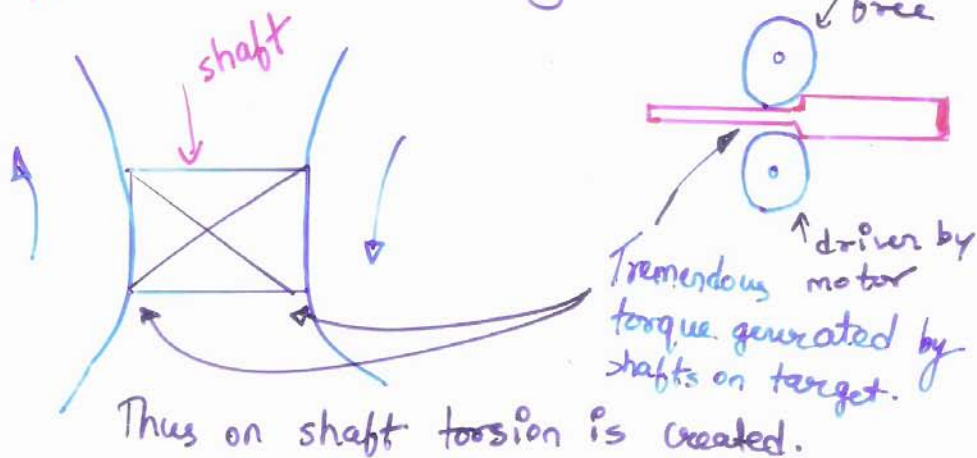


## Torque Measurement:-

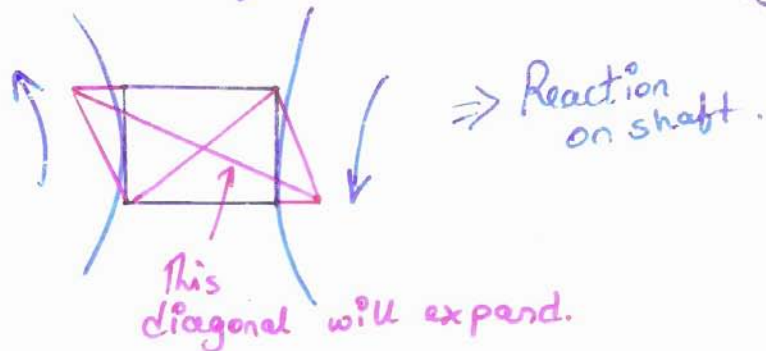
- Measurement of applied Torque is of importance in Rotating shafts.
- It will ensure that design of rotating element is adequate to prevent failure under shear stress.
- Torque measurement is also necessary to know the power transmitted by rotating shafts.
- Measuring the strain produced in a rotating shaft due to applied torque!

Torque Sensing with strain gauges:-

- **Application :- Rolling Mills:**

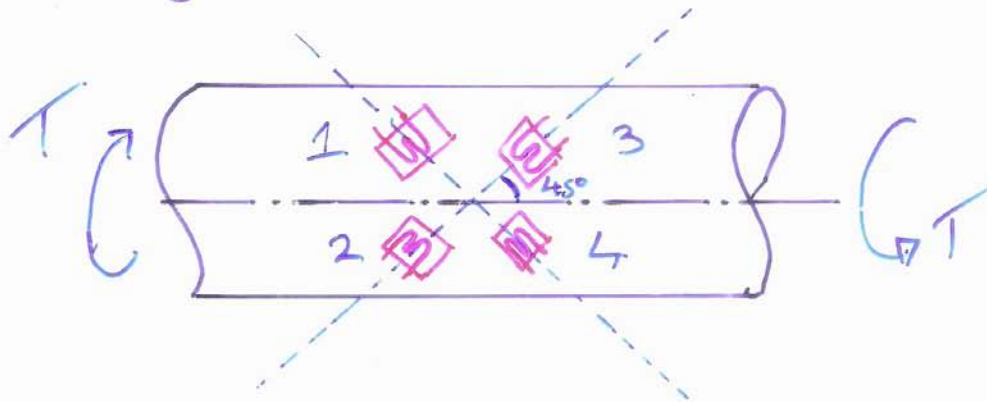


Torque Sensing with strain gauges:-  
(It converts torque to an electrical signal)



→ Force/Torque created by motor is transferred to rolls through torsion created on this shaft.

• Diagram:-



- Strain gauges 1 & 4 are under tension. (elongation).
  - Strain gauges 2 & 3 are under compression.
- ⇒ The strain gauges should be so mounted that they give maximum sensitivity to the strain's produced by torsion.