G center of mass

60 kg.

P

P

.6m

B

.3m

.3m

R

The two forces P applied horizontally to the bottom of the **symmetrical frame** control the vertical motion of the 60 kg cylinder. Determine the constant force P which, if applied when the frame is at rest with B = 120 degrees, will give the cylinder an upward velocity of 3 m/s when the position of B is 60 degrees is passed.

The links are very light and their mass may be ignored and are all .6 m in length (.3 meters between connections).

For the instant when the upward acceleration id 20 m/s what is the force R under each of the supporting rollers.

Ans> P = 2.7 kN R = 894 N