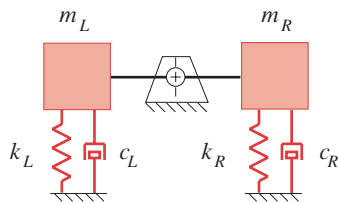
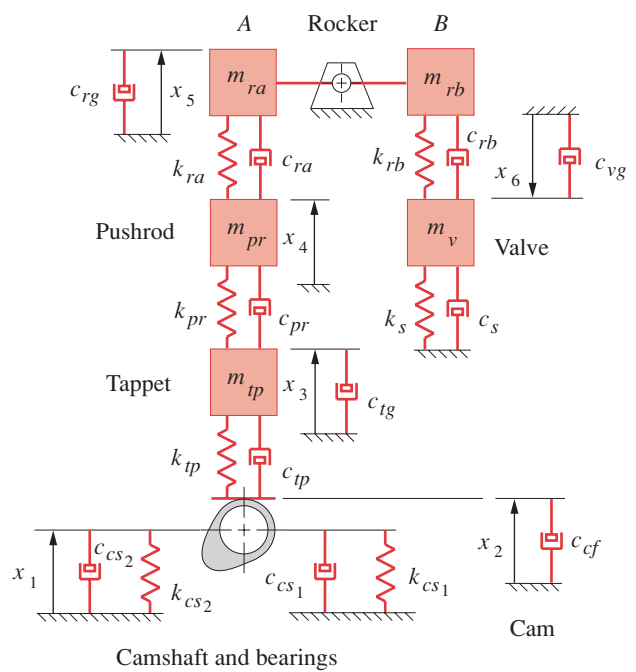


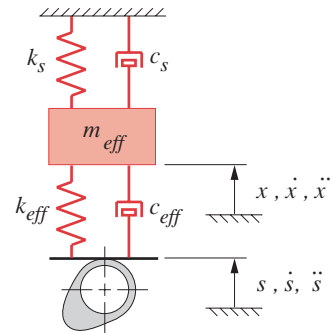
(a) Physical model



(c) One-DOF model with lever arm



(b) Six-DOF model



(d) One-DOF lumped model

†10-15 Refer to Figure 10-11 (above) and Example 10-1. The dimensions for the valve train are, (in ips unit system):

Tappet is a solid cylinder 0.75 diameter by 1.25 long

Pushrod is a hollow tube. 0.375 outside diameter by 0.25 inside diameter by 12 long.

Rocker arm has an average cross section of 1 wide by 1.5 high

Length $a = 2$, $b = 3$.

Camshaft is 1 diameter by 3 between bearing supports, cam in center.

Valve spring $k = 200$

All parts are steel

Calculate the effective spring constant and effective mass of a single-DOF equivalent system placed on the cam side of the rocker arm.