

**FAA APPROVED  
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT  
for the  
EUROCOPTER EC130 B4  
and  
EQUIPPED WITH  
FDC/aerofilter INLET BARRIER FILTER SYSTEM**

REG. NO. \_\_\_\_\_

SERIAL NO. \_\_\_\_\_

This supplement must be attached to the FAA Approved Rotorcraft Flight Manual (RFM), when the FDC/aerofilter Inlet Barrier Filter System is installed in accordance with Supplemental Type Certificate (STC) SR01373SE.

The information contained herein supplements information of the basic Flight Manual. For Limitations, Normal and Emergency Procedures, and Performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.


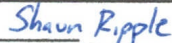
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**RECORD OF REVISIONS**

*When updated, this document is revised in its entirety.*

REV	DESCRIPTION	FAA APPROVAL
IR	INITIAL RELEASE	Thomas E. Archer II for Mgr. Flt Test Br., ANM-160S FAA Seattle ACO Transport Airplane Directorate Date: Jan. 23, 2004
A	REMOVED LIMITATIONS FOR OPERATIONS IN FALLING AND BLOWING SNOW	Thomas E. Archer II for Mgr. Flt Test Br., ANM-160S FAA Seattle ACO Transport Airplane Directorate Date: Mar. 17, 2005
B	<ul style="list-style-type: none"> <li>• UPDATED AND ORGANIZED LAYOUT FOR EASE OF USE AND CLARITY.</li> <li>• REPLACED INTEC WITH FDC/aerofilter</li> <li>• SECTION 2: DELETED FILTER ELEMENT LIFE LIMIT</li> <li>• REVISED SECTION 5 PERFORMANCE FOR CONDITIONAL PERFORMANCE LIMITATIONS.</li> <li>• MINOR CORRECTIONS AND IMPROVEMENTS.</li> </ul>	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">               Mgr. Flt Test Br., ANM-160S              FAA Seattle ACO              Transport Airplane Directorate              Date: <u>22 June</u>, 2011           </div> <div style="text-align: center;">  </div> </div>

**LIST OF REFERENCED DOCUMENTS**

<b>REF</b>	<b>DESCRIPTION</b>	<b>DOCUMENT NUMBER</b>
<b>1</b>	Basic Rotorcraft Flight Manual – EC130 B4	(SEE BASIC HELICOPTER DOCUMENTATION)
<b>2</b>	Instructions for Continued Airworthiness – Engine Inlet Barrier Filter Eurocopter EC130 Series Helicopters	1130-SERIES-ICA-1

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**SECTION 1 - GENERAL**

This supplement provides the changes in the limitations, operating procedures and performance unique to the EC130 B4 rotorcraft with the FDC/aerofilter Inlet Barrier Filter (IBF) System installed.

The IBF System consists of a filter element, housing assembly, alternate air doors, "LOW INLET PRESSURE" / "BYP DOOR OPEN" annunciator/push button switch assembly, Engine Alternate Air power fuse and hardware required to complete the installation.

**SECTION 2 - LIMITATIONS****2.1 - ENGINE OPERATIONS (GROUND AND FLIGHT)**

Engine operations without the filter elements installed are **PROHIBITED**.

**2.2 - FLIGHT IN FALLING AND/OR BLOWING SNOW**

Operation of the Alternate Air Doors in falling and/or blowing snow is **PROHIBITED**.

The limitations laid out in the basic flight manual remain applicable with the exception of the following specific limitation:

Flight in falling or blowing snow is permitted.

**2.3 - TAKEOFF**

Takeoff with “LOW INLET PRESSURE” annunciator illuminated is **PROHIBITED**

**SECTION 3 - EMERGENCY PROCEDURES**

**3.1 - “LOW INLET PRESSURE” ANNUNCIATOR (AMBER)**

- “LOW INLET PRESSURE” annunciator **ILLUMINATED**, and/or
- Unexplained increase in Engine T4.



**FAULT:** FILTER DIRTY / BLOCKED

**ACTION:** ANNUNCIATOR PUSH BUTTON SWITCH – **PUSH**  
 (“BYPASS DOOR OPEN” annunciator will illuminate)



- a. If “LOW INLET PRESSURE” annunciator extinguishes, continue mission and service filter prior to next flight.
- b. If “LOW INLET PRESSURE” annunciator remains **ILLUMINATED**, monitor engine instruments to ensure full power can be attained within engine limits (red lines). If power can be achieved within engine limits, continue the mission. Service the filter and conduct an engine power check on the next flight.
- c. If “LOW INLET PRESSURE” annunciator remains **ILLUMINATED**, monitor engine instruments and if power cannot be maintained within engine limits, land as soon as possible. Service filter and conduct a power assurance check on the next flight.

