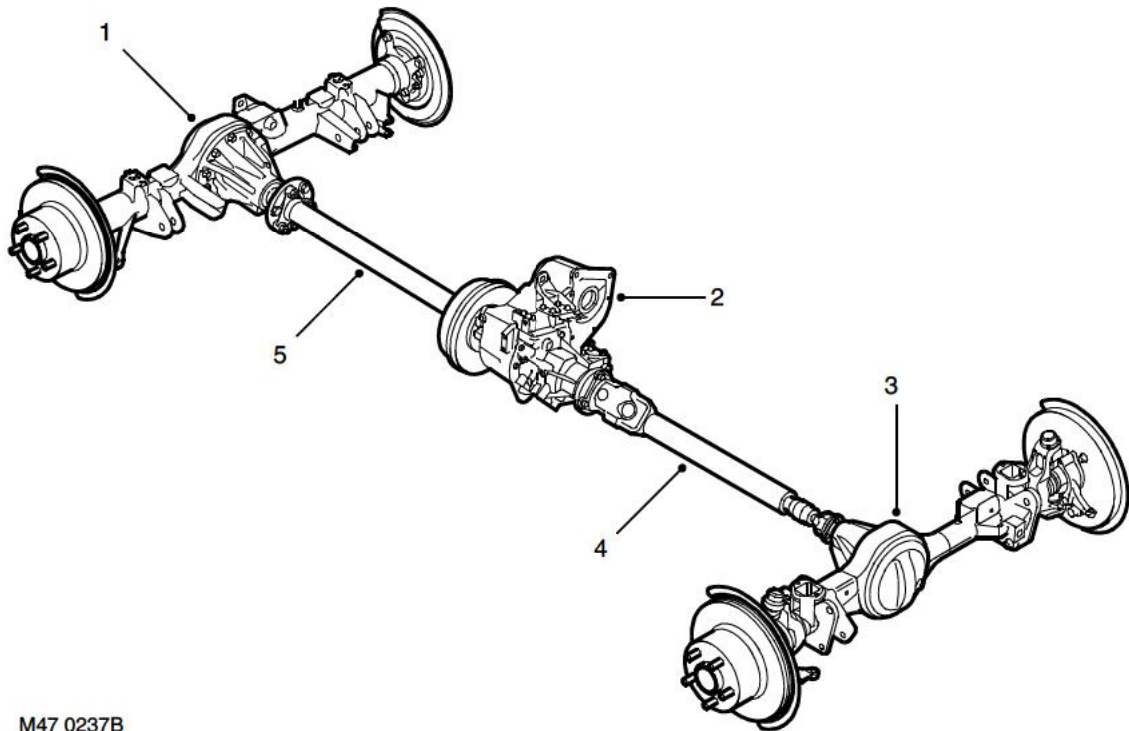


Propeller shaft component layout



M47 0237B

- 1 Rear axle and brake discs
- 2 Transfer box
- 3 Front axle and brake discs

- 4 Front propeller shaft
- 5 Rear propeller shaft

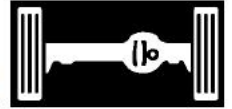
PROPELLER SHAFTS

Description

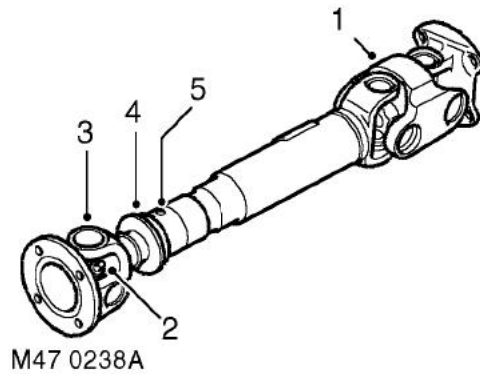
General

Front and rear propeller shafts transmit the drive from the transfer box to the axles.

On vehicles from 03 model year fitted with the 4.6l V8 engine and 4HP24 transmission, the front propeller shaft is 15 mm (0.6 in) longer and the rear propeller shaft is 15mm (0.6 in) shorter than those used on vehicles with the 4.0l V8 and Td5 engines. This is to accomodate an increase in length of the 4HP24 transmission.



