



**JYOTHISHMATHI INSTITUTE OF TECHNOLOGY & SCIENCE**

**Nustulapur, Karimnagar - 505481**

**(Approved by AICTE, New Delhi & Affiliated to JNTUH)**

# **MACHINE DRAWING**

## **ASSEMBLY DRAWING**

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**ASST PROF(MECH DEPT)**

**II BTECH II SEM 2018-19**

# DETAIL AND ASSEMBLY DRAWING

Detail Drawing: The drawing which provides complete information of each individual part

**Good detail drawing contains :**

Limits of accuracy

Shape of part

Grade of finish

Size of the part

# ASSEMBLY DRAWING

The drawing which gives complete information of the object as a whole is called assembly drawing.

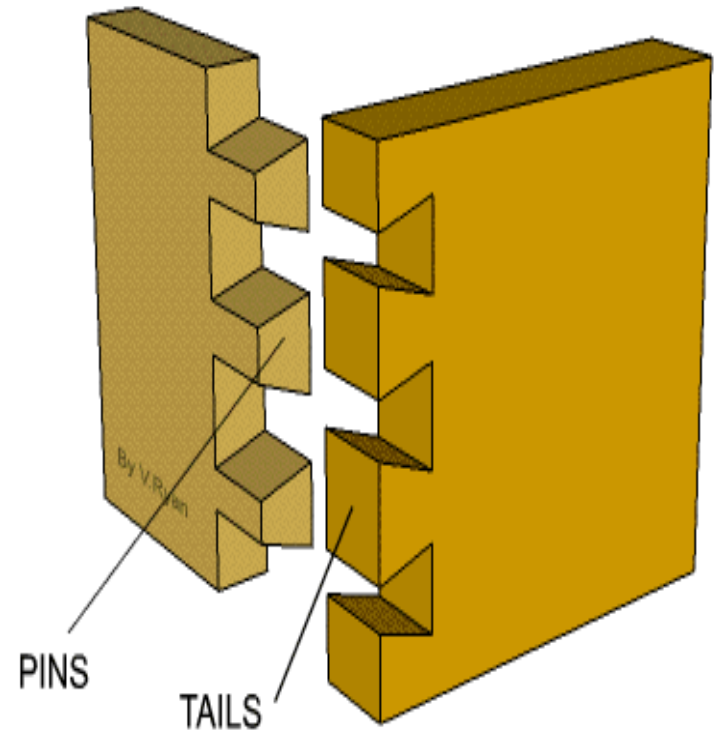
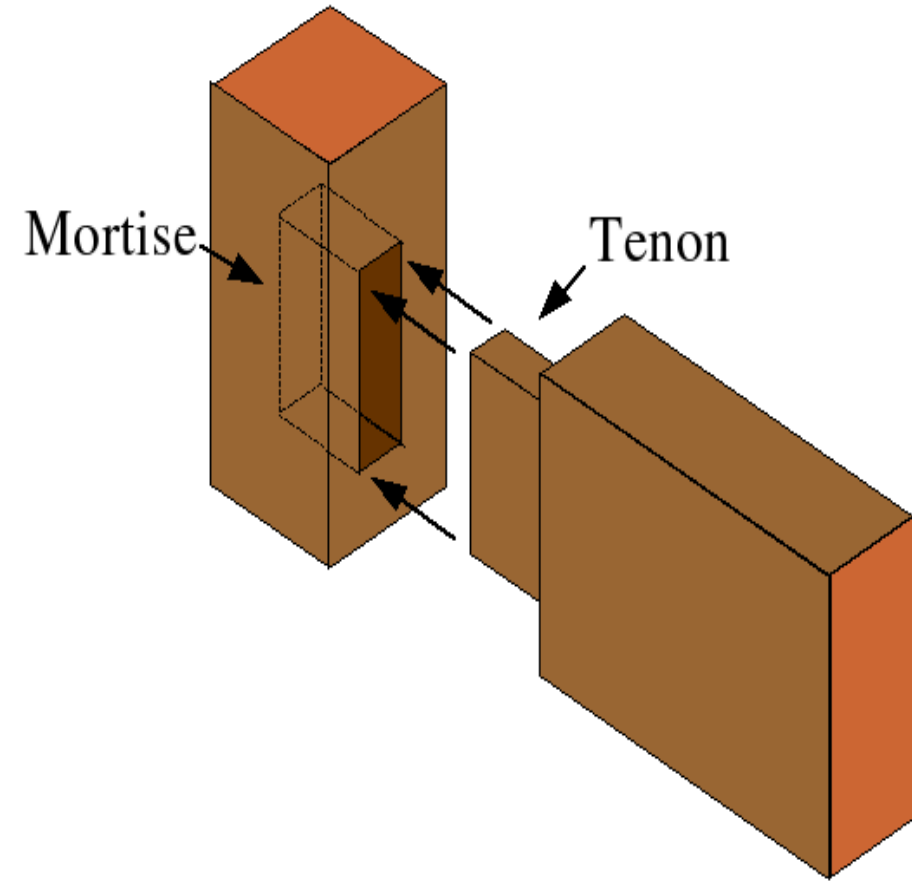
A good assembly drawing should satisfy-

1. Maintenance requirement
2. Operational requirement
3. Manufacturing requirement

# WOODEN JOINTS

- joints which combine two or more wooden parts together
- examples of wooden joints:
  - Corner mortise and tenon joint
  - Cross halving joint
  - Tee halving joint
  - Dovetail joint

