

R.T.P. FILE COPY

4th Part of Report No. A. & A.E.E./783.

AEROPLANE AND ARMAMENT EXPERIMENTAL ESTABLISHMENT.

BOSCOMBE DOWN.

Kittyhawk A.K.572.
(Allison V.1710 F.3.R.)

Carbon Monoxide contamination tests.

A. & A.E.E. Ref: - 4484/1-A.S.76.

M.A.P. Ref: - R.A.1571/D.A.N.A.1.

This report deals with the aircraft (or equipment) as tested. Action to remedy defects or deficiencies to accept item not in strict compliance with the specification are matters for decision and action by the Ministry of Aircraft Production.

UNCLASSIFIED TS 18/4/63

Progress of issue of Report.

Report No.	Title.
1st Part of A. & A.E.E./783.	A.K.572 & A.K.764. Carbon Monoxide contamination tests.
2nd do.	A.K.764 - G.45 Camera gun installation
3rd do.	A.K.579 - Flame damping trials with American design fish-tails.

SUMMARY.

This aeroplane is free from carbon monoxide contamination while taxiing and after the typical conditions of flight tested.

The tests were made on 30th March 1942 and 7th April 1942.

1. Introduction.

Carbon monoxide contamination tests were required on this aeroplane after flame dampers of American design had been fitted. Previous tests, when stub pipes (open end) were fitted, were the subject of the 1st Part of Report No. A. & A.E.E./783.

2. Condition of aeroplane relevant to tests made.

The aeroplane was fitted with a set of multi fish tail flame damping exhausts of American type and a photograph of these is attached to this report.

Cabin heating was turned on and all windows and ventilators were shut.

3. Method of test.

Samples of the air were collected in balloons after each condition tested and were analysed by the Palladium Chloride in a solution of Acetone method.

4. Results.

No. of Test.	Conditions.	% of Carbon Monoxide.
1.	After taxiing with a 20-25 m.p.h. wind on all sides.	nil
2.	After full throttle climb to 20,000 ft.	nil
3.	After $\frac{1}{2}$ hour level flight at 15,000 ft. at maximum power for continuous cruising in weak mixture.	nil
4.	After $\frac{1}{2}$ hour level flight at 15,000 ft. at maximum power for continuous cruising in rich mixture.	nil
5.	After dive from 15,000 ft. to 2,000 ft. with the throttle $\frac{3}{4}$ open.	Nil

5. Conclusions.

This aeroplane, fitted with the multi fishtail flame damping exhaust system is free from carbon monoxide contamination while taxiing and, after the typical conditions of flight tested.