## Specifications

### Performance (estimated)
*Sea level, standard day, maximum gross weight, clean airframe unless otherwise noted*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross weight</td>
<td>11,700 lb</td>
</tr>
<tr>
<td>VNE</td>
<td>155 kts</td>
</tr>
<tr>
<td>Maximum cruise speed</td>
<td>154 kts</td>
</tr>
<tr>
<td>Long range cruise speed *</td>
<td>144 kts</td>
</tr>
<tr>
<td>Range:</td>
<td></td>
</tr>
<tr>
<td>- No reserve*</td>
<td>450 nm</td>
</tr>
<tr>
<td>- 30-minute reserve*</td>
<td>374 nm</td>
</tr>
<tr>
<td>- Average cruise speed*</td>
<td>144 kts</td>
</tr>
<tr>
<td>- Average fuel flow*</td>
<td>628 pph</td>
</tr>
<tr>
<td>Endurance</td>
<td>4.25 hr</td>
</tr>
<tr>
<td>Hover Out-Of-Ground-Effect (feet)</td>
<td>6,000 ft</td>
</tr>
<tr>
<td>Hover In-Ground-Effect (feet)</td>
<td>10,700 ft</td>
</tr>
<tr>
<td>OEI service ceiling (feet)</td>
<td>7,600 ft</td>
</tr>
</tbody>
</table>

* Long Range Cruise speed @ 4,000 feet, Long Range Cruise speed is speed for 99% best specific range

### Fuel System
<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>295 gal</td>
</tr>
<tr>
<td>Auxiliary</td>
<td>50/102 gal</td>
</tr>
</tbody>
</table>

### Dimensions
<table>
<thead>
<tr>
<th>Component</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main rotor diameter</td>
<td>44.0 ft</td>
</tr>
<tr>
<td>Tail rotor diameter</td>
<td>8.0 ft</td>
</tr>
<tr>
<td>Overall length</td>
<td>52.5 ft</td>
</tr>
</tbody>
</table>

### Weights
<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum gross weight</td>
<td>11,700 lb</td>
</tr>
<tr>
<td>Empty weight, Utility configuration</td>
<td>7,209 lbs</td>
</tr>
<tr>
<td>Useful load</td>
<td>4,491 lbs</td>
</tr>
</tbody>
</table>

### Engines
| Manufacturer and type                         | PW210S    |

### Ratings
<table>
<thead>
<tr>
<th>Rating</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum OEI power, 30-sec</td>
<td>1,239 shp</td>
</tr>
<tr>
<td>2-minute OEI power</td>
<td>1,184 shp</td>
</tr>
<tr>
<td>Continuous OEI power</td>
<td>1,077 shp</td>
</tr>
<tr>
<td>Takeoff power, 5 minutes</td>
<td>1,077 shp</td>
</tr>
<tr>
<td>Cruise/MCP</td>
<td>966 shp</td>
</tr>
</tbody>
</table>
Dimensions

FUSELAGE WIDTH

528" (13.411 m)

ROTOR DIA.

84" (2.134 m)

FUSELAGE LENGTH

520.4" (13.218 m)

630.0" (16.002 m)

OVERALL LENGTH

96" (2.438 m)

R 48" (1.219 m)

140.2" (3.561 m)

OVERALL HEIGHT

173" (4.394 m)

197" (5.004 m)

72" (1.829 m)

FUSELAGE HEIGHT

96.5" (2.451 m)
Cabin Dimensions

Typical Executive Configuration

Passenger cabin area .................. 50 sq ft ...... 4.69 sq m
Passenger cabin volume ................. 204 cu ft ....... 5.78 cu m
Baggage compartment volume .......... 38 cu ft ........ 1.08 cu m
Passenger door width .................. 37.5 in .......... 95.25 cm
Passenger door height .................. 52.0 in .......... 132.08 cm
1. 6” x 8” LCD Primary Flight Displays (PFDs)
2. 6” x 8” LCD Multi Function Displays (MFDs)
3. Integrated Electronic Standby Indicator (IESI)
4. Landing gear control panel
5. Cursor Control Devices (CCD)
6. Multi-purpose Control and Display Unit (MCDU)
7. Audio control panel
8. PFD Control Panel (PCP)
9. AFCS control panel
Baseline (Green) Configuration

