

AVIAIR 734

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5th Part of Report No. AABE/783.

23 MAY 1942

AEROPLANE AND ARMAMENT EXPERIMENTAL ESTABLISHMENT

BOSCOMBE DOWN.

TS 1872/63
UNCLASSIFIED
~~RESTRICTED~~

Kit yawk A.K. 572. (Allison T. DATE 4/1/42)	STOCK //
Weights, loading data and leading particulars.	
A. & A.E.E. Ref:- 4484/1 - A.S. 76.	REDUCE TO 12
Progress of issue	99 AUTHORIZED DATE 5.1.53.

This Report deals with the aircraft (or equipment) as fitted. Action to remedy defects or decisions to accept items not in strict compliance with the specification are matters for decision and action by the I.A.F.

Report No.	Title
1st Part of AABE/783	AK. 572 and AK. 764 - Carbon monoxide contamination tests
2nd ditto	AK. 764 - G.45 camera gun installation.
3rd ditto	AK. 579 - Flame damping trials with American design fishtails.
4th ditto	AK. 572 - Carbon monoxide contamination tests

1. Introduction: The results of weighing and centre of gravity determination, details of loading, and centre of gravity range form the subject of this Report.

2. Weight summary:

Load	A.	B.	C.	D.
Tare weight	5,973	5,973	5,973	5,973
Service load	1,467	1,524	1,529	1,538
Fuel: 123 galls.	887	887	887	1,197 (166 galls.)
Oil: 17.5 galls.	158	158	158	158
Flying weight	<u>8,485</u> lb.	<u>8,542</u> lb.	<u>8,547</u> lb.	<u>8,866</u> lb.

3. Maximum capacity of tanks:

Fuel front wing tank	... 29 gallons.
" Rear "	... 42 "
" fuselage "	... 52 "
Total	... <u>123</u> "
Oil	... 17.5 "

4. Centre of gravity:

4.1 The centre of gravity with the loads in Para. 2 measured parallel to the datum line and relative to the datum point (See Fig. 1) are:-

Load 'A' Normal	... 26.5 inches aft.
Load 'B' Alternative 1/T	... 26.5 inches aft.
Load 'C' Desert	... 26.5 inches aft.
Load 'D' Long range	... 26.7 inches aft.

4.2 The centre of gravity range due to dissipation from the 'A' load by the expenditure of 0.5 ammunition item 3 and consumption of fuel and oil items 13 to 16 but leaving sufficient for a half hours running of the engine at maximum power permissible at ground level. This produces the forward limit. The aft limit is obtained when loaded to the 'D' load.

4.3 The basic aft limit is extended by 1% of the standard mean chord, i.e. 0.8 inches, for test purposes and becomes 27.5 inches aft.

4.4 A further forward centre of gravity of 17.0 inches aft may be obtained when the aeroplane is in light loaded condition of 'TAKE' weight plus a light pilot of 170 lb. and fuel reduced as in Para. 4.2

4.5 All C.G. positions are quoted undercarriage down. The moment effect due to retraction is 11,708 in./lb. and moves the C.G. aft, by 1.2" at maximum load.

5. LOADING DETAILS

No.	Item	W(lb)	X(ins.)	Wx
	TAKE	5,973		91,792
1.	0.5 guns, blast tubes and adaptors (4)	309	42	12,978
2.	Gunsight N2A	4	36	144
3.	Ammunition boxes and chutes	84	41.5	3,486
4.	2460 rounds 0.5 ammunition	738	41.5	30,627
5.	Signal cartridges	3	147	441
6.	Oxygen cylinders (2)	29	122	3,538
7.	Camera G.45	10	23	230
8.	First Aid	3	142	426

/Cont'd...

No.	Item	W(lb.)	X(ins.)	WX
9.	W/T T.R.9D	37	160	5,920
10.	" " controls	16	147	2,352
11.	" R.3003	29	121	3,509
12.	" " controls.	5	35	175
13.	Fuel front wing tank 29 gallons	209	27	5,643
14.	" rear " " 42 "	303	52	15,756
15.	" fuselage " 52 "	375	95	35,625
16.	Oil 17.5 galls.	158	2	316
17.	Pilot and parachute	200	60	12,000
	Load 'A'	<u>8,485</u>		<u>224,958</u>
For load 'B' remove items 9 and 10 and add the following:-				
18.	W/T TR.1133	43	160	6,880
19.	" " controls	32	162	5,184
20.	Standard ballast weights	35	-54	-1,890
	Load 'B'	<u>8,542</u>		<u>226,860</u>
For load 'C' add to 'A' load the following items:-				
21.	Duffle bag	4	140	560
22.	Desert equipment	23	140	3,220
23.	Standard ballast weights.	35	-54	-1,390
	Load 'C'	<u>8,547</u>		<u>226,848</u>
For load 'D' remove item 7 and add item 21 and 22 and the following items:-				
24.	Belly tank and supports	54	23	1,242
25.	Fuel in 24/43 galls.	310	21.6	6,696
	Load 'D'	<u>8,866</u>		<u>236,446</u>

