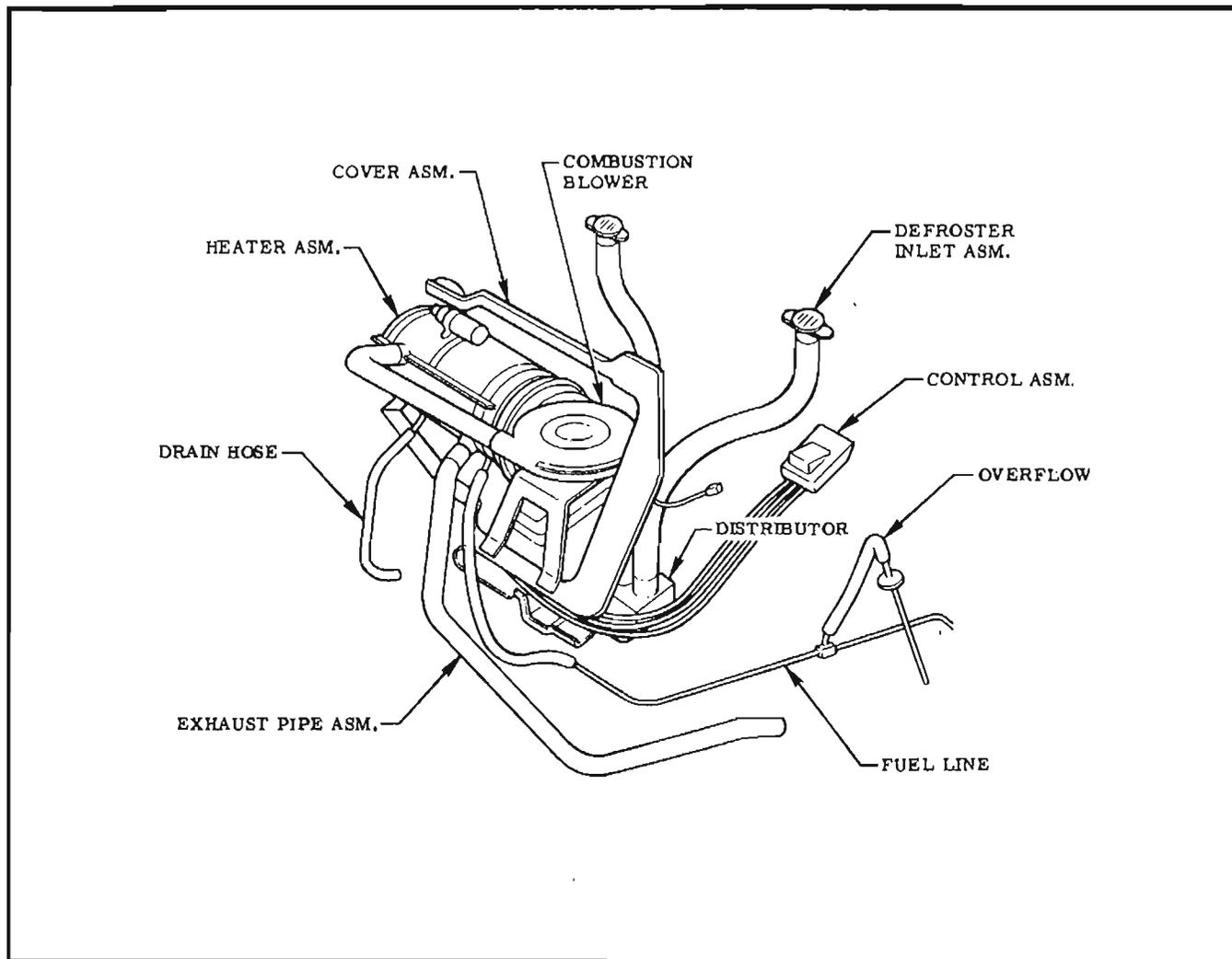


985344
CAR HEATER & DEFROSTER INSTRUCTION SHEET

CORVAIR 95



GENERAL MOTORS PARTS DIVISION
GENERAL MOTORS CORPORATION
DETROIT 2, MICH.

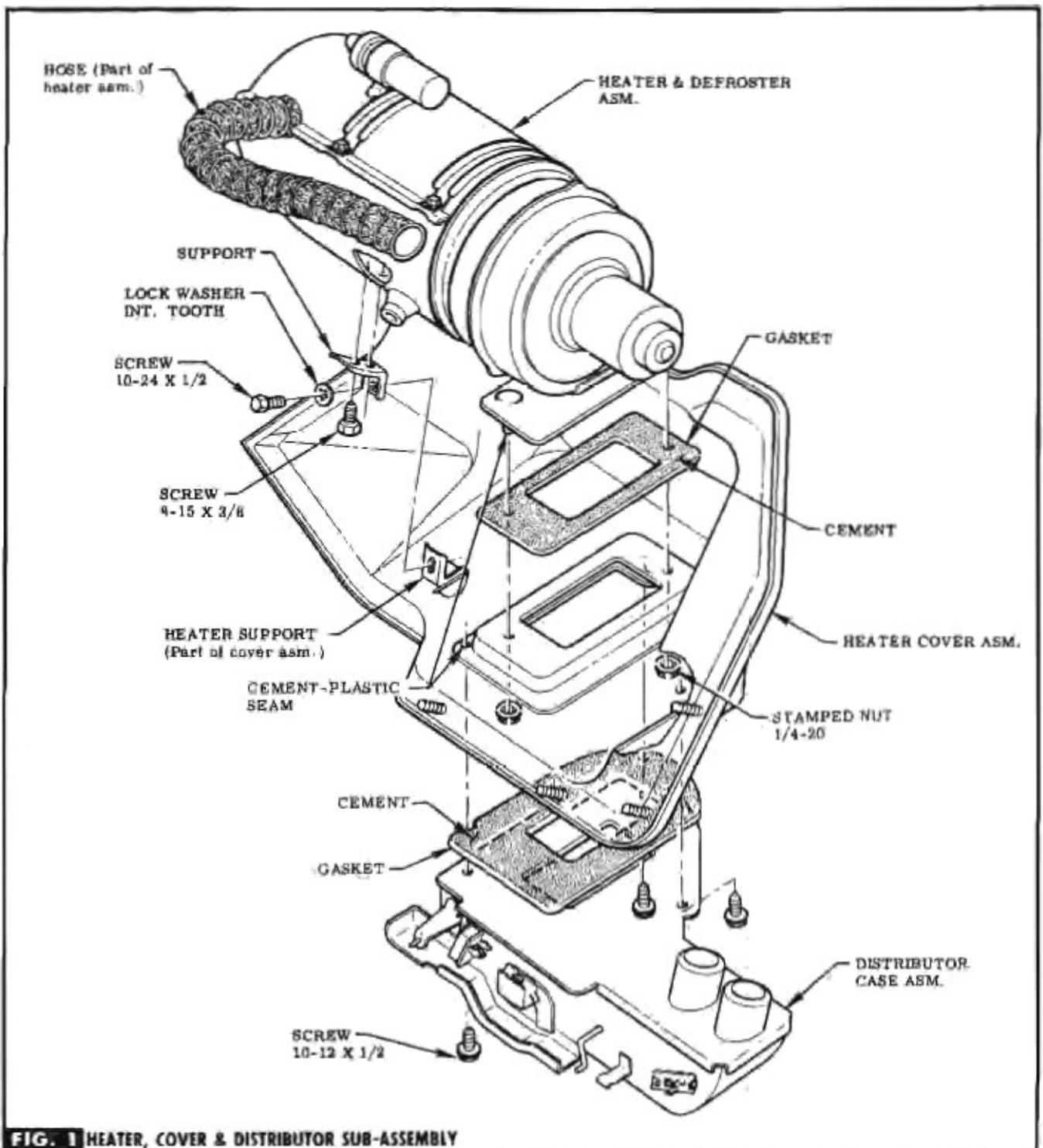


FIG. 1 HEATER, COVER & DISTRIBUTOR SUB-ASSEMBLY

NOTE Vehicle must be equipped with a F. O. A. or accessory harness before heater can be installed. If neither exists, purchase accessory harness unit No. 988350 from service & install.

STEP 1 DISCONNECT BATTERY CABLE.

