

Supplement No. AFS-BH206B-IBF-KIT-FMS



4 Research Park Drive, Suite 200
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**FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT
TO THE**

**BELL HELICOPTER TEXTRON CANADA, LTD (BHTCL)
MODEL 206B SERIES
ROTORCRAFT FLIGHT MANUALS**

**FOR THE
INLET BARRIER FILTER SYSTEM
INSTALLATION**

Aircraft S/N _____

Aircraft Reg. No. _____

This supplement must be attached to applicable FAA Approved Rotorcraft Flight Manuals, (BHT-206B-FM-1 & BHT-206B3-FM-1), when the rotorcraft is modified by the installation of the AFS Inlet Barrier Filter (IBF) System in accordance with STC No. SR09451RC.

The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.

FAA Approved

for Gayle Sharon

Carl F. Mittag

Manager, Rotorcraft Certification Office, ASW-170
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Approval Date: DEC 14 2005

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SUPPLEMENT FOR
Bell 206B Series RFMs
BHT-206B-FM-1 &
BHT-206B3-FM-1 for the
IBF System

LOG OF REVISIONS

Revision No.	Revision Description	Pages Revised	FAA Approved	Date
IR	Initial Release		<i>Gayle Sharon</i>	12/14/05

NOTE

Revised text from previous revision is indicated by a black vertical line in the right border.

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GENERAL INFORMATION

The Inlet Barrier Filter (IBF) STC kit (109000-101) consists of two forward-facing removable barrier filter assemblies, integral seals, mounting adapter frame, differential pressure switch, filter maintenance aid, inlet plenum floor with bypass door/actuator assembly, two floor closeout angles, a cockpit "IBF FILTER" differential pressure limit indicator, a two position cockpit "IBF BYPASS" switch for bypass open or closed, a 3 amp breaker, and an engine wash nozzle/supply tube assembly. The kit also includes all unique installation hardware and wiring.

An alternate kit (109000-103) includes the basic IBF installation as described above and adds an optional quick "access door" to allow filter servicing without removing the cowl. The quick "access door" modification includes the door, seal, and structural components.

Installation of the IBF STC requires that the engine bleed air or scavenge air used by the engine air Particle Separator (if installed), be capped.

Operation of the aircraft with the IBF system installed requires use of the same performance information and / or charts as required in Rotorcraft Flight Manual (RFM) Supplement BHT-206B-FMS-15 or Supplement BHT-206B3-FMS-12 (as applicable) for the Bell engine air particle separator kit for all operations as defined in Section 4 of this supplement.

Section 1

LIMITATIONS

NOTE

Use of this supplement requires that a current copy of Bell 206B Particle Separator RFMS BHT-206B-FMS-15 or Bell 206B-3 Particle Separator RFMS BHT-206B3-FMS-12, as applicable, be inserted in the flight manual at all times.

TYPE OF OPERATION

Engine Air Induction System Deflector Kit (206-706-136) shall be installed in conjunction with the IBF system when conducting operations in falling and/or blowing snow.

OPTIONAL EQUIPMENT

NOTE

The operator shall verify the performance of the aircraft due to other/optional equipment that may be installed.

This supplement requires the use of performance information for various combinations of Bell kits. It also includes limitations and operating procedures made necessary because of kit combinations. Refer to the Performance Section in the appropriate Flight Manual Supplement. This supplement is not

intended to replace approved supplements for other optional equipment, but should be used in conjunction with such supplements. For any other applicable supplement, the charts to be used in conjunction with the IBF installation will be those indicated for "BASIC INLET" or "PARTICLE SEPARATOR INSTALLED" as applicable based on the criteria specified in the performance section (Section 4) of this supplement.

WEIGHT / CG

Actual weight change shall be determined after kit is installed and ballast readjusted, if necessary, to return empty weight CG to within allowable limits.

