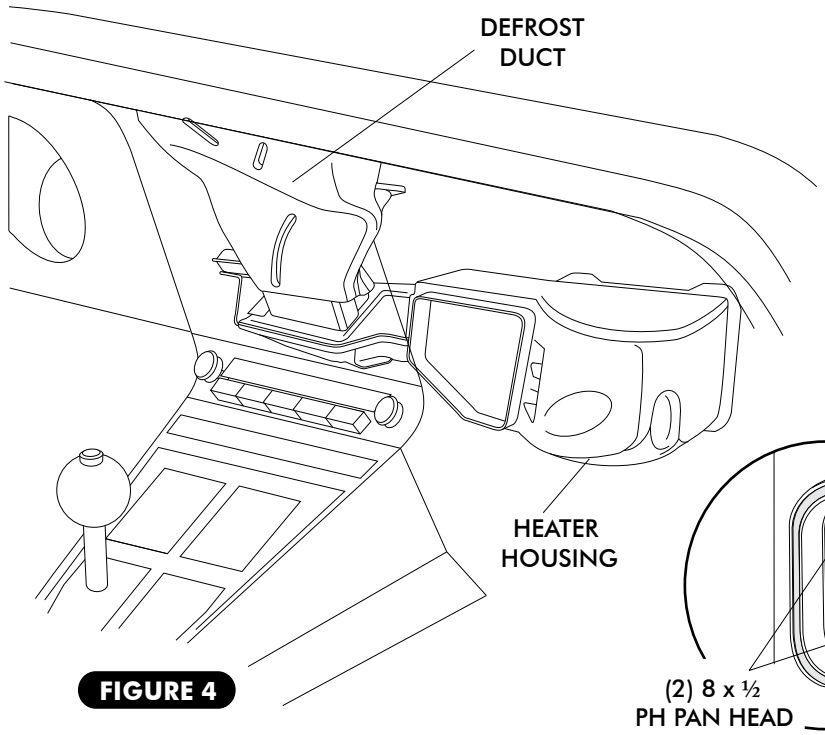


FIGURE 4

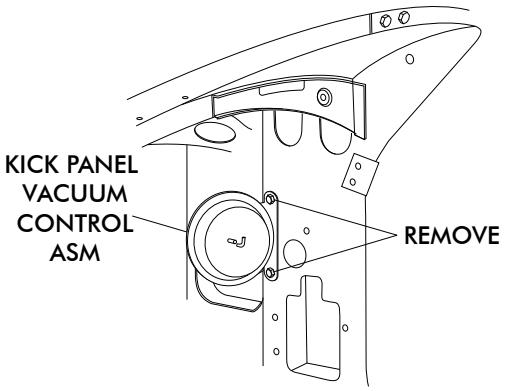
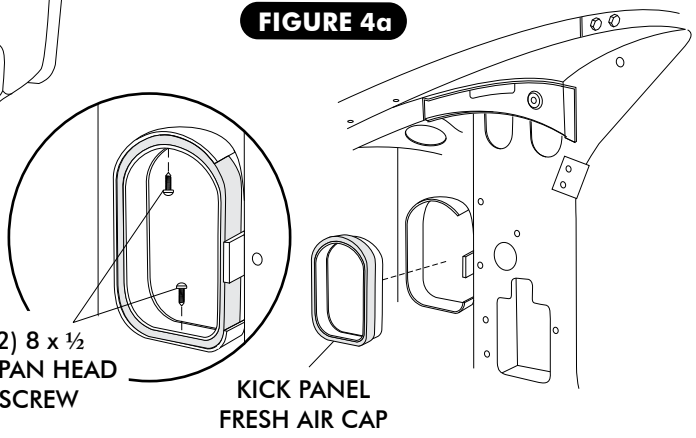
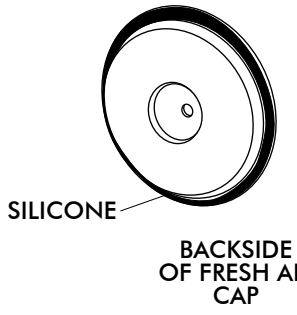


FIGURE 4a



FRESH AIR COVER INSTALLATION

- ☐ APPLY A ¼" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FRESH AIR CAP AS SHOWN IN FIGURE 4b BELOW.
- ☐ ATTACH FRESH AIR CAP TO FIREWALL USING A 1/4-20 x 1" BOLT AND WASHER, SEE FIGURE 4b.



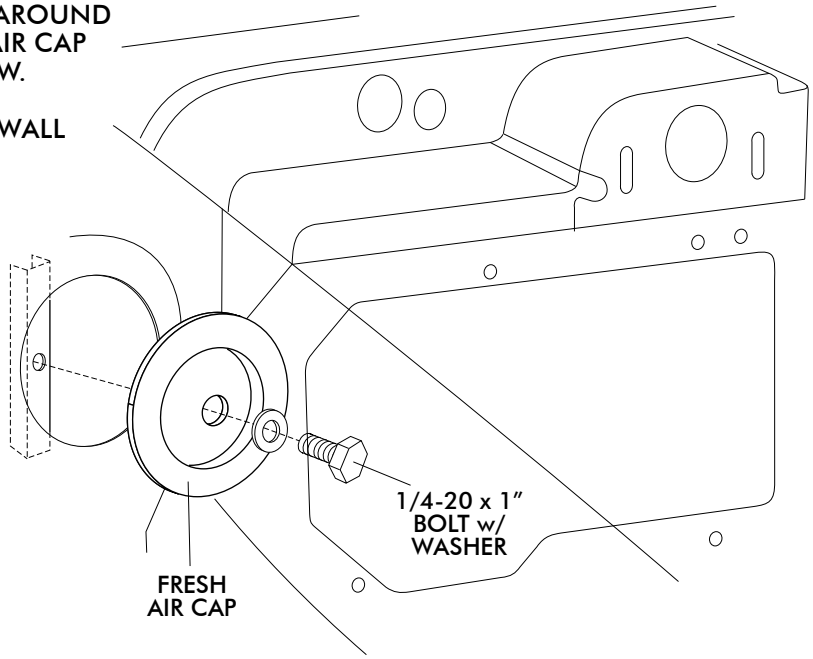


FIGURE 4b

CONDENSER ASSEMBLY & INSTALLATION

☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE CONDENSER KIT TO INSTALL THE CONDENSER. REFER TO FIGURE 5 BELOW FOR CONDENSER LOCATION.

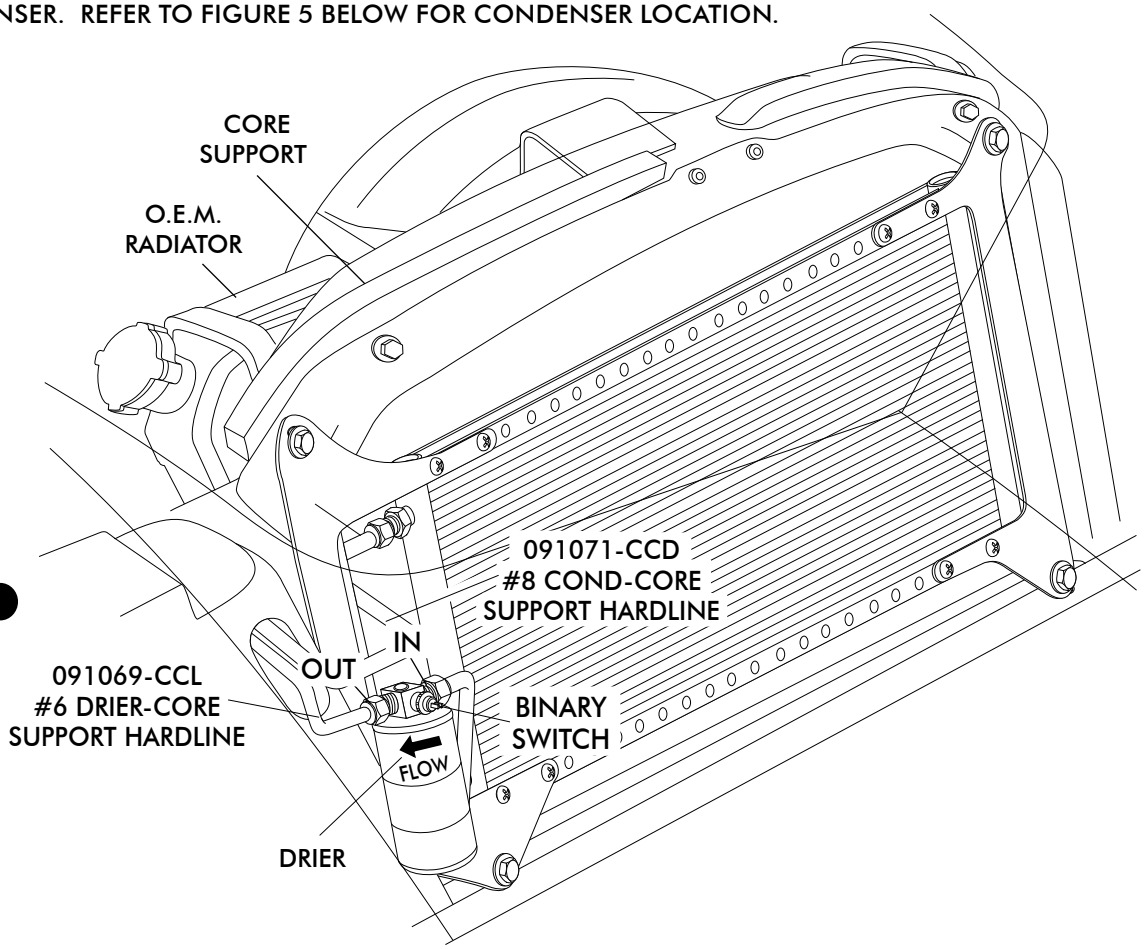


FIGURE 5

COMPRESSOR & BRACKETS

☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE BRACKET KIT TO INSTALL THE COMPRESSOR BRACKET. REFER TO FIGURE 6 BELOW FOR COMPRESSOR MOUNTING POSITION.

PULLEYS

☐ IN MOST INSTANCES EXISTING BELT LENGTHS WILL REMAIN THE SAME. SEE FIGURE 6 BELOW.

PULLEYS (VINTAGE AIR) SHORT PUMP SMALL BLOCK CHEVY (STEEL PULLEY)

22503-VCA - WATER PUMP PULLEY *(DOUBLE GROOVE)*

22506-VCA - CRANKSHAFT PULLEY *(DOUBLE GROOVE)*
(WITH POWER STEERING A 3 GROOVE CRANK PULLEY IS REQUIRED)

22507-VCA - CRANKSHAFT PULLEY *(TRIPLE GROOVE)*

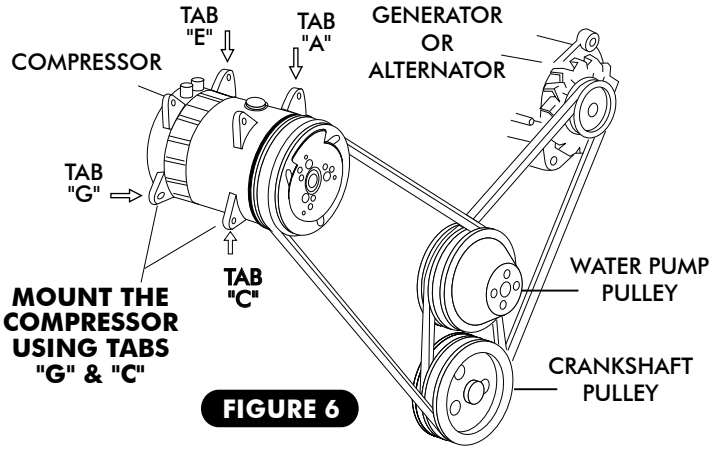


FIGURE 6

NOTE: BELT ROUTING MAY VARY WITH DIFFERENT BRACKET SETS. ALWAYS REFER TO INSTRUCTIONS INCLUDED WITH BRACKETS.

O.E.M. DEFROST DUCT MODIFICATION

☐ MEASURE 6" FROM THE TOP OF THE DEFROST DUCT AND MARK AS SHOWN IN FIGURE 7 BELOW. CUT OFF THE BOTTOM PORTION OF THE DEFROST DUCT AS SHOWN.

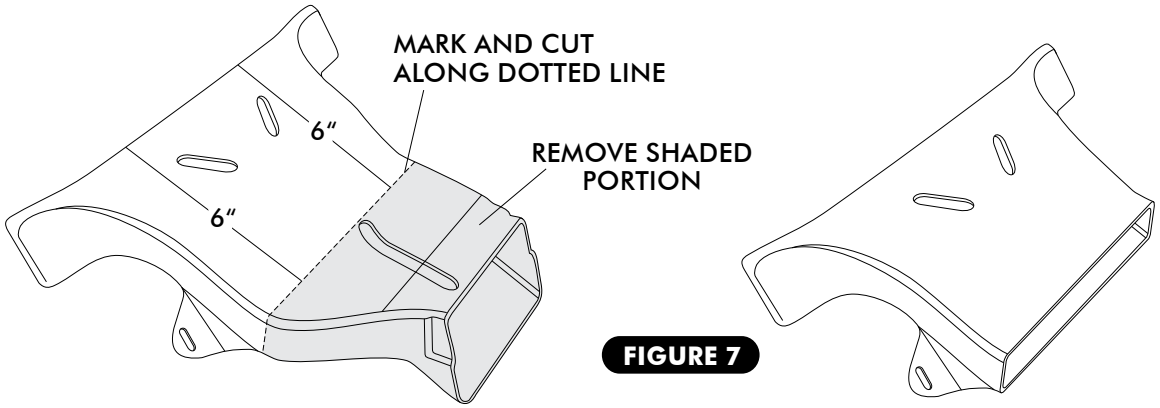


FIGURE 7

☐ LOCATE THE DEFROST DUCT TEMPLATE ON PAGE 27, PLACE THE TEMPLATE OVER THE DEFROST DUCT AS SHOWN IN FIGURE 7a BELOW.

☐ USING A PENCIL OR SCRIBE MARK ALONG THE EDGE OF THE TEMPLATE AS SHOWN.

