

Data

Lubricant for rear wheel bearing Multi-purpose grease, refer to Operative Materials page No. 267

Quantity for each end 50 g

Rear Wheel Bearing

End play of rear axle shaft flange 0.04–0.06

Rear Axle Shaft Flange

Perm. vertical runout on centering surface
in installed condition 0.12

Perm. lateral runout in installed condition 0.12

Thickness of flange 9.5–10.0

Perm. vertical runout on bearing seats and on
running surfaces for sealing rings 0.3

Perm. vertical runout on centering surface 0.02

Recess (diameter) for brake disc 67.00
66.97

| | |
|---------|--------|
| outside | 46.028 |
| | 46.017 |

| | | |
|---------------------------|--------|--------|
| Diameter of bearing seats | inside | 41.013 |
| | | 41.002 |

| | | |
|---|--|-------|
| Diameter of running surface for outer sealing ring | | 72.00 |
| | | 71.81 |

| | | |
|---|------------------|------------------|
| Spiral on running surface for outer sealing ring | lefthand flange | righthand spiral |
| | righthand flange | lefthand spiral |

| | |
|--|----|
| length of spiral on circumference of running surface | 20 |
|--|----|



Tightening Torques

| | Nm | (kpm) |
|---|----|-------|
| Hex. bolt for attaching rear axle shaft to rear axle shaft flange | 95 | (9.5) |

Special Tools

| | |
|--|---------------------------|
| Fixture for rear axle shaft flange | 100 589 02 33 00 |
| Slotted nut wrench | 115 589 02 07 00 |
| Pulling fixture for tapered roller bearing outer race | 115 589 00 33 00 |
| Pulling fixture for tapered roller bearing inner race | 115 589 01 33 00 |
| Mandrel for knocking out tapered roller bearing outer race | 115 589 02 43 00 |
| Installation tool for tapered roller bearing outer race | 116 589 11 61 00 |
| Assembly fixture for rear wheel bearing | 115 589 09 61 00 |
| Dial gauge holder | 136 589 04 21 00 |
| Assembly plate for rear axle shaft flange | 136 589 05 31 00 |
| Extension for assembly plate | Self-made acc. to Fig. 4 |
| Tubing for tapered roller bearing inner race | Self-made acc. to Fig. 14 |

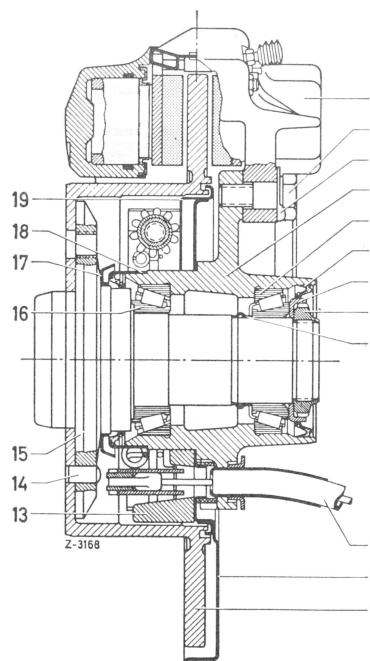


Fig. 1

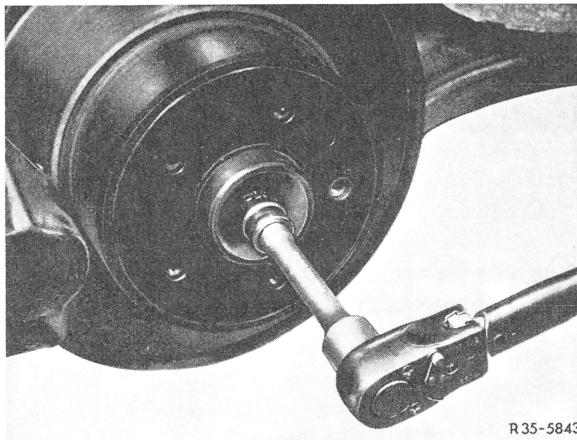
1 Caliper
2 Hex. bolt
3 Lock washer
4 Wheel carrier
5 Inner tapered roller bearing
6 Inner sealing ring
7 Seal running ring (thrust washer)
8 Slotted nut
9 Spacer sleeve
10 Brake cable control
11 Cover plate
12 Brake disc
13 Supporting web
14 Centering pin
15 Rear axle shaft flange
16 Outer tapered roller bearing
17 Dust cap
18 Outer sealing ring
19 Brake carrier

Note

Jobs on bearing of rear axle shaft flange can also be made with the rear axle installed.

