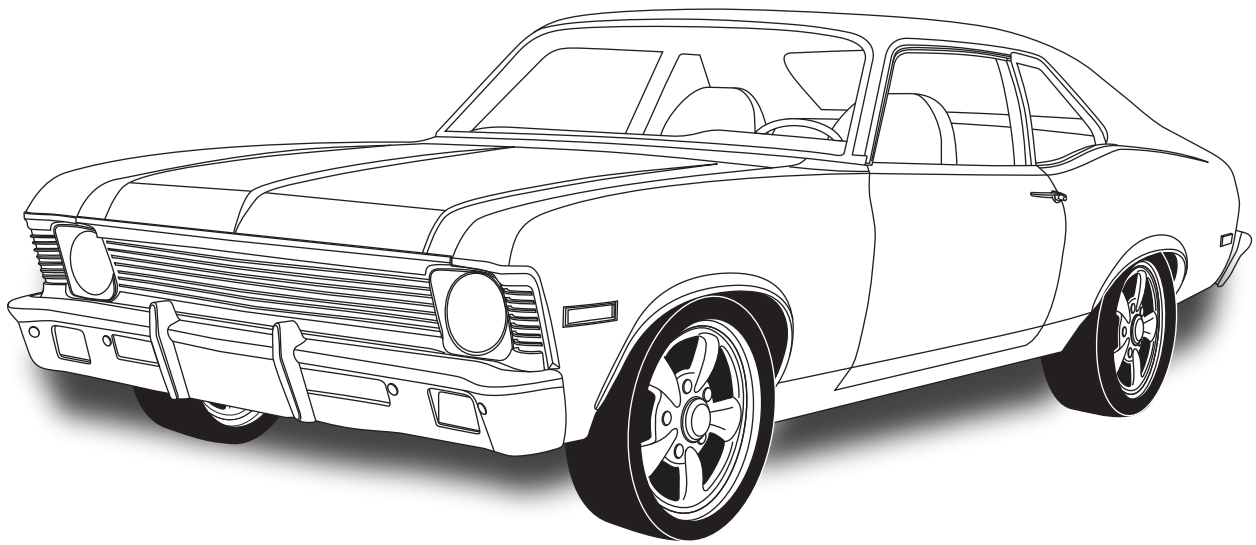
an ISO 9001: 2008 Registered Company

1969-72 NOVA

WITH AC

565072



18865 GOLL ST. - SAN ANTONIO, TX. - 78266 ph.210-654-7171 - fax 210-654-3113

Table of Contents

PAGES

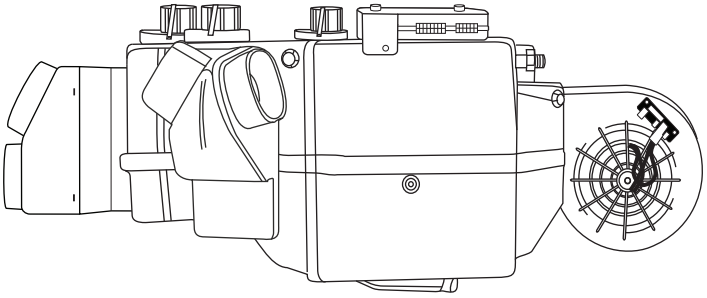
EVAPORATOR KIT PACKING LIST

EVAPORATOR KIT
565072

No.	QTY.	PART No.	DESCRIPTION
1.	1	744003	GEN IV 4 VENT EVAP. SUB CASE w/ 205 ECU
2.	1	784177	1969-72 NOVA w/ AC ACC. KIT

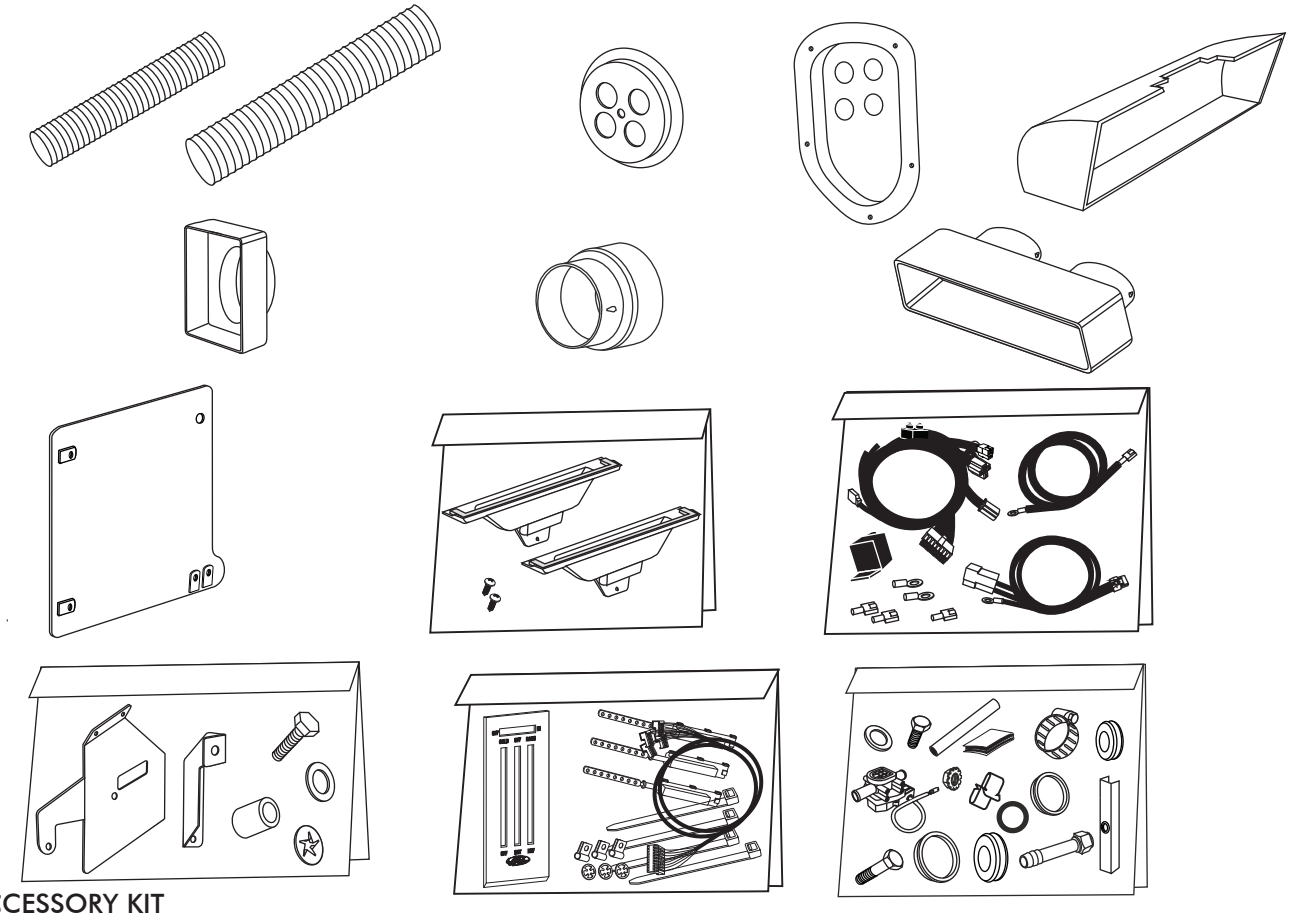
**** BEFORE BEGINNING INSTALLATION OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

①



GEN IV 4 VENT
EVAP. SUB CASE
w/ 205 ECU
744003

②



ACCESSORY KIT
784177

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:

Heater Hose (Not Included With This Kit):

Heater hose may be purchased from Vintage Air (Part# 31800-VUD) or your local parts retailer. Routing and required length will vary based on installer preference.

Bolts Passing Through Cowl and/or Firewall:

To ensure a watertight seal between the passenger compartment and the vehicle exterior, for all bolts passing through the cowl and/or firewall, Vintage Air recommends coating the threads with silicone prior to installation.

Safety Switches:

Your Vintage Air system is equipped with a binary pressure safety switch. A binary switch disengages the compressor clutch in cases of extreme low pressure conditions (Refrigerant Loss) or excessively high head pressure (406 PSI) to prevent compressor damage or hose rupture. A trinary switch combines Hi/Lo pressure protection with an electric fan operation signal at 254 PSI, and should be substituted for use with electric fans. Compressor safety switches are extremely important since an A/C system relies on refrigerant to circulate lubricant.

Service Info:

Attention: The following system components are capped: Compressor, evaporator, condenser & drier. 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 Is a Fire Hazard 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's guidelines)

R134a System

Charge with 1.8 lbs. (1 lb., 12 oz.) of refrigerant.

Lubricant Capacities:

New Vintage Air-supplied Sanden Compressor: No additional oil needed (Compressor is shipped with proper oil charge).

All Other Compressors: Consult manufacturer (Some compressors are shipped dry and will need oil added).

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 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 switching some of the vehicle's other systems on and off. Modern computer-operated equipment can be sensitive to voltage spikes on the power leads, which can cause unexpected resets, strange behavior, and/or permanent damage.

Vintage Air strives to harden our 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 and truck parts suppliers. They typically are cylindrical in shape, a little over an inch long, a little over a half inch in diameter, and they have a single lead coming from one end of the cylinder with a terminal on the end of the wire, as well as 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 to any other auxiliary device. Shorting to ground or connecting to a condenser fan or any other auxiliary device may damage wiring, the compressor relay, and/or cause a malfunction.
- When installing ground leads on Gen IV systems, the blower control ground and ECU ground must be connected directly to the negative battery post.
- For proper system operation, the heater control valve must be connected to the ECU.

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:

- ☐ BATTERY, BATTERY TRAY (RETAIN).
- ☐ DRAIN RADIATOR, REMOVE RADIATOR (RETAIN).
- ☐ EVACUATE THE A/C SYSTEM IF NECESSARY.
- ☐ OEM CONDENSER AND DRIER (DISCARD). SEE FIGURE 1 BELOW.
- ☐ OEM COMPRESSOR AND BRACKET (DISCARD). SEE FIGURE 1.
- ☐ EVAPORATOR BLOWER ASSEMBLY (DISCARD).
  TO REMOVE THE EVAPORATOR AND BLOWER ASSEMBLY (UNDER HOOD) AND THE AIR DISTRIBUTION SYSTEM (UNDER DASH), THE FACTORY MANUAL INDICATES **REMOVING RIGHT INNER FENDER PANEL.**
- ☐ OEM HEATER HOSES (DISCARD). SEE FIGURE 1.
- ☐ OEM A/C HOSES AND FIREWALL GROMMET (DISCARD). SEE FIGURE 1.
- ☐ INSTALL 1¾" PLASTIC PLUG IN FIREWALL (A/C CARS ONLY). SEE FIGURE 1a BELOW.

