

JOB ROLE – AUTOMOTIVE SERVICE TECHNICIAN

Sector: Automotive
(Qualification Pack Code : **ASC/Q01402**)



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Shyamla Hills, Bhopal – 462013, Madhya Pradesh, India

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UNIT 3 : Transmission System

Session 2: Servicing of Propeller Shaft, Universal and Slip Joints

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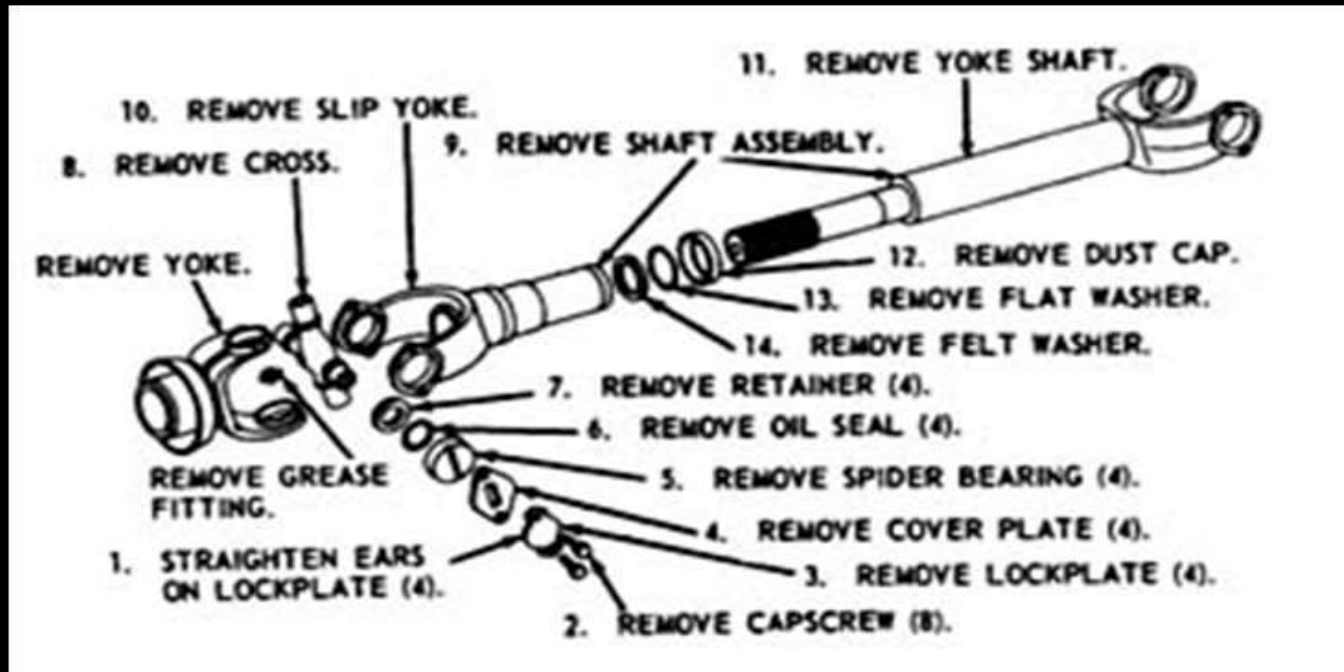
Session Objectives

1. The student will be able to understand and explain the procedure for servicing of propeller shaft, universal and slip joints .
2. Able to understand and explain the procedure for servicing, inspection and adjustment of drive shaft

Introduction

Propeller shaft

When the engine and axles are separated from each other on four-wheel-and rear-wheel-drive vehicles, propeller shaft is used to transmit engine power to the rear drive axles. The propeller shaft is mounted between the gearbox and differential and thus the engine power is transmitted to the driving wheels.



Inspection of propeller shaft, universal joint and sleep joint Procedure

1. Remove nut bolts from the companion flange of the propeller shaft from the gear box end as well as from the differential.
2. Place the propeller shaft on the lathe machine and turn the propeller shaft.
3. Place the dial gauge at one end of the propeller shaft.
4. If the dial gauge shows deflection of 2 mm then it indicates the propeller shaft is bent.
5. The bent propeller shaft always run noisy.
6. To clean and replace the universal joint.
7. Clean and check universal joint, if it worn out.
8. Remove the snap rings / lock from yoke.

Drive Shaft

A drive shaft is solid circular shaped shaft usually made of steel this transmits power from engine to gear and then to the wheels of a vehicle.



Drive Shaft

Servicing of the drive shaft

1. Remove the engine cover.
2. Use appropriate spanner and remove the drive shaft nut and washer.
3. Drain the transmission oil from engine/gear box.
4. Using large screw drivers, pullout the driving shaft joint, so as to release snapping fitting of joint so as to release snap ring fitting of joints spline at differential side.
5. Disconnect stabilizer joint form suspension arm.
6. Remove cotter pin and nut from the steering knuckle
7. Disconnect tie rod ends from steering knuckle.

8. Disconnect the lower arm from the steering knuckle.
9. By using a plastic hammer, drive out the drive shaft joint so as to release snap ring fitting of joints spline at centre shaft.
10. Cover the drive shaft boot with cloth to protect it from damage.
11. To remove drive shaft assembly, pullout inboard joint from centre shaft, wheel side joint and from steering knuckle.
12. Loosen centre bearing support bolt and remove centre shaft from differential side gear.
13. Remove the boot clamp from differential side.
14. Slide boot towards the centre of shaft and remove snap ring from outer race.
15. Clean the drive shaft and use special tool to fix/remove cage.
16. Draw away cage and boot form the shaft.

Summary

In this session you have learnt about propeller shaft. When the engine and axles are separated from each other on four-wheel- and rear-wheel-drive vehicles, propeller shaft is used to transmit engine power to the rear drive axles. The propeller shaft is mounted between the gearbox and differential and thus the engine power is transmitted to the driving wheels.

Drive Shaft : A drive shaft (Fig: Drive shaft) is solid circular shaped shaft usually made of steel this transmits power from engine to gear and then to the wheels of a vehicle.

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