Research Notes on the

Hawker Hurricane

Compiled by John Griffin

Part 2/2

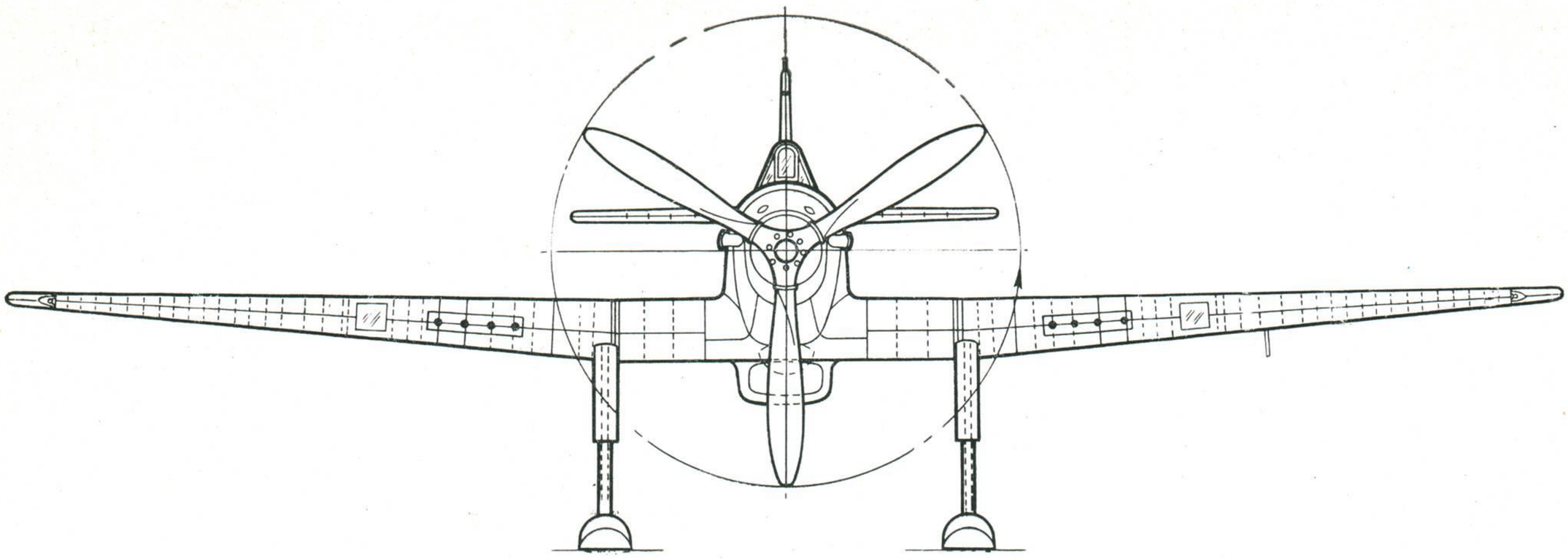
Version 1.0 – 7 June 2026

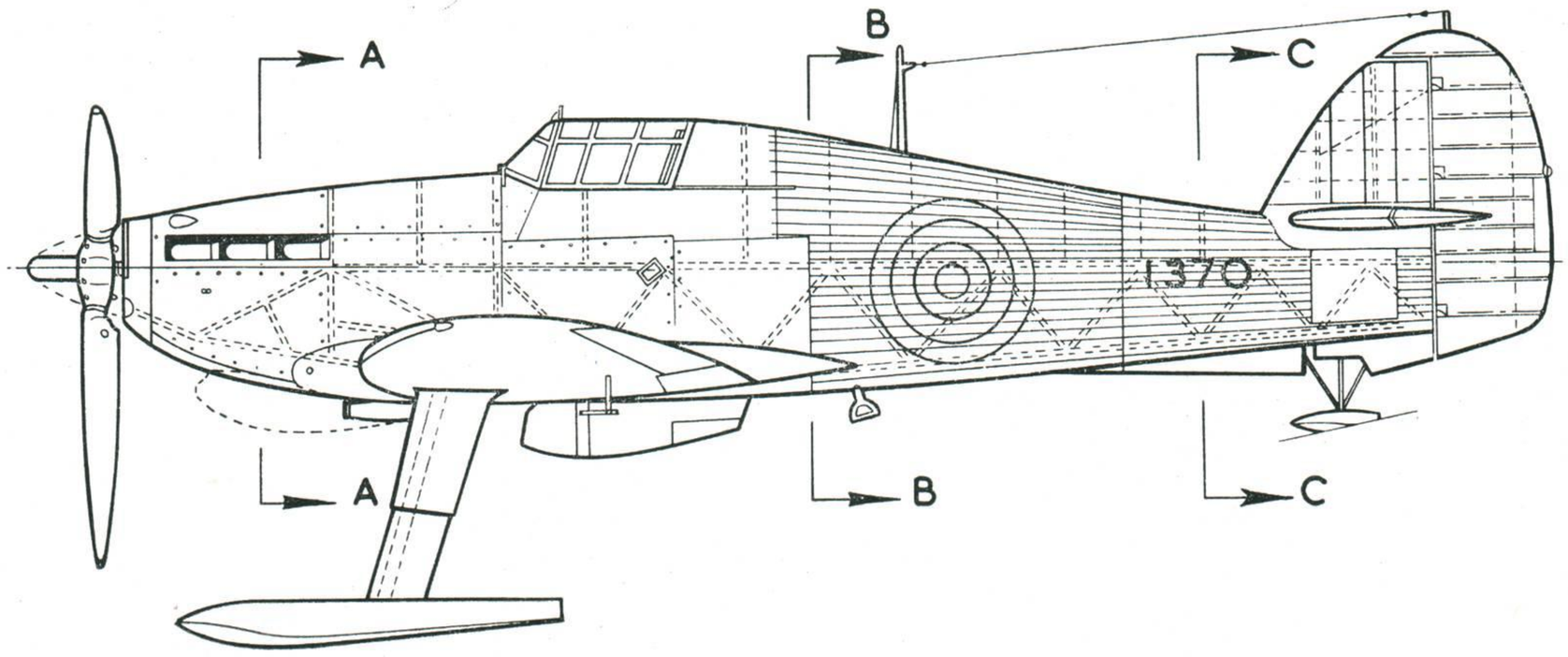
Scan of the original binder housed in the John Griffin Library,
1 Canadian Air Division

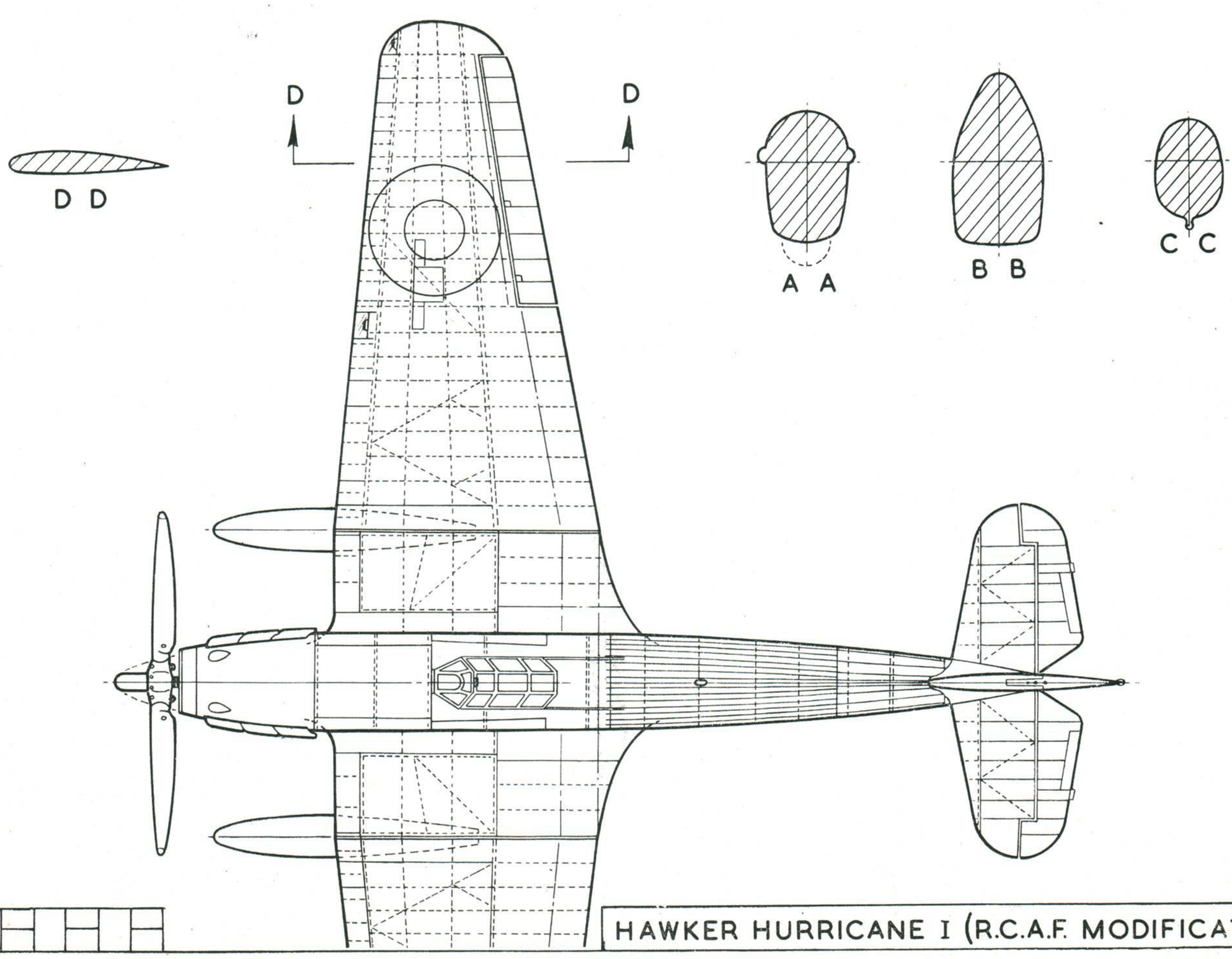
All pages were reproduced in the original order. Some pages especially those magazine clippings that were not adhered to backing pages may have irrelevant page backs included. Please send any feedback on this document to nathan@rcaf.info.

Scan by Nathan Kachur of https://RCAF.info
taken June 2026

Some portions of this document may be copyrighted, those rights may reserved.



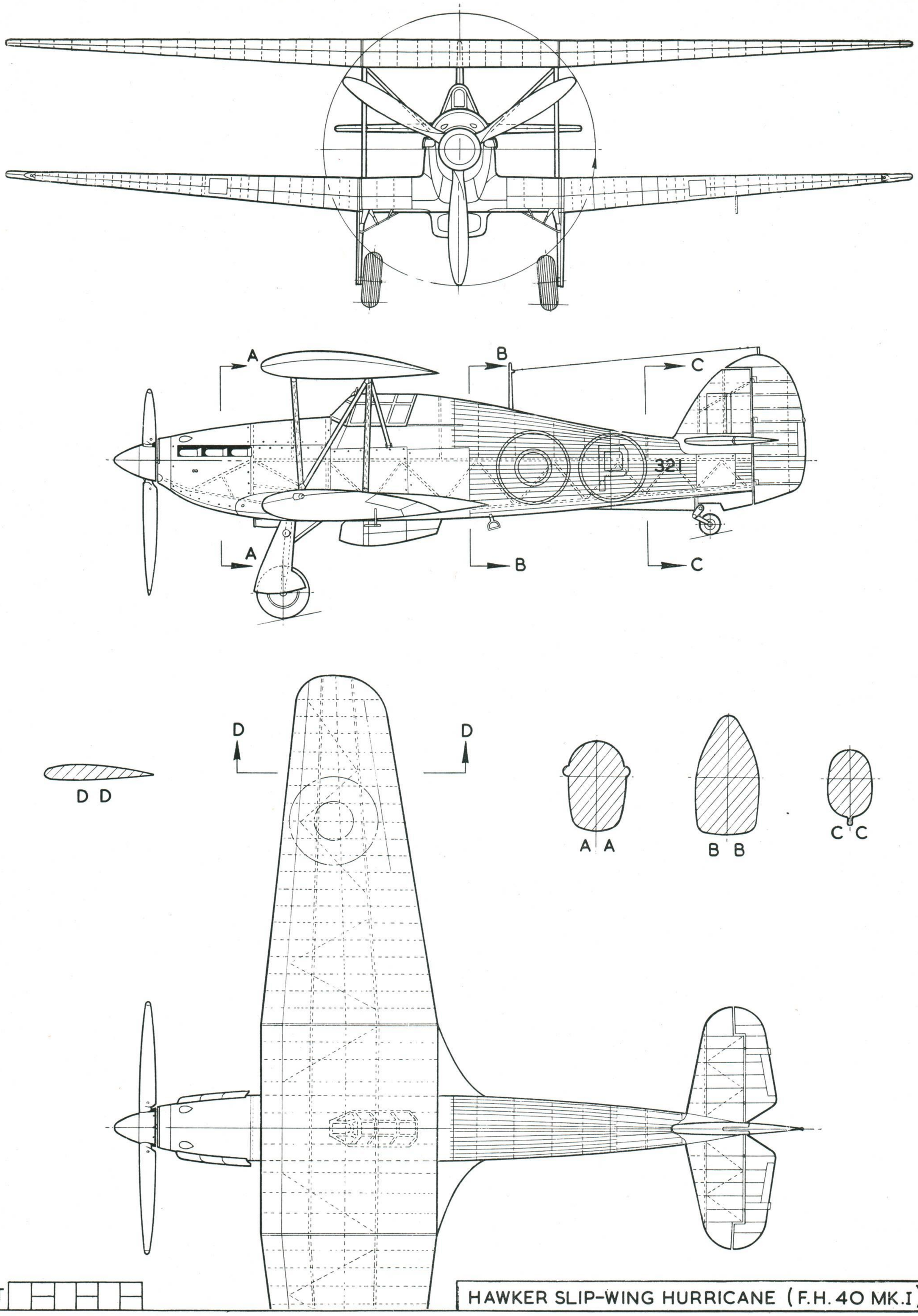




HAWKER HURRICANE I (R.C.A.F. MODIFICATION)

FT

© Harleyford Publications Ltd., Letchworth, Herts, England



FT

HAWKER SLIP-WING HURRICANE (F.H.40 MK.I)

© Harleyford Publications Ltd., Letchworth, Herts, England

Mk.I 8 BROWNINGS
Mk.IIB 12 BROWNINGS

24

25

26

Mk.IID. 2X40 m/m CANNON

Mk.IIC 4X20 m/m CANNON
2X90 GAL. TANKS

22

23

METAL COVERED MAINPLANE
STRUCTURE

Mk IV 8 ROCKET PROJECTILES

ARRESTOR HOOK
SEA HURRICANE

27

MARK I

Mk. IV 8 R.P.

250lb.
BOMB

FABRIC COVERED MAINPLANE
STRUCTURE

SLIPWING HURRICANE

Mk. IID.

Mk. IIC.

Mk.IID
VOKES FILTER
DEEPER RADIATOR

Mks. I & II
NORMAL FILTER

1

2

4

5

BLUE RED
FUSELAGE ROUNDELS HAVE YELLOW
OUTER RING EXCEPT ON PROTOTYPE

STRUCTURE

SLIPWING HURRICANE

Mk. IID

Mk.IIC.

Mk.I
VOKES FILTER
DEEPER RADIATOR

Mks. I & II
NORMAL FILTER

BLUE RED
FUSELAGE ROUNDELS HAVE YELLOW
OUTER RING EXCEPT ON PROTOTYPE

K5083

HURRICANE PROTOTYPE

MARK I FIRST
PRODUCTION
VERSION

Mk. I (BATTLE OF BRITAIN)
8 BROWNINGS

MARK I SLIP WING FIGHTER

2X 250 lb. OR 500 lb. BOMBS
MARK II

Mk. IIC TROPICAL VERSION
4X20 m/m HISPANO CANNON
2X90 GAL. LONG RANGE
TANKS

MARK IV 8 X 60 lb. ROCKETS

MARK II A 8 BROWNINGS
MARK II B 12 BROWNINGS

MARK II D 2X40 m/m VICKERS
CANNON 2X·303" BROWNINGS
(ANTI-TANK)

1/72nd scale reprints of this "S" type plan and 1/48th scale "T" type dye-line prints are available price 1s. 6d. and 2s. 6d. respectively from the AERO-MODELLER Plans Service. Please quote plan number 7731 and add 6d. postage.

HAWKER HURRICANE Mks. I – IV

FT.

HAWKER HURRICANE MARK IIC by Willis L. Nye. Famous English land based World

HAWKER HURRICANE

THE PROTOTYPE FOR THE FIRST OF THE MANY WAS SERIAL NO. K 5083 AND WAS TEST FLOWN IN NOVEMBER 1935. PLANE SERIAL NO. PZ 865 WAS THE LAST OF THE MANY. 13,927 HAWKER HURRICANES WERE MANUFACTURED DURING THE WAR YEARS, MAKING THIS AIRPLANE ONE OF FAMOUS OF ALL TIME. IT WAS DESIGNED BY SIR SIDNEY CAMM TO AIR MINISTRY SPECIFICATION F7/30 AND COMPLIED OR EXCEEDED THE TECHINICAL REQUIREMENTS.

HAWKER HURRICANE TYPES

F34/36 PROTYPE (MERLIN "C" ENGINE)
MARK I (8 30.CAL. M.G. FABRIC COVERED WINGS)
MARK II. (MERLIN XX ENGINE)
MARK IIA.
MARK IIB. (12 30-CAL. M.G.)
MARK IIC. (4 20 M.M. CANNON)
MARK IID. (2 40 M.M. ANTI-TANK GUNS)
SEA HURRICANE. IC (4 20 M.M. GUNS)
MARK IV. (ARMORED)

ENGINE INSTALLATION

ROLLS-ROYCE MERLIN XX. ENGINE DEVELOPES 1260 H.P. AT 3,000 R.P.M. AT 11,750 FEET IN MS GEAR, AND 1,160 B.H.P AT 3,000 R.P.M. AT 20,000 FEET IN S-GEAR. SEA LEVEL TAKE-OFF POWER 1,300 B.H.P AT 3,000 R.P.M.

PROPELLER

THREE BLADE ROTOL R.S.5/2 WITH SCHWARTZ BLADES. GEAR RATIO 0.42.

DATUM POINT

21.6" BELOW THRUST LINE.
30" FORWARD OF WING LEADING EDGE EXTENDED TO CENTERLINE.

WING LOADING

WING LOADING AT 7200 LBS. IS 28.0 LB/SQ.FT.

CENTER OF GRAVITY

CENTER OF GRAVITY AT TARE WEIGHT IS 9.9" ABOVE AND 55.8" AFT. OF DATUM POINT.
C.G. AT NORMAL LOADED WEIGHT, 9.45" ABOVE AND 59.5" AFT OF DATUM POINT. C.G. LIMITS: 57-60" AFT OF DATUM POINT.

CATEGORIES OF TYPES

MARK IIC WITH 18 GALLONS OF COOLANT WEIGHED 5658 LBS. NORMAL GROSS WEIGHT OF 7544 LBS. THIS TEMPERATE CONFIGURATION.
MARK IIC TROPICAL CONFIGURATION WEIGHED 7,707 LBS. TARE WEIGHT IS 5,785 LBS. THE TROPICAL VERSION CARRIED DESERT SURVIVAL EQUIPMENT. TEMPERATE VERSIONS COULD ALSO CARRY 2 90-GALLON FERRY TANKS. THE TROPICAL VERSION WAS PROVIDED WITH EXTERNAL BOMB RACKS TO CARRY TWO 250 LB. BOMBS. S-GEAR OR MS GEAR REFERS TO ENGINE ASPIRATION.

PERFORMANCE

CLEAN AIRCRAFT MARK IIC FIGHTER
STALLING SPEED 75-85 M.P.H. I.A.S.
OPTIMUM RANGE SPEED...178 M.P.H. T.A.S.
RANGE IN STATUTE MILES...460.
MAXIMUM ALTITUDE.....34,000 FT.
TIME TO CLIMB TO 34,000 FT...21 MINUTES.
RATE OF CLIMB 3200 F.P.M.
MAXIMUM SPEED 326 M.P.H. AT 17,500 FT.
LONG RANGE 2 44 GAL. TANKS (EXTERNAL) 920 MILES.
LONG RANGE 2 90 GAL. TANKS (EXTERNAL) 1,086 MILES.

WEIGHT DATA MARK IIC

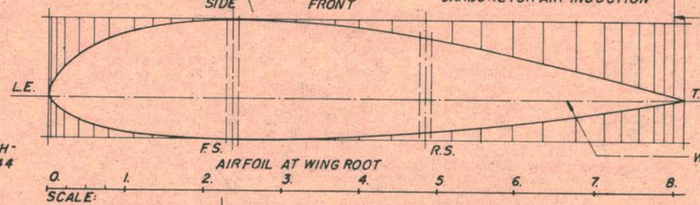
TARE WEIGHT WITH 18 GALLONS OF COOLANT	5,658 LBS.
PILOT AND PARACHUTE	200 "
FOUR 20 M.M. GUNS	425 "
AMMO BOXES AND BELT FEEDS (364 RDS)	327 "
GUN SIGHT	17 "
GUN CAMERA	9 "
PYROTECHNICS	18 "
OXYGEN EQUIPMENT	15 "
FIRST AID PACKET	3 "
T.R.1133 RADIO	79 "
R.3002 RADIO	24 "
RESERVE FUEL (28 GALS)	202 "
MAIN FUEL (69 GALS)	497 "
LUBRICATING OIL (7.5 GALS)	68 "
NORMAL LOADED WEIGHT	7,544 LBS.
NORMAL FERRY WEIGHT	7,619 LBS.
OVERLOAD COMBAT WEIGHT	8,044 LBS.

HURRICANE PRODUCTION

HURRICANE FIGHTERS WERE BUILT IN QUANTITY PRODUCTION BY HAWKER AIRCRAFT LTD., GLOSTER AIRCRAFT AND CANADIAN CAR AND FOUNDRY CO. HURRICANES WERE SUPPLIED TO:
BELGIUM.
YUGOSLAVIA.
PERSIA.
TURKEY.
RUMANIA.
CANADA.
SOUTH AFRICA.
FINLAND.
PORTUGAL.
INDIA.

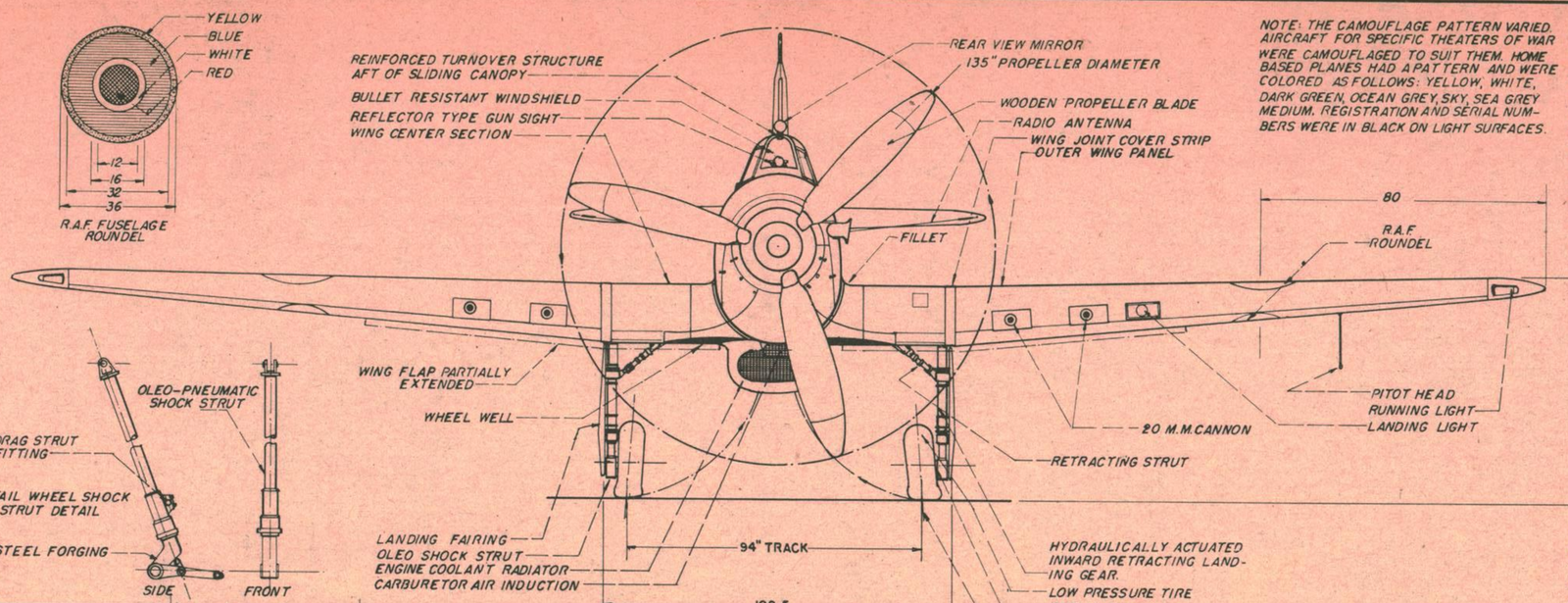
SHEET NO. 1

R.A.F. FUSELAGE ROUNDEL



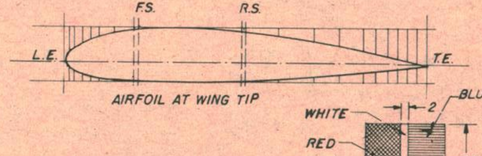
AIRFOIL AT WING ROOT

R.A.F. UPPER SURFACE ROUNDEL

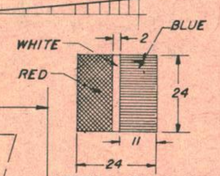


HEAD ON VIEW
(AIRPLANE SHOWN IN CLEAN CONFIGURATION)

NOTE: THE CAMOUFLAGE PATTERN VARIED. AIRCRAFT FOR SPECIFIC THEATERS OF WAR WERE CAMOUFLAGED TO SUIT THEM. HOME BASED PLANES HAD A PATTERN AND WERE COLORED AS FOLLOWS: YELLOW, WHITE, DARK GREEN, OCEAN GREY, SKY, SEA GREY MEDIUM. REGISTRATION AND SERIAL NUMBERS WERE IN BLACK ON LIGHT SURFACES.



AIRFOIL AT WING TIP



VERTICAL TAIL MARKING

HURRICANE ARMAMENT

THE MARK I HURRICANE WAS ARMED WITH 8 .30-CALIBER AIRCRAFT MACHINE GUNS MOUNTED IN THE WINGS, PERMANENTLY FIXED, AND BORESIGHTED TO CONVERGE AT A POINT 200 YARDS AHEAD OF THE AIRPLANE. THE RATE OF FIRE OF EACH GUN WAS 1200 ROUNDS PER MINUTE. THE GUNS WERE ELECTRICALLY FIRED AND PNEUMATICALLY CHARGED. THE AMMO WAS CONTAINED IN LONG LINK TYPE BELTS LOADED INTO METAL COMPARTMENTS BUILT INTO THE WING STRUCTURE. ACCESS TO THE AMMO COMPARTMENTS IS BY MEANS OF REMOVABLE STRESS PLATES LOCATED ON TOP OF EACH WING. ARMOR PIERCING, INCINDIARY AND TRACER BULLETS ARE INSERTED IN THE CARTRIDGE BELTS IN THAT ORDER.

COMBAT SERVICING

THE HURRICANE WAS DESIGNED FOR FAST GROUND SERVICING IN COMBAT. THE AMMO, FUEL AND COOLANT COULD BE REPLACED IN 10 MINUTES BY A TRAINED GROUND CREW SPECIAL SERVICING RIGS WERE USED TO FACILITATE THIS OPERATION.

ENGINE STARTING

ON THE HURRICANE FIGHTER, A DIRECT DRIVE, GEARED, INERTIA TYPE, MANUAL CRANKING ENGINE STARTING SYSTEM WAS USED.

PRODUCTION HURRICANES

THE FIRST PRODUCTION AIRPLANE SERIAL NO. L1457, POWERED WITH A ROLLS ROYCE, MERLIN II ENGINE FLEW ON OCT. 12, 1937. IT WAS AN IMPROVED VERSION OF THE PROTYPE, HAVING STUB ENGINE EXHAUST PIPES, IMPROVED LANDING GEAR DOORS, RUDDER MASS BALANCE AND A STRENGTHENED CANOPY. A VENTRAL FIN WAS INSTALLED TO IMPROVE RECOVERY FROM A TAIL SPIN. ARMOR PLATE TO PROTECT THE PILOT AND A BULLET RESISTANT WINDSHIELD WERE INSTALLED IN LATER PRODUCTION AIRCRAFT.

BY SEPT. 3RD, 1939, 497 HURRICANES HAD BEEN DELIVERED TO 18 SQUADRONS. ALL OF THESE WERE OF MARK I TYPE ARMED 8 30-CAL. MACHINE GUNS EITHER A WATTS TYPE 2 BLADE WOOD PROPELLER FIXED PITCH, OR A ROTOL 3 BLADE, CONSTANT SPEED, CONTROLLABLE PITCH PROPELLER IN SUBSEQUENT PLANES.

THE HURRICANE MARK II HAD A MERLIN XX ENGINE, A STRENGTHENED FUSELAGE AND WINGS OF TWO TYPES, ONE TYPE FOR 12 30-CAL. MACHINE GUNS AND THE OTHER FOR 4 20M.M. CANNONS. BOTH TYPES OF WINGS COULD CARRY LONG RANGE FUEL TANKS OR 500 LBS. IN BOMBS.

THE HURRICANE MARK IIA WAS AN INTERIM PRODUCTION VERSION WITH 8 GUNS. WAS INTENDED FOR MODIFICATION.

THE HURRICANE MARK IIB WAS FITTED WITH 12 30-CAL. MACHINE GUNS.

THE HURRICANE MARK IIC WAS FITTED WITH 4 HISPANO TYPE 20 M.M. CANNON.

SEA HURRICANE WAS SAME AS A MARK IIC HAVING A REINFORCED FUSELAGE WITH AN ARRESTING HOOK. IT WAS FITTED WITH NAVAL RADIO EQUIPMENT AND SEA SURVIVAL EQUIPMENT.

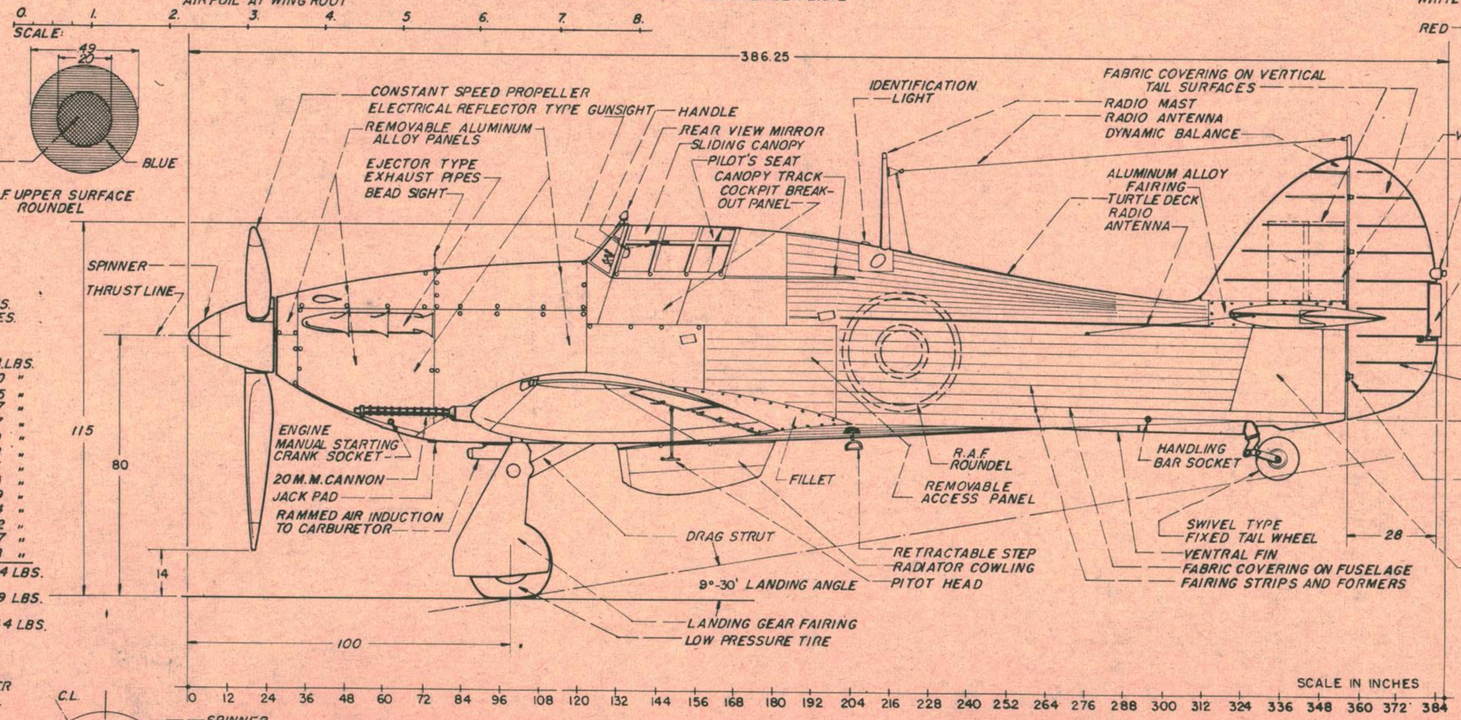
THE HURRICANE MARK IID WAS FITTED WITH 2 30-CAL. MACHINE GUNS AND 2 VICKERS ANTI-TANK GUNS. THIS AIRPLANE WAS A TROPICAL CONFIGURATION.

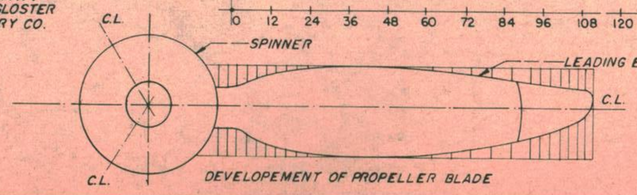
THE HURRICANE MARK IV WAS A TROPICAL VERSION IMPROVEMENT OVER THE MARK IID AND GROSSED 8,462 LBS.

TROPICAL VERSION HURRICANE FIGHTERS WERE PROVIDED WITH DUST EXCLUDERS AND AIR FILTERS FOR THE COOLANT SYSTEM AND CARBURETOR AIR INDUCTION SYSTEM. GUNS AND OTHER FUNCTIONAL OPENINGS WERE PROVIDED WITH COVERS OR SEALS.

MAXIMUM GROSS WEIGHT

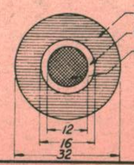
EACH MARK NUMBER AND VARIENT GROSSED AT A DIFFERENT WEIGHT. THE VARIATIONS IN THE GROSS WEIGHT AND ENGINE POWER IN TURN MODIFIED THE TOTAL OVERALL PERFORMANCE. PRODUCTION AIRCRAFT EXHIBITED A MARKED DEFICIENCY IN TOTAL PERFORMANCE WHEN THEY ARE COMPARED TO TEST AIRCRAFT.





DEVELOPEMENT OF PROPELLER BLADE

LEFT SIDE VIEW
(RIGHT SIDE SIMILAR)



R.A.F. LOWER WING SURFACE ROUNDEL

SCALE
0 1 2 3 4 5 6

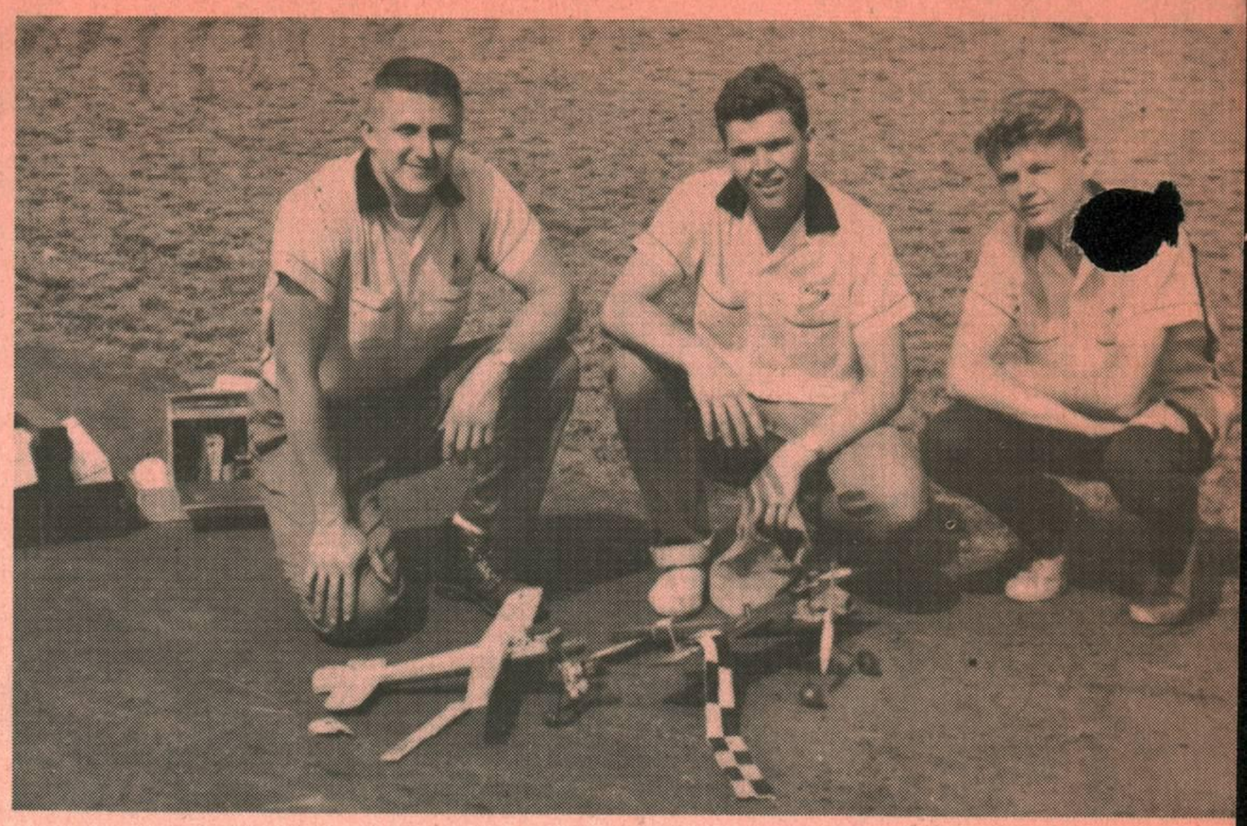
HAWKER MARK IIC HURRICANE

HAWKER AIRCRAFT, LIMITED. KINGSTON-ON-THAMES, SURREY, ENGLAND.

