

Rocket Stages Problems

1. The radius of the Moon is 1737 km,
and its surface gravity acceleration is 1.62 m/s^2 .
What is the velocity required to orbit the Moon at low altitude?



2. The Apollo Lunar Module ascent stage used hydrazine and
nitrogen tetroxide for fuel, with an exhaust velocity of 3005 m/s .
What fraction of the takeoff mass needed to be fuel
for it to achieve a low orbit over the Moon?