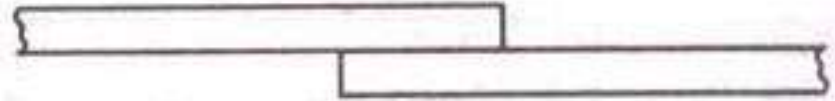
# WOODEN JOINTS



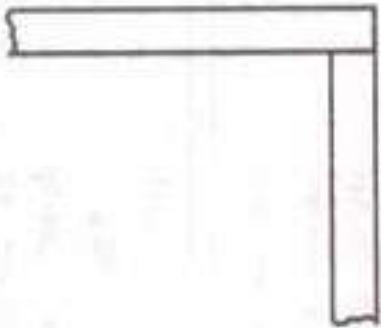
# Types of wooden joints



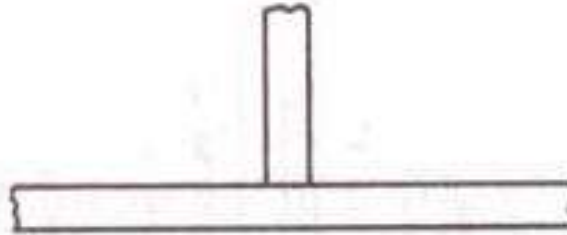
Butt joint



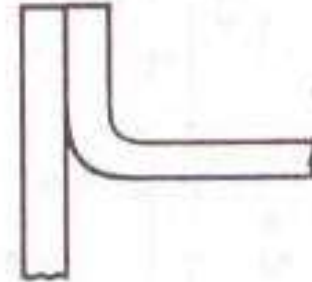
Lap joint



Corner joint

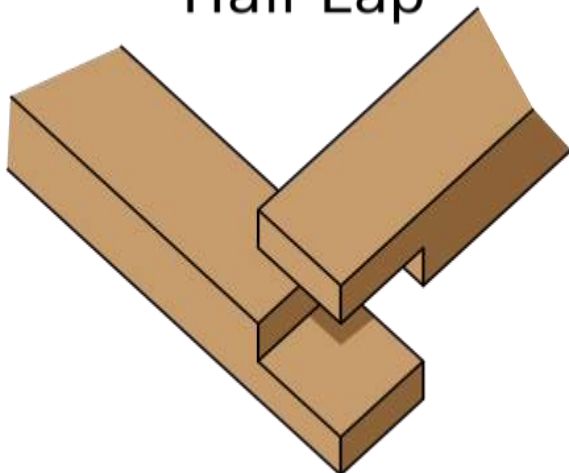


Tee joint

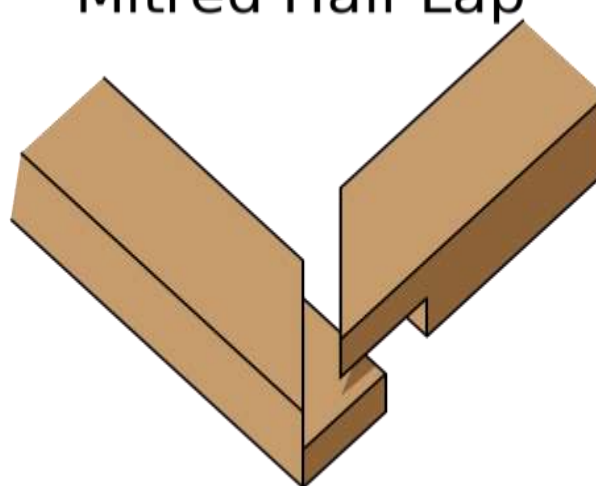


Edge joint

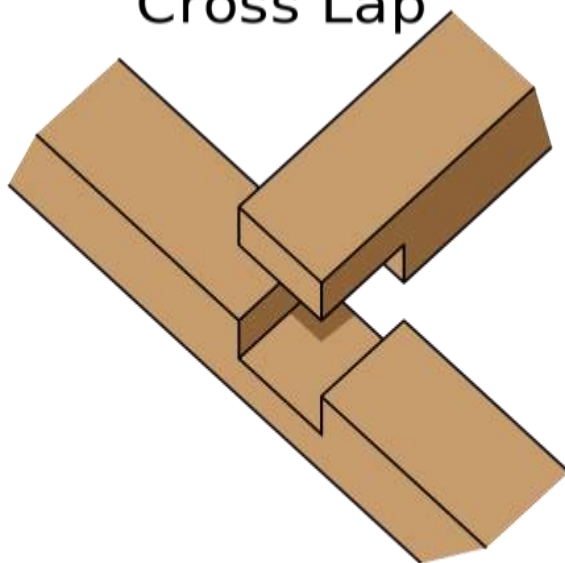
Half Lap



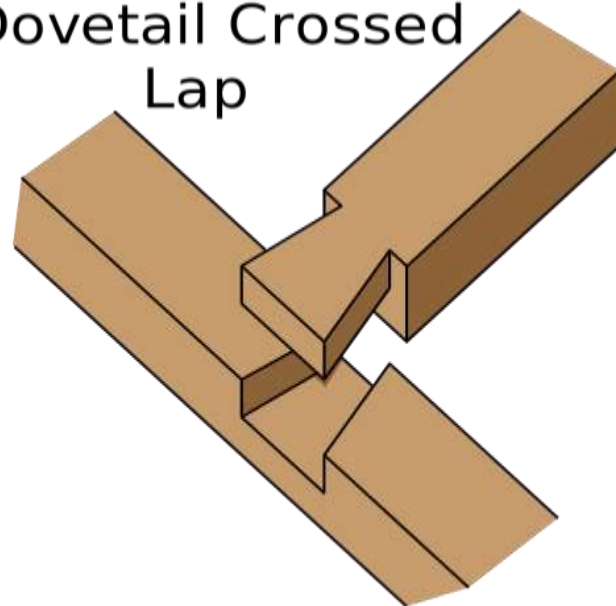
