Supplement No. AFS-AA119-IBF-FMS

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FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT
TO THE

AGUSTA S.p.A.
MODEL A119 and AW119 MKII
ROTORCRAFT FLIGHT MANUAL
FOR THE
INLET BARRIER FILTER SYSTEM
INSTALLATION

Aircraft S/N_____ Aircraft Reg. No. _____

This supplement must be attached to applicable FAA Approved Rotorcraft Flight Manual, when the rotorcraft is modified by the installation of the AFS Inlet Barrier Filter (IBF) System in accordance with STC No. SR02338CH

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

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LOG OF REVISIONS

Revision No.	Revision Description	Pages Effected	FAA Approved:	Date:
IR	Initial Release	All	Joe Miess	13 Nov 06
A	Added information to the Limitations and Emergency/Malfunction Sections	5, 8	Joe Miess	9 May 07
B	Added AW119 MKII to the Cover Page & Header	All	Joe Miess	4 Mar 08
C	Clarified Indicator Switch Operation, Removed IMC restriction	5, 8	Joe Miess	8 Mar 10
D	Changed Logo and updated address. Updated to latest format. Added 119000-105 configuration (page 4)	All	Joe Miess	MAY 0 7 2013

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 (119000-101 and 119000-105) consists of a frame assembly, three filter assemblies, a cockpit indicator/switch, and bypass system (which includes the bypass door, actuator, differential pressure switch, and filter maintenance aid).

The IBF system provides a means of monitoring the condition of the filter both in-flight and on the ground, and a bypass capability should flow through the filter become restricted. In-flight, the differential pressure switch continuously measures the drop in pressure across the filter, and triggers the cockpit indicator/ switch cautioning the pilot any time the differential pressure across the filter reaches or exceeds a preset limit.

The electromechanically actuated bypass door permits unfiltered air to enter the engine inlet chamber, should the filter media become obstructed, and can be opened or closed as required by depressing the cockpit indicator/switch. The bypass system is employed by depressing the cockpit indicator/switch on the center console. The bypass system also includes a three amp circuit breaker located in the overhead panel, installation hardware and wiring.

The cockpit indicator/switch is used to energize the actuator by depressing the switch to open the bypass door and depressing it to close the bypass door. When the filter has enough dirt/debris that causes the differential pressure to reach or exceed a preset value, the FILTER segment of the indicator will illuminate. The cockpit indicator/ switch may be depressed to open the bypass door. When the bypass is fully opened, the BYPASS segment of the indicator will illuminate, and the differential pressure will decrease causing the FILTER light to extinguish. On the ground, a Filter Maintenance Aid, mounted on the front of the forward filter housing frame, displays the maximum differential pressure across the filter reached during the last flight. It is accessible only on the ground, providing the pilot or mechanic the ability to visually gauge the current condition of the filter.

Operation of the aircraft with the IBF system installed requires use of the same performance information and/or charts as required in the Rotorcraft Flight Manual (RFM) for all operations as defined in Section 4 of this supplement. Therefore no new performance charts are required for installation and operation of the IBF system.

Section 1

LIMITATIONS

TYPE OF OPERATION

The installation of the IBF system does not change the existing operational restrictions listed in the basic Rotorcraft Flight Manual (RFM). Refer to the Limitations Section of the RFM for Types of Operation.

The installation of the IBF system does not restrict the aircraft from flight in falling and blowing snow conditions.

INSTRUMENT MARKINGS AND PLACARDS

IBF

An "IBF" placard (as shown above) is located near the IBF 3-amp circuit breaker in the circuit breaker panel and near the IBF cockpit indicator/switch.

NOTE

"IBF" may be engraved or silk-screened in lieu of the placards

(The Figure above has both indicator segments illuminated for illustration purposes only)

The indicator/switch includes a push-button switch used to open/close the filter bypass and two indicator segments used to alert the pilot any time the filter is restricted or the bypass door is open.

The upper segment of the indicator is labeled "FILTER" and will illuminate yellow/amber when the pressure differential across the engine inlet filter is above a preset value.

The lower segment of the indicator is labeled "BYPASS" and will illuminate yellow/amber whenever the bypass door is in the full open position.

NOTE:

"FILTER" segment should extinguish when "BYPASS" segment illuminates indicating differential pressure is again within normal operating range.

Section 2

NORMAL PROCEDURES

FUSELAGE – CENTER

1. Ensure IBF environmental protective cover is removed.

2. Perform a visual check to verify that the bypass doors are in the closed position.

3. Check IBF Filter Maintenance Aid to determine condition of the filters. When indicator enters RED zone (See Figure 2-1 of this FMS), it is recommended the filter be serviced per IBF Instructions for Continued Airworthiness, AFS-AA119-IBF-ICA.

BEFORE FLIGHT WHEN OPERATING IN SNOW CONDITIONS

1. Thoroughly check cabin roof, transmission cowling, and filter areas. All areas checked shall be clean and free of accumulated snow, slush, and ice before each flight.

2. Ensure that all filters, by-pass doors, and intake cowling are thoroughly clear of snow, slush, or ice before each flight.

