


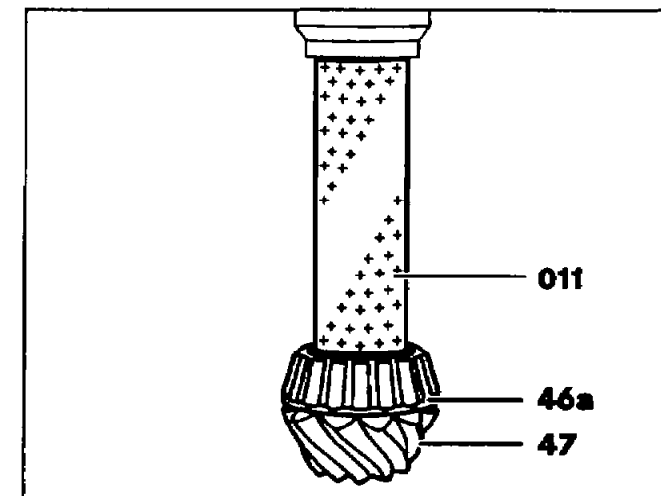


M10 AR35.31-P-0550-12C  WF	Pressing tapered roller bearing inner race onto drive pinion Press-on sleeve for tapered roller bearing inner race		WF58.50-P-3531-03B
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Using the shop-made press-on sleeve (011), press the tapered roller bearing inner race (46a) onto the drive pinion (47).



Use the side of the press-on sleeve (011) marked "B" for pressing on.

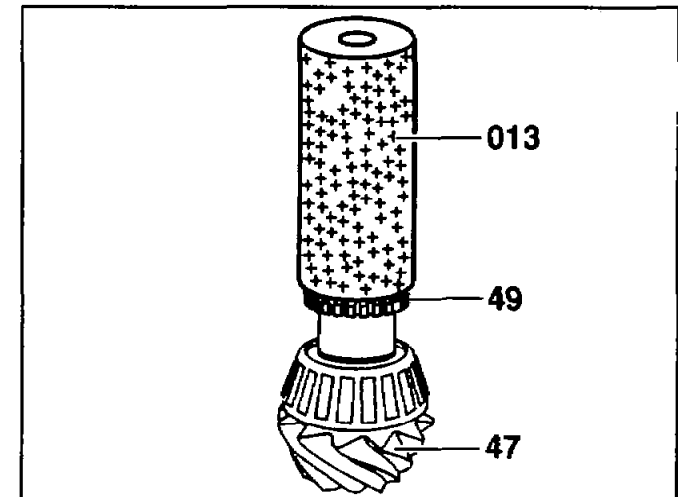


P35.31-0261-01









<p>N10 AR35.31-P-0550-31B</p> <p> WF</p> <p> GF</p> <p> GF</p> <p> GF</p>	<p>Pressing ABS gear onto drive pinion</p> <p>Press-on sleeve for ABS gear</p>	<p>Number of teeth on ABS gear: ↓</p> <p>Characteristics, installation survey for rear axle center assemblies with 168 mm dia. crown wheel</p> <p>Characteristics, installation survey for rear axle center assemblies with 185 mm dia. crown wheel</p> <p>Characteristics, installation survey for rear axle center assemblies with 210 mm dia. ring gear</p>	<p>WF58.50-P-3531-04B</p> <p>GF35.31-P-1000-01B</p> <p>GF35.31-P-1000-01C</p> <p>GF35.31-P-1000-01D</p>
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Press ABS gear (49) with shop-made spacer sleeve (013) onto drive pinion (47).

i
The number of teeth on the ABS gear (49) must correspond with the rear axle ratio.



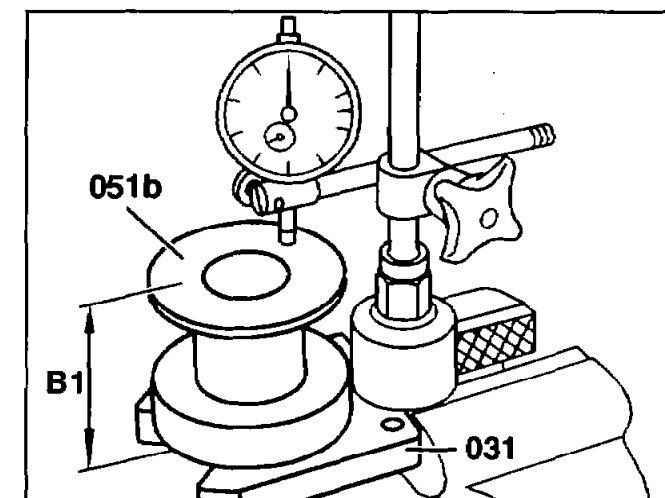


O10 AR35.31-P-0550-13D	Calculating shim and installing in rear axle housing	  Use data sheet: ↓  116 589 07 21 00 Measuring device  116 589 01 21 00 Measuring device  363 589 02 21 00 Dial gage holder  601 589 00 23 00 Measuring plate  111 589 08 23 00 Dial gauge holder  115 589 05 21 00 Adjusting gauge Data sheet, gear set adjustment of rear axle: order no. B20.650.06.080.00B	
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- 1 Clamp commercially available dial gauge in gauge stand 363 589 02 21 00 and mount on measuring plate (031) 601 589 00 23 00.
- 2 Adjust dial gauge on gauging member (051b) 116 589 07 21 00 part 09 to "0" with approx. 3 mm preload so that the height of the gauging member "B1" is adjusted.

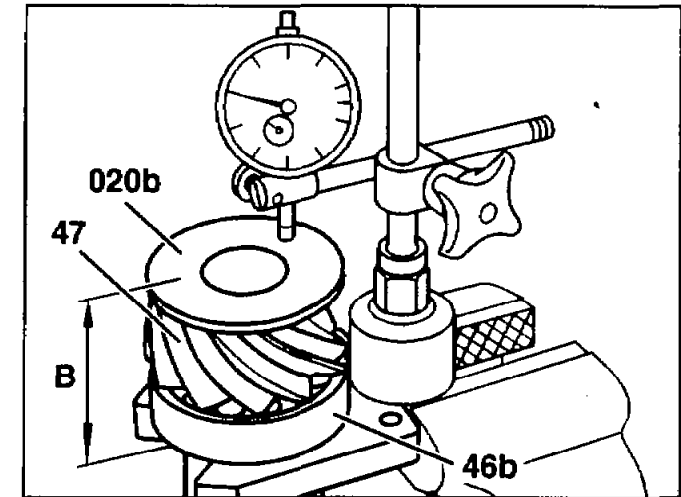


There are **two** versions of the gauging member (051b) which differ in height by 0.46 mm. The height of the gauging member is engraved on the end face and is 74.51 mm on the 1st version and 74.05 mm on the second version. Both versions are only valid for calculating the shim thickness "S" (refer to work step 5 and examples 1 and 2).



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- 3 Mount tapered roller bearing outer race (46b) on the tapered roller bearing inner race of drive pinion (47) and attach magnetic plate (020b) 116 589 01 21 00 part 04.
- 4 Install drive pinion in the measuring plate and measure the height of the drive pinion with tapered roller bearing and magnetic plate.
- 5 **Entering figure 1 in the data sheet.**
Read off the difference between height of gauging member "B1" and height of the drive pinion with magnetic plate "B".
(e.g. 1st version -0.38 mm for a gauging member height of 74.51 mm and 2nd version +0.08 mm for a gauging member height of 74.05 mm).



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A correction value of 1.5 mm is to be taken into account for a height of bevel gear head of 39 mm:

The amounts of the measured values of the difference between "B1" and "B" which are in the negative range (counter-clockwise deviation of dial gauge pointer) are to be added to the correction value.

(e.g. measured value -0.38 mm measured at a height of gauging member of 74.51 mm gives: 1.5 mm + 0.38 mm = 1.88 mm).

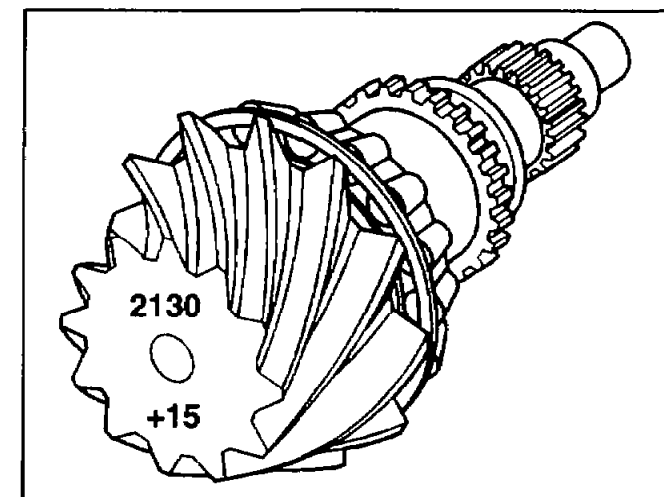
The amounts of the measured values of the difference between "B1" and "B" which are in the positive range (clockwise deviation of dial gauge pointer) are to be subtracted from the correction value.

(e.g. measured value +0.08 mm measured at a height of gauging member of 74.05 mm gives:
1.5 mm - 0.08 mm = 1.42 mm)

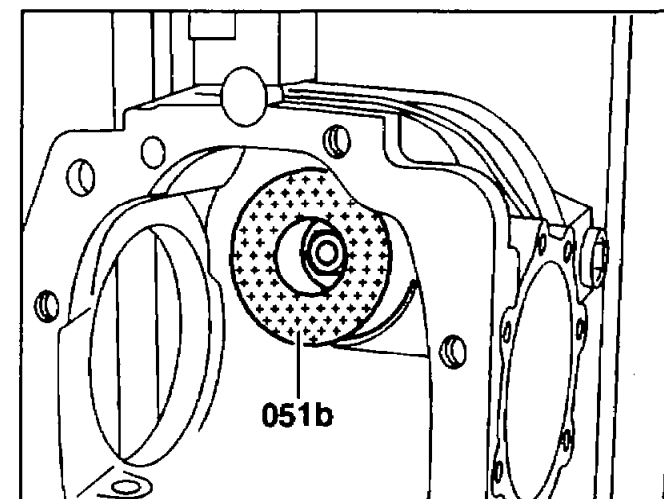
- 6 Enter the value thus calculated in the data sheet under figure 1



- 7 **Entering figure 2 in the data sheet.**
Read off the basic deviation "a" of the drive pinion (+ or -) and enter in the data sheet under figure 2 (e.g. +0.15).
- 8 **Calculating sub-total in the data sheet.**
Add (+) or subtract (-) values from figure 1 and figure 2 depending on the prefix (+) or (-) of the value on the drive pinion.
- 9 **Install gauging member (051b) 116 589 07 21 00 part 09 of the measuring device in the rear axle housing. Screw on gauging member with attachment piece 116 589 07 21 00 part 01 and hexagon nut.**

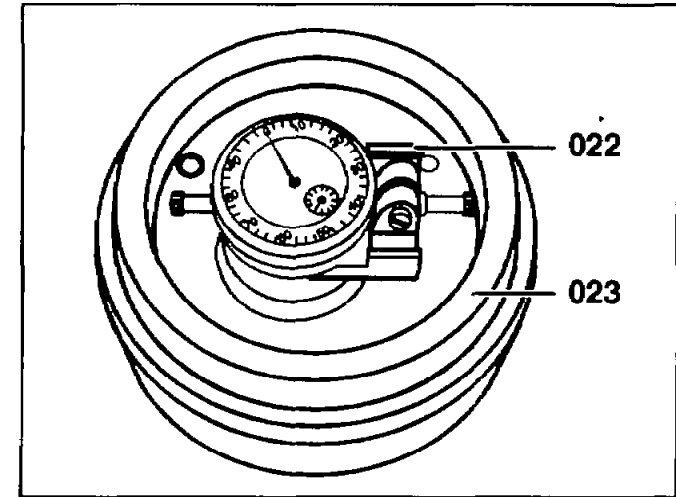


P35.31-0443-01



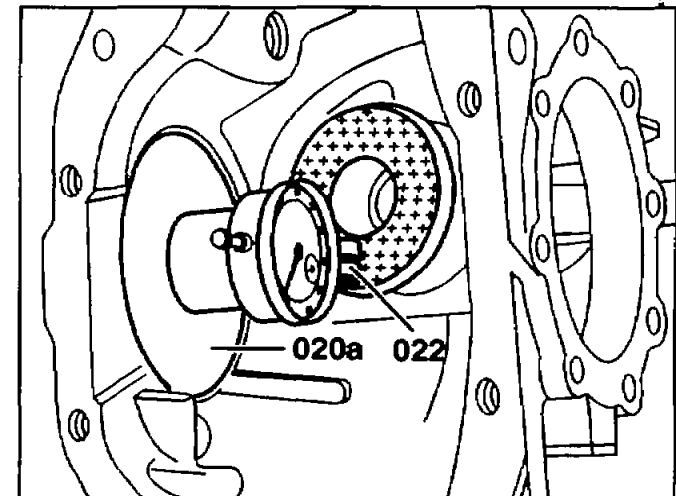
P35.31-0444-01

- 10 Install dial gauge with gauge stand (022) 111 589 08 23 00 in adjustment gauge (023) 115 589 05 21 00 and position on "0" with 3 mm preload.



P35.31-0445-01

- 11 Install measuring device (020a) 116 589 01 21 00 part 01 in the left bore of the rear axle housing and tighten securely.
- 12 Insert gauge stand (022) with dial gauge in measuring device and read off deviation.



P35.31-0446-01

13 Entering figure 3 in the data sheet.

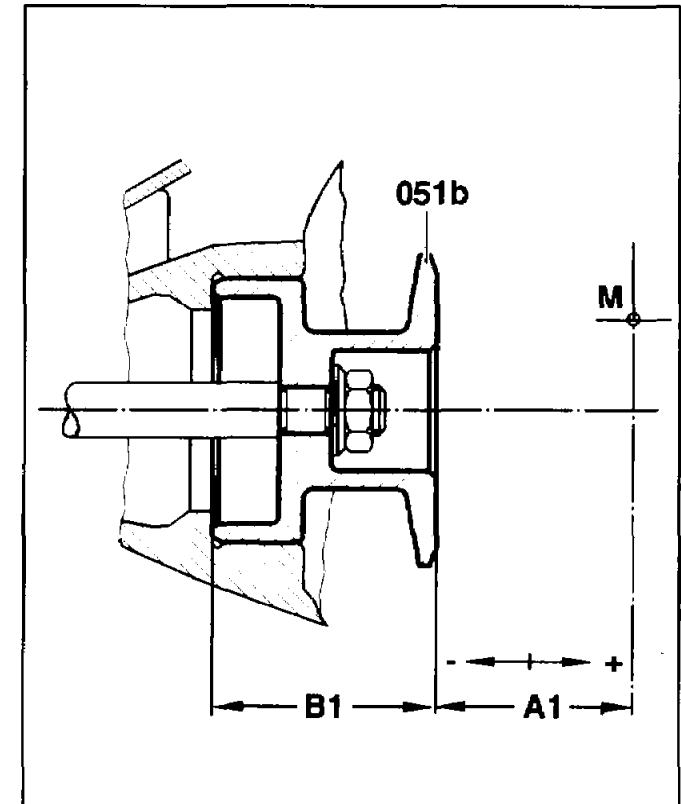
Measure the difference "A1" between the adjusted gauge dimension and the end face of the gauging member and enter under figure 3 in the data sheet in the positive (+), or negative (-) direction (e.g. for a height of gauging member of 74.51 mm: +0.04 mm measured and thus in the positive direction or for a height of gauging member of 74.05 mm: -0.42 mm measured and thus in the negative direction).

i The specification of the positive (+) or negative (-) direction is related to the direction of rotation of the dial gauge pointer.

The direction of rotation, starting from the zero position, **opposite** to clockwise thus means **negative direction** and clockwise means **positive direction**.

14 Calculating thickness of shim "S" in the data sheet.

Add (+) or subtract (-) the sub-total of the values from figure 1 and figure 2 as well as the value from figure 3. The value calculated gives the thickness of the shim.



P35.31-0447-02

- 051b* Gauging member
- A1* Difference between gauge dimension and end face of gauging member
- B1* Height of gauging member
- M* Center of ring gear



1. Example with height of bevel gear head of 39 mm and height of gauging member of 74.51 mm:

1. Measure difference between the height of the gauging member "B1" and the height of the drive pinion with magnetic plate "B"	=	1.88
2. Read off basic deviation "a" on the drive pinion	= +	0.15
	= -	
Sub-total	=	2.03
3. Measure difference "A1" between the adjusted gauge dimension and the end face of the gauging member	Negative direction = +	
	Positive direction = -	0.04
Thickness of shim "S"	=	1.99

2. Example with height of bevel gear head of 39 mm and height of gauging member of 74.05 mm:

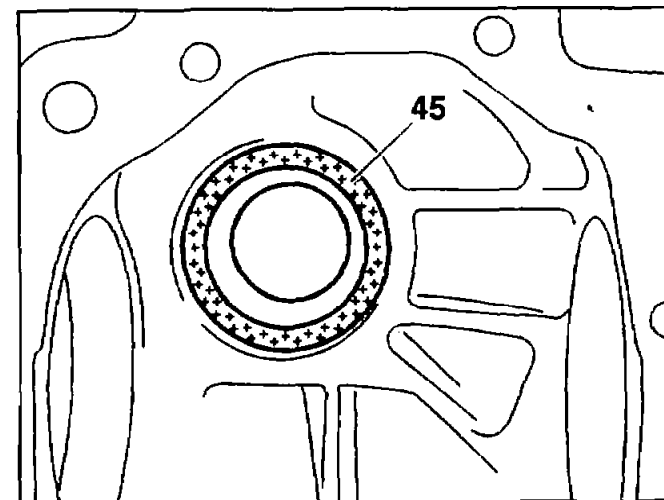
1. Measure difference between the height of the gauging member "B1" and the height of the drive pinion with magnetic plate "B"	=	1.42
2. Read off basic deviation "a" on the drive pinion.	= +	0.15
	= -	
Sub-total	=	1.57
3. Measure difference "A1" between the adjusted gauge dimension and the end face of the gauging member	Negative direction = +	0.42
	Positive direction = -	
Thickness of shim "S"	=	1.99



- 15 Remove measuring device from the rear axle housing and detach gauging member.
- 16 Install shim (45) with the calculated shim thickness "S" in the rear axle housing.




Only hardened shims may be used. They are available in various thicknesses (refer to parts microfiche). If necessary, grind shim appropriately.



P35.31-0448-01



F11 AR35.31-P-0550-14C	Pulling tapered roller bearing outer races into rear axle housing	 116 589 11 61 00 Installation tool	
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Using pulling-in device (060a, 060c, 060d), pull in outer races of the front (43e) and rear (46b) tapered roller bearing up to the stop in the rear axle housing.



Ensure that the shim (45) is installed. Do not tilt over tapered roller bearing outer races when pulling in.