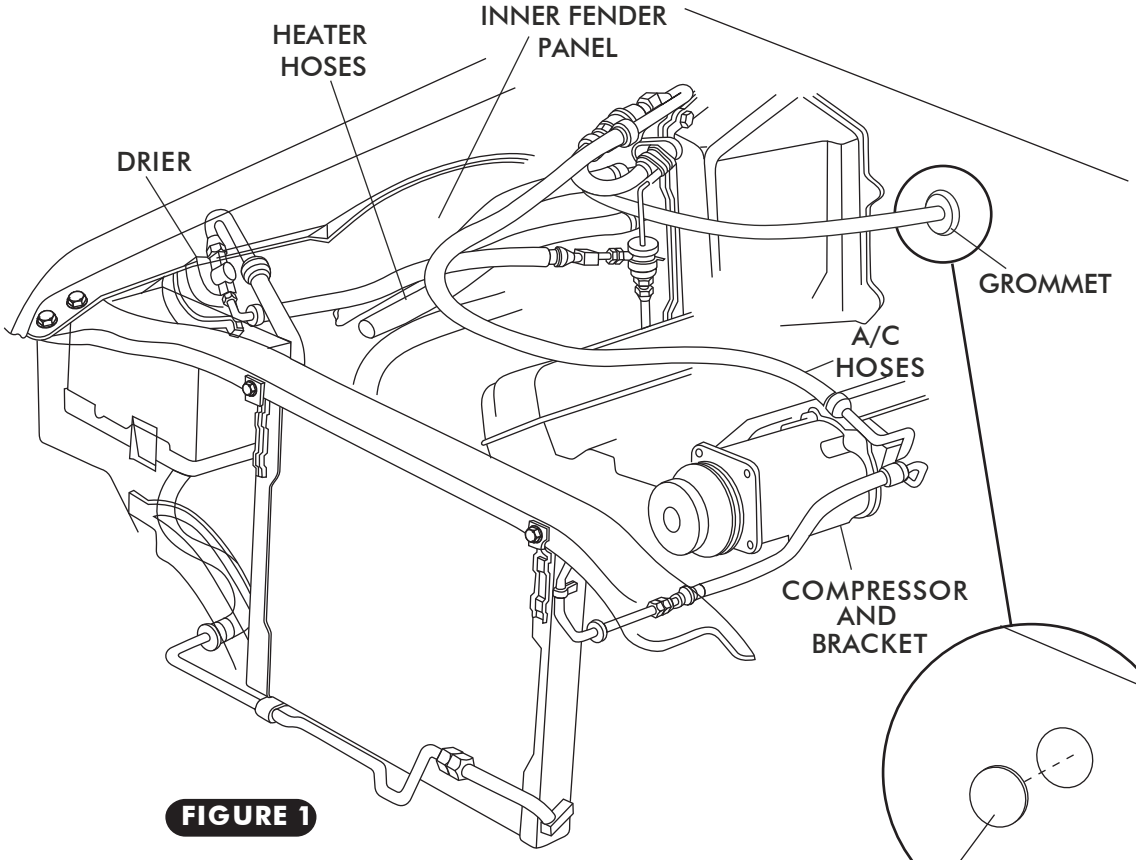


FIGURE 1

FIGURE 1a

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

- ☐ **NOTE: REMOVAL OF INSTRUMENT PANEL REQUIRED TO INSTALL THE EVAPORATOR. VINTAGE AIR RECOMMENDS THAT YOU UTILIZE THE FACTORY SERVICE MANUAL WHEN YOU DISASSEMBLE AND REASSEMBLE THE INSTRUMENT PANEL.**
- ☐ GLOVE BOX DOOR (RETAIN). SEE FIGURE 2.
- ☐ GLOVE BOX (DISCARD).
- ☐ A/C HEATER ASSEMBLY AND ALL RELATED DUCTING (DISCARD), RETAIN SCREWS. SEE FIGURE 2.
- ☐ OEM DEFROST DUCT ASM (DISCARD).
- ☐ LOWER STEERING COLUMN. PROTECT STEERING COLUMN WITH CLOTH.
- ☐ DISCONNECT ALL WIRE AND CABLES FROM INSTRUMENT PANEL, SPEEDOMETER, CONTROL PANEL, AND RADIO.
- ☐ CONTROL PANEL ASSEMBLY (RETAIN).
- ☐ REFER TO CONTROL PANEL CONVERSION KIT INSTRUCTIONS FOR INSTALLATION OF CONTROLS.
- ☐ PASSENGER SIDE KICK PANEL FRESH AIR COVER (RETAIN).
- ☐ PASSENGER SIDE KICK PANEL (RETAIN).

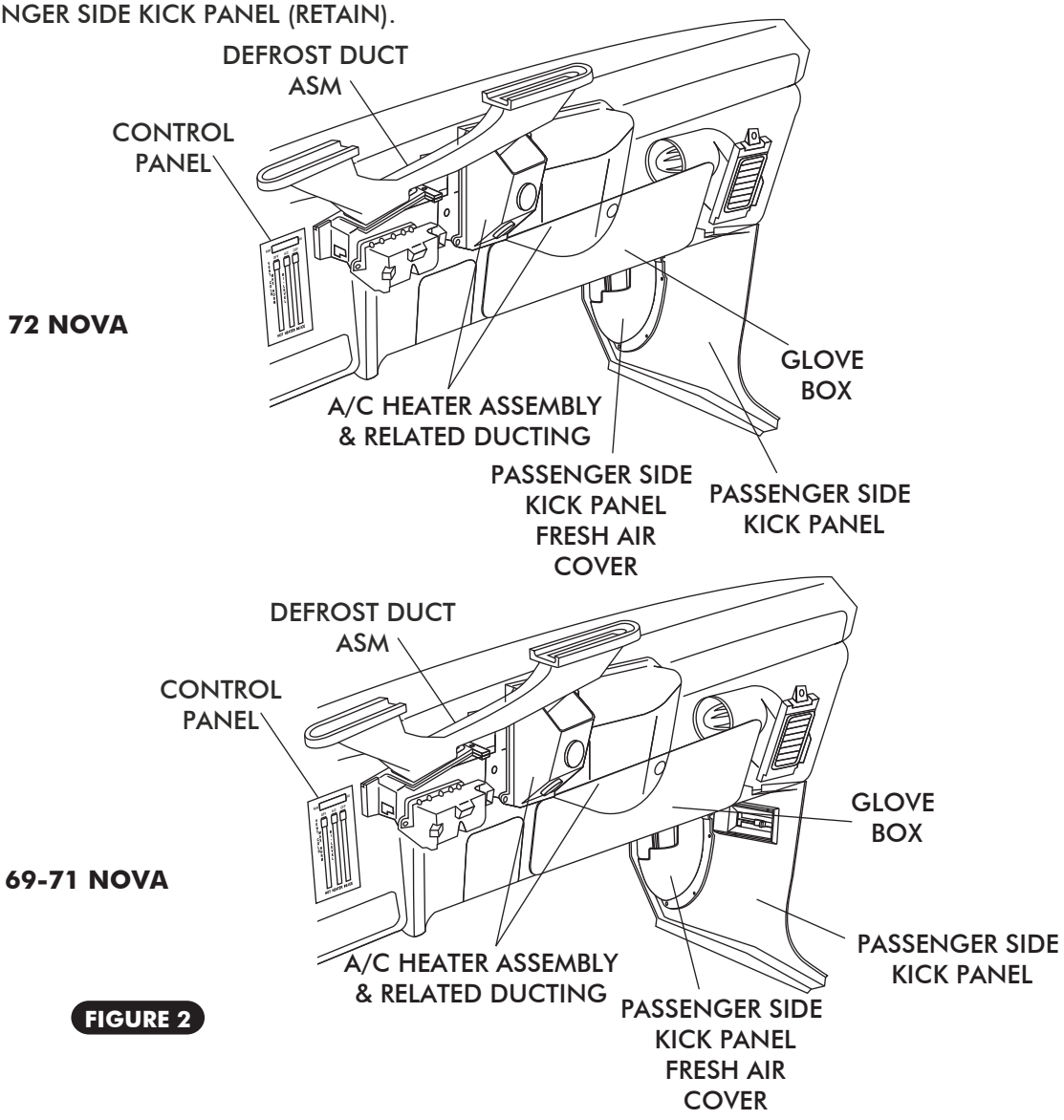


FIGURE 2

KICK PANEL MODIFICATION

- ☐ REMOVE (2) OEM SCREWS FROM THE FRESH AIR DOOR ASM. DISCONNECT AND DISCARD PULL CABLE ASSEMBLIES FROM THE KICK PANEL. SEE FIGURE 3 BELOW.
- ☐ REMOVE KICK PANEL BY REMOVING THE (2) OEM SCREWS. SEE FIGURE 3.

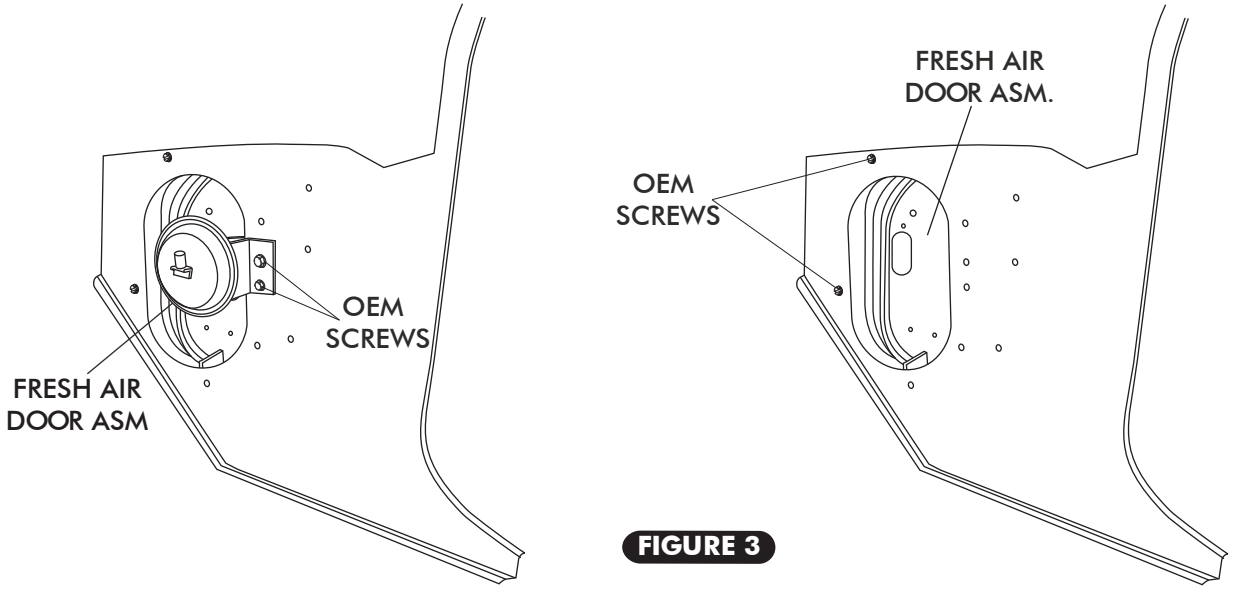


FIGURE 3

- ☐ PLACE TEMPLATE ON KICK PANEL AS SHOWN IN FIGURE 4.
- ☐ CUT FRESH AIR DOOR ASM USING TEMPLATE PROVIDED ON PAGE 24. SEE FIGURE 4 BELOW.

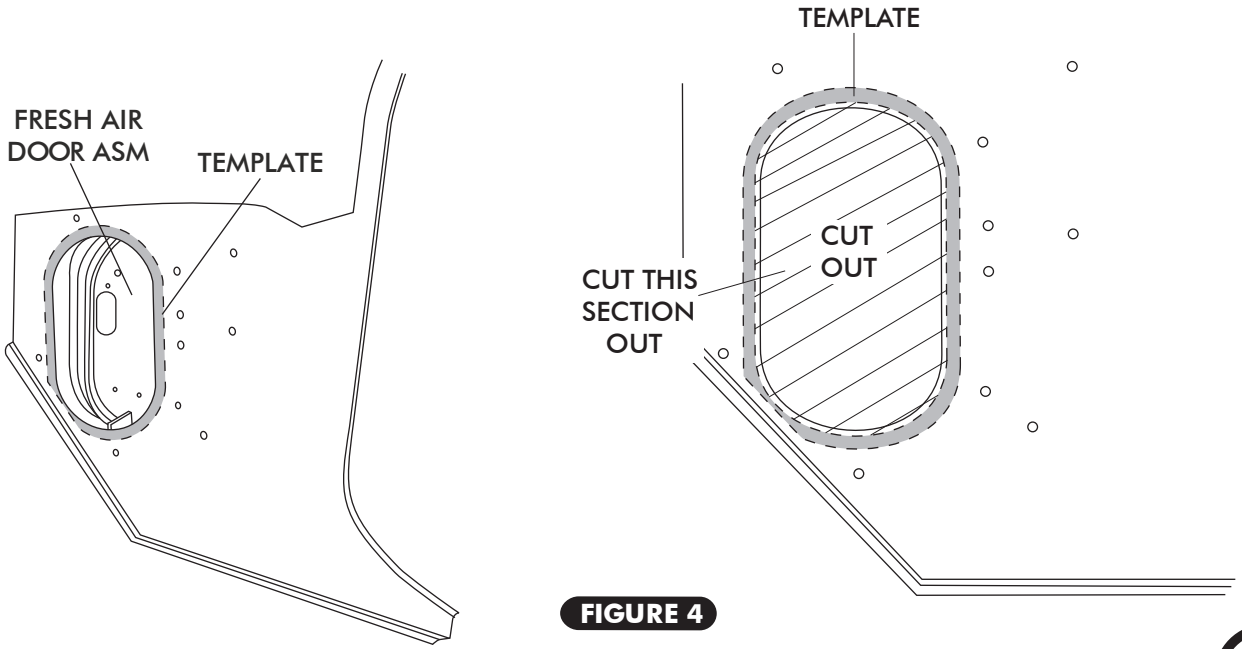


FIGURE 4

DEFROST DUCT INSTALLATION

☐ INSTALL DEFROST DUCTS UNDER DASH AS SHOWN IN FIGURE 5 BELOW. ALIGN DEFROST DUCTS WITH DEFROST OPENING IN DASH, HOLD IN PLACE. USE BRACKET AS TEMPLATE AND DRILL 7/64" HOLE. SECURE USING #10 x ½" SHEET METAL SCREW.

