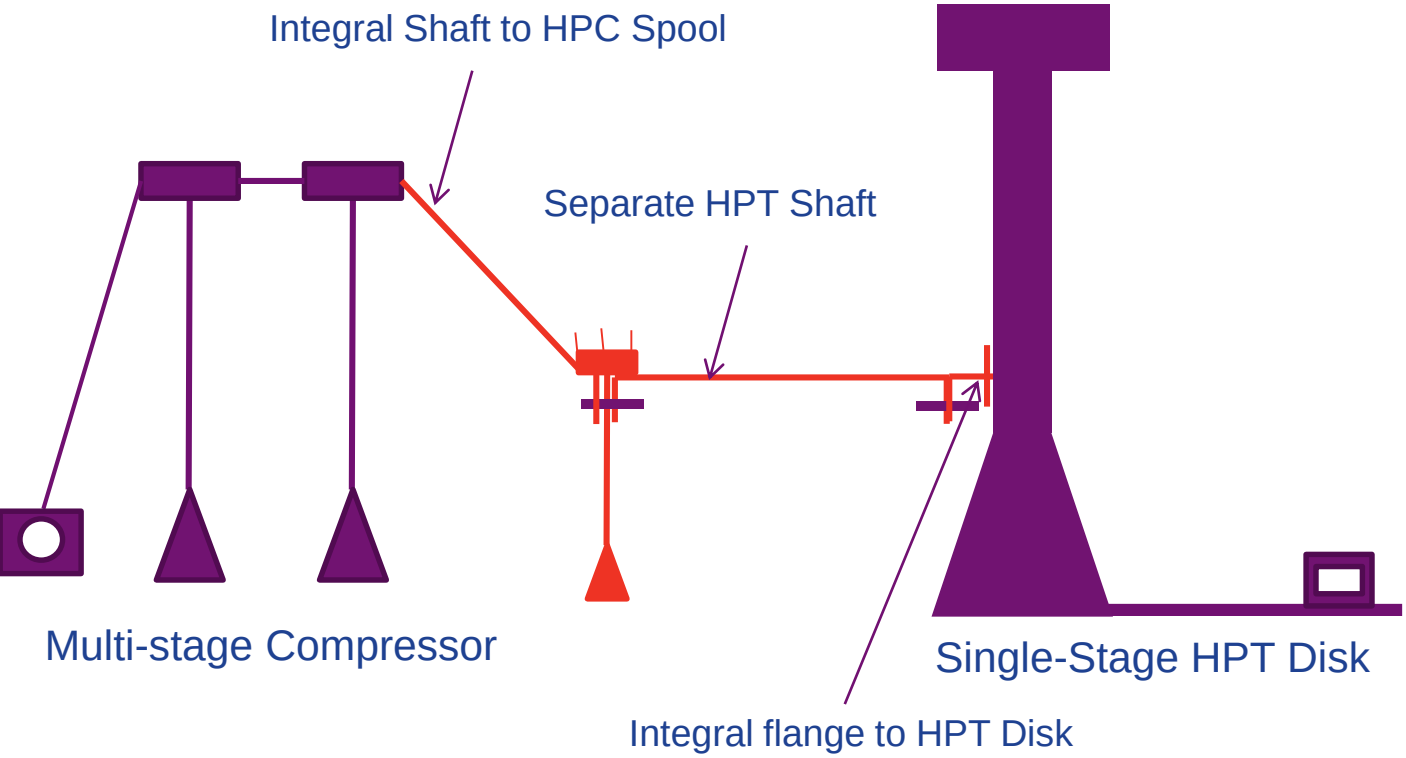
# Shaft Definition

# Shaft Definition

- For the purposes of our team charter, the following describes the “shaft system” that transmits torque from the turbine to the compression system
  - The shaft system comprises any component that is essential to transmitting torque between the turbine and the compression system. Those include, but are not limited to:
    - Shafts
    - Tie-Shafts that maintain torque carrying capability (exclude multiple bolt designs that have redundancy)
    - Disks in the torque path