060a Threaded spindle

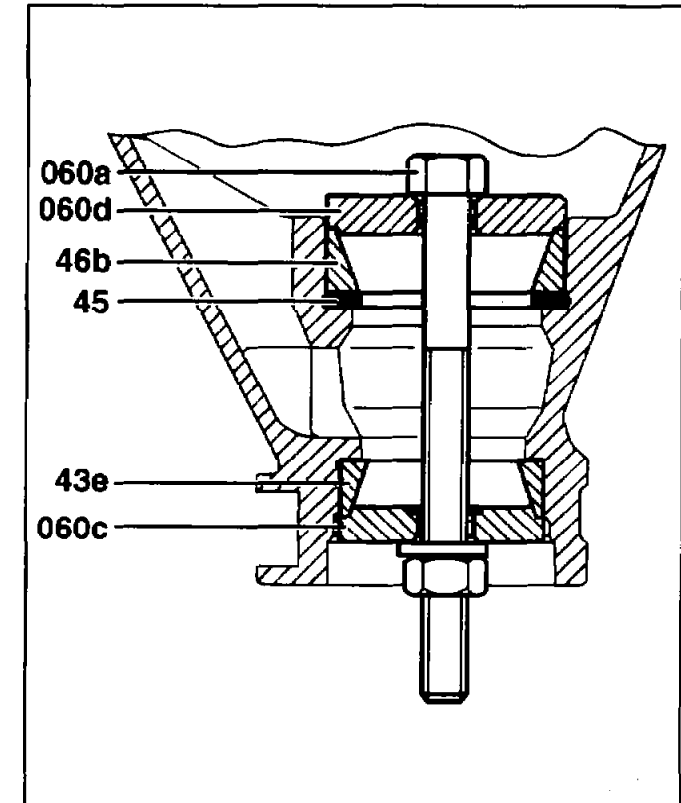
060c Small pulling-in washer, part 03

060d Large pulling-in washer, part 02

43e Tapered roller bearing outer race, front

45 Shim

46b Tapered roller bearing outer race, rear



P35.31-0414-02



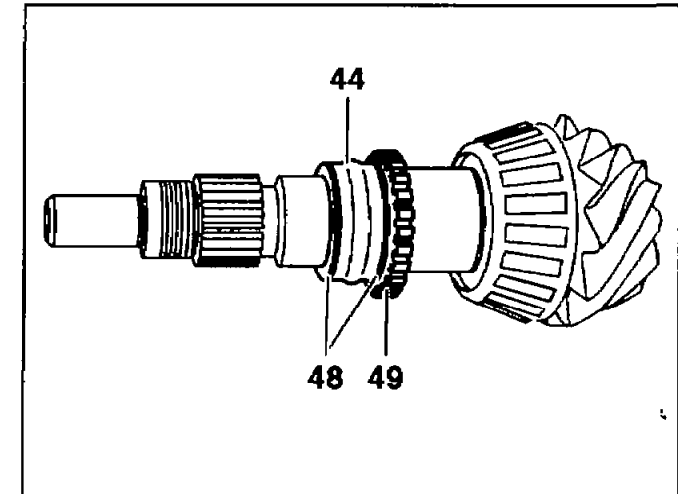
G11	AR35.31-P-0550-268	Installing spacer sleeve with bearing washers on both sides on drive pinion		
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Place one bearing washer (48) on both sides of the spacer sleeve (44) and install on the drive pinion.




The spacer sleeve and bearing washers must always be replaced.

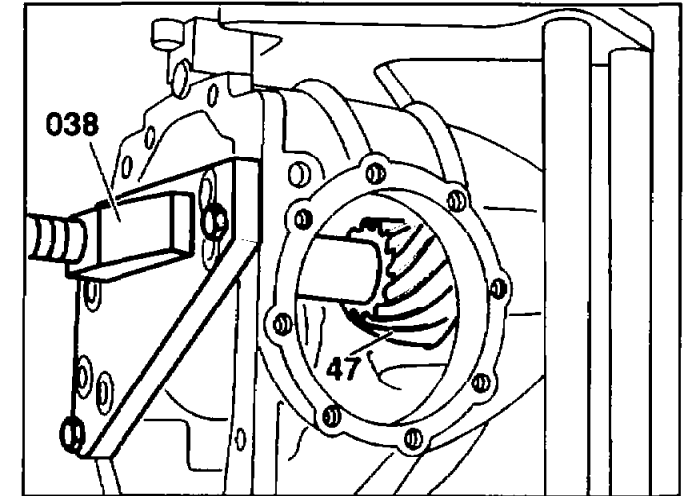
- 44 *Spacer sleeve*
- 48 *Bearing washer*
- 49 *ABS gear*






H11 AR35.31-P-0550-15D	Installing drive pinion in rear axle housing	 201 589 02 43 00 Removal and installation tool	
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Install drive pinion (47) in the rear axle housing and support with removal and installation tool (038), turning the spindle lightly by hand.



P35.31-0449-01

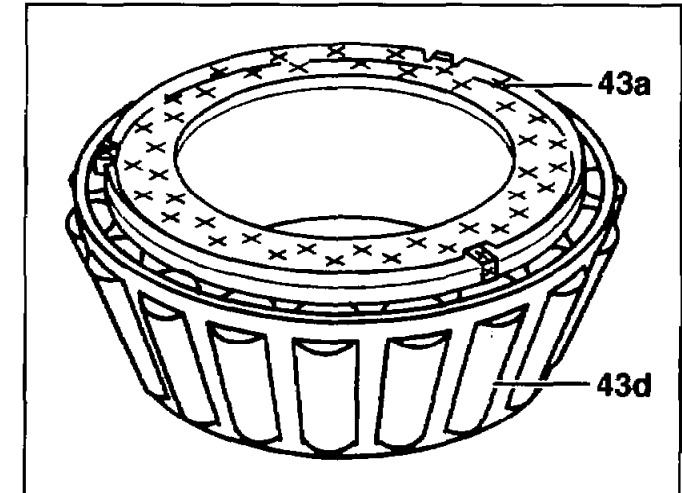


J11  BT	AR35.31-P-0550-37C	Clipping thrust washer onto tapered roller bearing inner race Integrated thrust washer on tapered roller bearing inner race		BT35.31-P-9402-01A
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Clip thrust washer (43a) on tapered roller bearing inner race (43d).
Check retaining clips on tapered roller bearing inner race are properly seated.



Replace thrust washer.

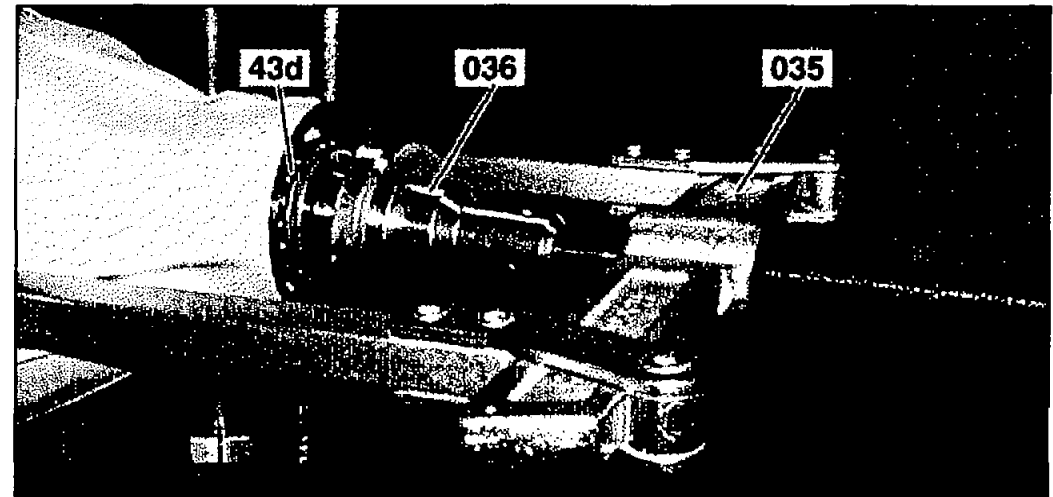


P35.31-0415-01



<p>K11 AR35.31-P-0550-16C</p> <p> BB</p> <p> BT</p>	<p>Install tapered roller bearing inner race on drive pinion and press in together with radial seal ring</p> <p>Radial seal ring and joint flange on drive pinion modified</p>	<p> Replace radial seal ring and smear sealing lip with Universal hypoid transmission fluid: ↓</p> <p> 208 589 00 15 00 Drift</p> <p> 124 589 02 15 00 Drift punch</p> <p> 000 589 65 33 00 Puller</p> <p>Universal hypoid transmission fluids</p> <p>As of 01.04.98</p>	<p>BB00.40-P-0235-07A</p> <p>BT35.31-P-0012-01A</p>
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- 1 Insert tapered roller bearing inner race (43d) in rear axle housing.
- 2 Press in tapered roller bearing inner race (43d) using drift punch (036) 124 589 02 15 00 and puller (035).
- 3 Remove puller with drift punch from rear axle housing.



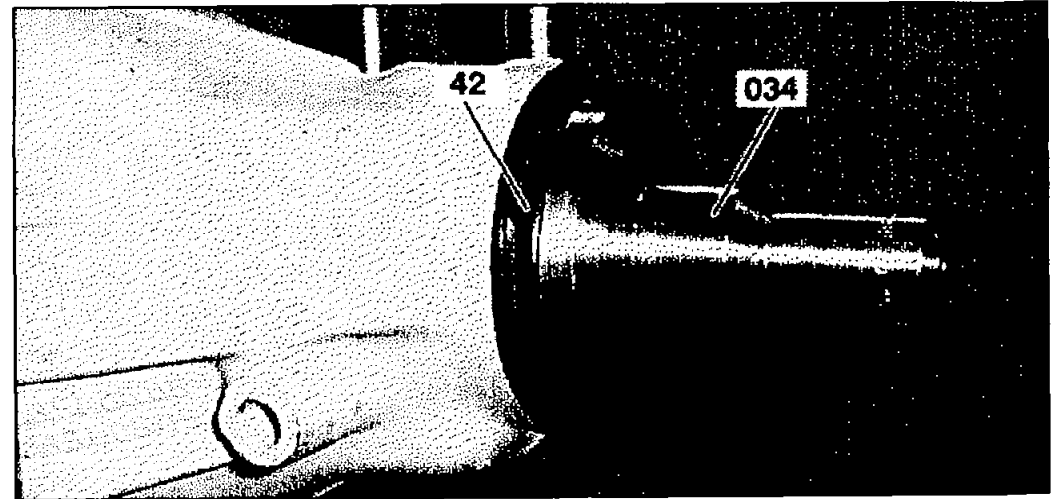
P35.31-2016-10

- 4 Smear sealing lip of new radial seal ring (42) with Universal hypoid gear oil and press in using drift punch (034)
208 589 00 15 00.



The radial seal ring (42) must be pressed in approx. 2 mm from the end face of the rear axle housing (up to the chamfer).

- 5 Remove drift punch.



P35.31-2017-10



M11 AR35.31-P-0550-17C	Adjusting friction torque of drive pinion bearing	<input type="checkbox"/> 001 589 49 21 00 Torque meter <input type="checkbox"/> 100 589 02 59 00 Adapter <input type="checkbox"/> 129 589 01 07 00 Pin wrench <input type="checkbox"/> 126 589 02 09 00 Socket	
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Test values of friction torque of rear axle center assembly

Number	Designation	Models	Models	Model
BE35.31-P-1001-02C	Friction torque of drive pinion bearing(new tapered roller bearings)	Ncm	125-150	125-150

**Test values of friction torque of rear axle center assembly**

Number	Designation		Models 170.445/447	Models 201.018/023/ 024/122/126, with (code 450) taxi version as of 01.11.88	Models 201.028/ 029/035/ 036/128
BE35.31-P-1001-02C	Friction torque of drive pinion bearing (new tapered roller bearings)	Ncm	125-150	125-150	125-150

Test values of friction torque of rear axle center assembly

Number	Designation		Models 202.018/078/ 120/121/122/125/182, with (code 450) taxi version, models 202.018/020/022/ 120/121/125 with ASD (Code 211)	Models 202.020/022/023/ 024/025/026/028/029/ 080/082/083/086/089/ 128/188, Model 202.085 with automatic transmission, models 202.134/194, except (code 450) taxi version
BE35.31-P-1001-02C	Friction torque of drive pinion bearing (new tapered roller bearings)	Ncm	125-150	125-150

**Test values of friction torque of rear axle center assembly**

Number	Designation	Models 208.335/ 345/347/435/ 445/447	Models 210.007/ 010/020/035/ 037/061/210/ 235/237/261/ 610	Models 210.003/ 004 with (code 450) taxi version
BE35.31-P-1001-02D	Friction torque of drive pinion bearing (new tapered roller bearings)	Ncm 125–150	125–150	125–150

Test values for friction torque of rear axle center assembly

Number	Designation	Models 124.008/ 028/029/031/ 032/034/036/ 051/052/061/ 066/088/091/ 092	Models 129.058/ 063 up to 31.05.94 Models 129.061/066	Models 140.028/ 032/033 up to 31/05/94 Models 140.041/ 043/063/1
BE35.31-P-1001-02D	Friction torque of drive pinion bearing (new tapered roller bearings)	Ncm 125–150	125–150	125–150



Test values of friction torque of rear axle center assembly

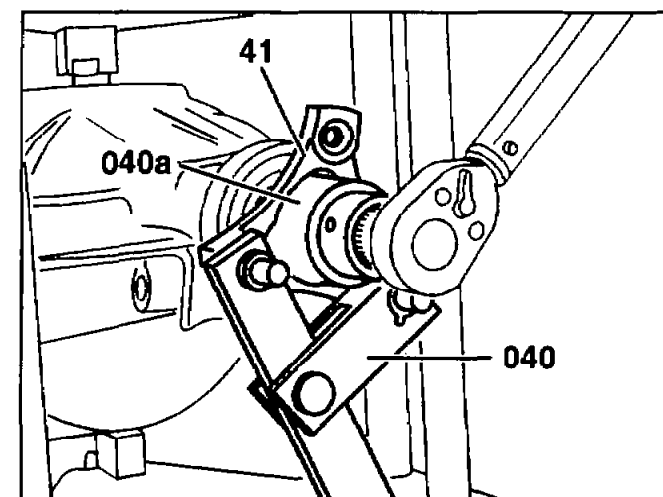
Number	Designation		Models 210.070/ 074/270/274 up to 31.01.98, models 210.072/ 272/617
BE35.31-P-1001-02D	Friction torque of drive pinion bearing (new tapered roller bearings)	Ncm	125–150

- 1 Mount Allen wrench (040) and wrench socket (040a) on joint flange (41) and **carefully** tighten twelve-point collared nut until the specified friction torque is achieved.



When tightening the twelve-point collared nut, turn the drive pinion several times and ensure by means of light blows on the axle housing that the tapered rollers are positioned evenly in the track.

185 mm dia. rear axle center assembly illustrated

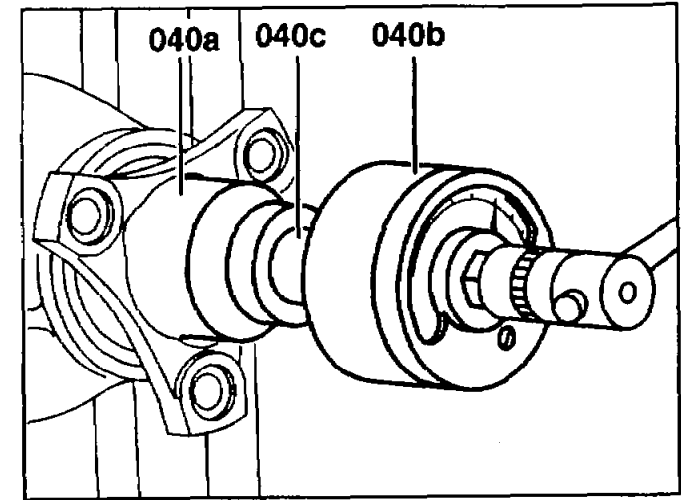


P35.31-0408-01

- 2 To check, mount the torquemeter (040b) with connector (040c) on the wrench socket (040a) and rotate drive pinion at approx. 60 rpm while reading off the friction torque.



If the specified friction torque is exceeded the drive pinion is to be removed again and a new spacer sleeve installed.

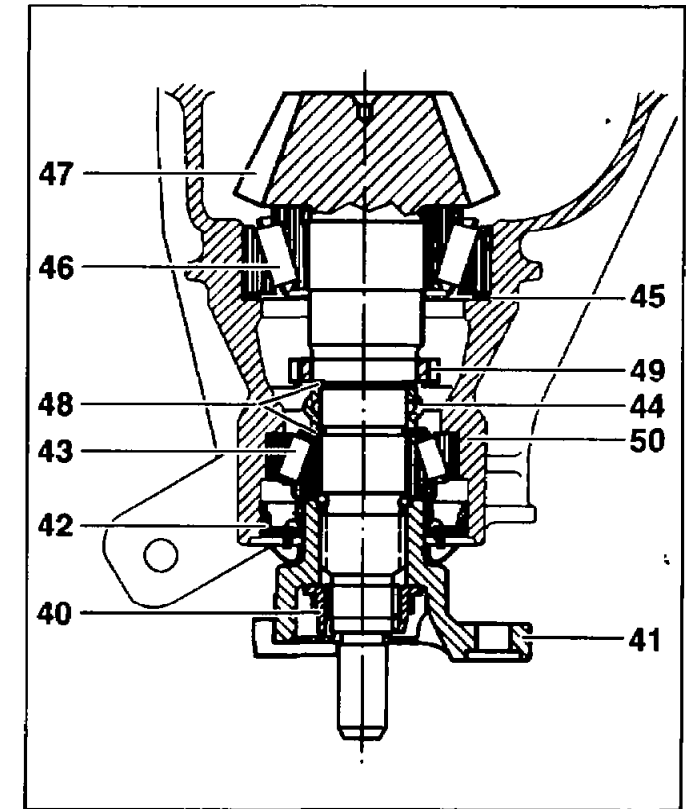


P35.31-0417-01

i The tapered roller bearings (43, 46) of the drive pinion (47) must be installed with a particular preload. This permanent preload is achieved by compressing the spacer sleeve (44) located between the tapered roller bearing inner race and drive pinion when the twelve-point collared nut (40) is tightened. If the friction torque when the drive pinion is rotated, i.e. the preload of the tapered roller bearing is too low, twelve-point collared nut (40) is to be retightened slightly. If the friction torque was exceeded, the drive pinion is to be removed again and a new spacer sleeve (44) installed. **Under no circumstances may the friction torque be reduced by loosening the twelve-point collared nut**, as the preload of the tapered roller bearings would be too low. This would result in play in the drive pinion when driving and therefore noise from the rear axle drive.



185 mm dia. rear axle center assembly illustrated

- 40 Twelve-point collared nut
- 41 Joint flange
- 42 Radial seal ring
- 43 Tapered roller bearing
- 44 Spacer sleeve
- 45 Shim
- 46 Tapered roller bearing
- 47 Drive pinion
- 48 Thrust washers
- 49 ABS gear
- 50 Rear axle housing



P35.31-0374-02



C12	AR35.31-P-0550-18D	Checking adjustment dimension of drive pinion	 116 589 01 21 00 Measuring device	
			 111 589 08 23 00 Dial gauge holder	

Test values of rear axle center assembly gear set

Number	Designation	Model 124	Model 129	Model 140
BE35.31-P-1001-03A	Permissible deviation from the specified adjustment dimension on end face of drive pinion mm	-0.02/ +0.01	-0.02/ +0.01	-0.02/ +0.01

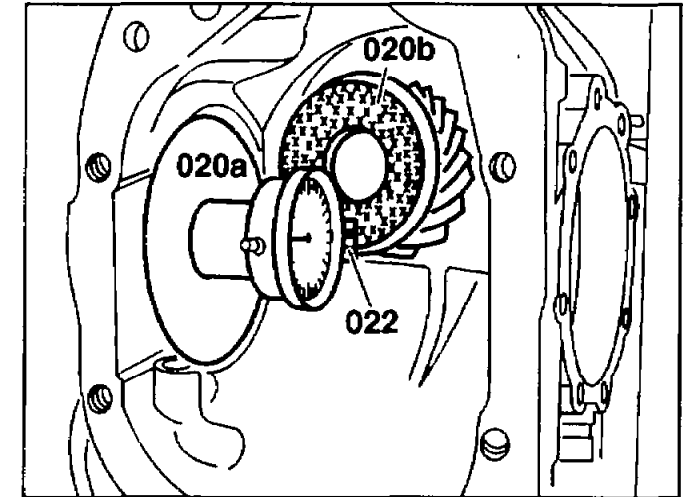
Test values of rear axle center assembly gear set

Number	Designation	Model 210
BE35.31-P-1001-03A	Permissible deviation from the specified adjustment dimension on the end face of drive pinion mm	-0.02/ +0.01

- 1 Mount magnetic plate (020b) 116 589 01 21 00 part 04 on the end face of the drive pinion to measure the adjustment dimension "A".
- 2 Install measuring device (020a) 116 589 01 21 00 part 01 together with gauge stand (022) and dial gauge in the left bore of the rear axle housing.
- 3 Read off adjustment dimension "A". The adjustment dimension must be within the tolerance.



