

E. Installation Of Intravance Timing Device

- (1) Align tab on rear thrust washer with slot in rear bearing plate assembly and install washer with bronze side out (facing camshaft assy.).
- (2) Apply a film of grease, to lube tube "o" ring and install "o" ring over end of excess fuel device supply tube. Position flange of tube behind scallop of rear bearing plate assembly so that it will connect with lube hole in housing when installed.

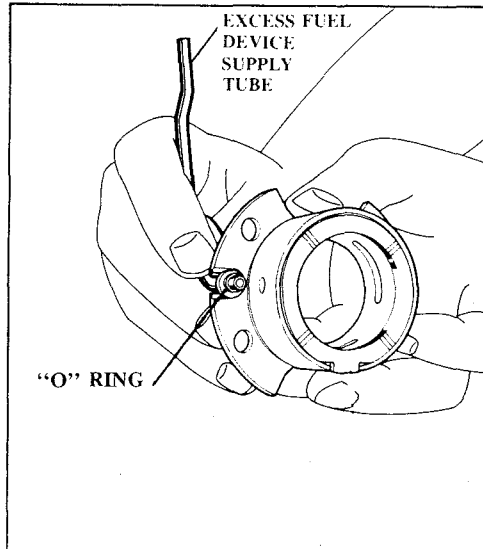


FIGURE 3-40
THRUST WASHER AND LUBE TUBE POSITIONED IN BEARING PLATE ASSEMBLY

- (3) Install bearing plate assembly over rear of Timing Device. Large scallop of bearing plate should be at 12 o'clock position.
- (4) Then, insert Timing Device and bearing plate assembly with lube tube into rear of pump housing. Make certain end of excess fuel device supply tube enters lube oil duct in rear of housing and rear bearing plate seats against housing.

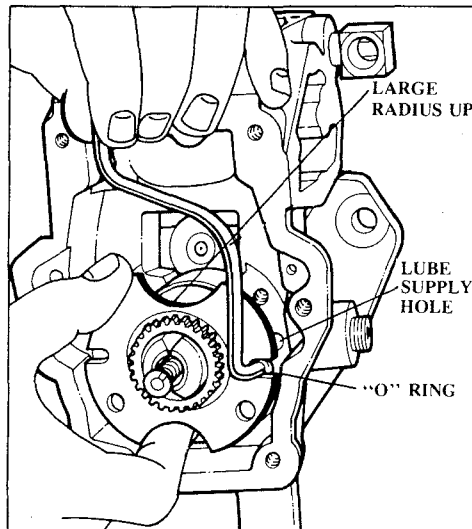


FIGURE 3-41
INSTALLING INTRAVANCE TIMING DEVICE

- (5) Make sure bearing plate assembly retaining screws and hole threads are clean and dry. Apply Loctite "Locquic Primer Grade T" to the four retaining screws and hole threads and allow to dry for 3-5 minutes. Then apply Loctite #242 sealant to hole threads.
- (6) Install the four retaining screws and lockwashers in the bearing plate assembly. Tighten screws down evenly and tighten them to value listed in Torque Chart, Section XI.

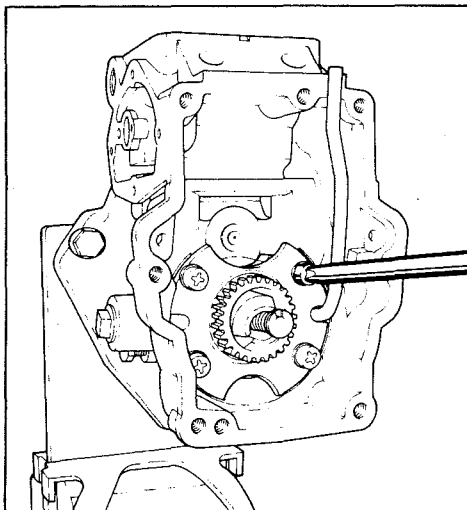
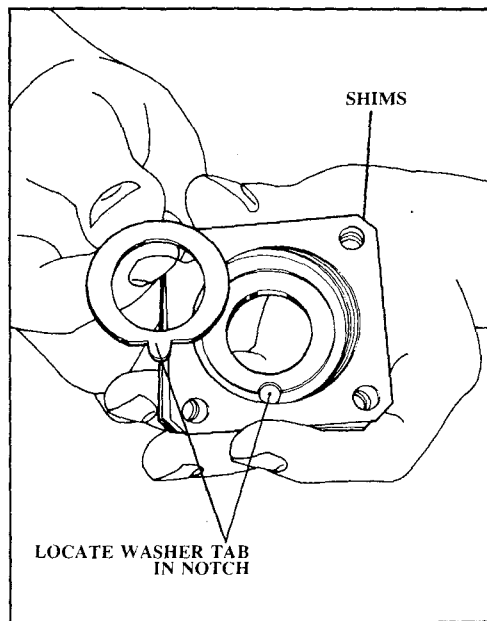


