This data sheet, which is a part of type certificate No. A20EA prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

### I - Model DHC-7-1 (Formerly DHC-7) (Transport Category) Approved April 25, 1977

<table>
<thead>
<tr>
<th>Airspeed limits</th>
<th>CAS</th>
<th>m.p.h.</th>
<th>knots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vmo (Max. Operating)</td>
<td>270</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Vb (Design Speed for max. gust intensity)</td>
<td>199</td>
<td>173</td>
<td></td>
</tr>
<tr>
<td>Va (Maneuvering)</td>
<td>179</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Vmc (Minimum Control Speed for takeoff and climb)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25° flap</td>
<td>75</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>17° flap</td>
<td>79</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Vfe (Flaps Extended)</td>
<td>173</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>17° deflection</td>
<td>138</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>25° deflection</td>
<td>127</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>45° deflection</td>
<td>127</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Vle (Landing Gear Extended)</td>
<td>190</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Vlo (Landing Gear Operation)</td>
<td>173</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Maximum Speed for opening</td>
<td>189</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>direct vision (D.V.) windows</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Maximum weights

- Ramp: 41,300 lb.
- Takeoff: 41,000 lb.
- Landing: 39,000 lb.

### C.G. range

- Forward limit: 25 percent MAC (Sta. 447.54) all weights
- Aft limit: 40 percent MAC (Sta. 465.22) all weights

### Serial Nos. eligible

S/N 1 and 2
The DHC-7-101 is the same as the DHC-7-100 except that a large cargo door in the forward left hand side of the cabin has replaced the Type III emergency exit in that position. Two additional Type III exits are located on each side at approximately the mid cabin. A cargo/passenger interior with a structurally strengthened cabin floor is standard.

The DHC-7-103 is the same as the DHC-7-102 except for those same differences between the DHC-7-101 and DHC-7-100 stated above. (See Note 4 for conversion from -100 to -102 or from -101 to -103.)

### Airspeed limits (CAS)

<table>
<thead>
<tr>
<th>(m.p.h.)</th>
<th>(knots)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vmo (Max. Operating)</td>
<td>270</td>
</tr>
<tr>
<td>Vb (Design Speed for max. gust intensity)</td>
<td>201</td>
</tr>
<tr>
<td>Va (Maneuvering)</td>
<td>179</td>
</tr>
<tr>
<td>Vnc (Minimum Control Speed for takeoff and climb)</td>
<td></td>
</tr>
<tr>
<td>25° flap</td>
<td>75</td>
</tr>
<tr>
<td>15° flap</td>
<td>79</td>
</tr>
<tr>
<td>Vfe (Flaps Extended)</td>
<td></td>
</tr>
<tr>
<td>15° deflection</td>
<td>173</td>
</tr>
<tr>
<td>25° deflection</td>
<td>138</td>
</tr>
<tr>
<td>45° deflection</td>
<td>127</td>
</tr>
<tr>
<td>Vle (Landing Gear Extended)</td>
<td>190</td>
</tr>
<tr>
<td>Vlo (Landing Gear Operation)</td>
<td>173</td>
</tr>
<tr>
<td>Maximum Speed for opening direct vision (D.V.) windows</td>
<td>189</td>
</tr>
</tbody>
</table>

### Maximum weights

<table>
<thead>
<tr>
<th></th>
<th>DHC-7-100/-101</th>
<th>DHC-7-102/-103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramp</td>
<td>43,300 lb.</td>
<td>44,100 lb.</td>
</tr>
<tr>
<td>Takeoff</td>
<td>43,000 lb.</td>
<td>44,000 lb.</td>
</tr>
<tr>
<td>Landing</td>
<td>41,000 lb.</td>
<td>42,000 lb.</td>
</tr>
<tr>
<td>Zero Fuel</td>
<td>39,000 lb.</td>
<td>39,000 lb.</td>
</tr>
</tbody>
</table>

### C.G. range

<table>
<thead>
<tr>
<th></th>
<th>DHC-7-100/-101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>Forward Limits</td>
</tr>
<tr>
<td>lb.</td>
<td>Aft. Limits</td>
</tr>
<tr>
<td>all weights to 42,000</td>
<td>% MAC (Sta.)</td>
</tr>
<tr>
<td>25% (447.54)</td>
<td>43% (468.75)</td>
</tr>
<tr>
<td>42,000 to 43,000</td>
<td>Linear variation from 25 to 26% (448.72)</td>
</tr>
<tr>
<td>43,000 to 43,300</td>
<td>26% (448.72)</td>
</tr>
</tbody>
</table>