On the gear set in the example listed the deviation is + 0.15 mm from the basic dimension in the positive direction and corresponds to the dimension which is written on the end face of the drive pinion. A further 1.5 mm is to be added to this deviation due to the height of bevel gear head of 39 mm. The measured value is thus + 1.65 mm.



P35.31-0450-01



The adjustment dimension "A" is the basic design adjustment of the drive pinion, the basic deviation "a" must be within the permitted tolerance in the plus or minus direction. The basic deviation "a" is the dimension which is written on the end face of the drive pinion.



If the adjustment dimension is outside the tolerance, the shim (S) which was installed is to be reground or a new shim of suitable thickness is to be installed. However, it is absolutely essential that a new spacer sleeve is used for the tapered roller bearings.

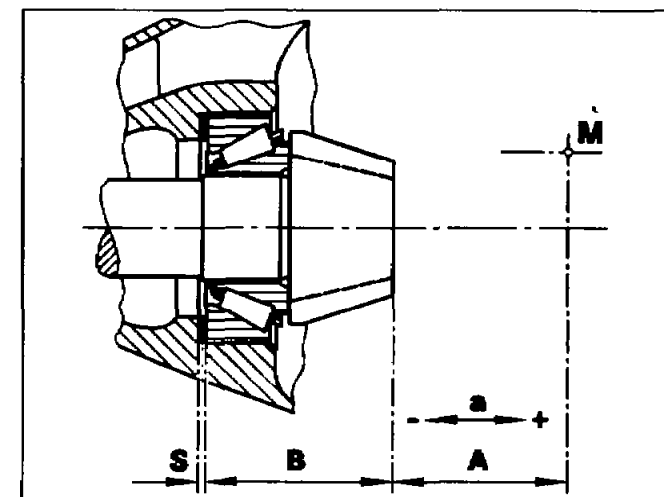
a Deviation of basic adjustment

A Basic adjustment - design

B Height of bevel gear head plus height of tapered roller bearing

S Thickness of shim


M Center of ring gear



P35.31-0306-01

- 4 Remove measuring device and magnetic plate from rear axle housing

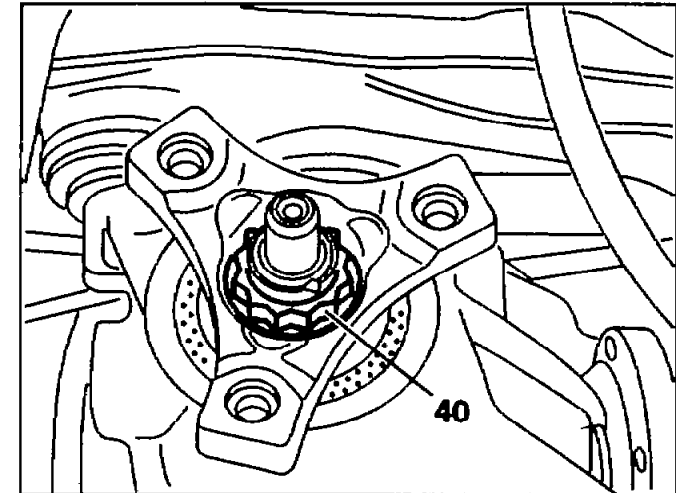


F12 AR35.31-P-0530-01B  WF	Locking twelve-point or hexagon collared nut on drive pinion propeller flange	Caulker for locking the collared nut on joint flange	WF58.50-P-3531-01A
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Caulk the twelve-point or hexagon collared nut (40) into one of the grooves in the drive pinion using a caulker so that there is no gap between the groove and the locking tab.



Do not strike hard in the axial direction.





G12	AR35.31-P-0550-19D	Fitting ring gear on differential	124 589 07 21 00 Remote thermometer
			116 589 18 61 00 Installation punch

Test values of rear axle center assembly gear set

Number	Designation	Model 124	Model 129	Model 140
BE35.31-P-1003-03A	Temperature of ring gear for installation °C	75–85	75–85	75–85

Test values of rear axle center assembly gear set

Number	Designation	Model 210
BE35.31-P-1003-03A	Temperature of ring gear for installation °C	75–85

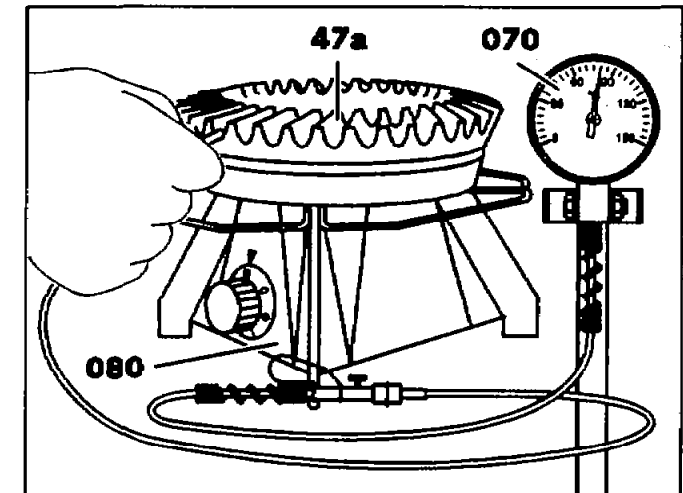
 Rear axle center assembly gear set

Number	Designation	Models 124.008/028/ 029/031/032/034/ 036/051/052/061/ 066/088/091/092	Models 129.058/ 063 up to 31.05.94 Models 129.061/066
BA35.31-P-1001-03D	Locking bolt, ring gear to differential housing	without serrations Nm	120
		with serrations Nm	140

**Nm** Rear axle center assembly gear set

Number	Designation		Models 140.028/ 032/033 up to 31.05.94 Models 140.042/ 043/063/1	Models 210.070/074/ 270/274 up to 31.01.98, Models 210.072/ 272/617
BA35.31-P-1001-03D	Locking bolt, ring gear to differential housing	without serrations	Nm 120	120
		with serrations	Nm 140	140

- 1 Carefully clean ring gear bore and ring gear seat on the differential housing.
- 2 Heat up ring gear (47a) to installation temperature using hot plate (080), constantly checking the temperature with a telethermometer (070).



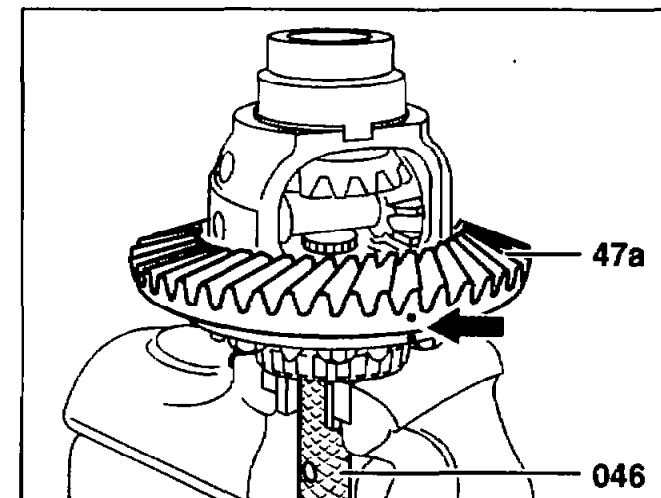
P35.31-0282-01



- 3 Clamp differential housing with assembly mandrel (046).
- 4 Mount ring gear (47a) on the differential housing, assisting with light blows from a hammer (rubber mallet) if necessary.



Pay attention to any marking applied (arrow) on the ring gear and differential housing.

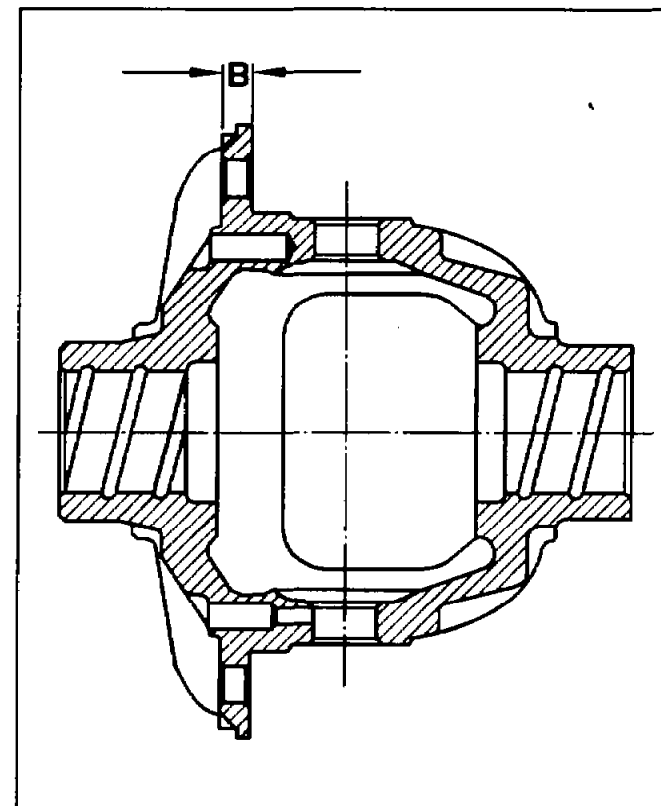


P35.31-0456-01



Attention should be paid to the length of the ring gear bolts when installing a new differential housing or new ring gear bolts.

Only use ring gear bolts with a length of 20 mm on a differential housing with a mounting flange which is only 8 mm thick (dimension "B").



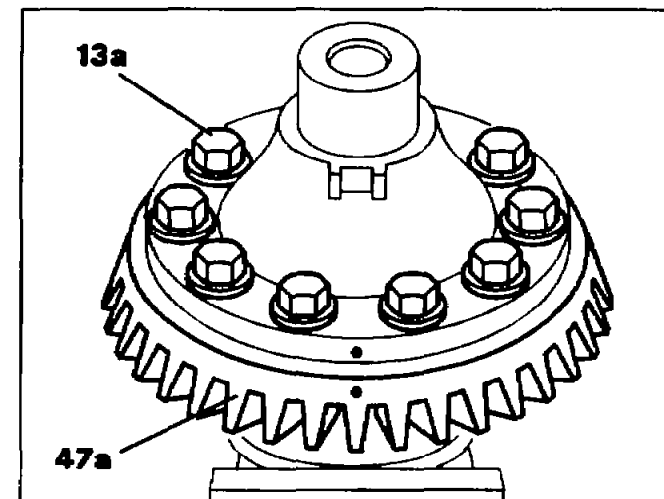
P35.31-0457-02



- 5 Tighten the locking bolts with or without serrations (13a) for mounting the ring gear (47a) evenly and diagonally.



Ring gear bolts (13a) must always be replaced after they have been used once.



P35.31-0284-01

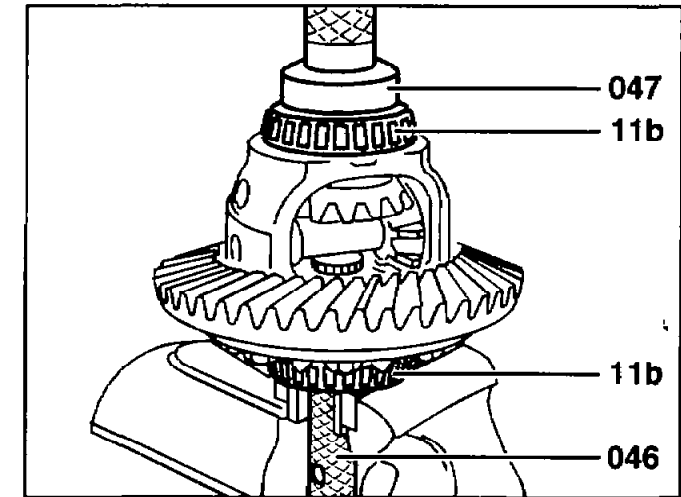


M12 AR35.31-P-0550-20D	Pressing tapered roller bearing inner races onto differential	☞ 116 589 08 61 00 Installation punch ☞ 116 589 18 61 00 Installation punch	
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Press the tapered roller bearing inner races (11b) onto the differential housing using the assembly mandrel (047) 116 589 08 61 00.



In order to avoid damaging the roller cage of the second tapered roller bearing inner race, the assembly mandrel (046) 116 589 18 61 00 is to be used as a support in the vise.



P35.31-0458-01



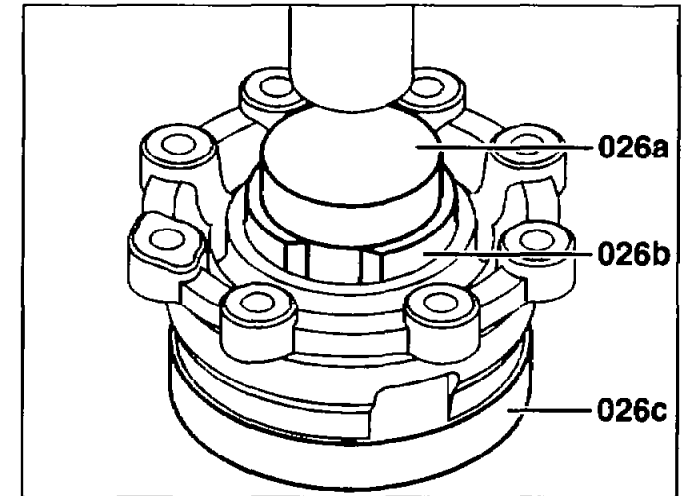
N12	AR35.31-P-0550-41D	Pressing tapered roller bearing outer races out of and into bearing cover	 116 589 00 35 00 Removal tool	
			 116 589 11 61 00 Installation tool	

Pressing out

- 1 Press out tapered roller bearing outer races using pressing-out device (026a-c).



Mark tapered roller bearing outer races.

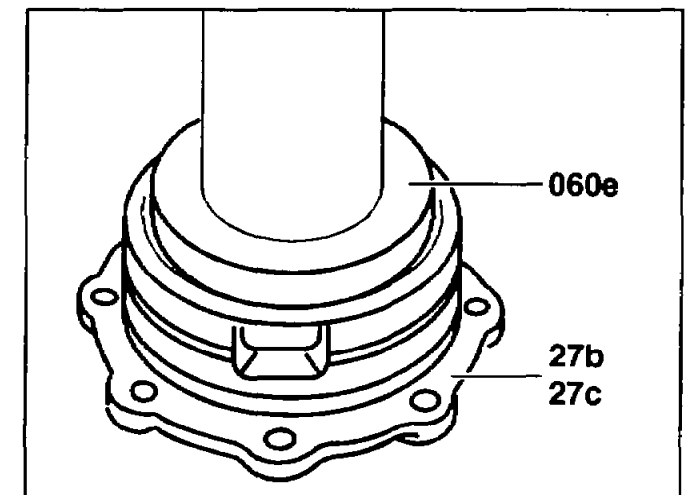


P35.31-0437-01

Pressing in


- 2 Press new tapered roller bearing outer race into bearing cover (27b or 27c) using 88 mm dia. washer (060e) from pulling-in device part 05.

Standard rear axle center assembly illustrated



P35.31-0451-01



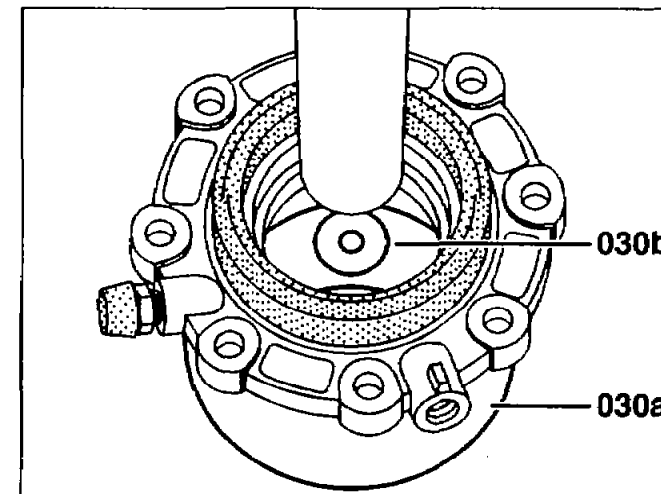
012 AR35.31-P-0550-41E	Pressing tapered roller bearing outer races in and out of bearing cover	 129 589 02 43 00 Removal and installation tool	
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Pressing out

- 1 Press out tapered roller bearing outer races with removal tool (030a-b) part 01 and 02.



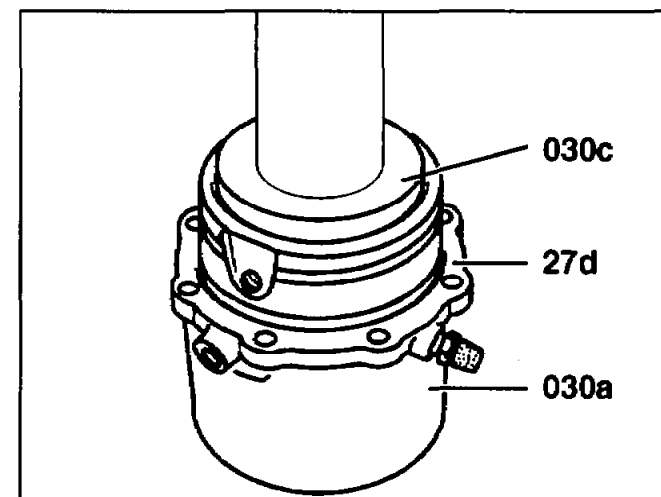
Mark tapered roller bearing outer races.



P35.31-0438-01

Pressing in

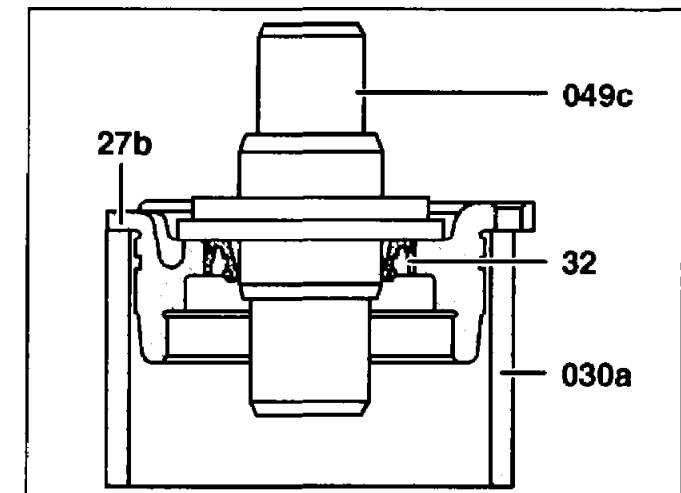
1. Press new tapered roller bearing outer race into bearing cover (27d) using installation tool (030a, 030c) part 01 and 03.



P35.31-0452-01




P12 AR35.31-P-0550-42D	Pressing radial seal ring into bearing cover	☞ Replace radial seal ring and smear sealing lip with Universal hypoid transmission fluid: ↓ ☞ 129 589 02 43 00 Removal and installation tool ☞ 140 589 06 15 00 Drift punch Universal hypoid transmission fluids (SAE 85 W-90)	BB00.40-P-0235-07A
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- 1 Smear sealing lip of new radial seal ring (32) with Universal hypoid transmission fluid (SAE 85 W-90).
- 2 Mount bearing cover (27b) on removal and installation tool (030a) part 01.
- 3 Press radial seal ring (32) into bearing cover (27b) using the non-stepped bearing surface of the drift punch (049c).