Removal

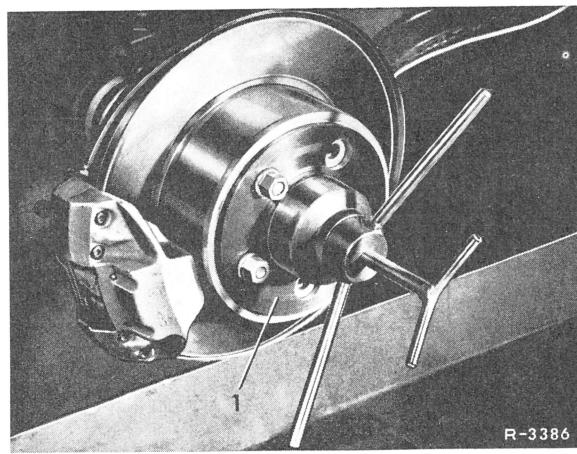
1 Unscrew hex. bolt for attaching rear axle shaft to rear axle shaft flange (Fig. 2).



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Fig. 2

2 Force rear axle shaft out of rear axle shaft flange with fixture (Fig. 3).



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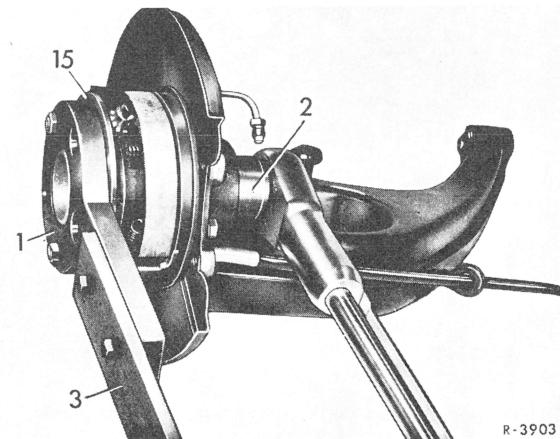
Fig. 3

1 Assembly fixture 115 589 09 61 00

Do not permit rear axle shaft to bend excessively or to drop, to prevent any damage or the possibility of leaks on inner synchronizing joint.

Note: With the rear axle installed the rear axle shaft is suitably tied with wire to torsion bar to permit continued unobstructed work.

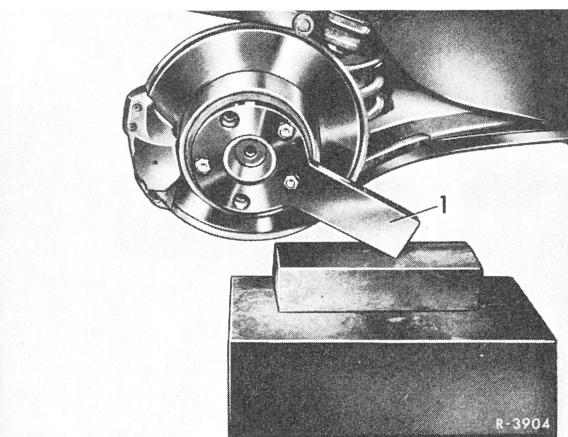
- 3 Remove caliper and brake disc (42.1-228 or 42.2-228).
- 4 Remove brake shoes of parking brake, if required (42.1-530 or 42.2-530).
- 5 Unlock slotted nut on rear axle shaft flange. Attach assembly plate (1) with extension to rear axle shaft flange (15) and loosen slotted nut with slotted nut wrench (2) (Fig. 4).



R-3903

Fig. 4

| | |
|---------------------------|------------------|
| 1 Assembly plate | 136 589 05 31 00 |
| 2 Slotted nut wrench | 115 589 02 07 00 |
| 3 Extension (self-made) | |
| 15 Rear axle shaft flange | |



R-3904

Fig. 5

1 Assembly plate 136 589 05 31 00

35.1 Removal and Installation of Rear Axle Shaft Flange Adjustment of Bearing

With the rear axle installed the rear axle shaft flange or assembly plate can be supported as shown in Fig. 5.

Note: For loosening slotted nut with the semi-trailing arm removed the assembly plate can also be clamped in a vise.

