

Subsequent Installation of Guard Plates

Job No.
52 — 1

(Optional, SA 10 146/1)

A. General

The pedal system and the front part of the fuel and brake fluid lines are protected by a guard plate on the standard model.

For cars which operate under unfavorable conditions and on rough roads, an additional set of guard plates has been designed. These plates give under-chassis protection against damage to the front axle support, the radiator, the oil pan, the transmission, the rear axle and the fuel and brake fluid lines etc. and prevent sand and dirt from penetrating.

This protective system consists of several parts which can be subsequently ordered and fitted, either individually or as a complete assembly.

The assembly consists of the following parts:

- a) Protective plate for front axle support and oil pan
- b) Cover plates for radiator
- c) Cover caps at sides for front axle support
- d) Guard plate for brake master cylinder
- e) Guard plate for clutch and transmission
- f) Protective rails for the brake lines and the fuel lines
- g) Guard plates for the step bearings of the torque arm mounting
- h) Guard plate for the rear axle (with towing hook)
- i) Rubber grommet for sealing the channel of the flexible drive shaft (speedometer drive) in the right fork support.

Note: The guard plate for clutch and transmission must be removed from time to time and cleaned since it is impossible to prevent mud and sand from collecting under this plate.

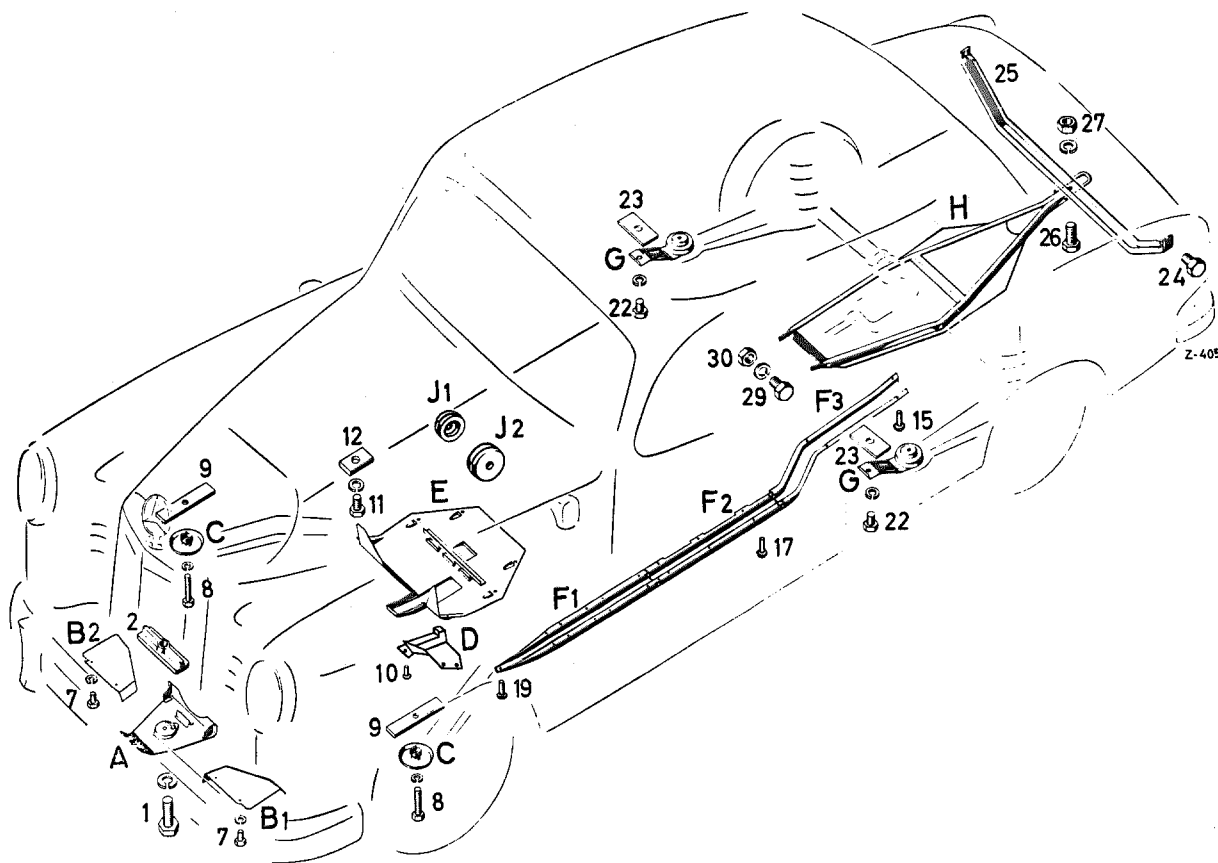


Fig. 52 — 1/1

- | | |
|---|--------------------------------------|
| A Protective plate for oil pan and front axle support | 8 Hexagon screw M 6×35 |
| B1 Cover plate for radiator, left | 9 Fixing plate 120 331 01 75 |
| B2 Cover plate for radiator, right | 10 Oval-head tapping screw Z 3.9×9.5 |
| C Cover caps for the two openings in the front axle support | 11 Hexagon screw M 8×15 |
