SERVICE DIAGNOSIS Continued

Condition	Possible Cause	Correction
Door locks operate opposite to that of the switch operation.	a. Small hoses reversed on the control switch.	a. Connect the hoses correctly. Refer to Figure 10.
	b. Hoses reversed at the distributor connections.	b. Connect the hoses correctly at the distributor. Refer to Figure 10.
	c. Control switch mounted in reverse position.	c. Install and correctly connect the switch. See Figure 10.
Doors on one side lock, while the doors on the opposite side unlock.	a. Door hose lines incorrectly connected to the tee at the cowl side panels.	a. Correctly connect the hoses as shown in Figure 10.
One door lock operates opposite to the lock of the other doors.	a. Hoses improperly connected to the tee at the cowl side panel.	a. Connect the hoses correctly. See Figure 10.
	b. Hoses improperly connected at the door lock actuator.	b. Connect the hoses at the actuator correctly. Refer to Figure 11 and Figure 12.
One door vacuum lock fails to operate. (Manual operation satisfactory.)	a. Binding or malfunctioning door lock actuator linkage.	a. Remove the door inside trim panel. Inspect the actuator and linkage, correct as required. See Figure 11 and Figure 12.
	b. Faulty actuator.	b. Remove the door inside trim panel. Inspect the actuator and linkage. Install a new actuator if necessary.

GROUP 24

AIR CONDITIONING

DATA AND SPECIFICATIONS

COMPRESSOR

Location	Left of Center on Cylinder Block
Type	2 Cylinder "V" Type
Bore	$2\frac{5}{16}$ Inch
Stroke	$1\frac{1}{8}$ Inch
Displacement	9.45 Cubic Inches
Valve Type	Reed Type
Speed (depends on axle ratio and tire size)	Approximately 1250 rpm at 25 mph
Oil Capacity (Refrigerant Oil)	11 Ounces
Clutch	Stationary Coil
Muffler	In Compressor Discharge Line

CONDENSER

Location	Front of Radiator

DATA AND SPECIFICATIONS — Continued

RECEIVER-DRIER-STRAINER

Type	Cylindrical Steel Container
Location	In Front of Radiator

REFRIGERANT

Refrigerant	Refrigerant 12
Front Unit Only	2⅝ to 2⅞ lbs.
Dual Units (All)	3⅝ to 3⅞ lbs.

EVAPORATOR

Location	Dash Panel

BLOWERS

Type	Centrifugal
Location	Dash Panel
Capacity	250 to 265 cubic feet of air per minute at high speed
Current Draw	Approximately 14-17 amps at 14 volts

SPECIAL TOOLS

Tool No.	Tool Name	Tool No.	Tool Name	Tool No.	Tool Name
C-590	Studs	C-3429	Scale	C-3645*	Test Hose
C-744	Light	C-3478	Cutter	C-3652	Vacuum Pump
C-804	Tool	SP-3496	Tool	C-3663	Condenser Comb
SP-2922*	Test Cap	C-3499	Tester	C-3704	Psychrometer
C-3128	Pliers	C-3569	Torch	C-3707	Gauge
C-3355	Goggles	C-3616	Ratchet	C-3740	Tester
C-3358	Wrench Set	C-3620	Socket	C-3741	Adapter Kit
C-3361A	Ratchet	C-3621	Socket	C-3787	Puller
C-3362	Bender Set	C-3622	Extension	C-3788	Tool
C-3363	Wrench Set	C-3623	Thermometer	C-3807	Sleeve
C-3420	Adapter	C-3644*	Test Hose	C-3822	Tool
				C-3825	Tool

*These numbers for ordering service repair or replacement parts for C-3740 Tester.

TIGHTENING REFERENCE

	Foot-Pounds	Inch-Pounds
Compressor Bearing Housing Bolt	10-13	
Compressor to Bracket Bolt	50	
Compressor Connecting Rod Screw		52-56
Compressor Cylinder Head Cover Bolt	23-27	
Compressor Cylinder Head Cover (Nameplate Bolt)	20-24	
Compressor Discharge Adapter Bolt	14-18	
Compressor to Engine Bolt	30	
Compressor Oil Pump Cover Bolt	10-13	

TIGHTENING REFERENCE — Continued

Compressor Oil Sump	15-19
Compressor to Strut Bolt	30
Compressor Suction Adapter Bolt	10-14
Magnetic Clutch to Compressor Bolt	20

FLARE NUT TORQUES

Flare Size	Foot-Pounds	Flare Size	Foot-Pounds
¼ SAE	12-14	½ SAE	30-35
⅜ SAE	20-25	⅝ SAE	55-65

GROUP 24

AIR CONDITIONING

The operation, air flow, electrical circuits, and the procedures for servicing the unit including discharging, charging, tests, removal and installation of the expansion valve, heater core, evaporator and other components are basically the same as outlined in the 1960 Chrysler and Imperial Service Manual. The following information will acquaint the service technician with procedures that differ.

