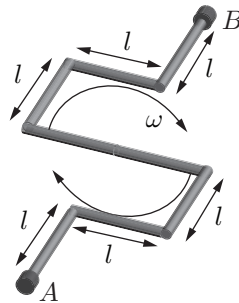


M09M.3 - Automobile Crankshaft (J94M.3)

Problem

As a model for an automobile crankshaft, consider a plane rigid body made of eight rods each of mass m and length l , as shown in the figure.



The bearings A and B constrain the crankshaft to rotate around a fixed axis at angular velocity ω . Find the instantaneous force on one of the bearings. Ignore gravity and friction.