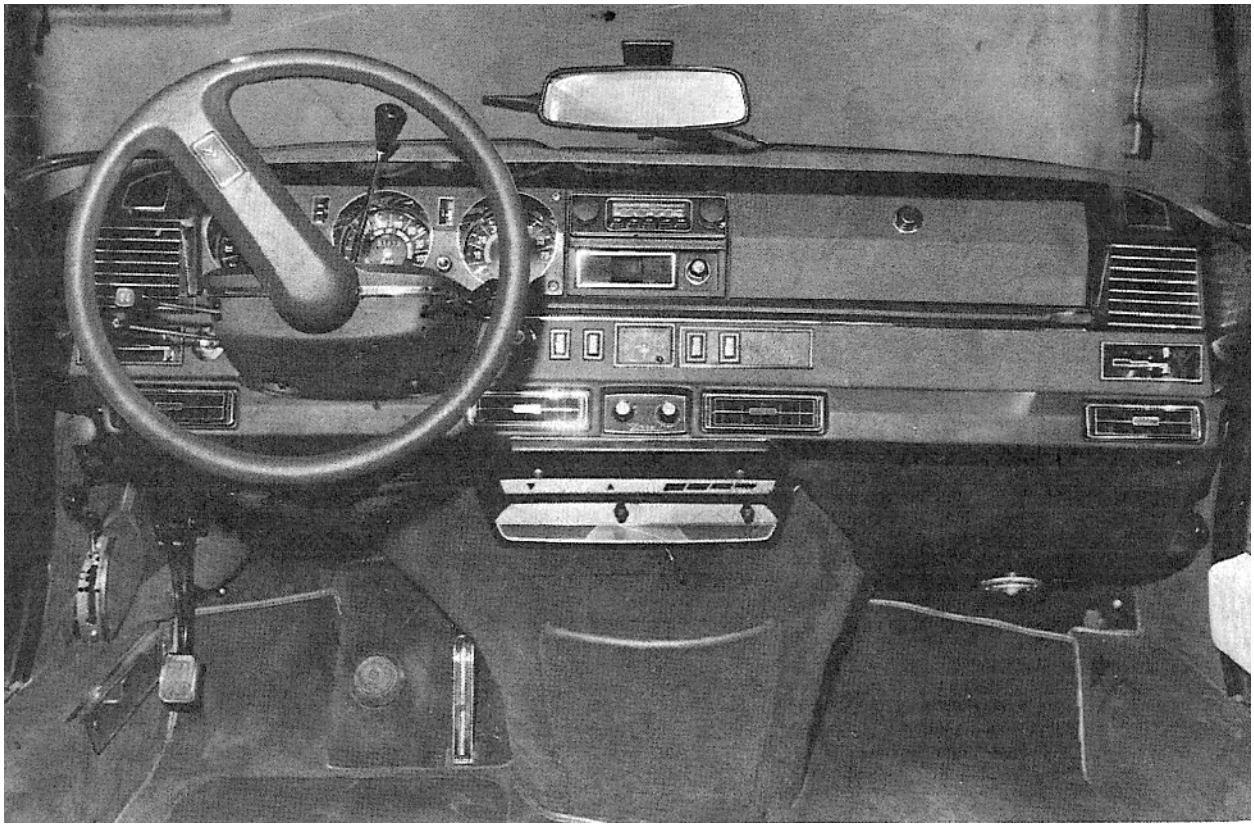
COOLAIRE MIAMI

MODEL.. 17172.. AIR CONDITIONER

C I T R O E N



INSTALLATION INSTRUCTIONS

10400 S. W. 187th St.
Miami, FLA. - U.S.A.

PHONE 305-235-3311
TELEX 31-350

IMPORTANT:

Use refrigeration oil on all seats and threads. Do not remove protective caps from fittings until ready to connect hoses. Use back-up wrench on all fittings.

NOTE:

A 50% mixture of antifreeze must be used in the cooling system. The front license plate must be mounted above the air intake. The original engine thermostat must be replaced by one with a setting of 70C (158F). Obtain from Citroen under part # D 234-01.

PREPARATION OF CAR

1. Remove both front fenders.
2. Remove windshield washer reservoir support bracket from right front fender and discard.
3. Remove spare tire. Remove (2) bolts at each end of radiator air intake housing support bracket and (2) sheet metal screws attached to intake housing.
4. Remove and retain (6) sheet metal screws holding fabric connector to radiator shroud. Remove air intake housing.
5. See FIG. 1 mark centers and drill (2) holes 1-3/5" dia. with hole - insert grommets.
6. For DS-21 series cars ONLY refer to FIG. 2 . Remove and rotate180 degrees the clamps securing the high pressure hydraulic lines to the pump

Note: use care so as not to over bend or kink the lines.

7. Now move into passenger compartment. Lift floor mat and locate centers as shown in FIG. 3 and drill (2) 1 3/8" holes through the floor panel for freon hoses. (CAUTION: Drill carefully as this is a double wall compartment and you need only to penetrate the metal firewall below the floor mat.) Insert grommets in the holes.
8. Locate the center as shown in FIG. 3 and drill (1) 3/4" hole for drain hose. (CAUTION: Hydraulic and fuel lines lie beyond this wall.)
9. Slit the heat duct on the underside of the dash on passenger's side and flatten against bottom of dash as shown in FIG. 4
10. Remove (2) black sheet metal screws holding heater control panel to dashboard. Discard screws. Remove and discard (2) sheet metal screws which secure the (2) upper controls to the dashboard. Remove and discard the (4) plastic screw plugs.
11. Remove and discard (2) machine screws which hold the heater control to the transmission tunnel.
12. Trim both ends of rubber molding from under dash section of steering column cover.
13. Remove and discard metal trim molding and trim rubber tuck-tab from extreme right hand side of under dash.

