



**Aerospace
Systems Division**

LRRR(300) Astronaut Trainer
Acceptance Test Results

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ATM-945	
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The Acceptance Test performed by CS&O provides a means of evaluating the astronaut interface manipulative characteristics for the LRRR(300) Astronaut Trainer prior to delivery. CS&O personnel ensure that the LRRR(300) is a satisfactory mechanical simulation of the Flight Model. Discrepancy Reports by the QA Department record any material defects, drawing errors and assembly errors in the model.

The deployment of the trainer was carried out in the Crew Engineering laboratory, on a carpeted area, by a Crew Engineering shirt sleeve subject wearing PGA gloves. The (Grumman) Pallet for the LM interface was not evaluated with the LRRR(300).

Prepared by:

R. Redick

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- A. Carry Handle
Acceptable per design and earlier tests.
- B. Universal Handling Tool Socket
Acceptable per design and earlier tests.
- C. Pull Pins for Small Array Tie-Down
Acceptable per design.
- D. Swing Out Array and Lock Mechanism
Spring force on the locking device and protection from hinges acceptable.
See I-2, Painted Surfaces, below.
- E. Pull Pin for Extension Leg Release
Acceptable per design.
- F. Extension Leg and Lock Mechanism
Spring forces on the locking device and the positive stop feature acceptable. Visibility of locking mechanism was good.
- G. Emplacement
Lowering the unit to the deployment position using two techniques was evaluated. The most reliable method is by using the UHT inserted in the socket prior to rotating the unit. The unit is immediately available for leveling and alignment using this method. Lowering the unit with the UHT handle in the carry handle and guiding it to the deployed position is acceptable but offers less stability to the crewman and unit. He then must insert the UHT to level and align.
- H. Gnomon/Suncompass Assembly
The spring force for the design does not deploy at 1G as expected (full rotation unassisted).



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I. Painted Surfaces

1. The International Orange tape on the Dust Covers is missing (along top edge only).
2. The swing out Array deployment knob is white, it should be International Orange.
3. The rear support requires touch up per point.

J. Array Dust Covers

See I-1, Painted Surfaces above.

K. Stability During Temporary Emplacement on Back Support Structure (BSS).

Temporary emplacement on a 15° slope is not an apparent problem at earth gravity.

L. Leveling and Alignment Hadley Rille Site

Acceptable per design and earlier tests.

Additional testing by NASA/MSC in the Lunar Gravity Aircraft (KC-135) will verify the design and crew deployment techniques.

Note: The discrepancies pointed out above were corrected prior to the Trainer delivery and final acceptance was received at MSC.