# Example 1

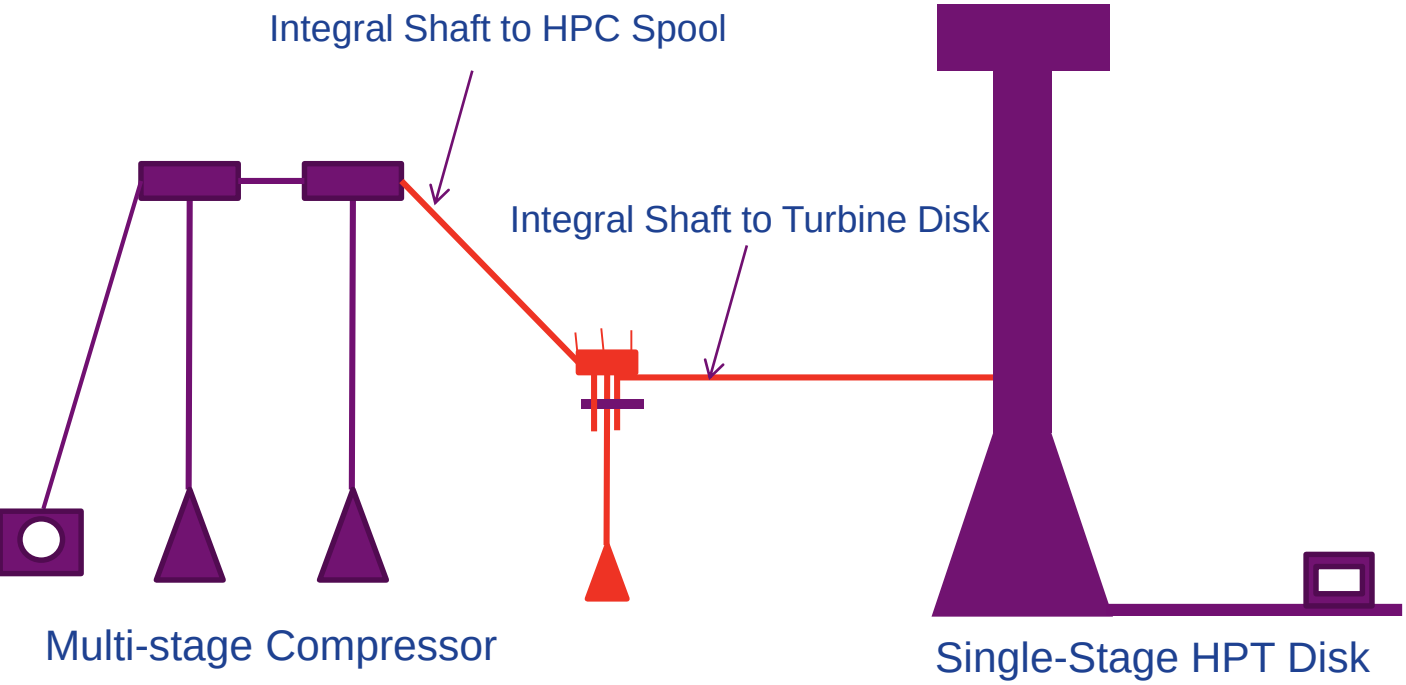
Note:  all components are critical rotating parts




