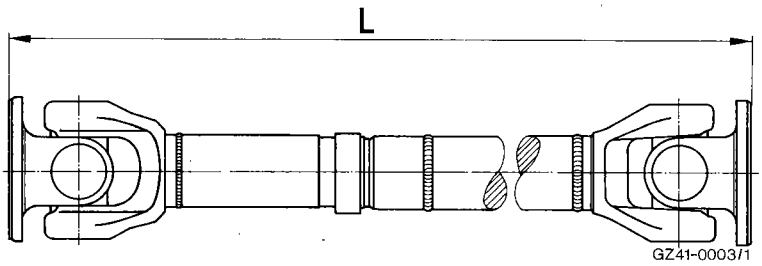
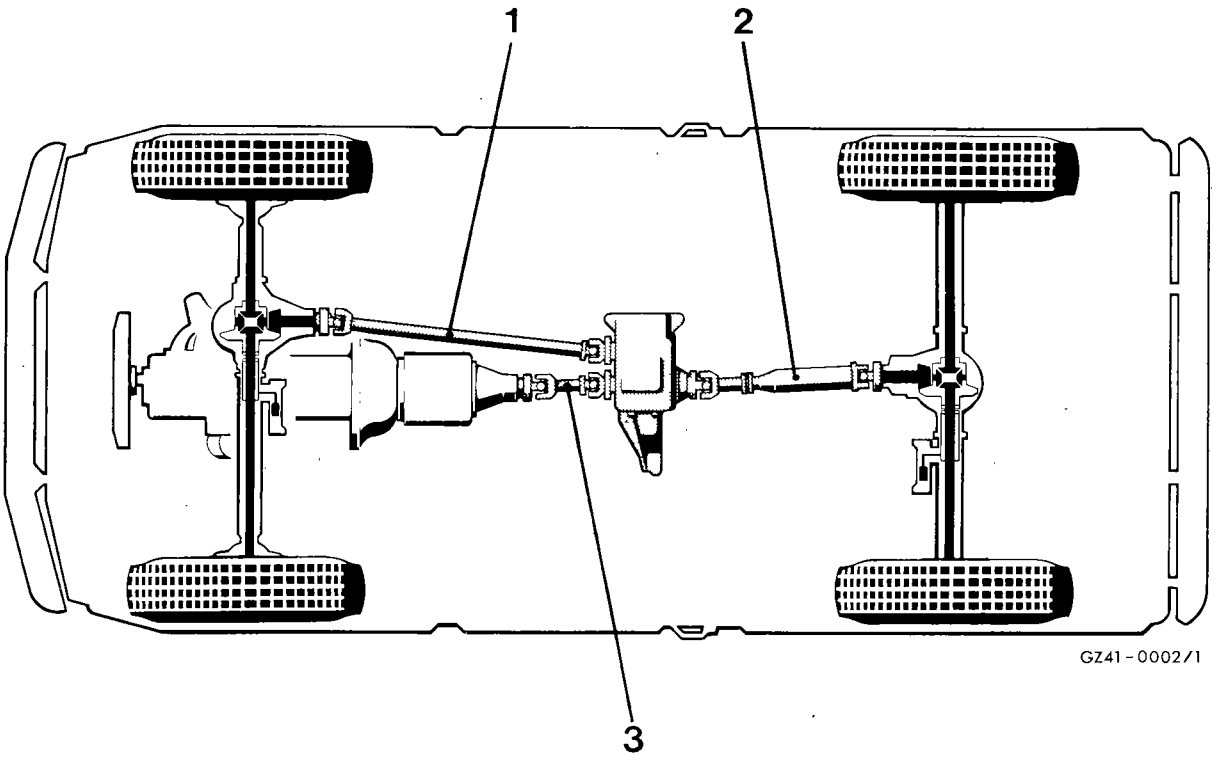
Installation survey



Vehicle Type[1]	Sales designation	Wheel-base mm	Arrangement Item no. 1 from transfer case to front axle: Length „L“[2] mm	1: Offset of universal joints °	2 from transfer case to rear axle: Length „L“[2] mm	2: Offset of universal joints °	3 from transmission to transfer case: Length „L“[2] mm	3: Offset of universal joints °
461	230 GE 290 GD	2400	936	78	566	0	490	0
		2850			1020	120		
		3120			1280	0		
		3400			1595	0		

