

Couplings

By

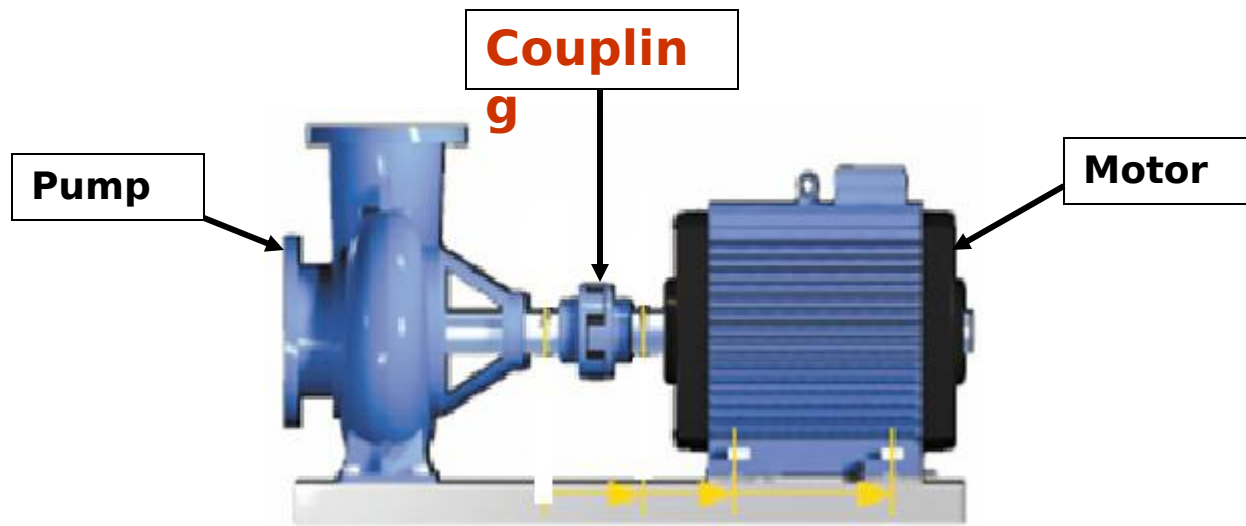
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Couplings

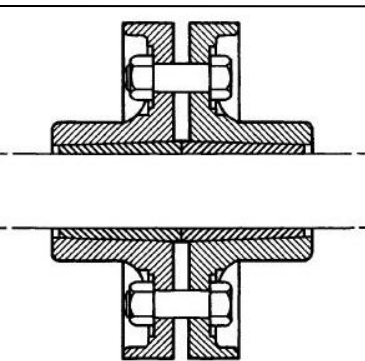
Coupling is a device used to connect two shafts together at their ends for the purpose of transmitting power



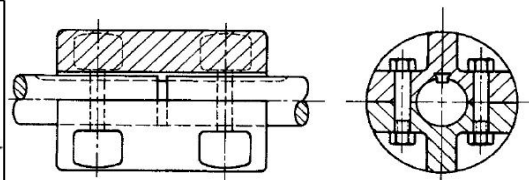
Classifications of Coupling

A) Rigid Coupling

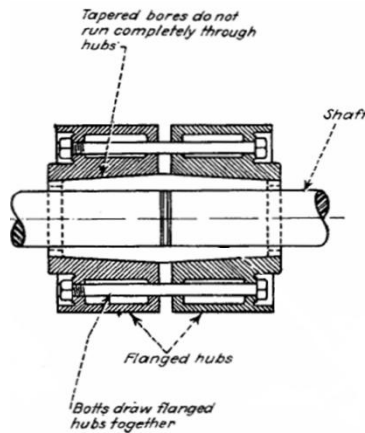
- Low rotational speed &
- Accurately aligned shafts



Flange Coupling



Clamp or compression Coupling



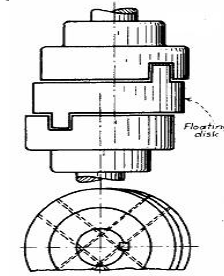
Tapered-Sleeve Coupling

B) Flexible Coupling

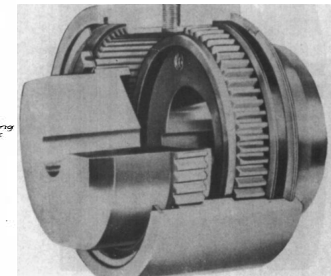
- ◆ Take care of small amount of unintentional misalignment.
- ◆ Provide for “end float”; i.e. axial movement of shaft.
- ◆ Alleviate shock by providing transfer of power through springs or to absorb some of the vibration in the coupling