Airframe
- Nose mounted radome
- Nose and tail avionics compartments
- Active Vibration Control (AVC) system with single, nose-mounted pair of force generators
- Heated glass windshields
- Dual windshield wipers and washers
- Pilot and copilot seats with 5-point restraint harness
- Two ejectable, hinged cockpit doors
- Flight manual pockets located on the cockpit doors
- Cockpit and cabin bleed air heating and defogging system
- Ram air ventilation system
- Provisions for Rotor Ice Protection System (RIPS)
- Capability to accept Rotor Ice Protection System (RIPS) options
- Fully retractable, tricycle landing gear with pivoting nose gear and main wheel brakes
- Pneumatic emergency landing gear extension system
- 204 cubic foot cabin with 75 psf floor and fittings for up to twelve seats
- Left and right side hinged cabin doors with electric door locks and single action emergency door release
- Separate 38 cubic foot baggage compartment with dual lockable doors

Propulsion
- Two Pratt & Whitney, Canada PW210 engines
- High ram recovery engine inlets with full-time Inlet Particle Separators (IPS)
- Two independent suction fuel systems with crossfeed capability
- Two fuel tanks with gravity fuel fillers, total fuel capacity of 296 U.S. gallons
- Low level fuel warning system
- Hinged fuel filler caps with key locks
- Dual engine fire detection and extinguishing systems
- Engine water wash system with hose connection in the baggage compartment
- Dual-input “Quiet Zone™” main transmission rated at 1,605 shp for takeoff
- Intermediate and tail gearboxes with interconnecting drive shafts
- Magnetic chip connectors with fuzz burn capability on gearboxes and engines
- Manually actuated rotor brake system

Rotor Systems
- Four-blade articulated main rotor with one-piece aluminum hub and elastomeric bearings
- Flaw-tolerant main rotor blades with graphite spars, fiberglass / graphite skins, honeycomb cores, integral tip caps, high-visibility paint and de-ice capability
- Single hub-mounted bifilar vibration suppression system
- Main rotor tracker / balancer and tail rotor balancer included in HUMS
- Flaw-tolerant four-blade flexbeam “Quiet Tail Rotor™” with de-ice capability

Electrical
- 28-volt DC electrical system with dual, engine-driven 300 amp starter-generators de-rated to 250 amps.
- Single 28 amp-hour sealed lead-acid battery (Concorde)
- AC power system with 10 KVA generator
- DC external power receptacle with overvoltage protection
- Controllable landing light
- Two strobe / three-position light system (pos-off-normal)
- Single red LED beacon on the top of the tail
- Fixed LED landing light on the right main gear
- Battery operated emergency cabin lights
- Overhead master switch panels
- Gooseneck map lights
Baseline (Green) Configuration

Thales integrated display, avionics, autopilot system

- Dual digital, four-axis Automatic Flight Control System (AFCS) with aural and visual disconnect indications.
- Four Thales 6” x 8” flat panel LCD displays
- Dual VHF comm. radios
- Dual VOR/ILS/MB
- Single ADF
- Single mode S transponder (TDR-94)
- Single DME
- Single Thales radio altimeter
- Dual Thales advanced flight Management Systems (FMS)
- Dual Multi-Function display Control Unit (MCDU) and radio management control panels
- Dual Cursor Control Devices (CCD) for MFD virtual control
- Single GPS (Thales Topstar 200 GPS)
- Dual Litef Attitude Heading Reference Systems (AHRS)
- Dual air data computers
- Enhanced Ground Proximity Warning System (EGPWS)

Additional Avionics (Navigation and communications)

- Dual cockpit ICS switches with 45° pedestal mount
- Dual dB Systems Inc. audio systems with one additional maintenance jack in the cabin and two in the baggage compartment
- Baggage compartment
- Radio/EFIS master switches
- ARTEC ELT-406 NHM Emergency Locator Transmitter with satellite frequency
- Heads Up Technology PBS-250 passenger briefing system
- Cabin paging and chime system with two speakers
- Honeywell Primus 660 weather radar
- Multi-Purpose Flight Data Recorder (MPFR) incorporating both CVR and FDR functions
- Three David Clark H10-26 headsets
- Goodrich VIGOR™ Health and Usage Monitoring System (HUMS)

Flight Controls and Additional Instruments

- Full controls for pilot and copilot
- Dual, independent 3,000 psi hydraulic systems with quick disconnects for ground servicing
- Dual independent flight control servos systems
- Integrated electronic standby indicator displaying attitude, airspeed, altitude, stand-by VOR and ILS.
- Standby magnetic compass
- Three independent pitot static systems with pitot and static port heat
- Outside air temperature indicator
- Two low-profile, glare-shield-mounted master warning panels
- Landing gear control panel with warning lights and normal and emergency extension controls
S-76D Standard Deluxe Executive Transport Configuration

