

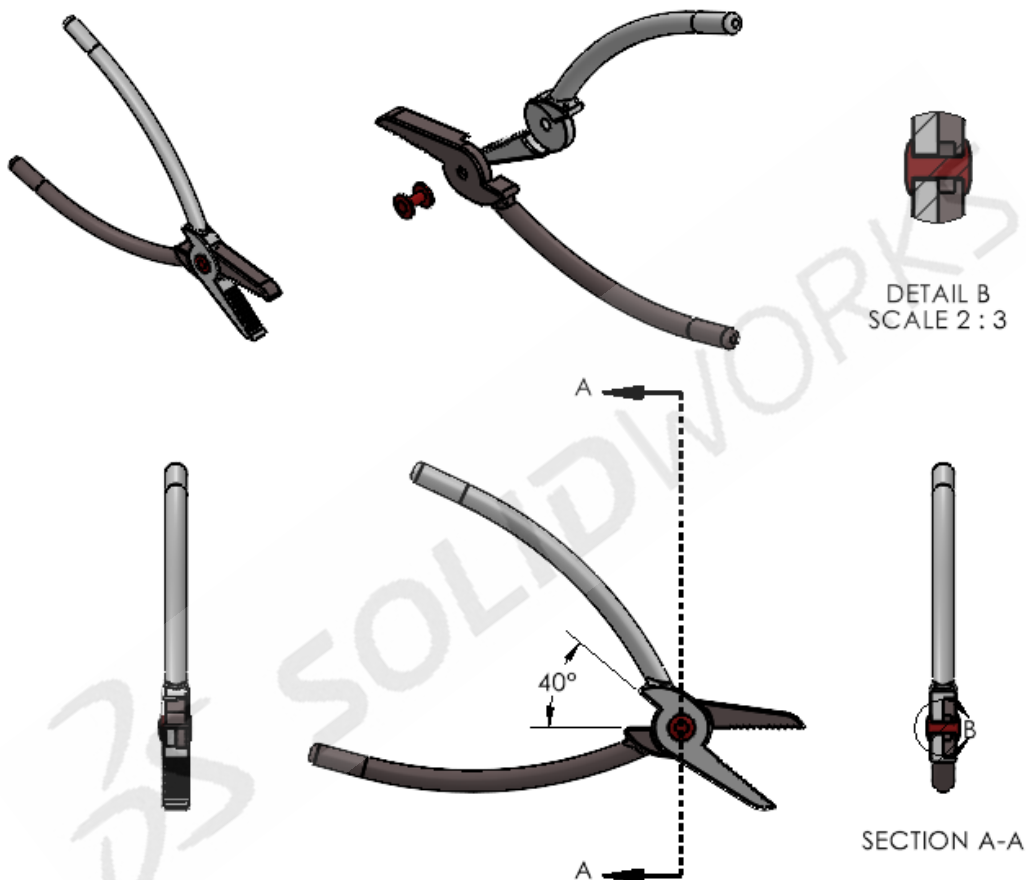
Practice Problem 9.1A

Assemblies and Mates (Level 9)

- Units: IPS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5
- Design Intent: Insert Plier-Handle-Base at Origin.

Suggested Sketch Tools / Features

- Assemblies: Inserting Components, Coincident, Concentric, Angle



Center of Mass (inches): X=1.57, Y=0.57, Z=0.0

Practice Problem 9.1 B

Assemblies and Mates (Level 9)

- Units: IPS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5

Suggested Sketch Tools / Features

- Assemblies: Angle

HINT: Start with the 9.1A assembly.



Center of Mass (inches): X=1.89, Y=0.13, Z=0.00

Practice Problem 9.2A

Assemblies and Mates (Level 9)

- Units: IPS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 10
- Design Intent: Insert Base-Bracket at Origin.

