

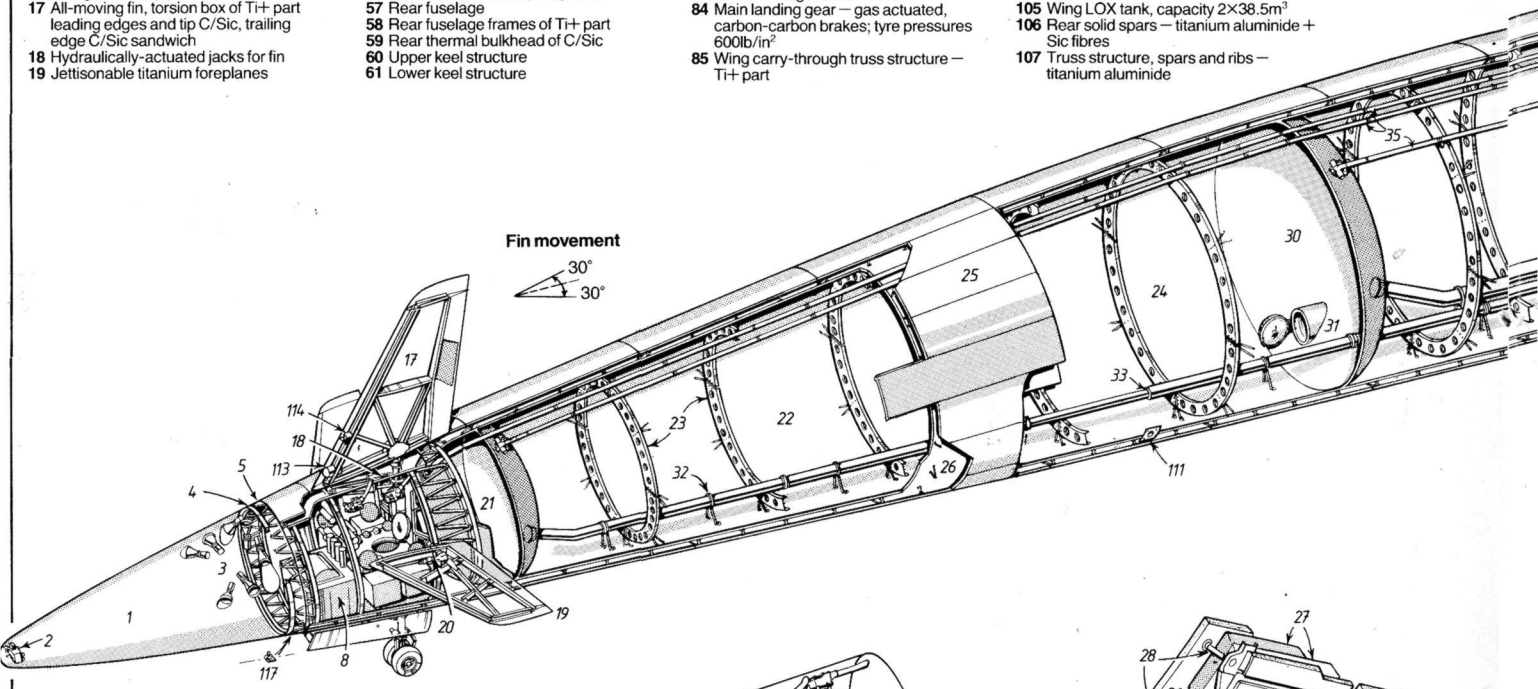
# British Aerospace HOTOL

- 1 Nosecone — carbon silicone carbide (C/Sic)
- 2 Air data sensors
- 3 Nose reaction control system (RCS) thrusters (7)
- 4 Frames — titanium plus particulates (Ti+ part)
- 5 Truss structures of Ti+ part
- 6 Nosewheel doors of Ti+ part with thermal protection panels
- 7 Nosegear — steerable, forward-folding, and gravity operated on down operation. Tyre pressure 600lb/in<sup>2</sup>
- 8 Forward systems bay
- 9 Undercarriage sheer webs of Ti+ part
- 10 Access door to forward systems bay
- 11 Water boilers
- 12 APUs (4)
- 13 Hydraulic reservoirs (4)
- 14 Hydraulic accumulators (4)
- 15 Hydrazine tanks (4)
- 16 Nitrogen tanks (6)
- 17 All-moving fin, torsion box of Ti+ part leading edges and tip C/Sic, trailing edge C/Sic sandwich
- 18 Hydraulically-actuated jacks for fin
- 19 Jettisonable titanium foreplanes

