A. Removal and Installation

Removal:

1. Remove the fan.

2. Loosen the hex nut (6), the screw (7) and the fixing screws (2) to release the V-belt and remove V-belt (see Figure 20–15/1).
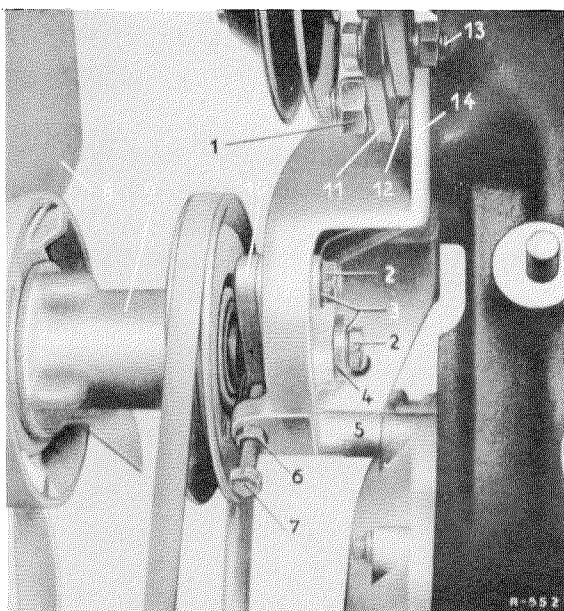

Figure 20–15/1

Mounting of fan at the belt pulley which is mounted in a support fixed to the crankcase.

1 Hex nut to fix fan support and mounting bar of generator
2 Fixing screw of fan bearing bracket
3 Lock washer
4 Washer
5 Mounting of fan support at timing housing cover (screw not visible)
6 Hex nut
7 Screw to tighten V-belt for fan
8 Fan
9 Belt pulley with fan hub
10 Fan bearing bracket
11 Mounting bar
12 Hex nut Part No. 136 990 09 51
13 Hexagon screw
14 Fan support

3. Unscrew the fixing screws (2) and remove the fan bearing bracket (see Figure 20–15/1).

4. Unscrew the hex nut (1) and the hexagon screw (13). Then remove the mounting bar (11) which serves to tighten the V-belt for generator and water pump (see Figure 20–15/1).

5. Unscrew the two hex nuts (4) and (11) and the hexagon screw (12) which serve to fix the support of the fan bearing bracket (14) to the crankcase and remove the support of the fan bearing bracket from the fixing studs (see Figure 20–15/2).
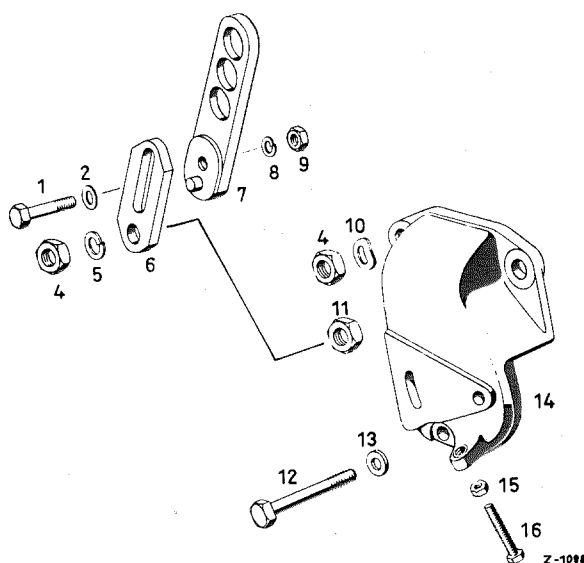

Figure 20–15/2

1 Hexagon screw	10 Spring washer
2 Washer	11 Hex nut 6 mm thick
4 Hex nut	Part No. 136 990 09 51
5 Lock washer	12 Hexagon screw
6 Mounting bar	13 Washer
7 Holder	14 Support of fan bearing bracket
8 Lock washer	15 Hex nut
9 Hex nut	16 Hexagon screw

**Repairing of Fan Bearing Bracket
see Job No. 20–15, Section B**

Installation:

6. Fix the support of the fan bearing bracket (14) to the crankcase. Make sure that the 6 mm thick hex nut (11) Part No.

13699009 51 is screwed to the long fixing stud without washer. The use of a standard nut causes an incorrect alignment of the mounting bar (6), thus twisting the belt tensioning device (see Figure 20–15/2).

7. Fix the fan bearing bracket (10) with belt pulley (9) to the support of the fan bearing bracket (14). Tighten the fixing screw (2) only lightly at first, so that the fan bearing bracket can still be turned easily for the tensioning of the V-belt (see Figure 20–15/1).

Note: The left screw (when viewed in direction of driving) is installed with lock washer (3), the right one seated in the slotted hole with washer (4) and lock washer (see Figure 20–15/1).

8. Insert the V-belt and adjust the tension of the V-belt by means of the screw (7) (see Figure 20–15/1).

The tension of the V-belt is correct if the V-belt can be pressed in approx. 10 to 15 mm between the two belt pulleys by moderate pressure (see Figure 20–15/3). Tighten the fixing screws (2) (see Figure 20–15/1).

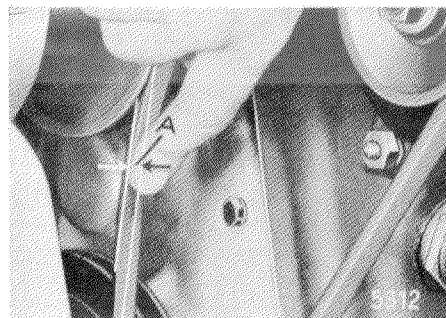Dimensions of the narrow V-belt:
9.5 x 750 mm long N 275.

Figure 20–15/3

A. Depression value 10 to 15 mm

Note: Under no circumstances should the V-belts be installed with sharp-edged tools.

9. Put the mounting bar (11) over the left-hand fixing stud and fix it with a lock washer, a standard hex nut (1) and a hexagon screw (13) (see Figure 20–15/1).

10. Check the tension of the V-belt for the water pump and the generator, tighten if necessary (see Job No. 20–6, Paragraph 2).

11. Screw the fan (8) to the belt pulley (9), with 4 screws and 4 spring washers (see Figure 20–15/1).

B. Disassembly and Assembly

Disassembly:

1. Drive out the centering ring (1) toward the front with hammer punches to the fan bearing bracket (10) (see Figure 20–15/4).

2. Unscrew the hex nut (2) and remove the Woodruff key (3).

3. Pull the fan bearing bracket (10) out of the fan hub (6).

4. Remove the spacer (7), the annular grooved-bearing (8), and the oil-seal ring (9) from the shaft.

5. Take the guard ring (5) and the annular grooved-bearing (4) out of the fan hub (6).

Checking and Repairing:

6. Clean all parts and check them for wear. Check tight seating of the annular grooved-bearings and the centering ring.