Mitred Half Lap

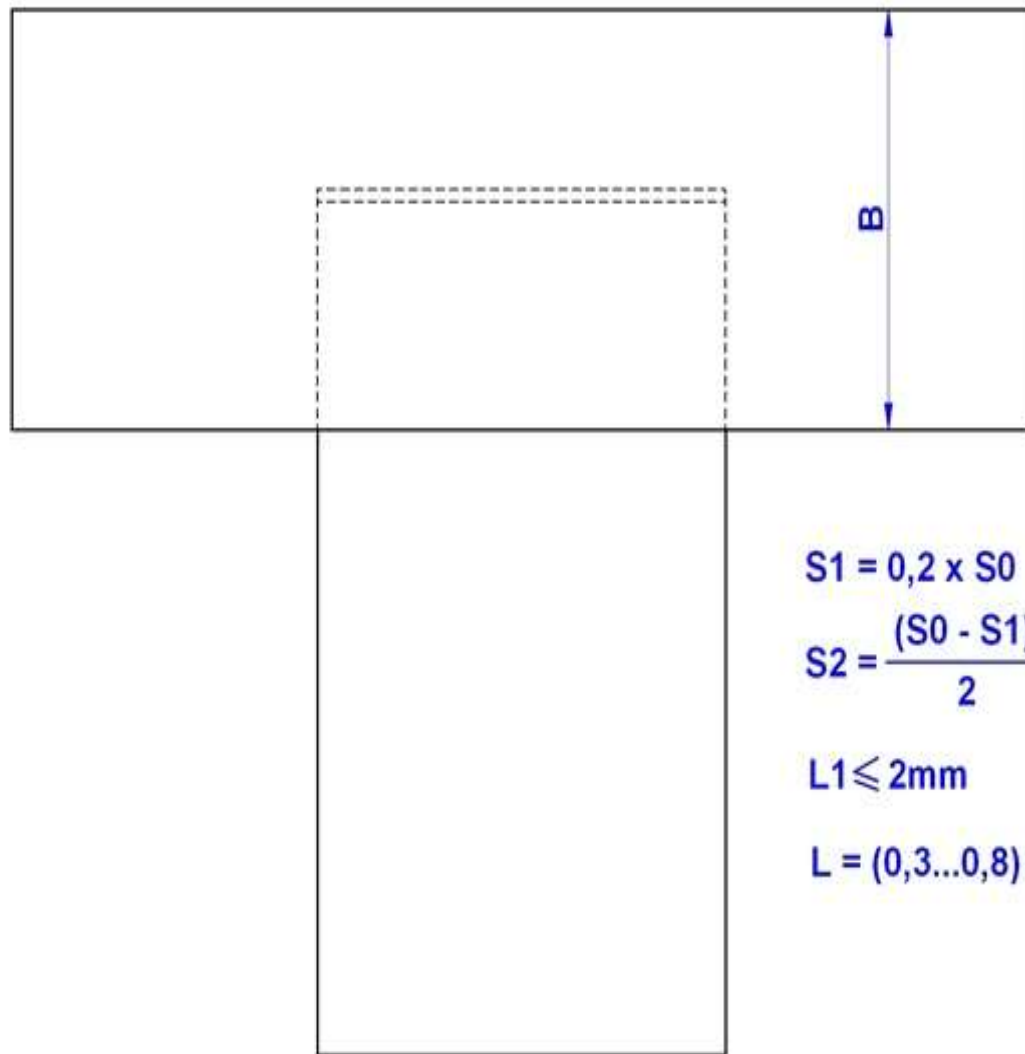


Cross Lap



Dovetail Crossed Lap



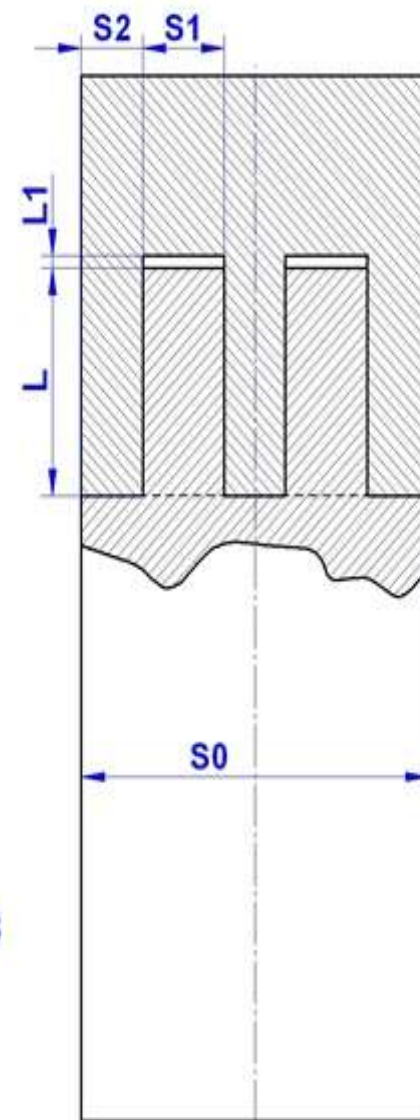


$$S1 = 0,2 \times S0$$

$$S2 = \frac{(S0 - S1)}{2}$$

$$L1 \leq 2\text{mm}$$

$$L = (0,3 \dots 0,8) \times B$$

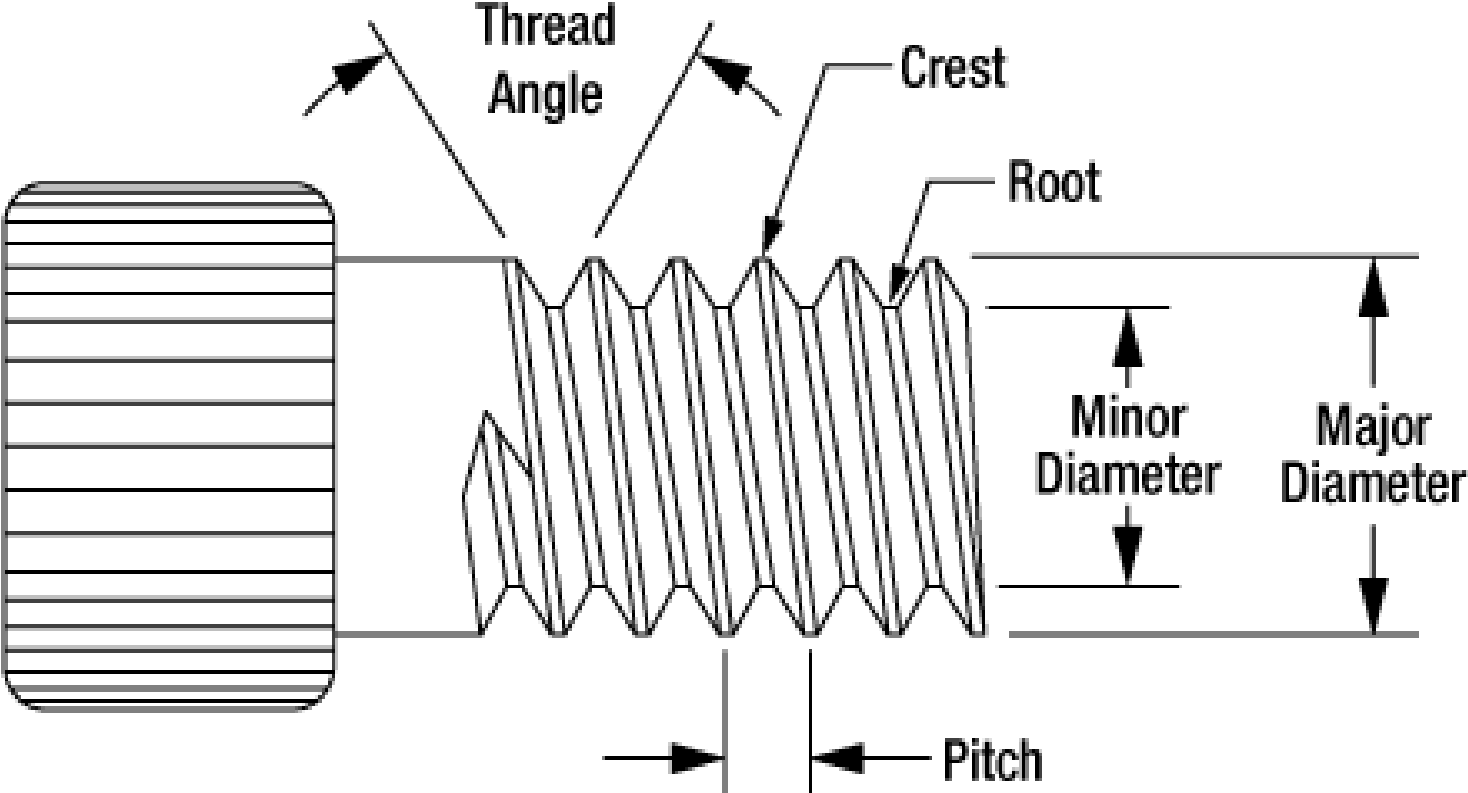




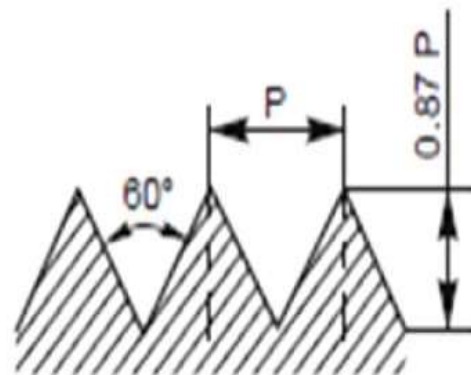
# SCREW THREAD

- Helical grooves cut on a cylindrical component
- Types of thread
  - V-thread
  - Square thread