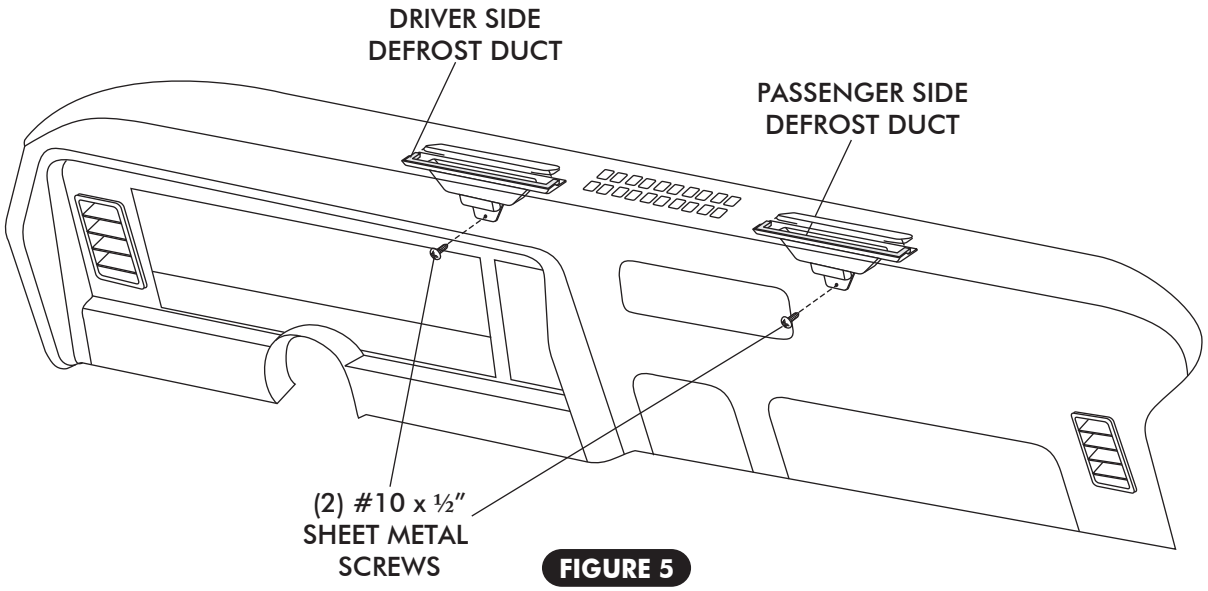


FIGURE 5

HOSE ADAPTER INSTALLATION

☐ INSTALL S-CLIPS ON HOSE ADAPTERS AS SHOWN IN FIGURE 6 BELOW.
☐ INSTALL DRIVER & PASSENGER SIDE HOSE ADAPTERS ON OEM LOUVERS. SEE BELOW

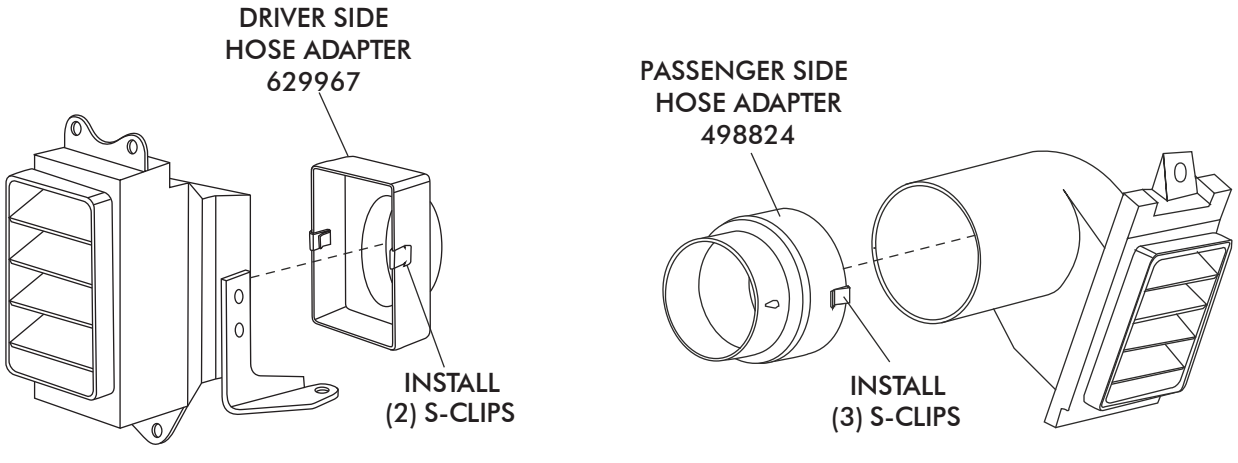


FIGURE 6

FRESH AIR COVER INSTALLATION

- ☐ INSTALL (4) GROMMETS IN FRESH AIR CAP. SEE FIGURE 7 BELOW.
- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FRESH AIR CAP AS SHOWN BELOW.
- ☐ ATTACH FRESH AIR CAP TO FIREWALL USING A 1/4-20 x 1 ½" BOLT AND WASHER, SEE BELOW. **(NOTE: FRESH AIR CAP INSTALLS ON ENGINE SIDE OF FIREWALL.)**
- ☐ INSTALL 7/8" PLUG AND GROMMET IN FIREWALL AS SHOWN.

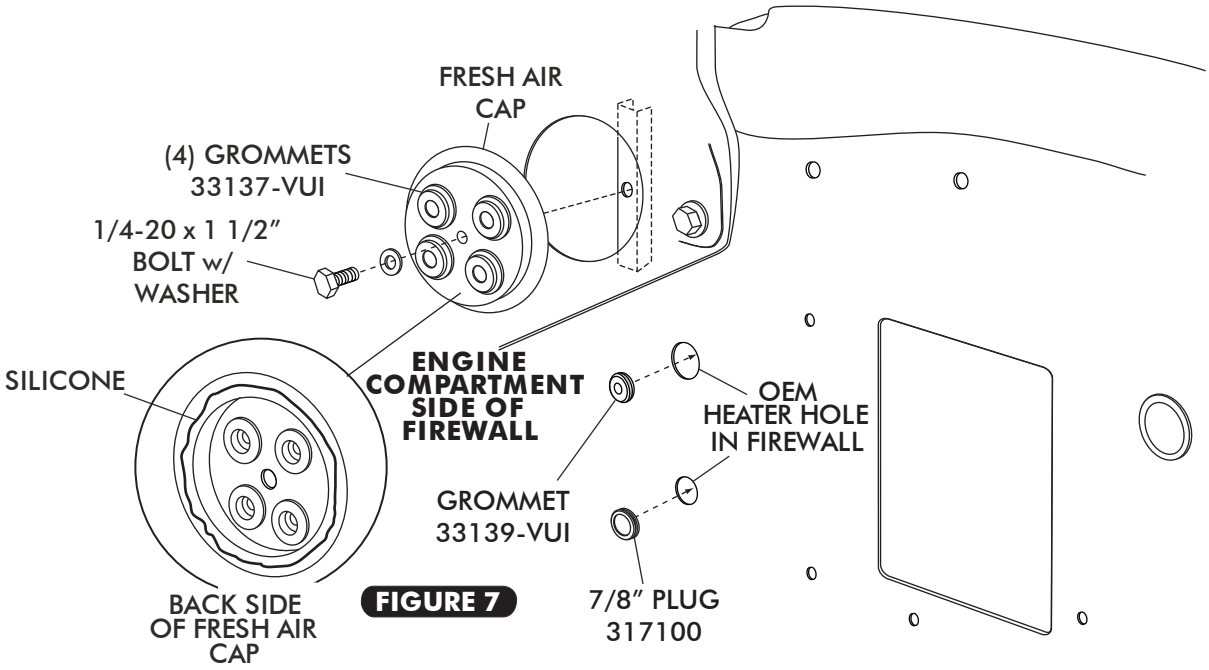


FIGURE 7

KICK PANEL FRESH AIR CAP INSTALLATION

- ☐ INSTALL (4) GROMMETS IN KICK PANEL FRESH AIR CAP. SEE FIGURE 8a BELOW.
- ☐ ROUTE A/C AND HEATER HOSE THROUGH FRESH AIR CAP AND KICK PANEL FRESH AIR CAP AS SHOWN IN FIGURE 8 AND 8b, BELOW.
- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF KICK PANEL FRESH AIR CAP AS SHOWN IN FIGURE 8a, BELOW.
- ☐ SECURE KICK PANEL FRESH AIR CAP USING OEM SCREWS, AS SHOWN IN FIGURE 8b BELOW.
- ☐ REINSTALL KICK PANEL WITH OEM SCREWS.

