

- 5-3** Construct the displacement diagram and the cam profile for a plate cam with an oscillating radial flat-face follower which rises through 30° with cycloidal motion in 150° of counterclockwise cam rotation, then dwells for 30° , returns with cycloidal motion in 120° , and dwells for 60° . Determine the necessary length for the follower face, allowing 5 mm clearance at each end. The prime-circle radius is 30 mm. The follower pivot is 120 mm to the right.
- 5-7** A plate cam with a reciprocating follower is to rotate clockwise at 400 rev/min. The follower is to dwell for 60° of cam rotation, after which it is to rise to a lift of 2.5 in. During 1 in of its return stroke it must have a constant velocity of 40 in/s. Recommend standard cam motions from Sec. 5-7 to be used for high-speed operation and determine the corresponding lifts and cam rotation angles for each segment of the cam.
- 5-10** A plate cam with an oscillating follower is to rise through 20° in 60° of cam rotation, dwell for 45° , then rise through an additional 20° , return, and dwell for 60° of cam rotation. Assuming high-speed operation, recommend standard cam motions from Sec. 5-7 to be used and determine the lifts and cam-rotation angles for each segment of the cam.