



FIGURE P6-16

Problem 6-53 Walking-beam indexer with pick-and-place mechanism Adapted from P. H. Hill and W. P. Rule, (1960). *Mechanisms: Analysis and Design*, with permission

- 6-53 Figure P6-16 shows a walking-beam indexing and pick-and-place mechanism which can be analyzed as two fourbar linkages driven by a common crank. The link lengths are given in the figure. The phase angle between the two crankpins on links 4 and 5 is given. The product cylinders being pushed have 60-mm diameters. The point of contact between the left vertical finger and the leftmost cylinder in the position shown is 58 mm at 80° versus the left end of the parallelogram's coupler (point D). Calculate and plot the absolute velocities of points E and P and the relative velocity between points E and P for one revolution of gear 2.