

# Removal and Installation of Double Roller Chain OM 621

Job No.

05-27

Change: First and second paragraph new

A chain should be changed when the reserve distance that is, the distance "a" between the lever (2) of the idler sprocket support and the web (3) is less than 2 mm (Fig. 05-27/1). Use gauge, part No. 111 589 11 21 00, for timing chain as follows:

Remove cylinder head cover (refer to job No. 01-3), then insert timing chain gauge from the front between lever (2) of idler sprocket support and web (3). If the 2 mm gauge slips in or the space is even larger (distance when new approx. 5-7 or 8-10 mm, respectively, in new idler sprocket support, refer to section b job No. 05-20). If the gauge is inaccurate fit, the chain should be replaced within the next 6000 miles. If the gauge no longer enters the gap, chain elongation has become excessive and a chain change is required. If additional elongation is permitted the chain begins to wobble and to rattle. This will not only destroy the chain and the slide rails quickly, but will also deform the sprocket wheels to such an

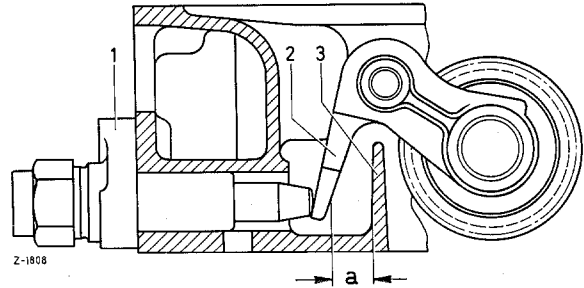


Figure 05-27/1

- 1 Chain tightener
- 2 Lever of idling sprocket support
- 3 Web (oil pocket cyl. head)

extent that the new chain will have but a short life on the worn teeth of the sprocket wheels.

As replacement for the endless chain, a chain with connector link (chain lock) can be installed in case of repair. This allows replacement of the chain without disassembling the engine.

When overhauling the engine involving replacement of the chain use on principle an endless chain (chain belt).

## Removal:

1. Remove the cylinder head cover (see Job No. 01-3).
2. Remove the glow plugs so that the engine turns easily (see Job No. 15-31).
3. Remove the chain tightener (see Job No. 05-21).
4. Remove the rocker arm brackets (see Job No. 05-5).

**Note:** Removal of the rocker arm brackets is not imperative, but is to be recommended in order to avoid damages on the valves and pistons, if, while turning the engine for drawing in the chain, the chain jumps over on the camshaft sprocket.

5. For removing the old chain, grind the two chains pins of one link free and remove the link. Connect the new chain with the help of the connector link with the old chain. Correctly fit the spring lock (securing lock) (see Figure 05-27/2).

**Note:** Insert the spring lock in such a way that it is not slid off in case of grazing of the lock.

## Installation:

6. Place the new chain connected with the old one on the camshaft sprocket; slowly turn the engine in direction of rotation, inserting the new chain.

Keep the chain on the camshaft sprocket so that the camshaft is also turned and the chain is tightened in direction of pull from the crankshaft. Uniformly pull out the free end of the old chain corresponding to the inserting of the new chain, ensuring that it does not jam.

**Note:** The crankshaft can be turned on the collar screw for mounting the pulley using a box wrench, size 22.

7. Turn crankshaft until the connector link can be inserted with the spring lock on the other end of the new chain.
8. Now, close the inserted new chain with the connector link.

**Caution!**

**Insert the connector link (2) from front rearwards. Insert the spring lock (1) with the closed end showing in direction of rotation (see Figure 05-27/2).**

9. Install and bleed the chain tightener (see Job No. 05-21).
10. Remount the rocker arm brackets, if they had been dismantled (see Job No. 05-5) and adjust the valve clearance (see Job No. 00-3).

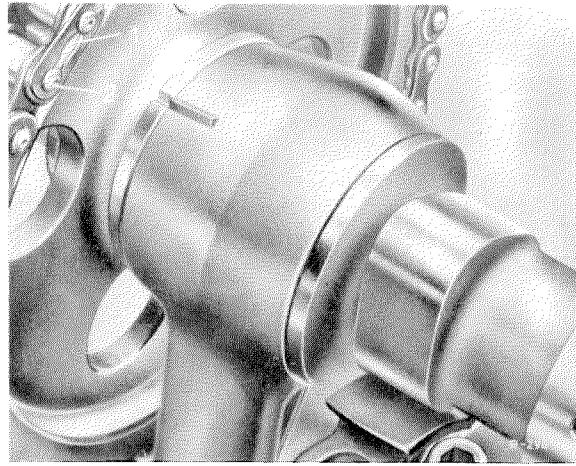


Figure 05-27/2

- 1 Spring lock
- 2 Connector link (chain lock)

11. Check the adjustment of the crankshaft with respect to the camshaft (see Job No. 00-7, Section B).

If the adjustment is not correct, the camshaft sprocket must be dismantled and the chain be relocated by the respective number of teeth on the camshaft sprocket.

12. Install the glow plugs (see Job No. 15-31).
13. Remount the cylinder head cover (see Job No. 01-3).