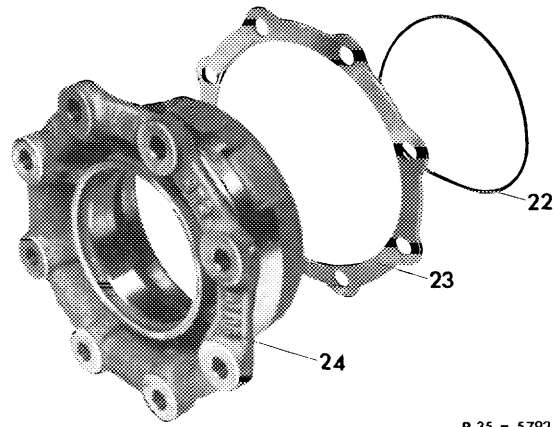


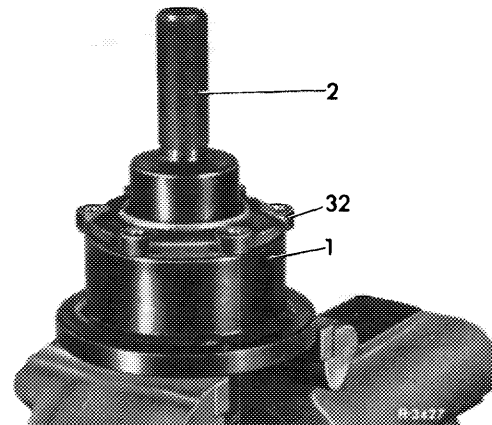
7 Pull off sealing rings (22). Remove compensating washers (23) for adjusting backlash or spread dimension (widening) and mark together with bearing caps (for lefthand and righthand side).



R 35 - 5792

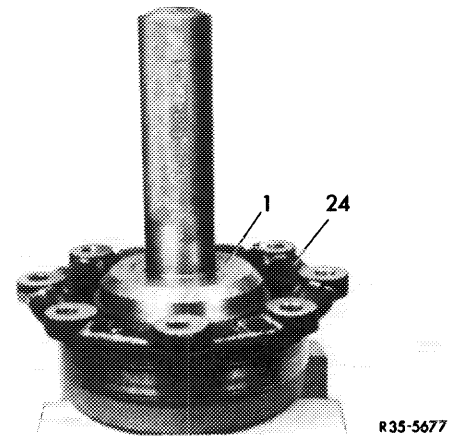
**With small rear axle center piece**

8 Press radial sealing ring and tapered roller bearing outer race together out of bearing cap by means of removing tool (1 and 2).



