

# STATIC BALANCING AND DYNAMIC BALANCING



➡ **RAVI N**

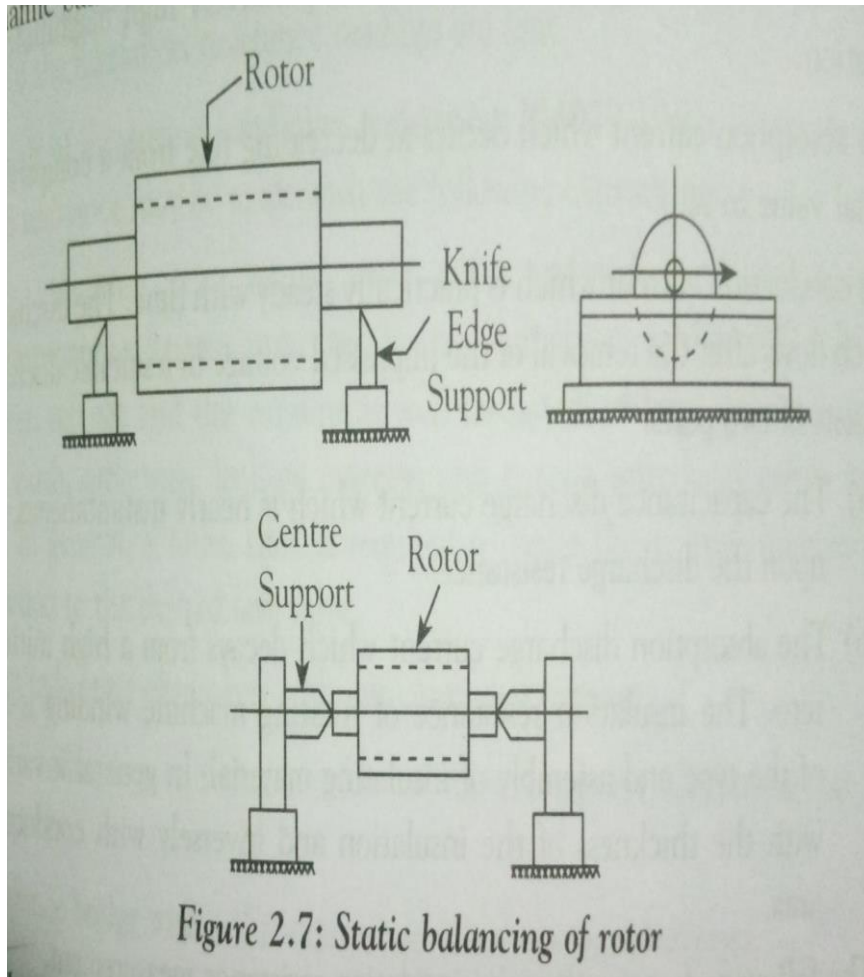


- It is essential that rotor is to be mechanically balanced for smooth running without developing vibrations.
- The rotor here includes complete rotor with slip rings, couplings etc.
- The balancing can be achieved by adding or shifting weights fixed on the rotor for counter balancing or the material from the rotor drilled from heavy side.
- The balancing can be achieved by 2 ways
  1. Static balancing for low speed machines.(below 1000 rpm)
  2. Dynamic balancing for high speed machine.(above 1000 rpm)