STEP 2 REMOVE GLOVE BOX, RADIO, HEATER HOLE COVER, FRONT GRILLE & R. H. HEADLAMP ASSEMBLY. DISCARD HEATER HOLE COVER, BUT RETAIN ATTACHING SCREWS & PLUG LOCATED NEAR UPPER L. H. CORNER.

STEP 3 ATTACH SUPPORT TO HEATER WITH SCREWS PROVIDED (IN BAG A). SEE FIG. 1.

STEP 4 CEMENT GASKET TO HEATER, APPLY PLASTIC SEAM CEMENT TO STUDS & ATTACH HEATER TO COVER WITH ATTACHING PARTS PROVIDED (IN BAG B). SEE FIG. 1.

STEP 5 CEMENT GASKET TO DISTRIBUTOR, APPLY PLASTIC SEAM CEMENT TO THREE (3) HOLES IN COVER ASM. & ATTACH DISTRIBUTOR TO COVER ASM. WITH SCREWS PROVIDED (IN BAG B). SEE FIG. 1.

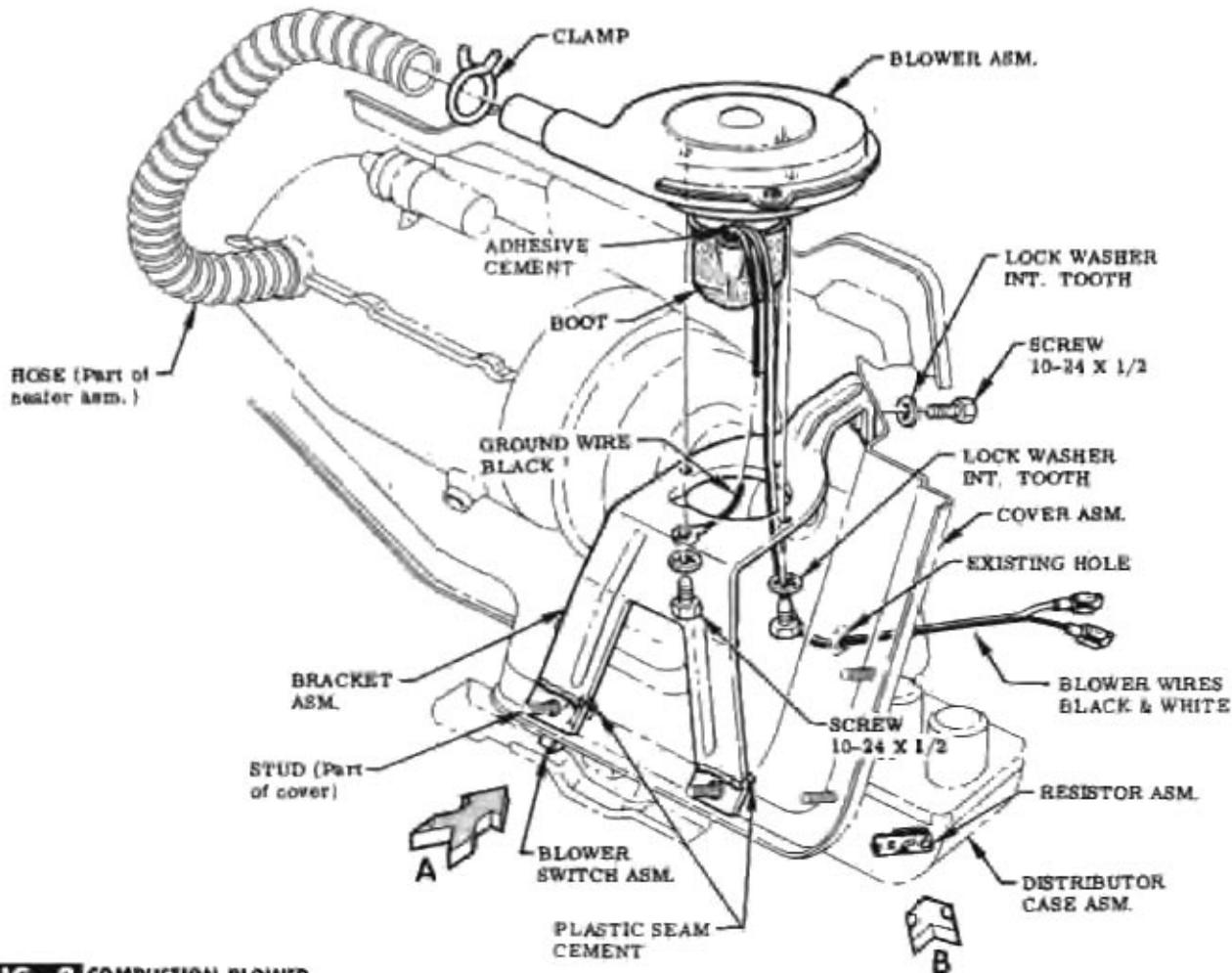
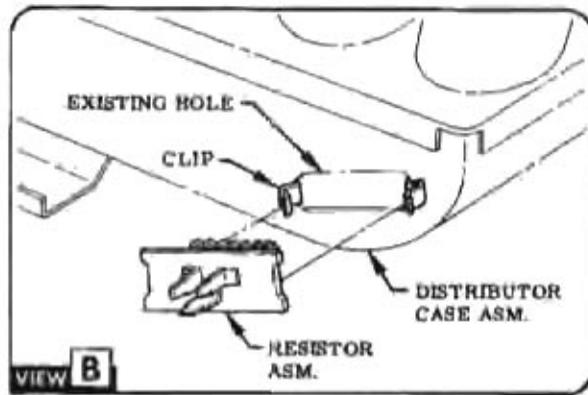
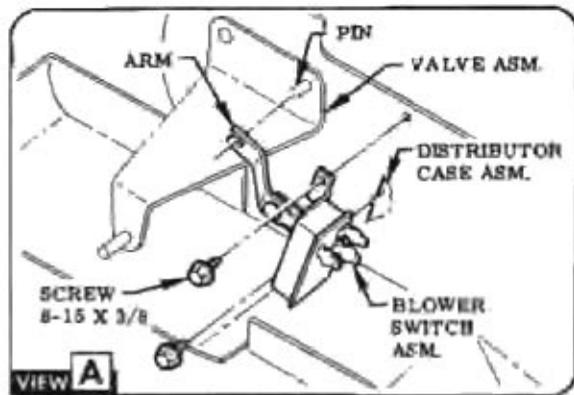


FIG. 2 COMBUSTION BLOWER

STEP 6 PLACE BLOWER SWITCH ARM ON VALVE PIN & ATTACH TO DISTRIBUTOR CASE WITH ATTACHING SCREWS PROVIDED (IN BAG A), SEE VIEW A.

STEP 7 INSTALL CLIPS PROVIDED (IN BAG A) ON DISTRIBUTOR CASE & ATTACH RESISTOR TO CLIPS, SEE VIEW B.

STEP 8 INSTALL BOOT ON BLOWER, SEAL GAP CAUSED BY WIRES LEADING OUT FROM BETWEEN BOOT & MOTOR COVER & ATTACH BLOWER & GROUND WIRE TO BLOWER

BRACKET WITH ATTACHING PARTS (IN BAG B). SEE FIG. 2.

STEP 9 ATTACH BLOWER BRACKET TO COVER WITH ATTACHING PARTS PROVIDED (IN BAG B) & APPLY CEMENT TO BOTH SIDES OF FLANGES. SEE FIG. 2.

STEP 10 ROUTE BLOWER WIRES UNDER BLOWER BRACKET & THRU HOLE IN COVER. SEE FIG. 2.

STEP 11 ATTACH HEATER HOSE TO BLOWER WITH CLAMP PROVIDED (IN BAG C). SEE FIG. 2.