The tests remain the same except a change was made in the suction and discharge gauge pressures of the expansion valve test. Refer to "Testing the Expansion Valve" for further details.

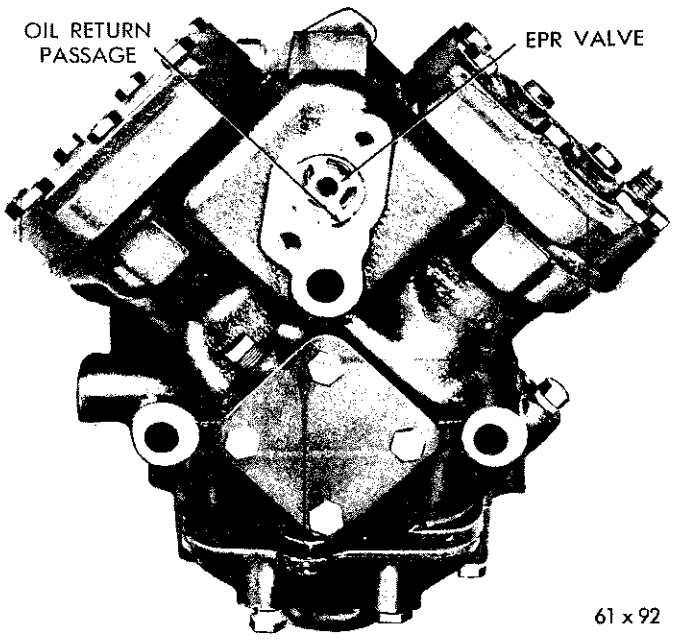

Fig. 1—EPR Valve and Oil Return Passage

A new modified compressor is used, which has the Evaporator Pressure Regulator (EPR) Valve installed internally. It incorporates an internal oil return passage (Fig. 1). The EPR valve is calibrated at the factory to provide maximum cooling and is not adjustable. The functioning, however, is the same as the external valve, described in the 1960 Chrysler and Imperial Service Manual, except that the service port valves are in different locations. Refer to Figure 2, which shows the new gauge set manifold connections. A revision was also made in the valve plate assemblies. Refer to Paragraph "Servicing the Compressor."

The magnetic clutch used on the 1961 models has the electromagnet attached to the compressor, and is identified as the "Stationary Field" type. Since the electromagnet does not rotate, collector rings and brushes are eliminated. The servicing of the stationary field type magnetic clutch will be explained in further detail under "Servicing the Magnetic Clutch."

TESTING THE EXPANSION VALVE

A few changes have been made in connecting the suction and discharge hoses of the gauge manifold to the compressor in the expansion valve test. There is also a change in the maximum and minimum flow test pressure gauge readings. With the exception of these changes, the expansion valve test procedures are the same as described in the 1960 Chrysler and Imperial Service Manual. The changes are as follows:

Before connecting the suction or discharge hose to the compressor, remove the Dill Valve Fittings from the service ports; also, remove the special

adapters from both hoses. The suction and discharge hoses are then connected directly to the service ports.

The pressure readings on the right-hand (discharge) gauge change from 70 psi to 75 psi for both the maximum and minimum flow test (Fig. 3). The suction gauge pressure for the maximum flow test changes from 43-53 psi to 60-70 psi for both the front and trunk units. The roof unit readings, however, should be 65-75 psi. The minimum flow test suction pressure remains the same 21-24 psi.

SERVICING THE COMPRESSOR

Figure 4 shows a disassembled view of the compressor. However, with the exception of the Cylinder Head and Valve Plate Assembly (Fig. 5), also the EPR Valve, the disassembly and assembly of the compressor is the same as described in the 1960 Chrysler and Imperial Service Manual.

The removal and installation of the Cylinder Head and Valve Plate assemblies, however, are the same except that there is no etxernal oil return tube. The valve plate and reed valve are different, as shown in Figure 6.