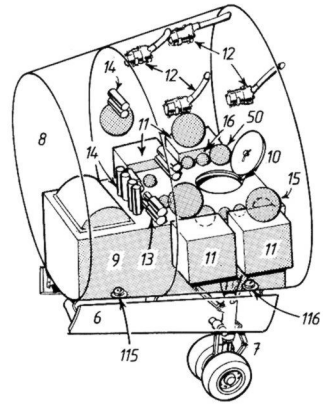
- 36 Aft dome to LH<sub>2</sub> tank
- 37 Rear truss structure — Ti+ part
- 38 Sandwich skin of Ti+ part
- 39 Spacionics bay
- 40 Payload bay
- 41 Rearward hinging payload bay door
- 42 Space radiator
- 43 Payload bay truss frames of Ti+ part
- 44 Reflective fabric liner in payload bay
- 45 Longerons of Ti+ part
- 46 Water boilers (4)
- 47 APUs (4)
- 48 Hydraulic reservoirs (4)
- 49 Hydraulic accumulators (4)
- 50 Water tanks (4)
- 51 Nitrogen tanks (6)
- 52 Hydrazine tanks (4)
- 53 Auxiliary LH<sub>2</sub> tank, capacity 7.17m<sup>3</sup>
- 54 Auxiliary LH<sub>2</sub> tank, capacity 2.52m<sup>3</sup>
- 55 Auxiliary LOX tanks (2), each with capacity of 0.7m<sup>3</sup>
- 56 Centre LOX tank, capacity 19m<sup>3</sup>
- 57 Rear fuselage
- 58 Rear fuselage frames of Ti+ part
- 59 Rear thermal bulkhead of C/Sic
- 60 Upper keel structure
- 61 Lower keel structure

- 62 Body flap — C/Sic
- 63 Hinges for bodyflap (5)
- 64 Actuator for bodyflap
- 65 Intake structure
- 66 Replaceable leading edge
- 67 Intake ramp 1 — C/Sic
- 68 Intake ramp 2
- 69 Intake ramp 3
- 70 Keel — C/Sic
- 71 Forward spigot
- 72 Thrust spigot
- 73 Aft spigot
- 74 Swinging links
- 75 Screwjack actuators for ramps
- 76 Moveable vane
- 77 Boundary-layer bleed
- 78 Plenum intake
- 79 Diffuser in plenum
- 80 Intake lip
- 81 Spill system
- 82 Structure — C/Sic
- 83 Undercarriage doors — C/Sic
- 84 Main landing gear — gas actuated, carbon-carbon brakes; tyre pressures 600lb/in<sup>2</sup>
- 85 Wing carry-through truss structure — Ti+ part

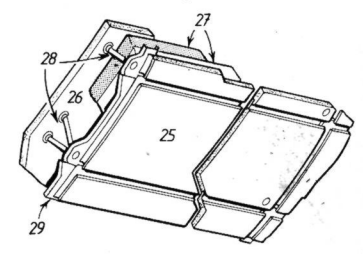
- 86 Rear LOX tank — Carbon PEEK
- 87 Engine thrust frame — Ti+ part
- 88 Thrust structure
- 89 Manifold
- 90 Heat exchangers (8)
- 91 Turbo compressors
- 92 Turbo compressor exhaust
- 93 Turbo pumps LH<sub>2</sub> (4)
- 94 Turbo pumps LOX (4)
- 95 Main engines (4)
- 96 Engine gimball actuators
- 97 RCS — rear
- 98 Leading edge of C/Sic panels
- 99 Tip of C/Sic
- 100 Inner flaperon C/Sic sandwich
- 101 Outer flaperon
- 102 Wing-to-fuselage attachments — titanium
- 103 Solid body side rib — titanium aluminide + Sic fibres
- 104 Solid front spar — titanium aluminide + Sic fibres
- 105 Wing LOX tank, capacity 2×38.5m<sup>3</sup>
- 106 Rear solid spars — titanium aluminide + Sic fibres
- 107 Truss structure, spars and ribs — titanium aluminide



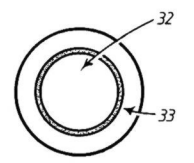
- 20 Jettison gun
- 21 Liquid Oxygen (LOX) transfer tank, Carbon-poly-ether-ketone sandwich (Carbon PEEK) capacity 18m<sup>3</sup>
- 22 Liquid Hydrogen (LH<sub>2</sub>) — forward tank — Carbon PEEK sandwich, capacity 398m<sup>3</sup>
- 23 Baffles of Carbon PEEK
- 24 LH<sub>2</sub> aft tank — Carbon PEEK sandwich, capacity 597m<sup>3</sup>
- 25 Thermal protection shield panel (TPS)
- 26 Tank wall
- 27 Tank insulation
- 28 Support posts
- 29 Segmented support frames
- 30 Tank divider
- 31 Access doors for tank inspection
- 32 LOX transfer pipe — Carbon PEEK
- 33 Helium purging on outside of LOX transfer pipe
- 34 LH<sub>2</sub> feed pipe — Carbon PEEK
- 35 Tank pressurisation lines — Carbon PEEK



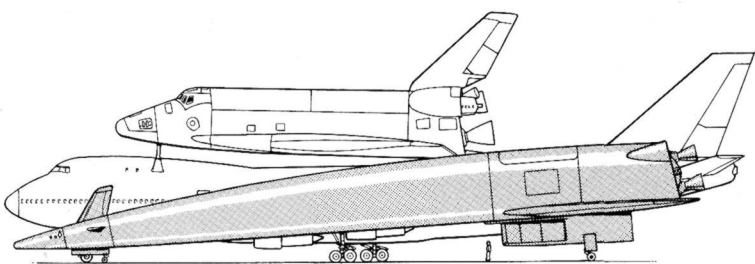
Detail of forward equipment bay (larger scale)



Detail of thermal protection shield panel



Detail of LOX transfer pipe



Size comparison of Hotol to 747 and Shuttle Orbiter