

D. Removal and Installation of Generator

Repair procedure — see Job No. 15 — 13.

Removal:

1. If the engine is installed, disconnect the negative cable at the battery and the cables at the generator.
2. Remove the nuts of the generator mounting (1) and the clamping device nuts (2—6), and turn the clamp nut (4) far enough to the right to allow the generator Vee-belt to be removed (Fig. 01—4/20).

Unscrew the mounting nuts (1) and the fixing screw for the clamping piece (3) and remove the generator. If necessary remove the tensioning screw (6) at the crankcase.

Installation:

3. Fit the tensioning screw (6) at the crankcase. Place the generator in position, fit the clamping-piece fixing screw (3) and install all the nuts together with their lock washers, but do not tighten up.

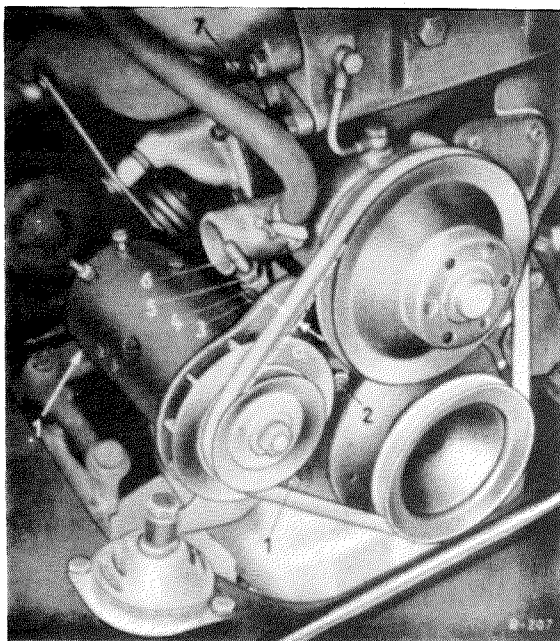


Fig. 01—4/20

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|---------------------------------|--------------------|
| 1 Generator mounting | 4 Tensioning nut |
| 2 Tensioning screw (6) mounting | 5 Hexagon nut |
| 3 Clamping piece | 6 Tensioning screw |
| | 7 Chain tensioner |

Do not omit the ground lead!

Note: In the first version, the generator is supported at the front and the rear between two rubber washers, and the tensioning screw at the bottom at the cylinder crankcase housing is similarly supported between two rubber washers. In the second version, however, (as of Engine No. 65 00476) the generator only is supported at the front between two rubber washers. (Fig. 01—4/22). With the introduction of the second version of the generator mounting, the ground cable (24) was no longer fitted (Fig. 01—4/21). As of Engine No. 65 02360, however, it was installed again and was later fitted to the front of the generator and lengthened. The ground lead on the front of the generator is now located between the washer (14), or alternatively the front generator lug (2), and the lock washer (6) (Fig. 01—4/22, 2nd version).

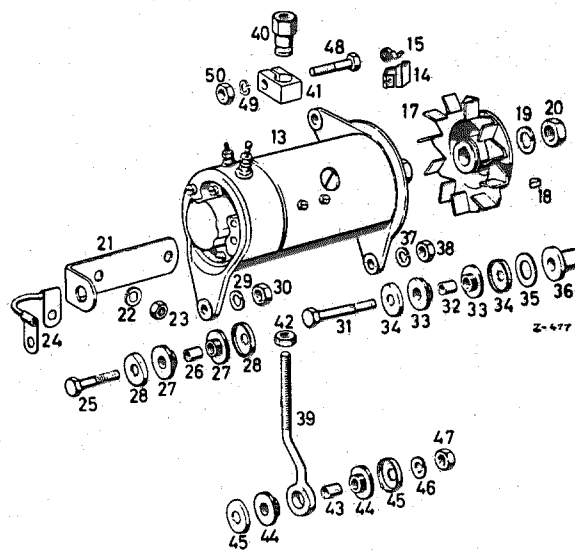


Fig. 01—4/21

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|---------------------------------|-----------------------------|
| 14 Carbon brushes | 32 Sleeve |
| 15 Compression spring | 33 Rubber washer |
| 17 Vee-pulley | 34 Cup washer |
| 18 Woodruff key | 35 Washer |
| 19 Lock washer | 36 Spacer sleeve 25 mm long |
| 20 Hexagon nut | 37 Lock washer |
| 21 Support | 38 Hexagon nut |
| 22 Lock Washer B 10 DIN 127 | 39 Tensioning screw |
| 23 Hexagon Nut M 10 DIN 934-5 S | 40 Tensioning nut |
| (previously M 8 DIN 934-5 S) | 41 Clamping piece |
| 24 Ground lead | 42 Hexagon nut |
| 25 Hexagon screw | 43 Sleeve |
| 26 Sleeve | 44 Rubber washer |
| 27 Rubber washer | 45 Cup washer |
| 28 Cup washer | 46 Lock washer |
| 29 Lock washer | 47 Hexagon nut |
| 30 Hexagon nut | 48 Hexagon screw |
| 31 Hexagon screw | 49 Lock washer |
| | 50 Hexagon nut |

If repairs are being carried out on an engine not fitted with ground lead, a ground lead should subsequently be installed on the

front of the generator. When replacing a ground lead which was fitted to the bracket and to the rear generator lug, the new ground lead should be fitted in the same way at the front of the generator.