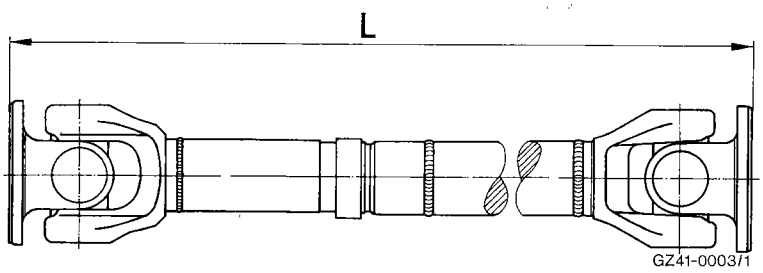
1) For model survey refer to 00 – 1.1/1.
2) Propshaft retracted ± 2 mm

Arrangement



1 Propeller shaft to front axle
2 Propeller shaft to rear axle
3 Propshaft, manual transmission

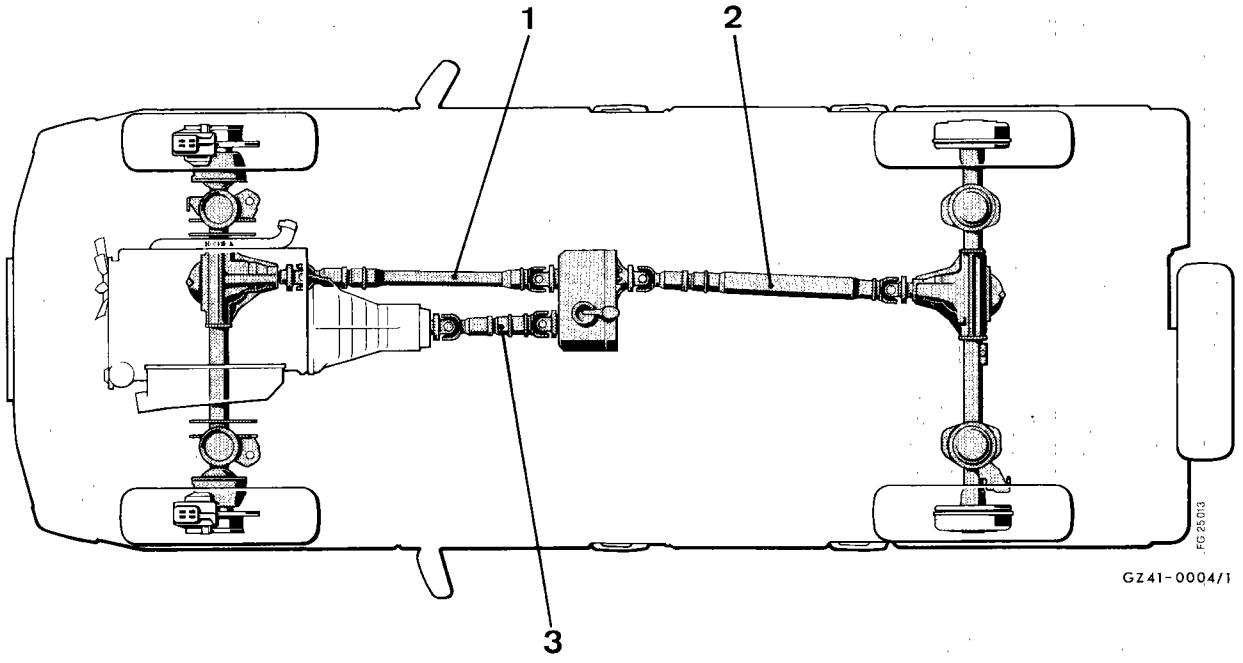
Installation survey



Arrangement	Item no.	Length L mm[1])	Offset of universal joints
Propeller shaft to front axle	1	945	50°
Propeller shaft to rear axle	2	545	110°
	2	990[2])	0°
Propeller shaft to transmission	3	520[4])	90°
	3	440[3])	90°
	3[5])	370	–
Propeller shaft to automatic transmission (special version)	3	391[4])	90°
	3	306[3])	90°
	3[5])	260	–

1) Propeller shaft retracted ± 2 mm
2) only for wheelbase 2850 mm
3) only for type 300 GD/300 GE
4) only for type 200 GE/230 GE
5) from transmission end no. 607 13 80 (approx. 3.92) there is a homokinetic propeller shaft installed between transmission and transfer case in model 463.