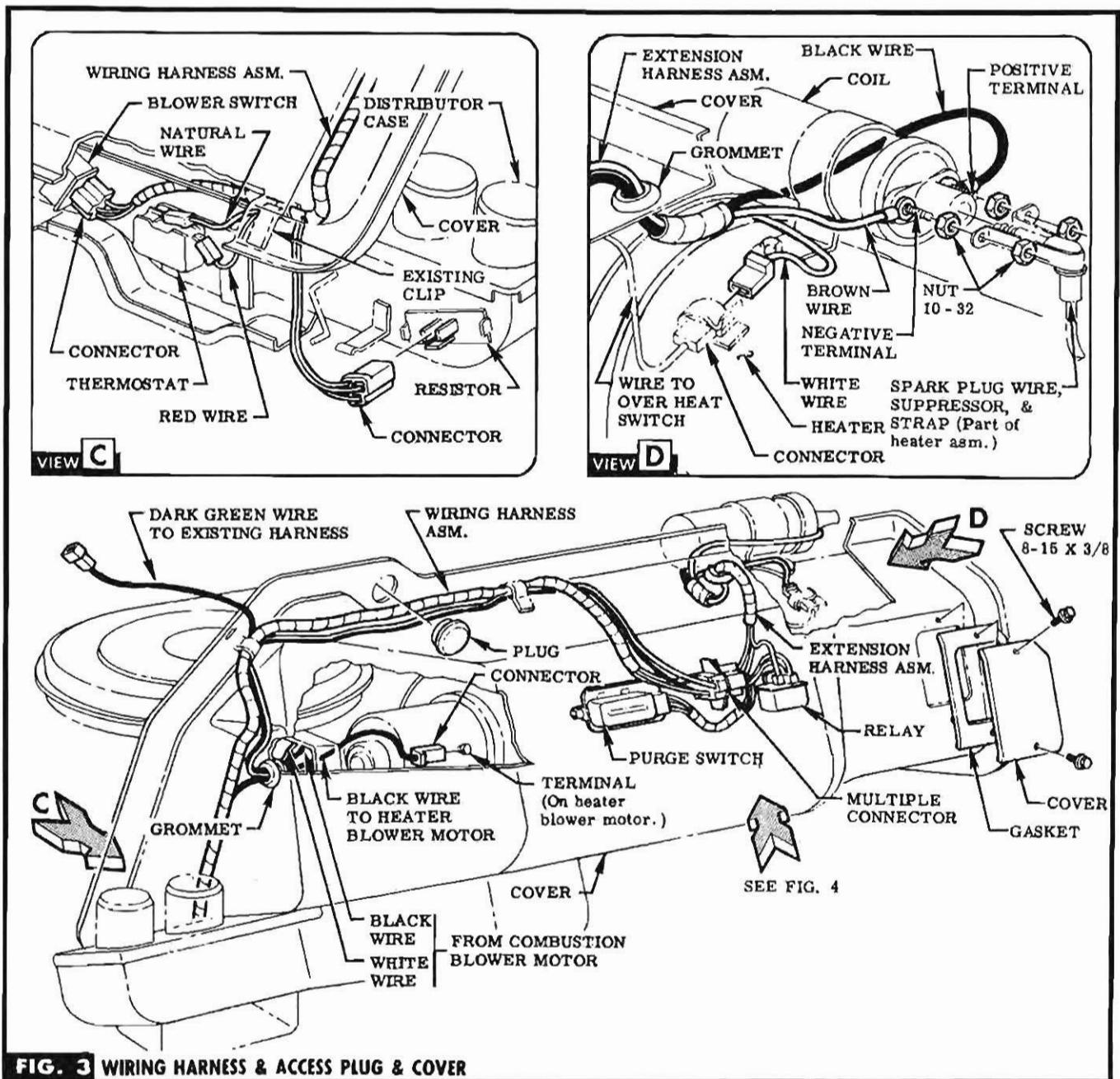


FIG. 3 WIRING HARNESS & ACCESS PLUG & COVER

STEP 12 PLUG HARNESS CONNECTORS ONTO BLOWER SWITCH & RESISTOR. SEE VIEW C.

STEP 13 PLUG RED & NATURAL WIRE CONNECTORS ONTO THERMOSTAT & SNAP HARNESS INTO EXISTING CLIP UNDER COVER FLANGE. SEE VIEW C.

STEP 14 INSTALL GROMMETS PROVIDED (IN BAG B) IN COVER & ROUTE BLACK WIRE CONNECTOR FROM HARNESS, THRU GROMMET & PLUG ONTO BLOWER MOTOR TERMINAL. SEE FIG. 3 & VIEW D.

STEP 15 ROUTE BLACK & WHITE COMBUSTION BLOWER MOTOR WIRES THRU GROMMET & ACROSS TOP OF COVER

ALONG WITH HARNESS. FIT INTO EXISTING CLIPS ON TOP OF COVER ASM. SEE FIG. 3.

STEP 16 ROUTE EXTENSION HARNESS THRU GROMMET TO HEATER COIL & PLUG WHITE JUMPER WIRE CONNECTOR INTO OVERHEAT SWITCH WIRE CONNECTOR. SEE FIG. 3 & VIEW D.

STEP 17 ATTACH BROWN & BLACK WIRES & SPARK PLUG WIRE, SUPPRESSOR & STRAP TO COIL TERMINALS WITH ATTACHING NUTS PROVIDED. SEE VIEW D.

STEP 18 INSTALL PLUG (RETAINED FROM DISCARDED HEATER HOLE COVER) & ATTACH ACCESS COVER USING SCREWS & GASKET PROVIDED (IN BAG C). SEE FIG. 3.

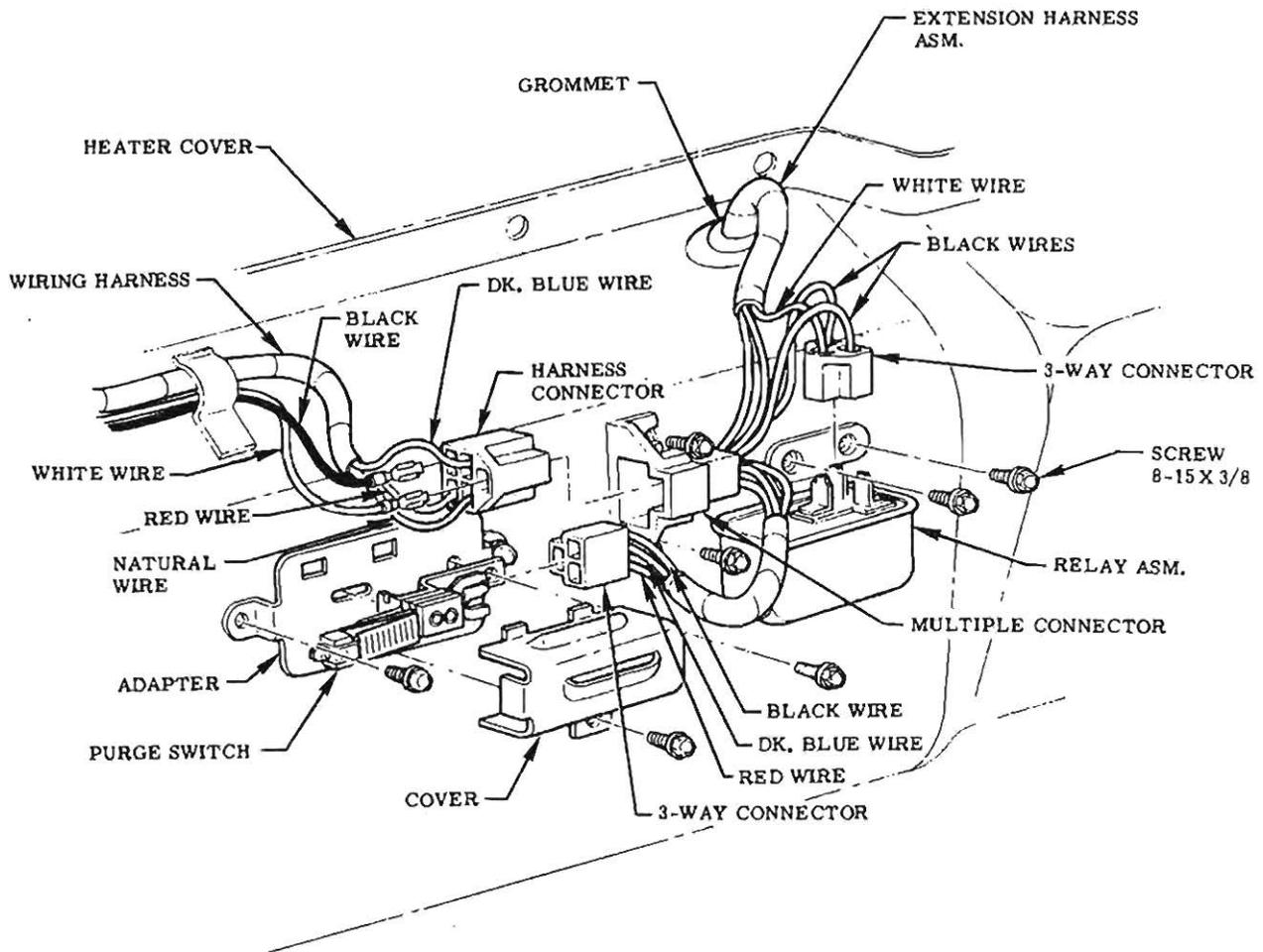


FIG. 4 PURGE SWITCH, MULTIPLE CONNECTOR & RELAY

STEP 19 SUB ASSEMBLE PURGE SWITCH & COVER TO ADAPTER WITH SCREWS (IN BAG A). SEE FIG. 4.

