NASA
National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, TX 77058

Facility Utilization Request

For Facility Use Only

U.S. Gov

Date Received

Request No. | Page ____ of ____

Identifying Information

Date of Request	Initiator/Extension	Initiating Office
September 2, 1993	W. Thornton/48720	CB/Astronaut Office

Work Code/Program	Date Required	Type
	See enclosed schedule	____ Training X Engineering ____ Suited X Unsuited

Facilities

- ☐ Manipulator Development Facility
- ☐ Orbiter Crew Compartment Trainer
- ☐ Orbiter Full Fuselage Trainer
- ☒ Precision Air Bearing Floor
- ☐ Floor Exercise, 9A
- ☐ Preparation Room, 9A
- ☐ Weightless Environment Training Facility
- ☐ Space Station Mockup Facility
- ☐ Graphics Analysis Facility
- ☐ Anthropometric Measurement Lab
- ☐ Lighting Evaluation Lab
- ☐ Other *(specify)*

Title: Single plane evaluation of linear acceleration mass measuring device

Description. *(Include purpose, flight designation if applicable, test objectives, test subjects, test operators, and guidelines) (Use additional sheets, if necessary)*

See attached

Remarks: *(Special hardware requirements, support equipment, safety procedures, storage requirements, communications, lighting, etc.)*

Approvals

Requester	Requesting Organization	Facility Manager	Review Board
W. Thornton	CB		

C Form 1493 (Rev Dec 85)

NASA-JSC

A preliminary one-g evaluation and possible adjustment of a new Mass Measuring Device (MMD) will save considerable time and resources in KC-135 flights. A prototype instrument package ~ 2 X 7 X 8 ins. and weight ≈ 8 # will be attached to a small cable and accelerated over ~ 6 feet to peak velocities of ~ 6 ft/sec. The package must be supported by a bearing and air tank with various calibration masses to provide a total range of masses equivalent to 25 to 250 # lb. weight. One or two sessions will use subjects (provided) as masses. The subject will hold a frame while in supine position and be supported by air bearings and accelerated as described.

Recording equipment, precision scales, acceleration devices and similar support equipment will be provided by the support contractor, Lockheed. If ballast weight in 10-25 lb. units are available it would save haulage. The air bearing should be free of all attachments except a single long light (and fragile) instrument line (Provided) to the package and should be supported from overhead. Safe means for "catching" the bearing and package , foam cushions, etc. at the end of acceleration must be available.

It is anticipated that 1 or 2 air bearing operators will be required and 1-3 investigators will be present. Since the data will be processed off-line and data results may affect the next study a certain amount of flexibility is needed, i.e., the schedule shown is tentative.

After initial setup an initial data take of 2 hours is requested. This would be followed by 2-4, depending on results, one hour sessions separated by at least one working day.

The project will be ready for the initial test September 7, 1993.

Objectives of the test are a series of undisturbed accelerations of the instrument package with a series of masses in the 25-200 lb. range including humans.