B-26C

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ARMY AIR FORCES
MATERIEL CENTER

MEMORANDUM REPORT ON
Medium Bomber B-26C, A.C. No. 41-34678 LES-da

Date November 2, 1942

SUBJECT: Airplane Performance

SECTION Flight

SERIAL No. FS-M-19-1500-A

Contract No.
Expenditure Order No. 426-4-48
Purchase Order No.

A. Purpose

1. Report on performance tests on B-26C. Airplane equipped with two R-2800-43 engines and four-bladed constant speed, full feathering propellers, blade design No. C3821306, normal blade angle range 14.7° to 44.7° at 42 inch radius. All tests conducted with wheels up, wing flaps neutral, carburetor cold, mixture controls auto-rich, cowl and oil cooler flaps in closed position in level flight and wide open in climb, exhaust stack shrouds and exhaust nozzles removed, radio antennae and all guns in place. b.h.p. figures were obtained from power curves No. T-775, revised April 20, 1942.

B. Test Results

1. High speed wide open throttles at critical engine altitude in high blower ratio was 298 MPH at 2700 RPM at 15,800 feet at 30,400 pounds gross weight. (Take-off gross weight 31,200 pounds.)

2. Maximum altitude at which airplane will fly level on the left engine alone is 6400 feet, on the right engine is 7150 feet at a gross weight of 30,200 pounds. Dead engine propeller feathered with cowl and oil cooler flaps closed. Live engine in low blower ratio at 2400 RPM and wide open throttle with cowl and oil cooler flaps wide open. The cowl flaps cause a tail buffet on single engine operation. The airplane would not maintain single engine level flight on either engine alone in high blower ratio at normal rated power.

146 calib. 145 ind. 149

3. Results of take-off and landing tests obtained by the photographic method will be reported by the Aircraft Laboratory.

4. An approximate check was made on the absolute ceiling of the airplane with bomb bay doors open. It was found to be 20,500 feet at 2400 RPM in high blower ratio at a gross weight of 29,600 pounds.

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5. Level flights were made at a pressure altitude of 16,000 feet at wide open throttles in high blower ratio to determine the RPM which would give maximum airspeed. Gross weight at end of test was 29,820 pounds, density altitude 17,400 feet.

True Speed MPH	RPM	Ave. b.h.p. per engine
290	2305	1300
295.5	2415	1378
299	2510	1435
300	2610	1482
298	2710	1518

Brake-horsepower figures listed were obtained from power curves. It is therefore impossible to determine whether the indicated increase of horsepower with RPM was actually obtained or if the loss of speed at 2700 RPM is due to drop in propeller efficiency. It is the opinion of the Flight Test Branch that propeller efficiency is the main reason for not obtaining the expected increase in speed with RPM and is based on tests of the C-46 airplane which was equipped with similar engines with torque meters. Tests of the C-46 showed an increase of only 1 MPH when using 2700 RPM instead of 2400 RPM, wide open throttles at 13,000 feet, although the torque meter horsepower was increased by 110 per engine at 2700 RPM.

Concurrence:

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