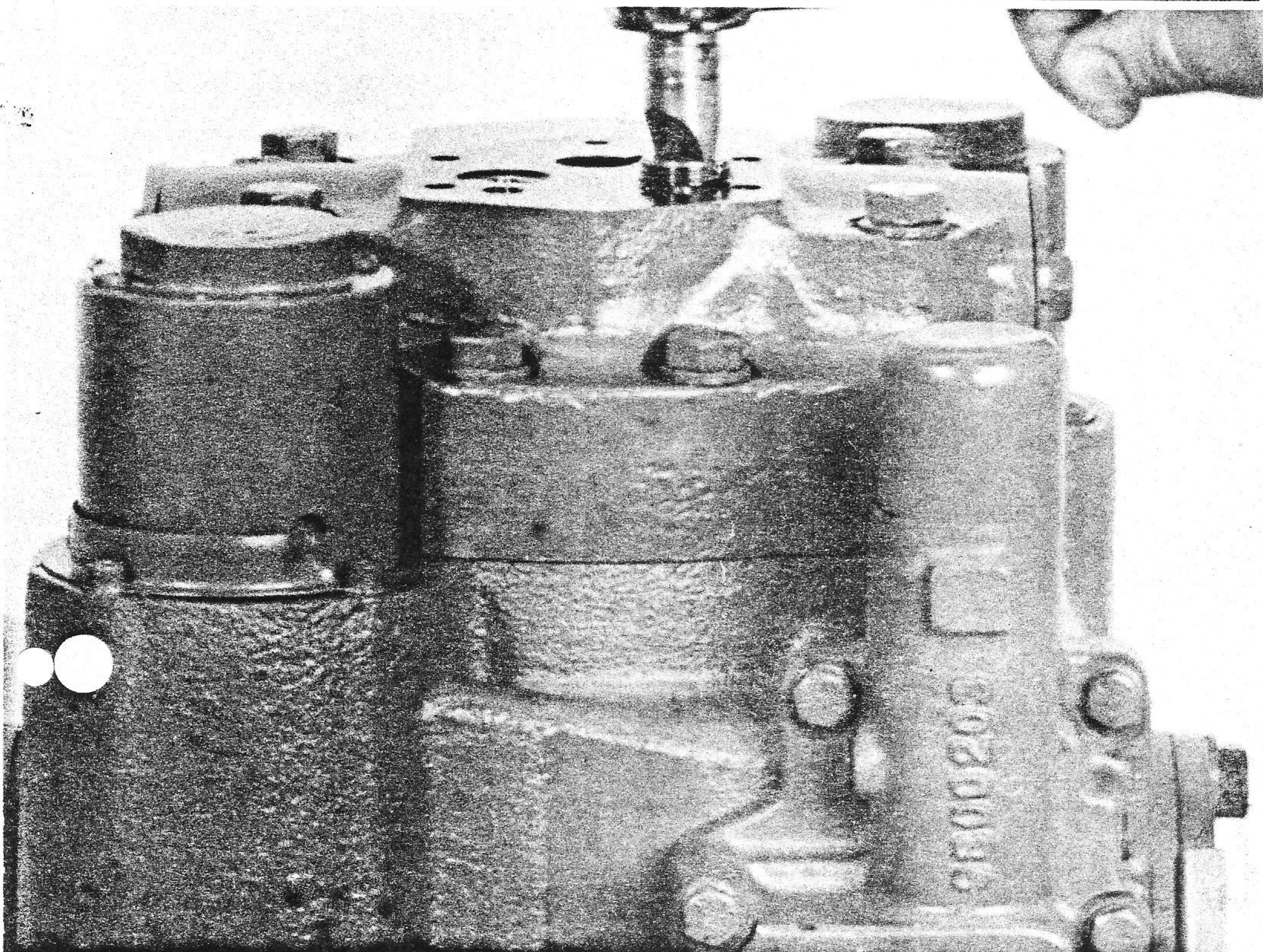


SUNDSTRAND HYDROSTATIC TRANSMISSION
REPLACEMENT ASSEMBLES
BULLETIN 9482

V40441



replacement of major assemblies

SUNDSTRAND HYDRO-TRANSMISSION

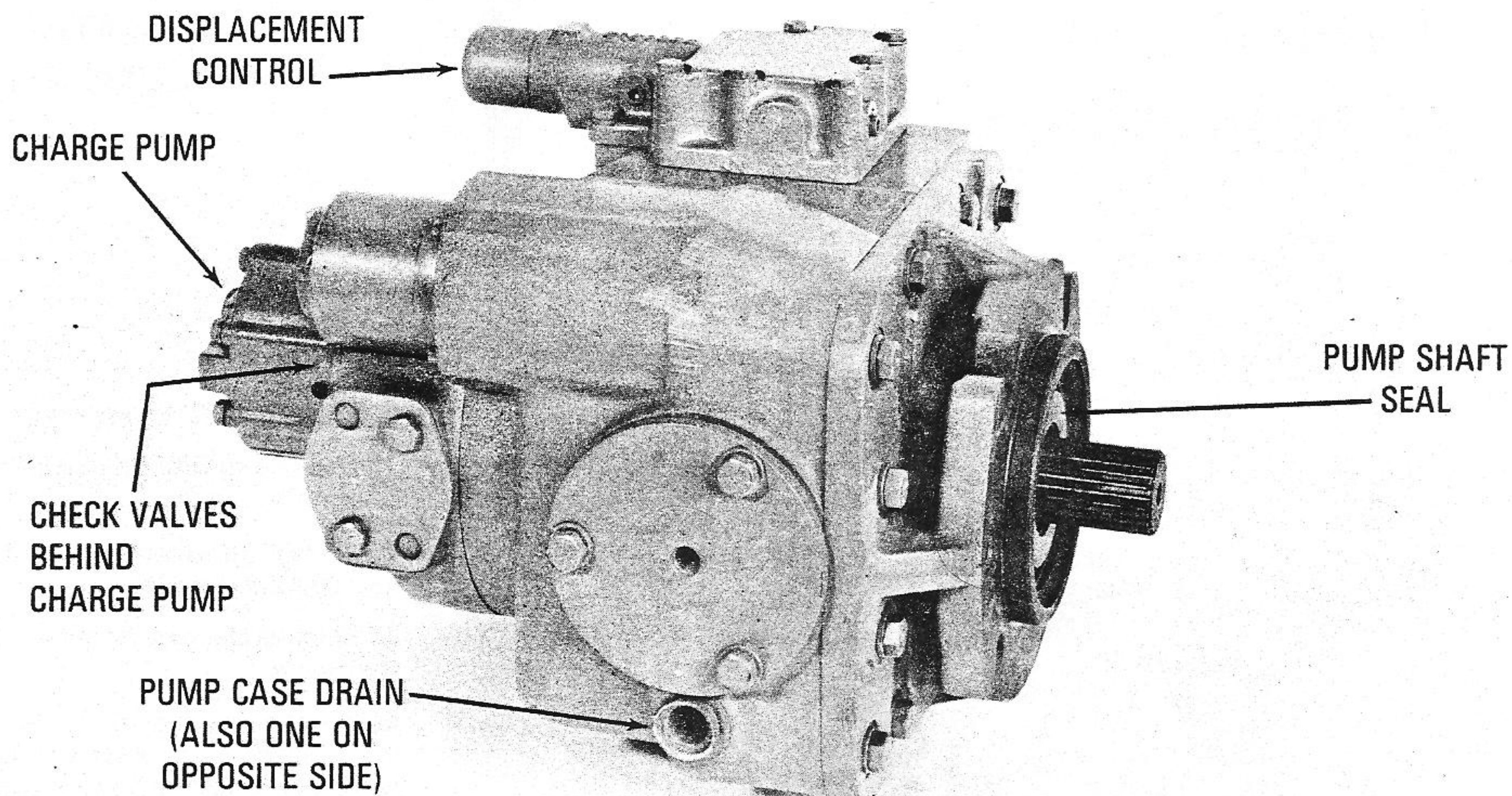
DIVISION OF SUNDSTRAND CORPORATION
LA SALLE, ILLINOIS

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DISPLACEMENT CONTROL
- SECTION 8 REPLACEMENT OF MOTOR OR
PUMP FRONT SEAL

INTRODUCTION

It may become necessary to replace a part of the hydrostatic transmission. The following procedures will assist you. As with all hydraulic equipment, cleanliness is very important. Before removing any of these components, clean the immediate area to prevent dirt from getting into the transmission. While working on the transmission, it would be a good opportunity to inspect all hoses for tightness, change the filter and oil, if necessary, and replace any oil lost during servicing.



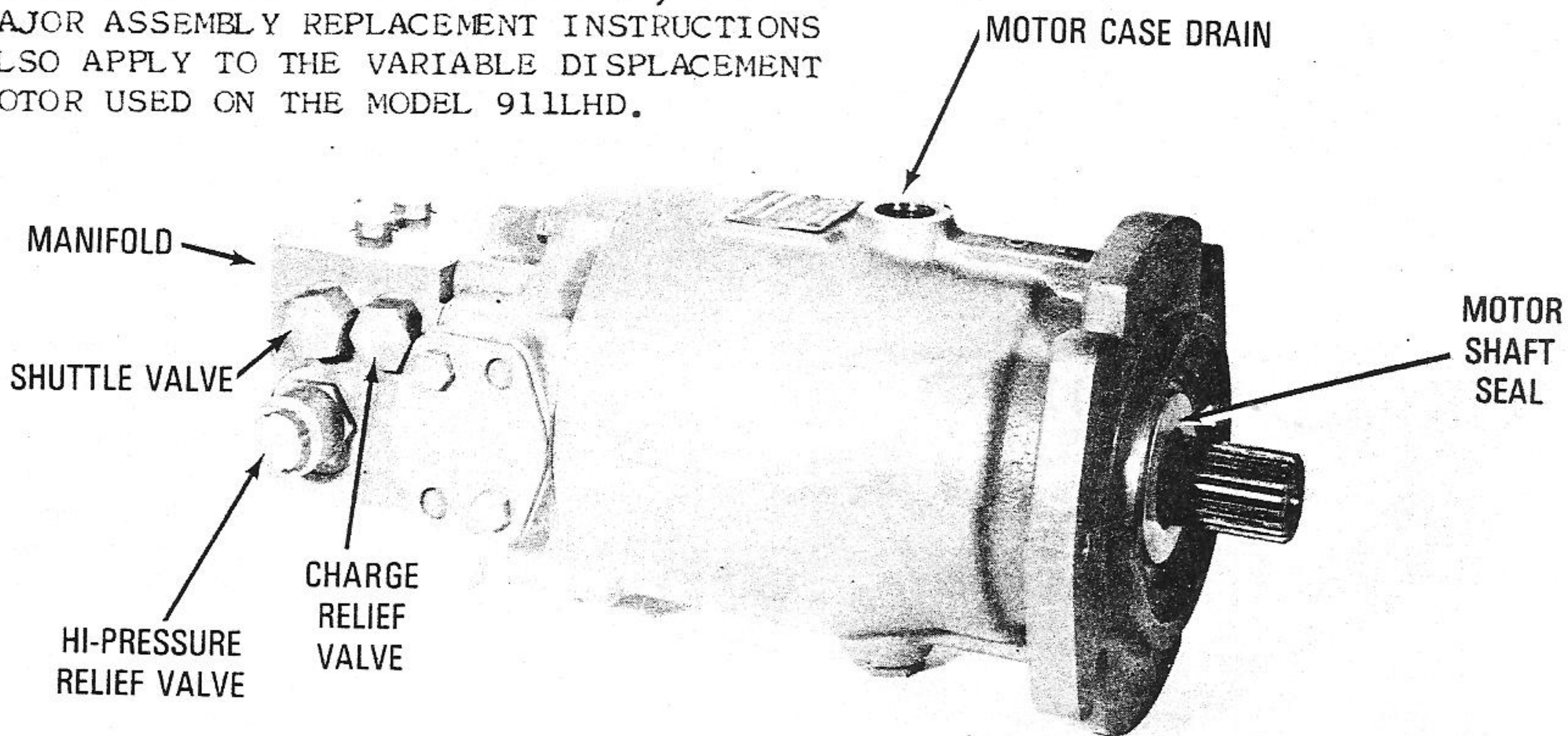
VARIABLE DISPLACEMENT PUMP

FIG. A

(Shown without pressure override valve)

NOTE

ALTHOUGH A FIXED DISPLACEMENT MOTOR IS ILLUSTRATED IN THIS BULLETIN, THE MAJOR ASSEMBLY REPLACEMENT INSTRUCTIONS ALSO APPLY TO THE VARIABLE DISPLACEMENT MOTOR USED ON THE MODEL 911LHD.