Arrangement



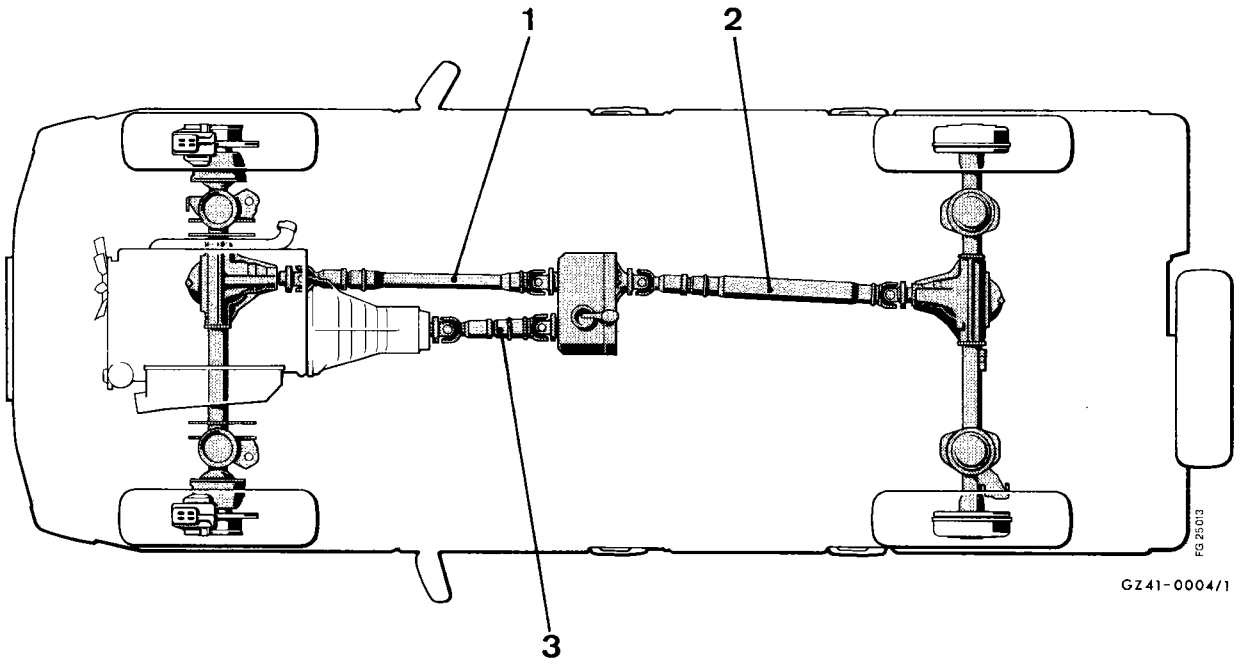
1 Propeller shaft to front axle
2 Propeller shaft to rear axle
3 Propeller shaft to transmission/automatic transmission

Tightening torques

Designation	Item no.	Thread	Nm
Fastening nut to universal-joint drive shaft flange – to transfer case	1, 2, 3	M 8 x 1	35
– to front axle	1		35
– to rear axle	2		35
– to transmission	3		35
– Homokinetic propeller shaft to transmission flange[1])	3[1])	M 10 x 1	50 to 60