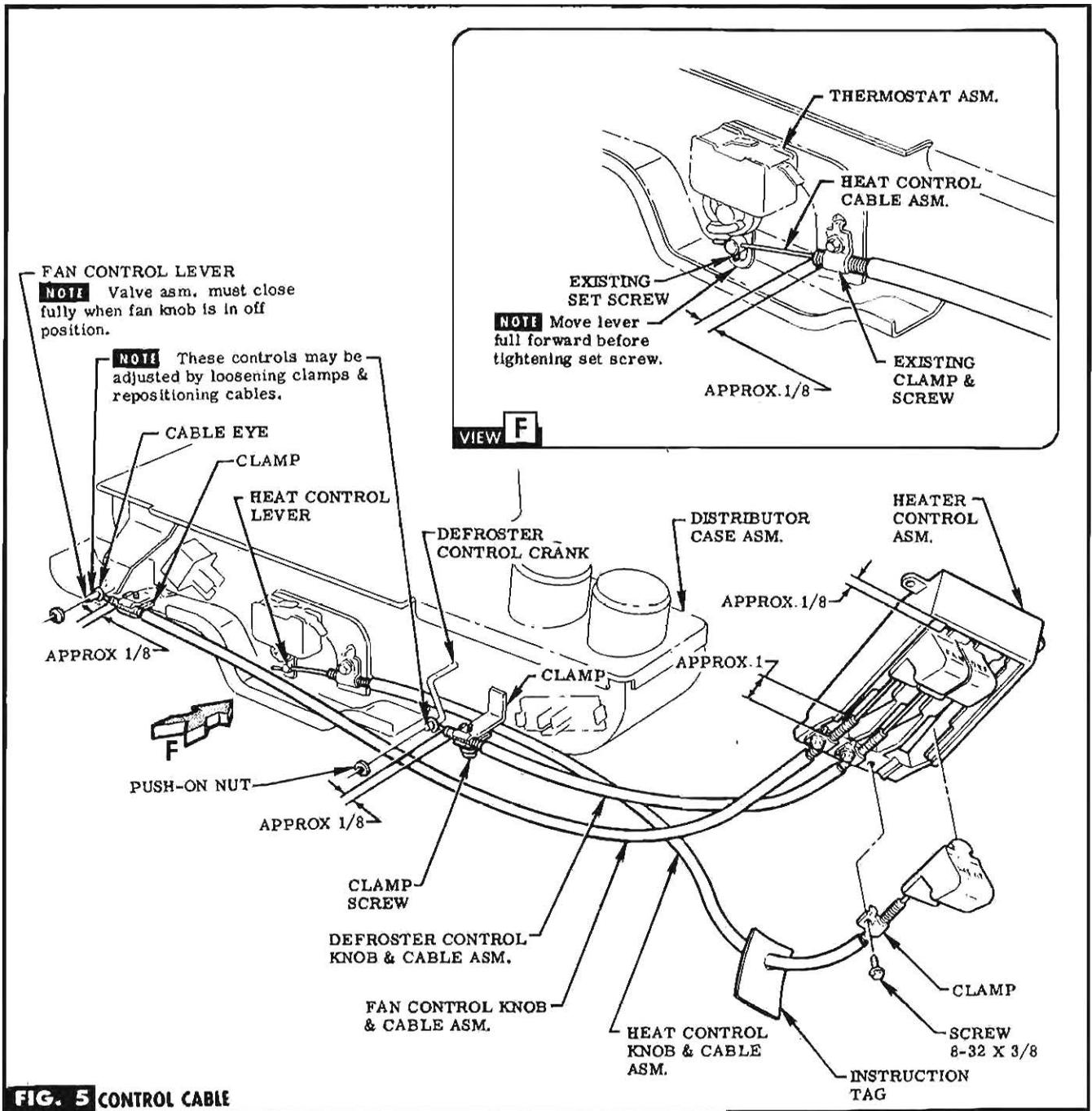
STEP 20 ATTACH ADAPTER SUB ASSEMBLY, MULTIPLE CONNECTOR & RELAY TO EXISTING HOLES IN COVER WITH SCREWS (IN BAG A). SEE FIG. 4.

STEP 21 INSERT TERMINALS OF WHITE & BLACK WIRES

INTO HARNESS CONNECTOR. SEE FIG. 4.

CAUTION White wire to top receptacle on connector.

STEP 22 PLUG HARNESS CONNECTOR TO MULTIPLE CONNECTOR, 3-WAY CONNECTOR (BLACK & WHITE WIRES) TO RELAY & REMAINING 3-WAY CONNECTOR (BLACK, DK. BLUE & RED WIRES) TO PURGE SWITCH. SEE FIG. 4.



STEP 23 INSERT FAN, DEFROSTER & HEAT CONTROL KNOB & CABLE ASSEMBLIES INTO SLOTS OF HEATER CONTROL. SLIDE CABLE SHEATHS UP INTO SLOTS & SECURE TO DIMENSION SHOWN WITH CLAMPS & SCREWS (IN BAG A). SEE FIG. 5.

STEP 24 MOVE HEAT CONTROL KNOB INTO DOWN POSITION, WITHIN 1/4 INCH OF CABLE SHEATH. ROUTE HEAT CONTROL CABLE THRU LEVER (ON THERMOSTAT). SECURE CABLE TO DISTRIBUTOR WITH EXISTING CLAMP & SCREW TO DIMENSION SHOWN. MOVE LEVER (ON THERMOSTAT) FULL FORWARD & TIGHTEN SET SCREW. SEE FIG. 5 & VIEW F.

STEP 25 ROUTE FAN & DEFROSTER CONTROL CABLES TO DISTRIBUTOR. ATTACH FAN CONTROL TO LEVER & DEFROSTER CONTROL TO CRANK WITH PUSH-ON NUTS (IN BAG A). SEE FIG. 5.

STEP 26 SECURE FAN & DEFROSTER CONTROLS TO DISTRIBUTOR WITH EXISTING CLAMPS & SCREWS TO DIMENSION SHOWN. SEE FIG. 5.

STEP 27 ATTACH INSTRUCTION TAG TO HEAT CONTROL CABLE NEAR CONTROL. SEE FIG. 5.