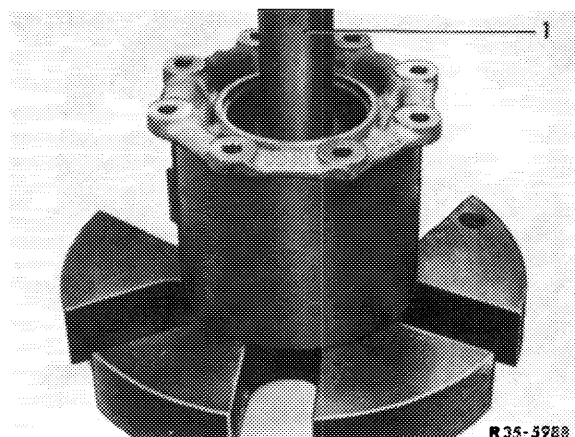
**With large rear axle center piece**

9 Force radial sealing ring out of bearing cap by means of removing tool (1).



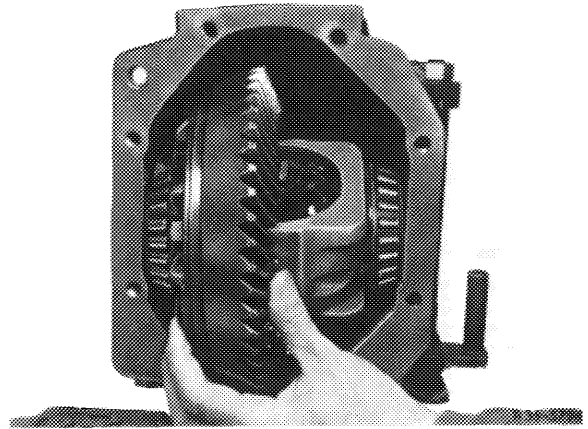
R 35-5677

10 Force out bearing outer race by means of removing tool (1).

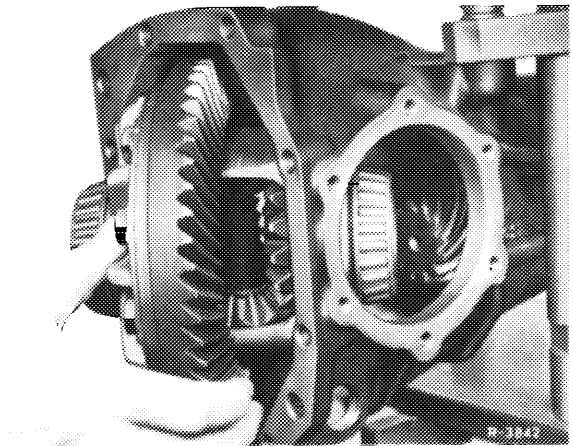


R 35-5988

11 Take differential out of rear axle housing (large center piece).

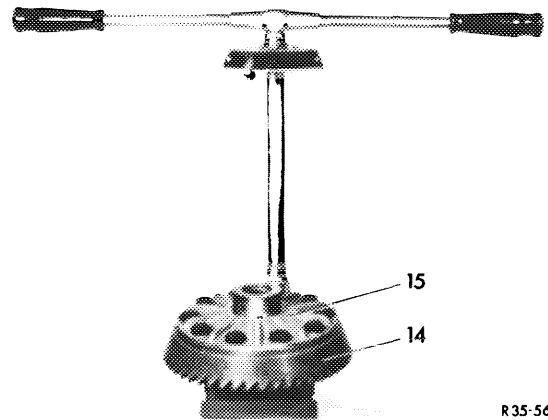


12 Move differential into position shown and take out of rear axle housing (small center piece).



**Note:** If the wheel assembly is used again, mark position of ring gear in relation to differential housing, so that the ring gear is reinstalled in the same position as before.

13 Unscrew ring gear from differential housing and carefully push from housing.

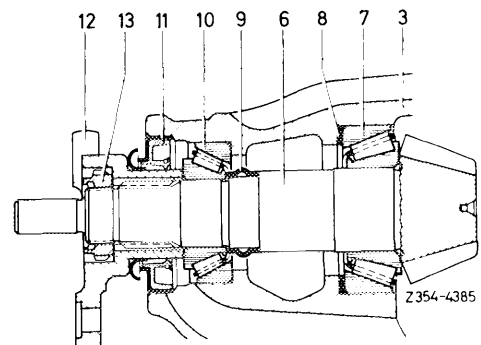


R35-5671

### Removing and checking drive pinion

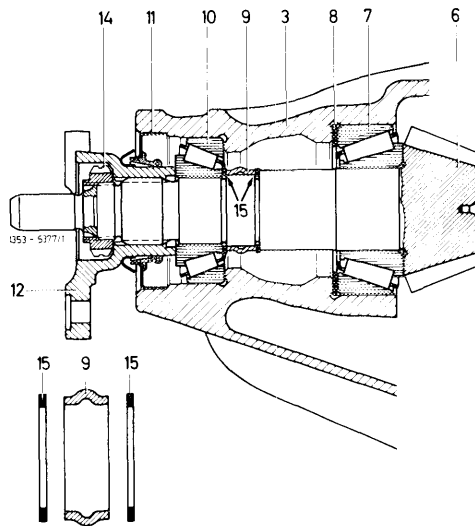
1st version

- |                           |  |
|---------------------------|--|
| 3 Rear axle housing       | 11 Radial sealing ring                 |
| 6 Drive pinion            | 12 Universal flange                    |
| 7 Tapered roller bearing  | 13 Self-locking slot nut (1st version) |
| 8 Compensating washer     |  |
| 9 Spacing sleeve          |  |
| 10 Tapered roller bearing |  |



