

NAS5  
VF6F-3  
PTR-2125

TITLE

Model F6F-3 Airplanes - Periodic Performance  
Check - Report on - TED No. PTR-2125.

REFERENCES

- (a) DuSer conf. ltr. Aer-E-211-JMC 024549  
of 21 October 1943.
- (b) Power curves for Model R-2600-8 Engine  
A.E.L. Project 3911, dated 19 August  
1942.
- (c) Report of Trouble, Model F6F-3 Airplane  
No. 40164, Items 1 to 3 dated 13 November  
1943 to 23 February 1944.

INTRODUCTION

1. Reference (a) requested that performance tests be conducted on approximately each 1000th model F6F-3 airplane. This report covers the tests of the first airplane submitted in accordance with the above directive.

PURPOSE

1. The purpose of these tests was to check the performance of model F6F-3 airplane No. 40164.

METHOD OF TEST

1. The performance data were obtained and reduced to standard conditions in accordance with the established Flight Test methods.

DISCUSSION

1. As the most representative service condition the airplane was loaded as an overload fighter for all tests, giving gross weight of 12,243 pounds. This included full fuel load of 250 gallons and six .50 caliber machine guns with full ammunition of 2400 pounds. Photographs forming enclosure 1 show model F6F-3 airplane No. 40164 as flown during the tests.

RESULTS

1. Charts contained in enclosure 2 are plots of the performance obtained during the tests. Reference (b) was used as a basis for estimating the horsepower developed by the engine installed.

2. The performance of the airplane is summarized on the following page, with comparative values obtained on previous model

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F6F-3 airplanes. It should be noted that this performance was available only after extensive work on the carburetor, and that as received the production airplane fell far short of acceptable performance because of carburetor difficulties, (reference (c)).

Model.....	F6F-3	XF6F-3	F6F-3
Airplane number.....	40164	02982	07746
Loading.....	Overload Fighter	Normal Fighter	Overload Fighter
Gross weight - lbs.....	12,243	11,364	12,225
<b>Military Power Performance</b>			
Airplane critical altitude - ft.	23,200	22,300	
Maximum speed at airplane critical altitude - MPH.....	379.5	377.5	
Service ceiling - ft.....	37,000		
Maximum rate of climb at sea level - FPM.....	2,900		
<b>Normal Power Performance</b>			
Airplane critical altitude - ft.	24,550	23,700	
Maximum speed at airplane critical altitude - MPH.....	375	373.5	
Service ceiling - ft.....	36,400	38,500	
Maximum rate of climb at sea level - FPM.....	2330	2500	
Take-off distance, no wind - ft.	715		702
Take-off distance, 25 knot wind - ft.....	335		327
Take-off speed - MPH.....	86.0		85.5
<b>Stalling Speed</b>			
Clean - power on - MPH.....	97.0	96.5*	
Clean - power off - MPH.....	98.5	98.5*	
Landing condition power on - MPH	79.5	82.0*	
Landing condition power off - MPH.....	85.5	85.5*	

\* Overload Fighter gross weight = 12,155 pounds

YAS3  
VP6P-3  
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TYPE

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CONCLUSIONS

1. a) Model P6P-3 airplane No. 40164 possesses substantially the same performance characteristics as previous model P6P-3 airplanes tested by Flight Test.
- b) There are no significant changes in handling qualities.

RECOMMENDATIONS

1. a) Several difficulties were encountered during the trials and were reported on by reference (c) with recommendation for correction made therein.
- b) The major military importance of the carburetor difficulties encountered in R-2300 engines and exemplified in this airplane, as received, is again emphasized. It is recommended that positive measures be taken to insure proper carburetion in every individual production airplane.

FRAMPTON E. ELLIS  
Lieut., U.S.N.R.

PAUL H. RAMSEY  
Comdr., U.S.N.

Encl.