| D Guard plate for brake master cylinder | 12 Reinforcing plate 120 524 01 12 |
| E Guard plate for clutch and transmission | 15 Oval-head tapping screw S 4.2×9.5 |
| F1 Protective rail, front | 17 Oval-head tapping screw S 4.2×9.5 |
| F2 Protective rail, center | 19 Oval-head tapping screw S 4.2×9.5 |
| F3 Protective rail, rear | 22 Hexagon screw M 8×12 |
| G Guard plate for torque arm mounting | 23 Reinforcing plate 120 352 02 60 |
| H Guard plate for rear axle | 24 Hexagon screw M 10×30 |
| J1 Rubber grommet, inner | 25 Supporting sling |
| J2 Rubber grommet, outer | 26 Hexagon screw M 10×20 |
| 1 Hexagon screw M 10×25 | 27 Hexagon nut M 10 |
| 2 Fixing plate 180 331 00 75 | 29 Hexagon screw M 10×20 |
| 7 Oval-head tapping screw S 4.8×9.5 | 30 Hexagon nut M 10 |

B. Installation of Guard Plates

a) Protective Plate for Front Axle Support and Oil Pan

1. Hold the protective plate (A) against the front axle support and check for fitting; if necessary, adjust (see Fig. 52 — 1/2).

Note: Recently, an extended protective plate, Part No. 121 330 03 83, has been brought into use. This plate affords protection over the whole length of the oil pan. This protective plate is shown in broken lines in Fig. 52 — 1/2.

2. Insert the hexagon screw (1) M 10 × 25 with lock washer in the bore of the protective plate (A) from underneath (see Fig. 52 — 1/1) and screw the fixing plate (2) from the other side, about 3 turns onto the hexagon screw (1).

- Slide the fixing plate (2) into the front opening in the front axle support and tighten up the hexagon screw (1) (see Fig. 52 — 1/1).

The protective plate is fixed by its stamped-out part in the opening of the front axle support and at the cut-outs for the towing hook (3) (Fig. 52 — 1/2).

Note: The extended protective plate (shown in broken lines) is attached at two further points at the rear left and right, with the rear hexagon screws of the control arm pivot pins.