EPR Valve Removal

(1) Remove the EPR Valve suction line fitting bolts, the fitting which also contains the compressor suction screen, spring and the gasket.

(2) Remove the EPR Valve and "O" ring from the compressor using Tool C-3822, by rotating the valve slightly, as shown in Figure 7.

Installing the EPR Valve

(1) Install the "O" ring on the EPR Valve.

(2) Lubricate the "O" ring with refrigerant oil and install the EPR Valve in the compressor with Tool C-3822 by rotating the valve.

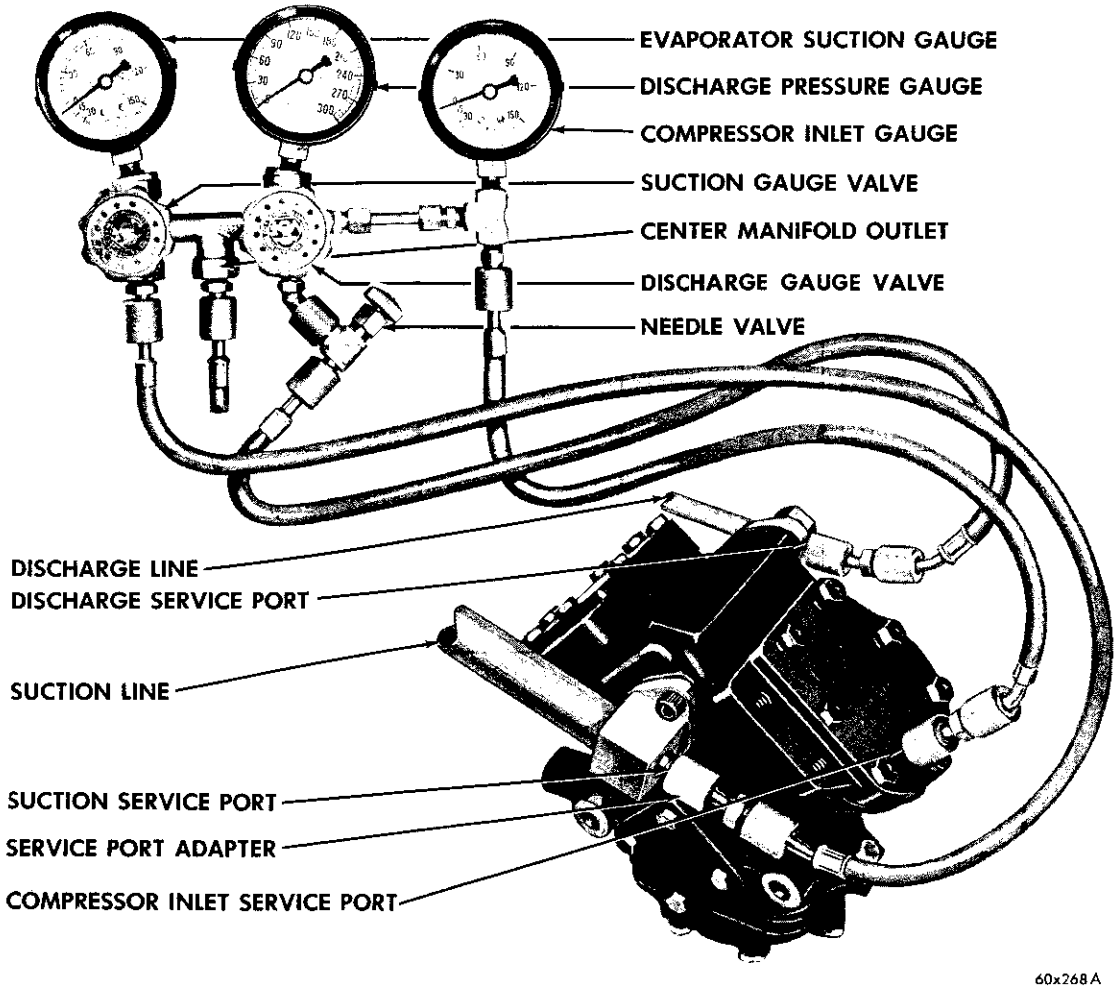

Fig. 2—Gauge Set Manifold Connections

(3) Install the compressor suction screen in the EPR Valve suction line fitting.

(4) Install the suction line fitting gasket, spring, fitting and attaching bolts.