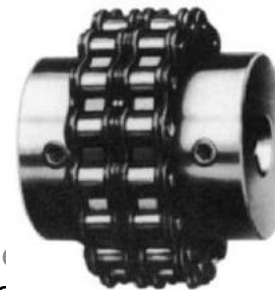
Falk Coupling



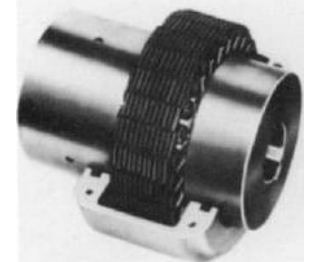
Oldham Coupling



Gear Coupling



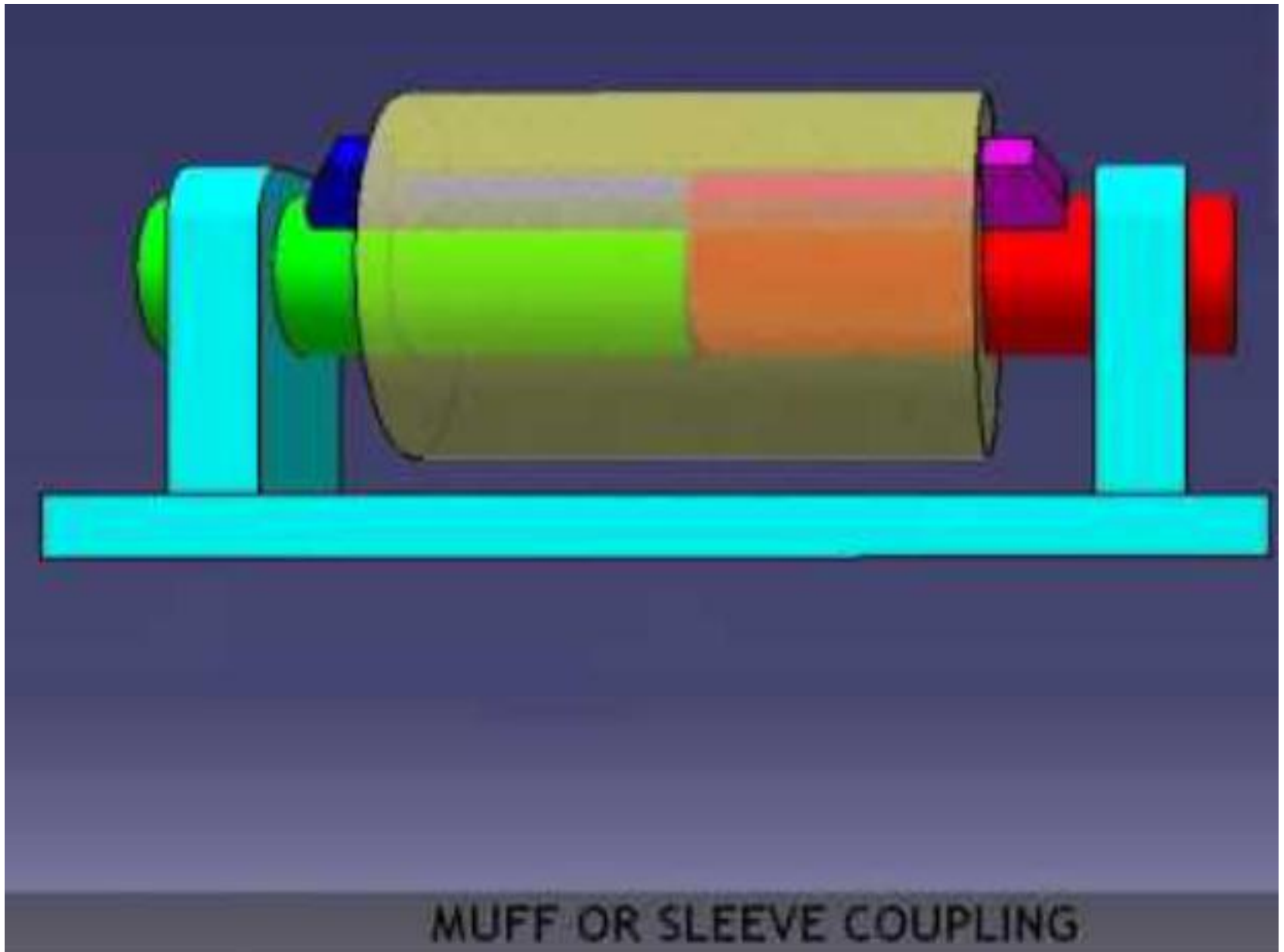
Roller Chain Coupling

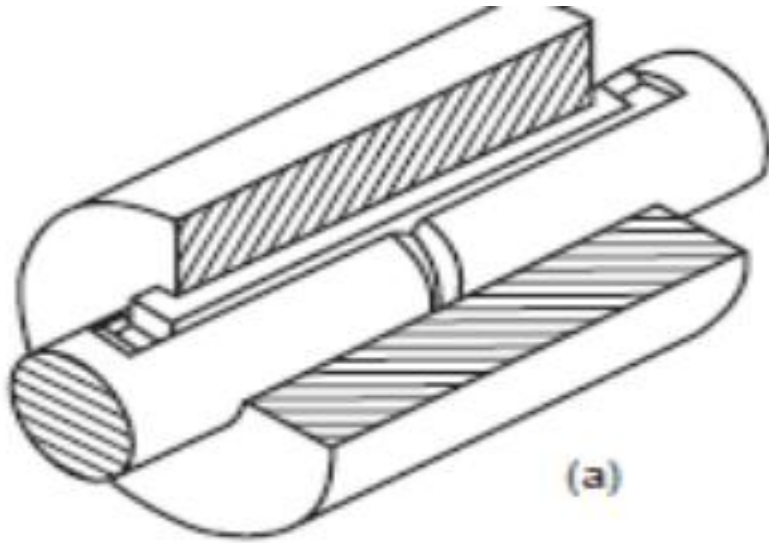


Silent Chain Coupling

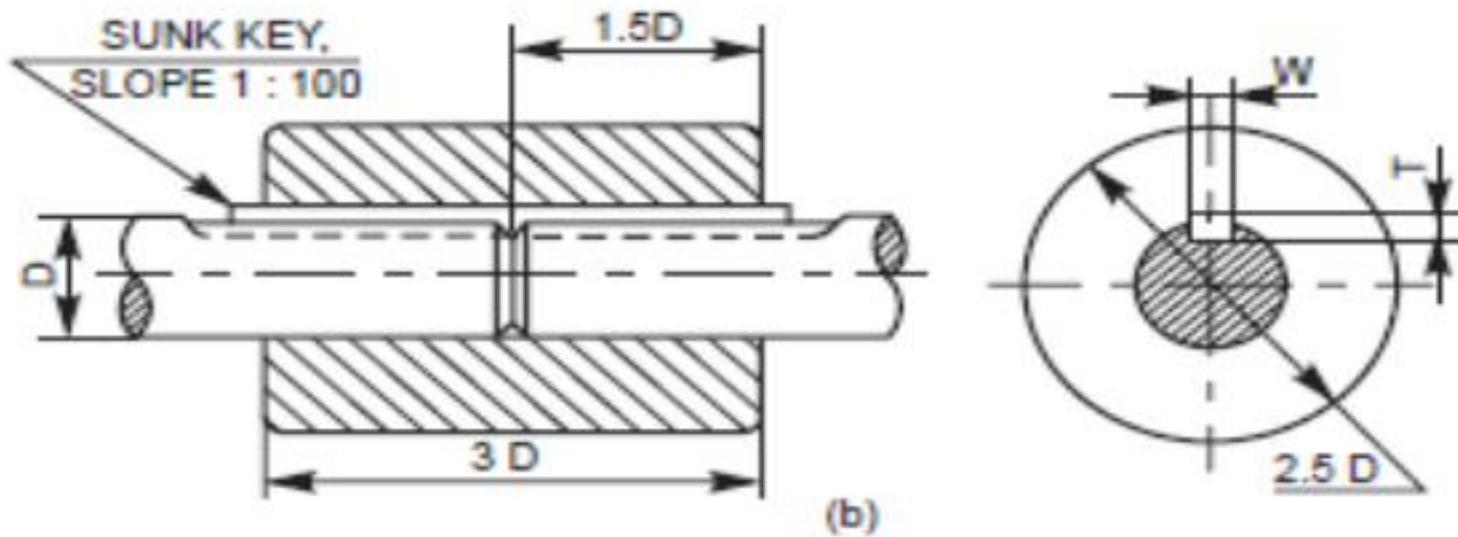
Uses of coupling

- To provide connection of shafts of units made separately
- To allow misalignment of the shafts or to introduce mechanical flexibility.
- To reduce the transmission of shock loads
- To introduce protection against overloads.
- To alter the vibration characteristics



