

HAWKER HURRICANE PROTOTYPE
THE HAWKER HURRICANE PROTOTYPE DIFFERED CONSIDERABLY
FROM THE PRODUCTION TYPE COMBAT FIGHTERS IN THE
FOLDING MAJOR DESIGN FACTORS:

- (1) TWO BLADE PROPELLER (PIED 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

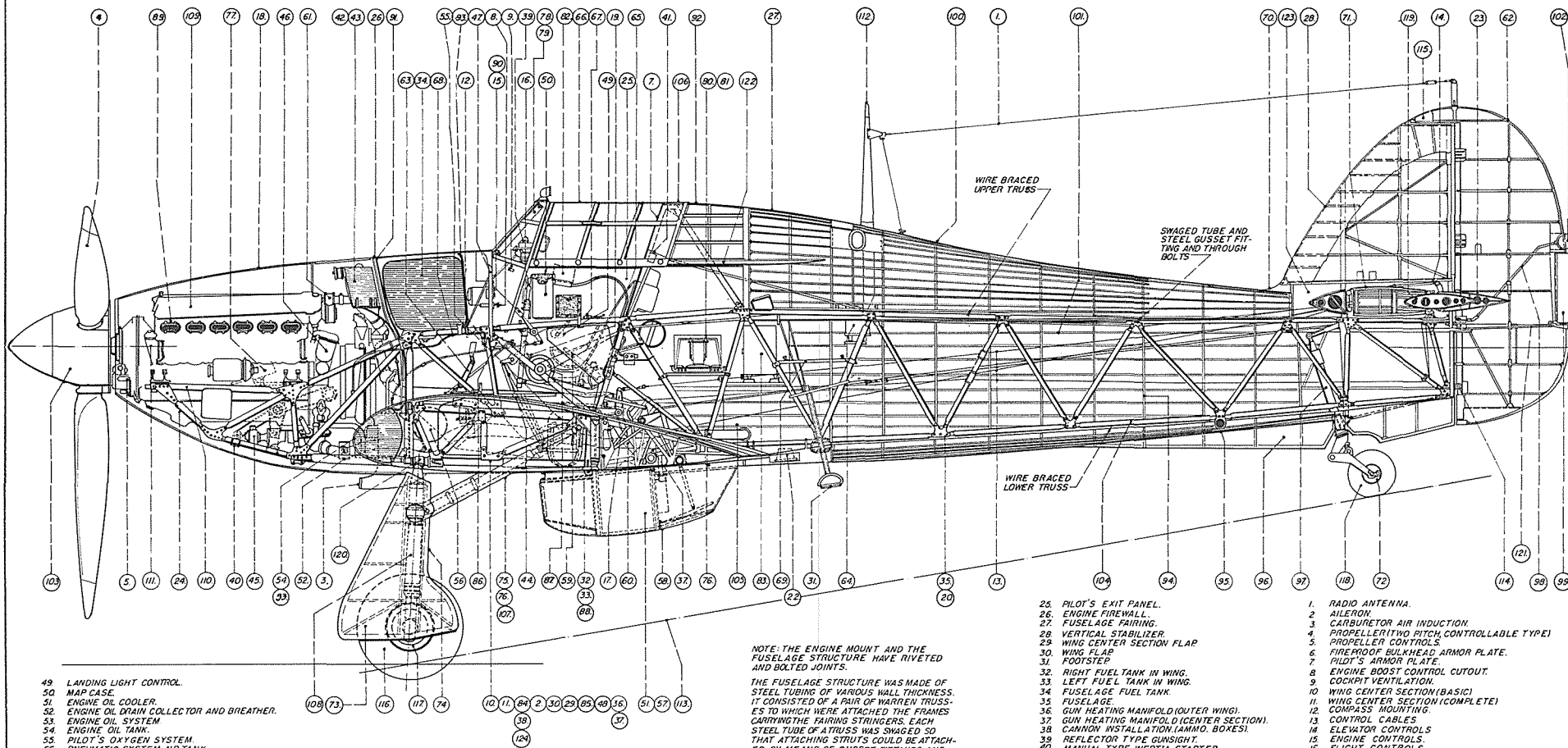
LANDING GEAR OPERATION
LANDING GEAR RETRACTION IS ACCOMPLISHED BY
MANUAL OPERATION OF A HYDRAULIC HANDPUMP. THE
LANDING GEAR RETRACTS INWARD AND AFT. THE
WHEELS MEET CLOSE TO THE FUSELAGE CENTERLINE,
NEST IN RETRACTED POSITION BETWEEN THE WING
SPARS AND FAIRED INTO THE WING CENTER SECTION.
THE SIDE BRACE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

GUN HARMONIZATION
THE GUNS ARE BORE-SIGHTED TO HARMONIZE AND TO
CONVERGE AT 200 YARDS AHEAD OF THE AIRPLANE.
THE CANNONS WERE FIRED SINGLY OR IN RIPPLE SALVO.

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 TUGLUM
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 TRAY
81. RADIO EQUIPMENT TR 133
82. RADIO EQUIPMENT TR 133
83. RADIO EQUIPMENT TR 133
84. 20 MM GUN (5 IN) (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 TRUSS-
ES TO WHICH WERE ATTACHED THE FRAMES
CARRYING THE FAIRING STRINGERS. EACH
STEEL TUBE OF A TRUSS WAS SWAGED SO
THAT ATTACHING STRUTS COULD BE ATTACH-
ED BY MEANS OF GUSSET FITTINGS AND
THROUGH BOLTS. DIAGONAL STEEL BRACE
WIRES COMPLETED TRANSVERSE AND LONGI-
TUDINAL 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.

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 RPM 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

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 GUNLIGHT
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**
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