6 Remove seal running ring and inner sealing ring from wheel carrier with screw driver (Fig. 6).

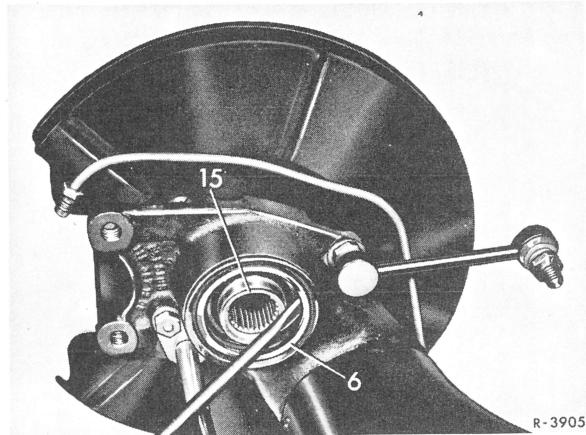


Fig. 6

6 Sealing ring

15 Rear axle shaft flange

7 Knock rear axle shaft flange out of wheel carrier with fixture and remove bearing inner race together with spacer sleeve (Fig. 7).

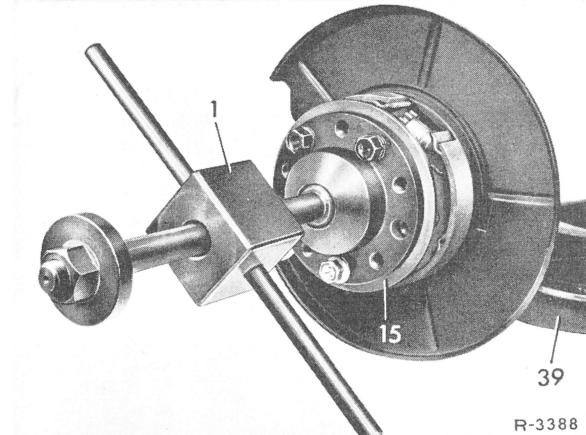


Fig. 7

1 Fixture 100 589 02 33 00

15 Rear axle shaft flange

39 Semi-trailing arm

8 Force outer sealing ring from wheel carrier.

9 Pull bearing outer race of outer tapered roller bearing from wheel bearing with fixture (Fig. 8).

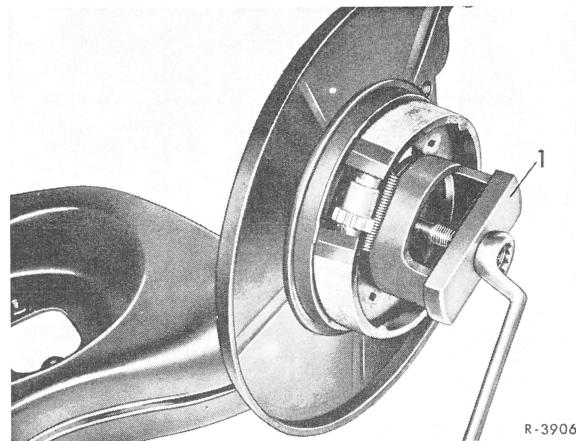


Fig. 8

1 Pulling fixture 115 589 00 33 00

10 Knock bearing outer race of inner tapered roller bearing from wheel carrier with mandrel (Fig. 9).

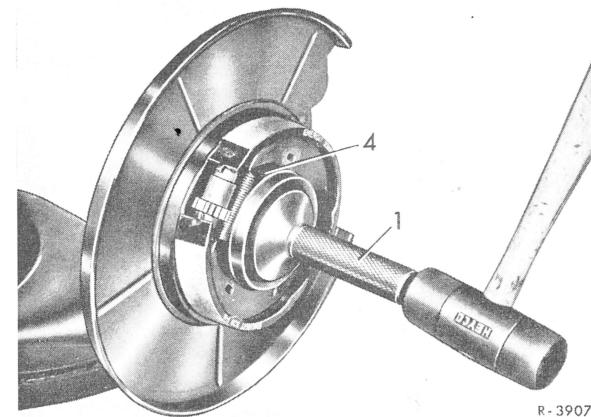


Fig. 9

1 Knocking-out mandrel 115 589 02 43 00

4 Wheel carrier

11 Force outer bearing inner race (16) from rear axle shaft flange (15) (Fig. 10).

12 Check all single parts for reuse. Pay special attention to running surfaces for sealing rings on rear axle shaft flange and on seal running ring. Worn parts must be replaced. Check vertical and lateral runout of rear axle shaft flange.

