BEARINGS
and
SHAFTS

Getting things to spin by transmitting rotary power

BEARINGS

A BEARING REDUCES DEGREES-OF-FREEDOM

SPECIFICATIONS

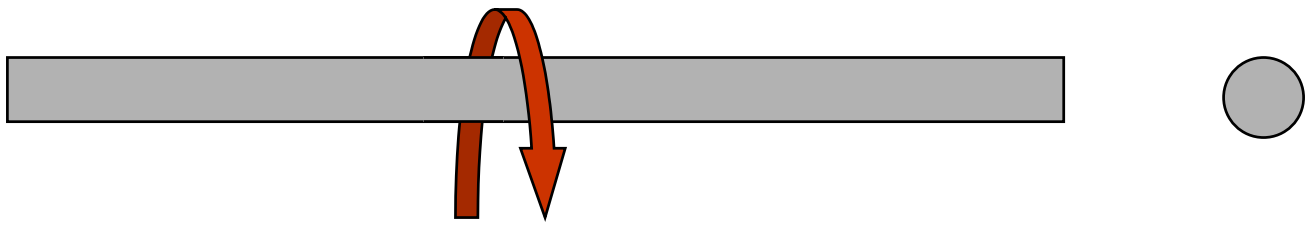
- Ability to constrain motion
- Friction
- Load
- Lifetime
- Fabrication/Mounting
- Cost

TO SLIDE OR TO ROLL?

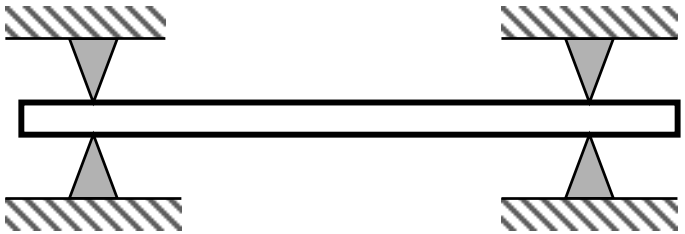
Rolling elements: **Low friction, complex, expensive**

Sliding elements: **Simple, high friction**

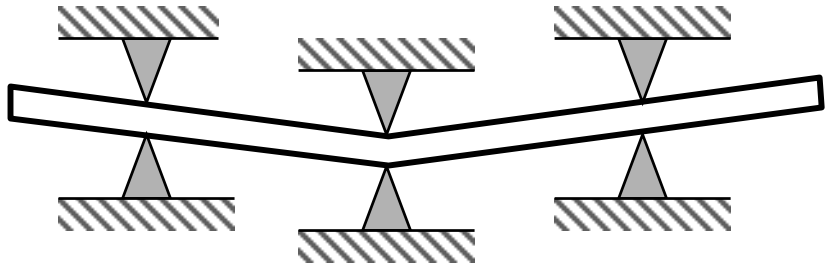
Shaft



SUPPORTING SHAFTS

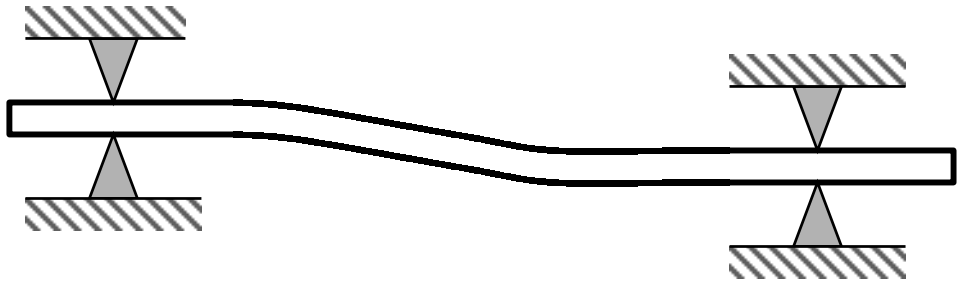


YES!