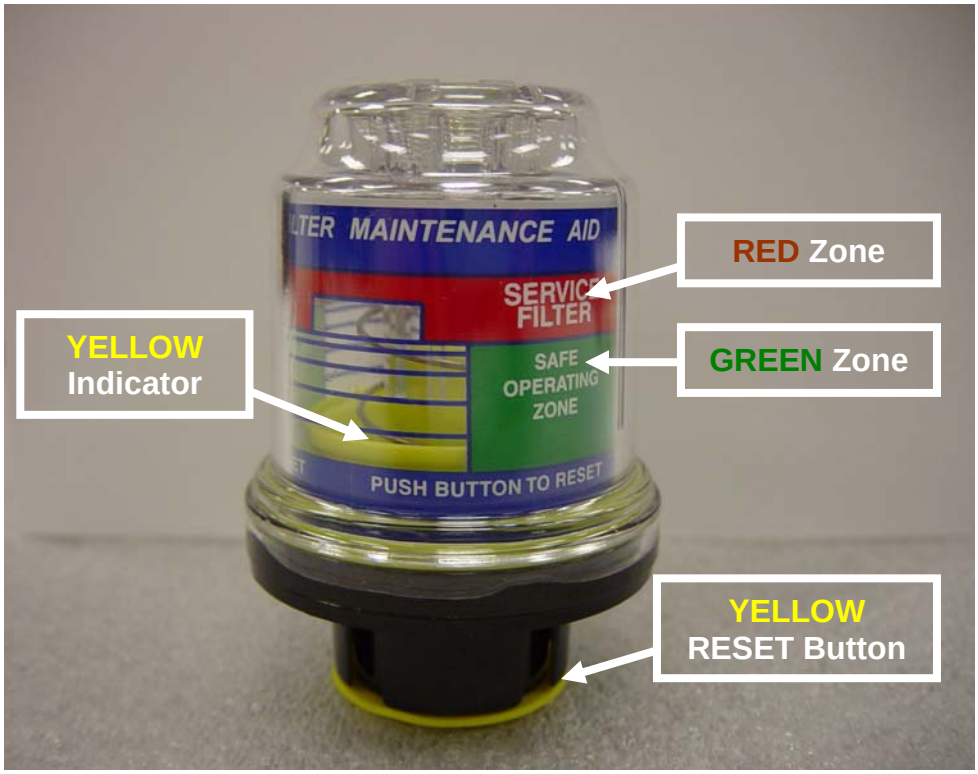

Figure 2-1. FILTER MAINTENANCE AID – (ABOVE) "YELLOW Indicator" position relative to SAFE OPERATING ZONE ("GREEN Zone") or SERVICE FILTER ("RED Zone") markings defines current filter condition and pushing "YELLOW RESET Button" resets indicator. (BELOW) FMA unit is mounted to front of the upper plenum of IBF assembly and is accessed through access hole in the cover plate.

Section 3

EMERGENCY/MALFUNCTION PROCEDURES

Caution Lights (YELLOW/AMBER)

PANEL WORDING	FAULT CONDITION	CORRECTIVE ACTION
	Illumination of the "FILTER" segment of the respective indicator/switch indicates the preset value for the pressure differential for the affected engine has been reached. NOTE As the filter becomes more contaminated, certain flight conditions may cause the "FILTER" segment to flicker intermittently. Corrective action should be taken only when the "FILTER" segment illumination is continuous.	Monitor ITT for any significant rise, i.e. > 20°C. Monitor engine conditions for any indications of engine degradation or compressor stall, i.e. ITT fluctuations, and decreasing or fluctuating N1 rpm. If rise in ITT or engine performance is unacceptable: ▪ Open affected bypass door by pressing illuminated "FILTER" indicator/switch. ▪ "BYPASS" segment of indicator/switch should illuminate and the "FILTER" segment of indicator/switch should extinguish indicating the bypass door is open and the pressure differential is back within the normal range. Service filters prior to next flight. NOTE If either or both of the "FILTER" lights illuminate during take-off, recommend servicing filters before continuing flight. CAUTION TO PREVENT COMPRESSOR EROSION AVOID (IF POSSIBLE) OPERATION IN DIRTY OR DUSTY ENVIRONMENT WITH THE BYPASS DOOR OPEN.
	Illumination of the "BYPASS" segment of the cockpit indicator / switch indicates the bypass door is open and the filter is being bypassed and is allowing unfiltered air to enter the engine.	If the flight or landing environment has significant dirt or debris, it is recommended that the bypass door be closed, provided no rotorcraft or engine limits will be exceeded. With the bypass closed, the "BYPASS' segment will extinguish and the "FILTER" segment will potentially re-appear under high engine power settings until the filter has been cleaned

ENVIRONMENTAL CONDITIONS

Fault / condition	Corrective Action
Inadvertent encounters with icing conditions	Exit condition as soon as practical.

ELECTRICAL

Fault / condition	Corrective Action
Tripped Circuit Breaker	Monitor ITT for any significant rise, i.e. > 20^{o}C. Monitor engine conditions for any indications of engine degradation or compressor stall, i.e. ITT fluctuations, and decreasing or fluctuating N1 rpm. ▪ Contact maintenance after landing If rise in ITT or engine performance is unacceptable, i.e. approaching engine limits: ▪ Land as soon as practicable

Section 4

PERFORMANCE

When the Inlet Barrier Filter (IBF) system STC is installed, use the same basic performance information and/or charts as required in the Rotorcraft Flight Manual (RFM).

CAUTION

Helicopter performance is reduced as the IBF becomes contaminated with dirt, dust and debris. The pilot/operator is responsible to utilize the PAC to determine if the engine can produce installed power. If engine does not pass PAC, published performance cannot be achieved. The frequency at which PACs are conducted is up to the discretion of the operator based on the operating environment, (i.e. temperature, altitude, airborne contaminate) and the requirements of the Flight Manual or applicable Flight Manual Supplement. Contact maintenance for appropriate trouble shooting procedures as outlined in applicable Instructions for Continued Airworthiness or Maintenance Manuals. Ensure that the IBF FILTER caution lights are not illuminated during performance of the PAC.

Section 5

WEIGHT AND BALANCE

To be determined at the time of installation and entered into the aircraft log book.