DRAWN BY: WILLIS L. NYE, A.A.H.S. FOR MODEL AIRPLANE NEWS, NEW YORK CITY, NEW YORK



Art Chester "Goon," by Franco Bugada, won flying scale Racer Contest organized by CSI-Augusta of Aero Club, Milan, Italy. Note retracting gear.



Winners, L to R: Art Muser, Ray Smith, Greg Reide, of the Yellow Jackets which managed to beat the Sky Steelers in 1400-lap Rat Race recently.

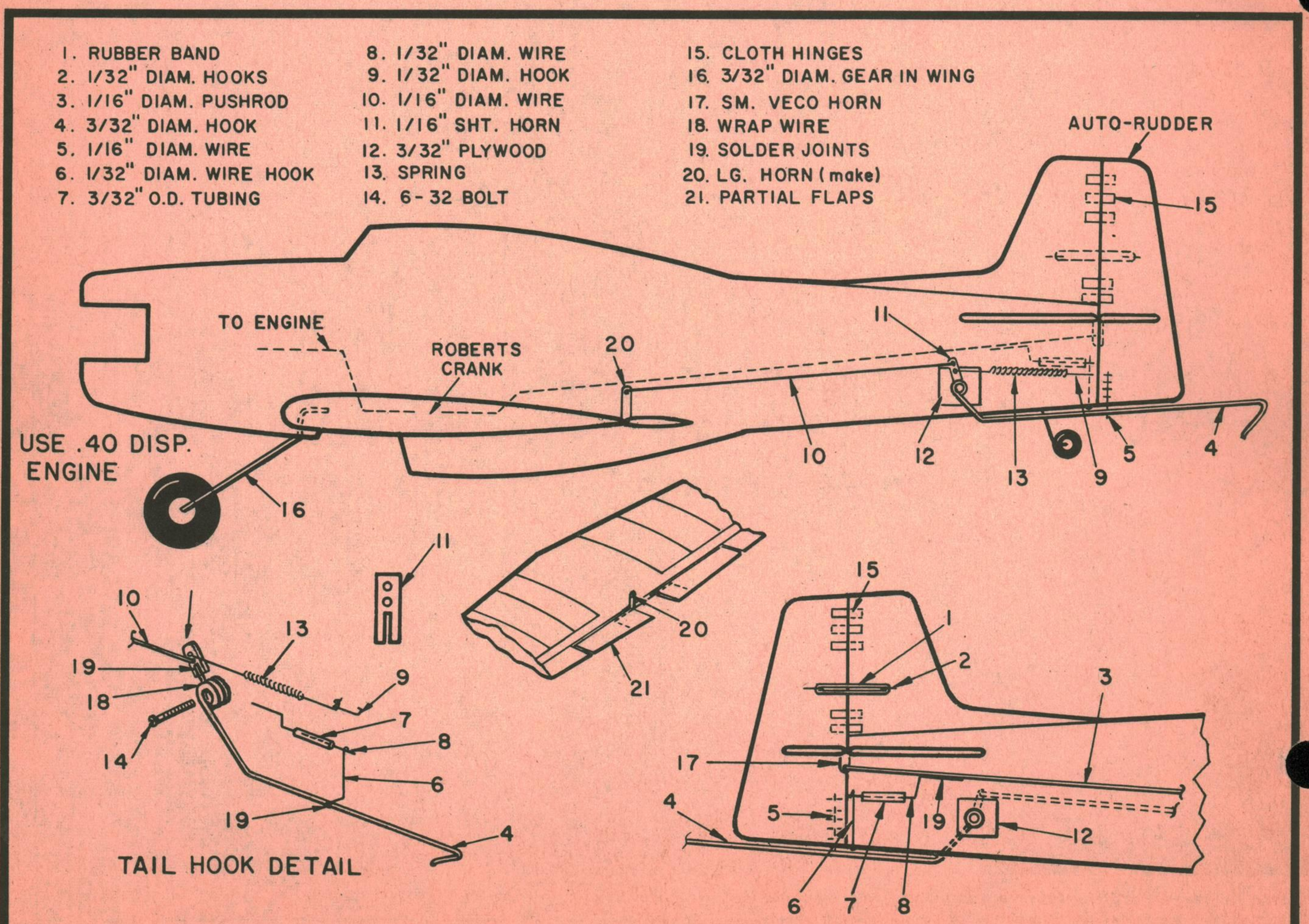
is concerned, in Victoria, Australia. Recently there, the Eastern Suburbs MAC took part in a Models Exhibition organized by the Nunawading Junior Chamber of Commerce. Proceeds of the exhibition went to the Australia-wide "Operation Concern," which in turn is part of the International JAYCEES "Project Concern."

This project is an independent, non-profit, medical relief organization founded in Kowloon, in September 1962 by Dr. James Turpin, to assist destitute refugee families living in Hong Kong's "new colonies." (We don't suppose that many do not know that this fantastic refugee problem is the result of Chinese who have fled China for freedom—and their lot once escaped is rougher than that of East German refugees, with whose plight we all are familiar.)

Anyway, the part played by E.S.M.A.C. in this international project, though small, is important. A. Gosbell who makes this report to us—it appears verbatim below—had two reasons for going to all this trouble. A MAN report, he feels, would help repay the JAYCEES for the publicity "they have given us."

"Our efforts," he writes, "may inspire other model aero clubs to participate in this project." (A. Gosbell, 2 Finlayson St., Forest Hill, Victoria, Australia: it takes a 25-cent air mail stamp from the U.S.).

"At the invitation of the Nunawading Junior Chamber of Commerce, writes Gosbell, "the (*Continued on page* 60)



"STERLING MUSTANG"---NON-SCALE CARRIER

BY JOHN BLUM

R.C.

RUDDER STRUCTURE
THE RUDDER STRUCTURE IS OF COMPOSITE CONSTRUCTION AND IS WELL ADAPTABLE TO MASS PRODUCTION. THE RUDDER POST IS OF STEEL TUBING AND IS THE MAIN STRUCTURAL COMPONENT. NO WELDED CONNECTIONS ARE USED TO MAINTAIN THE INTEGRITY OF THE STRUCTURAL CONFIGURATION. THE RIBS ARE OF STEEL TUBING AND ATTACHMENT TO THE PRIMARY AND SECONDARY STRUCTURAL MEMBERS IS MADE BY MEANS OF RIVETED FITTINGS. SOLID RIVETS, HOLLOW RIVETS, AND BOLTS WITH LOCKNUTS ARE USED AT THE FITTINGS. RUDDER AND TRIM TAB ARE CABLE OPERATED. RIB ENDS WERE SWAGED AT TRAILING EDGE RIVETED JOINTS. RUDDER PERIMETER WAS OF STEEL TUBE.

VERTICAL STABILIZER
THE VERTICAL STABILIZER STRUCTURE IS OF COMPOSITE CONSTRUCTION. THE PRIMARY STRUCTURE CONSISTS OF STEEL TUBING. RIBS AND THE PERIMETER CONSIST OF STEEL TUBE. ALL JOINTS ARE OF THE RIVETED OR BOLTED TYPE. THE LEADING EDGE FAIRING IS SHEET ALUMINUM ALLOY. THE STRUCTURE IS ATTACHED TO THE FUSELAGE WITH TO HEAVY BOLTED FITTINGS. THE FIN POST HAS 3 CLEVIS TYPE HINGES ON WHICH THE RUDDER IS ATTACHED.

HORIZONTAL STABILIZER
THE HORIZONTAL STABILIZER STRUCTURE IS OF COMPOSITE CONSTRUCTION. IT IS FIXED BUT ADJUSTABLE ON THE GROUND. STRUCTURE CONSISTS OF STEEL TUBING THROUGHOUT WITH RIVETED OR BOLTED FITTINGS. THE LEADING EDGE WAS COVERED WITH SHEET ALUMINUM ALLOY. ATTACHMENT TO THE FUSELAGE WAS BY MEANS OF BOLTED FITTINGS. FOUR HINGES TO CARRY THE ELEVATOR WERE ATTACHED TO THE AFT SPAR.

ELEVATORS
THE ELEVATOR STRUCTURE IS OF THE COMPOSITE CONSTRUCTION OF STEEL TUBING. THE SPACE FRAMEWORK STRUCTURE HAS RIVETED TYPE CONNECTIONS. EACH ELEVATOR IS IDENTICAL AND SYMMETRICAL. A CENTRAL LEVER ACTUATES THE ELEVATOR SPAR WHICH IS JOINED AT THE INBOARD ENDS. TRIM TAB ACTUATING CABLES ARE ENCASED IN ALUMINUM CONDUITS.

ENGINE STARTING
MANUAL ENGINE STARTING WAS USED WHICH EMPLOYED AN INERTIA TYPE DIRECT GEARED CRANKING SYSTEM. A BOOSTER TYPE STARTING MAGNETO WAS USED TO ACCELERATE ENGINE STARTS.

WING FLAPS
WING FLAPS ARE OF THE SPLIT TRAILING EDGE TYPE WITH A MULTIPLE SEGMENT CONFIGURATION. THE TWO SEGMENT CENTER SECTION FLAP AND THE OUTER WING PANEL FLAPS ARE INTERCONNECTED BY MEANS OF A TORQUE TUBE. A TORQUE LEVER ACTUATED BY A HYDRAULIC ACTUATING CYLINDER ACTUATES THE FLAP TORQUE TUBE. THE WING FLAP TORQUE TUBE IS CONTINUOUS THROUGHOUT THE SPAN OF THE WING FLAPS. WING FLAPS ARE AN ALUMINUM ALLOY STRUCTURE ATTACHED TO THE TORQUE TUBE. UNIVERSAL JOINTS IN THE TORQUE TUBE MAINTAIN ALIGNMENT. THE PILOT CONTROLS THE WING FLAP SETTING FOR TAKE-OFF OR LANDING.

FLIGHT CONTROLS
FLIGHT CONTROLS ARE OF THE CONVENTIONAL DEP TYPE. A SPECTICLE TYPE JOY STICK IS USED BY THE PILOT TO CONTROL THE AIRPLANE. CABLE OF STRANDED STEEL WIRES RUNS TO THE CONTROL SURFACES. TRIM TABS ARE SIMILARLY CONTROLLED.

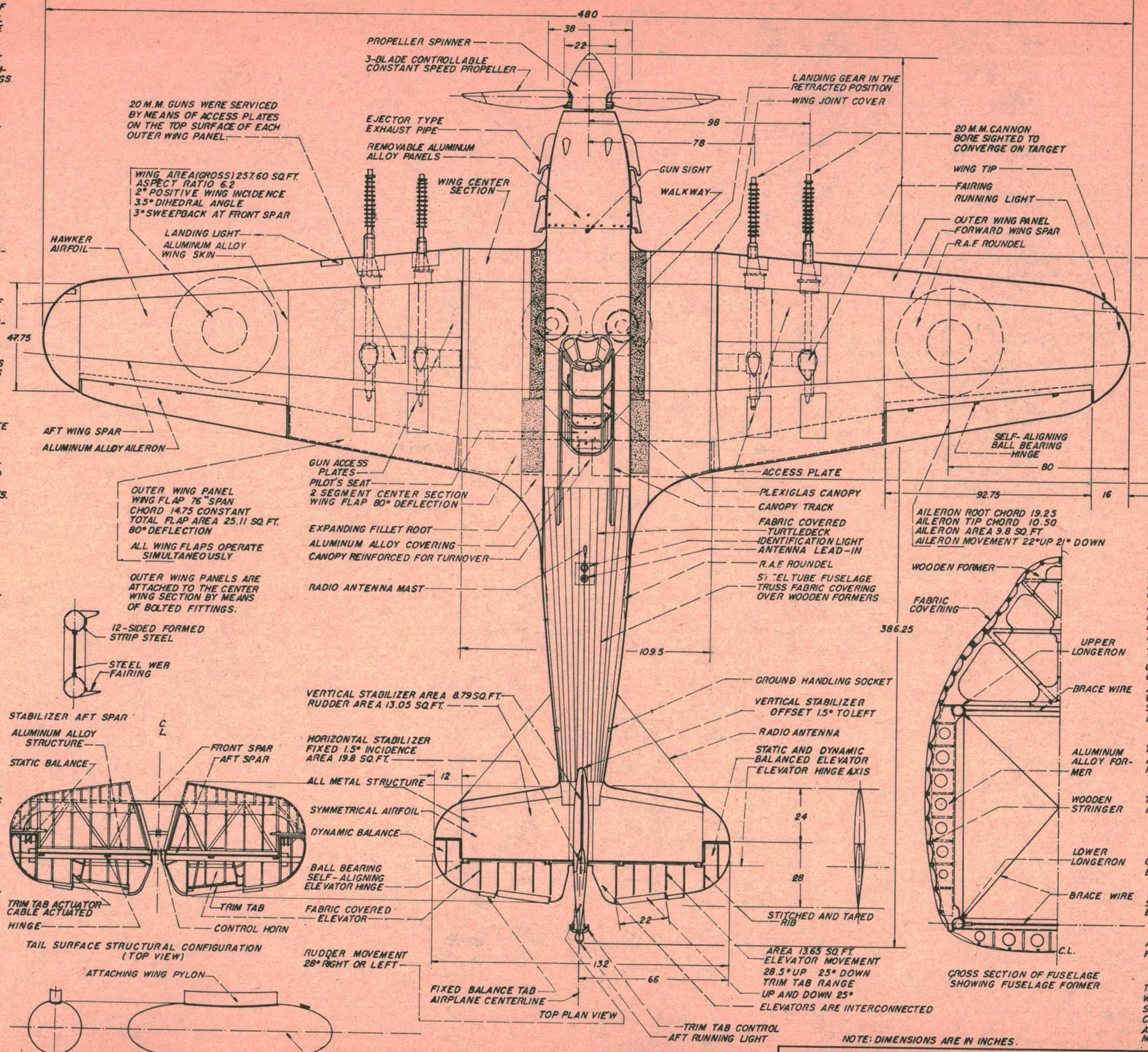
ENGINE COOLING
THE ROLLS ROYCE MERLIN XX LIQUID COOLED ENGINE USED ETHYL GLOCOL AS THE COOLANT. THE COOLANT WAS CIRCULATED BY AN ENGINE-DRIVEN PUMP THROUGH RADIATOR. AIRFLOW THROUGH THE RADIATOR IS CONTROLLED BY A MANUALLY OPERATED EXIT FLAP. THE COOLANT AFTER FLOWING THROUGH THE RADIATOR, RISES TO THE HEADER TANK AND THEN TO THE ENGINE.

ENGINE OIL COOLER
THE ENGINE OIL COOLER WAS AN INTEGRAL PART OF THE ENGINE COOLANT RADIATOR.

ENGINE OIL TANK
THIS TANK IS LOCATED AT THE LOWER AFT END OF THE ENGINE COMPARTMENT. LUBRICATING OIL IS CIRCULATED UNDER PRESSURE TO THE ENGINE, THEN TO THE ENGINE COOLER. 7.5 GALLONS OF OIL WERE CARRIED. AN AUXILIARY OIL SYSTEM WAS ALSO PART OF MAIN OIL SYSTEM.

0 1 2 3 4 5 6 7
SCALE IN FEET

SHEET NO. 2.



NOTE: FUEL WAS SUPPLIED FROM LONG RANGE TANKS BY MEANS OF ELECTRIC FUEL PUMPS. TANKS COULD BE JETTISONED PRIOR TO COMBAT OR WHEN EMPTY.

NOTE: DIMENSIONS ARE IN INCHES.

TAIL WHEEL
THE TAIL WHEEL IS NOT RETRACTABLE BUT CASTORING ACTION TO FACILITATE TURNING ON THE GROUND DURING TAXYING IS PROVIDED. AN OLEO HYDRAULIC SHOCK IS PROVIDED TO EASE THE SHOCK OF ALIGHTING AT A SPEED OF 85 M.P.H.

LANDING GEAR
THE LANDING GEAR IS RETRACTABLE BY MEANS OF HYDRAULIC ACTION. AT THE ATTACHING POINT AT THE FUSELAGE THE TWO LEGS OF THE LANDING GEAR SIMULTANEOUSLY ROTATE INWARDS AND UPWARDS INTO THE FUSELAGE. FAIRINGS ATTACHED TO THE LANDING GEAR LEG, FAIR THE ASSEMBLIES INTO THE BOTTOM OF THE WING CENTER SECTION AND FUSELAGE. THE HYDRAULIC SYSTEM IS A LOW PRESSURE MANUALLY OPERABLE CONFIGURATION. AN ACTUATING CYLINDER OPERATES THE RETRACTING LINKAGE. A MECHANICAL UPLOCK AND DOWNLOCK ARE PROVIDED. AN ENGINE ENERGIZED COMPRESSOR PROVIDES PNEUMATIC POWER FOR THE AIR BRAKES. LOW PRESSURE TIRES ARE FITTED. THE CENTER SECTION STEEL STRUT BRACING STRUCTURE CARRIES THE LANDING GEAR LOADS.

FLAME DAMPENERS
FOR NIGHT FLIGHT OPERATIONS, FLAME DAMPENERS WERE INSTALLED ON THE ENGINE EXHAUST MANIFOLD SYSTEM.

VACUUM SYSTEM
AN ENGINE-DRIVEN VACUUM PUMP SUPPLIES VACUUM EFFORT TO OPERATE THE GYRO INSTRUMENTS.

WING FLAP POSITION INDICATOR
A WING FLAP POSITION INDICATOR REVEALS THE FLAP POSITION FROM 0° TO 80° EXTENSION.

ARMOR PLATE
THE ENGINE COMPARTMENT FIREWALL IS COMPRISED OF ARMOR PLATE. THE BACK OF THE PILOT'S SEAT IS ARMORED.

GUST LOCK
A FLIGHT CONTROL GUST LOCK IS PROVIDED.

COCKPIT AIR CONDITIONING
THE PILOT'S COCKPIT IS HEATED BY WARM AIR. FRESH AIR INTAKES ARE ALSO PROVIDED.

PILOT'S CANOPY
THE PILOT'S CANOPY IS COMPRISED OF FORMED ALUMINUM ALLOY FRAMES WITH CLEAR PLEXIGLASS PANELS. THIS CANOPY OVER THE COCKPIT SLIDES BACKWARDS ON A TRACK. THE SLIDING PANEL HAS FRICTIONAL POSITION ADJUSTMENT. AN INTERIOR AND EXTERIOR HANDLE PERMITS MOVEMENT OF THE CANOPY. THE CONSTRUCTION IS DRAFT PROOFED AT THE JOINTS. THE WINDSHIELD STRUCTURE IS A STRUCTURAL CONFIGURATION THAT WILL WITHSTAND TURNOVER LOADS AND IMPACTS. THE CENTER PANEL IS BULLET-RESISTANT PLATE GLASS. THE WINDSHIELD IS PROVIDED WITH AN ANTI-ICING SYSTEM USING ALCOHOL AND WARM AIR FOR DEFROSTING.

ELECTRICAL BONDING
THE ENTIRE AIRFRAME STRUCTURE IS BONDED AND GROUNDED FOR RADIO COMMUNICATION PURPOSES.

RADIO COMMUNICATION
THE FOLLOWING COMPRISES THE RADIO COMMUNICATION INSTALLATION:
RADIO ANTENNA.
TR9D.
TR1133.
R3002
ON CERTAIN AIRPLANES OF THIS TYPE, RADIO BEAM EQUIPMENT WAS INSTALLED.
ARMY TYPE 19.
TR 196A.
STORAGE BATTERIES PROVIDED ELECTRICAL ENERGY FOR OPERATION.

OXYGEN SYSTEM
A SIMPLE OXYGEN SYSTEM IS PROVIDED FOR HIGH ALTITUDE OPERATIONS.

ACKNOWLEDGEMENT
THE HAWKER ENGINEERING DRAWINGS FROM WHICH THIS DATA WAS PREPARED WERE SUPPLIED BY THE COURTESY OF MR. DON CAMPBELL OF KAPUSKASING, ONTARIO, CANADA.
MAX O'STARR, A.A.H.S HAYWARD, CALIFORNIA

HAWKER MARK IIC HURRICANE

HAWKER AIRCRAFT, LIMITED. KINGSTON-ON-THAMES, SURREY, ENGLAND.

DRAWN BY: WILLIS L. NYE, A.A.H.S. FOR MODEL AIRPLANE NEWS, NEW YORK CITY, NEW YORK



General view of the contest shows the expanse of grass available for resting, concrete runways do not show but there are many acres of them.



If we didn't know better, we would think we were at Dayton's famous Thompson Trophy races. John Krauer rounds pylon to win 1st AMA Pylon.

AN EDITORIAL—We are sure that the WORKS will not be too upset over our using their feature pictorial to call attention to an alarming condition that can affect the future of their famous Annual event, as well as all the other clubs in this country.

What has happened to contests and their participation in or the lack of by control fliers throughout the country?

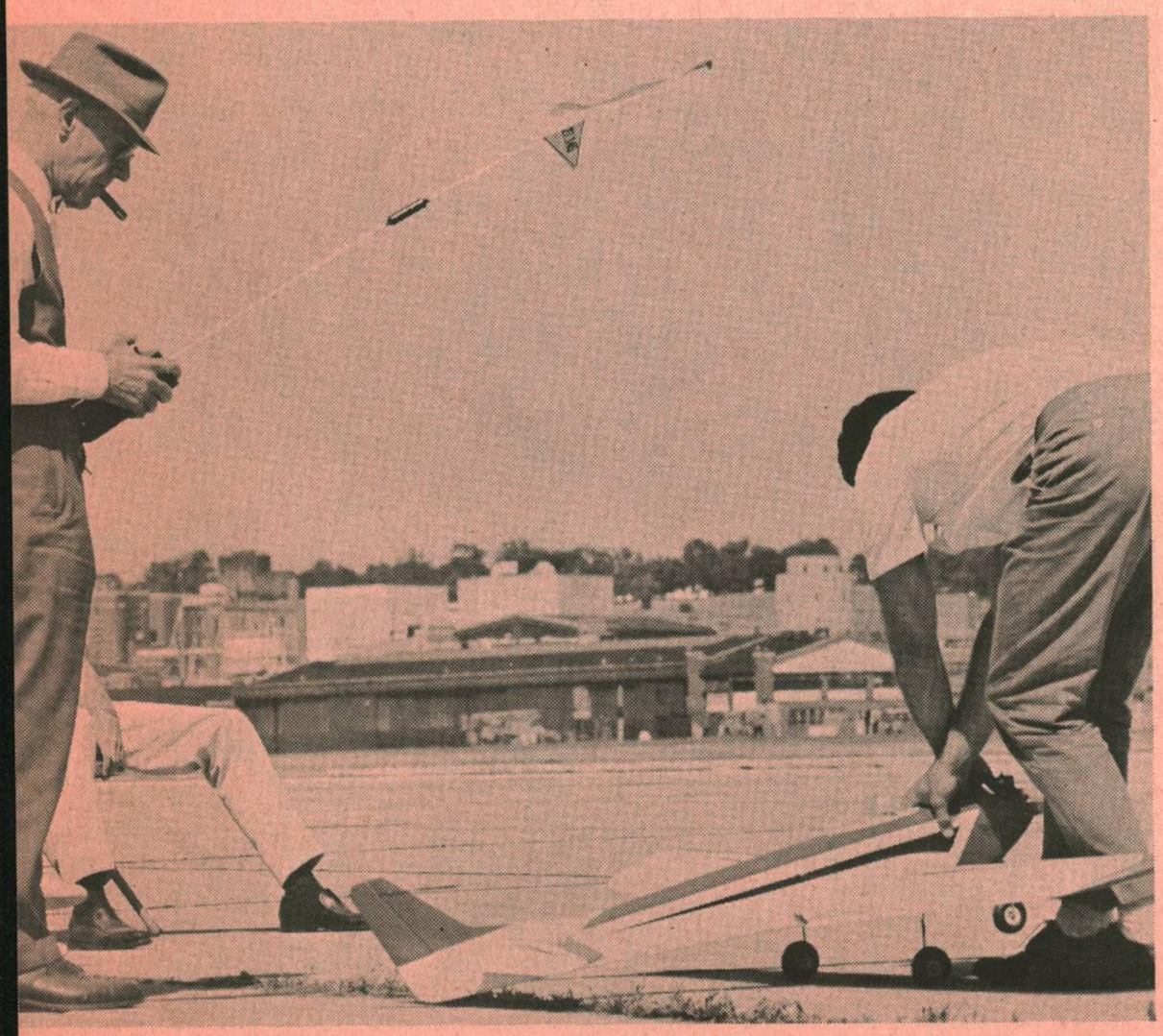
The condition that we have noted may be typical only of the East Coast but, if prevalent throughout the country, it can only spell trouble for the hobby and limit its growth as the growth of radio control in the past five years has been incredible.

At the time this is being written, we have just completed a three-week tour of traditional or annual contests. Each contest has an established history of a well conducted affair with ample goodies for the winners so this cannot be the reason for the reluctance on the part of the fliers to participate.

Let me go back to when I first returned to this good sport. My second M.A.N. at work column, in the Sept. '60 issue, carried on at great length about the LIDS

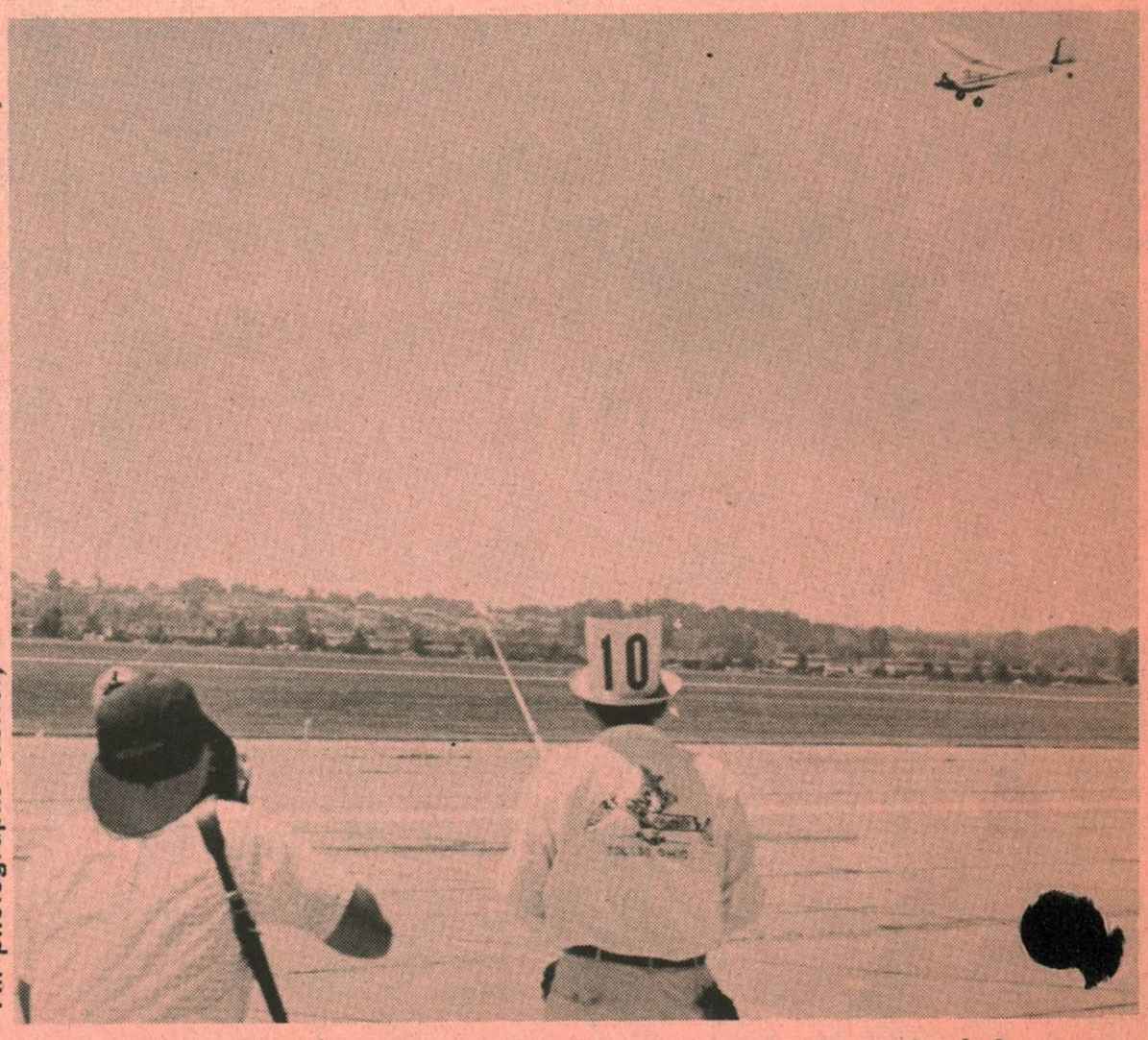
WRIGHT BROTHERS MEMORIAL 1st ANNUAL

PICTORIAL REPORT OF THE BEGINNING OF ANOTHER FAMOUS AND TRADITIONAL CONTEST SPONSORED BY THE WORKS R/C CLUB OF DAYTON, OHIO. THIS EVENT CAN BE RANKED WITH BEST ON THE EAST COAST.



RC's best dressed and possibly oldest contestant, Art Christian of Cleveland firing up his Taurus for an official. Note the everpresent cigar.

All photographs courtesy of Western Ohio Radio Kontrol Society



Photographer shoots photographer shootin' photo of Tom Dion of Toledo, shootin' landing in Class II. Tom mfg. of popular Glass City gear.

HAWKER HURRICANE PROTOTYPE

THE HAWKER HURRICANE PROTYPE DIFFERED CONSIDERABLY FROM THE PRODUCTION TYPE COMBAT FIGHTERS IN THE FOLLO WING MAJOR DESIGN FACTORS:

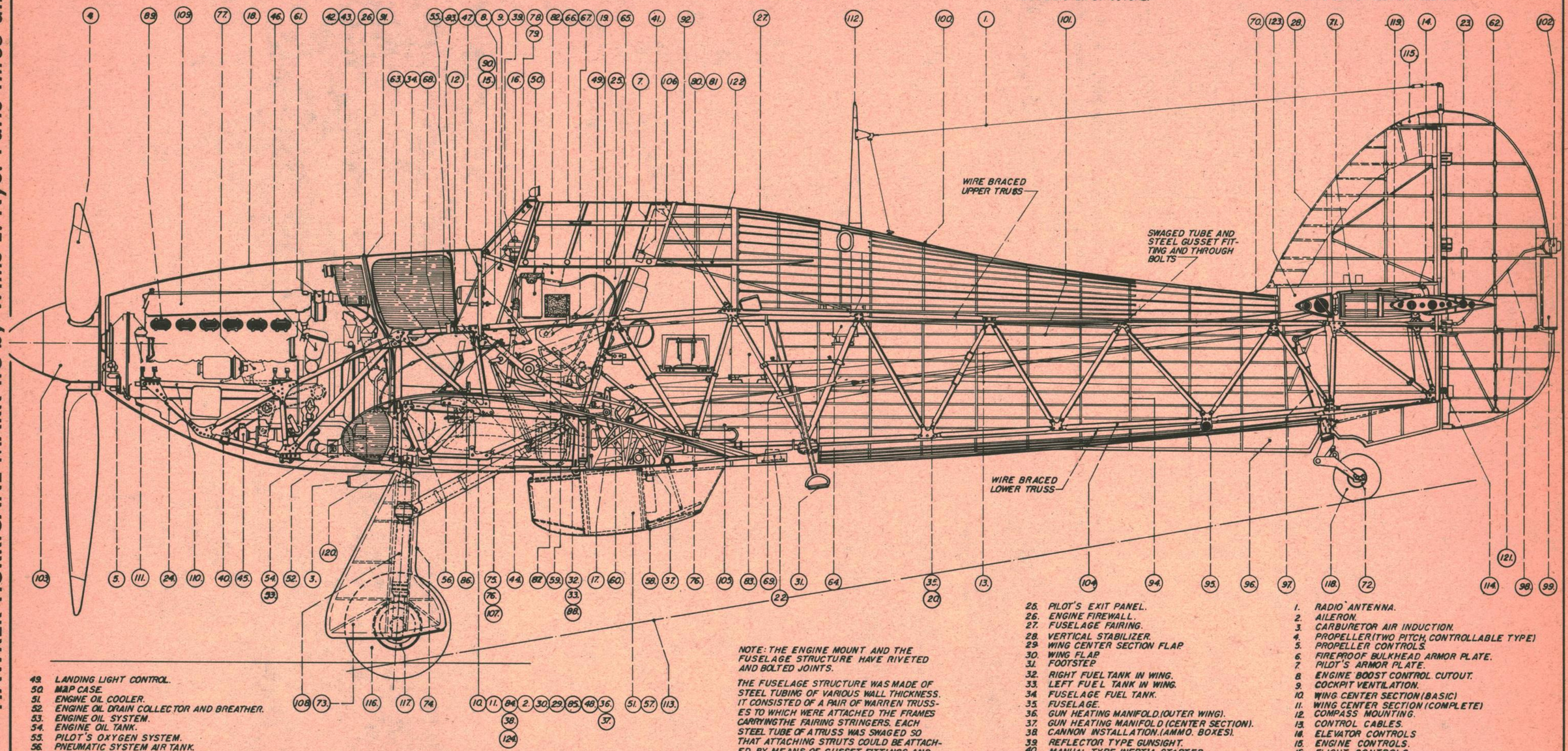
(1). TWO BLADE PROPELLER.(FIXED PITCH)
(2). RETRACTABLE TAIL WHEEL.
(3). NO RADIO ANTENNA MAST.
(4). EXTERNALLY BRACED HORIZONTAL STABILIZER.
(5). CANOPY OF TWO FRAMES.
(6). 5420 LBS. GROSS WEIGHT.
(7). FABRIC COVERING ON OUTER WING PANELS.
(8). INDIVIDUAL ENGINE EXHAUST PORTS.
(9). SHORTENED NOSE.
(10). NO VENTRAL FIN.
(11). SMALLER RUDDER.
(12). NO ARMOR PLATE.

LANDING GEAR OPERATION

LANDING GEAR RETRACTION IS ACCOMPLISHED BY MANUAL OPERATION OF A HYDRAULIC HANDPUMP. THE LANDING GEAR RETRACTS WWARD AND AFT. THE WHEELS MEET CLOSE TO THE FUSELAGE CENTERLINE, NEST IN RETRACTED POSITION BETWEEN THE WING SPARS AND FAIRED INTO THE WING CENTER SECTION. THE SIDE BRACE STRUT HINGES IN THE MIDDLE AND IS DRAWN BACK BY MEANS OF A RADIUS LINK.

GUN HARMONIZATION

THE GUNS ARE BORESIGHTED TO HARMONIZE AND TO CONVERGE AT 200 YARDS AHEAD OF THE AIRPLANE. THE CANNONS WERE FIRED SINGLY OR IN RIPPLE SALVO.



49. LANDING LIGHT CONTROL.
50. MAP CASE.
51. ENGINE OIL COOLER.
52. ENGINE OIL DRAIN COLLECTOR AND BREATHER.
53. ENGINE OIL SYSTEM.
54. ENGINE OIL TANK.
55. PILOT'S OXYGEN SYSTEM.
56. PNEUMATIC SYSTEM AIR TANK.
57. ENGINE COOLANT RADIATOR.
58. RADIATOR FAIRING FLAP(MANUALLY OPERABLE)
59. RADIATOR FLAP CONTROL.
60. RADIATOR MOUNTING.
61. ENGINE R.P.M. INDICATOR DRIVE.
62. RUDDER.
63. RUDDER PEDAL.
64. UPWARD FIRING RECOGNITION DEVICE.
65. PILOT'S SEAT.
66. SLIDING CANOPY.
67. SLIDING CANOPY RATCHET CONTROL.
68. ENGINE SUPERCHARGER CONTROL.
69. SUPPORT RAIL.
70. FAIRING.

107. LANDING GEAR DRAG STRUT.
108. LANDING GEAR SHOCK STRUT.
109. ROLLS ROYCE MERLIN XX ENGINE.
110. ENGINE BEARER.
111. PROPELLER THRUST LINE.
112. RADIO ANTENNA POLE.
113. GROUND LINE.
114. RUDDER HINGE.
115. RUDDER STATIC BALANCE.
116. LOW PRESSURE TIRE.
117. BRAKE DRUM.(PNEUMATIC BRAKES)
118 PNEUMATIC TIRE.
119. ELEVATOR BALANCE.
120. LANDING GEAR FULCRUM.
121. RUDDER TRIM TAB ACTUATOR.
122. SLIDING CANOPY TRACK.
123. FAIRING.
124. GUN BLAST TUBES.

89. ENGINE EXHAUST PORT.(RIGHT AND LEFT).
90. GROUNDING SYSTEM.
91. FIREWALL ARMOR PLATE.
92. DECKING.
93. FIREPROOF BAFFLE.
94. FUSELAGE FAIRING FORMER.
95. AFT HANDLING SOCKET.
96. VENTRAL FIN STRUCTURE
97. TAIL WHEEL SHOCK STRUT.
98. NAVIGATION LIGHT CONDUIT.
99. RUDDER TRIM TAB.
100. FUSELAGE FAIRING FORMER.
101. FAIRING STRINGER.
102. AFT RUNNING LIGHT.
103. PROPELLER SPINNER.
104. STATICALLY DETERMINATE FUSELAGE TRUSS
105 WING-FUSELAGE FILLET.
106 TURNOVER STRUCTURE.

71. HORIZONTAL STABILIZER.
72. FIXED TAIL WHEEL ASSEMBLY.
73. RETRACTABLE LANDING GEAR.
74. LANDING GEAR FAIRING.
75. LANDING GEAR HYDRAULIC ACTUATING SYSTEM.
76. ALUMINUM ALLOY FAIRING.
77. ENGINE-DRIVEN VACUUM PUMP.
78. BULLET-RESISTANT WINDSHIELD.
79. WINDSHIELD DE-ICER.
80. RADIO EQUIPMENT TR9D.
81. RADIO EQUIPMENT TR133.
82. RADIO EQUIPMENT TR1133.
83. RADIO EQUIPMENT R3002.
84. 20 M.M. CANNONS(4). (OUTBOARD WING PANEL)
85. GUN MOUNTING.(OUTBOARD WING PANEL).
86. ENGINE FUEL SYSTEM.
87. ELEVATOR TRIM TAB CONTROLS.
88. WING CENTER SECTION FUEL TANK.

NOTE: THE ENGINE MOUNT AND THE FUSELAGE STRUCTURE HAVE RIVETED AND BOLTED JOINTS.

THE FUSELAGE STRUCTURE WAS MADE OF STEEL TUBING OF VARIOUS WALL THICKNESS. IT CONSISTED OF A PAIR OF WARREN TRUSSES TO WHICH WERE ATTACHED THE FRAMES CARRYINGTHE FAIRING STRINGERS. EACH STEEL TUBE OF ATRUSS WAS SWAGED SO THAT ATTACHING STRUTS COULD BE ATTACHED BY MEANS OF GUSSET FITTINGS AND THROUGH BOLTS. DIAGONAL STEEL BRACE WIRES COMPLETED TRANSVERSE AND LONGITUDINAL BRACING.

