



Fig. 2 Rear axle components

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|----|--|----|--|
| 1 | Axle casing assembly | 20 | Washer - pinion flange to pinion |
| 2 | Differential side gear | 21 | Locknut - pinion flange to pinion |
| 3 | Thrust washer - differential side gear | 22 | Cover assembly - axle housing |
| 4 | Differential pinion gear | 23 | Washer bolt - cover to housing |
| 5 | Thrust washer - differential pinion gear | 24 | Bracket - handbrake cable support |
| 6 | Shaft - differential pinion | 25 | Plug - drain |
| 7 | Differential case | 26 | Plug - filler |
| 8 | Differential case bolt | 27 | Axle shaft and stud assembly |
| 9 | Crown wheel and Pinion assembly | 28 | Shaft - axle |
| 10 | Bolt - crown wheel to diff. casing | 29 | Wheel stud |
| 11 | Bearing assembly - diff. unit | 30 | Retainer plate - bearing |
| 12 | Shim - diff. bearing | 31 | Bearing and seal assembly |
| 13 | Bolt - diff. bearing cap | 32 | Retaining ring - hub bearing |
| 14 | Bearing assembly - pinion inner | 33 | Bolt - axle shaft/brake assembly to axle |
| 15 | Shim - pinion inner bearing | 34 | Breather |
| 16 | Spacer - collapsible | 35 | Oil catcher |
| 17 | Bearing assembly - pinion outer | | |
| 18 | Pinion oil seal | | |
| 19 | Flange assembly | | |

KEY DATA

TYPE	12HA Hypoid gear drive, semi floating	
RATIO	4.10:1	
BEARING PRELOADS		
Torque-to-turn:		Nm
Pinion	New bearings	1.35-2.48
	Old bearings	0.73-1.30
Pinion and differential *	New bearings	0.79-1.69
	Old bearings	0.40-0.85
* In addition to pinion torque-to-turn		
Differential bearing preload:	0,075 mm each side	
Crown wheel backlash variation:	0,075 mm	
Crown wheel total backlash:	0, 125 - 0.225 mm	

SERVICE REQUIREMENTS

1,000-1,500 miles (1,500-2,500km)	Drain/refill
Every 6,000 miles (10,000 km)	Check/top up
Every 36,000 miles (60,000 km)	Drain/refill
LUBRICANT	SAE90 grade oil MIL-L-2105C A.P.I.GL5

PINION OIL SEAL

Remove/Replace

1. Remove the rear hub caps and partly release the wheel nuts. Chock the front wheels and release the handbrake. Raise the rear of the vehicle and support the axle on stands. Position a suitable drain pan and remove the filler and drain plugs to drain the axle. Refit the drain plug.
2. Remove the rear brake drum retaining screws and withdraw the brake drums to ensure there is no drag on the axle when measuring the pinion torque-to-turn.

NOTE: If the brake drum is worn it may be necessary to release the brake self adjuster mechanism before the drum can be removed (see BRAKES). If the drum is tight on its centre spigot lightly tap the drum off the hub using a soft faced mallet.

3. Mark the prop shaft and pinion drive flange for correct re-alignment, then disconnect the prop shaft by removing the four retaining nuts and bolts. Discard the self-locking nuts (to be replaced with new nuts). Support the propshaft by placing a suitable wooden block between the chassis and propshaft immediately behind the transmission.
4. Scribe a line across the pinion drive flange and the end of the pinion shaft to identify the original fitted position on re-assembly.
5. Bolt on the pinion flange holding tool 18G 1205. Remove the pinion shaft self-locking nut and plain washer.
6. Pull off the pinion flange using the special tool 18G 2. Never attempt to drift the flange off the pinion shaft as this could damage the pinion gear teeth.

PINION OIL SEAL

Remove/Replace (Cont'd)

7. Prise the pinion oil seal out of the axle casing.

NOTE: Particular care must be taken not to damage the oil seal recess.

8. Clean the pinion seal bore and shoulder in the axle casing. Grease the lips of the new oil seal and clip it onto the special tool FX 4209. Drive the seal (lips facing inwards) squarely into the axle housing until it is seated against the shoulder in the casing.
9. Check the condition of the pinion flange oil seal diameter to ensure it is completely free of any scratches, nicks or other damage. If damaged in any way, replace the drive flange. Position the pinion flange so that the marks previously applied line up. Using a suitable wooden block to protect the flange, tap the flange onto the pinion until it is possible to bolt on the flange holding tool 18G 1205 and to use the old pinion nut to pull the flange into position - **DO NOT OVER TIGHTEN**. Remove and discard the old self-locking nut.
10. Refit the plain washer and fit a new pinion flange self-locking nut holding the flange with the special tool 18G 1205. Torque the nut to 217-244 Nm.

CAUTION: Considerable effort is required to turn the pinion flange nut so it is essential to use adequate tools for this operation.

11. Check the axle breather is not blocked.
12. Remove the propshaft support and fit the propshaft using new self-locking nuts and aligning the shaft with the markings made previously on the pinion drive flange.

PINION OIL SEAL

Remove/Replace (Cont'd)

13. Lightly grease the brake drum spigots and replace the brake drums and their securing screws.

NOTE: Maximum permitted brake drum wear may not exceed 1.0 mm. Brake drums may not be reground.

14. Operate the brake pedal to align the brake shoes. Check the handbrake operation. Refit the road wheels tightening the securing nuts as much as possible. Refill the rear axle with the specified oil until it just flows from the filler hole; refit the filler plug.
15. Lower the vehicle and torque the wheel nuts to specification (torque 200 Nm). Replace the hub caps.