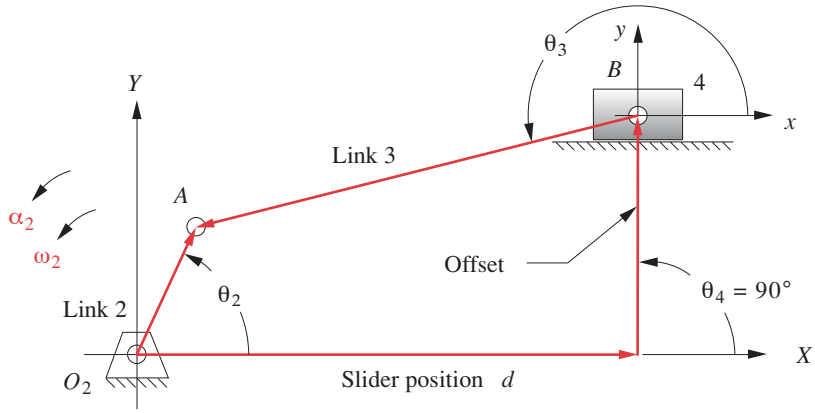

FIGURE P7-2

Configuration and terminology for problems 7-5 to 7-6 and 7-58

*7-5 The link lengths and offset and the values of θ_2, ω_2, and α_2 for some noninverted, offset fourbar slider-crank linkages are defined in Table P7-2. The general linkage configuration and terminology are shown in Figure P7-2. *For the row(s) assigned*, draw the linkage to scale and graphically find the accelerations of the pin joints *A* and *B* and the acceleration of slip at the sliding joint.

*†7-6 Repeat problem 7-5 using an analytical method.

†7-58 Write a program using an equation solver or any computer language to solve for the displacements, velocities, and accelerations in an offset slider-crank linkage as shown in Figure P7-2. Plot the variation in all link's angular and all pin's linear positions, velocities, and accelerations with a constant angular velocity input to the crank over one revolution for both open and crossed configurations of the linkage. To test the program, use data from row *a* of Table P7-2. Check your results with program SLIDER.

* Answers in Appendix F.

† These problems are suited to solution using *Mathcad, Matlab,* or *TKSolver* equation solver programs. In most cases, your solution can be checked with program SLIDER.

TABLE P7-2 Data for Problems 7-5 and 7-6

Row	Link 2	Link 3	Offset	θ_2	ω_2	α_2
a	1.4	4	1	45	10	0
b	2	6	– 3	60	– 12	5
c	3	8	2	– 30	– 15	– 10
d	3.5	10	1	120	24	– 4
e	5	20	– 5	225	– 50	10
f	3	13	0	100	– 45	50
g	7	25	10	330	100	18