6. Leading particulars:

6.1 Overall dimensions: (Tail on ground)

Span	...	37' 3"
Length	...	31' 5"
Height (minimum)	...	9' 1"
" (over propeller disc)	...	13' 5"

6.2 Disposition of crew:

Pilot	...	60 inches aft of datum point.
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6.3 Undercarriage:

Type	...	Retractable.
Track	...	8' 2"
Wheels	...	Goodyear 30
Shock absorbing gear	...	Curtiss Wright Oleo strut
Brakes.	...	Warner hydraulic.

6.4 Wing area and loading:

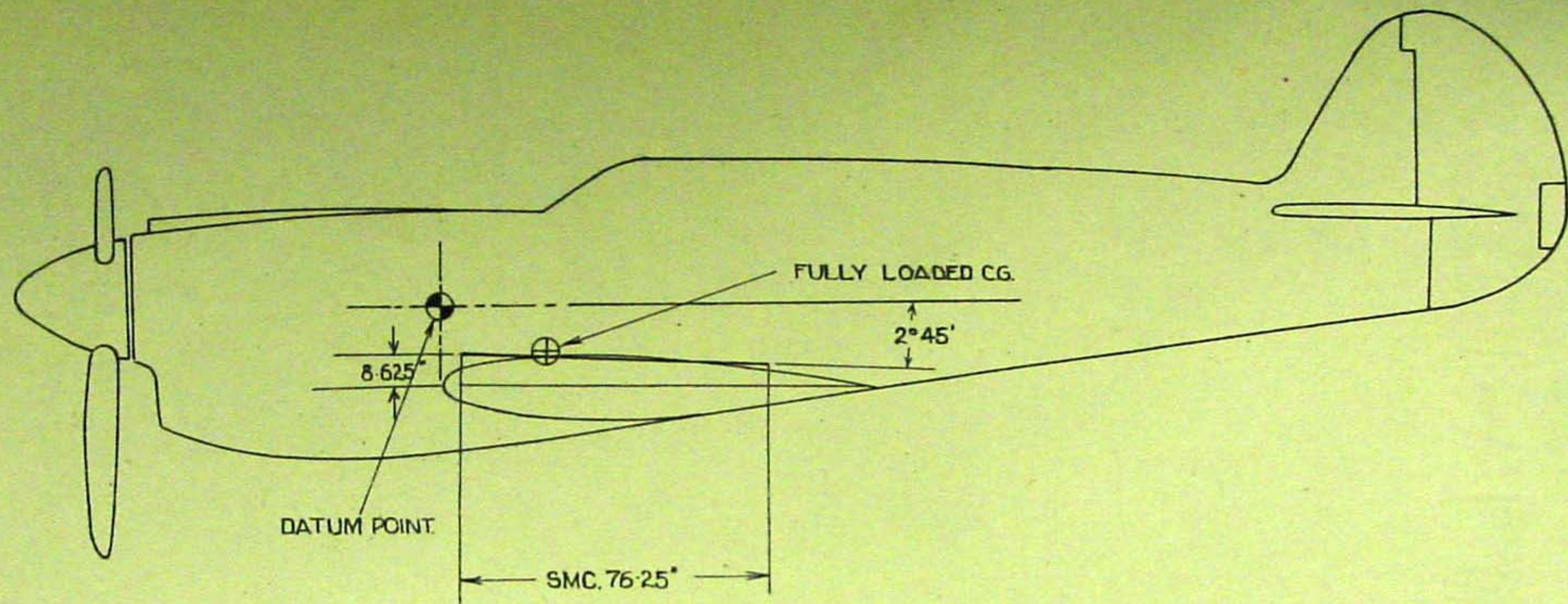
Surface of main planes	Gross	...	237 sq.ft.
" " " "	Nett	...	224 " "
Weight/sq.ft. (max.)	Gross	...	37.5 lb./sq.ft.
" " " "	Nett	...	39.5 " "

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[Signature]
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 Royal Air Force.

5.613
35
175
3,509
2,352
5,920
160
(Ins.)



KITTYHAWK AK-572
LOCATION OF S.M.C & DATUM POINT.