**3.2 - OPERATION IN FALLING AND/OR BLOWING SNOW**

- “LOW INLET PRESSURE” annunciator **ILLUMINATED**, and/or
- Unexplained increase in Engine T4.

**NOTE**

Operation of the Alternate Air Doors in falling and/or blowing snow is **PROHIBITED**.

**ACTION:** Reduce engine power

- a. If “LOW INLET PRESSURE” annunciator extinguishes, monitor engine instruments and land as soon as practicable.
- b. If “LOW INLET PRESSURE” annunciator remains **ILLUMINATED**, monitor engine instruments and land as soon as possible.

**CAUTION**

Inspect and/or service the filter system prior to next flight. Possible cause of low inlet pressure indication is accumulation of snow and/or ice on the filter. If ice is found, verify rotor blades are free of ice accumulation. Remove any accumulated ice, snow, slush, etc. before next flight.

**SECTION 4 - NORMAL PROCEDURES****4.1 - EXTERIOR CHECK**

*First Flight of the Day or Each Flight if Snow or Freezing Rain has fallen.*

Filter Element – Check for damage and security.

Filter Element surfaces – Must be free of accumulated debris, snow, ice, slush, etc.

Filter Element – Verify Filter material is in good condition.

Alternate Air Door System – Check for damage and security.

Alternate Air Screens, Ducts, and Doors – Must be free of accumulated debris, snow, ice, slush, etc.

Alternate Air Doors – Verify doors are closed and sealed.

Engine Cowling – Verify air intake to be free of snow, ice, or water, particularly under the filter.

**4.2 - ENGINE PRESTART CHECK (First flight of the operational day)**

- |                                  |   |
|----------------------------------|---|
| “ENG ALT AIR” Push Button Switch | – Verify “BYPASS DOOR OPEN” annunciator is extinguished |
| “ENG ALT AIR POWER” Fuse         | – <b>FITTED</b>   |

**4.3 - ENGINE RUNUP**

During engine run up, ensure “LOW INLET PRESSURE” annunciator does not illuminate.

**4.4 - OPERATION IN FALLING AND/OR BLOWING SNOW**

Operations in falling and blowing snow have been demonstrated in one-quarter mile or greater visibility conditions when the helicopter engine induction system is equipped with the FDC/aerofilter Inlet Barrier Filter. Minimize exposure time in ground and IGE hover operations. Snow accumulations on airframe and filter are more probable in these conditions. Exercise caution when operating in snow. Maintain visual contact with ground and any obstacles at all times.

**NOTE**

Operation of the Alternate Air Doors in falling and/or blowing snow is **PROHIBITED**.

**SECTION 5 - PERFORMANCE**

Engine performance is slightly reduced when the FDC/aerofilter Inlet Barrier Filter is installed and may decrease further as the filter becomes contaminated. It is the responsibility of the pilot/operator to conduct engine power checks to determine if the engine meets published engine power check criteria and performance. Conduct engine power checks in accordance with appropriate RFM and/or RFMS. Additional engine power checks are at the discretion of the pilot/operator and based on the operating environments.

**NOTE**

For the EC130 B4, the VEMD's FADEC data page does not reflect the installation of the filter system.

Except as noted below, power check procedures and criteria are unchanged from the basic RFM.

Performance published in the basic Rotorcraft Flight Manual is assured if engine power checks result in torque and T4 margins that are at least zero.

If results meet basic RFM engine power check criteria:

- Operate aircraft in accordance with basic RFM performance data.

