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VICKERS ARMSTRONGS LIMITED; SUPERMARINE WORKS

TECHNICAL OFFICE
REPORT NO.
3808

# SPITFIRE F. MARK 21 - GRIFFON 61
# PERFORMANCE TESTS OF PROTOTYPE DP.851

## 1. Introduction

This report summarizes the results obtained on the prototype Mark 21 fitted with a Griffon 61 engine.

## 2. Summary of Results

At an all-up weight of 9000 lb. and with combat rating of 2750 r.p.m. and 18 lb. boost:

| | | |
|---|---|---|
| (a) | Maximum level speed | 455 m.p.h. at 25,600 ft. |
| (b) | Maximum rate of climb | 4800 Ft./Min. at 7700 ft. |
| (c) | Time to 30,000 ft. | 7.85 mins. |
| (d) | Service ceiling | 42,800 ft. |
| (e) | Coolant and oil suitabilities: Full tropical under combat climb conditions. | |

## 3. Condition of Aircraft

The aircraft was in the following condition:

(a) Griffon 61 engine No. 1266 fitted with a .45 airscrew reduction gear.
(b) 11 ft. 0 in. diameter 5 blade Jablo Rotol airscrew with faired roots. Blades to Drg. No. R.A.10129/JJ.
(c) Morris type QEW (port) and QEY (starboard) radiators.
Morris type QEV intercoolant radiator.
Morris type QEZ oil cooler.
The duct static exit areas are:
closed mean 0.76 sq. ft. open mean 2.02 sq. ft.
(d) Tropical type of air intake to Drg. No. 35638 Sht. 35 was fitted.
(e) Multi-ejector exhausts fitted.
(f) Windscreen with a curved front panel as on production rear view fuselage.
(g) T.R.1133 whip aerial fitted.
(h) Undercarriage-wheel flaps fitted for final flight. Retractable tail wheel.
(i) Four 20 m/m cannon armament.
(j) All-up weight 9000 lb. C.G. position 3.3" aft of datum.

## 4. Reduction of Results

Results have been reduced to I.C.A.N. standard conditions in accordance with A.D.M. 555.

## 5. Results

The results are shown on Figs. 1 - 4.

27th May, 1943.

EHM/P
5.

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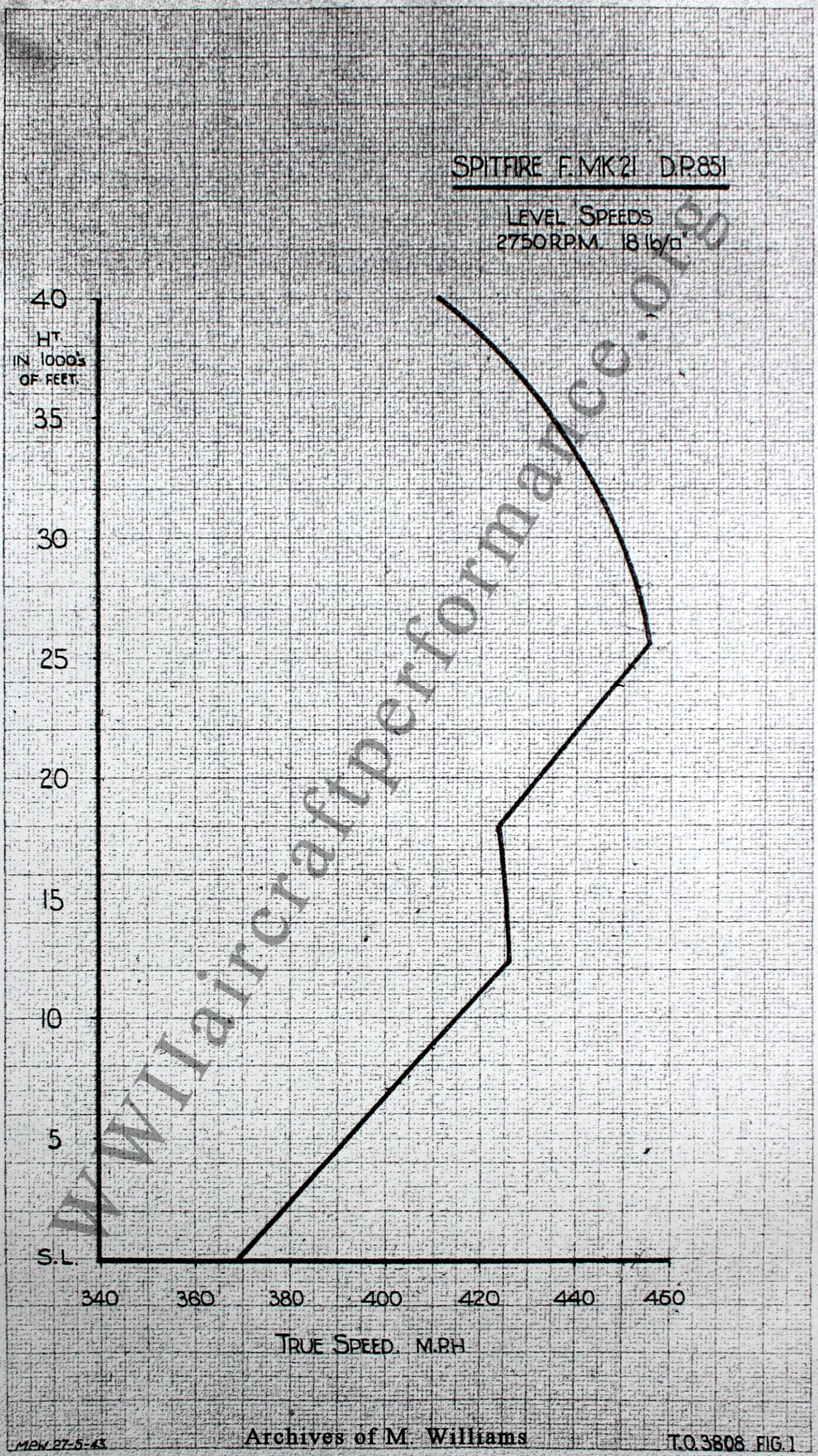