FIXED DISPLACEMENT MOTOR

FIG. B

replacement of main pump

BULLETIN 9482
SECTION 1

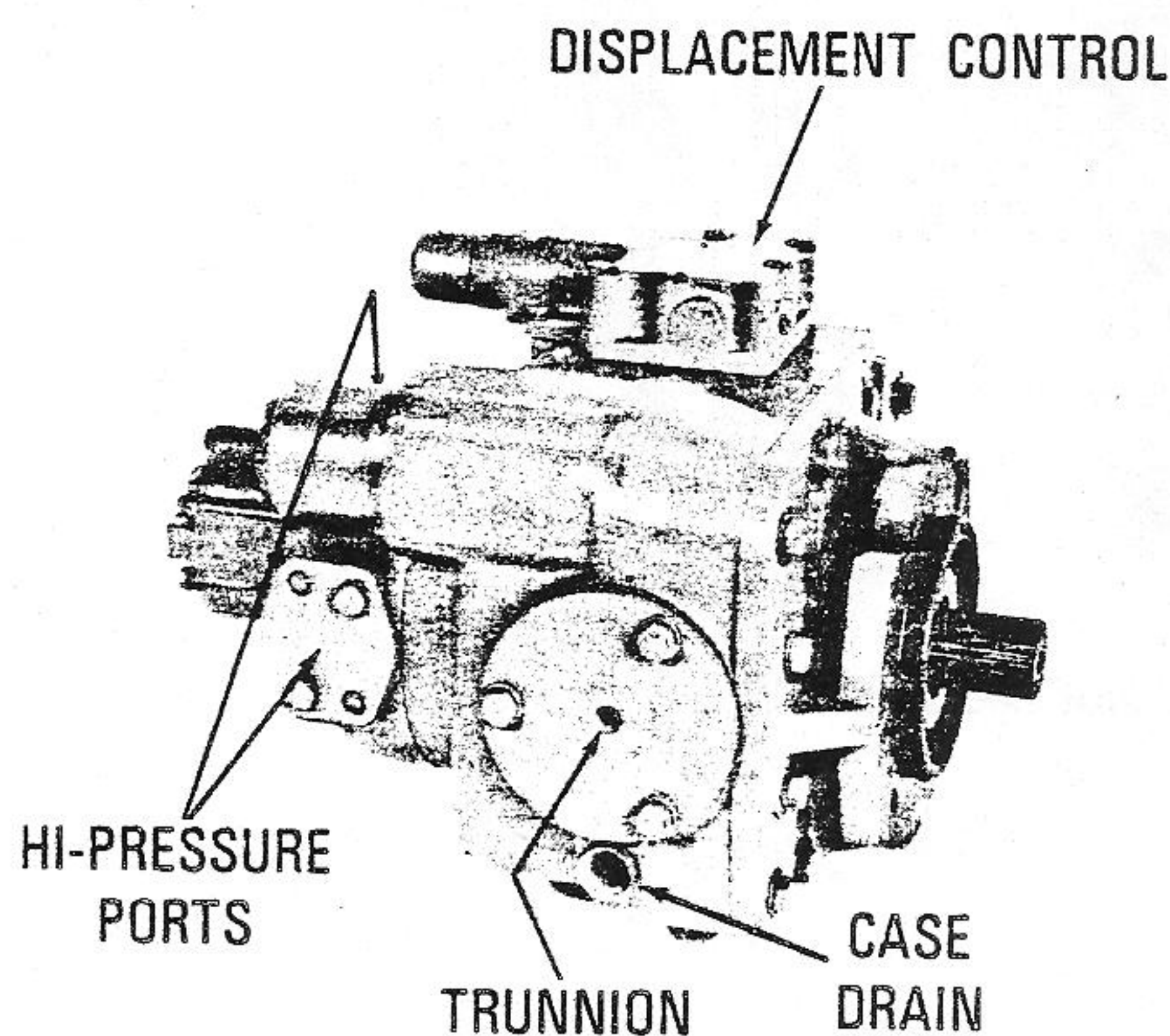


FIG. C

A. REMOVAL (See Figure C)

1. Remove control linkage from Displacement Control.
2. Loosen reservoir cap to relieve any system pressure.
3. Place drain pan or bucket under the pump.
4. Remove the five (5) hoses. Place clean plastic plugs in lines and pump ports to prevent oil loss as each line is removed. (Do not use rags).
5. Remove the four (4) mounting bolts.
6. Place a sling around pump or an eye bolt in the trunnion, remove pump from application.

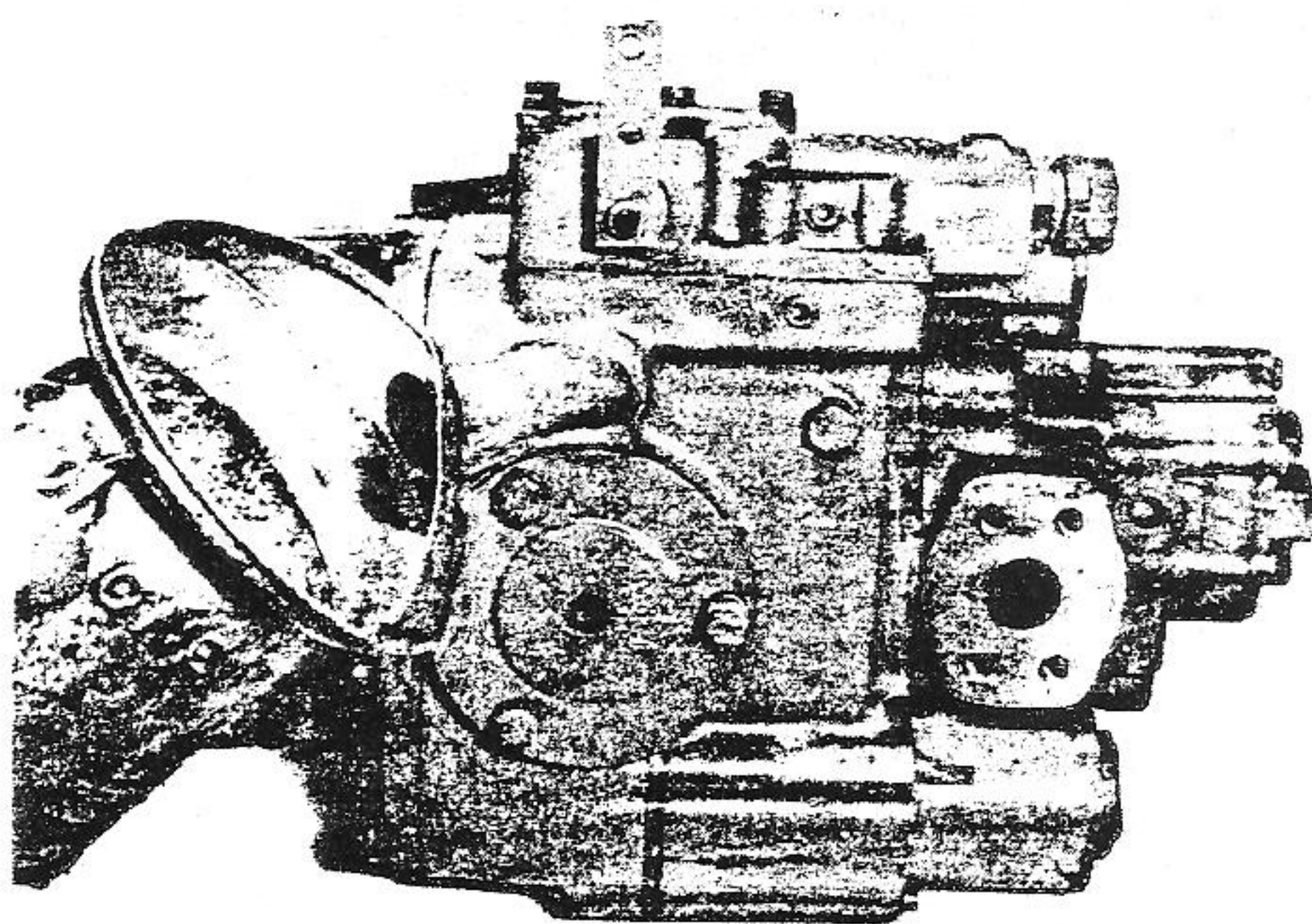


FIG. D

B. INSTALLATION

1. Mount pump on application using the four (4) mounting bolts.
2. Remove all shipping plugs as lines are installed. See plumbing diagram at rear of bulletin for correct line installation. Be sure lines are tightened to correct torques.

NOTE: It is recommended the pump case be filled by hand to assure proper lubrication upon start-up. See Fig D.

3. Install control linkage to Displacement Control. Consult owners manual for setting of neutral.

replacement of motor

BULLETIN 9482
SECTION 2

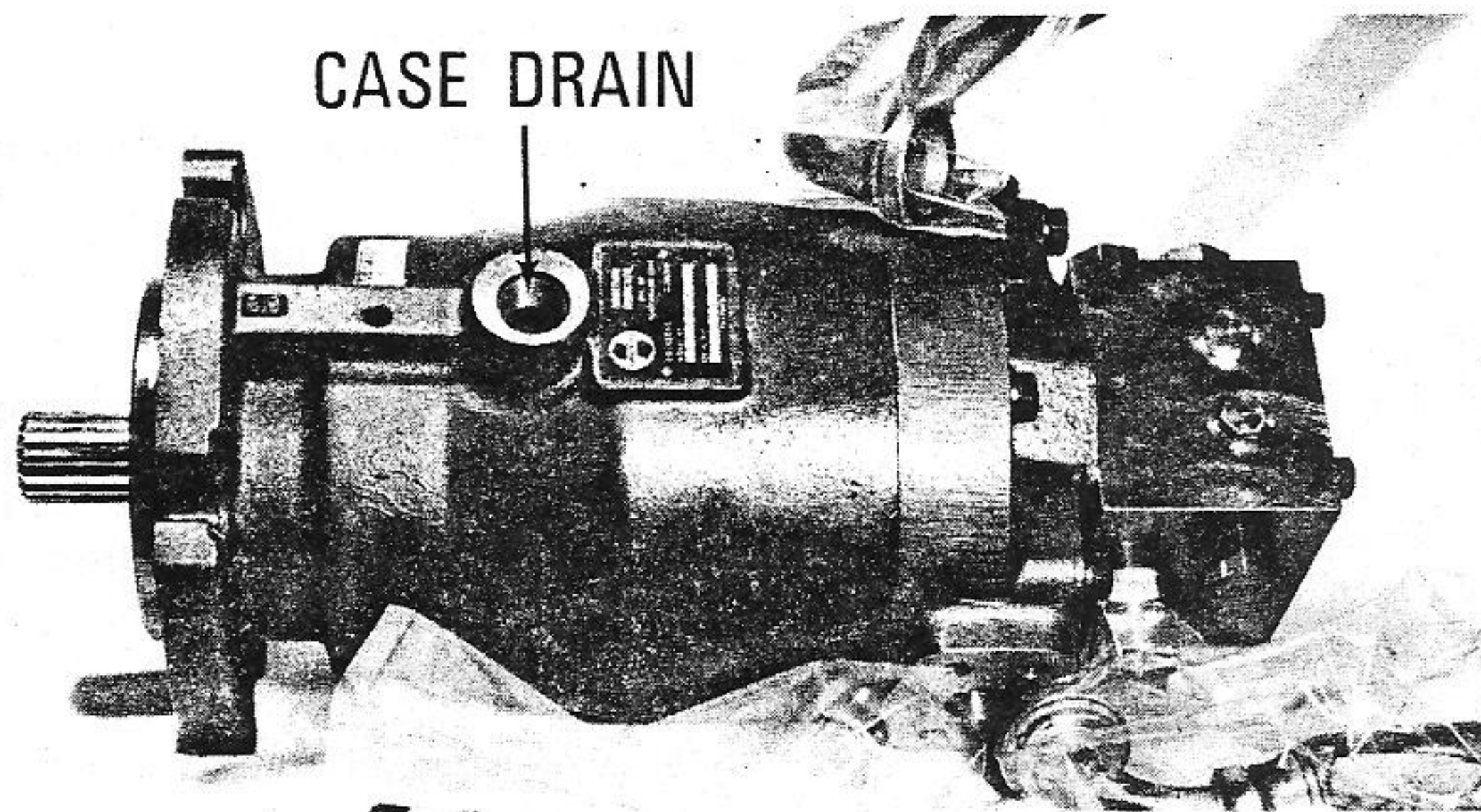


FIG. E

A. REMOVAL

1. Loosen the reservoir cap to relieve any system pressure.
2. Place drain pan or bucket under the motor.
3. Remove the three (3) hoses. Place clean plastic plugs and bags in lines and plug motor ports to prevent draining entire system. (Do not use rags).
4. Remove the four (4) mounting bolts.
5. Place a sling or similar support around motor and remove from application.

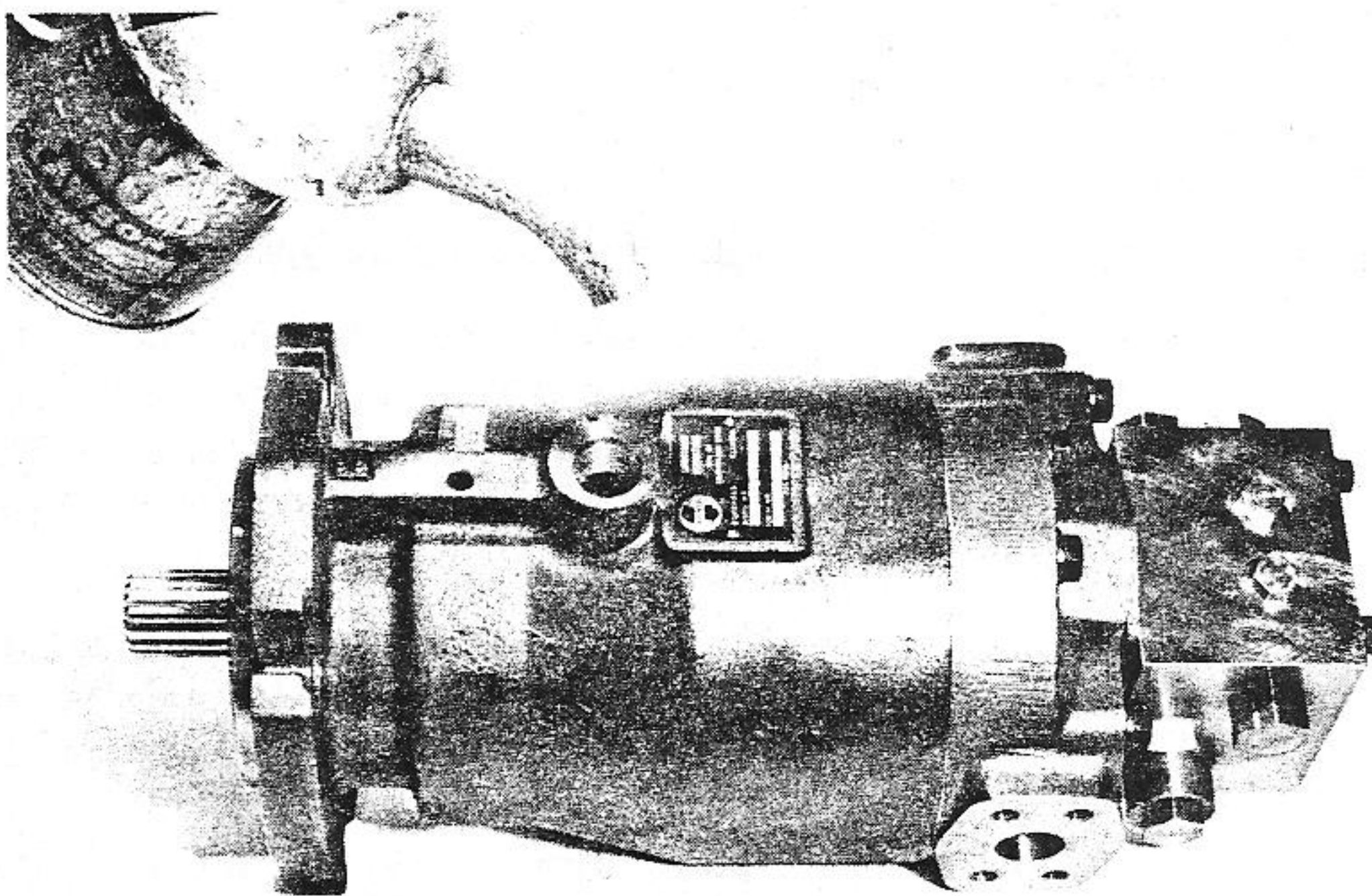


FIG. F

B. INSTALLATION

1. Mount motor on application using the four (4) mounting bolts.
2. Remove all shipping plugs as lines are installed. See plumbing diagram at rear of bulletin for correct line installation. Be certain lines are tightened to correct torques.

