



Mr. Gaume 12-9-58

INTERNAL INFORMATION ONLY
ENGINEERING DIVISION

DAILY NEWSLETTER

Thursday, December 18, 1958

HERE

SPACE ORIENTATION.

On December 9th and 10th, Dr. James G. Gaume visited the NASA (National Aeronautics and Space Administration); the AFOSR (Air Force Office of Scientific Research); Headquarters USAF; and the ARPA (Advanced Research Project Agency) to orientate these groups on Martin's Space Medicine Program. He spoke specifically on (1) the lunar housing simulator, and (2) the reaction control simulator.

HIGH BAY AREA.

A test was completed on the aft section of the Stage I BS missile to prove that the Missile can be held down with 2 explosive bolts, instead of 4. The test was successful, and no damage was indicated. The test reached 125% of the ultimate load limit. Maximum engine loads and bending moment subjected the 2 bolts to the maximum tension loads. As a result of this test, 2 explosive bolts will be removed from the A-3 missile. The removal of 2 explosive bolts will increase considerably the reliability of missile release during an actual launch.

TEST STAND D-1.

Run 6, tentatively scheduled for today, was postponed, due to contamination of the Lox tank which requires further flushing. A second flush still revealed contamination; it will be necessary to visually check the inside of the tank by lowering a man into it. No definite firing date has been established, but it is expected Saturday.

PROPULSION LABORATORY.

Another test was conducted on the Airborne Electrical Power Inverter. The inverter was placed in an enclosure and "cold soaked" at -50°F for a 3 hour period. Both voltage and frequency output of the inverter were measured. Further testing will be required.

Another test was conducted on the pencil tanks to verify data from previous tests on the Lot G Stage I prototype single stage Lox and Fuel Helium Pressurization Regulators. The Data is being evaluated, and the present requirements of Stage I appear to be complete.

In Cell 5, a series of tests were conducted to determine the operating characteristics of the Lot B Stage II missile Pressurization System. The Pressurization System was loaded with helium at ambient and -300°F temperatures at Maximum flow rates. Operation of the Pressurization components was observed and gas flow rates were monitored. The data is being analyzed.

Another test was conducted in the Gas Test Cell on the scale model Lot G Stage II Lox tank. The tank was partially filled with water, and was vibrated without suppression baffles. Water "slosh" was much more severe than observed with baffles. A rotational motion of the liquid was present. It was not possible to determine the resonant frequencies because of the complex "sloshing" motion of the liquid which occurred.

THERE

At "Press time" yesterday, the A-3 missile was undergoing its countdown, and the firing was planned for 3:00 p.m. (MST).

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