

JOB ROLE – AUTOMOTIVE SERVICE TECHNICIAN

Sector: Automotive
(Qualification Pack Code : ASC/Q1401)



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Unit 1: Automobile and their Components

Session 8 : Front Axle

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Session Objectives

1. The student will be Able to explain importance of front axle
2. Able to identify front axle.

Introduction

Axle is a central shaft for a rotating wheel or gear. Axles are an integral component of a wheeled vehicle.

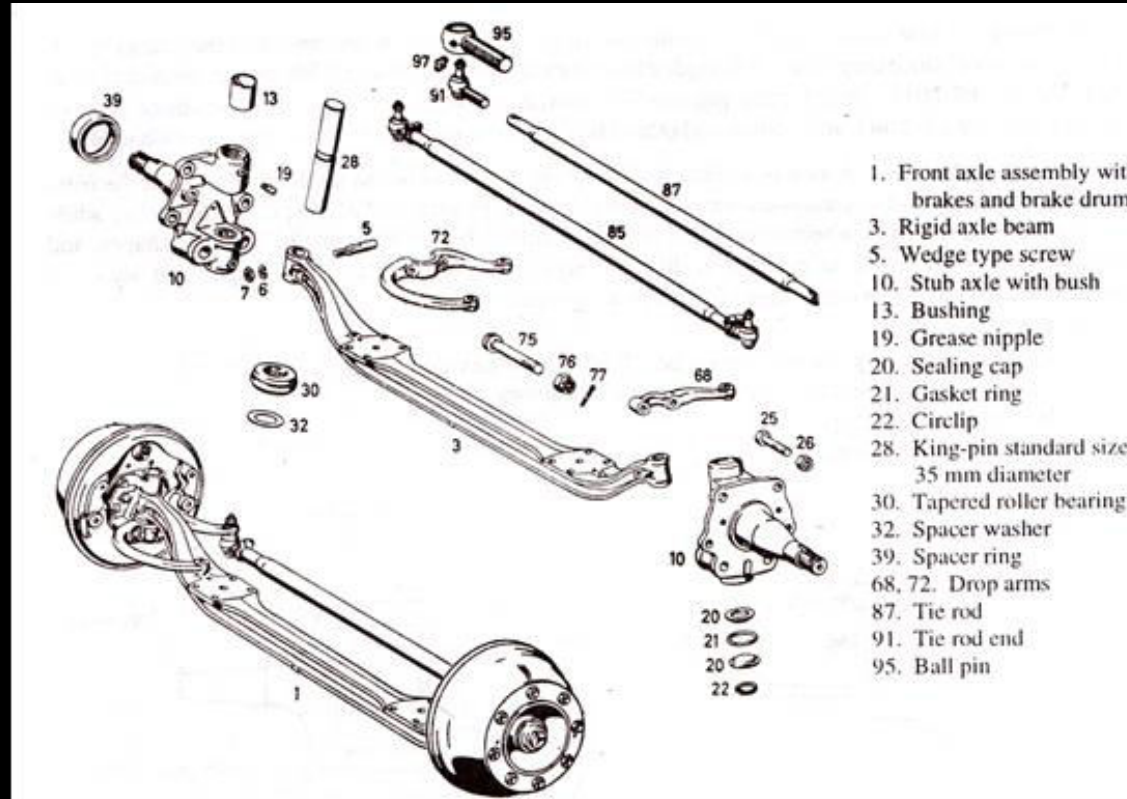


Fig : Exploded view of a heavy duty front axle used on a Tata truck

Function of the Front Axle

- It carries the weight of the front of the vehicle.
- It carries stub axle king pin steering arm by which the vehicle can be steered.
- It works as cushion through its spring for a comfortable ride.
- It controls the ride through shock absorber fitted on it.
- It carries the brake system with which the moving vehicle can be stopped.
- In case of a four wheel drive, it also transmits power to road wheels. It carries hubs and wheels.

Types of Front Axle

- Live front axle (used for front wheel drive and 4X4 type of drive).
- Dead front axle (used for 4X2 type of drive).

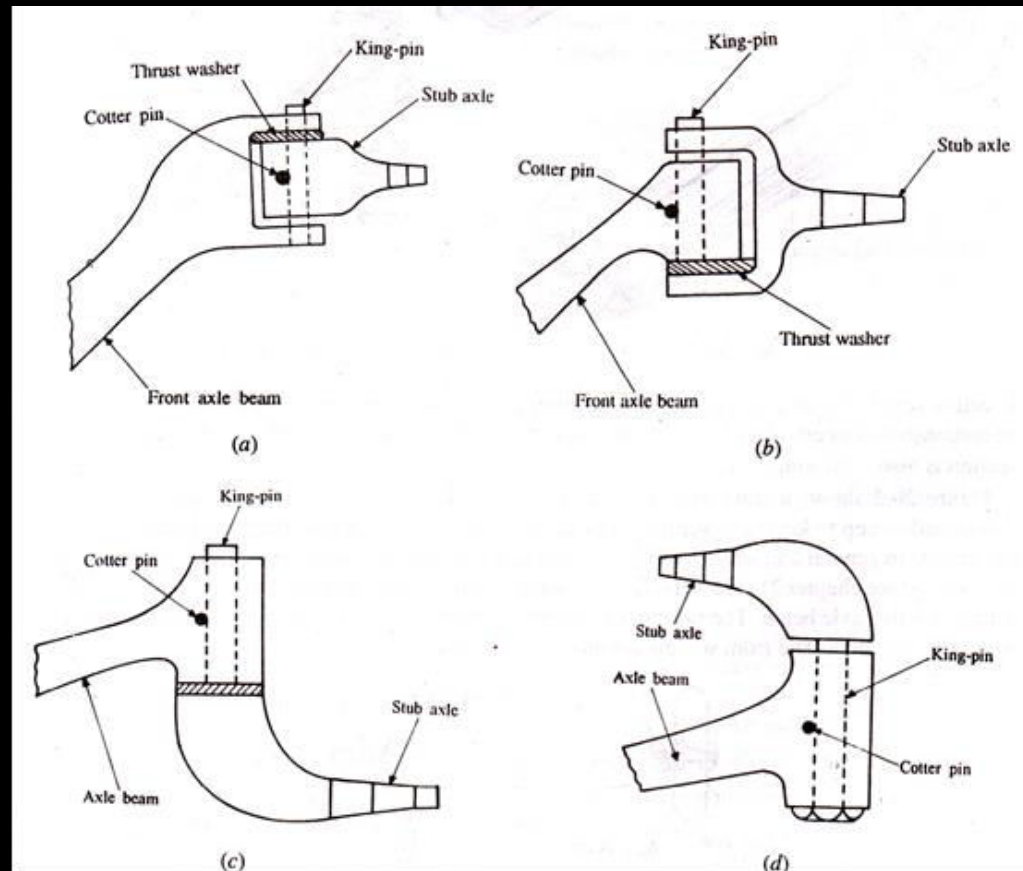


Fig : Different types of stub axles (a) Elliot Type, (b) reverse Elliot type, (c) lamoine type, and (d) reverse lamoine type

Types of Arrangement of Front Axle

There are two types of Front Axle arrangements employed on automobiles which, are as follows:

1. Stub-axle with rigid axle beam type: This type was used earlier on all types of vehicles, but now it finds use on medium and heavy commercial vehicles only, such as trucks and buses.
2. Stub-axle without rigid axle beam type: It is widely used on cars and light commercial vehicles.

Summary

In this session you have learnt a following , Axle is a central shaft for a rotating wheel or gear. Axles are an integral component of a wheeled vehicle.

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