NOTE: It is recommended that the motor case be filled by hand to assure proper lubrication upon start up. See Figure F.

replacement of charge pump

BULLETIN 9482
SECTION 3

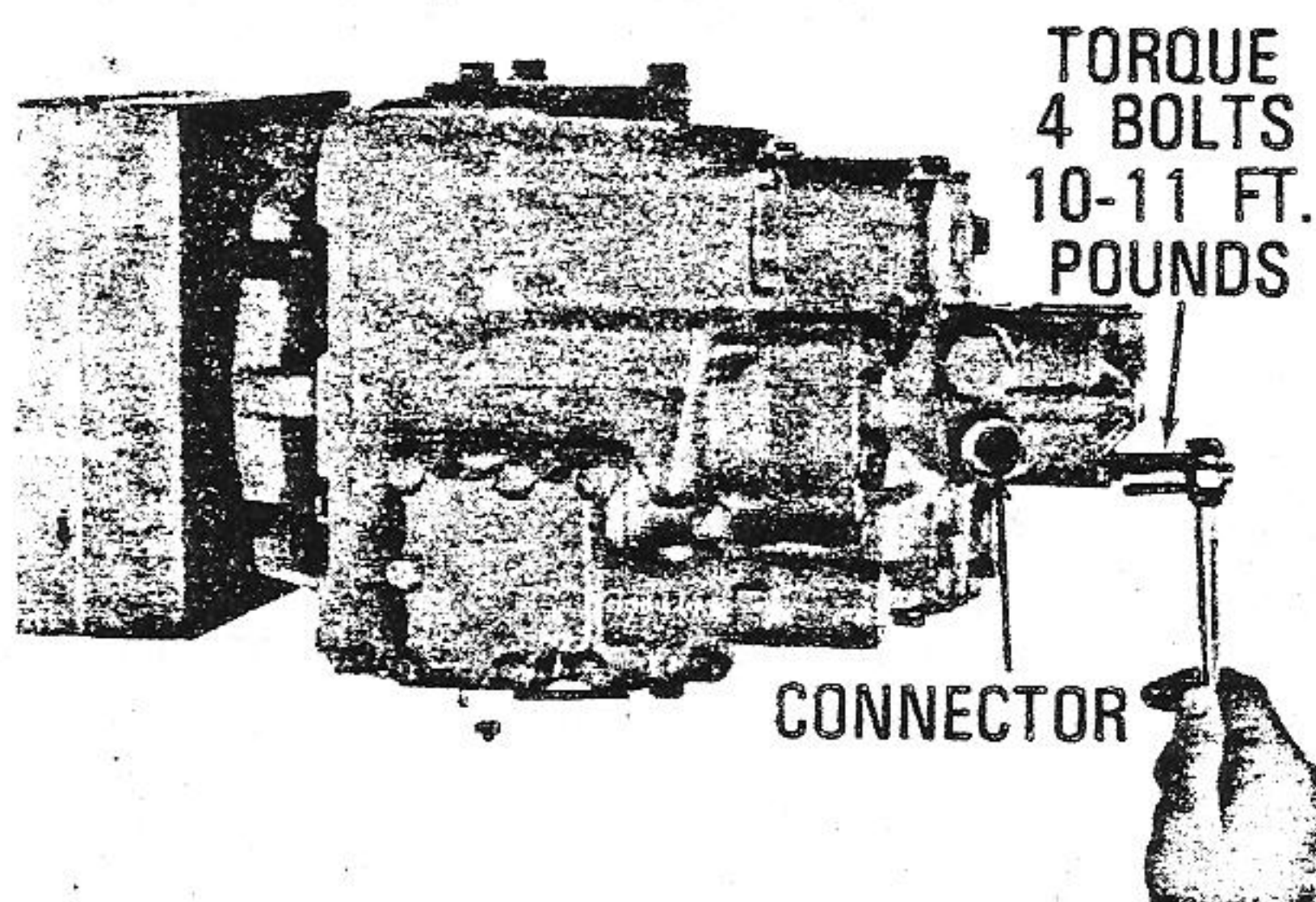


FIG. G

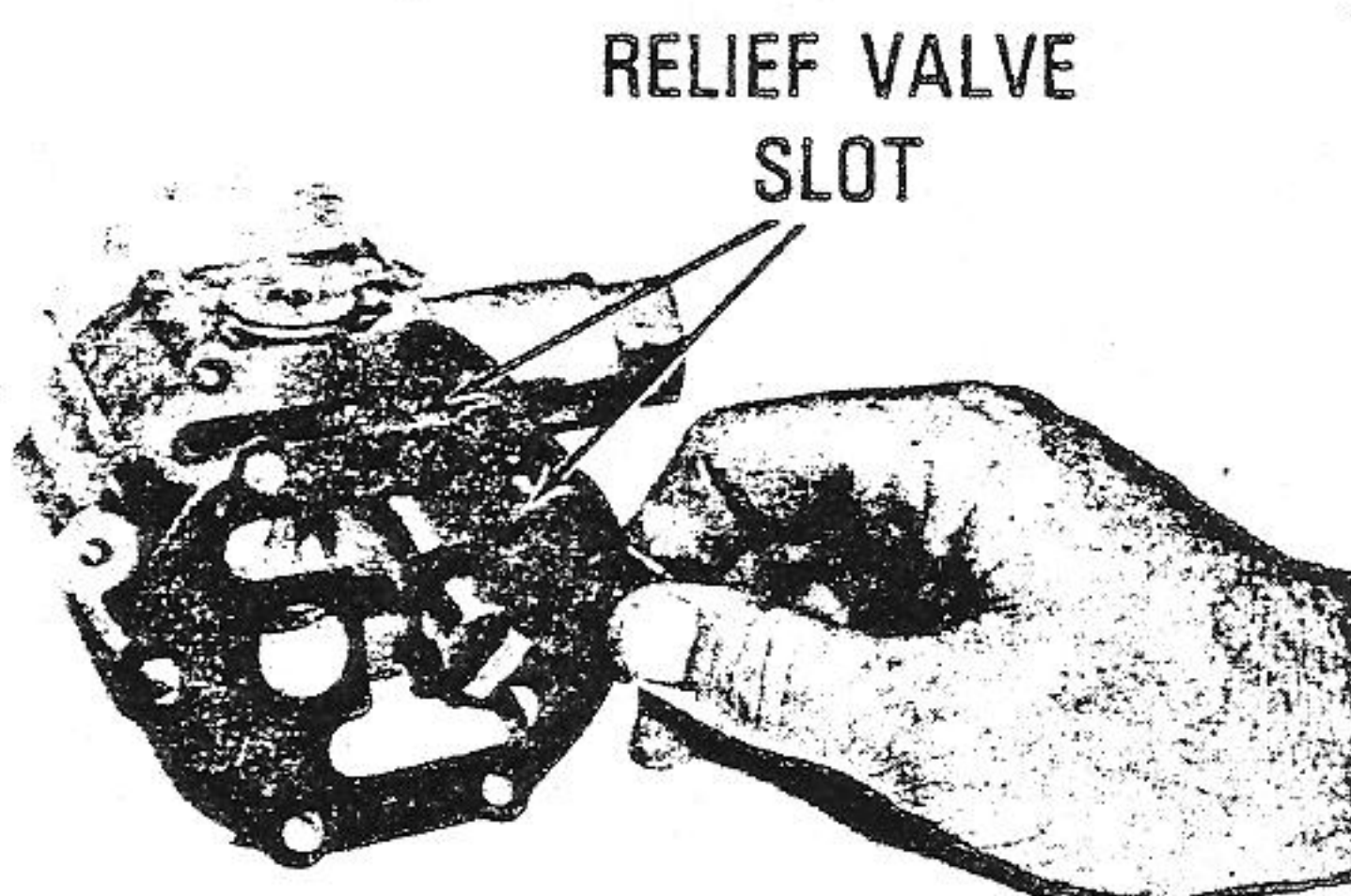


FIG. H

A. REMOVAL

1. Remove the line connecting charge pump to reservoir and plug with clean plastic plug to prevent draining of reservoir.

2. Remove the four (4) capscrews.

NOTE: Do not remove the cap-screw at the top and bottom of the charge pump, as these hold the charge pump together. See Figure G.

3. Pull charge pump away from main pump.

NOTE: Do not use sharp tools to pry charge pump from main pump. A scratch on the sealing surface may cause a leak. If charge pump does not pull loose, tap lightly on side of charge pump with plastic hammer to break paint or gasket seal.

B. INSTALLATION

1. Install a new gasket. Make sure the new gasket is properly installed. See Figure H. If positioned wrong the relief valve port is covered by the gasket.

2. Line up the drive tang on charge pump shaft with slot in main pump shaft. See Figure I. The charge pump should assemble freely with main pump freely. Do not force charge pump into position.