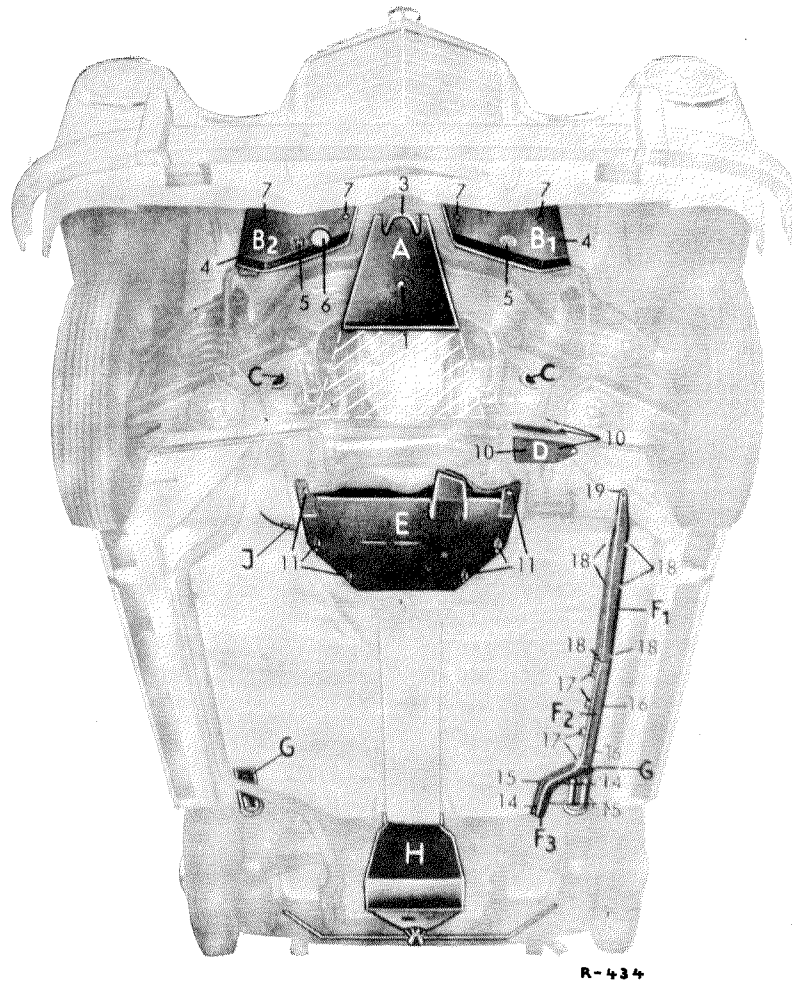


Fig. 52 — 1/2

- | | |
|---|--------------------------------------|
| A Protective plate for oil pan and front axle support | 1 Hexagon screw M 10x25 |
| B1 Cover plate for radiator, left | 3 Towing hook |
| B2 Cover plate for radiator, right | 4 Hexagon screw M 8x18 |
| C Cover caps for the two openings in the front axle support | 5 Radiator fixing screws |
| D Guard plate for brake master cylinder | 7 Oval-head tapping screw S 4.8x9.5 |
| E Guard plate for clutch and transmission | 10 Oval-head tapping screw Z 3.9x9.5 |
| F1 Protective rail, front | 11 Hexagon screws M 8x15 |
| F2 Protective rail, center | 14 Screw 120 420 02 07 |
| F3 Protective rail, rear | 15 Oval-head tapping screw S 4.2x9.5 |
| G Guard plate for torque arm mounting | 16 Screw 120 420 02 07 |
| H Guard plate for rear axle | 17 Oval-head tapping screw S 4.2x9.5 |
| J Rubber grommet | 18 Oval-head tapping screw S 4.2x9.5 |
| | 19 Oval-head tapping screw S 4.2x9.5 |

b) Cover Plates for Radiator

- Unscrew the front screw (4) of the torsion bar bracket at the left and at the right (see Fig. 52—1/2).
- Hold the two cover plates (B₁) and (B₂) against the chassis base panel, paying attention to the openings for the radiator fixing screws (5) and for the radiator drain cock (6). Then screw in the two screws (4) again and tighten up.

3. Drill the four 4 mm diameter holes for the oval-head tapping screws (7) in the cross tube of the chassis base panel and deburr them. Then dip the oval-head tapping screws (7) S 4.8 × 9.5 in oil or grease, screw in and tighten up.

c) Cover Caps at Sides for Front Axle Support

1. Insert the hexagon screw (8) M 6 × 35 with lock washer through the bores in the cover cap (C) (see Fig. 52 — 1/1), put the fixing plate (9) in the milled-out section on the upper face of the cover cap and screw the hexagon screw (8) about 3 turns into the fixing plate (see Fig. 52 — 1/1).
2. Slide the fixing plates (9) into the side openings of the front axle support, center the cover caps with the openings and tighten the hexagon screws (8) (see Fig. 52 — 1/1).

d) Guard Plate for Brake Master Cylinder

1. Hold the guard plate (D) against the chassis base panel, check for fitting and if necessary, adjust (see Fig. 52 — 1/2).
2. Drill the 3.4 mm diameter holes for the 4 oval-head tapping screws (10) and deburr them. Then screw the guard plate with the 4 oval-head tapping screws (10) Z 3.9 × 9.5 onto the chassis base panel.

