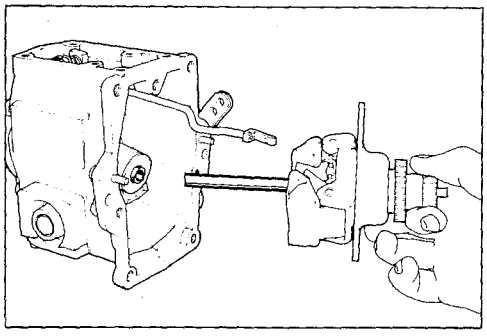

FIGURE 2-198
INSTALLING WEIGHT AND SHAFT ASSEMBLY

(26) Install the support plate securing screws and lockwashers. (See figure 2-199). Tighten screws to required torque value per Torque Chart, Section XI.

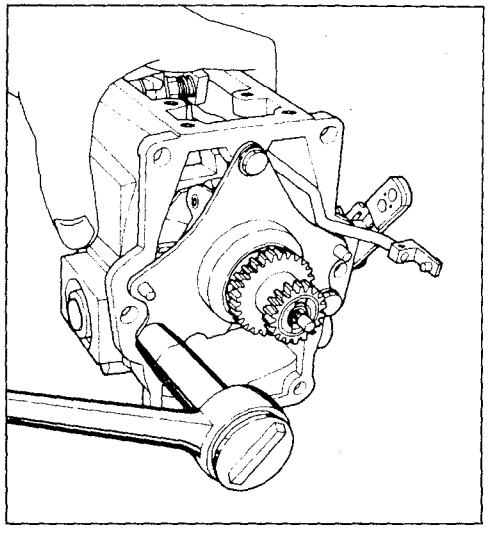

FIGURE 2-199
INSTALLING SCREWS AND LOCKWASHERS

(27) If the nameplate requires replacement, a new nameplate should be stamped with proper identification numbers and installed using two new drive screws.

Note: Remaining governor components will be installed after governor is assembled to pump.

F. Installation Of Governor

(1) With pump housing mounted in holding fixture, make certain components are positioned as follows:

(a) Camshaft keyway (front of shaft) and drill spot on intravance gear must be exactly at the 12 o'clock position.

(b) Intravance timing device should be in full retard position — check by pulling follow-up rod fully toward governor end.

(c) Line mark on face gear must be aligned with raised bead in the pump housing timing window.

(d) Position beveled tooth on the governor drive gear at exactly the 12 o'clock position. Refer to figure 2-200.

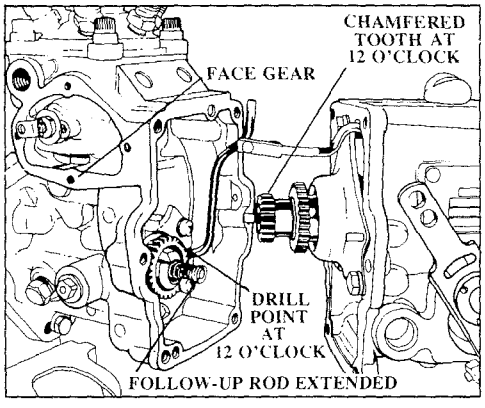

FIGURE 2-200
PROPER POSITION OF COMPONENTS FOR GOVERNOR INSTALLATION

(2) Position the governor housing gasket on the governor housing as indicated in figure 2-200 above. **No sealer is required** with this type of gasket.

(3) Carefully install the governor onto the pump housing making certain the control rod and excess fuel device supply tube are not damaged or bent during assembly. The dowel pins in governor housing must engage holes in pump housing for proper gear engagement. Refer to figure 2-201.

Note: It will be necessary to tip the governor slightly while assembling governor to pump. Be certain components remain in positions noted in step 1 a thru d.

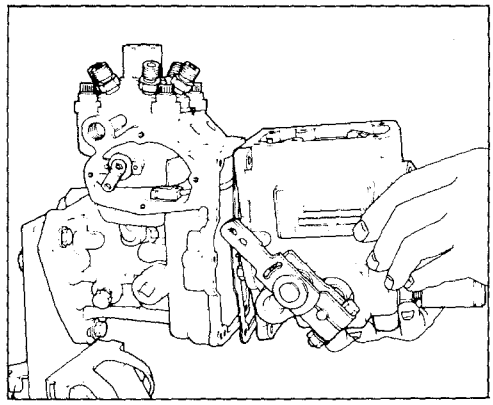

FIGURE 2-201
ASSEMBLING GOVERNOR TO PUMP

(4) Install the governor mounting screws and lockwashers.