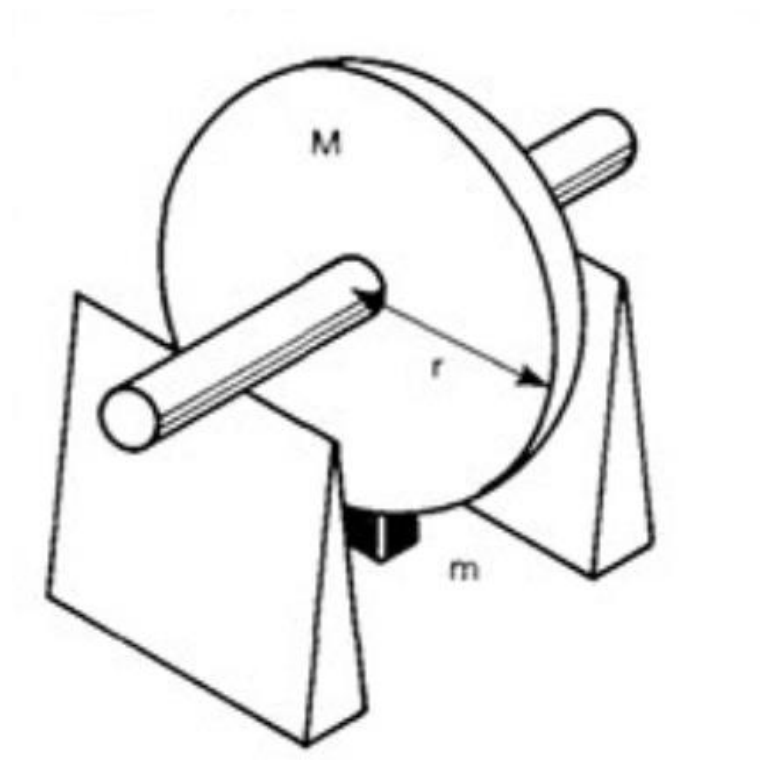
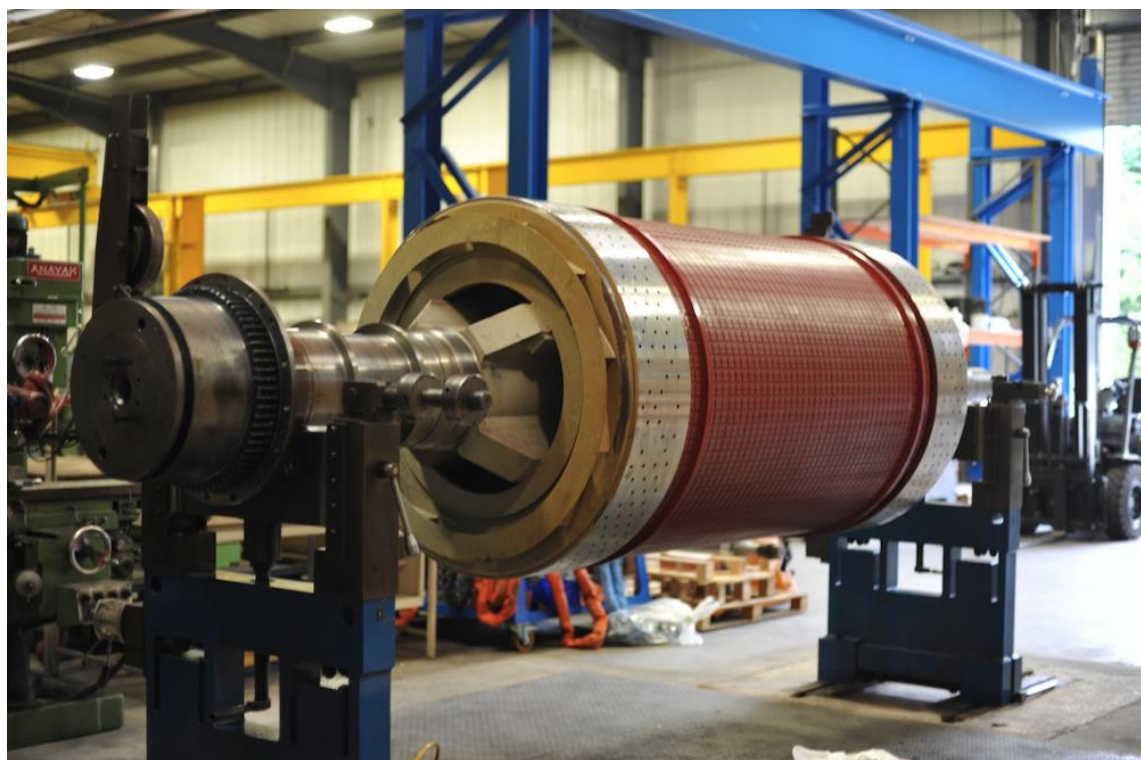


