Hawker 800XP

Aircraft Specification & Description

(Serial numbers 258717, 258723 and on)

Hawker

Raytheon Aircraft Company

Contents

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Introduction

This document is published for the purpose of providing general information for the evaluation of the design, performance and equipment of the Hawker 800XP aircraft. Should more detailed data be required, it can be obtained by contacting:

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This document describes only the Hawker 800XP aircraft, serial numbers 258717, 258723 and on, including powerplants and equipment. Also included are the warranties applicable to the Hawker 800XP aircraft, Honeywell TFE 731-5BR engine, Collins avionics equipment as well as the Hawker 800XP crew training agreement. In the event of any conflict or discrepancy between this document and the Aircraft Purchase Agreement to which it may be appended, terms specified in the Aircraft Purchase Agreement shall prevail.

Throughout this document, Raytheon Aircraft Company reserves the right to revise the 'Specification and Description' whenever occasioned by product improvements, government regulations or other good cause, as long as such revisions do not result in a significant reduction in performance standards of the aircraft.

1. General Description

The Hawker 800XP is an all metal, twin turbofan engine, swept wing executive jet aircraft. Standard seating is for 8 passengers and their baggage, plus a minimum crew of two. A third crew member seat is also provided. The aircraft has optional seating layouts which can accommodate up to 12 passengers.

Powerplants are two Honeywell TFE 731-5BR turbofan engines, pylon mounted on the rear fuselage.

The Hawker 800XP is certified in accordance with CAR.4b BCAR requirements, FAR Part 25 amended, FAR Part 36 noise requirements and meets the airworthiness requirements for RVSM approval.

Approximate Dimensions

Overall Height at Basic Operating Weight ..... 18 ft 1 in (5.51 m)
Overall Length ..... 51 ft 2 in (15.60 m)

Wing

Span (overall) ..... 51 ft 4 in (15.66 m)
Area ..... 374 sq ft (34.75 sq m)
Sweep (at 25% chord) ..... 20.0 deg
Dihedral ..... 2.0 deg
Aspect Ratio 7.09
Mean Aerodynamic Chord ..... 7 ft 11 in (2.4 m)

Horizontal Tail

Span (overall) ..... 20 ft 0 in (6.10 m)
Area ..... 100 sq ft (9.29 sq m)
Sweep (at 25% chord) ..... 20 deg
Dihedral ..... 0 deg
Aspect Ratio 4.00

Vertical Tail

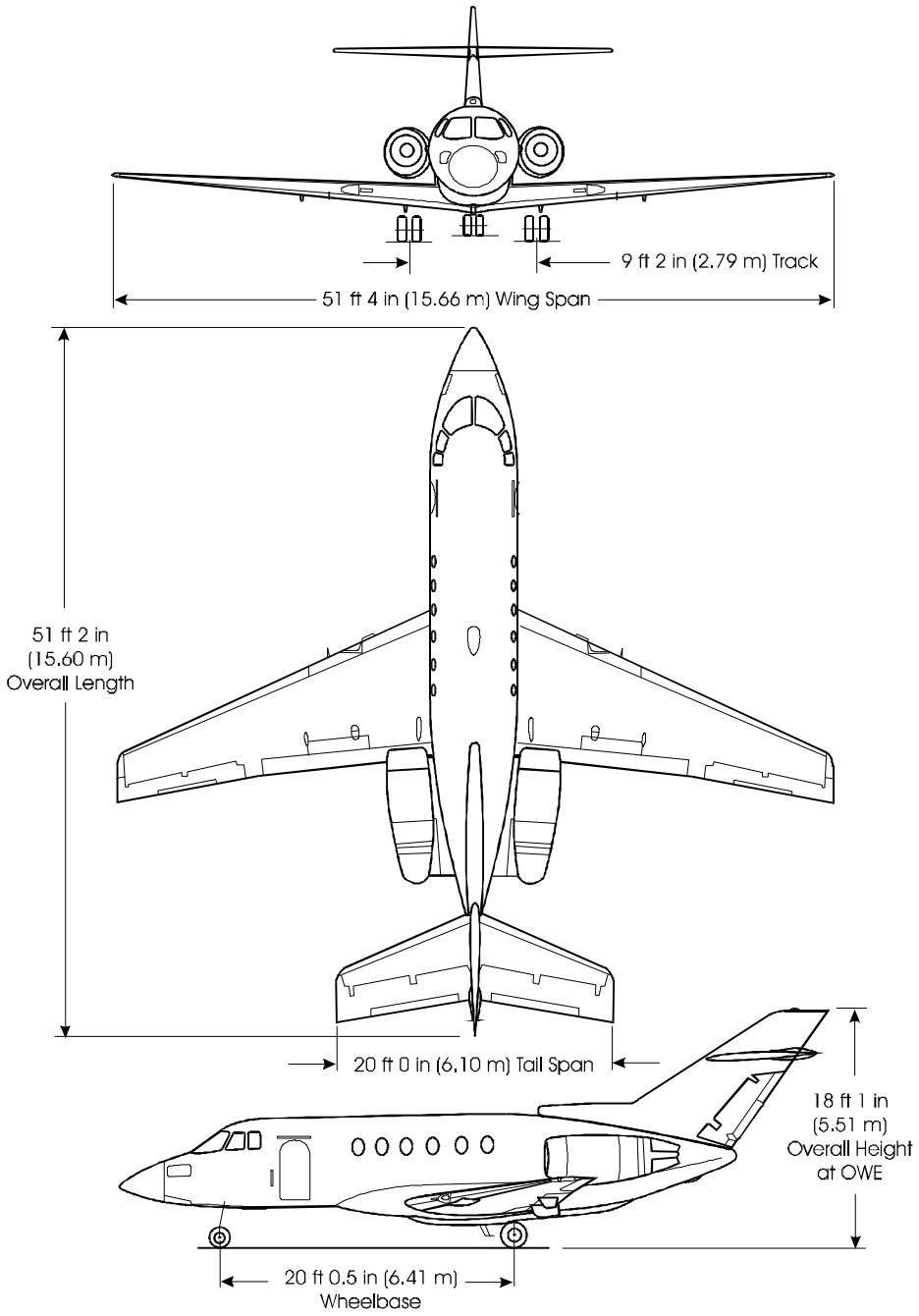
Area ..... 62.5 sq ft (6.10 sq m)
Sweep (at 25% chord) ..... 54.3 deg
Aspect Ratio 1.1

Cabin

Length - Cockpit divider to aft pressure bulkhead ..... 21 ft 4 in (6.49 m)
Height ..... 5 ft 9 in (1.75 m)
Width ..... 6 ft 0 in (1.83 m)
Width - at floor ..... 4 ft 3 in (1.34 m)

Entrance Door

Height ..... 4 ft 4 in (1.30 m)
Width ..... 2 ft 3 in (0.69 m)



2. Design Weights and Capacities

Maximum Ramp Weight	28,120 lb (12,755 kg)
Maximum Take-off Weight	28,000 lb (12,700 kg)
Maximum Landing Weight	23,350 lb (10,591 kg)
Basic Operating Weight *	16,250 lb (7,370 kg)
Fuel Capacity (Useable) @ 6.7 lb per U.S. gallon	10,000 lb (4,536 kg)

** Basic Operating Weight is an estimate and includes the weight of two crew, unusable fuel, oil and typically selected options.*

3. Performance

All performance data is based on a standard aircraft and International Standard Atmospheric (ISA) conditions. Take-off and landing lengths are based on level, hard surface, dry runways with zero wind.

Range (± 3%).....2,540 nm (4,682 km)
(4 passengers + 2 crew. Range allows for taxi,
take-off, climb, cruise, descent and NBAA IFR reserves)

Maximum Operating Altitude (FAA certified)..... 41,000 ft (12,497 m)

Take-off Distance.....5,030 ft (1,533 m)
(FAR 25, Sea Level, ISA, 15 flaps, 28,000 lb /12,700 kg)

Landing Distance.....2,650 ft (807 m)
(FAR 25, Sea Level, ISA, 23,350 lb/10,591 kg)

Cruise Speed (± 3%) .....447 kt (828 km/hr)
(ISA, 37,000 ft (11,278 m) altitude, 22,000 lb (9,979 kg)

Noise *
Take-off.....79.3 EPNdB
Approach.....93.3 EPNdB

** These noise levels comply with the requirements of FAR 36 Stage 3 and ICAO annex 16 (Volume 1, Chapter 3) at 28,000 lb take-off weight and 23,350 lb landing weight.*

Note: Range shown is based on a Basic Operating Weight estimate of 16,250 lb (7,370 kg).

4. Structural Design Criteria

The Hawker 800XP is a twin turbofan engine executive jet aircraft, certified for worldwide operation by day or night. The aircraft is an all metal, low wing monoplane with cantilever wing and tail surfaces, semi-monocoque fuselage and retractable tricycle landing gear.

Design maneuvering load limits are -1.0 to +2.73 g's at 28,000 lb (12,700 kg).

At an operating altitude of 41,000 ft (12,497 m), a nominal maximum cabin pressure differential of 8.55 psi provides a 7,500 ft (2,286 m) cabin altitude.