INBOARD PROFILE OF TYPICAL HAWKER HURRICANE MARK IIC

VENTRAL FIN

THE VENTRAL FIN AND AN ENLARGED RUDDER WERE INSTALLED ON PRODUCTION AIRCRAFT TO PROVIDE IMPROVED RECOVERY FROM AUTO-ROTATION THAT WAS UNINTENTIONAL.

25. PILOT'S EXIT PANEL.
26. ENGINE FIREWALL.
27. FUSELAGE FAIRING.
28. VERTICAL STABILIZER.
29. WING CENTER SECTION FLAP.
30. WING FLAP.
31. FOOTSTEP.
32. RIGHT FUEL TANK IN WING.
33. LEFT FUEL TANK IN WING.
34. FUSELAGE FUEL TANK.
35. FUSELAGE.
36. GUN HEATING MANIFOLD.(OUTER WING).
37. GUN HEATING MANIFOLD.(CENTER SECTION).
38. CANNON INSTALLATION.(AMMO. BOXES).
39. REFLECTOR TYPE GUNSIGHT.
40. MANUAL TYPE INERTIA STARTER.
41. PILOT'S SAFETY HARNESS.
42. ENGINE COOLANT HEADER TANK.
43. ENGINE COOLANT HEADER TANK MOUNT.
44. HYDRAULIC SELECTOR GEAR.
45. HYDRAULIC SYSTEM.
46. ENGINE IGNITION WIRING.
47. PILOT'S INSTRUMENT PANEL.
48. OUTER WING PANEL JOINT PINS.

1. RADIO ANTENNA.
2. AILERON.
3. CARBURETOR AIR INDUCTION.
4. PROPELLER(TWO PITCH, CONTROLLABLE TYPE)
5. PROPELLER CONTROLS.
6. FIREPROOF BULKHEAD ARMOR PLATE.
7. PILOT'S ARMOR PLATE.
8. ENGINE BOOST CONTROL CUTOUT.
9. COCKPIT VENTILATION.
10. WING CENTER SECTION(BASIC)
11. WING CENTER SECTION(COMPLETE)
12. COMPASS MOUNTING.
13. CONTROL CABLES.
14. ELEVATOR CONTROLS
15. ENGINE CONTROLS.
16 FLIGHT CONTROLS.
17. ENGINE COOLING SYSTEM.
18. ENGINE COWLING.
19. RUDDER TRIM TAB CONTROLS.
20. FLOOR OF COCKPIT.
21. BOMB RELEASE CONTROLS.
22. ELECTRICAL EQUIPMENT.
23. ELEVATOR.
24. ENGINE MOUNT.

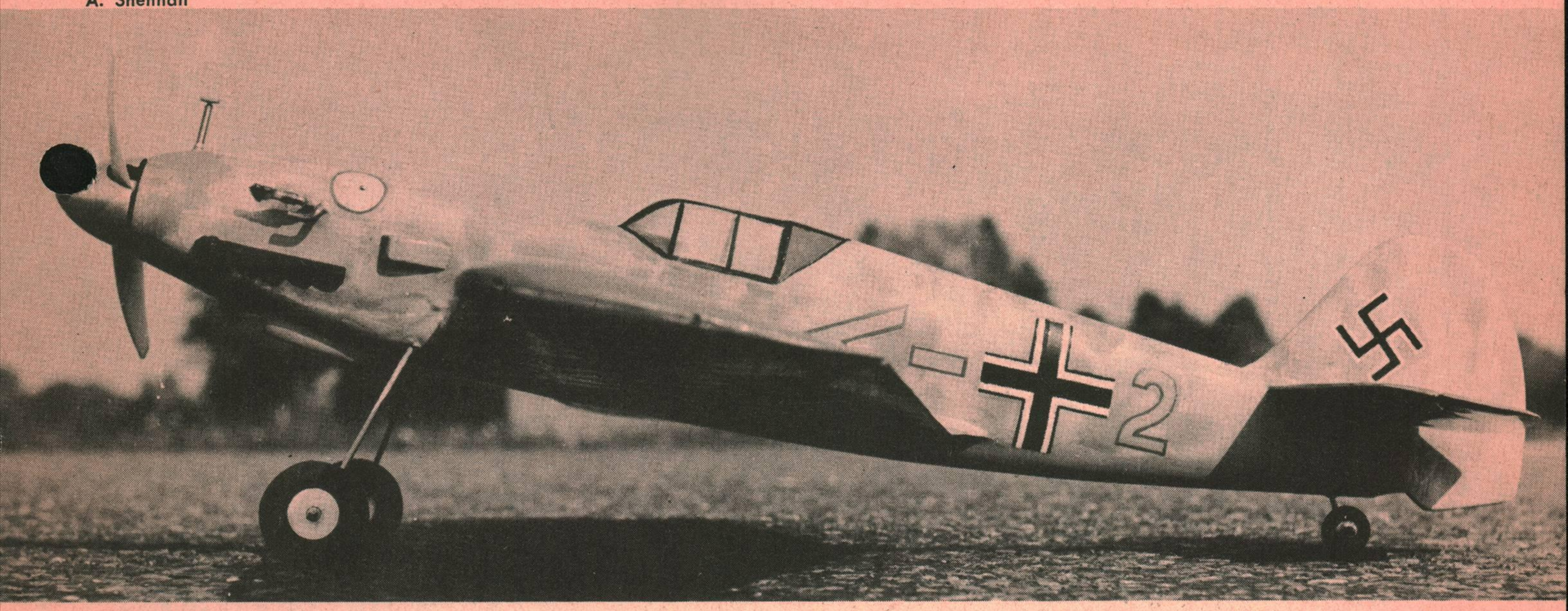
HAWKER MARK IIC HURRICANE

HAWKER AIRCRAFT, LIMITED — KINGSTON-ON-THAMES, SURREY, ENGLAND.

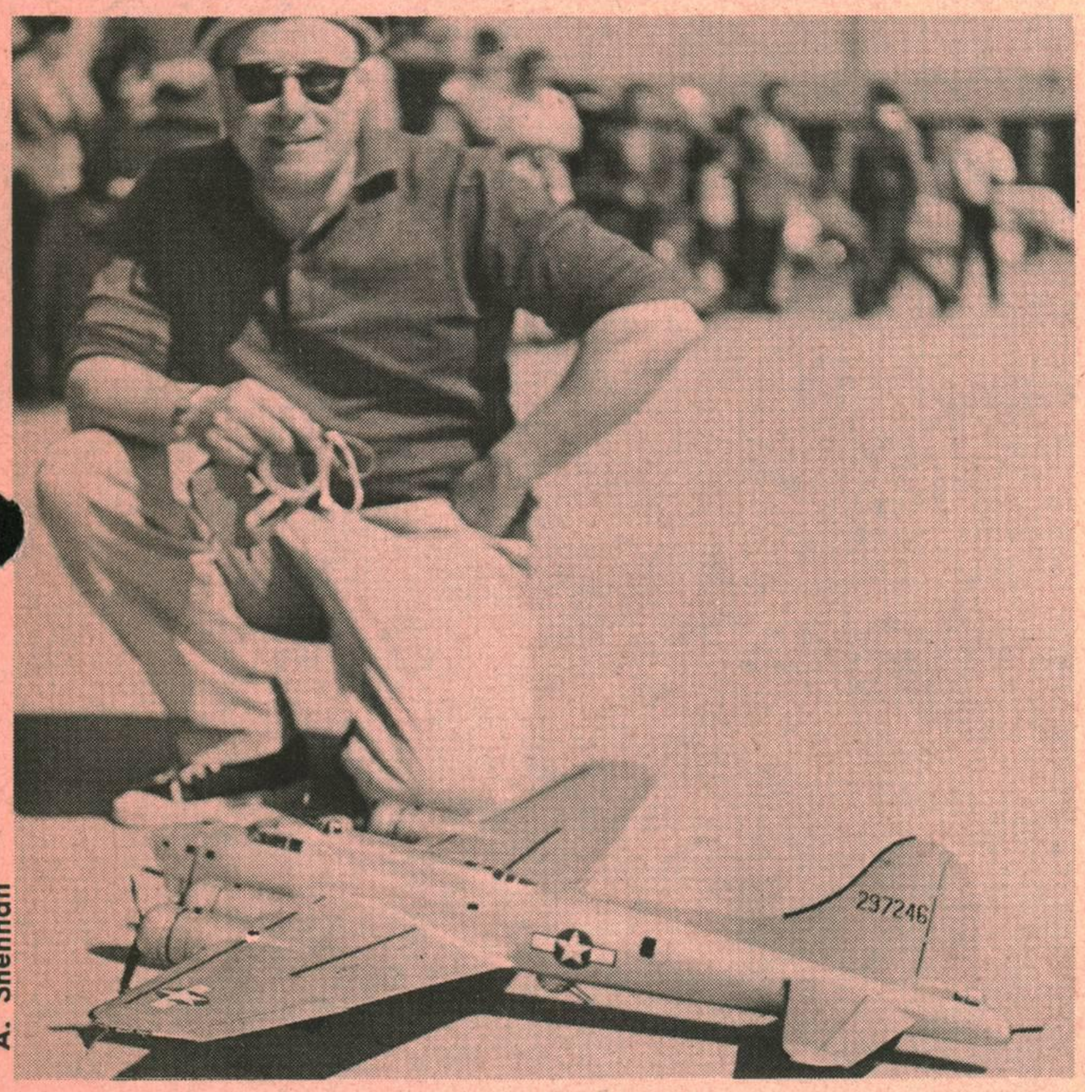
DRAWN BY: WILLIS L. NYE, A.A.H.S. FOR MODEL AIRPLANE NEWS, NEW YORK CITY, NEW YORK

SHEET NO. 3

A. Shennan

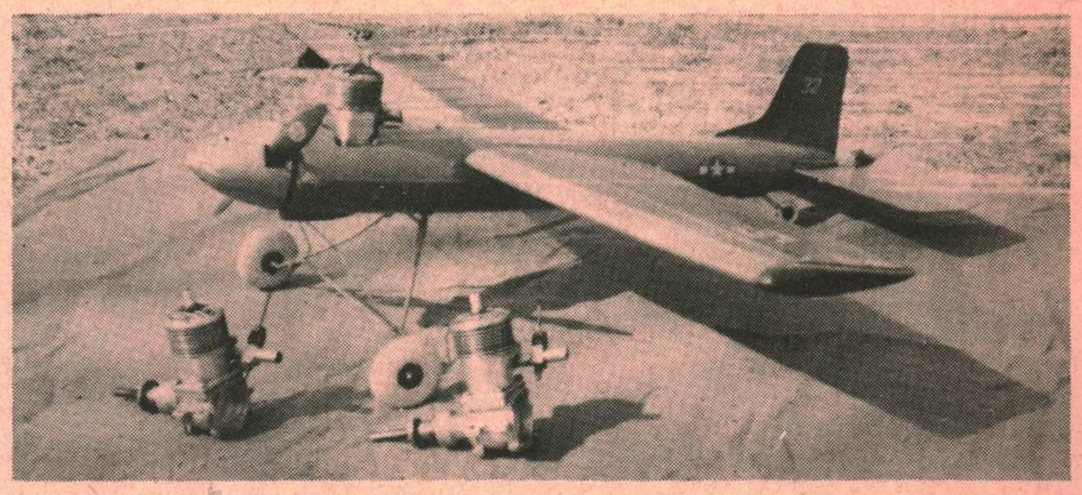


Geof Pentland's O.S. 15 Max. III powered Messerschmidt Bf 109 semi-scale stunter that was flown at '63 British Nats. Model popular in Australia.



A. Shennan

John Simmance put four Babe Bees in this B-17 with retracting gear which made three "courageous" takeoff attempts at '63 British Nationals.



Note engine collectors, G. Grown, Danbury, Conn., has supercharged Humming Bird. Plane has 300 miles in tethered flight w/3 Humming Birds.



C. d'Agostino

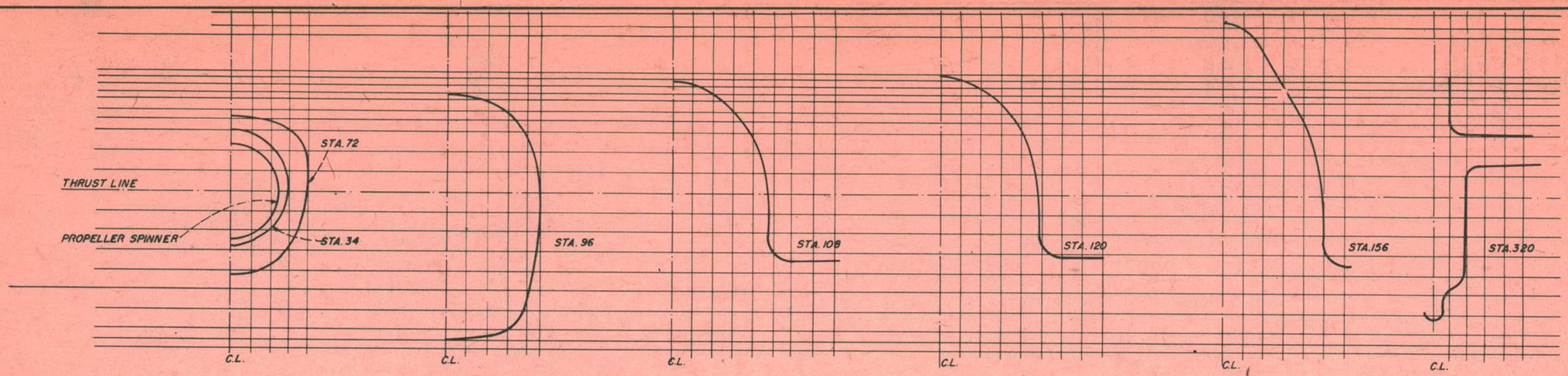
Chester Special built by Mario Canevari, Aero Club of Genoa, Italy. Max speed is 170 km an hour with a Supertigre G.21/35, 5cc displacement.

walk or crawl, instinctively sought contests with the determination of salmon going upstream. Everything was free flight—at first rubber, and then gas—and everybody had a chance. Free flight had a tremendous luck element in the days of the long motor run and acres of wing area. Everybody had the fever. You'd see guys on the platforms of New York subway trains—rush hour crowd and ceiling fans a constant menace to big fragile wings (thus was shredded wheat invented). They'd ride trains to Hicksville, from New York, Brooklyn and New Jersey, and hitch hike or walk for miles to the flying site. The field (ancient term for free-flight area) would be a mob scene, with flyers everywhere, and hundreds upon hundreds of spectator autos covering acres.

It is the nature of all competition, unfortunately, to grow complicated and tough. Once a model was judged on distance, which was easily measured; then on time, which was no more difficult. But almost every event goes hog-wild. Pressure combat and 120 mph. Rat race bombs—poor man's team race, ha, ha. Home-made speed engines. You've got to be well to-do-to compete in radio, and a genius to boot. All FAI events are the epitome of science. The greatest of all eliminations is really the one run by dame progress. To jazz up the natural order of things, the graying experts hang on jato bottles just to get rid of the riff-raff.

We can't criticize contest folks who have grown up with that kind of flying, for thinking meets should be for experts—like the Nats, and FAI (that must be, alas), but if they are to build (rebuild?) model flying of the get-together kind, they can't increase the roster by riding us dopes out of town on a rail.

Some contests are touted as bigger than ever. Some areas of the country may be having an upsurge of activity. But far too many report the opposite—how about the contests you went to this year? All over the country more and more people are flying for the fun of it, or in events that provide fun. Balloon busting, for one. Limbo. You can name a dozen things. These novelties are overlapping more and more with hard-line (*Continued on page* 46)



INSTRUMENT PANEL CALLOUT
58. ELECTRICAL SWITCH.
42. DOWTY L.G. POSITION INDICATOR.
59. COMPASS DEVIATION CARD.
43. ENGINE TACHOMETER.
41. ELECTRICAL SWITCH.
D. OXYGEN PRESSURE REGULATOR.
32. UNKNOWN.
53. ARTIFICIAL HORIZON.
54. RATE OF CLIMB INDICATOR.
44. ENGINE BOOST INDICATOR.
C. FUEL GAUGE SELECTOR SWITCH.
39. TIME OF FLIGHT CLOCK.
55. ALTIMETER.
56. DIRECTIONAL GYRO.
57. TURN INDICATOR.
46. ENGINE OIL PRESSURE GAUGE.
B. FUEL QUANTITY GAUGE.
37. ELECTRICAL SWITCH BOX.
38. ELECTRICAL SWITCH BOX.
47. ENGINE OIL THERMOMETER.
48. ENGINE COOLANT THERMOMETER.
23. UNKNOWN.
A. ENGINE BOOST CONTROL.
E. FUEL PRESSURE INDICATOR.

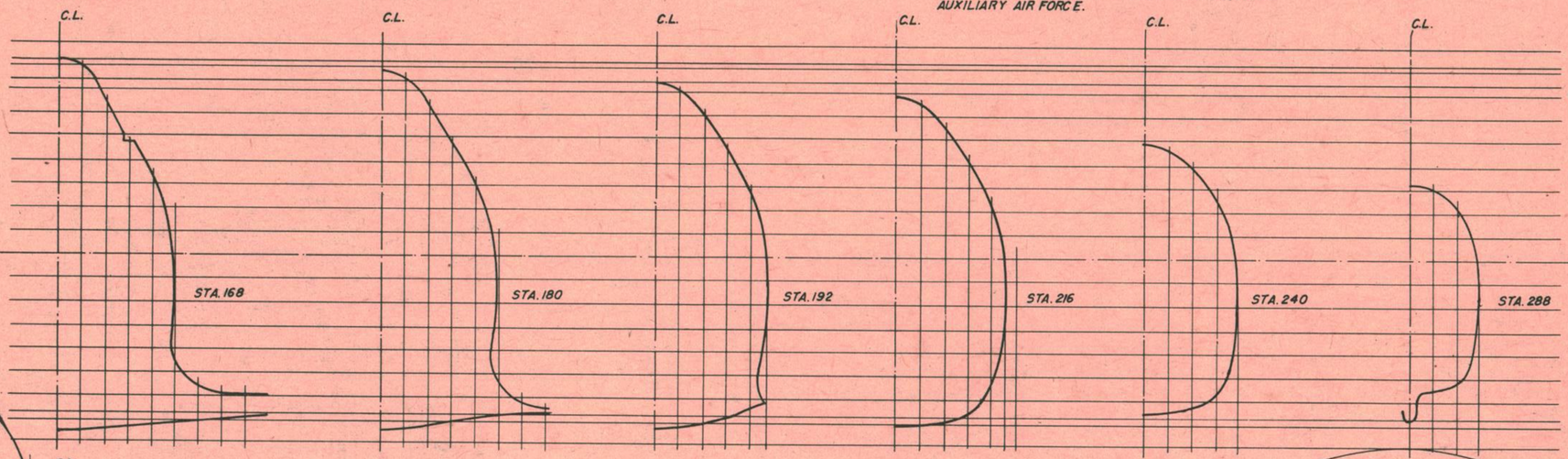
NOTE: THE MODEL MARK II D WAS ALSO MODIFIED TO USE RAIL TYPE ROCKET LAUNCHERS, 6 BEING FITTED TO THE UNDERSIDE OF THE WING. ROCKETS WERE FIRED ELECTRICALLY. 500 POUND HIGH EXPLOSIVE BOMBS COULD ALSO BE CARRIED AT THE UNDERWING PYLONS. SMOKE CURTAIN TANKS COULD ALSO BE CARRIED ON THE UNDERWING PYLONS.

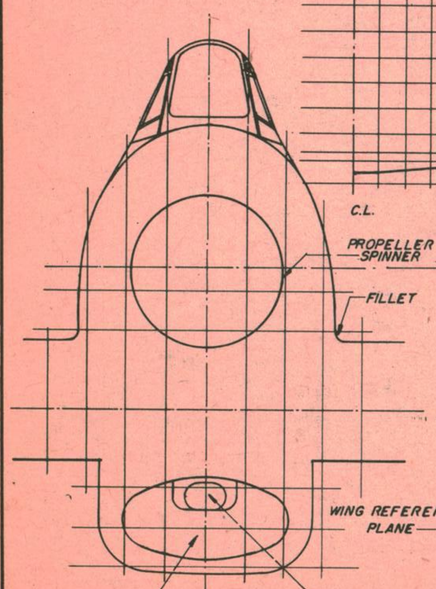
NOTE: REFER TO SHEET NO. 1 FOR STATION NUMBERS. FUSELAGE SECTIONS ARE SYMMETRICAL ABOUT THE CENTERLINE.

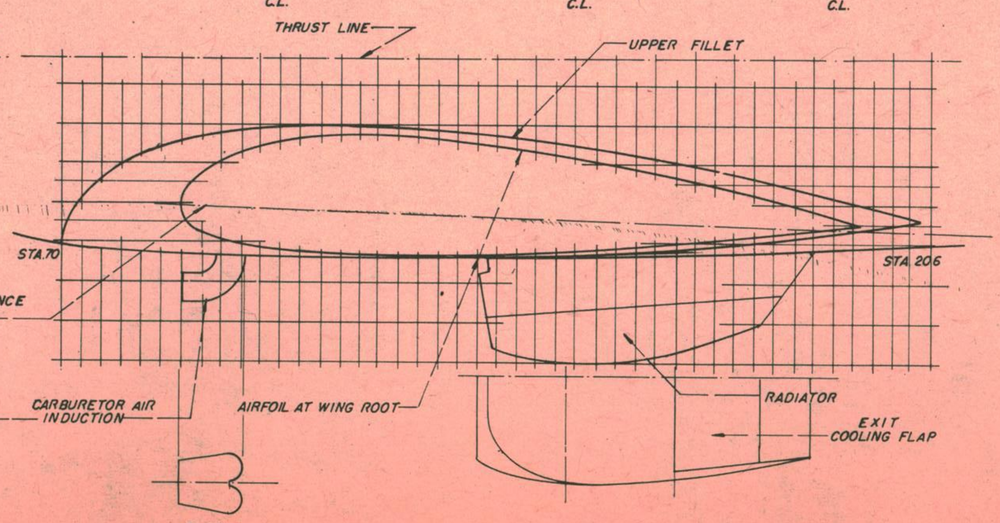
NOTE: HAWKER HURRICANE MARK II D WAS MODIFIED TO CARRY TWO 40 M.M. ANTI-TANK GUNS FOR TACTICAL AIR SUPPORT FUNCTIONS. ROLLS-ROYCE AND VICKERS BELT FED INSTALLATIONS WERE MADE AND 12 TO 15 ROUNDS WERE CARRIED. TWO 30-GAL. GUNS WERE ALSO CARRIED FIRING BALL AND TRACER AMMO FOR AIMING PURPOSES. THE ANTI-TANK GUNS WERE CARRIED IN PODS ON THE UNDERWING PYLONS.

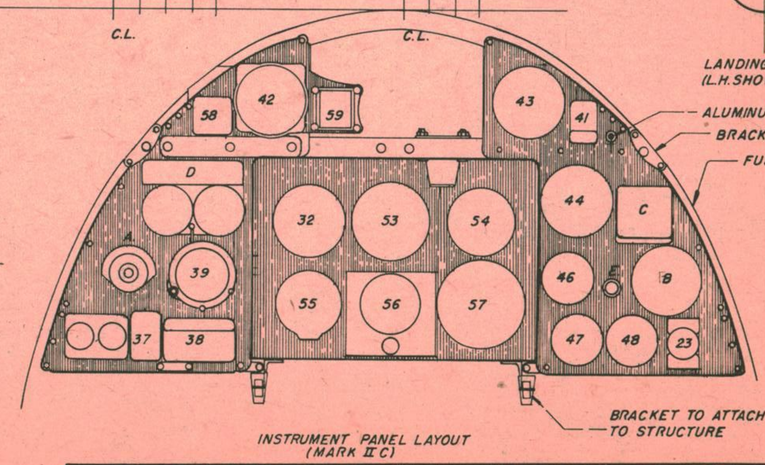
NOTE: INSTRUMENTATION VARIED WITH DIFFERENT SERIES OR MARK NUMBER HURRICANES. VACANT SPACE ON THE INSTRUMENT PANEL WAS INTENDED FOR SPECIALIZED ELECTRONIC DEVICES.

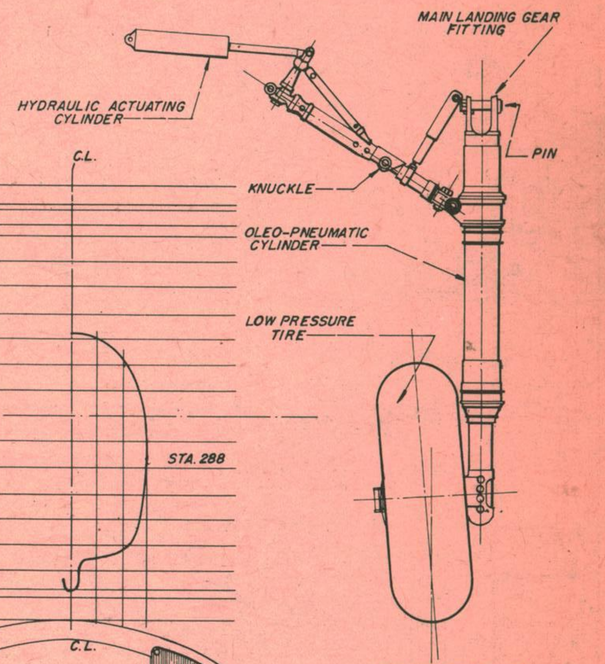
PLANE L1592, REPRESENTATIVE OF THE BATTLE OF BRITAIN, IS PRESERVED AT THE SCIENCE MUSEUM IN LONDON. IT HAS THE MARKINGS OF NO. 615, ROYAL AUXILIARY AIR FORCE.

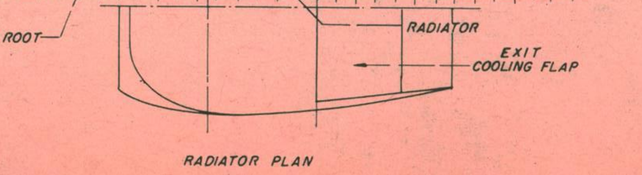












HAWKER MARK IIC HURRICANE

HAWKER AIRCRAFT, LIMITED. KINGSTON-ON-THAMES, SURREY, ENGLAND.

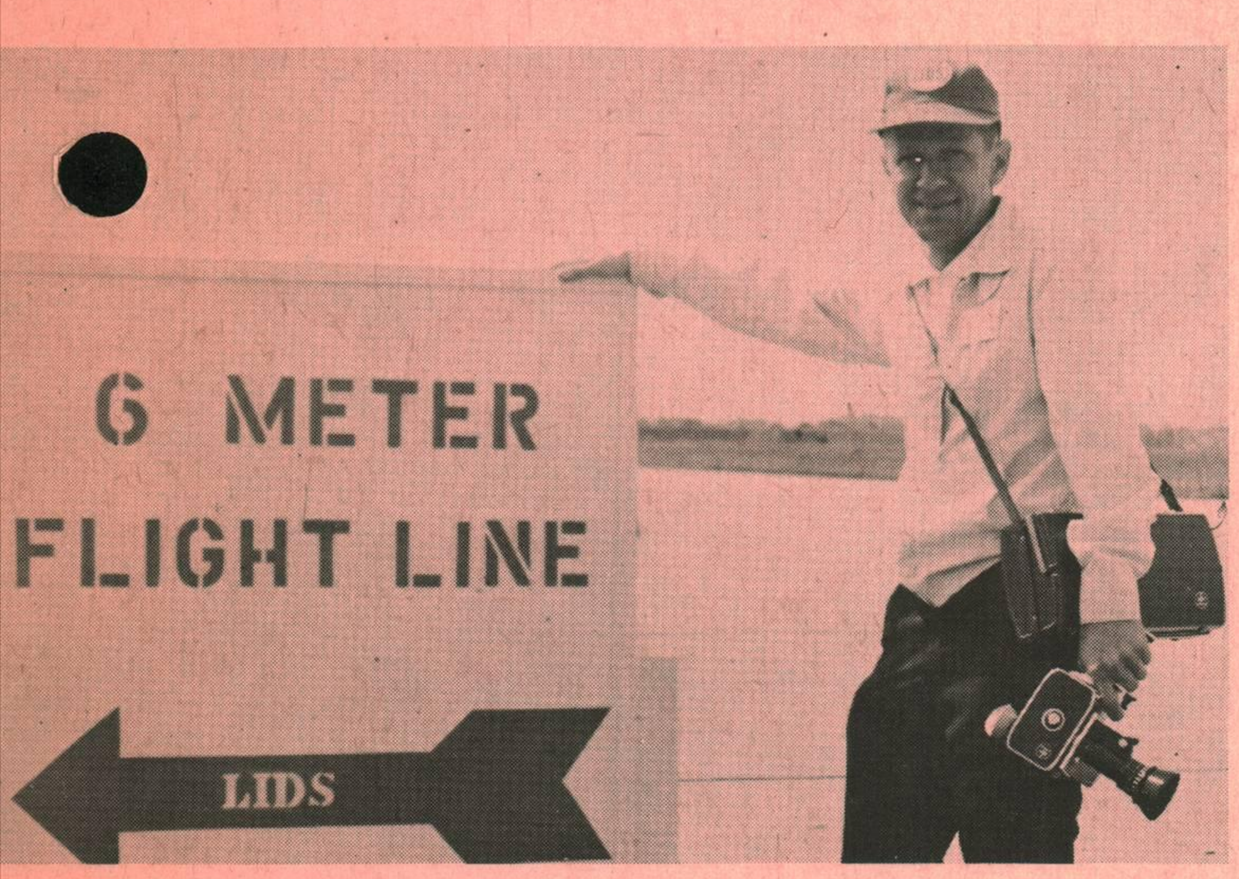
DRAWN BY: WILLIS L. NYE, A.A.H.S. FOR MODEL AIRPLANE NEWS, NEW YORK CITY, NEW YORK.

SHEET NO. 4.

famed World War II fighter. Complete fuselage, landing gear and cockpit details.

Pre-contest strategy committee meeting including some of the top names in RC, Jim Tantillo, CD, setting the ground rules with the judges among whom there were Bob Dunham, extreme right, then Lee Shulman, Ed Kazmirski, Lou Fameghetti, Don Brown, John Gravina, Danny Mass, Larry Davidson, Andy Push.

. . . LIDS Festival . . .



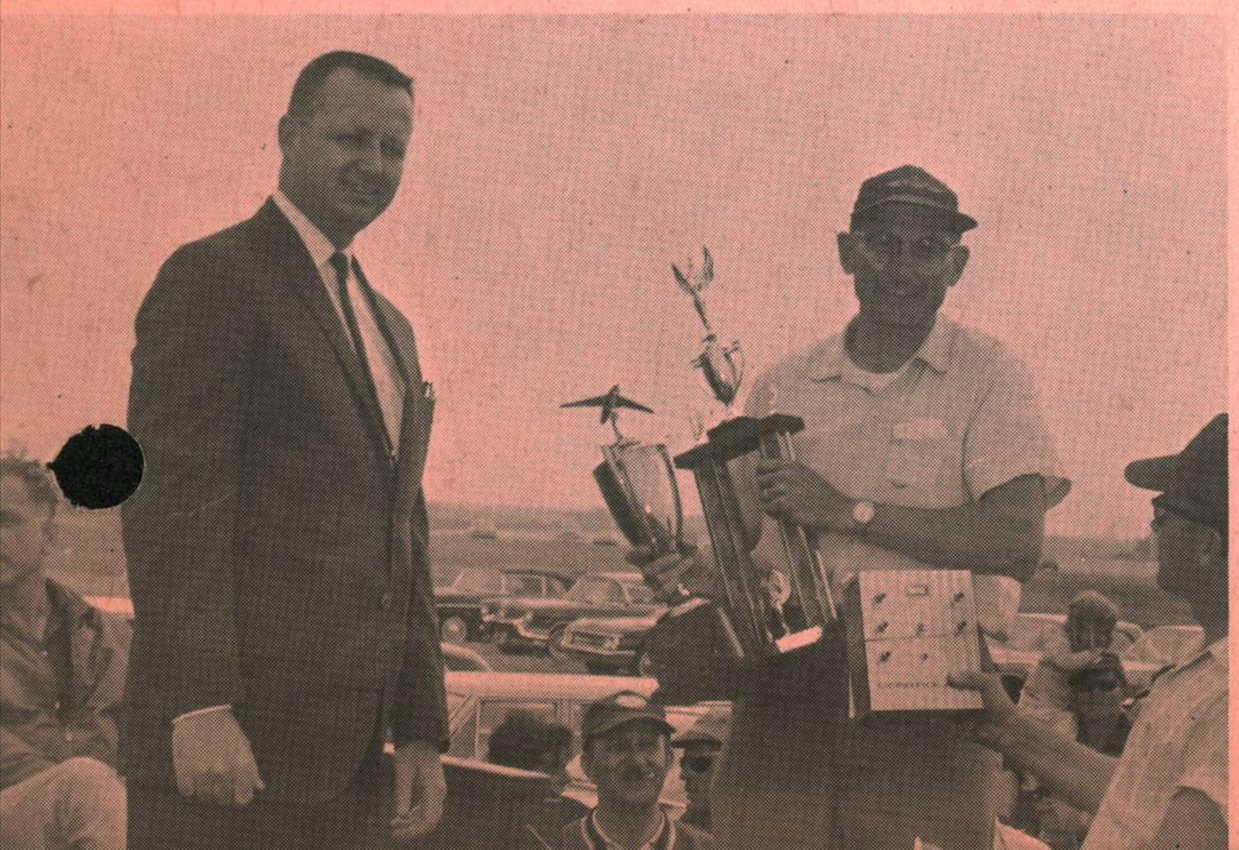
Well-organized, the contest committee had prepared flight line signs to steer contestants in right direction. Lyle Budner took movies for LIDS.



Scale judges, l-r, Joe Lippert, Len Huff, Al Van Wymersch were right down to earth while judging the scale entrants for scale detail accuracy.

Nassau County Supt. of Parks, F. Bennet presented Multi Expert winner Dick Allen with his winnings: 10-ch. Controlaire donated by Lee's Hobby.

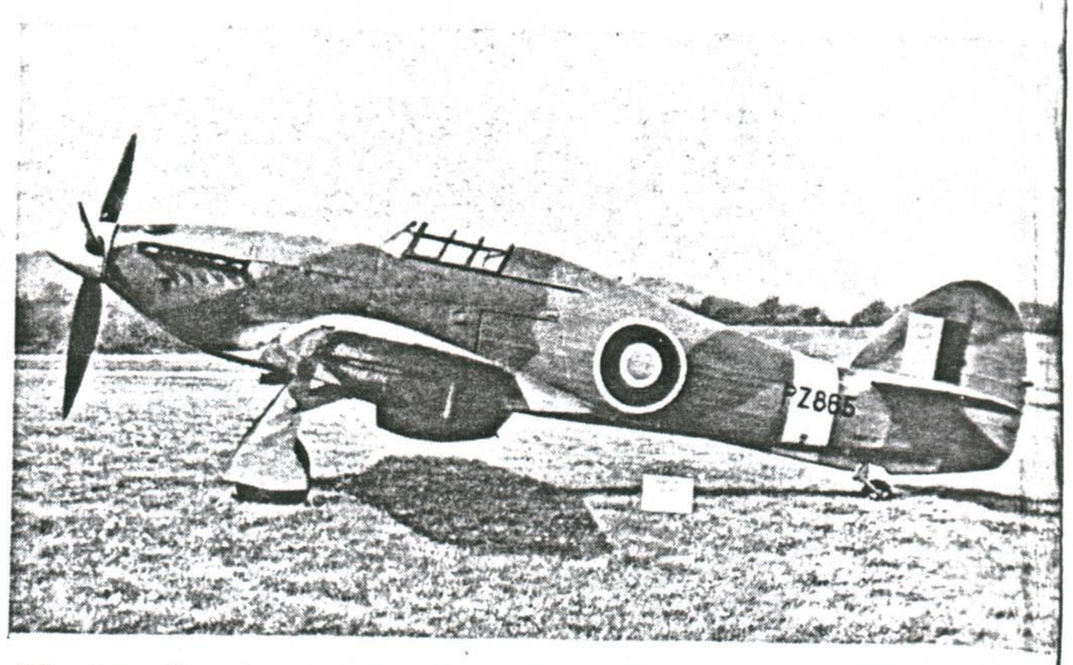
Syracuse's first team, Louise and Ed Izzo, waiting a turn at the Multi Expert event. Ed now using the Orbit proportional gear with success.





No. 650 Sqdn., 3/44; Mk. IV: *LE514*.
No. 695 Sqdn., 1944: *PG751* ("*W*").
No. 10 Sqdn., I.A.F., India and Burma, 10/44; tropical Mk. IV: *LF497*.
G.A.T.U., India, 1945; tropical Mk. IIC's: *LE398*, *LE502*, *LE815*, *LF157*, *LF203*; tropical Mk. IV's: *LE646*, *LE993*.
No. 41 O.T.U., 5/45; Mk. IIC's: *LF295*, *LF296*, *LF322*, *LF346*, *LF363* (see also under Other Aircraft below), *LF366*, *LF368*, *LF376*, *LF379*, *LF386* (to No. 49 M.U., 7/45), *LF396*, *LF680*, *MW363*, *PG476*.
No. 61 O.T.U., 7/45; Mk. IIC's: *LF293* (tropical), *LF366*, *LF376*, *LF379*, *MW366*.
Aircraft shipped to Russia, 1944; Mk. IIC fighter-bombers: *LE529*; Mk. IV's: *LF463*, *LF470*, *LF473*, *LF481*, *LF509*, *LF510*, *LF592*, *LF595*, *LF596*.
Aircraft sold to Portugal, 1945–46; tropical Mk. IIB fighter-bomber: *LF342*; tropical Mk. IIC fighter-bombers: *LF133*, *LF360*, *LF383*, *LF422*, *LF425*, *LF514*, *LF564*, *LF565*, *LF568*, *LF570*, *LF586*, *LF620*, *LF699*, *LF706*, *LF717*, *LF757*, *LF772*, *MW373*, *PG521*, *PG535*, *PG538*, *PG543*, *PG599*, *PG610*, *PZ735*, *PZ738*, *PZ745*, *PZ759*.
Aircraft sold to Eire, 3/45. I.A.C. Nos. in brackets: *LF541* (*116*), *LF624* (*118*), *PZ796* (*120*).
Coningsby Stn. Flt., 1944; Mk. IIC's: *LF374*, *LF382*, *LF395*.
Waddington Stn. Flt., 1944; Mk. IIC's: *LF404*, *LF421*.
Empire Central Flying School, Hullavington, 1944; Mk. IIC's: *PG567*, *PG568*, *PG571*, *PG573*.
Ground Instruction Machines (subsequent airframe nos. in brackets where known): *LE747* (*5496M*), *LF398* (*5415M*), *LF580* (*5402M*), *LF627* (with No. 5 S. of T.T.); *LF674* (*5418M*), *LF680* (with No. 5 S. of T.T.), *LF738* (*5405M*), *LF745* (*5406M*), *LF755* (*5419M*), *MW340* (*5463M*), *MW341* (*5311M*), *MW354* (*5321M*), *PG440* (*5462M*), *PG541* (*5420M*), *PG484* (*5422M*), *PG497* (*5417M*), *PG498* (*5421M*) *PG517* (*5407M*), *PG529* (*5408M*), *PG546*, *PG570* (*5464M*), *PG593*, *PG604* (*5416M*).
Other aircraft: *LE353* (Mark IIC; armament later removed and aircraft supplied to No. 231 Communications Flight); *LE525* (to A. & A.E.E. for trials, 11/43); *LE796* (tropical Mk. IIC of D Flight, No. 22 A.A.C.U., 1944); *LE806* (Mk. IIC; force landed during test; delivery delayed until 19/12/43); *LF363* ("*F*"; Mk. IIC of No. 309 (Polish) Sqdn., 2/44; No. 41 O.T.U., 1945; to Waterbeach Stn. Flt., 1950–54; Biggin Hill, 1959. Last Hurricane held on R.A.F. Charge; leader of Battle of Britain commemorative "fly-past"; also used in several films); *LF422* (trials with Merlin 22 engine at Langley, 1/45); *LF632* (Mk. II trainer; guns removed); *PZ865* (purchased by H.A.L. off Contract, named "*The Last of the Many!*" Registered *G–AMAU* and raced by H.A.L. on many occasions, 1945–60).