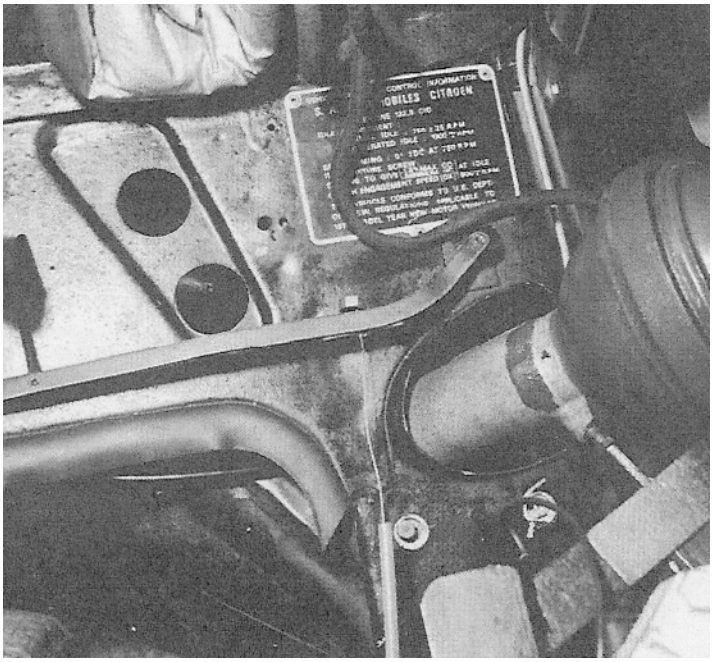


FIG 1

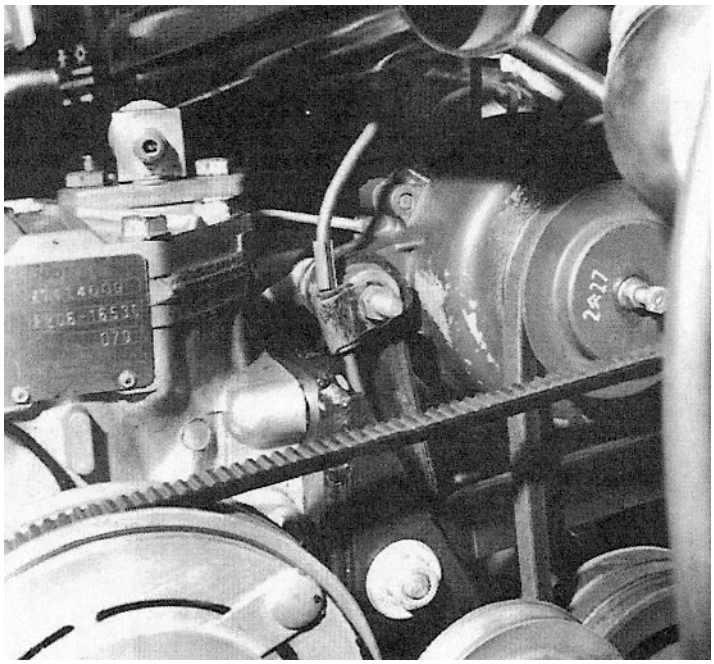


FIG 2

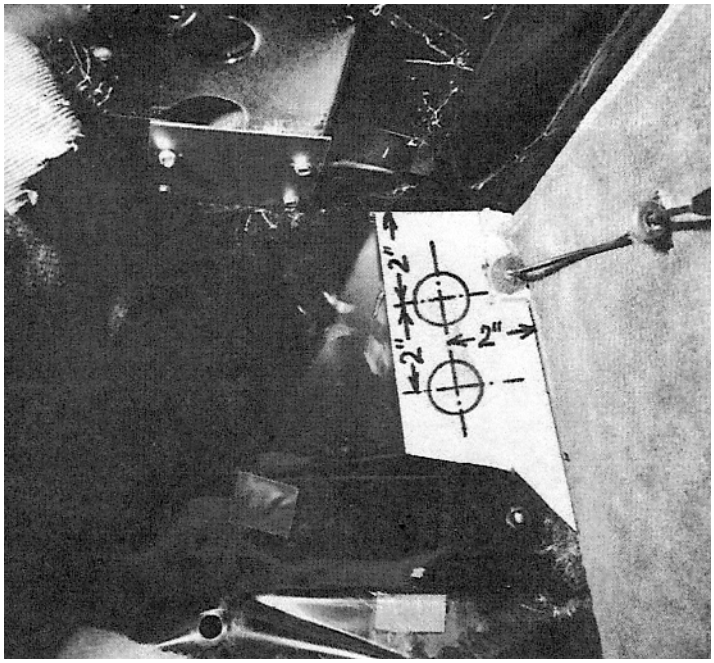


FIG 3

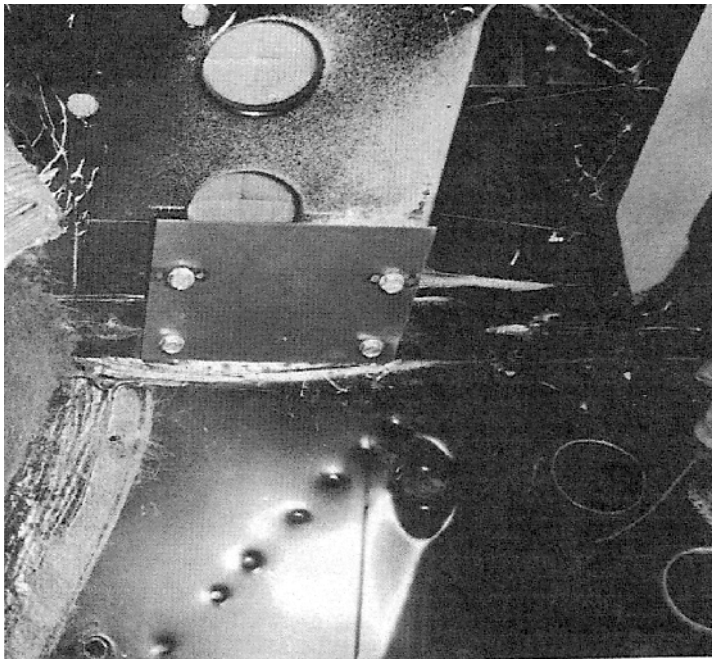


FIG 4

EVAPORATOR INSTALLATION

1. Evaporator Hanger Bracket #15-13066A: Place bracket on underside of dash as shown in FIG 5 and attach with (4) #10 x 3/4" sheet metal screws.
2. Cut (2) holes for freon hoses and (1) hole for drain hose through floor mat and re-install.
3. Insert the 90 degree end of the 40" long #6 freon hose through the lower hole in the engine compartment and the lower hole in the passengerÆs compartment. Next insert the 45degree end of the 20" long #10 freon hose through the upper hole in the passenger side and through the upper hole in the engine compartment. Slip insulation tube over #10 frcon hoses. Now attach these freon hoses to the evaporator and expansion valve. (Use back-up wrench and refrigeration oil on all fittings.). Push insulation hose over the fitting. Make sure that. fitting is fully covered.
4. On the underside of the dashboard there are (8) Phillips Head sheet metal screws. Numbering from the left side of dash panel remove screws and washers numbered 2 & 8. Hang evaporator into hanger bracket on under side of dash. Now line up the left and right hand evaporator brackets with the (2) existing holes and re-install, the (2) Phillips screws. (Use washer on left side only.).
5. Drain hose 1/2" I.D.˜x 10" long: Insert in pre-drilled hole and attach to drain tube on evaporator.
6. Secure black ground lead of evaporator blower motor with #8 x 1/2" sheet metal screw to firewall under the right edge of carpet.
7. Evaporator bracket, center #15-13O64A: Place bracket as shown in FIG: 6 push up snugly so that evaporator front makes firm contact with the under dash panel and attach with (3) #10 x 1 1/4" sheet metal screws.
8. Heater-Controls: Attach heater control to the lower threaded holes of evaporator bracket using (2) 10-32 x 1/2" machine screws, and (2) #10 Star Lock washer. Attach the air distribution controls to the upper inner threaded holes on evaporator bracket. PALLAS MODEL ONLY: Attach heater control light with (2) # 10 x 3/8" sheet metal screws to evaporator bracket (See FIG: 6_). Now install control panel using (2) #10x32 x 7/8" machine screw. (Use upper mounting holes only).
9. Cross cut center of rubber grommet shown in FIG:7 insert molded multiple connector of external wire rness through grommet and connect to evaporator.
10. Route red wire behind evaporator and connect to orange lead of blower motor.