Limit Speeds

Bird Strike Limiting Speed (Sea level to 8,000 ft)..... 280 KIAS (519 km/hr)
VMO (Ventral tank not empty) ..... 280 KIAS (519 km/hr)
VMO (Ventral tank empty) .....335 KIAS reducing to 310 KIAS at 29,000 ft
..... (620 km/hr reducing to 574 km/hr at 8,840 m)
MMO..... 0.80 M

Flap Extension Speeds

VFE (Flap 15)..... 220 KIAS (407 km/hr)
VFE (Flap 25)..... 175 KIAS (324 km/hr)
VFE (Flap 45)..... 165 KIAS (306 km/hr)

Limit Speeds (continued)

Landing Gear Operating and Extension Speeds

VLO ..... 220 KIAS (407 km/hr)
VLE ..... 220 KIAS (407 km/hr)

Speedbrake Operation

VSB ..... No Limit
MSB ..... No Limit

CG Range

Forward Limit to 22,000 lb (9,979 kg) .....15.0% MAC
Aft Limit (ventral tank full) ..... 35% MAC

5. Fuselage

The fuselage is fabricated of high strength aluminum-copper alloy, with appropriate use of steel and other materials. The design of the primary structure is generally based on damage tolerant principles, by using multiple load paths, low stress levels and slow crack growth materials. Both reduxed * and riveted construction is used.

* Redux is a manufacturing method whereby components are bonded together, thereby eliminating the need for mechanical fasteners. This saves weight and prolongs the fatigue life of the component.

The fuselage is an all metal semi-monocoque structure, consisting of three main sections; an unpressurized nose section, a pressurized flight deck and cabin section, and an unpressurized tail section.

Nose Section

A composite radome is fitted forward of the nose gear bay, housing the weather radar. The radome is hinged to provide access. The nose section houses the auxiliary hydraulic system and some avionic components.

Pressurized Flight Deck and Cabin Section

The pressure cabin, comprising the flight deck and passenger compartment, runs from the forward flat pressure bulkhead to the rear pressure dome. Structural pressure walls form the boundary of the nose gear bay in the flight compartment.

The skin is supported by transverse frames and longitudinal stringers. All aperture surrounds and seam joints are reinforced to ensure low stress levels.

Attachment fittings for the wing are made of high tensile steel which connect to heavy duty fabricated frames at the front and rear spar positions.

The inboard seat rails are supported on continuous beams on either side of the aisle in the passenger compartment. Each outboard seat rail is mounted on a continuous member attached to the fuselage side.

Flight Compartment Windows

The flight compartment windows are a fail-safe design manufactured from stretched acrylic. The front windshield is single curvature, with the forward and rear side panels being double curvature. The rear side panels can be opened for ventilation and communication while on the ground. The front windshield and forward side panels are electrically heated.

Passenger Windows

Six windows of dry air 'sandwich' construction are provided on each side of the passenger compartment. The inner pane of the window assembly is capable of sustaining the full cabin differential pressure in the event of outer pane failure.

Entrance Door

An outward opening, drop down door with integral airstairs is located on the left side of the fuselage, forward of the wing. The door is counter-balanced by a spring operated motor to facilitate opening and closing.

Emergency Exit

A single emergency exit is provided on the right hand side of the cabin over the wing, and incorporates a passenger window. This exit can be opened from inside or outside the aircraft. A locking pin is provided for security while the aircraft is parked.

Tail Section

The fuselage aft of the pressure dome consists of a skin supported by transverse frames and longitudinal riveted stringers. The main engine attachment points are located at either end of a fabricated beam mounted transversely on the fuselage. The aft attachment is mounted on reinforced frames. The fin structure attaches to four heavy-duty frames in the rear fuselage.

Underskid

A skid is fitted under the wing and ventral fuel tank and enclosed within a fairing. The under-wing section of the skid consists of a beryllium-copper rubbing strip and a light alloy pivoted arm, faced with a beryllium-copper pad. The ventral tank skid section consists of a light alloy pivoted arm and beryllium copper pad. Both skid pads are supported on energy absorbing metal honeycomb.

6. Wing

The wing structure is an assembly consisting of the left and right wings and a center section. The basic wing box incorporates front and rear spars, ribs and wing skins. A fabricated center spar extends for two-thirds of the span. Front spars, rear spars and ribs are machined from aluminum-copper alloy billets.

The wing skins are single contour milled panels, reinforced by bonded closed section stringers. The skin terminates at the root rib and incorporates eight detachable panels for maintenance and inspection. The bottom skin extends to the aircraft centerline and incorporates six access panels, plus small detachable panels to permit maintenance.

Top skins and stiffeners are manufactured from aluminum-zinc alloy, bottom skins and stiffeners from aluminum-copper alloy.

Wing (continued)

The wing center section is an assembly consisting of wing ribs and five machined beams. The front and rear beams form the continuation of the front and rear wing spars.

Integral fuel tanks extend from either side of the center line rib to within twenty five inches of the wing tip. Each tank is sub-divided into six anti-surge compartments which restrict fuel movement in flight. The tanks are sealed with Thiokol© sealant.

The wing is attached to the fuselage by four high tensile steel vertical links located at the intersection of the root rib and the front and rear spars. A high tensile steel side stay link is located at the forward left position and a shear spigot on the rear spar, along the aircraft center line. The center section is dished on its top surface to allow the entire wing structure to pass beneath the fuselage.

Ailerons

Each aileron extends from approximately two-thirds span to the wing tip and are both mass and aerodynamically balanced. Each aileron is supported by three hinges, with the inboard hinge locating the aileron laterally.

Flaps

Double slotted flaps are hinged on two external fixed arms below the wing and extend from the fuselage side to approximately half of the semi-span.

The wing flaps are hydraulically operated with one actuator per side and are interconnected by a cable system to ensure symmetrical operation. The flap system is controlled by a flap control lever located on the center pedestal. The flap control lever has four positions: 0°, 15°, 25° and 45°.

Airbrakes

Airbrakes are fitted on the top and bottom surfaces of the wing forward of the flaps, each attached to the rear spar by two hinges.

7. Empennage

The empennage consists of a vertical stabilizer and a fixed incidence horizontal stabilizer in a ‘T-tail’ design. Elevators are attached to the trailing edge of the horizontal stabilizer and are operated through a cable/pulley assembly connected to the control column. The rudder is attached to the trailing edge of the vertical stabilizer. A rudder trim tab is attached to the lower trailing edge of the rudder.

The main fin structure incorporates front and rear spars, ribs and skins, stiffened by Redux- bonded stringers and is bolted to the rear fuselage structure. The overfin is a self contained unit of mixed metal/glass reinforced plastic construction. It has three main fixing points for attachment to the horizontal stabilizer.

A red rotating beacon is located on top of the overfin. A white tail light is located on the top rearmost section of the fuselage. Tail flood lights are located in the lower surface of the horizontal stabilizer to illuminate the vertical stabilizer.

8. Landing Gear

The Hawker 800XP is equipped with fully retractable tricycle landing gear. The main landing gear uses conventional air over oil struts with twin wheels which retract inboard into the fuselage. The nose gear uses conventional air over oil shock strut with twin wheels which retract forward into the fuselage. The landing gear is hydraulically actuated and is enclosed by mechanically and hydraulically actuated doors.

The landing gear may be extended or retracted at speeds up to 220 KIAS. The landing gear position and warning system provides visual and aural indications of landing gear position. Three green and three red indicator lights are located on the main instrument panel. Back-up downlock indication is provided by additional lights in the right side console for the main gear and by a mechanical indicator for the nose gear. A ground safety lock prevents inadvertent selection of the landing gear to the 'up' position.

Emergency landing gear extension is accomplished by use of the auxiliary hydraulic system. Operation of the auxiliary system handpump on the flight deck directs hydraulic fluid to the gear actuators via lines that are independent of the normal extension circuit.

Nosewheel Steering

Nosewheel steering is mechanically actuated by a hydraulically operated handwheel on the pilot side, which provides directional control on the ground. Maximum available steering angle is 45° left or right. A steering disconnect is installed in the torque link permitting free rotation of the nosewheel for towing purposes.

Brakes

The main landing gear wheels are equipped with full power brakes which are operated by applying toe pressure on the rudder pedals.

Main hydraulic system power is used to operate caliper-type disc brakes via Maxaret© anti-skid units. The system offers protection from skids, particularly on wet or contaminated runways.

9. Powerplants

The Hawker 800XP is powered by two aft pod-mounted TFE 731-5BR turbofan engines manufactured by Honeywell Aerospace. The engines are twin spool turbofan jets of modular design for ease of maintenance.

The TFE 731-5BR produces 4,660 lb of static thrust on a standard day at sea level and a maximum continuous thrust of 4,660 lb.

Engine starts may be made using either the aircraft batteries or external power. Fuel flow to the engine is mechanically controlled by thrust lever movement and is regulated by the engine fuel control system. The Fuel Control Unit (FCU) is a hydromechanical metering unit, which is monitored by a Digital Engine Electronic Control (DEEC) that is separately mounted in the rear equipment bay, thereby providing fuel scheduling for engine operations at all altitudes. The DEEC also provides Engine Condition Trend Monitoring data, which can be downloaded via DEEC ports located above the forward baggage bay.