1) Model 463 from transmission end no. 607 13 80

Arrangement

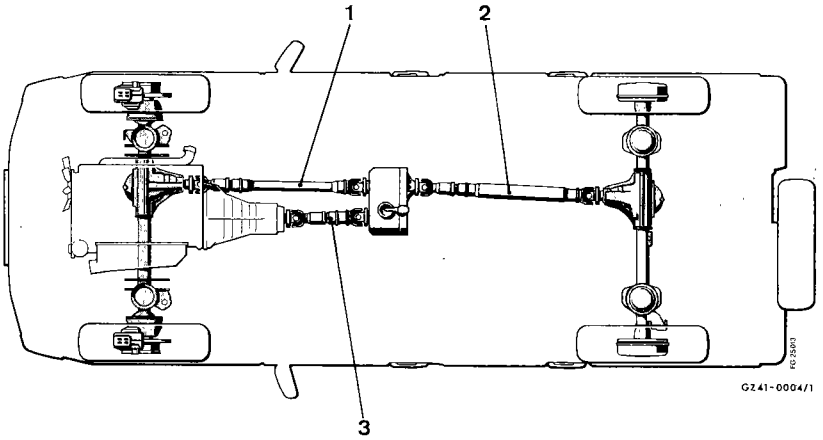


1 Propeller shaft to front axle
2 Propeller shaft to rear axle
3 Propshaft, manual transmission or automatic transmission

Tightening torques

Designation	Item no.	Thread	Nm
Fastening nut to universal-joint drive shaft flange			
– to transfer case	1, 2, 3	M 8 x 1	35
– to front axle	1		35
– to rear axle	2		35
– to transmission	3		35
– Homokinetic propeller shaft to transmission flange[1])	3[1])	M 10 x 1	50 to 60

1) Model 463 from transmission end no. 607 13 80



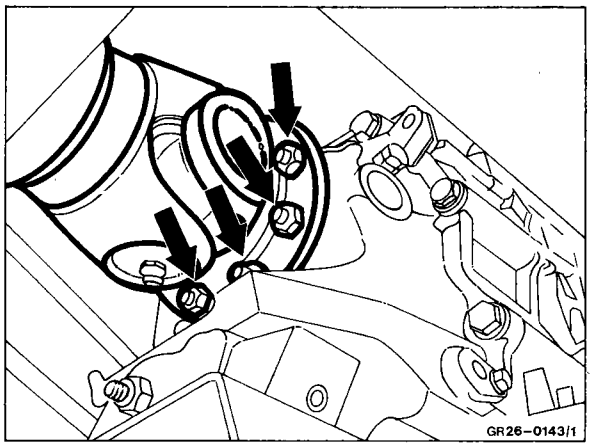
1 Propeller shaft to front axle
2 Propeller shaft to rear axle
3 Propshaft, manual transmission or automatic transmission

Removal

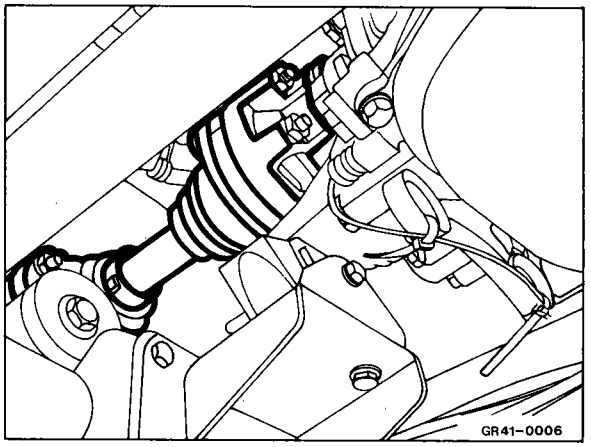
Note: Mark installation position of corresponding propeller shaft.

1 Remove fastening nuts on flange of universal-joint drive shaft.

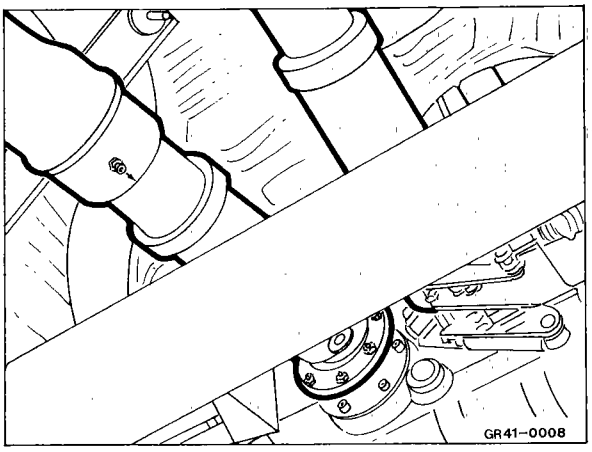
2 Remove universal-joint drive shaft from component.