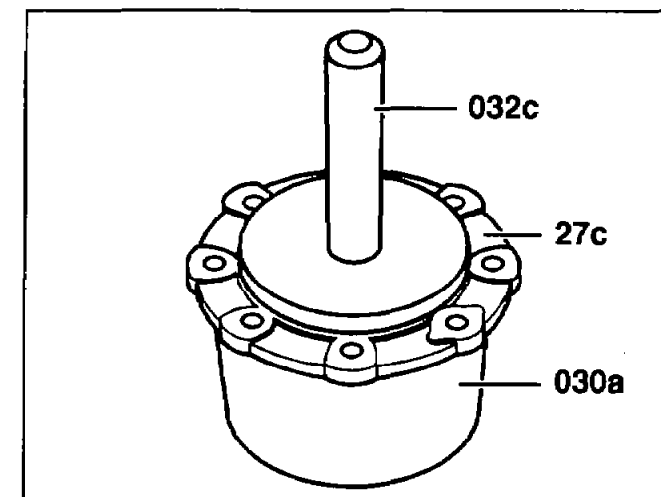


P35.31-0453-01






A13 AR35.31-P-0550-42E	Pressing radial seal ring into bearing cover	 Replace radial seal ring and smear sealing lip with Universal hypoid transmission fluid: ↓  129 589 02 43 00 Removal and installation tool  126 589 04 15 00 Drift punch Universal hypoid transmission fluid	BB00.40-P-0235-07A
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- 1 Smear sealing lip of new radial seal ring with Universal hypoid transmission fluid.
- 2 Mount bearing cover (27c) on removal and installation tool (030a) part 01.
- 3 Press radial seal ring into bearing cover (27c) using drift punch (032c).

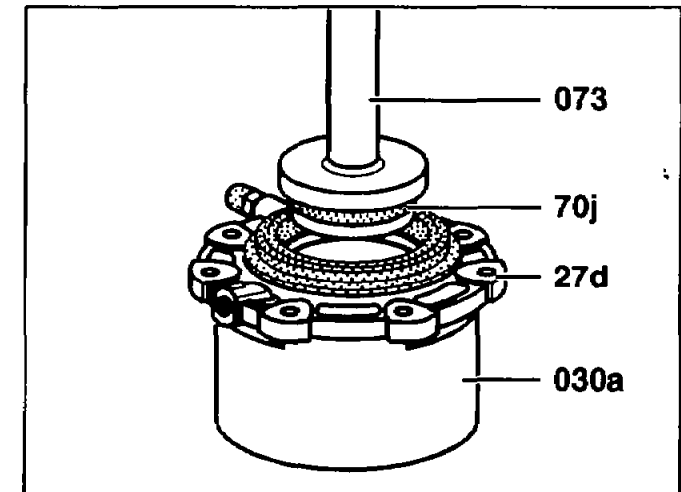


P35.31-0454-01



B13 AR35.31-P-0550-42F	Pressing radial seal ring into bearing cover	 Replace radial seal ring and coat sealing lip with universal hypoid transmission fluid: ↓  129 589 02 43 00 Removal and installation tool  124 589 01 15 00 Drift punch Universal hypoid transmission fluid	BB00.40-P-0235-07A
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- 1 Coat sealing lip of the new radial seal ring (70j) with universal hypoid transmission fluid
- 2 Mount bearing cover (27d) on removal and installation tool (030a) part 01.
- 3 Press radial seal ring (70j) into bearing cover (27d) using drift punch (073).



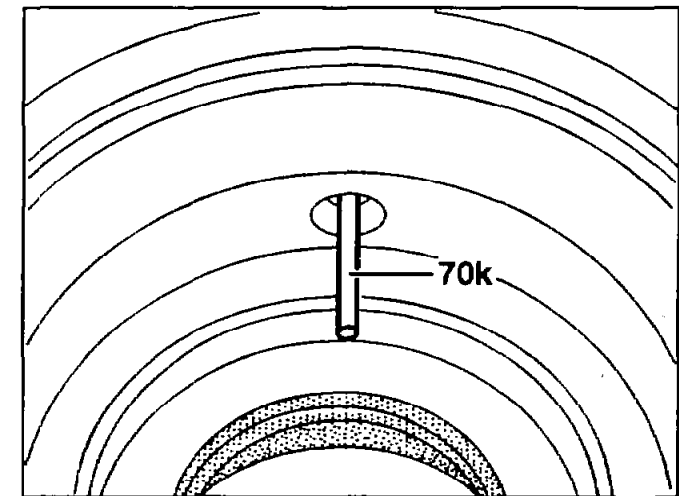
P35.31-0455-01



C13 AR35.31-P-0550-43D	Pushing side bearing covers into rear axle housing and installing differential gear	i Observe applied marking on bearing cover with shim. Smear outer periphery of O-rings in bearing cover with Universal hypoid transmission fluid: ↓ Universal hypoid transmission fluid	BB00.40-P-0235-07A
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i Vehicles with ASD

Ensure correct seating of spring (70k) in bearing cover.



P35.31-0459-01



- 1 Smear periphery of O-rings in bearing cover (27b or 27c, 27d) with Universal hypoid transmission fluid.
- 2 Push both side bearing covers (27b or 27c, 27d) together with shims into the rear axle housing until they are flush with the inner edge of housing.



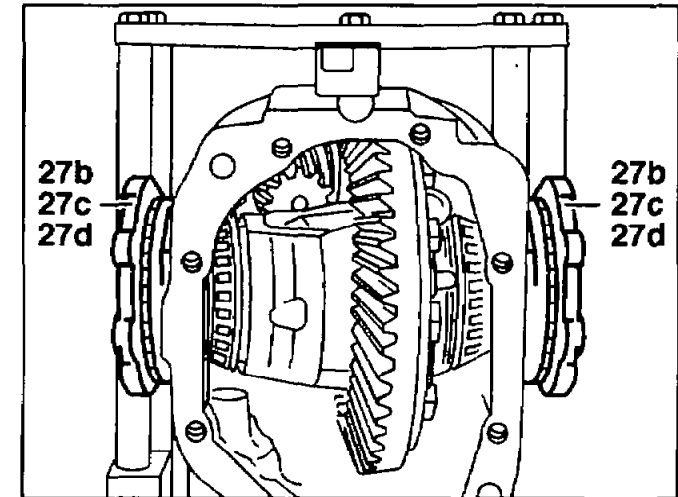
Observe applied marking of bearing cover with shim.

- 3 Install differential gear in rear axle housing and push both side bearing covers (27b or 27c, 27d) in up to the stop.



Do not damage O-rings when inserting the bearing covers.

Standard bearing covers illustrated



P35.31-0460-01



 **Observe installed position of side bearing covers**

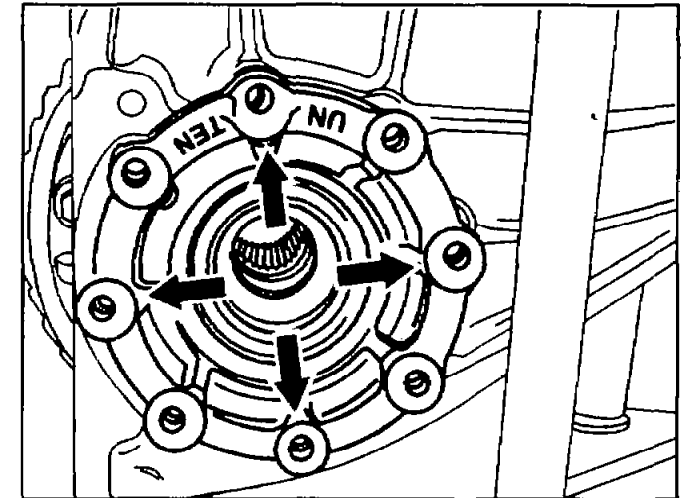
The standard and ASR bearing covers are identified with the inscription "BOTTOM", the ASD bearing cover with "R" and "L" for right and left. This information relates to the installed position of the rear axle center assembly, viewed in the direction of travel.



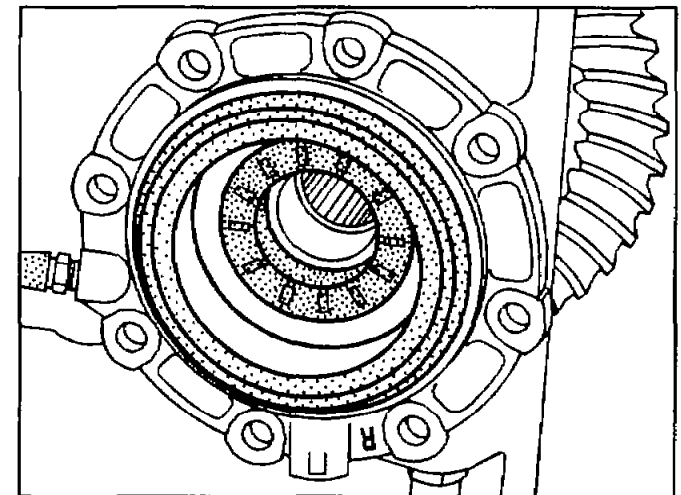
If the side bearing covers jam in the bore of the rear axle housing, reset with light hammer blows (rubber mallet) (arrows).

Standard bearing cover illustrated

ASD bearing cover, right





P35.31-0461-01



P35.31-0462-01



F13	AR35.31-P-0550-44D	Preloading rear axle housing (expanding) and measuring expanded dimension (enlargement)	 201 589 01 63 00 Stops  126 589 08 21 00 Kingpin inclination gauge	
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Test values of rear axle housing enlargement

Number	Designation		Models 124.008/028/029/031/032/034/036/051/052/061/066/088/091/092	Models 129.058/063 up to 31.05.94 Models 129.061/066	Models 140.028/032/033 up to 31.05.94 Models 140.042/043/063/1
BE35.31-P-1001-04D	Adjustment value of rear axle housing enlargement (expanded dimension)	mm	0.15–0.20	0.15–0.20	0.15–0,20

Test values of rear axle housing enlargement

Number	Designation		Models 210.070/074/270/274 up to 31.01.98, Models 210.072/272/617
BE35.31-P-1001-04D	Adjustment value of rear axle housing enlargement (expanded dimension)	mm	0.15–0.20

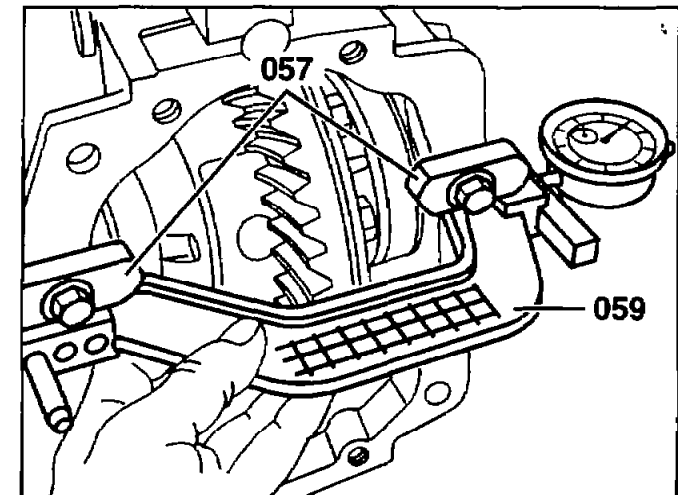
**Nm** Rear axle center assembly housing

Number	Designation		Model 124	Model 129	Model 140
BA35.31-P-1006-02A	Bolt, side bearing covers to rear axle center assembly	Nm	20	20	20

Nm Rear axle center assembly housing

Number	Designation		Model 210
BA35.31-P-1006-02A	Bolt, side bearing covers to rear axle center assembly	Nm	20

- 1 Attach stop (057) to support contact arm on the left and right of the rear axle housing.
- 2 Put contact arm (059) for expanded dimension measurement with dial gauge onto the stops (057) from underneath.
Adjust dial gauge to "0" under 3 mm preload.



P35.31-0463-01

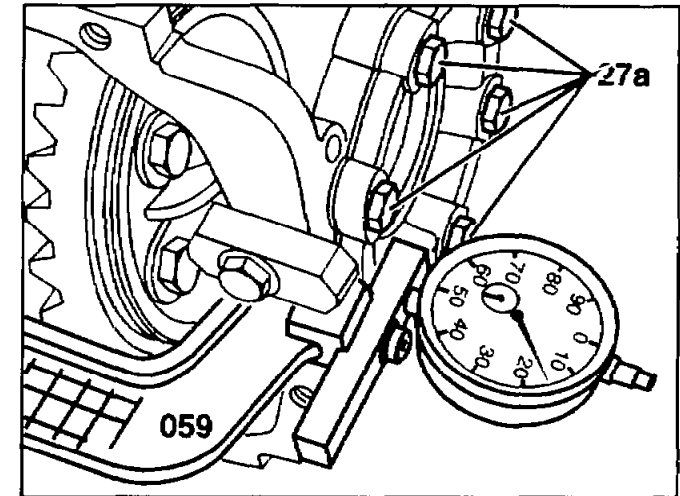


- 3 Screw all hexagon bolts (27a) into the side bearing covers and tighten to the specified tightening torque.
- 4 Measure expanded dimension (enlargement) of the rear axle housing again with contact arm (059).



If the expanded dimension is outside the specified value, this value is to be noted first.

- 5 Remove contact arm (059).



P35.31-0464-01



J13 AR35.31-P-0550-25D	Measuring gear backlash between drive pinion and crown wheel and correcting if necessary	☞ 201 589 03 21 00 Backlash measuring instrument	
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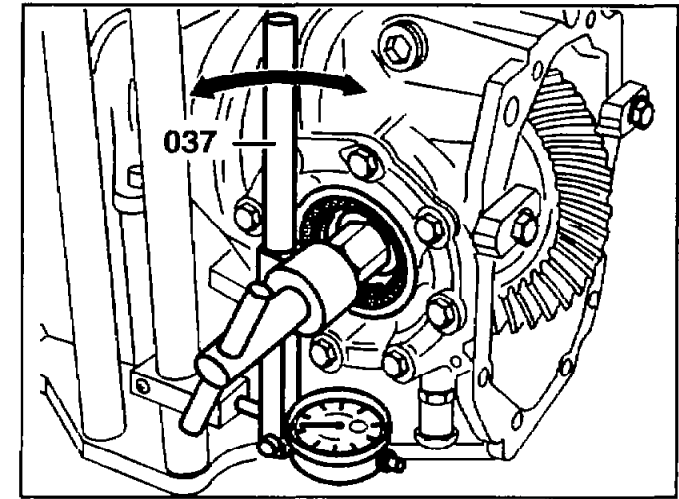
Test values of rear axle center assembly gear set

Number	Designation	Model 124	Model 129	Model 140
BE35.31-P-1002-03A	Gear backlash between drive pinion and ring gear mm	0.08–0.14	0.08–0.14	0.08–0.14

Test values of rear axle center assembly gear set

Number	Designation	Model 210
BE35.31-P-1002-03A	Gear backlash between drive pinion and ring gear mm	0.08–0.14

- 1 Install gear backlash measuring device (037) with dial gauge in the left-hand bore of the differential housing and clamp securely.
- 2 Set dial gauge on "0" with 3 mm preload.
- 3 Hold the drive pinion securely at the joint flange and move the handle (arrow) of the gauge stand alternately to the left and right, reading off the gear backlash.
- 4 Carry out the measurement four times, always turning the ring gear through a further approx. 90° each time.
- 5 Remove gear backlash measuring device.



P35.31-0465-01



The adjustment of the tapered roller bearings and the gear set is in order if the spread dimension (enlargement) of the rear axle housing and the gear backlash are within the range of the specified values. If these values are not achieved, the adjustment must be repeated with suitably thicker or thinner shims.

**1st. example**

Measurement: Gear backlash is correct, but the expanded dimension of the rear axle housing is too small.

Correction: Mount shims which are thinner by the same amount on both side bearing covers, the gear backlash may change slightly in the process!

2nd. example

Measurement: Expanded dimension is correct, but the gear backlash is too large.

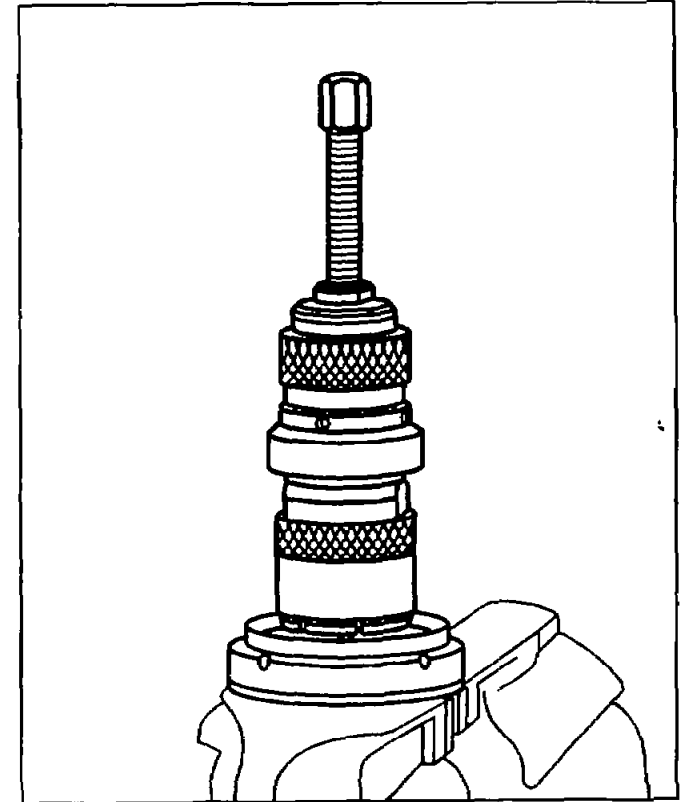
Correction: A shim which is thicker by the missing amount is to be installed on the left assembly side.

A shim which is thinner by the missing amount is to be installed on the right assembly side (ring gear side).

Proceed in the reverse order if the gear backlash is too small.

M13 AR35.31-P-0540-04A	Pulling off and pressing on grooved ball bearing connecting flange	001 589 50 33 00 Puller 140 589 00 34 00 Collet chuck	
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1 Disconnect grooved ball bearing from connecting flange.



P35.31-0324-02



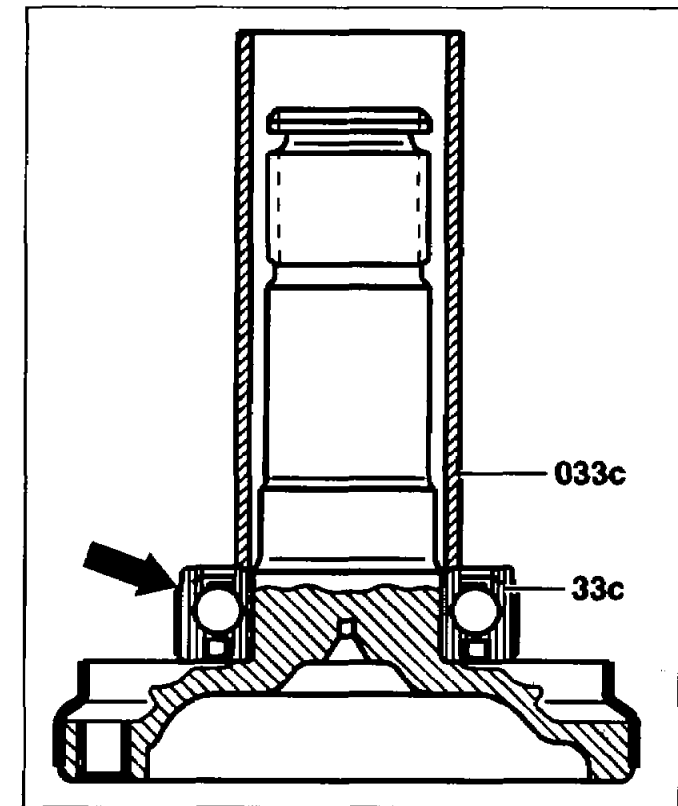
Pressing on grooved ball bearing



On vehicles with ASD, the chamfer or groove (arrow) must point towards the shaft. An installed position is not specified on vehicles with ASR.

- 2 Press on deep-groove ball bearing (33c) using suitable tube (033c) until it abuts the flange.