3. Torque the four (4) mounting bolts to 10-11 ft. lbs.

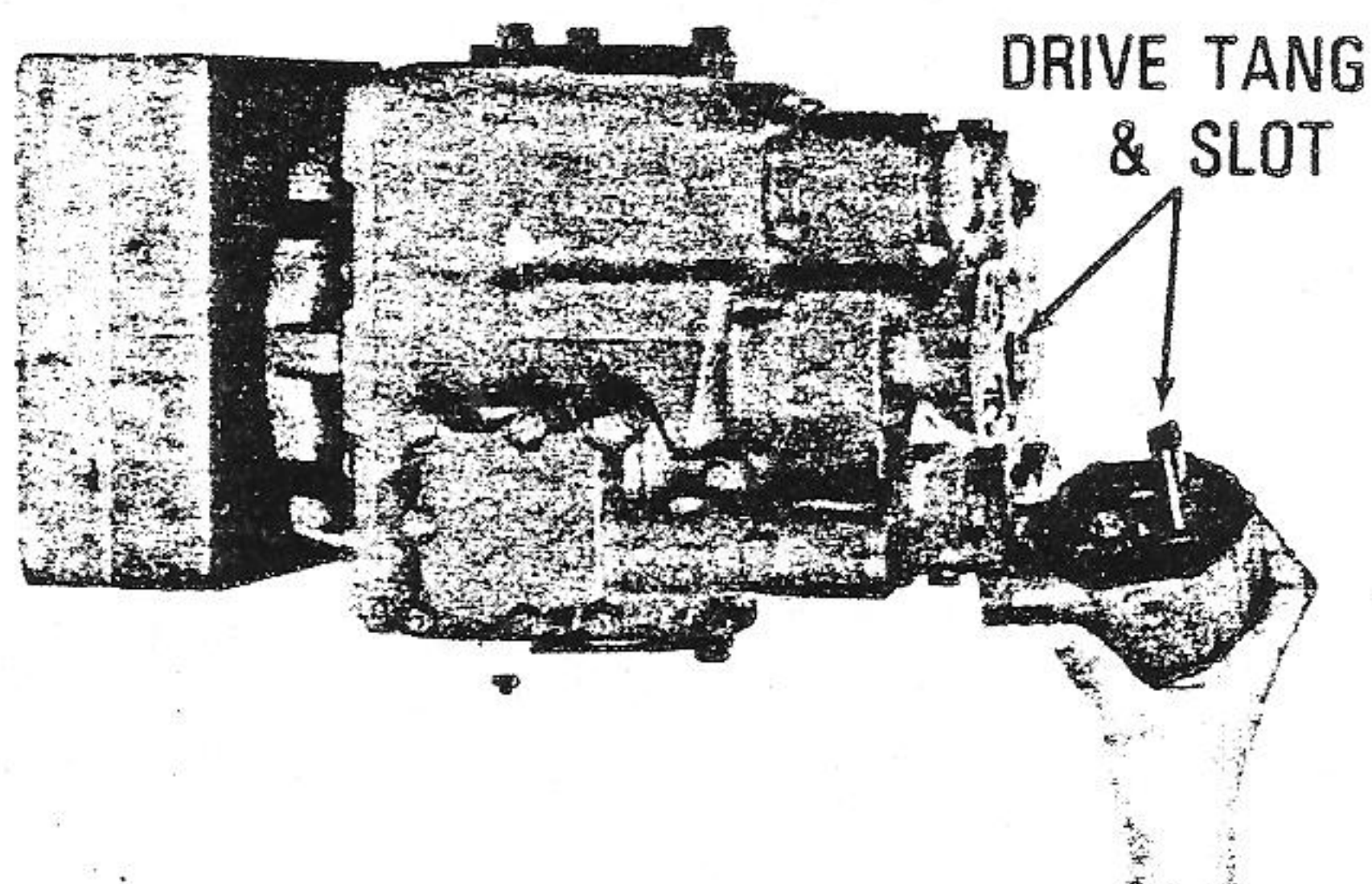


FIG. I

replacement of charge pump

BULLETIN 9482
SECTION 3

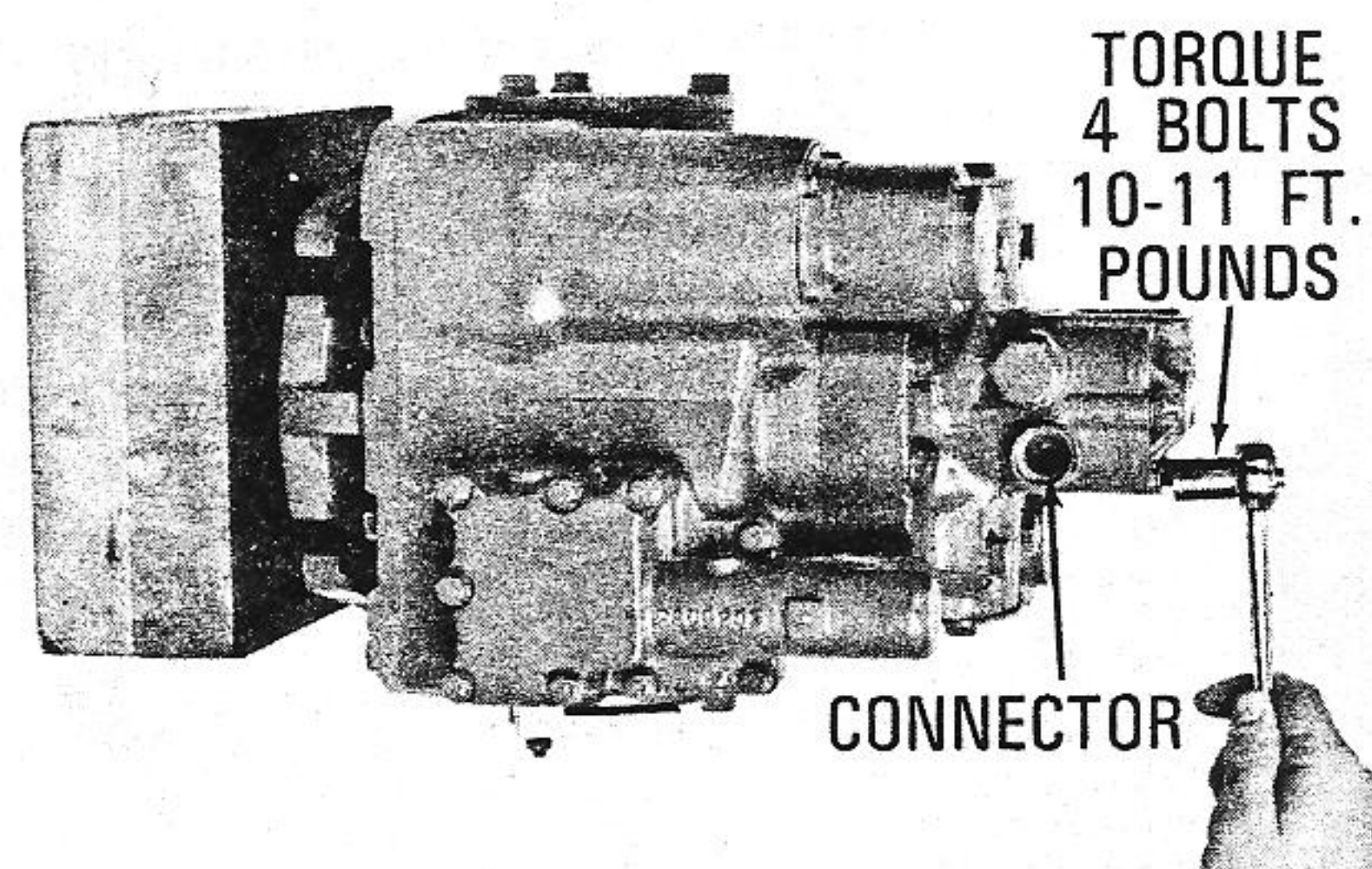


FIG. J

4. Install connector to charge pump.
Torque 14-20 ft. lbs.

5. Install line from reservoir to connector on charge pump.

NOTE: *Excessive tightening may distort charge pump and cause leaks or malfunction.*

6. Check oil level in reservoir.

replacement of check valves

BULLETIN 9482
SECTION 4

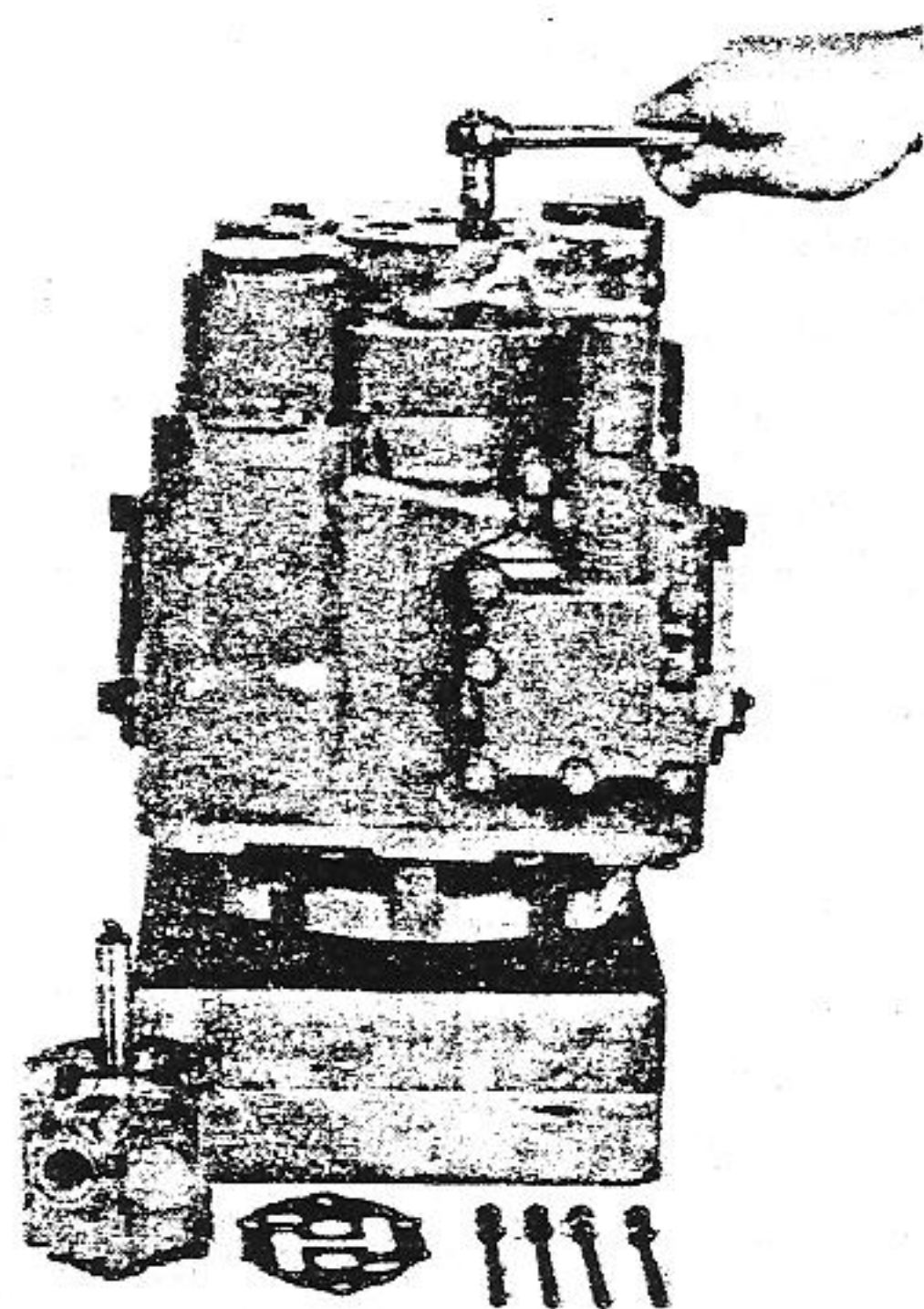


FIG. K

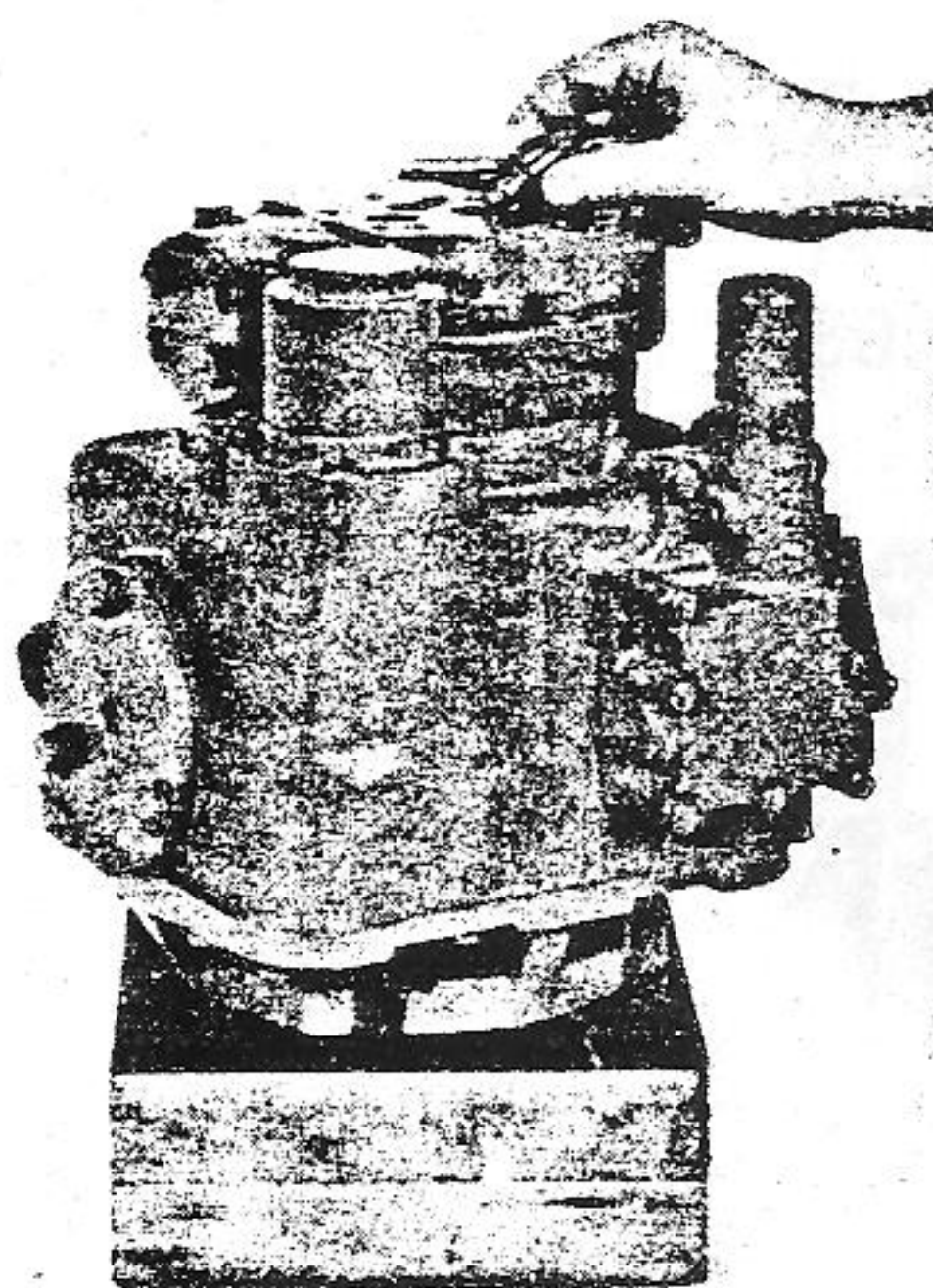


FIG. L

A. REMOVAL

1. Remove charge pump. See Section 3.
2. Using a drag link, unscrew check valve from end cap. See Figure K.

NOTE: There are two check valves. It is advisable to replace both check valves when servicing unit. See Figure L.

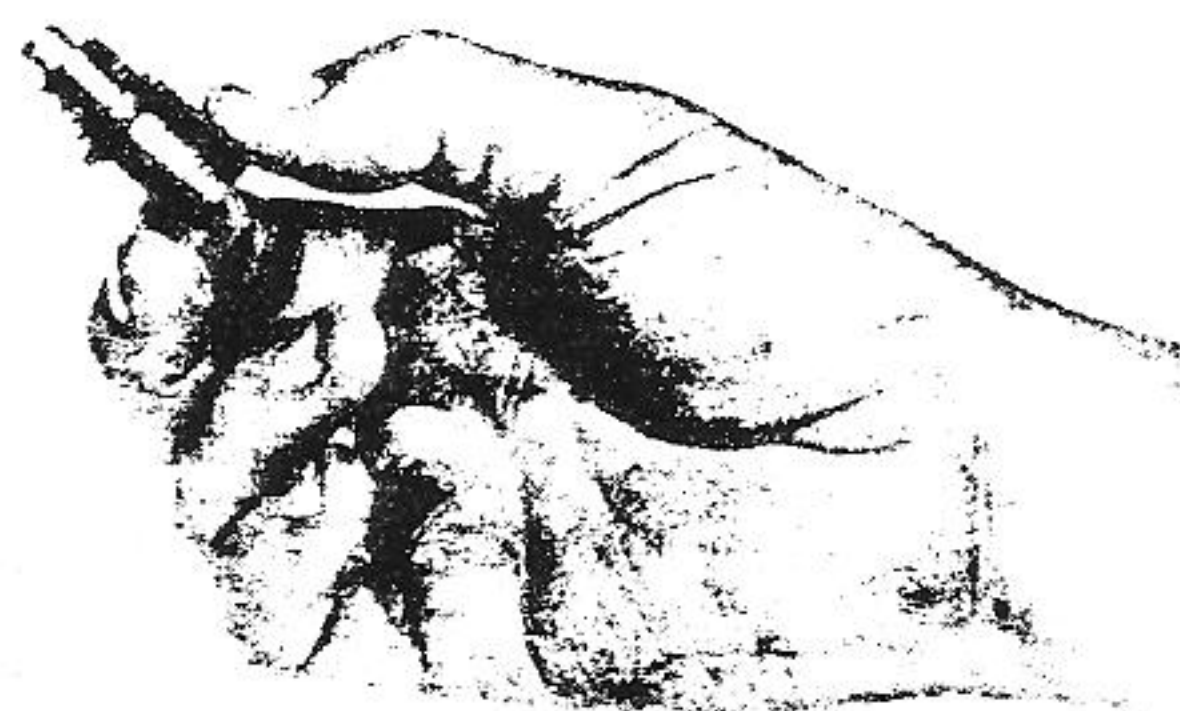


FIG. M

B. INSTALLATION

1. Prior to installation, inspect "O" rings for damage. See Figure M. Apply a light coat of oil.

On 20 through 23 series pumps, torque check valves 30-40 ft. lbs.

On 24 through 27 series pumps, torque check valves to 80-90 ft. lbs.