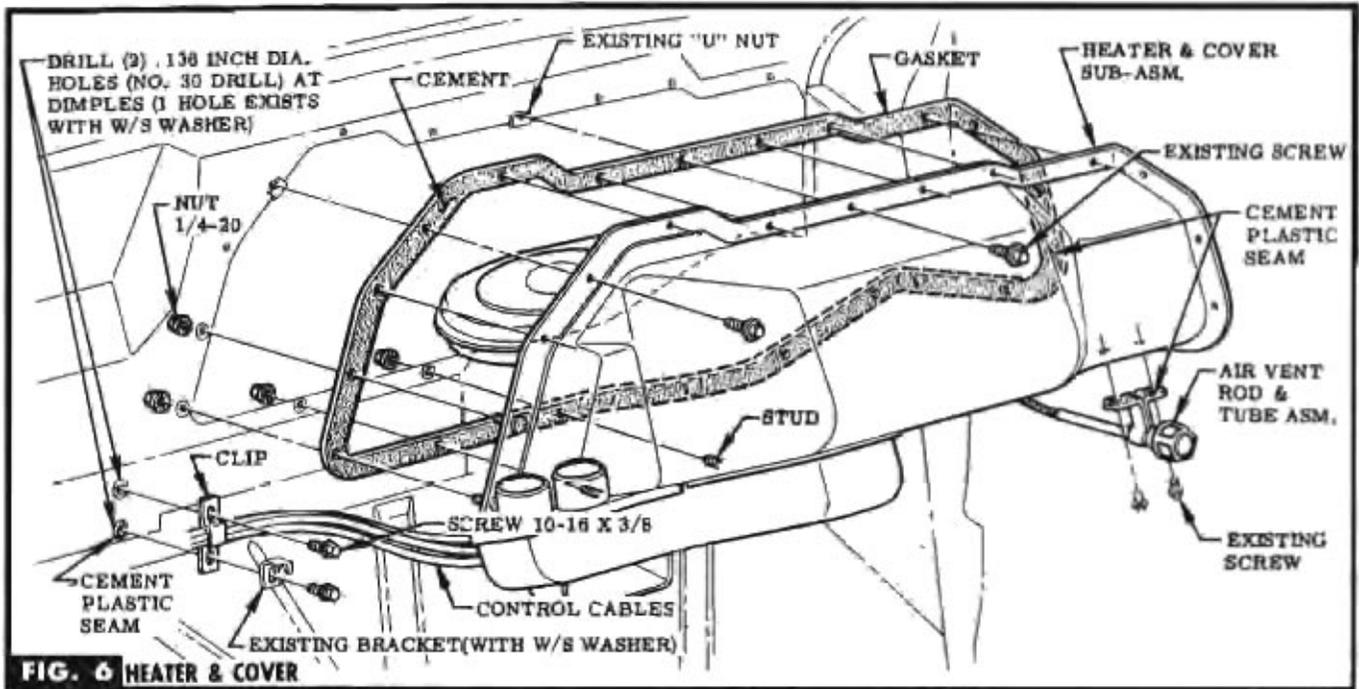


FIG. 6 HEATER & COVER

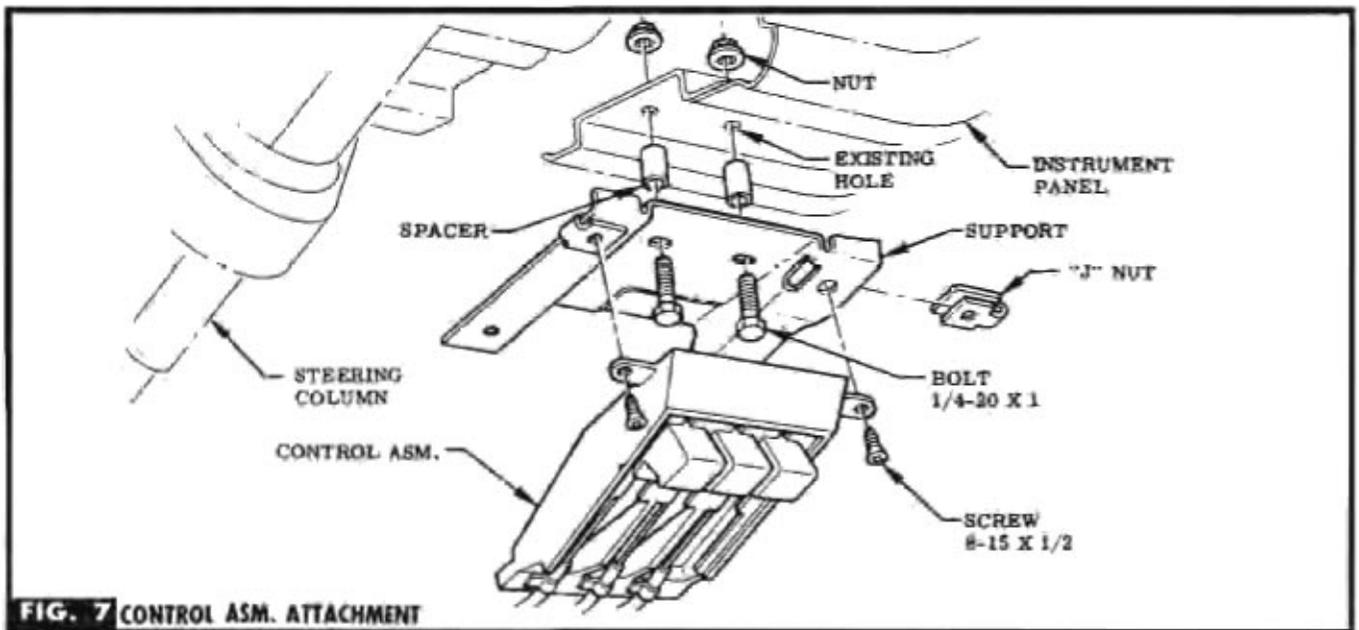


FIG. 7 CONTROL ASM. ATTACHMENT

STEP 28 REMOVE EXISTING R. H. AIR VENT ROD & TUBE ASM. & DISCARD. RETAIN ATTACHING PARTS.

STEP 29 CEMENT GASKET TO COVER & APPLY PLASTIC SEAM CEMENT TO GASKET AT ATTACHING HOLES & TO DASH AT STUD HOLES. ATTACH COVER TO DASH PANEL WITH EXISTING "J" NUTS, RETAINED SCREWS & PROVIDED NUTS (IN BAG B). SEE FIG. 6.

STEP 30 APPLY PLASTIC SEAM CEMENT BETWEEN AIR VENT ROD & TUBE ASM. & COVER, THEN ATTACH WITH RETAINED SCREWS. SEE FIG. 6.

STEP 31 IF W/S WASHER EXISTS, REMOVE & RETAIN RESERVOIR BRACKET, DISCARD SCREW, LOCATE DIMPLE & DRILL

HOLE. SEE FIG. 6.

STEP 32 IF W/S WASHER DOES NOT EXIST, LOCATE DIMPLES & DRILL HOLES. SEE FIG. 6.

STEP 33 APPLY PLASTIC SEAM CEMENT TO HOLES & ATTACH CONTROL CABLES TO DASH PANEL WITH CLIP & SCREWS PROVIDED (IN BAG A). **NOTE** If W/S washers exist, attach retained bracket to bottom of clip. SEE FIG. 6.

STEP 34 ATTACH SUPPORT TO INSTRUMENT PANEL WITH SPACERS & ATTACHING PARTS PROVIDED (IN BAG A). SEE FIG. 7.

STEP 35 ATTACH CONTROL ASM. TO SUPPORT WITH ATTACHING PARTS PROVIDED (IN BAG A). SEE FIG. 7.

