



EC175

Technical Data
2015

3 Baseline Aircraft Definition

GENERAL

- 5-module crashworthy airframe comprising:
 - Front fuselage (cockpit and nose avionics bay)
 - Central fuselage (cabin)
 - Intermediate fuselage including:
 - ◆ Luggage hold with large flat floor
 - ◆ 2 lockable doors (LH and RH side)
 - ◆ 8 rings (4 on floor, 4 on ceiling)
 - Rear fuselage: tail boom with pylon and horizontal stabilizer
 - Cowlings and fairings
- Retractable tricycle landing gear with axially lockable castering nose wheel unit, parking brake and assisted brakes on pilot and copilot station
- Handles for upper cowlings locking / unlocking
- Maritime anti-corrosion protection
- Structural reinforcements for cargo-sling
- Structural reinforcements for external hoist
- Jacking, hoisting, mooring points
- External paint (aircraft painted in up to 3 colors, according to standard paint scheme complexity)

COCKPIT / CABIN

- 2 removable pilot and copilot crashworthy high back-rest black covered seats, adjustable in height, forward & aft each fitted with a 5 points harness
- 2 tinted upper cockpit windows
- 2 adjustable sun-visors
- 2 lower cockpit windows
- 2 lockable hinged pilot and copilot doors providing each:
 - 1 acrylic sliding bad weather / emergency egress window
 - 1 rear acrylic window
 - 1 lower acrylic window
- 2 external cockpit footsteps
- Dual flight controls
- 2 windshield wipers
- 2 lighted chart holders
- 2 headset hooks on overhead panel
- 2 handles in cockpit (one on each side on upper frame of the canopy) and 1 handle on each cockpit seat (external side)
- Stowage casing in the cockpit doors
- Up to 3 stowage boxes aft of central console
- 1 flight manual
- 1 multipurpose cabin with flat floor
- 2 tinted jettisonable acrylic windows located between cockpit and cabin doors, one on each side of the fuselage
- 2 lockable passenger sliding doors with 2 tinted jettisonable acrylic windows in each door
- 2 tinted jettisonable acrylic windows located aft of the sliding doors, one on each side of the fuselage
- 2 external cabin footsteps
- 1 portable fire-extinguisher in cockpit (accessible from cabin)
- 1 portable fire-extinguisher in cabin
- 4 handles in cabin (two on each side of each cabin door)

INSTRUMENTS & CONTROLS

INSTRUMENT PANEL

- 4 reconfigurable smart 6 x 8 inch displays providing the following functions:
 - Flight Navigation Display (FND) page, including:
 - ◆ Primary Flight Display (PFD)
 - ◆ Navigation Display (ND)
 - ◆ Parameter tuning
 - ◆ Automatic Flight Control System (AFCS)
 - ◆ Fuel data
 - ◆ First Limit Indicator (FLI)
 - ◆ Electronic Flight Bag (EFB)
 - ◆ Rotor speed and free turbine rotation speed
 - ◆ Crew selectable area (clock, etc...)
 - ◆ Alarms and advisories
 - Vehicle Monitoring Display (VMD) pages, including:
 - ◆ Main page: engine and vehicle status
 - ◆ Fuel page
 - ◆ Electrical system page
 - ◆ Hydraulic / landing gear page
 - ◆ Transmission page
 - ◆ Enhanced usage monitoring page
 - External video sources (when optional equipment is fitted)
- Stand-by instruments
 - IESI
 - Stand-by compass
- 1 Central Warning Panel (CWP) – red alarms
- 1 common control panel:
 - Landing gear maneuver and position indicators
 - Auxiliary hydraulic pump control
 - Pre-flight test and lamp test control
 - Capabilities for optional controls

INTERSEAT CONSOLE

- 1 Data Transfer Device (DTD)
- 1 Attitude and Heading Reference System (AHRS) control panel
- 1 electrical function and emergency cut-off control panel
- 1 Automatic Pilot Control Panel (APCP)
- 1 landing gear control panel
- 1 parking brake and nose wheel lock control panel
- 1 fuel circuit control panel
- 1 fire detection / extinguishing control panel with 2 dual fire extinguishing controls for engine bays
- 1 engine control panel
- 1 engine auxiliary control panel (with training, chip burning)
- 1 Environment Control System (ECS): separate cockpit / cabin ventilation & heating, cockpit demisting
- 1 lighting control panel
- 1 windshield wiper control panel
- Hydraulics bypass control panel

OVERHEAD PANEL

- Rotor brake control grip

MISC.