Powerplants (continued)

The engine synchronizer automatically synchronizes the speed of either the fan or the turbine of the 'slave' engine to that of the 'master' engine.

An accessory gearbox is mounted on the lower side of the engine's intermediate case and is driven from the high pressure (N2) spool. Its function is to drive the accessories for the engine and aircraft systems.

Air is bled from two stages of the engine compressor to provide supplies for the nacelle inlet cowl anti-icing and the pressurization and environmental systems. Ram air is used to ventilate the area of the cowling surrounding the engine compressor stages between the front and rear firewalls.

A closed loop fire detection system monitors the nacelle to detect and warn if a fire occurs. A fire extinguishing system is provided.

10. Thrust Reversers

The thrust reversers are of target type design and are hydraulically operated.

Each reverser is mounted on the aft end of each engine forming the exhaust nozzle and the aft portion of the nacelle when stowed. When deployed, the reverser doors join behind the exhaust nozzle and direct the exhaust gas forward over and under the nacelle. This provides additional deceleration force for ground braking.

11. Auxiliary Power Unit

The Honeywell 36-150[W] Auxiliary Power Unit (APU) is fitted as standard equipment. It is a turbine powered engine that provides air conditioning and electrical power that is independent of the main engines or ground power units. The system provides adequate conditioned air and is capable of delivering 28-volt/300 amperes of electrical energy. The installed starter/generator and generator control unit are interchangeable with the generators and control units installed on the main engines.

The system is entirely self-monitoring, and in the event of a serious fault, an automatic shut-down of the APU is accomplished. In addition, complete internal hub and rotor containment is provided.

The APU is fully approved for in-flight operation up to 30,000 feet (9,144 m).

Warranty duration for the Honeywell 36-150[W] APU is sixty (60) months from date of delivery to owner, or two thousand five hundred (2,500) APU operating hours, whichever first occurs.

12. Systems

Flight Controls

Dual controls are provided. The primary control system is of conventional design and is manually operated through control cables, push-pull rods and mechanical linkages providing pitch, roll and yaw. The elevators control pitch attitude of the aircraft, with roll being controlled through the ailerons. The rudder accomplishes yaw control.

The secondary control system provides mechanical trim for the pitch system through trim tabs that are fitted to each elevator. Roll trim is provided from the mechanically operated roll trim tab on the left aileron. The mechanically operated rudder trim tab provides yaw trim.

Flight Controls (continued)

The interconnected slotted flaps are hydraulically powered from a single flap control unit and transmission shafting. The flap control unit is supplied with hydraulic fluid from the main hydraulic system, but an independent fluid supply from the auxiliary hydraulic system is utilized in the event of main system failure. The flaps are interconnected by a cable system to ensure symmetrical operation. The flap system is controlled by a flap control lever that is located on the center pedestal to the right of the thrust levers.

A pair of airbrakes which are powered by the main hydraulic system are on each wing. One airbrake extends from the upper wing surface, while the other extends from the lower surface. Control of the airbrakes is by means of an airbrake selector lever located on the center control pedestal.

The airbrake selector is interconnected with the input lever to the flap control unit. During landing roll, with the flaps selected to the 45° (landing) position, lifting the airbrake selector and moving it rearwards into the 'lift dump' position automatically lowers the flaps to a 75° angle. This also opens the airbrakes further to provide maximum drag.

Rudder Bias System

Two air powered struts are connected between the fuselage and the rudder torque tube quadrant to provide an automatic application of rudder bias to counteract asymmetric thrust caused by failure or malfunction of one engine.

The engine bleed air system is interconnected to the struts in a manner whereby each engine supplies air to opposing sides of the strut positions.

Should power in one engine be reduced, the resulting loss of air would create an imbalance within the pistons which would bias the rudder to one side thereby maintaining directional control.

Fuel System

The fuel system provides an independent fuel supply for each engine, and is designed to operate up to 41,000 ft within a temperature range of -42°C to +57°C on the following fuels: Jet A (min. air temperature -35°C), Jet A-1, JP-4, JP-8 and GOST10277-86 TS-1/T-1/T-2/RT. All components in the fuel system are compatible with all fuels approved for the TFE 731-5BR engine.

Fuel storage is provided in two independent integral wing tanks and in an auxiliary ventral tank located at the rear of the fuselage.

The system has both a wing-tank to wing-tank transfer capability and has a cross-feed capability from either wing tank to one or both engines. A fuel transfer system permits fuel transfer from the ventral tank into either one or both wing tanks.

Jet pumps use motive flow action from electrical booster pumps to draw fuel from the wings into the aft center wing section. The electrical booster pumps deliver pressurized fuel to the engines. The fuel system has both gravity refueling and a single point pressure refueling/defueling capabilities.

Hydraulic System

The main system is powered by two hydraulic pumps, one driven by each engine which maintain a continuous pressure of approximately 3,000 psi throughout the system. A reservoir provides hydraulic fluid for system operation. Reservoir capacity is approximately 2.4 U.S gallons of MIL-H-5606 or DEFSTAN91-48 hydraulic fluid.

Systems utilizing hydraulic pressure for activation are the landing gear, flaps, airbrakes, nosewheel steering, brakes/anti-skid, stall prevention and thrust reversers.

An auxiliary hydraulic system provides an alternative source of hydraulic power for landing gear extension and flaps operation. The system is hand operated, and when selected, is independent of the main system.

Electrical System

Electrical power to the aircraft is provided by two 28.5V DC engine-driven starter-generators, with one driven by each engine. Two 24 volt DC, 23 ampere-hour sealed lead acid batteries supply electrical power for engine starting and emergency requirements. A 28V DC external power receptacle located on the right side of the fuselage is provided for connection of an external power unit.

A third starter/generator, driven by the APU is available.

Each generator output supplies its own busbar. A bus-tie contactor, controlled by a voltage protector, enables these busbars to be joined together after generator power is available. Automatic splitting of the two busbars occurs when the busbar detection unit detects an under/over voltage. Either generator is capable of supplying both busbars.

AC power is supplied by two static inverters and one standby inverter. The inverters are designed to produce 115 volts, 400 Hz AC with an apparent power rating of 1500 volt-amperes each.

Pressurization and Environmental System

The pressurization and environmental systems utilize engine bleed air to pressurize and air condition the cabin. An air conditioning pack incorporating a three-wheel air cycle machine is utilized. Temperature levels are set manually and automatically controlled. Pneumatic controls automatically maintain the selected cabin (pressurization) altitude.

Manual controls provide emergency selections of both air conditioning and pressurization.

On the ground, when the main engines are not running, the air cycle machine (powered by the APU) supplies conditioned air.

The cabin is pressurized by the flow of air from the cockpit and cabin air outlets. Control is normally automatic, according to the selection of cabin altitude and the rate of change of cabin pressure on the controller, that is situated in the flight compartment. The controller controls cabin altitude by signaling the two outflow safety valves that are located on the rear pressure bulkhead. Both outflow safety valves modulate the flow of air discharged from the cabin during normal operation.

Conditioned air enters the passenger cabin and is directed by a two-way valve up to the flood flow duct located in the cabin rear bulkhead, or into the normal distribution system. A ‘flood-flow’ facility enables the cabin to be rapidly cooled or heated on the ground as soon as either the APU or a main

Pressurization and Environmental System (continued)

engine is started. The system distributes the air through a series of roof ducts, flexible wall tubes and ankle level vents.

A recirculation fan supplies air to the personal cabin outlets above each seat and forward to the flight compartment. There is an independent flight compartment supply from the right hand engine which provides additional heat for the crew's feet and for demisting the windshields, while also serving as an emergency pressurization supply.

Temperature of the air delivered to the cabin may be varied by the crew via the cabin temperature selector on the flight deck, or by the passengers using a cabin temperature increase/decrease switch in the cabin. Temperature is maintained at selected levels through the automatic control of valves via a sensor in the passenger cabin.

Oxygen System

The oxygen supply for the crew and passengers is stored in two 750 liter cylinders that are fitted in the rear equipment bay. The charging valve and contents gauge are located in the right hand side of the ventral tank fairing. Additional oxygen capacity can be fitted as an option.

Oxygen equipment for each pilot consists of a quick donning mask, which includes a demand type regulator and a supply socket. Each mask is normally stowed in the side wall trim, adjacent to each seat.

The oxygen supply for passengers is provided through drop out mask units and one supplemental outlet. The drop out masks are delivered automatically if the cabin altitude rises above 12,000 ft ± 500 ft.

Ice Protection System

The Hawker 800XP is fitted with an ice protection system designed to allow safe flight through continuous icing and intermittent icing. This protection can be provided with one engine inoperative. All systems are operable on the ground for check-out purposes.

A rotary ice detector is fitted on the left hand side of the aircraft's nose, which provides for an automatic warning of icing conditions.

A TKS anti-icing fluid system protects the leading edges of the wing and tailplane from a build up of ice.

Hot air that is bled from the final stage of the engine compressor is used for anti-icing in the nacelle inlet cowling.

Anti-icing of the front windshields and forward side panels are provided by electrically conductive transparent film heating layers within the panels.

The two pitot heads and forward static plates are electrically heated. In addition, electric heating of each rudder bias strut is provided.