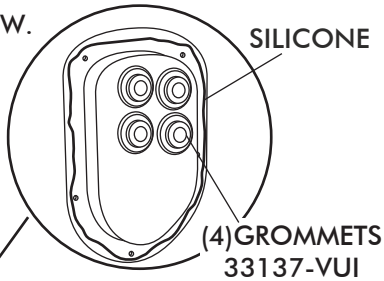


FIGURE 8a

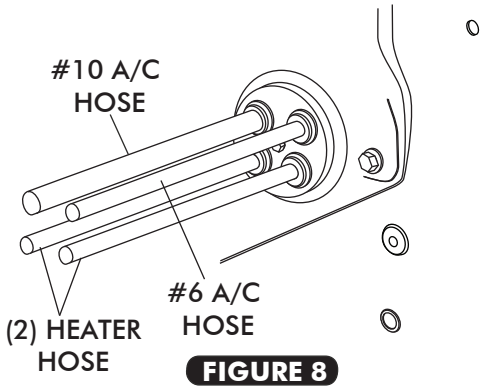


FIGURE 8

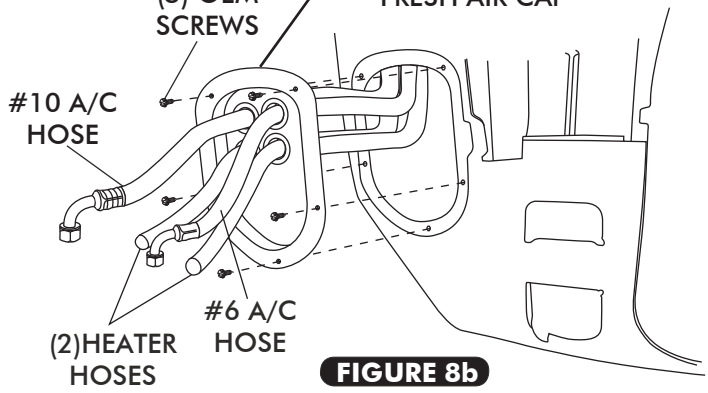
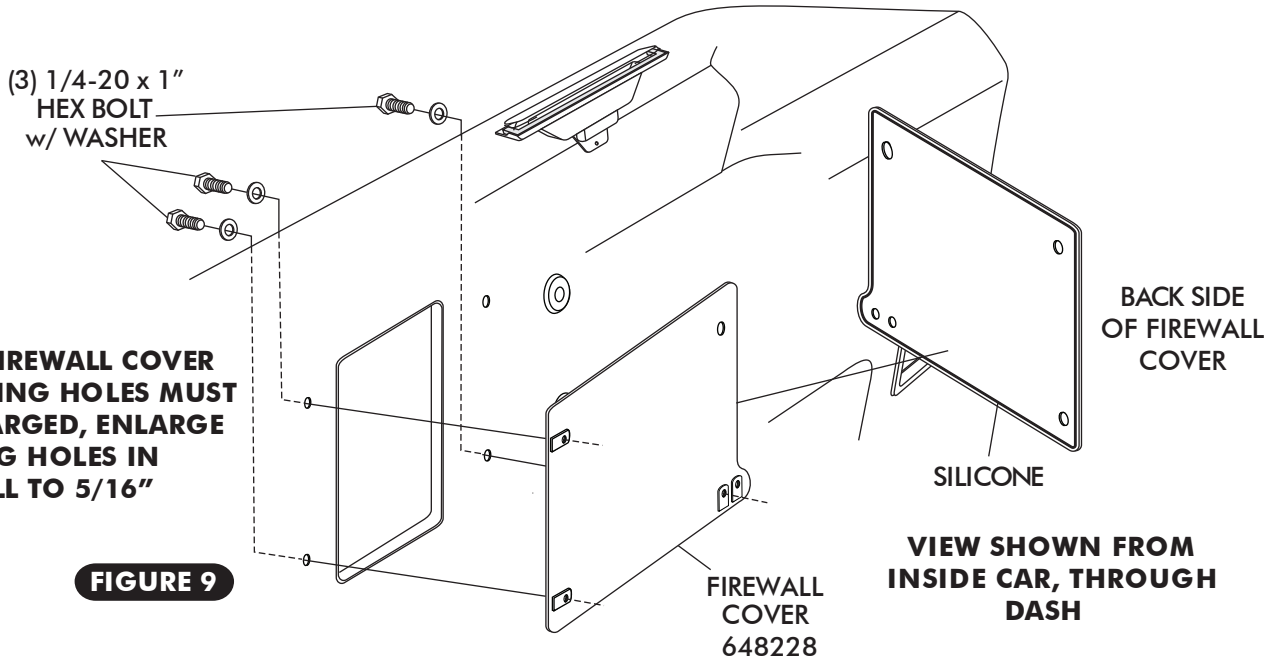


FIGURE 8b

FIREWALL COVER INSTALLATION

- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 9.
- ☐ SECURE FIREWALL COVER TO FIREWALL USING (3) 1/4-20 x 1" HEX BOLT w/ FLAT WASHER.
- ☐ **NOTE: FIREWALL COVER INSTALLS FROM INSIDE PASSENGER COMPARTMENT.**



NOTE: FIREWALL COVER MOUNTING HOLES MUST BE ENLARGED, ENLARGE EXISTING HOLES IN FIREWALL TO 5/16"

VIEW SHOWN FROM INSIDE CAR, THROUGH DASH

FIGURE 9

EVAPORATOR BRACKET INSTALLATION

- ☐ ON A WORK BENCH, INSTALL EVAPORATOR FRONT & REAR MOUNTING BRACKETS ON EVAPORATOR USING (4)1/4-20 x 1/2" HEX BOLTS AND TIGHTEN AS SHOWN IN FIGURE 10 BELOW & FIGURE 11, PAGE 12.
- ☐ LAY EVAPORATOR SUB CASE ON PASSENGER SIDE FLOOR BOARD. INSTALL A/C & HEATER HOSE ON EVAPORATOR AS SHOWN IN FIGURE 12, PAGE 13 AND HOSE INSTALLATION ON PAGE 16.
- ☐ **(NOTE: WRAP THE #10 FITTING CONNECTIONS WITH PRESS TAPE. SEE FIGURE 12, PAGE 13.)**

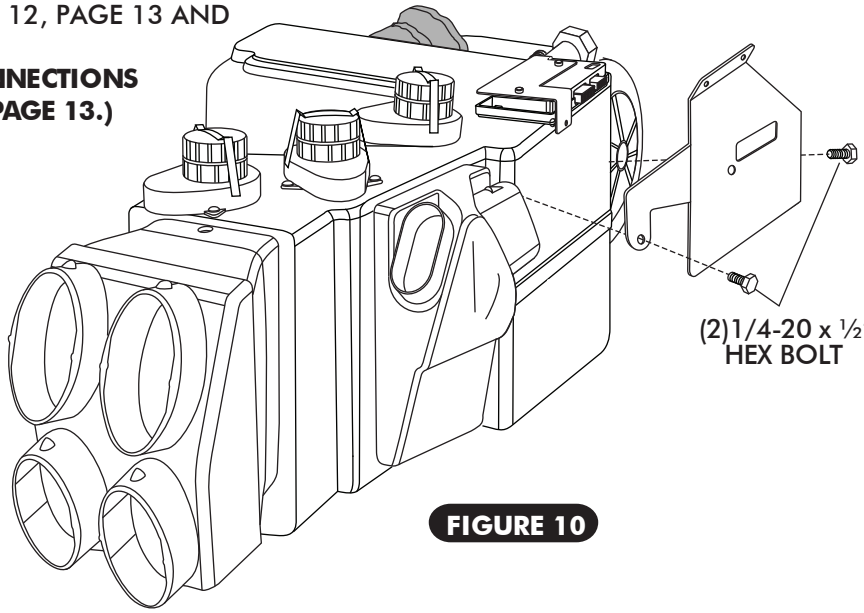


FIGURE 10

EVAPORATOR BRACKET INSTALLATION CONT.

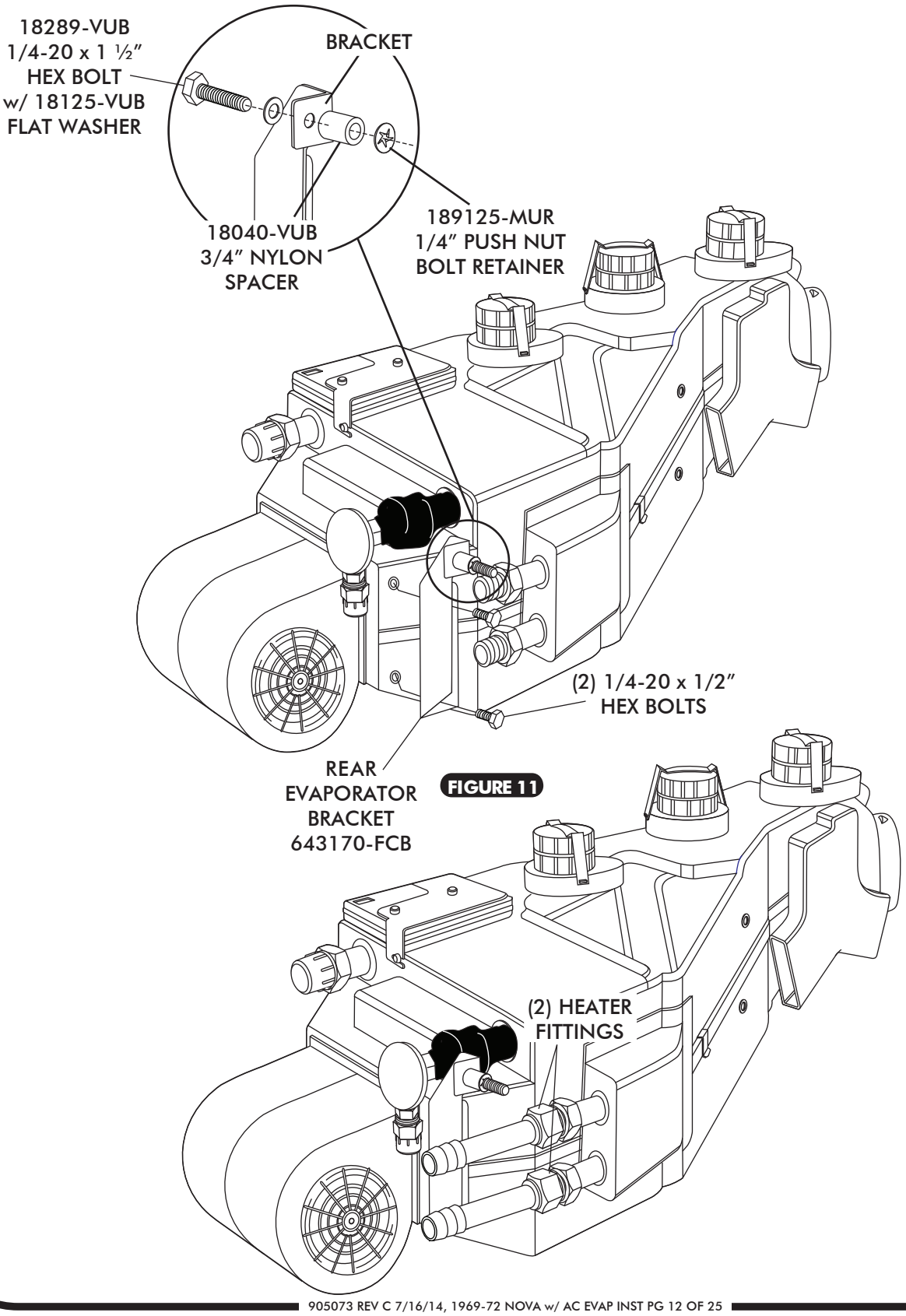


FIGURE 11

EVAPORATOR INSTALLATION

- ☐ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD. SECURE LOOSELY TO THE FIREWALL FROM THE ENGINE COMPARTMENT SIDE USING 1/4-20 NUT w/ STAR WASHER AND FLAT WASHER. SEE FIGURE 13 BELOW.
- ☐ **NOTE: TO ENSURE PROPER DRAINAGE, IT IS VERY IMPORTANT THAT THE EVAPORATOR IS LEVEL, BOTH LEFT-RIGHT AND FORE-AFT. CHECK FOR LEVEL ON THE FLAT PORTIONS OF THE CASE AROUND THE DRAIN, BLOCK THE UNIT UP, THEN DRILL FOR FRONT BRACKET SCREWS.**
- ☐ USING (2) #14 x ¾ SHEET METAL SCREW SECURE THE FRONT EVAPORATOR MOUNTING BRACKET TO THE INNER COWL. SEE FIGURE 13a BELOW.
- ☐ 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.)**