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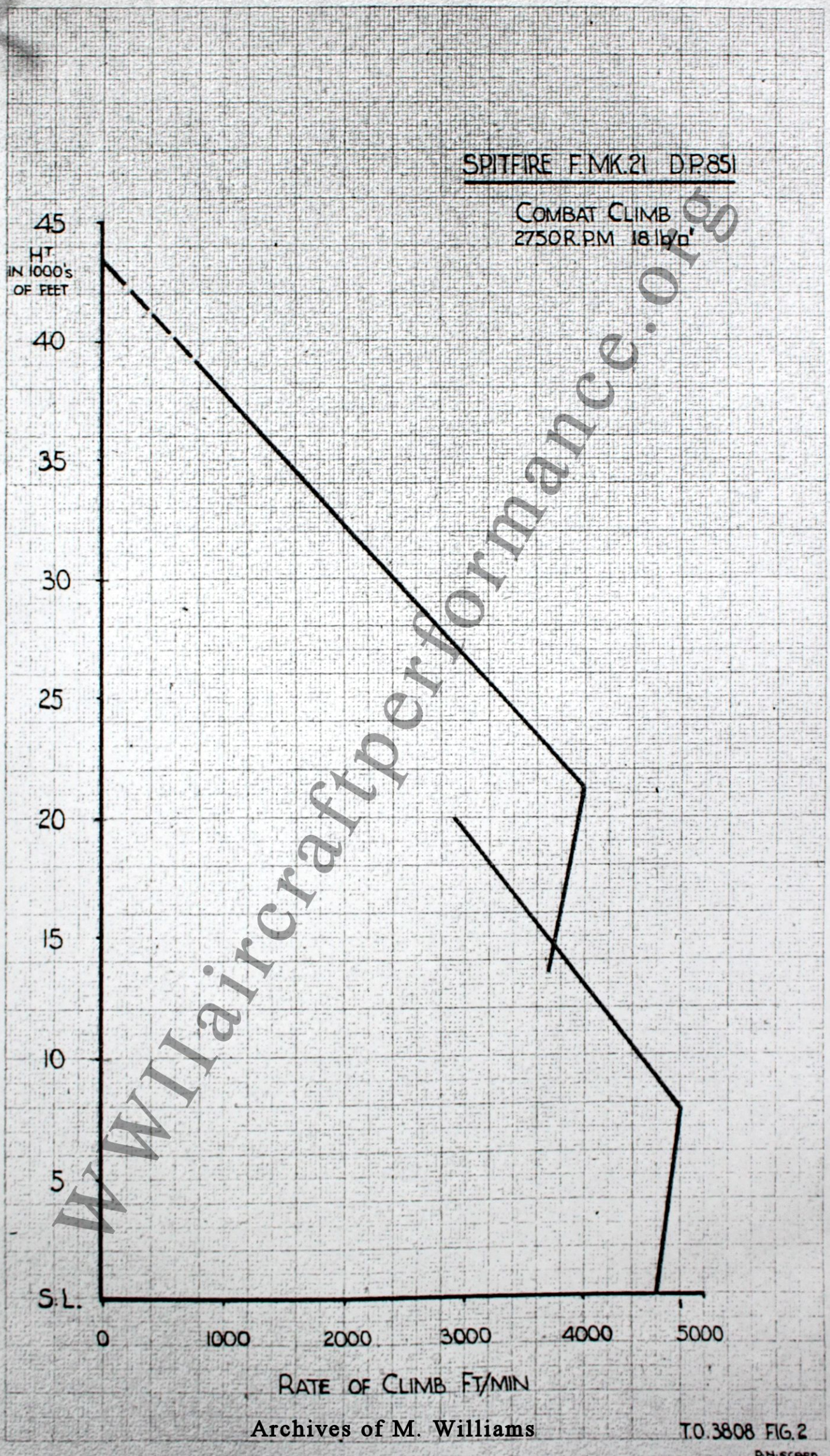
T.O. 3808 FIG. 1