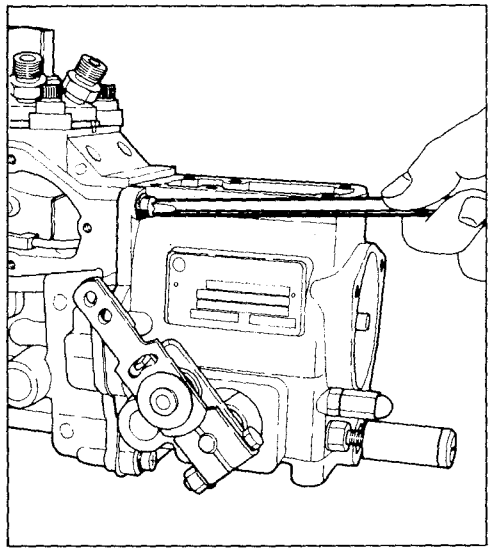

FIGURE 2-202
INSTALLING GOVEROR MOUNTING SCREWS

(5) Check to make certain that camshaft keyway is at 12 o'clock position when line mark on face gear is aligned with raised bead in pump housing timing window. Flat on supply pump end of governor shaft should be at 6 o'clock position.

Note: As a further check of proper governor installation, rotate the camshaft **slightly** in each direction. The line mark on face gear should move roughly the same amount to either side of raised bead in pump housing timing window before meeting resistance. If not, above installation procedure should be repeated until proper part alignment is achieved.

(6) With proper governor installation verified, tighten the governor mounting screws to the required torque per Torque Chart, Section XI.

(7) Install the outer spring shims into the rear of the governor sleeve and push sleeve all the way forward against the weight fingers.

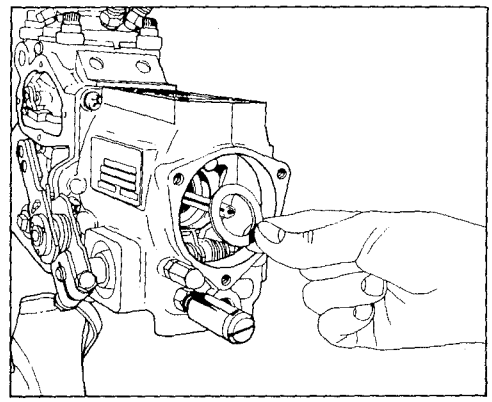

FIGURE 2-203
INSTALLING OUTER SPRING SHIMS

(8) Install outer spring into rear of governor sleeve.

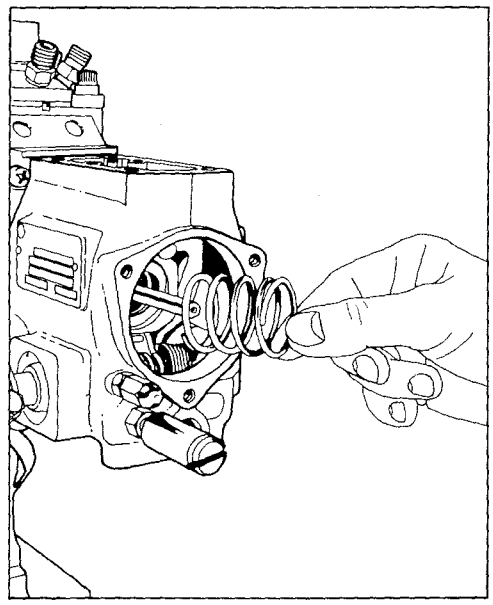

FIGURE 2-204
INSTALLING OUTER SPRING

(9) Install inner spring, shims and spring seat over governor shaft.

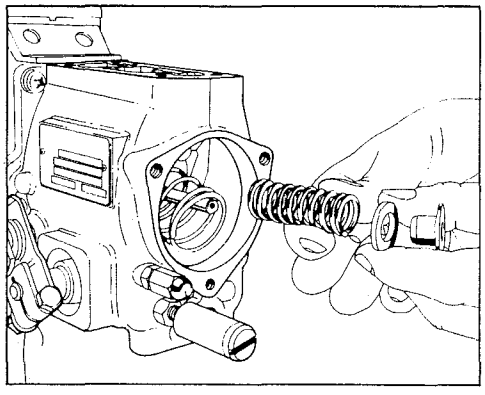

FIGURE 2-205
INSTALLING INNER SPRING, SHIMS AND SPRING SEAT

Note: If pump is equipped with min-max governor, install shims first and then pre-loaded spring capsule in place of inner spring and spring seat. (Refer to figure 2-2 in Governor Section Introduction).