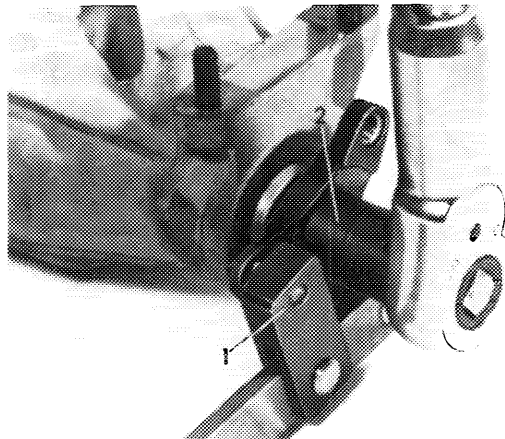
2nd version

- |                           |                                 |
|---------------------------|---------------------------------|
| 3 Rear axle housing       | 11 Radial sealing ring          |
| 6 Drive pinion            | 12 Universal flange             |
| 7 Tapered roller bearing  | 14 Crush slot nut (2nd version) |
| 8 Compensating washer     | or double hex. collar nut       |
| 9 Spacing sleeve          | (3rd version)                   |
| 10 Tapered roller bearing | 15 Washer                       |



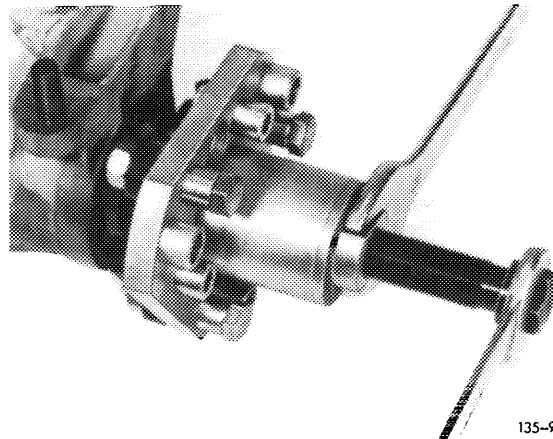
14 Plug holding wrench (1) on universal flange and loosen self-locking or crush slot nut with slot nut wrench (2) or double hex. collar nut with double hex. socket.