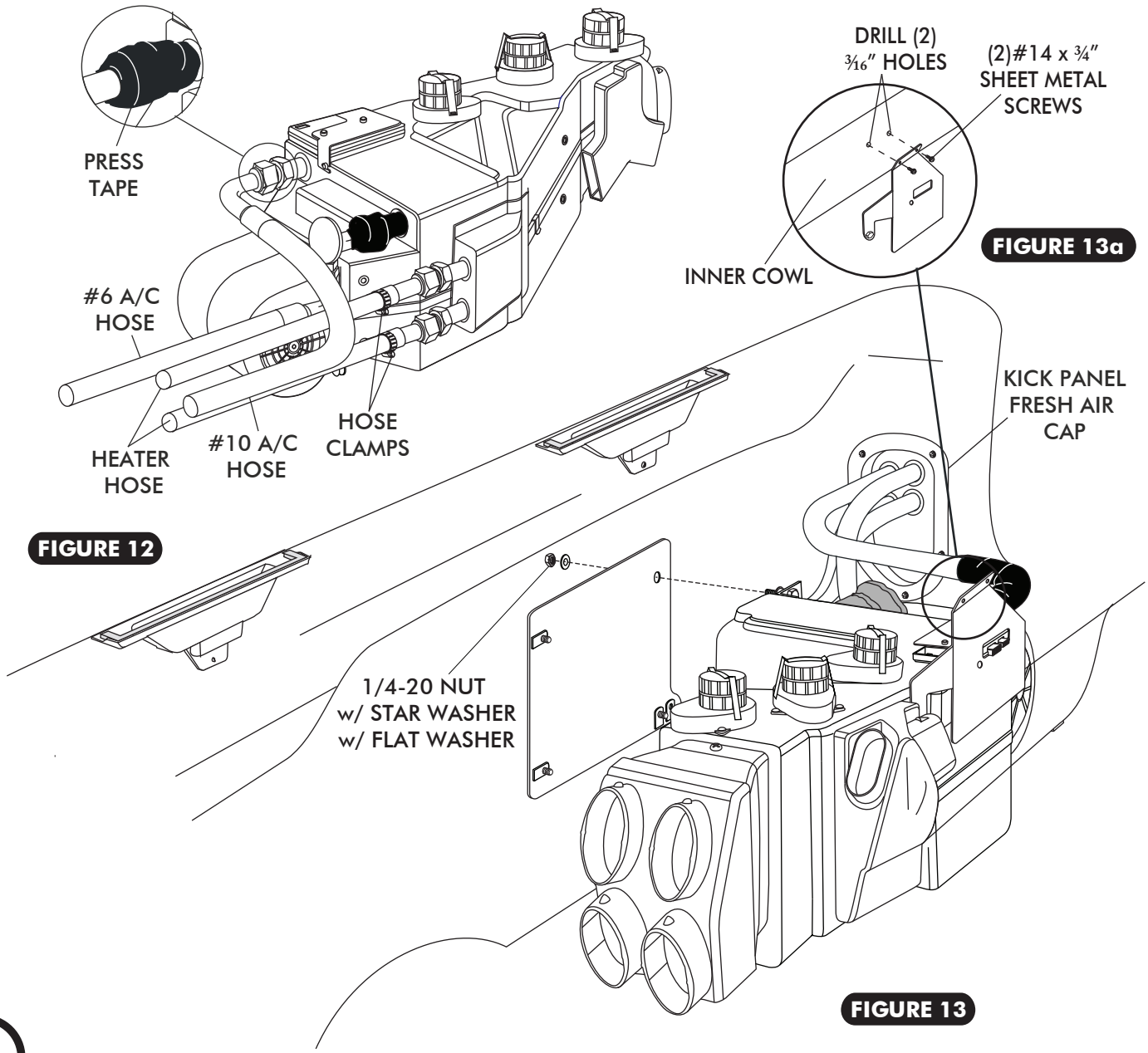


FIGURE 12

FIGURE 13a

FIGURE 13

CENTER LOUVER INSTALLATION

- ☐ INSTALL (4) "S"-CLIPS ON CENTER LOUVER HOSE ADAPTER AS SHOWN IN FIGURE 14 BELOW.
- ☐ INSTALL CENTER LOUVER HOSE ADAPTER ON CENTER LOUVER ASSEMBLY. SEE BELOW.

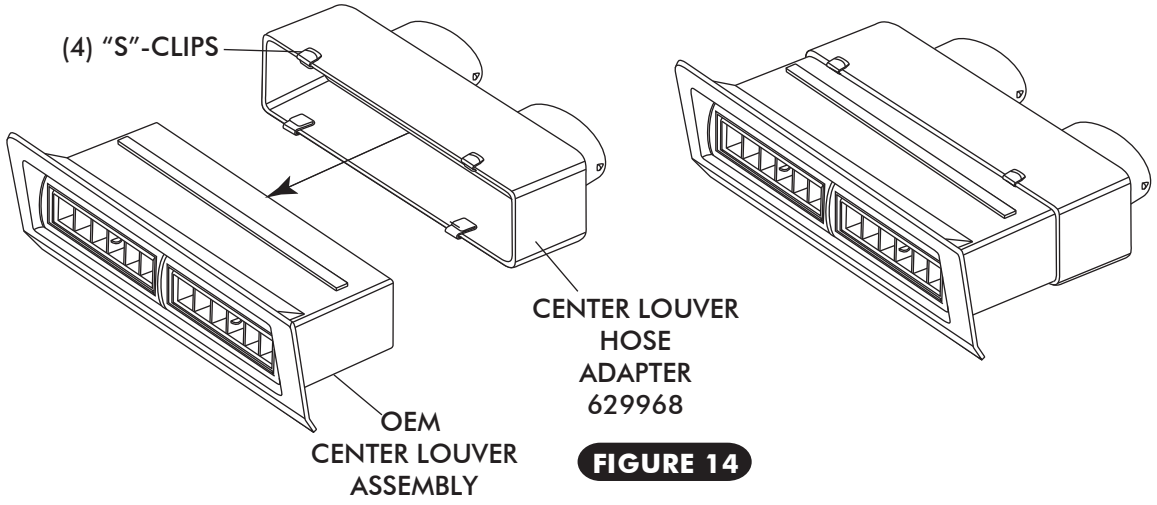


FIGURE 14

- ☐ INSTALL CENTER LOUVER ASSEMBLY IN DASH, USING OEM SCREWS. SEE FIGURE 15 BELOW.

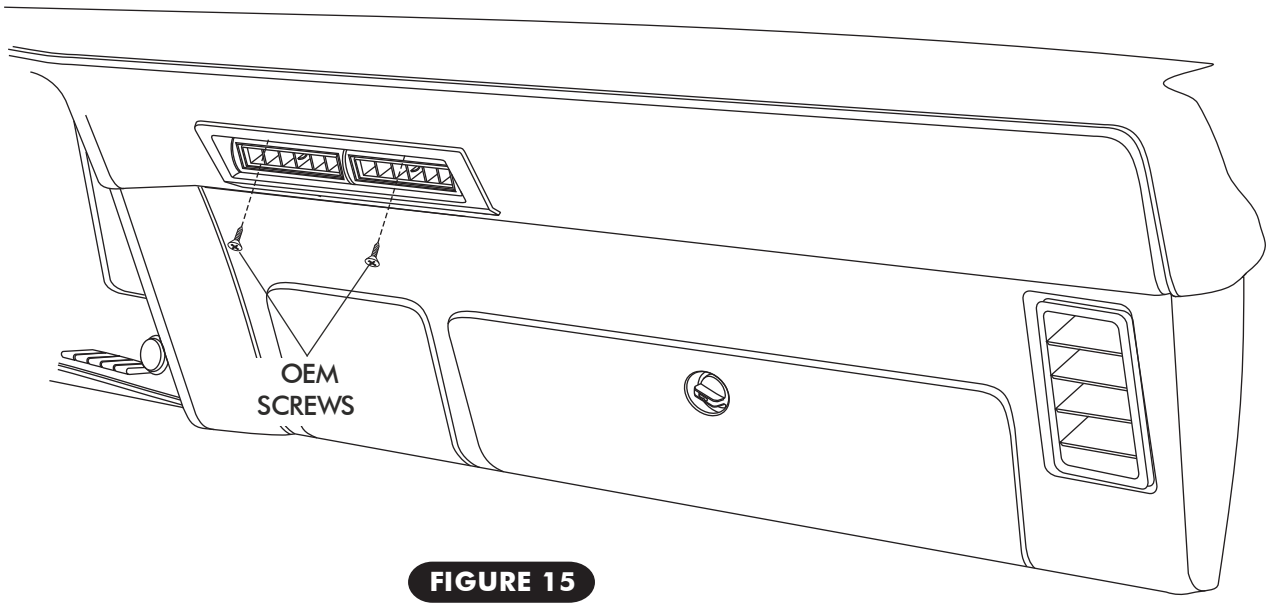


FIGURE 15

DRAIN HOSE INSTALLATION

- ☐ LOCATE EVAPORATOR DRAIN ON BOTTOM OF EVAPORATOR CASE.
- ☐ IN-LINE WITH THE DRAIN, LIGHTLY MAKE A MARK ON THE FIREWALL. MEASURE ONE INCH DOWN AND DRILL A 5/8" HOLE THROUGH THE FIREWALL. SEE FIGURE 16.
- ☐ INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. INSTALL ½" 90° DRAIN ELBOW ON DRAIN HOSE AS SHOWN.

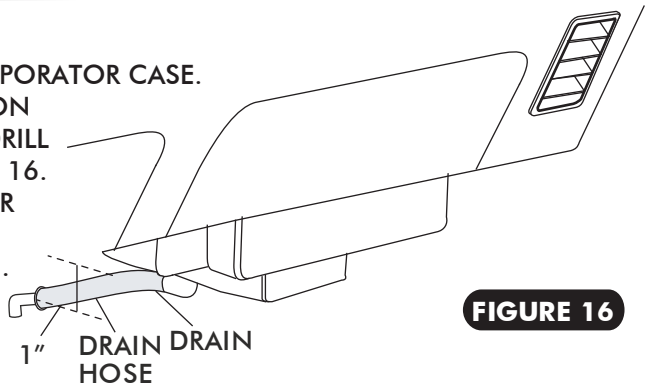


FIGURE 16

LUBRICATING O-RINGS

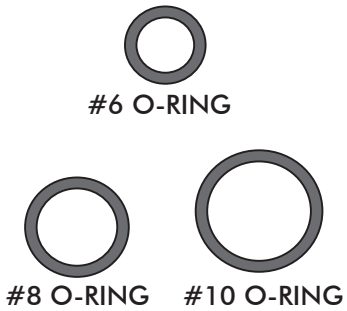
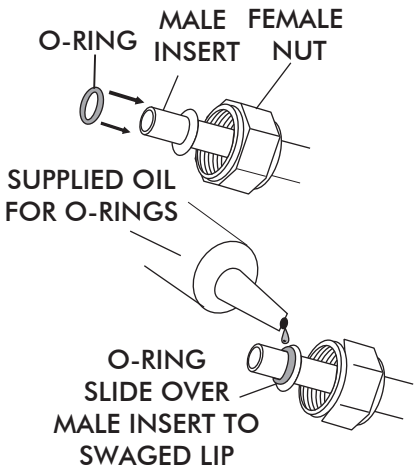
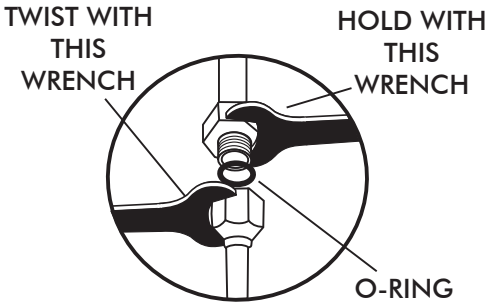


FIGURE 17



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



A/C HOSE INSTALLATION

STANDARD HOSE KIT

- ☐ LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 17, ABOVE) AND CONNECT THE 135° FEMALE FITTING w/ 134a SERVICE PORT TO THE #8 DISCHARGE PORT ON THE COMPRESSOR. ROUTE THE 45° FEMALE FITTING TO THE #8 CONDENSER HARDLINE COMING THROUGH CORE SUPPORT. SEE FIGURE 18, PAGE 16. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 17 ABOVE.
- ☐ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 17, ABOVE) AND CONNECT THE #10 135° 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 12 PAGE 13 AND FIGURE 18, PAGE 16. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN 17 ABOVE.
- ☐ LOCATE THE #6 EVAPORATOR A/C HOSE. LUBRICATE (2) #6 O-RINGS (SEE FIGURE 17 , ABOVE) AND CONNECT THE 90° FEMALE FITTING TO THE DRIER. ROUTE THE 90° FEMALE FITTING TO THE #6 EVAPORATOR. SEE FIGURE 12, PAGE 13 AND FIGURE 18 PAGE 16. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 17, ABOVE.
- ☐ USE A #10 ADEL CLAMP TO SECURE THE #10 A/C HOSE TO ALTERNATOR BRKT AS SHOWN IN FIGURE 18, PAGE 16. SECURE THE ADEL CLAMP TO THE ALTERNATOR BRKT USING 10-32 x ½" PH PAN HEAD SCREWS w/ NUTS.

