

**FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT
for the
BELL 407
EQUIPPED WITH INTEC ENGINE FILTER SYSTEM**

REG. NO. _____
SERIAL NO. _____

This supplement must be attached to the FAA Approved Rotorcraft Flight Manual (RFM), when the INTEC Engine Filter System is installed in accordance with STC SR00180SE.

The information contained herein supplements information of the basic Flight Manual. For limitations, Procedures, and Performance Data not contained in this supplement, consult the basic Flight Manual.

FAA APPROVED: 
Manager
Seattle Aircraft Certification Office

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LOG OF PAGES

Pages	Rev.	Revision	FAA Approval
ALL	IR	Initial Release	<i>SLC</i>

GENERAL INFORMATION

This supplement provides the changes in the normal operating procedures unique to the Bell 407 rotorcraft with the INTEC Engine Filter System installed. The Engine Filter System consists of two filter elements, duct, alternate air door, low inlet pressure annunciator/push button switch assembly, and hardware required to complete the installation.

For applicable performance with the filter system installed refer to the applicable Bell Rotorcraft Flight Manual, Particle Separator Supplement and to Section 4 of this Supplement.

Model	Particle Separator RFMS
407	(Kit 206-706-212) BHT-407-FMS-3

SECTION 1 - LIMITATIONS

GENERAL

The Life Limit on the filter elements is 1500 hr. of engine operating time or when the fabric is significantly penetrated.

OPTIONAL EQUIPMENT

Operation with the Engine Snow Deflector Kit (BHT-407-FMS-4) in conjunction with the INTEC filter system is not approved.

SNOW OPERATION

For operation in falling or blowing snow with the INTEC filter system installed, the following limits apply:

Flight in falling and/or blowing snow is limited to 10 minutes duration after which the helicopter shall be landed and checked for snow and/or ice accumulation on the filter and bypass door.

Flight operations are prohibited when visibility in falling or blowing snow is less than one-half (1/2) statute mile.

TAKEOFF

Takeoff with LOW INLET PRESSURE annunciator light illuminated..... **PROHIBITED**

POWER ASSURANCE CHECK

Power Assurance Check to be conducted in Level flight only. Refer to Particle Separator Flight Manual Supplement Model 407 Power Assurance Check chart.

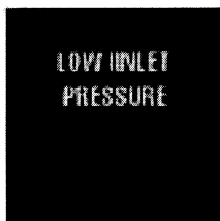
SECTION 2 - NORMAL PROCEDURES

EXTERIOR CHECK

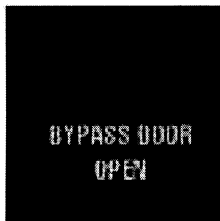
Thoroughly check the filter surface and system. The area must be free of accumulated debris, snow, ice, slush, etc., before each flight. Verify filter material is in good condition. Verify filter bypass door is closed.

ALTERNATE AIR SYSTEM and CAUTION LIGHT

Cockpit control for the barrier filter bypass system is a two-position light/switch. In normal operation the switch is not illuminated. When the pressure drop across the filter reaches a preset value, the "LOW INLET PRESSURE" light will illuminate



Pressing the switch opens the bypass door. When the door is open, the lower half of the switch will illuminate with "Bypass Door Open".



INTERIOR & ENGINE PRESTART CHECK

Engine Alternate Air push button in the **CLOSED** position (lights OFF).
Verify Engine Alternate Air circuit breaker **SET**.

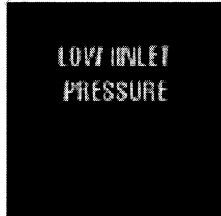
ENGINE RUNUP

During engine run up, assure "**LOW INLET PRESSURE**" light does not illuminate.

SECTION 3 - EMERGENCY & MALFUNCTION PROCEDURES

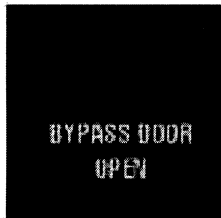
CAUTION LIGHT (AMBER)

LOW INLET PRESSURE annunciator **ON** and/or unexplained increase in Engine TOT.



FAULT: FILTER DIRTY/BLOCKED

ACTION: ENGINE ALTERNATE AIR PUSH BUTTON SWITCH - **ACTUATE**
(BYPASS DOOR OPEN annunciator will illuminate)



- a. If Low Inlet Pressure light goes out, continue mission and service filter prior to next flight. Likely fault is a partially blocked filter.
- b. If Low Inlet Pressure light remains **ON**, monitor engine instruments to assure full power can be attained within engine limits (red lines). If power can be achieved within the red lines and level flight can be maintained, land as soon as practical and inspect filter element for blockage. If filter is not blocked, mission can be continued. Service filter as required and conduct a power assurance check on the next flight.
- c. If Low Inlet Pressure light remains **ON**, monitor engine instruments and if power cannot be maintained within the red lines, land as soon as possible. Service the filter and conduct a power assurance check on the next flight. If LOW INLET PRESSURE annunciator still illuminates or if engine performance is less than minimum specification, refer to engine maintenance manual for corrective action.

SECTION 4 - PERFORMANCE

Helicopter performance is slightly reduced with the INTEC Engine Filter System installed. This reduction in performance increases as the filter becomes contaminated even if engine condition remains constant. In all cases the performance is equal-to-or-better than that with the Particle Separator installed and purge system OFF.

POWER ASSURANCE CHECK

Refer to Particle Separator Flight Manual Supplement (BHT-407-FMS-3) Model 407 Power Assurance Check chart. Conduct power assurance check in level flight at an Airspeed of 85 to 105 KIAS or V_{ne} , which ever is lower. If the Measured Gas Temperature exceeds the value obtained from the above procedure, clean the filter element and repeat the procedure.

NOTE

Conduct power assurance check in level flight only.

NOTE

If power assurance torque cannot be achieved with a clean filter, refer to appropriate rotorcraft maintenance manual to determine cause of low power.

HOVER CEILING

Hover Ceiling charts (In and Out of Ground Effect):

Use the applicable charts from the Particle Separator Supplement (Purge OFF) to determine ceiling with the Barrier Filter system installed.

CLIMB

Rate of Climb:

Use the applicable charts from the Particle Separator Supplement (Purge OFF) to determine Rate of Climb with the Barrier Filter system installed.