THE HAWKER HURRICANE MARK II (AUSTIN-BUILT). One production batch of 300 aircraft built by the Austin Motor Co., Ltd., Longbridge, during 1941. *AP516–AP550*, *AP564–AP613*, *AP629–AP648*, *AP670–AP714*, *AP732–AP781*, *AP801–AP825*, *AP849–AP898*, *AP912–AP936*. Excepting *AP516–AP518*, this entire batch was scheduled for supply to Russia during 1941–42, for service with the Russian Navy. Although a large proportion in fact sailed by PQ convoy (many aircraft being lost en route due to enemy action), other aircraft were retained for issue to the Royal Air Force, principally as replacements.



The last Hurricane, PZ865, *at Dunsfold airfield in* 1960.

No. 208 (AC) Sqdn., Western Desert and Habbaniyah, Iraq, 1942; tropical Tac R Mk. IIB's: *AP851*, *AP852*.
No. 312 (Czech) Sqdn., R.A.F., Kenley, 6/41; offensive sweeps, Mk. IIB's: *AP518*, *AP519*.
No. 335 (Hellenic) Sqdn., R.A.F., Middle East, 1942–43: *AP656* (tropical Mk. IIB in action over Fuqa and Daba, 10/42); *AP888* (tropical Mk. IIC engaged in shipping protection, Central Mediterranean, 10/43).
No. 607 Sqdn., A.A.F., Manston, 2/42; Channel sweeps, Mk. IIB: *AP896*.
No. 1414 (Meteorological) Flt., Mogadishu and Eastleigh, East Africa, 1943–45; tropical Met. Mk. IIC: *AP920*.
Other Aircraft: *AP516* (retained by Austins for performance and handling tests); *AP517* (production performance and handling checks, H.A.L. and A. & A.E.E., 1941).

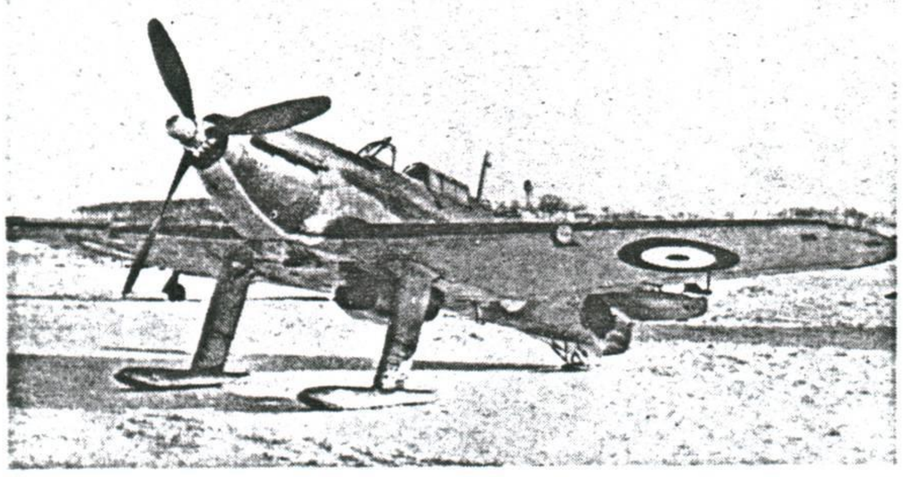
THE HAWKER HURRICANE MARK I (CANADIAN-BUILT). First production batch of 40 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1939–40. *P5170–P5209*. Rolls-Royce Merlin III engines, D.H.-Hamilton Hydromatic 3-blade propellers and many other proprietary items despatched from the United Kingdom; completed aircraft shipped to Britain during March-August 1940. Some aircraft retained in Canada.

No. 1 (F) Sqdn., Wittering, 9/40: *P5187*.
No. 43 (F) Sqdn., Tangmere, 8/40: *P5191*, *P5196*.
No. 111 (F) Sqdn., Croydon, 8/40: *P5209*.

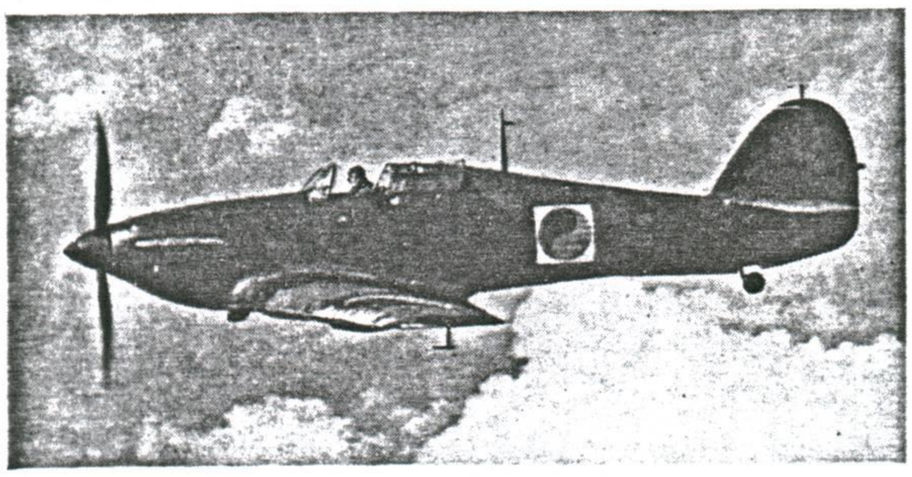
No. 249 (F) Sqdn.; in action over Brooklands, 4/9/40: *P5206*.
No. 253 (F) Sqdn.; in action over Brooklands, 4/9/40: *P5172*, *P5179*, *P5181*.
No. 501 Sqdn., A.A.F., 8/40: *P5189* ("*M*"), *P5193* ("*O*").
No. 56 O.T.U., Sutton Bridge, 11/40: *P5195*.
Other Aircraft: *P5170* (production check trials at R.A.E., H.A.L. and A. & A.E.E., 3/40–8/40); *P5176* (force landed in Eire, 1942; bought and transferred to I.A.C. as *93*); *P5183* (later converted to Sea Hurricane Mk. IA; Merchant Ship Fighter Unit, Speke, 1941); *P5187* (catapult trials, R.A.E., 11/40–3/41).

THE HAWKER CANADIAN HURRICANE MARK X. Second production batch of 340 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1940-41. *AE958–AE977*, *AF945–AG344*, *AG665–AG684*. Packard-built Rolls-Royce Merlin 28 engines drining 3-blade Hamilton Hydromatic propellers, many without spinners. Approximately the first 100 machines built with eight-gun wings, the remainder with Mk. IIB twelve-gun wings, but many subsequently equipped with four Oerlikon 20-mm. guns. Some aircraft were retained in Canada and served with the R.C.A.F., 1940-42.

No. 1 Sqdn., R.C.A.F. (later No. 401 Sqdn.), Northolt, 8/40–9/40; all with 8-gun wings: *AE960* ("*W*"), *AE966* ("*A*"), *AE974* ("*C*"), *AF990–AF992*, *AG108–AG112*, *AG667* ("*L*"), *AG670*.



The Canadian Hurricane XII, 5624, *fitted with ski undercarriage*. (*See also Page* 169.)



The Irish Hurricane I, (*ex-Canadian* P5176) *re-registered as* 93.

No. 1 (F) Sqdn., Hawkinge, 5/41; 12-gun wings: *AG118*, *AG216* ("*O*"); Tangmere, 1942; intruder with 4-cannon wings: *AG118*.
No. 43 (F) Sqdn., Tangmere, 6/42; anti-shipping strikes; 4-cannon wings: *AF961*, *AG236*.
No. 56 (F) Sqdn., 2/41; 12-gun wings: *AG196*, *AG248* ("*B*").
No. 182 (F) Sqdn., 1942; 12-gun wings: *AG159* ("*O*"), *AG232* ("*P*").
No. 527 (Calibration) Sqdn., Hornchurch, 10/43; armament removed: *AG146*.
No. 607 Sqdn., A.A.F., Manston, 2/42; daylight sweeps; fighter-bomber with 12-gun wings: *AG338*.
No. 680 (PR) Sqdn., Communications Flt., Cyprus, 9/43; tropical aircraft, guns removed: *AG153*.
No. 1432 (Army Co-operation) Flt., tropical aircraft with 8-gun wings: *AG177* (Oshogbo, Nigeria, crashed 12/12/42); *AG276* (Kano, Nigeria, 1942–43).
Other aircraft converted to take 12-gun wings at No. 13 M.U., Henlow: *AG277*, *AG301*, *AG341*, *AG344*, *AG671*, *AG680*.
Aircraft serving with R.C.A.F., Canada (R.C.A.F. nos. in brackets): *AG299* (*1378*), *AG310* (*1379*).
No. 55 O.T.U., 1941; 8-gun wings: *AG237*, *AG253*, *A267*.
No. 59 O.T.U., 1941; 8-gun wings: *AG123*, *AG212*, *AG245*.

THE HAWKER CANADIAN HURRICANE MARK X. Third production batch of 149 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1941. *AM271–AM369*, *BW835–BW884*. Packard-built Merlin 28 engines. Aircraft built with eight Browning gun wings but many later modified with twelve-gun or four-cannon wings. Some aircraft retained in Canada for service with the R.C.A.F.

No. 1 (F) Sqdn., Tangmere, 1942; intruder fighter with 4-cannon wings: *AM280*.
No. 43 (F) Sqdn., Tangmere, 1942; intruder fighters with 4-cannon wings: *AM311* ("*X*"), *AM315* (took part in Dieppe operation, 19/8/42).
Aircraft converted to take 12-gun wings at No. 13 M.U., Henlow: *AM271*, *AM301*, *AM302*, *AM349*, *AM367*, *BW870*, *BW883*.
Aircraft shipped to Russia, 1/42: *AM367*, *BW835*, *BW851*, *BW878*, *BW879*.

THE HAWKER CANADIAN HURRICANE MARK XI. Fourth production batch of 150 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1941-42. *BW885–BX134*. Many aircraft later modified to take 12 Browning guns or 4 Oerlikon or Hispano cannon. Some aircraft retained for service with the R.C.A.F. in Canada.

Aircraft converted to take 12-gun wings at No. 13 M.U., Henlow: *BW901*, *BW906*, *BW907*, *BW914*, *BW919*, *BW941*, *BW944*, *BW948*, *BW962*, *BW963*, *BW967*, *BX125*, *BX128*, *BX133*.
Delivered to No. 22 M.U., Silloth, with 4-cannon wings for despatch to Russia, 1942: *BW920*, *BW922*, *BW926*, *BW984*, *BX102*, *BX108–BX111*, *BX119–BX124*.

THE HAWKER CANADIAN HURRICANE MARK XII. Fifth production batch of 248 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1942. *JS219–JS371*, *JS374–JS420* (with 12-gun wings); *JS421–JS468* (most of these aircraft equipped with 4-cannon wings in the United Kingdom, 1943).

No. 59 O.T.U., 12/43; 12-gun wing: *JS330*.

Delivered to No. 22 M.U., Silloth, and Packing Depot, Sealand, for despatch to Russia; 12-gun wings: *JS220*, *JS221*, *JS225*, *JS227*, *JS228*, *JS233*, *JS240*, *JS256*, *JS300*, *JS391*, *JS396–JS399*, *JS405–JS412*, *JS415*, *JS419*.

Delivered to No. 13 M.U., Henlow, and Packing Depot, Sealand, for despatch to Russia: *JS219*, *JS229*, *JS232*, *JS235*, *JS237*, *JS241*, *JS257*, *JS309*, *JS317*.

THE HAWKER CANADIAN HURRICANE MARK XIIA. Sixth production batch of 150 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1942. Packard-built Rolls-Royce Merlin 29 engines driving 3-blade Hamilton Hydromatic propellers. Most aircraft built initially with 8-gun wings, but some subsequently modified with 12-gun and 4-cannon wings. *PJ660–PJ695*, *PJ711–PJ758*, *PJ779–PJ813*, *PJ842–PJ872*. Most aircraft despatched direct to Russia or to Burma at end of 1943; few sent to the United Kingdom, 1943. Small number was fitted with deck landing equipment for use by the Royal Canadian Navy as the Sea Hurricane Mark XIIA.

THE HURRICANE REPAIR ORGANISATION

Having recorded at some length the production and service details of the Hawker Hurricane, some measure of the efforts of the United Kingdom Hurricane Repair Organisation is provided by the accompanying table. The Organisation was based at the Langley Repair Department and the procedure adopted was as follows: The existence of a crashed or damaged Hurricane was notified to the nearest Unit in the complex which, if not already performed by the Service, would inspect the aircraft and categorize the extent of damage. While the aircraft was removed to the Unit for repair, the damage extent would be notified to Hawker Aircraft Ltd., who would issue the necessary drawings and instructions and any proprietary equipment necessary to make the aircraft fully serviceable again. Repair of the 4,500-odd Hurricanes returned to the Royal Air Force involved the issue of nearly 120,000 drawings in the United Kingdom alone.

Contractor or Unit	1939	1940	1941	1942	1943	1944	1945	*Total*
Airtraining (Oxford) Ltd.	—	86	136	130	17	—	—	369
Airwork Ltd., Renfrew	—	—	1	1	—	—	—	2
Austin Motor Co., Ltd.	—	13	11	—	—	—	—	24
C.R.U. No. 1, Cowley	—	128	193	44	—	—	—	365
Cunliffe Owen Aircraft Ltd.	—	5	2	—	—	—	—	7
David Rosenfield Ltd.	—	—	—	50	96	34	—	180
De Havillands, Hatfield	—	138	12	—	—	—	—	150
De Havillands, Witney	—	—	17	90	116	41	—	264
Gloster Aircraft Co. (Works) ..	—	15	23	1	—	—	—	39
Gloster Aircraft Co. (Site)	—	—	1	—	—	—	—	1
Hawker Aircraft Ltd. (Works) ..	—	55	106	8	—	—	—	169
Hawker Aircraft Ltd. (Site)	5	70	381	276	7	—	—	739
Helliwells Ltd., Walsall	—	—	26	28	—	—	—	54
Henlow, No. 13 M.U.	—	272	254	205	9	—	—	740
Morrison Engineering Ltd.	—	—	—	20	62	97	37	216
Reid and Sigrist (Site)	—	1	—	—	—	—	—	1
Rollasons, Hanworth	—	38	55	87	82	2	—	264
Rolls-Royce Ltd.	—	147	118	—	—	—	—	265
Sealand, No. 30 M.U.	—	—	2	—	—	—	—	2
Scottish Aviation Ltd. (Works) ..	—	4	13	—	—	—	—	17
Scottish Aviation Ltd. (Site)	—	1	15	—	—	—	—	16
Short Bros., Ltd. (Works)	—	—	10	9	2	—	—	21
Short Bros., Ltd. (Site)	—	—	3	3	—	—	—	6
Taylorcraft Ltd., Rearsby	—	—	64	175	107	—	—	346
43 Group Salvage Units	—	—	—	43	111	107	19	280
ANNUAL TOTALS	5	973	1,443	1,170	609	281	56	4,537

CCF Hawker Hurricanes 30 June 94

1351 - 1380

AG. 287 - 1374
293 - 1377
4 - 1368
5 - 1375
6 - 1376
9 - 1378
300 - 1380
2 - 1379
4 - 1372
5 - 1364
6 - 1366
7 1367
8 1371 1371
9 1363
310 1362
11 1365
12 1361
13 1365
14 1358
15 1354
16 1357 later 3580M
17 1353
18 1355
19 1352 24
20
323 1351
5 1359
6 1373
7 1369

AG 350 -1370
2 - 1360

30

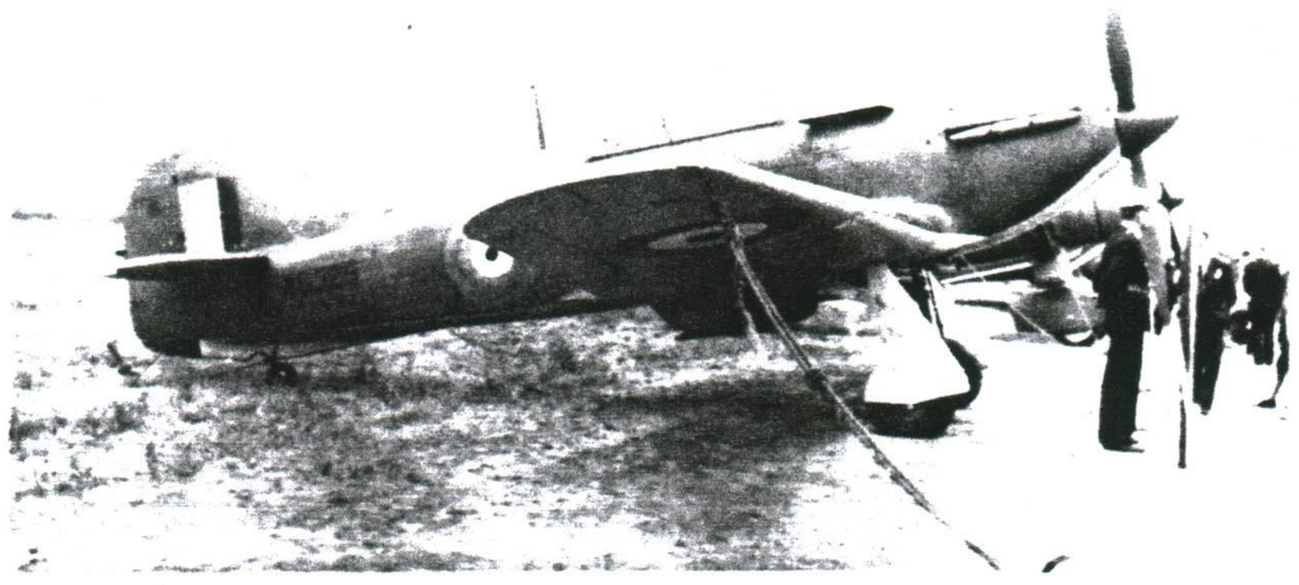
△ Pluto

14889

HAWKER HURRICANE X

AG 325

BUILT BY C.C.F.
RETAINED IN CANADA FOR
R.C.A.F.
BRITISH MILITARY A/C SERIALS
- ROBERTSON P. 125



COPY NEG: LEWIS ALBUM
DATE: 10.81

AIR Boitz in Publication
RAF AA100 - AZ999
AG 287 - AG332
2nd
1351 - 1380

AE888	-	Diverted to SAAF
AE889	-	Diverted to RCAF
AE890	-	Lost on delivery flight
AE891	-	Diverted to SAAF
AE892	21/5 OTU/60 OTU/ 13 OTU	SOC 20.3.46
AE893	-	Diverted to RCAF
AE894	487/299/GCA Wg	SOC 28.3.46
AE895 to AE898	-	Diverted to SAAF
AE899	464/487/464	Missing (Maupertus) 22.1.43
AE900	-	Diverted to SAAF
AE901	-	Diverted to SAAF
AE902	487	Shot down near Eindhoven, 6.12.42
AE903	-	Diverted to SAAF
AE904	-	Diverted to SAAF
AE905	-	Diverted to RCAF
AE906	-	Lost on delivery flight
AE907	-	Diverted to RCAF
AE908	464	Damaged by flak near Guernsey, 13.6.43; DBR
AE909	-	Diverted to SAAF
AE910	21	Shot down by flak near Abbeville, 22.6.43
AE911	-	Diverted to RCAF
AE912	-	Diverted to RCAF
AE913	279/21	Missing (Abbeville) 21.4.43
AE914	-	Diverted to SAAF
AE915	-	Diverted to SAAF
AE916	487	Damaged by flak, Amsterdam, 2.5.43; SOC on return
AE917	-	Missing on ferry flight, 28.8.42
AE918	21	Crashlanded near Rye, Sussex, returning from Boulogne, 6.9.43
AE919	45 Gp	SOC 28.10.44
AE920	464/299/60 OTU	SOC 25.4.46
AE921	45 Gp	SOC 10.1.46
AE922	-	Diverted to RCAF
AE923	-	Diverted to RCAF
AE924	-	Diverted to SAAF
AE925	-	Diverted to RCAF
AE926	-	Diverted to RCAF
AE927	21/5 OTU	SOC 30.3.46
AE928 to AE932	-	Diverted to RCAF
AE933	45 Gp	SOC 10.1.46
AE934	-	Diverted to RCAF
AE935	-	Crashed before delivery
AE936	-	Diverted to RCAF
AE937	464	Shot down by Fw 190s near Guernsey, 13.6.43
AE938	464/1 FU	SOC 28.6.45
AE939	464/299/GCA Wg	SOC 28.3.46
AE940	21	Shot down over Eindhoven, 6.12.42
AE941	21/ECFS	SOC 3.8.45
AE942 to AE944	-	Diverted to RCAF
AE945	464/487	Shot down over Eindhoven, 6.12.42
AE946	-	Diverted to RCAF
AE947	487/464/299	SOC 30.3.46
AE948	RAE/161/1575 Flt/624	SOC 22.2.45
AE949	45 Gp	SOC 10.1.46
AE950	-	Diverted to RCAF
AE951	-	Diverted to SAAF
AE952 to AE954	-	Diverted to RCAF
AE955	45 Gp	SOC 10.1.46
AE956	487	Crashed in sea returning from Amsterdam, 2.5.43
AE957	487	Missing (Rotterdam) 4.4.43

* * * * * *

20 Hawker Hurricane Is (later redesignated as Mk.Xs) delivered by Canadian Car & Foundry in March and April 1941

AE958	-	To Admiralty 7.41
AE959	-	To Admiralty 7.41

AE961	-	To Admiralty 7.41
AE962	-	To Admiralty 24.10.42
AE963	-	No delivery record
AE964	-	To Admiralty 15.8.41
AE965	MSFU/55 OTU/41 OTU	SOC 29.12.44
AE966	-	To Admiralty 15.8.41
AE967	-	Tp Admiralty 7.41
AE968	-	To Admiralty 22.7.41
AE969	-	To Admiralty 7.41
AE970	-	SOC on arrival 8.5.41
AE971 to AE974	-	Lost at sea en route to UK, 4.41
AE975	-	To Admiralty 9.8.41
AE976	55 OTU	Collided with V6915, Tudhoe, Co.Durham, 14.2.42
AE977	-	To Admiralty 17.7.42

* * * * * *

667 Lockheed Lightnings scheduled for delivery but diverted to USAAC apart from three delivered in March 1942 for RAF

AE978 to AF104	-	Diverted before delivery
AF105	Cunliffe-Owen	To USAAF 1.7.43
AE106	AAEE	To USAAF 10.7.43
AF107	RAE	To USAAF 2.12.42
AF108 to AF744	-	Diverted before delivery

* * * * * *

200 Vultee Vengeance IIs scheduled for delivery but only one delivered by Northrop Aircraft . Remainder diverted to USAAC and RAAF

AF746 Believed AAEE

Delivered to RAAF:

AF758, AF778, AF797, AF800, AF814, AF820, AF828, AF840, AD849, AF859, AF860, AF862, AF869, AF874, AF878, AF888, AF912, AF918, AF931

* * * * * *

300 Hawker Hurricane Is (later redesignated as Mk.Xs) delivered by Canadian Car & Foundry between April 1941 and April 1942

AF945	-	To Admiralty 21.6.31; later became 4758M
AF946	-	To Admiralty 28.1.42
AF947	-	To Admiralty 15.8.41
AF948	1 IAF	SOC 30.11.43
AF949	-	To Admiralty 17.7.41
AF950	-	To Admiralty 17.7.41; later became 4694M
AF951	-	To Admiralty 7.41
AF952	-	To Admiralty 15.8.41
AF953	-	To Admiralty 9.41
AF954	1 IAF	SOC 10.44
AF955	-	To Admiralty 7.41
AF956	59 OTU	Engine cut on take-off, Milfield, 14.6.43
AF957	-	To 3082M 5.42
AF958	59 OTU/56 OTU/ 2 TEU	SOC 23.6.44
AF959	225/55 OTU	Missing from training flight; wreck found near Keswick, 21.1.43
AF960	1 IAF	SOC 1.12.42
AF961	43	Missing, pres.ditched in Channel on training, 11.7.42
AF962	-	To Admiralty 2.8.41
AF963	-	To Admiralty 6.41
AF964	56 OTU/43/32/ 59 OTU/ATA	SOC 28.12.44
AF965	MSFU	To Admiralty 30.8.43
AF966	-	To Admiralty 15.7.41
AF967	-	To Admiralty 7.41
AF968	55 OTU	Collided with V6798 near Stanley, Co.Durham, 12.4.42
AF969	-	To Admiralty 7.41
AF970	55 OTU/59 OTU/ 63 OTU/4 TEU/2 TEU	Flew into hill in cloud near Castle Carroch, Cumberland, 20.3.44
AF971	-	To Admiralty 6.41

AF973	-	To Admiralty 1.10.41
AF974	-	To Admiralty 19.9.41
AF975	TFU/41 OTU	SOC 1.11.44
AF976	MSFU/56 OTU	Flew into ground 4m E of Rattray, Perthshire, 24.8.43
AF977	ME/WA	SOC 21.6.45
AF978	56 OTU	DBR 9.10.42
AF979	RAE/1441 Flt 197/7 PAFU	SOC 9.12.44
AF980	1/55 OTU/FE	SOC 30.4.44
AF981	-	To Admiralty 10.10.41; later became 4696M
AF982	-	To Admiralty 25.9.41
AF983	FE	SOC 1.3.44
AF984	32/55 OTU	Dived into ground at night 8m NE of Longtown, 15.4.43
AF985	27 MU	Flew into sea near Skinburness, Solway Firth, 3.12.41
AF986	59 OTU/55 OTU/ 41 OTU/7 PAFU	Hit ground low flying, Pinchbeck, Lincs., 12.9.44
AF987	FTU/2 FF/55 OTU	SOC 27.5.44
AF988	71 OTU	SOC 1.4.44
AF989	151 OTU	SOC 28.9.44
AF990	247/534/55 OTU/ 10 Gp CF	SOC 24.11.44
AF991	FE	SOC 31.7.44
AF992	FE	SOC 28.9.44
AF993	ME/RATG	SOC 22.10.45
AF994	32	SOC 30.9.42
AF995	225/87/1623 Flt	SOC 23.5.44
AF996	FE	SOC 30.6.44
AF997	1449 Flt/59 OTU/ 5 PAFU	SOC 1.1.45
AF998	55 OTU/ME	SOC 1.4.44
AF999	151 OTU	SOC 28.9.44
AG100	151 OTU	SOC 28.9.44
AG101	486/318/59 OTU/ 63 OTU/2 TEU	SOC 27.5.44
AG102	1 IAF	Engine cut; undershot landing at Sapam, 17.8.43
AG103	1 IAF	SOC 14.10.44
AG104	486/253/55 OTU	SOC 22.5.44
AG105	55 OTU/ME	SOC 28.8.44
AG106	247/32/56 OTU/ 2 TEU	SOC 23.5.44
AG107	55 OTU/59 OTU	Abandoned after engine fire 2m E of Milfield, 6.8.43
AG108	-	SOC 7.11.41 for spares
AG109	151 OTU	Spun into ground in forced landing near Risalpur, 22.4.43
AG110	-	SOC 31.12.41
AG111	55 OTU/59 OTU/ 57 OTU	Collided with Spitfire P7902 and crashed near Wooler, Northumberland, 5.5.43
AG112	151 OTU	Collided with AG155 5m W of Prang, 24.11.42
AG113	-	SOC 31.12.41
AG114	59 OTU	Missing on training flight, 17.3.42
AG115	73 OTU/Aden Def Flt/3 SAAF	SOC 30.9.43
AG116	59 OTU/16 FPP	Engine cut on take-off, Silloth, 10.10.42
AG117	151 OTU	SOC 30.4.44
AG118	1/55 OTU	SOC 3.1.45
AG119	239/ME	SOC 1.1.44
AG120	301 MU	Engine cut; bellylanded at Malu, 18.7.42
AG121	59 OTU	Crashed after collision 2m S of Maryport, Cumb., 23.7.42
AG122	55 OTU/R-R/ Cv II/R-R	SOC 14.6.45
AG123	59 OTU	Hit wall in forced landing, Witches Knowe, Berwick, 24.6.43
AG124	56 OTU	Collided with P2799 near Forfar, Angus, 11.9.42
AG125	55 OTU	Collided with Z7077 and crashed in sea off Drumburgh, Cumberland, 8.7.42
AG126	151 OTU	SOC 31.8.44

AG127	239/FE	SOC 30.6.44
AG128	151 OTU	Hit bird on approach and crashed, Risalpur, 12.2.43
AG129	151 OTU	Stalled on approach, Risalpur, 19.11.42
AG130	253/MSFU/247	SOC 21.7.44
AG131	1 IAF	Crashed on ferry flight, Ragbunathpur, 24.10.43
AG132	55 OTU/3 TEU	SOC 23.6.44
AG133	239/59 OTU/ 56 OTU/1 TEU	SOC 12.10.44
AG134	56 OTU	SOC 7.12.44
AG135	151 OTU	SOC 23.9.44
AG136	151 OTU	Collided with Z4229 2m W of Peshawar, 13.5.44
AG137	FE	SOC 30.6.44
AG138	FW	SOC 28.9.44
AG139	AGS(I)/1 IAF	SOC 28.9.44
AG140	FE	SOC 31.7.44
AG141	245/181/43/ 56 OTU/FE	SOC 12.43
AG142	FE	SOC 30.6.44
AG143	151 OTU	Engine cut on take-off, Risalpur, 15.11.42
AG144	-	SOC 7.11.41
AG145	-	SOC 31.12.41
AG146	74 Wg/527	SOC 21.11.44
AG147	56 OTU/2 TEU	SOC 10.7.44
AG148	-	SOC 31.12.41
AG149	ME	SOC 1.3.44
AG150	486/55 OTU	Presumed collided with W9233; crashed at Brisco Hill, Longtown, Cumberland, 28.12.42
AG151	-	SOC 31.12.41
AG152	-	SOC 19.11.41
AG153	59 OTU/680/RATG	SOC 22.10.45
AG154	-	SOC 31.12.41
AG155	151 OTU	Collided with AG112 5m W of Prang, 24.11.42
AG156	Malta NFU	NFT 9.4.43
AG157	FE	SOC 1.8.43
AG158	FE	SOC 31.7.44
AG159	FE	SOC 30.4.44
AG160	56 OTU/2 TEU	SOC 11.7.44
AG161	151 OTU	Caught fire and crashed 8m W of Risalpur, 12.11.42
AG162	43/59 OTU/ 181/55 OTU	SOC 11.12.44
AG163	-	Lost at sea en route to ME 11.42
AG164	56 OTU	Flew into hill, Loch Rannoch, Perthshire, 9.8.42
AG165	245/55 OTU	SOC 22.5.44
AG166	59 OTU/7 PAFU	SOC 28.9.44
AG167	-	SOC 30.9.42
AG168	-	SOC 20.3.42
AG169	151 OTU	Hit tree low flying 2¼m SE of Khunda, Peshawar, 5.2.44
AG170	ME	SOC 28.8.44
AG171	56 OTU	Dived into ground near Lauder, Berwick, 29.6.43
AG172	-	SOC 28.11.41
AG173	151 OTU	Engine cut on approach, Akora, 22.1.44
AG174	55 OTU	SOC 27.5.44
AG175	MSFU/55 OTU	Collided with V7010 and crashed 10m SW of Carlisle, Cumberland, 27.12.43
AG176	-	Lost at sea en route to ME 11.42
AG177	1432 Flt	Hit tree and crashed 14m N of Kano, 18.12.42
AG178	1432 Flt	Dived into ground, Awba Hills, Nigeria, 19.6.43
AG179	55 OTU/ME	SOC 28.8.44
AG180	-	Hit by Anson taxying at Accra, 10.9.44
AG181	59 OTU	Engine cut; caught fire on approach and crashed, Milfield, 16.1.43
AG182	FE	
AG183	55 OTU	Crashed on take-off, Annan, 1.12.42

AG184	486/55 OTU	SOC 27.5.44
AG185	151 OTU	SOC 31.7.44
AG186	-	SOC 2.1.42
AG187	253/55 OTU/137	SOC 19.6.44
AG188	-	SOC 17.11.41
AG189	151 OTU	SOC 12.42
AG190	1449 Flt	Undershot landing at St. Marys, Scillies, 25.7.42
AG191	257/59 OTU/ 63 OTU/4 TEU	SOC 27.5.44
AG192	-	SOC 17.11.41
AG193	151 OTU	Dived into ground 4m SE of Mardan, NWFP, India, 16.2.44
AG194	71 OTU	SOC 1.11.43
AG195	247/55 OTU	Collided with W9151 and crashed ½m SE of Ecclefechan, Dumfries, 11.11.42
AG196	247/56	SOC 28.9.44
AG197	253/266/193/266	SOC 2.7.44
AG198	32/55 OTU/ME	SOC 28.8.44
AG199	87/55 OTU/ 56 OTU/41 OTU	SOC 18.5.44
AG200	301 MU	Overshot landing and overturned, Drigh Road, 8.7.42
AG201	FE	SOC 9.42
AG202	56 OTU/FE	SOC 28.9.44
AG203	74 Wg/527/4 TEU	SOC 22.5.44
AG204	-	SOC 28.11.41
AG205	116/245/87/193	SOC 29.5.44
AG206	FE	Crashed 14.12.43
AG207	1 IAF	SOC 1.3.44
AG208	59 OTU/287	SOC 30.9.43
AG209	ME	SOC 27.4.44
AG210	3/55 OTU/7 PAFU	SOC 16.11.44
AG211	MSFU/253/Kirton-in-Lindsey/55 OTU	SOC 25.10.44
AG212	1449 Flt/59 OTU	To 4515M 2.44
AG213	245/56 OTU/55 OTU	SOC 21.11.44
AG214	151 OTU	Flew into high ground 2m N of Marilai, 4.1.43
AG215	151 OTU	SOC 31.7.44
AG216	486/1	Engine cut; forcelanded 3m S of Collaton, Devon, 22.5.44
AG217	257/59 OTU/257	Hit building low flying, Broad Clyst, Devon, 30.9.42
AG218	73 OTU/FF Aden/ 3 SAAF	SOC 28.8.44
AG219	FE	SOC 31.7.44
AG220	-	Lost at sea during shipment
AG221	ME	SOC 28.8.44
AG222	-	Lost at sea 4.7.42
AG223	ME	SOC 1.3.44
AG224	MSFU/ME	SOC 1.4.44
AG225	55 OTU/59 OTU/ 56 OTU/2 TEU	SOC 18.5.44
AG226	FE	SOC 31.7.44
AG227	-	Lost at sea 6.41
AG228	-	Lost at sea 6.41
AG229	ME	SOC 15.8.44
AG230	-	Lost at sea 6.41
AG231	-	SOC 17.11.41
AG232	59 OTU/182/247	Undercarriage collapsed on landing, Redhill, 7.6.44
AG233	55 OTU/41 OTU	SOC 23.2.45
AG234	55 OTU/ME	SOC 1.3.44
AG235	151 OTU	SOC 31.7.44
AG236	43/111/59 OTU/ 63 OTU/4 TEU	SOC 22.5.44
AG237	247/32/55 OTU/ 41 OTU	SOC 22.5.44
AG238	55 OTU	SOC 27.5.44
AG239	1449 Flt	Engine caught fire; abandoned off Scillies, 13.6.42
AG240	55 OTU/247	Engine cut; crashed in forced landing, Cheriton Cross, Devon, 18.9.42; DBF
AG241	3/55 OTU/56 OTU	Crashed in forced landing, Lochee, Dundee, 13.6.43
AG242	55 OTU	Engine cut after take-off; crashed at Prestonfield, Dumfries, 2.9.42

AG243	151 OTU	SOC 2.6.43
AG244	ME/ RATG	SOC 22.10.45
AG245	87/286/59 OTU/ 5 PAFU	SOC 3.1.45
AG246	56 OTU/2 TEU	SOC 18.5.44
AG247	FE	SOC 30.6.44
AG248	59 OTU/55 OTU	SOC 7.12.44
AG249	71 OTU	Spun into ground 2m S of Moascar, 25.5.43
AG250	-	SOC 17.11.41
AG251	-	SOC 17.11.41
AG252	301 MU	Engine cut on test flight; bellylanded at Drigh Road, 17.9.42
AG253	3/55 OTU	SOC 27.5.44
AG254	RAE/286/RAE	SOC 22.5.44
AG255	59 OTU/1 AAS	SOC 24.2.45
AG256	73 OTU/FF Aden/ 3 SAAF	SOC 1.12.43
AG257	ME/ RATG	SOC 3.5.46
AG258	ME	SOC 28.8.44
AG259	RAE/56 OTU/2 TEU	SOC 18.5.44
AG260	FE	SOC 14.10.44
AG261	74 Wg/527	SOC 26.9.44
AG262	56 OTU/2 TEU	SOC 1.5.46
AG263	FE	SOC 28.9.44
AG264	32/55 OTU	Flew into hill in mist, Coniston, Cumberland, 25.4.43
AG265	253/609	Undercarriage collapsed on landing, Manston, 27.5.43
AG266	151 OTU	Crashed in forced landing in river 4m N of Paldor, NWFP, 2.8.44
AG267	-	Lost at sea en route to ME, 12.42
AG268	FE	SOC 14.10.44
AG269	1 IAF	SOC 14.10.44
AG270	-	SOC 17.11.41
AG271	-	SOC 17.11.41
AG272	-	SOC 17.11.41
AG273	-	SOC 17.11.41
AG274	56 OTU	Collided with Z7092 and crashed near Auchterhouse, Angus, 23.2.43
AG275	32/55 OTU	Flew into hill in mist, Coniston, Cumberland, 25.4.43
AG276	1432 Flt	SOC 28.8.44
AG277	257/59 OTU/5 PAFU	SOC 3.1.45
AG278	3/55 OTU/3 TEU	Ran away during run-up, Annan, 20.6.44; DBR
AG279	ME	
AG280	245/181/43/56 OTU	Crashed in forced landing near Tealing, 5.5.43
AG281	253/MSFU/9 Gp CF/ 41 OTU	SOC 18.5.44
AG282	253/55 OTU	Spun into ground, Studholme, Cumberland, 19.12.42
AG283	1 IAF	Collided with mast and spun into ground, Bangalore, 2.10.42
AG284	289/7 PAFU	SOC 9.12.44
AG285	FE	SOC 28.7.44
AG286	1 IAF/1 AGS(I)/151OTU	SOC 4.10.44
AG287	-	To RCAF as 1374
AG288	ME	SOC 28.8.44
AG289	56 OTU/FE	SOC 30.6.44
AG290	59 OTU	To 4518M 2.44
AG291	FE	SOC 30.6.44
AG292	Cv IIC	To Admiralty 14.9.42
AG293	-	To RCAF as 1377
AG294	-	To RCAF as 1368
AG295	-	To RCAF as 1375
AG296	-	To RCAF as 1376
AG297	128	SOC 31.5.45
AG298	Cv IIB	To Russia 6.7.42
AG299	-	To RCAF as 1378
AG300	-	To RCAF as 1380
AG301	Cv IIB	To Russia 19.8.42
AG302	-	To RCAF as 1379
AG303	-	To Russia 24.9.42
AG304	-	To RCAF as 1372
AG305	-	To RCAF as 1364
AG306	-	To RCAF as 1366