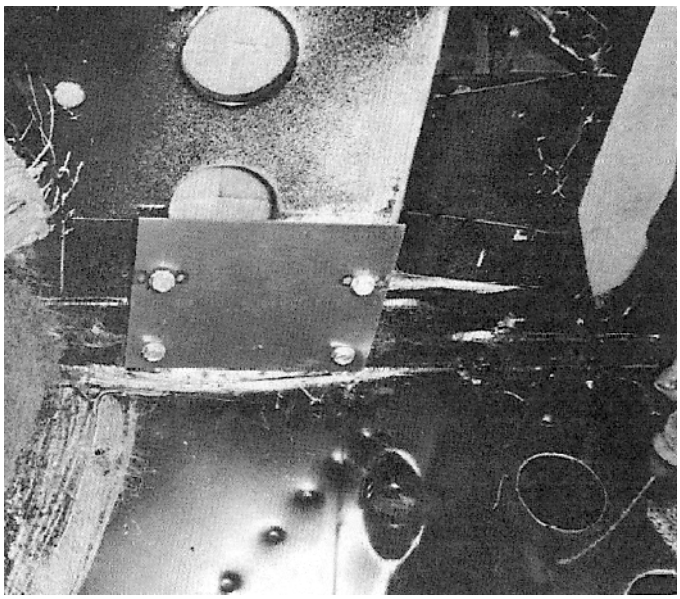


FIG 5

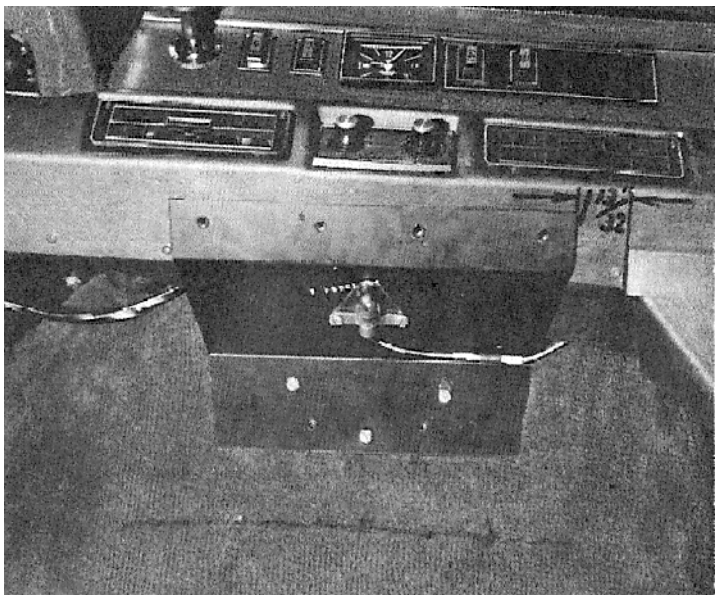


FIG 6

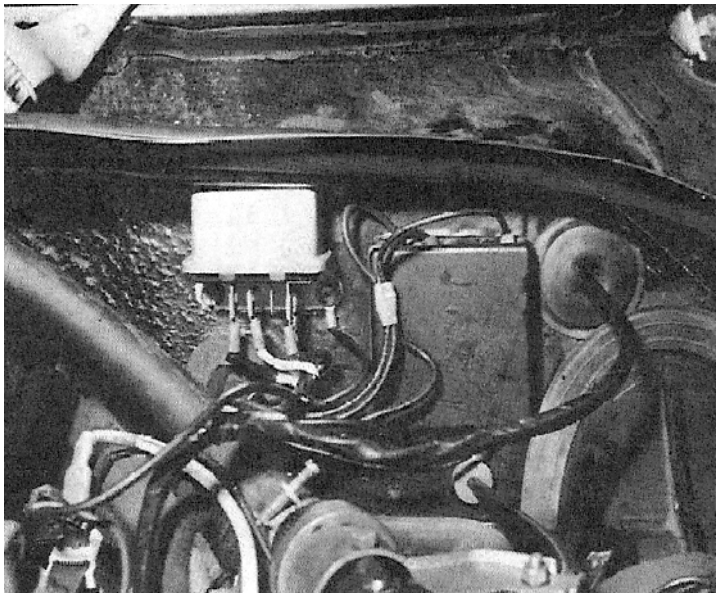
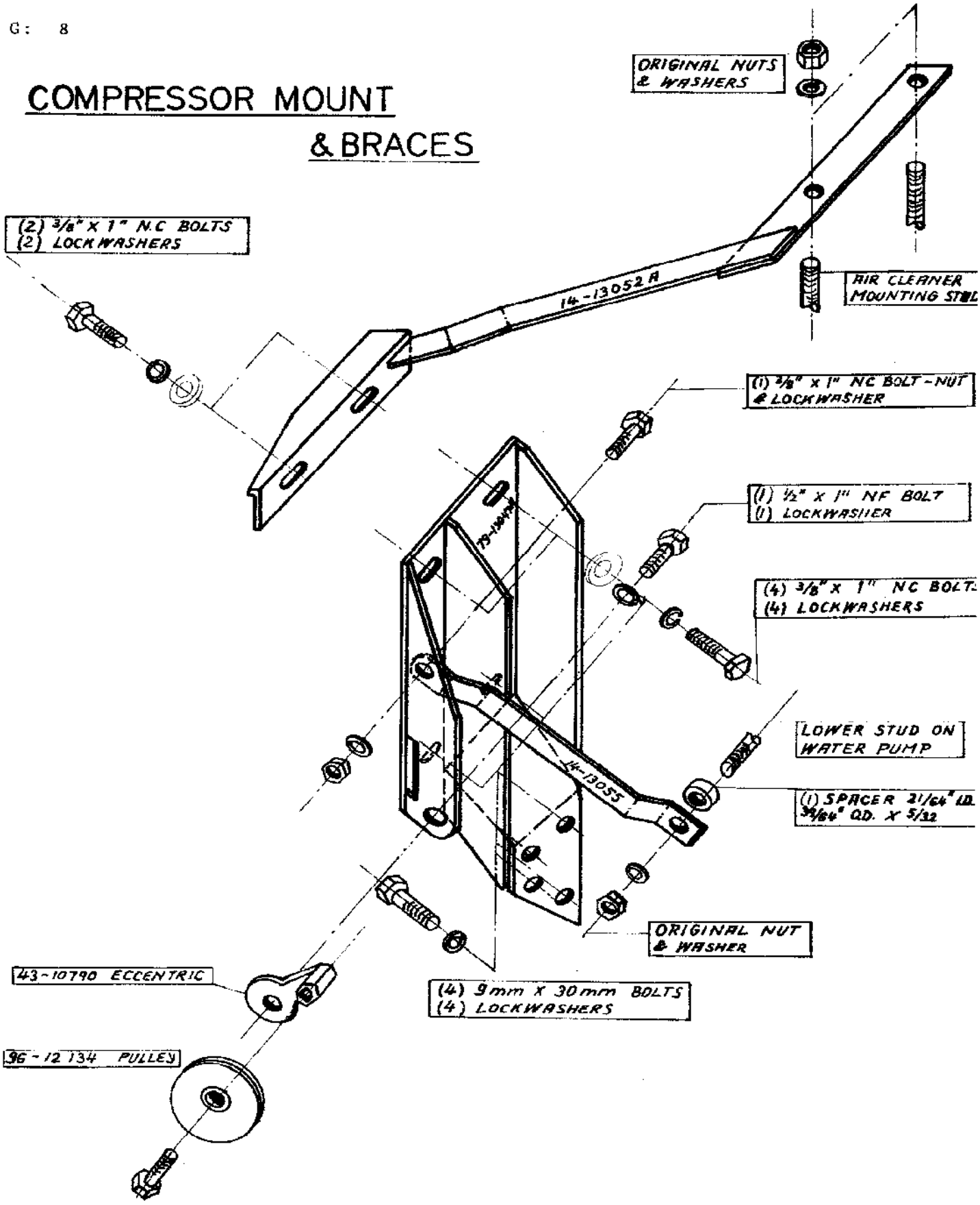


FIG 7

COMPRESSOR INSTALLATION

1. REFER T0 FIG: 8. Attach idler pulley #96−12134 (with cir−clip to rear) securely to eccentric #43−10790 using shoulder bolt provided. Using the 1/2ö x 1ö bolt and lock washer attach idler assembly to compressor mount.
2. Attach compressor mount #79−i3047A securely to engine block with (4) 9 mm x 30 mm bolts and lock washers provided. Be sure to tighten bolts uniformly.
3. Attach service valves and clutch to compressor. (NOTE: See instructions for proper clutch mounting in the clutch carton.)
4. Position compressor on mount and secure with (4). 3/8" x 1" bolts and lock washers supplied. (DO NOT TIGHTEN AT THIS TIME.)
5. Remove nut & washer from lower stud on underside of water pump. Referring to FIG: 8, first place spacer 21/64" 1.0. x 5/32" and then the front compressor brace #14-13055 on the stud. Replace original washer and nut. (DO NOT TIGHTEN AT THIS TIME). Attach compressor end of the same brace with 3/8" x 1ö\" bolt, lock washer and nut provided. (DO NOT TIGHTEN AT THIS TIME)
6. Rear compressor brace #14-13052A: Remove air cleaner, place rear end of brace on stud and replace the original nuts and washers loosely. Attach compressor end of brace using (2) 3/8" x 1" bolts and lock washers supplied.
7. With compressor and braces loosely mounted, make certain the pulleys are in alignment, carefully and uniformly tighten all bolts on the compressor and braces..
8. Remove (4) hex head sheet metal screws that hold the fan blade to water pump pulley assembly - ease blade forward enough to pass compressor belt between fan blade and onto pulley. Reposition fan blade and replace sheet metal screws.