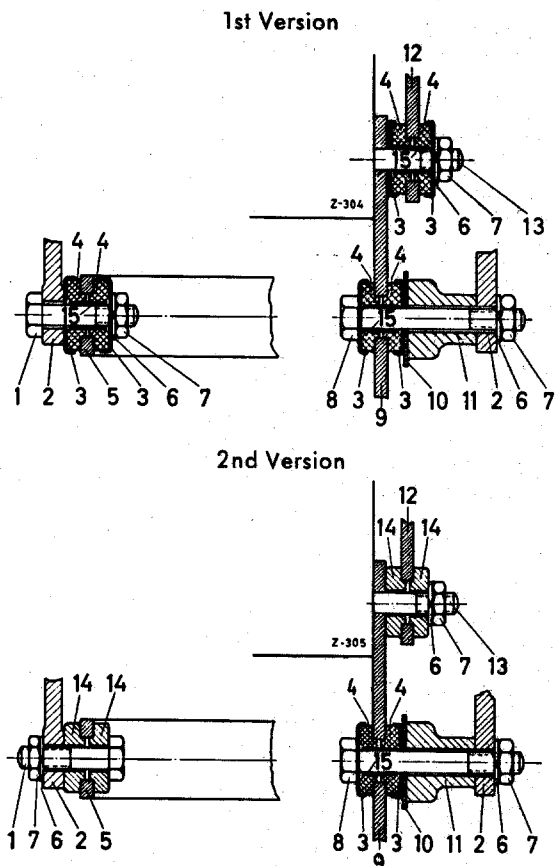


Fig. 01—4/22

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|-----------------|--------------------------|
| 1 Hexagon screw | 9 Engine support |
| 2 Generator | 10 Washer |
| 3 Cup washer | 11 Spacer sleeve 25.5 mm |
| 4 Rubber washer | 12 Tensioning screw |
| 5 Support | 13 Stud screw |
| 6 Lock washer | 14 Spacer |
| 7 Hexagon nut | 15 Sleeve |
| 8 Hexagon screw | |

Tightening Vee-belt:

4. Check the alignment of the pulley. Put on the Vee-belt and tighten by turning the tensioning nut (4) to the left. The distance at which the Vee-belt can be pressed out of the straight when moderate thumb pressure is applied from the generator side must measure at least 5 mm and not more than 10 mm (Fig. 01—4/20). When this operation is complete, tighten the lock nut (5) and the front and rear mounting nuts (1) and the tensioning screw (2).

5. Connect up the generator cable and the negative cable of the battery.

When connecting the electric cables, pay attention to the color coding.

Connect the black cable of the regulator harness (1.5 mm² section), fitted with tag, to terminal DF, the red cable (4 mm² section) to terminal D + (61), the brown cable (2.5 mm² section) to terminal D — of the generator.

Note: Be sure to connect cables to correct terminals! Incorrect connection of the terminals involves the danger of pole reversal to the generator and could result in the destruction of the regulator.

Subsequent Installation of a 300 Watt Generator

(Optional extra SA 10183)

In place of the standard 160 Watt generator, a 300 Watt generator can be supplied as an optional extra for vehicles which are mainly used for short journey work (taxis, doctors cars), or vehicles which have an increased electricity consumption due to the incorporation of additional electrically operated units. The increased battery drain which occurs especially during winter months, is more rapidly rectified by a larger generator.

When a 300 Watt generator is subsequently installed, the generator support must be replaced by a reinforced version. In addition, for reasons of space, the water pump must be replaced by another version. The arrangement of the clamp screws must likewise be modified.

The installation operation is carried out as follows:

1. Disconnect the negative cable at the battery and the cables at the generator.
2. Slacken the generator mounting nuts (1) and the clamping device (2—6) nuts and turn the tensioning nuts (4) far enough to the right to allow the Vee-belt to be removed. Unscrew the mounting nuts (1) and the clamping piece fixing screw (3) and remove the generator. Unscrew the mounting nut for the tensioning screw (6) and the engine support at the crankcase and remove the tensioning screw. Screw out the stud bolt (2) and in its place screw in Hexagon Screw M 8×18 DIN 933—8 G with lock washer and tighten up (see Fig. 01—4/20).
3. Drain part of the cooling water (collect water if additives are present!) and after releasing the hose clips remove the lines at the water pump and at the distributor pipe for the cooling water return flow. Remove the distributor pipe. Remove the fan.
4. Unscrew the vent line from the water pump to the cylinder head and remove it.
5. Remove the standard water pump and replace it by the new pump Part. No. 121 200 03 01 with curved suction pipe supports.
6. Fix the water pump on the engine. When doing this, replace the gasket and the sealing ring at the rear of the upper fixing lug. The fixing screw M 8×60 DIN 931—8 G (17) for the upper lug on the water pump (13) serves at the same time as a fixing screw for the new tensioning screw (15), Part No. 121 155 03 23, with spacer collar (14) Part No. 121 155 02 51 (Fig. 01—4/22 a).
7. Install the vent line without forcing. At each union use two new sealing rings.
8. Install the new distributor pipe (for cooling water return flow and heating), Part No. 121 500 08 91, with the existing rubber hoses and anchor all hose lines with hose clips. Refill radiator!
9. Remove the standard generator support from the crankcase and replace by reinforced support (2), Part No. 121 155 05 35, (Fig. 01—4/22 a).
10. After fitting the rubber washer (1), the cup washer (8) and sleeve (5) to the support (2), insert the new 300 Watt generator from the front and fix with two Hexagon Screws M 10×45 DIN 931—8 G (4) (Fig. 01—4/22 a). Also fit the new ground lead (10), Part No. 181 150 01 32, to the front of the generator.

