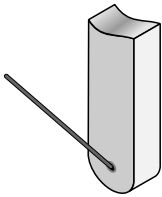
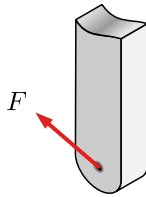


Two-force support — One unknown —
two-force member constrains translation

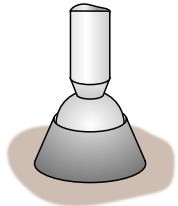


cable (or other
two-force member)

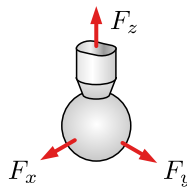


reaction force in-line
with two-force member

Ball & socket — Three reactions —
ball cannot slide but is free to rotate

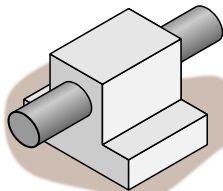


ball stays in socket
& is free to rotate

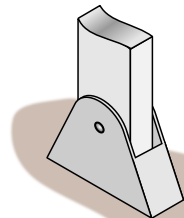


three reaction
force components

Confined-axle bearing —
axle/pin cannot slide but is free to rotate

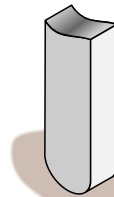


thrust bearing

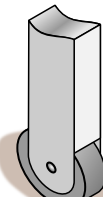


smooth pin

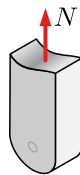
Smooth surface — One unknown —
smooth surface constrains translation



body contacts
smooth surface

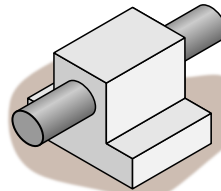


roller on
smooth surface

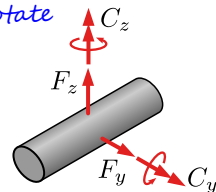


force perpendicular
to surface

Free-axle bearing — Four unknowns —
axle free to slide & rotate

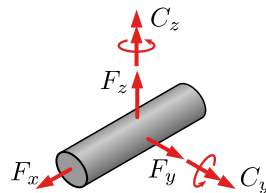


journal bearing



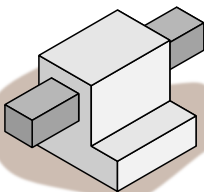
two reaction forces and
two reaction moments
perpendicular to axle

Five reactions —

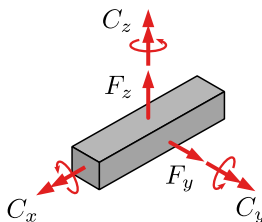


two reaction forces and
two reaction moments
perpendicular to axle,
plus axial reaction force

Square-shaft bearing — Five reactions —
square shaft free to slide, but cannot rotate

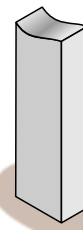


square shaft
journal bearing

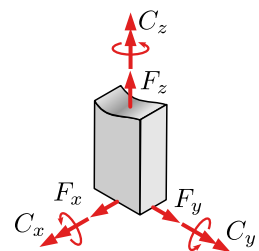


two reaction forces
perpendicular to axis,
three reaction moments

Fixed support — Six reactions —
body cannot slide & cannot rotate



welded, bolted,
or anchored



three reaction forces and
three reaction moments