☐ REMOVE THE TEMPLATE AND CUT ALONG THE DOTTED LINE AND REMOVE THE TOP PORTION OF THE DEFROST DUCT AS SHOWN IN FIGURE 7a. ***NOTE: DO NOT CUT COMPLETELY THROUGH THE DEFROST DUCT, ONLY REMOVE THE SHADE PORTION AS SHOWN.***

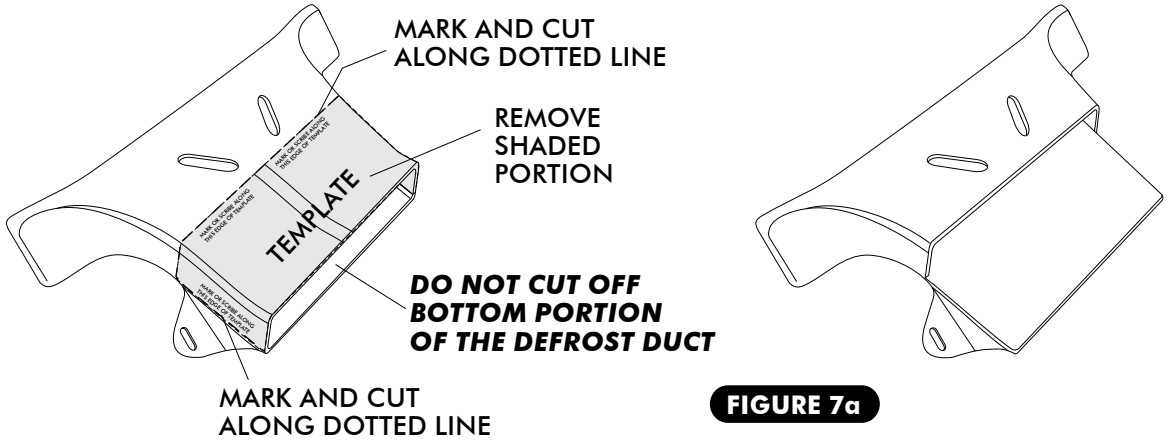


FIGURE 7a

☐ INSTALL THE DEFROST DUCT HOSE ADAPTER AS SHOWN IN FIGURE 8 BELOW.

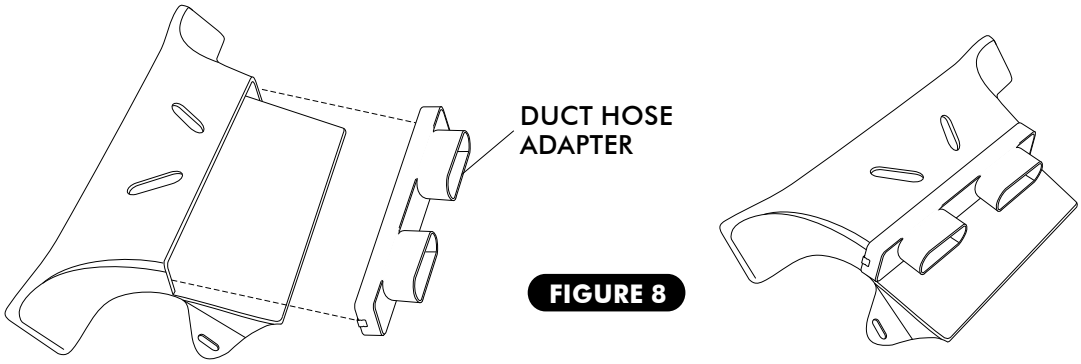


FIGURE 8

DEFROST DUCT & PS AND DS SIDE A/C DUCT HOSE ADAPTER INSTALLATION

- ☐ USING THE O.E.M. DEFROST DUCT MOUNTING SCREWS INSTALL THE DEFROST DUCT WITH HOSE ADAPTER AS SHOWN IN FIGURE 9 BELOW.
- ☐ REMOVE VENT KNOBS AND RETAIN

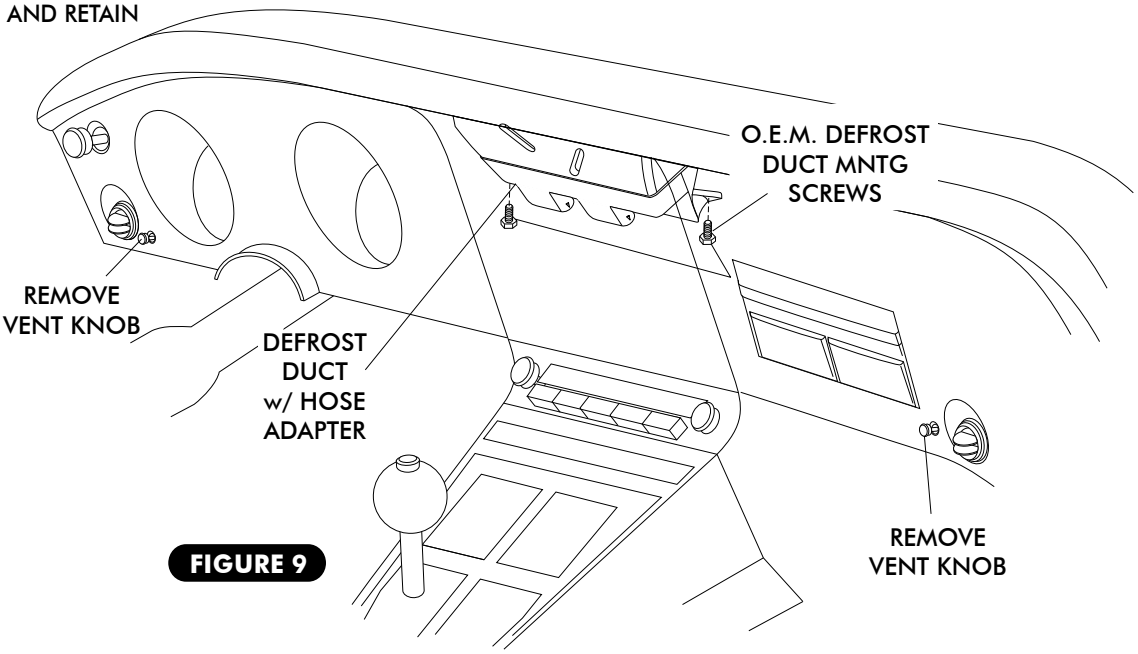


FIGURE 9

- ☐ REMOVE THE PASSENGER AND DRIVER SIDE VENT ADAPTERS (DISCARD) AS SHOWN IN FIGURE 10 BELOW. ***NOTE: RETAIN MOUNTING HARDWARE.***
- ☐ INSTALL THE INNER AND OUTER A/C DUCT HOSE ADAPTERS AS SHOWN IN FIGURE 10 BELOW. USE O.E.M. SCREWS TO SECURE ADAPTERS TO DASH.
- ☐ INSTALL THE VENT KNOB AS SHOWN USING A 10-24 x 1 ¼" PH PAN HEAD SCREW AND 3⁄16" FLAT WASHER. ***NOTE: THE PASSENGER SIDE INSTALLATION IS SHOWN BELOW IN FIGURE 10, REPEAT THE SAME STEPS FOR THE DRIVER SIDE INSTALLATION.***
- ☐ SEE FIGURE 10a PAGE 12 FOR A COMPLETELY ASSEMBLED VIEW OF A/C DUCT HOSE ADAPTER.

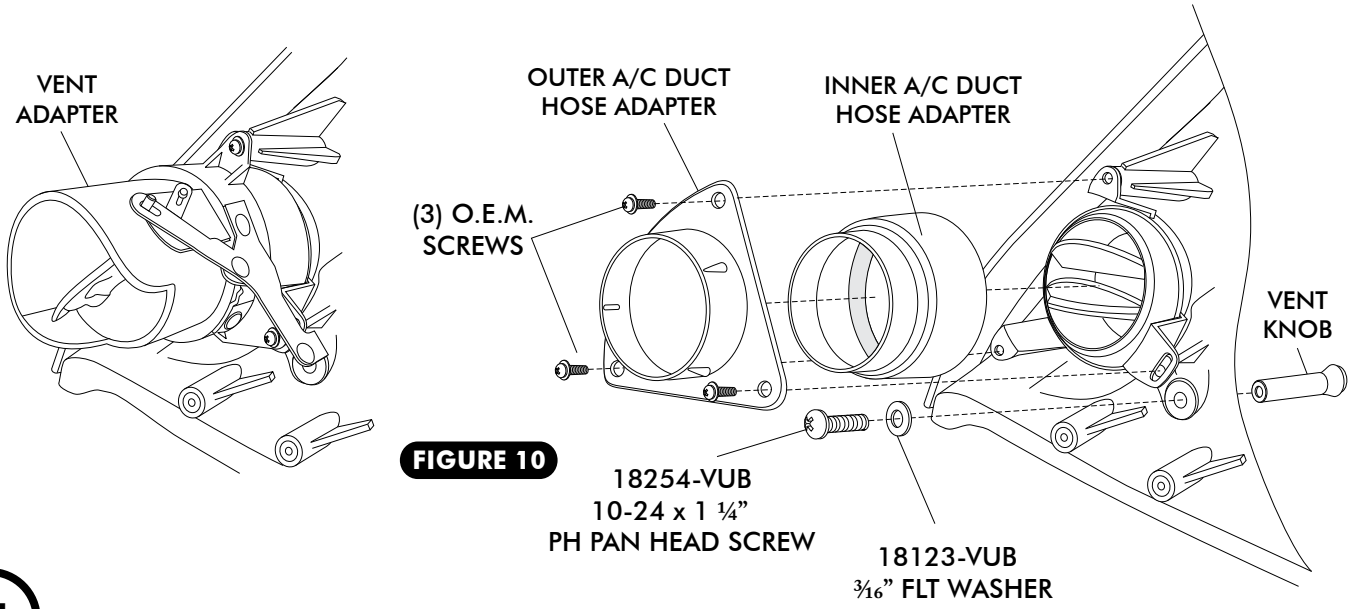


FIGURE 10

PS & DS SIDE AC DUCT HOSE ADAPTER INSTALLATION

☐ COMPLETELY ASSEMBLED VIEW OF AC DUCT HOSE ADAPTER.

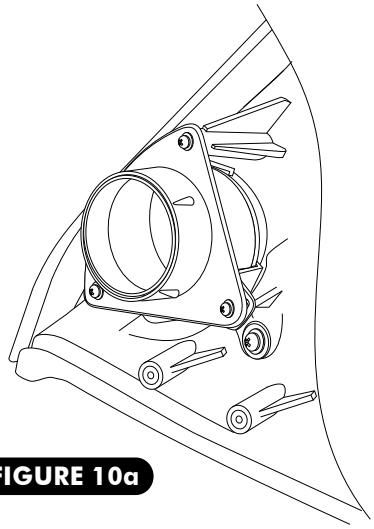


FIGURE 10a

PASS SIDE DASH MODIFICATION

☐ ALIGN THE TEMPLATE (PROVIDED ON PAGE 31) ON BACK SIDE OF PASSENGER SIDE DASH AS SHOWN IN FIGURE 11 BELOW.

☐ USING A PENCIL OR SCRIBE MARK ALONG THE EDGE OF THE TEMPLATE AS SHOWN.

☐ REMOVE THE TEMPLATE AND CUT ALONG THE DOTTED LINE AND REMOVE PLASTIC PORTION OF DASH (NOTE: DO NOT CUT THROUGH FOAM DASH PAD ON BACK SIDE OF PLASTIC) AS SHOWN IN FIGURE 11a.

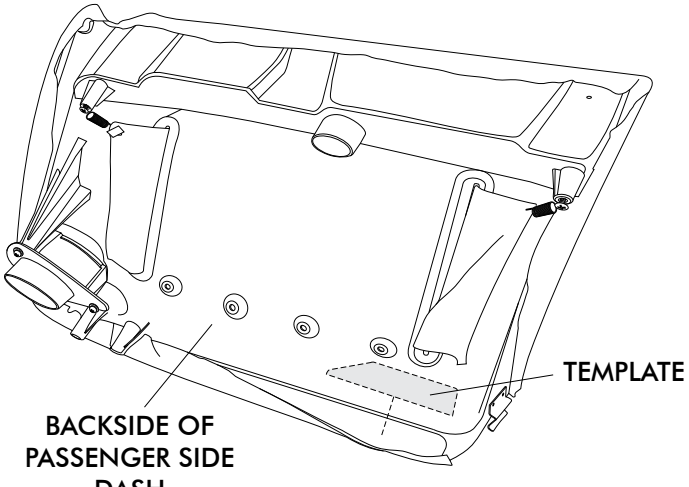


FIGURE 11

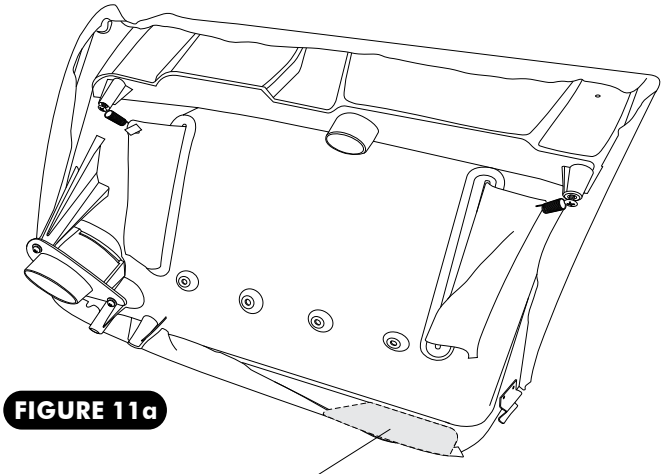


FIGURE 11a

CENTER LOUVER ADAPTER INSTALLATION

- ☐ INSTALL CENTER LOUVER HOSE ADAPTER USING O.E.M. SCREWS AS SHOWN IN FIGURE 12 BELOW.
- ☐ FOR MAXIMUM AIR FLOW, VINTAGE AIR RECOMMENDS REMOVING THE O.E.M. CENTER LOUVER VENT DOOR ASSEMBLY. SEE FIGURE 12a BELOW. ***(OPTIONAL)***

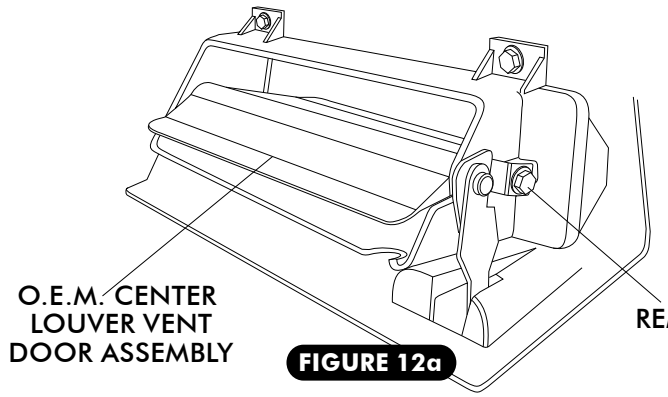


FIGURE 12a

FIGURE 12

FIREWALL MODIFICATION

- ☐ CUT OUT TEMPLATES PROVIDED ON PAGE 32. PLACE THE TEMPLATES UNDER THE DASH ON THE FIREWALL AS SHOWN IN FIGURE 13.
- ☐ ONCE TEMPLATES ARE ALIGNED CORRECTLY AND TAPED INTO PLACE, MARK MOUNTING HOLES ON FIREWALL. ONCE HOLES ARE MARKED IN THE CORRECT LOCATION, DRILL (2) ⅜" HOLES IN FIREWALL FOR FIREWALL COVER. SEE FIGURE 13.

