

A. OM 636

If an injection pump has to be exchanged, make sure that the pump and governor designations of the pump being installed correspond to those of the injection pump removed (also see Figure 2). It can happen, however, that the designation of the new governor on the exchange pump does not correspond to the originally installed governor. During the overhauling of the injection pump such governors were brought up to date and the designation was therefore changed (also refer to Job No. 07-2 'List of Injection Pumps with Governor and Feed Pump Installed up to date').

The removal and installation is essentially the same for all pump designs.

a) Removal and Installation of Injection Pump

Removal:

1. Set the plunger of the 1st cylinder to feed begin (see Job No. 00-6, Section I, and if necessary Section IV). The FB-marking (feed begin) on the belt pulley must correspond to the timing needle at the timing housing cover. On engines without marking on the pulley, the FB-marking on the flywheel must be situated in the middle of the inspection hole in the clutch housing. If the transmission has been removed, use the timing needle Part No. 636 589 00 23 (see Figure 00-6/6) or a hexagon screw (see Figure 00-6/7).
2. Unscrew the injection lines, the vacuum line and every fuel line at the injection pump (see Job No. 07-15). Put caps on the connectors for the injection lines as well as on the fuel hoses of the injection pump (see Figure 07-11/5).
3. Loosen the start and stop control cable at the fixing clip and disengage it at the adjusting lever after removing the split pin and washer and/or disengage the linkage at the adjusting lever (3) on injection pumps with centrifugal governor (see Figure 07-13/1).
4. Mark the position of the injection pump on the connecting flange and the timing

housing cover with a chisel or drawing needle (2) (see Figure 07-11/5). This makes for easier adjustment of the pump during installation, and often saves readjustment of feed begin.

5. Unscrew the 4 fixing nuts and pull the injection pump out of the timing housing cover. Remove the coupling sleeve (6) from the engaging dog (4) on the injection pump or from the drive shaft (9) (see Figure 07-27/4).
6. When exchanging an injection pump unscrew the fixing nut of the engaging dog. In order to loosen the nut hold the engaging dog with the Special Wrench Part No. 636 589 00 03. Then pull the engaging dog, with the Extractor Part

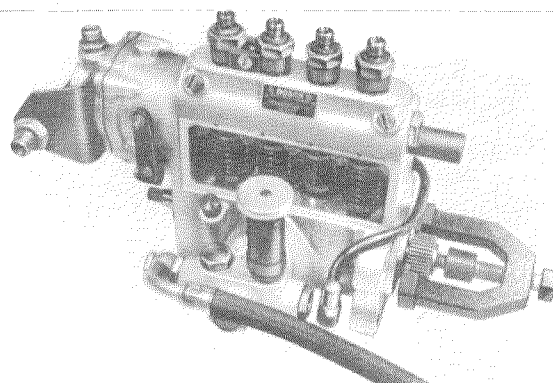


Figure 07-11/1

No. 6365890033, off the injection pump shaft (see Figure 07-11/1) and take the Woodruff key out of the groove.

Installation:

7. Insert the Woodruff key in the groove of the injection pump shaft. Clean shaft end and engaging dog. The two cones must be absolutely clean and free of grease. Mount the engaging dog and secure with lock washer and hex nut. Hold engaging dog in Special Wrench Part No. 6365890003 while tightening the hex nut.
8. Now determine whether the coupling sleeve (6) can easily be slipped onto the engaging dog (4). Then slide the coupling sleeve (6) over the driving shaft (9) in the timing housing cover (see Figure 07-27/4).
9. Set the injection pump to feed begin. For this purpose, turn the pump shaft, so that the locating marks of engaging dog and injection pump coincide (see Figure 07-11/2).
10. Secure the injection pump against turning for the trial run. To do this, mount the Assembly Fixture Part No. 6365890123 on the shaft end of the injection pump shaft opposite to the engaging dog (see Figure 07-11/3).