15 Mark universal flange in relation to drive pinion.



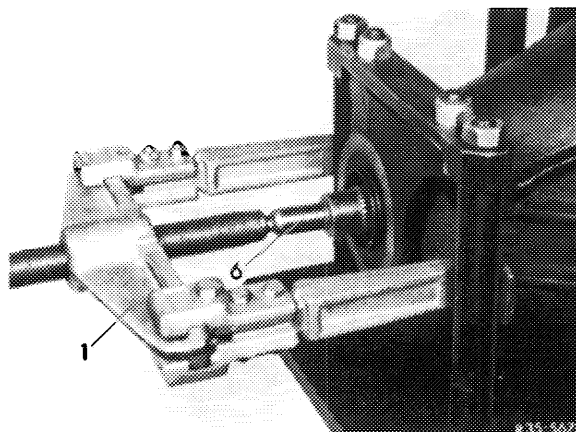
135-9584

16 Pull universal flange from drive pinion with puller, if required.



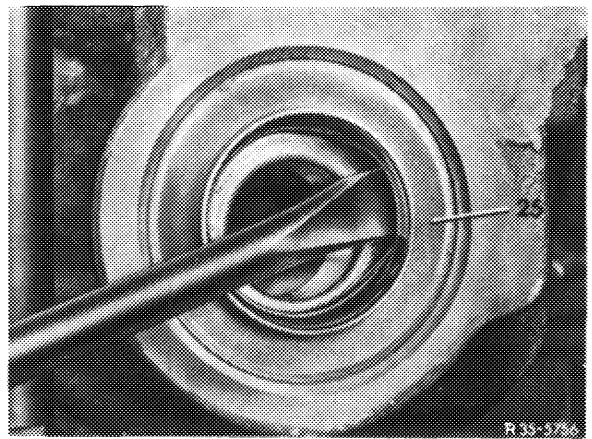
135-9586

17 Force drive pinion out of rear axle housing by means of a conventional puller.

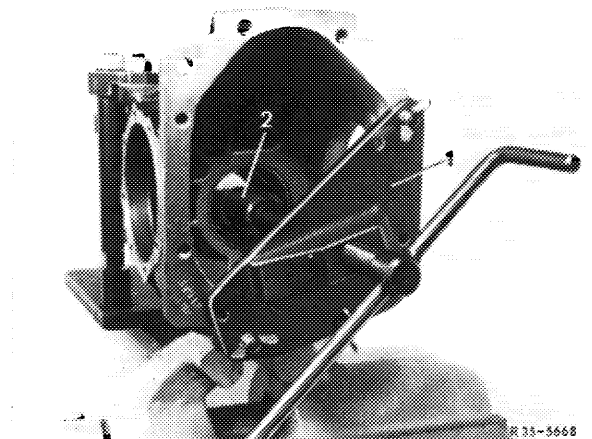


433-3678

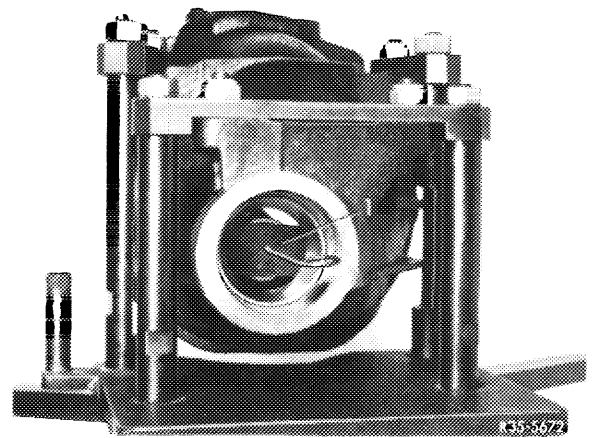
18 Force radial sealing ring (25) out of rear axle housing by means of a screwdriver and remove tapered roller bearing inner race.



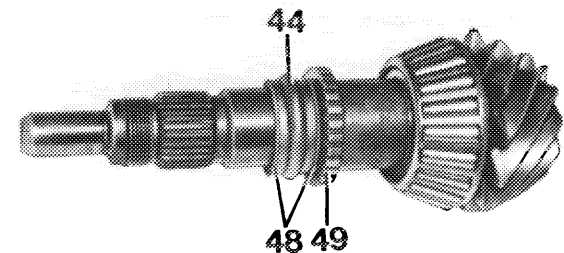
19 Screw installer and remover (1) to rear axle housing and pull inside tapered roller bearing outer race out of housing by means of pulling member (2).



