

Address reply and ENVELOPE to:

Commanding General
AAF Materiel Command
Engineering Division
Reference: BSB:amw:57
Wright Field, Dayton, Ohio.

~~CONFIDENTIAL~~

16 MAR 1944

Flight Tests of Fighter Aircraft with
44-1 Fuel, Project MX-512.

Commanding General,
AAF Proving Ground Command,
Eglin Field, Florida.
Attn: Proof Department.

EW2025

1. This is in further reference to Materiel Command letter dated 4 March 1944, to the AAF Board regarding the above subject and outlining generally the nature and scope of the desired flight tests. It is understood that a copy of this letter was sent directly to the Commanding General, AAF Proving Ground Command at Eglin Field.

2. Accumulation of engine test data subsequent to the 4th of March 1944, has resulted in the clearing of the following engines at the specified power ratings in accordance with the requirements of 7-1/2 hour W.E.R. run:

<u>Airplane Type</u>	<u>Engine Type</u>	<u>Maximum B.H.P.</u>	<u>R.P.M.</u>	<u>Manifold Pressure</u>
P-38J	V-1710-89	2000	3000	75"
	V-1710-91	2000	3000	75"
P-51B	V-1650-7	1860	3000	75"
P-47D	R-2800-63	2600	2700	65"
	R-2800-59	2600	2700	65"

Further engine testing is now in progress at the Materiel Command relative to the use of 44-1 fuel in the above engines and it is not expected that any engine condition may be discovered which will lower the above ratings.

3. In order to permit the present production models of these three types of airplanes to operate satisfactorily at the higher power settings it will be necessary to accomplish the following modifications:

a. P-38J -

- (1) Install AC 433F spark plugs (Materiel Command will supply this item).

MX-512

~~CONFIDENTIAL~~

Classification cancelled
or changed to

AUTH: CD 356

By

Signature and Grade

COM. GEN.

TECH. EXC.

ADM. EXC.

C. O.

BUD. OFF.

EXP. ENG.

CONTRACT

INSP.

PROD. DIV.

PROD. ENG.

PROD. CONT.

I. P. S.

A. S. C.

TECH. DATA

CIV. PERS.

OTHERS

~~CONFIDENTIAL~~

Commanding General, AAF Proving Ground Command.
"Flight Tests of Fighter Aircraft with 44-1 Fuel, Project MX-512".

16 MAR 1944

- (2) Rework fuel nozzle to .250" diameter (Materiel Command will supply this item).
- (3) Install 2400 cc. power enrichment jets (Materiel Command will supply this item).
- (4) Install new manifold pressure gauge assembly with dial reading of 85" hg. (Materiel Command will supply this item).

b. P-47D -

- (1) Install G-10 fuel pump (Materiel Command will supply this item).
- (2) Increase fuel pressure to 23 p.s.i. This may be done on G-10 fuel pump by proper adjustment of fuel pressure regulator.

c. P-51B -

- (1) Install RC5/3 spark plugs in the event the airplanes are not already so equipped (Materiel Command will supply this item).
- (2) Remove present volute drain diaphragm assembly and install new drain assembly with 1/16" restriction (Materiel Command will supply this item).
- (3) Install manifold pressure gauges with dial reading of 100" hg. (Materiel Command will supply this item).

The Materiel Command has taken the necessary action to secure 130 RC5/3 spark plugs and have issued instructions that plugs should arrive at Eglin Field on or before Sunday, 19 March 1944. Materiel Command will ship to Eglin Field via the regular military liaison airplane operating between Wright Field and Eglin Field, six reworked power enrichment jets for the P-38J airplanes. This item should be available for shipment on or before the 18th of March 1944. The Materiel Command is experiencing considerable difficulty in obtaining a sufficient number of AC 433F spark plugs and in the event these plugs are not available prior to the initiation of the test, it will be necessary to derate the V-1710-91 and V-1710-89 engines until these plugs are available. Your office will be kept informed of this matter.

4. The Materiel Command has, this date, referred the personnel problem at Eglin Field to AC/AS, MMD, Washington, D.C. It is understood that this matter will be taken up directly with the Chief of the Proof Department and with A-1 Section, Headquarters, Army Air Forces.

MX-512

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Commanding General, AAF Proving Ground Command.

"Flight Tests of Fighter Aircraft with 14-1 Fuel, Project MX-512".

16 MAR 1944

5. The Materiel Command requests that a method of reporting be set up which will report daily on the progress of these tests. The previous method set up to report the progress of the coolant tests, which was by teletype, was satisfactory.

6. The Materiel Command has taken the necessary action to establish a project number for these tests which is project MX-512. In the future it would be appreciated if all communications and shipments of material would reference this project number. The Materiel Command will do likewise as regards communications and shipments of material to Eglin Field.

For the Commanding General:

M. F. COOPER,
Lt. Colonel, Air Corps
Chief, Fighter Branch
Aircraft Projects Section

for F. O. CARROLL,
Brig. General, U. S. A.,
Chief, Engineering Division.

MX-512

~~CONFIDENTIAL~~

- 3 -