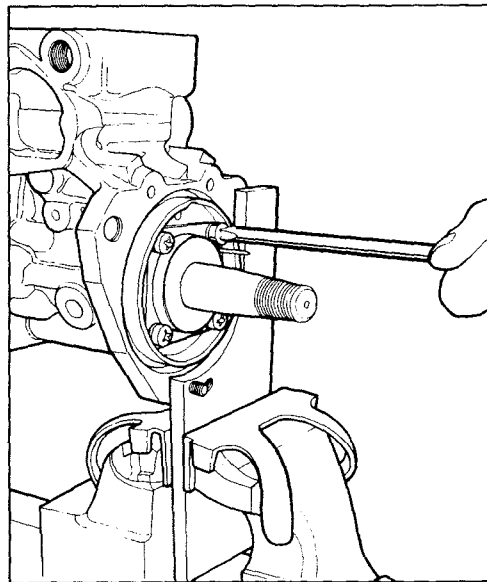
FIGURE 3-42
TIGHTENING RETAINING SCREWS

- (7) Position square shims over front retaining plate. Install front thrust washer, with bronze side facing toward Timing Device, into retaining plate. Tab of washer will be positioned in notch of plate. Refer to figure 3-43.



**FIGURE 3-43
ASSEMBLING SHIMS AND THRUST
WASHER TO RETAINING PLATE**

- (8) Position retaining plate over end of Timing Device and against pump housing so that tab of thrust washer is at 12 o'clock position.
- (9) Install the four retaining screws and lockwashers in front retaining plate. Slowly tighten the screws and make certain that the camshaft assy rotates freely.

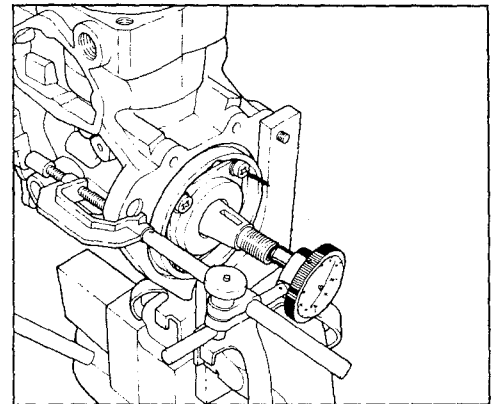


**FIGURE 3-44
TIGHTENING RETAINING SCREWS**

Important: If the front or rear thrust washer tab becomes disengaged from its groove, the drive shaft will not rotate when tightening the screws. If binding is noted, remove front plate and, if

necessary, rear plate and check for proper assembly of front and rear thrust washers. If assembly is correct and binding is still present, add square shims between front retaining plate and pump housing, as required, to permit drive shaft rotation.

- (10) Tighten front retaining plate screws to value listed in Torque Chart, Section XI.
- (11) Install a dial indicator onto the front of pump.



**FIGURE 3-45
DIAL INDICATOR FOR CHECKING
SHAFT END PLAY**

- (12) Push and pull on the shaft manually and determine the end play which must be between 0.001" and 0.005" (.025-.127 mm.).
- (13) If necessary, increase the end play by adding shims between housing and front retaining plate; decrease the end play by removing shims.

Note: Shims are available in .002", .004" and .008" (.051, .102, .203 mm) thicknesses. Refer to applicable pump parts list.

- (14) After final end play adjustment, be sure that front retaining plate screws are tightened per value specified in Torque Chart.
- (15) If timing pointer was removed, install a new pointer.
- (16) At this point, the governor should be reinstalled per procedure specified in Section II F, "Installation of Governor". Be sure lockwire is installed on control unit retainer plate screws.
- (17) Install Woodruff key in drive shaft keyway and on pumps equipped with drive hub back plate, install plate with chamfered edge toward pump. Then, install drive hub over shaft and against back plate.

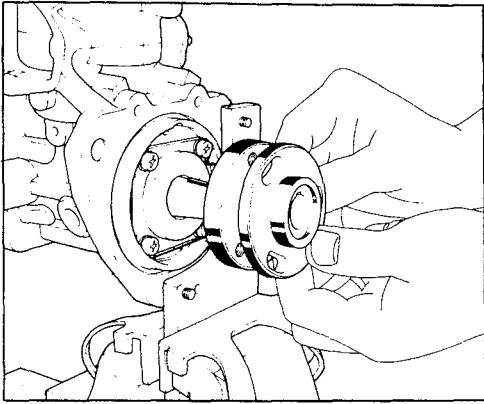


FIGURE 3-46
INSTALLING DRIVE HUB AND BACK
PLATE

- (18) For pumps equipped with a single drive hub or drive gear, install hub or gear on drive shaft.
- (19) Assemble lockwasher and lock nut to drive shaft.

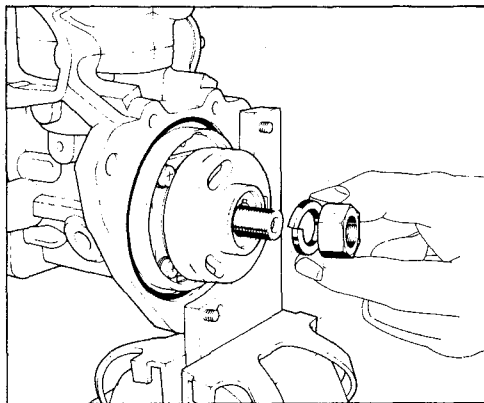


FIGURE 3-47
INSTALLING LOCKWASHER AND
LOCKNUT

- (20) Tighten drive hub retaining nut to value specified in Torque Chart, Section XI.
- (21) Apply a film of grease, to a new mounting flange ring gasket and install gasket in groove at front face of pump housing.