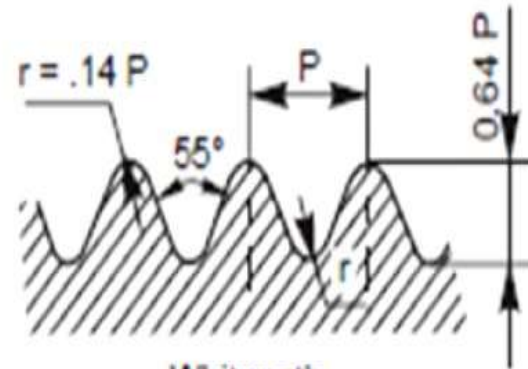
# Screw Thread Nomenclature



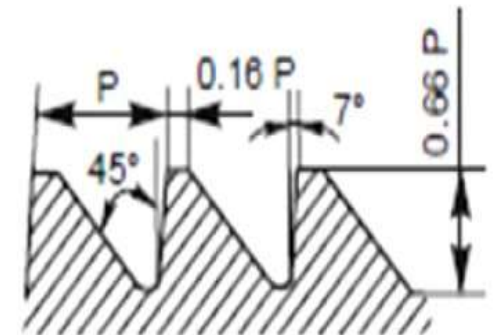
# TYPES OF THREAD PROFILES



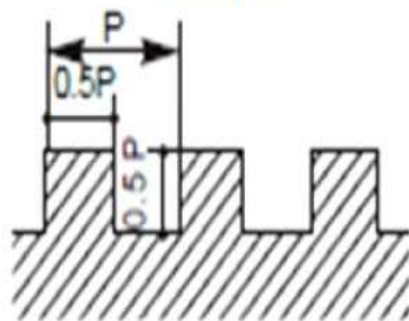
Sharp V



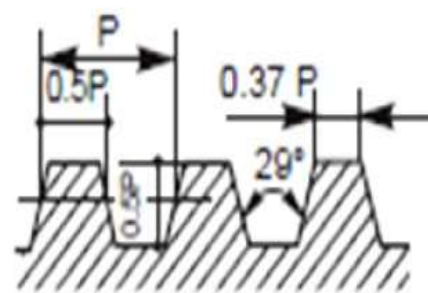
Whitworth



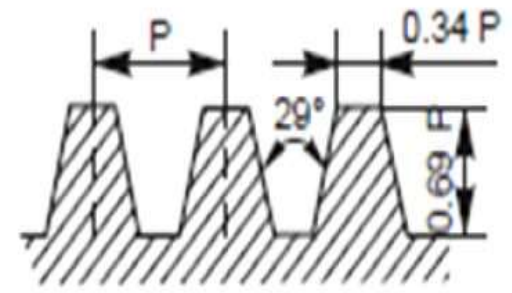
Buttress



Square



ACME

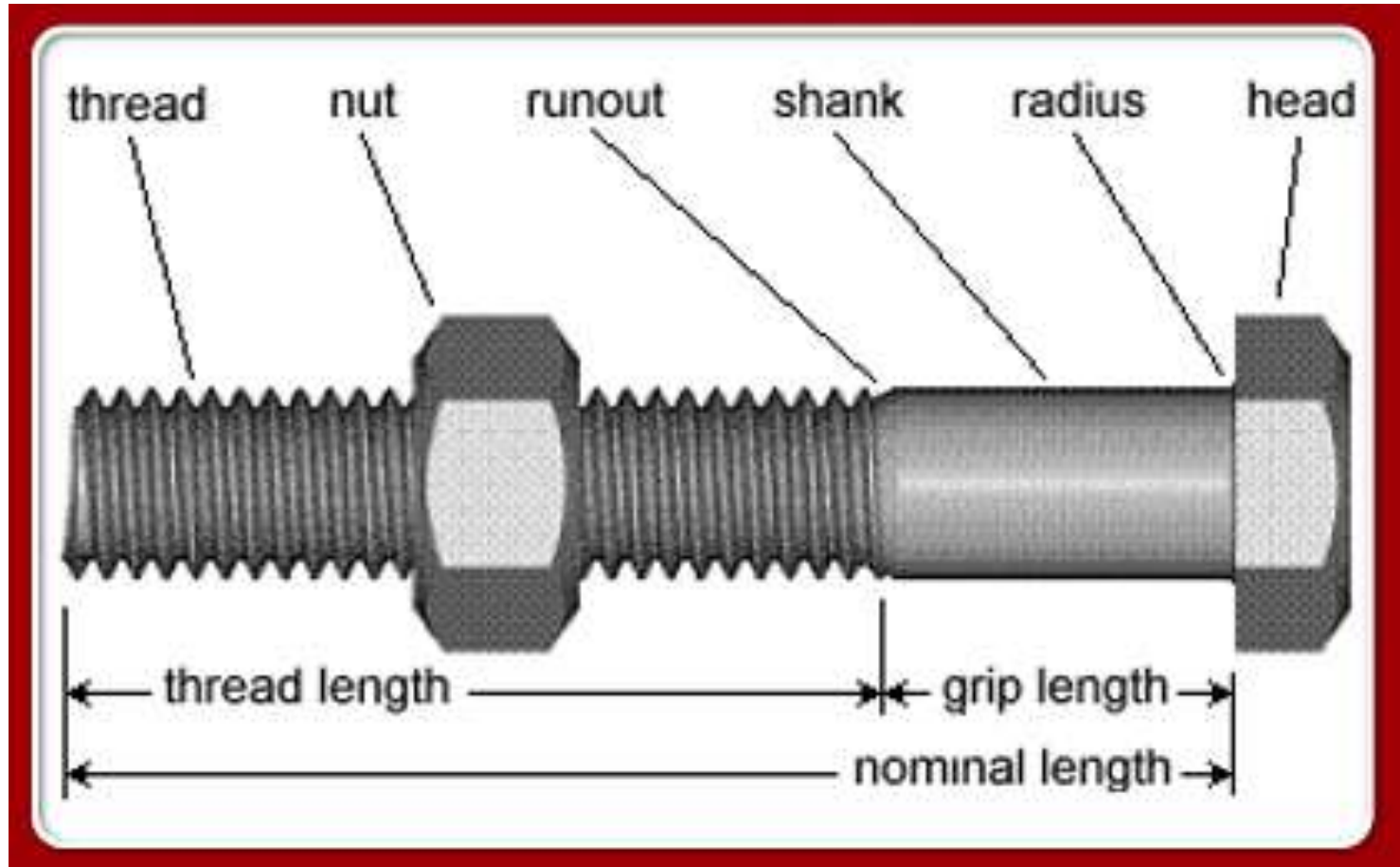


Worm

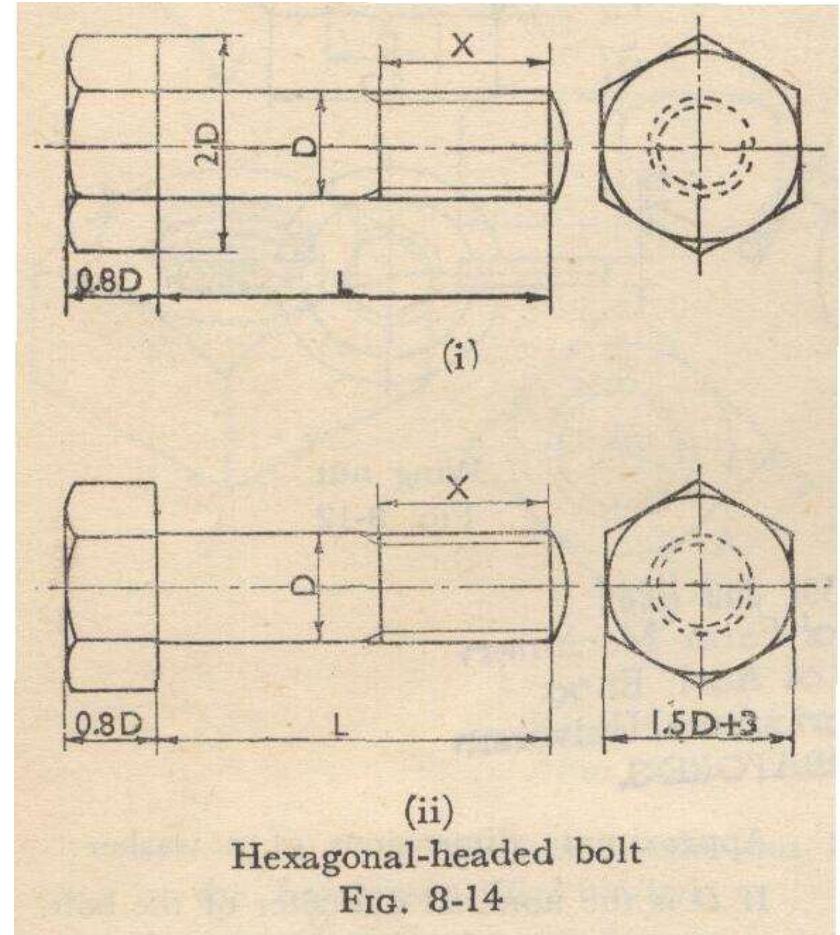
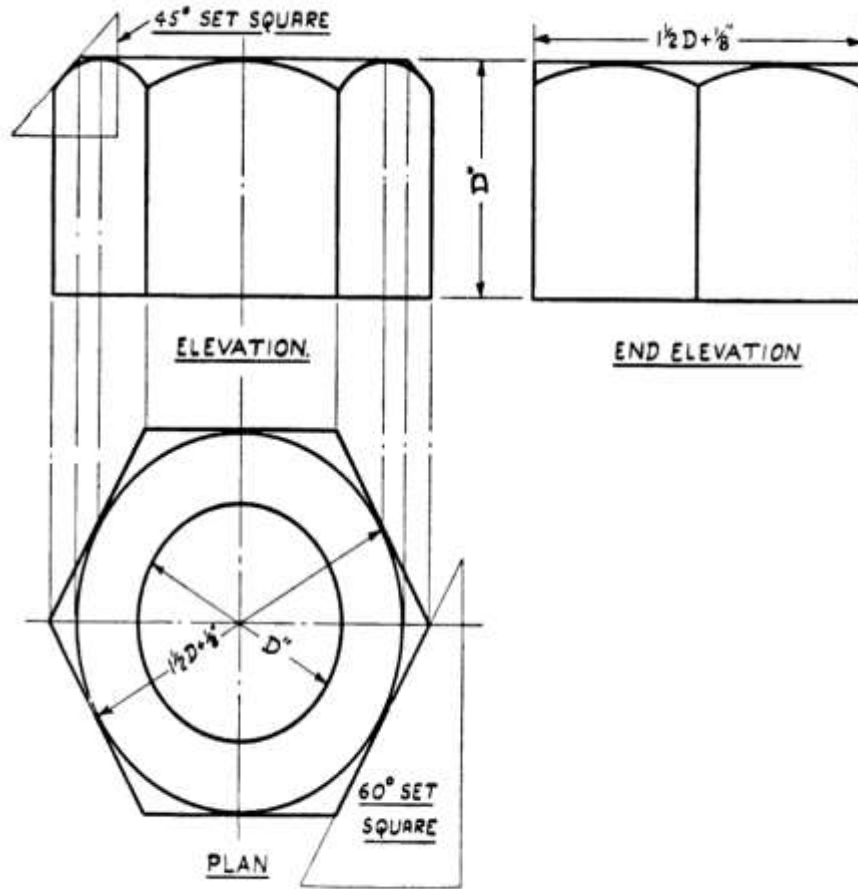
# NUT AND BOLT

- Nut -a cylindrical component having internal thread on it. It is used with bolt.
- Bolt –A cylindrical component having external threads