MODIFIED A/C HOSE KIT

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

AC, HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

☐ ROUTE HEATER HOSE FROM THE WATER PUMP TO THE TOP HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 12, PAGE 13, AND FIGURE 18 BELOW. SECURE USING HOSE CLAMPS.

☐ ROUTE HEATER HOSE FROM THE INTAKE TO THE BOTTOM HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 12 PAGE 13 AND FIGURE 18 BELOW. NOTE: INSTALL HEATER CONTROL VALVE IN-LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE, SECURE USING HOSE CLAMPS AS SHOWN BELOW. **NOTE PROPER FLOW DIRECTION**.

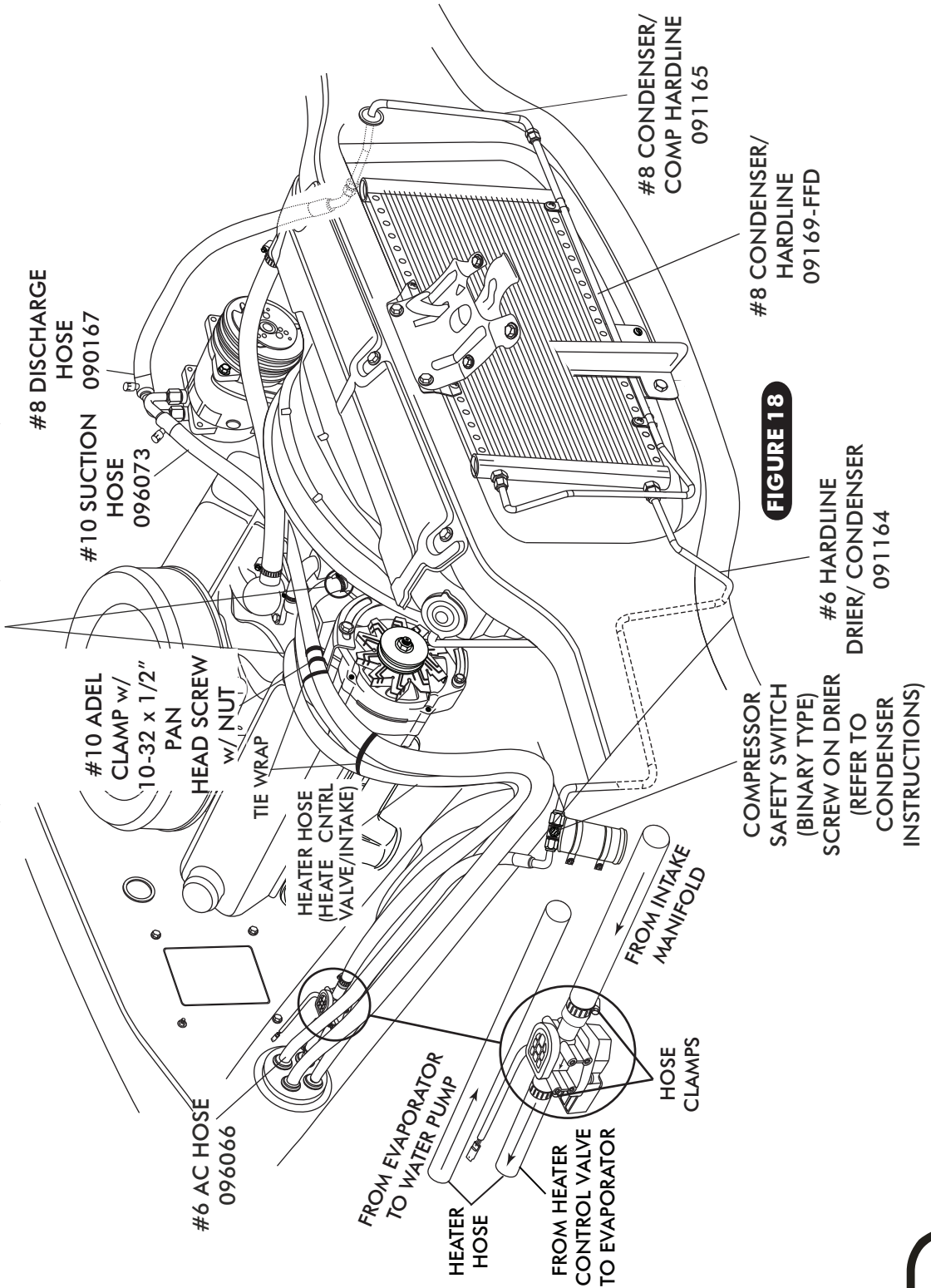


FIGURE 18

FINAL STEPS

- ☐ INSTALL DUCT HOSES AS SHOWN IN FIGURE 20, PAGE 18. EXTEND DUCT HOSE TO A TAUT CONDITION, THEN CUT TO LENGTH AS NOTED. THERE SHOULD BE LITTLE OR NO SLACK IN HOSE ONCE INSTALLED.
- ☐ ROUTE A/C WIRES THROUGH ⅜" GROMMET AS SHOWN IN FIGURE 19 BELOW. (12 VOLT/ GROUND/ BINARY SWITCH/ HEATER VALVE).
- ☐ RE-INSTALL CONTROL PANEL ASSEMBLY. (NOTE: CONTROLS MUST BE CALIBRATED FOR PROPER OPERATION. REFER TO CONTROL PANEL INSTRUCTIONS)
- ☐ PLUG THE WIRING HARNESS IN TO THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 20, PAGE 18 (WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 19 AND 20)
- ☐ MODIFY PASSENGER SIDE KICK PANEL FRESH AIR COVER AS SHOWN IN FIGURE 19b.
- ☐ REINSTALL PASSENGER SIDE KICK PANEL FRESH AIR COVER.
- ☐ INSTALL NEW GLOVE BOX AND GLOVE BOX DOOR USING OEM SCREWS SEE FIGURE 19a.
- ☐ REINSTALL ALL PREVIOUSLY REMOVED ITEMS (BATTERY, RADIATOR, RADIO)
- ☐ FILL RADIATOR WITH AT LEAST A 50/50 MIXTURE OF APPROVED ANTIFREEZE AND DISTILLED WATER OR PRE MIX ANTIFREEZE. 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 A/C 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 CAPACITY STATED ON THE INFORMATION (PAGE 4) OF THIS INSTRUCTION MANUAL.
- ☐ SEE OPERATION OF CONTROLS PROCEDURES PAGE 21.

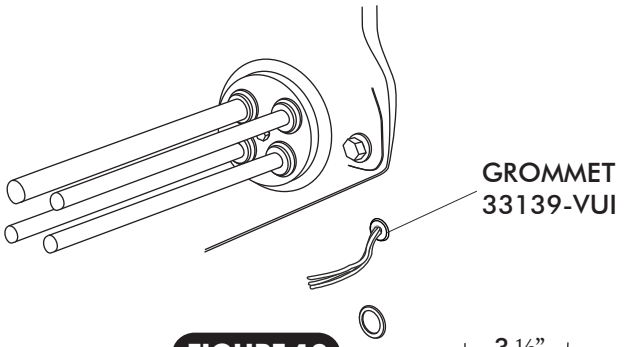


FIGURE 19

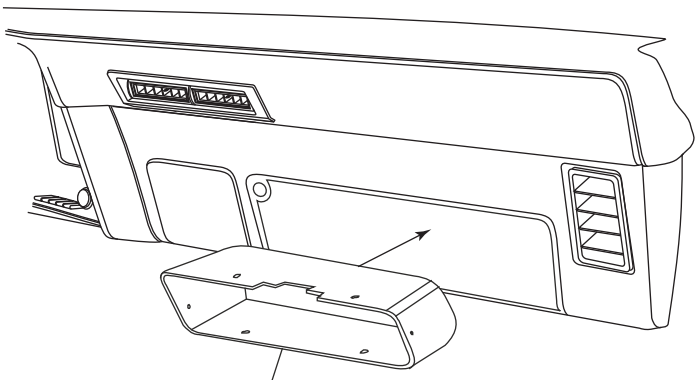
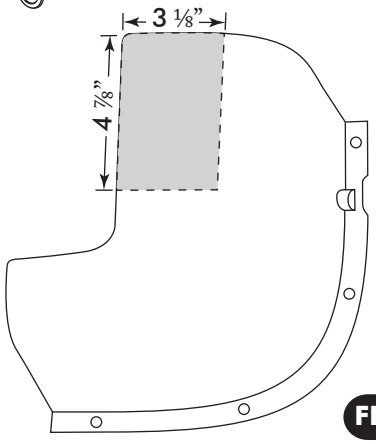