AG307	-	To RCAF as 1367
AG308	-	To RCAF as 1371
AG309	-	To RCAF as 1363
AG310	-	To RCAF as 1362
AG311	-	To RCAF as 1365
AG312	-	To RCAF as 1361
AG313	-	To RCAF as 1365
AG314	-	To RCAF as 1358
AG315	-	To RCAF as 1354
AG316	-	To RCAF as 1357; later 3580M
AG317	-	To RCAF as 1353
AG318	-	To RCAF as 1355
AG319	-	To RCAF as 1352
AG320	Cv IIB	To Russia 24.8.42
AG321	Cv IIB	To Russia 19.8.42
AG322	Cv IIB	To Admiralty 8.12.42
AG323	-	To RCAF as 1351
AG324	Cv IIB	To Russia 23.9.42
AG325	-	To RCAF as 1359
AG326	-	To RCAF as 1373
AG327	-	To RCAF as 1369
AG328	Cv IIB	To Russia 19.8.42
AG329	Cv IIB	To Russia 19.8.42
AG330	-	To RCAF as 1370
AG331	Cv IIB/2 IAF	SOC 30.6.44
AG332	-	To RCAF as 1360
AG333	Cv IIB	To Russia 24.9.42
AG334	Cv IIB	To Admiralty 12.9.42
AG335	Cv IIB	To Admiralty 12.9.42
AG336	Cv IIB	To Russia 29.7.42
AG337	6 IAF	SOC 14.10.44
AG338	2 IAF/607/20	Missing 5.10.43
AG339	Cv IIB	To Russia 24.8.42
AG340	Cv IIB	To Admiralty 2.9.42
AG341	Cv IIC/ME	
AG342	20	Missing from tactical reconnaissance, 18.2.44
AG343	Cv IIB	To Russia 24.8.42
AG344	Cv IIB	To Russia 21.9.42

* * * * * *

320 North American Mustang Is delivered between November 1941 and May 1942

AG345	-	SOC 3.12.46
AG346	AST/225/63/26/41 OTU/16/168	Shot down by flak near Gace, 20.8.44
AG347	4	Crashed in sea 8m NE of Scarborough, Yks., 9.12.42
AG348	-	SOC 30.11.44
AG349	RAE/430	SOC 30.11.44
AG350	41 OTU	Hit Tomahawk AH771 on landing, Oatlands Hill, 30.5.42
AG351	AAEE/239/414/239	SOC 7.11.44
AG352 to AG354	-	To Russia 14.5.42
AG355	241/400/231	SOC 19.8.44
AG356	AFDU/241/168/268/239	Crashed on take-off, Hornchurch, 14.9.43
AG357	AAEE/RAE/595/RAE	SOC 31.7.47
AG358	26/2/41 OTU	SOC 20.9.44
AG359	AAEE/41 OTU	SOC 9.44
AG360	AFDU/FIU	To 3089M 5.42
AG361	4/16/26	SOC 18.6.45
AG362	41 OTU/168/1 FP	Crashed in forced landing, Llancarfew, Glam, 24.2.45
AG363	41 OTU	Engine cut; crashed near Timperley,Cheshire, 6.4.43
AG364	26/414/239/63/2/4/41 OTU	SOC 27.9.44
AG365	AFDU/613/169/26/239/41 OTU	SOC 28.2.47
AG366	26/285	Caught fire and dived into ground, Cranham, Essex, 6.4.45
AG367	26/41 OTU	SOC 1.4.44
AG368	41 OTU	SOC 24.8.44
AG369	63/1471 Flt/41 OTU/231	Engine cut on take-off, Woodchurch, 15.8.43
AG370 to AG373	-	Lost at sea en route to UK
AG374	CFS/AAEE/Hdlg Sqn	SOC 14.11.45
AG375	414	Damaged by Fw 190 and ditched off Dieppe, 19.8.42

AG376	414/16 FPP	Bellylanded after engine failure 4m NNE of Ellon, Aberdeenshire 24.3.44
AG377	AAEE/430	Missing 21.6.44
AG378	41 OTU	SOC 29.6.44
AG379	41 OTU	SOC 10.6.44
AG380	41 OTU	SOC 18.9.44
AG381	41 OTU	Hit by AL961, Oatlands Hill 16.8.42
AG382	41 OTU	Overturned on landing, Poulton 17.6.43
AG383	41 OTU/309/26	Forcelanded while lost in bad weather, S.Beveland, Netherlands 28.4.45
AG384	16/169/16/4/41 OTU/1 FP	Bellylanded at White Waltham, 1.7.44
AG385	41 OTU	Crashed on landing, Poulton 14.8.43
AG386	AAEE/286	Flew into hill in bad weather, Bargrennan, Wigtown 10.4.43
AG387	26/41 OTU	To 3052M
AG388	41 OTU	Failed to recover from roll near Ringwood, Hants 26.7.42
AG389	241/168/170/309/168	SOC 9.10.44
AG390	16/169/231	SOC 27.9.43
AG391	41 OTU/170/41 OTU/RAE	Crashed on landing and swung into trees, Farnborough 3.8.45
AG392	2/241/400/26/63	SOC 19.12.44
AG393	RAE	SOC 24.4.46
AG394	26	SOC 26.10.44
AG395	RAE/16/400/168/285	SOC 13.4.45
AG396	241/41 OTU	Swung on take-off and hit Tomahawk AK159, Oatlands Hill 27.6.42
AG397	430/414	SOC 28.11.46
AG398	2/4/63/309/16	Abandoned after engine cut 8m W of Anglesey 16.5.43
AG399	26	Missing from reconnaissance, 16.7.42
AG400	241/309/2/171/41 OTU	Flew into high ground in cloud, Denbigh 14.2.43
AG401	2/41 OTU/168	Ran out of fuel and crash-landed in Normandy, 22.8.44
AG402	241/41 OTU	SOC 9.44
AG403	2	Hit AG488 on take-off, Sawbridgworth 9.5.42
AG404	2/241/400/41 OTU	SOC 29.6.44
AG405	241/2/41 OTU	SOC 8.3.45
AG406 to AG410	-	Lost at sea en route to UK
AG411	-	To 2978M 3.42
AG412	268	SOC 7.1.47
AG413	268	Missing from reconnaissance off Dutch coast 29.7.42
AG414	225	Hit HT cables and crashed near Macmerry, 1.10.42
AG415	26	Crashed during attack on barges near Le Touquet 14.7.42
AG416	268/414/306/303	SOC 24.8.45
AG417	239/170	Missing near Evreux 6.8.43
AG418	26	Missing (Dieppe) 19.8.42
AG419	225/516/41 OTU/309/26	SOC 18.6.45
AG420	26/414/239/63/231	SOC 29.11.45
AG421	26/63/2/41 OTU	SOC 27.9.44
AG422	AFDU/4	Missing (Alkmaar airfield) 7.7.43
AG423	241/2/241/170/309	SOC 1.12.44
AG424	241/41 OTU/430	SOC 11.12.44
AG425	241/41 OTU/29 Wg/414/309/26	SOC 14.6.45
AG426	4	Missing in bad weather near Dreux, 25.9.43
AG427	268/168	Hit by flak and crashlanded 10m N of Sees, Normandy 22.6.44
AG428	-	Both lost at sea
AG429	-	en route to UK 17.2.42

propellers, many without spinners. Approximately the first 100 machines built with eight-gun wings, the remainder with Mk. IIB twelve-gun wings, but many subsequently equipped with four Oerlikon 20-mm guns. Some aircraft were retained in Canada and served with the RCAF, 1940-42.

No. 1 Squadron, RCAF (later No. 401 Squadron), Northolt, 8/40-9/40; all with 8-gun wings:
AE960 ("W"), AE966 ("A"), AE974 ("C"), AF990-AF992, AG108-AG112, AG667 ("L"), AG670.

No. 1 (F) Squadron, Hawkinge, 5/41; 12-gun wings:
AG118, AG216 ("O"); Tangmere, 1942; intruder with 4-cannon wings: AG118.

No. 43 (F) Squadron, Tangmere, 6/42; anti-shipping strikes; 4-cannon wings:
AF961, AG236.

No. 56 (F) Squadron, 2/41; 12-gun wings:
AG196, AG248 ("B").

No. 182 (F) Squadron, 1942; 12-gun wings:
AG159 ("O"), AG232 ("P").

No. 527 (Calibration) Squadron, Hornchurch, 10/43; armament removed:
AG146.

No. 607 Squadron, AAF, Manston, 2/42; daylight sweeps; fighter-bomber with 12-gun wings:
AG338.

No. 680 (PR) Squadron, Communications Flt., Cyprus, 9/43; tropical aircraft, guns removed:
AG513.

No. 1432 (Army Co-operation) Flt., tropical aircraft with 8-gun wings:
AG177 (Oshogbo, Nigeria, crashed 12/12/42); AG276 (Kano, Nigeria, 1942-43).

Other aircraft converted to take 12-gun wings at No. 13 MU, Henlow:
AG277, AG301, AG341, AG344, AG671, AG680.

Aircraft serving with RCAF, Canada (RCAF nos. in brackets):
AG299 (1378), AG310 (1379).

No. 55 OTU, 1941; 8-gun wings:
AG237, AG253, A267.

No. 59 OTU, 1941; 8-gun wings:
AG123, AG212, AG245.

THE HAWKER CANADIAN HURRICANE MARK X.

Third production batch of 149 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1941. *AM271-AM369, BW835-BW884.* Packard-built Merlin 28 engines. Aircraft built with eight Browning gun wings but many later modified with twelve-gun or four-cannon wings. Some aircraft retained in Canada for service with the RCAF.

No. 1 (F) Squadron, Tangmere, 1942; intruder fighter with 4-cannon wings:
AM280.

No. 43 (F) Squadron, Tangmere, 1942; intruder fighters with 4-cannon wings:
AM311 ("X"), AM315 (took part in Dieppe operation, 19/8/42).

Aircraft converted to take 12-gun wings at No. 13 MU, Henlow:
AM271, AM301, AM302, AM349, AM367, BW870, BW883.

Aircraft shipped to Russia, 1/42:
AM367, BW835, BW851, BW878, BW879.

THE HAWKER CANADIAN HURRICANE MARK XI

Fourth production batch of 150 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1941-42. *BW885-BX134.* Many aircraft later modified to take 12 Browning guns or 4 Oerlikon or Hispano cannon. Some aircraft retained for service with the RCAF in Canada.

Aircraft converted to take 12-gun wings at No. 13 MU, Henlow:
BW901, BW906, BW907, BW914, BW919,

BW941, BW944, BW948, BW962, BW963, BW967, BX125, BX128, BX133.

Delivered to No. 22 MU, Silloth, with 4-cannon wings for despatch to Russia, 1942:
BW920, BW922, BW926, BW984, BX102, BX108-BX111, BX119-BX124.

THE HAWKER CANADIAN HURRICANE MARK XII

Fifth production batch of 248 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1942. *JS219-JS371, JS374-JS420* (with 12-gun wings); *JS421-JS468* (most of these aircraft equipped with 4-cannon wings in the United Kingdon, 1943).

No. 59 OTU, 12/43; 12-gun wings:
JS330.

Delivered to No. 22 MU, Silloth and Packing Depot, Sealand, for despatch to Russia; 12-gun wings:
JS220, JS221, JS225, JS227, JS228, JS233, JS240, JS256, JS300, JS391, JS396-JS399, JS405-JS412, JS415, JS419.

Delivered to No. 13 MU, Henlow and Packing Depot, Sealand, for despatch to Russia:
JS219, JS229, JS232, JS235, JS237, JS241, JS257, JS309, JS317.

THE HAWKER CANADIAN HURRICANE MARK XIIA

Sixth production batch of 150 aircraft built by the Canadian Car and Foundry Corporation, Canada, during 1942. Packard-built Rolls-Royce Merlin 29 engines driving 3-blade Hamilton Hydromatic propellers. Most aircraft built initially with 8-gun wings, but some subsequently modified with 12-gun and 4-cannon wings. *PJ660-PJ695, PJ711-PJ758, PJ779-PJ813, PJ842-PJ872.* Most aircraft despatched direct to Russia or to Burma at end of 1943; few sent to the United Kingdom, 1943. Small number was fitted with deck landing equipment for use by the Royal Canadian Navy as the Sea Hurricane Mark XIIA.



#5638

PL 21895



PL 21880

Ray Faux Photos

Shizuo

#1380 (42sf MKI

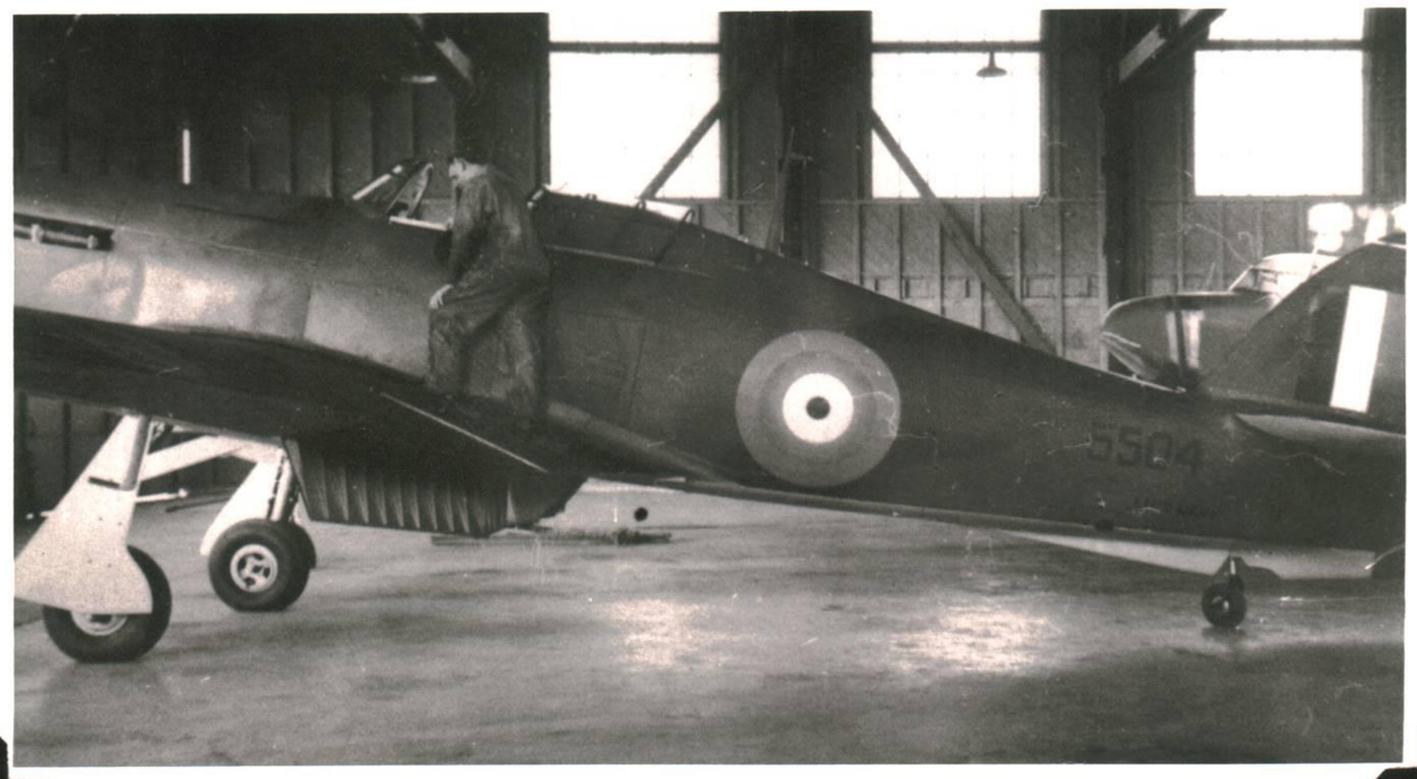


BW 853

Photos Brigham
from D. Binns
CY-JG



#5403

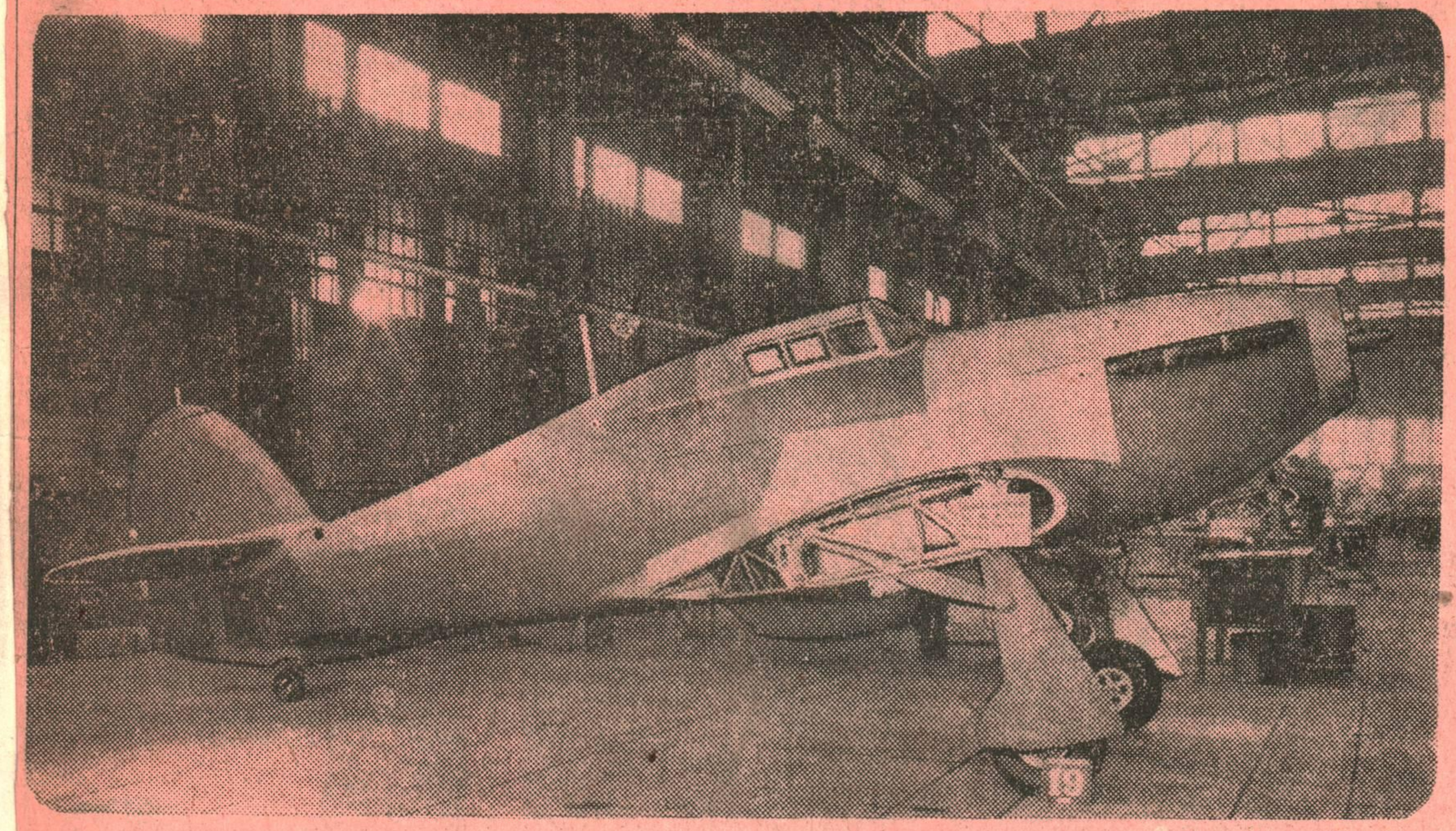


#5504

Photo Brigham
from D. Binns
CY-IG



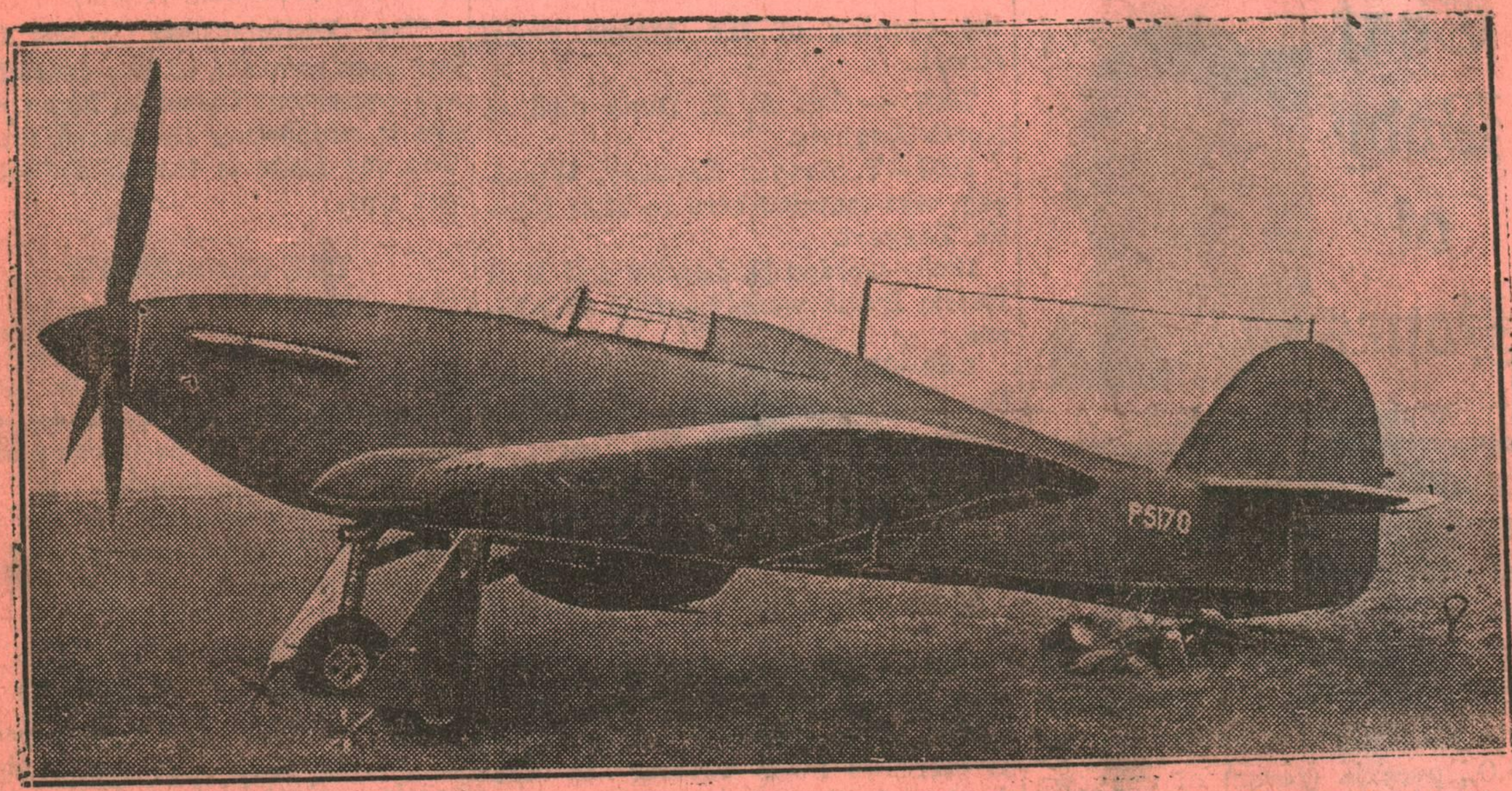
Earnest of Canada's Role In War



This picture, taken a few days ago, shows in partially completed state, the first Hawker "Hurricane" fighter plane constructed in Canada. Today the machine, built for the British Air Ministry by the Canadian Car & Foundry Company, Ltd., was flown in successful tests.

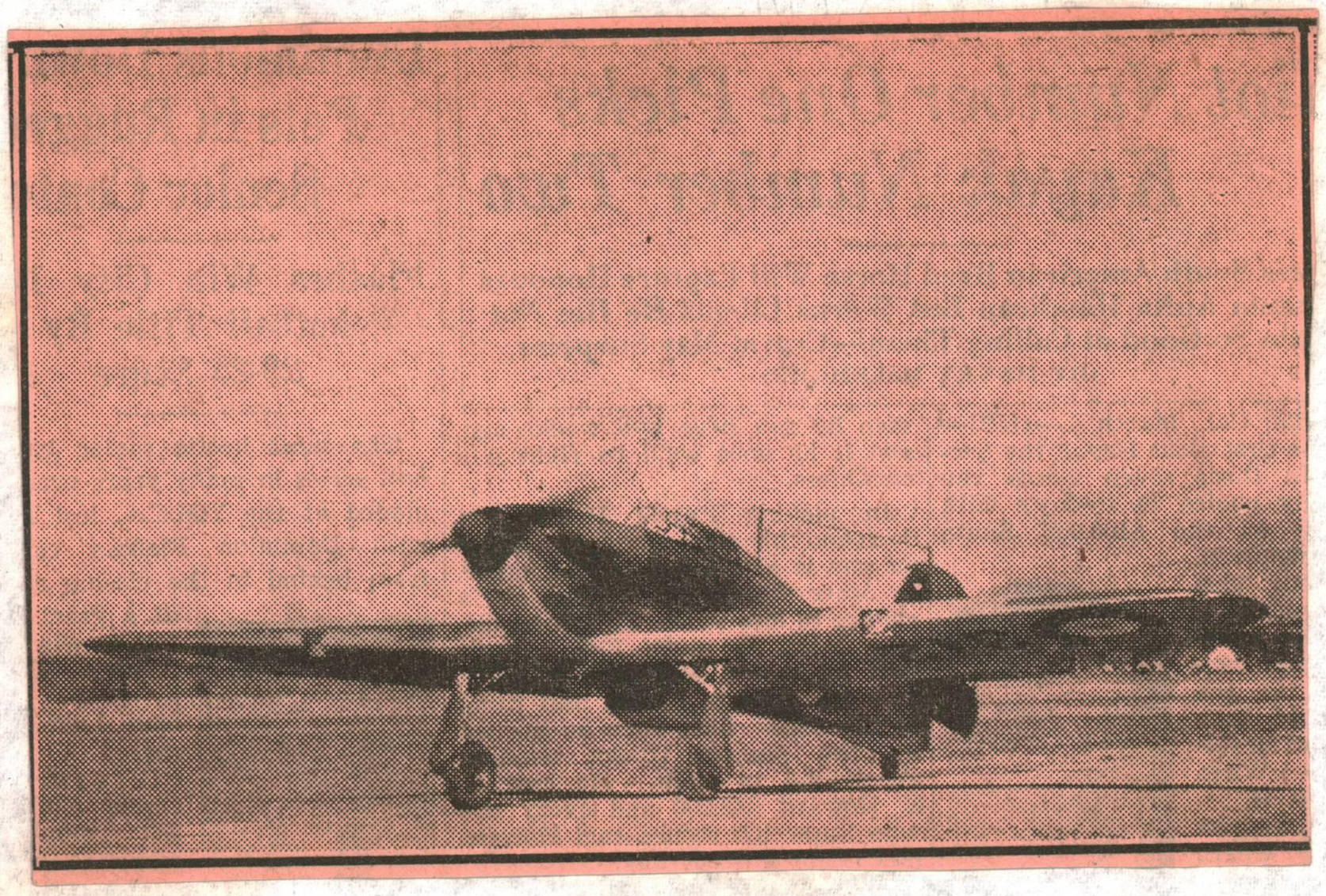
The "Hurricane" is one of the types of fighting planes which Royal Air Force fliers have shown to be comfortably superior to the best Germany has to offer. They are armed with eight machine guns, mounted four in each wing, have a speed of 335 miles per hour, and can climb to 20,000 feet in nine minutes.

Test First Canadian-Built Hurricanes



Roaring over a Canadian city was a trim, single seater fighting plane. It was Canada's first Hawker Hurricane, undergoing tests. "Shorty" Haddon was at the controls of the pursuit ship, first off the line. Citizens stared as the craft sped through its manoeuvres. It is part of a contract for the British air ministry.

J. Beilby 200





T. Bailey 201

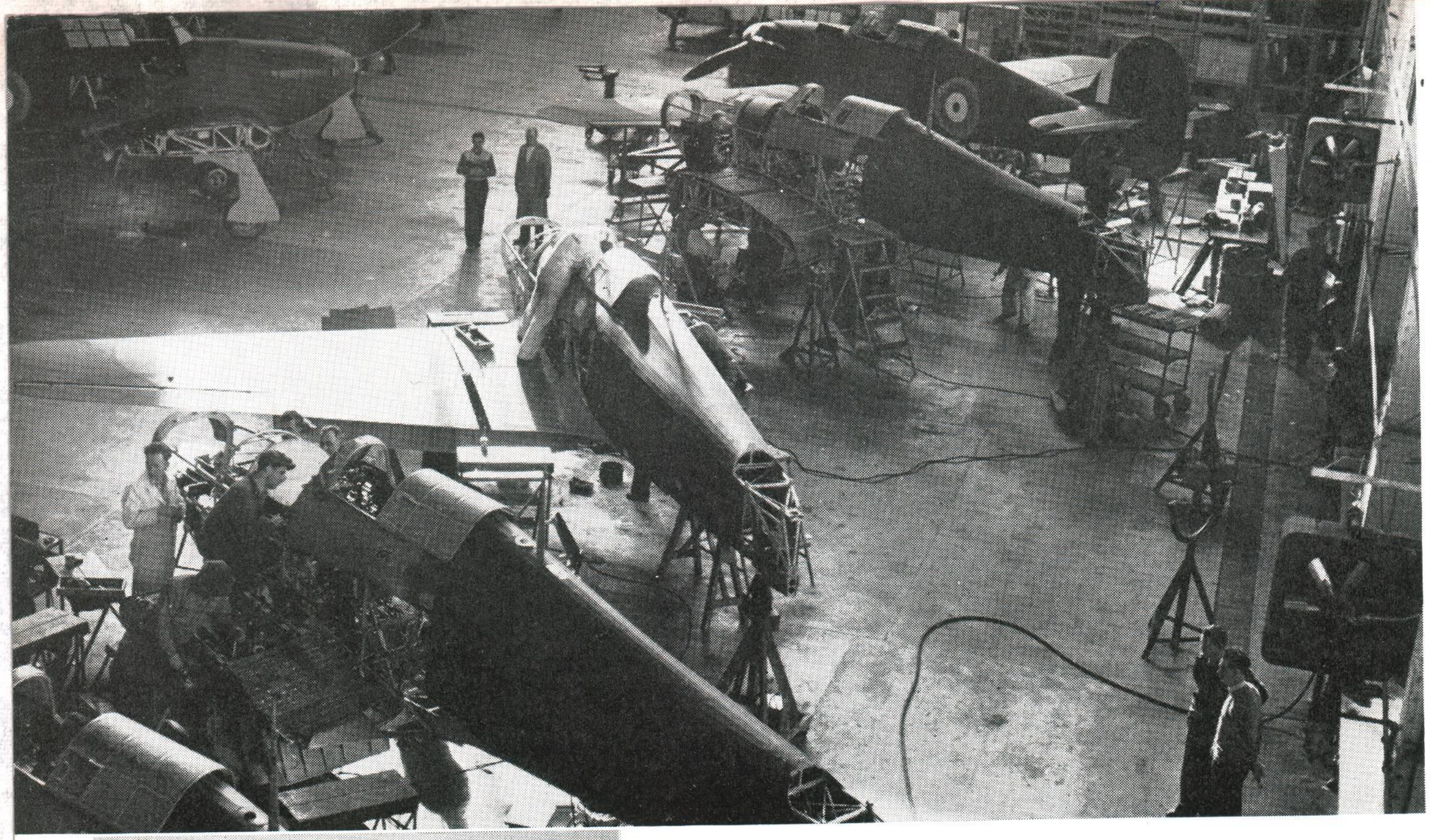
T. Beilby 203

AF964

Part of the assembly line in the Hurricane plant of Canadian Car and Foundry Company, Limited, at Fort William. Fifteen planes are turned out of this factory, each week, for shipment to Great Britain. Some idea of the hand-work required in the manufacture of modern fighting planes may be gained from this general view of the sheet metal workers' benches in this plant.



T. Beatty 204



Hawker Hurricane fighters on the assembly line
at Fort William, Ontario

Ready for the test flight

Twin-engined Avro Ansons on the assembly line
at Amherst



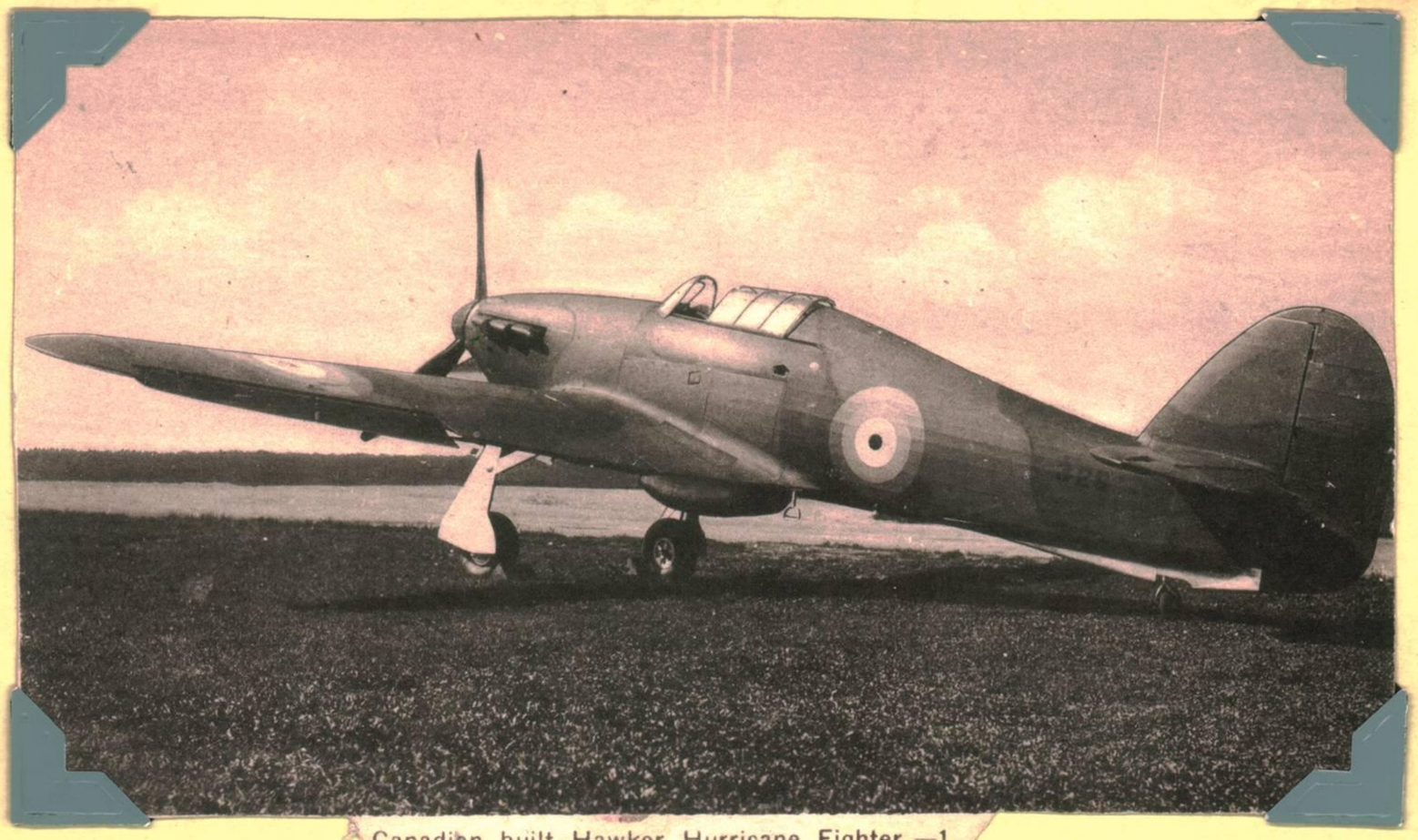
Shorty Hatton



Photo
F. Hotson
from
W. Wheeler

Hurricane I # 315

A. Sands.



Canadian built Hawker Hurricane Fighter.—1.



Squadron Leader E. A. McNab (now Group Captain McNab, O.B.E., D.F.C.) about to take off in one of No. 1 Squadron's Hurricanes from Ottawa to St. Hubert. Top speed of this aircraft was 335 m.p.h. at 18,500 ft.

IN THE AIR—XX

The Hurricane

First of the Modern Fighters : Safe and Solid Qualities : Some Memories of the Different Versions

By "INDICATOR"

IT would be pleasant to be able to think that I had flown the Hawker Hurricane right through its life, from the original fixed-pitch fabric-winged version to its final heavily loaded maid-of all-work form. Unfortunately it wouldn't be true. By the time I had got round to the point of being even comparatively safe in such over-powered military devices, the war had started and the old fixed-pitch type had already given way to a two-pitch version—though still with fabric-covered wings. That was late in 1939, and my last experience of the type—except for occasional flights in odd and sometimes very ancient Hurricanes which had somehow until then remained hidden in hangars—was in 1943 with the II C, carrying four cannons and long-range jettison tanks.

But with the possible exception of the multitude of Spitfire variants, I think I came to know the Hurricane and to like it as well as any other wartime aircraft. It always seemed to be such a good, solid sensible affair, which took everything—whether heavy handling by pilots or overloading by designers who had been asked to provide just that little bit more—without a murmur. Furthermore, it was the Hurricane which really did most of the work in the Battle of Britain days.

