

# JOB ROLE – AUTOMOTIVE SERVICE TECHNICIAN

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



PSS Central Institute of Vocational Education  
Shyamla Hills, Bhopal – 462013, Madhya Pradesh, India

---

[www.psscive.ac.in](http://www.psscive.ac.in)

## **UNIT 8 : Service of the wheels**

### **Session 2: Importance of Hub Greasing and Bearing Play Adjustments**

# Content

Title	Slide No.
Session Objective	4
Introduction	5
Wheel hub	6
Stub axle	7
Steps for removing wheel from axle	8-10
Steps for adjusting wheel play	11-12
Summary	13

# Session Objectives

The student will be able to explain importance of hub grease.

Able to identify broken stud

# Introduction

For friction free rotation of wheels, it is necessary to lubricate, the wheel hub and wheel bearing at specified intervals. Bearing grease is used to lubricate these items.

## Wheel hub

Wheel hub is a single casted unit mounted on stub axle shaft or the casing. It consists of two taper roller bearings in which spacer is placed between two bearings. It holds brake drum and wheel. Main function of wheel hub is to rotate freely on stationary shaft/casing. It is fastened by the castled locknut on axle/casing. During adjustment of bearing end play, shims can be added to reduce the axle play. Wheel studs are fastened on wheel hub.



Fig : Wheel Stud

# Stub axle

Front main axle is connected to stub axle. Stub axle holds the wheel hub.



**Fig : Wheel Hub**

## Steps for removing wheel from axle

Place wooden blocks to the wheels to lock the wheel.

Loosen the wheel nuts by using wheel spanner

Lift the vehicle up using hydraulic jack under the front axle

and make it rest on stands. Remove the jack

Remove the grease cup with the help of hammer and

crowdriver.

Straighten the split pin and takeout by using combination

key.

Unscrew the castle nut and take it out.

Remove the brake drum from stub axle

Remove the wheel and hub from stub axle



## Steps for cleaning the wheel bearings

Remove the taper roller bearing from the hub and axle shaft.  
Take diesel oil in a tray and pour diesel oil in bearing.  
Using rubber pad, splash the grease from bearing.  
Thoroughly clean the bearing, hub and axle shaft  
Big and small taper roller bearings are checked for being  
worn out and assurance of no play and abnormal wear etc  
Wipe it out with dry clean cloth  
Now take the fresh bearing grease and fill it from broader  
side of taper roller bearing.  
Ensure grease reaches to the opposite side of the wheel.  
Now fix the bearing on the axle shaft with spacer.  
Fill the grease in the hub.  
Change the outer and inner grease seals.  
Fix the castle nut and tighten it to the specified torque

## Steps for adjusting wheel play

Place washer and tightened the castle nut.

Check the wheel by turning

If there is friction, loosened the castle nut

Check again for friction,

Wheel should roll freely

Lock the castle nut with the use of split pin.

Fit the grease cup by filling with new grease.

Lift the vehicle with jack and take out the stand

Remove the jack by lowering it down.

## Steps to remove the broken studs from the hub

Due to over tightening, overloading of vehicle may cause wheel nut, stud to break,

Use stud extractor or by using hand drill machine remove the broken stud without damaging the internal threads of hub.

Use tap to redress internal threads of the hub

Choose new stud of proper size and fix in the hub.

## Precaution

Over filling the grease in centre of the hub is not advisable, as it will flow out due to heat and may go in brake drum.

Oil seal should be replaced if needed.

To allow the free movement of wheel and no play, the castle nut should be first tightened and loosened by a quarter or half thread.

Castle nut must be locked by placing proper sized split pin.

Grease cup should not be overfilled.

# Summary

In this session you have learnt about , Wheel hub is a single unit mounted on stub axle shaft or on the casing. It consists of two taper roller bearings in which spacer is placed between two bearings.

Stub axle: Front main axle is connected to stub axle. Stub axle is the wheel hub.

**Project Coordinator** : Dr. Saurabh Prakash, Professor,  
Department of Engineering and Technology

**Assistance**

Er. Kuber Singh , Consultant



**Joint Director**

PSS Central Institute of Vocational Education  
Shyamla Hills, Bhopal – 462013 , Madhya Pradesh, India

---

E-mail: [jdpscive@gmail.com](mailto:jdpscive@gmail.com)

Tel. +91 755 2660691, 2704100, 2660391, 2660564

Fax +91 755 2660481

Website: [www.psscive.ac.in](http://www.psscive.ac.in)