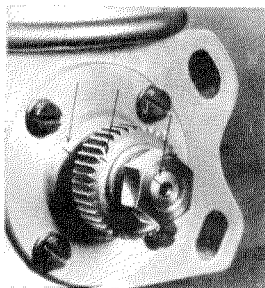


Figure 07-11/2

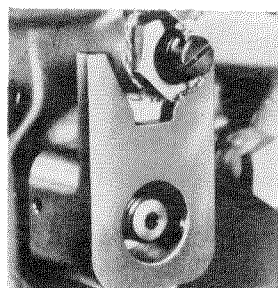


Figure 07-11/3

11. Remove the plug from the oil overflow pipe of the injection pump:
12. Before the trial run check the injection pump again to make sure that plunger

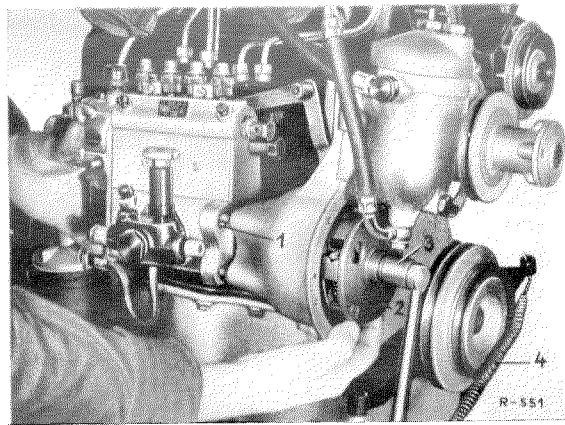


Figure 07-11/4

- 1 Slotted mounting flange
- 2 Checking the centrifugal roller weights
- 3 Holding wrench on the driving shaft
- 4 Return spring

of the 1st cylinder is set to feed begin. On engines with injection timing device it must also be checked whether the latter is in idling stop position, meaning the centrifugal weights must touch inside. For this purpose remove the protecting cover. For the running-in of the injection pump keep the injection timing device in the idling position by a spring acting opposite to the sense of rotation (see Figure 07-11/4).

Note: The backlash of the timing gears must always be eliminated during the running-in of the injection pump as it is done during the checking of the feed begin (see Job No. 00-6, Section II).

If the feed begin is to be adjusted, turn the engine in the direction of rotation only.

13. Lightly apply grease to both sides of the gasket (paper) and slip it over the fixing studs of the timing housing cover.
14. Insert the injection pump in the coupling sleeve in such a way that the fixing studs are situated in the middle of the slotted holes (1) of the mounting flange (see Figure 07-11/4). This allows turning of the pump in two directions for fine tuning.

If the old injection pump is reinstalled, it must be inserted in such a way that the

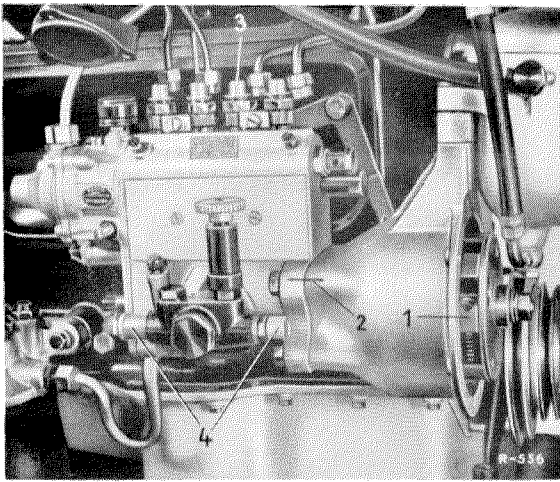


Figure 07-11/5

- 1 Injection timing device
- 2 Mark on mounting flange
- 3 Caps on the connectors for the injection lines
- 4 Caps on the feed pump connectors.

locating marks (2) on the mounting flange of the injection pump and the timing housing cover coincide (see Figure 07-11/5).

15. Mount the washers and lightly secure the injection pump with 2 hex nuts. **Remove the assembly fixture from the pump shaft. This must never be forgotten before cranking the engine,** because otherwise the key of the assembly fixture can be sheared off and the pump shaft can be damaged.
16. Unscrew the pressure nipple (valve housing) of the 1st pump cylinder, take out the pressure valve and the pressure spring (see Figure 00-6/9). Install again the pressure nipple and screw on the Overflow Pipe (4) Part No. 636 589 02 23 (see Figure 00-6/10).

Connect the Fuel Container (1) Part No. 000 589 05 23 with the injection pump (see Figure 00-6/10), fill with clean fuel and open the stop cock (2) of the fuel container.

The fuel flows out of the overflow pipe now (see Figure 00-6/11).
17. Now determine at the overflow pipe the feed begin by turning the injection pump in the respective direction.

Turning the injection pump towards the engine gives a retarded feed beginning, away from the engine an advanced.

The injection pump is set to feed beginning if the fuel is just stopping to drip out of the overflow pipe. After approx. 15 to 20 sec. one more drop may follow (see Figure 00-6/13).

Fasten the injection pump with two hex nuts in this position and check the adjustment again (see Job No. 00-6, Section II).