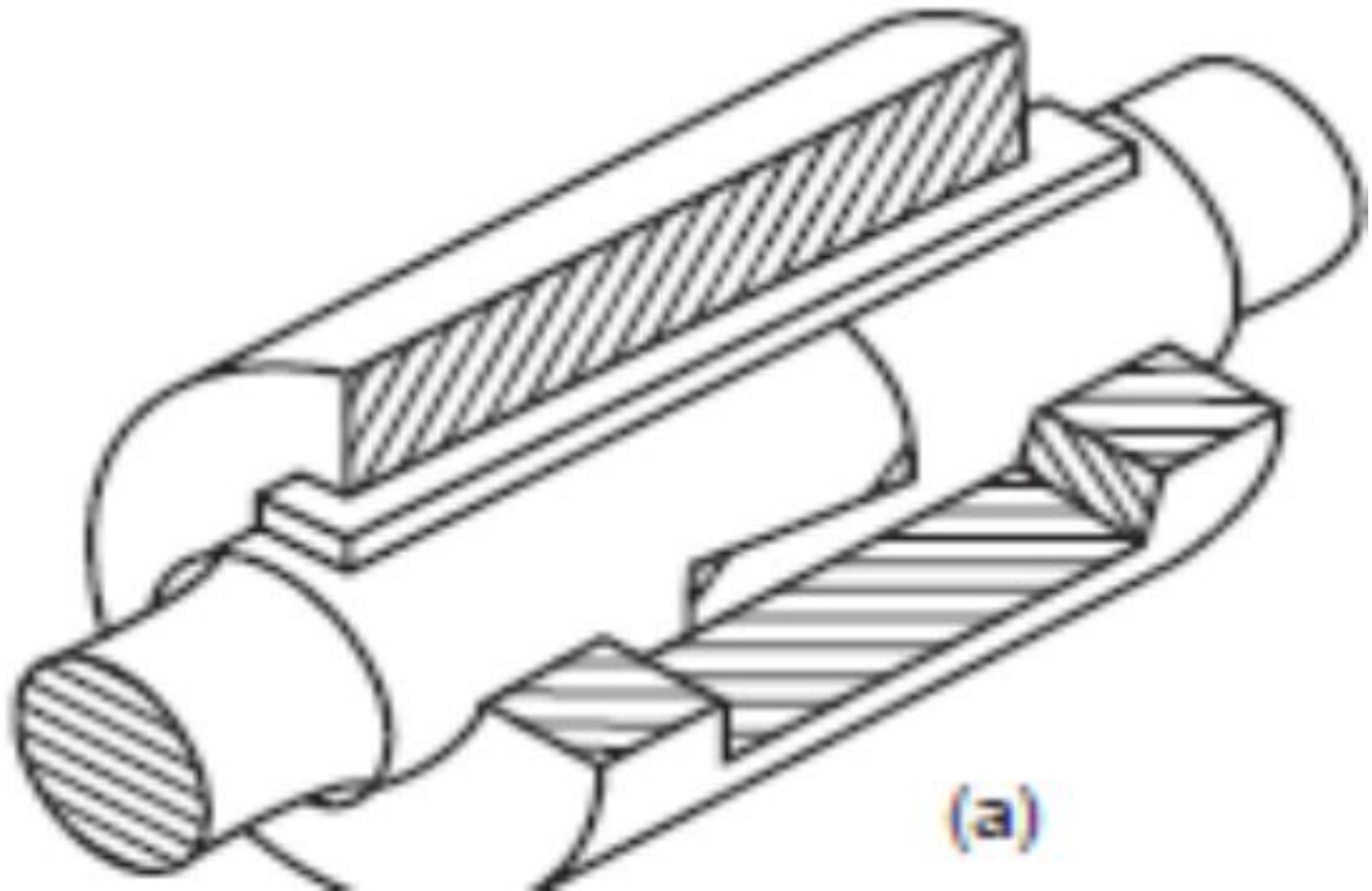


(a)

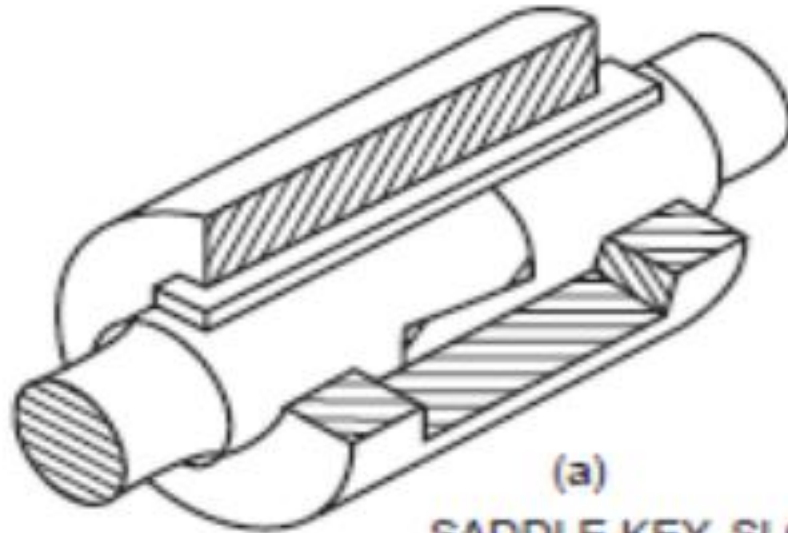


(b)