Suggested Sketch Tools / Features

- Assemblies: Inserting Components, Coincident, Concentric, Width, Angle, Tangent, Distance, Parallel



Center of Mass (inches): X=21.02, Y=1.39, Z=0.91

Practice Problem 9.2B

Assemblies and Mates (Level 9)

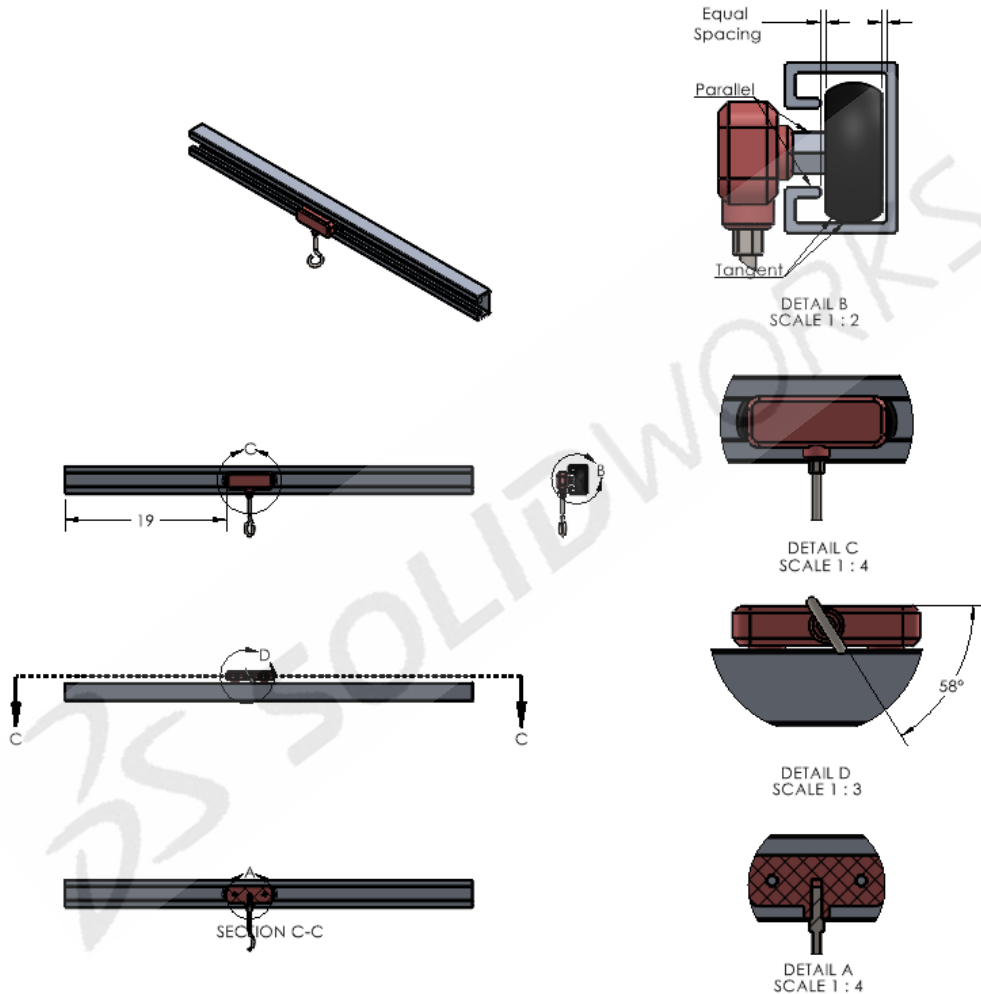
- Units: IPS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5

Suggested Sketch Tools / Features

- Assemblies: Angle, Distance

HINT: Start with the 9.2A assembly.