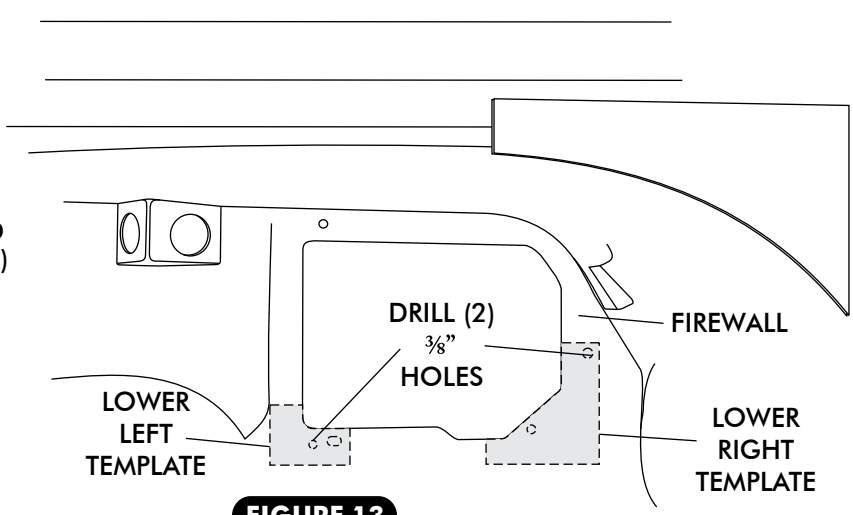


FIGURE 13

EVAPORATOR INSTALLATION

- ☐ ON A WORK BENCH, INSTALL EVAPORATOR REAR BRACKET, AND INSTALL EVAPORATOR HARDLINES WITH PROPERLY LUBRICATED O-RINGS. (SEE FIGURE 18, PAGE 19, AND FIGURES 24, PAGE 23.)
- ☐ INSTALL FRONT MOUNTING BRACKET ON EVAPORATOR USING (2) 1/4-20 x ½" HEX BOLTS AND TIGHTEN AS SHOWN IN FIGURE 14, BELOW.
- ☐ PLACE 4mil POLYETHYLENE SHEET OVER THE STEPPER MOTORS. SEE FIGURE 15, PAGE 15.
- ☐ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD SEE FIGURE 15, PAGE 15. SECURE LOOSELY TO THE FIREWALL FROM THE ENGINE COMPARTMENT SIDE USING A 1/4-20 x 1" BOLT AND WASHER, SEE FIGURE 15, PAGE 15.
- ☐ USING A #14 x ¾" SHEETMETAL SCREW SECURE THE FRONT EVAPORATOR MOUNTING BRACKET TO THE INNER COWL BY ALIGNING THE LEFT HOLE IN FRONT EVAPORATOR MOUNTING BRACKET WITH THE O.E.M. HOLE IN INNER COWL. SEE FIGURE 15, PAGE 15
- ☐ TO SECURE THE RIGHT SIDE OF THE FRONT MOUNTING BRACKET, WITH EVAPORATOR MOUNTING BRACKET IN PLACE DRILL A 3⁄16" HOLE IN INNER COWL USING THE RIGHT MOUNTING BRACKET HOLE AS A GUIDE. SECURE THE BRACKET TO THE INNER COWL USING A #14 x ¾" SHEETMETAL SCREW SEE FIGURE 15, PAGE 15
- ☐ VERIFY THAT EVAPORATOR UNIT IS LEVEL AND SQUARE TO THE DASH, THEN TIGHTEN ALL MOUNTING BOLTS.

(***NOTE**: TIGHTEN THE BOLT ON FIREWALL FIRST, THEN THE FRONT MOUNTING BRACKET SCREWS.*)

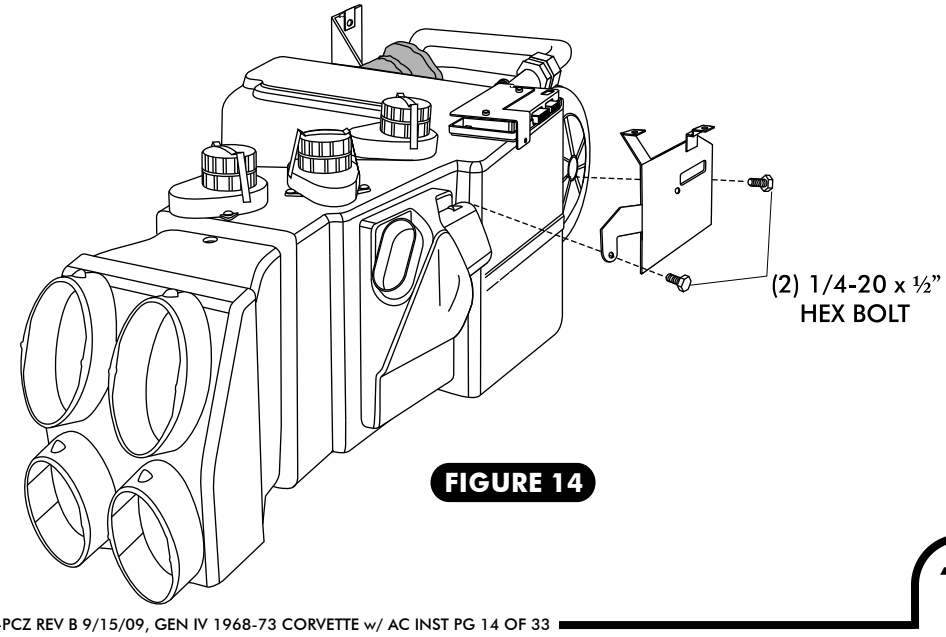


FIGURE 14

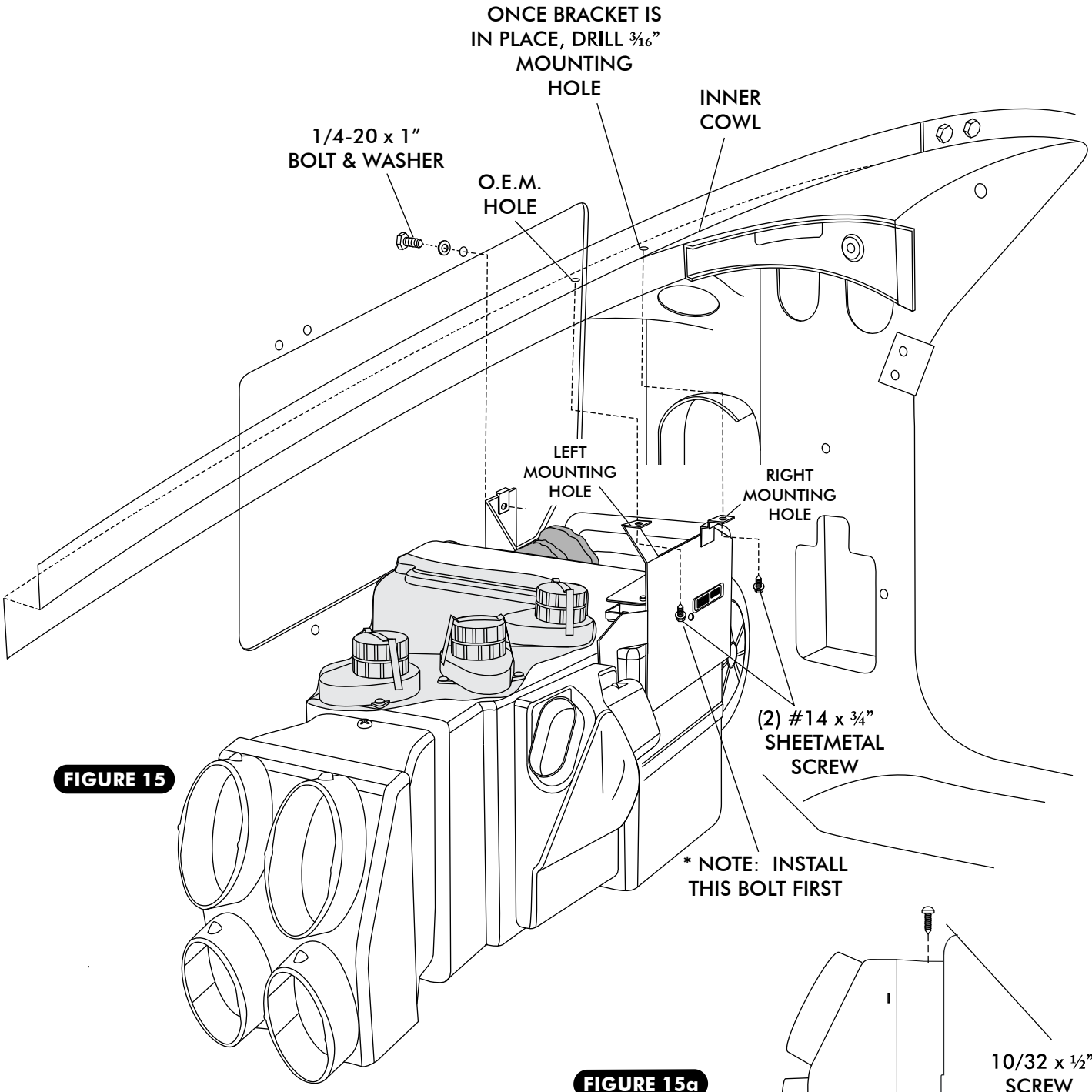


FIGURE 15

FIGURE 15a

DRAIN HOSE INSTALLATION

- ☐ IN-LINE WITH THE DRAIN, LIGHTLY MAKE A MARK ON THE FIREWALL. MEASURE ONE INCH DOWN AND DRILL A ⅝" HOLE THROUGH THE FIREWALL. SEE FIGURE 16 BELOW.
- ☐ INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. SEE FIGURE FIGURE 16, BELOW.

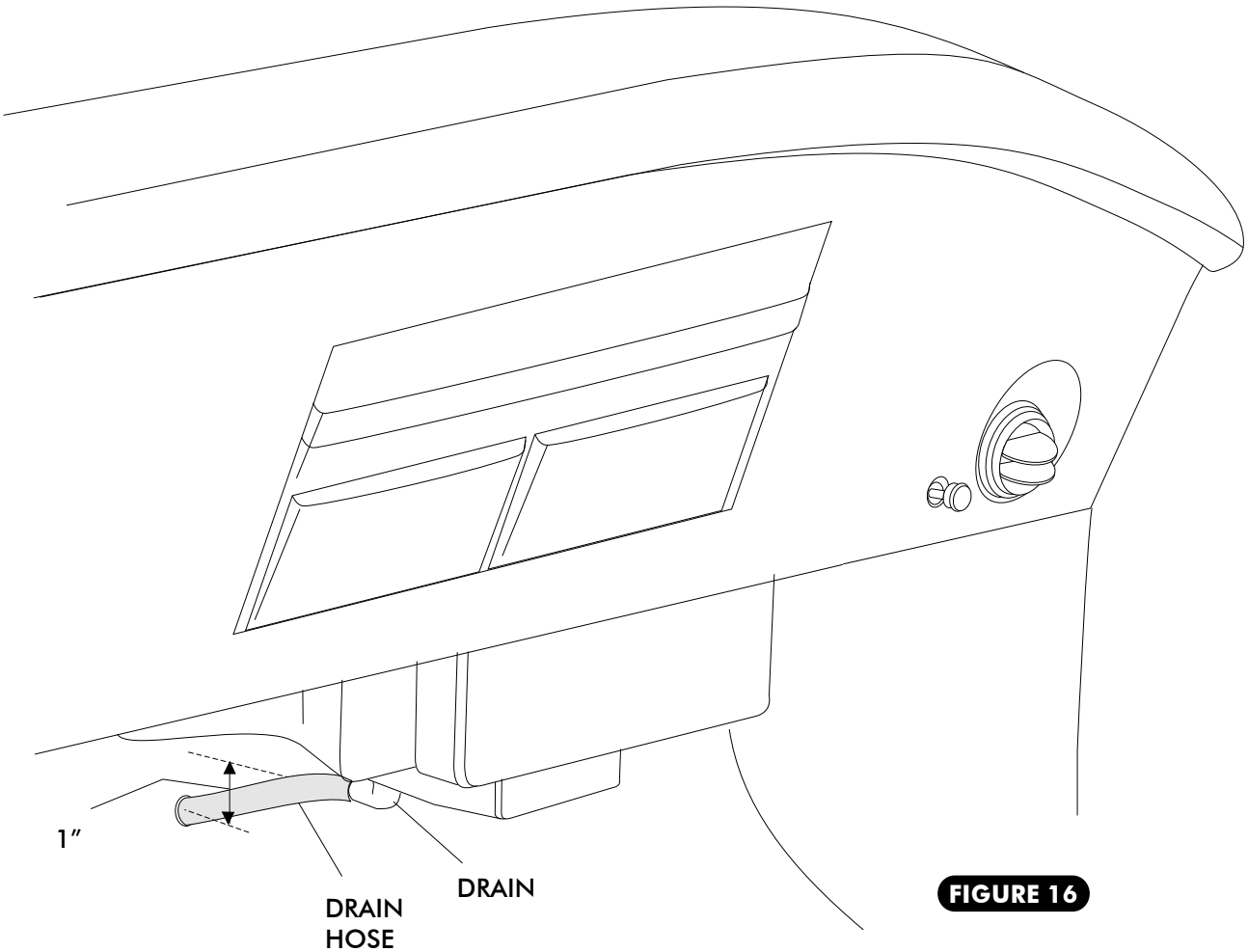


FIGURE 16

FIREWALL COVER

- ☐ APPLY A ¼" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 17 BELOW.
- ☐ PASS LINES THROUGH FIREWALL COVER, AND SECURE WITH (2) 7/16" PANEL RETAINERS. SEE FIGURE 17 BELOW.
- ☐ ONCE THE FIREWALL COVER IS IN PLACE LOCATE THE HOLE ON THE LEFT SIDE OF THE FIREWALL COVER AND DRILL A ⅜" HOLE THROUGH THE FIREWALL AND INSTALL A 7/16" PANEL RETAINER TO SECURE THE LEFT SIDE OF THE FIREWALL COVER TO FIREWALL. SEE FIGURE 17 BELOW.
- ☐ APPLY A ¼" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER CAP AS SHOWN IN FIGURE 17 BELOW. USING (2) #8 x ½" PH PAN HEAD SCREWS INSTALL FIREWALL COVER CAP AS SHOWN IN FIGURE 17 BELOW.

