TYPE-CERTIFICATE DATA SHEET

No. P.012

for Propeller
FH385/FH386 series

Type Certificate Holder
RATIER-FIGEAC

Avenue Ratier – B.P. N° 2
46101 Figeac Cedex
France

For Models:
FH385
FH386
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I. General

1. Type / Models
   FH385, FH386

2. Type Certificate Holder
   RATIER-FIGEAC
   Avenue Ratier – B.P. N° 2
   46101 Figeac Cedex
   France

   Design Organisation Approval No.: EASA.21J.217

3. Manufacturer
   RATIER-FIGEAC

4. Date of Application
   FH385, FH386: 09 December 2003

5. EASA Type Certification Date
   FH385, FH386: 22 March 2012

II. Certification Basis

1. Reference Date for determining the applicable airworthiness requirements
   22 March 2009

2. EASA Certification Basis

   2.1. Airworthiness Standards
       CS-P Amendment 01, dated 16 November 2006

   2.2. Special Conditions (SC)
       SCI: Spinner Bird Impact Assessment

   2.3. Equivalent Safety Findings (ESF)
       None

   2.4. Deviations
       None
III. Technical Characteristics

1. Type Design Definition
The FH385 and FH386 propeller models are defined by a propeller system part number and an associated parts list:

<table>
<thead>
<tr>
<th>Propeller System Part Number</th>
<th>Parts List</th>
<th>Propeller Part Number (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FH385</td>
<td>FH385000003</td>
<td>NDDFH385000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH395000004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH395000005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH395000006</td>
</tr>
<tr>
<td>FH386</td>
<td>FH386000003</td>
<td>NDDFH386000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH396000004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH396000005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH396000006</td>
</tr>
</tbody>
</table>

(*) Or later approved revision.

2. Description
Variable pitch tractor propeller with feathering and reversing capability. The hub is made of steel, the eight blades have a steel shank bonded to a graphite spar and an aramid fiber envelope. The blade leading edge is protected by an electrical deicer boot and a nickel sheath. The propeller hydromechanical blade pitch actuator is controlled by a propeller control module which is connected to the engine FADEC. The FH385 propeller rotates counter-clockwise and the FH 386 propeller rotates clockwise (viewed from Aft Looking Forward - ALF).

3. Equipment
The following equipment is part of the propeller Type Certificate:

<table>
<thead>
<tr>
<th>Part Number (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propeller Control Module (PCM) FH392000002, FH392000004, FH392000005, FH392000006, FH392000000, FH392000000</td>
</tr>
<tr>
<td>External pipe FH386012000, FH386026000</td>
</tr>
<tr>
<td>Propeller Main Pump FH391000003</td>
</tr>
<tr>
<td>Propeller Auxiliary Pump FH397000002, FH397000003, FH397010000</td>
</tr>
<tr>
<td>Transfer tube FH393000001, FH393000002</td>
</tr>
<tr>
<td>Pitchlock tube 1006242-1</td>
</tr>
<tr>
<td>NP/Beta Sensor Set FH398010004, FH398010006</td>
</tr>
<tr>
<td>Brushblock FH390000002, FH390000003</td>
</tr>
<tr>
<td>De-icer Stationary Control Unit (SCU) FH394000005, FH394000006</td>
</tr>
<tr>
<td>De-icer Rotating Control Unit (RCU) FH404000003</td>
</tr>
<tr>
<td>Front Spinner Assembly FH403010005, FH403010007, FH403010008</td>
</tr>
<tr>
<td>Rear Cover Assembly FH403013003, FH403069000</td>
</tr>
</tbody>
</table>

(*) Or later approved revision.
4. Dimensions
Propeller diameter: 5.334 m

5. Weight
Maximum: 683 kg

6. Hub / Blade Combinations

<table>
<thead>
<tr>
<th>Hub Part Number</th>
<th>Blade Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>FH385</td>
<td>FH401000004, FH401100000</td>
</tr>
<tr>
<td>FH386</td>
<td>FH401000004, FH401100000 (*)</td>
</tr>
<tr>
<td></td>
<td>FH405000006, FH405500000 (*)</td>
</tr>
<tr>
<td></td>
<td>FH406000006, FH406500000 (*)</td>
</tr>
</tbody>
</table>

(*) Because of the difference in mass, installation of blades is authorized by pairs of opposite blades.