From the point of view of the not too skilled or experienced pilot, the Hurricane had a number of outstandingly good qualities. In the first place, one could see out of it well, both while in the air and on the ground, while the very considerable flap area not only provided plenty of drag to simplify the approach, but also gave the aircraft a gliding attitude which permitted the pilot to see straight ahead over the nose almost to the moment of touch-down. Because of the healthy flap area it was much less sensitive to an excessive approach speed than the Spitfire, and the comparatively wide-track undercarriage permitted rather greater liberties, both while landing and while taxying on rough or soft surfaces. By contrast, the stalling characteristics were undoubtedly a little less forgiving than those of the Spitfire; when really stalled the Hurricane quite firmly dropped a wing. Nevertheless, it could possibly stand rather more in the way of strike damage and lost panels in the wing without showing any very marked deterioration in its flying qualities. During cannon testing operations we were repeatedly either losing gun-panels complete or suffering unfastened buttons which caused the corners of these panels to lift up when diving—yet arrival difficulties were seldom experienced, and only when a really vast area of gun panel chose to disappear in the air was the wing concerned likely to stall early.

The earlier Hurricanes had, in addition to the gated five-position selector lever for the flaps and undercarriage, a form of the then-common hydraulic power control. This could be something of a nuisance since, after selecting either flaps or undercarriage, it was necessary to hold this lever down with one's right hand while organizing a take-off or approach. The throttle could not, consequently, be moved at the same time, and "stick" flying with one's left hand is, in any case, never a very accurate affair.

Incidentally, many of the first two-pitch Hurricanes had, for the airscrew control, a normal c.s. lever instead of the customary plunger affair. During my first flight, and in my ignorance of the fact that it *was* a two-position airscrew, I accordingly endeavoured to set the revolutions at some particular cruising figure, and was annoyed when this continually varied one way or the other. The fact that the revolutions could be made to stay constant even for brief periods in an intermediate setting of a two-pitch airscrew was an interesting phenomenon, and showed how the very first "bracket" type of constant-speed conversion might have been born.

On test work with the Hurricane lateral trimming was equalized in the usual way by doping lengths of cord on the trailing upper-edge of one aileron. After a few score of hours, and considerable experience with different shades of trimming error, we became quite expert at guessing the length of the cord required. One simply came

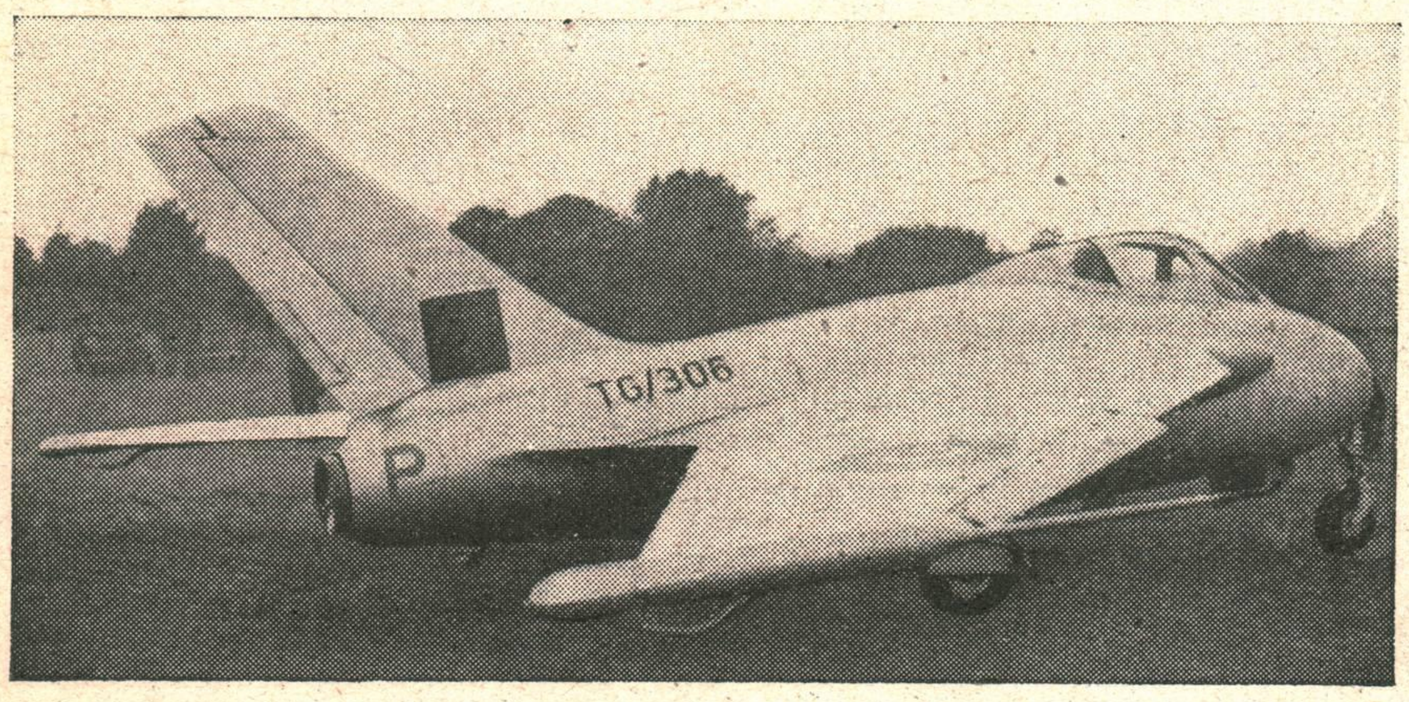


The eight-gun Hurricane of the 1940-1941 era; earlier versions of the type had fabric-covered wings and, in a few cases, two-pitch airscrews immediately following the fixed-pitch initial era.

ECHOES OF RADLETT

finest demonstration of classic aerobatic manœuvres yet seen.

Watching Humble one could not help recalling the sensational performance of the Fury biplane in the old Hendon displays. At that time it was often said that

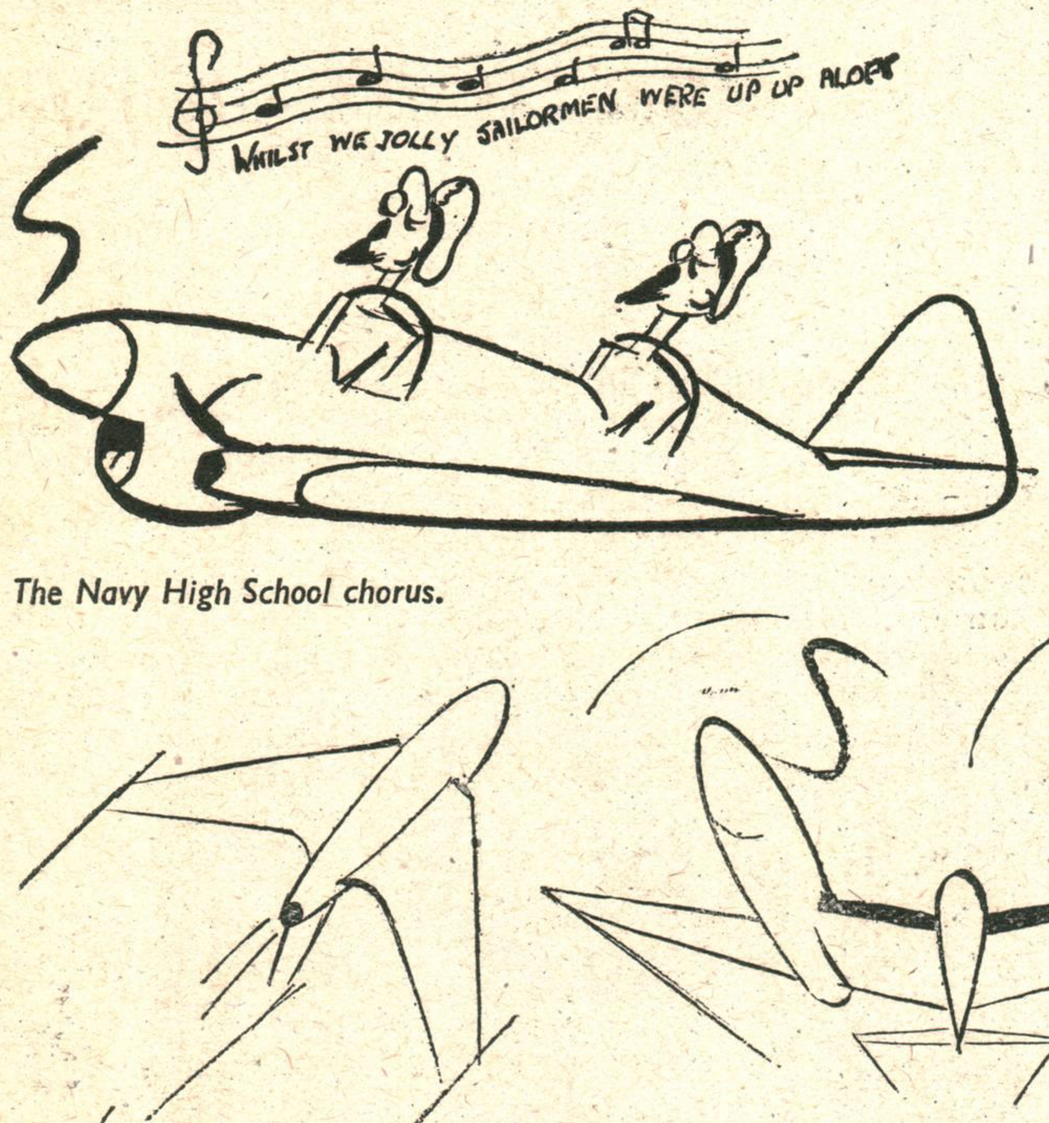


Mr. Roy Chadwick in earnest discussion with the Marquis Camden.

The second D.H.108 high-speed research aircraft which is already flying at least as fast as the Vampire.



"the days of aerobatics are over." How many people would have believed that within fifteen years a tailless jet-propelled machine—the D.H. 108—would be flying at speeds approaching 600 m.p.h. and performing loops, rolls and aileron turns with all the *éclat* of the old Fury. Piloting has kept pace with progress.



The Navy High School chorus.

The Hornet depressed me—or rather my hat—on its first beat up.

Ever your Humble aerobatic servant.

Radlett Follies

By Charles Sargeant

Like a bat out of H——atfield.

Ken Waller gives the crowd a close-up of the Aerovan.



Typical of the later Hurricanes in the long series—the cannon-armed II C. Other variants of the II carried tank-busting cannons, twelve machine guns, and/or rockets, with overload tankage to taste.

down and said: "Four inches on the port aileron," or "Seven inches on the starboard aileron," as the case may be, and we learnt to be right first time.

The earlier Hurricanes had no means of manual rudder-trim adjustment, and during test flights it was necessary to organize a nice compromise in directional trim. Since in the dive it was hardly possible to move the rudder to any appreciable extent, a badly out-of-trim Hurricane would tend to travel crabwise, so the rudder was trimmed to give straight flying at the highest speeds and almost regardless of take-off conditions. In fact, during take-off it was perfectly easy to hold any resultant torque-reaction swing.

Retraction Troubles

At one stage, at least in some production series of the type, minor trouble was experienced with undercarriage retraction. The legs were directed into the finally correct "up" position by means of fibre guides. There was necessarily a certain amount of fore-and-aft play at the undercarriage hinge points, and the legs would not always pass the guides and so permit the stirrup to be locked home. The whole thing seemed to be very much a matter of hydraulic urge, and if the filter in the system was removed, the undercarriage legs snapped up sufficiently rapidly to overcome all resistance. But we had to adjust matters so that they would snap up *with* the decelerating effect of the filter.

On one occasion, I remember, new slotted plates had been fitted to cover the "up"-lock catches and the aircraft was accidentally flown without a retraction test. It happened that the slots in these plates did not quite register with the undercarriage stirrups, and when the legs were retracted one went fully home after breaking through the plate, while the other one remained comfortably unlocked. Consequently, when "down" was duly selected, only one leg would move and the other just remained up, since its stirrup had jammed in the cracked plate. After preparing for a belly-landing, one final attempt was made to release the leg by means of the hand pump. In order to obtain the maximum pump purchase, I undid my Sutton harness, opened the hood and practically stood up in the cockpit. By virtue of the immense latent power of hydraulics, the leg released itself.

Amongst the more pleasant and entertaining trips made in Hurricanes were those involved in cannon and fuel consumption testing—both of which were often done at the same time. Apparently, an early attempt to deliver long-range Hurricanes from the deck of a carrier was not too successful; for various reasons the aircraft were flown off rather before the originally estimated time, but with a theoretically ample margin, and a number of Hurricanes failed to reach land. Thereafter, many Middle East Hurricanes were given consumption tests at recommended figures which were, at one time, 2,000 r.p.m., and zero boost at 2,000ft. The aircraft were flown for an hour by stop-watch on the main tanks only—after the take-off, climb and any other necessary testing had been completed on the fuel in the fuselage tank. The mains were then topped up and the amount needed was measured. Which sounds a fairly primitive method, but it worked well.

Constant-level Mountaineering

As far as I was concerned, these consumption tests were made for the most part in the North Wales area, and we soon discovered ways and means of flying safely through Snowdonia without being forced to exceed the stipulated altitude. Some reasonable navigational care was necessary, since, obviously, if the time of the trip exceeded by a very great margin the hour's flying, one ran out of fuel in the top tank, and it was necessary then to return to the mains—thus ruining the test. But we found that we could fly comfortably from the Chester area to Braich-y-pwll and back.

Although the use of jettison tanks involved quite a considerable increase in take-off weight, and the addition of a fair amount of drag, these tanks made little or no difference either to the take-off run or to the normal flying characteristics. Occasionally one of them would fall off, through maladjustment of the release gear, during the final pre-take-off bounce, or during a heavy landing, but even this was not particularly disturbing—except to the fire-tender crews who raced towards the wrecked tank and covered it with foam.

The early wing tanks fed their fuel by means of immersed electric pumps. Since electricity can sometimes be a doubtful quantity in any machine as vibration-worthy as an aircraft, the supply occasionally failed. There was then, of course, no means of obtaining the life-saving fuel, which sat uselessly in its tank under the wing and almost within reach. Later systems were organized in which the pressure side of the vacuum pump was used to transfer the fuel.

During the more critical stages of the preparations for the North African campaign, the priority labels on our long-range Hurricanes were such that we were very often flying these consumption tests until near-night landings had to be made on a very rough-and-ready flare path. It always seemed a pity to spoil a test when another five minutes would enable one to complete it; yet, even though it might appear to be moderately light at 2,000ft, it was disturbing to realize that the ground would be in almost total darkness.

Once again, it is interesting to remember how an aircraft, which at one time we considered to be most "advanced" and even difficult, could eventually be treated with the utmost abandon. In the end we were using Hurricanes for weather tests and for any other odd jobs—including the collection and delivery of urgent stores items which were packed in the gun bays. One found, too, that with regular day-to-day flying it was possible to put them down in small spaces with the accuracy and ease of Tiger Moths and other biplane types. *Sic transit gloria mundi.*

CORRESPONDENCE

The Editor does not hold himself responsible for the views expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters.

"THEIRS IS THE GLORY"

The Arnhem Film Premiere

ABOUT the première of the film "Theirs is the Glory" at Arnhem, on September 17th, in the Luxor cinema, I can tell you some interesting news.

The tickets for that première are made from aluminium sheet off the gliders. The programmes are made from parachute silk on which particulars about the première are printed.

Further, a very important fact is that the city of Arnhem has the name of the most damaged city of the Netherlands, but is only the name. The village of Oosterbeek, about 5 kilometres to the west of Arnhem, is more damaged and plundered by S.S. than is Arnhem.

The Airborne Cemetery is also in Oosterbeek. Children of the school in Oosterbeek take care of the graves, and they do that very well; the cemetery looks very well with the host of flowers. In some English papers we read that Arnhem children do this honourable work, but that is not true. The Oosterbeek children say, "The 1st Airborne Division is *our* 1st Airborne Division."

The main part of the famous battle (the last part too) was in Oosterbeek, and you can see that very clearly when you visit the village. Arnhem has the name and Arnhem gets the gifts, but it is Oosterbeek that honours the Airborne boys.

Amsterdam. H. J. TEN ZYTHOFF, JR.

ENCOURAGEMENT FOR FOOLS

Design Competition Suggested

IT is interesting, when looking through the "big names" in the aircraft industry, to see how many of them started as amateur constructors building "back-garden" machines, and no doubt many of the future "big names" will, if given the opportunity, be born the same way. It is therefore very encouraging to see that the back-garden flyers, after seven years' dormancy, are beginning to sort out ways and means of reviving the ultra-lightweight movement, although there is a very great deal to be done before we shall see the post-war flivers take the air.

As pointed out by Risteard MacRoibin and R. W. Clegg, the first thing to do is to formulate a design. During the war years several of the unorthodox layouts have been successfully developed into practicable aircraft and helicopters, tandem monoplanes and pterodactyls have been added to the choice of layouts around which the designer may work. Each layout has advantages, each has disadvantages, and the final decision as to which is utilized depends largely on the purpose for which the aircraft is designed. For example, while the helicopter is suitable for spotting and similar duties, the complexities of the rotating wing aircraft make them unsuitable for amateur construction, so we are left with a choice between:

(a) tail first; (c) orthodox,
(b) tandem monoplane; (d) tail-less.

The amateur's aircraft must, due to the low power available, be as efficient as possible consistent with simplicity, and, in spite of the successes in classes (a), (b) and (d), it is doubtful whether they are really worth adopting for a standard "back-garden" design. It would appear that our best chance lies in having an orthodox layout in the design of which we have ample experience, and on which experimental data are available, but incorporating unorthodox features.

Pendulum rudder and elevator, "Flying Flea" type undercarriage, and other similar simplifications, can all be incorporated to reduce appreciably the amount of work involved without making the machine so unorthodox that prolonged development trials would be necessitated.

Risteard MacRoibin asks, seemingly in despair: "Where shall we find the designer?" Surely, if the aircraft manufacturers are incapable of designing (or do not wish to design) a really simple aircraft for the amateur, then the amateurs (who, after all, are the only people who really know what they want, or of what they are capable) should form their own design team, consisting of several draughtsmen, stressmen and aerodynamicists in various parts of the country, willing to devote a little of their spare time to the design work, which on a machine of about 20ft span, will not amount to a great deal.

I suggest that the initial design should be the result of a design competition, the winner being chosen by a committee consisting of several true-blue amateurs and representatives of the draughtsmen, stressmen and aerodynamicists. This committee would take into consideration soundness of the design, simplicity, economy of materials, and the amount of work put into the design (i.e., stressing, drawing, and performance calculations which will considerably reduce the amount of work that the design team will have to do).

As an alternative to the formation of our own design team, why not approach one of our technical colleges with a view to making the winning design in the proposed competition the subject for design students for one year? This should ensure that the design is in good hands.

While agreeing with Risteard MacRoibins' recommendation to read Mignets' "The Flying Flea," I would very much like to know where it is possible to obtain a copy, and also the "Practical Mechanics" series of articles on the Luton Minor. Possibly a "reformed" amateur could help.

GRAHAME K. GATES.

LORD TEDDER'S WARNING

Poor R.A.F. Recruiting is Air Ministry's Own Fault

EVERY reader of *Flight* will no doubt agree with the editorial reference to Lord Tedder's "outspoken warning" about the dangerous decline in the strength of the R.A.F. which appeared in your issue of September 19th. Most certainly it is necessary to attract the right type of man by making life in the Service as pleasant and as rewarding as an approximately parallel career in civil life.

But in addition to that, there is another way to get plenty of the right type of recruit—by encouraging the Air Training Corps, instead of, as at present, treating it as though it were an embarrassing liability.

At the close of hostilities it was emphatically stated by (presumably) responsible senior officers that the A.T.C. was to be the chief source of supply feeding the ranks of the R.A.F. Yet to-day its numbers have been allowed to fall to some 60,000 through the Air Ministry's chilly indifference.

Let the A.T.C. be given a guarantee that cadets will, provided they attain proficiency, be accepted into the R.A.F. and not bundled into the Army (or down a mine!) when called up, and we shall soon see the Corps begin to swell its ranks again. If the Air Ministry could also bring itself to provide the Corps with adequate equipment (including greatcoats in winter!), and, in fact, generally give it the same square deal Lord Tedder rightly demands for the R.A.F., then there would soon be waiting lists for both Services.

EX-A.T.C. INSTRUCTOR.

FOR THE BOOKSHELF

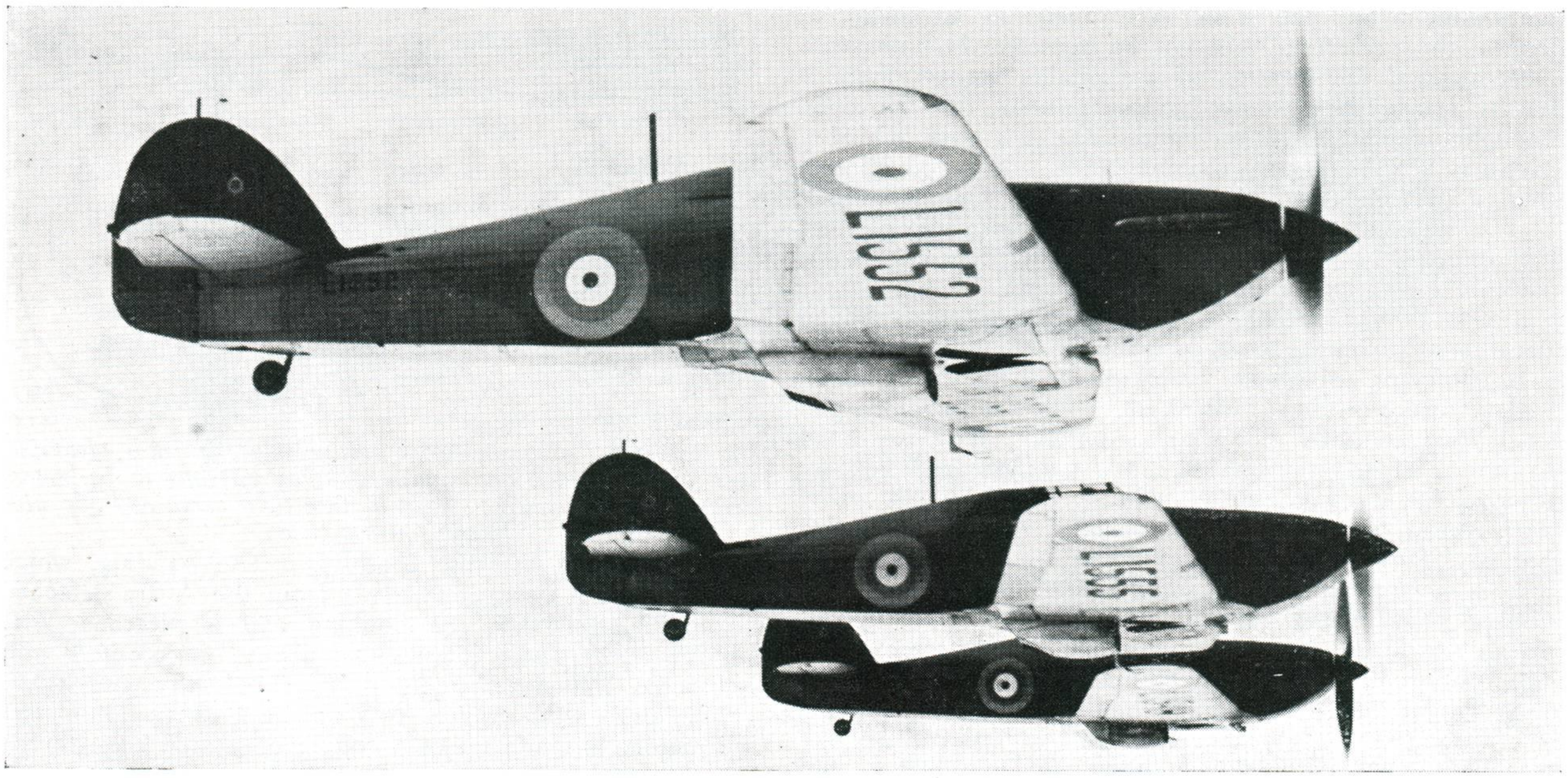
Saga of the Swordfish. By B. J. Hurren. William Clowes and Sons, Ltd., 3s 6d.

THE story of the Fairey Swordfish torpedo bomber—the "Stringbag" of such fond memory—has been told round the world but never in so complete and exemplary a manner as by B. J. Hurren in *The Swordfish Saga,* distributed by William Clowes and Sons, Ltd., for the Fairey Aviation Co., Ltd.

There is something here for all concerned with or interested in this almost legendary biplane—splendid photographs, accurate general-arrangement drawings for model makers, an outline of torpedoplane development in the Royal Navy and a string of anecdotes having that admixture of glory and humour which have marked the "Stringbag's" long career. The cover illustration—an oil painting of a Swordfish leaving the deck of a carrier—is one of the finest pieces of aeronautical art work we have seen.

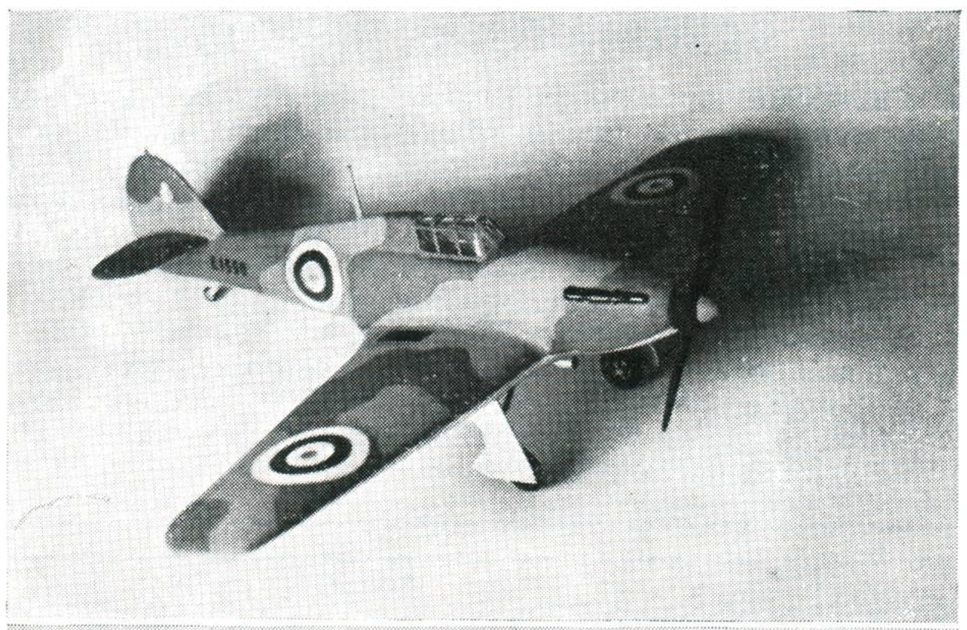
Particularly appealing is Mr. Hurren's account of how a Swordfish pilot made a one-man raid on an enemy rest camp in the desert. Shedding every unnecessary piece of equipment and dispensing with navigator and radio-operator, he instructed his armourers to load eight 250 lb bombs and flares. With ten 20 lb practice bombs on his lap he opened up the Pegasus, and the Swordfish trundled off into the blackness. Normal maximum flying time was reckoned to be four hours. After four and a half hours the ground crew became restless. After five hours they were sure the Swordfish was down. After five hours fifteen minutes a familiar rumble announced its safe return.

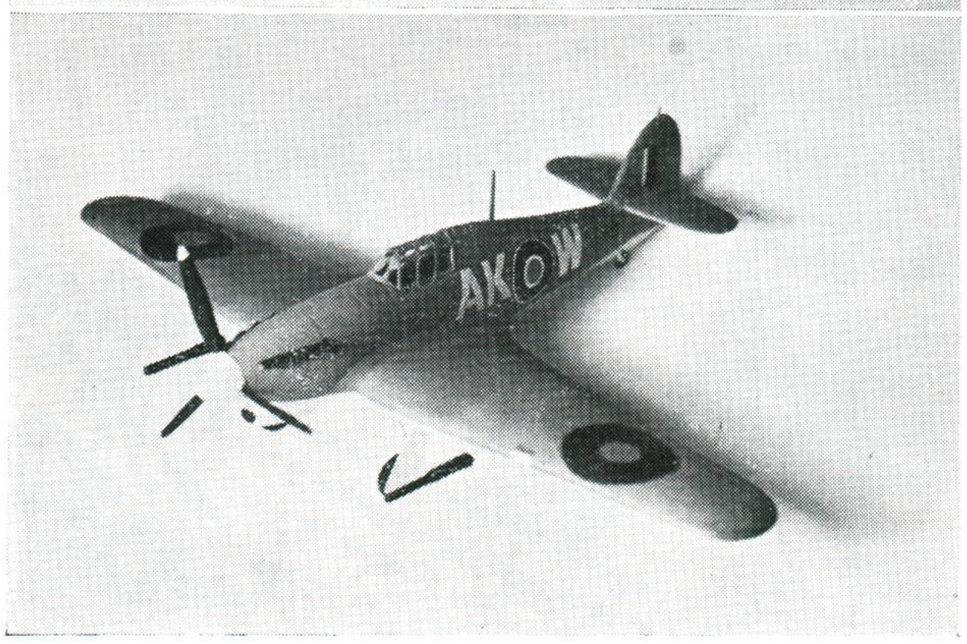
The pilot told how he had almost failed to take off with his overload, asserting that only by fortuitously hitting a bump in the ground had he become airborne. To check his account a Blenheim took off at dawn to observe the wheel marks from low level. They extended over a distance of 11¼ miles.



A variety of Hurricanes

ALAN W. HALL DESCRIBES HOW TO CONVERT THE AIRFIX HURRICANE INTO TWO DIFFERENT VERSIONS





THERE is little need to go into the history of the Hurricane. Several very good books are on the market which do the job in much greater detail than I can here. It is sufficient to say that the two marks chosen for my subject are both well known and, at the same time, important conversions that almost all modellers will want to try before they have been at the job long.

GOOD REFERENCE

So well known is the Hurricane that one has a vast choice of reference books from which to choose. I prefer two which, in my opinion, stand out above the others. These are Francis K. Mason's 'Hawker Hurricane', produced by Macdonalds in their Aircraft Monograph series, and another volume, also written by the same author but published by Kookaburra Technical Publications. The last-named book has the edge on the other as it only costs 7s 6d and has 1:72 scale plans from which to make accurate conversions. In fact, the drawings of the Hurricane reproduced in this article are adapted by the addition of a camouflage scheme from the Kookaburra plan, and I am indebted to Tony Shennan, who drew them, for permission to use them here. Not only are they accurate drawings, but every major variant is included.

CONSTRUCTION

The major difference between the Hurricane IV produced by Airfix and the Mark I is the two-bladed propeller, absence of rear fuselage ventral fillet and, of course, the markings. Minor variations, such as the shape of the exhaust stubs and radio

Left: *The complete Hurricane IId serialed BP* 128 *in the colours of No* 213 *Squadron used in the Western Desert*, 1941. Left, top: *One of the first production Hurricanes is this model used by No* 111 *Squadron in* 1938. Top of page: *Three Hurricane Is of No* 111 *Squadron on patrol during air exercises in* 1938. (Flight International photo.)

embankment and the track is arranged at an angle, as shown, the subterfuge will not be immediately noticeable.

Because of the location of the smaller station, there is hardly room for extensive goods facilities, but there are enough to make operation interesting for a lone modeller. There is a facing point into the goods siding and, though this is not considered good practice, it is not impossible. If the train turntable were dispensed with, though, the station could be re-arranged and a trailing point substituted for that shown.

The larger station has one platform and no bay, though there is room on the baseboard for an addition. But there is a factory or warehouse, which can be fitted where shown without overcrowding. Further on, a full-size turntable and small shed fit neatly into a corner position. It is very usual to have a bridge disguising the entry to a curve and, because it is useful, I can't quarrel with it. But you will notice that instead of the usual road bridge I have introduced a footway. This is slightly more original and, what is important, is more practical on a small layout, for you may have noticed that model railway bridges often have to be excessively steep, in order to fit them into a tight space. The footbridge will get over this difficulty.

At the back of the layout is one of those steep roads I wrote about some months back, with a typical 'stepped' pavement. This will make an impressive background, but is not too difficult to build.

VARIETY IS THE SPICE

Now you may have noticed that I made a few reservations regarding some of the pictures shown in the sketches. Most people soon find that layout plans are better if they are flexible, and capable of alteration to suit their own particular needs. The train turntable, for instance, is an ideal device if you like train turntables, and personally I do. Others may prefer to adopt the alternatives given. The advantages and disadvantages of each device, as they affect you, are best carefully weighed up before the making and installation. Give the matter plenty of thought, and don't let others make your mind up for you. These things take time to make.

In the small sketches (figures 3 and 4) I have shown a station building and the footbridge. The building, which would make a change, is made from the Airfix detached house kit, to which the booking hall is attached. Any surplus doors and windows can always be covered with billboards. The sketch of the bridge should explain itself.

The larger station uses two or three canopy kits, and the factory is made up of a couple of garage kits, though this can be extended if necessary. I would not make it shorter, though, for there is always something a little odd about a small building served by a siding. It should be considered that there must be enough traffic to and from a building to justify a special siding and, though we must compromise on sizes occasionally, the compromise shouldn't be carried too far.

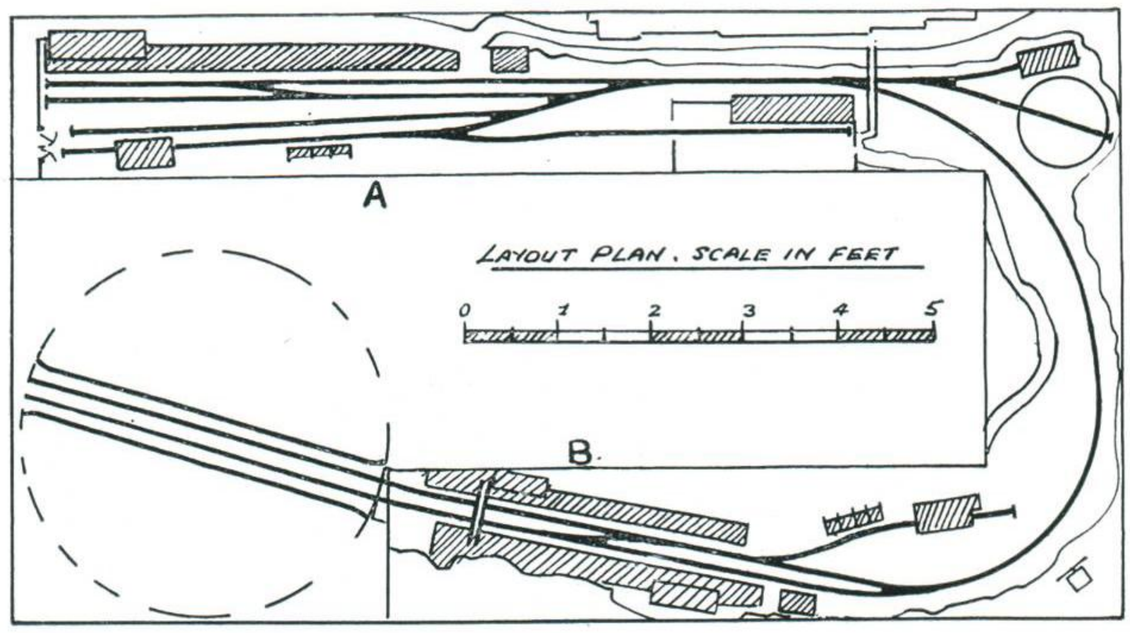


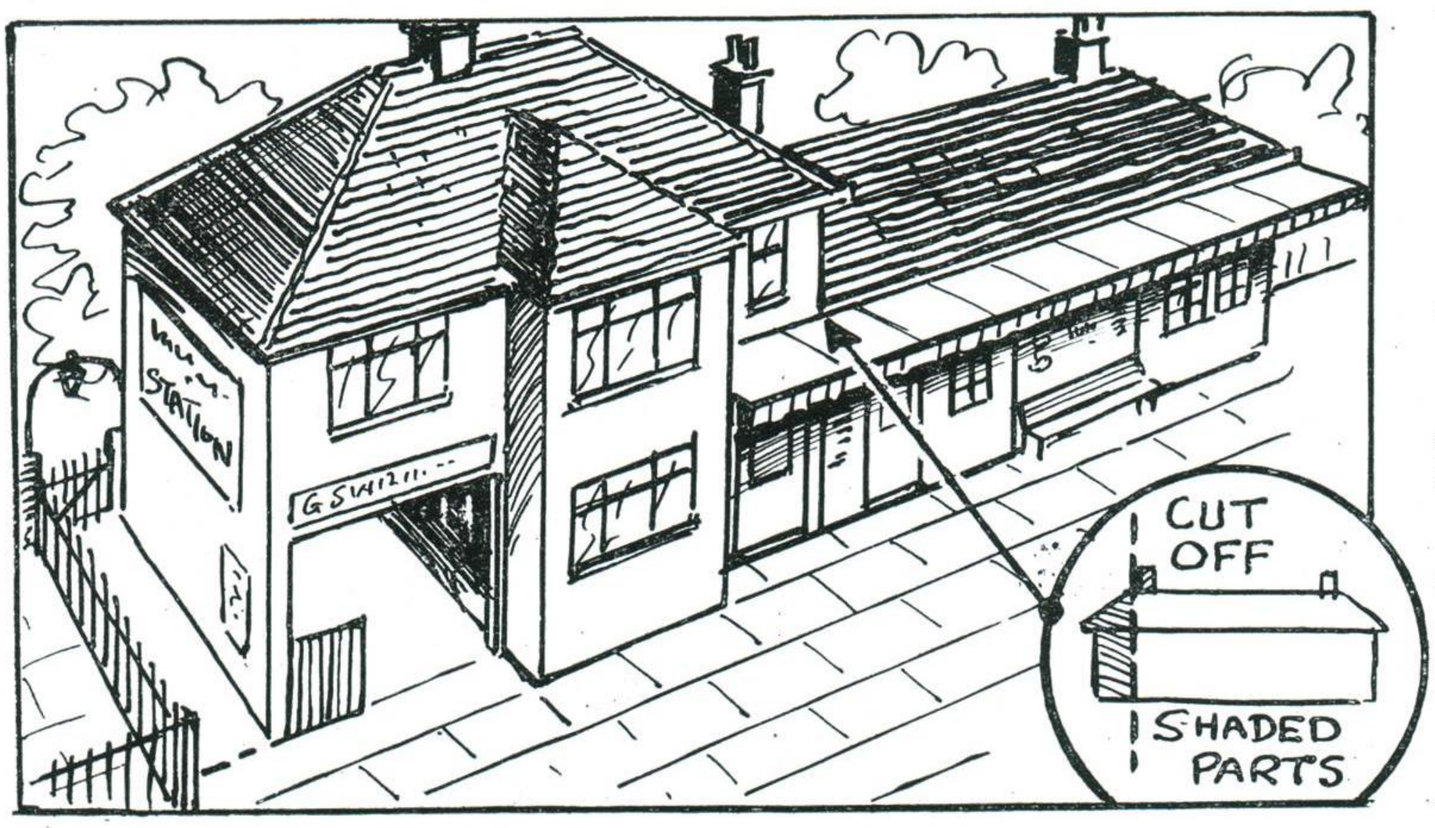
Fig 2: *Layout diagram. Note particularly the train turntable, and how the track and station building (B) has to be slewed across the base board to meet it. One tight curve and one wide radius is also clear.*