PLACARDS

Circuit Breaker (3 amp) is labeled:
"IBF"

Switch to open bypass door is labeled:
"IBF BYPASS"

Caution Light, indicating the differential pressure limit across the IBF has been reached or exceeded illuminates to read: (see Section 3)
"IBF FILTER"

Section 2

NORMAL PROCEDURES

EXTERIOR CHECK

2. FUSELAGE – CENTER RIGHT SIDE

Engine air inlet and plenum – Condition; clear of obstructions including snow, slush, or ice, paying particular attention to the firewall, the rear face of IBF filter, bypass door and surrounding floor area.

NOTE

During flight operations with the engine air inlet snow deflector kit installed, the Filter Maintenance Aid (FMA) will not provide accurate readings and should not be used. Upon removal of the snow deflector kit, reset the FMA prior to next flight.

NOTE

IF FMA indicator enters RED zone, recommend servicing filter per AFS-206B-IBF-KIT-ICA prior to flight (See Figure 2-1 of FMS).

NOTE

FMA and Bypass Door may be accessed for following checks through RH access door.

IBF Filter Maintenance Aid – Visually check; GREEN zone (See Figure 2-1 of FMS).

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CAUTION

TO PREVENT COMPRESSOR EROSION AVOID OPERATION IN A DIRTY OR DUSTY ENVIRONMENT WITH IBF BYPASS DOOR OPEN.

IBF Bypass Door – Visually check; As desired.

ENGINE PRESTART CHECK

CAUTION

TO PREVENT COMPRESSOR EROSION AVOID OPERATION IN A DIRTY OR DUSTY ENVIRONMENT WITH IBF BYPASS DOOR OPEN.

IBF BYPASS Switch – As desired.

DESCENT AND LANDING

CAUTION

TO PREVENT COMPRESSOR EROSION AVOID OPERATION IN A DIRTY OR DUSTY ENVIRONMENT WITH IBF BYPASS DOOR OPEN.

IBF BYPASS Switch – As desired.

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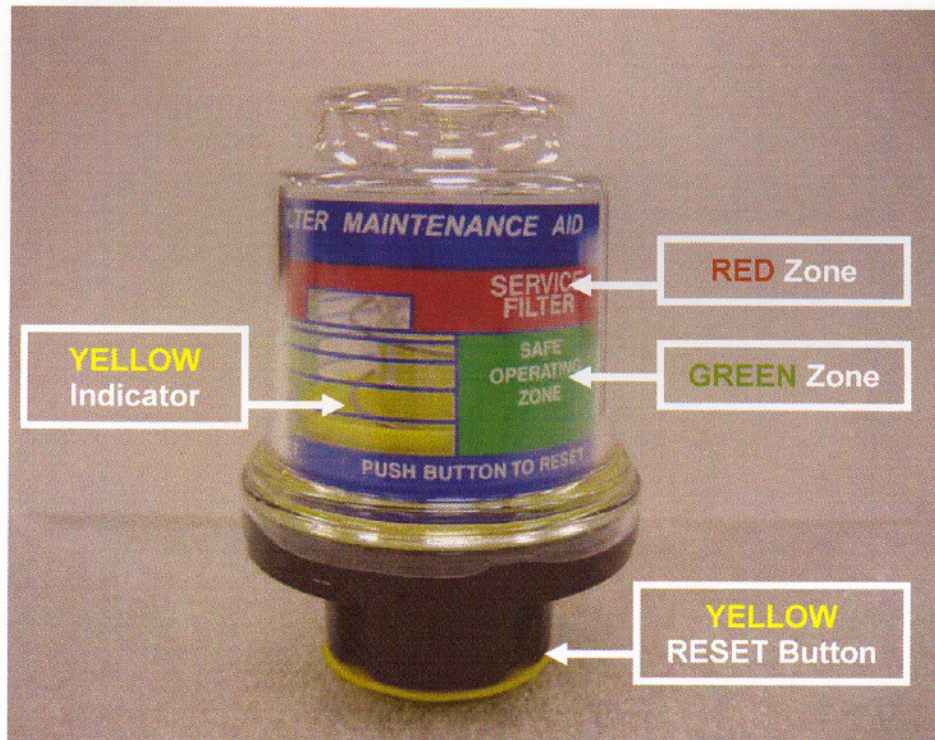


Figure 2-1. FILTER MAINTENANCE AID – (ABOVE) “YELLOW Indicator” position relative to SAFE OPERATING ZONE (“GREEN Zone”) or SERVICE FILTER (“RED Zone”) markings defines current filter condition and pushing “YELLOW RESET Button” resets indicator. FMA unit is mounted to bottom of IBF floor assembly and is accessed through RH access door on engine air induction cowl.