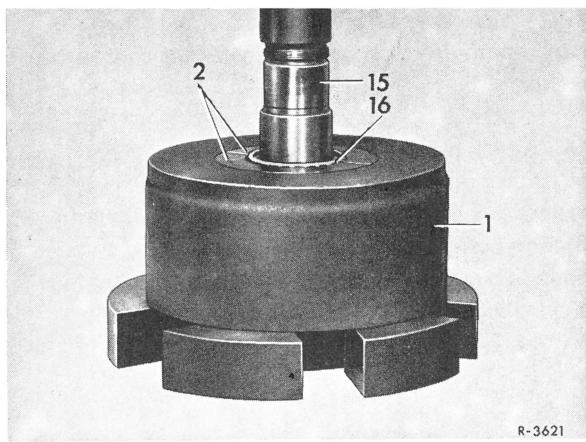


Fig. 10

- 1 Forcing-off fixture
- 2 Split forcing-off ring
- 15 Rear axle shaft flange
- 16 Bearing inner race

Note: As a result of the grease returning spiral on running surface for outer sealing ring, the rear axle shaft flanges for the righthand and the lefthand end are different. For identification, the bevel on the centering surface carries a punched-in "R" (righthand end) or an "L" (lefthand end) (Fig. 11).

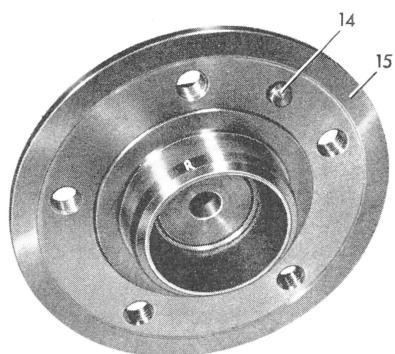


Fig. 11

14 Set pin 15 Rear axle shaft flange

Installation

Caution! For rear axle shaft flanges of the latest version (Fig. 12) only tapered roller bearings with increased radius may be used (compare Fig. 12 and 13).

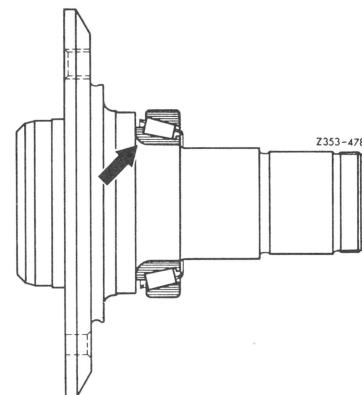


Fig. 12 (new version)

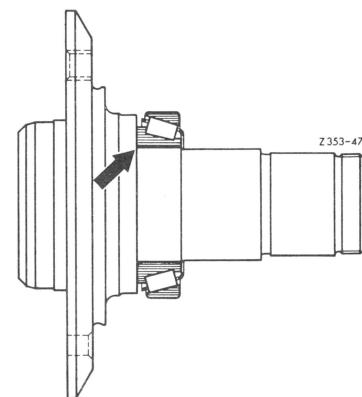


Fig. 13 (old version)

13 Press bearing inner race of outer tapered roller bearing (16) onto rear axle shaft flange (15) with a suitable tube (1) (Fig. 14).