Front propeller shaft



- 1 Hookes joint
- 2 Grease nipple
- 3 Universal joint

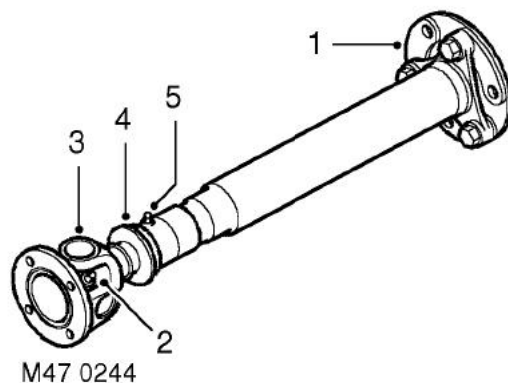
- 4 Gaiter/Sliding spline joint
- 5 Lubrication point

The front propeller shaft consists of a tube with a universal joint and a sliding spline joint at the front end, and a Hookes joint at the rear end. The universal joint is bolted to the pinion flange of the front axle differential. The Hookes joint is bolted to the front output shaft of the transfer box.

The Hookes joint is lubricated during manufacture and sealed for life. A grease nipple is installed in the universal joint to lubricate the serviceable, sealed needle bearings of the joint. The sliding spline joint is sealed with a gaiter and lubricated through a lubrication point on the tube. Because of the proximity of a chassis crossmember to the front propeller shaft, the lubrication point is normally sealed with a grub screw. During maintenance, the grub screw is temporarily replaced by a slave grease nipple to lubricate the sliding spline joint.

PROPELLER SHAFTS

Rear propeller shaft

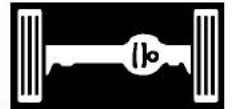


- 1 Flexible coupling
- 2 Grease nipple
- 3 Universal joint

- 4 Gaiter/Sliding spline joint
- 5 Grease nipple

The rear propeller shaft consists of a tube with a universal joint and a sliding spline joint at the front end, and a flexible coupling bolted to the rear end. The universal joint is bolted to the rear output shaft of the transfer box. The flexible coupling is bolted to the pinion flange of the rear axle differential.

A grease nipple is installed in the universal joint for lubrication of the serviceable, sealed needle bearings in the joint. The sliding spline joint is sealed with a gaiter and lubricated through a grease nipple in the tube.



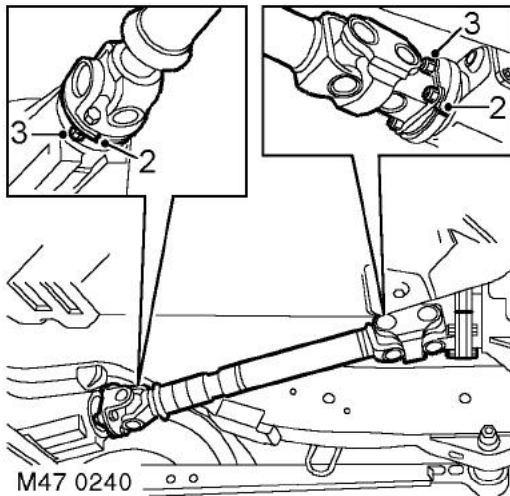
Propeller shaft - front

🔑 47.15.02

Remove

1. Raise front of vehicle.

WARNING: Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.



M47 0240

2. If same components to be refitted, reference mark propeller shaft and mating components.
3. Remove 8 nuts and bolts securing propeller shaft to differential and transfer gearbox flanges.
4. Remove propeller shaft.

Refit

1. Clean propeller shaft flanges and mating faces.
2. Position propeller shaft to transfer gearbox and differential and tighten nuts and bolts to 47 Nm (35 lbf. ft).
3. Remove stand(s) and lower vehicle.

Propeller shaft - rear

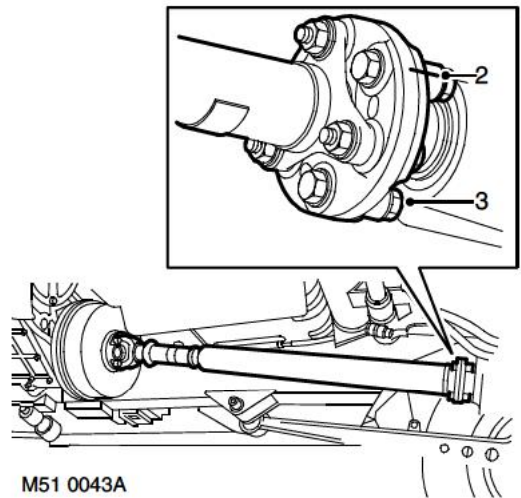
🔑 47.15.03

Remove

1. Raise rear of vehicle.

WARNING: Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

2. If same components are to be refitted, reference mark propeller shaft and mating components.



M51 0043A

3. Remove 4 nuts and bolts securing propeller shaft to transfer gearbox flange.
4. Remove 3 nuts and bolts securing propeller shaft to flexible coupling.
5. Remove propeller shaft.