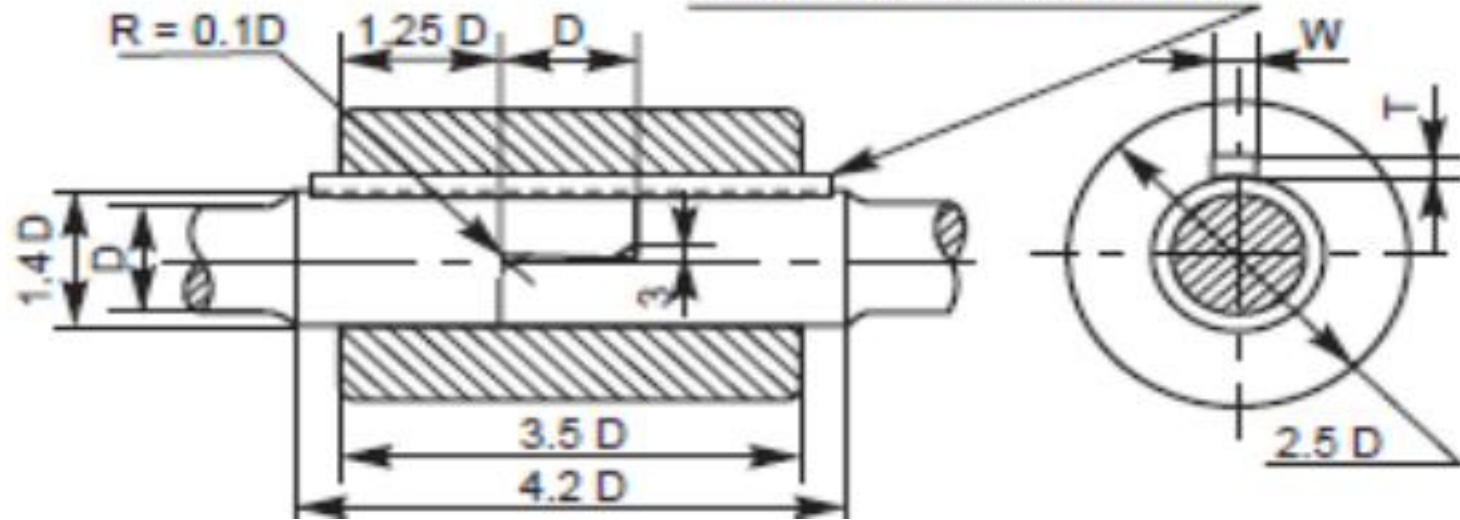
Butt-muff coupling



Half-lap muff coupling

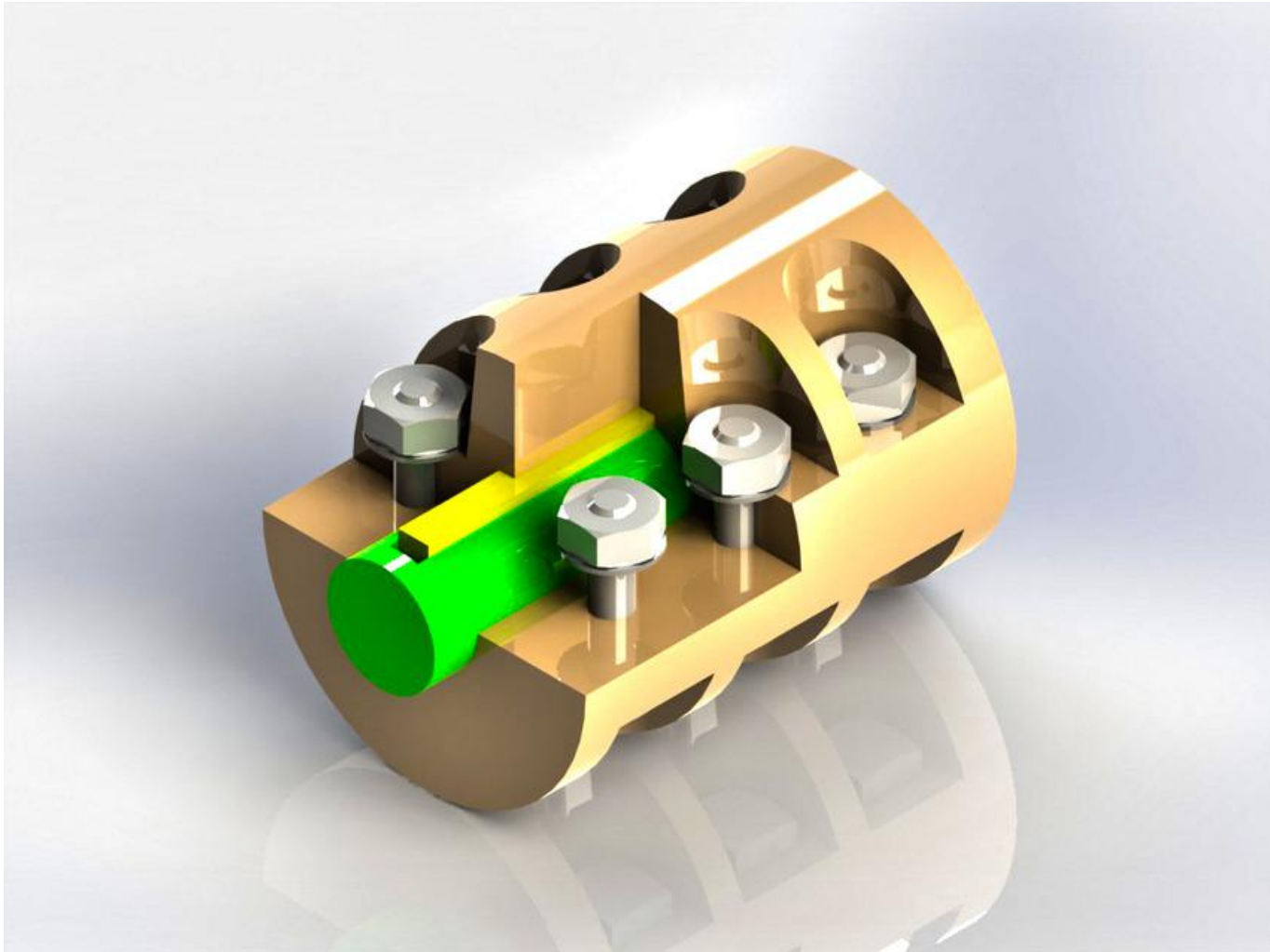


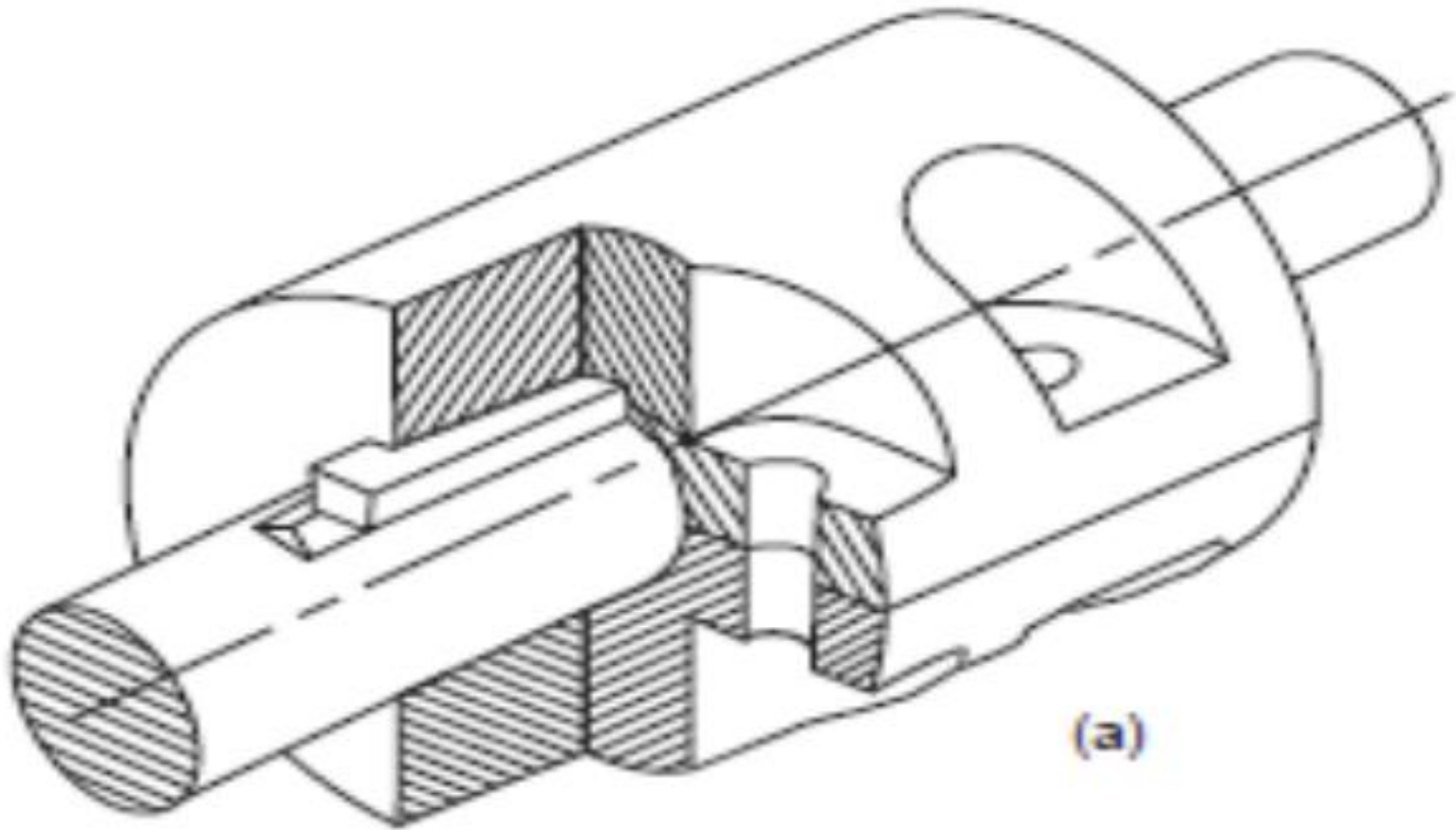
SADDLE KEY, SLOPE 1:100



