

National Aeronautics and Space Administration

Lyndon B. Johnson Space Center

OPERATIONAL TEST REQUIREMENT

FOR

SPACELAB MISSION SIMULATION

Title: PRETEST MEDICAL CHECKS

OTR Number

Principal Investigator(s):

Signature

Date

J. R. Hordinsky, M.D.

Signature

Date

SHUTTLE SPACELAB MISSION DEVELOPMENT TEST III (SMD-III)

OPERATIONAL TEST REQUIREMENTS AND CRITERIA

PRETEST MEDICAL CHECKS

1. Title _____ OTR No. _____

J. R. Hordinsky, M.D. DB5 4021
2. Principal Investigator(s) _____ Sponsoring Org. _____ Phone _____

3. Project Engineer

Division

Chief _____ Date _____

Directorate

Director _____ Date _____

Section 2

Technical Information

1. Background and Purpose:

This requirement is being established in order to alert the test support team to the sequence of pre-Shuttle flight medical checks that will be employed in order to ensure the health of the crews, to develop crew data and to integrate physical examination logistics into the Payload simulations.

2. Functional Objective:

To confirm the pre-test physical examination schedule although altering the regular examination schedule of 12 months, 6 months, 3 months, 1 month, and final week pre-SMD-III.

3. Participants:

The MS will participate as a physician and as a subject whenever the MS is a physician. The medical officers assigned to support SMD-III and the crewmembers assigned to SMD-III will participate as medical team and subjects, respectively.

4. Performance Requirements and Conditions:

Exams will be completed at the designated times. The schedule is L-5 months, L-7 days and launch day.

Designated PS candidates from ARC will travel to JSC for the purpose of this series of examinations.

Section 3

Engineering Information

1. Hardware (or Software) Identification and Description:

Medical diagnostic equipment: basic laboratory tools, X-ray, general medical diagnostic equipment for standard physicals. (NOTE: The fusion of 12 and 6-month evaluations requires equipment to evaluate semicircular canal function, neurological status, and cardiopulmonary status as well as appropriate testing booths for the various surveys and questionnaires that must be completed. As such this will not take place exactly 12 or 6 months prior to SMD-III, but when enacted will require the additional hardware list above.)

2. Interface Information:

A. Location of Hardware (or Software):

Basic diagnostic equipment in the Flight Medicine Clinic, Building 8.
Specialized evaluatory equipment in Building 7, 37, and offsite.

B. Mounting Requirements:

TBD

C. Utility Requirements (Electrical, Gases, Fluids, etc.):

TBD

D. Support Equipment Information:

TBD

E. Other Interface Information:

TBD

3. Environmental Constraints:

TBD

Section 4

Operational Requirements

1. Test Operational Requirements:

A. Preflight (Training, Support, etc.)

Pretest examinations at 5 months pretest, one week pretest and on launch day. The 12- and 6-month exams for payload specialist selection are to be carried out in a foreshortened time frame to comply with the SMD-III schedule. No 3-month, 1-month, or daily (last week) medical checks are planned at this time (except L-7 and L-0).

B. Inflight (Crew Requirements, Constraints, Frequency, etc.)

(1) Test Preparation

Does Not Apply

(2) Test Operations

Does Not Apply

(3) FDF Requirements

Does Not Apply

C. Postflight

Quick-look history and physical check of the test participants within 4 hours after test completion.

2. Flight Operational Requirements (Crew Communications, Real Time Operational Support, Specific Data, etc.):

Does Not Apply

3. Data Support Requirements:

A. Preflight (Including Close-out Photos)

Entry of data collected from preflight examinations into the medical data base constructed for the test participants.

3. Data Support Requirements: (Continued)

B. Inflight

Capability to uplink medical data via teleprinter.

C. Postflight (Data Retrieval, Special Handling, DTU Access, etc.)

Would apply only in case of postflight illness evaluation or postflight injury evaluation.

D. Data Analysis Support

On-call computer operator support in inserting SMD-III payload specialist and mission specialist medical data into separate medical data base during the preflight period as well as assisting with any technical difficulties in the retrieval of such data as may arise during tests.