Location of connecting flange on ASD version

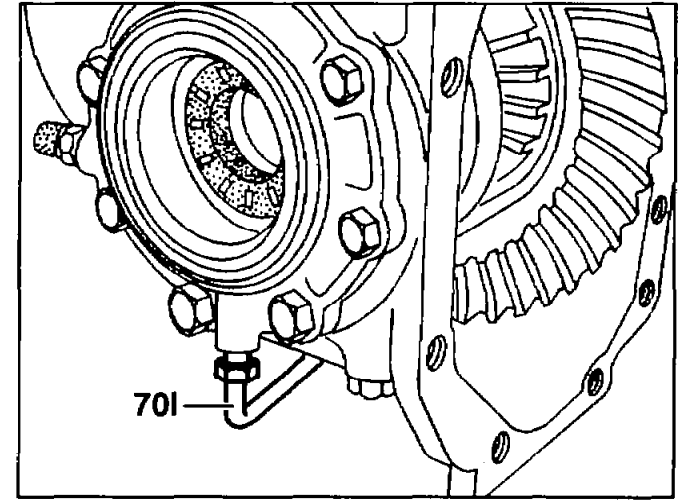


013 AR35.41-P-0545-01D	Detaching and attaching ASD hydraulic pipe on rear axle center assembly		
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Detach, attach hydraulic pipe (70l).


i Removal

Seal connection.



P35.41-0228-01

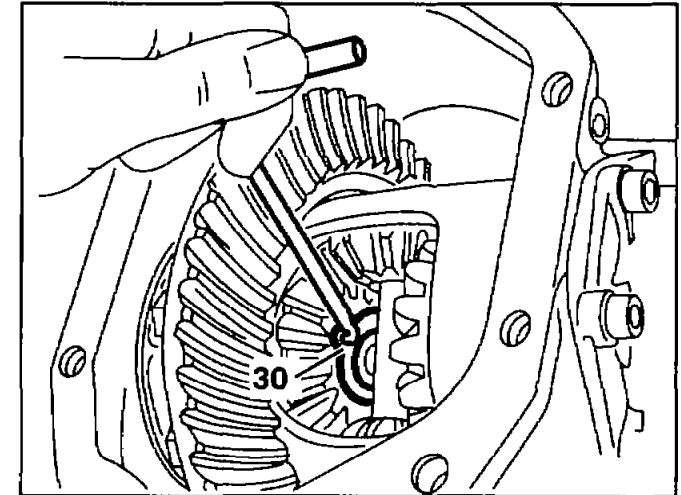


P13 AR35.31-P-0540-01A	Removal and installation of locking ring on connecting flange	 116 589 01 62 00 Removal and installation tool	
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Pull off or mount locking ring (30) at connecting flange.

 **Installation:**

Replace locking ring and ensure that it is properly seated.



P35.31-0210-01



A14	AR35.31-P-0540-02A	Checking and adjusting axial play of connecting flange		
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Connecting flange/differential housing

Number	Designation	Model 124	Model 129	Model 140	Model 210
BE35.31-P-1001-05A	Axial play between connecting flange and differential housing mm	0.03–0.3	0.03–0.3	0.03–0.3	0.03–0.3

Check axial play between connecting flange (33) and differential side gear (17), if necessary, fit a spacer ring (31) of greater or lesser thickness.

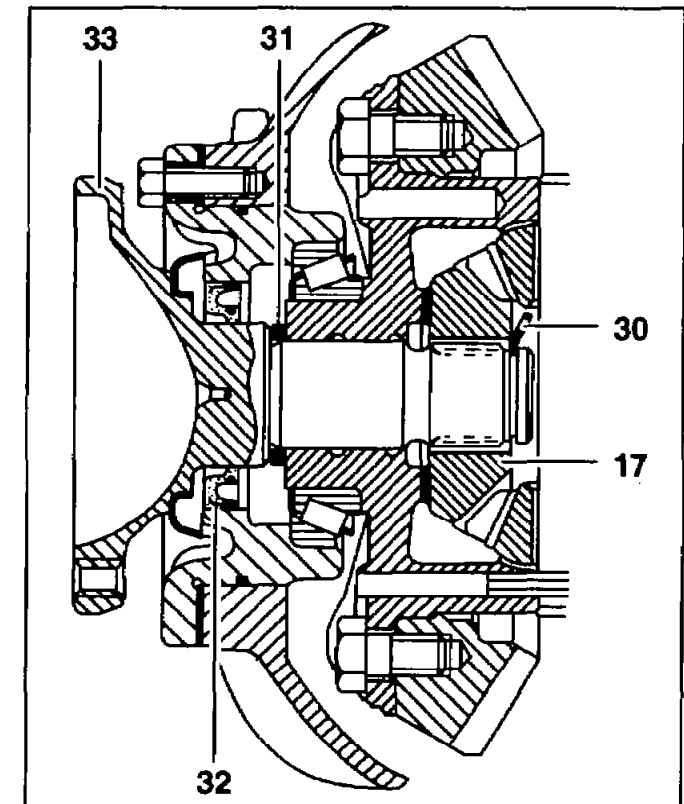


The axial play must be within the specified tolerance range.



Spacer rings are available in thicknesses of 2.6 mm to 3.4 mm in graduations of 0.05 mm.

- 17 Differential side gear
- 30 Locking ring
- 31 Spacer ring
- 32 Radial seal ring
- 33 Connecting flange





B14	AR35.31-P-0550-28D	Attaching end cover		
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Nm Rear axle center assembly housing

Number	Designation		Model 124	Model 129	Model 140
BA35.31-P-1001-02A	Collared bolt, end cover to rear axle center assembly	Nm	50	50	50

Nm Rear axle center assembly housing

Number	Designation		Model 210
BA35.31-P-1001-02A	Collared bolt, end cover to rear axle center assembly	Nm	50

Repair product

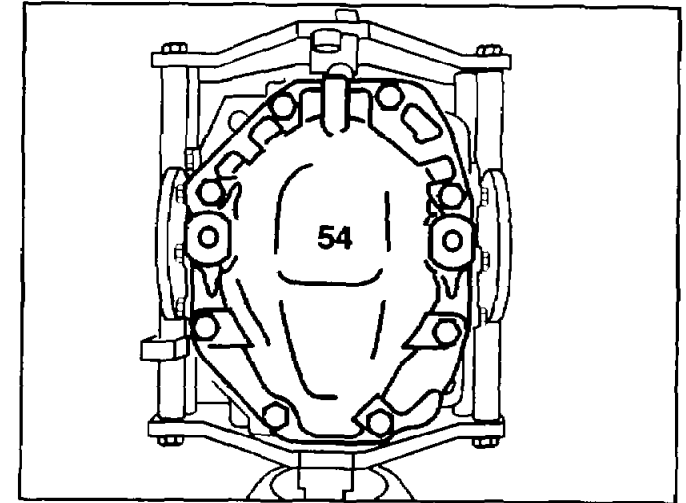
Number	Designation	Order number
BR00.45-Z-1011-01A	Hylomar sealing agent	001 989 25 20



- 1 Clean sealing surface on end cover (54) and rear axle housing and coat with sealing agent.
- 2 Mount end cover.







Replace collared bolts.




P35.31-0466-01



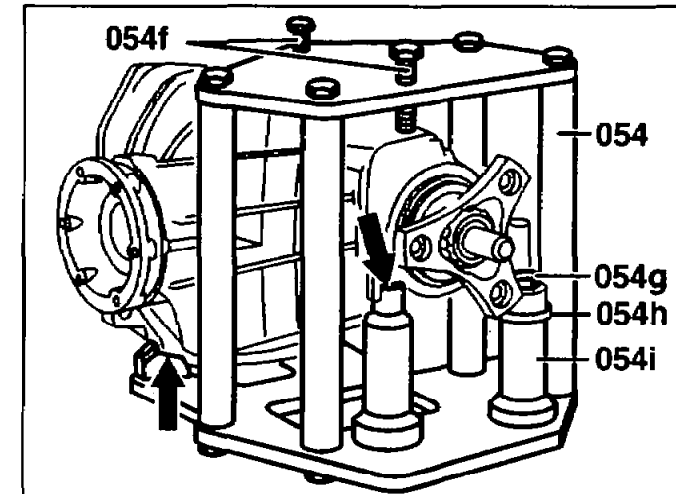
D14 AR35.31-P-0540-06B	Clamping rear axle center assembly in assembly frame	<ul style="list-style-type: none">  201 589 03 31 00 Assembly stand  129 589 00 31 00 Assembly stand  140 589 40 63 00 Mounting fixtures (2 ea.)  220 589 01 63 00 Mounts 	
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Rear axle center assembly with 168 mm dia. ring gear

Install rear axle center assembly in assembly frame (054)  210 589 03 31 00 and tighten with Allen screw (054g) and hex. head bolts (054f). If necessary insert commercially available washers (045h) between mounting bolt (054i) and rear axle housing to compensate height of approx. 13.5 mm.




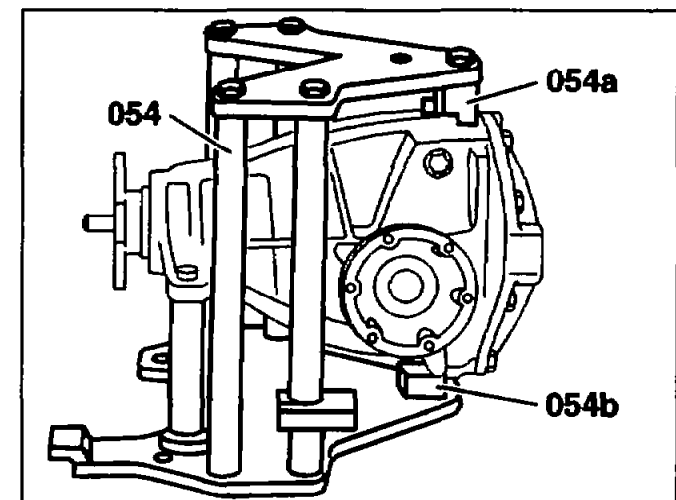
Ensure that center assembly is positioned properly in assembly frame (arrows). The front left mounting pillar (arrow) is required for support only.



P35.31-0235-01

Rear axle center assembly with 185 mm dia. ring rear



Install rear axle center assembly in assembly frame (054)  129 589 00 31 00 and tighten with mounts (054a) part 15 and (054b) part 09.

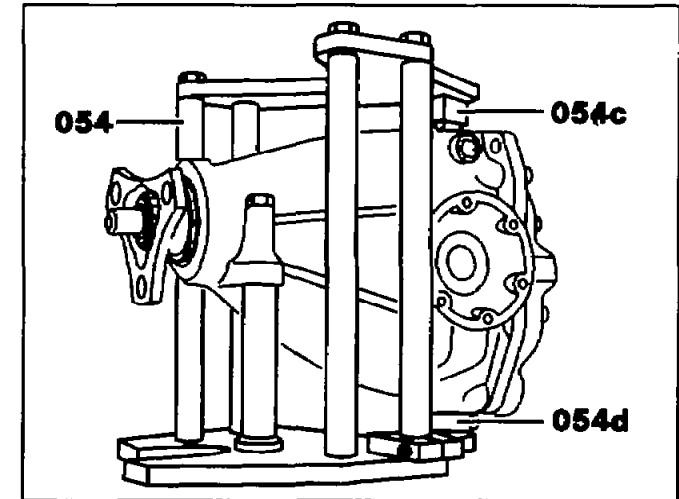


P35.31-0236-01




Rear axle center assembly with 198 mm dia. ring rear

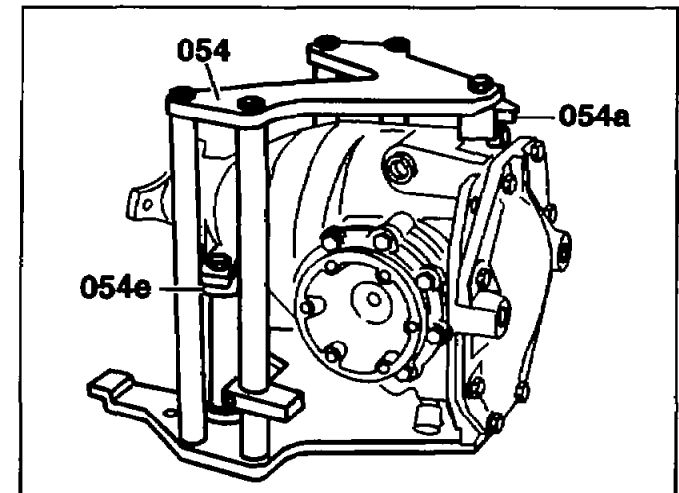
Install rear axle center assembly in assembly frame (054)  129 589 00 31 00 and install with mounts  140 589 40 63 00, top mount (054c) part 06 and bottom mount (054d) part 01, and tighten.



P35.31-0296-01

Rear axle center assembly with 210 mm dia. ring gear


Install rear axle center assembly in assembly frame (054)  129 589 00 31 00 and tighten with mount (054a) part 15 and spacers (054e) part 10.

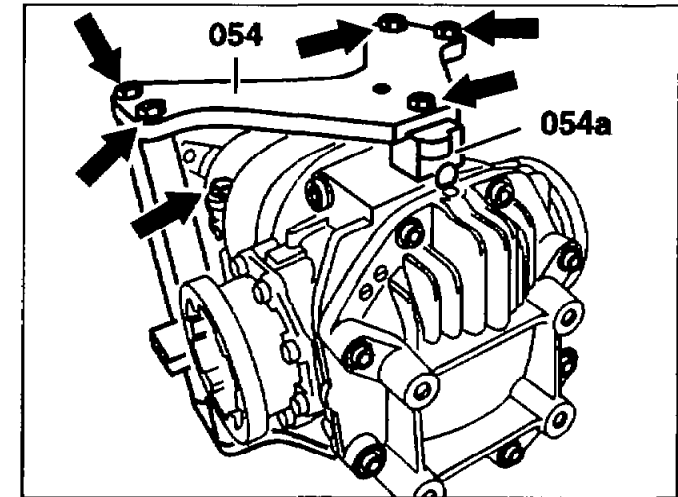


P35.31-0313-01





Rear axle center assembly with 210 mm dia. ring gear reinforced

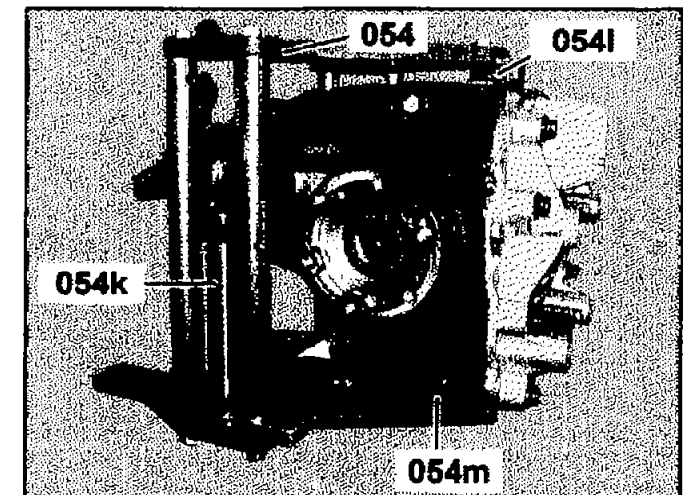
Install rear axle center assembly in assembly frame (054)  129 589 00 31 00 and tighten with mount (054a) part 15 (arrows).



P35.31-0314-01

Rear axle center assembly 210E with 210 mm dia. ring gear

Install rear axle center assembly in assembly frame (054)  129 589 00 31 00 and install with mounts  220 589 01 63 00, mount bolts (054k) part 01, top mount (054l) part 02 and bottom mount (054m) part 03 and tighten.



P35.31-2009-01

G14

AR35.31-P-0550-39D

Detaching side bearing covers

- 1 Unscrew hexagon bolts (27a).
- 2 Pull side bearing covers (27b, 27c, 27d) out of rear axle housing and remove together with shims.

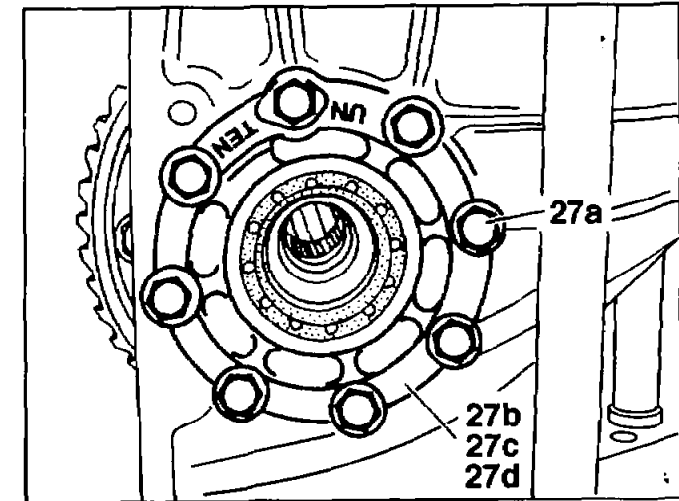


Ensure that the differential gear does not fall out of the rear axle housing.

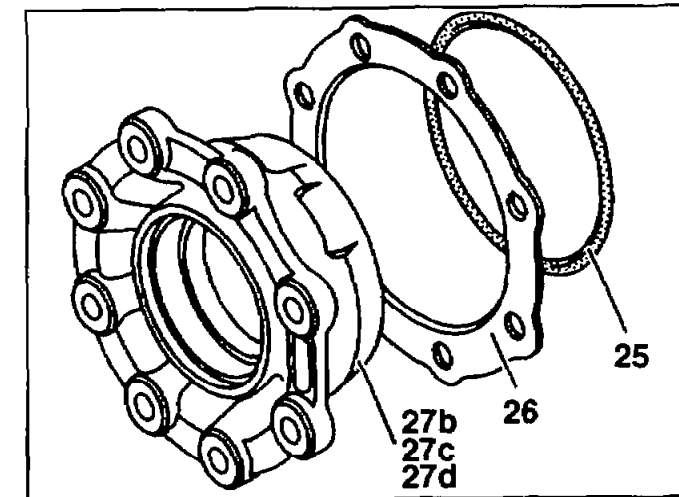
Standard rear axle center assembly illustrated

- 3 Pull off O-rings (25).
- 3 Remove shims (26) for adjusting gear backlash or expanded dimension and mark together with bearing covers (27b, 27c, 27d) for the left and right sides

Standard rear axle center assembly illustrated




P35.31-0432-01



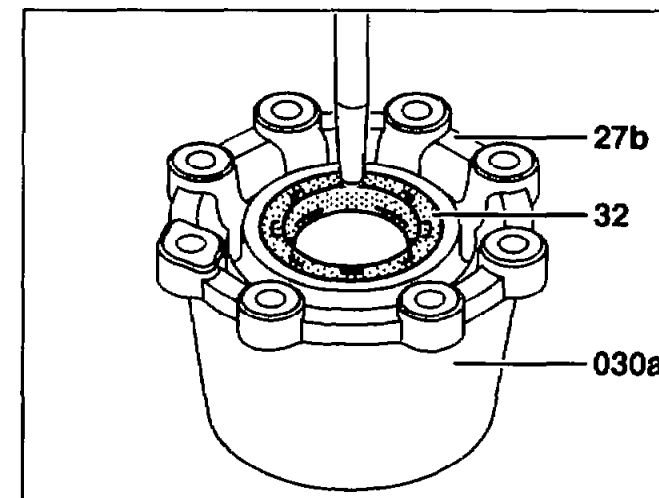
P35.31-0433-01



H14	AR35.31-P-0550-40D	Knocking radial seal ring out of bearing cover	 129 589 02 43 00 Removal and installation tool	
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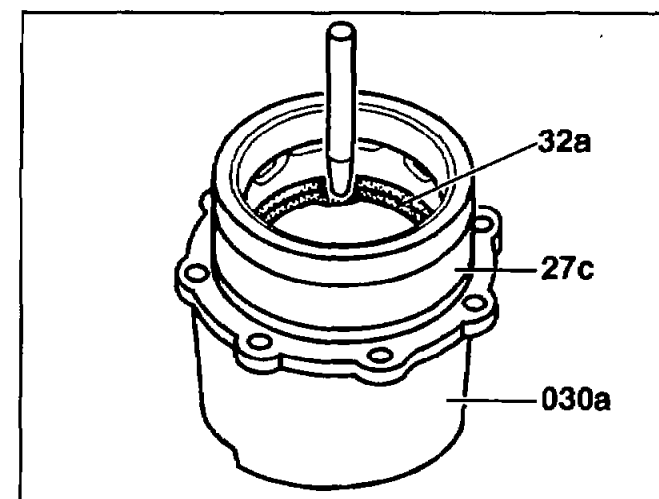
Knock radial seal ring (32 or 32a, 70j) out of the side of the bearing covers (27b or 27c, 27d) using a punch. To do this, mount bearing cover on removal and installation tool (030a) part 01.