Important: Check spring settings with governor in a **horizontal** position.

(10) Install the outer spring seat and supply pump gasket onto Service Tool TSE 76220.

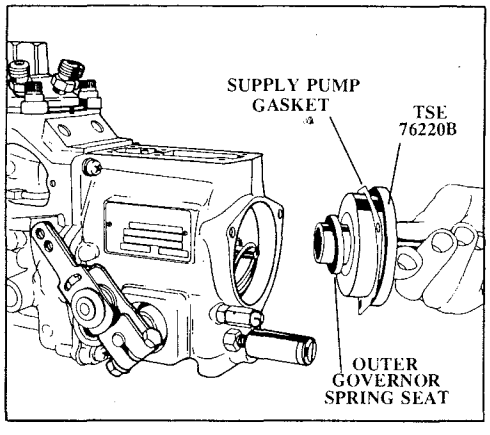

FIGURE 2-206
TOOL, TSE 76220 WITH SPRING SEAT AND GASKET

(11) Install Service Tool into supply pump bore in governor housing.

Note: The tool is graduated in millimeters. One millimeter is approximately 0.040".

(12) Make certain that the base of tool is resting firmly against the governor housing gasket and that the outer spring gauge portion is firmly seated against the base of tool. (Apply pressure with thumb). Refer to figure 2-207.

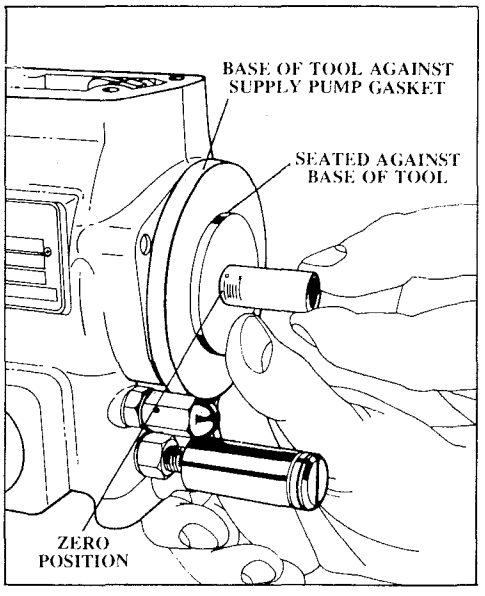

FIGURE 2-207
TSE 76220 INSTALLED IN GOVERNOR

(13) Establish zero position on inner spring gauge portion of tool as indicated in figure 2-207 above.

(14) Refer to the appropriate calibration data manual sections for the required spring gap or precompression.

(15) With pressure still applied to outer spring gauge portion of tool, gently push inner spring gauge in until it rests **lightly** against inner spring seat.

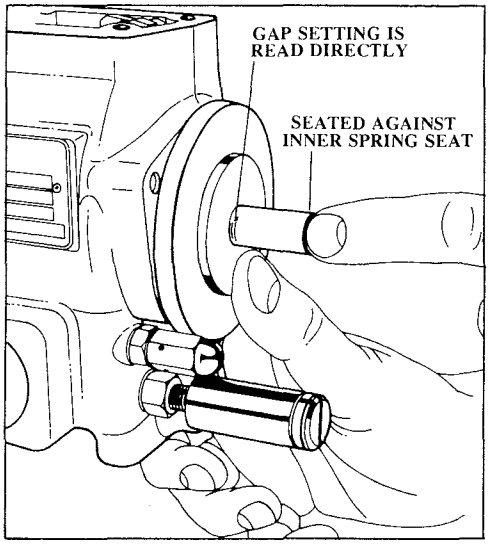

FIGURE 2-208
MEASURING INNER GOVERNOR SPRING GAP

(16) Determine the distance from the zero graduation on the inner spring gauge to the last visible graduation — read to the nearest ¼ millimeter. **This is the inner spring gap.** (Refer to figure 2-208).

Note: Be sure governor sleeve is fully forward against weight fingers. Sleeve position can be checked inside top of governor.

(17) If necessary, add or remove inner governor spring shims to obtain the required inner spring gap.

(18) While applying pressure to base of tool, pull outer spring gauge portion of tool away from base. Slide gauge in until spring contact is just barely made.