# Nut and Bolt Assembly



# Hexagonal Nut and Bolt Drawing



# KEYS AND COTTER JOINT

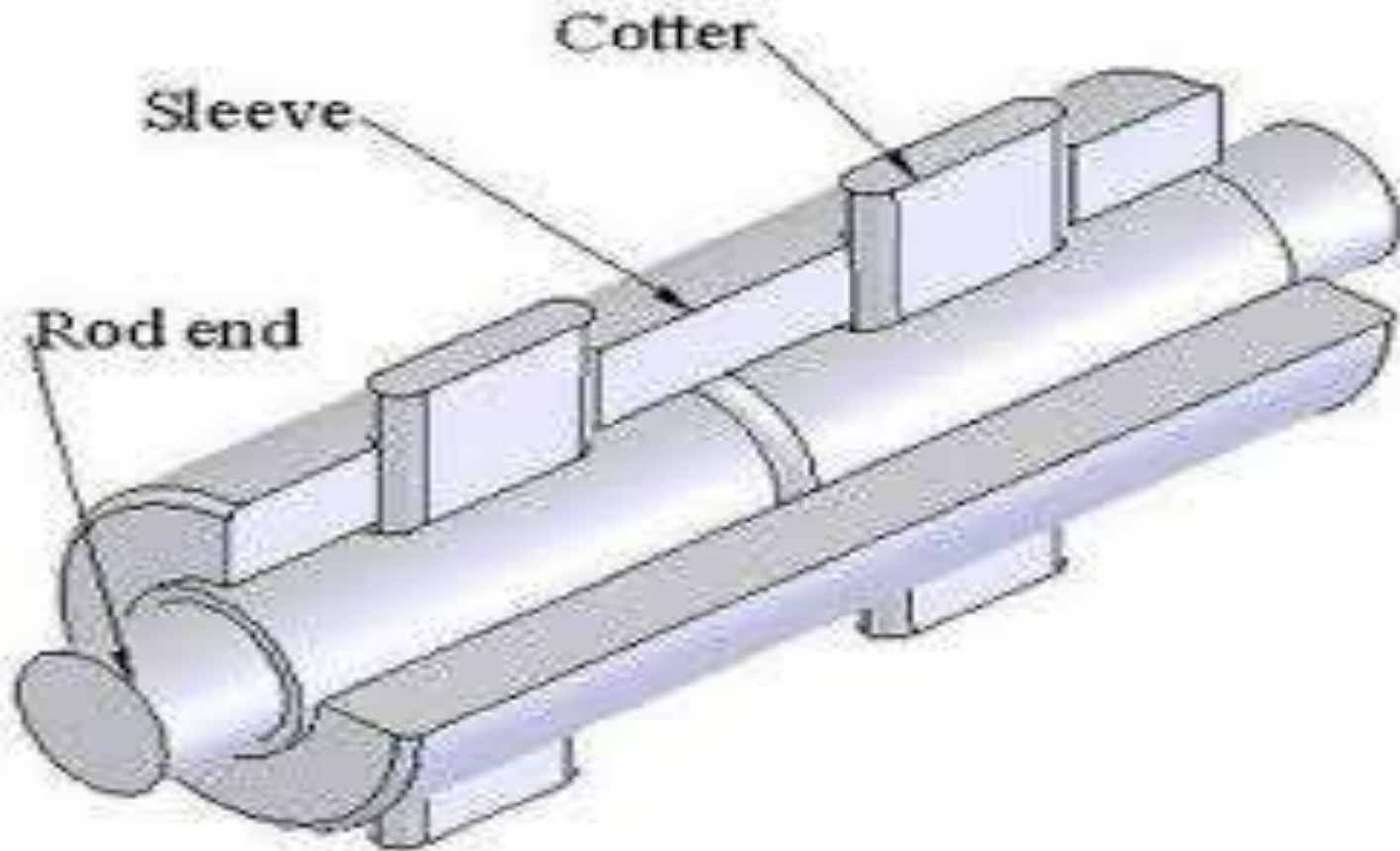
- KEY-A piece of mild steel inserted between shaft and hub of mating member in axial direction
- COTTER-A flat wedge shaped metal piece of rectangular cross section having uniform thickness but taper in width

# TYPES OF COTTER JOINT

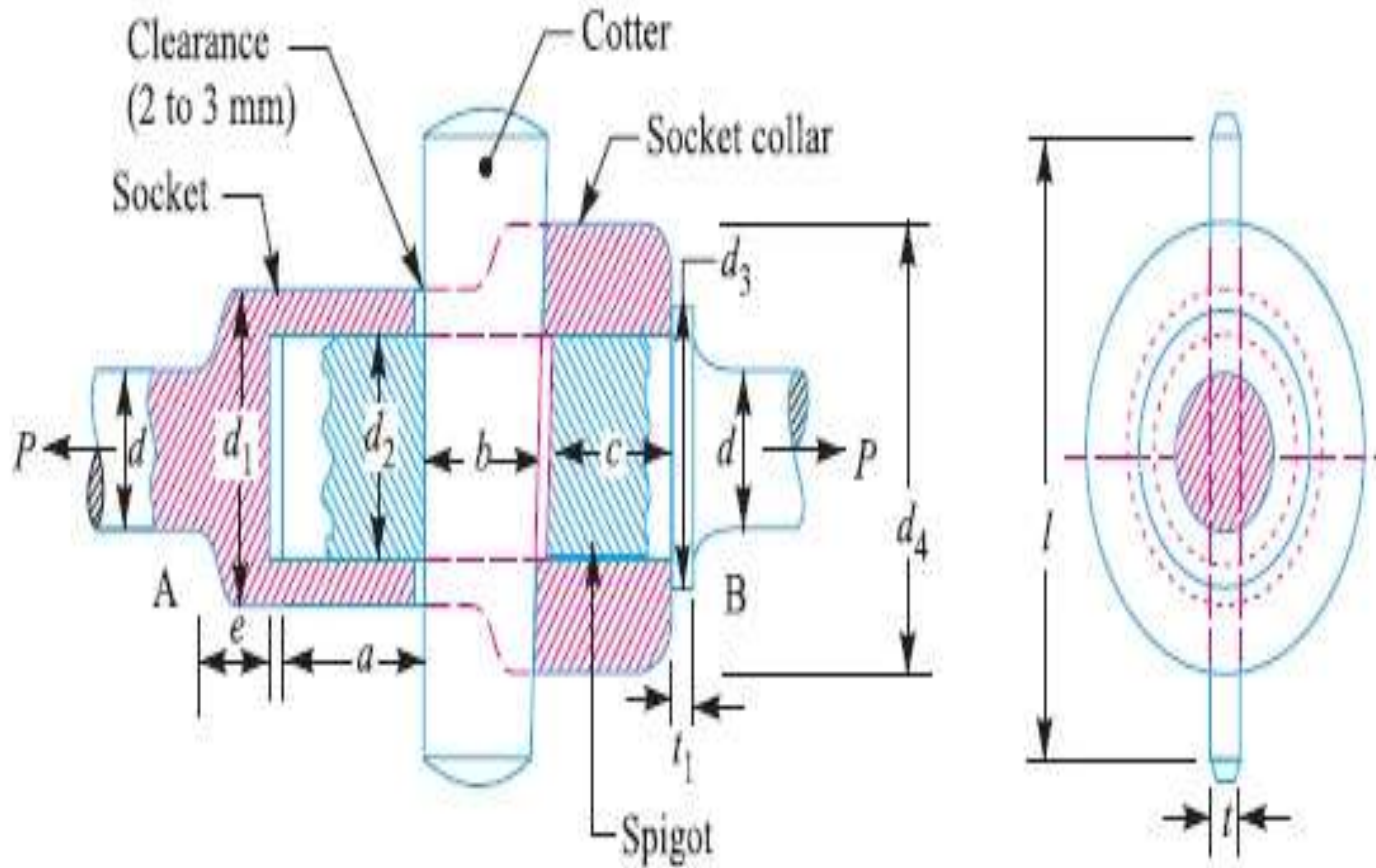
- Spigot And Socket Joint
- Knuckle Joint
- Gib And Cotter Joint
- Sleeve And Cotter Joint



