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## UNIT 4 RIVETED JOINTS

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### Structure

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### 4.1 INTRODUCTION

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Joining of sheets of metals is very common yet an important process of manufacturing. Whenever such joints are required to be permanent and capable of carrying high loads, the engineers find choice between riveted and welded joints. Such joining of sheets and plates is required in bridges, boilers, storage tanks, pressure vessels and ships. Though the riveted joints are no more favorite of engineers who have begun to prefer welded structures for their strength, versatility and convenience of application, yet study of riveted joints present classic advantage in drawing and mechanics.

#### Objectives

After studying this unit, you should be able to know

- what is a rivet, its shape and material,
- how is a riveted joint created between metal sheets,
- different types of joints,
- different proportions of joints, and
- how to draw these joints.

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### 4.2 RIVETING

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A rivet is a small metallic part, often produced in mild steel, wrought iron, copper, aluminium (or alloy thereof) by process of forging. The rivets and sheets to be joined are normally of the same material for economy and strength. The rivet is a single piece with three identifiable regions as shown in Figure 4.1. It ends in a tapering cylindrical end with a spherical head joined by a cylindrical region. The length of the cylindrical region is equal to plate thicknesses through which the rivet passes.

The plates to be jointed carry coaxial holes of diameter slightly greater than that of rivet. The plates are placed such that holes are coaxial, the rivet is inserted so that the tail part protrudes out of the plate. The rivet may be inserted cold or heated red before insertion. If cold, the tail is beaten through a die to shape into another head and if hot it is pressed under the die to the head. The head made out of tail is exactly similar to the head at the other end.