(19) Make certain that inner and outer gauges are resting **lightly** against inner and outer spring seats. There should be no space between spring seats and gauges and no compression of springs.

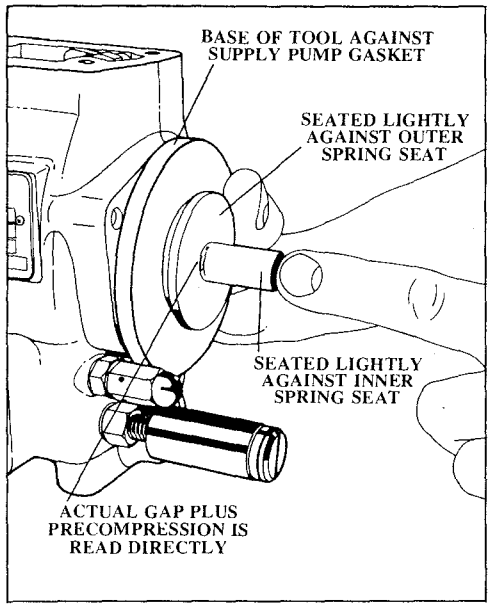

FIGURE 2-209
MEASURING OUTER SPRING PRECOMPRESSION

(20) Read the value (the last visible graduation) indicated on the spring gauge to the nearest 1/4 millimeter.

(21) Subtract the actual inner spring gap determined in step (16) above from the gauge reading obtained in step (20). **This is the outer spring precompression.**

Example: If the gap reading is 3MM. and the reading obtained in step (20) above is 4MM, the precompression would be equal to (4 MM - 3 MM) or 1 MM.

(22) The precompression can also be measured by determining the total travel of the outer spring gauge from it's initial position against the base of tool. (The travel, read on the gauge, from the initial position to the point where gauge is resting lightly against outer spring seat is the actual precompression).

Note: It is recommended that gap and precompression readings be taken twice to verify mesurements.

(23) Refer to the appropriate calibration data manual sections for the required outer spring precompression value.

(24) If necessary, add or remove outer spring shims to obtain the required outer spring precompression. (Refer to figure 2-210 above).

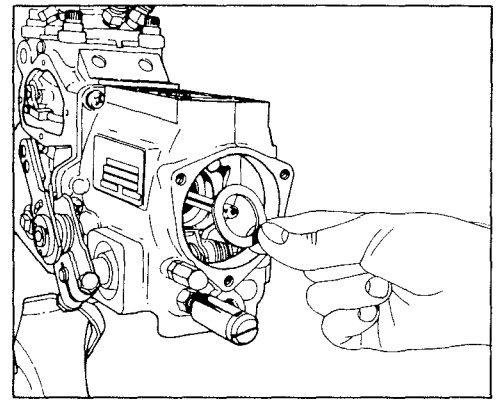

FIGURE 2-210
INSTALLING OUTER SPRING SHIMS

(25) Remove Service Tool, TSE 76200, from governor housing and then, remove outer spring seat and supply pump gasket from Service Tool.

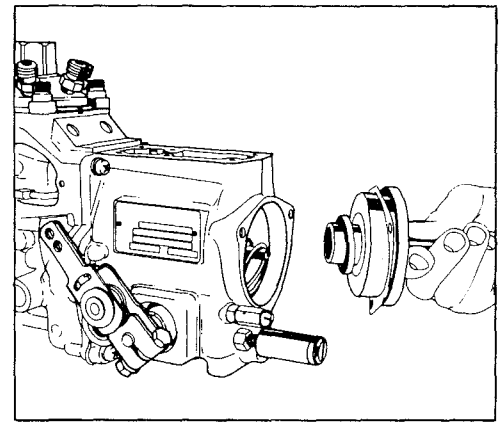

FIGURE 2-211
TOOL, TSE 76220 WITH SPRING SEAT AND GASKET

(26) Align "D" flat inside supply pump insert with flat on end of governor shaft so supply pump will properly engage shaft upon installation. This can be accomplished by either rotating pump cam shaft which will turn governor shaft or by using a governor shaft to reposition "D" flat in supply pump.

(27) Install a new "O" ring and new gasket onto supply pump and then install outer spring seat over supply pump insert.