- 27b *Standard bearing cover*
- 32 *Radial seal ring*
- 030a *Removal and installation tool*



P35.31-0434-01

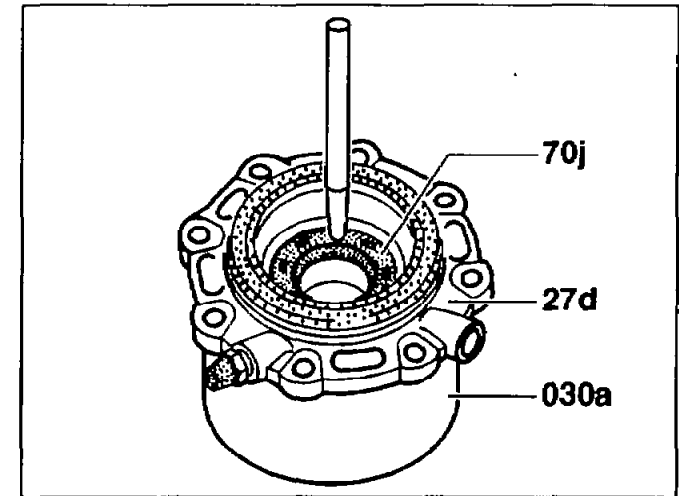
- 27c *ASR bearing cover*
- 32a *Radial seal ring*
- 030a *Removal and installation tool*



P35.31-0435-01



- 27d ASD bearing cover
- 70j Radial seal ring
- 030a Removal and installation tool

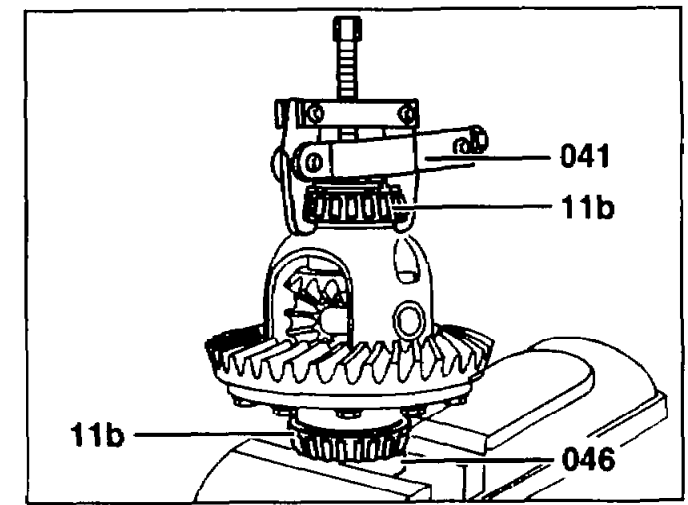


P35.31-0436-01

K14 AR35.31-P-0550-04C	Removing tapered roller bearing inner races from differential	☞ 116 589 18 61 00 Installation punch ☞ 123 589 08 33 00 Puller	
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- 1 Put differential on assembly mandrel (046)
- 2 Using the puller (041), pull both tapered roller bearing inner races (11b) off differential.

i
Mark tapered roller bearing inner races.



P35.31-0407-01

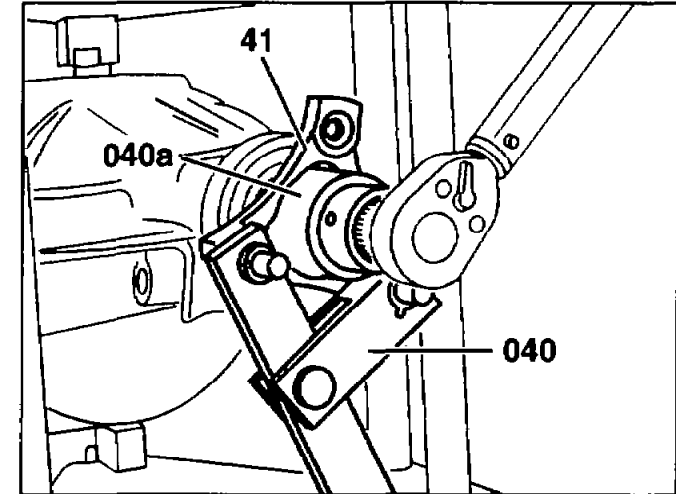


L14	AR35.31-P-0550-35C	Loosening and unscrewing twelve-point collared nut on joint flange	☞ 129 589 01 07 00 Pin wrench ☞ 126 589 02 09 00 Socket	
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Mount Allen wrench (040) on joint flange (41). Using Allen wrench (040a), loosen and remove twelve-point collared nut.



i
To loosen, do not unlock crimped collar locking device of twelve-point collared nut.

185 mm dia. rear axle center assembly illustrated



P35.31-0408-01



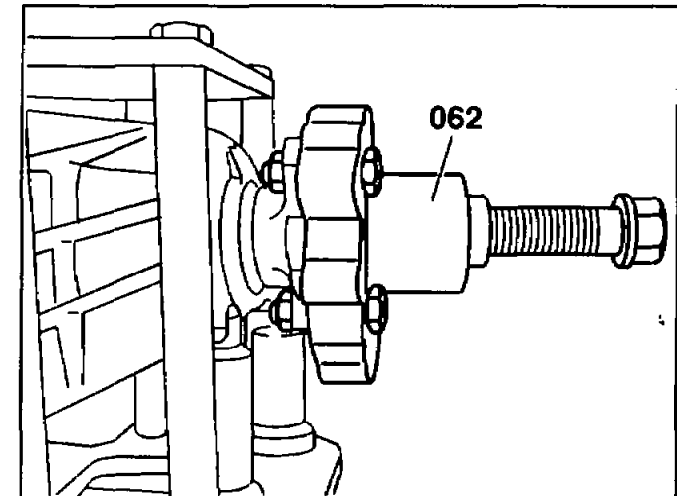
M14 AR35.31-P-0550-06B  BT	Removing joint flange Radial seal ring and joint flange on drive pinion modified	 129 589 01 33 00 Puller Rear axle center assembly with 185 mm dia. crown wheel, 210 mm as of 01.04.98	BT35.31-P-0012-01A
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Remove joint flange from drive pinion using puller (062), if necessary.




Mark joint flange relative to drive pinion, if necessary.

168 mm dia. rear axle center assembly illustrated





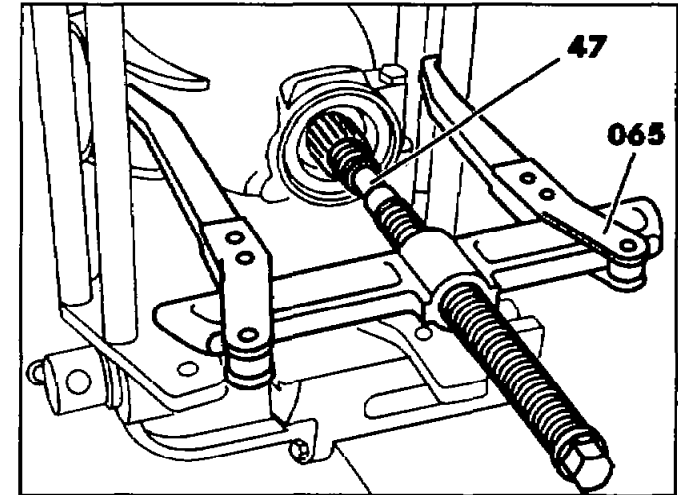
N14	AR35.31-P-0550-07A	Pressing drive pinion out of rear axle housing	 000 589 65 33 00 Puller	
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Press drive pinion (47) out of rear axle housing using puller (065) and remove.




When pressing out, hold drive pinion and puller securely.

198 mm dia. rear axle center assembly illustrated

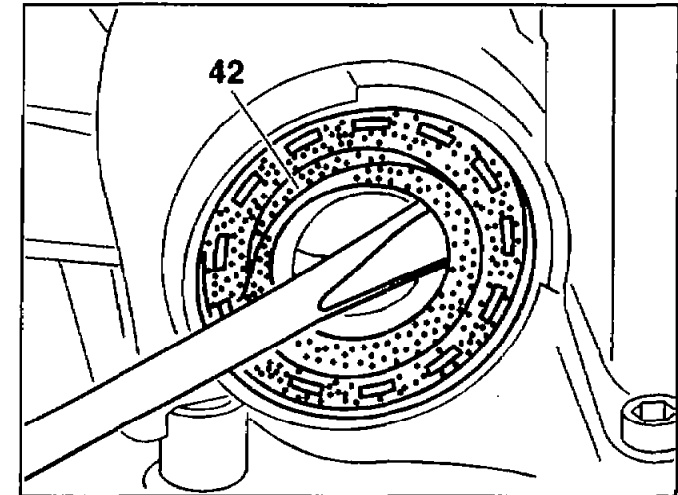


P35.31-0254-01




O14 AR35.31-P-0550-088  BT	Pressing radial seal out of rear axle housing Radial seal ring and joint flange on drive pinion modified	Rear axle center assembly with 185 mm dia. crown wheel, 210 mm as of 01.04.98	BT35.31-P-0012-01A
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Press radial seal ring (42) out of rear axle housing using a suitable screwdriver.

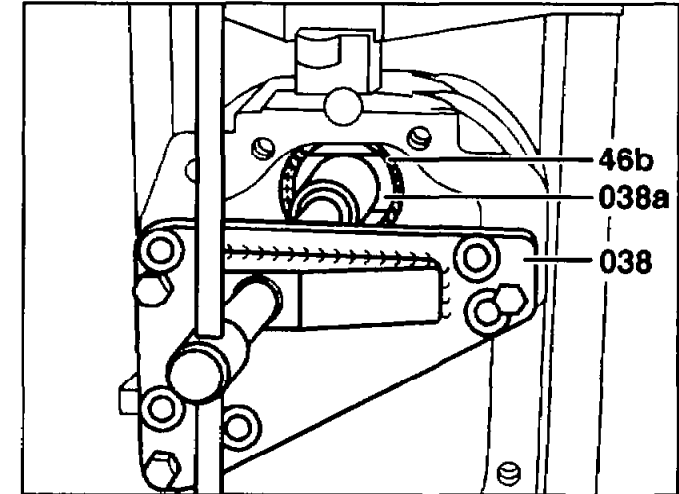


P35.31-0359-01

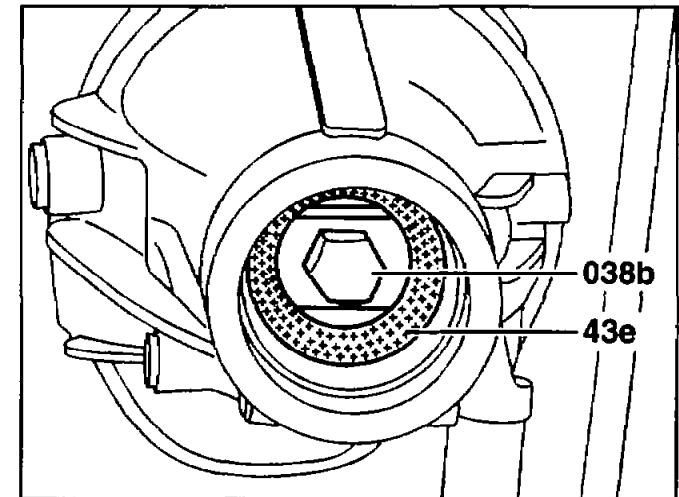


P14 AR35.31-P-0550-09D	Removing tapered roller bearing outer races from rear axle housing	 201 589 02 43 00 Removal and installation tool	
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- 1 Mount removal and installation tool (038) on rear axle housing.
- 2 Using thrust piece (038a) part 15, pull the large tapered roller bearing outer race (46b) out of the rear axle housing and remove with shim.
- 3 Using thrust piece (038b) part 16, press out the small tapered roller bearing outer race (43e) and remove.
- 4 Detach removal and installation tool.



P35.31-0439-01

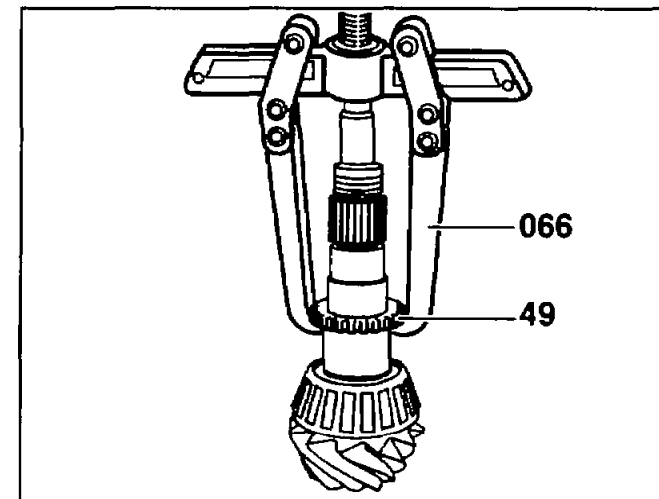


P35.31-0440-01



A15	AR35.31-P-0550-30B	Removing ABS gear from drive pinion	 000 589 88 33 00 Two-arm puller	
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Remove ABS gear (49) with puller (066) from from drive pinion

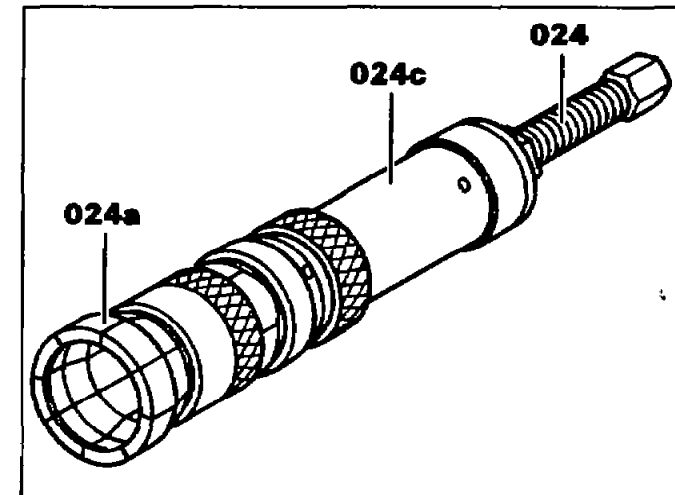


P35.31-0362-01



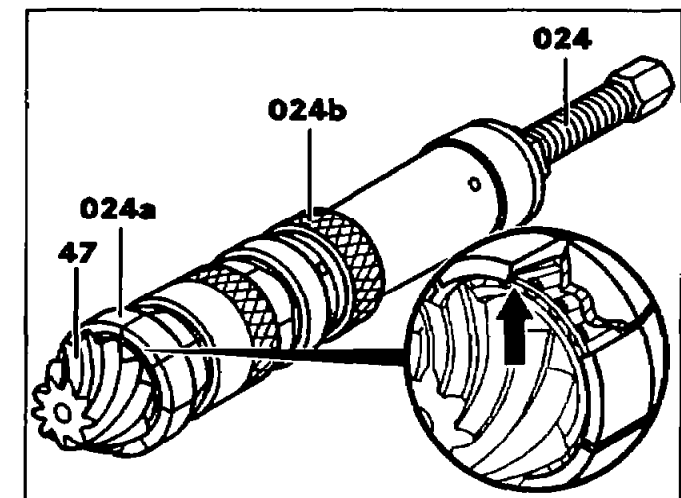
B15 AR35.31-P-0550-10C	Removing tapered roller bearing inner race from drive pinion	☞ 000 589 34 34 00 Collet chuck ☞ 140 589 00 01 00 Open-end wrench ☞ 001 589 50 33 00 Puller ☞ 000 589 63 34 00 Extension	
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- 1 Assemble puller basic unit (024) with extension (024c) and clamping pliers (024a) and tighten securely. Use open-end wrench to assemble or dismantle the extension, if necessary.



P35.31-0258-01

- 2 Push the puller (024) with clamping pliers (024a) over the tapered roller bearing inner race and clamp securely behind the rollers (arrow) with roll pin (024b).
- 3 Using the puller (024), pull tapered roller bearing inner race off the drive pinion (47) and remove.



P35.31-0259-01

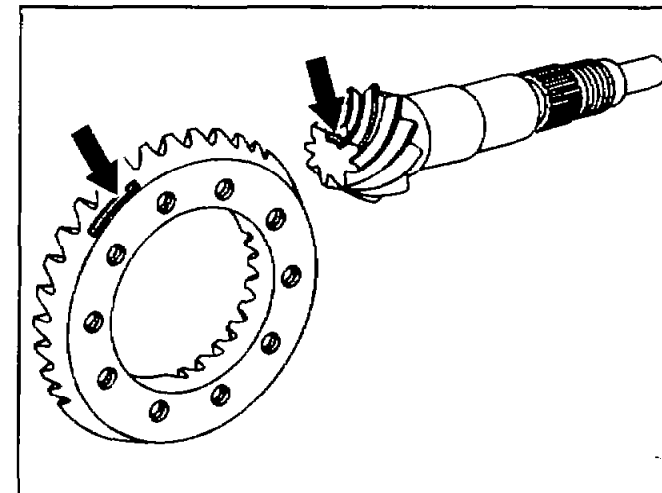


C15 AR35.31-P-0550-11A	Checking drive pinion and crown wheel for pairing number Gear sets ground	Phased in as of 06/95	BT35.31-P-0011-01B
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Each drive pinion and ring gear belonging to a lapped gear set is marked with a serial number which is written on both parts (arrows). In addition the basic dimension of the gears to one another which has to be adjusted for the relevant gear set is always shown with a + or - prefix on the drive pinion.



The shim thickness required for adjusting the drive pinion is to be calculated. Use the specified data sheet for this purpose.





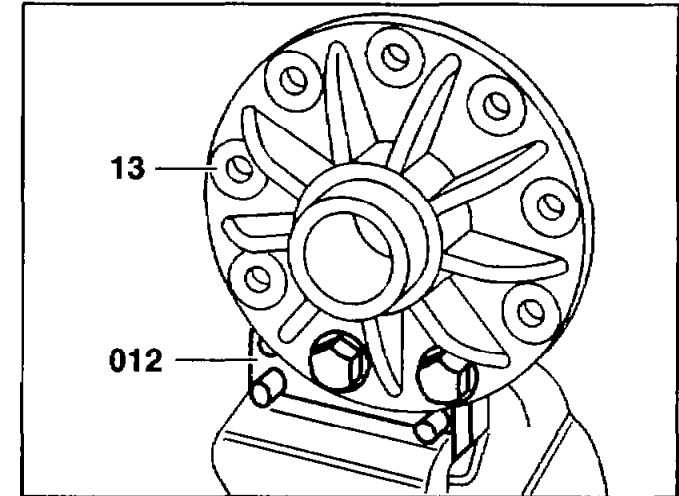
D15	AR35.31-P-0560-01A	Clamping differential housing	 201 589 02 31 00 Disk	
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Secure differential housing (13) on plate (012) and clamp in vise.