Note: In model 463, from 3.92 with homokinetic propeller shaft between transmission and transfer case, the mounting must be released from the transfer case.



Installation



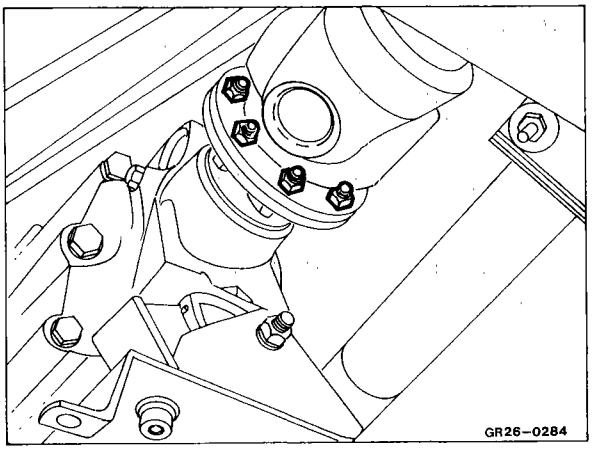
1 Check arrow mark on universal-joint drive shaft. Arrows on the slip joint and on the tube must always face each other.

Note: The universal joints of the propeller shaft to the front axle are arranged offset towards each other, refer to installation survey, page 1.1/1 and 1.1/2.

2 Turn arrow marking on the propeller shaft (slip joint area) right up.

Note: The yellow color marking on the component flange must be facing the green color marking on the propeller shaft flange during assembly.

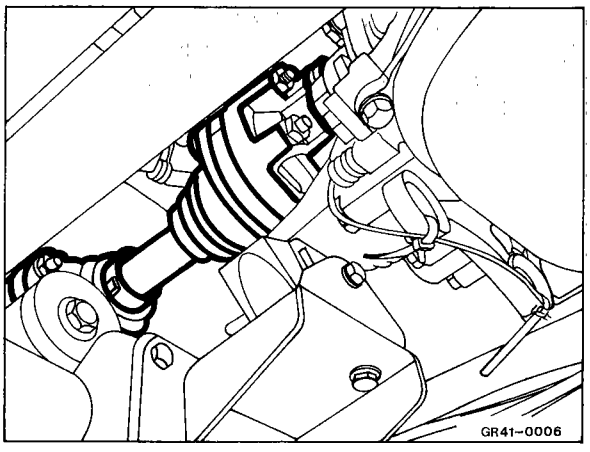
– If there is no color marking, just turn the propeller shaft with the arrow marking pointing up.



3 Insert bolts and loosely screw on nuts.

Note: Replace self-locking nuts.

4 Tighten one bolt to 35 Nm, at the same time the arrow marking is pointing up! Tighten all other bolts crosswise to 35 Nm.



Note: In model 463, with homokinetic propeller shaft, the green color marking on the propeller shaft flange must be pointing right up and the yellow color marking on the component flange pointing right down.

– When tightening the first bolt to 50 to 60 Nm the green color marking on the propeller shaft flange must be pointing up. Tighten all other bolts crosswise to 50 to 60 Nm.

– Replace self-locking nuts.

– Tighten transfer case bearing.

If there are still shortcomings despite observation of the aforementioned installation instructions, this can be due to the following:

1. Vertical and lateral runout of the component and propeller shaft flanges greater than 0.07 mm (match flanges, replace if necessary), refer to 26, 27, 33, 35.
2. Residual imbalance of the propeller shafts greater than 25 cmg (precision balance propeller shafts at 5000 rpm). Replace propeller shaft if slip joints are worn out.
3. Standing plates and fluctuation in radial forces of tires, vertical and lateral runout and imbalance of the tires, refer to 40.
4. Dirt deposits in disk wheels.
5. Distorted engine and transmission bearings, refer to 22.
6. Imbalance of brake drums (crossjoint).

Although the driving comfort almost matches that of the car, to prevent unnecessary work the cross-country vehicle should be judged separately due to its tires and the all-wheel drive.