Note: the red areas are part of the shaft system

# Example 2

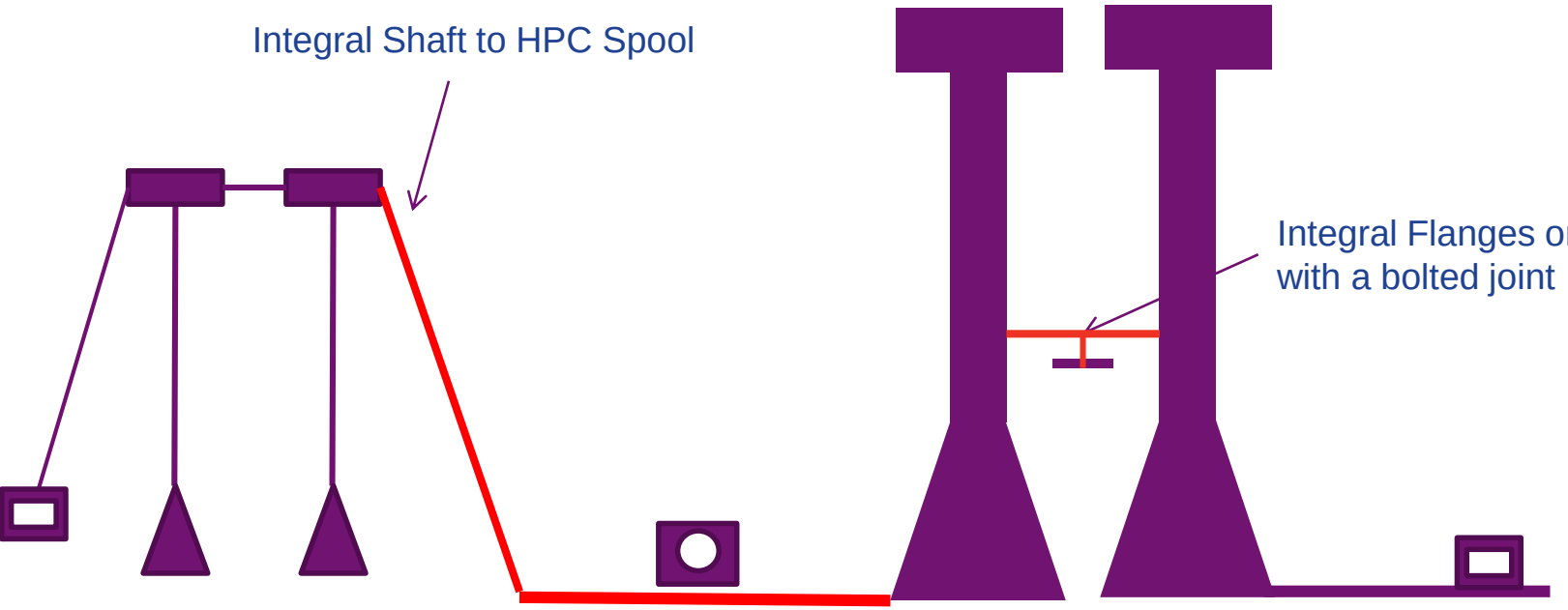
Note:  all components are critical rotating parts