1. HW - Photographs of Model P6P-3  
Airplane No. 40164.
2. HW - Performance Charts.



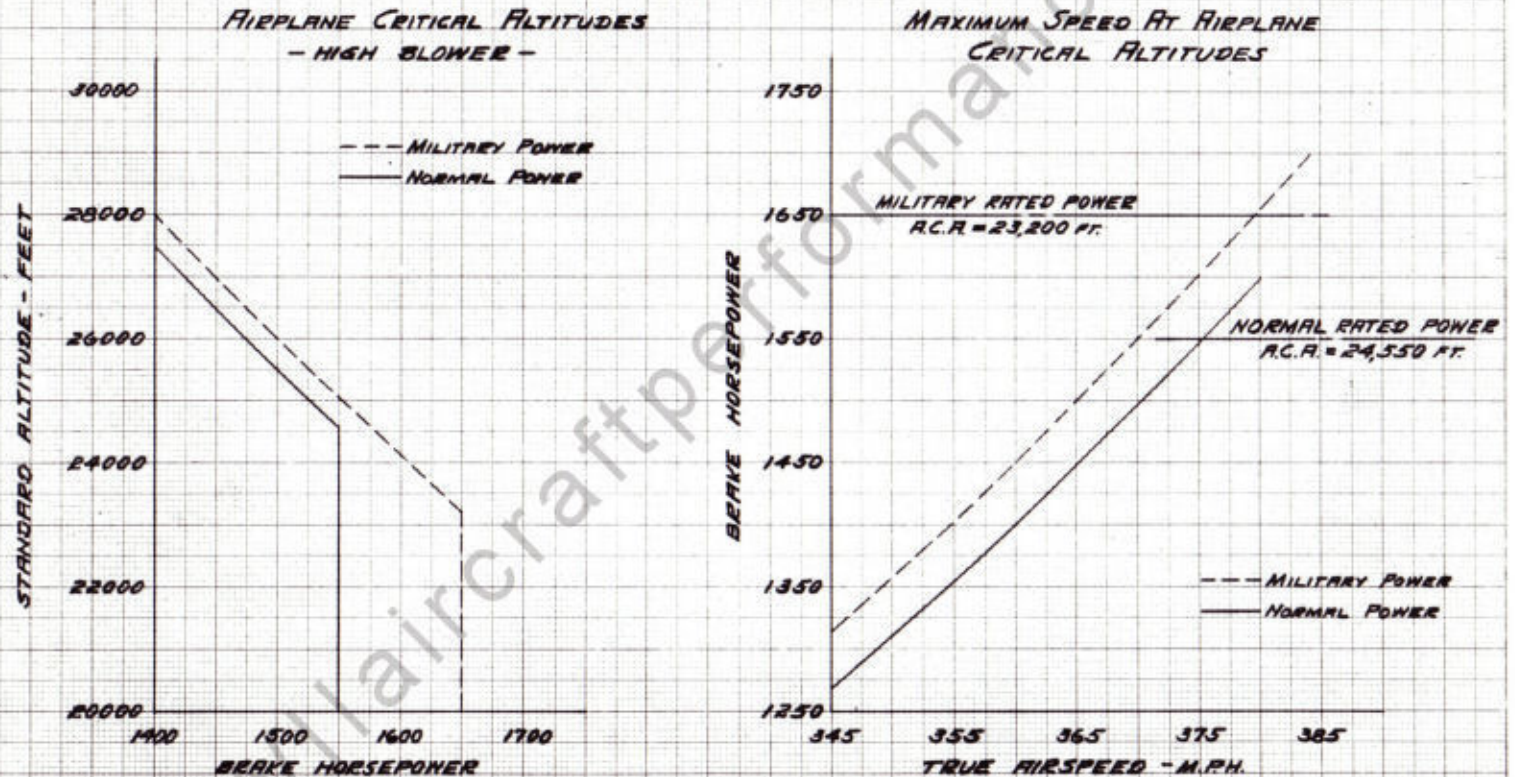
Model F6F-3, No. 40164 -  
3/4 Right Front View

