

Homework H.2.H

Given: The mechanism shown is made up of rigid links OA, AB and CD. Link OA has a pin joint at end O and is known to be rotating in the clockwise sense about O with a rotation rate of ω_{OA} . AB is pinned to OA at end A and is pinned to a slider at B, with B moving along a horizontal guide. Link CD connects the center C of AB to a second slider at D through pin joints, with this slider constrained to move along a vertical guide. At the instant shown link OA is oriented vertically, B is directly below D and D is directly to the right of A.

Find: For this problem:

- Locate the instant center (IC) for link AB. Based on the location of this IC, what is the speed of pin C and the direction of travel for C, as well as the speed of slider B?
- Locate the IC for link CD. Based on this location, determine the speed of slider D.

NOTE: Please use only the instant center approach for this problem. Do not use vector analysis to find your answers.

