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ARMY AIR FORCES
AIR TECHNICAL SERVICE COMMAND

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MEMORANDUM REPORT ON

P-47N-2 Airplane, AAF No. 44-87785

TSCEPSE-1F/NAK/rjv/36305

Date 4 July 1945

SUBJECT: Zoom Characteristics of the
P-47N-2 Airplane, AAF No. 44-87785

Drummond
Capt USAAF

OFFICE TSCEPSE

Contract or Order No.

SERIAL No. TSCEPSE-1892

Expenditure Order No.

A. Purpose.

The purpose of this test was to determine the zoom characteristics of the P-47N-2 airplane, AAF Number 44-87785, as compared to the P-47D-30 airplane, AAF Number 44-32748.

B. Factual Data.

The P-47N and P-47D airplanes were flown side by side to determine the comparative zoom.

The P-47N was flown at 15,300 pounds with the c.g. at 30.5% MAC which included 370 gallons of fuel and full oil and ballast for 267 rounds of ammunition per gun. The P-47D was flown at 13,300 pounds with the c.g. at 29.9% MAC, wheels up, which included full fuel and oil and ballast for 267 rounds of ammunition per gun.

A comparison of the zoom climb was made in the following manner:

a. While flying at a cruising speed of 220 MPH side by side at 1,500 feet both airplanes were pulled into a zoom, simultaneously applying war emergency power. War emergency power for the P-47N was 2,800 RPM and 70 inches Hg. and for the P-47D, 2,700 RPM and 64 inches Hg. The airplanes were climbed until the airspeed dropped off to 165 MPH IAS; the climbs were continued at that speed until 8,000 feet was reached. Time to climb to 5,000 and 8,000 feet was recorded. Figure 1 shows the time versus altitude curves. The P-47N reached 8,000 feet in 1.65 minutes and the P-47D in 1.95 minutes.

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Memo. Report No. TSCEP5ER-1892
4 July 1945

b. While flying side by side at 1500 feet war emergency power on the P-47D and the P-47N throttled back to maintain the speed of the P-47D, both airplanes were pulled into a zoom at full war emergency power. The airplanes were climbed until the airspeed dropped off to 165 MPH IAS; the climbs were continued at that speed until 10,000 feet was reached. Time to climb to 5,000, 8,000 and 10,000 feet was recorded. Figure 1, Appendix I, shows the time versus altitude curves. The P-47N reached 10,000 feet in 1.60 minutes and the P-47D in 2.07 minutes.

C. Conclusions.

The zoom characteristics of the P-47N-2 airplane are superior to those of the P-47D-30. In a zooming climb at war emergency power from a cruising speed of 220 MPH at 1,500 feet in level flight the P-47N began pulling away from the P-47D immediately and maintained its superiority to 8,000 feet. In a zooming climb at war emergency power from level flight war emergency speed at 1,500 feet, the zoom of the two airplanes was approximately equal to 5,000 feet. Above 5,000 feet the P-47N was superior. This advantage in zoom can be mainly attributed to the higher power available of the P-47N.

D. Recommendations.

None

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Encl.
Drawing Figure 1

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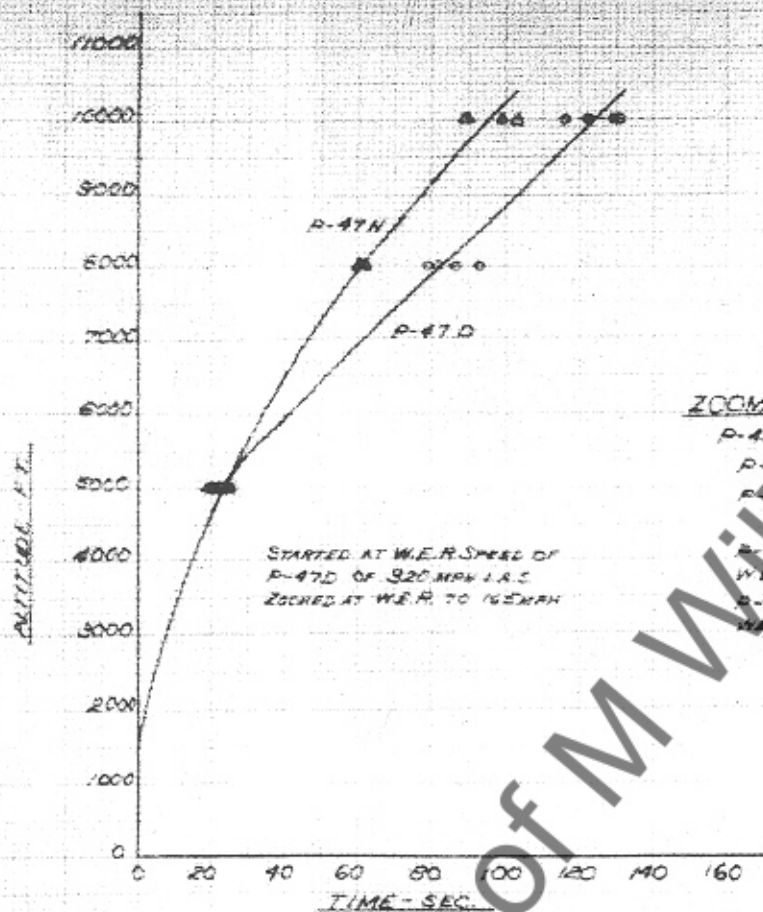


FIG. 1

