

## AIRBUS HELICOPTERS CANADA LIMITED

FLIGHT MANUAL SUPPLEMENT AIRFRAME FUEL FILTER AS 350 B3 (Arriel 2D Engine)

## SUBJECT: AIRFRAME FUEL FILTER (P/N 350-600024)

The Airframe Fuel Filter enables operation of the helicopter at low temperatures without the use of anti-ice additives in the fuel. The filter is designed to collect ice particles.

#### APPLICABILITY:

This Flight Manual Supplement must be used when the Airframe Fuel Filter is installed on POST MOD 4305 AS 350 B3 helicopters with the Arriel 2D engine.

Department of Transport (Canada) Approved

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH

JUN 1 2 2015

A PERO VED
BY
CERTIFICATE NO. 5402-42
ISSUE NO. 7

G. David Senior Engineer, Aircraft Certification Aircraft Certification (PAHI) Ontario Region

## **IMPORTANT NOTE**

THE INFORMATION AND DATA CONTAINED IN THIS DOCUMENT SUPERSEDE OR SUPPLEMENT THAT CONTAINED IN THE BASIC APPROVED FLIGHT MANUAL FOR THE AS 350 B3 HELICOPTER IN THOSE AREAS LISTED HEREIN. FOR LIMITATIONS, PROCEDURES AND PERFORMANCE NOT CONTAINED IN THIS DOCUMENT REFER TO THE APPROVED FLIGHT MANUAL AND OTHER APPLICABLE APPROVED FLIGHT MANUAL SUPPLEMENTS.

SECTIONS 2, 3, 4 AND 5 OF THIS DOCUMENT COMPRISE THE 'APPROVED FLIGHT MANUAL SUPPLEMENT. COMPLIANCE WITH SECTION 2, LIMITATIONS, IS MANDATORY.

SECTIONS 1 AND 6 ARE UNAPPROVED AND ARE PROVIDED FOR INFORMATION ONLY.

THE INFORMATION CONTAINED IN THIS DOCUMENT SHALL BE TREATED AS THE PROPERTY OF AIRBUS HELICOPTERS CANADA LIMITED (AHCA). THE RECIPIENT OF THIS DOCUMENT SHALL NOT DISCLOSE ANY INFORMATION CONTAINED HEREIN TO THIRD PARTIES WITHOUT THE WRITTEN PERMISSION OF AHCA, AND SHALL NOT USE OR REPRODUCE THIS DOCUMENT IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN ITS ORIGINALLY INTENDED PURPOSE, OR TO EVALUATE ITS CONTENTS.

|   | NAMEA      | ND SIGNATURE                                 | D/      | ATE    | COMPANY DEPARTMENT    |
|---|------------|--|---------|--------|-----------------------|
| PREPARED BY:                              | D. Kerr DK | <u>.                                    </u> | es Febr | ,2015  | AHCA ENGINEERING      |
| PREPARED BY:                              | 1          | 1/1/1  | ,       |        |                       |
| CHECKED BY;                               | G. Krebs   | W  | Fos 26, | 2015   | AHCA CHIEF TEST PILOT |
| CHECKED BY:                               | C. Timmins | P. TLANIES                                   | 25 Fel  | 2575   | AHCA ENGINEERING      |
| REV. 3 ACCEPTED:<br>(Civil A/W Authority) | STAMP      | C. Thining                                   | 15 Jus  | e,2015 | TCCA                  |
| REV. 3 RELEASED BY:                       | P. Sharpe  | TE.  | JUN 1   | 7 2015 | AHCA ENGINEERING      |
|   |            |  |         |        |                       |
|   |            |  |         |        |                       |
|   |            |  |         |        | •                     |