Center of Mass (inches): X=23.64, Y=1.39, Z=0.91



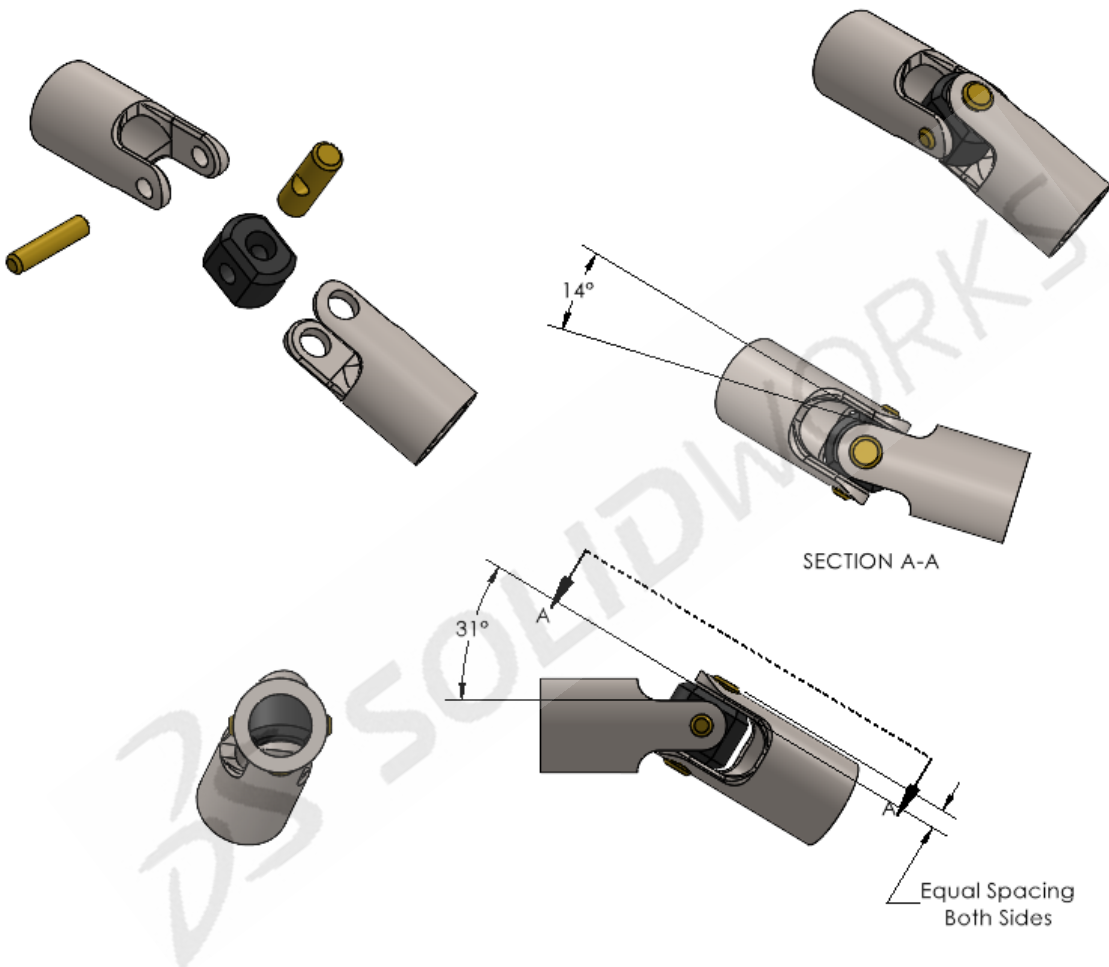
Practice Problem 9.3A

Assemblies and Mates (Level 9)

- Units: IPS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 10
- Design Intent: Insert Small-Hole-Fork-Base at Origin.