e) Guard Plate for Clutch and Transmission

1. Hold the guard plate (E) against the chassis base panel under the transmission and clutch. When this is done, the return spring of the clutch linkage must be freely suspended in the well made for it in the guard plate (E) (see Fig. 52 — 1/2).
2. With the guard plate in this position, mark the holes for the 6 screws (11) and then drill six 4.1 mm diameter holes and deburr the holes.
3. Drill a 4.1 mm diameter hole at the center of each of the six reinforcing plates (12) and deburr the holes (see Fig. 52 — 1/1).
4. Use a welding rod of approx. 4.0 mm diameter to align the holes of the reinforcing plates and the newly bored holes and electric weld the reinforcing plates to the chassis base panel (see **Note:** Section g) Para. 5).
5. After welding on the reinforcing plates (12), drill out all the holes, 6.4 mm in diameter and tap with an M 8 thread. Then screw the guard plate (E) to the chassis base panel with 6 hexagon screws (11) M 8 × 15 with lock washers.

Note: The Reinforcing Blocks more recently used (Part No. 120 524 02 12) have already the M8 thread tapped in them. Also the angle stiffeners are wider so that they can be screwed to the guard plate in the first place and then attached to the chassis base panel. For final welding, the guard plate should once more be removed.

f) Protective Rails for Brake Fluid and Fuel Lines

1. Unscrew the nuts of the 4 standard fixing clips for the brake fluid lines and the fuel lines and remove them together with lock washers and fixing clips.
Do not remove the rubber cross pieces Part No. 120 476 01 84, for the lines.
2. Unscrew the standard guard plate for the pedal system. This plate is not reinstalled when the guard plate assembly is fitted as an optional extra.
3. Also remove the standard protective rails for the brake fluid and fuel lines.
4. Put the rear protective rail (F 3) with the two slots on the two screws (14) (at the rear of the chassis base panel) which were previously used to fix the fixing clips and screw up with two nuts and lock washers (see Fig. 52 — 1/2).
Through the two holes in the protective rail, drill two 3.3 mm diameter holes in the chassis base panel and screw in two oval-head tapping screws (15) S 4.2 × 9.5.

Note: When fitting the protective rails make sure that the rubber cross pieces are properly positioned.

5. Place the center protective rail (F 2) on the two screws (16) in such a way (see Fig. 52 — 1/2) that the rear protective rail (F 3) is overlapped by the center one. Then put on the two nuts and lock washers. Through the holes in the protective rail, drill four 3.3 mm diameter holes in the chassis base panel and screw in 4 oval-head tapping screws (17) S 4.2 × 9.5.
6. Hold the front protective rail (F 1) so that it butts against the center protective rail. The fixing holes in the chassis base panel must correspond with the holes in the protective rail (see Figs. 52 — 1/1 and 52 — 1/2).

Note: As a rule, there is very little difficulty with the alignment when this is done since the distance between the holes in the standard protective rail and in the special version is the same. If necessary, the holes in the protective rail should be filed a little or reamed to fit.

7. Now screw on the protective rail (F 1) with 6 oval-head tapping screws (18). Drill a 3.3 mm diameter hole in the side member support for the additional oval-head tapping screw (19) and screw in an oval-head tapping screw S. 4.2 × 9.5 (see Fig. 52 — 1/2).

g) Guard Plates for the Step Bearing of the Torque Arm Mounting

1. Pull the splints out of the castellated shoulder nuts of the step bearings, unscrew the castellated shoulder nuts (20) and take off the cups for the rubber mountings (see Fig. 52 — 1/3).
2. Insert the guard plates (G), install the castellated shoulder nuts (20) again and position the guard plates (G) so that they are parallel to the side member halves (21) (see Fig. 52 — 1/3).
3. With the guard plates in this position, mark out on the chassis base panel the hole for the screw (22) on the guard plate, drill the hole 4.1 mm diameter and deburr it (Fig. 52 — 1/3).
4. Drill a 4.1 mm diameter hole at the center of each of the reinforcing plates (23) (see Fig. 52 — 1/1).

Note: On the recent version of the guard plates (G), instead of the large bore for the fixing screw (22), two 6.5 mm diameter bores are made. This version requires no reinforcing plate.

5. After removing or turning aside the guard plates (G), use a piece of welding rod, approx. 4.0 mm diameter, to align the two reinforcing plates and the bores in the chassis base panel and electrically weld the reinforcing plates to the chassis base panel at right angles to the side member halves (21).

Note: Care must be exercised when welding owing to the danger of fire!

