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ARMY AIR FORCES  
MATERIEL CENTER COMMAND

## MEMORANDUM REPORT ON

Typhoon I, British Fighter Airplane

ELS/mac/47

Date 6 December 1943

SUBJECT: Pilot's Comments

SECTION Flight

Contract No. ....

SERIAL No. Eng-47-1658-E

Expenditure Order No. ....

Purchase Order No. ....

A. Purpose.

To submit pilot's comments on the Typhoon I British Fighter Airplane.

B. Factual Data.

## 1. Introduction.

The Hawker "Typhoon I" fighter airplane, DN-340, equipped with a Sabre II engine was flown by two Flight Section pilots at the A & AEE, Boscombe Down, England. The Typhoon is being used very successfully as a fighter-bomber airplane.

## 2. Weight and c.g. Information.

The airplane was flown at approximately 11,000 lbs. gross weight with c.g. in the normal position. Weight included full gas and oil and 4 x 20 mm. guns but no ammunition.

## 3. Flight Characteristics.

## a. Cockpit Layout.

The airplane has a typically British cockpit. It is very short, bringing the gunsight in close proximity with the eye. Panel arrangement is good with the standard flight panel in the center and auxiliary side panels turned to face the pilot. The landing gear retraction handle is awkward to manipulate at first but would probably be satisfactory with familiarity. The flight control positions are comfortable. The wing flap and coolant flap controls should be more isolated.

Entrance and exit are difficult as the old type side door and top hinged section was installed on this airplane.

## b. Taxiing and Ground Handling.

Taxi vision forward and down is poor. Ground handling on sod was quite satisfactory. There is considerable cockpit contamination at taxi speeds and the engine loaded up quickly when idled.

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c. Take-off and Initial Climb.

Ground run is short. Torque on take-off is considerable, full rudder bias being needed. Gear retraction is rather slow and many trim changes occur during the retracting process.

Initial climb is adequate. Visibility is poor at this time.

d. Climbs.

Climb visibility is very poor. Indicated rate of climb below 5000 feet averaged just below 3000 feet per minute.

e. Handling & Control at Various Speeds.

All control forces are reasonable up to about 450 IAS where the ailerons become heavy. Use of rudder produces appreciable roll.

f. Trim and Stability

Trim readjustments are slight for speed and power changes. Tab control seems sufficient; no aileron trim is provided. Longitudinal stability is bad as the airplane is decidedly dynamically unstable. Directionally, it is stable but rolls decidedly when yawed. Laterally, it is just about neutral.

g. Stalls & Stall Warning.

The airplane has an ideal, gentle stall preceeded by proper warning. Indicated stall speed was 80 mph for the clean condition and 67 mph with gear and flaps down.

h. Maneuverability and Aerobatics.

In general, handling during maneuvers and in aerobatics is very good. Radius of turn is short, and the airplane rolls well although the aileron forces are heavy. The engine cuts out immediately when the airplane is inverted.

i. Trim Changes when Operating Gear, Flaps, etc.

Changes in trim with operation of gear, flaps and coolant flaps are moderate. The flaps retract smoothly and pitch changes are easy to handle. The radiator shutter has little effect on trim and is easy to operate.

j. Noise and Vibration.

There is a very objectionable, high-frequency vibration present at all times. It is believed that this would be very fatiguing on long flights.

k. Comfort.

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## 1. Vision.

m. Approach and Landing.

#### 4. General Functioning.

During these short flights, cooling seemed adequate. The starter is of interest being a six shot cartridge type loaded externally.

flights. All auxiliary equipment functioned properly during these

Emergency systems were not tried but appear sufficient, a canopy jettison control being provided and mechanical valves being installed for emergency gear lowering in the event of engine driven and hand hydraulic pump failures.

## 5. Performance

A copy of Boscombe Down performance figures are on file in the Flight Test Branch and may be obtained by authorized departments.




### C. Conclusions.

The Typhoon has proved to be a very useful fighter-bomber. Good high speed and maneuverability at low altitudes coupled with sufficient fire power and exceptional load carrying ability make it a formidable weapon.



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## None

  
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