9. Wrap compressor belt around clutch and tighten with idler pulley.

COMPRESSOR MOUNT & BRACES



AIR INTAKE SHROUD

1. Notice how flange of shroud's are positioned between the first fin and the end plates of the coil. Remove the (4) #8 x 1/2" sheet metal screws that hold the air intake shroud of both condenser assemblies. Set shrouds aside.

2. Attach 90 degree end of the 74ö long #8 freon hose to upper fitting of the left hand condenser. Next attach the 60" long #6 freon hose to lower fitting and the other end of the hose to the upper fitting of the right hand condenser. Now attach the 29" long #6 freon hose to lower fitting of right hand condenser. See FIG: 9 . (Use back–up wrench and refrigeration oil on all fittings).

3. Referring to FIG: 10 place condenser in fender well. Insert (1) #10 x 1/2" sheet metal screw through upper slot hole in fender well panel line–up with hole in condenser bracket and torque only slightly. Now push condenser back, so that the plastic housing rest against the chassis member. Attach black ground lead of condenser motor and the condenser to the chassis frame using (1) #10 x 1/2" sheet metal screw. Now torque the sheet metal screw in fender well panel.

Repeat same procedure for the second condenser.

4. Clamp freon hoses to chassis frame using (2) oval hose clamps see FIG: 10 & 11.

5. Clamp freon hoses to chassis cross member using (4) 1ö hose clamps see FIG: 11 & 12

6. Insert turn signal and parking light wires through bushing in shroud.

7. Referring to FIG: 13 & l4 bend sides of shroud forward. Position shroud in bumper and place the flanges of the shroud between the first fin and the end plates of the coil. Now secure shroud with the (4) #8 x 1/2" Sheet metal screws to the condenser assembly. Repeat opera&ion for the second condenser.

