Test Bench Test Plan

Objective:

The objective is to verify that the test bench is setup properly to output the required amplitudes and frequency required. The test bench will be set at max amplitude and given a range of frequency verifying that the test bench reaches maximum amplitude.

Equipment:

Test bench

Power supply

Function generator

Gyroscope

Processor

Mass

Procedure:

On test bench set mechanical hard stops on actuators at full open. Securely attach tested gyroscope and processor to their mounting locations on the test bench. Ensure that both the forward and reverse actuator is connected to their respective terminal on the solid state relay (SSR) and ground of the power supply. Connect the positive terminal of the power supply to the input terminal of the SSR, and the function generator to the trigger terminals making sure that the reverse actuator is connected with reverse polarity. Set the function generator waveform to +10V / -10V (20Vp-p) square wave at 1Hz. (If the function generator has a sweep function, setup a sweep from 1-30Hz over 60 seconds).

Power the power supply to 36V and power the processor board to begin recording gyroscope data. Attach mass to test bench and turn on the output for the function generator. (If the function generator does not have a sweep function, manually sweep 1-30Hz over a 60 second period). Read gyroscope data and ensure the amplitude is sufficient across the frequency range.