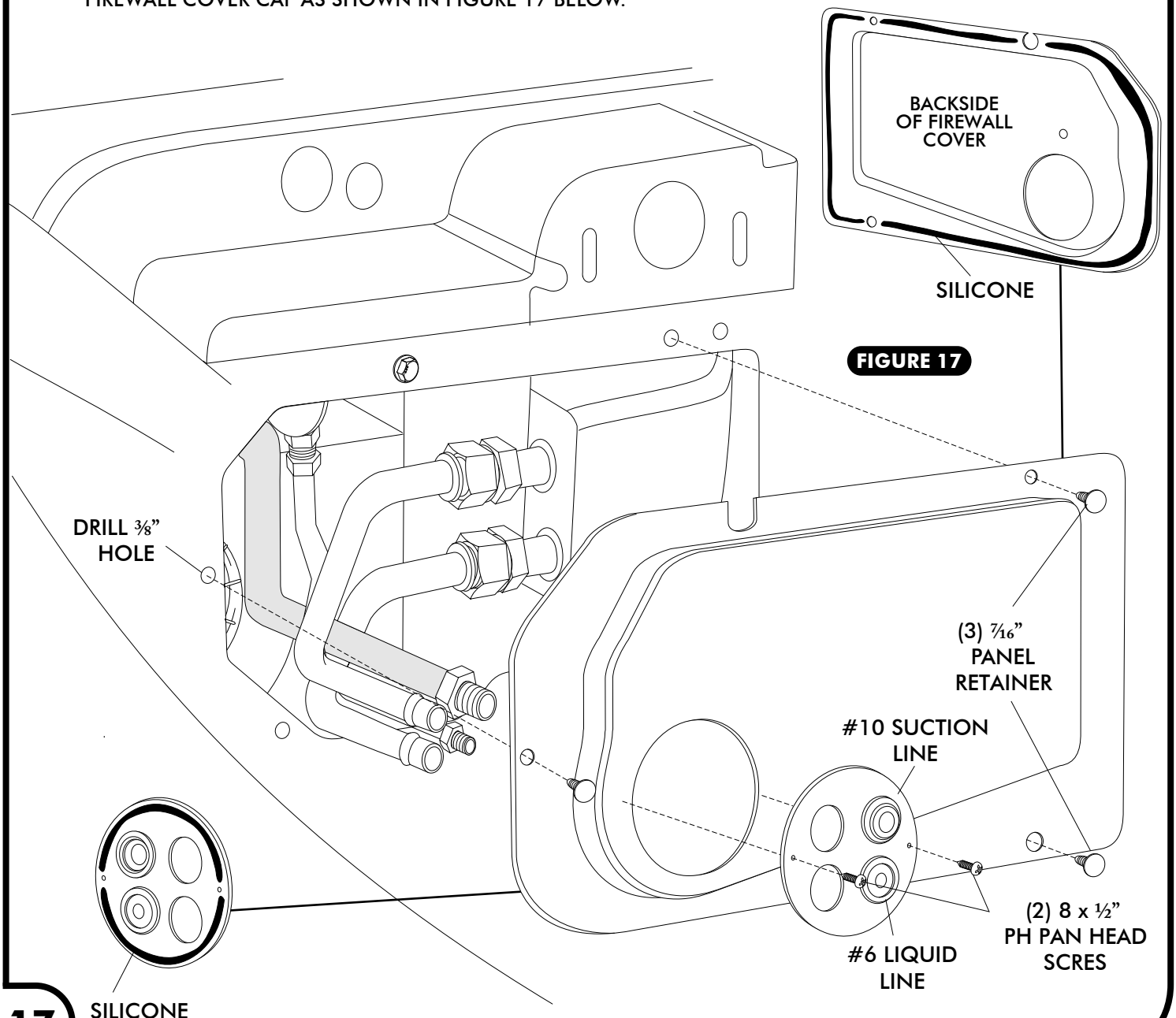


FIGURE 17

A/C HOSE INSTALLATION

STANDARD HOSE KIT

- ☐ LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 18, PAGE 19) AND CONNECT THE 90° FITTING TO THE #8 DISCHARGE PORT ON THE COMPRESSOR AND ROUTE THE STRAIGHT FITTING TO THE #8 CONDENSER HARDLINE COMING THROUGH THE CORE SUPPORT SEE FIGURE 20, PAGE19. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE19, PAGE 19.
- ☐ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 18, PAGE 19) AND CONNECT THE 135° FITTING TO THE #10 SUCTION PORT ON THE COMPRESSOR AND ROUTE THE STRAIGHT FITTING TO THE #10 EVAPORATOR HARDLINE COMING THROUGH THE FIREWALL SEE FIGURE 20, PAGE 19. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 19, PAGE 19. ***(NOTE: WRAP THE #10 FITTING CONNECTIONS AT FIREWALL WITH PRESS TAPE. SEE FIGURE 20, PAGE 19.***
- ☐ LOCATE THE #6 EVAP/ CORE HARDLINE AND LUBRICATE (2) #6 O-RINGS (SEE FIGURE 18 , PAGE 19) AND CONNECT THE HARDLINE TO THE #6 HARDLINE COMING THROUGH THE CORE SUPPORT FROM DRIER. ATTACH THE OTHER END OF THE HARDLINE WITH LUBRICATED O-RING TO THE #6 EVAPORATOR HARDLINE COMING THROUGH THE FIREWALL. SEE FIGURE 20, PAGE19. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 19, PAGE 19. USE A #2 ADEL CLAMP TO SECURE THE #6 EVAP/ CORE HARDLINE TO THE INNER FENDERWELL AS SHOWN IN FIGURE 20, PAGE 20. SECURE THE ADEL CLAMP TO THE INNER FENDER USING A 10-32 x 1/2" MACHINE SCREW AND NUT.

MODIFIED A/C HOSE KIT

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

BIG BLOCK MODIFIED HOSE KIT

- ☐ LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 18, PAGE 19) AND CONNECT THE 90° FITTING TO THE #8 DISCHARGE PORT ON THE COMPRESSOR AND ROUTE THE STRAIGHT FITTING TO THE #8 CONDENSER HARDLINE COMING THROUGH THE CORE SUPPORT SEE FIGURE 21, PAGE 20. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE19, PAGE 19.
- ☐ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 18, PAGE 19) AND CONNECT THE 90° FITTING TO THE #10 SUCTION PORT ON THE COMPRESSOR AND ROUTE THE STRAIGHT FITTING TO THE #10 EVAPORATOR HARDLINE COMING THROUGH THE FIREWALL SEE FIGURE 21, PAGE 20. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 19, PAGE 19. ***(NOTE: WRAP THE #10 FITTING CONNECTIONS AT FIREWALL WITH PRESS TAPE. SEE FIGURE 21, PAGE 20.***
- ☐ LOCATE THE #6 EVAP/ CORE HARDLINE AND LUBRICATE (2) #6 O-RINGS (SEE FIGURE 18, PAGE 19) AND CONNECT THE HARDLINE TO THE #6 HARDLINE COMING THROUGH THE CORE SUPPORT FROM DRIER. ATTACH THE OTHER END OF THE HARDLINE WITH LUBRICATED O-RING TO THE #6 EVAPORATOR HARDLINE COMING THROUGH THE FIREWALL. SEE FIGURE 21, PAGE 20. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 19, PAGE 19. USE A #2 ADEL CLAMP TO SECURE THE #6 EVAP/ CORE HARDLINE TO THE INNER FENDERWELL AS SHOWN IN FIGURES 21, PAGE 20. SECURE THE ADEL CLAMP TO THE INNER FENDER USING A 10-32 x 1/2" MACHINE SCREW AND NUT.

HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

- ☐ ROUTE A PIECE OF HEATER HOSE FROM THE WATER PUMP TO THE HEATER LINE COMING THROUGH THE FIREWALL AS SHOWN IN FIGURES 22, PAGE 21. SECURE USING HOSE CLAMPS.
- ☐ ROUTE A PIECE OF HEATER HOSE FROM THE INTAKE TO THE HEATER LINE COMING THROUGH THE FIREWALL AS SHOWN IN FIGURES 22, PAGE 21. NOTE: INSTALL HEATER CONTROL VALVE IN-LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE, SECURE USING HOSE CLAMPS AS SHOWN IN FIGURE 22 ON PAGE 21. ***NOTE PROPER FLOW DIRECTION***.

SMALL BLOCK HOSE ROUTING

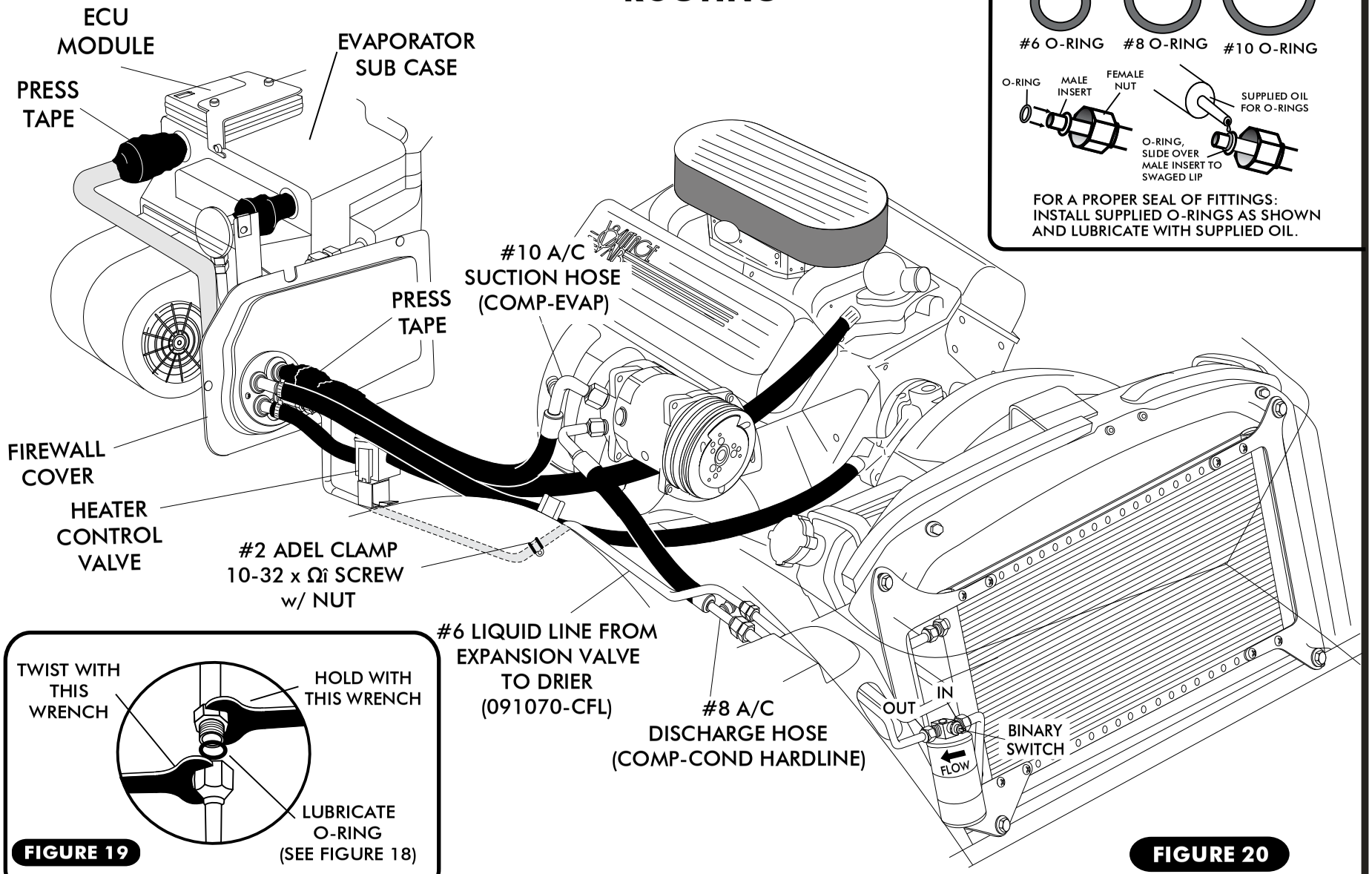


FIGURE 18

FOR A PROPER SEAL OF FITTINGS:
INSTALL SUPPLIED O-RINGS AS SHOWN
AND LUBRICATE WITH SUPPLIED OIL.