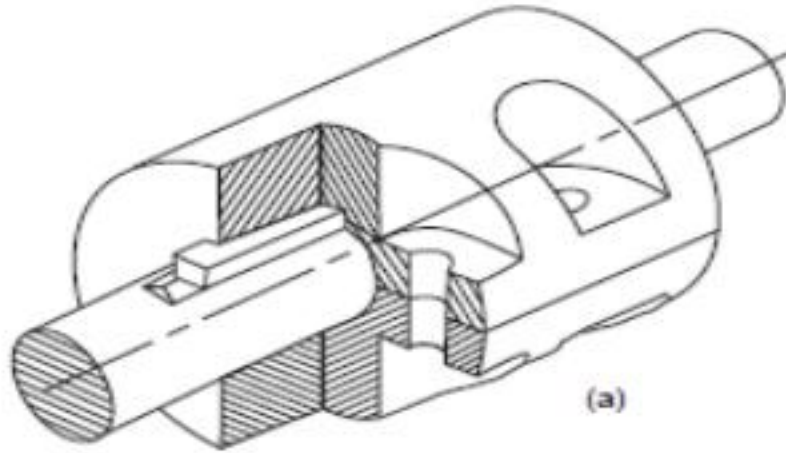
Half-lap muff coupling

Split muff coupling

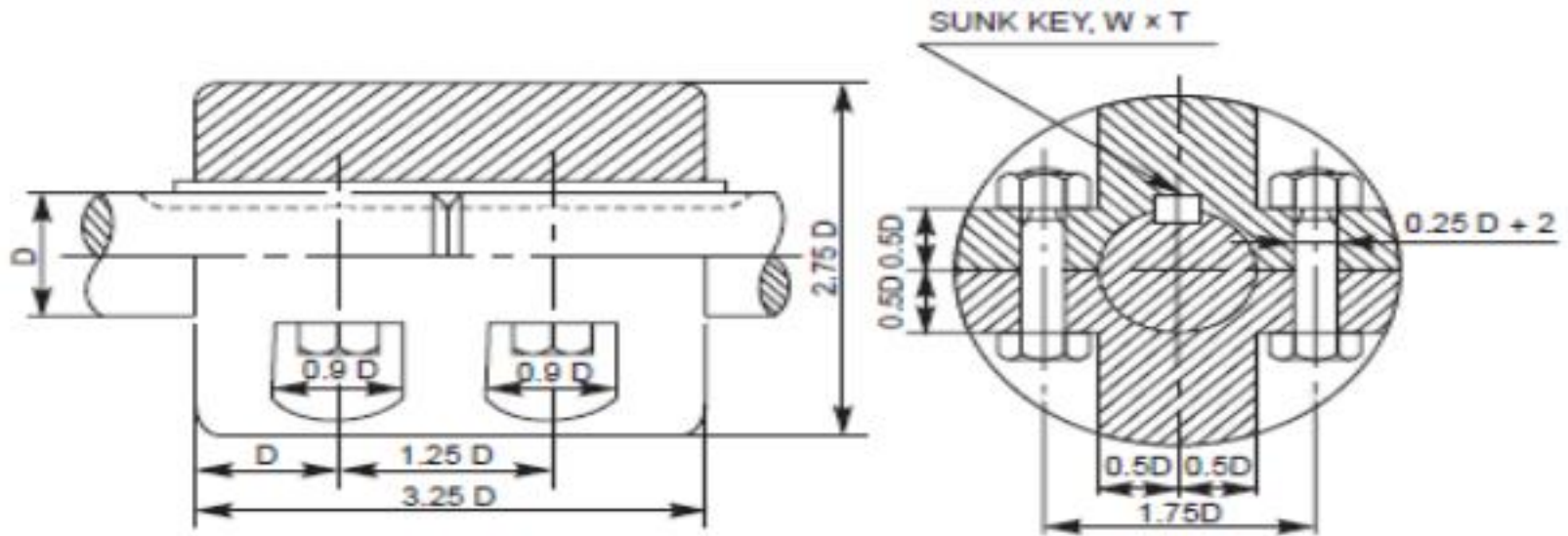




Split-muff coupling

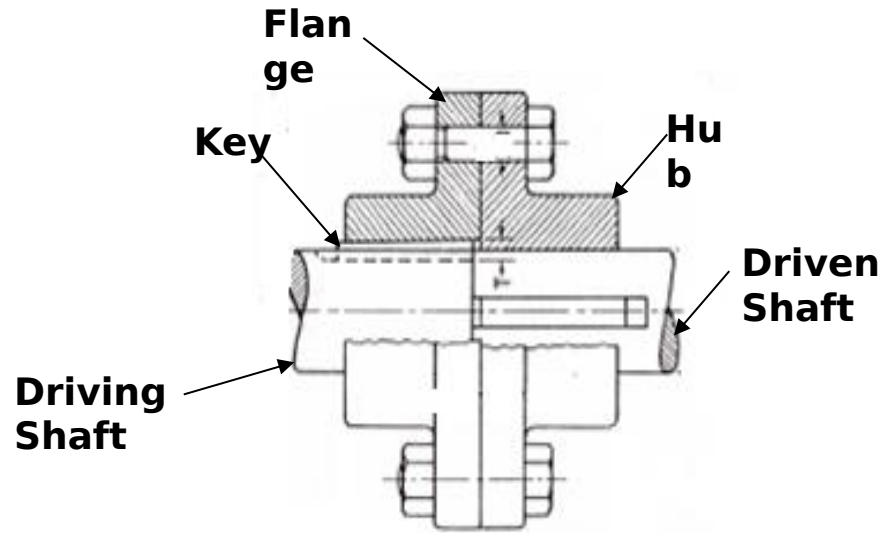


(a)