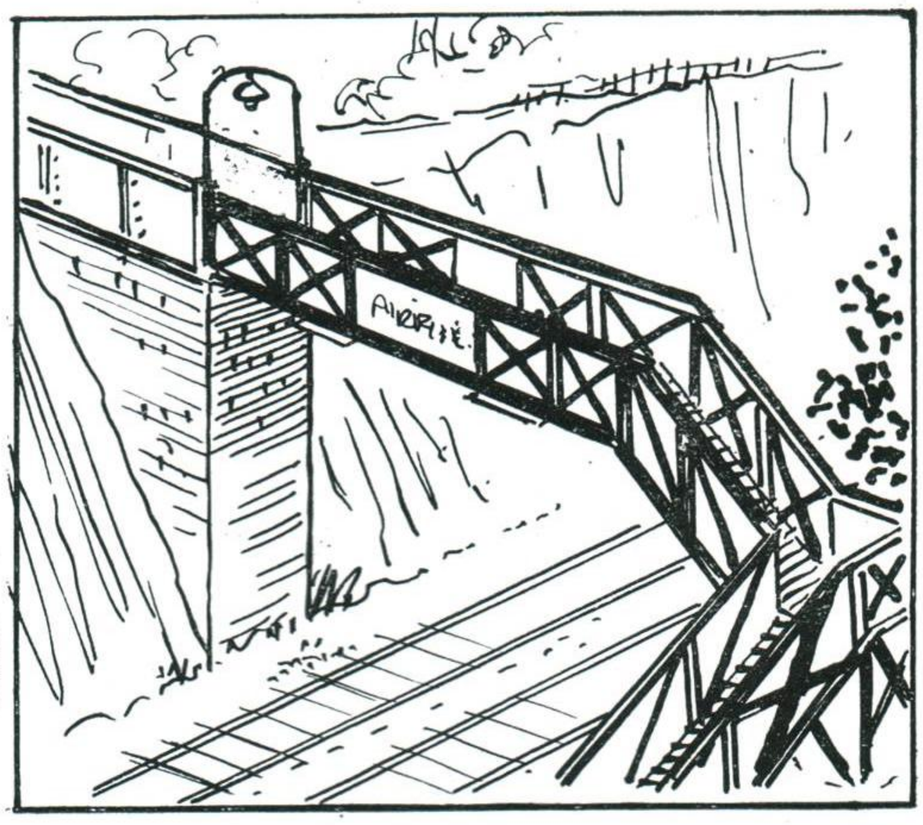
Scandinavian edition

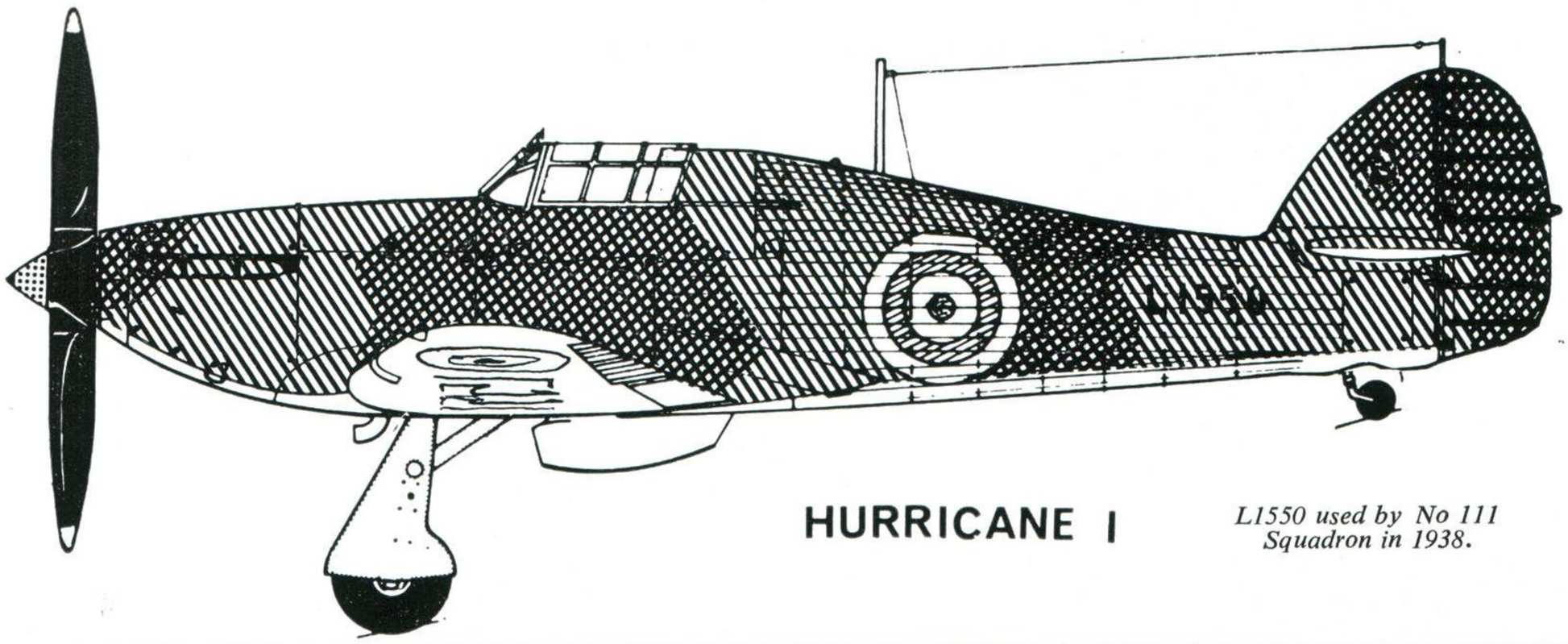
PLASTIC modellers in Denmark, Norway and Sweden can now buy a Scandinavian edition of AIRFIX MAGAZINE, **specially printed in Norwegian. Basically, it is a direct reprint of our English edition, but in addition contains several items of more 'local' interest.**

Printed in Oslo, our Scandinavian edition is edited by Aage Frich, whose editorial offices are at Th Kittelsensv 8, Smestad, Oslo, Norway. Each copy costs kr 1.50, while a year's subscription (price kr 18) is obtainable by writing to postgiro 200707, Oslo. Scandinavian modellers are invited to submit any interesting items of news direct to Mr Frich at the address given.

Fig 3 (left): *Adaptation of kits is not only possible—it is often desirable. For instance, a station building like this will ensure that both your stations look completely different, assuming that one uses the standard booking hall kit without alteration.* **Fig 4 (right):** *This is the only logical way to run the bridge from a high-level road to a low-level pathway.*







HURRICANE I

L1550 used by No 111 Squadron in 1938.

mast are easy to manage. For the Mark IId more radical modifications have to be made in the shape of the tropical filter under the nose and the twin 40 mm cannon.

From all points of view, the Airfix Hurricane kit is one of the best on the market, but there are one or two things that need to be done to it in order to produce a completely accurate model. One thing above all is the undercarriage which, in the same way as all the other Hurricane kits on the market, needs modification. The wings, too, need a little thinning down, and in every example I've met there are two small holes on each side of the cockpit coaming which need filling and sanding down during construction.

The Hurricane I propeller came from an Airfix Gladiator kit. It is an almost exact fit and the difference is such that it makes the carving of a new one from wood or plastic too much of a job. The 40 mm cannon housing and the tropical filter were made from balsa wood, but the barrels of the guns were fashioned from two orange sticks wrapped round with cigarette papers and sanded to get the stepped down shape. The undercarriage fairings on both versions were cut from .060 plastic card and the legs were made from rocket stems found in the original kit.

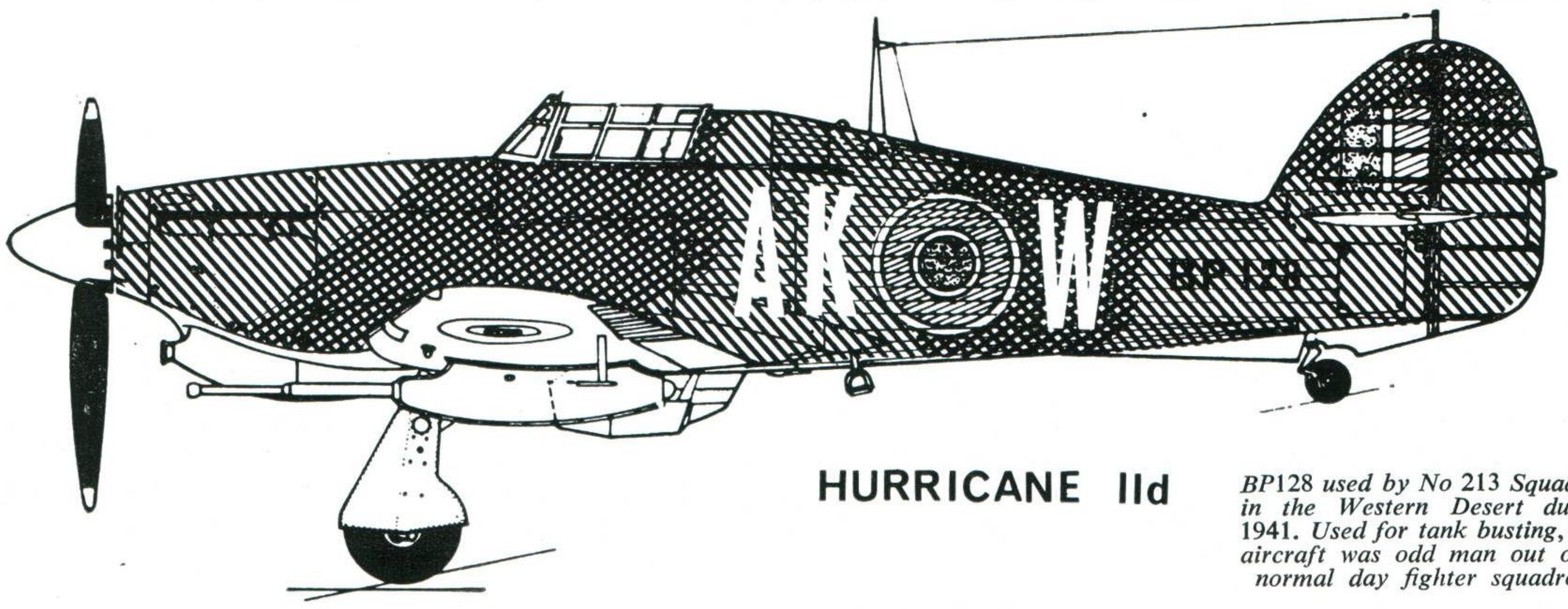
PAINTINGS AND MARKINGS

The actual camouflage schemes, green and brown for the Mark I and sand and spinach for the IId, can be gained from the photographs and drawings. Silver is standard for the underside of the No 111 Squadron aircraft and a mixed-up light blue for the tank buster.

Roundels for the IId came from the standard set with the kit, apart from the squadron letters and the serial. For the pre-war Hurricane I used the side roundels from an Airfix Wellington for the wings, fuselage roundels came from the Airfix Anson, the serial for both versions was made up from Letraset, and the squadron badge on the tail came very conveniently from the No 111 Squadron Hunter. Underwing serials (L1550) were made up from $\frac{3}{8}$ in Yeomans transfers in black, whereas the IId code letters were in the same size but white. Don't forget to add the two black walk-way panels $\frac{1}{2}$ in long on the wings close to each side of the fuselage for the pre-war aircraft.

FINAL POINTS

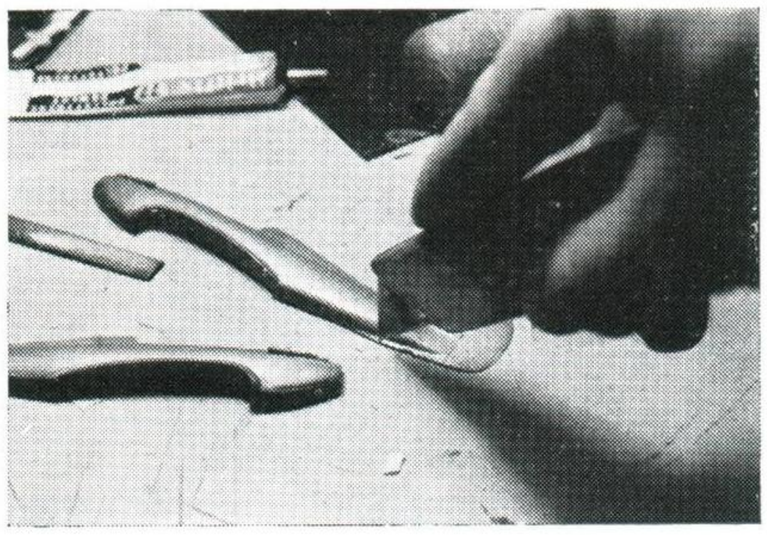
The illustrations show, as far as possible, the various phases in construction, but there are a few more details worth remembering if the model is to be authentic. All Hurricanes had a pitot head under the port wing and a landing light mid-way down the length of the same main-plane. The Hurricane I had a small air filter placed centrally under the fuselage almost in line with the wing leading edge which is also missing from the standard kit, and all versions had a tiny stub fixed to the top of the fin which had the aerial attached to it. These bits and pieces can all be made from stretching or shaping spare bits of stem, and make the world of difference to the finished model.



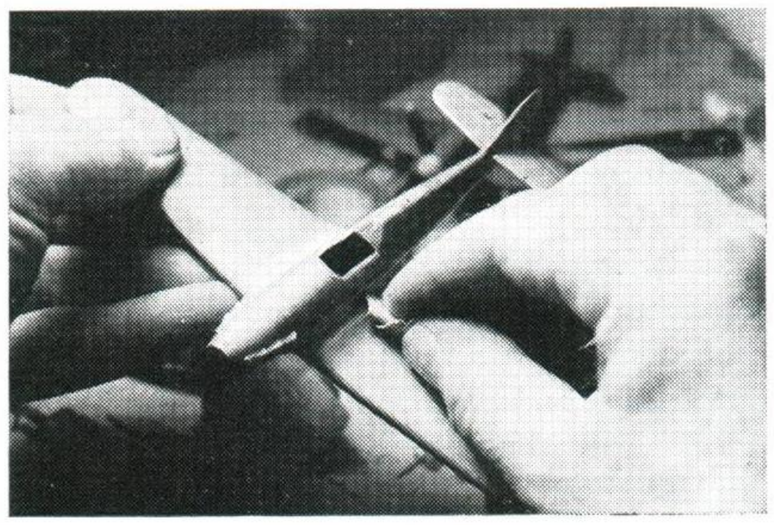
HURRICANE IId

BP128 used by No 213 Squadron in the Western Desert during 1941. Used for tank busting, this aircraft was odd man out on a normal day fighter squadron.

MORE PICTURES AND DRAWINGS ON NEXT PAGE

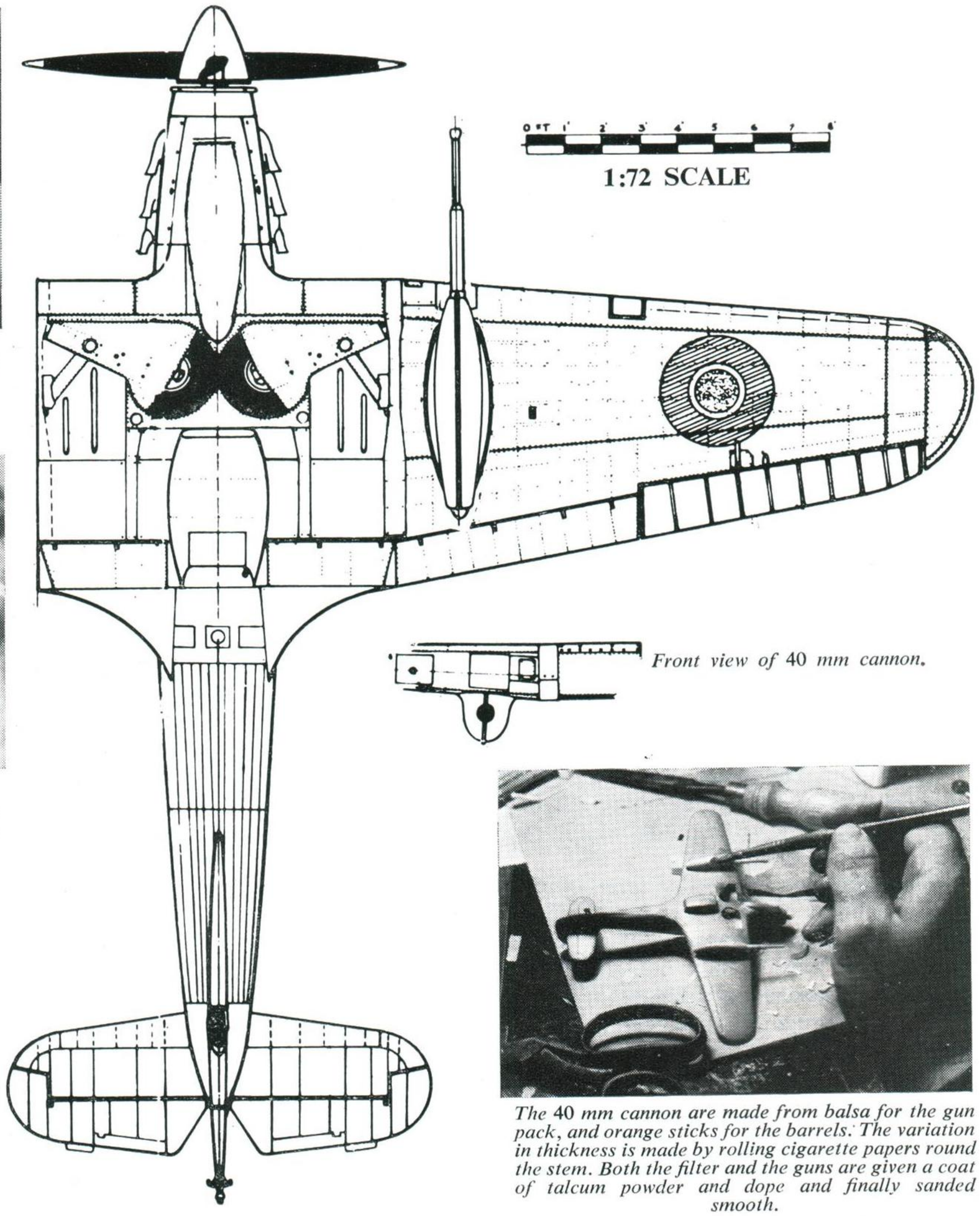


The first operation in producing the Mark I is to cut away with a sharp knife the fuselage fairing and sand down the underside to a smooth finish.



The wings, fuselage and tail unit are assembled. Gaps round the wing joints are filled with a mixture of talcum powder and clear dope, allowed to dry thoroughly and then sanded into shape.

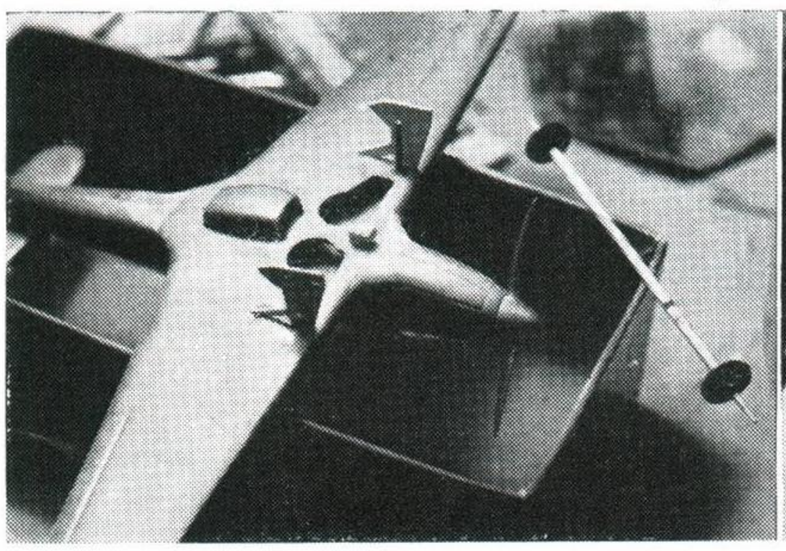
The tropical filter is added to the nose of the IId. Roughly cut to shape, it is attached and then sanded down to the correct section with very fine flour paper.



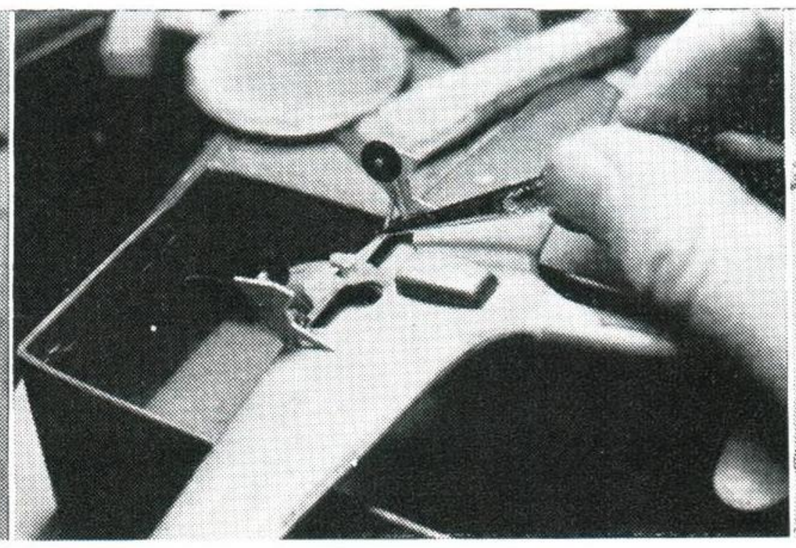
Front view of 40 mm cannon.

The 40 mm cannon are made from balsa for the gun pack, and orange sticks for the barrels. The variation in thickness is made by rolling cigarette papers round the stem. Both the filter and the guns are given a coat of talcum powder and dope and finally sanded smooth.

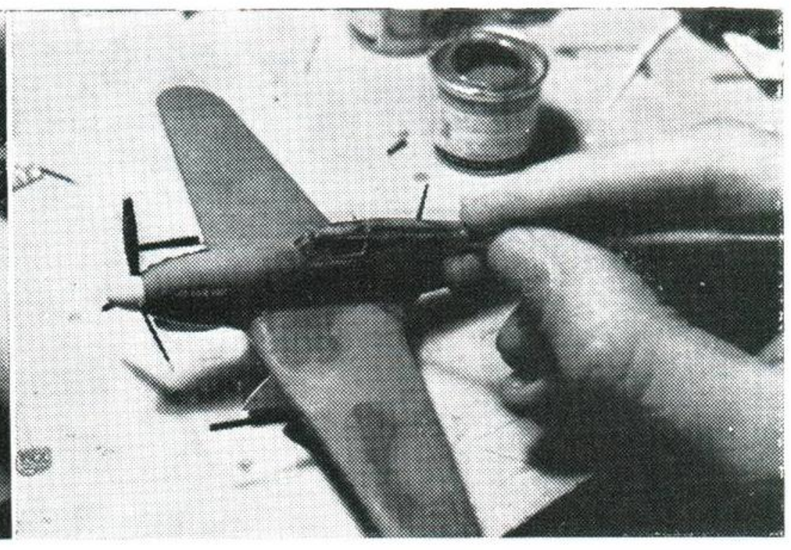
HAWKER HURRICANE



The undercarriage. The kit undercarriage legs are discarded and new fairings cut from plastic card. The wheels are painted and left to dry and the undercarriage legs are assembled from rocket stems.



Struts are added to the undercarriage legs, the propeller is added, and cockpit canopy, radio mast, tail wheel, pitot head and oil filter are stuck in place. It is then cleaned up and prepared for painting.



Cockpit canopies are always difficult to do. Here, a fine sable brush is used to paint the frames of the IId versio . It is better to thin the colour down with turps just a little, before commencing.

G 672

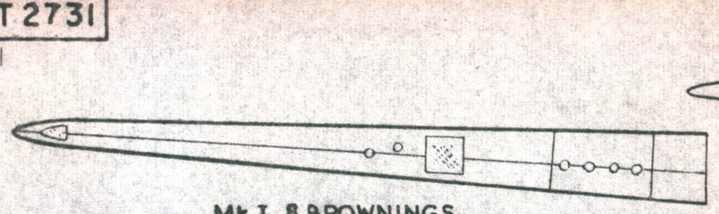
IF UNDELIVERABLE RETURN TO

CANADIAN GENERAL ELECTRIC

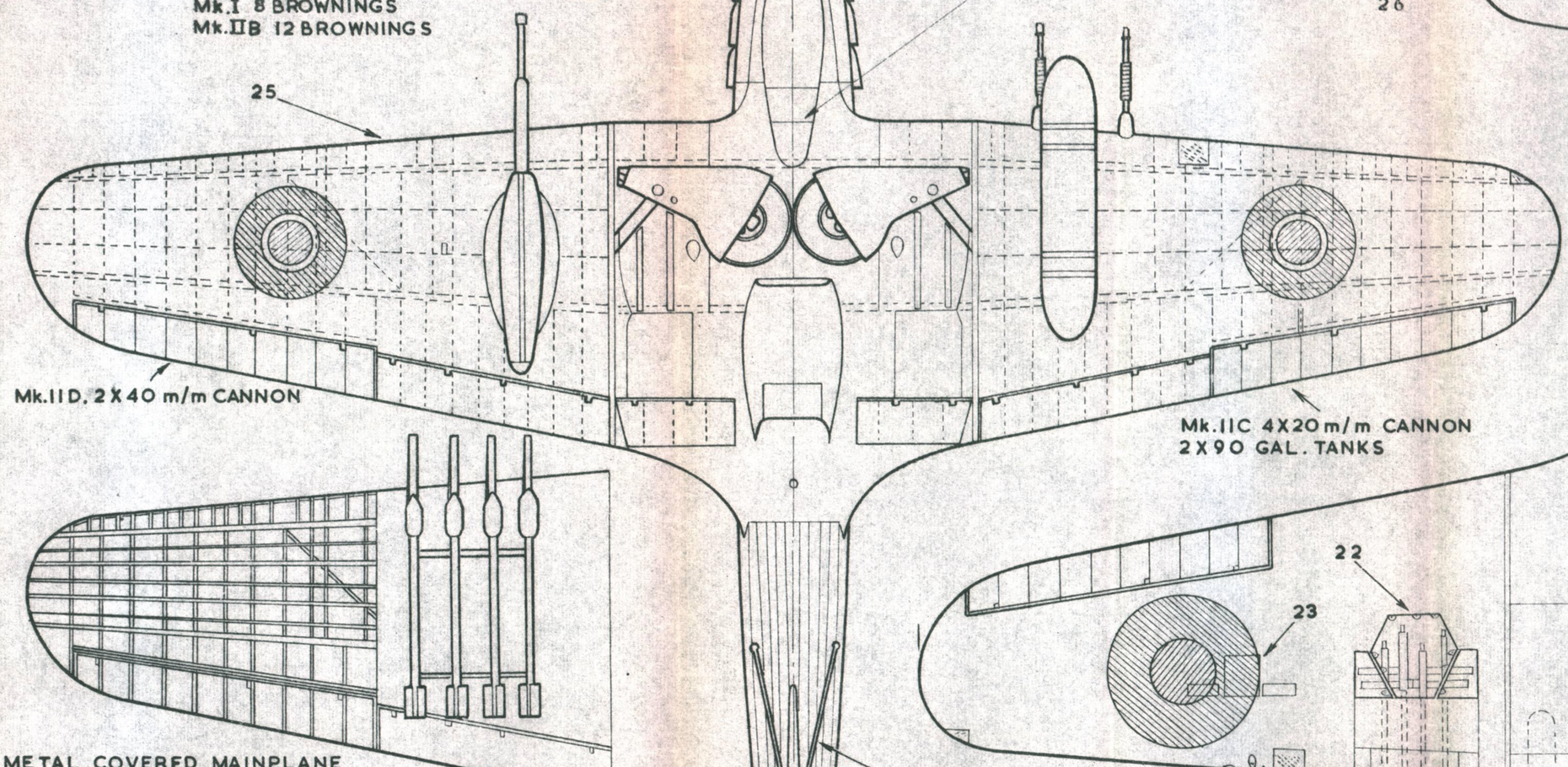
Hawker Hurricane

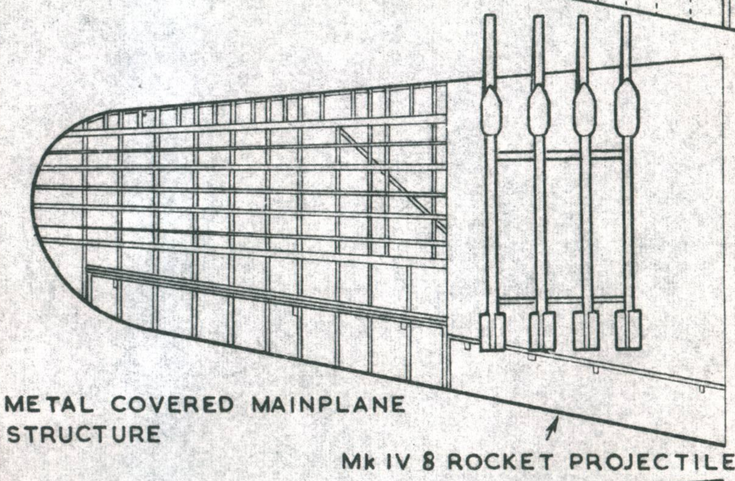
Aeromodeler Drawing

T 2731



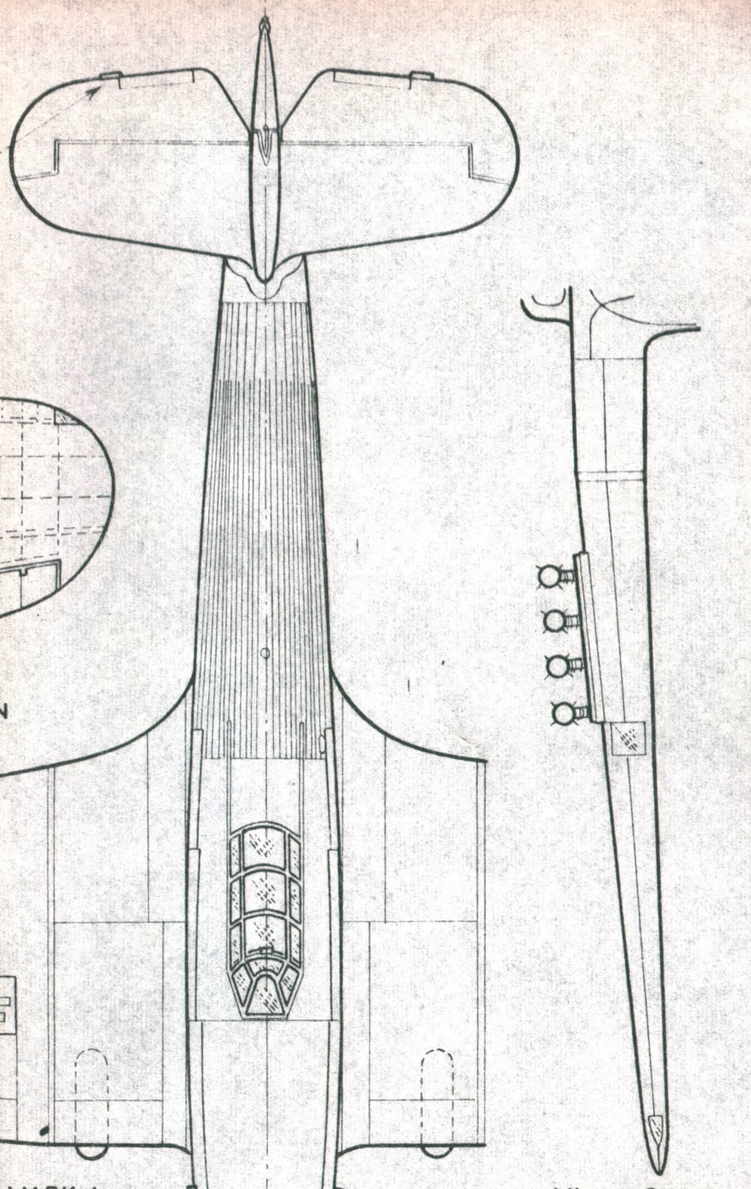
Mk.I 8 BROWNINGS
Mk.IIB 12 BROWNINGS





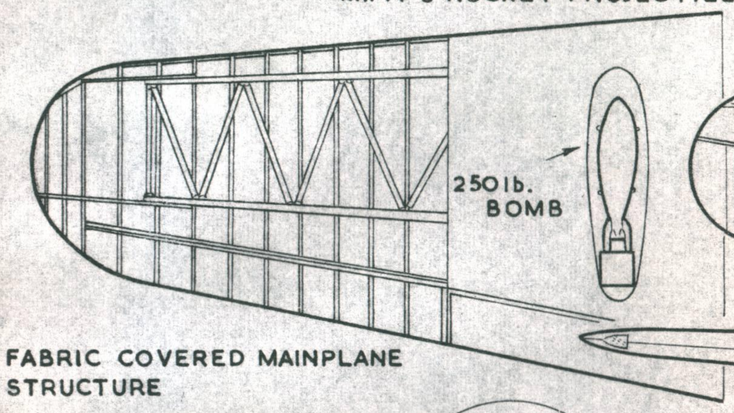
METAL COVERED MAINPLANE
STRUCTURE

Mk IV 8 ROCKET PROJECTILES



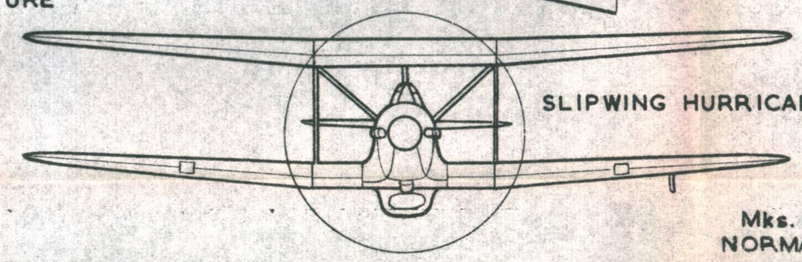
MARK I

Mk.IV 8 R.P.

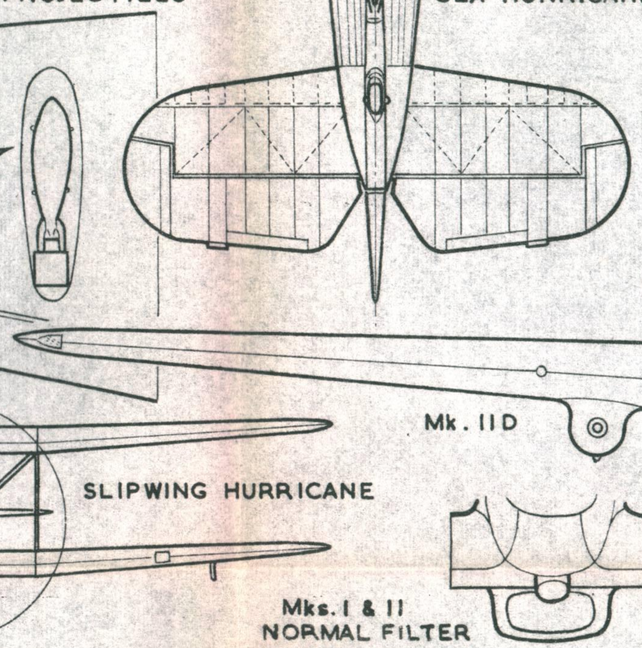


250lb.
BOMB

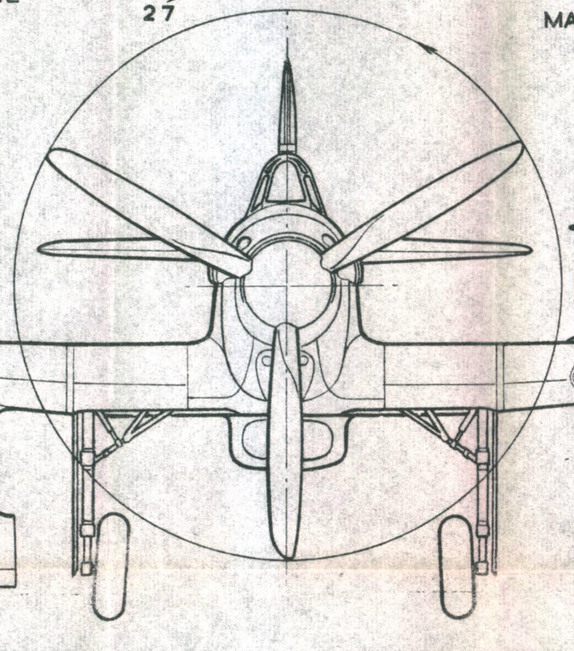
FABRIC COVERED MAINPLANE
STRUCTURE



SLIPWING HURRICANE

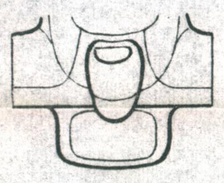


Mk. IID

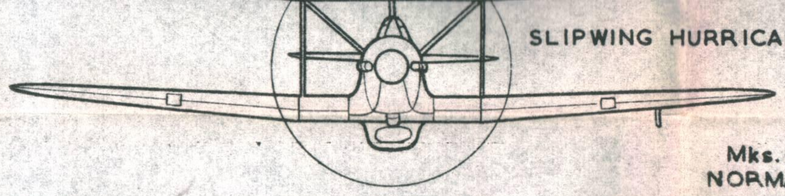


Mk.IIC.