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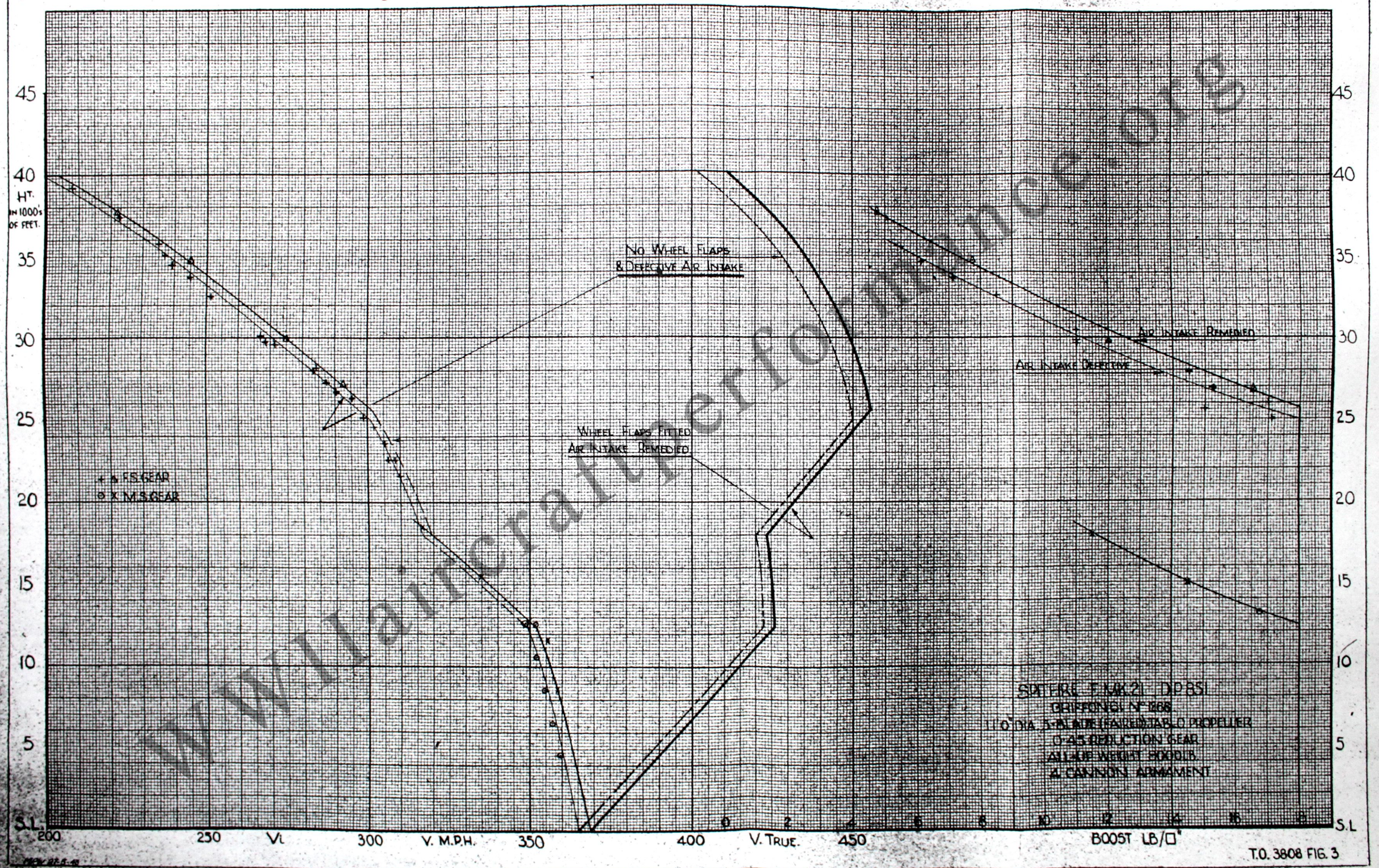
T.O. 3808 FIG. 2