FIGURE 19a



PASSENGER
SIDE
KICK PANEL
FRESH AIR COVER

FIGURE 19b

CONTROL PANEL & DUCT HOSE ROUTING

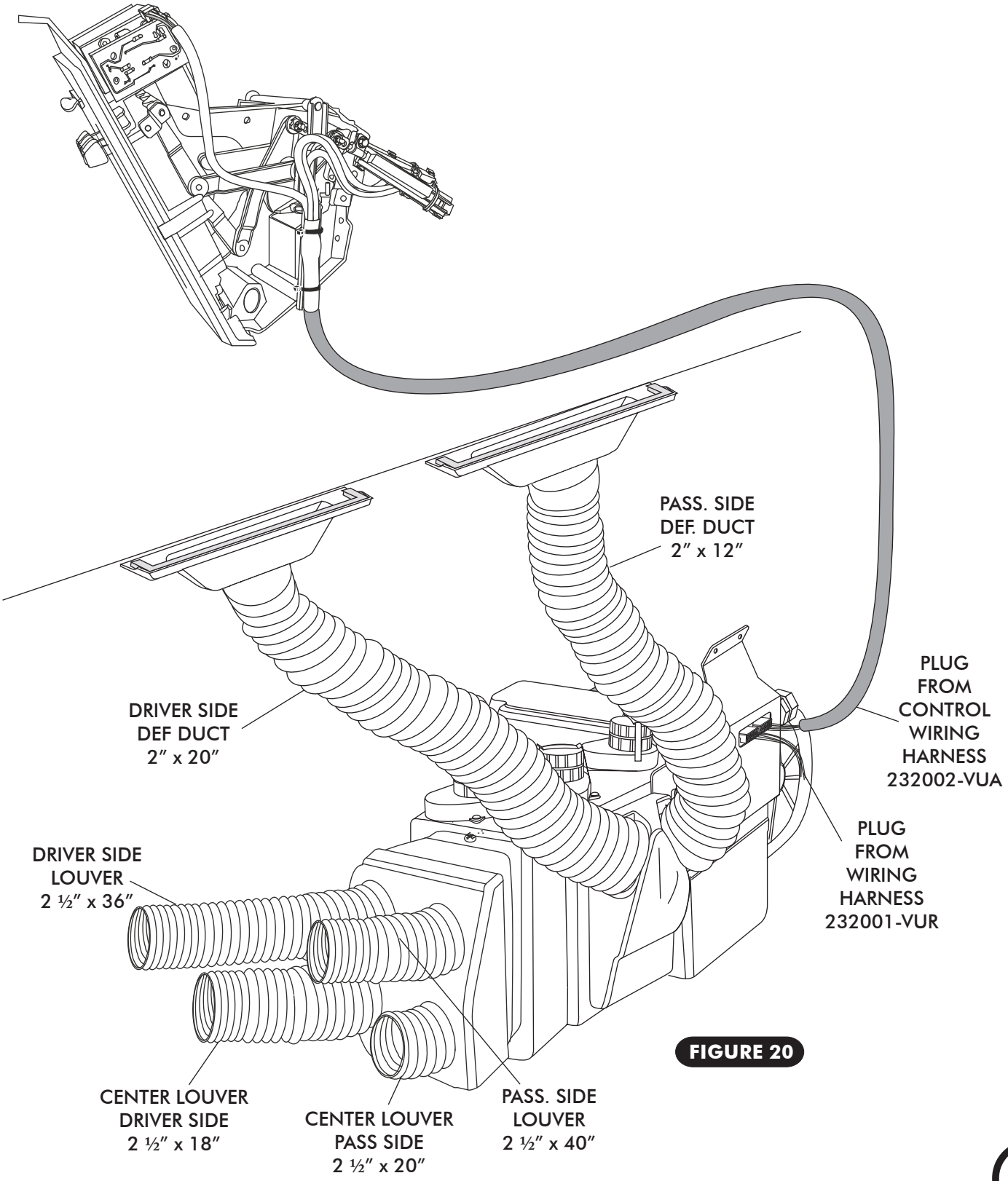
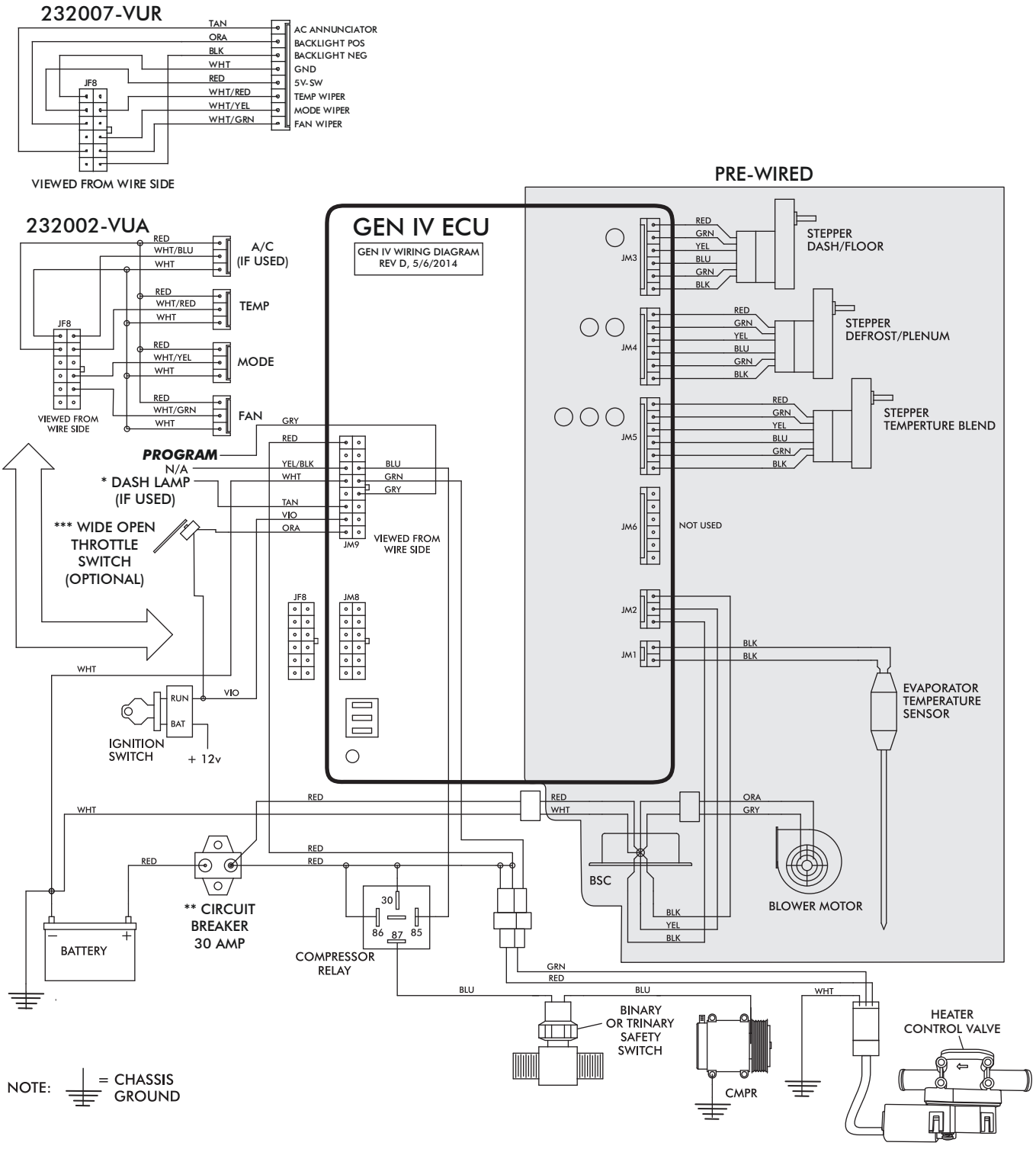


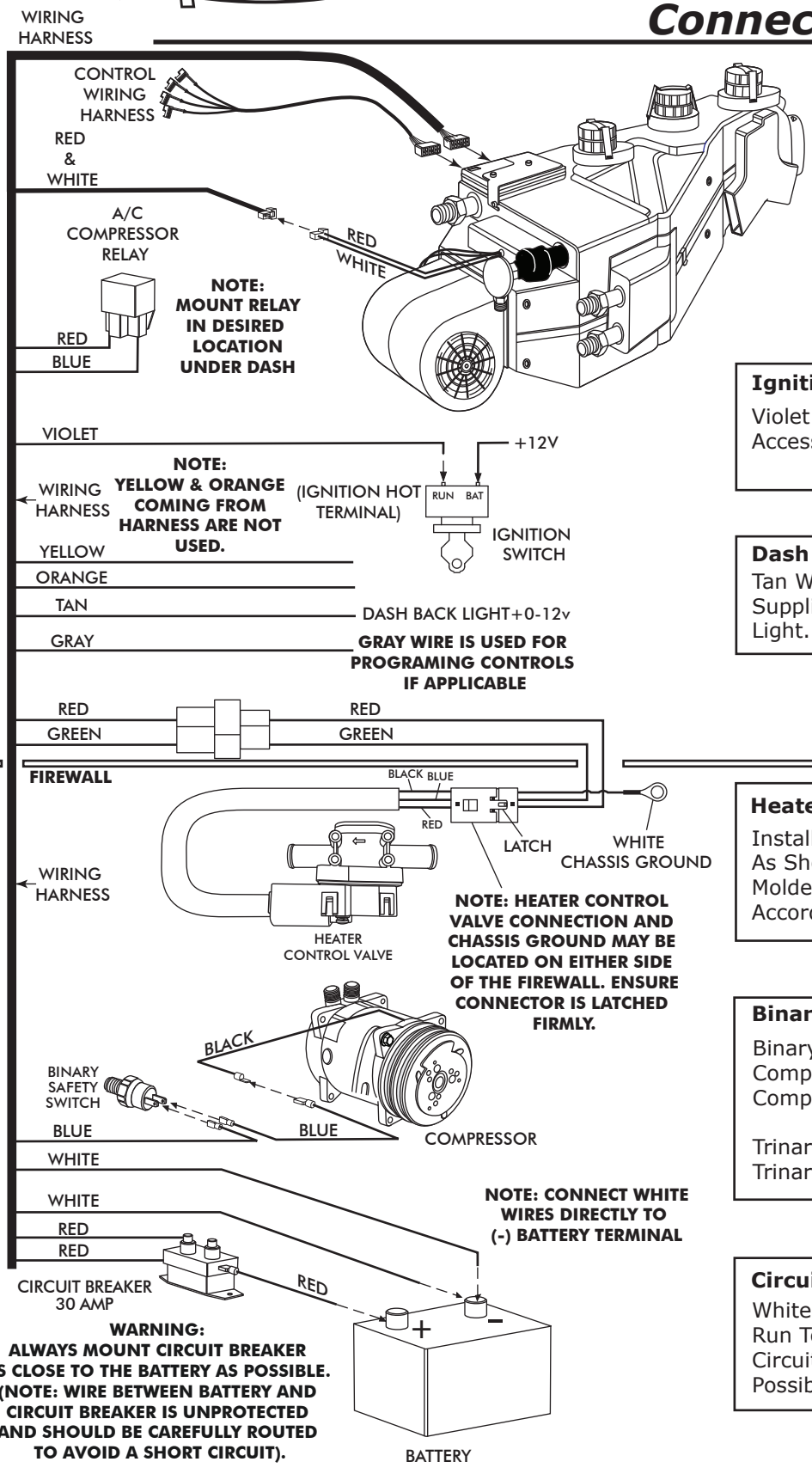
FIGURE 20

Wiring Diagram



- **Dash Lamp Is Used Only With Type 232007-VUR Harness.**
- **Warning: Always Mount Circuit Breaker As Close to the Battery As Possible. (NOTE: Wire Between Battery and Circuit Breaker Is Unprotected and Should Be Carefully Routed to Avoid a Short Circuit).**
- **Wide Open Throttle Switch Contacts Close Only at Full Throttle, Which Disables A/C Compressor.**

Gen IV Wiring Connection Instruction



Ignition Switch:

Violet 12V Ign Switch Source (Key On Accessory) Position Must Be Switched.

Dash Light:

Tan Wire Used Only With Vintage Air Supplied Control Panel With LED Back Light.

Heater Control Valve:

Install With Servo Motor Facing Down, As Shown. Note Flow Direction Arrow Molded Into Valve Body, And Install Accordingly.

Binary/Trinary & Compressor:

Binary: Connect As Shown (Typical Compressor Wiring). Be Sure Compressor Body Is Grounded.

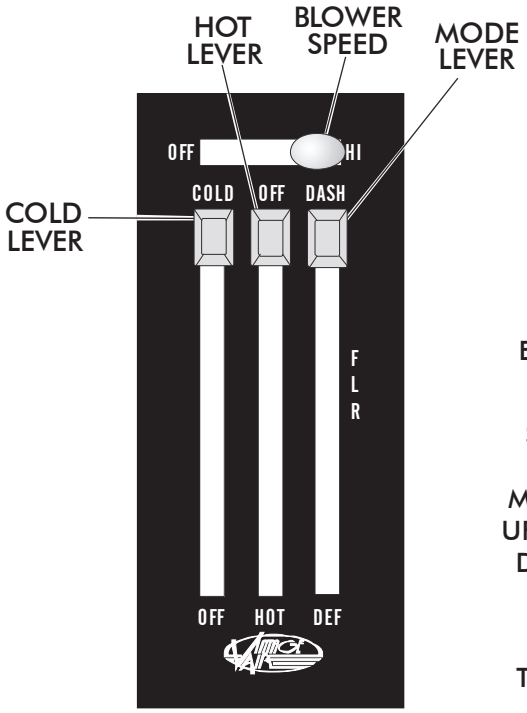
Trinary Switch: Connect According To Trinary Switch Wiring Diagram.

Circuit Breaker/Battery:

White **Must** Run To (-) Battery. Red May Run To (+) Battery Or Starter. Mount Circuit Breaker As Close to Battery As Possible.

OPERATION OF CONTROLS

NOTE: CONTROLS MUST BE CALIBRATED FOR PROPER OPERATION-REFER TO CONTROL PANEL INSTRUCTIONS.



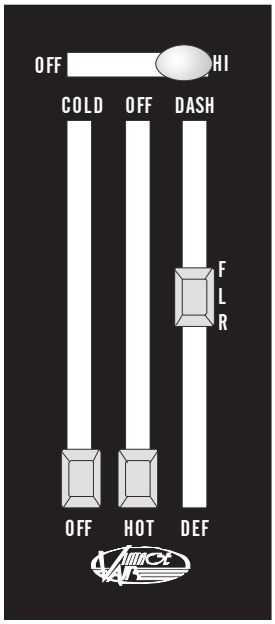
A/C MODE

BLOWER SPEED
ADJUST TO DESIRED SPEED

COLD LEVER
IN A/C MODE SLIDE THE COLD LEVER ALL THE WAY UP TO ENGAGE COMPRESSOR.