The Standard Deluxe Executive Configuration consists of the Baseline configuration plus the following options:

- Second GPS receiver (Thales Topstar 200)
- Second Mode S transponder with diversity (TDR-94D)
- Second DME (Collins DME Proline 21 DME-4000)
- Digital moving map on Thales Multifunction displays
- Jeppesen electronic terminal and approach charting
- Modified ICS for single-pilot IFR capability
- Two additional speakers
- 12 volt DC accessory outlet
- Satellite communications system (True North Simphone)
- Vertical card standby compass
- Lightning Strike Sensor (LSZ 860)
- Weather radar (Honeywell Primus 880) – replaces baseline Primus 660
- TCAS 1 system (KTA 970)
- Executive paint finish
- Deluxe VIP Interior Group:
  - “Silencer”™ interior with secondary acoustic package,
  - Ultraleather or Ultrasuede interior panel upholstery,
  - Cockpit-cabin divider bulkhead with left and right side sliding windows,
  - Emergency cabin lighting,
  - Eight individual reading lights and air outlets,
  - Cabin threshold lighting,
  - Membrane switches to control cabin systems,
  - Wood/veneer/leather/metal decorative details,
  - Magazine racks on the cabin doors,
  - Storage cabinet beneath the forward-facing divan and
  - Molded baggage compartment floor liner
- Two, aft-facing captain’s swivel chairs
- Full height refreshment cabinet
- Four-place, forward-facing executive divan with folding table and armrests
- Bulkhead storage compartment behind the pilot’s seats
- Cabin coat hooks
- Cabin cup holders
- Sheepskin covers for the pilot’s seats
- Single action emergency door release for the cockpit and cabin doors
- Retractable boarding steps for both left and right cabin doors
- Cockpit Cabin Climate Control system (C4)
- Red anti-collision light on the belly
- Landing light on the left main gear
- Forward-facing recognition lights in the chin windows
- Tail-mounted logo lights
- Pulselight system for the landing and recognition lights
- AVC force generators in the nose and cabin
- Emergency Flotation system
The Standard Executive Configuration consists of the Baseline configuration plus the following options:

- Satellite communications system (Aircell ST3100)
- Call pilot system
- Two additional speakers for the cabin paging and chime system
- 12UDC accessory outlet (automotive style)
- Vertical cord standby compass
- Lightning strike sensor (LSZ 860)
- Bulkhead storage compartment
- Crew seat sheepskin covers
- Thales multi-function moving map software
- Traffic Advisory System, TCAS1 (Honeywell KTA-970)
- Executive paint finish
- Deluxe VIP Interior Group
  - “Silencer” interior with secondary acoustic package
  - Ultraleather or Ultrasuede interior panel upholstery
  - Cockpit-cabin divider bulkhead with left and right side sliding windows
  - Emergency cabin lighting
  - Eight individual reading lights and air outlets
  - Cabin threshold lighting
  - Membrane switches to control cabin systems
  - Wood/veneer / leather / metal decorative details
  - Magazine racks on the cabin doors
  - Storage cabinet beneath the forward-facing divan
  - Molded baggage compartment floor liner
- Aft-facing, four-place executive bench seat
- Continuous, one-piece bulkhead window
- Forward-facing, four-place executive divan
- Cabin cup holders
- Bay blanket acoustic kit
- Single retractable boarding step
- Spare cabin and cockpit carpeting
- Air-conditioning system (21,000 BTU, R135a coolant)
- Red LED anti-collision light on the belly
- Lighted approach plate holders
- Active Vibration Control (AVC) system upgraded with two additional force generator pairs
- Maintenance work covers for interior and exterior
Payload/Range Performance

Mission
- Standard day
- Takeoff at maximum gross weight (11,700 lb)
- Cruise at 4,000 feet, Long Range Cruise speed*
- Reserve allowance for 30 minutes at Long Range Cruise speed
- Average fuel flow: 620 pph at 142.5 ktas

Weights

<table>
<thead>
<tr>
<th>Weight</th>
<th>Deluxe Executive</th>
<th>Executive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty weight (lb)</td>
<td>8,100</td>
<td>7,728</td>
</tr>
<tr>
<td>Two pilots (lb)</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Engine oil (lb)</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Windshield washer fluid (lb)</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Manuals/cockpit supplies (lb)</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Credenza supplies (lb)</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>Operating weight (lb)</td>
<td>8,683</td>
<td>8,277</td>
</tr>
</tbody>
</table>