13. Flight Compartment and Avionics

The Hawker 800XP is certified for two pilot operation. All the controls and switches are laid out for accessibility to either pilot. All the circuit breakers are located on a panel behind the co-pilot.

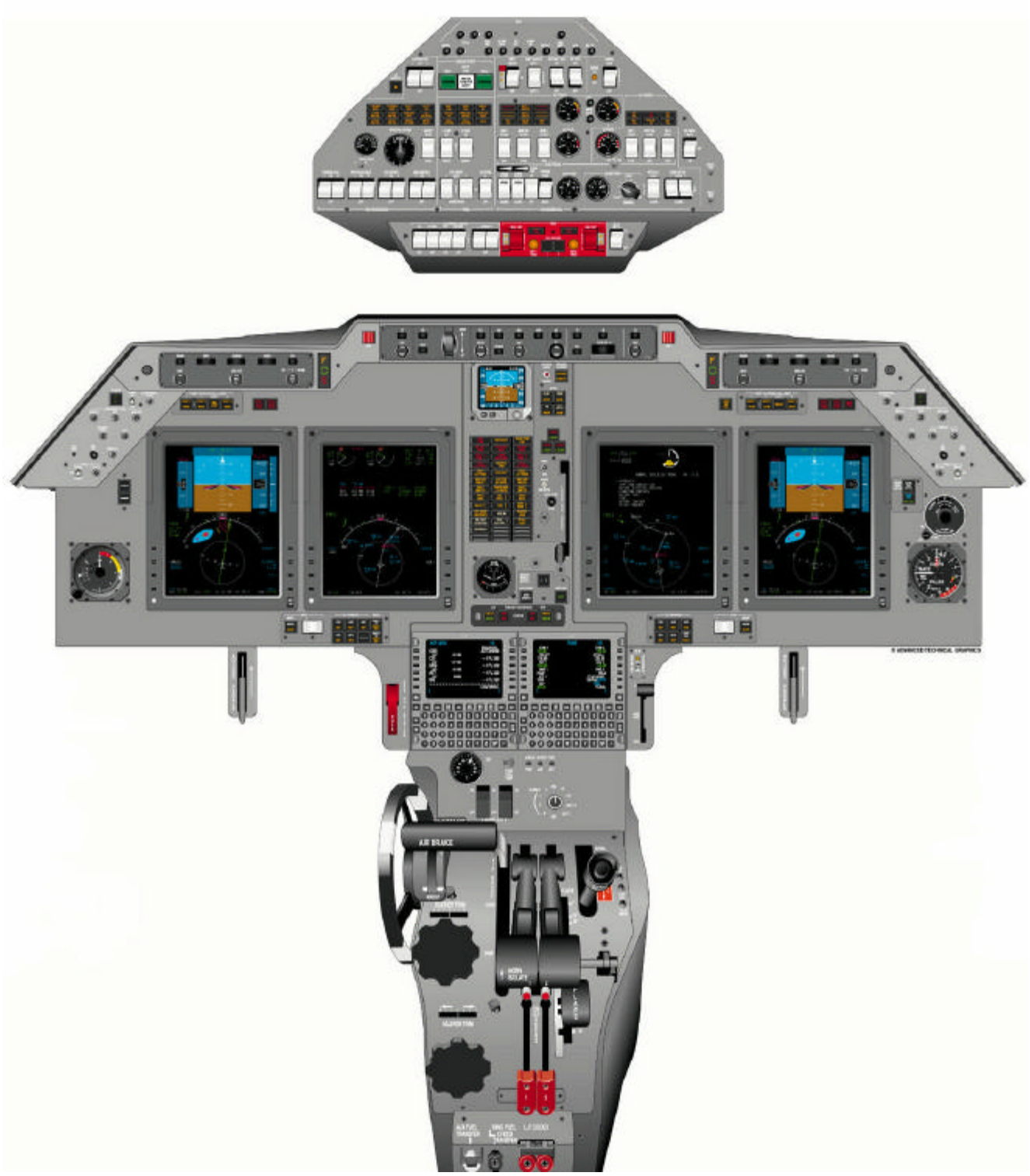
An overhead control panel is located between the two pilots. The large upper panel is divided into areas which provide switching, controls and annunciation for the ice protection, fuel, electrical and environmental systems. Switches for main battery power, external power, battery charge, engine start and cabin temperature are also located on this panel. A lower sub-panel contains the exterior light switches, engine fire warning/extinguishing system.

System annunciation is provided by a master warning annunciation system along with individual system annunciators.

The standard avionics installation in the Hawker 800XP is a fully digital Collins Pro Line 21 display and radio system featuring four large 8 inch x 10 inch Active Matrix Liquid Crystal Displays (AMLCDs). The display system consists of two Primary Flight Displays (PFDs) and two Multifunction Displays (MFDs). An Engine Indicating System (EIS) provides display of engine and fuel data on the AMLCDs. Two Display Control Panels (DCPs), one for control of the Pilot's PFD and MFD and the other to control the Copilot's PFD and MFD, are installed in the glareshield. Additionally, a single Flight Guidance Panel (FGP) is installed in the center of the glareshield for control of flight director and autopilot functions. Two Control Display Units (CDUs) are installed in the lower center area of the panel to control the dual Flight Management Systems (FMSs) and communication/navigation radios.

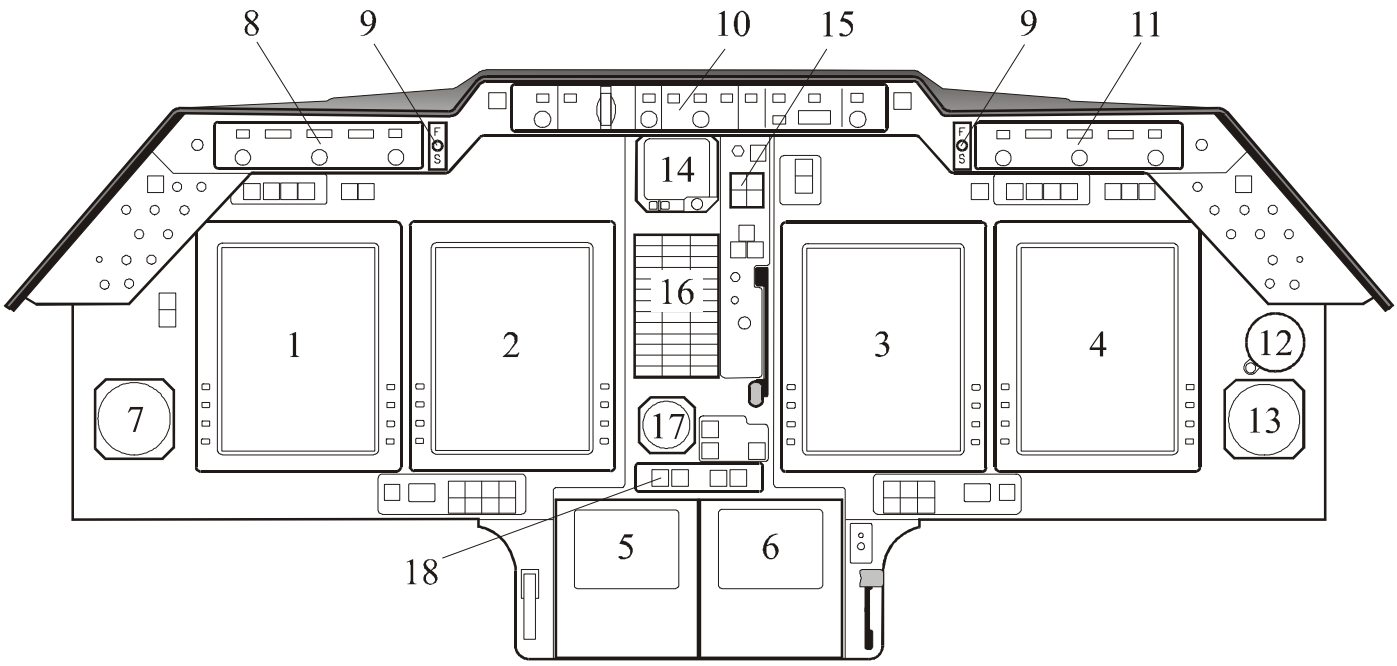
The Collins Flight Director/Autopilot is a fully digital system that provides automatic 3-axis control of the airplane. The Hawker 800XP comes equipped with dual Attitude Heading Reference Systems (AHRSs) and dual Air Data Computers (ADCs). With the AHRS systems monitoring the autopilot system, the autopilot is considered to be fail passive. This means that in the unlikely event of an uncommanded autopilot disconnect, this will have no adverse effect on aircraft controllability.