NOTE: The checks must be below the face of the end cap. See Figure K.

replacement of manifold

BULLETIN 9482
SECTION 5

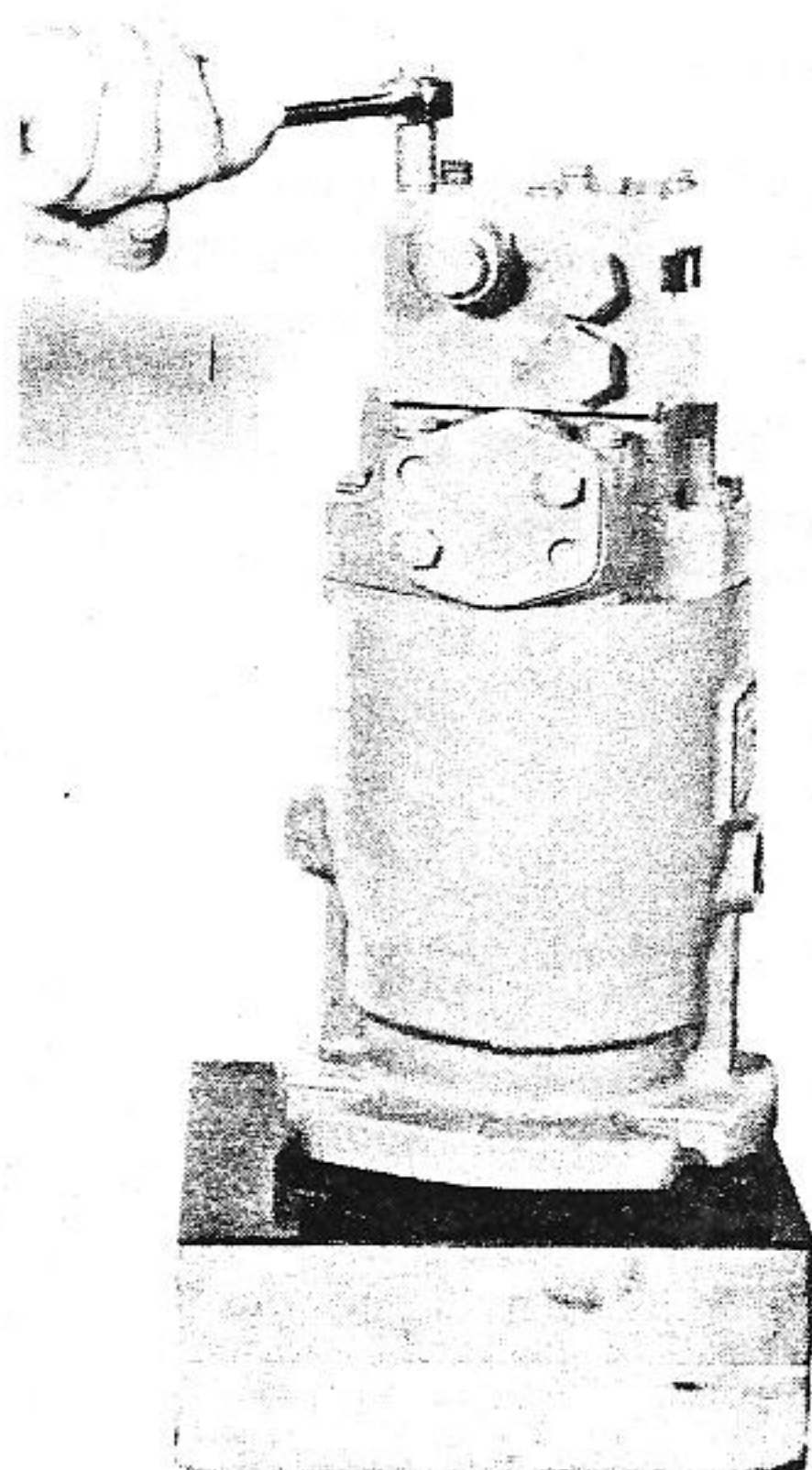


FIG. N

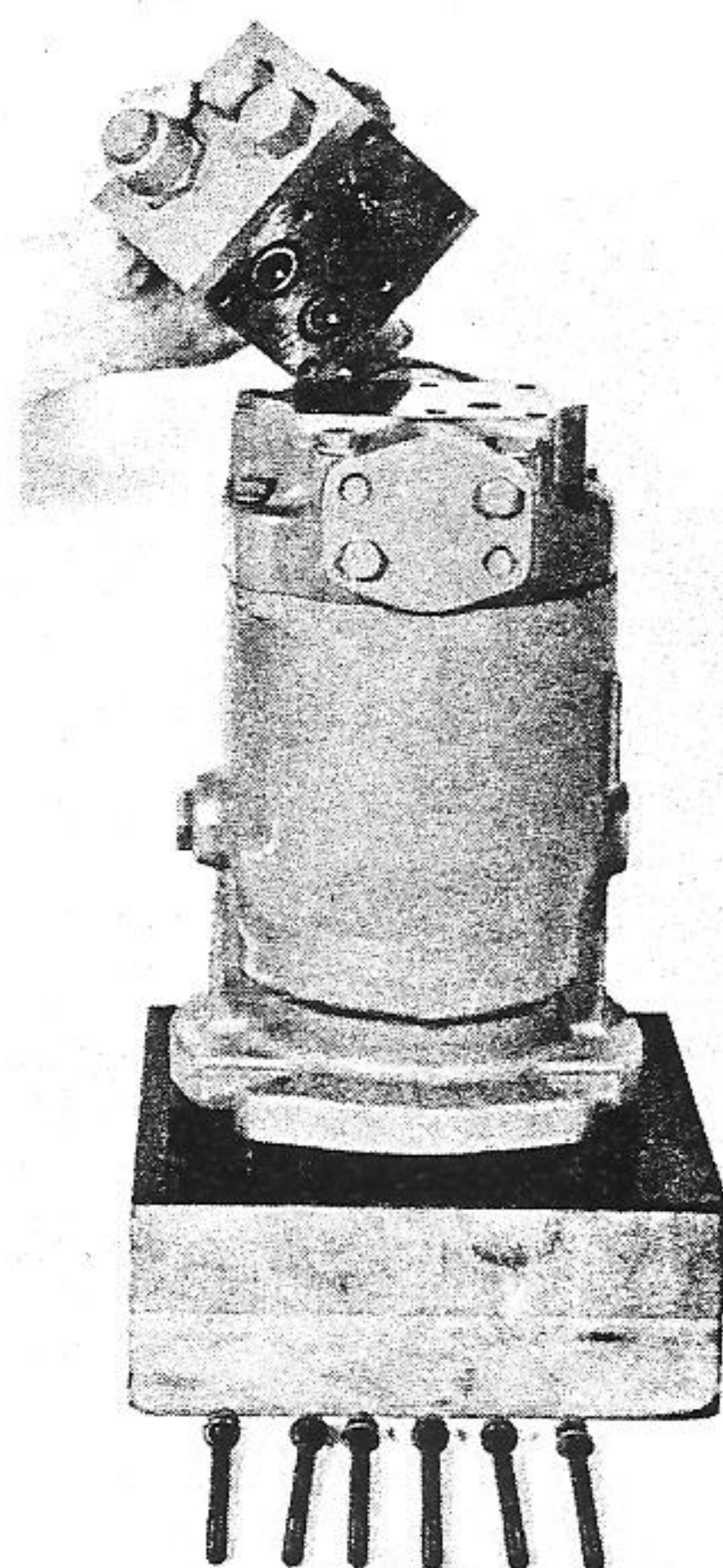


FIG. P

A. REMOVAL

1. Prior to removal of manifold assembly, remove all dirt and clean area where manifold assembly is attached to end cap.
2. Place drain pan under manifold to catch oil.
3. Remove the four (4) corner bolts holding manifold to motor end cap. See Figure N.
4. Grasp manifold to prevent it from dropping and remove remaining two (2) mounting bolts. See Figure P. There is no gasket between the manifold and end cap. Sealing is obtained by "O" rings and back up rings.

B. INSTALLATION

1. Use new "O" rings and back up Rings.
2. The two grooves side by side require an "O" ring and back up ring. The "O" ring goes into the groove first. Then install the back up ring on top of the "O" ring. The flat side of the back up ring faces away from the "O" ring.
3. The remaining groove requires only an "O" ring. See Figure Q.
4. Place manifold against motor end cap. Install bolts being certain "O" rings *did not* slip from their grooves. Torque bolts 19-21 ft. lbs.
5. Check reservoir for oil level.