* Speed for 99% best specific range
S-76D HOVER CEILING IN GROUND-EFFECT
DUAL ENGINE TAKEOFF POWER  BLEEDS OFF
107% NR

PR. ALTITUDE, FT

GROSS WEIGHT, LB

ISA
ISA+10 C
ISA+20 C
ISA+30 C
TRANSMISSION RATING

0 C
10 C
20 C
30 C
40 C
45 C
S-76D Hover Ceiling Out of Ground-Effect
DUAL ENGINE TAKEOFF POWER BLEEDS OFF
107% NR
S-76D OEI SERVICE CEILING, 100 FT/MIN ROC
SINGLE ENGINE MAX CONTINUOUS POWER BLEEDS OFF
100% NR \( V_{\text{brook}} \)

**MINIMUM ENGINE SPEC PERFORMANCE**

*PRELIMINARY DATA OF OCTOBER 2009 BASED ON ANALYSIS PRIOR TO FLIGHT TEST

**COMPETITION SENSITIVE**
Mission Performance

S-76D OEI SERVICE CEILING, 50 FT/MIN ROC *
SINGLE ENGINE MAX CONTINUOUS POWER BLEEDS OFF
100% NR \( V_{BROC} \)

* PRELIMINARY DATA OF OCTOBER 2009 BASED ON ANALYSIS PRIOR TO FLIGHT TEST
MINIMUM ENGINE SPEC PERFORMANCE

* CFR Part 135.181
Mission Performance estimated

S-76D CRUISE FUEL CONSUMPTION
DUAL ENGINE BLEEDS OFF
CLEAN CONFIGURATION 102% NR
SEA LEVEL ISA (15°C)

---

* PRELIMINARY DATA OF OCTOBER 2009

FLOW RATES ARE BASED ON WORST NEW ENGINES
FLOW RATES MAY INCREASE BY UP TO 3% OVER ENGINE LIFE

---

S-76D CRUISE FUEL CONSUMPTION
DUAL ENGINE BLEEDS OFF
CLEAN CONFIGURATION 102% NR
SEA LEVEL ISA + 2°C (35°C)

---

* PRELIMINARY DATA OF OCTOBER 2009

FLOW RATES ARE BASED ON WORST NEW ENGINES
FLOW RATES MAY INCREASE BY UP TO 3% OVER ENGINE LIFE

---

14

S-76D Technical Information
576-105 2725 February 2010
S-76D CRUISE FUEL CONSUMPTION
DUAL ENGINE BLEEDS OFF
CLEAN CONFIGURATION 102% NR
2000 FT ISA (11°C)

S-76D CRUISE FUEL CONSUMPTION
DUAL ENGINE BLEEDS OFF
CLEAN CONFIGURATION 107% NR
2000 FT ISA + 20°C (31°C)
S-76D CRUISE FUEL CONSUMPTION
DUAL ENGINE  BLEEDS OFF
CLEAN CONFIGURATION  107% NR
4000 FT ISA (7.1°C)

FLOW RATES ARE BASED ON WORST NEW ENGINES
FLOW RATES MAY INCREASE BY UP TO 3% OVER ENGINE LIFE

S-76D CRUISE FUEL CONSUMPTION
DUAL ENGINE  BLEEDS OFF
CLEAN CONFIGURATION  107% NR
4000 FT ISA + 20°C (27.1°C)
**S-76D Cruise Fuel Consumption**

**Dual Engine, Bleeds Off**

**Clean Configuration, 107% NR**

- **6000 FT ISA (3.1°C)**
- **6000 FT ISA + 20°C (23.1°C)**

*Preliminary data of August 2006, based on analysis prior to flight test.*

Flow rates are based on worst new engines. Flow rates may increase by up to 3% over engine life.

*Preliminary data of October 2009, based on analysis prior to flight test.*

- Long Range Cruise
- Max Continuous or \( V_{\text{ce}} \) Cruise

---

**Graphs showing fuel flow versus true airspeed for S-76D in different configurations and conditions.**
S-76D CRUISE FUEL CONSUMPTION
DUAL ENGINE BLEEDS OFF
CLEAN CONFIGURATION 107% NR
8000 FT ISA (-0.85°C)

FLOW RATES ARE BASED ON WORST NEW ENGINES
FLOW RATES MAY INCREASE BY UP TO 3% OVER ENGINE LIFE

PRELIMINARY DATA OF OCTOBER 2009
BASED ON ANALYSIS PRIOR TO FLIGHT TEST

COMPETITION SENSITIVE