FIGURE 19

FIGURE 20

BIG BLOCK MODIFIED HOSE ROUTING

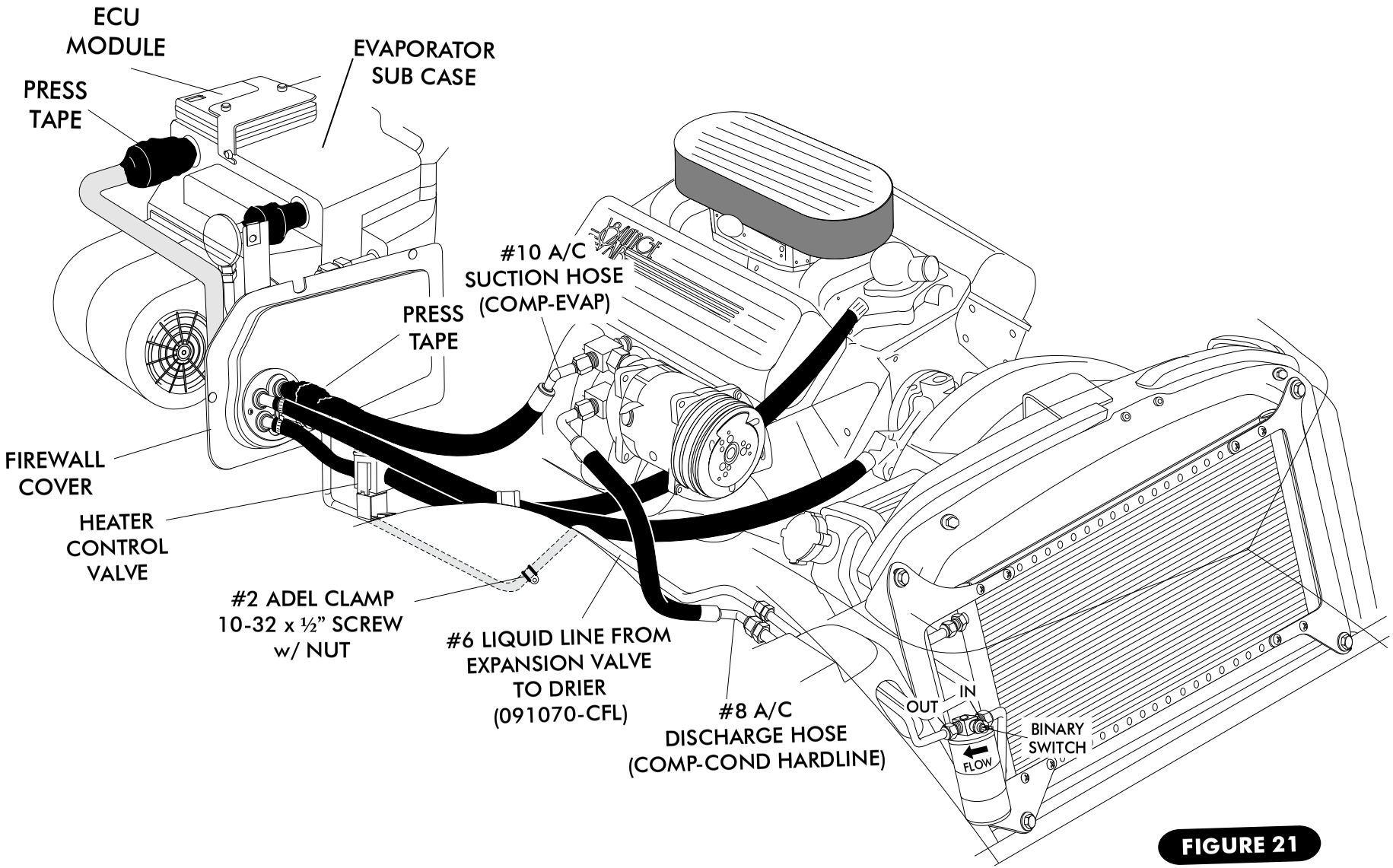


FIGURE 21

HEATER CONTROL VALVE INSTALLATION

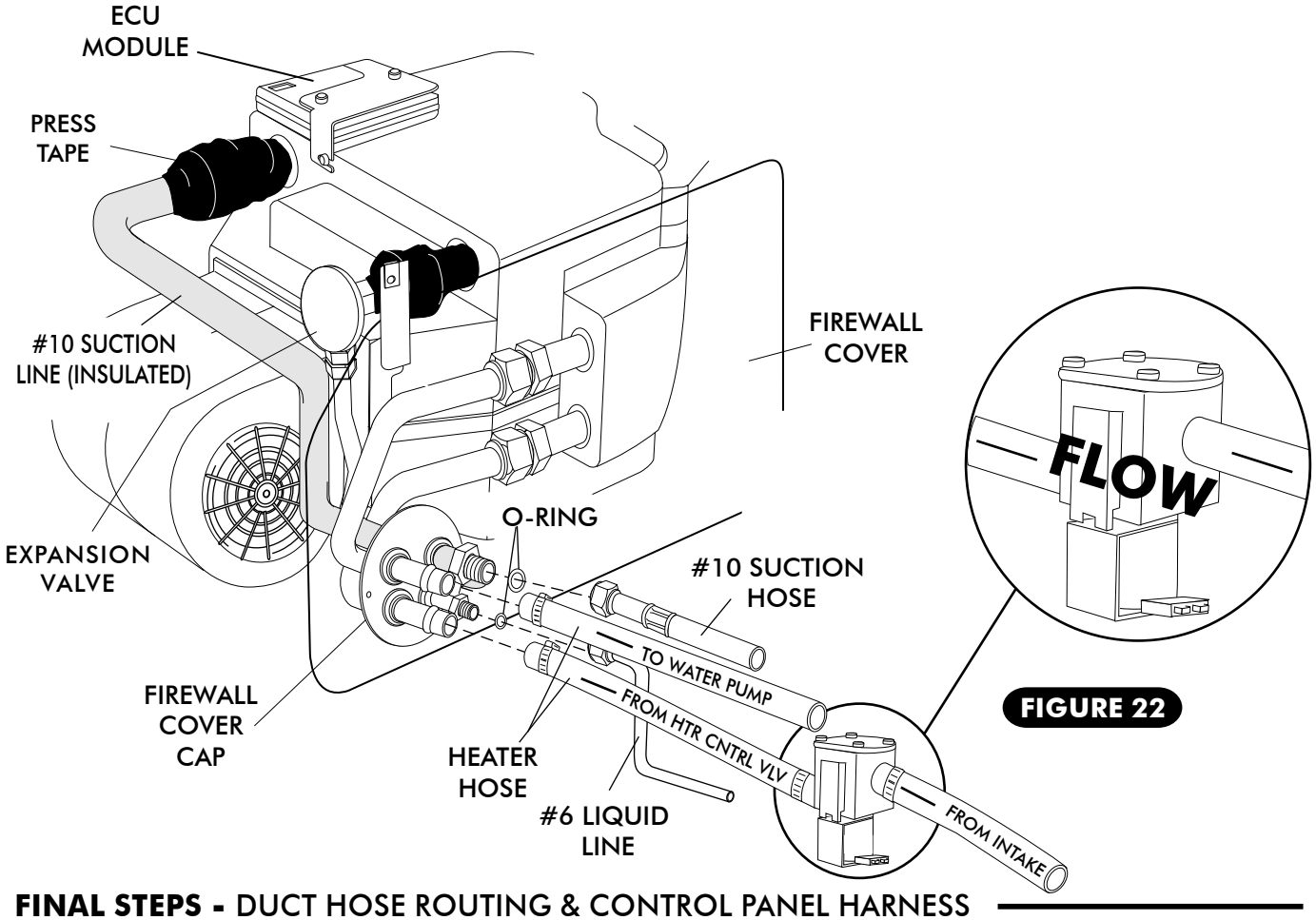


FIGURE 22

FINAL STEPS - DUCT HOSE ROUTING & CONTROL PANEL HARNESS

- ☐ INSTALL DUCT HOSES AS SHOWN IN FIGURE 23, PAGE 22.
- ☐ REINSTALL THE CENTER DASH ASSEMBLY.
- ☐ REINSTALL CONTROL PANEL.
- ☐ PLUG THE CONTROL PANEL HARNESS INTO THE ECU MODULE ON SUB CASE AS SHOWN. SEE FIGURE 23, PAGE 22.
- ☐ PLUG THE WIRING HARNESS INTO THE ECU MODULE ON SUB CASE AS SHOWN. (WIRE ACCORDING TO WIRING DIAGRAM ON PAGES 24 & 25.)
- ☐ **NOTE: CONTROLS MUST BE CALIBRATED FOR PROPER OPERATION. REFER TO CONTROL PANEL INSTRUCTIONS.**
- ☐ REINSTALL ALL PREVIOUSLY REMOVED ITEMS (BATTERY BOX & BATTERY).
- ☐ 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.