Flight Compartment & Avionics (continued)



Hawker 800XP Pro Line 21 Cockpit

Flight Compartment & Avionics (continued)



Hawker 800XP Main Instrument Panel

1. Pilot's Primary Flight Display (PFD)
2. Pilot's Multifunction Display (MFD)
3. Co-pilot's Multifunction Display
4. Co-pilot's Primary Flight Display
5. Pilot's Control Display Unit (CDU)
6. Copilot's Control Display Unit
7. Angle of Attack (AOA) Indicator
8. Pilot's Display Control Panel (DCP)
9. Angle of Attack (AOA) Indexer (2 places)
10. Flight Guidance Panel (FGP)
11. Copilot's Display Control Panel
12. Cabin Pressurization Controller
13. Cabin Pressure Indicator
14. Secondary Flight Display System
15. EGPWS Controls
16. Master Warning System (MWS)
17. Hydraulic and Brake Pressure Indicator
18. Thrust Reverser Panel

Avionics

The standard avionics installation in the Hawker 800XP is a Collins Pro Line 21 integrated avionics system. This system features an Integrated Avionics Processor System (IAPS), Electronic Flight Instrument System (EFIS), Engine Indicating System (EIS), Secondary Flight Display System (SFDS), Air Data System (ADS), Attitude Heading Reference System (AHRS), Automatic Flight Guidance System (AFGS), Flight Management System (FMS)/Global Positioning System (GPS), Traffic Collision Avoidance System (TCAS), Radio System, Weather Radar, Enhanced Ground Proximity Warning System (EGPWS), Audio System, and Maintenance Diagnostic System.

Integrated Avionics Processor System (IAPS)

The IAPS is the central feature of the avionics system. The IAPS, located in the nose compartment, serves as a housing for a number of modules. It also provides for lightning and HIRF (High Intensity Radiated Fields) Protection and data concentration/distribution. Modules in the IAPS are used to control Flight Guidance/Autopilot, Flight Management, and Maintenance Diagnostic functions.

Electronic Flight Instrumentation System (EFIS)

The flight display system consists of four 8 inch x 10 inch Adaptive Flight Displays (AFDs) featuring Active Matrix Liquid Color Displays (AMLCDs). Two AFD-3010 units serve as Primary Flight Displays (PFDs), one for the pilot and the other for the co-pilot. Two AFD-3010E units serve as Multifunction Displays (MFDs), one for the Pilot and the other for the Co-pilot.

In normal operation the PFDs provide display of primary attitude, heading, altitude, airspeed, navigation course information, and flight guidance functions. The pilot's MFD normally provides display of engine parameters, map functions, traffic, terrain, and weather returns. The co-pilot's MFD normally provides display of fuel quantity, flap position, checklists, traffic, terrain, and weather returns. Reversionary modes allow additional information to be displayed on any particular AFD when this is required.

The display system is controlled by two DCP-3020 Display Control Panels (DCPs) mounted in the glareshield, one above the pilot's displays and the other above the co-pilot's displays. The DCPs provide control of altimeter baro setting, secondary engine parameters display, V-speed references, navigation source selection, weather radar control, and display range selection.

The Collins IFIS-5000 Integrated Flight Information System includes a FSU-5010 File Server Unit and dual CCP-3000 Cursor Control Panels.

Engine Indicating System (EIS)

The EIS system utilizes four DCU-3001 Data Concentrator Units (DCUs), two interfaced with each engine. The DCUs convert engine data into digital signals that allow the information to be displayed to the flight crew on the AFDs.

Secondary Flight Display System (SFDS)

A Meggitt Mark II Secondary Flight Display System is installed in the center of the instrument panel. This system, which incorporates an independent air data unit, displays attitude, altitude, airspeed, heading, nav course deviation, and glideslope deviation information. In case of total electrical failure, this unit is powered by backup battery packs.

Air Data System (ADS)

Dual digital Collins ADC-3000 Air Data Computers (ADCs) are installed. Pitot and static pneumatic and air temperature inputs from the appropriate sensors are provided to the ADCs. The ADCs supply digital output signals to the displays (airspeed and altitude), IAPs, AHRSs, transponders, Flight Guidance System, and autopilot. The ADCs provide the altimetry accuracy necessary to comply with Reduced Vertical Separation Minimums (RVSM) requirements.

Attitude Heading Reference System (AHRS)

Dual AHC-3000 Attitude/Heading Computers (AHCs), featuring solid-state quartz sensors, are installed. The AHCs supply attitude, stabilized magnetic (or free gyro) heading, and linear acceleration data to the Flight Guidance System, AFDs, IAPS, and weather radar system.

Automatic Flight Guidance System (AFGS)

The Automatic Flight Guidance System provides an integrated fail-passive three-axis autopilot with flight guidance operations, automatic pitch trim, yaw damper, and Mach trim. The system consists of two identical FGC-3000 Flight Guidance Computer Modules (FGCs), three primary servos, a pitch trim servo, and an FGP-3010 Flight Guidance Panel.

The FGCs provide independent flight guidance computations and operate together to provide 3-axis autopilot, yaw damper, and pitch trim functions. Operation of the system is controlled through the FGP-3010 panel, located in the center area of the glareshield. This panel contains controls for Flight Guidance modes and operation, autopilot operation, and yaw damp operation. Mach trim is engaged automatically and requires no pilot action.

Flight Management System (FMS)/Global Positioning Systems (GPS)

Dual Collins FMS-6000 Flight Management Systems (FMSs) are installed. The FMS-6000 systems provide lateral and vertical navigation capability for the enroute, terminal, and non-precision approach airspace navigation systems. The FMS installation includes two CDU-6200 Control Display Units (CDUs, operation shared with radio system), two FMC-6000 Flight Management Computers (FMCs, which are modules in the IAPS), and two GPS-4000A Global Positioning Sensors (GPS).

In addition to receiving position information from the GPS sensors, the Flight Management Systems also receive input from the VHF navigation radios and DMEs to provide extremely accurate “blended” position information. The FMSs also incorporate a performance database and Vspeed database applicable to the 800XP. Information from these databases provides the system with a capability for deriving Vspeeds, takeoff N1 settings, field performance data, and cruise performance parameters.

The dual GPS-4000A sensors process the transmissions of up to twelve GPS satellites simultaneously, calculating navigation solutions based on information from all of the satellites in view. The computed position, velocity, and time are inputted to the Flight Management Systems, which integrate this data into the navigation solution.

Traffic Alert and Collision Avoidance System (TCAS)

A Collins TCAS-4000 TCAS II system is a standard part of the avionics system. The TCAS interrogates transponders of surrounding aircraft and displays the relative position of the aircraft targets on either MFD. The system provides aural and visual Traffic Advisories (TAs) and Resolution Advisories (RAs). For RAs, the system displays required vertical evasive maneuvers in the form of green arcs on the vertical speed indicator of both PFDs. Controls for the system are integrated in the MFDs and CDUs. The TCAS-4000 system complies with Change 7 and European ACAS requirements.

Radio System

The avionics package includes the following radio systems:

- Dual Collins VHF-4000 Digital VHF Communication Transceivers that operate in the 118.00 to 136.975 MHz frequency range in 8.33 KHz spacing increments.
- Single Collins NAV-4000 Digital Navigation Receiver with ADF Automatic Direction Finder, display on PFD and MFD. Includes; Glide Slope (GS) and Marker Beacons, Glide Slope and Marker Lights display on PFD.
- Single Collins NAV-4500 Digital Navigation Receiver with frequency display on PFD and CDU. Includes; Glide Slope (GS) and Marker Beacons, Glide Slope and Marker Lights display on PFD..
- Dual Collins DME-4000 Digital Distance Measuring Equipment (DMEs). Each unit is able to simultaneously interrogate three DME stations.
- Dual Collins TDR-94D solid-state, airborne, Mode S air traffic control Transponders.
- Single Collins ALT-4000 Radio Altimeter. The ALT-4000 is a solid-state radio altimeter that provides altitude information from 0 to 2500 feet (762M) AGL.
- Collins HF-9000 High Frequency Communication System, including a Coltech CSD-714 Selective Calling System (SELCAL) Decoder. The HF-9000 system covers the 2.0 to 29.9999 MHz frequency range in 100 Hz increments.

All of the radio equipment is normally controlled through keyboard operation on either CDU-6200. A single CTL-23C Comm/Nav Tuning Unit installed in the co-pilot’s side console provides a backup tuning capability for the number one Comm and Nav radios.

Weather Radar

A Collins TWR-850 Turbulence Detection Weather Radar System is installed. This installation consists of an RTA-858 Receiver/Transmitter Antenna with the controls integrated into the Pro Line 21 display system. The TWR-850 radar incorporates the Doppler principle of frequency shift to detect and display precipitation-related turbulence (up to a 50 nm range). The TWR-850 system also features an auto-tilt function and an 18-inch diameter antenna. Weather radar returns from the TWR-850 can be displayed on any of the four main displays.

Enhanced Ground Proximity Warning System (EGPWS)

A Honeywell Mark V EGPWS is installed and integrated to allow terrain display on any of the four primary displays. This system provides protection against Controlled Flight Into Terrain (CFIT), as well as providing wind shear warnings. CFIT warnings include excessive rate of descent, terrain closure rate, excessive altitude loss after a take-off or missed approach, insufficient terrain clearance, descent below glideslope, and excessive bank angle. Aural warning and evasive commands are provided in the cockpit. The Mark V system meets the FAA's Class A and B TAWS (Terrain Awareness and Warning System) requirements.

Audio System

The avionics package includes a dB Systems dual audio system. The primary components of this system are dual Model 700 audio amplifiers. Also included are dual audio switch panels located on each side console, a digital aural warning system, a passenger speaker amplifier, and a three-station mixing/interphone amplifier (providing voice activated interphone capability for the crew). The audio system features digital control of audio functions between the switching panels and the audio amplifiers. Annunciators on the switching panels are utilized in conjunction with the SELCAL system to visually indicate the source of an incoming SELCAL related transmission.

