

AVIA 19/734

7th Part of Report No. A.A.E.E/783.

30 MAY 1942

AEROPLANE AND ARMAMENT EXPERIMENTAL ESTABLISHMENT.

BOSCOMBE DOWN.

~~RESTRICTED~~

Kittyhawks A.K.579 & A.L.229.  
(Allison V.1710.)

UNCLASSIFIED

TS 18/2/63

A.&A.E.E.ref: 4484/1-A.S.7/2/3.  
M.A.P. ref: R.A.1871/D.A.N.A.1.

Radio Trials - Communication	STOCK
DATE 4/1/53	19
REDUCE TO 12	99 AUTHORIZED
DATE 5.1.53	

This report deals with the aircraft (or equipment) as tested. Action to remedy defects or decisions to accept items not in strict compliance with the specification are matters for decision and action by the M.A.P.

Progress of Issue DATE Report.

2nd Part of A.A.E.E/783.	A.K.764 - G.45 Camera gun installation.
3rd " " "	A.K.579 - Flame damping trials with American design fishtails.
4th " " "	A.K.572 - Carbon monoxide contamination tests.
5th " " "	A.K.572 - Weights, loading data and leading particulars.
6th " " "	A.K.572 - Fuel consumption trials.

1. Introduction. The installation calls for a T.R.1133C or alternatively a T.R.9.D. The T.R.9.D. tests were made on A.K.579 over the period 3/4/42 to 8/4/42. Owing to the breaking of the V.H.F. mast the T.R.1133C trials were suspended and resumed on A.L.229 which had been fitted with a strengthened mast. The latter tests covered the three days 6/5/42 to 8/5/42.

2. T.R.1133C Installation.

2.1. The T.R.1133C is mounted on a removable crate which is fitted approximately in the middle of the fuselage. Access is obtained through a door in the fuselage side and from this position the final adjustments to the tuning can be made.

2.2. The aerial is a strengthened V.H.F. mast, with a concave curved tubular strut feeder. One end of the strut feeder is clamped about two-thirds up the mast and the other end terminates on a porcelain deck insulator. The base of the mast is earthed and the internal aerial feeder is taken to the underside of the deck insulator. During the flight test a dive at the maximum permissible of 280 m.p.h. was made and no detrimental effects were observed.

2.3. An air test was made on 8.5.42., and very satisfactory results were obtained. At 50 miles range, the aeroplane circled at 8,000 feet and signals were received RQ, clear and distinct, both ways. The height was then reduced in stages and at the minimum height of 500 feet signals of R.7 were still being received.

2.4. The two breeze cables from the junction box to the transmitter-receiver are clamped in two places to the fuselage. Owing to the angle at which the sockets had to be mated into the set one of the clamps had to be released. It is not considered that any great advantage would be obtained by re-running the leads, but instead it is suggested that the leads be lengthened by three or four inches.

2.5. The power unit is fitted on a separate crate immediately aft of the T.R.1133. When removing the unit, the set must first be taken out. The arrangement is satisfactory.

3. T.R.9.D. Installation.

3.1. The T.R.9.D. occupies the same position as the T.R.1133 and utilises the T.R.1133 crate as the sprung part of the T.R.9.D. installation by the fittings of another tray on the four rubber mountings. Its position is satisfactory. The two-volt accumulator is mounted on the aft end of the T.R.9.D. tray. This accumulator is inaccessible when the set is in position, and to change it the whole crate must be released and pulled forward. This is not entirely satisfactory, but it is appreciated that difficulties would be encountered in

trying to re-position the accumulator and no suggestion can be tendered to this end.

3.2. The aerial is a wing tip-tail broad arrow with the lead-in terminating on a porcelain deck insulator fitted to the top of the fuselage. Its physical dimensions are:- length of each roof 7 ft. 6 ins and lead-in 4 ft. 6 ins. The equivalent capacity and resistance measurements are 65 m.m.f.s and 2 to 3 ohms respectively. The wire comprising this aerial is a single strand of hard drawn copper with a springy texture. This material is entirely unsuitable, aerial breakages becoming a common occurrence, and it is suggested that immediate replacement be made with the standard R.A.F. stainless steel wire.

3.3. The internal aerial lead should be shortened from the present 4 ft. 1 ins. to 1 ft. 11 ins.

3.4. Calibrations were made on 14 crystal frequencies and an output of .25 amps was maintained over the band. The coverage of the aerial is in excess of the T.R.9.D. requirements.

3.5. An air test was made on 8/4/42 and at 30 miles (height 2,000 ft) signals were received R8 both ways, clear and distinct.

#### 4. Installation, general.

4.1. The Mic/Tel socket type 199 is fitted on the starboard side of the pilot's cockpit and is very readily accessible, but the plug of the pilot's mic/tel cord is repeatedly knocked out of the socket by movement of the pilot's forearm, when in flight.

Furthermore, the socket is held in a bell mouth holder which keeps the hole for the plug permanently upright, thus being in a position to become a trap for any moisture.

It is suggested that the socket holder should be dispensed with and the socket be located slightly lower and aft of the mic/tel leads junction box; being fixed to the fuselage by means of the strain cord.

4.2. The controllers are fitted on the port side of the pilot's cockpit, and the position is satisfactory.

#### Circulation List

C.R.D.	S.A.T.
D.C.R.D.	T.R.E.
D.T.D.	D. of Tels.
D.D.T.D.	D. of Radio
D.O.R.	R.T.O. Air Service Training 3 copies
D.R.A.E. 2 copies	R.D.T.5. 6 copies
D.C.D.	R.T.P.2. 19 + 6 copies
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A.D.R.D.C.1. 2 copies	
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