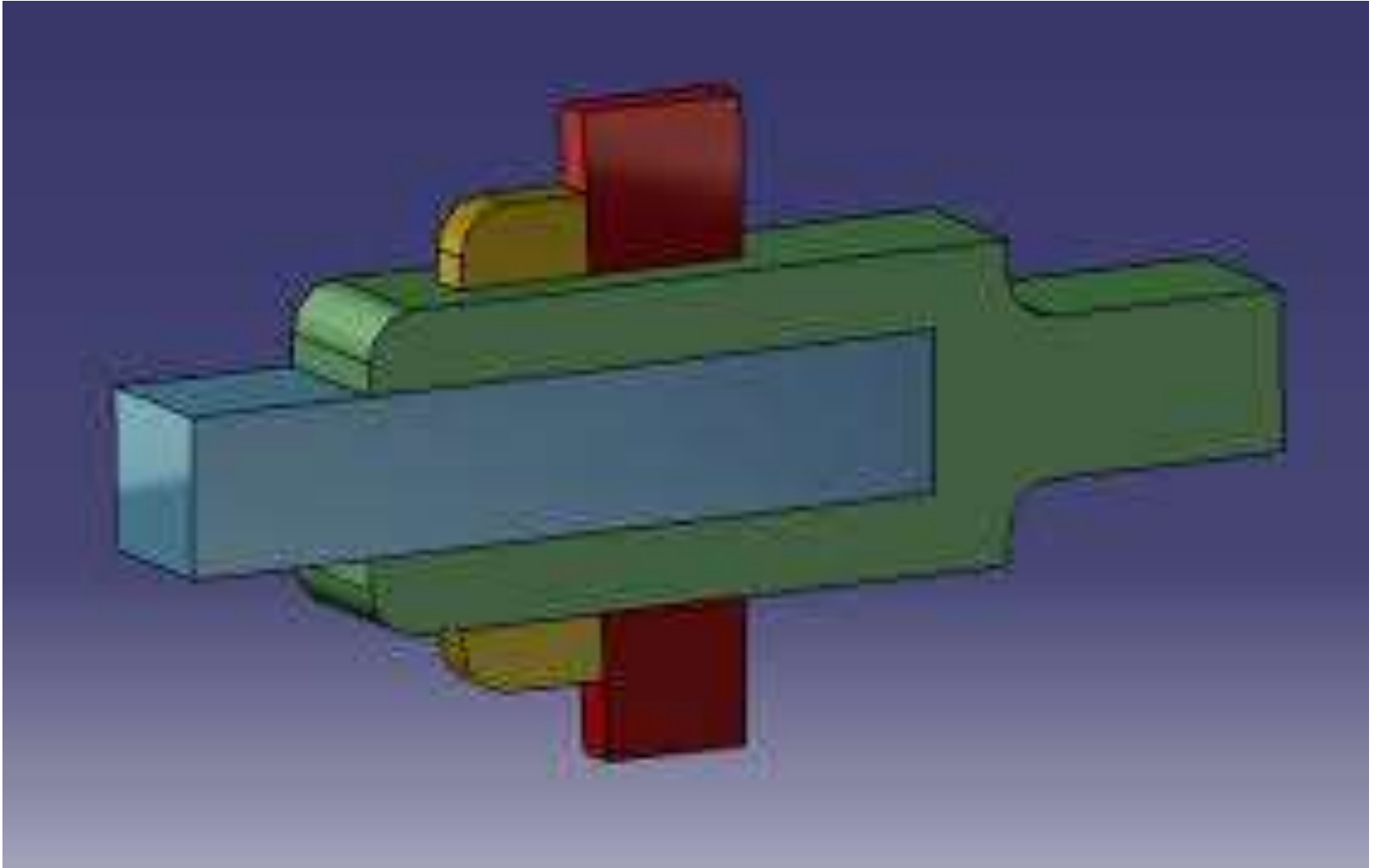
# SLEEVE AND COTTER JOINT



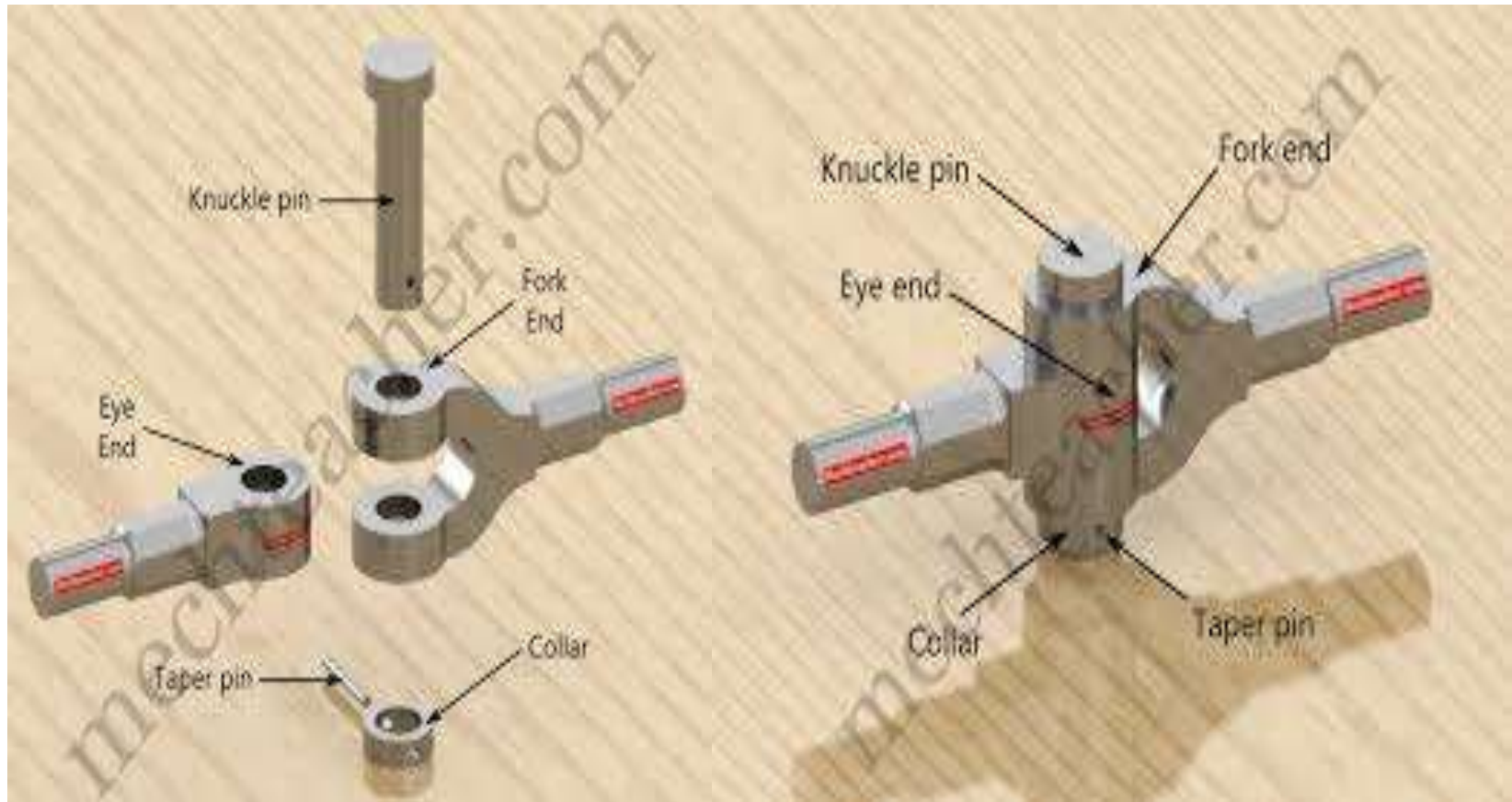
# SPIGOT AND SOCKET JOINT



# GIB AND COTTER JOINT



# KNUCLE JOINT



# RIVETS AND RIVETED JOINT

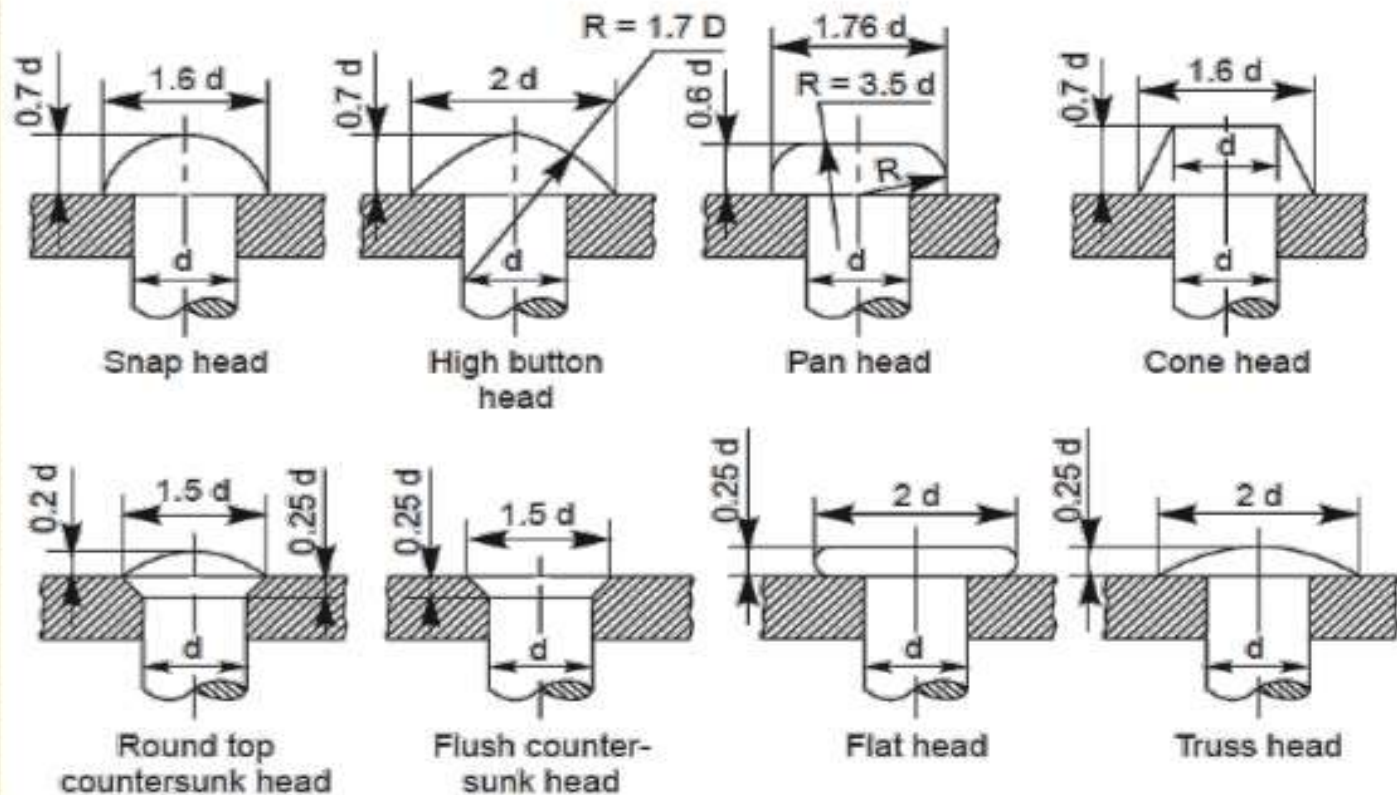
- RIVETS-A round bar with a head on side and a tail on other side made up of wrought and steel iron
- Types of rivets:
  - Structural rivets
  - Boiler rivets
  - General purpose rivets