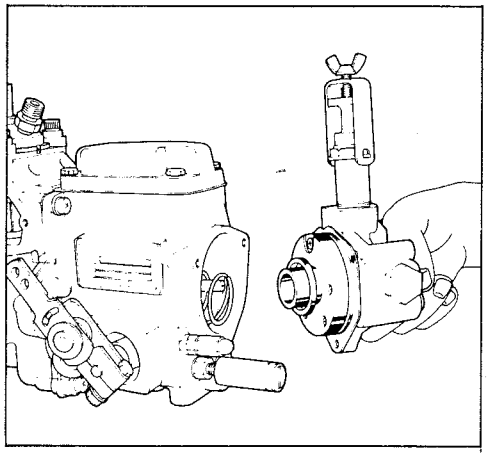

FIGURE 2-212
"O" RING, GASKET AND SPRING SEAT INSTALLED

(28) Apply a film of grease, to the supply pump "O" ring and to the end of the governor weight shaft.

(29) Carefully assemble the supply pump to the rear of the governor housing.

(30) Secure supply pump with screws and lockwashers. (See figure 2-213). The screw with seal hole should be installed in bottom hole of supply pump. Tighten screws to required torque value per Torque Chart, Section XI.

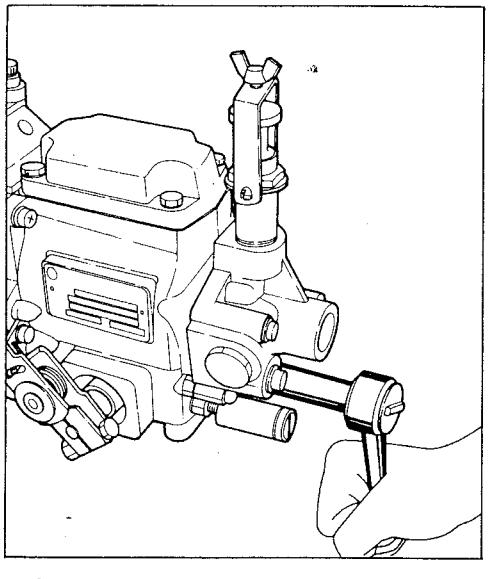

FIGURE 2-213
INSTALLING SUPPLY PUMP SCREWS AND LOCKWASHERS

(31) Position lube oil hole in excess fuel device over end of lube oil supply tube. (See figure 2-214). Make sure supply tube is installed in proper hole which has a passage through to upper excess fuel device.

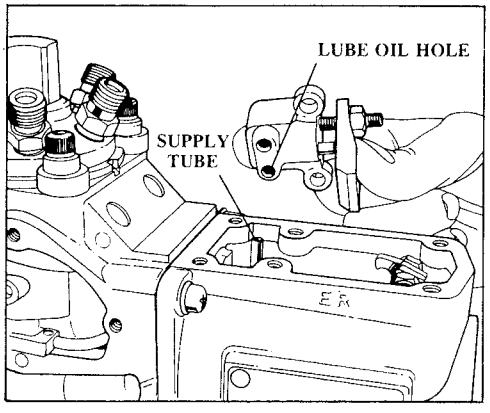

FIGURE 2-214
INSTALLING EXCESS FUEL DEVICE

(32) Secure excess fuel device with screws and lockwashers. (See figure 2-215). Tighten screws to required torque per Torque Chart, Section XI.

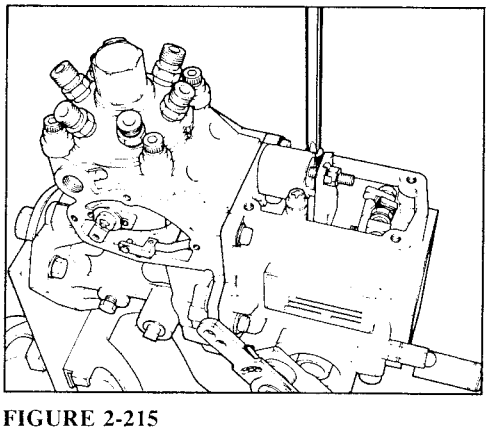

FIGURE 2-215
INSTALLING SCREWS AND LOCKWASHERS

(33) Position a new governor cover gasket on top of governor and then install governor cover over gasket.