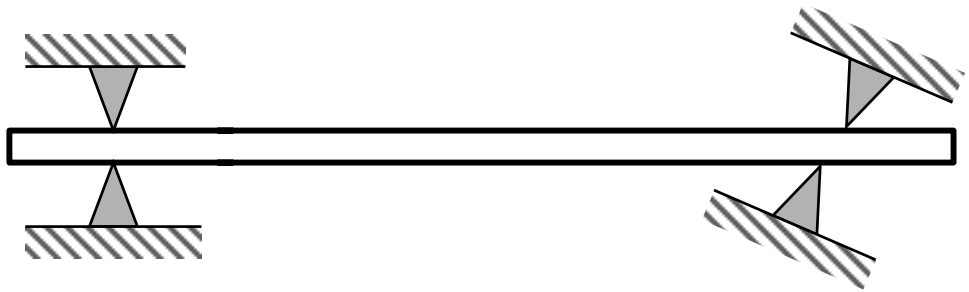


NO!

Bearing misalignment

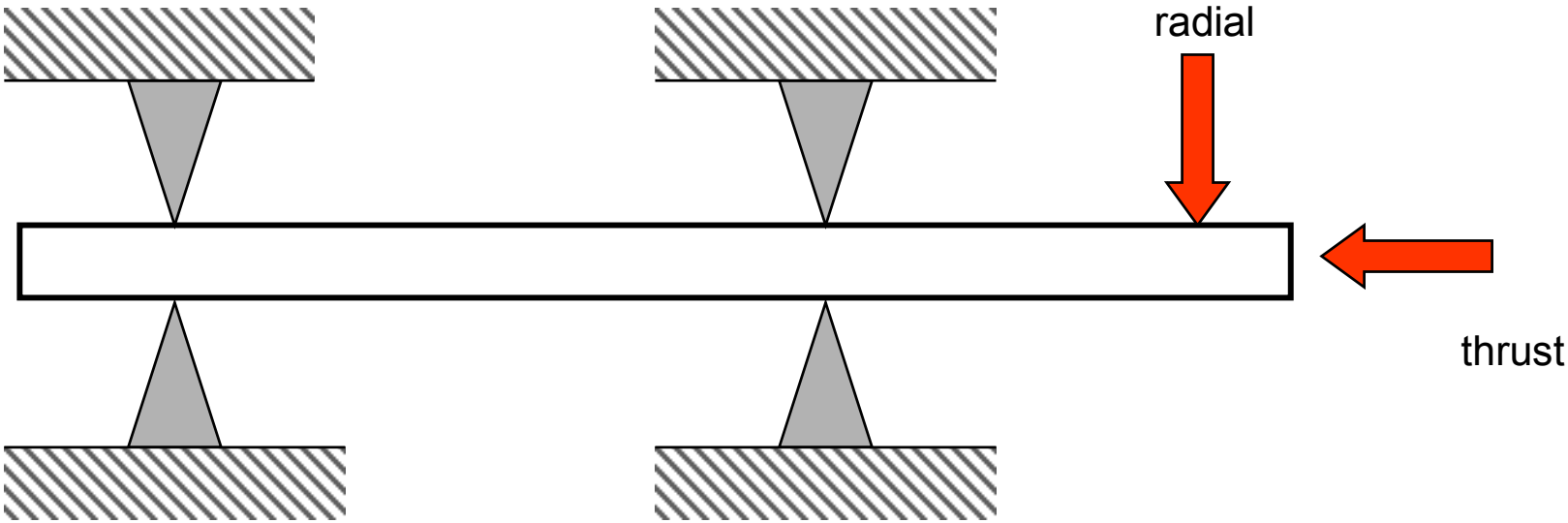


OFFSET

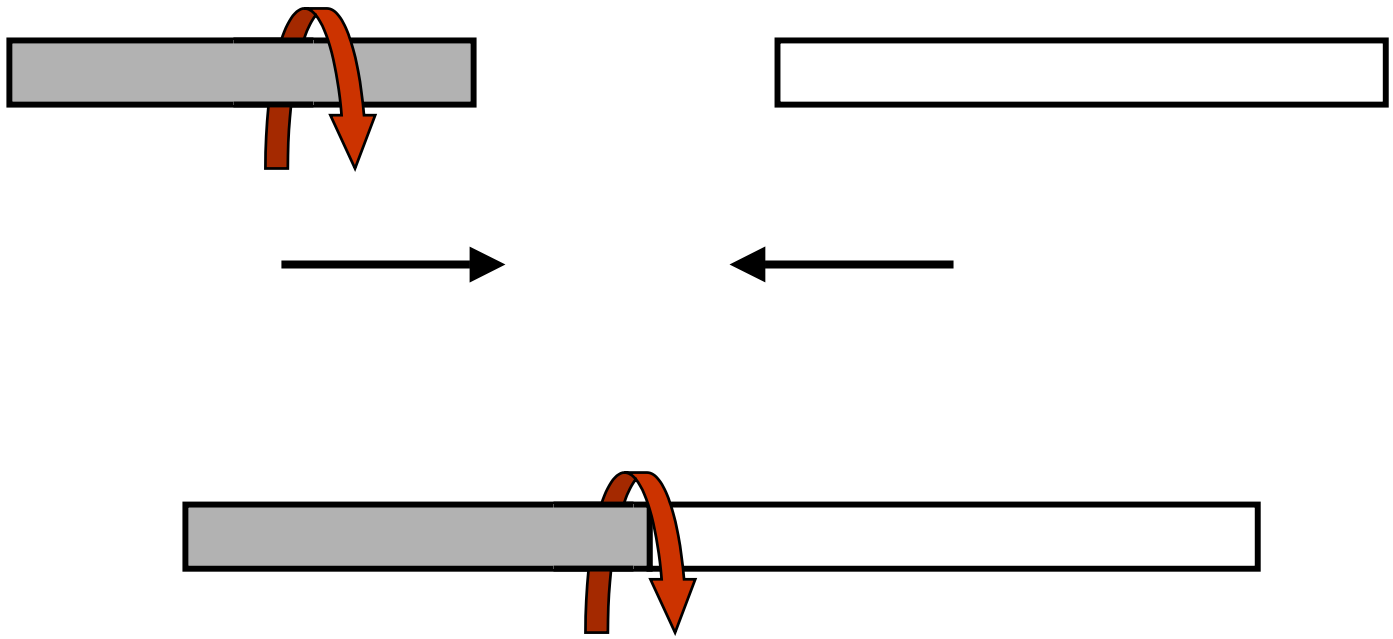


