36-01510.199

ACIS Verification Summary Report

Specification:	ACIS Contract End Item Specification
Requirement Number/Title:	3.7.1.1.3 Mechanisms (VRSD 3.7.1.1.3-2)

Requirement Statement: All mechanisms shall operate in a one g environment in any orientation, using counter balancing, if required.

Verification Method:	**Test**

Procedure Number: ACIS Ver. Reports ACIS-110-77-01VR, ACIS-110-41-03VR, and ACIS-000-77-01VR

Configuration:

ACIS Instrument Mounted in ISIM

Cycle Time: N/A

Verification Discussion/Results:

All Mechanisms have been shown to operate in any orientation in one G environments without the use of counter-balancing. The aperature door is a lightweight stucture and weighs less than 0.5 lb. including all links, screws, and bushings. The primary loading of the actuator occurs when the mechanism linkage goes over-center and the torque requirements are far in excess of the loading caused by 1 G effects. The High Conductance Vent Valve is not effected by 1 G effects since the loading of the actuator only compresses or uncompresses a Bellville spring stack on the mechanism assembly. The Low Conductance Vent Valves are also not effected by 1 G effects due to their low mass and are designed to operate in any orientation. The testing which has been performed on the components has also verified this requirement. Initial performance testing was performed with +X up (See Verif. Report ACIS-110-77-01VR). Thermal Vacuum testing of the Detector Housing was performed with +X Down (See Verif. Report ACIS-110-42-03VR). System Testing was performed with +X sideways (+Z up) as shown in ACIS-000-77-01VR. System testing at the XRCF was performed with +X sideways and +Z down. In summary, the requirements of paragraph 3.7.1.1.3 have been satisfied and no further discussion is required.

Neil W. Tice 6/2/97

ACIS Cognizant Engineer Date