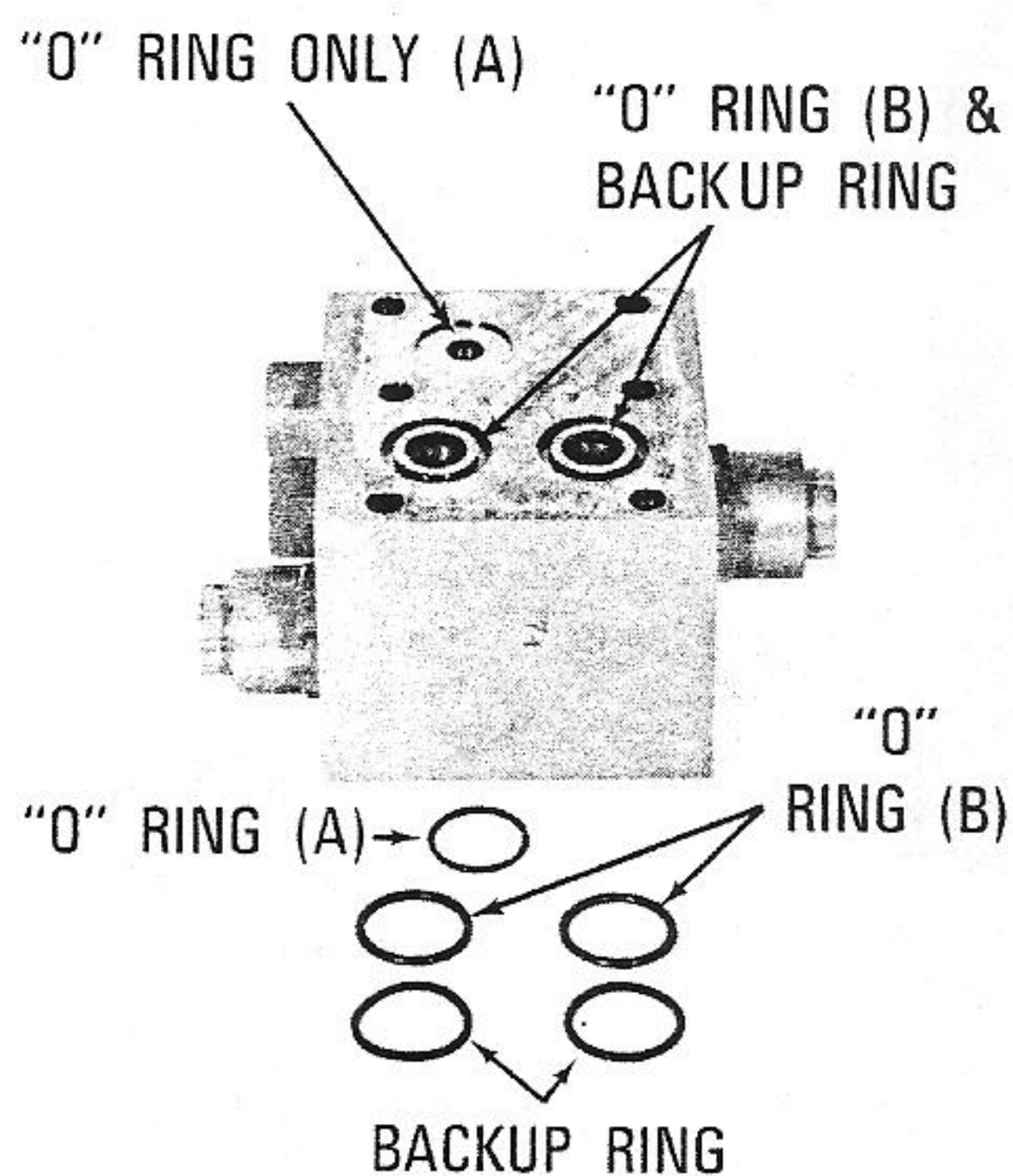


FIG. Q

replacement of high pressure relief valves

BULLETIN 9482
SECTION 6

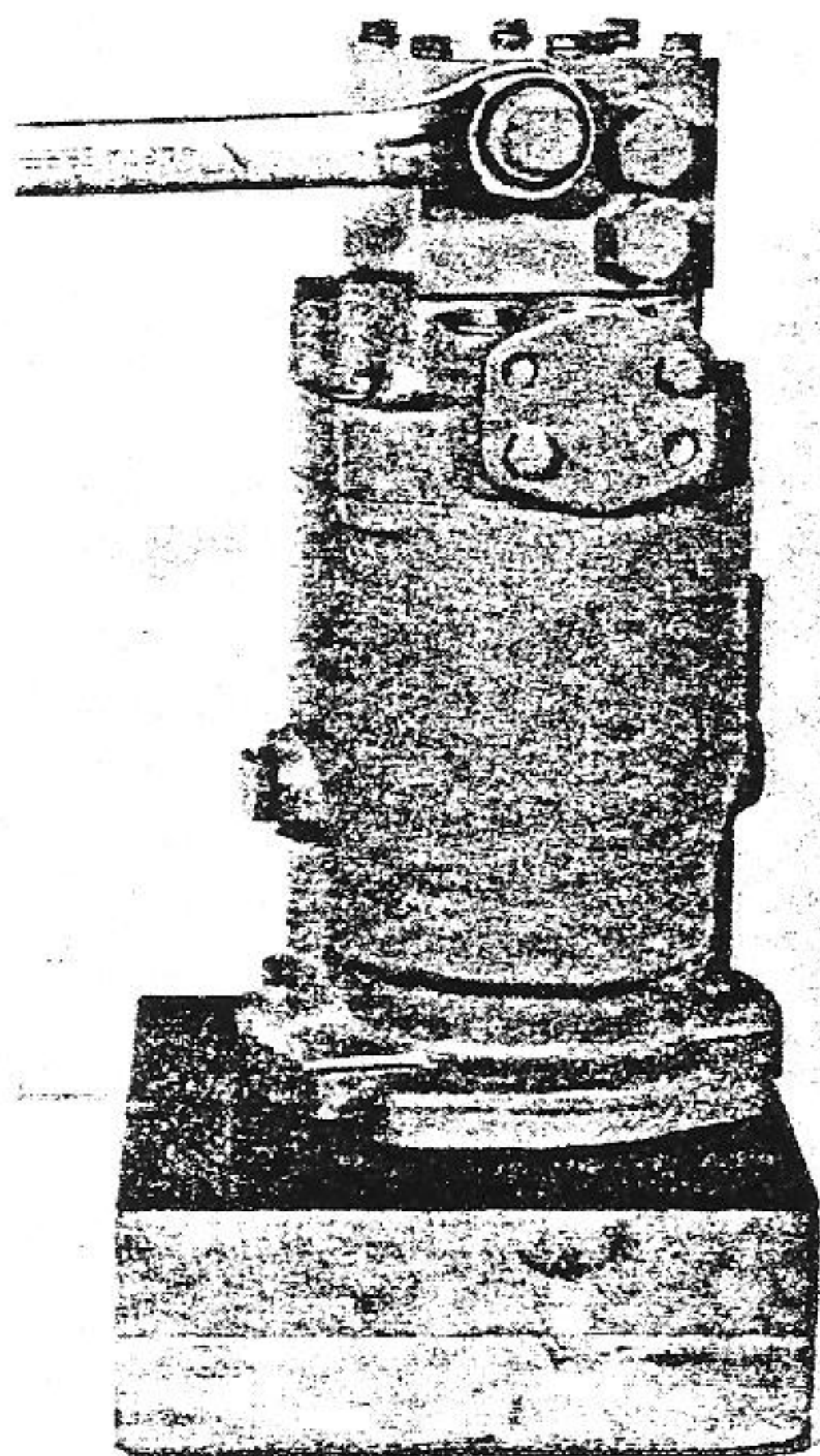


FIG. S

A. REMOVAL

1. Apply a wrench on Hex portion of valve and unscrew from manifold block. See Figure S.

NOTE: *There are two relief valves in manifold block.*

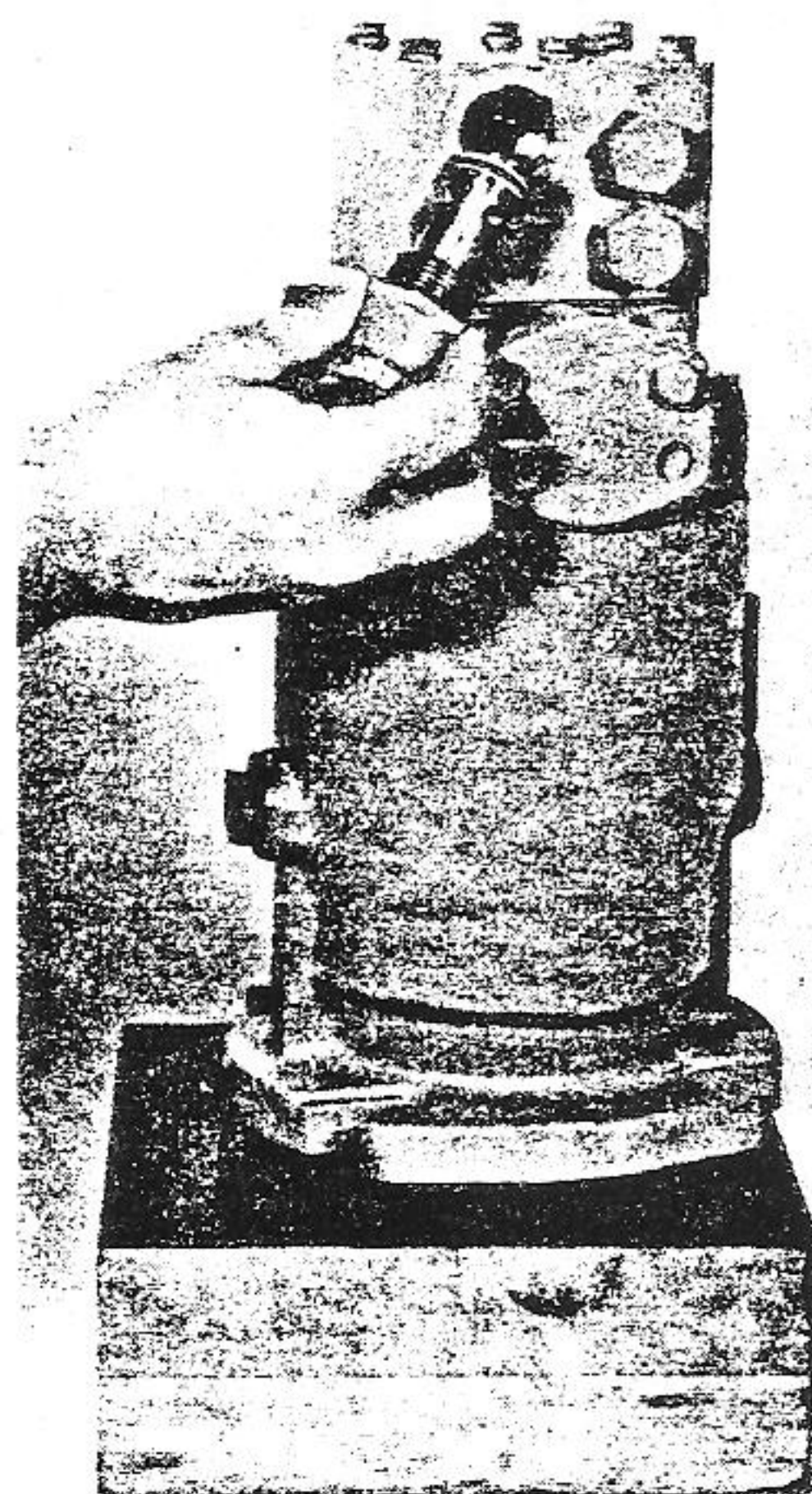


FIG. T

B. INSTALLATION

1. Prior to installation, inspect "O" rings and back up rings for damage.
2. Apply a lubricant to the "O" ring and install in manifold block.
3. Torque valve to 20 ft. lbs.

replacement of displacement control valve

(without pressure override valve)

BULLETIN 9482
SECTION 7

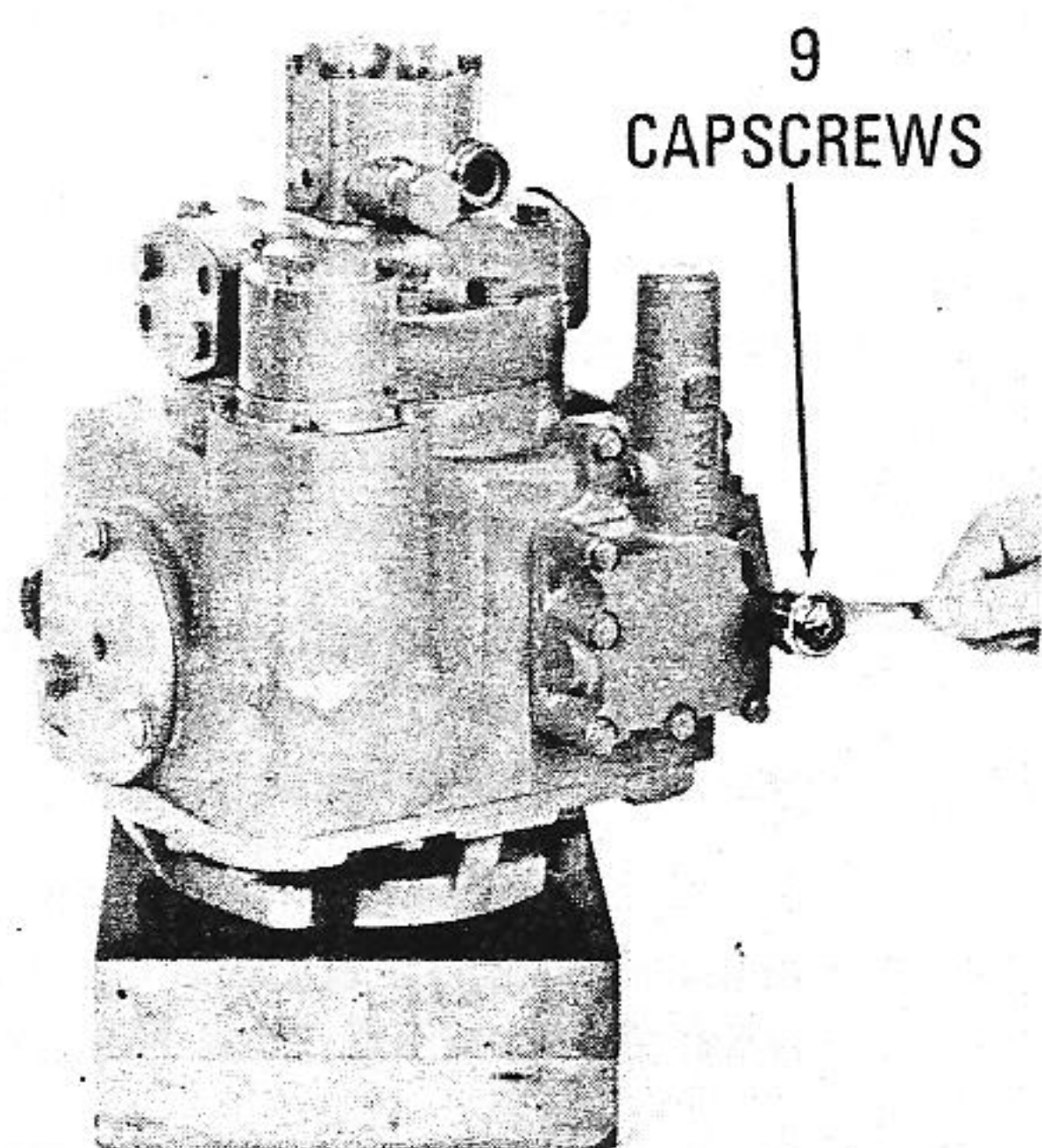


FIG. U

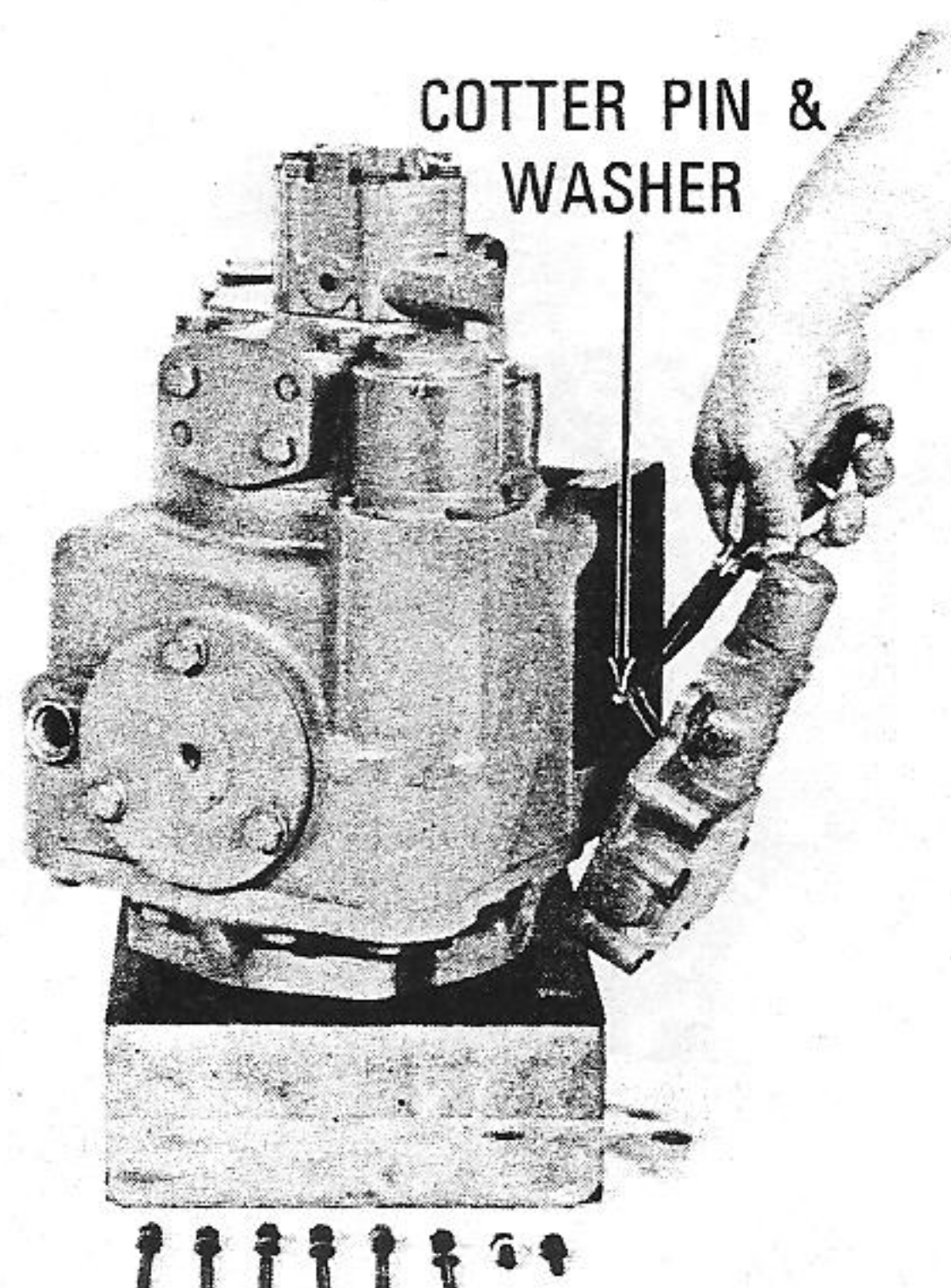


FIG. V

A. REMOVAL

1. Remove control linkage from Displacement Control Valve Assembly.
2. Remove the nine (9) cap screws holding valve to pump housing. See Figure U.
3. Lift Valve away from housing and remove cotter pin and washer. See Figure V. Remove pin from link in pump.

NOTE: Caution must be exercised to prevent these parts from falling into pump.