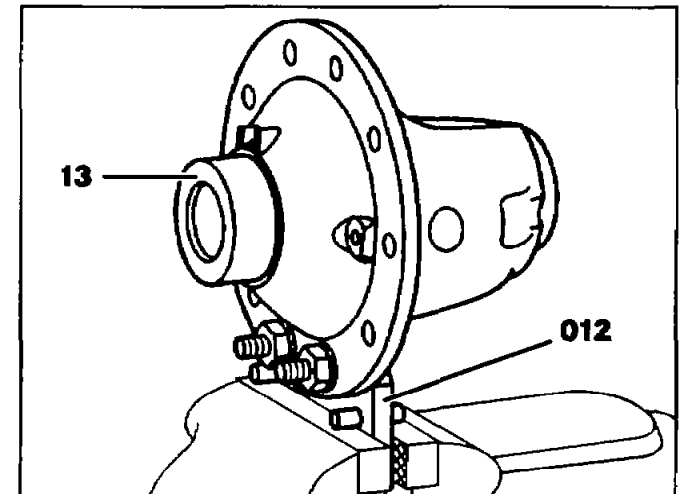
Use bolts M 10x30 with nuts for securing.

Shown on 185 mm dia. differential housing



P35.31-0394-01

Shown on 198 mm dia. differential housing



P35.31-0298-01



E15 AR35.31-P-0560-02A	Driving roll pin and differential pin out and in	☞ 126 589 02 15 00 Installation punch ☞ 123 589 06 15 00 Installation punch	
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Removal

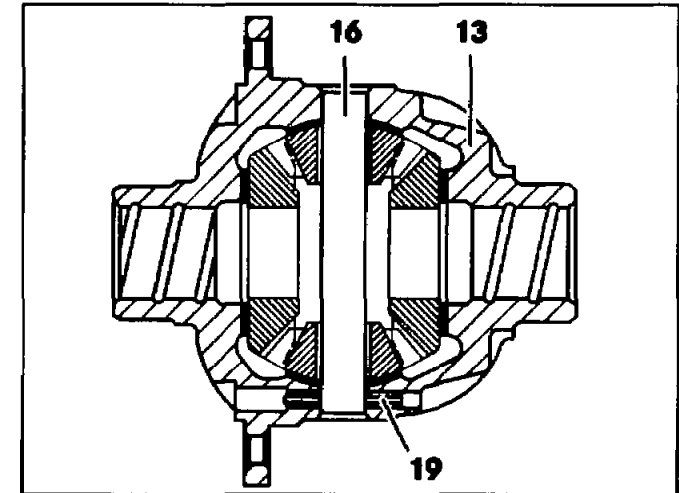
- 1 Using a suitable drift, drive roll pin (19) for the differential pin (16) out of the differential housing (13).
- 2 Using a punch, drive differential pin (16) out of differential housing.

Installation


- 3 Using drift punch (123 589 06 15 00 for 185 mm dia. differential housing and 126 589 02 15 00 for 198 mm dia. differential housing), drive differential pin (16) into differential housing, paying attention to the bore for the roll pin (19).
- 4 Drive in roll pin (19) until it seats centrally in the differential pin (16).



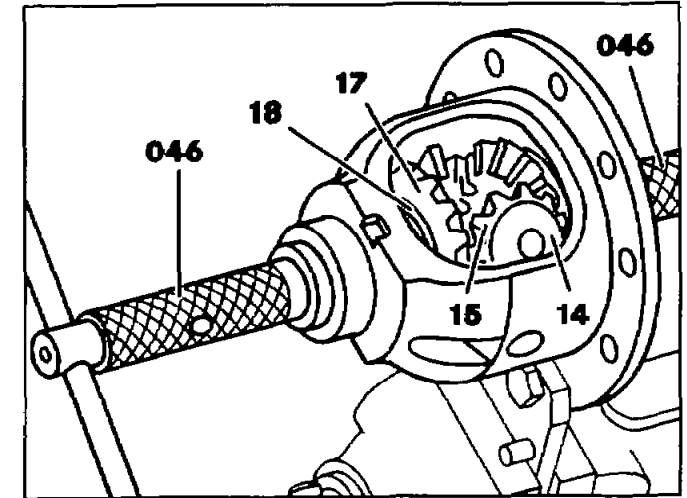
Replace roll pin (19).



P35.31-0299-01

F15 AR35.31-P-0560-03A	Removing differential bevel gears and differential side gears	 116 589 18 61 00 Installation punch	
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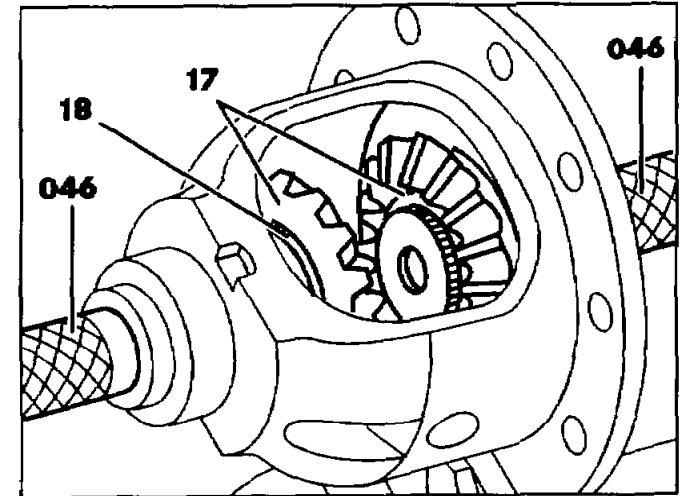
- 1 Install assembly mandrels (046) and turn until the differential bevel gears (15) are upright in the opening.
- 2 Remove differential bevel gears (15) with spherical washers (14).
- 3 Remove differential side gears (17) with thrust washers (18).



P35.31-0300-01

G15 AR35.31-P-0560-04A	Installing differential side gears and differential bevel gears	☞ 116 589 18 61 00 Installation punch ☞ 123 589 06 15 00 Installation punch ☞ 126 589 02 15 00 Installation punch	
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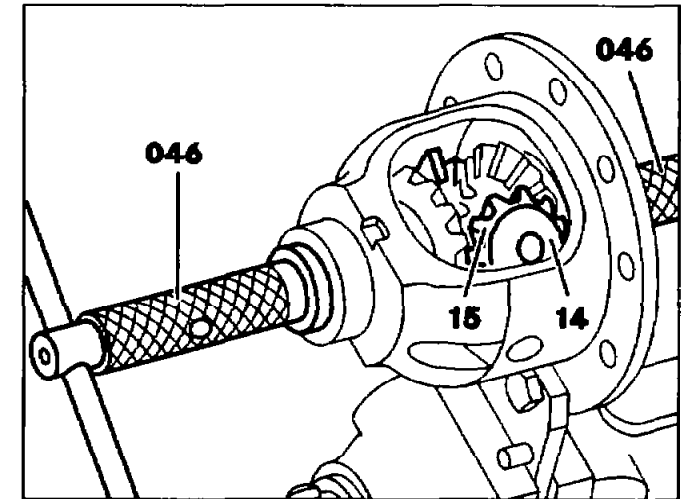
- 1 Insert assembly mandrel (046) (116 589 18 61 00) in bores of the differential housing.
- 2 Mount both differential side gears (17) with thrust washers (18) on the assembly mandrels in the differential housing.



P35.31-0301-01

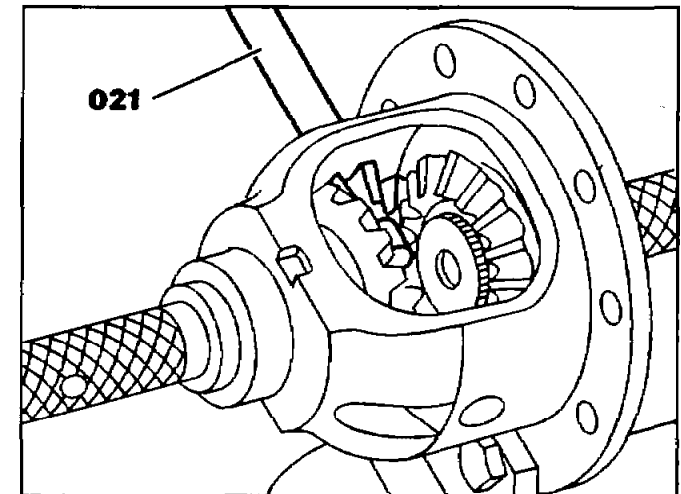


- 3 Install both differential bevel gears (15) with spherical washers (14) together and precisely aligned in the differential housing and screw in using assembly mandrel (046).



P35.31-0302-01

- 4 Push the assembly mandrel (021) (123 589 06 15 00 for 185 mm dia. differential housing and 126 589 02 15 00 for 198 mm and 210 mm dia. differential housing) for fixing the differential bevel gears (15) and spherical washers into the differential housing instead of the differential pin.



P35.31-0303-01



J15	AR35.31-P-0560-05A	Checking friction torque of differential		
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Rear axle center assembly friction torque

Number	Designation	Model 129.058/063 as of 01.06.94, model 129.059/064	Model 140.02/03 as of 01.06.94	Model 202.133/193, model 202.085 with manual 5-speed transmission
BE35.31-P-1002-02A	Friction torque when rotating complete differential (steel spherical washers)	Nm	5-30	5-30

Rear axle center assembly friction torque

Number	Designation	Model 202.033/093	Model 208.365/370/ 465/470	Model 210.006/015/017/025/ 045/053/055/063/065/ 08/206/215/217/225/ 245/265/28/606/663
BE35.31-P-1002-02A	Friction torque when rotating complete differential (steel spherical washers)	Nm	5-30	5-30

**Rear axle center assembly friction torque**

Number	Designation	Model 220
BE35.31-P-1002-02A	Friction torque when rotating complete differential (steel spherical washers)	Nm 5–30

Test data of rear axle center assembly friction torque

Number	Designation	Model	Model	Model
BE35.31-P-1002-02C	Friction torque when rotating complete differential (plastic spherical washers)	Nm	40-90	40-90
		Model 124.003/004/007/ 019/022/023/026/027/ 030/040/042/043/050/ 060/062/079/082/083/ 090 Model 124.104/107 as of 01.05.94 Model 124.127/128/129/ 130/131/133 Model 124.186 as of 01.03.94, except (code 450) taxi version Model 124.188/190/191/ 193/226/230/290/330/ 333/393	Model 124.020/021/080/ 081/120/125/126/180/ 185/186, with (code 450) taxi version as of 01.11.88	Model 129.060

**Test data of rear axle center assembly friction torque**

Number	Designation	Model 170.445/ 447	Model 201.018/023/024/ 122/126, with (code 450) taxi version as of 01.11.88	Model 201.028/ 029/035/ 036/128
BE35.31-P-1002-02C	Friction torque when rotating complete differential (plastic spherical washers)	Nm 40-90	40-90	40-90

Test data of rear axle center assembly friction torque

Number	Designation	Model 202.018/078/120/ 121/122/125/182 with (code 450) taxi version, Model 202.018/020/022/ 120/121/125 with ASD (code 211)	Model 202.020/022/023/ 024/025/026/028/029/ 080/082/083/086/089/ 128/188, model 202.085 with automatic transmission, models 202.134/194, except (code 450) taxi version
BE35.31-P-1002-02C	Friction torque when rotating complete differential (plastic spherical washers)	Nm 40-90	40-90

**Test data of rear axle center assembly friction torque**

Number	Designation	Model	Model 210.007/ 010/020/035/ 037/061/210/ 235/237/261/ 610	Model 210.003/004 with (code 450) taxi version
BE35.31-P-1002-02C	Friction torque when rotating complete differential (plastic spherical washers) Nm	40-90	40-90	40-90

Test data of rear axle center assembly friction torque

Number	Designation	Model	Model	Model
BE35.31-P-1002-02D	Friction torque when rotating complete differential (steel spherical washers) Nm	124.008/028/029/ 031/032/034/036/051/ 052/061/066/088/091/ 092	129.058/063 up to 31.05.94 model 129.061/066	140.028/032/ 033 up to 31.05.94 Model 140.042/043/ 063/1
		5-30	5-30	5-30

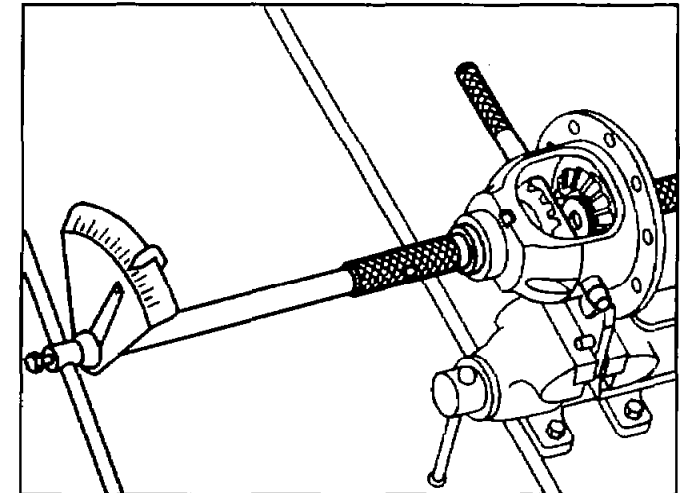
**Test data of rear axle center assembly friction torque**

Number	Designation	Model 210.070/ 074/270/274 up to 31.01.98, models 210.072/272/617
BE35.31-P-1002-02D	Friction torque when rotating complete differential (steel spherical washers)	Nm 5-30

Check friction torque.



If the friction torque differs from the specification, it is necessary to install thrust washers of a different thickness.

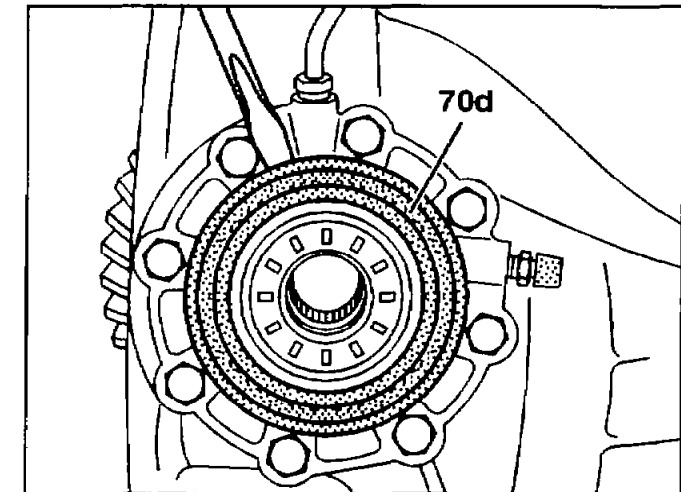


P35.31-0304-01



P15 AR35.41-P-0545-04D	Repairing ring cylinder	<input checked="" type="checkbox"/> Replace radial seal ring and coat sealing lip with universal hypoid transmission fluid: ↓ <input checked="" type="checkbox"/> 124 589 01 35 00 Installation tool <input checked="" type="checkbox"/> 129 589 02 33 00 Removal tool <input checked="" type="checkbox"/> 124 589 01 15 00 Drift punch Universal hypoid transmission fluid Replace O-rings and coat with hydraulic fluid: ↓ Hydraulic fluids (Specification 343.0)	 BB00.40-P-0235-07A BB00.40-P-0343-00A
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- 1 Using a suitable screwdriver, press rubber boot (70d) off periphery of bearing cover.

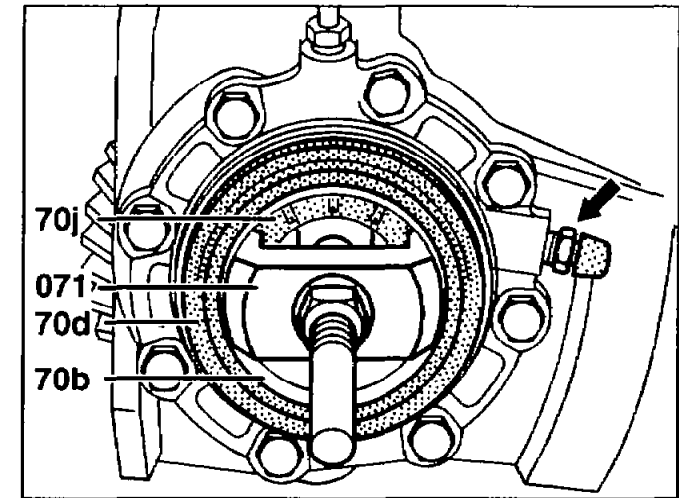




- 2 Insert extractor (071) part 04 in annular piston (70b) and pull out radial seal ring (70j).
- 3 Remove rubber boot (70d) from annular piston (70b).
- 4 Pull annular piston (70b) out of side bearing cover



Prior to this loosen breather connector (arrow), otherwise the vacuum occurring would make it more difficult to pull out the annular piston.



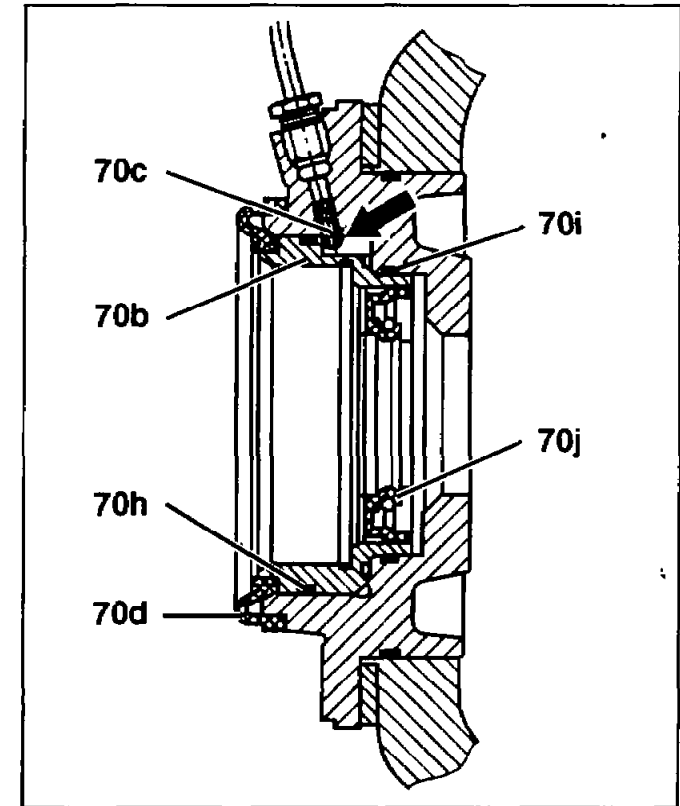
P35.41-0233-01

- 5 Replace O-rings (70h and 70i) and do not install twisted.
- 6 Lubricate the periphery of annular piston (70b) thoroughly with hydraulic fluid (Spezifikation 343.0) and press in. Seal the breather connector properly again after pressing in the annular piston.



When pressing the annular piston into the side bearing cover, ensure that the groove aligns with the roll pin (70c) or bore (arrow).