# Rivet and its Types



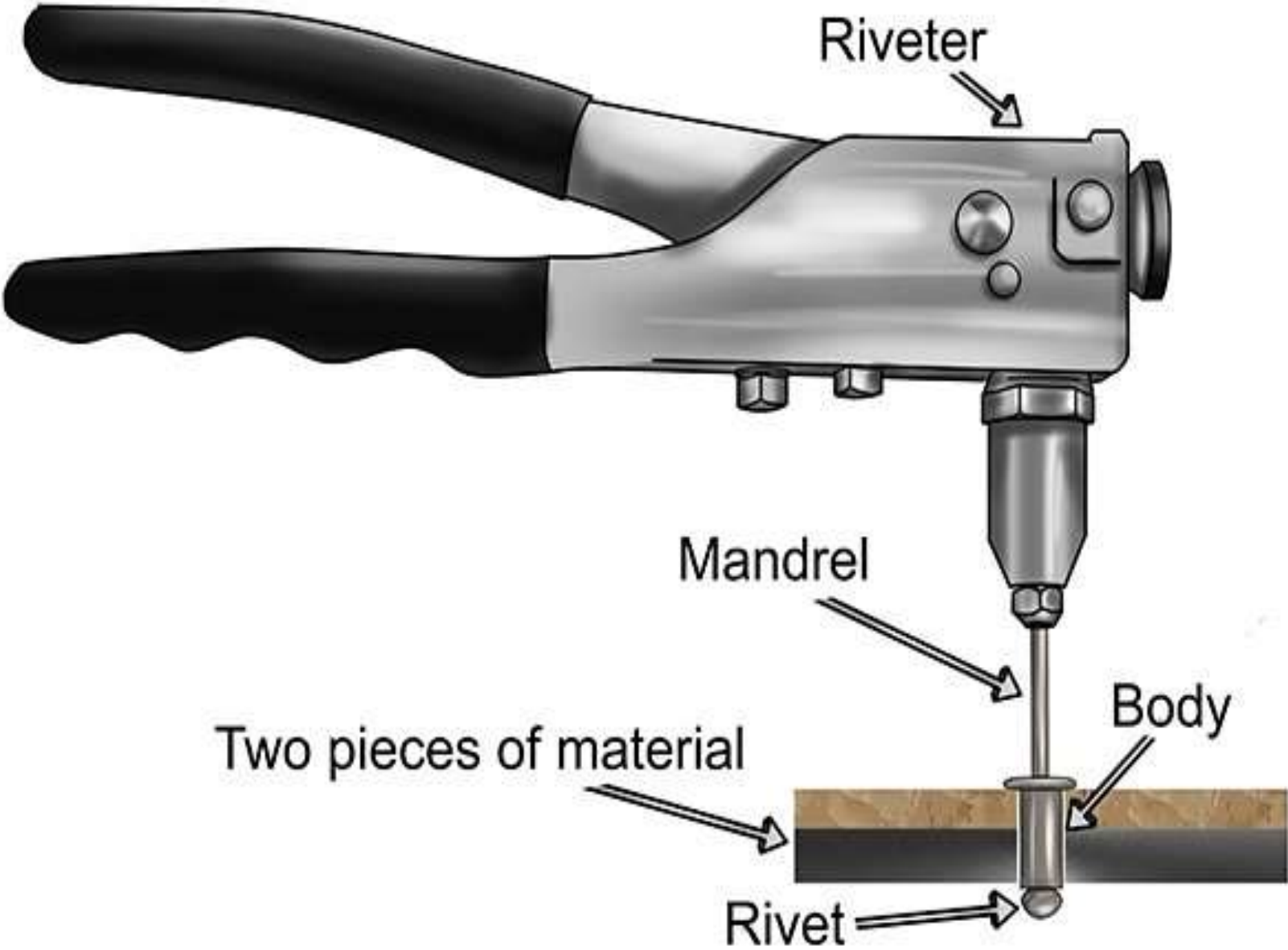
MechieProjects

## TYPES OF RIVET



# RIVETED JOINT



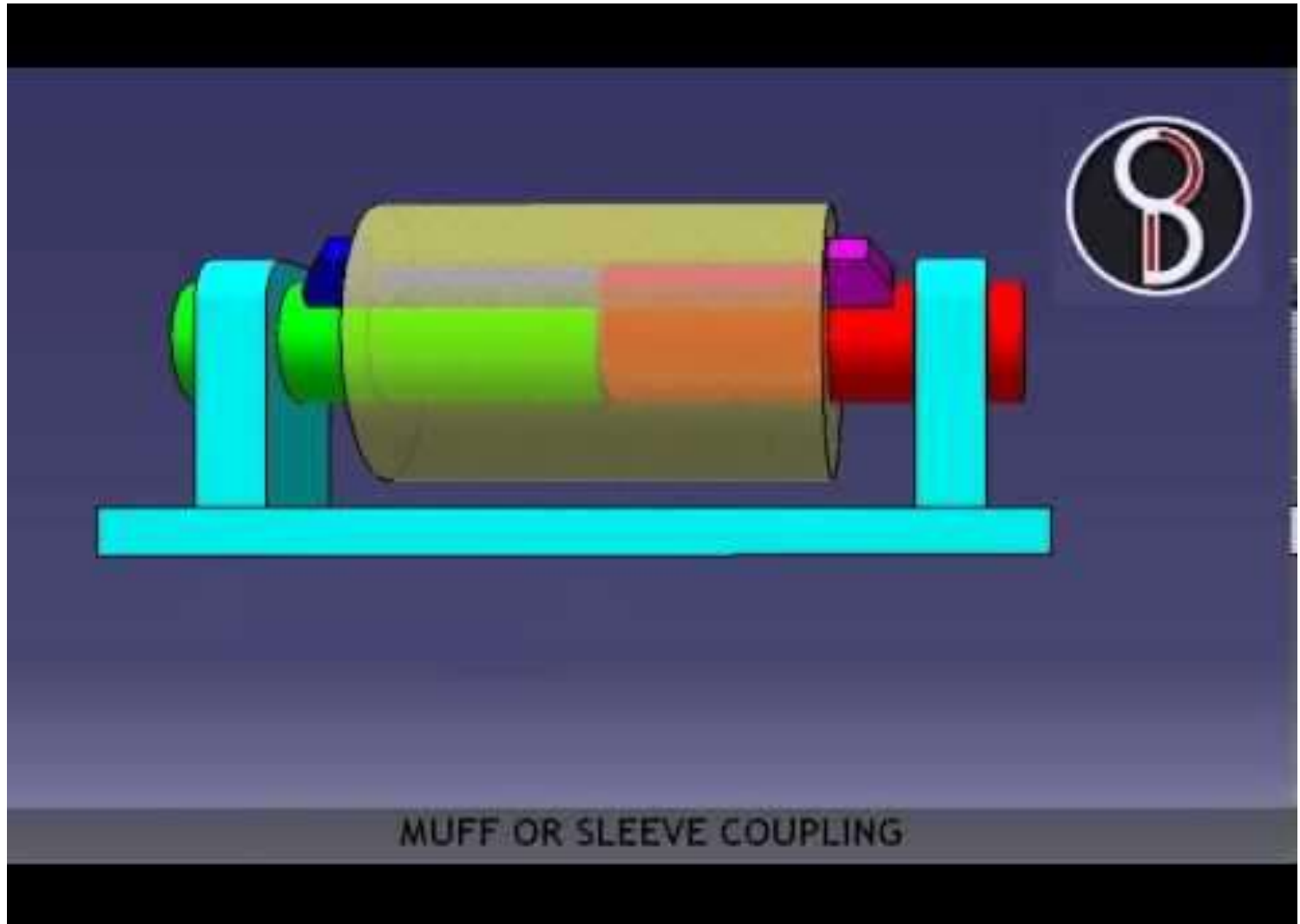




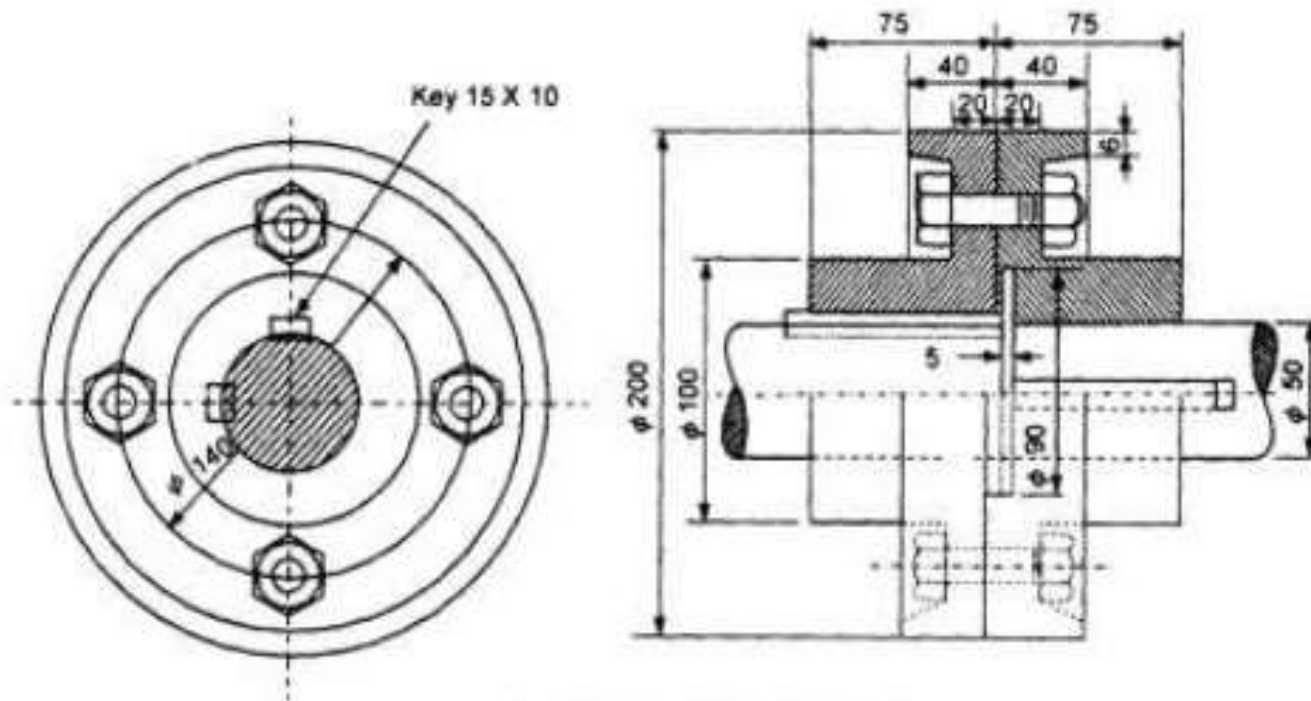
# COUPLING

- A device used to join two or more pieces of shaft in order to transmit motion or power from one shaft to another