ANGULAR

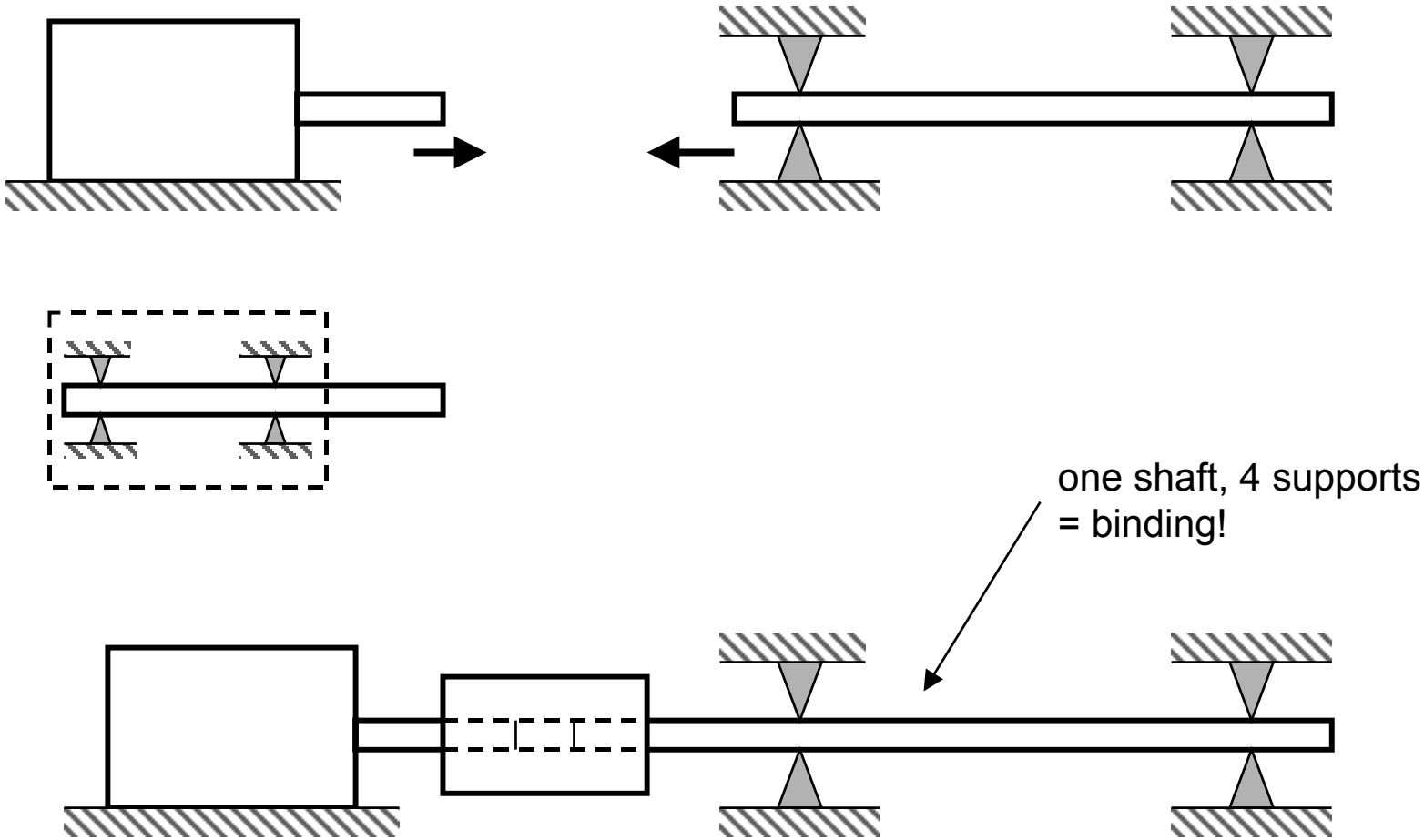
Bearing load



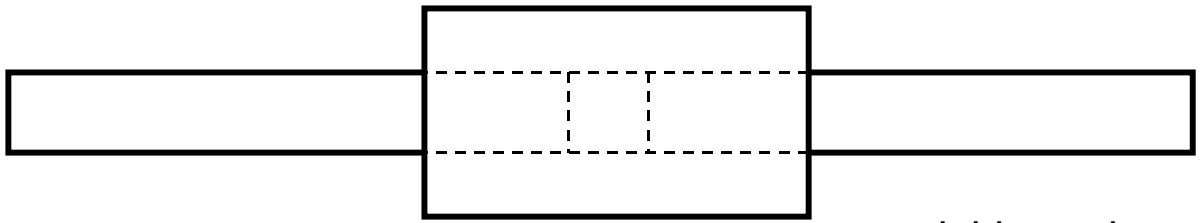
JOINING SHAFTS



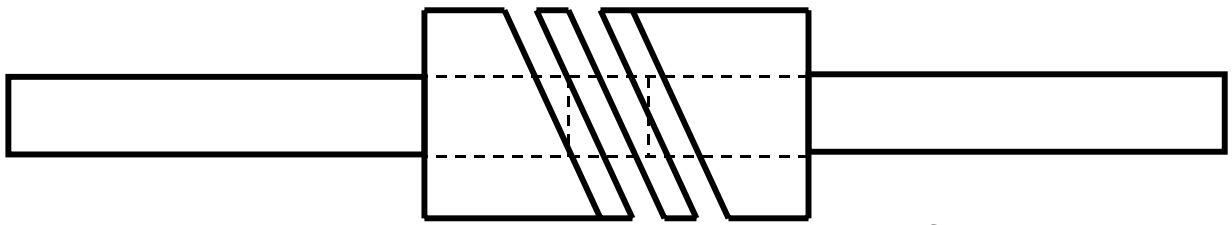
A classic binding problem



Coupling methods



rigid coupler,
press-fit or glue or
set-screws



flexible coupler

Or, just tape ‘em together