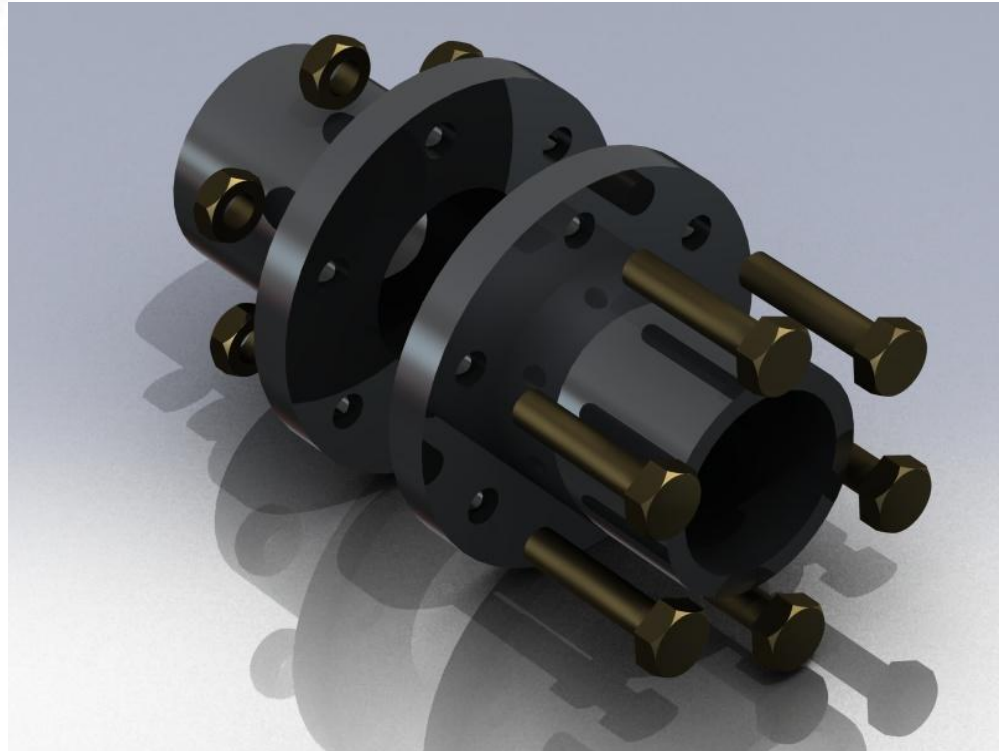
Split-muff coupling

Rigid coupling

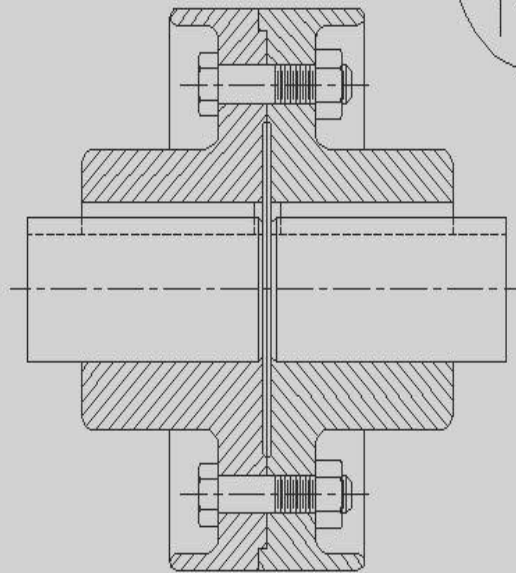
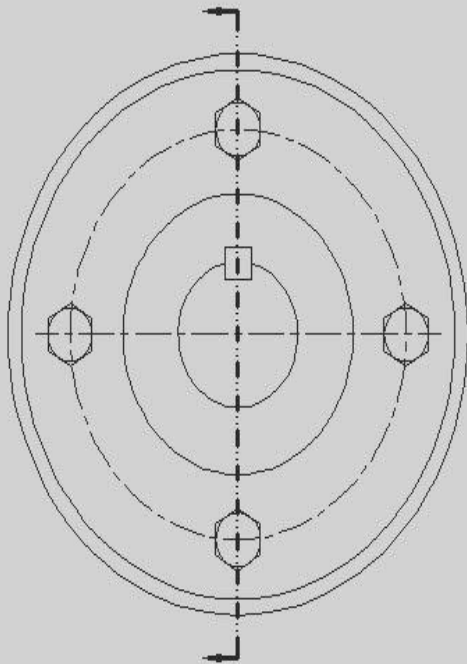
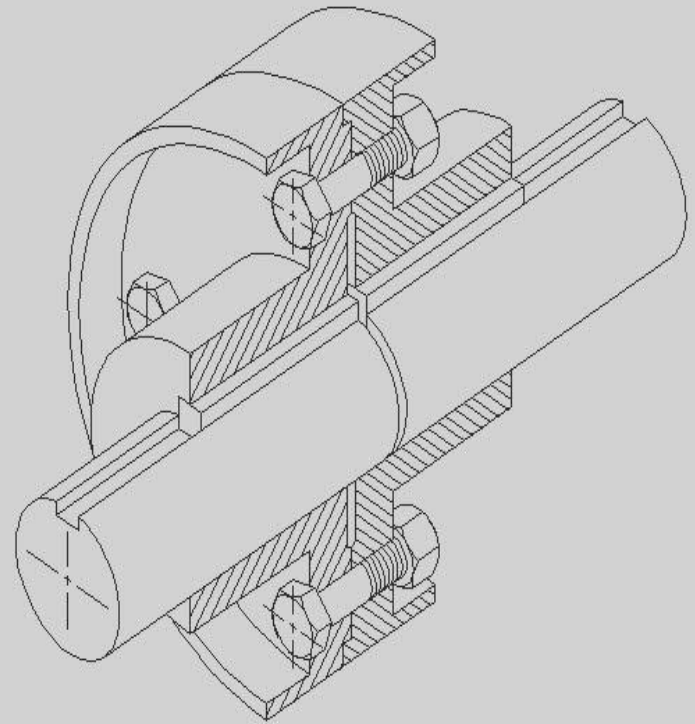


Flanged Coupling

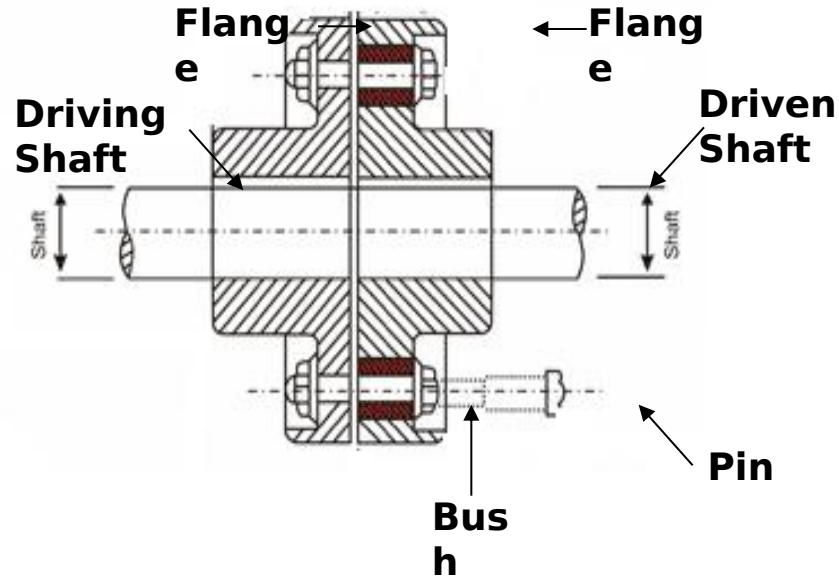
- Rigid couplings are used when precise shaft alignment is required
- Simple in design and are more rugged
- Generally able to transmit more power than flexible couplings
- Shaft misalignments cannot be compensated