## STATIC BALANCING:

- The rotor to be balanced is fixed on a two knife edges of the balancing.
- The centre or the knife edges must be in perfect horizontal plane.
- A well balanced rotor will remain in standing in any position when turned about the axis in any direction, in any position and will not oscillate.
- When the rotor is unbalanced, heavier side will always try to come down and the rotor cannot stay in any position.
- The balancing is achieved by the addition of weight or removing material from heavier portion of the rotor.



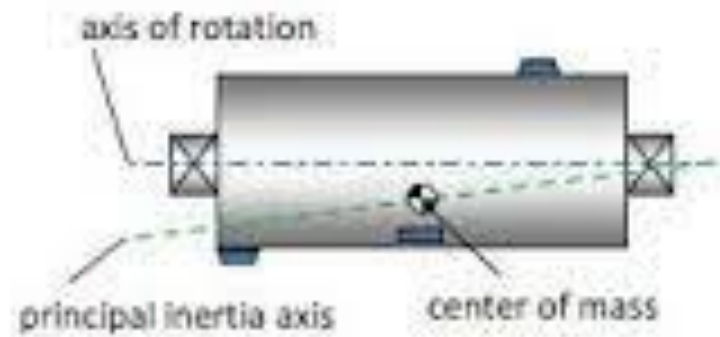




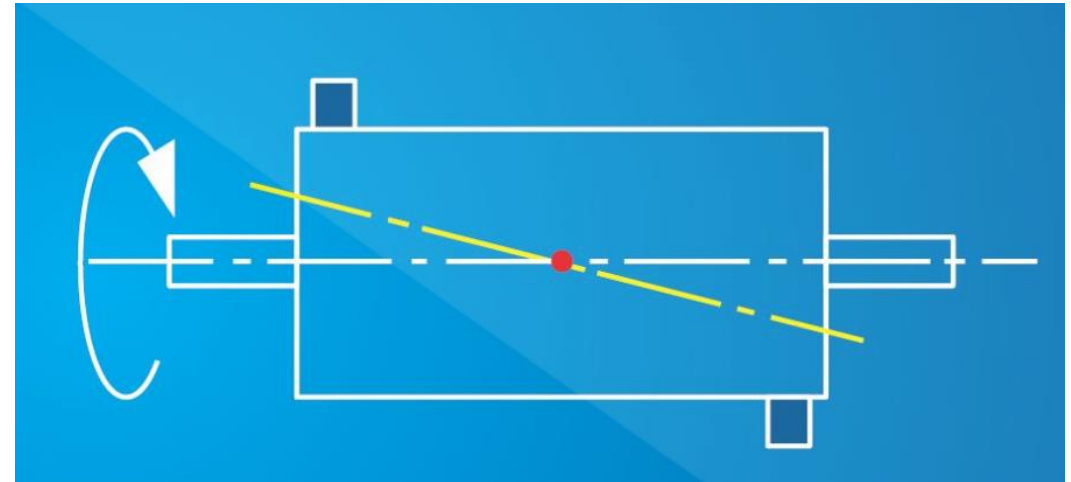


## **DYNAMIC BALANCING:**

- The rotor of the to be balanced is mounted on the axis of the balancing machine and driven at high speed.
- if the rotor is unbalanced, it will vibrate at higher speeds.
- To locate an unbalanced portion, one of the bearing is locked and the other is left free to vibrate.
- An indicating needle is gently touched to the rotor and leaves a mark at the uneven portion.
- The same is repeated by rotating the rotor in reverse direction.
- The heavy portion lies between the two marks which is removed or counter weight is placed.



## 2. dynamic unbalance







**THANK YOU**