### AIRBUS HELICOPTERS CANADA LIMITED

### **RECORD OF REVISIONS**

| Pages at<br>this<br>Revision   | Description, Reason<br>Changed Pages  | Prepared<br>(name<br>and date)   | Checked<br>(name<br>and date)   | App'd/Acc'd<br>(Civil A/W<br>Authority)<br>(name and date)  | Released<br>(name<br>and date)   |
|--|---|--|---|---|--|
| 1 through<br>10  | Original Issue  | D. Kerr<br>18 September<br>2012  | C. Timmins<br>18 September<br>2012  | N/A   | R. Manson<br>5 November 2012   |
| 1 through<br>10  | Additional<br>abbreviations added.<br>Reference to Jet B fuel<br>removed.<br>(pages 6 & 7)  | D. Kerr<br>9 November 2012   | C, Timmins<br>9 November 2012   | TCCA<br>G. David<br>19 December 2012  | R, Manson<br>21 December 2012  |
| 1 through<br>10  | Limitations section<br>revised to reflect<br>NORMAL and<br>REPLACEMENT<br>FUEL exceptions.<br>(Page 7)  | D. Kerr<br>21 December 2012  | C. Timmins<br>21 December 2012  | TCCA<br>G. David<br>21 December 2012  | R. Manson<br>21 December 2012  |
| 1 through<br>9   | Company name and logo revised. Figure 2 revised. Abbreviations added to Section 1. Revised Section 2.c. New NOTE limiting maneuvering when A/F F/F light is illuminated added to Section 3. (Pages 3 to 7)  | See page 1.  | See page 1.   | See page 1.   | See page 1.  |
|  | NASTRAL DE LA CASA DE |  |   |   |  |
|  |   |  |   |   |  |
| e de la companya de l |   |  |   |   |  |
|  |   |  |   |   |  |
|  |   | en compare descendes Vendos dals a suscendes antiques de compare d |   |   | ordinista riberida likilmeris-siid <del>ahta</del> asi suurasi ondolenkalisuu enva onneen 1 5015–101850 (1976).  |
|  | this Revision  1 through 10  1 through 10  1 through 10   | this Revision  1 through 10  1 through 10  1 through 2 Additional abbreviations added. Reference to Jet B fuel removed, (pages 6 & 7)  1 through 10  1 through 2 Limitations section revised to reflect NORMAL and REPLACEMENT FUEL exceptions. (Page 7)  1 through 2 Company name and logo revised. Figure 2 revised. Abbreviations added to Section 1. Revised Section 2.c. New NOTE limiting maneuvering when A/F F/F light is illuminated added to Section 3.  | this Revision  Changed Pages  (name and date)  1 through 10  Additional abbreviations added. Reference to Jet B fuel removed. (pages 6 & 7)  1 through 10  Limitations section revised to reflect NORMAL and REPLACEMENT FUEL exceptions. (Page 7)  1 through 2 Company name and logo revised. Figure 2 revised. Abbreviations added to Section 1. Revised Section 2.c. New NOTE limiting maneuvering when A/F F/F light is illuminated added to Section 3. | this Revision  Changed Pages  (name and date)  1 through 10  Original Issue  D. Kerr 18 September 2012  D. Kerr 18 September 2012  D. Kerr 18 September 2012  C. Timmins 18 September 2012  D. Kerr 2012  D. Kerr 2012  D. Kerr 2012  D. Kerr 2012  C. Timmins 9 November 2012  D. Kerr 2012  D. Kerr 2012  C. Timmins 2012  D. Kerr 2012  D. Kerr 2012  C. Timmins 2012  Through 10  Through 10  Limitations section revised to reflect NORMAL and REPLACEMENT FUEL exceptions. (Page 7)  D. Kerr 21 December 2012  C. Timmins 21 December 2012  See page 1.  See page 1.  See page 1. | this Revision  Changed Pages  (name and date)  (name and september 2012  (name and and and and powerber 2012  (name and and powerber 2012  (name and |

NOTE: Revisions to this document will be distributed to operators of this equipment by the STC holder.

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

NOTE: Minor changes are released in accordance with TCCA - ACCEPTED CAR 521.154 procedures (ref. DAPM-E-0001)

Transport Canada - Approved

TC Approved

JUN 1 2 2015



### AIRBUS HELICOPTERS CANADA LIMITED

## **CONTENTS**

| SECTION | TITLE                | PAGE |
|---------|----------------------|------|
|         |                      |      |
| 1       | GENERAL              | 4    |
| 2       | LIMITATIONS          | 6    |
| 3       | EMERGENCY PROCEDURES | 7    |
| 4       | NORMAL PROCEDURES    | 8    |
| 5       | PERFORMANCE DATA     | 8    |
| 6       | WEIGHT AND BALANCE   | 9    |

### **FIGURES**

| FIGURE | TITLE                             | PAGE |
|--------|-----------------------------------|------|
|        | •                                 |      |
| 1      | General Layout                    | 4    |
| 2      | Press to Test / Annunciator Light | 7    |

Transport Canada - Approved

TC Approved
JUN 1 2 2015

## AIRBUS HELICOPTERS CANADA LIMITED

## 1. GENERAL (unapproved)

The installation of the Airframe Fuel Filter system enables operation of the helicopter at low operating temperatures (below –20°C) without the use of anti-ice additives in the fuel. The filter is designed to collect ice particles.

NOTE

This document is only applicable to POST MOD 4305 AS 350 B3 helicopters equipped with the Arriel 2D engine. For PRE MOD 4305 AS 350 B3 helicopters equipped with the Arriel 2B or 2B1 engine, see Airbus Helicopters Canada Limited FMS-ECL-15.

