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ARMY AVIATION TEST BOARD FORT RUCKER ALA
TEST OF MOISTURE SEALANT OF U-6A (L-20) MAGNETOS. (U)
JUL 63

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UNITED STATES ARMY AVIATION TEST BOARD
Fort Rucker, Alabama

STEBG-TD

JUL 23 1963

SUBJECT: Report of Test, USATECOM Project No. 4-3-1030-06-D,
"Test of Moisture Sealant for U-6A (L-20) Magnetos!"

23 Jul 63

TO: Commanding General
U. S. Army Aviation and Surface
Materiel Command
ATTN: SMOSM-EU-6A
P. O. Box 209, Main Office
St. Louis 66, Missouri

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1. References.

a. Plan for Test and Evaluation, U. S. Army Transportation
Aircraft Test and Support Activity, 5 September 1962, Project No.
A-62-8-2, Task No. A-18.

b. Letter, STEBG-ME, U. S. Army Aviation Test Board,
21 November 1962, subject: "Moisture Seal for L-20 Magnetos," with
1st Indorsement, SMOSM-EU-6A, U. S. Army Aviation and Surface
Materiel Command, 27 November 1962.

c. Crash Fact Message AOI-06-4746, with supplemental
message.

d. Fort Rucker Unsatisfactory Report 62-190.

e. Fort Rucker Equipment Improvement Recommendation
62-270.

2. As of 30 July 1962, the U. S. Army Aviation and Surface
Materiel Command had received at least two Equipment Improvement
Reports (references 1d and 1e) and at least one Crash Fact Message
(reference 1c), relative to moisture accumulation in SB9RU-3 magnetos.

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"Test of Moisture Seal for U-6A (L-20) Magnetos"

The U. S. Army Aviation Center Maintenance Shop reported that an ignition spray was used successfully as a seal to prevent moisture in the magnetos. As a result, the U. S. Army Aviation and Surface Materiel Command requested that this compound be evaluated by the U. S. Army Aviation Test Board.)

3. An aerosol liquid spray was evaluated by personnel of the U. S. Army Aviation Test Board during the period 4 October 1962 - 2 April 1963. The original test directive required the utilization of one treated (liquid spray) and one untreated magneto on a U-6A Airplane during a 150-hour flight program. For approximately ninety flight hours, the airplane was flown with the treated and untreated magnetos, at which time the directive was revised (reference 1b) to require the treatment of both magnetos. Sixty-six flight hours were subsequently accumulated on the test airplane with both magnetos treated.)

4. The aerosol liquid spray was applied by removing the magneto case cover and spraying the internal components. The following results were noted.)

a. No magneto fouling occurred during the test. No detrimental effects were noted on the magnetos or engine as a result of the spray.

b. The average r.p.m. drop experienced during the first 90 hours of flight test in the U-6A with one treated and one untreated magneto was as follows:

Treated (left) magneto	36.5
Untreated (right) magneto	52.8

During the remaining 66 flight hours with both magnetos treated, the average r.p.m. drop was:

Left magneto	36.5
Right magneto	38.6

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c. Since no moisture fouling problems were encountered during testing, the magnetos were sprayed with water and allowed to stand for approximately 15 minutes. The right magneto was treated and the left untreated for this test. Extremely rough engine operation resulted with continuous backfire caused by the left magneto. The r.p.m. drop of the magnetos prior to water spray was as follows:

Treated (right) magneto	55
Untreated (left) magneto	50

After the water spray, the drop experienced was:

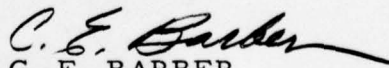
Treated (right) magneto	55
Untreated (left) magneto	200

d. No special precautionary measures were taken in the application of the spray.

e. The intervals at which the magnetos should be treated with the spray were not determined due to limited flying hours. A second application was not required during the test.

5. This project is considered to be complete.

FOR THE PRESIDENT:


C. E. BARBER
Captain, AGC
Adjutant

Copy furnished:
(2) CG, USATECOM