ADAM BRINKHOFF
CAD 1
FLANGED COUPLING
NOVEMBER, 1997

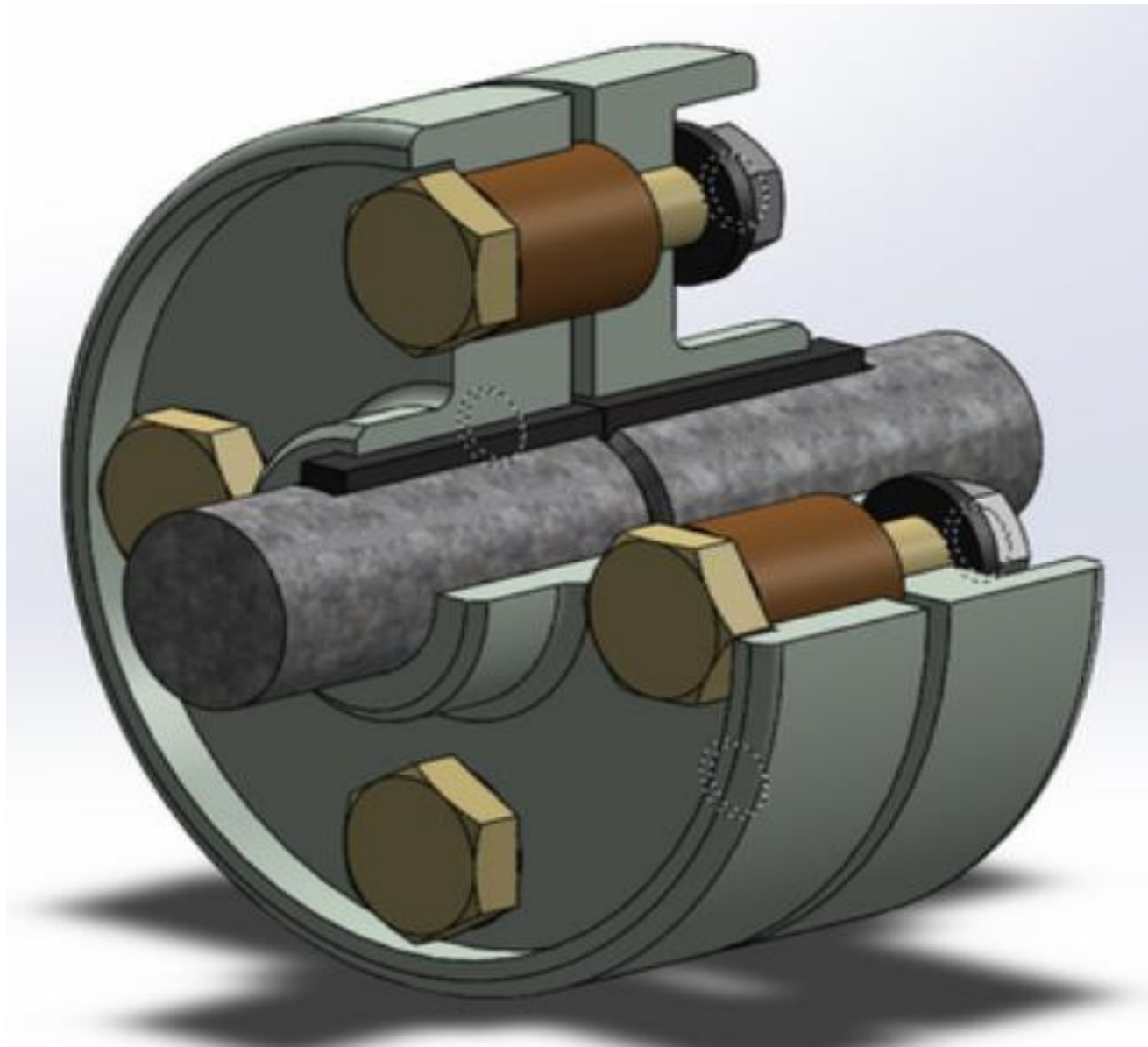


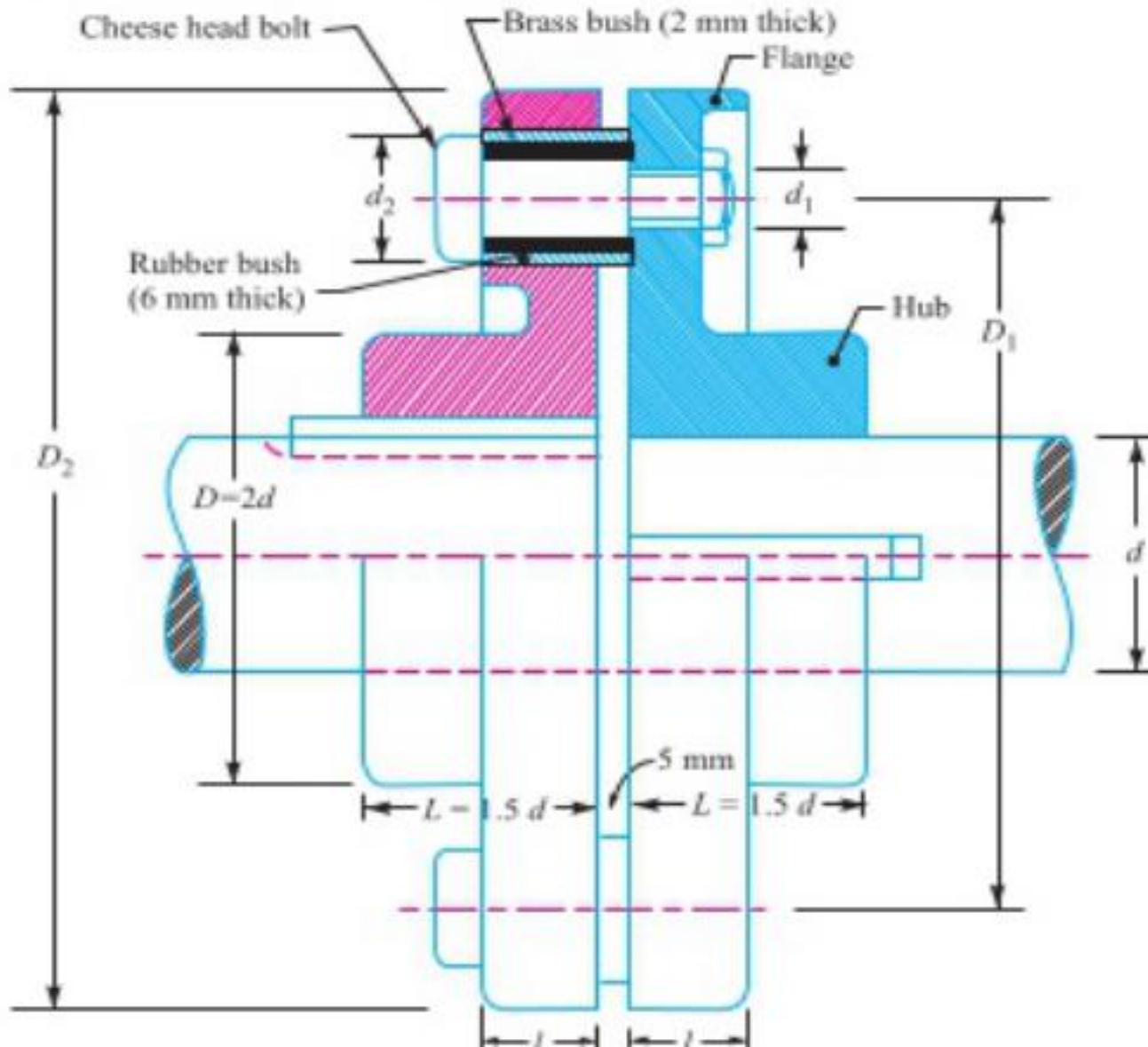
Flexible Coupling

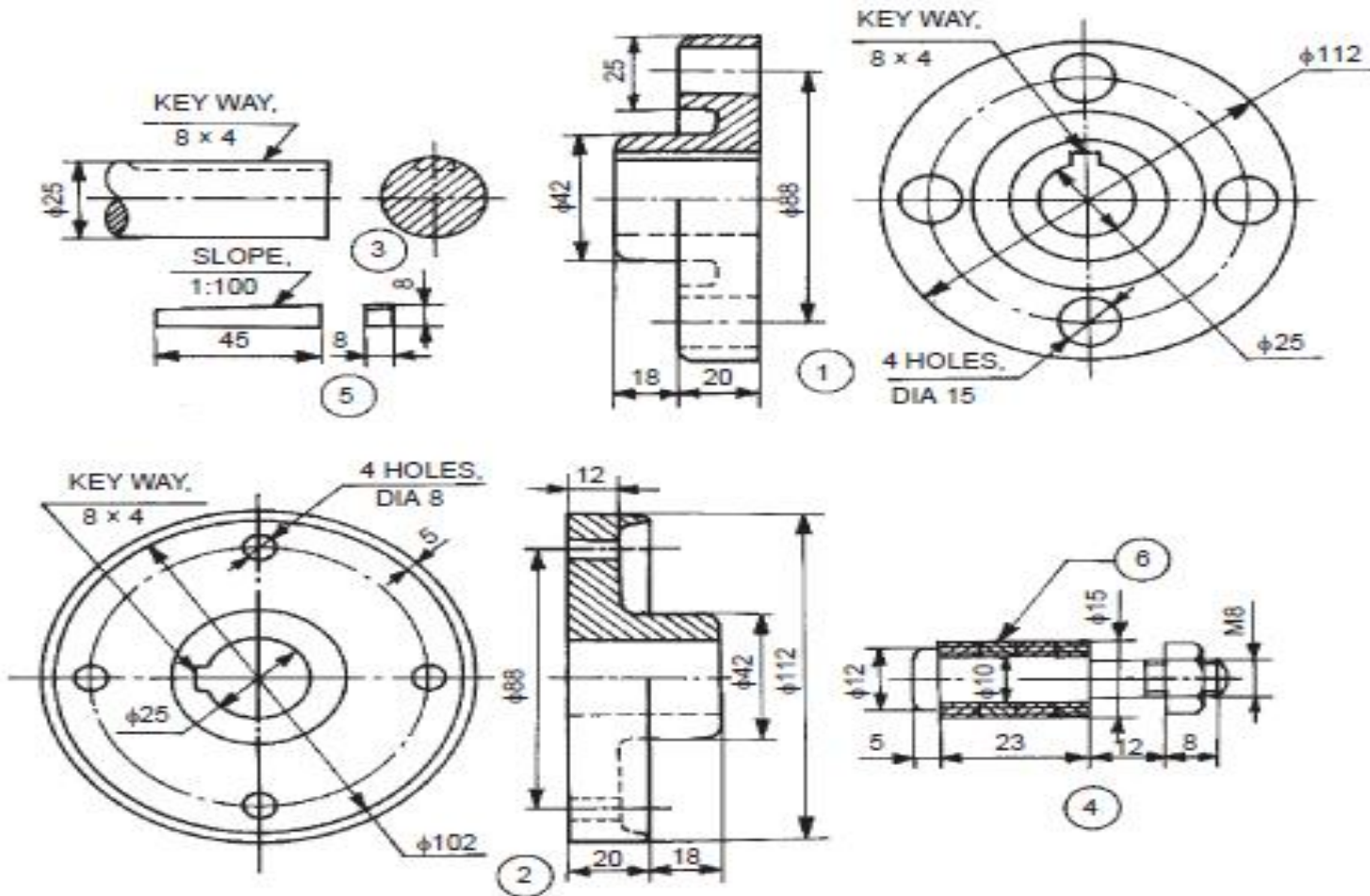


- A flexible coupling permits with in certain limits, relative rotation and variation in the alignment of shafts
- Pins (Bolts) covered by rubber washer or bush is used connect flanges with nuts