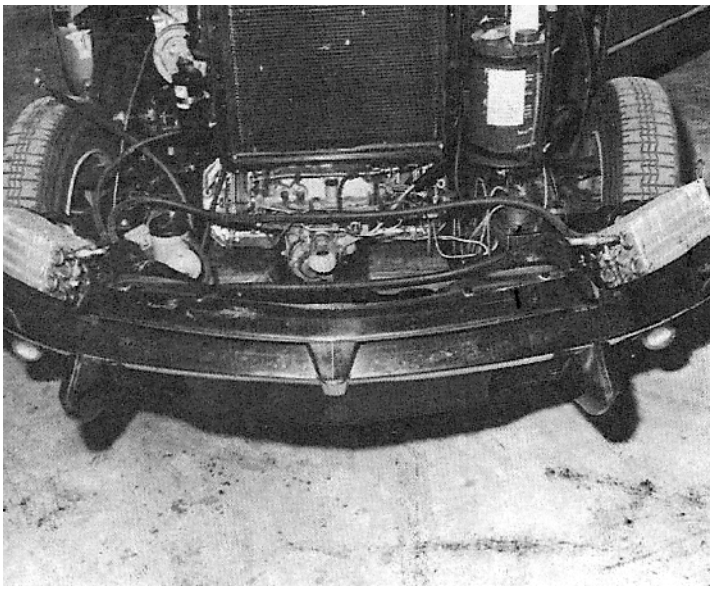


FIG 9

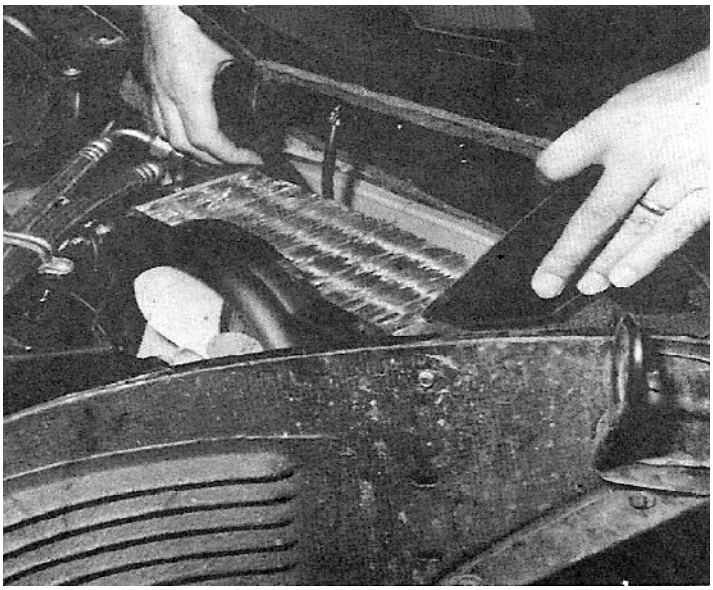


FIG 10

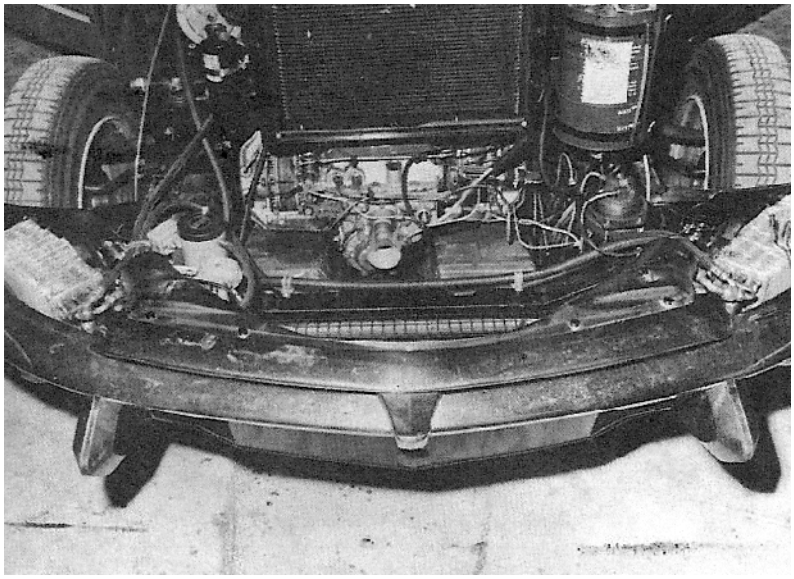


FIG 11

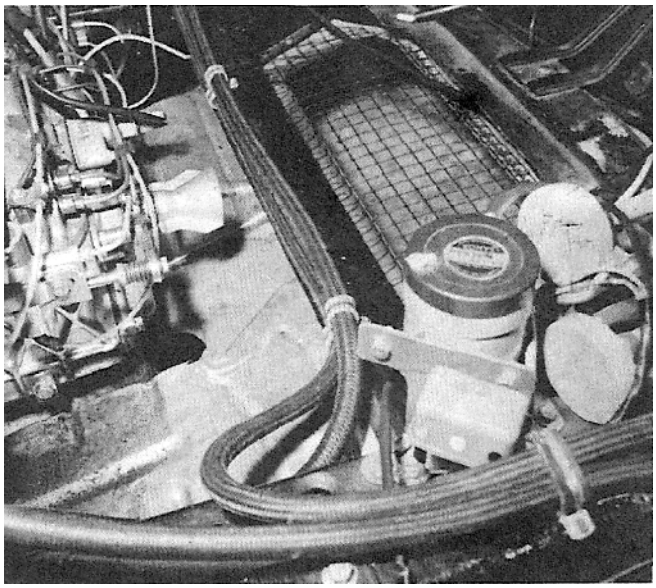


FIG 12

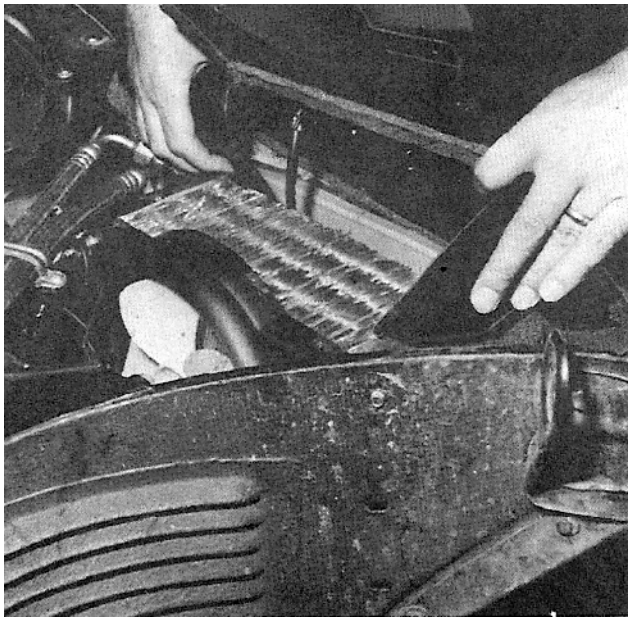


FIG 13

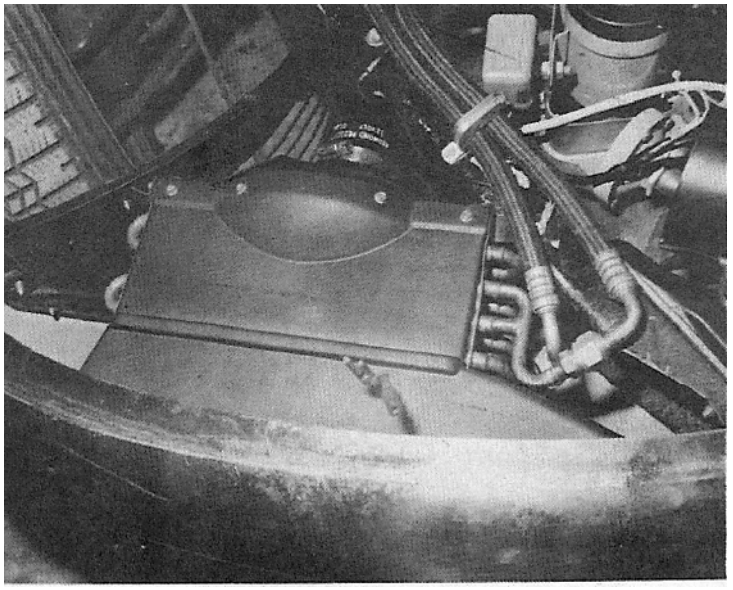


FIG 14

DRIER INSTALLATION

1. Referring to FIG: 15, attach drier bracket #l5−13093A using the 1/4" x 3/8" bolt and 1/4" lock washer to the innermost threaded hole of the triangular shaped plate. Install drier and position with the "IN" fitting forward (do not connect hoses at this time).

ELECTRICAL

1. Attach green ground lead of wire harness to terminal #5 of relay supplied. Using (2) #10 x 1/2" sheet metal screws attach relay as shown in FIG: 16 Be sure eyelet terminal of ground lead is secured by one of the mounting screws.
2. Now make all electrical connection to the relay, battery, and condenser motors referring to FIG: 18
3. Install high pressure limit switch on discharge valve and connect black clutch lead and clutch field coil wire to limit switch.

GENERAL

1. Referring to FIG: 1. connect the #8 condenser hose to the discharge fitting on the compressor. Connect the #6 condenser hose to the IN side of the drier. To the OUT side of the drier connect the #6 hose from the evaporator. Finally connect #10 hose from the evaporator to the Suction fitting of compressor (Use refrigeration oil and back−up wrenches on all fittings).
2. Use (2) 7 long plastic ties to secure the #8 freon hose to the drier bracket and the wire harness clutch lead to #8 freon hose. See FIG: 17 Use (1) 1" clamp to secure #6 freon hose to splash pan.
3. Charge system. See charging procedure.
4. Re−install both fenders. Make sure that both fresh air hoses are connected properly.
5. Place windshield washer reservoir in rack previously used for L.H.M. spare fluid and replace hose with 46" long plastic hose provided.
6. Seal all holes in firewall with putty.
7. Position CoolAire decal on the bottom center of rear window.
8. Attach CRD Hose 1 1/2" x 6" to Footwell nozzle of evaporator case.