Maintenance Diagnostic System

This system provides failure detection, retrieval of current and past failures, display of current LRU (Line Replaceable Units), (commonly known as "black boxes") diagnostics, and display/control of selected airplane information. The main component of the Maintenance Diagnostic System is the MDC-3110 Maintenance Diagnostic Computer Module (MDC). The majority of all avionics system LRUs can perform self-monitoring functions and are capable of reporting any failures to the MDC. The MDC compiles a maintenance record for reporting LRUs and stores this information in non-volatile memory. Selection of the MDC to the diagnostic mode is made via a remote switch (not accessible in flight). This allows maintenance diagnostic information to be viewed on the main flight displays. Maintenance information may be downloaded to a diskette in the Data Base Unit (DBU) or via a connector to a PCD-3000 Data Loading System (not supplied) to allow further examination away from the airplane.

Additional Standard Avionics Equipment

- Observer Headset/Microphone
- dB Systems Cabin Page System with Six Speakers
- Cockpit Voice Recorder (CVR) - Universal Avionics CVR-120 (2 hour recording time)
- Aerosonic Cabin Altitude/Rate/Differential Pressure Indicator
- Angle of Attack (AOA) System - Includes panel mounted AOA Control/Indicator and dual AOA indexers mounted in glareshield (with selected Vref setting being indexed by a marker on the PFD airspeed tapes)
- Emergency Locator Transmitter (ELT) - Artex C406-2 SAR type ELT with ELT to NAV interface. This system will, upon activation, allow the ELT to transmit the Latitude and Longitude of the aircraft to the COSPAS/SARSAT Satellite System.

14. Interior

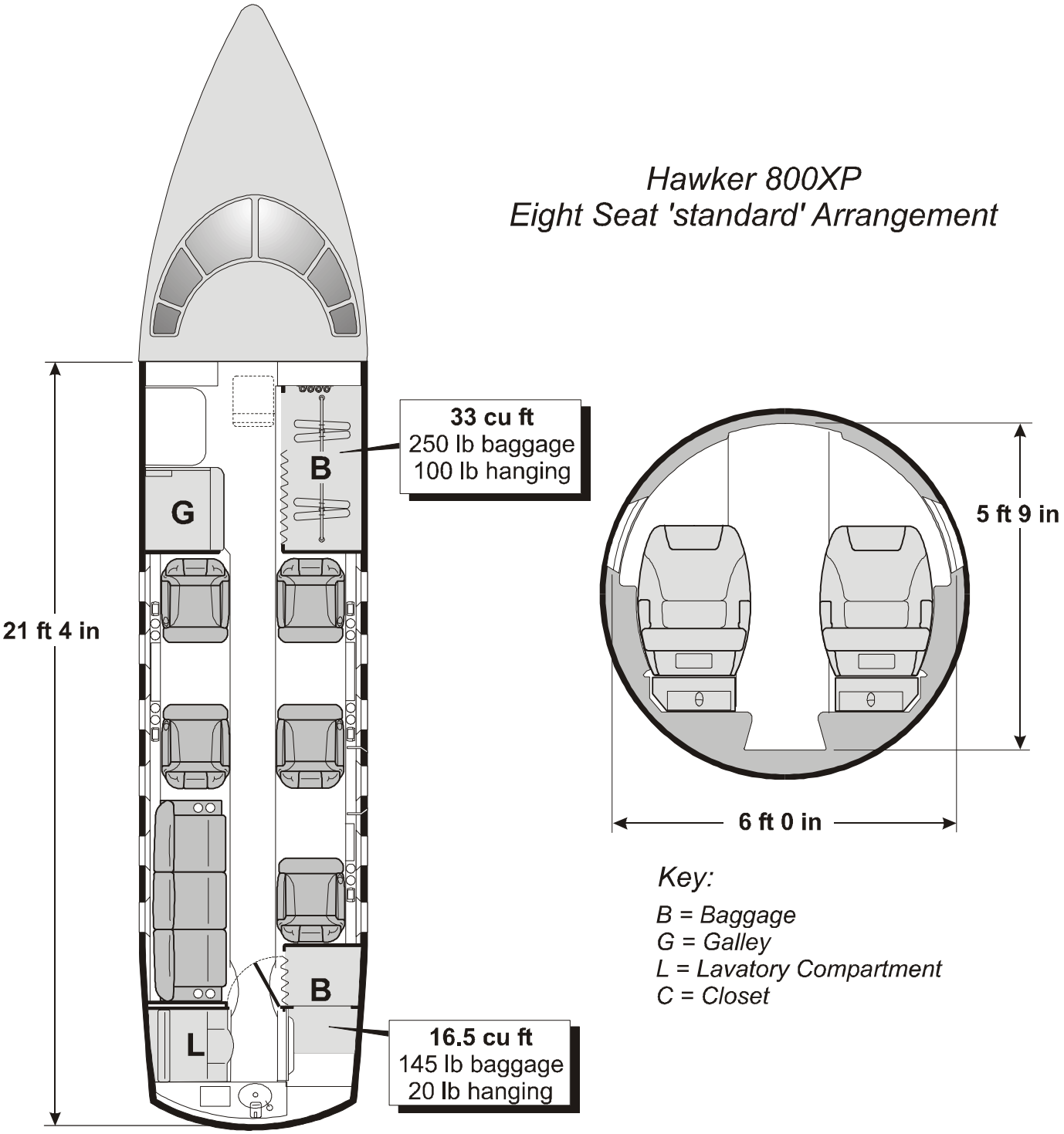
The Hawker 800XP offers a large and spacious 604 cubic foot (17.1 cu m) cabin providing comfortable passenger seating. The cabin headroom is approximately 5 ft 9 in (1.75 m) (depending on the thickness of carpet selected), which is constant throughout the length of the cabin. Cabin width is 6 ft 0 in (1.83 m). The length of the cabin is 21 ft 4 in, which includes the private lavatory compartment at the rear of the aircraft.

The standard seating layout is for 8 passengers, featuring 5 individual seats and a 3 place divan. The divan features hinged doors to provide access to two Kydex tubs used for cushion stowage. The passenger seats are large and luxurious and are capable of side tracking and reclining. The controls for the side tracking mechanism are located in the armrest. The seat recline button is located on the inboard side of the armrest.

Cabinetry in the standard aircraft consists of a large galley on the forward left side of the cabin next to the entry door. Access to the TKS pump/filter is provided under the galley. Opposite the entry door is a large internal 33 cu ft (0.93 cu m) baggage compartment which also contains a coat rod running fore and aft. Executive writing tables are provided at each individual seat position which stow in the sidewall panels. A 110 VAC outlet in a recessed box with sliding cover is provided at the center seat positions on each side of the cabin.

An additional baggage compartment (16.5 cu. ft [0.47 cu. m]) is situated aft of the cabin on the right side and extends into an area behind the lavatory mirror. The lavatory area at the rear of the cabin features a flushing toilet with external servicing, metal plated wash basin, 110 VAC outlet and smoke detector. Access panels are installed aft of the lavatory to enable easy access for maintenance.

Interior (continued)



Hawker 800XP Interior Layout

15. Exterior

Distinctive exterior styling featuring polyurethane paint is provided.

16. Publications

Airplane Flight Manual and Pilot's Operating Manual	Pilot's Checklist
Log Books (Aircraft, Engine, Main Batteries, Emergency Batteries, APU)	Operator Manuals for Avionics Equipment
Maintenance Manual with Maintenance Requirement Data	Airworthiness Limitations Document
Illustrated Tool and Equipment Manual	Corrosion Control Manual
Illustrated Parts Catalog	Wiring Parts Catalog
Maintenance Schedule	Overhaul Manual
Structural Repair Manual	Non Destructive Test Manual
Engine Maintenance Manual	Engine Parts Catalog
Powerplant Build Manual	Wiring Diagram Manuals
APU Maintenance Manual and Illustrated Parts Catalog	

17. Loose Equipment

First Aid Kit	Two Flashlights (Cockpit Sidewall)
Two Hand Fire Extinguisher, Cockpit and Cabin	Engine Intake / Thrust Reverser Covers
Medeco Keys for Exterior Panels and Doors (All keyed alike)	Emergency Escape Hatch Ground Locking Pin and Flag
Pitot Covers	Door Maintenance Cable
Static and Stall Vent Covers	Life Vests (12 each)
Telex Headsets (3 each)	Gust Lock Bar
ECU Exhaust Cover	Tool Bag and Miscellaneous Hand Tools
Fuel Sampling Tool	Fire Axe
Landing Gear Locking Pins	Jack Pads
Dorsal Intake Blank	Collins CPAS-3000 Portable Access Software

Note: Additional Loose Equipment and Technical Publications not specified here may also be supplied.

