

Phornton

U.S. Government

MEMORANDUM

Lyndon B. Johnson Space Center



REFER

TO: CB

DATE

March 24, 1984

INITIATOR

CB/RFOvermyer.ms:3/24/84:3721

ENCL

TO: SL-3 PS's

CC

See list

FROM: CB/SL-3 CDR

SIGNATURE

Robert F. Overmyer

SUBJ: Training for SL-3

I am pleased to see that training is going so well and that we are finally getting into the real meat of the mission. I am sorry that I have not been able to spend more time with you as you train because I am sure you must have numerous questions you'd like to have answered concerning the mission.

I am pleased to report that the Orbiter training is right on schedule, and I think the CDR, PLT and MS-2 are beginning to gel as a team and are working well together, handling the various malfunctions that are thrown at us on each practice launch and entry. I am satisfied that at L-34 weeks, we are in good shape.

The one area I have some concern with is the experiment procedures and equipment. Since these items tend to be late, your review during training becomes very important. In particular, the procedures must be absolutely right before launch.

Over the 13 years I've been working with NASA procedures writers, I've developed a few "truisms" that I use to guide me as I attempt to get procedures and hardware corrected. Here are a few of them:

1. If the wording of a procedure causes you to repeatedly do something wrong in training, you'll do it wrong in flight too.
2. If a procedure is unclear and vague in simulations, it will be vague and unclear in flight.
3. Any inflight failure will occur just as we go LOS (Loss of Signal), and you'll have to solve the problem using the malfunction procedures without ground help.
4. If a procedure cannot be clarified while talking to the PI face to face, it won't be clarified by talking to him from space.
5. If a piece of hardware is hard to operate or difficult to manage on the ground, it won't work in space.

6. In space you only have two hands. You can't hold three items; and, therefore, one will float away.
7. In space the items you need the most will float away, the ones you need the least will constantly get in your way.
8. No procedure can be too simple.
9. A well written procedure, easily understood, can pull you through periods when you might not feel 100%.
10. A procedure in space will take twice as long to accomplish as on the ground.

These are just a few of the experiences I have had here at JSC that tend to make me attack procedures like a zealot to ensure they are correct. Unfortunately, the typical procedures writer tends to know his system or experiment so well that he sometimes leaves out steps he may feel are obvious. He or she also probably does not have a real appreciation for the time it takes to do a task in zero gravity or does not appreciate the time constraint and necessity to work other systems or experiments.

The bottom line is that the person who is going to fly a procedure has a very vested interest to ensure it is correct, and that person must make the system respond to his or her requirements to make a procedure correct.

cc:
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