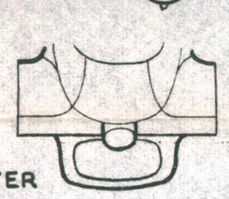
Mks. I & II
NORMAL FILTER



Mk.IID
VOKES FILTER
DEEPER RADIATOR

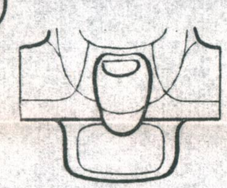


SLIPWING HURRICANE

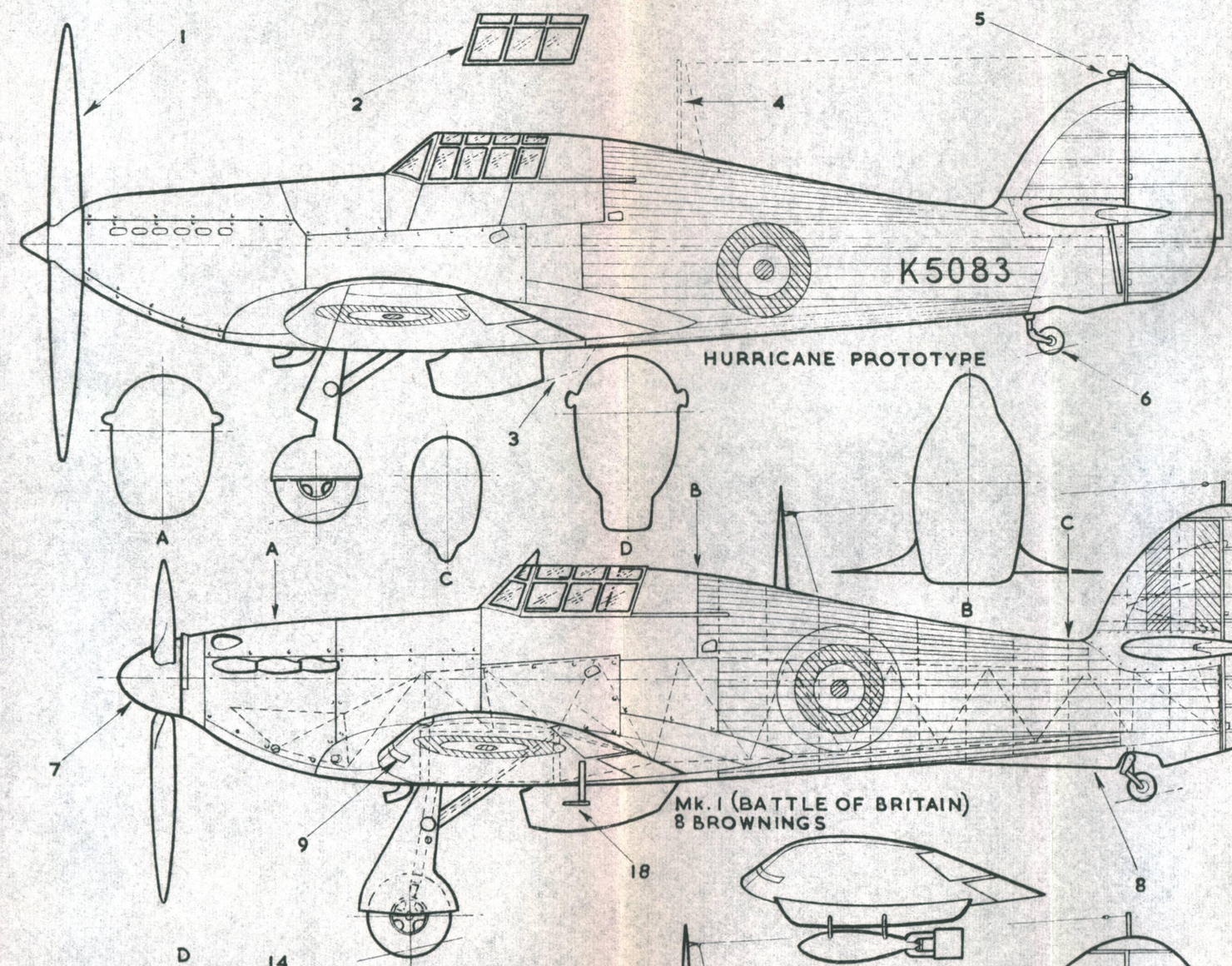


Mks. I & II
NORMAL FILTER

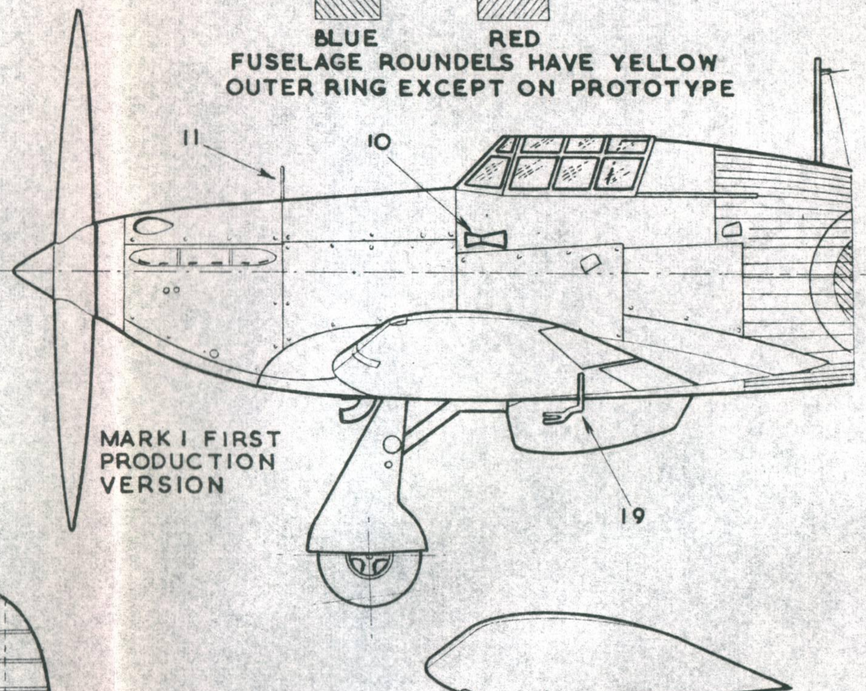




Mk. II D
VOKES FILTER
DEEPER RADIATOR



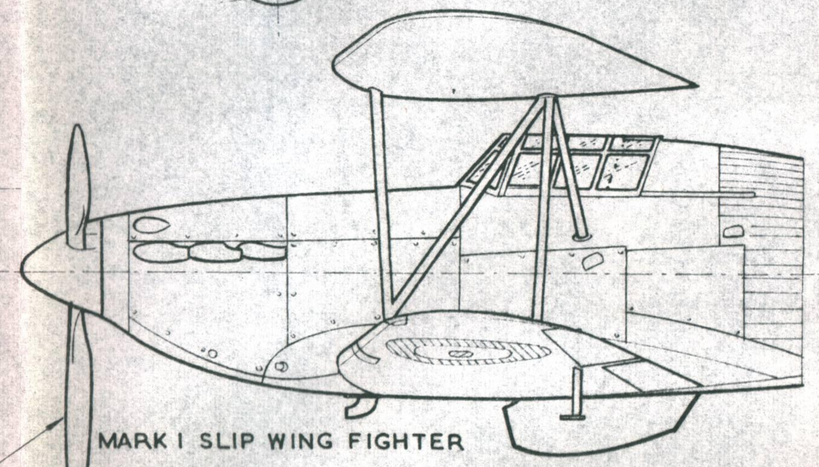
HURRICANE PROTOTYPE



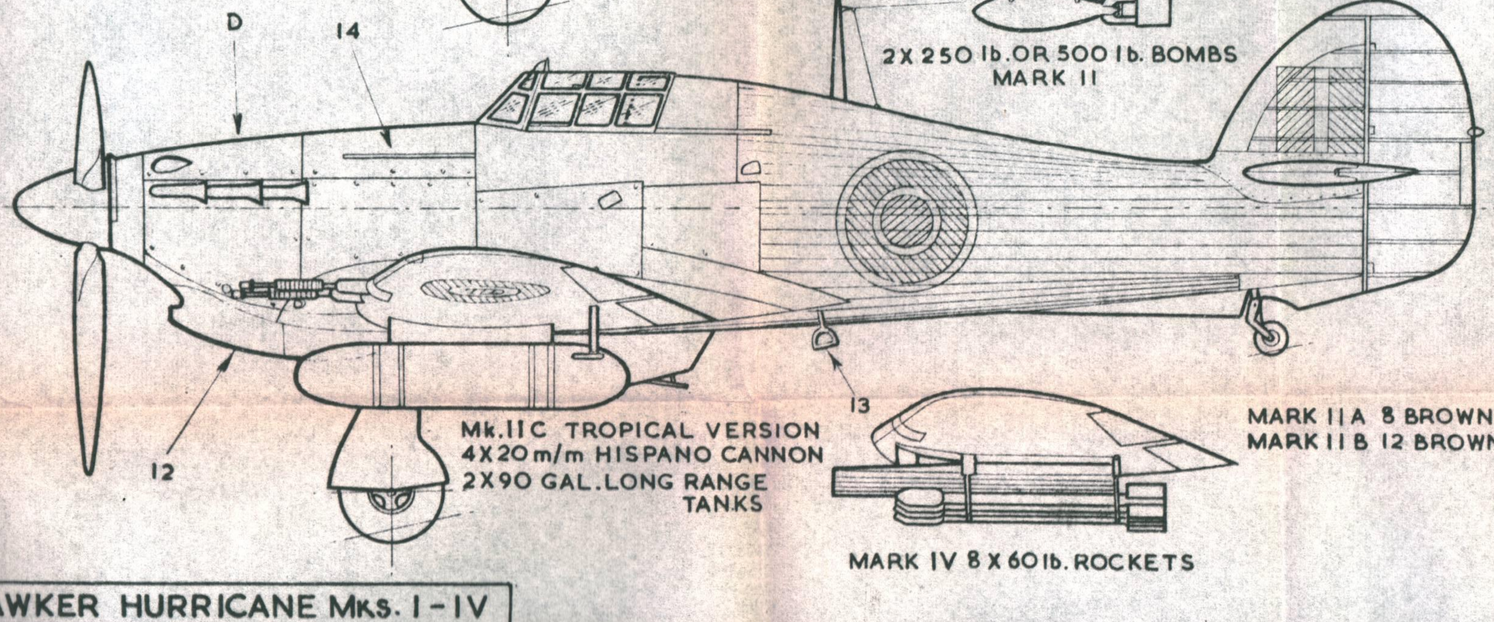
MARK I FIRST
PRODUCTION
VERSION

Mk. I (BATTLE OF BRITAIN)
8 BROWNINGS

2 X 250 lb. OR 500 lb. BOMBS
MARK II



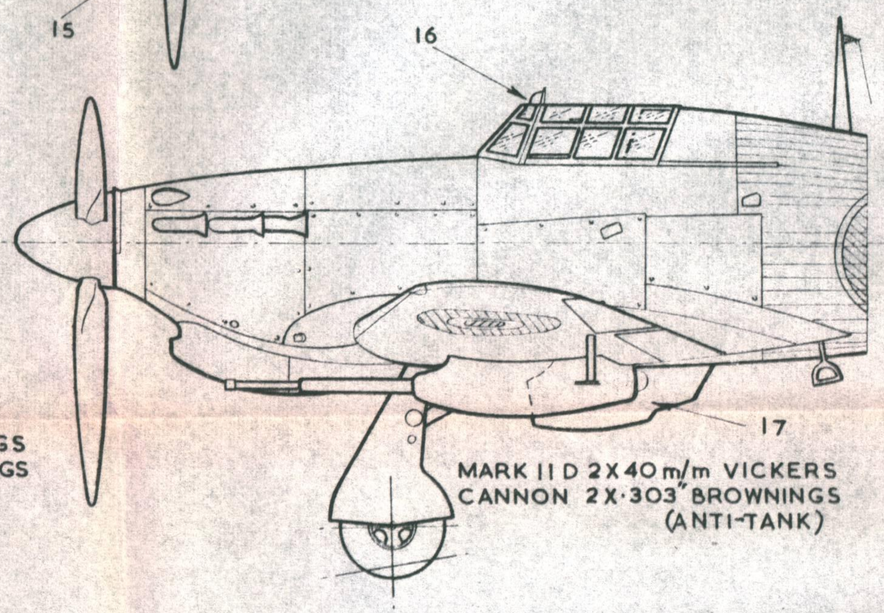
MARK I SLIP WING FIGHTER



Mk. II C TROPICAL VERSION
4 X 20 m/m HISPANO CANNON
2 X 90 GAL. LONG RANGE
TANKS

MARK IV 8 X 60 lb. ROCKETS

MARK II A 8 BROWNINGS
MARK II B 12 BROWNINGS



MARK II D 2 X 40 m/m VICKERS
CANNON 2 X ·303" BROWNINGS
(ANTI-TANK)

HAWKER HURRICANE Mks. I - IV

FT.

1 Sheet only

9426

9426	HURRICANE	MERLIN 29	
RCAF REGISTRATION NUMBER	MAKE AND MODEL	ENGINE TYPE	MANUFACTURERS No.

INITIAL ENTRY AT 6RD DATE 20 NOV. 57 QTO No. 542 CD No.

TRANSFERS			TRANSFERS		
DATE	QTO No.	TO	DATE	QTO No.	TO
0 Nov. 57	542	DISPLAY 6RD ~~6RD~~			
20 Nov		DONATED BY MR. CHARLES SHAW OF OMEMEE ONT.			
8 Jul 58	415	10RCAPS Strike Off and reduction to scrap			
18 July					

1 Sheet only

R 4177

REMARKS:

RECORD OF WRITE-OFF

APPLICATION RC'D FROM	DATE	FILE No.	DATE APPROVED	APPROVED BY	APPROVAL SENT TO	DATE	T. O. No.

DISPOSAL PARTICULARS

AIRFRAME — T. O. No.

ENGINE/S (QUOTE SERIAL NOS.) — T. O. No.

AIRSCREW/S (QUOTE SERIAL NOS.)

ACCESSORIES

REMARKS: — EFFECTIVE DATE WRITTEN-OFF

R.C.A.F. E. 233D — 6M-1-43 (3029) H.Q. 885 — E-233

AIRCRAFT RECORD CARD

FIRST ENTRY AT E.W.S. DATE 17-4-43 TRANSFER ORDER No. 358

TRANSFERS DATE	TO	AUTHORITY	TRANSFERS DATE	TO	AUTHORITY
28.10.42	# 4 R.D. Depot W Res	T.O.A. 523			
17.4.43	Spares produce 10/3	T.O. 359			

REMARKS *19.4.43:- # 4 R.D Scoudouc (W.Res) T.O.-A 69:- T.O. Cancelled.

ENGINE TYPE	UNITS	AIRSCREW TYPE (CODE)	REF. No.
MERLIN III	1		

CATCH No.	QUAN. IN BATCH	LEDGER FOLIO	SPECIFICATION No.

REGISTRATION No.	MAKE & MODEL	YEAR	TYPE	MANUFACTURERS No.
R 4177	SEA HURRICANE (WRITE-OFF)	1943	S E FIGHTER	

R 4177

V-7402

REMARKS:

RECORD OF WRITE-OFF

APPLICATION RC'D FROM	DATE	FILE No.	DATE APPROVED	APPROVED BY	APPROVAL SENT TO	DATE	T. O. No.
		11-1-44		¤ 4 R.D	¤ 4 R.D W.R.	26.10.44	4/237

DISPOSAL PARTICULARS

AIRFRAME Written off (Reduction as per E.A.C's file 1210-8 (E.3) 23.9.44 T. O. No. 4/237

ENGINE/S (QUOTE SERIAL NOS.) T. O. No.

AIRSCREW/S (QUOTE SERIAL NOS.)

ACCESSORIES

REMARKS: EFFECTIVE DATE WRITTEN-OFF

AIRCRAFT RECORD CARD

1ST ENTRY AT E.A.C Dartmouth DATE 16.10.42 TRANSFER ORDER No. 3424

29/10

TRANSFERS DATE	TO	AUTHORITY	TRANSFERS DATE	TO	AUTHORITY
21.6.43	#15 A.D.U. Wpg. C.C.F. Ft Wm Ont.	To A 328			
10.8.43	E.A.C.	To 2829			
30.6.44	#9 R.D. (W. Res.)	T.O. A.339			
21.7.44	Can. Car & Foundry, Amherst	T.O. E.519			
18.9.44	¤ 4 R.D (W.R) W/O	To 16140			
26.10.44	Write-off	To 4/237			

REMARKS 16/10/42:- THIS AIRFRAME OBTAINED IN LIEU OF BW84L BEING HANDED OVER TO THE ADMIRALTY.
10/8/43:- CONVERTED TO HURRICANE XIIA AT CAN. CAR & FDRY.

ENGINE TYPE MERLIN XXIX UNITS 1 AIRSCREW TYPE (CODE) REF. No.

BATCH No. QUAN. IN BATCH LEDGER FOLIO SPECIFICATION No.

REGISTRATION No.	MAKE & MODEL	YEAR	TYPE	MANUFACTURERS No.
V 7402	BEA HURRICANE XIIA (WRITE-OFF)	1942	S.E. FIGHTER	

V 7402

V 1402	SEA HURRICANE MARK [illegible]	1942	S E FIGHTER	
REGISTRATION No.	MAKE & MODEL	YEAR	TYPE	MANUFACTURERS No.

OVERHAUL DATA

	DATE	REASON	DONE BY	REQ'N No.	COST		HOURS SINCE NEW	DATE COMPLETED	ALLOTMENT
1	21.6.43		Can. Car & Fdry					10.8.43	E.a.C
2	21.7.44	Crash	Can. Car & Foundry						
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

ACCIDENT RECORD

	DATE	CATEGORY	PLACE	TIME	REPORT REFERENCE	DATE	RANK & NAME OF PILOT	No. IN CREW	DISPOSAL	DATE SERV.
1										
2										
3										
4										
5										
6										
7										
8										

B. S. LTD.

AIRCRAFT RECORD CARD

PAT'D 1920

REMARKS

30. 6. 44:- Allotted to # 9 R. D. (W. Res.) for salvage after crash.

REMARKS:

1 Page only

A 274

HV-961

RECORD OF WRITE-OFF

APPLICATION RC'D FROM	DATE	FILE No.	DATE APPROVED	APPROVED BY	APPROVAL SENT TO	DATE	T. O. No.
# 10 I.U. Bagotville		1210-6		E.A.C.	# 10 I.U. (W,R)	19.12.44	A 778.

DISPOSAL PARTICULARS

AIRFRAME Written off — T. O. No. A 778

ENGINE/S (QUOTE SERIAL NOS.) — T. O. No.

AIRSCREW/S (QUOTE SERIAL NOS.)

ACCESSORIES

REMARKS: | EFFECTIVE DATE WRITTEN-OFF

AIRCRAFT RECORD CARD

FIRST ENTRY AT E.A.C. DATE 28.1.43 TRANSFER ORDER No. 5329

TRANSFERS DATE	TO	AUTHORITY	TRANSFERS DATE	TO	AUTHORITY
28.1.43	Converted Instructional 25	Walfey 21/2 T. O 5330			
19.12.44	# 10 I.U. Bagotville (W.R)	To A 777			
19.12.44	Write-Off	To A 778			

REMARKS 28/1/43:- THIS AIRFRAME, RECEIVED FROM U.K. IN AN UNSERVICEABLE CONDITION (SEE FILE 938AF-1-8), IS HEREBY TO BE BROUGHT ON CHARGE, AND WILL BE CONVERTED TO INSTRUCTIONAL TYPE (SEE T.O. 5330) FOR USE AT # 1 O.T.U.

ENGINE TYPE | UNITS | AIRSCREW TYPE (CODE) | REF. No.

BATCH No. | QUAN. IN BATCH | LEDGER FOLIO | SPECIFICATION No.

REGISTRATION No.	MAKE & MODEL	YEAR	TYPE	MANUFACTURERS No.
(HV 961) A 274	HURRICANE IIC (INSTRUCTIONAL) (WRITE-OFF)	1943	S E FIGHTER	

HV 961

CANADIAN CAR & FOUNDRY COMPANY LIMITED

GENERAL OFFICES

621 WEST CRAIG STREET, MONTREAL

CABLE ADDRESS: "CANCAR", MAILING ADDRESS P.O. BOX 160

Fort William Plant

MOLSON

Fort William, Ont.,
December 20, 1941.

The Secretary
Dept. of National Defence for Air,
Ottawa, Canada

Hurricane Mk I with Battle Airscrew and Engine

1. Enclosed herewith is a single copy of Canadian Car and Foundry Report AG323 covering Flight Tests and other data on the Mark I Hurricane complete with Battle airscrew, engine, and other miscellaneous parts.

2. As this Report is quite complete there seems to be no reason to cover this subject at any great length.

3. ATR5 radio has been installed in a similar aircraft and a tray is now being manufactured so that it can be adapted to the Hurricane. It is understood that F/L J. Vincent will submit his report on this subject, but it was thought desirable to give the progress that was made on the radio.

4. Performance of this aeroplane is only slightly less than the standard ship with the Hurricane propeller, and it is thought that this difference can be made up by some further experimentation with the setting of the airscrew.

5. For your information please.

4957

2

D/D AD 2
Noted. This is an excellent and concise report.
A Fenwick
Sqn Ldr
DAE.

L. H. Kottmeier

LHK:MC
Encl.

(L. H. Kottmeier) Flt. Lt.

ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, ACCIDENTS, DELAYS IN TRANSPORTATION, FIRES AND OTHER CAUSES UNAVOIDABLE OR BEYOND OUR CONTROL.

CANADIAN CAR & FOUNDRY COMPANY LIMITED

FORT WILLIAM UNIT

MOLSON

Our File: C-244

Fort William, Ontario
September 8th, 1942

Commanding Officer
No. 29 Aeronautical Inspection Detachment
Royal Canadian Air Force
FORT WILLIAM, Ontario

Dear Sir: RE: DELIVERIES OF GFE EQUIPMENT

In view of our limited storage facilities, we would be glad if arrangements could be made for the delivery of government furnished equipment in accordance with the following schedule:

1943 -	January	1	aircraft set
	February	5	aircraft sets
	March	15	" "
	April	30	" "
	May	45	" "
	June	60	" "
	July	80	" "
	August	80	" "
	September	80	" "
	October	80	" "
	November	80	" "
	December	80	" "
1944 -	January	80	" "
	February	80	" "
	March	80	" "
	April	80	" "
	May	80	" "
	June	80	" "

It will be noted that this schedule corresponds with the original delivery schedule for completed aircraft. Delays in receipt of engineering data will undoubtedly prevent us from achieving the original schedule, and it is believed that delivery of government furnished equipment in accordance with the above should be two to three months ahead of what we now anticipate our deliveries of completed aircraft will be.

Yours truly,

CANADIAN CAR & FOUNDRY CO., LIMITED

E. J. SOULSBY
WORKS MANAGER, AIRCRAFT DIVISION

EJS:GY:650

Fort William Plant

1021-20-15

DHD

COPY

Fort William, Ont.,
December 20, 1941.

MOLSON

F/l L. Kottmeier,
Dept. of National Defence for Air,
C/o Canadian Car and Foundry Co. Ltd.,
Fort William, Ontario.

Dear Sir:

Re: Report AG323 (Flight Test Summary of Hawker Hurr. Mk 1 Aircraft AM Service No. AG323 Equipped with Engine, Propeller and other Appendix "A" Items from Fairey Battle Mk I Aircraft R.C.A.F. Service No. 18951

We are handing to you herewith duplicate copies of the above mentioned report in accordance with the accompanying release note.

Yours very truly,

CANADIAN CAR AND FOUNDRY CO. LTD.

E.G. MacGill
Chief Aeronautical Engineer
Aircraft Division

EGM:MC
Encl.

CC--Dept. of National Defence
for Air,
ATTN: AMAE:D/DAD

Mr. E. J. Soulsby

[illegible] ON

FILE 1021-20-2

M E M O R A N D U M

1021-20-2

December 20, 1941.

D.A.E.

MOLSON

Hurricane Mk. I Performance

1. The first Hurricane Mk. I fitted with a Merlin III engine and cut-down Battle airscrew was flown on December 19 and the following results obtained:

(a) Gross weight - 6800 lbs.

(b) All guns installed.

(c) Airscrew pitch setting - $26\frac{1}{2}^{o}$ and 40^{o}

(d) Maximum R.P.M. during run-up - 2600 at $6\frac{1}{4}$ lbs./sq.in. boost.

(e) Maximum speed at 16,250 ft. - 312 m.p.h. at 2875 r.p.m. at $6\frac{1}{4}$ lbs. boost.

(f) Climbing Performance -

Alt.	A.S.I.	R.P.M.	Boost
2,000	170	2100	$6\frac{1}{4}$
4,000	170	2100	$6\frac{1}{4}$
6,000	165	2120	$6\frac{1}{4}$
8,000	163	2250	$6\frac{1}{4}$
10,000	160	2350	$5\frac{3}{4}$
12,000	155	2350	4
14,000	153	2350	3
16,250	155	2375	3

(g) Time to climb to 16,250 feet - $7\frac{1}{2}$ minutes.

(h) Average rate of climb - 2160 ft. per minute.

2. The top speed was approximately 8 m.p.h. less than obtained with the standard aeroplane at the same gross weight. However, by reducing the high pitch setting of the airscrew to obtain the full permissible r.p.m. (3000) an increase in speed of about 5 m.p.h. should be obtained. This reduction in pitch will also appreciably improve the climbing performance. A direct comparison with the standard aeroplane has shown the time to climb to 16,250 feet to be approximately 30 seconds greater ($7\frac{1}{2}$ minutes compared to 7 minutes.).

3. CONCLUSION - Performance of the Hurricane Mk. I fitted with cut-down Battle airscrews will be within 3% of that of the standard aeroplane.

(E. H. Higgins)
Squadron Leader, (A.D.1),
for D/D.A.D.

4. Note: This report was received by telephone from Flt/Lt Kottmeier Miss McGill is reducing data to standard conditions and will forward a more detailed report.

M E M O R A N D U M

File No. H.Q.902-16-96 &
H.Q.902-60-1
Date 17-12-41

TO: A.M.A.S.

MOLSON

The following certified true copy of a Minute of Air Members of Air Council on 15-12-41 is passed to you for A C T I O N:

(NOTE: ACTION COPY TO A.M.S.)

Secretary, Air Members.

---

922. ~~Availability of Mark I "Hurricanes" by Installation of "Merlin"~~ Engines from "Battle" Aircraft -
(H.Q. File Nos. 902-16-96 and 902-60-1)

(1) Discussion: It was pointed out that Mark I "Hurricanes" could be made available very shortly should it be agreed that engines from "Battles" could be installed; and that, provided these engines were released, 60 "Hurricanes" could be supplied.

(2) In order to do this, it was stated that a B. & G.S. would have to be closed down. Moreover, there was the question of keeping these "Hurricanes" flying, since no spare engines were available, and also a shortage of wheels existed.

(3) It was further pointed out that this proposal hinged on the availability of "Kittyhawks", since a recent freezing order issuedin the United States had stopped delivery of "Kittyhawks" to Canada. Eight "Kittyhawks" had been received, however, as a result of special efforts, and these aircraft were at the present time stationed at R.C.A.F. Station, Rockcliffe.

(4) In this regard, it was felt that the closing down of a B. & G.S. could not be justified as long as these aircraft were stationed at Rockcliffe and were not being utilized on the coasts. It was also felt that the R.C.A.F. could not press for further release of "Kittyhawks" unless these aircraft were placed on operational bases.

(5) It was pointed that these 8 "Kittyhawks" had been held at Rockcliffe for training purposes for members of a Fighter Squadron being formed there, and the request was made that "Harvards" be loaned to this Squadron until such time as "Kittyhawks" became available.

(6) Decision: In view of the foregoing the following decisions were arrived at:

(a) The equipping of Mark I "Hurricanes" with engines from "Battles" was to be worked out in detail on paper, so that, if the necessity arose, action could be taken immediately.

(b) For the present no action was to be taken to close down a B. & G.S. equipped with "Battles" in order to provide engines for "Hurricanes" Mark I.

(c) Of the 8 "Kittyhawks" presently located in Ottawa, 4 were to be sent to a Fighter Squadron on the west coast, and 4 to a Fighter Squadron on the east coast as reserve aircraft.

(2) A request was to be put forward for the release of the balance of "Kittyhawk" and "Hudson" aircraft ~~scheduled~~ for delivery to Canada.

COPY

MOLSON

File: 902-69-8 (DPA)

Reference: Your File 1021-9-77
(DPA M9)

Date: January 24, 1942

Chief of the Air Staff
Department of National Defence
Air Service
OTTAWA, Ontario

Attention: Flying Officer C.B. Clarke

Dear Sir:

We wish to acknowledge your letter of January 21st in regard to the modification of Fairey Battle airscrews in order to make them suitable for use on Hawker Hurricane aircraft. A total of sixty-eight disassembled Fairey Battle airscrews was received by us for this modification. Approximately nineteen of these were De Havilland type 5/5 which are for installation on Merlin II engines while the balance were De Havilland type 5/16 for use on Merlin III engines.

In accordance with your original instructions we had given the work of converting these airscrews priority over all other work and at the time of receiving your telephone call instructing us to cease further work on these conversions, we had shipped a total of twenty-one modified airscrews to the Canadian Car & Foundry Company Limited at Fort William and fifteen modified airscrews to the R.C.A.F. Station, Dartmouth, N.S. In addition we had one other airscrew packed ready for shipment and this has since gone forward to Dartmouth. This accounts for thirty-seven of the original sixty-eight airscrews. Of the balance, the blades for seventeen airscrews had already been cut down to the new diameter and are therefore no longer satisfactory for use on Fairey Battle aircraft. No work had been done on the remaining fourteen airscrews.

In accordance with the second paragraph of your letter the fourteen airscrews which had not been touched are now being repacked for shipment to No. 6 Repair Depot, Trenton. We would appreciate receiving your instructions concerning the disposal of the seventeen airscrews which are still in our shop and which have had the blades reduced to 11' 3" diameter.

We would suggest:

(1) That these Blades be placed in stock as spares for the Hurricane airscrews now in service and that the hubs originally received

note:
The first suggestion here was agreed to.
J.L.

with them be fitted with Hamilton Standard blades design 6105A-6, as these become available, or

(2) That these airscrews now be assembled complete for use on Hurricane aircraft. In this connection we are not sure whether or not five sets of parts will be available to permit conversion of five of the type 5/5 hubs to type 5/16 in order to permit of their use on Merlin III engines.

We would like to explain also that at the time of receiving these airscrews for conversion we had in our shop six sets of Fairey Battle blades which had been damaged in service to the extent that their diameter must be reduced to the point where they were no longer satisfactory for use on Fairey Battles. We took advantage of this opportunity to reduce the diameter of these blaces to 11' 3" for use on Hurricane and put into salvage six sets of usable Fairey Battle blades as received from No. 6 Repair Depot for conversion purposes.

As our Propeller Overhaul Shop is working at capacity at the present time we cannot afford the loss of space consequent upon holding work in abeyance for any period of time. Accordingly, we would appreciate your instructions in regard to the seventeen airscrews referred to above at your earliest convenience.

Yours very truly,

CANADIAN PRATT & WHITNEY AIRCRAFT COMPANY LIMITED

(signed)

R. T. Riley,
Secretary-Treasurer

cc: Mr. W. Smallridge,
Mr. R. Miles

MOLSON

938AF-1-15
(DPA/M.2)

4th February, 2.

Mr. Ralph P. Bell,
Director General of Aircraft Production,
Department of Munitions and Supply,
Ottawa, Ontario.

Att: Contracts Officer - Aircraft Branch.

Mk I Hurricane Aircraft.

Dear Sir:

Reference your letter B18-38-976, dated 17th January 1942 and further to our letter of even file, dated 21st January 1942, the quantity of Mk I Hurricane Aircraft to be diverted has been reduced from 60 to 30. The R.C.A.F. serial numbers and corresponding British Serial Nos. allotted to these aircraft are as follows:

R.C.A.F. Serial Nos.			R.A.F. Serial Nos.	
1351	1366	AG	323	306
1352	1367		319	307
1353	1368		317	294
1354	1369		315	327
1355	1370		318	330
1356	1371		313	308
1357	1372		316	304
1358	1373		314	326
1359	1374		325	287
1360	1375		332	295
1361	1376		312	296
1362	1377		310	293
1363	1378		309	299
1364	1379		305	302
1365	1380		311	300

2. It is hoped this will help to clear up any difficulties which have arisen.

Yours truly,

(P. H. Stibbs),
Wing Commander,
for Chief of the Air Staff.

RP/DGF

MOLSON

933AF-1-5(AEAS:DAS:D/DADI)
1025-A (S.A.E.O.)
29-4-42

Ottawa, Ontario,
May 22nd, 1942.

Air Officer Commanding,
Eastern Air Command, RCAF,
Navy League Building,
17 South Street,
Halifax, N. S.

Hurricane I (Can.) - Propellers

1. This is a confirmation of the information given verbally to the Eastern Air Command S.A.E.O. during his recent visit to this Headquarters.

2. The propeller used on the Hurricane I (Can.) aircraft is a modified Fairey Battle propeller, the modification being a reduction in diameter from 12 feet 6 inches to 11 feet 3 inches.

3. Several flight tests by the aircraft manufacturer led to the following basic pitch settings: 25° and 45° at 42" radius, ~~pitch range 20°~~. The pitch is to be limited by (the stops as follows:

(a) Minimum $26\frac{1}{2}^{\circ}$ at 42" radius.

(b) Maximum $38\frac{1}{2}^{\circ}$ at 42" radius. Please check the pitch settings of the propellers received at Dartmouth Station.

4. The maximum permissible R.P.M. are 3600. 2650 R.P.M. should be obtainable during ground run-up and 3000 R.P.M. at take-off with $6\frac{1}{4}$lb. boost.

(H. S. Rees),
Wing Commander,
for Chief of the Air Staff.

JRD/EO

101

MEMORANDUM

File: 936AF-1-5 (DDPA2)

28rd February, 1943

~~M. 4~~
M. 5
~~M. 6~~

Conversion Sea Hurricane and Hurricane I to Hurricane IIB (Can)

1. The original intention re the subject conversion was to purchase the spares required. However, it now appears that there are to be 100 Hurricane IIB (Can) minus engines and other parts which would be required for the subject conversion shipped to the United Kingdom.

2. There are approximately 75 Hurricane I's and Sea Hurricanes to be converted, and there will be no necessity of any order being raised for conversion parts. There will however as a result of this transaction be surplus equipment at Canadian Car and Foundry which is the property of the R.C.A.F. You are hereby instructed to take the necessary action with No. 29 A.I. Detachment, Canadian Car and Foundry, Fort William to assure that the surplus R.C.A.F. owned equipment is forwarded to its proper destination. (There is rumoured that there may be an additional 50 aircraft shipped to the United Kingdom. This will bear watching.) You are to confirm your understanding and action in this regard.

(H. J. Watt),
Wing Commander,
D.D.P.A.2

MOLSON

938AF-1-5 (DDPA.2)

3015

-1

Ottawa, Ontario, 4th March, 1943

Director General,
Aircraft Production Branch,
Department of Munitions and Supply,
Ottawa, Ontario

Attention: Mr. Donald C. Markey

Conversion of Hurricane I's to Hurricane IIB (Can)

1. Your letter of February 13th on the above noted subject is quite clear insofar as paragraph (2) is concerned wherein you state that the Canadian Car and Foundry Company will do the complete work on the conversion of the Sea Hurricanes and Mark I Hurricanes to Mark IIB (Can.). However, with regard to paragraph (3) of your letter it is desired to know just what equipment will be taken off the Mark IIB (Can) Aircraft when they are shipped to England. In other words, 100 airframes will be shipped to England less engines, propellers, instruments and accessories. Would you please forward to this Headquarters a list of the parts that will definitely not go to England with the airframes. This will enable us to ascertain just what we will be able to count on in the way of spare instruments, spare accessories, etc. which, as you know, will be thrown up at Canadian Car, owing to the fact, that only 80 Sea Hurricanes and Mk. I Hurricanes are being converted to the Mk. IIB (Can), whereas 100 Mk. IIB (Can) Hurricanes are being stripped of this equipment and shipped to the United Kingdom.

(M. J. Watt)
Wing Commander,
for Chief of the Air Staff

MJW/MS

198

MOLSON

OUR FILE D/120/42 (TDE)

REF. YOUR

DATED

9350F 1-5

ROYAL CANADIAN AIR FORCE

March 6th, 1943.

(AMAE:D/DAD1)

The Secretary,
Dept. of National Defence for Air,
Lisgar Building,
OTTAWA, Ontario.

Operation Order D/120/42.
Hurricane Winter Landing Gear.

1. The results of tests made to date on Hurricane 5624 fitted with skis, under the referenced Operation Order, are as follows:

(a) Level Speeds. Using 2850 rpm. and 48½ in. Hg. manifold pressure the true speeds were 245 mph. at a half basis altitude of 4,000 ft., and 266 mph. at a half basis altitude of 11,000 ft. This last speed is about 25 mph. slower than the Hurricane aircraft with undercarriage retracted. Using 2650 rpm. and full throttle in low super charger speed (37½ in. Hg. manifold pressure), the true speed at a half basis altitude of 15,250 ft. was 252 mph.

A/DAD1 - 2 Lent removed one copy for local file BAR 8 Mar. D/DAD1

(b) Climbs. Climbing tests to date at 2650 rpm. and 42-1/8 in. Hg. manifold pressure indicate rate of climb slightly under 3,000 ft. per minute at sea level, increasing to slightly over 3,000 ft. per minute at the rated altitude for these engine conditions in low super charger speed.

(c) Handling Characteristics. The handling of the aircraft during all normal manoeuvres and aerobatics, such as loops, rolls, etc. is satisfactory.

A diving speed of 350 mph. (A.S.I.) was reached on the first trial dive. The pilot then climbed to 16,000 ft. and attempted to reach the required 390 mph. (A.S.I.) in a dive, but somewhere in the neighbourhood of 350 mph. (A.S.I.) the skis suddenly dropped to a negative incidence, pulling the aircraft over. The pilot eventually recovered from this situation at an altitude in the neighbourhood of 3,000 ft.

With the present ski trimming gear, it is suggested that the diving speed should be limited to 325 mph. (A.S.I.)

R.C.A.F. G. 32
3500M—8-42 (2491)
H.Q. 885-G-32

(d) Ground Handling. Turns may be made easily in either direction. It is easier to turn to the left than to the right due to the assistance of the propellor slip-stream in a left turn. Turns must be of a fairly wide radius. The aircraft cannot be taxied without assistance in a high wind as it tends to weather cock. Taxying would be improved by the addition of skates on the main skis as these were found to slide sideways very easily during turns on the relatively hard snow conditions under which taxying tests were carried out. This sideway sliding resulted on one occasion in considerable damage to the metal covering along the sides of the ski bottoms. No taxying tests have been carried out in deep snow.

2. Complete performance tests will be forwarded at an early date.

T.R. Loudon

(T.R. Loudon) Wing Commander,
O.C. Test & Development Establishment,
R.C.A.F. Station, Rockcliffe,
OTTAWA, Ontario.

MOLSON

DRAFT

AIR FORCE TECHNICAL EQUIPMENT ORDER E.1/23/0

AIRCRAFT

Hurricane

Nomenclature.

1. The Hurricane is a single seat, low-wing fighter aircraft designed by Hawker Aircraft Ltd. The Canadian versions are manufactured by Canadian Car & Foundry Co. Ltd.

2. The various marks of the Hurricane in the R.C.A.F. are as indicated hereunder:

Hurricane Mk. XII - Fitted with a Packard Merlin 29 engine and twelve .303 Browning machine guns. Formerly was known as the Hurricane IIB (Can.) aircraft.

Hurricane Mk. XIIA - Converted Hurricane I and Sea Hurricane aircraft and are identical to the Hurricane XII with the exception that they are fitted with wings mounting eight .303 Browning machine guns.

3. All records and publications are to be amended as necessary.

H.Q.: 938AF-2-5

DATE ISSUED: August 31st, 1943

HKM/EC

PROMULGATED as A.F.T.E. A.F.R.O. No. E.1/23/0

DATE 31st Aug. 1943

K.S.L.