Suggested Sketch Tools / Features

- Assemblies: Inserting Components, Coincident, Concentric, Width, Angle



Center of Mass (inches): X=4.63, Y=-0.51, Z=-0.25

Practice Problem 9.3B

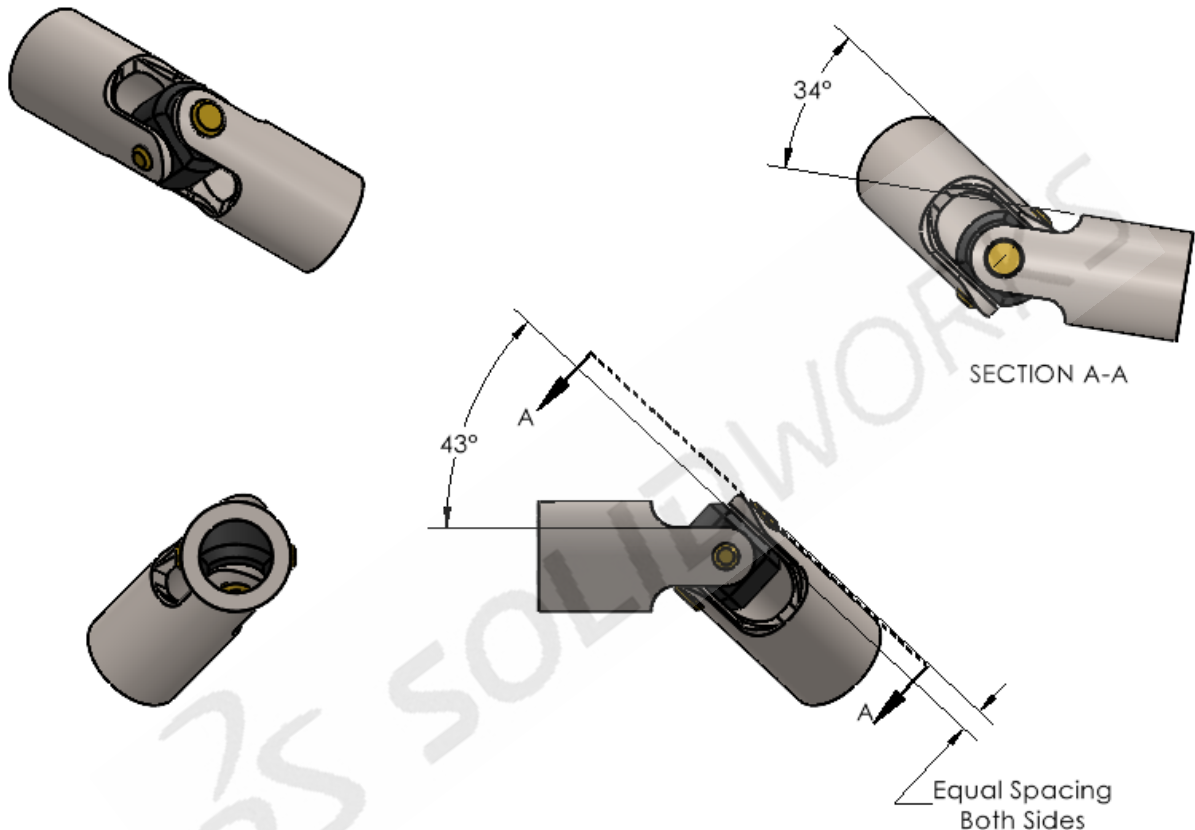
Assemblies and Mates (Level 9)

- Units: IPS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5

Suggested Sketch Tools / Features

- Assemblies: Angle

HINT: Start with the 9.3A assembly.