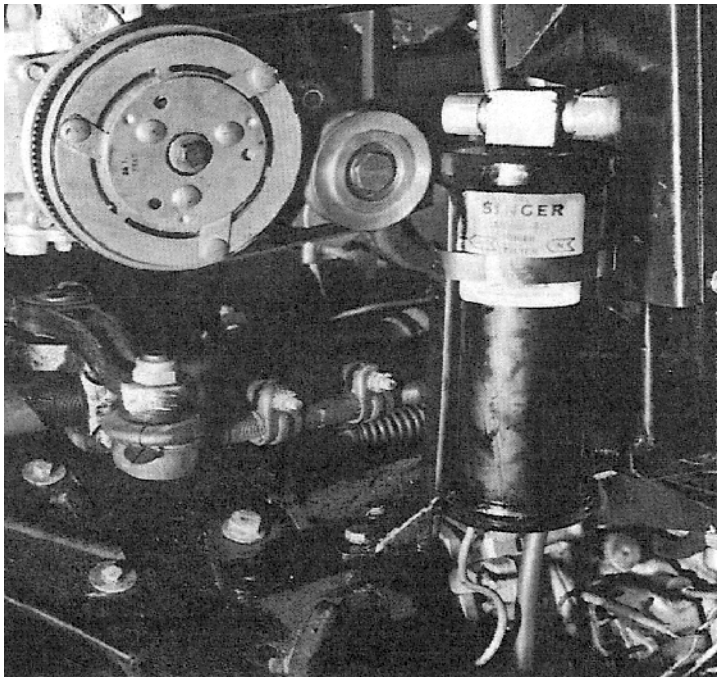


FIG 15

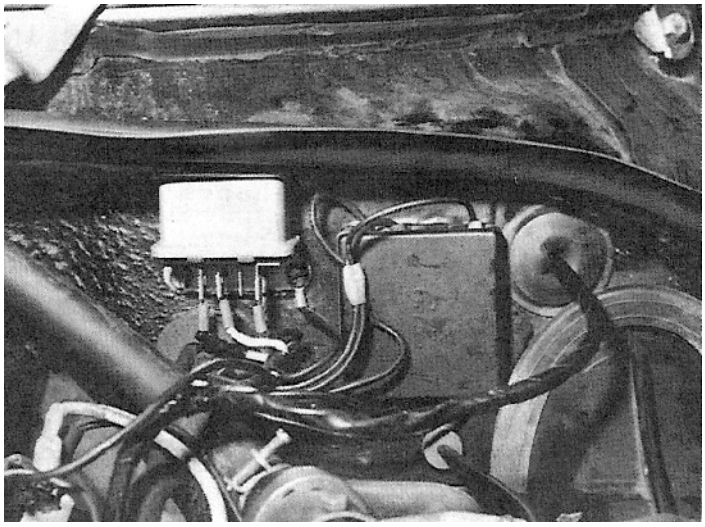


FIG 16

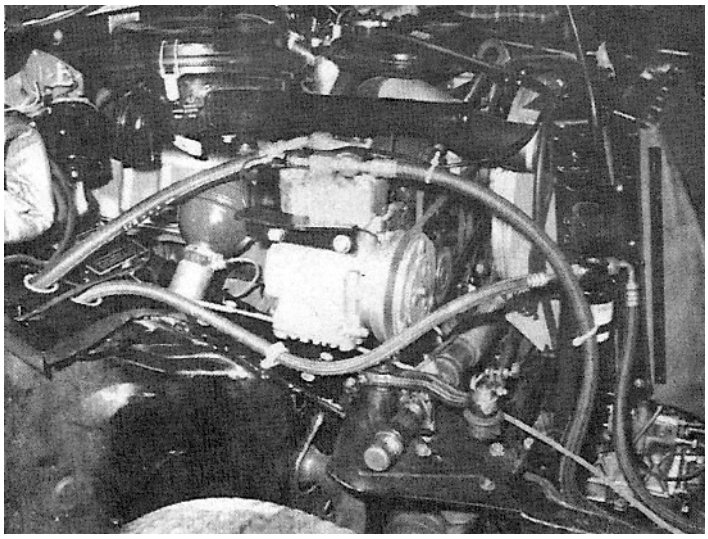


FIG 17

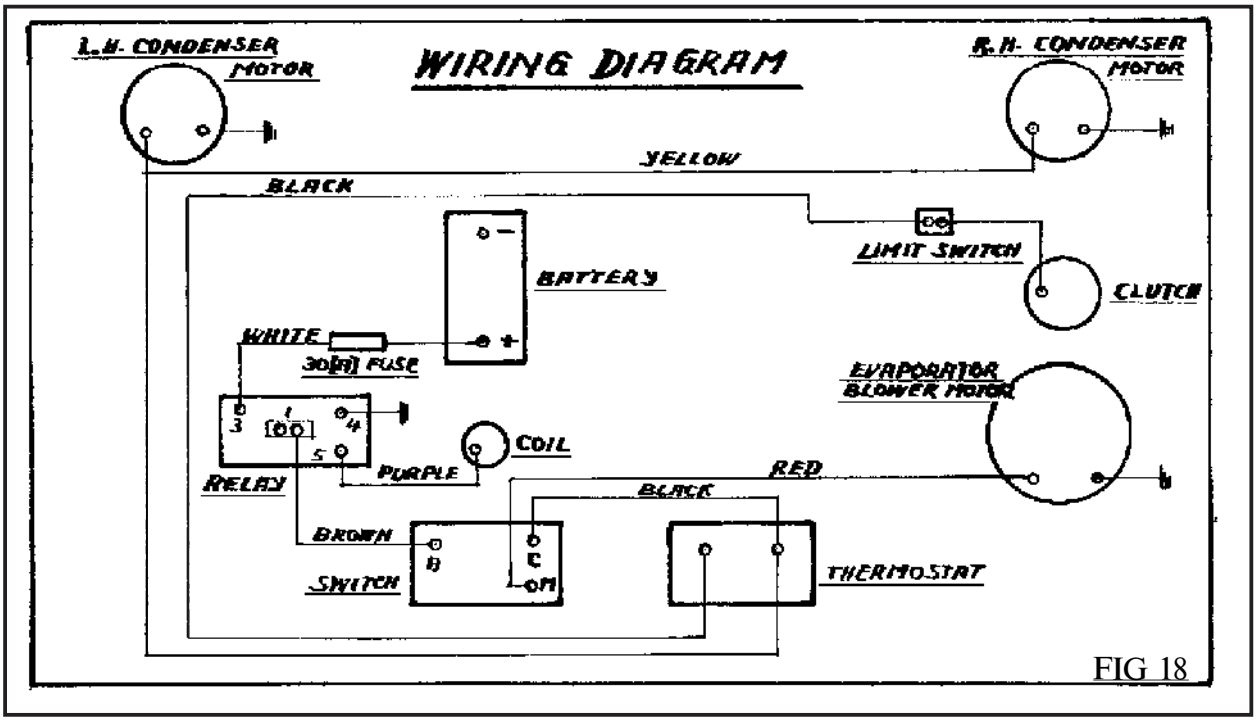


FIG 18

EVACUATION AND CHARGING PROCEDURE

1. Remove protective caps from gage ports of compressor service valves. Connect gage manifold low pressure hose to compressor (5/8") suction service valve gage port. Connect high pressure gage manifold hose to compressor (1/2") discharge service valve gage port.
2. Connect gage manifold center hose to refrigerant container. OPEN refrigerant Container valve.
3. Crack open high pressure gage manifold valve and allow refrigerant vapor to enter system until a pressure of (50) psi is observed on low pressure gage CLOSE high pressure gage manifold valve. CLOSE refrigerant container valve and disconnect hose from container.
4. Using a leak detector, thoroughly check all connections, the compressor, evaporator, condenser and drier. Repair any leaks at this time.
5. Connect gage manifold center hose to vacuum pump. OPEN both gage manifold valves and start vacuum pump.
6. After vacuum pump has run at least (15) minutes, CLOSE both gage manifold fold valves and stop vacuum pump. Low pressure gage should indicate at least 28" vacuum. High pressure gage should read (0) Psi or below.
7. Disconnect gage manifold center hose at vacuum pump and connect to refrigerant container. OPEN refrigerant container valve. Loosen gage manifold center hose at gage manifold. Refrigerant released will purge air from hose. Tighten center hose connection at gage manifold.
8. Crack open high pressure gage manifold valve and allow refrigerant vapor to enter system until a pressure of (0) to (5) psi is observed on low pressure gage CLOSE high pressure gage manifold valve. CLOSE refrigerant container valve and disconnect hose from container.
9. Repeat steps 5 and 6. This will complete double evacuation procedure necessary úor thorough moisture and air removal.
10. Disconnect gage manifold center hose at vacuum pump.
11. Connect gage manifold center hose to refrigerant container valve. Crack center hole at manifold to allow refrigerant to purge the air from the hose. Re tighten center hose. OPEN suction valve on gage manifold and admit refrigerant until system is all container pressure.
12. Start engine and set idle at approximately 1,000 RPM. If shop tempera− temperature is 90 or above, place fan in front of radiator to simulate ram air flow. Turn blower switch to high and temperature switch to city. Add freon until bubbles disappear from sight glass.
13. Turn off engine. Disconnect gage manifold hoses, replace protective caps on both service valves on compressor. Recheck system for leaks.