(5) Install the compressor. Make all connections, evacuate and recharge the system as described in the 1960 Chrysler and Imperial Service Manual.

SERVICING THE MAGNETIC CLUTCH (Fig. 8)

Testing Electromagnet Current Draw

To test the coil for a short or open circuit, connect an ammeter (0-10 ampere scale) in series with a fully charged 12-volt battery in the field coil circuit. The current draw at 12 volts should be 2.5 to 2.9 amperes. If the current draw is not within these limits, install a new field coil assembly.

Removal

(1) Disconnect the field coil lead wire and remove drive belts.

(2) Remove special locking bolt and washer from compressor crankshaft at front center of clutch.

(3) Insert a $\frac{5}{8}$"-11 x $2\frac{1}{2}$" cap screw into the threaded portion of the hub and shoe assembly.

(4) Support clutch with one hand, then tighten the cap screw until the clutch is removed.

(5) Remove the three hex field coil assembly mounting screws and lift off the assembly.

Disassembly

(1) Remove the small snap ring from the drive hub with Tool C-3128 or equivalent.

(2) Install drive hub puller Tool C-3787 aligning

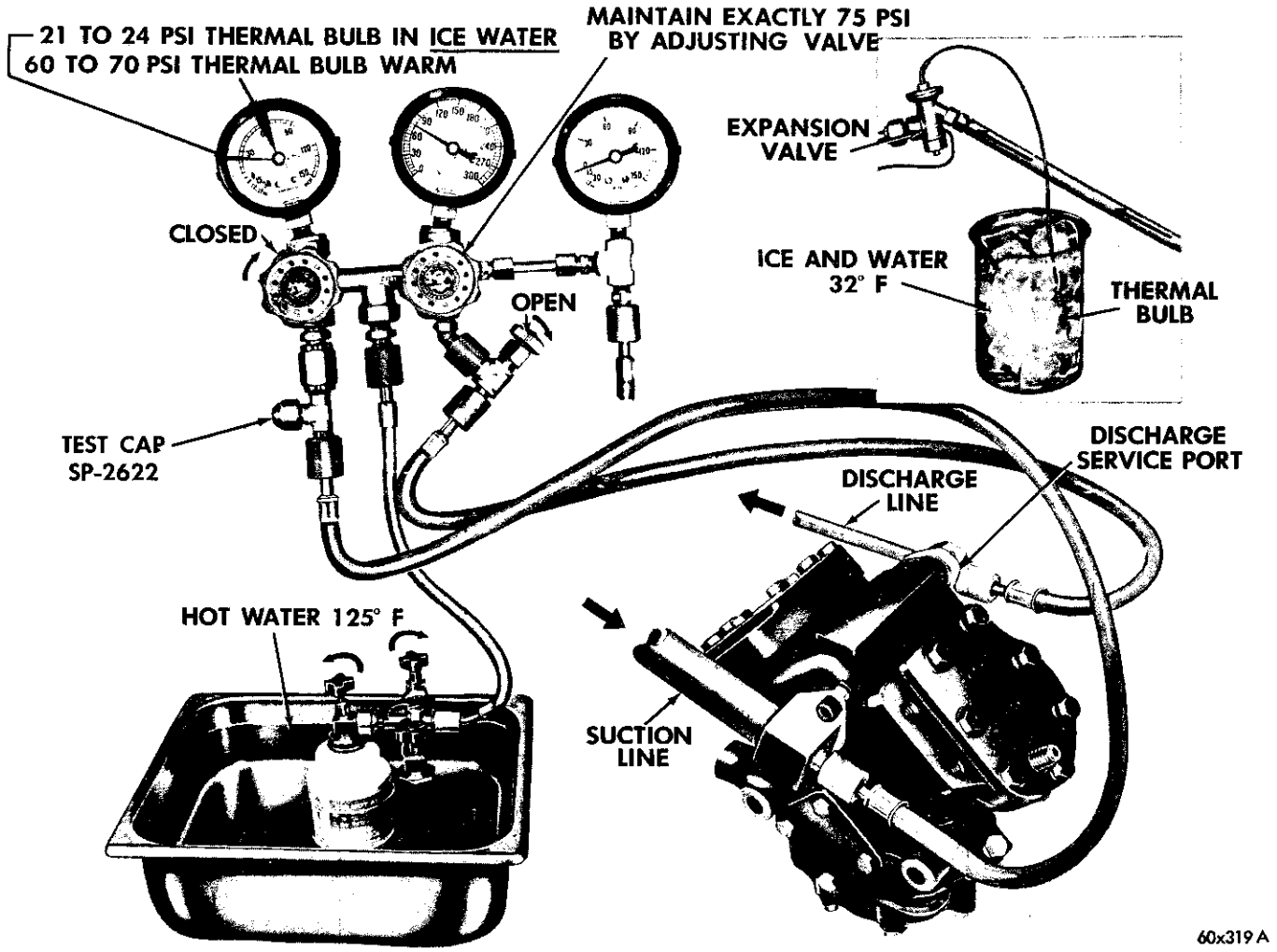

Fig. 3—Expansion Valve Test

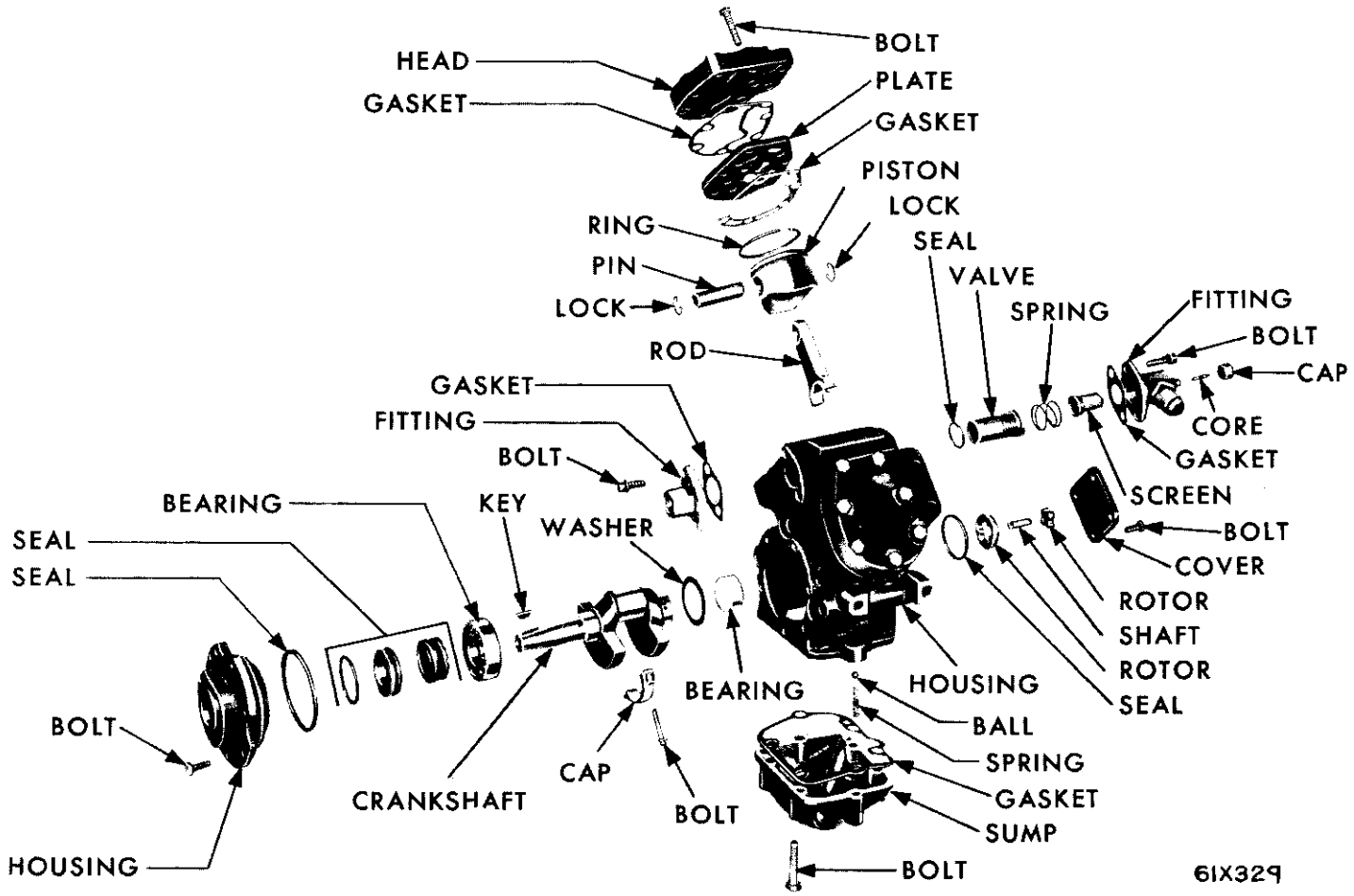

Fig. 4—Compressor, Disassembled

the three pins of the tool in the three holes in the hub and shoe assembly (Fig. 9).