Section 3

EMERGENCY / MALFUNCTION PROCEDURES

CAUTION LIGHT (AMBER) SEGMENTS

CAUTION LIGHT	FAULT	REMEDY
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IBF FILTER

Pressure differential across the engine air inlet filter has been reached normal operating limit.

NOTE

As the filter assembly becomes contaminated or during flight with the snow deflector kit installed, certain flight conditions may cause the indicator to flicker intermittently. Corrective action should be taken only when the indicator illumination is continuous.

Monitor TOT for any significant rise. Monitor engine conditions for any indications of engine degradation or compressor stall, i.e. TOT fluctuations, and decreasing or fluctuating N1 rpm.

If rise in TOT or engine performance is unacceptable:

- IBF BYPASS switch – OPEN.

NOTE

IBF FILTER light should go OFF indicating the bypass door is open and the pressure differential is back within the normal range.

- If IBF FILTER light remains ON, exit dirty and dusty conditions. Land as soon as practical.

Service filter prior to next flight.

NOTE

If IBF FILTER light illuminates during take-off, recommend servicing the filter before continuing flight.

CAUTION

TO PREVENT COMPRESSOR EROSION AVOID OPERATION IN A DIRTY OR DUSTY ENVIRONMENT WITH IBF BYPASS DOOR OPEN.

Section 4

PERFORMANCE

PERFORMANCE DATA

Basic helicopter performance is only slightly reduced when the Inlet Barrier Filter (IBF) is clean. Helicopter performance is reduced as the IBF becomes contaminated with dirt, dust and debris.

Based on the condition of the filter, the IBF system uses the performance charts as normally required in the Flight Manual BHT-206B-FM-1 or BHT-206B3-FM-1 (as applicable) for the basic inlet or as normally required in Rotorcraft Flight Manual (RFM) Supplement BHT-206B-FMS-15 or Supplement BHT-206B3-FMS-12 (as applicable) for operation of the aircraft with the Bell engine air particle separator kit installed. A Power Check must be performed to determine which charts are to be used.

NOTE

Power Check must be used to determine if engine can produce installed power. Power Check is acceptable when chart percent torque reading is equaled or exceeded. Ensure that the IBF FILTER caution light is not illuminated and IBF Bypass

switch is in the CLOSED position during performance of the Power Check.

To determine if the basic inlet performance charts can be used, perform the basic inlet Power Check using the procedure / chart in Performance Section of the appropriate Flight Manual. If the basic inlet Power Check is acceptable, the engine meets or exceeds the minimum Allison specification requirements for the applicable 250-C20 series engine and the performance data for basic inlet configuration included in this section of the Flight Manual can be achieved.

NOTE

If the basic inlet Power Check is not acceptable, the operator has the option of: (1) servicing the filter assemblies to restore clean filter performance and rechecking the basic inlet Power Check or (2) continuing to operate if the engine will pass the engine air particle separator Power Check.

If the basic inlet Power Check is not acceptable, perform the engine air particle separator Power Check

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using the procedure / chart included in RFM Supplement BHT-206B-FMS-15 or BHT-206B3-FMS-12 (as applicable).

If the engine air particle separator Power Check is acceptable, the engine meets or exceeds the minimum Allison specification requirements for the applicable 250-C20 series engine and the performance data in the applicable supplement for the particle separator installed configuration can be achieved.

If the engine air particle separator Power Check using the procedure / chart included in the applicable supplement is not acceptable, the filter assemblies must be serviced and Power Checks must be repeated as necessary.

NOTE

If the Power Checks are still unacceptable after servicing the filter assemblies, refer to the appropriate aircraft / engine manual to determine cause for low power.

NOTE

Refer to appropriate performance charts in accordance with optional equipment installed.