18. Reduced Vertical Separation Minimum (RVSM) Service

Raytheon has included an RVSM service that will provide the owner/operator RVSM operational approval and Aircraft-specific Minimum Equipment List ("MEL") approval after entering into a separate agreement with an RVSM service provider ("Provider"). Included in the RVSM service, Buyer will receive:

- An RVSM Letter of Authorization or Approval from the appropriate airworthiness authority
- An Aircraft-specific MEL
- Either a Domestic RVSM Procedures Manual or International Operations Manual (includes RVSM/MNPS/RNP-10)
- One year of Revision Support Services the above documents
- GMU Service Provider Fee for collecting data during the operator performed validation flight is included for the above

Buyer is responsible for conducting the RVSM validation flight within six (6) months from obtaining Operational Approval (the cost of fuel and fees related to the GMU service provider utilized for the validation flight are included in the RVSM service; however, Buyer is responsible for furnishing the pilot(s)). The Provider will use its best efforts to provide Buyer with RVSM Operational Approvals at the time of Aircraft delivery. However, it is important to understand that the length of time required for the approval process is controlled by several factors that are beyond the control of the Provider (i.e. Buyer's local regulatory authority). Therefore, Operational Approval, at the time of Aircraft delivery, is not implied or guaranteed. MEL Approval assistance will be initiated by the Provider after delivery of the Aircraft in its final configuration.

19. Factory Aircraft Comprehensive Tracking System

The Raytheon Aircraft Factory Aircraft Comprehensive Tracking System (FACTS) is a program that provides computerized aircraft maintenance tracking with all data being exchanged electronically.

The FACTS program is a full service aviation management system that continually monitors the entire range of aircraft maintenance and inspection requirements and brings them to the attention of the operator as they become due. FACTS is an electronic version of the inspection and service information found in each model's maintenance manual and therefore qualifies as a factory approved inspection program.

Raytheon Aircraft Customer Support personnel work closely with aircraft operators to be sure that FACTS data is as accurate and complete as possible. This is an aircraft specific program that is tailored to each specific aircraft serial number.

The first year of FACTS service is provided at no charge to buyers of a new Hawker 800XP aircraft. Subsequent years of FACTS membership are available through an annual subscription.

This program reflects Raytheon Aircraft's commitment to provide all Hawker 800XP operators worldwide with the finest support services available.

20. Hawker 800XP New Aircraft Limited Warranty

The aircraft, equipment and modifications, purchased under the terms and provisions of an Aircraft Purchase Agreement, which incorporates this "MANUFACTURER'S LIMITED WARRANTY" by reference, will be collectively referred to hereinafter as the "Aircraft". The term "Buyer" will hereinafter refer to the party who is purchasing the Aircraft and is designated the "Buyer" in the aforementioned Aircraft Purchase Agreement. All new Hawker 800XP Aircraft are covered by the following "MANUFACTURER'S LIMITED WARRANTY", which gives Buyer specific legal rights. The law of Kansas applies to this warranty. All warranty work must be accomplished by a Raytheon Authorized Service Center rated to perform maintenance on Hawker 800XP aircraft.

A. RAYTHEON AIRCRAFT COMPANY'S ("RAYTHEON") LIMITED WARRANTY

1. Subject to the limitations and conditions hereinafter set forth, Raytheon warrants, at the time of delivery by Raytheon, each part of the Aircraft manufactured by Raytheon to be free from (i) defects in materials or workmanship, and (ii) defects in design that in view of the state-of-the-art as of the date of manufacture should have been foreseen; provided, however, that the defect must be discovered and reported to Raytheon within sixty (60) months from the date of delivery of the Aircraft to Buyer (twenty-four [24] months in the case of exterior paint and interior finish items designed, manufactured or installed by Raytheon).

2. Subject to the limitations and conditions hereinafter set forth, Raytheon warrants, at the time of delivery by Raytheon, each part of the Aircraft not manufactured by Raytheon, except avionics equipment and engines (reference paragraphs C and D below), to be free from (i) defects in material or workmanship, and (ii) defects in design that in view of the state-of-the-art as of the date of manufacture should have been foreseen; provided, however, that the defect must be discovered and reported to Raytheon within sixty (60) months from the date of delivery of the Aircraft to Buyer.

3. The entire extent of Raytheon's liability shall be limited to that of either reimbursing Buyer for its costs of purchasing a rebuilt, overhauled or repaired part from either Raytheon or a properly rated Raytheon Aircraft Authorized Service Center or, at Raytheon's election, reimbursing Buyer for its costs of having the part repaired at a properly rated Raytheon Authorized Service Center. If Raytheon elects not to repair the part and if neither a rebuilt, overhauled or repaired part is, in Raytheon's opinion, available in a timely manner then Raytheon will reimburse Buyer for its costs of purchasing a new part from either Raytheon or a properly rated Raytheon Authorized Service Center. The labor necessary to remove from the Aircraft any part or parts and to reinstall in the Aircraft such part or parts, as well as any repair made as the result of improper installations by Raytheon, shall be covered by this Warranty, provided the work is performed at a properly rated Raytheon Aircraft Authorized Service Center. The part to be replaced must in all instances be returned shipping prepaid to Raytheon. RAYTHEON'S LIMITED WARRANTY will apply to any part repaired or replaced by a properly rated Raytheon Authorized Service Center pursuant to RAYTHEON'S LIMITED WARRANTY: however, the applicable warranty for such part repaired or replaced shall be limited to the unexpired portion of RAYTHEON'S LIMITED WARRANTY described in paragraph (1) or (2) above, as applicable. In other words, the warranty period of the part repaired or replaced does not start over from the date of reinstallation.

4. Routine services (such as inspections, cleaning, adjustments etc.) and replacement of items which deteriorate from wear or exposure (such as bulbs, tires, brakes, hoses, belts, etc.) are not covered by this LIMITED WARRANTY. Such routine services and replacements required during the course of operation are not considered to be the result of any defect in the Aircraft.

B. LIMITATIONS APPLICABLE TO RAYTHEON'S LIMITED WARRANTY

1. Raytheon will be relieved of all obligations and liability under this Warranty if:

i. The alleged defect in the part is due to expected normal wear and tear (such as that which is normally expected to paintwork, upholstery, trim items, etc...) or to misuse or neglect on the part of someone other than Raytheon; or

ii. Raytheon's identification mark or name or serial number has been removed from the part in question; or

iii. The Aircraft and/or equipment have not been maintained, operated or stored either in accordance with applicable manuals, communications or other written instructions of Raytheon or any manufacturer of the part involved, or in accordance with applicable Federal Aviation Regulations and advisory circulars unless Buyer shows that such maintenance, operation or storage was not a contributory cause of the defect; or

iv. The part in question has been modified or altered after delivery other than by Raytheon or the Manufacturer or in accordance with a modification or alteration scheme approved in writing by Raytheon or the Manufacturer; or

v. The Aircraft is used for purposes other than conventional owner/operator usage. Usage not considered conventional owner/operator includes, but is not limited to, scheduled airline operations, shared ownership fleets, government/military or special mission operations.

2. For the purpose of this Warranty, no part of the Aircraft or equipment will be regarded as breaching the LIMITED WARRANTY merely because, subsequent to its delivery, some modification or alteration becomes necessary for product improvements or in order to meet a change in the requirements of any applicable Federal Aviation Regulation.

3. TO THE EXTENT ALLOWED BY APPLICABLE LAW, BUYER WAIVES AS TO RAYTHEON AND SELLER ALL OTHER WARRANTIES, WHETHER OF MERCHANTIBILITY, FITNESS OR OTHERWISE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

4. TO THE EXTENT ALLOWED BY APPLICABLE LAW, THE OBLIGATIONS OF RAYTHEON SET FORTH HEREIN SHALL BE THE EXCLUSIVE REMEDIES FOR ANY BREACH OF WARRANTY HEREUNDER, AND, TO THE SAME EXTENT, NEITHER RAYTHEON NOR SELLER SHALL BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, MULTIPLE OR PUNITIVE DAMAGES, INCLUDING, WITHOUT LIMITATION, ANY DAMAGES FOR DIMINUTION OF MARKET VALUE, LOSS OF USE OR LOSS OF PROFITS, OR ANY DAMAGES TO THE AIRCRAFT CLAIMED BY BUYER OR ANY OTHER PERSON OR ENTITY UPON THE THEORIES OF NEGLIGENCE OR STRICT LIABILITY IN TORT.

5. ANY ACTION BY BUYER FOR BREACH OF THIS WARRANTY BY EITHER RAYTHEON OR SELLER MUST BE COMMENCED WITHIN ONE (1) YEAR AFTER THE CAUSE OF ACTION ACCRUES.

C. STANDARD AVIONICS WARRANTED BY APPLICABLE MANUFACTURERS

Factory installed standard avionics equipment is warranted by the respective manufacturers for varying periods of time. Details of these programs are available from the applicable manufacturer. The majority, but not all, of the Standard Equipment Avionics Suite is manufactured by Rockwell Collins (Collins). The following is a summary of the five (5) year Limited Warranty provided by Collins with respect to the portion of Standard Equipment Avionics Suite manufactured by Collins.

STANDARD AVIONICS WARRANTED BY COLLINS

COLLINS PRO LINE WARRANTY

Collins agrees to repair or replace, without charge, any equipment, parts or accessories which are defective as to design, workmanship or material, and which are returned to Collins at its factory, or at any of Collins authorized repair agents, transportation prepaid, provided:

(i) Notice of the claimed defect is given to Collins within five (5) years from date of delivery to an operator of the Aircraft in which the equipment is installed and goods are returned in accordance with Collins instructions.