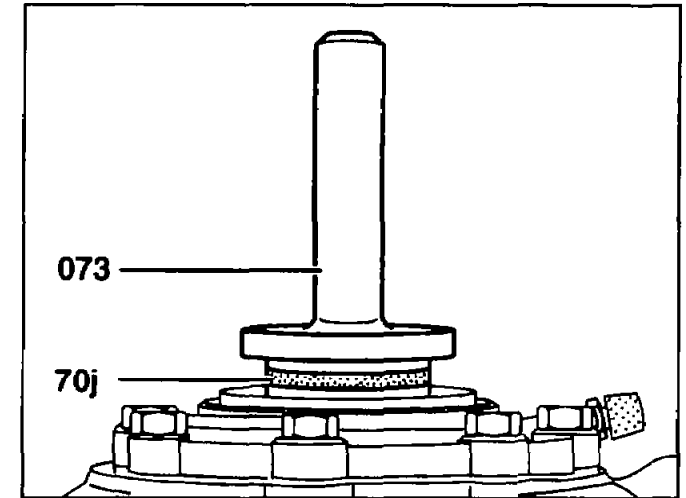
- 70b Annular piston
- 70c Roll pin
- 70d Rubber boot
- 70h O-ring (72x3)
- 70i O-ring (63x2.5)
- 70j Radial seal ring



P35.41-0230-02

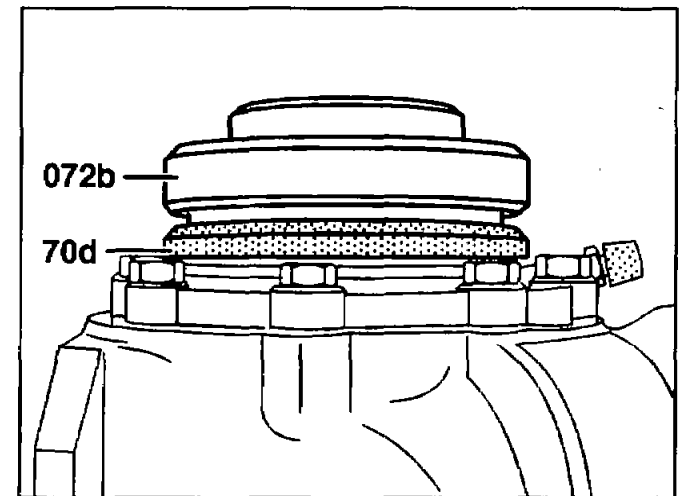


- 7 Replace radial seal ring (70j). To do this, lubricate sealing lip slightly with Universal hypoid transmission fluid and press in radial seal ring with drift punch (073).



P35.41-0235-01

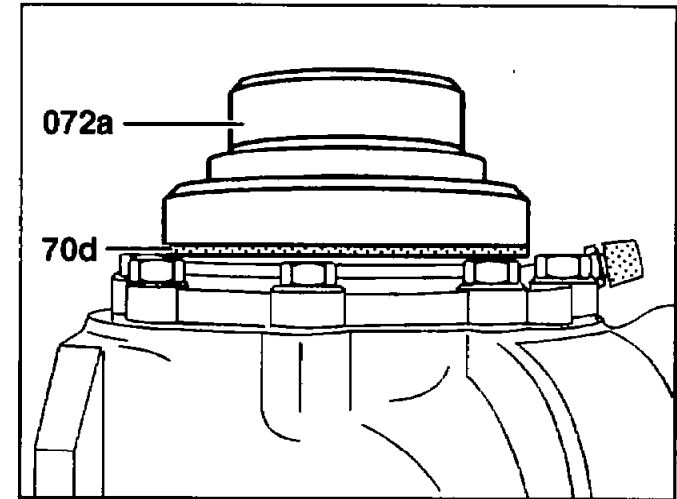
- 8 Using the smaller diameter of the pressing-in tool (072b), press rubber boot (70d) onto the annular piston.



P35.41-0234-01



- 9 Using the larger diameter of the pressing-in tool (072a), press rubber boot (70d) onto the side bearing cover.



P35.41-0232-01



E16 AR35.41-P-0560-02C	Driving out and driving in ASD differential pin and roll pin	☞ 123 589 06 15 00 Installation punch ☞ 126 589 02 15 00 Installation punch	
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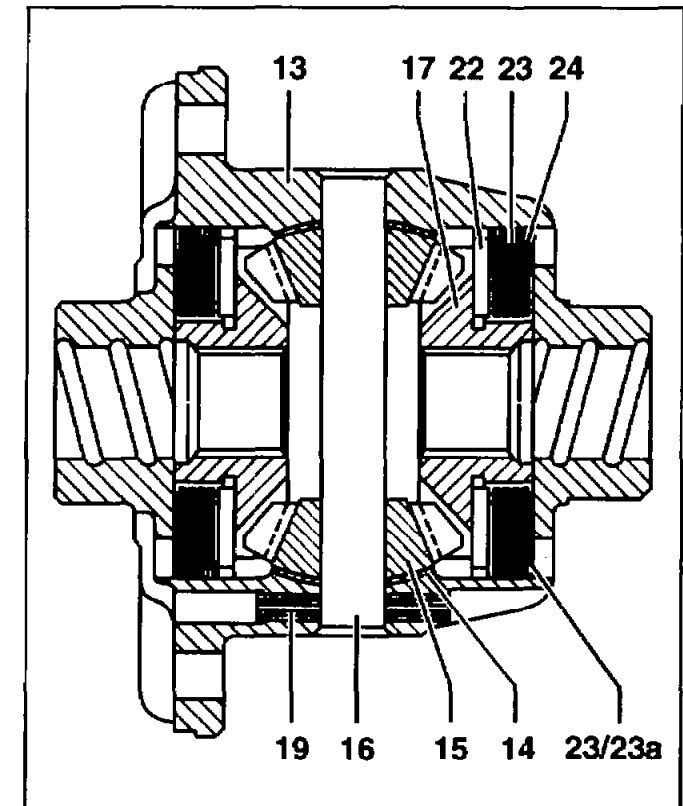
Removal

- 1 Using a suitable drift, drive roll pin (19) for the differential pin (16) out of the differential housing (13).
- 2 Using drift punch 123 589 06 15 00 for 185 mm dia. crown wheel or 126 589 02 15 00 for 210 mm dia. crown wheel, drive differential pin (16) out of differential housing.

Installation

- 3 Using drift punch 123 589 06 15 00 for 185 mm dia. crown wheel or 126 589 02 15 00 for 210 mm dia. crown wheel, drive differential pin (16) into differential housing, paying attention to the bore for the roll pin (19).
- 4 Drive in roll pin (19) until it seats centrally in the differential pin.

i Replace roll pin (19).



P35.41-0218-02

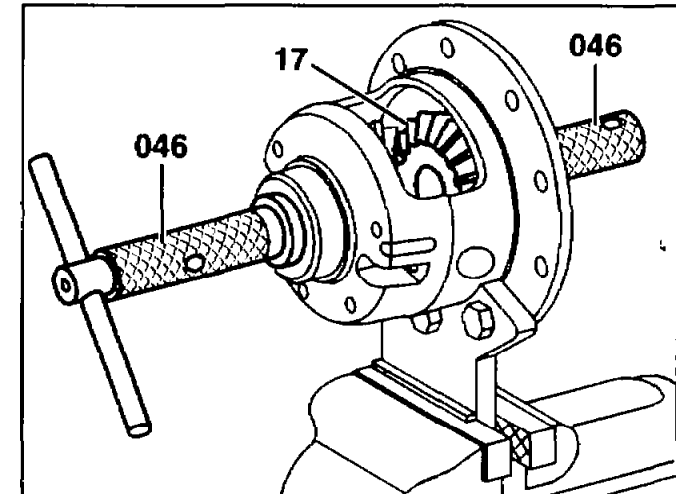
- 13 *Differential housing*
- 14 *Spherical washer*
- 15 *Differential bevel gear*
- 16 *Differential pin*
- 17 *Differential side gear*
- 19 *Roll pin*
- 22 *Friction washer with lining on one side*
- 23 *Friction washers without lining with 5 lugs*
- 23a *Friction washer without lining with 4 lugs and 2 grooves, 185 mm dia. crown wheel only*
- 24 *Friction washers with lining on both sides*



G16 AR35.41-P-0560-03C	Removing and installing differential bevel gears with spherical washers	☞ 126 589 02 15 00 Installation punch ☞ 116 589 18 61 00 Installation punch ☞ 123 589 06 15 00 Installation punch	
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Removal

- 1 Install assembly mandrels (046) to guide the differential side gears (17).



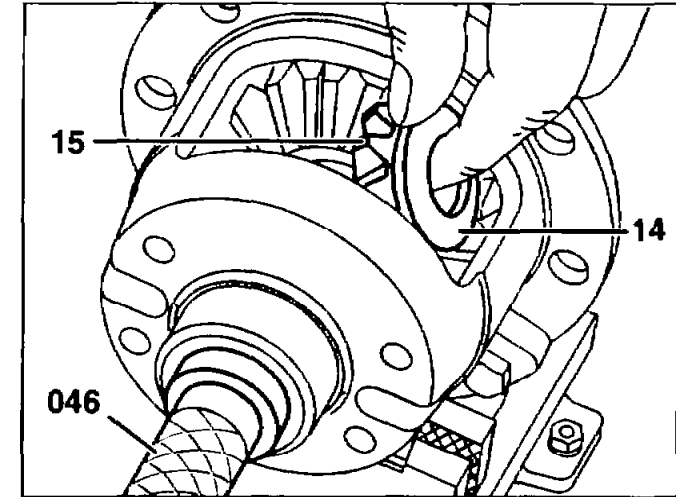
P35.41-0219-01



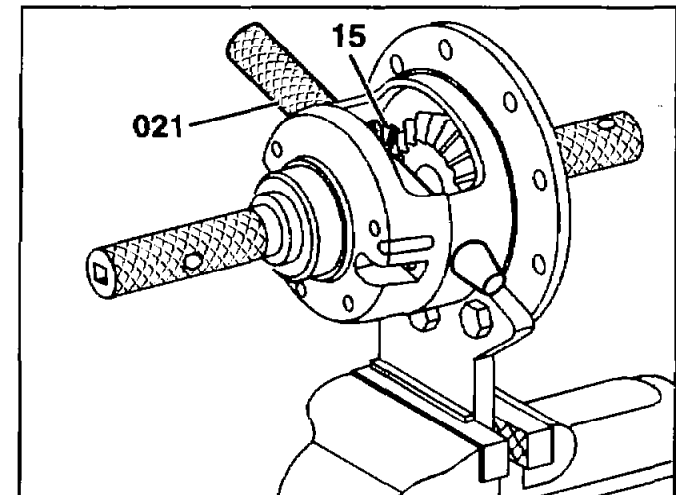
- 2 Turn differential bevel gears (15) with spherical washers (14) towards the opening and remove.

Installation

- 3 Install differential bevel gears (15) with spherical washers (14) in sequence and, using assembly mandrel (046) screw in until the bores of the differential bevel gear and differential housing align.
- 4 Instead of the differential pin, push in the drift punch 123 589 06 15 00 for 185 mm dia. crown wheel and 126 589 02 15 00 for 210 mm dia. crown wheel to locate the differential bevel gears (15) and spherical washers.



P35.41-0220-01

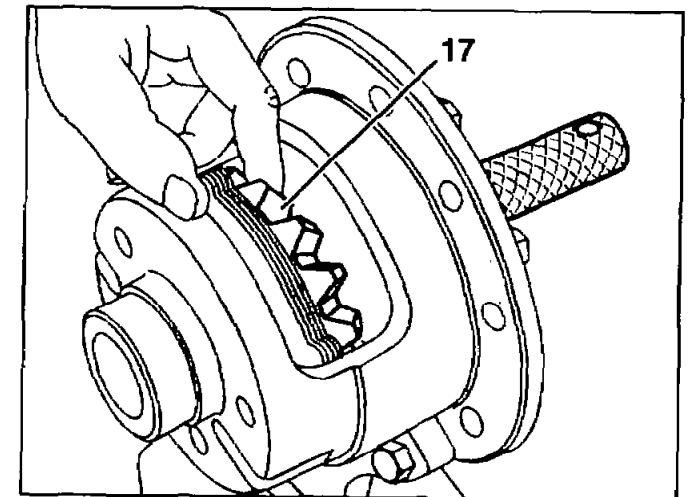


P35.41-0221-01

<p>J16 AR35.41-P-0560-04C</p> <p>BB</p>	<p>Removing and installing differential side gears with friction washers</p>	<p>☞ Smear friction washers with lining (22, 24) thoroughly with Universal hypoid transmission fluid: ↓</p> <p>☞ 116 589 18 61 00 Installation punch</p> <p>Universal hypoid transmission fluids</p>	<p>BB00.40-P-0235-07A</p>
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Removal

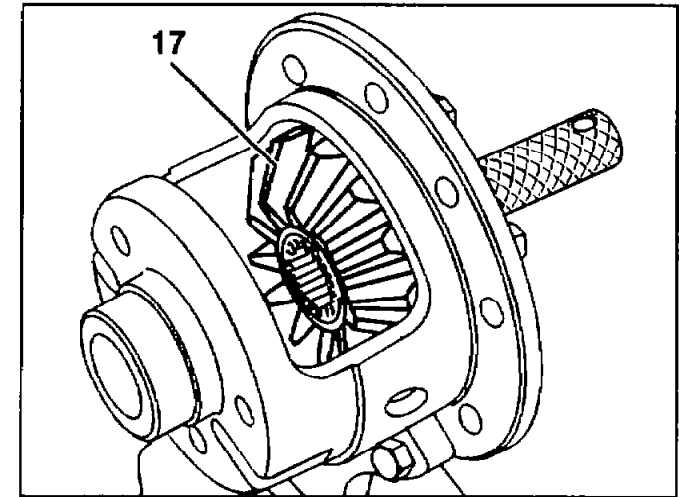
- 1 First remove the right-hand differential side gear (17, viewed in the installed position) with friction washers.



P35.41-0223-01



- 2 Remove the left-hand differential side gear (17, on crown wheel side) with friction washers.



P35.41-0224-01



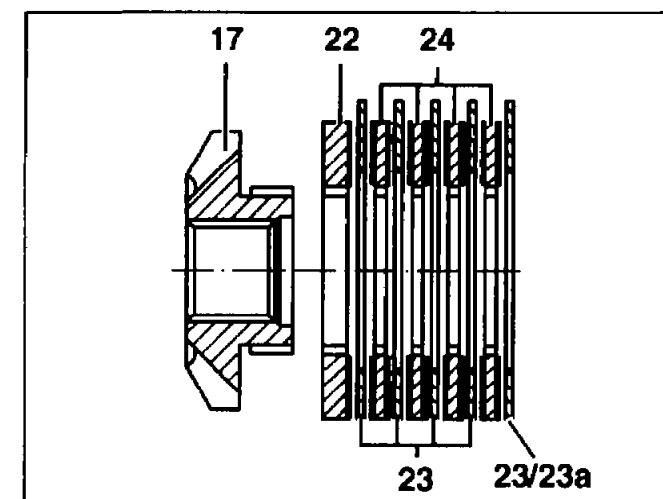
Installation

- 3 Mount friction washers in the correct sequence on both differential side gears and smear friction washers with lining (22 and 24) thoroughly with Universal hypoid transmission fluid.



If new friction washers are installed, it is expedient to measure the friction washers with lining on one side (22) and install a new friction washer again which is approx. 0.1 mm thicker.

- 17 *Differential side gear*
- 22 *Friction washer with lining on one side*
- 23 *Friction washers without lining with 5 lugs*
- 23a *Friction washer without lining with 4 lugs and 2 grooves, 185 mm dia. crown wheel only*
- 24 *Friction washers with lining on both sides*

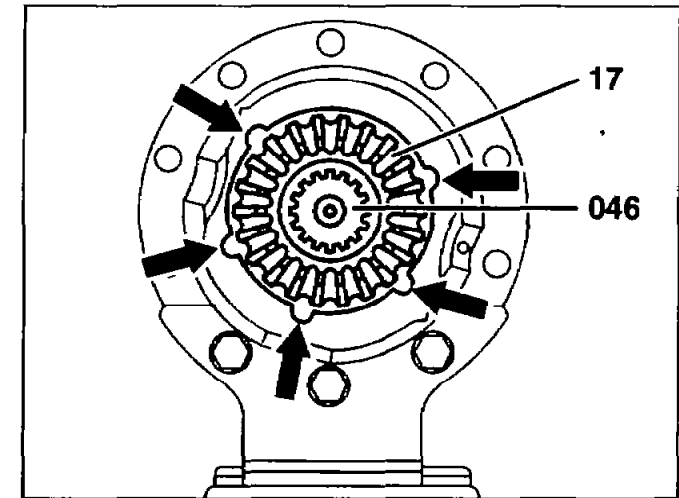


P35.41-0227-01



- 4 First install the left-hand differential side gear (17, on crown wheel side) with friction washers, then right-hand differential side gear (17) with friction washers and install assembly mandrel (046), paying attention to the lugs of the friction washers without lining (arrows).

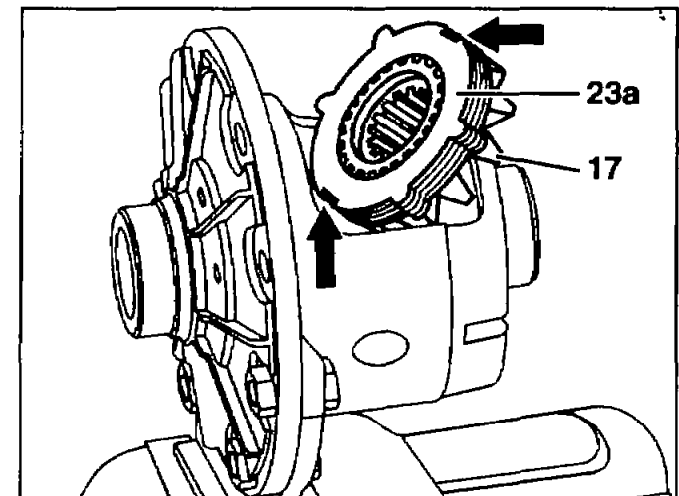
Shown on 210 mm dia. crown wheel



P35.41-0225-01

i 185 mm dia. crown wheel

On the differential with 185 mm dia. crown wheel a friction washer without lining (23a) with 4 lugs and 2 grooves (arrows) is always installed towards the housing side as the end friction washer.



P35.41-0226-01

N16	AR35.41-P-0560-05C	Checking friction torque of ASD differential		
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Test values - friction torque of ASD rear axle center assembly

Number	Designation		Model 124 with 185 mm dia. rear axle center assembly and CODE 211a (ASD)	Model 129 with 185 mm dia. rear axle center assembly and CODE 211a (ASD)
BE35.41-P-1001-01A	Friction torque when complete differential is rotated	Nm	80-160	80-160

Test values - friction torque of ASD rear axle center assembly

Number	Designation		Model 201 with 185 mm dia. rear axle center assembly and CODE 211a (ASD)	Model 202 with 185 mm dia. rear axle center assembly and CODE 211a (ASD)
BE35.41-P-1001-01A	Friction torque when complete differential is rotated	Nm	80-160	80-160

**Test values - friction torque of ASD rear axle center assembly**

Number	Designation	Model 124 with 210 mm dia. rear axle center assembly and CODE 211a (ASD)	Model 129 with 210 mm dia. rear axle center assembly and CODE 211a (ASD)
BE35.41-P-1001-01B	Friction torque when complete differential is rotated Nm	80-160	80-160

Test values - friction torque of ASD rear axle center assembly

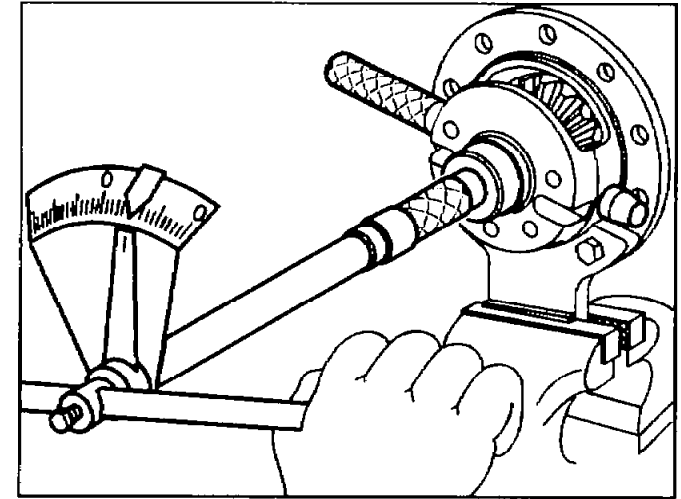
Number	Designation	Model 140 with 210 mm dia. rear axle center assembly and CODE 211a (ASD)
BE35.41-P-1001-01B	Friction torque when complete differential is rotated Nm	80-160



Check friction torque.



If the friction torque deviates from the specified value, the friction washers with lining on one side for the differential side gears are to be selected so that the specified value is achieved after assembly.



P35.41-0222-01