Tighten the 5/8—11 hex head bolts down until the drive hub is removed from the bearing.

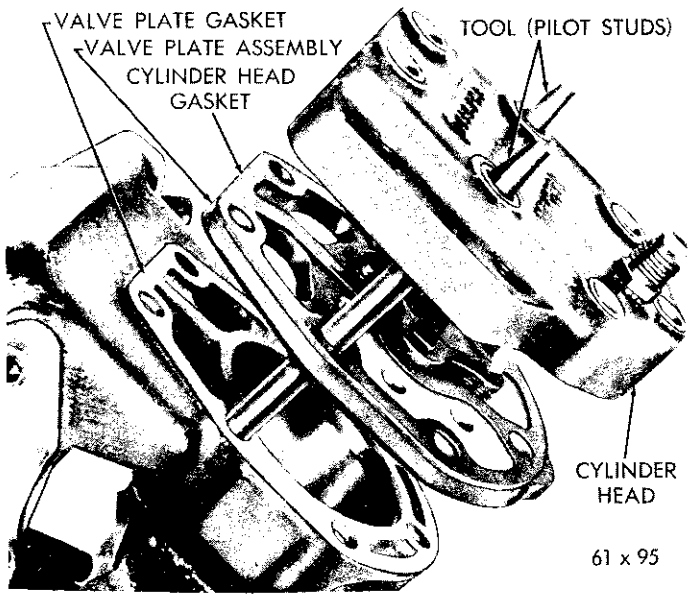

Fig. 5—Installing Valve Plate and Cylinder Head

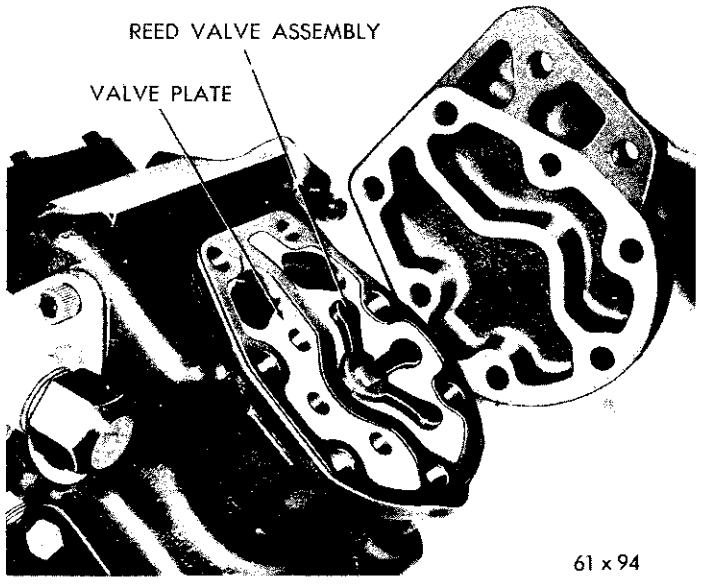

Fig. 6—Valve Plate—Installed Position

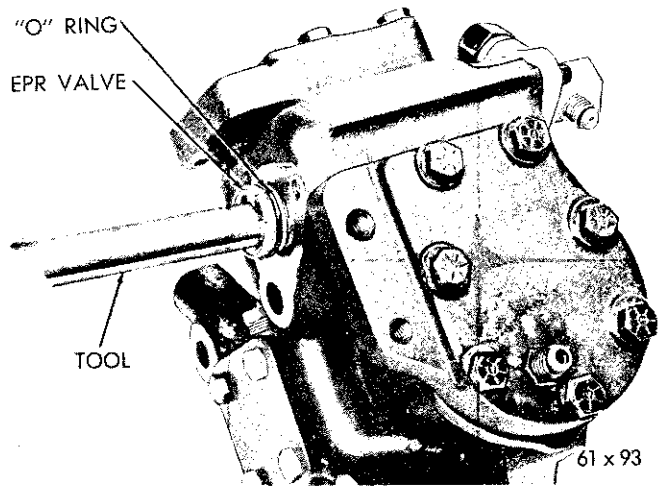

Fig. 7—Removing or Installing EPR Valve

(3) Remove the bearing snap ring from the pulley assembly.