(ii) Equipment, accessories and batteries not carrying a Collins assigned type number and not manufactured by Collins or of Collins design are subject to only such adjustments as Collins may obtain from the supplier thereof.

(iii) Equipment or accessories shall not be deemed to be defective if, due to exposure to any environmental condition in excess of those published in the equipment specification, it shall fail to operate in a normal or proper manner.

The guarantee of these paragraphs is void if equipment is altered or repaired by others other than Collins or its authorized repair agents. No other warranties, expressed or implied, shall be applicable to any equipment sold hereunder, and the foregoing shall constitute the Buyer’s sole right and remedy under the agreements in this paragraph contained. In no event shall Collins have any liability for consequential damages, or for loss, damage of expenses, directly or indirectly arising from the use of the products, or any liability to use them either separately or in combination with other equipment or materials, or from any other cause.

D. ENGINES WARRANTED BY HONEYWELL

Honeywell warrants to the owner that each new TFE731 5B Engine sold for installation as original equipment on new Aircraft will at time of delivery be free from defects in material, workmanship and title, and will be of the kind and type specified. Warranty shall run to the original purchaser, its successors, assigns and customers when they are the owner. This warranty shall expire seventy eight (78) months from the date of shipment by Honeywell or sixty (60) months from the date Aircraft is put into commercial use or one thousand eight hundred (1,800) Engine operating hours after initial operation, whichever first occurs.

DEFINITIONS

As used herein, the following words and phrases have the following meanings:

1. "Honeywell" means Honeywell Inc. through its Propulsion Engines business.

2. "Owner" means the Federal Aviation Administration (FAA) or its equivalent registered owner of the Aircraft in which the Engine is installed at time of warranty claim, or the legal owner of the Honeywell Engine.

3. "Engine" means a new TFE731-5BR Honeywell Engine delivered for commercial use.

4. "Commercial Use" means the operation of the Engines in Aircraft licensed by FAA or its equivalent for general civilian and commercial use excluding aerial dusting and spraying and any other type of flying requiring special authorization or dispensation by FAA or its equivalent.

5. "Initial Operation" means the first running of the Engine after obtaining a certificate of airworthiness on the Aircraft.

"Initial Operation" of a new spare Engine means the first running of the spare Engine after installation on the Aircraft.

6. "Engine Operating Hours" means the total number of flight hours.

7. "Failure" or "Malfunction" in an Engine or part means breakage or improper function.

8. "Parts" means only those parts of the Engine which are repaired or replaced by Honeywell.

RESPONSIBILITY OF HONEYWELL

1. If an engine or part is returned to Honeywell or an Authorized Service Center in accordance with the provisions of this Original Equipment Engine warranty and is found by Honeywell in its sole discretion to contain a defect in material or workmanship covered by this warranty ("Non Conforming Item"), Honeywell shall at no cost to the Owner:

a. Repair or replace the Non Conforming item;

b. Provide or reimburse Authorized Service Centers for providing:

(1) Troubleshooting Labor,

(2) Engine Access labor, and/or

(3) Line Replaceable Unit and Engine Removal/Reinstallation Labor necessarily related to the Non Conforming item. The foregoing labor shall be provided or reimbursed in accordance with Honeywell's then current Warranty Labor Allowance Schedule and Warranty Procedures, copies of which are available for inspection at Honeywell facilities and Authorized Service Centers.

c. Waive Honeywell's normal engine rental charge under its standard Engine Rental Agreement while Unscheduled Heavy Maintenance (as defined in Honeywell service literature) covered under this warranty is accomplished;

d. Assume commercially reasonable round trip common carrier freight charges for the Non-Conforming item from and to the nearest Honeywell Authorized Service Center.

Except as provided above, Honeywell shall have no further obligation under this warranty.

2. A part covered by the terms of this warranty shall be considered a Non Conforming item when damaged as a result of the failure of a Non Conforming item covered by the terms of this warranty. (Both of the parts mentioned in the preceding sentence must be within the warranty period applicable to such parts).

3. The correction of any failure or malfunction shall in no way extend the period of this warranty.

4. Any engine or part which is replaced shall become the property of Honeywell.

5. Honeywell reserves the right to make changes in the design, and to add improvements without incurring any obligation to incorporate the same on other engines or parts sold by Honeywell.

RESPONSIBILITY OF OWNER

The following conditions govern the application of this warranty:

1. Owner shall assure that records are maintained which will accurately reflect Engine operating hours and when maintenance was performed. At Honeywell's request, such record shall be provided to substantiate warranty claim.

2. This warranty will not apply if the Engine has been subjected to:

a. Any maintenance, overhaul, installation, storage, operation, or use, which is not in accordance with Honeywell's instructions; (for example, participation in JetCare Trend Monitoring) or,

b. Any alteration or repair by anyone other than Honeywell or its authorized representatives.

c. Any accident, misuse, neglect, or negligence after delivery by Honeywell; or

d. Any tests other than normal production flight tests, unless Honeywell grants prior written approval; or

e. Ingestion of foreign material; or

f. Any other cause not within the control of Honeywell.

3. Owner must submit a Honeywell warranty form within seven (7) days after discovery of the defect or failure, and return engine or part for repair or replacement within thirty (30) days after notice.

LIMITATIONS

1. ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, SUCH AS WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED AND DISCLAIMED TO THE EXTENT THEY EXCEED THE WARRANTIES GRANTED HEREIN. IN NO EVENT SHALL HONEYWELL BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES.

2. NO AGREEMENT EXTENDING THIS WARRANTY SHALL BE BINDING UPON HONEYWELL UNLESS IN WRITING AND SIGNED BY A DULY AUTHORIZED OFFICER OR REPRESENTATIVE.

21. Hawker 800XP Crew Training Agreement

Training will be provided by a Raytheon Aircraft Company contracted training provider (hereinafter "Trainer").

Buyer shall be entitled to personnel training as follows:

Ground school and flight simulator training for two (2) pilot trainees, each of whom shall hold at least a valid U.S Commercial Pilot's Certificate with both instrument and multi-engine land ratings or a valid foreign equivalent, and a minimum of One Thousand Five Hundred (1,500) hours total aircraft pilot time.

Trainer shall employ its standard ground school training. Trainer shall employ flight simulator training reasonably calculated to lead to achievement of a Hawker 800XP type rating for two (2) captains. Flight simulator training for the trainees shall not exceed sixteen (16) hours each, except as otherwise mutually agreed. If flight training in the Aircraft is required, the schedule and number of flight hours will be mutually agreed at such time.

In addition to pilot training referenced above, Trainer shall provide standard training for two (2) maintenance trainees, each of whom shall hold at least a valid U.S A&P Mechanics Certificate or valid foreign equivalent. Maintenance training shall not exceed ten (10) training days, except as otherwise mutually agreed.

The curriculum and satisfactory performance standards for all training shall be determined solely by Trainer who employs the same methods and efforts to complete all training as it employs to train other pilots and mechanics. Trainer cannot guarantee or otherwise assure successful completion of training or final qualification for any certificate or rating. Neither does Trainer assume any responsibility or liability for training delay or incompletion due to factors beyond its control. Should additional training be required in Buyer's Aircraft, expenses associated with the operation of the Aircraft shall be the responsibility of Buyer.

Neither Manufacturer, Seller nor Trainer shall be responsible for the competency of the Buyer's trainees during and after the training. Trainer will make the same efforts to qualify Buyer's crew as it makes in training of other Hawker 800XP crews; however, Manufacturer, Seller or Trainer cannot guarantee Buyer's crew shall qualify for any license, certificate or rating.

Buyer shall be responsible for all transportation and living expenses of all trainees and all costs of operating, maintaining and insuring the Aircraft while used for training, as well as costs for interpreter if Trainees are not conversant in English or Spanish. Buyer shall furnish trainer with certificates of adequate aircraft liability and hull insurance coverage prior to commencing flight training and shall cause its insurer to name Trainer as an additional insured under its aircraft liability policy and waive all rights of subrogation against Trainer under its aircraft hull policy.

All training described herein shall be available only if commenced within twelve (12) calendar months after delivery of the Aircraft and shall be provided at the Trainers facilities in Wilmington, Delaware; Wichita, Kansas; or such other place as may be mutually agreed to by Trainer and Buyer. Manufacturer, Seller or Trainer shall schedule all training, furnish Buyer schedules of training and endeavor to schedule training at a convenient time for Buyer. A cancellation fee of One Hundred Dollars ($100) will be paid to Trainer by Buyer if crew fails to appear for scheduled training, except for reasons beyond its control, unless Buyer gives trainer written notice of cancellation received at Wichita, Kansas, at least seven (7) days prior to scheduled training. In the event of such cancellation, Buyer shall reschedule training for the next available class.

The Buyer's execution of Aircraft Purchase Agreement, of which the Specification and Description is a part, constitutes Buyers acceptance of the foregoing terms and conditions pertaining to the training to be furnished thereunder.

Raytheon Aircraft Company

Hawker
Raytheon Aircraft Company
10511 E. Central
Wichita, Kansas 67206

This document is published for the purpose of providing general information for the evaluation of the design, performance and equipment of the Hawker 800XP.

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