EVACUATION AND CHARGING PROCEDURE

The importance of removing moisture laden air from an air conditioning system cannot be over emphasized. All systems incorporate a drier to absorb very small quantities of moisture which might remain in a system following the best possible evacuation. This device, however, cannot be depended upon to do the complete job. Therefore, we must thoroughly evacuate each new system, as well as at the time service is performed subsequent to installation.

Figure #1 shows the minimum system vacuum permissible for not less than 30 minutes, to insure the best possible evacuation . Note how, with the lower ambient temperatures, that a deeper vacuum must be attained to completely vaporize or "boil−off" moisture laden air trapped in the system.

High vacuum pumps necessary to obtain the deeper vacuums are for the most part prohibitively expensive. As a result, the double evacuation procedure permits basically the same end results; that is a clean dry system. This is brought about by the "blotting"" action of the refrigerant introduced into the system first as part of the regular leak test and secondly when the system vacuum is broken with refrigerant at the end of the first 15 minute evacuation period.

FIGURE #1

Inches of Vacuum	Ambient Temperature
29.56	50 F
29.40	60 F
29.18	70 F
28.89	80 F
28.50	90 F
27.99	100 F
27.33	110 F

COOLAIRE WARRANTY POLICY #718

1. The CoolAire warranty is for 12 months or 12,000 miles covering both parts and labor against defects in material and workmanship to the original owner. CoolAire s warranty does not honor any parts or components that are damaged in any way due to improper installation or use other than that for which the part was intended.
2. All replacement in−warranty component parts must be purchased through CoolAire or it's distributors and/or dealers. Parts obtained from other sources will only be covered up to the amount equal to CoolAire's price list allowance.
3. Items such as belts, fuses, driers, idler bearings, freon, etc. are to be considered expendable items and thereby not covered by warranty.
4. Warranty registration forms must be filled out completely and mailed to us within fifteen (15) days from date of installation.
5. Upon completion of warranty work, the CoolAire warranty claim form must be filled out using published CoolAire Flat Rate Schedules as guides. The serial numbers of the warranty registration , the compressor and the evaporator must be included. The CoolAire claim form along with the defective parts are then sent to CoolAire, freight pre−paid. Claims and parts must be in our possession within forty−five (45) days from completion of repairs.
6. Claims that should have had new parts but were field repaired instead, such as welding or modifying of brackets, hangers, supports, splicing of hoses, soldering of seams, joints, pipes, tubing, tampering of switches or motors, will not be honored by CoolAire Manufacturing Co., Inc. Autherized field repairs are as follows: front compressor seal, compressor gaskets and compressor valve plate assemblies. All other repairs must carry new parts.
7. Parts or components shipped to us must be packed in such a manner so as to arrive at our plant in the same condition they were in when shipped. Items such as valves, evaporator assemblies, evaporator coils, compressors, condensers, driers, etc. must be capped and sealed. Components of this nature not so protected cannot be evaluated due to humidity, foreign matter, etc.
8. Claims involving compressors will be delayed somewhat since we are dependent on York Corp. for final warranty determination. If they find the compressor to be in good operating condition or if the fault is field repairable such as front seals or gaskets, there will be a handling charge of $10.00 per unit, which will be billed against the claim.

Model #17172 CITROEN

QTY	PART NO	DESCRIPTION
(1)	44 - 13023A	Evaporator Assembly
(1)	67−13075	Condenser Kit
1	31−13077A	Condenser Assembly L.H.
1	31−13078A	Condenser Assembiy R.H.
1	40−10766	Drier
1	15−13093A	Drier Bracket Assembly
1	60−11181	Freon Hose #6_40"_#6/90°
1	60−13031	Freon Hose #6/90°_60"_#6/90°
1	60−13032	Freon Hose #6/90°_60"_#6/90°
1	61−13033	Freon Hose #8−74"_#8/90°
1	62−11286	Freon Hose #1O−25"−#10−45°
(1)	67−13063	Installation Kit
1	15−13064A	Evaporator Bracket (Center)
1	l5 −13066A	Hanger Bracket Evaporator
1	56−13045	Wire Harness
1	117−12356	Pressure Limit SwitchÆ
1	98−12172	Relay
1	58−11083	Drain Hose 1-2" I.D. x 10"
1	54−13104	Grommet Material (20" lg)
5	25−10594	Hose Clamp #1
2	25−13099	Hose Clamp, Oval
1	57−11041	CRD Hose 1 1/2" x 6"
1	21−12389	Plastic Cable Tie 7ö 1g.
1	63−13098	Vinyl Hose 46" 1g.
1	135−13103	Insulation Tube 9_1/2ö 1g.
1	86−11939	Putty

QTY	PART NO	DESCRIPTION
(1)	67−13056	Compressor Kit
1	79−13047A	Compressor Mount
1	14−l3052A	Rear Brace
1	14−13055	Front, Brace
1	43−10790	Eccentric
1	96−12134	Front Idler Pulley
1	30−10683	Compressor 206
1	125−12406	Service Valve 5/8"
1	125−12407	Service Valve 1/2"
1	27−10611	Clutch
1	6−10043	Belt
1	12−10134	Idler Stud
1	86−13073	Hardware Package (Packed in 67−13063 Kit Box)
7	12−10130	Bolt 3/8" x 1" N.C.
1	113−13039	Spacer 21/64" x 39/64" x 5/32
1	81−12883	Hex. Nut 3/8" N,C.
12	127−12438	Lock Washer 3/8"
1	12−10148	Bolt 1/2" x 1" N.F.
1	127−12803	Lock Washer 1/2"
4	11−10129	Metric BolL 9mm x 30mm
13	105−12219	#10 x 1/2" Hex. Wshr. Hd. SMS
3	105−13097	#10 x 1 1/4" Hex.Wshr. Hd. SMS
4	105−13014	#10 x 3/4" Hex. Wshr. Hd. SMS
1	105−12740	#8 x 1/2ö Hex. Wshr. Hd. SMS.
4	106−12609	Machine Screw #10−32 x 1/2"
2	106−12611	Machine Screw #10−32 x 7/8"
4	127−12976	Star Lock Wshr. #10
6	127−12816	Flat Washer 3/8"

(1) 85−13071 Literature Pack

1	13−10149	Operators Booklet
1	21−10478	Warranty Card
1	76−13069	Installation Manual
1	73−13070	Packing List
1	36−10746	Coolaire Decal
1	6015	Literature Envelope