20 Force outside tapered roller bearing outer race out of rear axle housing by means of thrust member (1).



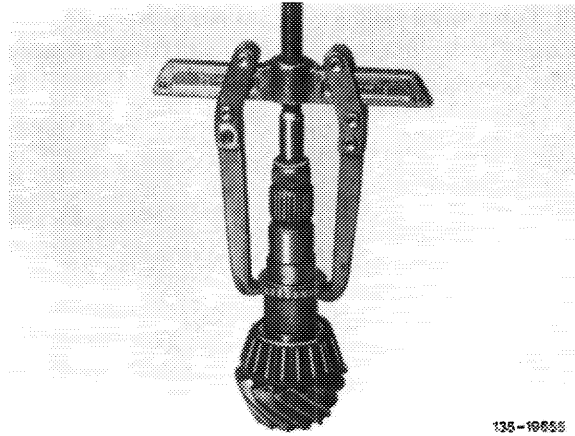
21 Remove spacing sleeve (44) together with thrust washers (48) from drive pinion.



- 44 Spacing sleeve
- 48 Thrust washers
- 49 Gear wheel (on vehicles with ABS only)

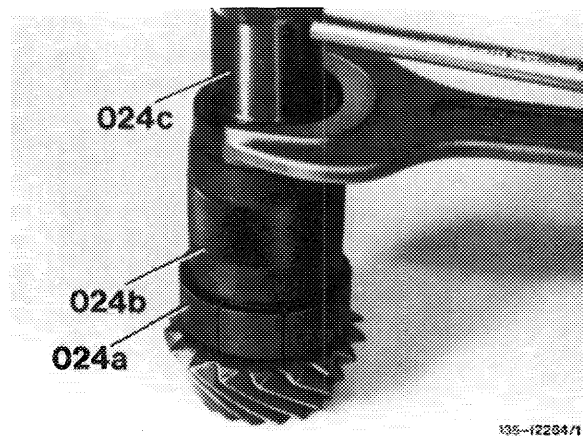
## Vehicles with ABS

22 Pull gear wheel (rotor) from drive pinion by means of a conventional puller.

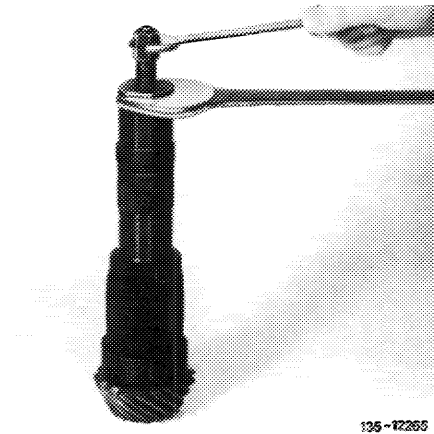


23 Assemble puller (basic unit 024) with extension (024c) and clamp (024a).

24 Slip puller with clamp (024a) over tapered roller bearing and tighten clamp by means of clamping sleeve (024b) behind rollers of tapered roller bearing.



25 Pull tapered roller bearing inner race from drive pinion by means of puller.



## Checkup

---

26 Check all parts for re-use. Check bearing seats on drive pinion for radial and axial runout.

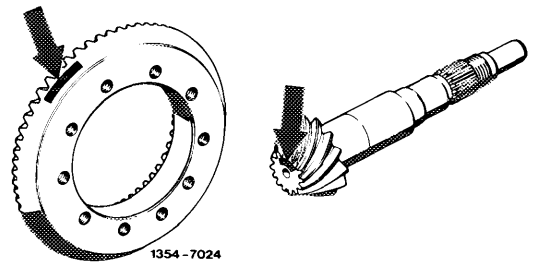
27 Check running surface for radial sealing ring on universal flange. If running surface is worn out or oil return feed thread on 1st version is damaged, replace universal flange.

28 Place universal flange on drive pinion while paying attention to mark. Check vertical runout of universal flange on running surface of radial sealing ring.

If in spite of repositioning universal flange several times the vertical runout on splining is higher than 0.06 mm, replace universal flange.