7. Control System
The propeller pitch control is performed by the Propeller Control Module which is connected to the aircraft and to the engine Full Authority Digital Engine Control (FADEC).

8. Adaptation to Engine
24 X 25.065 mm diameter dowel bolts equally spaced on a circle of 338.33 mm.

9. Direction of Rotation
FH385: Counterclockwise, ALF
FH386: Clockwise, ALF

IV. Operating Limitations

1. Approved Installations

<table>
<thead>
<tr>
<th>Engine</th>
<th>With Engine Control Unit application software P/N EPI5F23S7FCS110, or later approved revision. With Engine Protection and Monitoring Unit protection software P/N EPI5A23S2FCS110, or later approved revision.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPI Europrop International GmbH TP400-D6 turbo-propeller engine (TC EASA E.033)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>In accordance with the instructions and limitations provided in the Propeller Installation Manual RF00607 V00 and Propeller Operation Manual RF00608 V00, or later approved revisions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMSL A400M large aeroplane</td>
<td></td>
</tr>
</tbody>
</table>

2. Maximum Take Off Power, Speed, and Torque
Take Off Power: 8251 kW (11065 shp)
Take Off Speed: 860 rpm
Take Off Torque: 91618 N.m
3. Maximum Continuous Power, Speed, and Torque
Maximum Continuous Power: 7971 kW (10690 shp)
Maximum Continuous Speed: 842 rpm
Maximum Continuous Torque: 90407 N.m

4. Inadvertent Maximum Overspeed and Overtorque:
Inadvertent Maximum Overspeed: 948 rpm
Inadvertent Maximum Overtorque:
- 122876 N.m if propeller is equipped with at least one blade P/N FH405000006 or FH406000006
- 153692 N.m for other propellers
Inadvertent Maximum Overtorque in Feather: 54365 N.m

5. Propeller Pitch Angle
From -21.7° up to +83° measured at 75% blade radius

V. Operating and Service Instructions

<table>
<thead>
<tr>
<th>Manuals</th>
<th></th>
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<tbody>
<tr>
<td>Propeller Installation Manual (PIM)</td>
<td>RF00607</td>
</tr>
<tr>
<td>Propeller Operation Manual (POM)</td>
<td>RF00608</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instructions for Continued Airworthiness (ICA)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Propeller Data Modules from Aircraft Maintenance Manual</td>
<td>PMC-AJ-844BB-10000-01</td>
</tr>
<tr>
<td>Component Maintenance Manual (CMM) – Propeller System</td>
<td>61-10-63</td>
</tr>
<tr>
<td>Component Maintenance Manual (CMM) – Left Hand Blade – Right Hand Blade</td>
<td>61-11-02</td>
</tr>
<tr>
<td>Other Component Maintenance Manuals (CMM)</td>
<td>as published by RATIER-FIGEAC</td>
</tr>
<tr>
<td>Service Bulletins</td>
<td>as published by RATIER-FIGEAC</td>
</tr>
</tbody>
</table>

VI. Notes
1. The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable Data Module Codes AJ-A-05-10-00-61AAA-030A-D entitled “Time Limits (FH385/FH386 Propeller) - Technical Data (Airworthiness Limitations (Life Limits) & Recommended Life)” and AJ-A-05-20-61-00AAA-030A-D entitled “Scheduled Maintenance Checks List (FH385/FH386 Propeller) - Technical Data (Airworthiness Limitations (Mandatory Inspections) & Recommended Inspections)”. The same Data Module Codes contain the recommended replacement or maintenance intervals.

2. Compliance with CS-P 360 was demonstrated for a 1.8 kg bird.
SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations
n/a

II. Type Certificate Holder Record
n/a

III. Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 01</td>
<td>22 March 2012</td>
<td>Initial Issue</td>
<td>Initial Issue, 22 March 2012</td>
</tr>
<tr>
<td>Issue 02</td>
<td>18 November 2013</td>
<td>Several Major Changes</td>
<td></td>
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<tr>
<td>Issue 03</td>
<td>28 October 2014</td>
<td>Major Change Approval 10049271</td>
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<tr>
<td>Issue 04</td>
<td>15 December 2015</td>
<td>Editorial Changes</td>
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