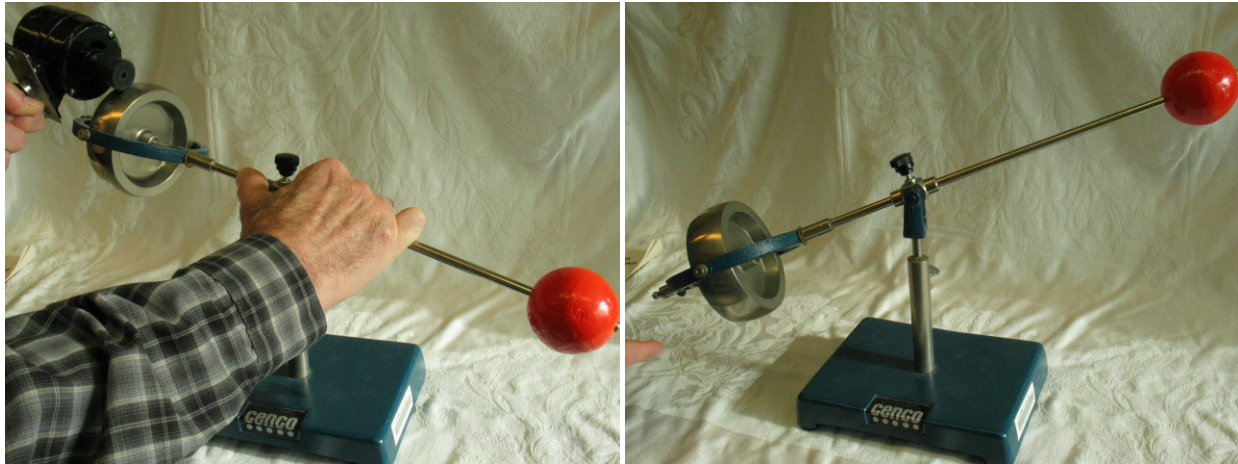


Precessing and Nutating Gyroscope



Purpose: To demonstrate precession of a rotating gyroscope subjected a steady torque and/or nutation when subjected to an additional, transient torque.

Location: room 136, shelf O2

Start with a slight imbalance between the gyroscope and the orange ball so that there will be a gravity-induced torque on the rotating gyroscope when its axis is horizontal. Make sure the screw on the pedestal shaft is loose so the gyroscope assembly is free to precess. Use the rubber wheel on the hand-held motor to gradually get the gyroscope to maximum speed (left photo). When released, precession occurs. While the gyroscope is precessing, use your finger to deliver a vertical impulse to the end of the gyroscope (right photo) and watch it nutate.