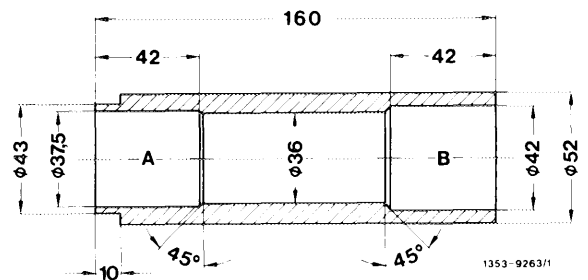
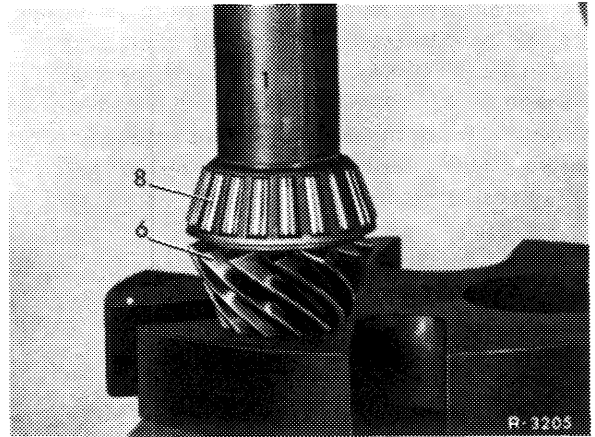
**Note:** Each drive pinion and ring gear belonging to one gear set is identified by means of a serial number written on both parts. In addition, the distance of the wheels in relation to each other for the respective gear set are also named on drive pinion.

To determine the thickness of the compensating washer required for adjusting the drive pinion, a data sheet should be used. **A sample data sheet is inserted at the end of this job number.** The measuring and computing procedure of the example shown is described in detail on the following pages.



#### Assembly and adjustment of gear assembly

29 Press rear tapered roller bearing (8) on drive pinion (6) by means of self-made pressing-on sleeve (1). For this purpose, use side of sleeve marked with "A" or "B" according to center piece.

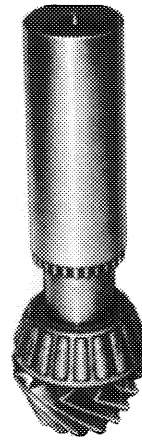


**Pressing-on sleeve (self-made)**

- A = for vehicles with small center piece
- B = for vehicles with large center piece

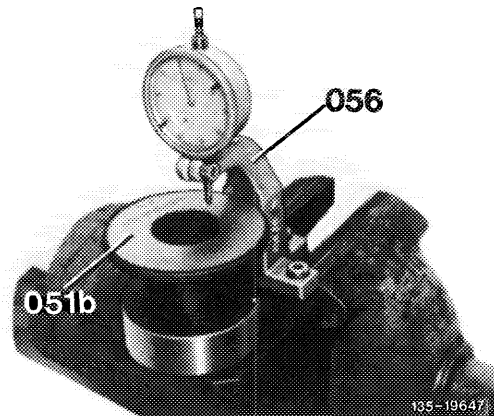
## Vehicles with ABS

30 Press-on ring gear (rotor) with self-made installing sleeve.

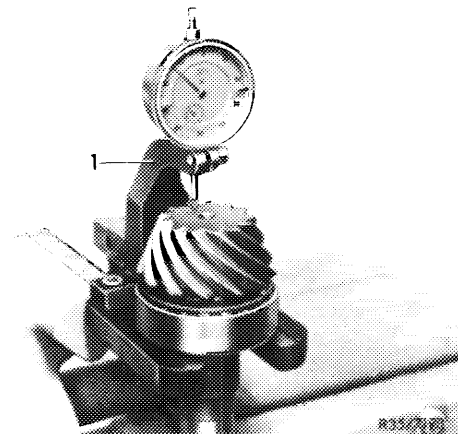


135-19640

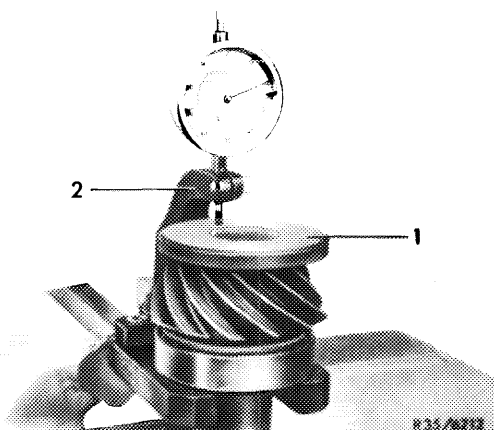
31 Set dial gauge at approx. 3 mm preload on measuring body (051b) initially to 0.