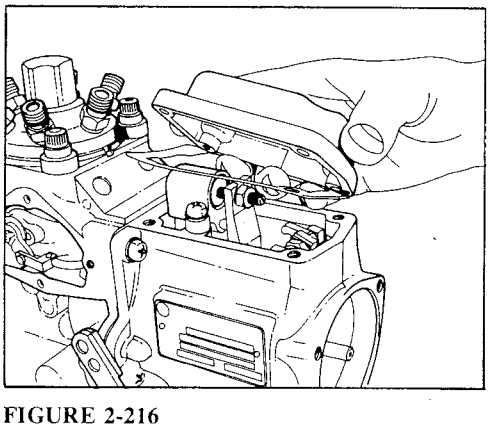

FIGURE 2-216
INSTALLING GASKET AND COVER

(34) Install governor cover screws with the new gaskets and tighten the screws finger tight to insure that no dirt enters governor. (Refer to figure 2-217). The screw with lockwire hole should be installed in cover closest to control unit. Then, tighten screws as specified in Torque Chart, Section XI.

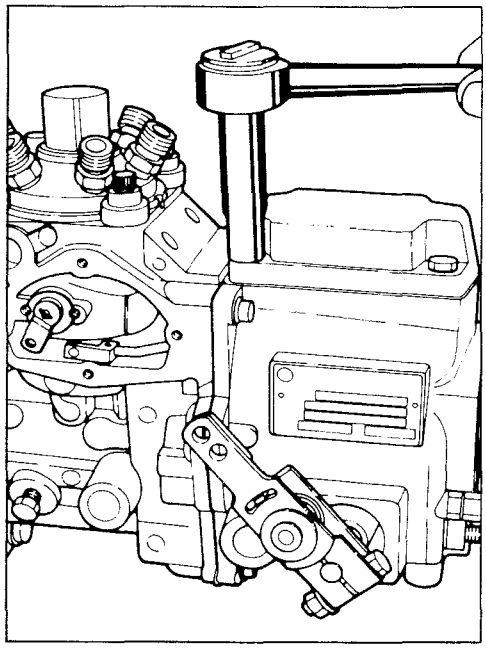

FIGURE 2-217
INSTALLING GOVERNOR COVER SCREWS AND GASKETS

(35) Insert the control rod pin into the control unit arm.

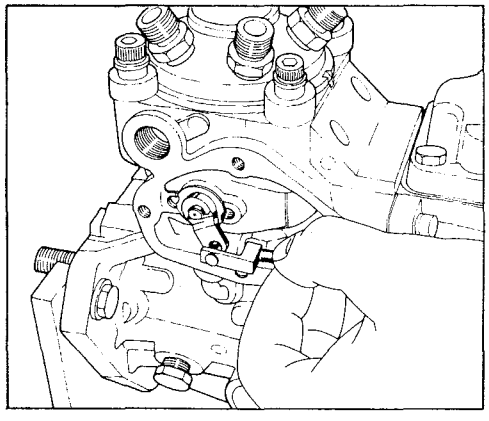

FIGURE 2-218
ENGAGING CONTROL ROD PIN

(36) Install the screws into the two holes of the retaining plate.

(37) Next, slide the two spacers onto the retaining plate screws and install the assembly over the control unit.

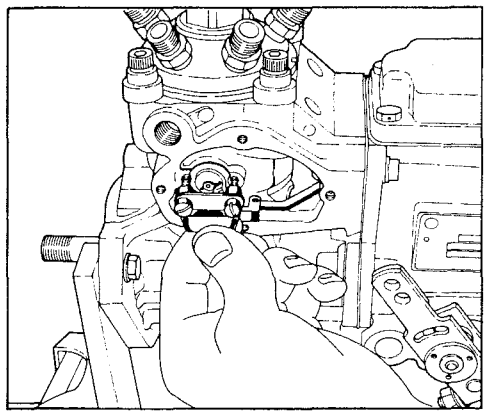

FIGURE 2-219
INSTALLING RETAINING PLATE

(38) Tighten the retaining plate screws **evenly** to the required torque value (reference Torque Chart, Section XI).

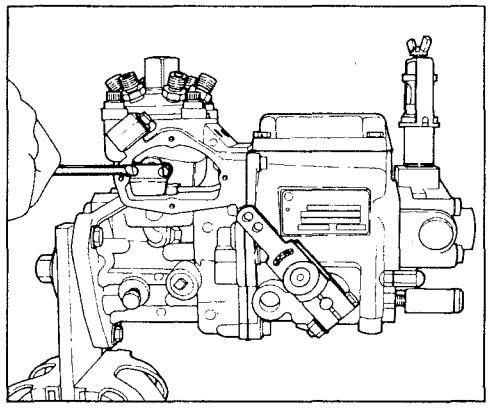

FIGURE 2-220
TIGHTENING RETAINING PLATE SCREWS