Before the welding operation is begun, the bitumen mats which are glued to the floor of the body must be detached and a piece of asbestos board laid under each mat. Furthermore the fuel tank and its unions and also the fuel line must be shielded against flying sparks.

The accident prevention regulations of the appropriate trade association must also be observed.

6. After the welding is finished, drill the bores in the reinforcing plates out to 6.4 mm diameter and tap an M 8 thread in each bore.
If the new version of guard plate assembly is being installed, mark out the 2 fixing holes, drill a 5.0 mm diameter hole in the chassis base panel at the left and at the right and deburr the bores.
7. If the first version of the guard plates (G) is being installed, they should be fixed with a hexagon screw (22) M 8 × 22 and a lock washer (see Fig. 52 — 1/3) in each plate. If the recent version is being installed, they should be fixed with two hexagon tapping screws S 6.3 × 13 DIN 7976 and lock washers B 6 DIN 137.
8. Screw on the castellated shoulder nuts (20), tighten to a torque of 8 mkg and lock with splints 3 × 25.

h) Guard Plate for Rear Axle (with Towing Hook)

1. Unscrew the rear fixing screws (24) of the two bumper brackets (see Fig. 52 — 1/3) and screw the supporting sling (25) to the chassis base panel with two new hexagon screws (24) M 10 × 30 and lock washers.

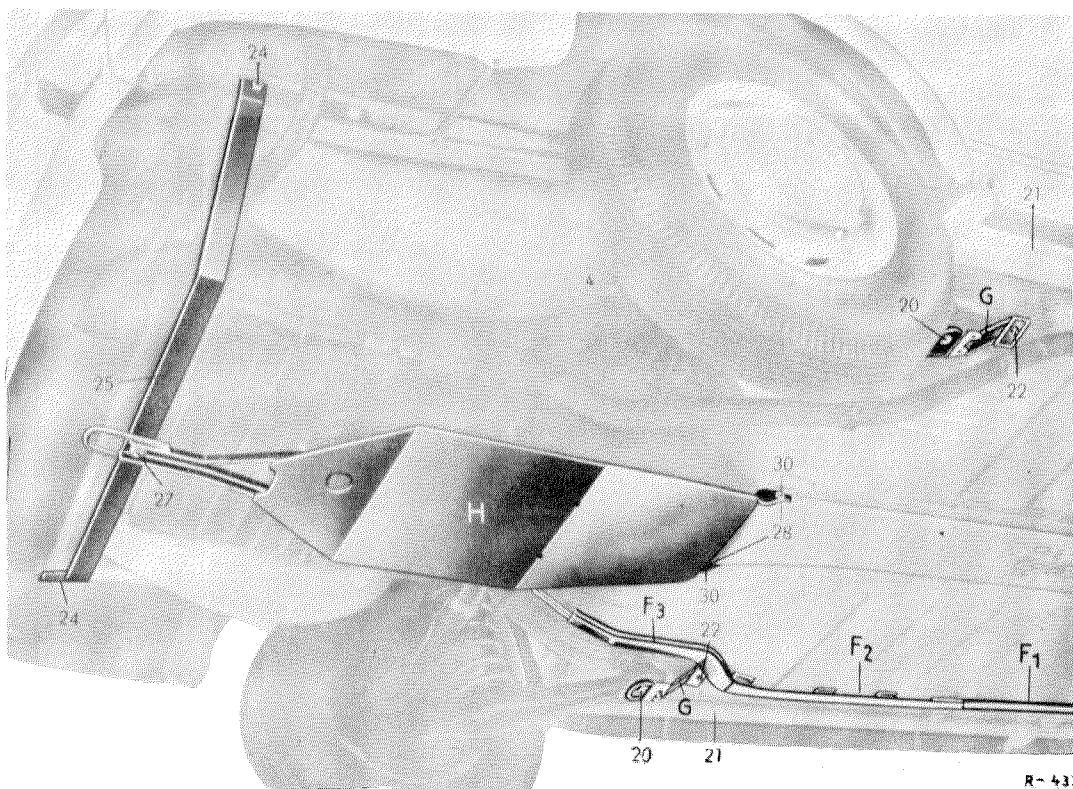


Fig. 52 — 1/3

F1 Protective rail, front
F2 Protective rail, center
F3 Protective rail, rear

} for brake fluid and
fuel lines

G Guard plate for torque arm mounting
H Guard plate for rear axle
20 Castellated shoulder nut

21 Side member halves
22 Hexagon screw M 8 · 12
24 Hexagon screw M 10 · 30
25 Supporting sling
27 Hexagon screw M 10 · 20
28 Lugs
30 Hexagon screw M 10 · 20

2. Screw the guard plate (H), from underneath, to the supporting sling (25) with the hexagon screw (27) M 10 × 20 and nut and lock washer (see Fig. 52 — 1/3). Adjust the guard plate to fit, if necessary tapping the two lugs (28) at the front of the guard plate (H) so that they fit against the channel.