Center of Mass (inches): X=4.39, Y=-0.58, Z=-0.58

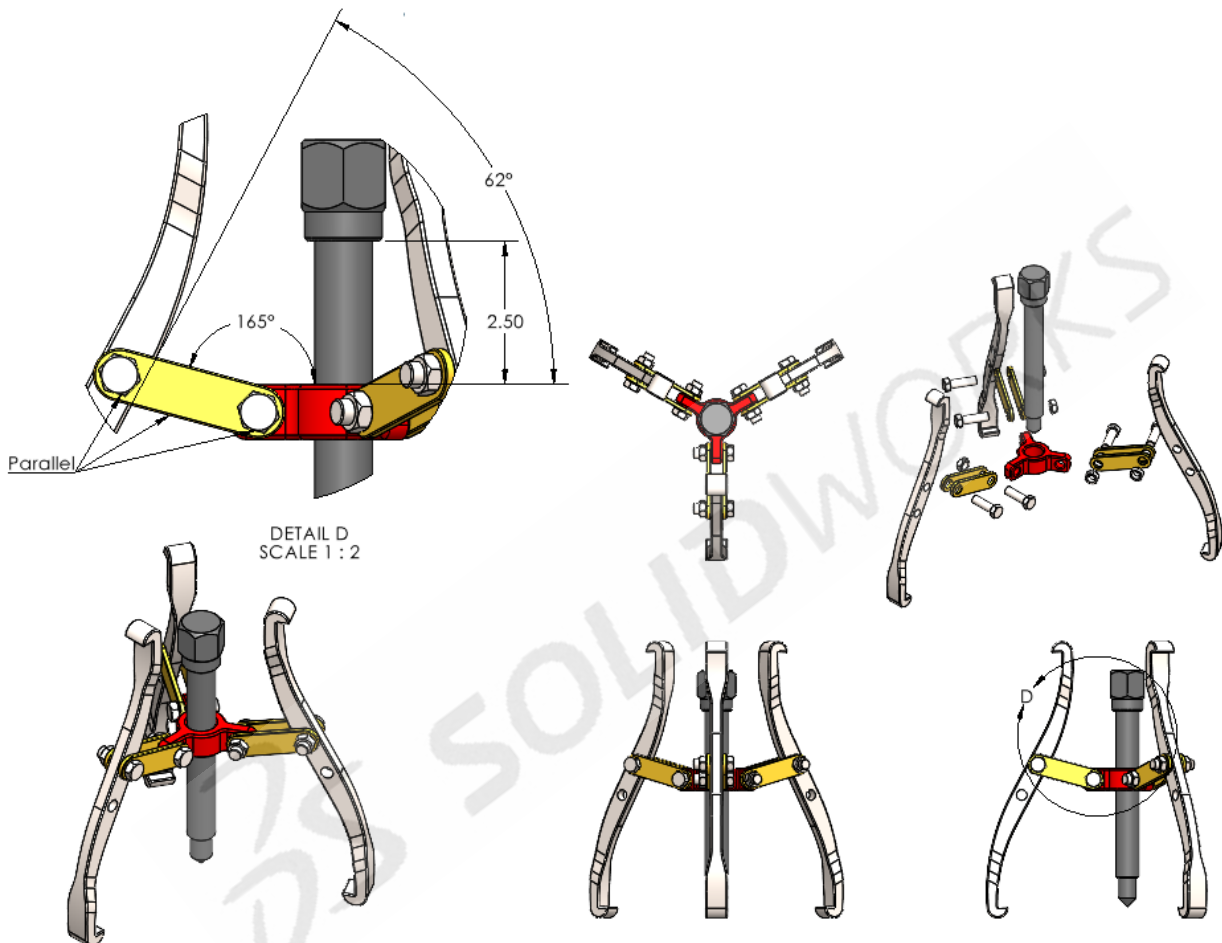
Practice Problem 9.4A

Assemblies and Mates (Level 9)

- Units: IPS
- Difficulty Level: Hard
- Certification: CSWA
- Duration (min): 30
- Design Intent: Insert Spindle-Base at Origin.