11. Insert sleeve (20), Part No. 180 155 05 53, in the bore of the upper generator fixing arm and fix the existing clamping piece (23) with Hexagon Screw M 8×42 DIN 931—8 G with lock washer and nut. Now push the clamping piece onto the tensioning screw (15) and screw on the tensioning nut (22) (Fig. 01—4/22 a).

12. Check the alignment of the pulley and then put on the Vee-belt and tighten by turning the tensioning nut to the left.

Note: The distance *a*, which the Vee-belt can be pressed out of the straight when moderate pressure is applied from the generator side must measure at least 5 mm and not more than 10 mm (Fig. 01—4/20).

Now tighten up the lock nut (21), the nut (19), the front and rear mounting screw (6) nuts and the fixing screw (17) for the tensioning screw.

13. Disconnect the cables at the regulator and replace the regulator by a new one, Part No. 000 154 17 06.

14. Connect the cables to the correct regulator terminals, to the generator and the negative terminal of the battery (see Job No. 54—4, Section C).

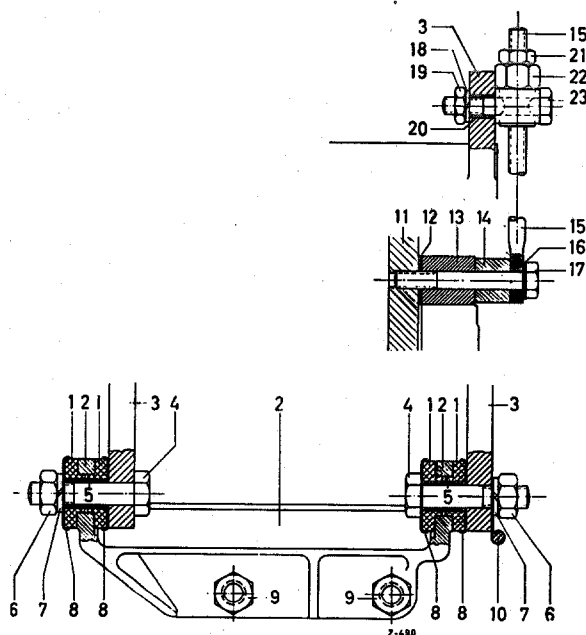


Fig. 01—4/22 a

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|-----------------|------------------------------------|
| 1 Rubber washer | 13 Water-pump housing |
| 2 Support | 14 Spacer ring |
| 3 Generator | 15 Tensioning screw |
| 4 Hexagon screw | 16 Lock washer |
| 5 Sleeve | 17 Hexagon screw |
| 6 Hexagon nut | 18 Lock washer |
| 7 Lock washer | 19 Hexagon nut |
| 8 Cup washer | 20 Sleeve |
| 9 Hexagon nut | 21 Hexagon nut |
| 10 Ground lead | 22 Clamp nut |
| 11 Crankcase | 23 Clamping piece with hexagon nut |
| 12 Sealing ring | |

List of available parts:

Quantity	Designation	Part No.
1	Generator LS/GKM 300/12/1450 AR	000 154 60 02
1	Regulator RS/UA 300/12/1	000 154 17 06
1	Pulley	121 150 00 60
1	Woodruff key	4×6.5 DIN 6888—St 60
1	Lock washer	B 14 DIN 127
1	Hexagon nut	M 14×1.5 DIN 936—5 S
1	Support	121 155 05 35
1	Ground lead	181 150 01 32
1	Water pump complete	121 200 03 01
1	Distributor pipe	121 500 08 91
1	Tensioning screw	121 155 06 23
1	Narrow Vee-belt	9.5×925 N 275
Engine support to crankcase		
1	Hexagon screw	M 8×18 DIN 933—8 G
1	Lock washer	B 8 DIN 127
Clamp screw to water pump		
1	Spacer ring	121 155 02 51
1	Hexagon screw	M 8×60 DIN 931—8 G
Generator to support		
4	Rubber washer	121 155 01 81
4	Cup washer	136 155 00 82
2	Sleeve	136 155 04 53
2	Hexagon screw	M 10×45 DIN 931—8 G
2	Lock washer	B 10 DIN 127
2	Hexagon nut	M 10 DIN 934—5 S
Clamping piece to generator		
1	Hexagon screw	M 8×42 DIN 931—8 G
1	Sleeve	180 155 05 53