- The rubber washers or bushes act as a shock absorbers and insulators



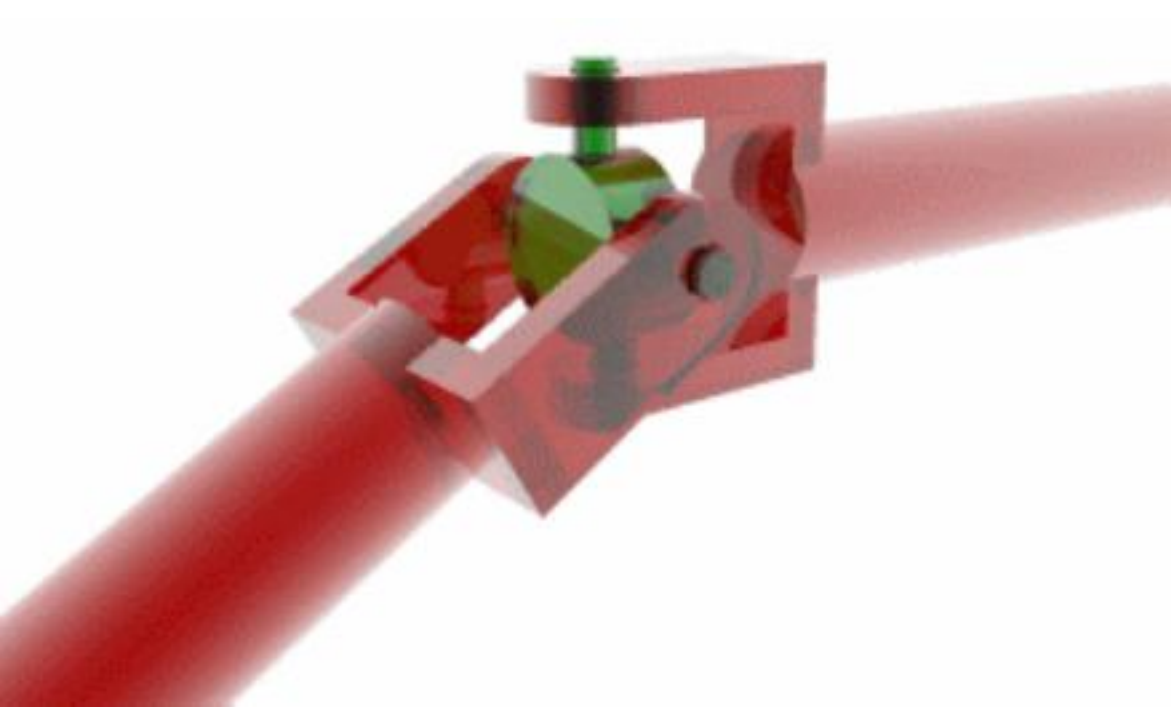




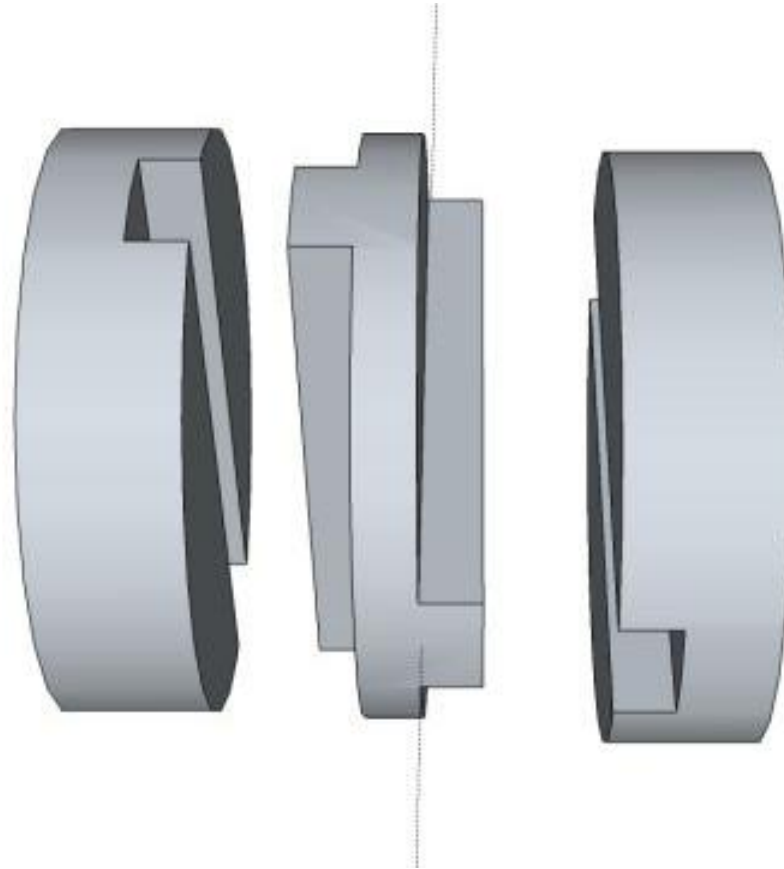


Parts list

Sl. No.	Name	Matl.	Qty.
1	Flange	CI	1
2	Flange	CI	1
3	Shaft	MS	2
4	Pin with nut	MS	4
5	Feather key	MS	8
6	Bush	Nylon	16



Hook joint/ Universal joint



oldham's coupling

Axes parallel but not align , Flanges having recess,