D.N. SCARD. 16-5-43

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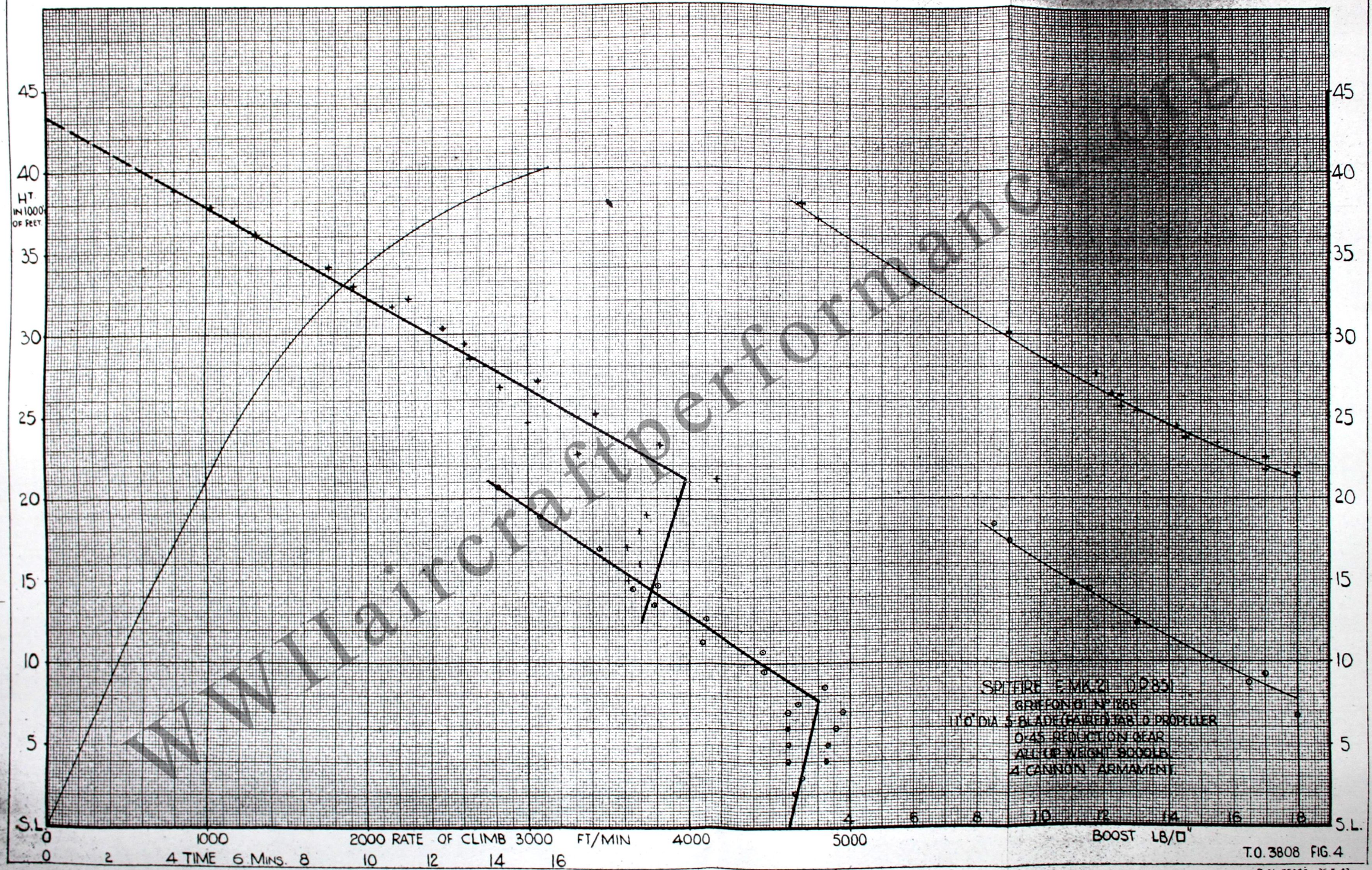


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