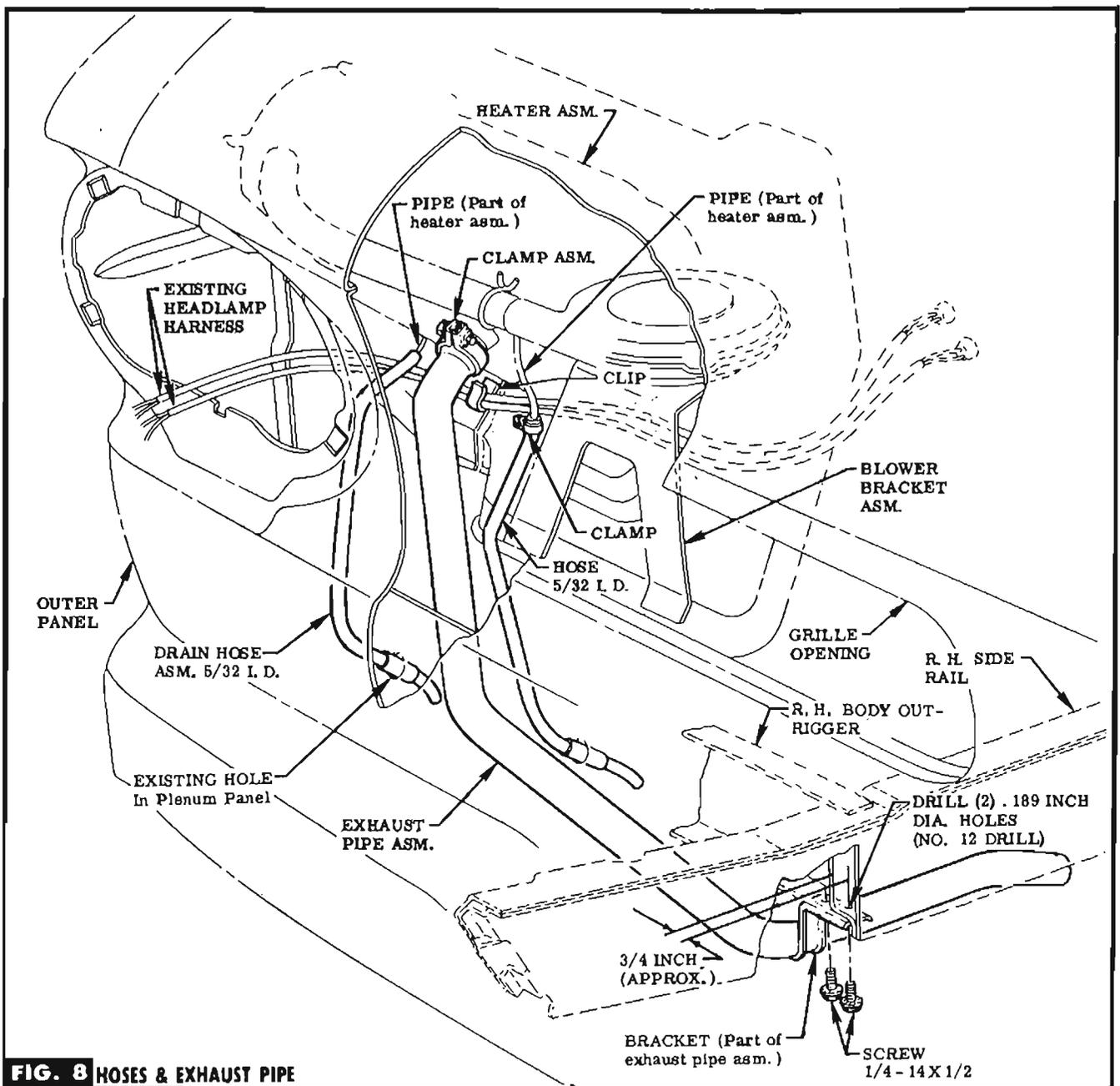


FIG. 8 HOSES & EXHAUST PIPE

STEP 36 INSERT EXHAUST PIPE THRU EXISTING OPENING IN PLENUM PANEL, FIT CLAMP ASM. PROVIDED OVER TOP & SLIDE EXHAUST PIPE OVER HEATER PIPE. SEE FIG. 8.

STEP 37 USING DIMENSIONS SHOWN & PIPE ASM. BRACKET AS A TEMPLATE, CENTER PUNCH & DRILL HOLES IN BODY OUTRIGGER & SIDE RAIL AS SHOWN. SEE FIG. 8.

STEP 38 ATTACH EXHAUST PIPE TO SIDE RAIL USING SCREWS PROVIDED (IN BAG A). SEE FIG. 8.

STEP 39 COMPLETE ATTACHMENT OF EXHAUST PIPE TO HEATER BY SLIDING CLAMP ASM. INTO PLACE & TIGHTEN-

ING. SEE FIG. 8.

STEP 40 ATTACH GASOLINE FRONT PIPE HOSE TO HEATER PIPE WITH ATTACHING CLAMP PROVIDED (IN BAG C) & ROUTE THRU EXISTING HOLE IN PLENUM PANEL. SEE FIG. 8.

STEP 41 ATTACH DRAIN HOSE TO HEATER PIPE & ROUTE THRU EXISTING HOLE IN PLENUM PANEL. SEE FIG. 8.

STEP 42 INSTALL PREVIOUSLY REMOVED HEADLAMP, ROUTE WIRES & ATTACH TO CLIP ON COVER ASSEMBLY SEE FIG. 8.

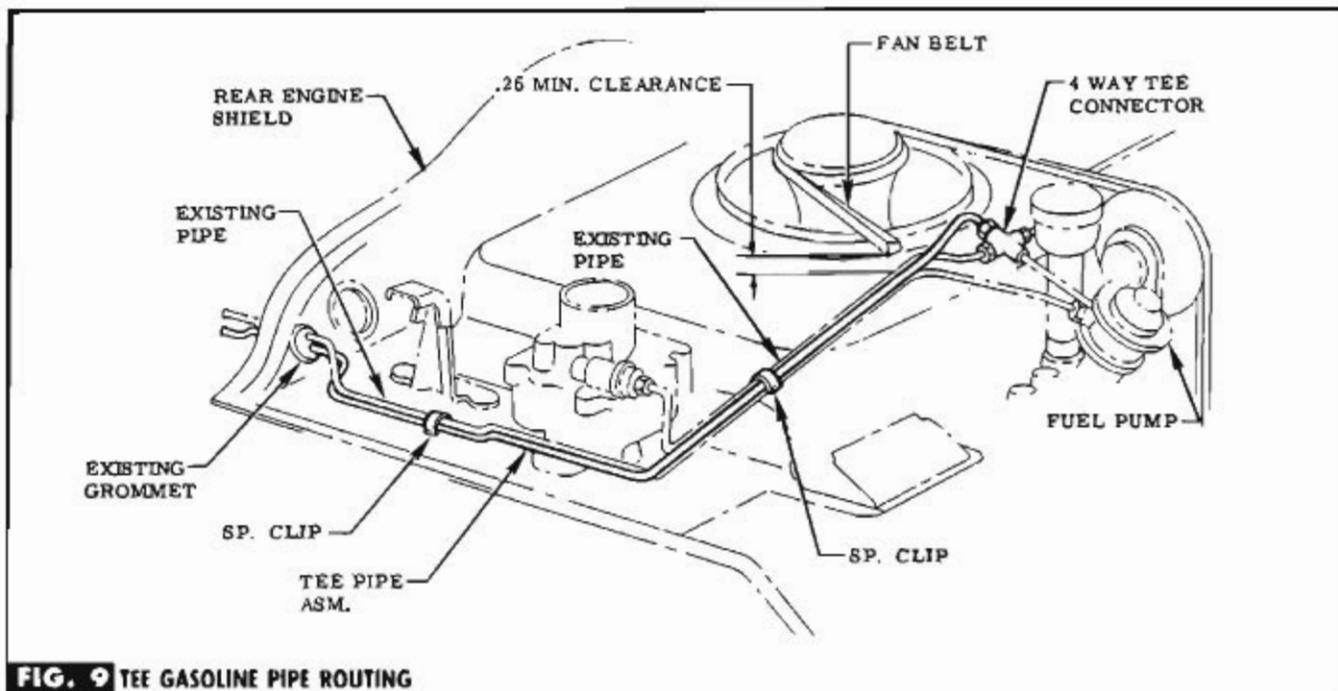


FIG. 9 TEE GASOLINE PIPE ROUTING

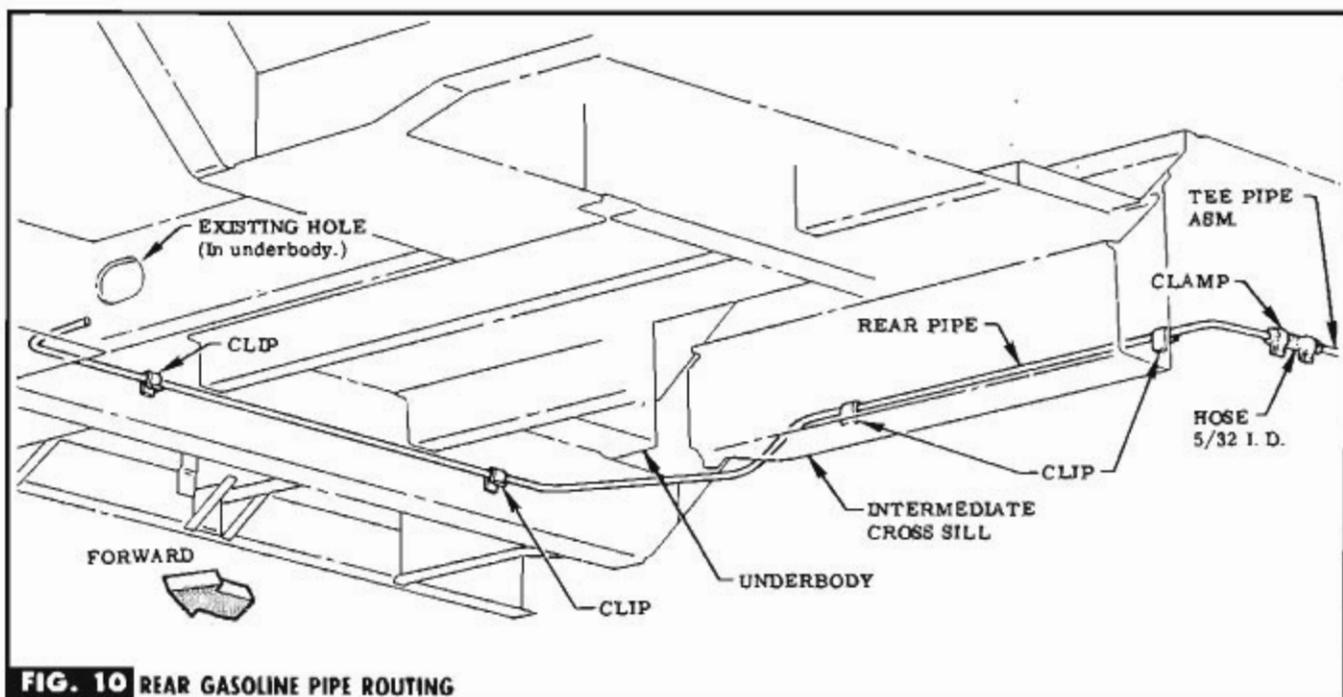


FIG. 10 REAR GASOLINE PIPE ROUTING

STEP 43 REMOVE & DISCARD 3 WAY TEE CONNECTOR & REPLACE WITH 4 WAY CONNECTOR PROVIDED (IN BAG C). SEE FIG. 9.