Note: the red areas are part of the shaft system

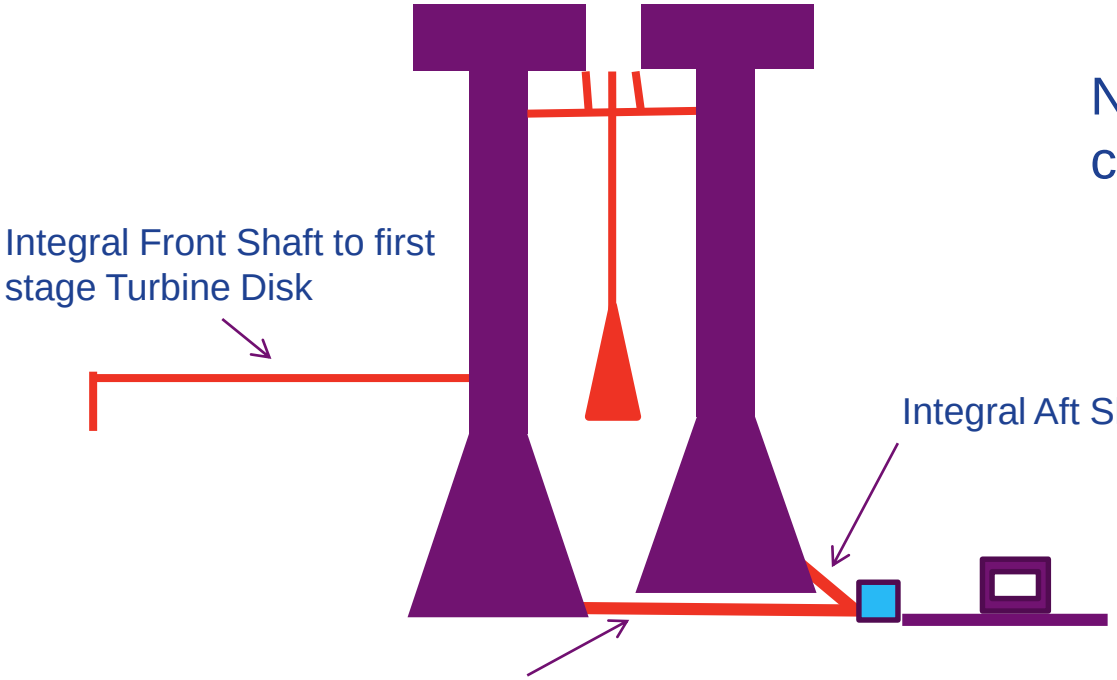
# Example 3 –Two-Stage Turbine

Note: all components are critical rotating parts




Note: the red areas are part of the shaft system

# Example 4 – Two-Stage Turbine with Tie-bolt

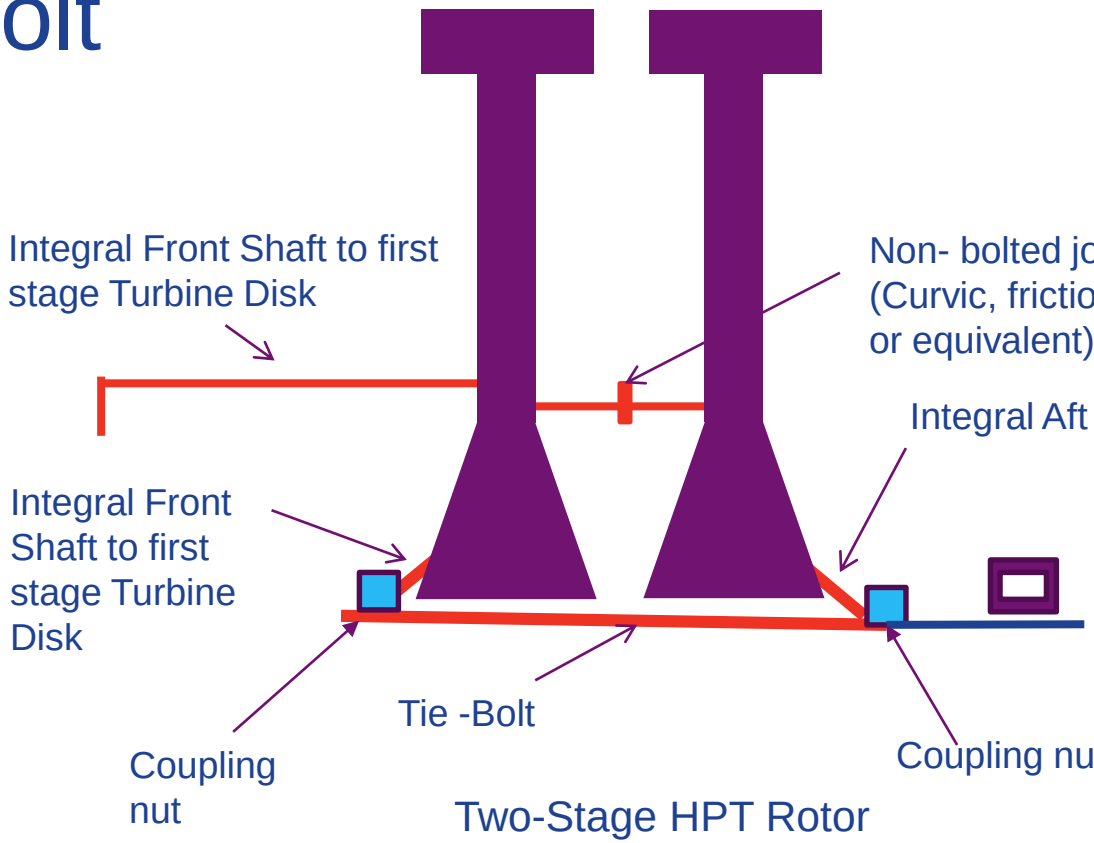