(4) With the pulley assembly side down and the bearing hub centered on Tool C-3825, install Tool SP-3496 on the inner race of bearing, then push bearing out of pulley assembly with an arbor press.

NOTE: A new bearing must be installed every time the magnetic clutch is disassembled.

Assembly

(1) Install the pulley assembly with pulley side up on an arbor press and insert a new bearing into the pulley assembly bore. Install Tool C-3807 against the bearing and press into position.

(2) Install pulley assembly with pulley side facing down on Tool C-3807.

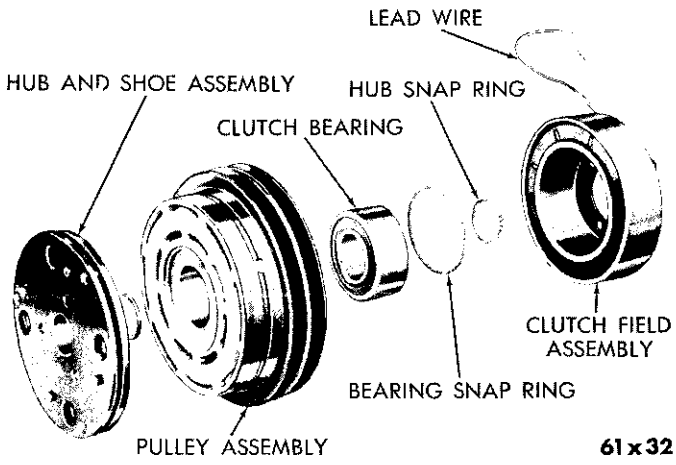

Fig. 8—Magnetic Clutch, Stationary Field Type

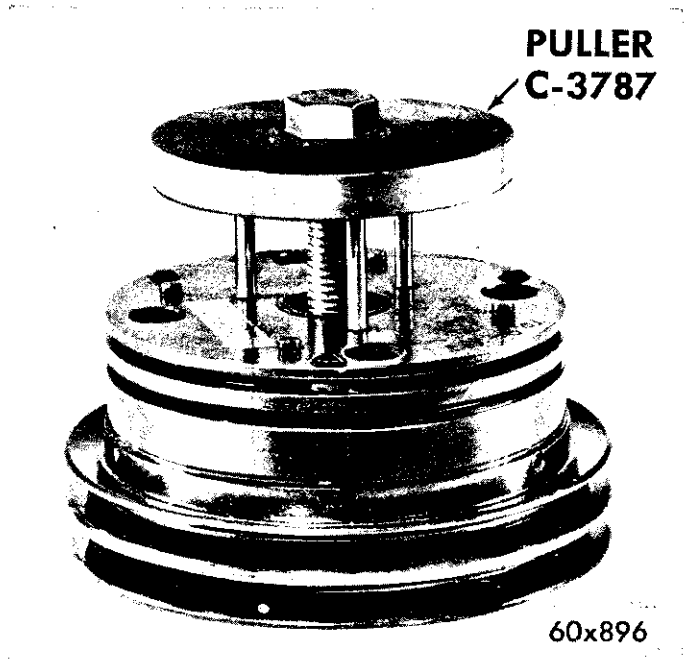

Fig. 9—Removing Hub and Shoe Assembly

(3) Start drive hub into inner bearing race, then press hub into position with an arbor press.

(4) Install bearing snap ring and hub snap ring.

CAUTION

The pulley assembly and hub assembly are mated parts. They are burnished at the factory before shipment. It is recommended they be replaced in matched pairs. Replacement of either unit separately will reduce the initial torque of the clutch.

Installation

(1) Place the field assembly on the boss of the compressor bearing housing. Make sure field assembly is positioned so that the lead wire points up so that it can be routed between the compressor cylinder heads. Install the three hex head mounting screws and tighten to 17 inch-pounds.

(2) Insert Woodruff key in crankshaft.

(3) Install clutch assembly onto crankshaft.

(4) Install washer and new self-locking bolt, and tighten to 20 foot-pounds torque.

(5) Connect the field lead wire.

(6) Install belts, tighten to specified tension, as outlined in Group 7A, "Accessory Belt Drives."