Refit

1. Clean propeller shaft flanges and mating faces.
2. Position propeller shaft to transfer gearbox and flexible coupling.
3. Fit nuts and bolts securing propeller shaft to transfer gearbox and tighten to 47 Nm (35 lbf.ft).
4. Fit nuts and bolts securing propeller shaft to flexible coupling and tighten to 76 Nm (56 lbf.ft).
5. Lower vehicle.

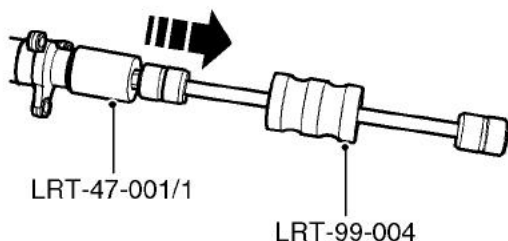
PROPELLER SHAFTS

Bush - spigot - rear propeller shaft

47.15.16

Remove

1. Remove rear propeller shaft.
☞ **PROPELLER SHAFTS, REPAIRS, Propeller shaft - rear.**
2. Clean protruding end of spigot bush fitted to rear propeller shaft.

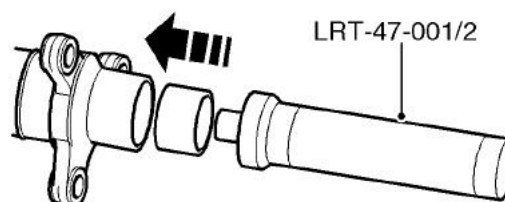


M47 0446

3. Fit LRT-47-001/1 to exposed end of spigot bush at rear of propeller shaft and tighten draw bar.
4. Fit LRT-99-004 to draw bar of LRT-47-001/1, tighten and with assistance remove bush from rear propeller shaft.
5. Remove bush and dismantle service tools.

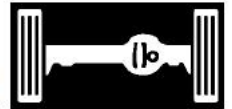
Refit

1. Ensure bush bore is clean.



M47 0447

2. Fit spigot bush to LRT-47-001/02, ensure spigot bush sealing ring is facing drive flange on service tool.
3. Align bush to bore of rear propeller shaft and with assistance drive fully home. Note: Do not allow the propeller shaft universal joint to support the load during fitting.
4. Remove service tool.
5. Lubricate bush.
6. Fit rear propeller shaft.
☞ **PROPELLER SHAFTS, REPAIRS, Propeller shaft - rear.**

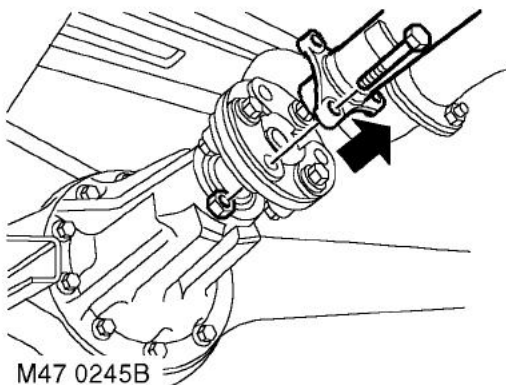


Flexible coupling

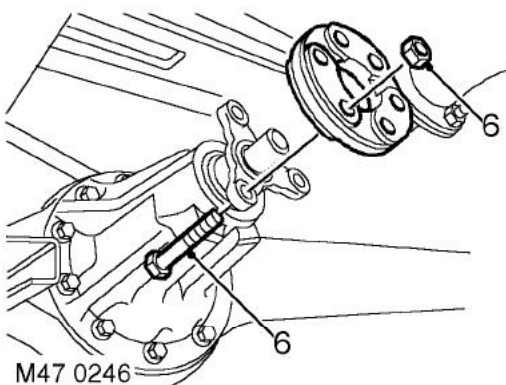
47.20.08

Remove

1. Raise rear of vehicle.
WARNING: Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.
2. If same components to be refitted, reference mark flexible coupling and mating components.



