

Facility Utilization Request

For Facility Use Only

U.S. Gov
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Date Received

Request No.

Page

of

Identifying Information

Date of Request
September 2, 1993

Initiator/Extension
W. Thornton/48720

Initiating Office
CB/Astronaut Office

Work Code/Program

Date Required

See enclosed schedule

Type

Training

X

Suited

X

Engineering

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

W. Thornton

Requesting Organization

CB

Facility Manager

Review Board

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 $\approx$ 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 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.