

Classification changed to
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DATE 2/19/46

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OR CHANGE TO

WAR DEPARTMENT

AIR CORPS, MATERIEL DIVISION

*Drullman
Capt asst*

MEMORANDUM REPORT ON
Martin B-26 Airplane, A.C. No. 40-1324

PTB-B3

Date December 27, 1941

SUBJECT: Comparative Performance Tests

SECTION Flying Branch

Classification to

Contract No. W-535 AC-13243

SERIAL No. PHQ-M-19-1329-A

~~UNCLASSIFIED~~

Expenditure Order No. 426-4-26

Purchase Order No.

~~b. ATTACHED TO A.C. A.C.~~

~~DATE - 8 Oct 1947~~

A. Purpose

1. To report on comparative performance tests of the B-26 airplane, A.C. No. 40-1324, as a standard airplane and with a modified glove wing. Airplane equipped with two (2) Pratt and Whitney R-2800-5 engines and four bladed constant speed propellers, blade design No. 814003-15A, blade angle range 23° to 55° at 42" radius. Gross weight as tested was 26,445 lbs. at 15.5% m.a.c., wheels up. Wing flaps neutral, landing gear retracted, oil cooler shutters closed, cowl flaps closed, and carburetor cold.

B. Results: Horsepowers based on curve T-660 (Revision dated 8-9-40) of Spec. No. 50190.

1. Standard airplane:

- a. High speed was 305 mph at wide open throttle at 2300 rpm at 15,100 ft. with mixture auto rich (approx. 1390 bhp per engine).
- b. Calibrated indicated stalling speed at approximately 15,000 ft. with engine idling was 112 mph with flaps and gear retracted, and was 96.5 mph with flaps and gear down.

2. Airplane with modified glove wing:

- a. High speed was 314.5 mph at wide open throttle at 2300 rpm at 14,445 ft. with mixture auto rich (approximately 1430 bhp).
- b. Calibrated indicated stalling speed at approximately 15,000 ft. with engine idling was 111 mph with flaps and gear up, and 96.0 mph with flaps and gear down.

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3. Due to the fact that there was such a large difference in speed with and without the wing glove and that there were no torque meters on the engines, it was intended to run the tests over again with and without the glove to check above results, but the airplane was transferred before these tests could be made.
4. Results of landing and take-off tests will be reported by the Aircraft Laboratory.
5. Pilots report no noticeable difference in landing and take-off between the two conditions. Lateral control with the modified wing was inferior to that with the standard wing, although pilots also report that lateral control varies with individual B-26 airplanes.

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Concurrence:

Distribution: Chief, Exp. Rgr. Section
(Attn: Flight Research Projects)
Chief, Prod. Rgr. Section
(Attn: Project Officer)

Chief, Aircraft Laboratory
(Attn: Aerodynamic Unit)
Chief, Propeller Laboratory
Contract Files

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Proj. Officer, Bomb. & Recon. Div.