HEAT LEVER
SLIDE THE HEAT LEVER ALL THE WAY UP FOR MAX COLD. (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)

MODE LEVER
SLIDE THE LEVER TO THE "DASH" POSITION



HEAT MODE

BLOWER SPEED
ADJUST TO DESIRED SPEED

COLD LEVER
SLIDE THE COLD LEVER ALL THE WAY DOWN.

HEAT LEVER
SLIDE THE HEAT LEVER ALL THE WAY DOWN FOR MAX HEAT (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)

MODE LEVER
SLIDE THE LEVER TO THE "FLOOR" POSITION

DEFROST/ DE-FOG MODE

BLOWER SPEED
ADJUST TO DESIRED SPEED

COLD LEVER
COMPRESSOR IS FORCED ON IN DEFROST MODE. THERE IS NO NEED TO ADJUST THIS LEVER.

HEAT LEVER
SLIDE HEAT LEVER ALL THE WAY UP. (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE

MODE LEVER
SLIDE THE LEVER TO THE "DEF" POSITION

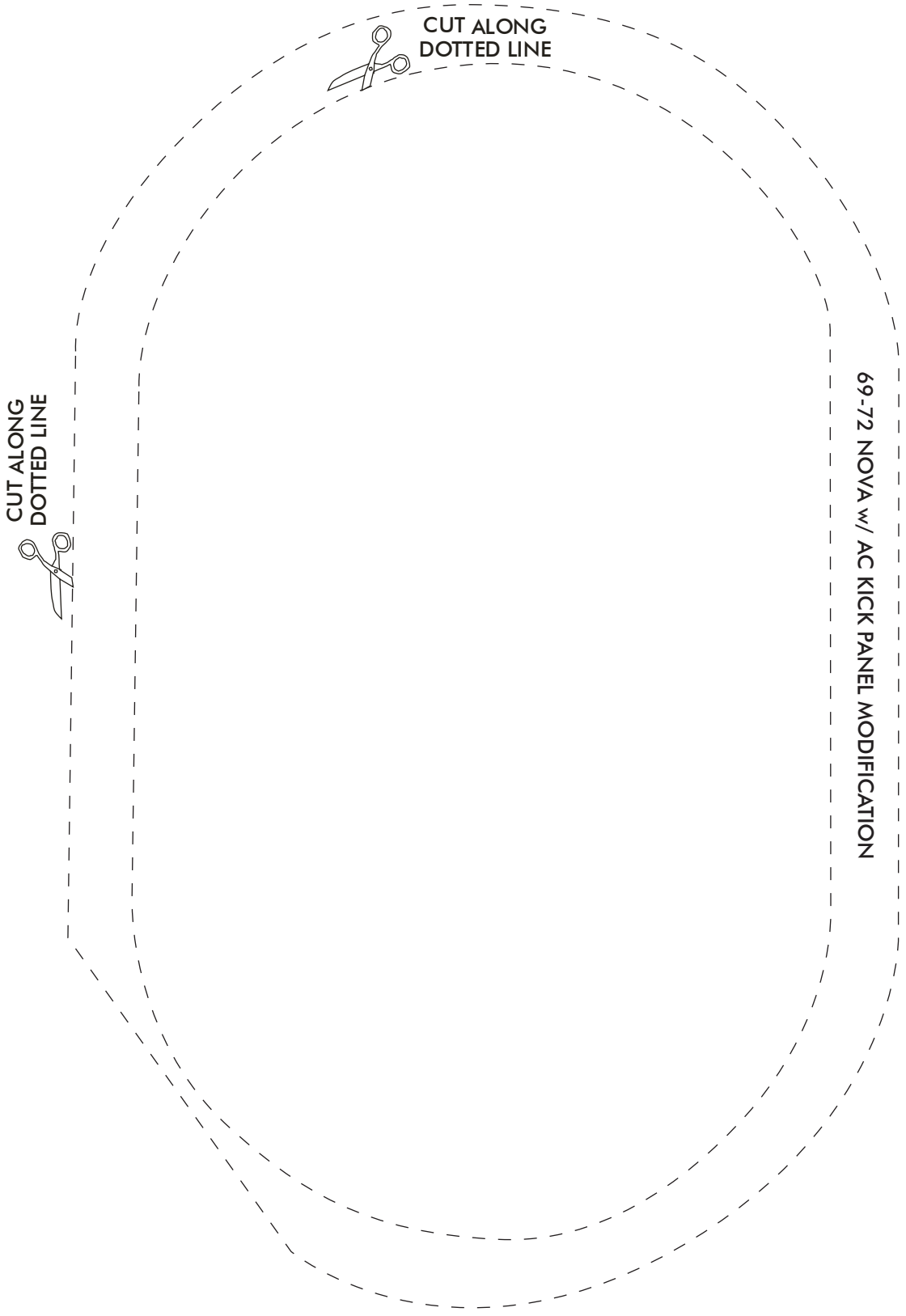
Troubleshooting Guide

Symptom	Condition	Checks	Actions	Notes
1a. Blower stays on high speed when ignition is on.	No other functions work.	Check for damaged pins or wires in control head plug.	Verify that all pins are inserted into plug. Ensure that 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 renders control head inoperable.
	All other functions work.	Check for damaged blower switch or potentiometer and associated wiring.		See blower switch check procedure.
1b. 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.	Be sure the small, 20 GA white ground wire is connected to the battery ground post. If it is, replace the ECU.	
		Unplug 3-wire BSC control connector from ECU. If blower stays running, BSC is either improperly wired or damaged.	Check to ensure that no BSC wiring is damaged or shorted to vehicle ground. The BSC operates the blower by ground side pulse width modulation 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 removal of evaporator 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 compressor 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 potentiometer or associated 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 0V and 5V, and will vary with pot lever position.
		Check for disconnected or faulty thermistor.	Check 2-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 potentiometer or associated wiring.	Repair or replace pot/control wiring.	Red wire at A/C pot should have approximately 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 or down.
		Check for faulty A/C relay.	Replace relay.	

Troubleshooting Guide (Cont.)

Symptom	Condition	Checks	Actions	Notes
4. System will not turn on, or runs intermittently.	Works when engine is not running; shuts off when engine is started (Typically early Gen IV, but possible on all versions).	Noise interference from either ignition or alternator.	Install capacitors on ignition 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 the 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.
	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 the condition of a known good battery.	
5. Loss of mode door function.	No mode change at all.	Check for damaged mode switch or potentiometer and associated wiring.		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.
	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.	Check for at least 12V at circuit breaker.	Ensure all system grounds and power connections are clean and tight.	System shuts off blower at 10V. Poor connections or weak battery can cause shutdown at up to 11V.
	Battery voltage is less than 12V.	Check for faulty battery or alternator.	Charge battery.	
7. Erratic functions of blower, mode, temp, etc.		Check for damaged switch or pot and associated wiring.	Repair or replace.	
8. When ignition is turned on, blower momentarily comes on, then shuts off. This occurs 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 for even a split second, the system will reset.	Run red power wire directly to battery.	

KICK PANEL MODIFICATION TEMPLATE



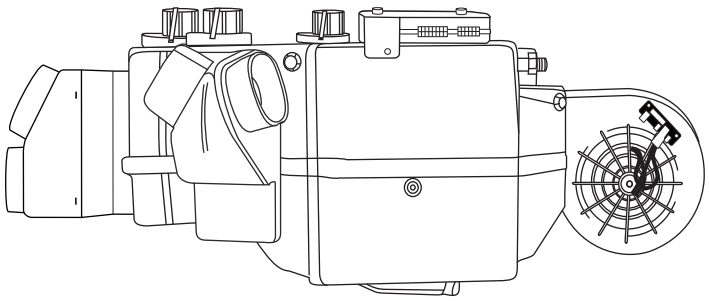
EVAPORATOR KIT PACKING LIST

EVAPORATOR KIT
565072

No.	QTY.	PART No.	DESCRIPTION	
1.	1	744003	GEN IV 4 VENT EVAP. SUB CASE w/ 205 ECU	_____
2.	1	784177	1969-72 NOVA w/ AC ACC. KIT	_____

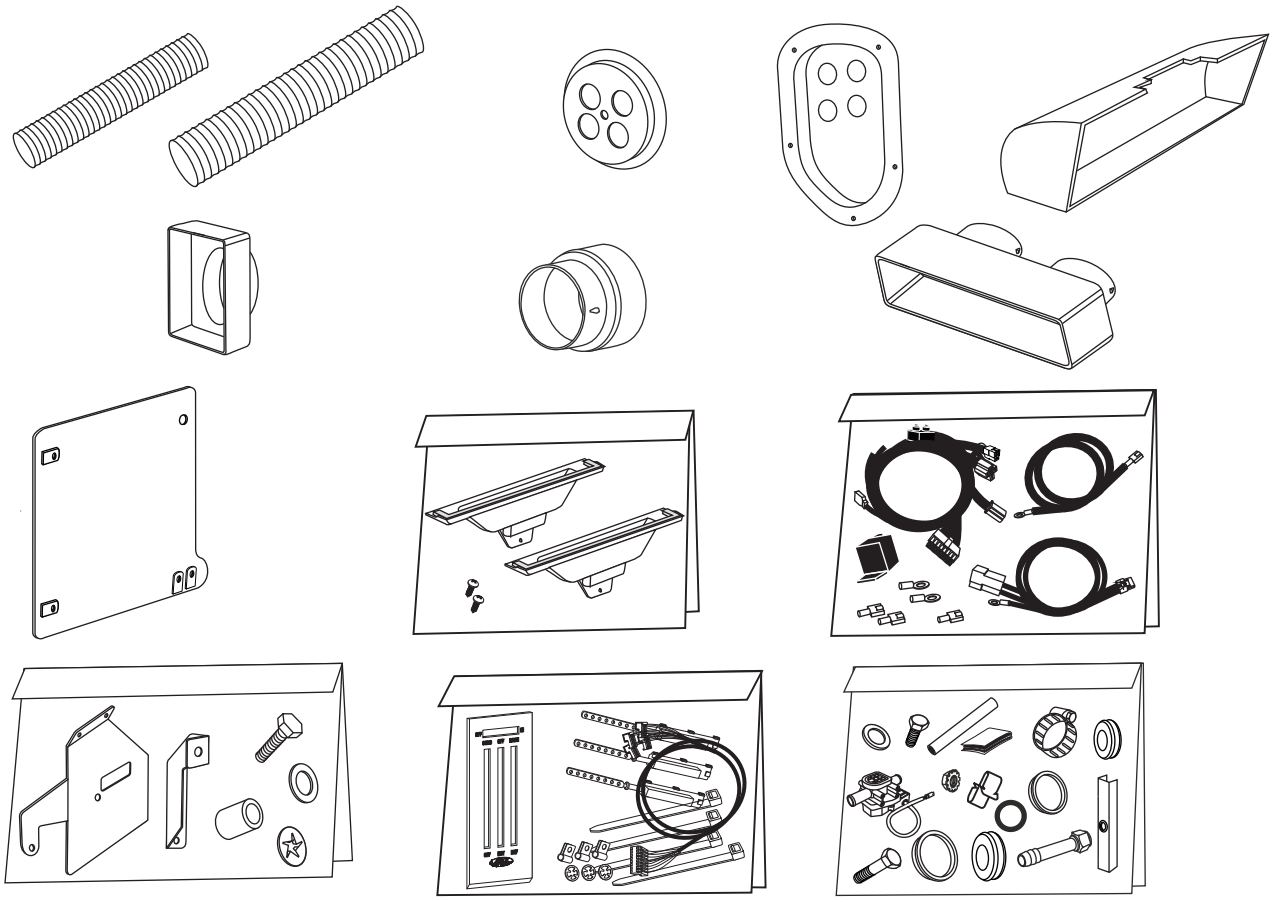
CHECK BY: _____
PACKED BY: _____
DATE: _____

①



GEN IV 4 VENT
EVAP. SUB CASE
w/ 205 ECU
744003

②



ACCESSORY KIT
784177

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