- 3 Aircraft Piloting Inertial Reference System (APIRS)
- 2 Three Axis Magnetometers (MAS) connected to APIRS
- 3 heated pitot heads and 3 static ports
- 2 Air Data Units (ADU)

Flight and Navigation Data displayed in imperial units

POWER PLANT

- 2 Pratt & Whitney PT6C-67E turboshaft engines with Full Authority Digital Engine Control (FADEC) system which requires no mechanical backup and provides the following main functions:
 - Automatic starting sequence
 - Automatic reflight sequence
 - Automatic variable torque stops
 - Automatic OEI detection
 - OEI training mode
 - Engine automatic limitations (temperature, torque, etc...)
- 1 integrated lubrication system per engine, each fitted with 1 chip detector / fuzer burner and 1 oil level sight
- 1 fire detection system per engine, including:
 - 1 pneumatic detector around the combustion chamber
 - 2 punctual detectors in the Accessory Box area
- 1 engine fire extinguishing system (2 bottles connected to both engine compartment)
- 1 crashworthy fuel system including:
 - 5 tanks with a total usable capacity of 2,533 litres (669 US gal)
 - 4 canister immersed brushless booster pumps (2 in each feeder tank)
 - 4 transfer jet pumps (2 in each transverse tank)
 - 5 fuel probes (one in each tank)
 - 2 fuel low level sensors (one in each feeder tank)
 - 2 temperature sensors (one in each feeder tank)
 - 2 electrical shut-off valves
 - 2 pressure transmitter sensors
 - single port gravity fuel filler
- 2 air-intake grids on cowlings with by-pass
- 2 engine air-intake grids
- Single side engine flushing ports (without cowlings removal)
- 1 Data Collector Unit per engine, (stores engine data in case of defect)
- Each engine is equipped with an anti-icing fuel system

TRANSMISSION SYSTEM

- 1 main gearbox with oil level sight, oil pressure and temperature sensors, access ports for endoscope and oil sampling, and 6 chip detectors
- 2 accessory gearboxes with chip detector
- 2 free wheels integrated to the main gearbox
- 1 lubrication system with 1 main pump and 1 emergency pump
- 1 main gearbox oil cooling system
- 2 engine / main gearbox coupling devices (shaft and torque tube)
- 1 rotor brake system
- 1 drive shaft assembly with grease lubricated bearings between MGB and IGB
- 1 splash lubricated intermediate gearbox with 1 oil level sight, 1 temperature sensor and 1 chip detector
- 1 drive shaft between IGB and TGB
- 1 splash lubricated tail gearbox with 1 oil level sight, 1 temperature sensor and 1 chip detector

ROTORS AND FLIGHT CONTROLS

- 1 main rotor with:
 - 5 glass / carbon-fibre blades
 - 1 SPHERIFLEX[®] rotor head fitted with lower and upper gust and droop stops
 - 1 rotor mast fitted with rotor r.p.m. phonic-wheel
 - 5 interblade visco-elastic dampers
 - 1 mechanical / hydraulic flight control system, fitted with 3 fixed dual body servo-units (on cyclic and collective pitch channels)
- 1 tail rotor with:
 - 3 glass / carbon-fibre blades
 - 1 SPHERIFLEX rotor head fitted with flapping stops
 - 1 tail rotor mast-hub
 - 3 visco-elastic dampers
 - 1 fixed dual body servo-unit (on tail rotor pitch control channel)
- 1 "fail passive" Dual Duplex Digital Automatic Flight Control System (4-axis type) including upper modes

ELECTRICAL INSTALLATION

- 1 DC power generation system:
 - 2 starters / generators (300 A, 28 V DC)
 - 2 electrical master boxes
 - 2 nickel-cadmium batteries 27Ah with temperature sensor, in lockable compartments
 - 1 DC emergency electrical generator
 - 1 external receptacle with 28 V DC power connector and 1 maintenance external ICS jack
 - 2 breaker panels (intermediate fuselage)
 - 2 breaker panels in cockpit
 - 1 emergency breaker panel in cockpit
 - 1 x 28 V DC power outlet in cockpit
- Power distribution system:
 - 2 primary bus bars
 - 2 essential bus bars
- 4 high load contactors (150 A)
- Lighting:
 - 1 red/white tail fin anti-collision light
 - 1 RH side retractable swivelling HID front landing light
 - 3 position lights (red, green, white)
 - 2 exterior emergency lights
 - Adjustable instrument panel and interseat console lightings
 - 2 flashlights
 - 2 dual beam dome/utility lights in the cockpit
 - 1 instrument light for flight in stormy conditions
 - Cabin lights (including emergency lighting)
 - 1 luggage compartment light

HYDRAULIC GENERATION

- 2 independent hydraulic systems feeding the servo-units, landing gear actuation system and assisted wheel brakes
- 2 self-sealing hydraulic ground couplings
- 1 LH hydraulic fluid level sight
- 2 RH hydraulic fluid level sights
- 1 stand-by auxiliary hydraulic system with electro-pump for landing gear normal activation and for hydraulic assistance in flight or on ground (engines not running)
- 1 stand-by sub-system integrated in main right hydraulic system for landing gear emergency extension

AIRBORNE KIT ¹

- 3 pitot ports blanks
- static vent plugs (2 set of 3 plugs)
- engine air-intake cover kit (2 covers and 4 plugs)
- 2 engine exhaust covers
- 1 ECS cooling inlet cover, 1 generator ventilation inlet cover
- 4 mooring rings
- 4 jacking pads
- 1 main rotor blades tie-down kit
- 1 tail rotor blades flapping stop shim kit
- 1 TGB cover
- 1 IGB cover
- 1 fuel pipe bleeding
- 1 on-board stowing bag
- 1 maintenance ladder

¹ Weight not included in standard aircraft empty weight



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Cover photo: © Nicolas Gouhier - 2014
Printed by SPI (France)

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