4. Remove orifice and "O" rings from control valve, See Figure W.

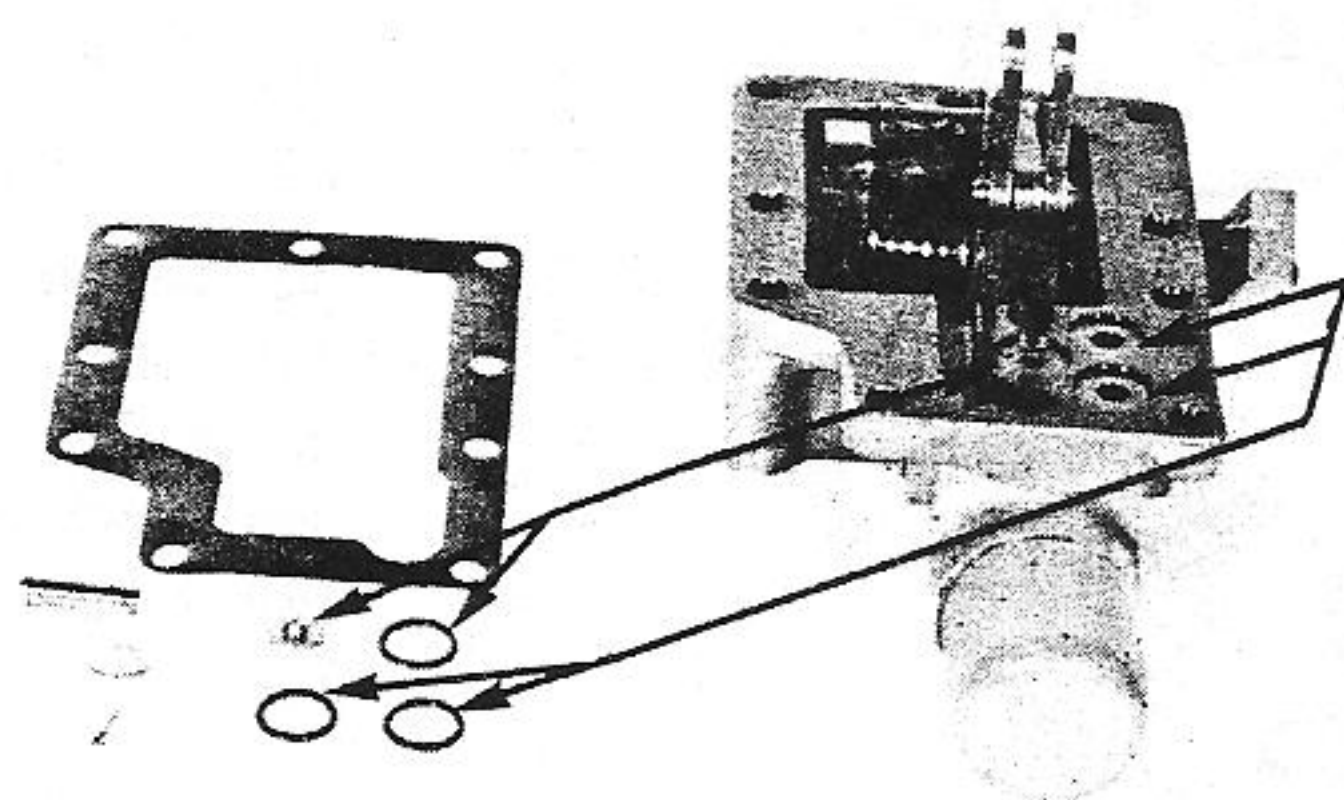


FIG. W

B. INSTALLATION

1. Install orifice, tip down, and new "O" rings in Control Valve.
2. Install new gasket on control valve dry.
3. Install pin in control valve links and pump link.
4. Place washer in pin, install cotter pin and spread.

NOTE: Caution should be exercised during installation of these parts to prevent them falling into unit. Lightly coating parts with petroleum jelly (not grease) is advised.