CONTROL PANEL & DUCT HOSE ROUTING

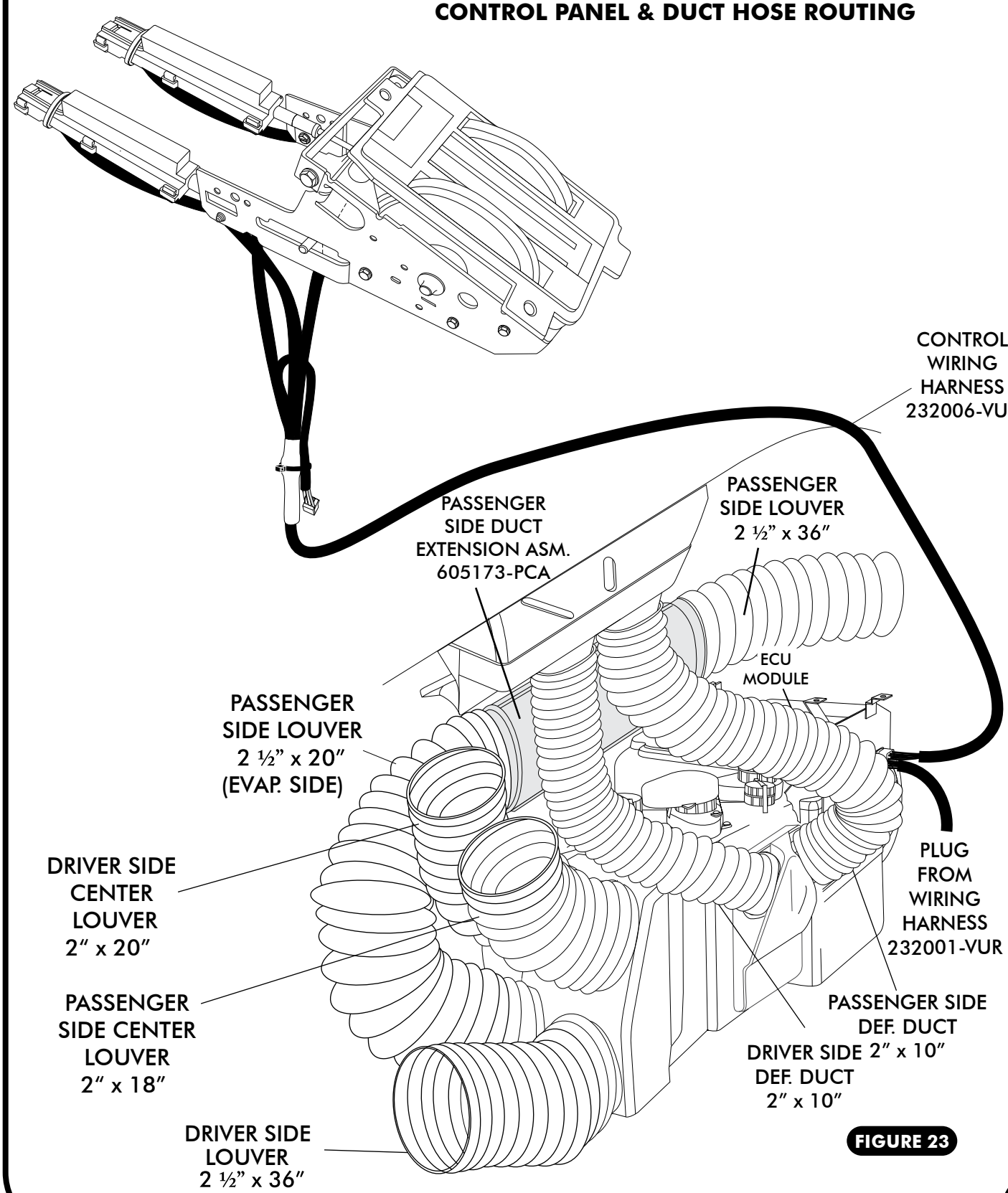


FIGURE 23

EVAPORATOR HARD LINE INSTALLATION

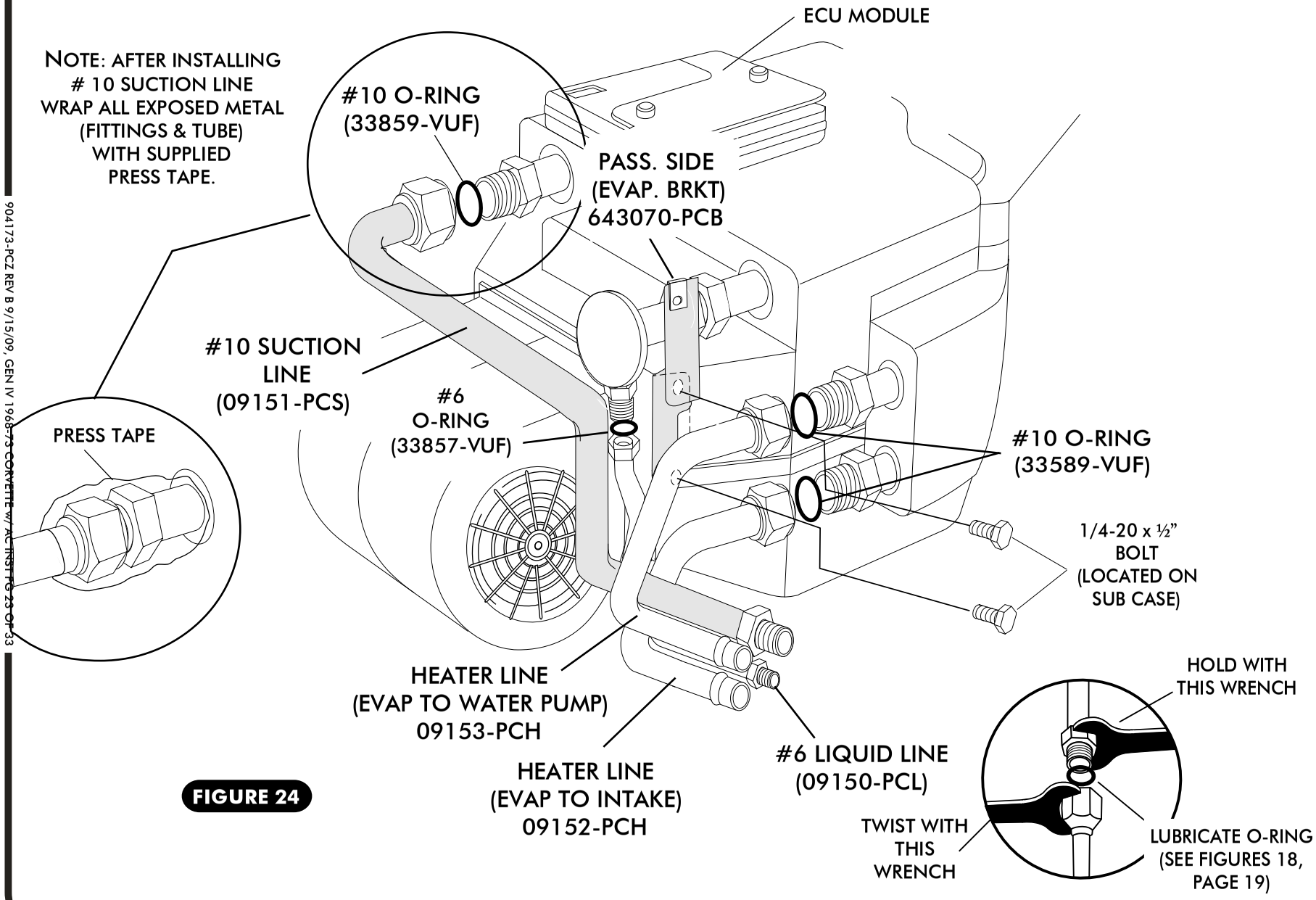
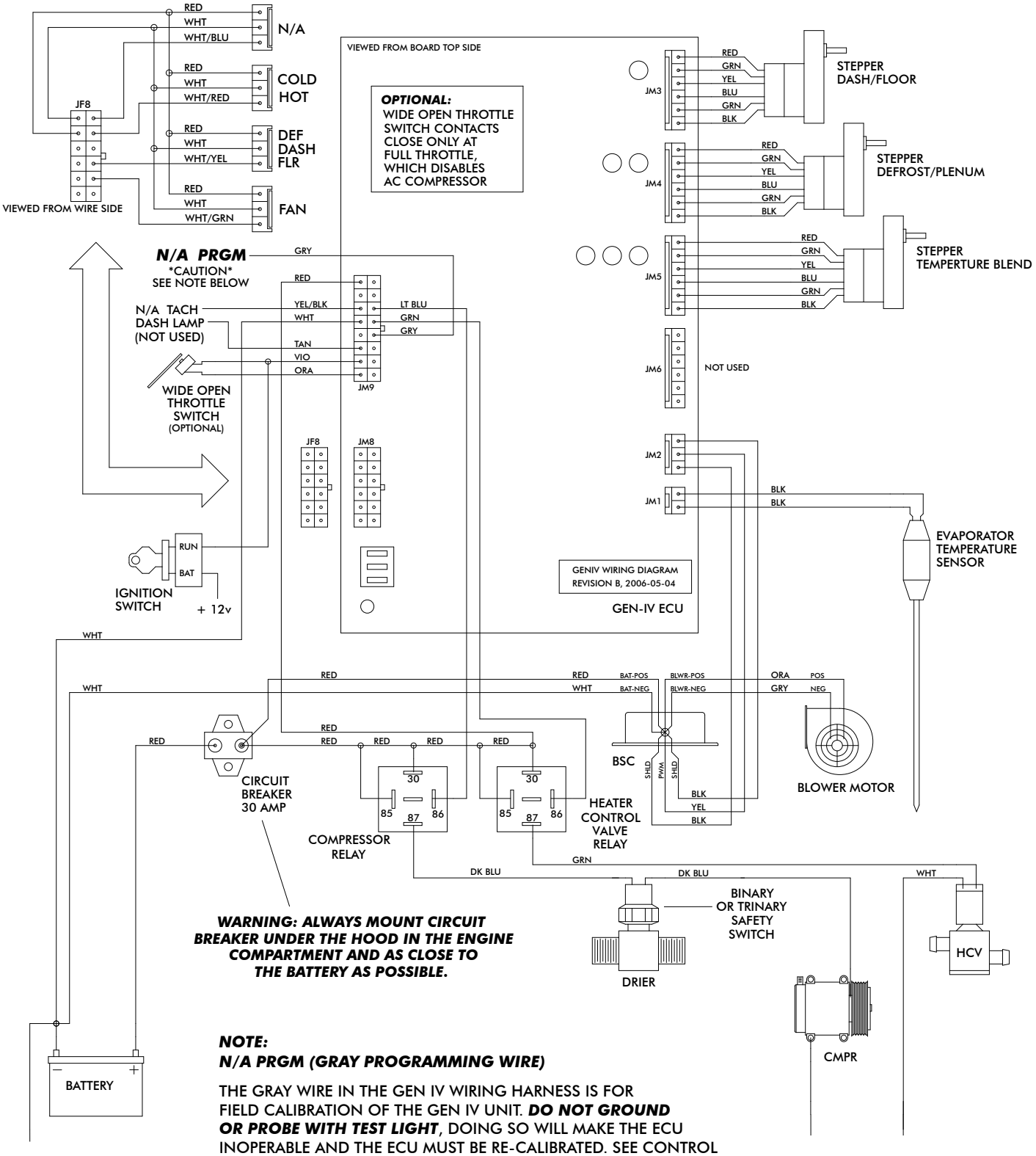


FIGURE 24

WIRING DIAGRAM

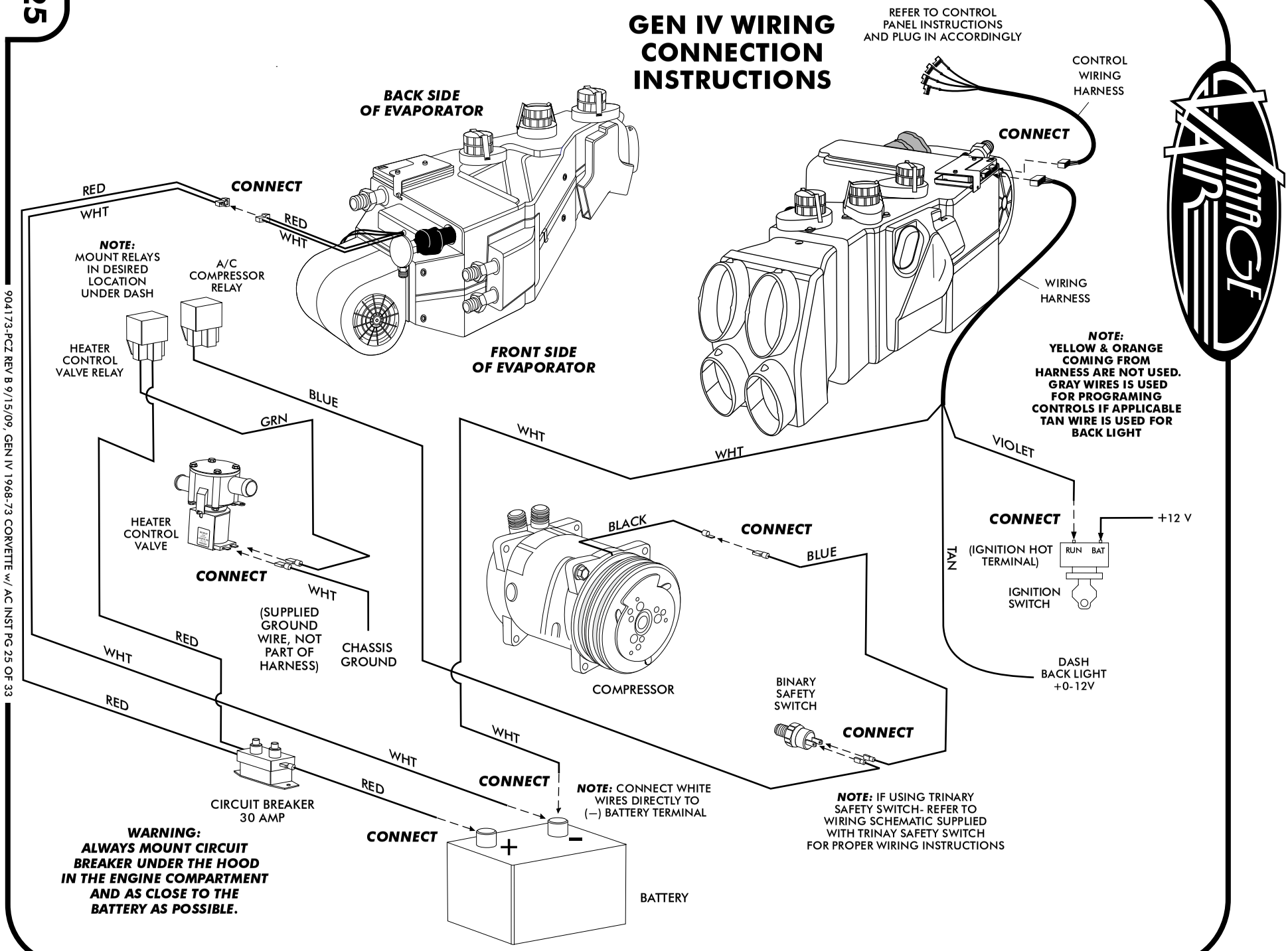


NOTE:
N/A PRGM (GRAY PROGRAMMING WIRE)

THE GRAY WIRE IN THE GEN IV WIRING HARNESS IS FOR FIELD CALIBRATION OF THE GEN IV UNIT. ***DO NOT GROUND OR PROBE WITH TEST LIGHT***, DOING SO WILL MAKE THE ECU INOPERABLE AND THE ECU MUST BE RE-CALIBRATED. SEE CONTROL PANEL CALIBRATION PROCEDURE.

NOTE: | = CHASSIS GROUND

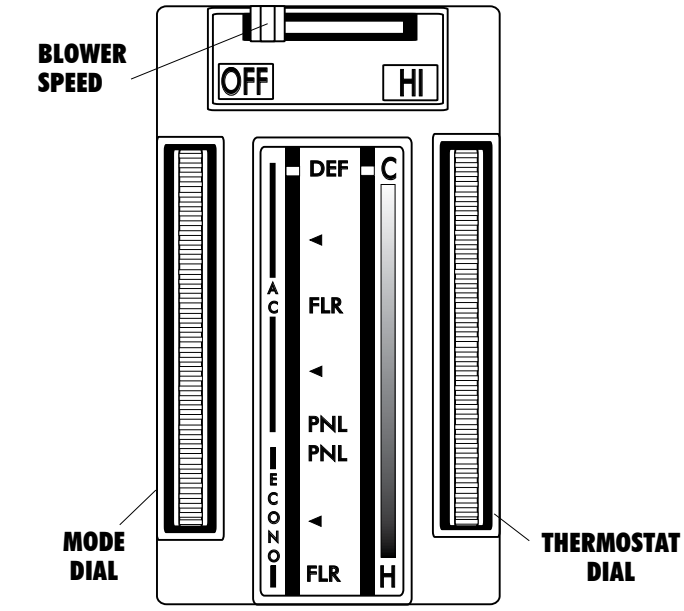
GEN IV WIRING CONNECTION INSTRUCTIONS



OPERATION OF CONTROLS

NOTE: CONTROLS MUST BE CALIBRATED FOR PROPER OPERATION. REFER TO CONTROL PANEL INSTRUCTIONS. WHEN EVER BATTERY POWER IS RE-CONNECTED TO THE ECU, THE COMPUTER GOES THROUGH AN INITIALIZATION SEQUENCE. THIS INITIALIZATION MAY TAKE UP TO 30 SECONDS. DURING THIS PROCESS THE DOORS INSIDE THE UNIT WILL BE OPERATING. A LOW BATTERY MAY ALSO TRIGGER RE-INITIALIZATION. WHEN THE ENGINE IS BEING CRANKED A WEAK BATTERY MAY DROP BELOW 7 VOLTS, TRIGERRING RE-INITIALIZATION.

