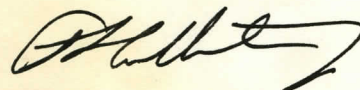


f. Current "requirements" for space station specify acceleration levels of  $10^{-6}$  G. and a rigidly coupled T.M. would generate  $\sim 10^{-3}$  G in the structure hence some 60 db. isolation is required for this gear. Other devices have similar problems. Since this device is bilateral the vibration sensitive equipment may be mounted on this arrangement and be isolated from the station.

Previous devices cannot provide the level of isolation required. At the moment large sums are being expended in detailed studies of the Shock and Vibration generators, apparently in hope that some combination of existing methodology will solve the problem. The simplicity and efficiency of this method makes that unnecessary. This scheme may be partially tested in 1g and fully tested on the Shuttle.

g. The use of existing mass in the spacecraft eg. stores, lockers, etc., by simply disconnecting structural links to rigid structure. The use of sensors and limited force generators for trimming position of a free floating mass. The use of sensors as warning of proximity of free floating mass. The use of magnetic or aerodynamic force elements to maintain position of the element. The use of snubbers to limit excursion of a floating element. The use of a floating mass as a counterpoise to reduce excursions from Shock and Vibration coupled to the mass.

Disclosed to and understood by me this 19<sup>th</sup> day of October 1988.



FRANK L. CULBERTSON, JR.

N.B. Everyone will say this is obvious but it has not been obvious to the present time nor will the sensor/force generators be obvious -