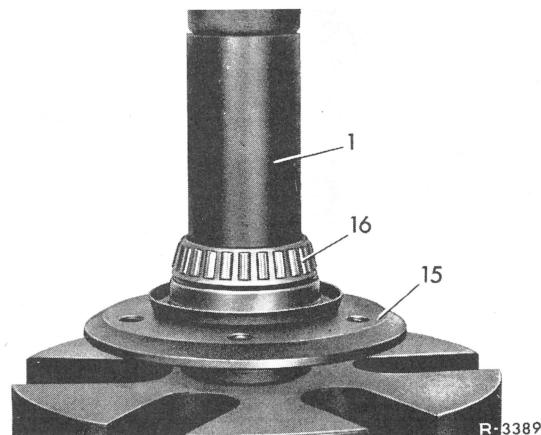


Fig. 14

- 1 Tube
- 15 Rear axle shaft flange
- 16 Outer tapered roller bearing

35.1

Removal and Installation of Rear Axle Shaft Flange Adjustment of Bearing

14 Install both bearing outer races in wheel carrier with installation tool (Fig. 15).

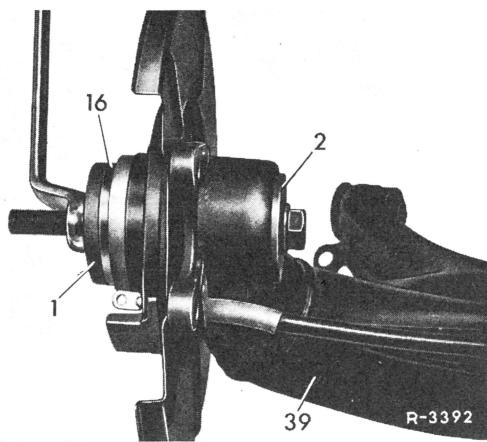


Fig. 15

1, 2 Installation tool
16 Tapered roller bearing outer race
39 Semi-trailing arm

15 Coat seat for outer sealing ring (18) on wheel carrier with sealing compound and install new sealing ring with installing tool (Fig. 16).

Note: Fit sealing ring with care to rest straight against chamfer at bottom of wheel carrier.

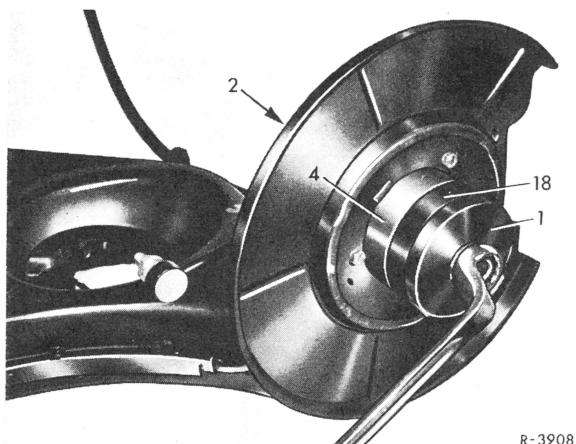


Fig. 16

1, 2 Installation tool
4 Wheel carrier
18 Sealing ring

16 Fill cavity between the two bearing outer races in wheel carrier with 50 grams multi-purpose grease.

17 Attach new spacer sleeve to rear axle shaft flange and introduce rear axle shaft flange into wheel carrier.

18 Attach bearing inner race for inner tapered roller bearing to rear axle shaft flange. Fill new sealing ring between the two sealing lips with anti-friction bearing grease and coat with sealing compound on outside diameter. Press bearing inner race and sealing ring together on or in with assembly fixture (Fig. 17).

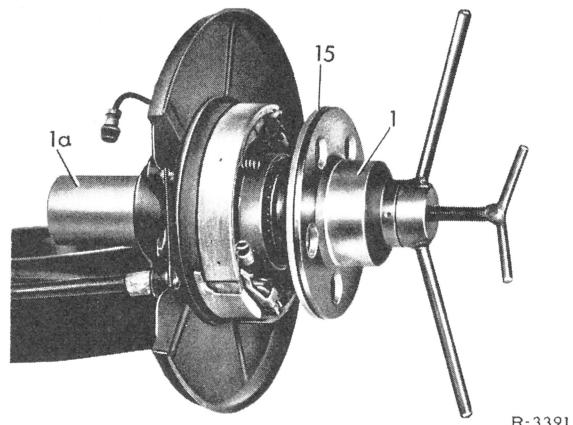


Fig. 17

1 Assembly fixture
1a Thrust piece
15 Rear axle shaft flange

19 Attach seal running ring and screw on new slotted nut.

Adjustment

20 Attach assembly plate with extension to rear axle shaft flange (Fig. 4).

Carefully tighten slotted nut with slotted nut wrench until the end play is between 0.04 to 0.06 mm (Fig. 18).

