The performance on climb has been measured at a weight of 8480 lb.

The results show:

The maximum rate of climb is 1640 ft/min. at 11,400 ft.
Time to 10,000 feet is 6.2 minutes.
Time to 20,000 feet is 14.2 minutes.
Service ceiling is 28,700 feet.
Estimated absolute ceiling is 29,900 feet.

The position of the pressure head, the position error correction, and the correction to the altimeter when connected to the static of the airscrew system are included in the report.

1. Introduction.

Performance measurements were required on Kittyhawk A.K. 572. This part of the report contains the performance on climb and measurement of position error. Level speed performance will be given in a later report.

2. Scope of tests.

The climbs were made at an initial climbing speed of 145 m.p.h. A.S.I., the recommended speed from tests made in the U.S.A. No partial climb tests were made to confirm this climbing speed.

The position error correction was measured by the aneroid method.

The tests were made between 13/2/42 and 29/3/42.

3. Condition of aeroplane relevant to tests made.

This aeroplane is an early 4-gun model and has neither the various American modifications and improvements, nor any British modifications incorporated, and is therefore representative of Kittyhawks that will be in use operationally. The external differences were that four guns were installed instead of six, and that there was no housing for the 0.45 camera under the starboard wing. Neither aerials nor aerial masts were fitted. The effect of these modifications on the performance on climb and position error is likely to be small and the results given in this report should apply equally to the later type at the same weight.
Neither bomb racks nor external overload tanks were fitted. Exhusts were individual stub exhausts as distinct from the multi-fightertail ejectors which were fitted subsequently. The propeller was a Curtiss Electric type 0.5(15.5-D16 of 11'0" diameter.

The tests were made at a weight of 8480 lb., with the centre of gravity 26.5 inches aft of the datum measured with undercarriage down. This weight is the fighter load when fitted with 4 x 0.5" guns. On the later aeroplanes with 6 x 0.5" guns, the weight will be approximately the same due to a reduction in ammunition load.

4. Results of tests.

The performance on climbing given in Table I and in Figure I. These show that:

- Maximum rate of climb (at 11,400 ft) is 1640 ft/min.
- Time to 10,000 ft: 6.2 minutes.
- Time to 20,000 ft: 14.2 minutes.
- Service ceiling: 28,700 feet.
- Estimated absolute ceiling: 29,900 feet.

The position of the pressure head, together with the corresponding position error correction and correction to altimeter when connected to the static of the airspeed system, are given in figures 1, 2 and 3 respectively.

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<th>Standard Height Feet</th>
<th>Rate of climb</th>
<th>Time</th>
<th>T.A.S. m.p.h.</th>
<th>A.S.I. m.p.h.</th>
<th>Compressibility and Position Error Correct.</th>
<th>R.P.M.</th>
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KITTYHAWK AK572
(ALLISON V-1710 F-3-R)
PERFORMANCE ON CLimb
WEIGHT ~ 8480 lb.
KITTYHAWK AK 572
PRESSURE HEAD POSITION

FIG 2

DETAIL OF APERTURE.

Type of pressure Head: ELEC. HEATED TYPE 1079-5-940 T PIONEER INST
Corps: N.J.

Ratio of Aperture of Tube to External Dia of Static Tube: 32%.

Incidence of Main Plane (adjacent to Pressure Head): 2° 25'.

a. Angle of Static Tube to Chord of Main Plane: 2° 11'.


Y. Distance from Plane of Symmetry: 16. 11.

Position: LEADING EDGE PORT WING.

Semi-span: 18 - 7 1/2.

Wing Section: 

Ratio of thickness to chord of Aerofoil Section (adjacent to Pressure Head): 9 3/4.
KITTYHAWK AK 572
(ALLISON V-1710 F-3-R)

POSITION ERROR CORRECTION
WEIGHT ~ 8480 lb

![Graph showing position error correction vs. speed in miles per hour (MPH).]