18. Is the adjustment correct, then secure tightly the 4 hex nuts fixing the injection pump.
19. Remove the fuel container (1) and the overflow pipe (4) (see Figure 00-6/10).
20. Unscrew the connection nipple, reinstall the pressure valve and the pressure spring. Screw on the connection nipple (4 mkg) and connect the injection line (see Figure 00-6/9).
- Note: Make sure that the pressure valve is absolutely clean when installed, because soiled valves can cause engine trouble.**
21. Remove the caps (3 and 4) from the connectors and, if not already done, screw them to the injection pump (see Figure 07-11/5).

Note: Injection pumps must only be stored and shipped if the connectors are covered with caps (3 and 4).

22. Connect the injection lines, the vacuum line and all fuel hoses (see also Job 07-15). Use only new sealing rings for the connectors. Install the hoses properly, so that they are free of tension and do not chafe anywhere.
23. Disengage the return spring (4) of engines with injection timing device, remove the holding wrench and screw on the pro-

testing cover of the timing housing cover (see Figure 07-11/4).

24. Engage the start and stop cable control at the adjusting lever. The cable control must be installed at the fixing clip in such a way that the bolt of the adjusting lever is situated in the middle of the eye on the cable control. An exact adjustment is im-

portant, because when stopping the adjusting lever must be pulled far enough in the direction "stop" and during starting it should travel sufficiently in the direction "full".

25. Bleed the fuel system (see Job No. 00-10). Operate the engine and check all connectors for leaks.

B. OM 621

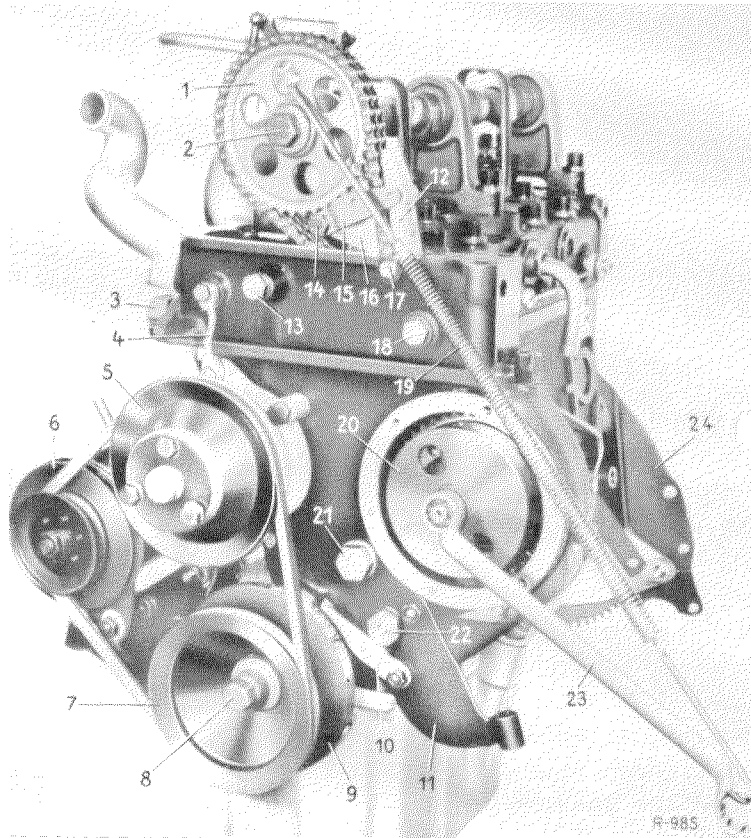


Figure 07-11/6

Engine OM 621

- | | |
|--|---|
| 1 Camshaft sprocket | 14 Hex. hd. screw M 8x50 |
| 2 Hex. hd. screw M 14x1.5x40 | 15 Holder for guide rail, inner |
| 3 Chain tightener | 16 Guide rail, inner |
| 4 Bleeder line for water pump | 17 Pivot pin for guide rail at cylinder head |
| 5 Water pump | 18 Screw plug for pivot pin for guide sprocket |
| 6 Generator | 19 Return spring |
| 7 Pulley on crankshaft | 20 Injection timing device |
| 8 Collar screw | 21 Screw plug for oil pressure relief valve |
| 9 Counterweight with gradation | 22 Screw plug with pivot pin for guide rail, bottom in cylinder crankcase |
| 10 Adjusting hand | 23 Box wrench |
| 11 Engine carrier, front, left | 24 Intermediate plate on cylinder crankcase for starter motor mounting |
| 12 Guide rail, outer | |
| 13 Screw plug for pivot pin for idler sprocket support | |