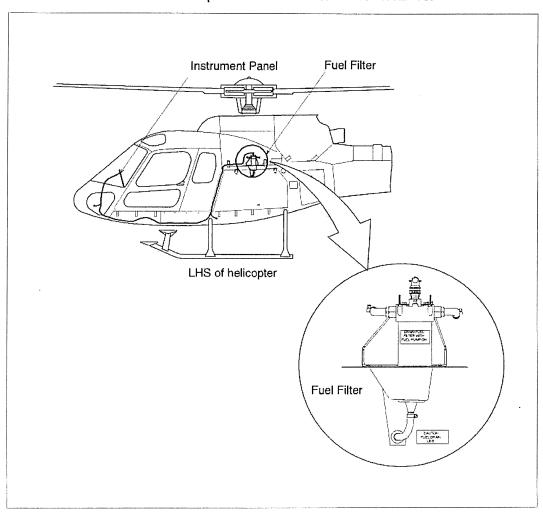


Figure 1 General Layout

Transport Canada - Unapproved

# AIRBUS HELICOPTERS CANADA LIMITED

## 1. GENERAL (unapproved) (continued)

## Abbreviations and Definitions

| The second secon |   |  |
|--|---|--|
| ABBREVIATION   | DEFINITION  |  |
| A/F  | Airframe  |  |
| AH   | Airbus Helicopters (France)   |  |
| AHCA   | Airbus Helicopters Canada Limited   |  |
| A/W  | Airworthiness   |  |
| Acc'd  | Accepted  |  |
| App'd  | Approved  |  |
| °C   | Degrees Celsius   |  |
| CAR  | Canadian Aviation Regulations   |  |
| DAPM   | Design Approval Procedures Manual   |  |
| F/F  | Fuel Filter   |  |
| FILT   | Filter  |  |
| FMS  | Flight Manual Supplement  |  |
| ft.  | feet  |  |
| Нр   | Pressure Altitude   |  |
| ISA  | International Standard Atmosphere   |  |
| LHS  | Left Hand Side  |  |
| MOD  | Modification  |  |
| Ng   | Engine Generator Speed  |  |
| PAHI   | Transport Canada Civil Aviation,<br>Ontario Region, Engineering<br>(Aircraft Certification) |  |
| P/N  | Part Number   |  |
| ref.   | reference   |  |
| RHS  | Right Hand Side   |  |
| RPM  | Revolutions Per Minute  |  |
| STC  | Supplement Type Certificate   |  |
| TCCA   | Transport Canada Civil Aviation   |  |
|  |   |  |

Transport Canada - Unapproved



# AIRBUS HELICOPTERS CANADA LIMITED

### 2. LIMITATIONS

### a. Approved Fuels

For approved fuels, section 2.5.1 of the Flight Manual Supplement applies, with the following exceptions:

Operation with NORMAL FUELS is limited to Hp = 15,000 ft.

Operation with REPLACEMENT FUELS is prohibited.

### b. Additives

Anti-ice additives are not required when operating with the standard fuel system.

When a Ferry Flight Fuel Tank is installed, anti-ice additives must be used at temperatures below -20°C.

## c. Annunciator Light

An annunciator light is located on the instrument panel in clear view of the pilot, adjacent to other caution or warning lights. The position may vary depending on other optional equipment installed. Refer to Figure 2.

Transport Canada - Approved

TC Approved

JUN 1 2 2015



# AIRBUS HELICOPTERS CANADA LIMITED

### 3. EMERGENCY PROCEDURES

FUEL FILT LIGHT ON

<u>OR</u>

A/F FUEL FILTER LIGHT ON

FUEL FILT LIGHT ON

AND

A/F FUEL FILTER LIGHT CONTINUOUSLY ON

 Follow basic Flight Manual procedures for FUEL FILT LIGHT ON.

- Land as soon as possible

 Monitor N1; if oscillations occur, land immediately.

NOTE If the A/F Fuel Filter annunciator light illuminates during

flight it may indicate an impending bypass of the filter.

NOTE Limit maneuvering when the A/F Fuel Filter annunciator

light is illuminated.

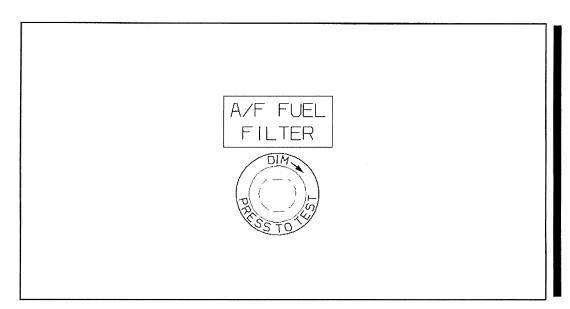


Figure 2 Press to Test / Annunciator Light

Transport Canada - Approved

TC Approved

JUN 1 2 2015

Rev. 3 Page 7 of 9

FMS-ECL-154



### AIRBUS HELICOPTERS CANADA LIMITED

#### FLIGHT MANUAL SUPPLEMENT AIRFRAME FUEL FILTER AS 350 B3 (Arriel 2D Engine)

### 4. NORMAL PROCEDURES

a. Before the first flight of each day

Battery

- ON

Fuel pump

- ON

Fuel filter and lines

 Open drain valve, purge any air or water from the system. Close drain

valve.

Drain valve and fuel filter

- Check for leaks

Fuel Pump

- OFF

Battery

- OFF

Fuel drain and transmission deck

- No debris on fuel drain and/or

transmission deck

### b. Pre-Flight Check

Battery

- ON

Press A/F FUEL FILTER by-pass "press to test" caution light

- Caution light illuminates

### 5. PERFORMANCE DATA

No Change.

Transport Canada - Approved

TC Approved

JUN 1 2 2015

## AIRBUS HELICOPTERS CANADA LIMITED

# 6. WEIGHT AND BALANCE (UNAPPROVED)

Total changes to weight and balance resulting from this modification are covered in the applicable instructions for continued airworthiness.

Items that are removed between routine operations: Not applicable