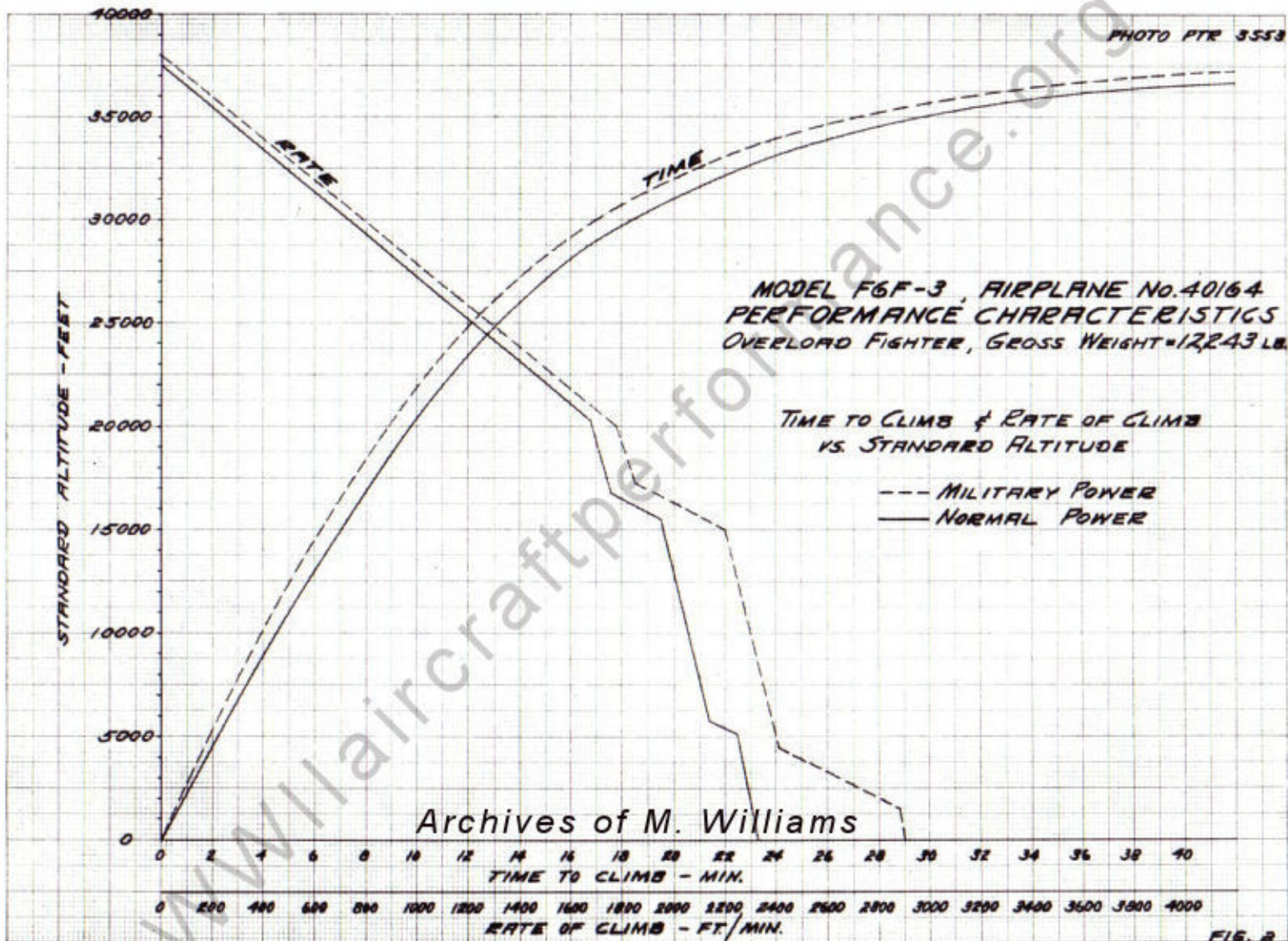
Photo. PTR-3461  
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MODEL F6F-3, AIRPLANE No. 40164  
 PERFORMANCE CHARACTERISTICS  
 OVERLOAD FIGHTER, GROSS WEIGHT = 12,243 LBS.

PHOTO PTR 3552





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MODEL F6F-3, AIRPLANE No. 40164  
PERFORMANCE CHARACTERISTICS  
OVERLOAD FIGHTER, GROSS WEIGHT=12,243 LBS.

AIRSPEED INDICATOR CALIBRATION

INDICATED AIRSPEED - M.P.H.

280  
270  
260  
250  
240  
230  
220  
210  
200  
190  
180  
170  
160  
150  
140  
130

140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300

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TRUE INDICATED AIRSPEED - M.P.H.

FIG. 3