Suggested Sketch Tools / Features

- Assemblies: Inserting Components, Coincident, Concentric, Distance, Angle, Parallel



Center of Mass (inches): X=0.0, Y=-4.51, Z=0.0

Practice Problem 9.4B

Assemblies and Mates (Level 9)

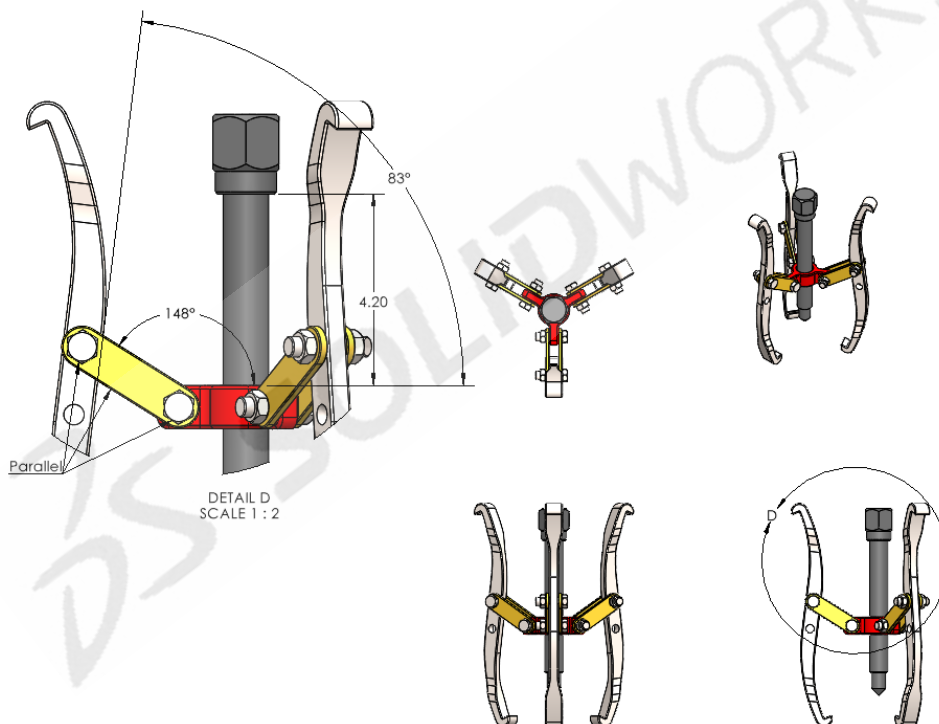
- Units: IPS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5

Suggested Sketch Tools / Features

- Assemblies: Distance, Angle

HINT: Start with the 9.4A assembly.

Center of Mass (inches): X=0.0, Y=-5.41, Z=0.0



Practice Problem 9.5A

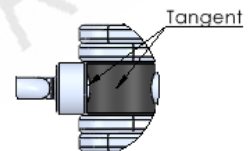
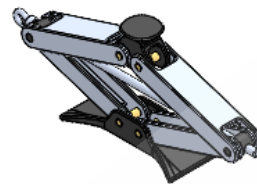
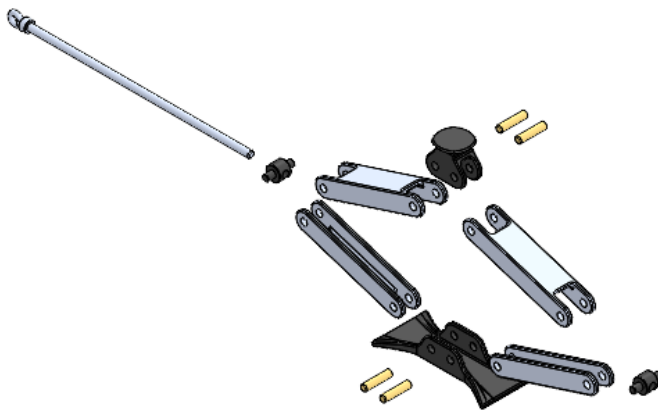
Assemblies and Mates (Level 9)

- Units: MMGS
- Difficulty Level: Medium
- Certification: CSWA
- Duration (min): 20
- Design Intent: Insert Base at Origin.