### Serial Nos. eligible

<table>
<thead>
<tr>
<th>Serial Nos. eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/N 3 and subsequent</td>
</tr>
</tbody>
</table>

(See Note 4)
**Approved Publications**

<table>
<thead>
<tr>
<th>Aircraft Definition</th>
<th>DHC-7-100/-101</th>
<th>DHC-7-102/-103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 4</td>
<td>AEROC 7.1.AC.1</td>
<td>AEROC 7.1.AC.1</td>
</tr>
<tr>
<td>Flight Manual</td>
<td>PSM 1-71-1A*</td>
<td>PSM-17-1A</td>
</tr>
<tr>
<td>Structural Component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life and Inspection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements</td>
<td>PSM 1-7-2 Chapter 5</td>
<td>PSM 1-7-2 Chapter 5</td>
</tr>
</tbody>
</table>

*Note: Add Supplement 8 for DHC-7-101/-103 airplanes (cargo/passenger interior)*

**DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED**

<table>
<thead>
<tr>
<th>Engines</th>
<th>4-Pratt and Whitney Aircraft of Canada, Limited PT6A-50 (T.C. E4EA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>Pratt and Whitney Aircraft of Canada approved oils to conform to Specification No. PWA-521 Type II.</td>
</tr>
</tbody>
</table>

**Engine limits**

<table>
<thead>
<tr>
<th>Engine Rating (Power Limits)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff (5 min.)</td>
<td>1120 s.h.p.</td>
</tr>
<tr>
<td>Max. Continuous</td>
<td>973 s.h.p.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature Limits (Inter Turbine)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>1472°F (800°C)</td>
</tr>
<tr>
<td>Max. Continuous</td>
<td>1472°F (800°C)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Torque Limits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>4860 ft. -lb.</td>
</tr>
<tr>
<td>Max. Continuous</td>
<td>4860 ft. -lb.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas Generator Limits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff (5 min.)</td>
<td>38,500 r.p.m. (102.7 percent)</td>
</tr>
<tr>
<td>Max. Continuous</td>
<td>38,100 r.p.m. (101.6 percent)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Turbine Output</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft r.p.m.</td>
<td></td>
</tr>
<tr>
<td>Takeoff</td>
<td>1210 r.p.m.</td>
</tr>
<tr>
<td>Max. Continuous</td>
<td>1210 r.p.m.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Propeller and propeller limits</th>
<th>4-Hamilton Standard 24 PF-305</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blade</td>
<td>PFA12B1-9B</td>
</tr>
<tr>
<td>Diameter</td>
<td>11 ft. 3 in. nominal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pitch settings at 0.75 radius:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Feather</td>
<td>78.0°</td>
</tr>
<tr>
<td>Flight fine</td>
<td>6.5°</td>
</tr>
<tr>
<td>Ground fine</td>
<td>- 8.5°</td>
</tr>
<tr>
<td>Full reverse</td>
<td>-18.7°</td>
</tr>
</tbody>
</table>

| Propeller (Np) -                  |  |
| Takeoff                           | 1210 r.p.m. |
| Max. Continuous                   | 1210 r.p.m. |

**Datum**

Station 0 is 248.0 inches forward of the jig point marked by a plate located on airplane center line on the underside of the fuselage.

Mean aerodynamic chord (MAC) 117.84 in. (Leading edge of M.A.C. + 418.08 in.)
Leveling means

Longitudinal: Pads on fore and aft faces of right hand aft door opening.
Lateral: Levelling bar on forward face of bulkhead (Station 147.0 in. in nose compartment).

Minimum crew

2 - (pilot and copilot)

Maximum occupants

DHC-7-100/-102 (Passenger Carrying Interior)
Not to exceed 59, including 2 pilots, 2 attendants and 1 check pilot. (54 passengers when fitted with an approved interior).

DHC-7-101/-103 (Cargo/Passenger Interior)
Not to exceed 55, including 2 pilots, 2 attendants and 1 check pilot. (50 passengers when fitted with an approved interior).

Aft baggage or cargo limitations

S/N 1 and Subsequent; 2200 lb. with Mod. 7/1156 incorporated and moment arm +735.0 for uniformly distributed loading.

S/N 3 and Subsequent; 2800 lb. with S007036 interior incorporated.

Floor Loading (max.)