STEP 44 CONNECT TEE PIPE TO 4 WAY CONNECTOR. ROUTE ALONG SIDE EXISTING FUEL LINE & THRU GROMMET IN REAR ENGINE SHIELD. SECURE WITH CLIPS PROVIDED (IN BAG C). SEE FIG. 9. **NOTE** Proper clearance

must be maintained between fan belt & tee pipe.

STEP 45 FROM UNDERSIDE OF VEHICLE, ROUTE REAR PIPE FORWARD & CLIP TO INTERMEDIATE CROSS SILL & TO SIDE RAIL WITH CLIPS PROVIDED (IN BAG C). SEE FIG. 10.

STEP 46 JOIN REAR PIPE & TEE PIPE WITH HOSE & CLAMPS PROVIDED (IN BAG C). SEE FIG. 10.

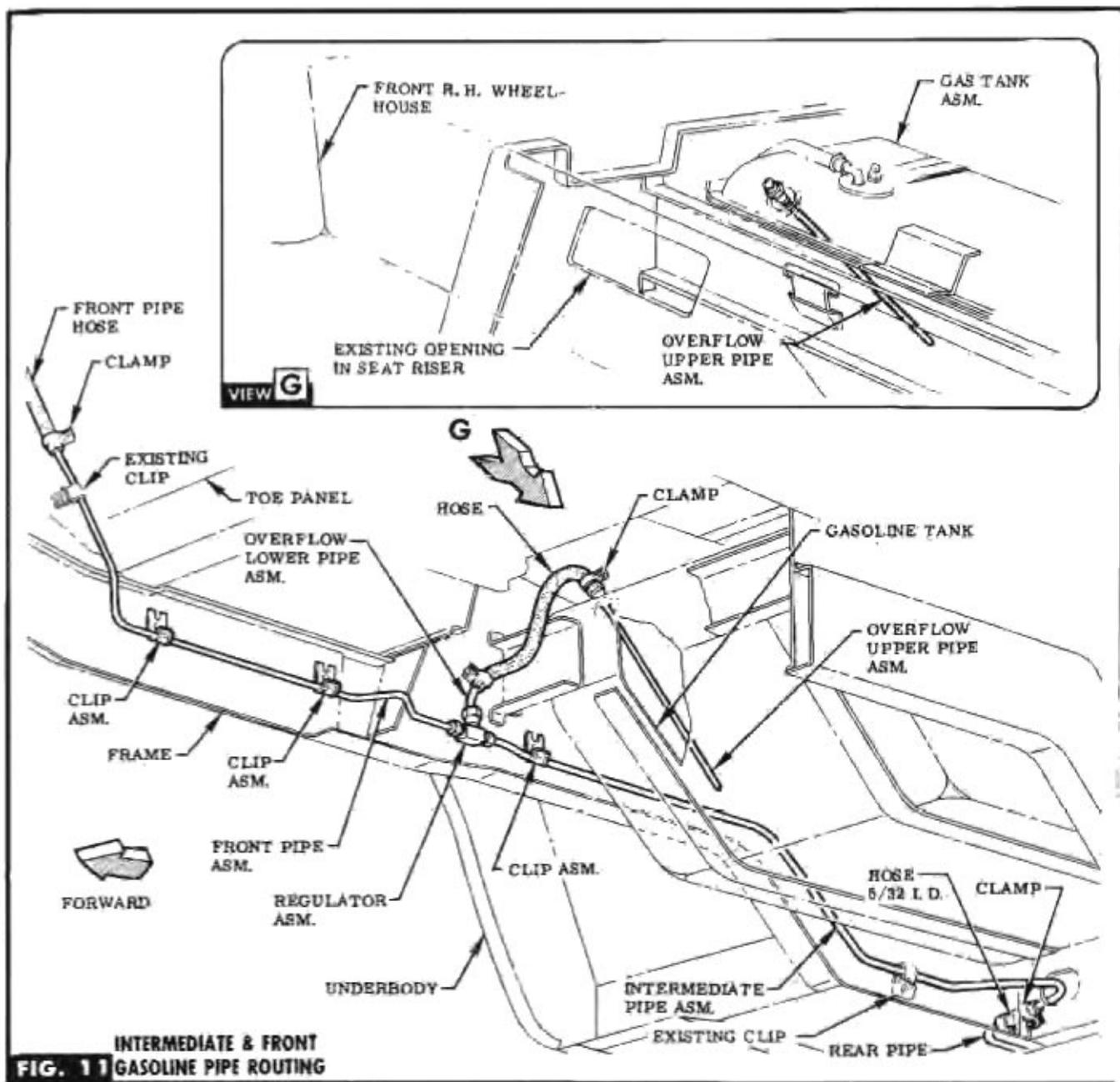


FIG. 11 INTERMEDIATE & FRONT GASOLINE PIPE ROUTING

STEP 47 ROUTE INTERMEDIATE PIPE FORWARD ALONG EXISTING PIPE, ATTACHING TO FRAME WITH EXISTING & PROVIDED CLIPS (IN BAG C). SEE FIG. 11.

STEP 48 JOIN INTERMEDIATE PIPE TO REAR PIPE WITH HOSE & CLAMPS PROVIDED (IN BAG C). SEE FIG. 11.

STEP 49 ATTACH REGULATOR TO INTERMEDIATE PIPE. SEE FIG. 11.

STEP 50 ROUTE FRONT PIPE FORWARD, ATTACHING TO FRAME WITH CLIPS PROVIDED (IN BAG C) & EXISTING CLIP ON TOE PANEL. SEE FIG. 11.

STEP 51 ATTACH FRONT PIPE TO REGULATOR. SEE FIG. 11.

STEP 52 ATTACH FRONT PIPE HOSE TO FRONT PIPE WITH CLAMP PROVIDED (IN BAG C). SEE FIG. 11.

STEP 53 ATTACH OVERFLOW LOWER PIPE TO REGULATOR. SEE FIG. 11.

STEP 54 REMOVE COVER & SCREWS FROM FRONT FACE OF SEAT RISER & THRU OPENING IN SEAT RISER, REMOVE PLUG FROM TANK, RETAIN COVER & SCREWS, DISCARD PLUG.

STEP 55 SLIDE OVERFLOW UPPER PIPE THRU OPENING IN SEAT RISER, & THREAD INTO EXISTING HOLE. (FROM WHICH PLUG HAS BEEN REMOVED). SEE VIEW G.

STEP 56 JOIN UPPER & LOWER OVERFLOW PIPES WITH HOSE & CLAMPS PROVIDED (IN BAG C). SEE FIG. 11.

STEP 57 REPLACE ALL EXISTING PARTS PREVIOUSLY REMOVED.