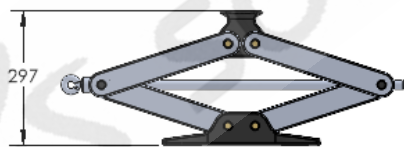
Suggested Sketch Tools / Features

- Assemblies: Inserting Components, Coincident, Concentric, Tangent, Parallel, Distance

Center of Mass (mm): X=-2.43, Y=125.66, Z=0



DETAIL B
SCALE 1 : 3



Practice Problem 9.5B

Assemblies and Mates (Level 9)

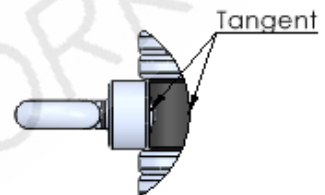
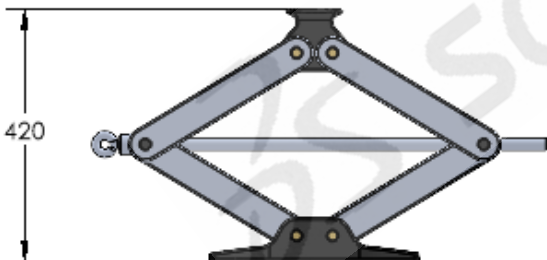
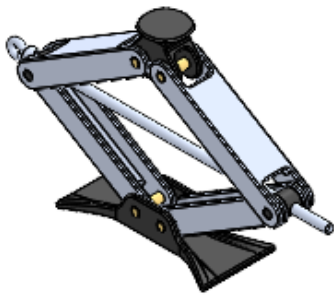
- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5

Suggested Sketch Tools / Features

- Assemblies: Distance

HINT: Start with the 9.5A assembly.

Center of Mass (mm): X=-0.46, Y=182.94, Z=0.0



DETAIL B
SCALE 1 : 3



Practice Problem 9.5C

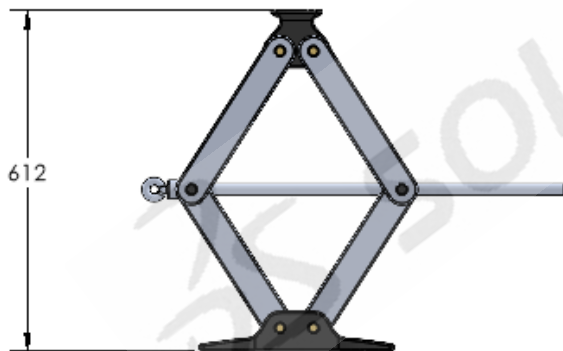
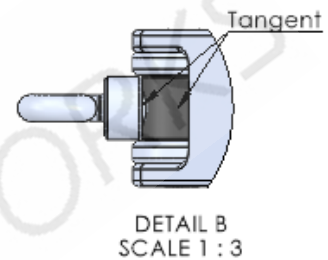
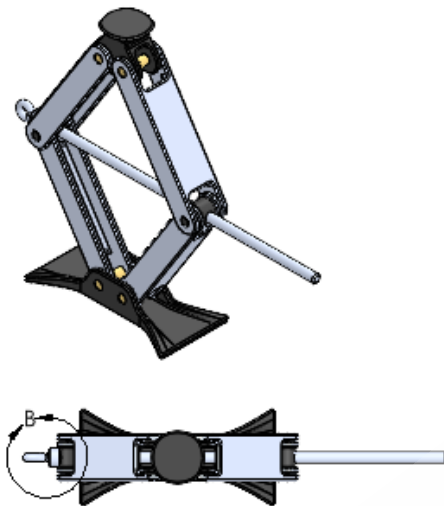
Assemblies and Mates (Level 9)

- Units: MMGS
- Difficulty Level: Easy
- Certification: CSWA
- Duration (min): 5

Suggested Sketch Tools / Features

- Assemblies: Distance

HINT: Start with the 9.5B assembly.



Center of Mass (mm): X=6.14, Y=272.24, Z=0.0