<table>
<thead>
<tr>
<th></th>
<th>Aisles</th>
<th>Under Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHC-7-1/-100/-102</td>
<td>75 p.s.f.</td>
<td>37.5 p.s.f.</td>
</tr>
<tr>
<td>DHC-7-101/-103</td>
<td>200 p.s.f.</td>
<td>200 p.s.f.</td>
</tr>
</tbody>
</table>

Fuel capacity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>315</td>
<td>262</td>
<td>2142</td>
<td>+462.0</td>
</tr>
<tr>
<td>2 inner tanks (ea).</td>
<td>425</td>
<td>354</td>
<td>2890</td>
<td>+462.0</td>
</tr>
<tr>
<td>2 outer tanks (ea).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1480</td>
<td>1232</td>
<td>10,064</td>
<td>+462.0</td>
</tr>
</tbody>
</table>

UNUSABLE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 inner tanks (ea).</td>
<td>4.6</td>
<td>3.8</td>
<td>31</td>
<td>+462.0</td>
</tr>
<tr>
<td>2 inner tanks (ea).</td>
<td>5.6</td>
<td>4.7</td>
<td>38</td>
<td>+462.0</td>
</tr>
<tr>
<td>Total</td>
<td>20.4</td>
<td>17.0</td>
<td>139</td>
<td>+462.0</td>
</tr>
</tbody>
</table>

Oil capacity

<table>
<thead>
<tr>
<th></th>
<th>USABLE</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inboard Engine</td>
<td>3.4</td>
<td>2.7</td>
<td>25.5</td>
<td>+396.0 (per Inboard Engine)</td>
</tr>
<tr>
<td>Outboard Engine</td>
<td>3.25</td>
<td>2.6</td>
<td>24.4</td>
<td>+411.4 Outboard Engine</td>
</tr>
</tbody>
</table>

Maximum operating altitude

25,000 ft. (when supplementary breathing equipment is provided for all occupants).
20,400 ft. (limited by cabin pressure altitude requirements of FAR 25.841(a)).

Maximum ambient temperature

ISA (Sea Level) +36.6°C. (+66°F)

Control surface movements

See DeHavilland Report AEROC 7.2.AC.0. Section 1.3 Page 1, Issue 2.

Generator limits

D.C. Generators:

Ground 80 percent (200 amp.)
Flight 100 percent (250 amp.)

A.C. Generators:

Ground 15 amp. per phase at 5°C to 3 amp. per phase at 52°C (linear variation)
Flight 30 amp. per phase at 5°C to 15 amp. per phase at 52°C (linear variation)

Serial Nos. eligible

S/N 1 and subsequent
Import eligibility

A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by or for the Minister of Transport. This form must contain the following statement: "This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for the D.O.T. Aircraft Type Approval No. A-120, Issue 3, dated August 30, 1979, (FAA Type Certificate No. A20EA).

Certification basis


Additional FAA Requirements:
(a) FAR Part 36 dated December 1, 1969, plus Amendments 36-1 through 36-5 inclusive.
(b) SFAR 27 dated February 1, 1974, plus Amendments SFAR 27-1 and 27-2.
(c) Special conditions No. 25-53-EA-10 dated May 7, 1973, (FAA Docket No. 12810),
   (1) Conventional mode of operation
   (2) STOL mode of operation.

Date of Application for Type Approval April 30, 1972.
Type Certificate A20EA issued April 25, 1977.

Compliance with the following optional requirement has been established:
Ice Protection FAR 25.1419
Ditching FAR 25.801

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.

NOTE 1. (a) Current weight and balance report, including list of equipment included in the certified empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

   (b) System or unusable fuel, which must be included in the empty weight, is the amount of fuel required to fill the system plumbing and tank to the undrainable level (1.5 gal. total), plus unavailable fuel in the fuel tanks (18.9 gal. total). The total amount of "system fuel" 20.4 gal. total, 139 lb. (+462.0).

   (c) System oil, which must be included in empty weight, is the amount of oil necessary for engine lubrication and propeller operation. The total amount of "system oil" is as follows:

       6.8 gal. (total) contained in inboard engines, 5.10 lb. (+396.0)
       6.5 gal. (total contained in outboard engines, 48.8 lb. (+411.4)

NOTE 2. All placards required in the approved flight manual must be installed in the appropriate location.

NOTE 3. For models -1, -100, -101, -102, and -103 airplanes the retirement times recorded in DeHavilland Manual PSM 1-7-2 Chapter 5 must be complied with.

NOTE 4. The DHC-7-100 may be converted to the -102 or the DHC-7-101 to the -103 by incorporation of the following modifications:

       DeHavilland Modification No. 7/1271 (Rear Fuselage), 7/1337 (Inboard Nacelle) and 7/1393 (Fore Rudder).

.....END.....