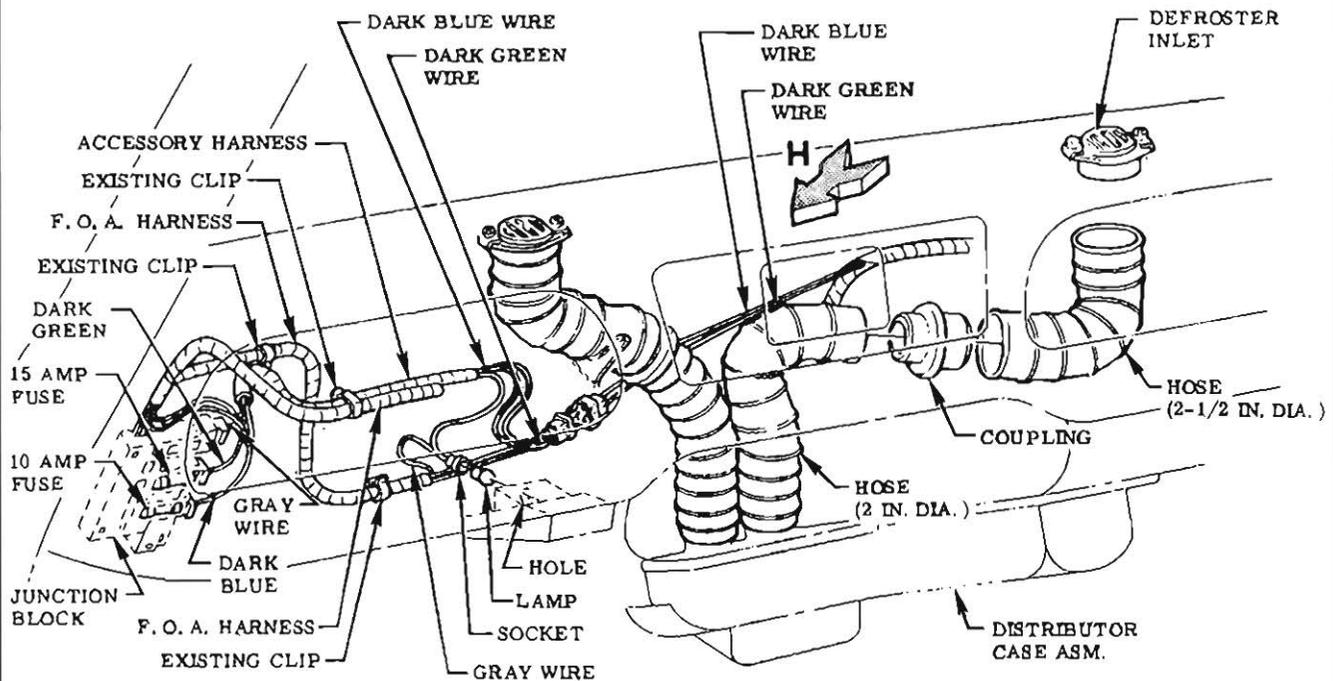
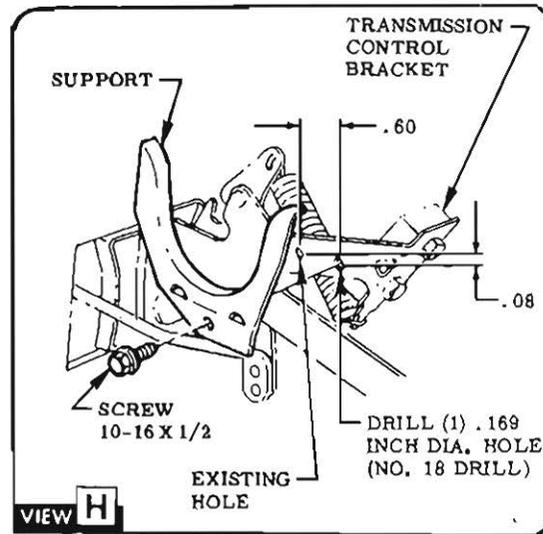


FIG. 12 DEFROSTER HOSES & WIRING

STEP 58 IF AUTOMATIC TRANSMISSION EXISTS, DRILL HOLE & INSTALL HOSE SUPPORT ON TRANSMISSION CONTROL BRACKET WITH SCREW (IN BAG A). SEE VIEW, H.

STEP 59 REMOVE GLOVE BOX. ASSEMBLE LONG & SHORT DEFROSTER HOSES USING COUPLINGS PROVIDED. INSTALL DEFROSTER HOSES ON INLETS & DISTRIBUTOR CASE. SEE FIG. 12. REPLACE GLOVE BOX. **NOTE** If automatic transmission exists route L. H. hose over hose support.

STEP 60 IF ACCESSORY HARNESS HAS BEEN INSTALLED UNTAPE & PLUG GRAY LEAD CONNECTOR INTO BACK OF JUNCTION BLOCK INTO RECEPTACLE MARKED "PANEL LPS." SEE FIG. 12. **NOTE** If radio exists gray wire will always be connected.

STEP 61 UNTAPE GRAY, DARK BLUE & DARK GREEN WIRES

FROM HARNESS, INSERT LAMP INTO SOCKET ON GRAY WIRE & PLUG INTO BACK OF CONTROL. CONNECT DARK BLUE & DARK GREEN WIRES TO HEATER HARNESS WIRE. SEE FIG. 12.

STEP 62 INSTALL FUSE CLIP INTO RECEPTACLE IN JUNCTION BLOCK MARKED "HEATER-B. U. LPS." INSERT (15 AMP) FUSE & PLUG IN DARK GREEN WIRE. SEE FIG. 12.

STEP 63 INSTALL FUSE CLIP INTO RECEPTACLE IN JUNCTION BLOCK MARKED "HEAT BLOW- GL. BOX LP." INSERT (11 AMP) FUSE & PLUG IN DARK BLUE WIRE. SEE FIG. 12.

INSPECTION & CHECKING PROCEDURE.

STEP 64 THE CONTROL ASM. FAN KNOB OPERATES THE VENTILATION BLOWER & HAS TWO SPEEDS, LOW-WITH THE KNOB PUSHED HALF WAY IN & HIGH-WITH THE KNOB PUSHED ALL WAY IN. TURN ON IGNITION & PUSH FAN KNOB IN TO BE SURE VENTILATION BLOWER WORKS AT BOTH SPEEDS.

STEP 65 THE COMBUSTION BLOWER HAS ONLY ONE SPEED (HIGH) & SHOULD WORK WHEN FAN IS IN EITHER LOW OR HIGH POSITION.

STEP 66 WHEN TURNING OFF HEATER OR IGNITION SWITCH, THE COMBUSTION BLOWER SHOULD CONTINUE TO OPERATE FOR APPROX. 30 SECONDS. IF THE COMBUSTION BLOWER DOES NOT TURN OFF WITHIN TWO MINUTES AFTER SHUTTING OFF IGNITION OR HEATER, THE PURGE SWITCH IS DEFECTIVE & MUST BE REPLACED.

STEP 67 IF EITHER OR BOTH BLOWERS DO NOT WORK, INSPECT ALL WIRING CONNECTIONS, ESPECIALLY THE FIVE WAY CONNECTOR ON THE COVER. IT IS ESSENTIAL THAT THE WHITE WIRE LEADING FROM THE COMBUSTION BLOWER ASM. BE INSERTED INTO THE CONNECTOR IN THE PROPER SLOT.

STEP 68 START ENGINE & LET IT IDLE. PUSH CONTROL ASM. HEAT KNOB ALL WAY IN. HEATER MUST IGNITE & OPERATE WITHOUT RUMBLING, POPPING, OR HAVING A SMOKY EXHAUST.

STEP 69 INSPECT ALL GASOLINE LINES TO BE SURE THERE ARE NO LEAKS.

STEP 70 HEATER MUST PRODUCE $150^{\circ} \pm 5^{\circ}$ OUTLET TEMPERATURE WITHIN 3 MINUTES WITH ENGINE AT IDLE. IF THE OUTLET TEMPERATURE REACHES 160° THIS INDICATES A FAULTY THERMOSTAT. IF THE OUTLET TEMPERATURE FAILS TO REACH 135° THIS INDICATES INADEQUATE GASOLINE FLOW & MAY BE CAUSED BY BENT PIPES, PLUGGED PIPES, NOZZLES, FITTINGS, OR A FAULTY FUEL PUMP.

STEP 71 GASOLINE PRESSURE AT THE HEATER SHOULD BE WITHIN THE RANGE OF 4.5 TO 5 P.S.I. IF THE PRESSURE IS HIGHER THAN 5 P.S.I. THE OVERFLOW REGULATOR IS FAULTY. IF THE PRESSURE IS LOWER THAN 4.5 P.S.I. THE ENGINE FUEL PUMP IS FAULTY. THE PRESSURE RANGE OF THE FUEL PUMP SHOULD BE WITHIN 6 TO 8 P.S.I.

STEP 72 REFER TO SHOP MANUAL FOR CORRECT HEATER MAINTENANCE & REPAIR.