32 For small rear axle center pieces place outer bearing race on roller cage of drive pinion. Insert drive pinion into measuring device (1, 1st version) and measure drive pinion height with bearing. Record dimension which shows the difference between measuring body height "B1" and drive pinion height "B" on data sheet item 1.



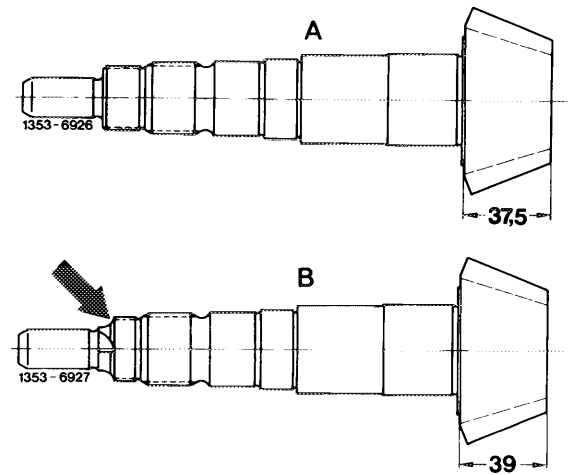
33 For large rear axle center pieces place outer bearing race on roller cage of drive pinion and attach magnetic plate (1). Place drive pinion into measuring device (2, 1st version) and measure drive pinion height with bearing and magnetic plate. Record dimension, which shows a difference between measuring body height "B1" and drive pinion height "B" on data sheet under item 1.



**Attention!**

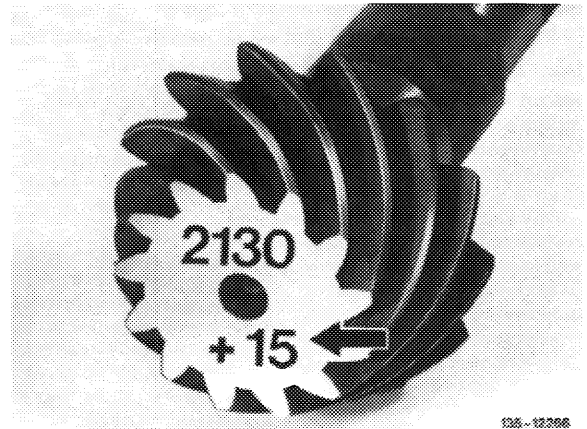
For large rear axle center pieces drive pinions with a height of 37.5 mm and 39 mm were installed. Consequently, 1.5 mm must be entered under item 1 in data sheet for drive pinions with 39 mm height and then added.

Together with this change, the type of lock has been simultaneously changed from polystop (A) to crush nut (B) (arrow).