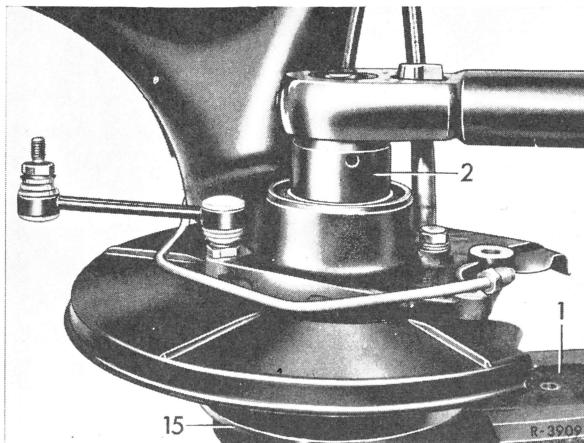


Fig. 18

- 1 Assembly plate
- 2 Slot nut wrench
- 15 Rear axle shaft flange

21 Attach dial gauge holder to wheel carrier and check end play of rear axle shaft flange, while moving rear axle shaft flange axially back and forth and simultaneously rotating clockwise and counterclockwise (Fig. 19).

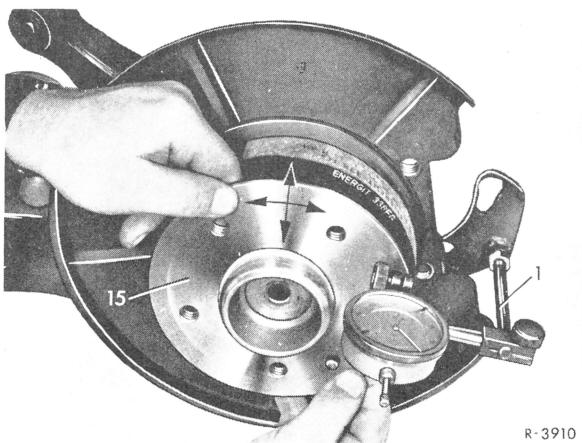


Fig. 19

- 1 Dial gauge holder
- 15 Rear axle shaft flange

Caution! When excessive tightening of slot nut leaves no end play, corrections cannot be made while loosening slot nut only. Instead, a new spacer sleeve must be installed in such a case.

22 Lock slot nut (8) by bending into pertinent grooves in rear axle shaft flange (15) at two points (Fig. 2).

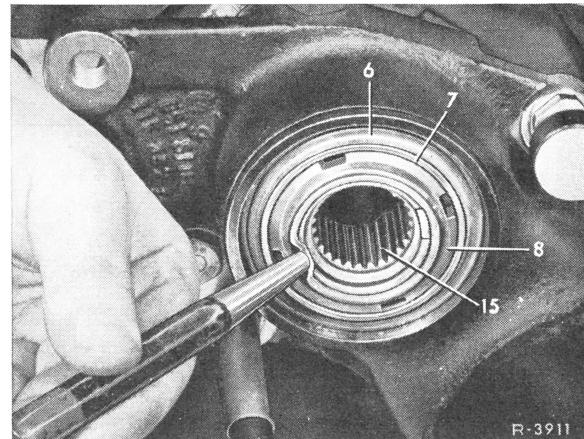


Fig. 20

- 6 Sealing ring
- 7 Seal running ring (thrust washer)
- 8 Slot nut
- 15 Rear axle shaft flange

23 Install rear axle shaft (Fig. 21).

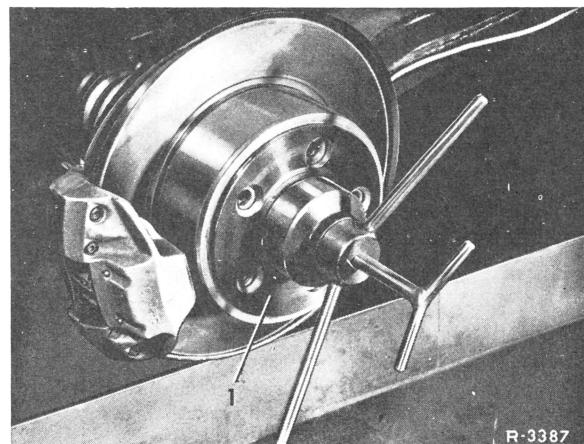


Fig. 21

- 1 Assembly fixture

24 Tighten hex. bolt for attaching rear axle shaft to rear axle flange to 93 Nm (9.5 kpm) (Fig. 2).

25 Install brake shoes of parking brake, if removed (Service Manual „Brakes, Steering“ 42.1-530 or 42.2-530).

26 Mount brake disc and brake caliper and bleed brake system (Service Manual „Brakes, Steering“ 42.1-228, 42.2-228 and 42.0-010).