5. Install valve to pump and torque the nine (9) bolts 10-11 ft. lbs.

replacement of motor or pump shaft seal

BULLETIN 9482
SECTION 8

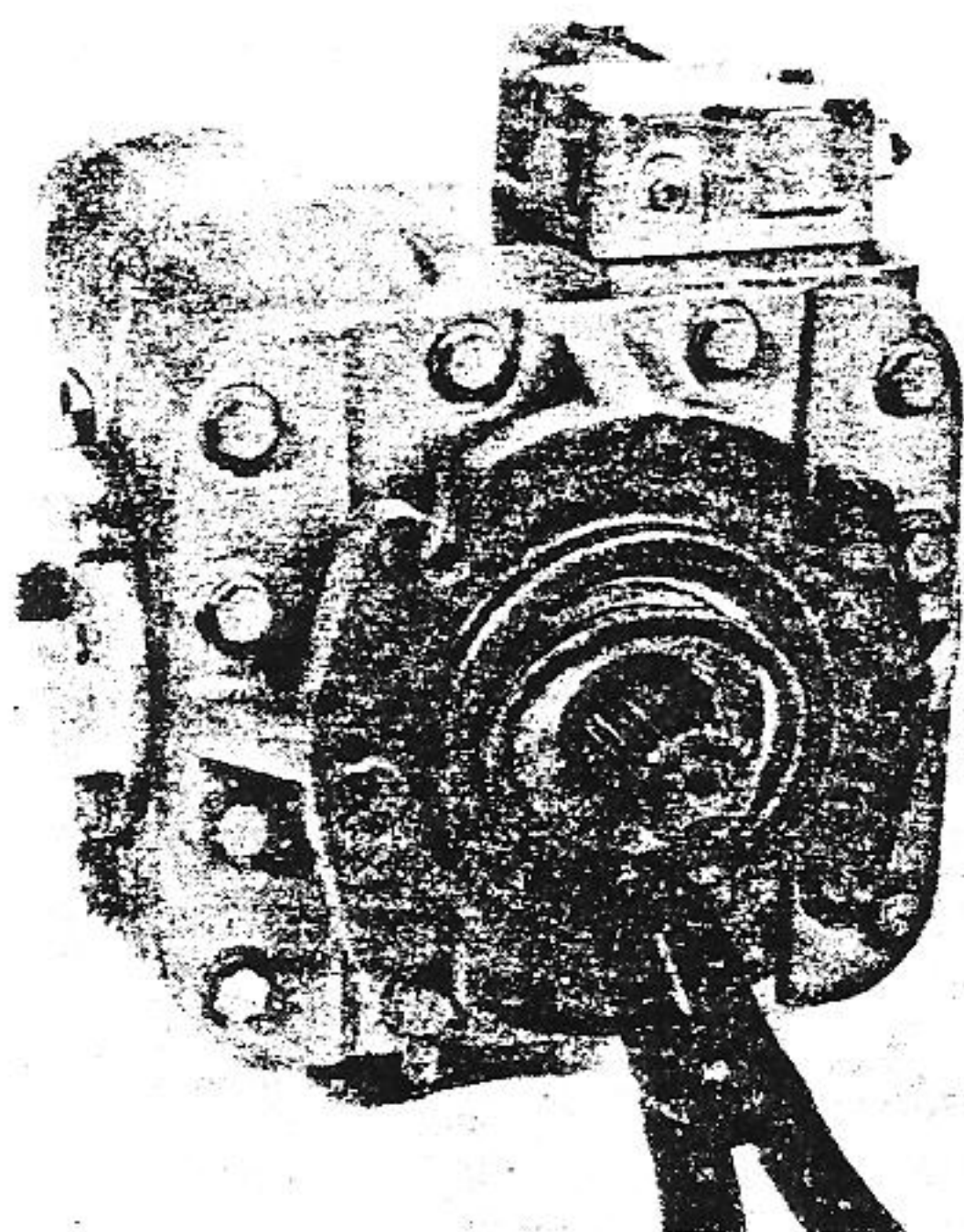


FIG. Y

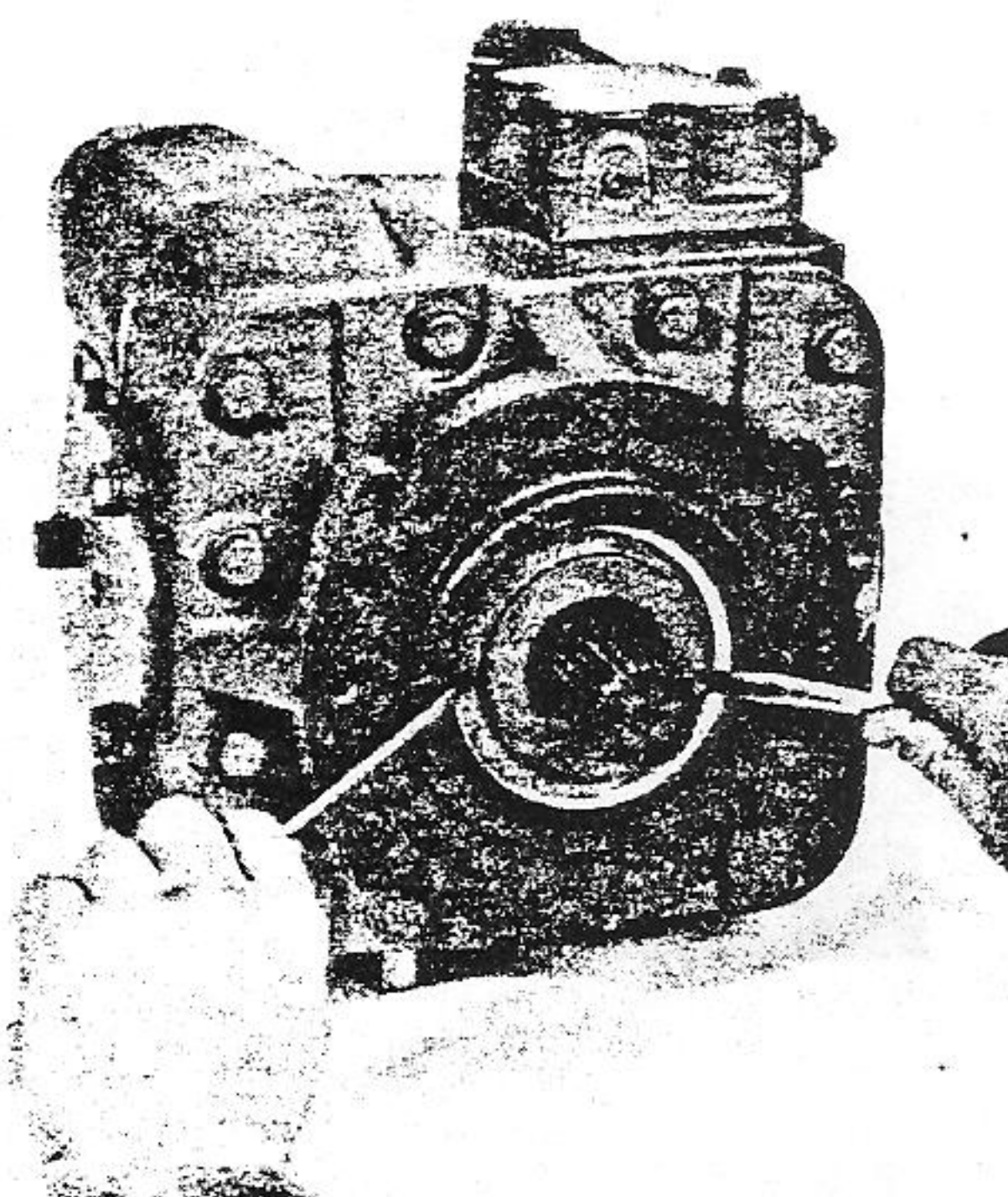


FIG. Z

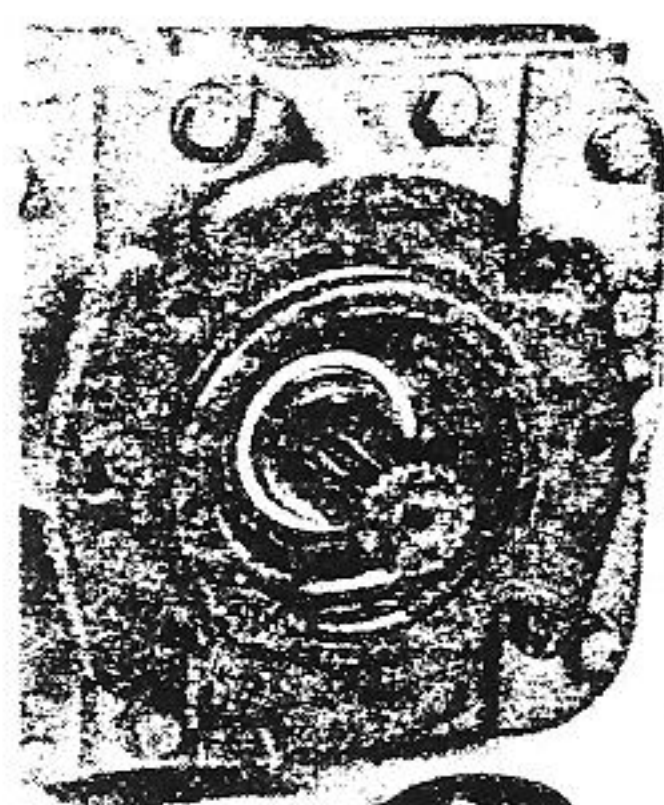


FIG. AA

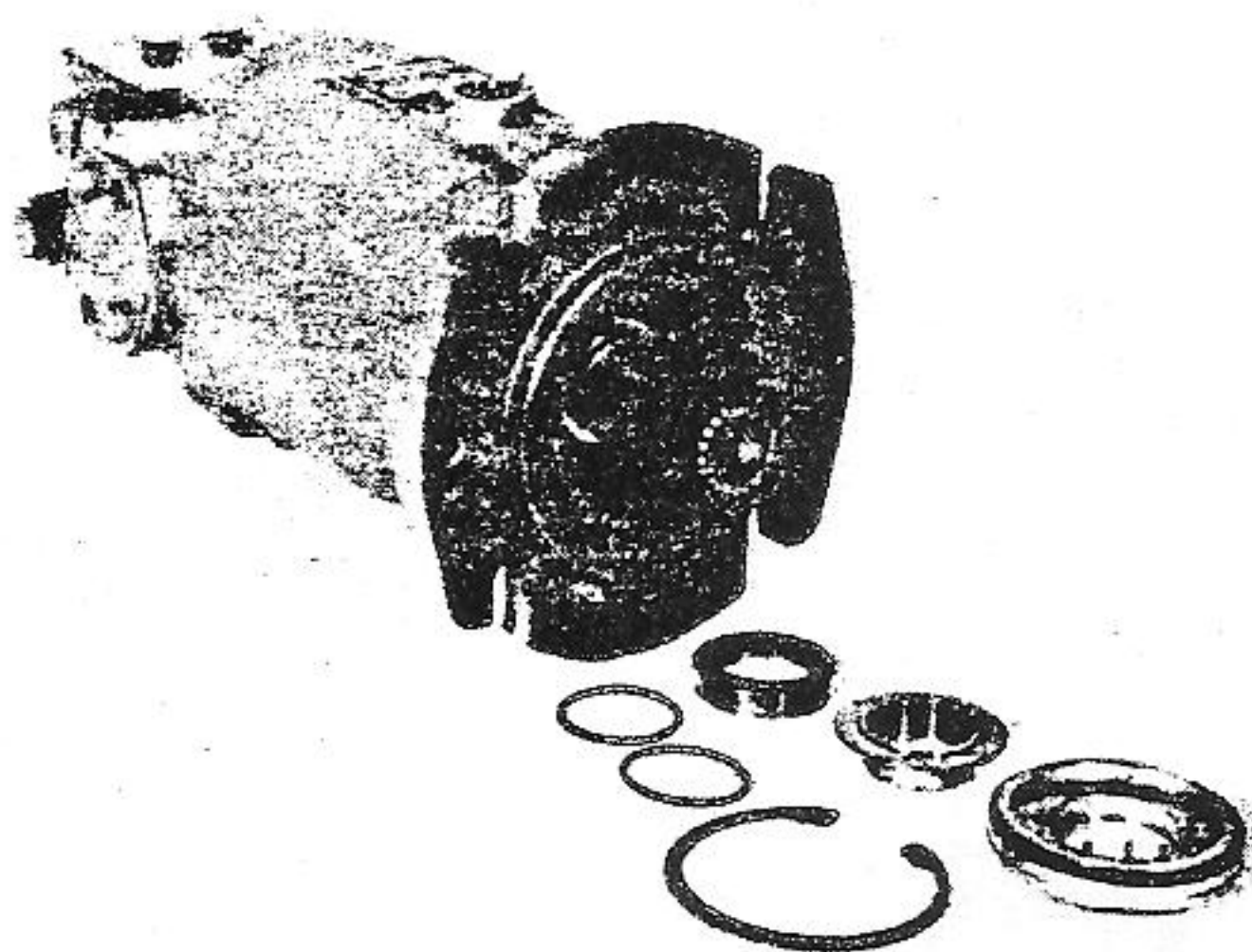


FIG. CC

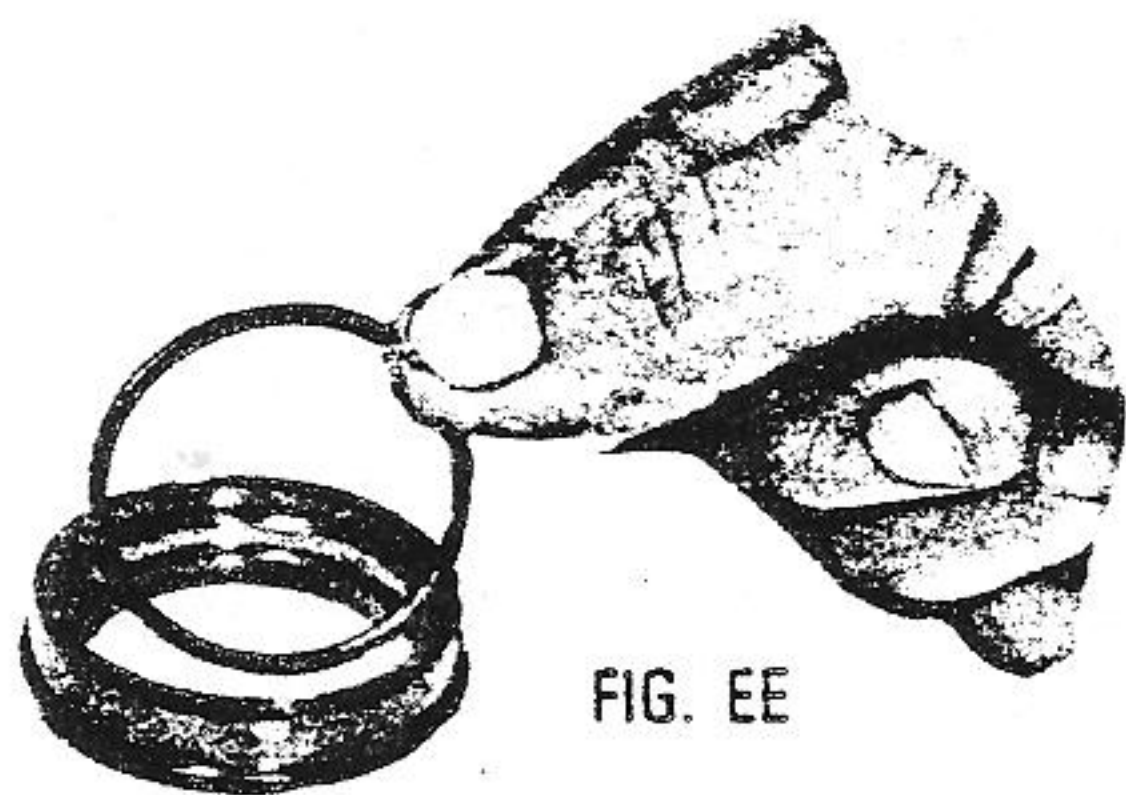


FIG. EE

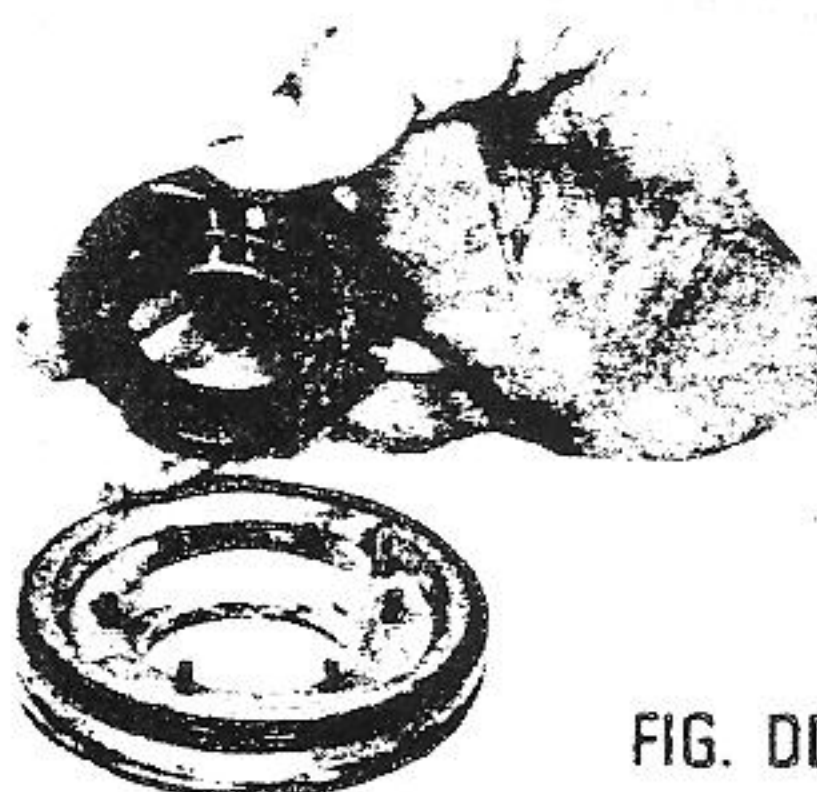


FIG. DD

A. REMOVAL

1. Remove unit from installation. See Section 1 or 2.
2. Insert Tru-Arc #7 pliers in snap ring holes, compress ring and roll out. See Figure Y.
3. Remove aluminum seal retainer with screwdriver. See Figure Z.
4. Remove steel stationary seal (This generally comes out with retainer). See Figure AA.
5. With fingers or two screwdrivers remove bronze rotating part of seal from drive shaft. See Figure FF.
6. See Figure CC and account for all the parts shown.

B. INSTALLATION

NOTE: Always replace both stationary and rotating parts of seal. Do not mix old and new parts.

1. Wash and clean air dry new seal parts.
2. Install the seal springs into aluminum seal retainer. Install new "O" rings dry on stationary steel part of seal and place seal into retainer so notch is located in pin in retainer. See Figure DD.
3. Install large "O" ring on O.D. of retainer. See Figure DD.
4. Install new "O" ring in I.D. of bronze rotating part of seal. See Figure EE.

replacement of shaft seal

BULLETIN 9482
SECTION 8

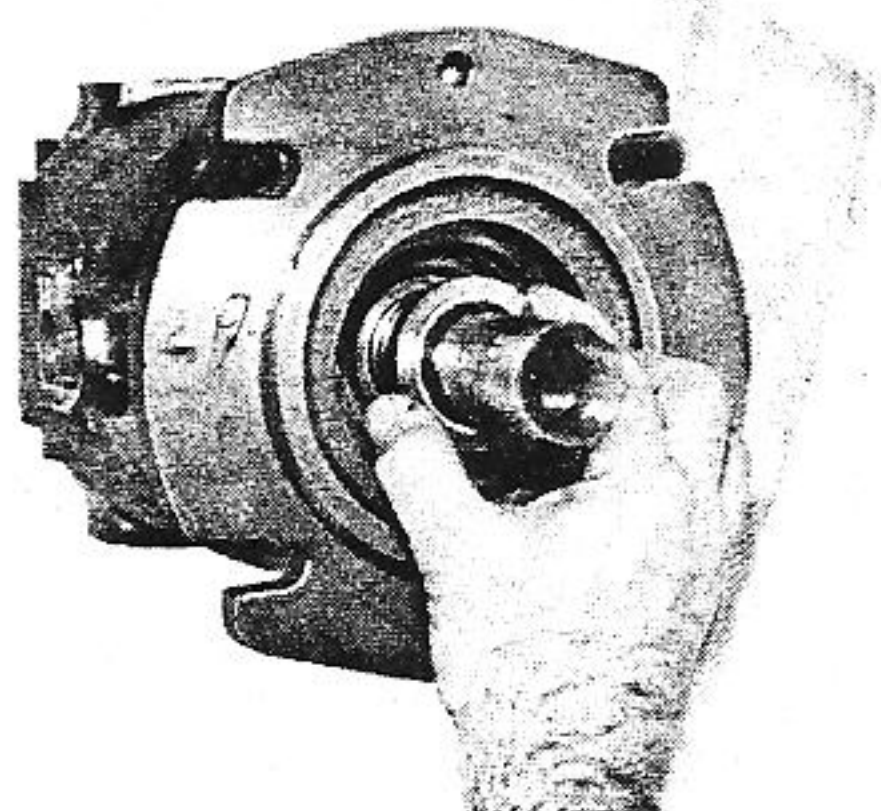


FIG. FF



FIG. GG

5. Wrap a piece of plastic around drive shaft and slide rotating bronze part over shaft making sure it is seated. Do not press on seal surface. See Figure FF.

6. Install stationary seal and retainer into place and press retainer in so snap ring groove is open. See Figure GG.

7. Close snap ring with pliers. Install snap ring with tapered edge out.

8. For ease of installation start snap ring in groove with side opposite snap ring holes. See Figure HH.

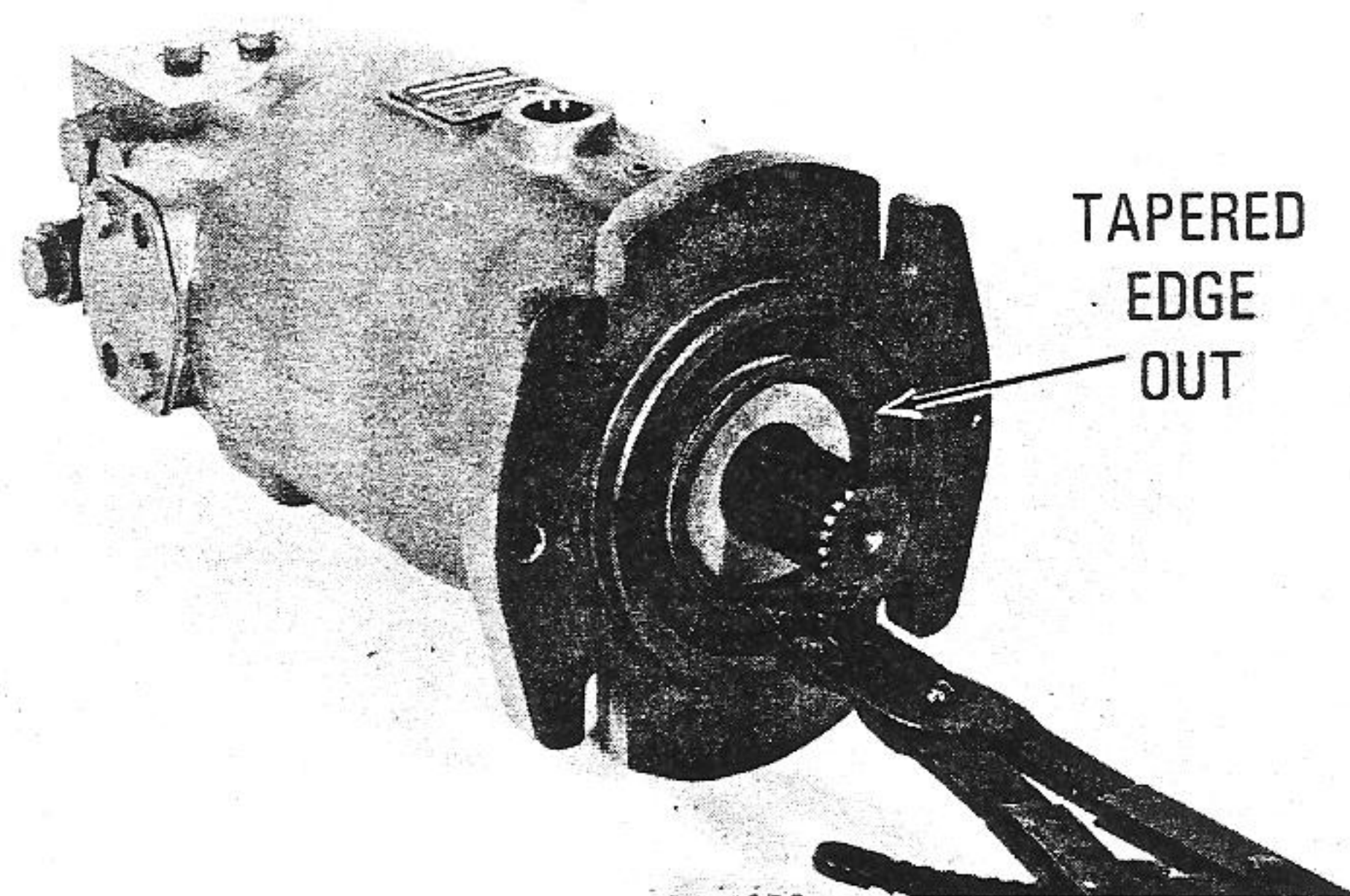


FIG. HH