Note: all components are critical rotating parts

Two-Stage HPT Rotor

Note: the red areas are part of the shaft system

# Example 5 – Two-Stage Turbine with Tie-bolt

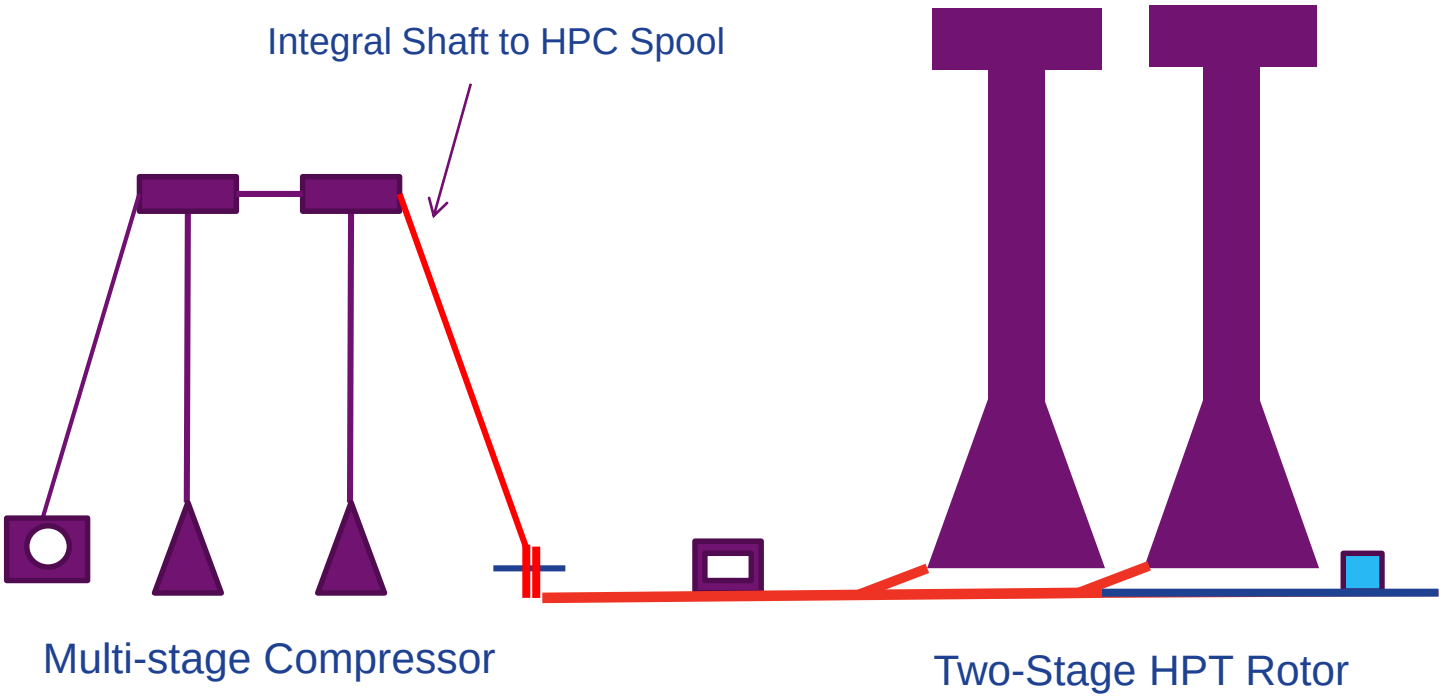



Note: all components are critical rotating parts