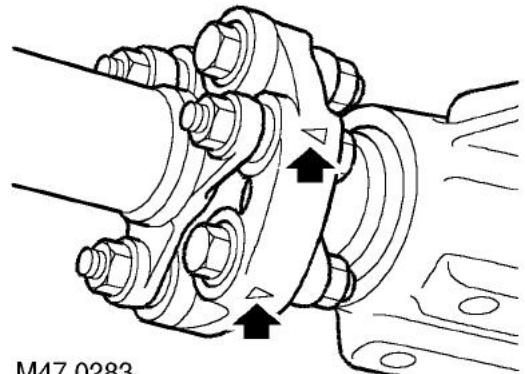
3. Remove 3 nuts and bolts securing propeller shaft to flexible coupling.
4. Move propeller shaft forwards to release from flexible coupling and differential drive flange spigot.
5. Tie propeller shaft aside.



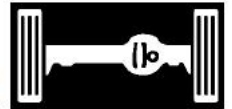
6. Remove 3 nuts and bolts securing flexible coupling to differential drive flange and remove flexible coupling.

Refit

1. Ensure flexible coupling, spigot and drive flanges are clean.



2. Align the arrows on the flexible coupling with the securing bolt positions as illustrated. Fit flexible coupling to differential drive flange and tighten nuts and bolts to 76 Nm (56 lbf.ft).
3. Fit propeller shaft to spigot and flexible coupling. Tighten nuts and bolts to 76 Nm (56 lbf.ft).
4. Remove stand(s) and lower vehicle.



Propeller shaft

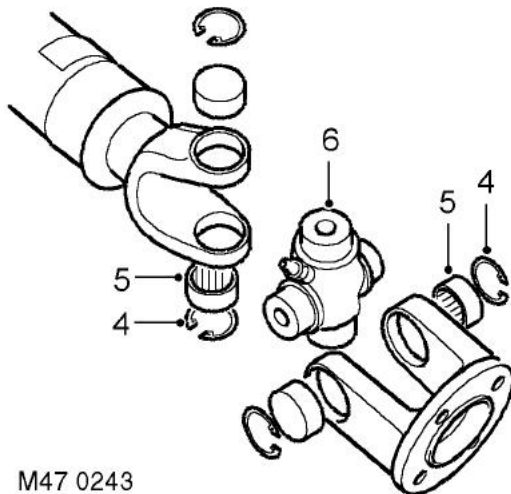
➔ 47.15.11

The following bearing replacement procedure applies to the universal joints of both the front and rear propeller shafts, including the Hookes joint (i.e. double universal joint) of the front propeller shaft.

Disassembly

1. Remove propeller shaft:
 - For front propeller shaft.
 - ➔ **PROPELLER SHAFTS, REPAIRS, Propeller shaft - front.**
 - For rear propeller shaft.
 - ➔ **PROPELLER SHAFTS, REPAIRS, Propeller shaft - rear.**
2. Thoroughly examine the universal joint for signs of damage or wear.
3. Clean the universal joint bearing cups and circlips.

CAUTION: Before removal, mark the position of the spider pin relative to the journal yoke ears on the propeller shaft joint. This will ensure correct assembly and reduce the possibility of imbalance.



M47 0243

4. Remove the circlips.
5. Tap the yokes to eject bearing cups. Remove bearing cups.
6. Remove spider from yokes.
7. Clean yokes and bearing cup locations.

Reassembly

1. Remove bearing cups from new spider.
2. Check all needle rollers are present and correctly positioned in bearing cups.
3. Enter new spider, with seals, into one of the yokes.
4. Partially insert one bearing cup into yoke and enter spider trunnion into bearing cup.
5. Insert opposite bearing cup in yoke.
6. Press both cups into place.
7. Press each cup into its respective location in yoke up to lower land of circlip groove. **Damage may be caused to cups and seals if cups pass this point.**
8. Fit circlips and check no end float exists.
9. Engage spider in second yoke. Fit bearing cups and circlips as described in steps 4 to 8.
10. Fit propeller shaft:
 - For front propeller shaft.
 - ➔ **PROPELLER SHAFTS, REPAIRS, Propeller shaft - front.**
 - For rear propeller shaft.
 - ➔ **PROPELLER SHAFTS, REPAIRS, Propeller shaft - rear.**