Note: Care must be taken to ensure that the guard plate does not lie against the rear axle.

3. When fitting the guard plate (H), raise it so that there is just 5 — 6 mm space between the bottom of the transmission channel and the plate. With the plate in this position, drill in the side of the transmission tunnel the 11 mm diameter holes necessary for the hexagon screws (30) and deburr them (see Fig. 52 — 1/3).
4. Screw the guard plate (H) — i. e., the lugs (28) to the channel with the two hexagon screws (30) M 10 × 20 with nuts and lock washers.
5. Tighten up the fixing screws (24) and (27) at the supporting sling (25).

Note: A towing hook is welded to the guard plate for the rear axle and this may safely be used for towing other vehicles (see Fig. 52 — 1/3).

i) Rubber Grommet for Sealing the Channel for the Flexible Drive Shaft (Speedometer Drive) in the Right Fork Support

1. Cut open the rubber grommet J₁, fit it on the flexible drive shaft and insert it in the channel at the outer face of the fork support (see Fig. 52 — 1/1).
2. Cut open the rubber grommet J₂, fit it on the flexible drive shaft and insert it in the channel at the inner face of the fork support.

C. List of Parts

	Designation	Number	Part No.
A	Protective plate for front axle support and oil pan new version	1	121 330 01 83
		1	121 330 03 83
	Fixing plate	1	180 331 00 75
	Hexagon screw M 10 × 25	1	DIN 933—8 G
	Lock washer B 10	1	DIN 127
B	Cover plate for radiator, left	1	120 524 12 33
	Cover plate for radiator, right	1	120 524 13 33
	Oval-head tapping screw S 4.8 × 9.5 (for cover plate at cross tube)	2	for each DIN 7981
C	Cover cap at the side (front axle support)	2	120 330 00 56
	Fixing plate	2	120 331 01 75
	Hexagon screw M 6 × 35	2	DIN 933—8 G
	Lock washer B 6	2	DIN 127
D	Guard plate for brake master cylinder, left-hand drive vehicles	1	121 430 00 62
	Guard plate for brake master cylinder, right-hand drive vehicles	1	121 430 01 62
	Oval-head tapping screw Z 3.9 × 9.5 (for guard plate at fork support)	4	DIN 7981
E	Guard plate for clutch and transmission, left-hand drive vehicles	1	121 520 03 75
	Guard plate for clutch and transmission, right-hand drive vehicles	1	121 520 04 75
	Reinforcement plate	6	120 524 01 12
			or
			120 524 02 12
	Hexagon screw M 8 × 12	6	DIN 933—8 G
F	Protective rails for brake fluid and fuel lines		
	Rear rail (F 3)	1	120 470 01 48
	Center rail (F 2)	1	120 476 06 46
	Front rail (F 1)	1	120 476 02 46
	Oval-head tapping screw S 6.3 × 13	13	DIN 7981
G	Guard plate for torque arm mounting	2	120 350 04 83
	Lock washer B 8	2	DIN 127
	Hexagon tapping screw S. 6.3 × 13	4	DIN 7976
	Spring washer B 6	2	DIN 137
H	Guard plate for rear axle	1	180 350 03 83
	Bracket, rear, for rear axle guard plate	1	180 351 12 40
	Hexagon screw M 10 × 20	3	DIN 933—8 G
	Lock washer B 10	3	DIN 127
	Hexagon nut M 10	3	DIN 934—5 S
J	Rubber grommet for sealing the channel of the flexible drive shaft (speedometer drive) in fork support outer (J ₁) inner (J ₂)	2	198 997 00 81

The complete kit of parts for the guard plate assembly can be ordered from the works under
Order No. 121 520 00 97 for left-hand drive vehicles and
Order No. 121 520 01 87 for right-hand drive vehicles