SYSTEM OFF

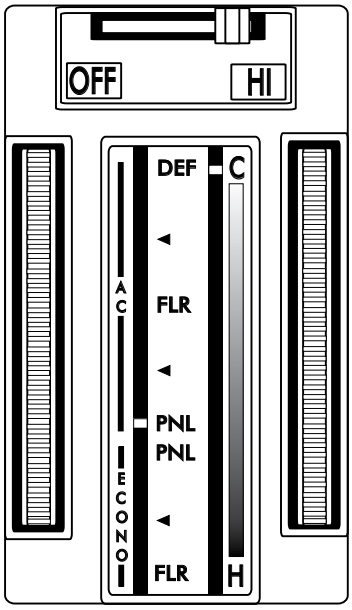


BLOWER SPEED
THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI

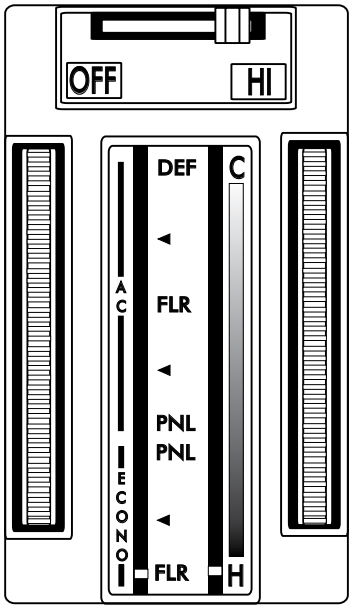
A/C THERMOSTAT DIAL
ROLL THE THERMOSTAT DIAL ALL THE WAY UP FOR MAXIMUM COOLING, ROLL THE DIAL DOWN TO DECREASE THE AMOUNT OF COOLING

MODE DIAL
ROLL THE DIAL DOWN TO THE ìPNLî LEGEND IN AC RANGE OF THE MODE DIAL

A/C MODE



HEAT MODE

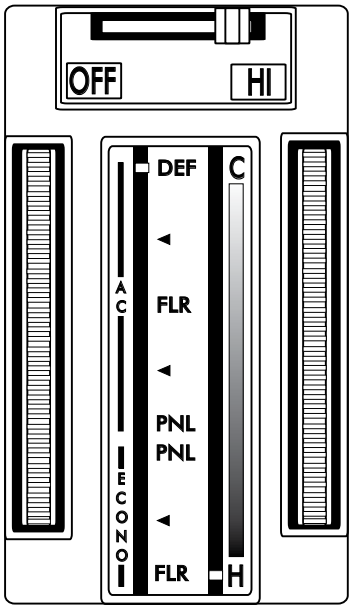


BLOWER SPEED
THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI

A/C THERMOSTAT DIAL
ROLL THE THERMOSTAT DIAL ALL THE WAY DOWN FOR MAXIMUM HEATING, ROLL THE DIAL UP TO DECREASE THE AMOUNT OF HEATINGING

MODE DIAL
ROLL THE DIAL DOWN TO THE ìFLRî LEGEND IN THE ECONO RANGE OF THE MODE DIAL

DEFROST MODE



BLOWER SPEED
THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI

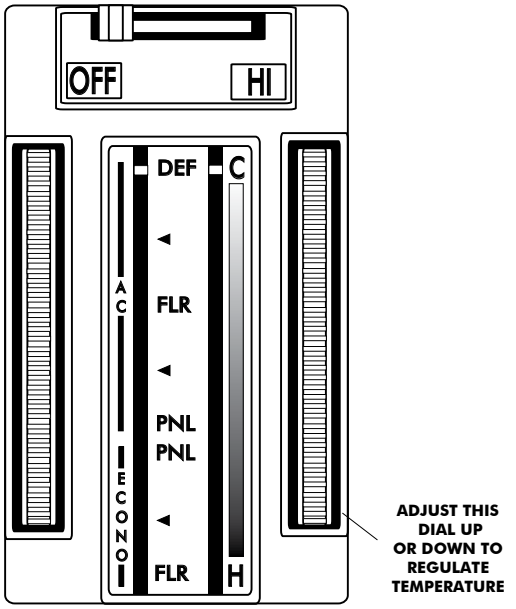
A/C THERMOSTAT DIAL
ROLL THE THERMOSTAT DIAL ALL THE WAY DOWN FOR MAXIMUM HEATING, ROLL THE DIAL UP TO DECREASE THE AMOUNT OF HEATINGING

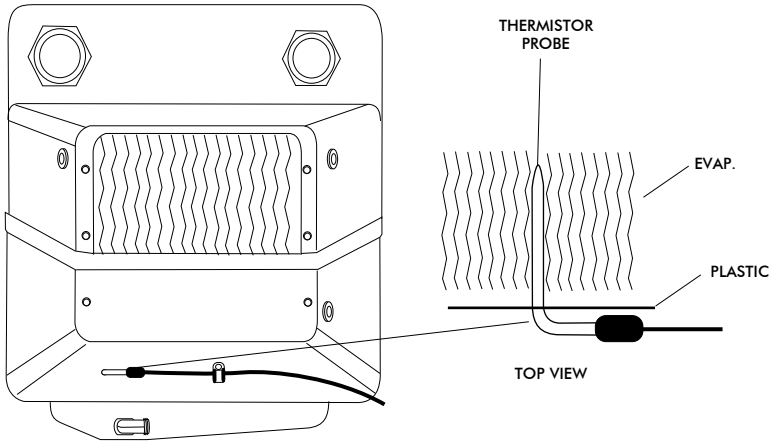
MODE DIAL
ROLL THE DIAL DOWN TO THE ìDEFî LEGEND IN THE AC RANGE OF THE MODE DIAL

MODE DIAL, AC & ECONO RANGES

BOTH RANGES OF THE MODE DIAL OPERATE IDENTICALLY, WITH THE SINGULAR EXPECTATION THAT THE EXTRA COOLING AVAILABLE FROM THE AC COMPRESSOR IS NOT AVAILABLE WHILE THE MODE DIAL IS IN THE ***ECONO*** RANGE. WHEN THE MODE DIAL MOVES FROM ONE MODE RANGE TO THE OTHER, THE BLOWER SPEED CHANGES FOR AN INSTANT AND RETURNS TO NORMAL. THIS BEHAVIOR IS USED TO INDICATE THAT THE OPERATOR HAS MOVED INTO THE ALTERNATE MODE RANGE.

THERMOSTAT ADJUSTMENT





AIR CONDITIONING ADJUSTMENTS:

WHEN THE MODE DIAL IS IN THE AC RANGE, THE COMPRESSOR WILL AUTOMATICALLY CYCLE ON AND OFF SO AS TO MAKE THE AIR TEMPERATURE CORRESPOND WITH THE POSITION OF THE THERMOSTAT DIAL. AT THE UPPER-MOST END OF THE THERMOSTAT DIAL, THE COOLING EFFORT CAN BE SO INTENSE THAT UNDER HIGH HUMIDITY CONDITIONS, ICE MAY FORM ON THE EVAPORATOR COIL. THIS CONDITION KNOW AS, ICING UP OR ICE UP, CAN BE RECOGNIZED WHEN THE SYSTEM SEEMS TO BE OPERATING PROPERLY, BUT THE FLOW OF COLD AIR IS GREATLY DIMINISHED. TO COUNTER THIS EFFECT, SIMPLY BACK THE THERMOSTAT DIAL AWAY FROM ITS EXISTING POSITION SLIGHTLY, THEREBY PERMITTING THE ICE FROM THE HIGH HUMIDITY TO MELT AND NOT RE-OCCUR.

TROUBLE 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.	VERIFY ALL PINS ARE INSERTED INTO PLUG. INSURE NO PINS ARE BENT OR DAMAGED IN ECU.	
		CHECK FOR DAMAGED GROUND WIRE (WHITE) IN CONTROL HEAD HARNESS.	VERIFY CONTINUITY TO CHASSIS GROUND WITH WHITE CONTROL HEAD WIRE AT VARIOUS POINTS.	LOSS OF GROUND ON THIS WIRE WILL RENDER CONTROL HEAD INOPERABLE
	ALL OTHER FUNCTIONS WORK	CHECK FOR DAMAGED BLOWER SWITCH OR POT AND ASSOCIATED WIRING.		SEE BLOWER SWITCH CHECK PROCEDURE (CONTACT VINTAGE AIR TECH SUPPORT)
BLOWER STAYS ON HIGH SPEED WHEN IGNITION IS ON OR OFF.		UN-PLUG 3 WIRE BSC CONTROL CONNECTOR FROM ECU. IF BLOWER SHUTS OFF, ECU IS EITHER IMPROPERLY WIRED, OR DAMAGED.	BE SURE SMALL, 20GA. WHITE GROUND WIRE IS CONNECTED TO THE BATTERY GROUND POST. IF IT IS, REPLACE ECU.	
		UN-PLUG 3 WIRE BSC CONTROL CONNECTOR FROM ECU. IF BLOWER STAYS RUNNING, THE BSC IS EITHER IMPROPERLY WIRED, OR DAMAGED.	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***
	SYSTEM IS CHARGED	CHECK FOR FAULTY A/C POT OR ASSOC. WIRING	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.
		(CHECK FOR FAULTY PRESSURE SWITCH)	CHECK CONTINUITY ACROSS SWITCH	REPLACE SWITCH

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	
		FOR '55-56 CHEV. CHECK FOR PROPER PANEL CONVERSION. CONTROL LEVERS SHOULD TRAVEL TO WITHIN 1/8" OF BOTH ENDS OF THE SLOTS.	REFER TO INTSRUCTIONS "'55-56 CONTROL PANEL CONVERSION REV B 6 17 05" PDF OR 903055-PCA REV C 8/10/05 OR LATER INSRUCTION MANUAL.	EARLY INSTRUCTIONS ON '55-56 CHEV. DID NOT INCLUDE PANEL MOD PROCEEDURE FOR CONTROL WITH LOWER POT BRACKET OFFSET BACK FROM CASTING. IF LEVERS ONLY TRAVEL 2/3 TO 3/4 UP, THIS PROCEEDURE MUST BE PERFORMED
			REPLACE ECU.	

TROUBLE 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.RE-LOCATE 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 OSCILISCOPE. SPIKES GREATER THAN 16V WILL SHUT DOWN ECU. INSTALL A RADIO CAPACITOR AT THE POSITIVE POST OF THE IGNITION COIL (SEE RADIO CAPACITOR INSTALLATION BULLETEN). A FAULTY ALTERNATOR OR WORN OUT BATTERY CAN ALSO RESULT IN THIS CONDITION. BATTERY MUST BE IN GOOD 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		
	PARTIAL FUNCTION OF MODE DOORS	CHECK FOR OBSTRUCTED OR BINDING MODE DOORS		TYPICALLY CAUSED BY EVAPORATOR HOUSING INSTALLED IN A BIND IN THE VEHICLE. BE SURE ALL MOUNTING LOCATIONS LINE UP AND DON'T HAVE TO BE FORCED INTO POSITION.
		CHECK FOR DAMAGED STEPPER MOTOR OR WIRING		

6. BLOWER TURNS ON AND OFF RAPIDLY	BATTERY VOLTAGE IS AT LEAST 12V	CHECK FOR AT LEAST 12V BETWEEN GREEN HEATER VALVE WIRE AND CHASSIS GROUND.	INSURE ALL SYSTEM GROUNDS AND POWER CONNECTIONS ARE CLEAN AND TIGHT.	
	BATTERY VOLTAGE IS LESS THAN 12V	CHECK FOR FAULTY BATTERY OR ALTERNATOR	CHARGE BATTERY	SYSTEM SHUTS OFF BLOWER AT 10V. POOR CONNECTIONS OR WEAK BATTERY CAN CAUSE SHUT DOWN AT UP TO 11V

7. ERATIC FUNCTIONS OF BLOWER, MODE, TEMP, ETC.		CHECK FOR DAMAGED SWITCH OR POT AND ASSOCIATED WIRING	REPAIR OR REPLACE	

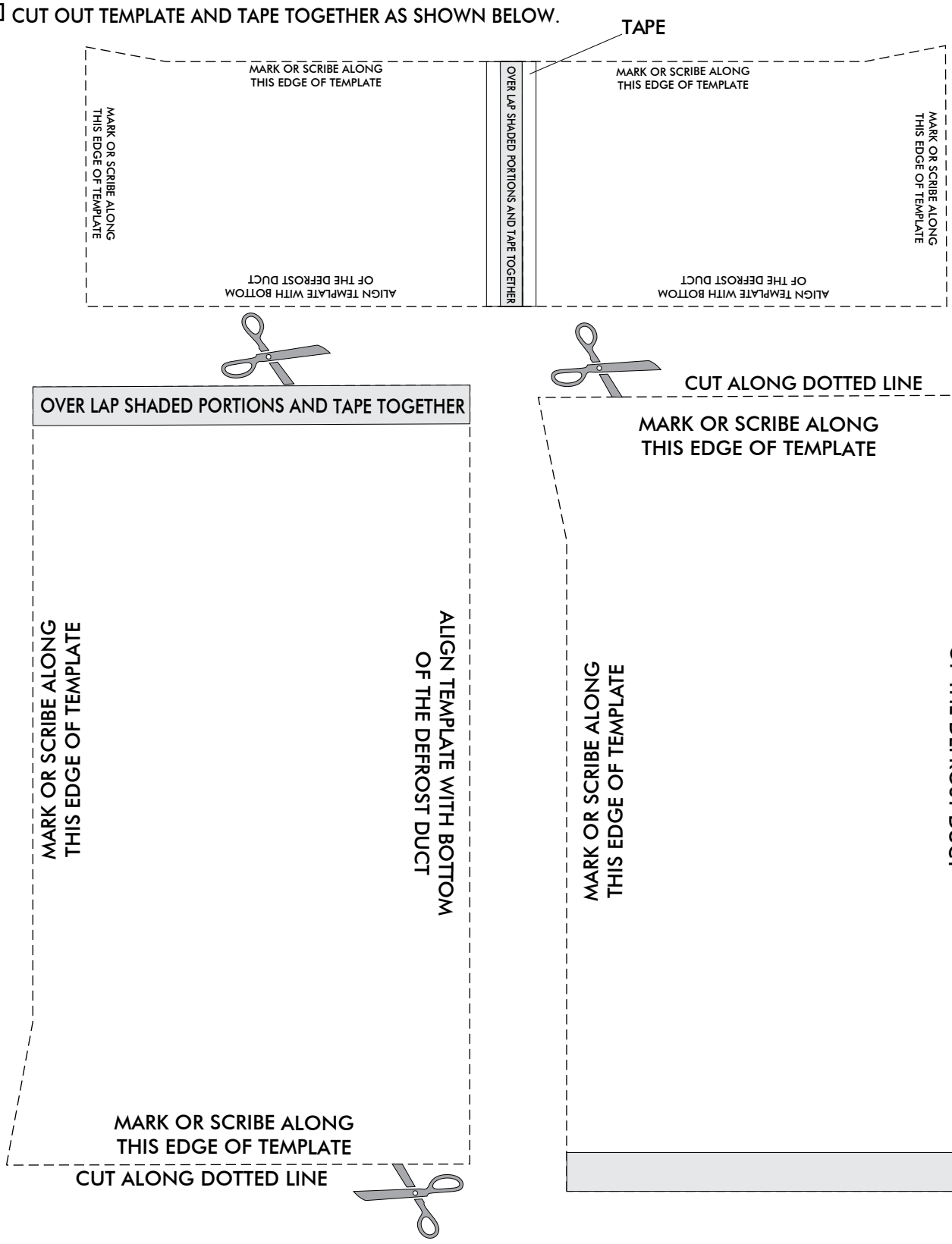
8. WHEN THE IGNITION IS TURNED ON, THE BLOWER MOMENTARILY COMES ON, THEN SHUTS OFF. THIS IS WITH THE BLOWER SWITCH IN THE OFF POSITION.		THIS IS AN INDICATOR THAT THE SYSTEM HAS BEEN RE-SET. BE SURE THE RED POWER WIRE IS ON THE BATTERY POST AND NOT ON A SWITCHED SOURCE. ALSO, IF THE SYSTEM IS PULLED BELOW 7V EVEN FOR A SPLIT SECOND, THE SYSTEM WILL RE-SET.	RUN RED POWER WIRE DIRECTLY TO BATTERY.	