Note: the red areas are part of the shaft system

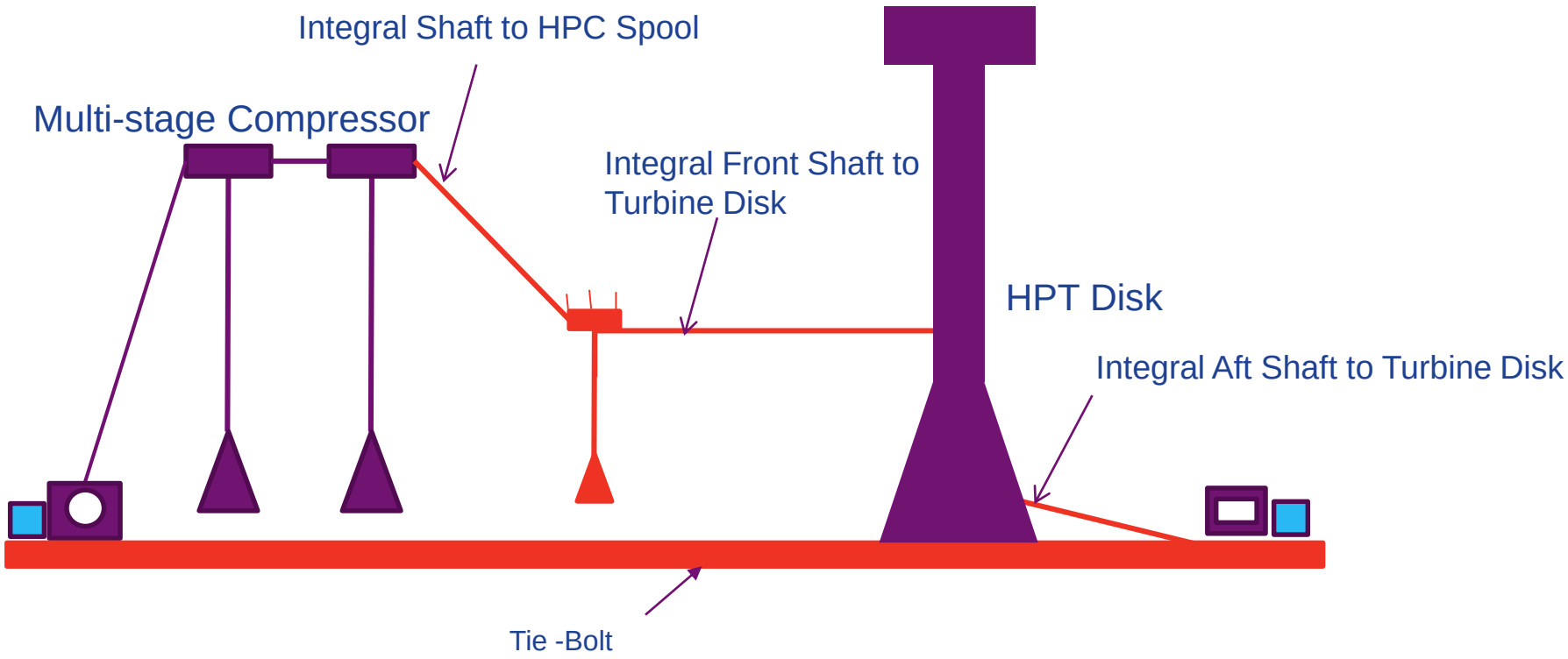
# Example 6 –Two-Stage Turbine

Note: all components are critical rotating parts



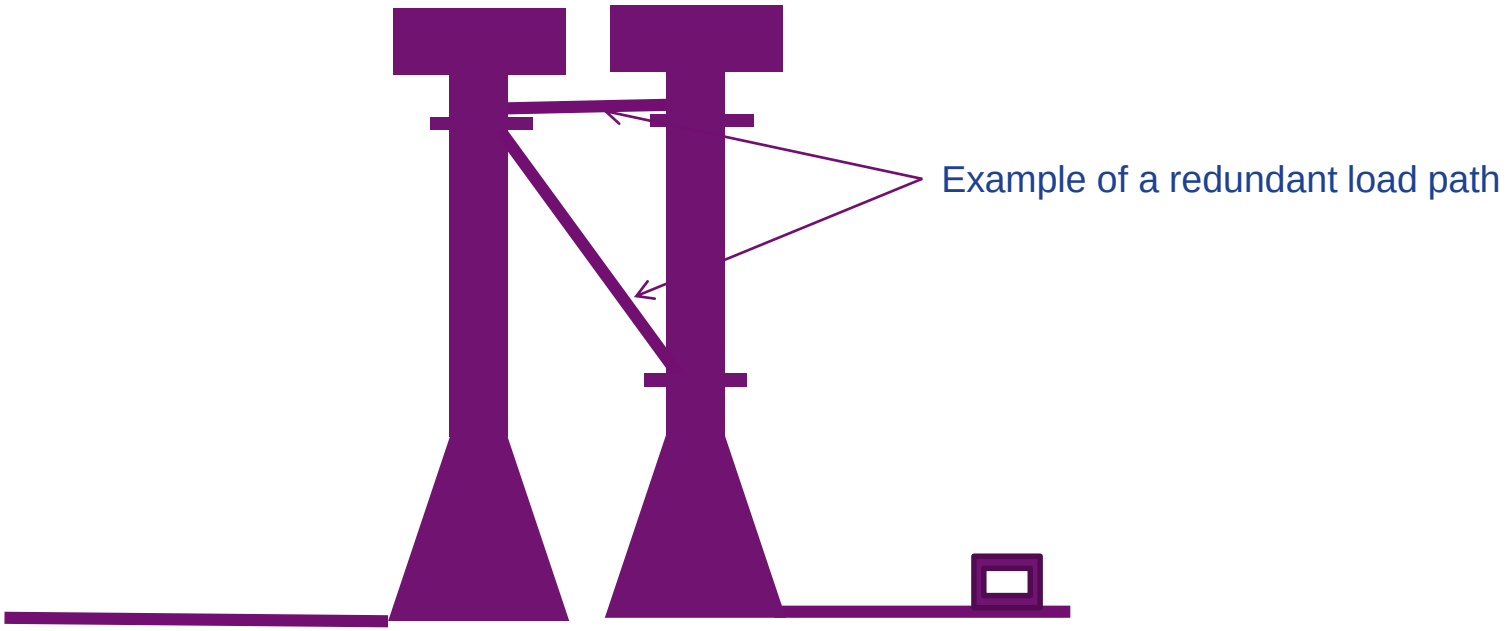

Note: the red areas are part of the shaft system