- Types of coupling:
  - Rigid coupling –Flange coupling,muff coupling
  - Flexible coupling-Pin type flexible coupling

# MUFF COUPLING

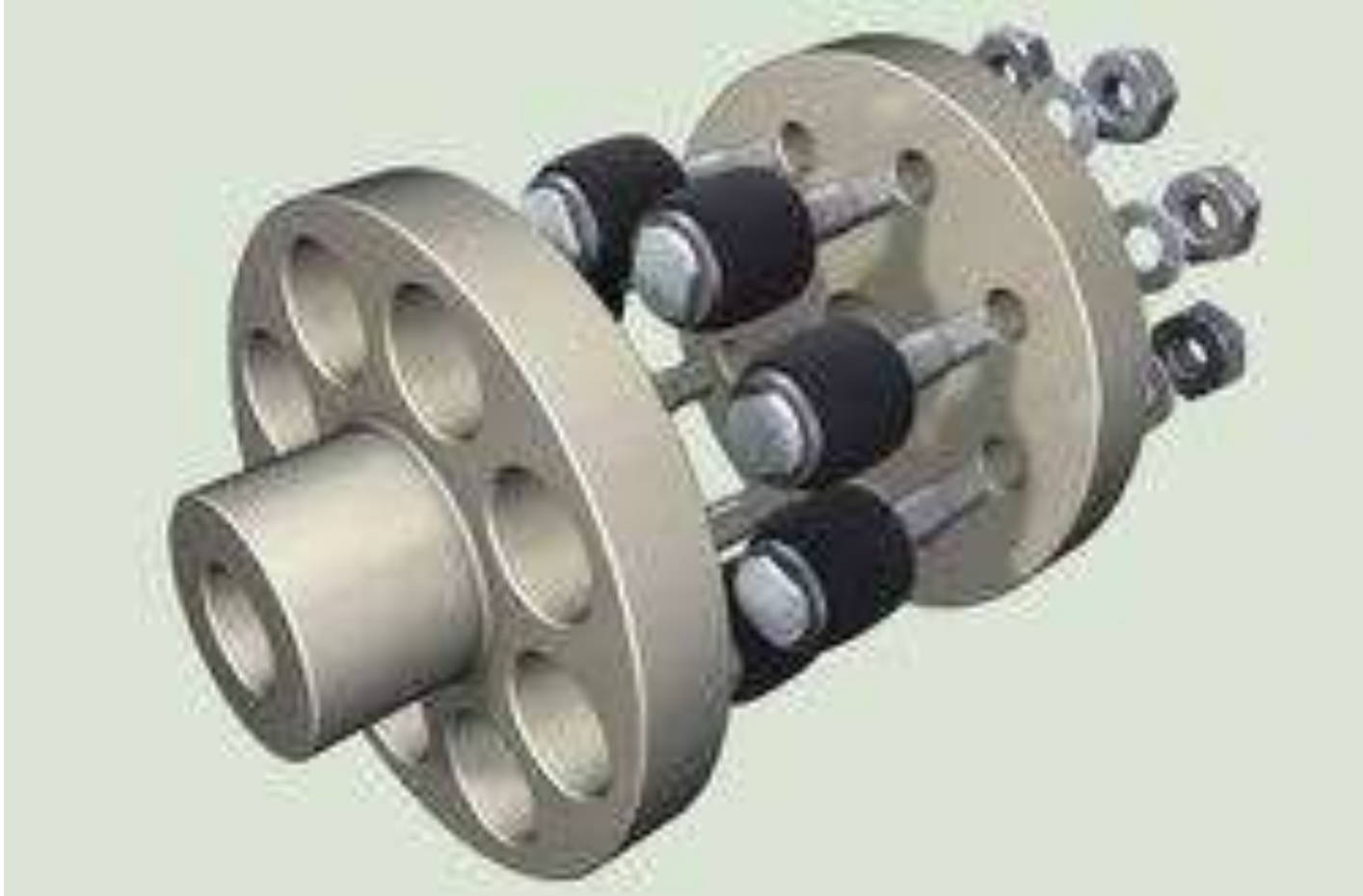


# RIGID PROTECTED TYPE FLANGED COUPLING



Protected type flange coupling

# PIN TYPE FLEXIBLE COUPLING



# FLANGE COUPLING



**THANK YOU**