9. BACKLIGHTING ON CONTROL PANEL ALWAYS ON.	VINTAGE AIR SUPPLIED PANELS ONLY.	TAN WIRE IN MAIN HARNESS IS NOT CONNECTED TO 0-12V GAUGE BACK LIGHT WIRE.	CONNECT TO GAUGE BACK LIGHT WIRE (0-12V) WHICH WHICH CONTROLS DIMMING OF PANEL BACK LIGHT	TAN WIRE IS ONLY USED ON SYSTEMS WITH ENTIRE CONTROL PANEL SUPPLIED BY VINTAGE AIR.

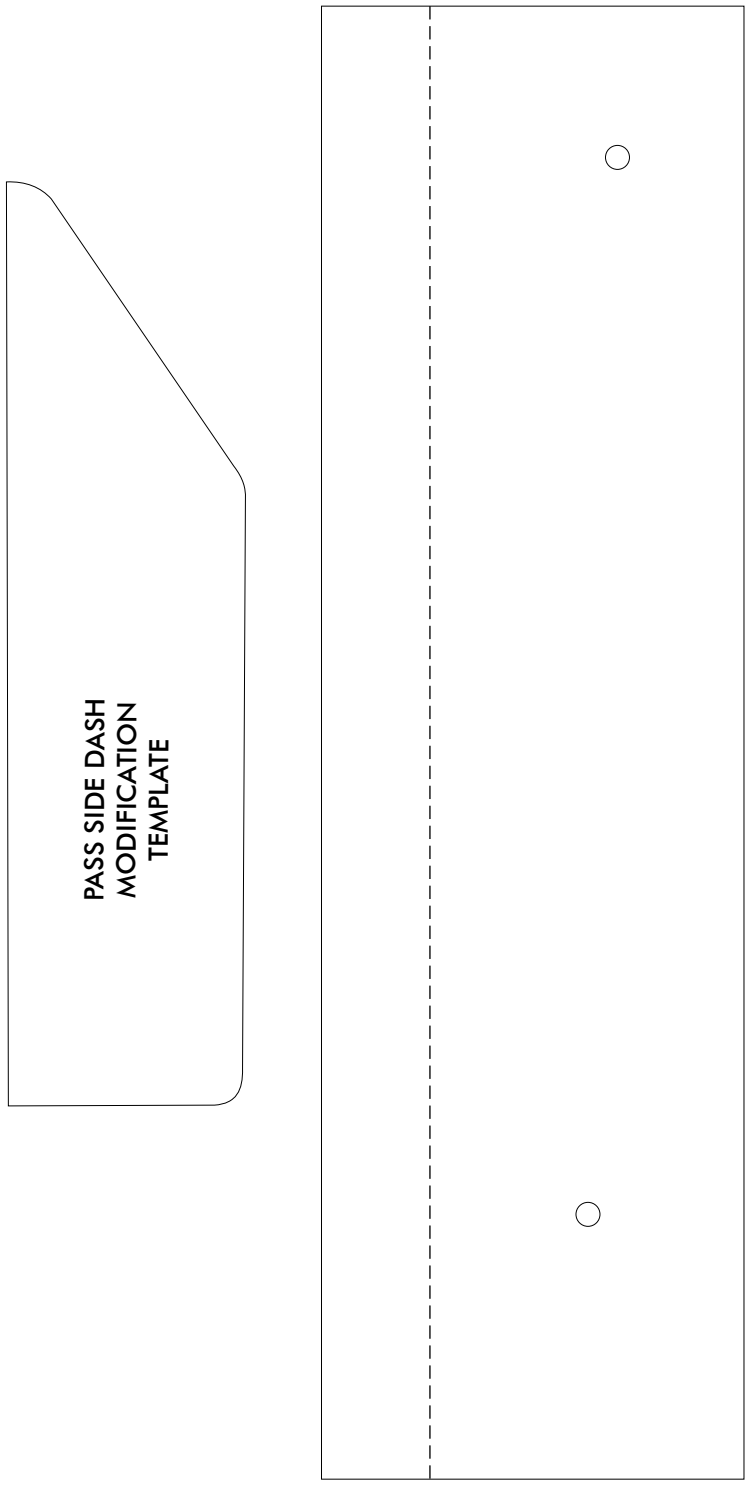
10. BACKLIGHTING ON CONTROL PANEL ALWAYS OFF.	VINTAGE AIR SUPPLIED PANELS ONLY.	TAN WIRE IN MAIN HARNESS NOT CONNECTED.	CONNECT TO GAUGE BACK LIGHT WIRE (0-12V) WHICH WHICH CONTROLS DIMMING OF PANEL BACK LIGHT	

DEFROST DUCT TEMPLATE

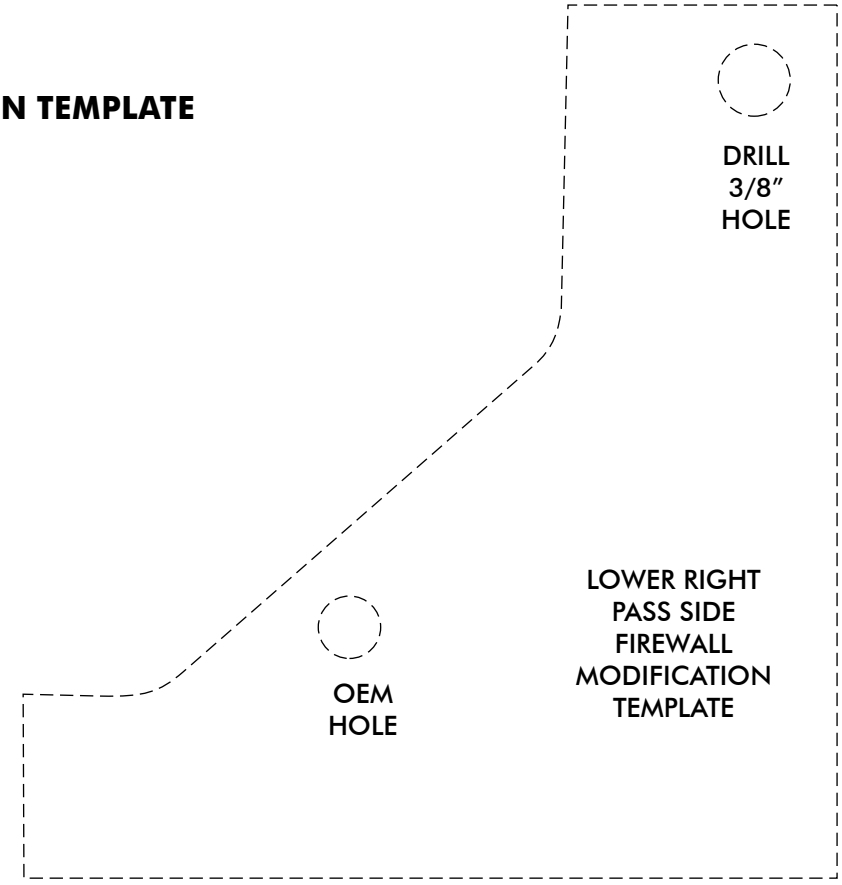
☐ CUT OUT TEMPLATE AND TAPE TOGETHER AS SHOWN BELOW.

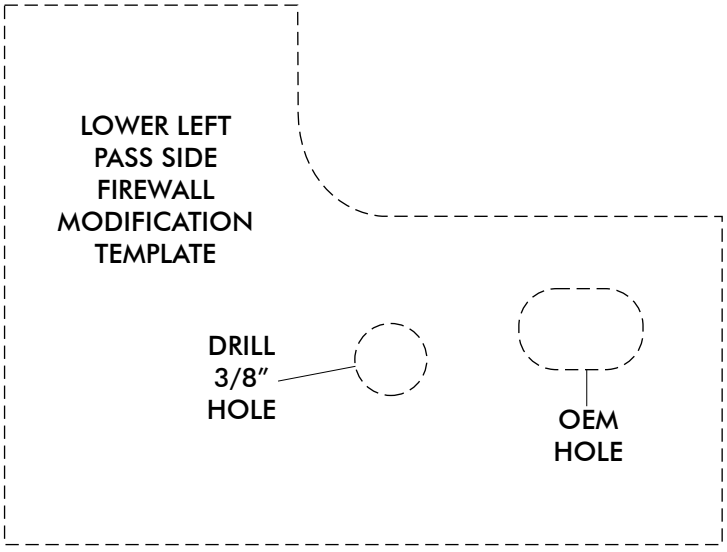


PASS SIDE DASH MODIFICATION TEMPLATE



FIREWALL MODIFICATION TEMPLATE





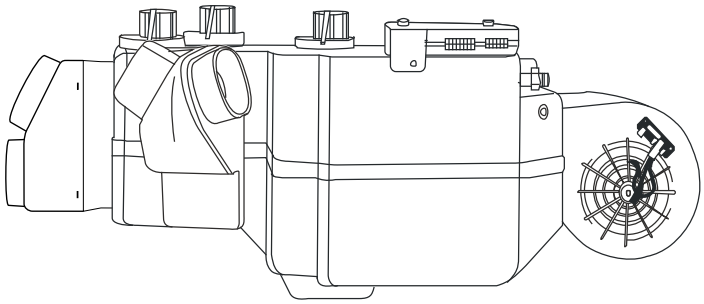
EVAPORATOR KIT PACKING LIST

EVAPORATOR KIT
564173-PCZ

No.	QTY.	PART No.	DESCRIPTION	
1.	1	764168	1968-73 CORVETTE w/ AC EVAP. SUBCASE	_____
2.	1	784173-PCF	1968-73 CORVETTE w/ AC ACC. KIT	_____

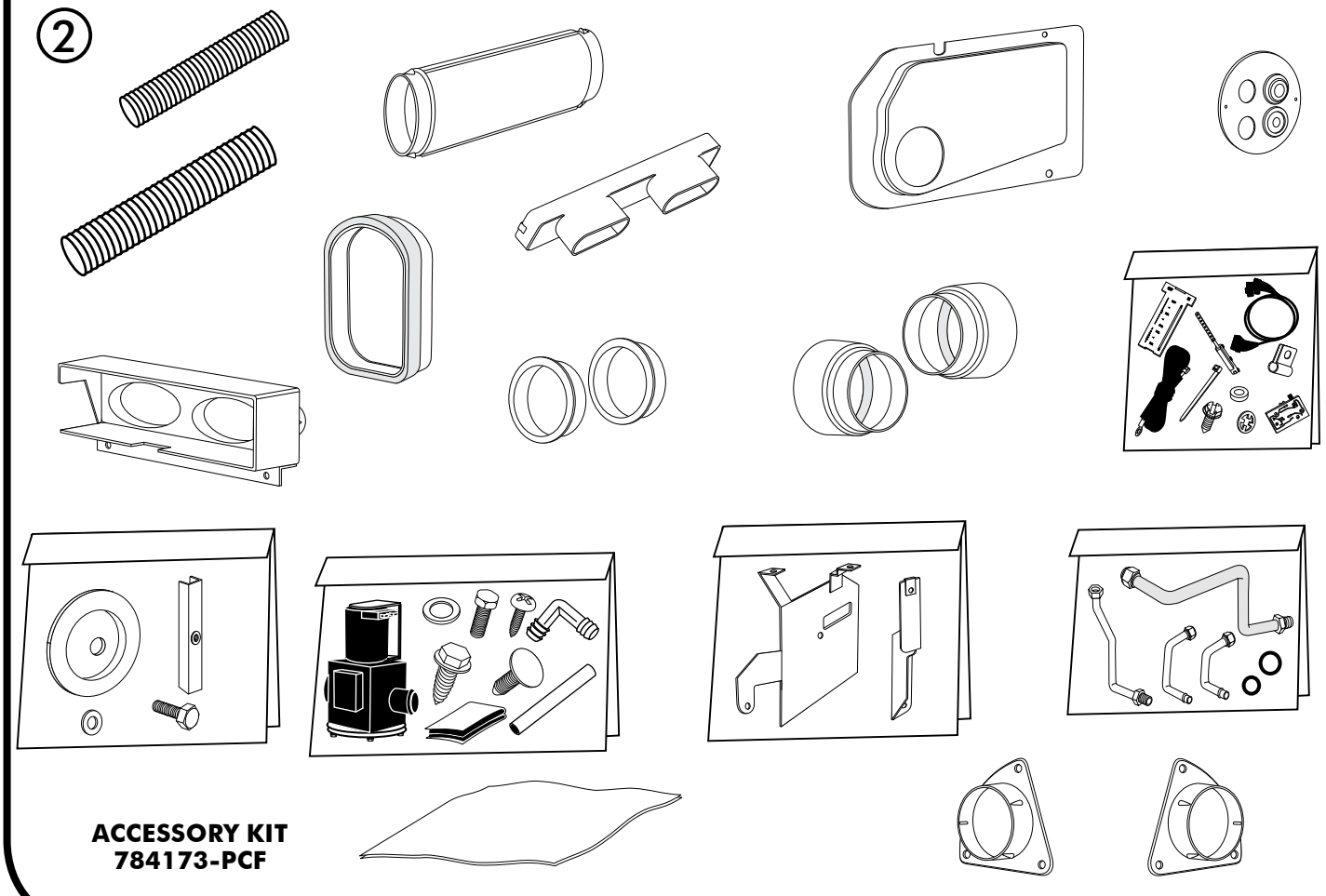
CHECKED BY: _____
PACKED BY: _____
DATE: _____

①



1968-73 CORVETTE
w/ AC EVAP. SUB CASE
764168

②



ACCESSORY KIT
784173-PCF