# Example 7 –Single Tie-Bolt Design



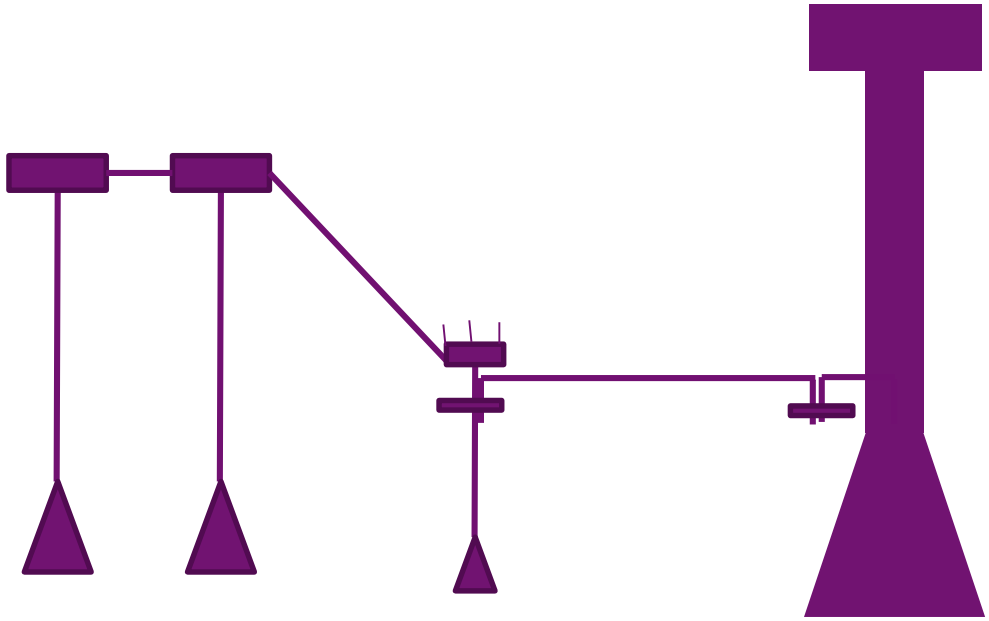

Note: the red areas are part of the shaft system

# Example 8 of a Redundant Load Path




Two-Stage HPT Disk

# Symbols



Ball/Thrust Bearing

Bolted Joint

Roller Bearing

Coupling or Spanner Nut