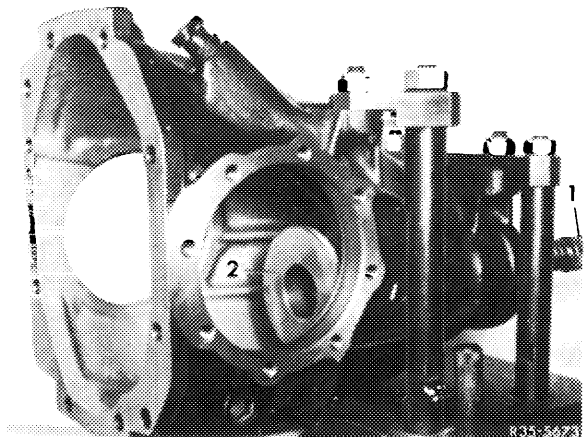


34 Enter basic deviation "a" of drive pinion (refer to arrow) (plus or minus) under item 2 in data sheet.

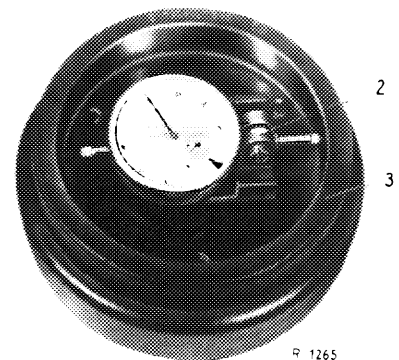
35 Add (+) or deduct (-) values of item 1 and 2 depending on prefix of value on drive pinion.



36 Insert device (1) with measuring body (2) in rear axle housing and screw-on measuring body (2).



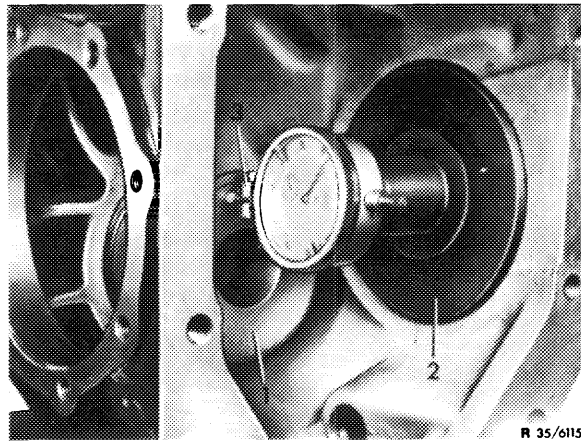
37 Insert dial gauge with dial gauge holder (2) into adjusting gauge (3) and set dial gauge under 3 mm preload to 0.



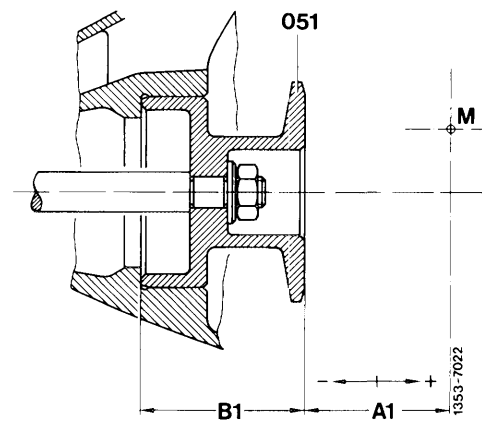


38 Insert mounting tool (2) together with dial gauge holder and dial gauge (3) into righthand bore of rear axle housing and screw down.

39 Read difference between preset gauge dimension and measuring body face and enter under item 3 in data sheet in plus or minus direction.



**Note:** The statement of direction plus (+) or minus (–) refers to rotation of dial gauge needle. A deviation from zero position in counterclockwise direction would be minus direction, in clockwise direction plus direction.



40 Add (+) or subtract (–) subtotal of values from item 1 and item 2, as well as from item 3. This computed value provides the thickness of the compensating washer.

Example:

Item 1	=	1.60
Item 2	=	+ 0.15
	=	–

Subtotal	=	1.75
----------	---	------

Item 3	minus direction	=	+ 0.06
	plus direction	=	–

Thickness of compensating washer "S"	=	<u>1.81</u>
--------------------------------------	---	-------------

41 Remove mounting tool and measuring body out of rear axle housing.

42 Insert compensating washer with computed washer thickness "S" into rear axle housing (refer to example).

**Note:** Use hardened compensating washers only, they are available at varying thickness. If required, grind one compensating washer as required.