If results do not meet basic RFM engine power check criteria:

- Refer to appropriate maintenance manual to determine cause of power loss and perform new power check. If results still do not meet basic RFM power check criteria:
  - It is recommended that the filter element be serviced and a new power check be performed.

and/or

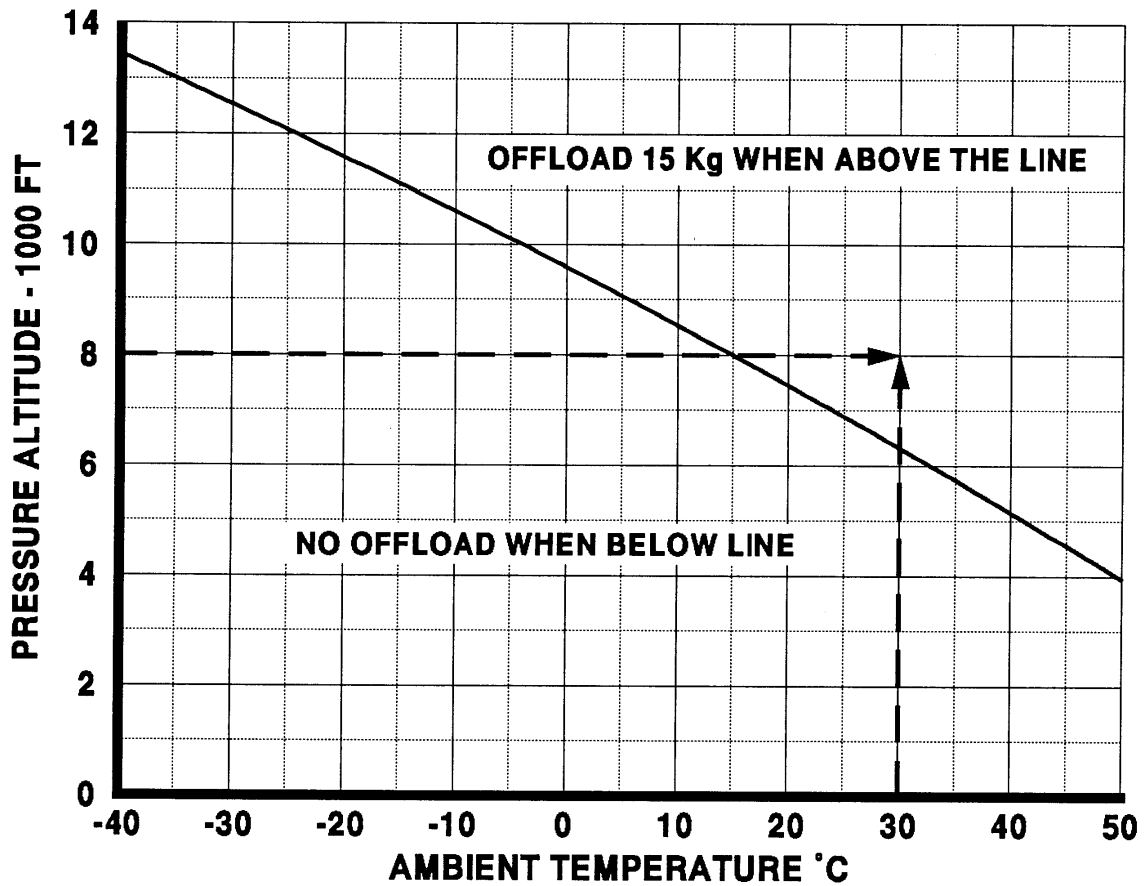
- If the IBF system is determined to be the single reason for power to fall below the limits specified in the basic RFM, it is permissible to continue operating using the performance limitations listed below provided that subsequent engine power check results meet the criteria contained in the basic RFM using the correction factors listed below:
  - Apply the following corrections to the VEMD calculated torque and T4 margins displayed on the "Engine Power Check" page:
    - Filter Torque margin correction.....+1.6%
    - Filter T4 margin correction.....+19°C

**NOTE**

Indicated torque margins will decrease as the filter element collects dirt even if engine conditions remains constant. With a VEMD corrected torque margin of less than 0%, clean filter element and repeat check. If a positive corrected torque margin cannot be maintained with a clean filter element, refer to appropriate rotorcraft or engine maintenance manual to determine the cause of low power condition.

- Manual engine power check procedures are the same as for the basic helicopter. Use the graphs published in the basic Rotorcraft Flight Manual to determine the torque and temperature margins using the normal procedure. Apply the following corrections when using the basic RFM charts to account for the filter system:
  - Torque: Increase OAT 2°C when using the charts to determine acceptability of the power check and condition of the engine.
  - Increase indicated T4 by 16°C prior to entering the chart.
- Conduct engine power checks at intervals not to exceed 20 flight hours. Increase frequency of power checks if operating in dusty environments.
- Reduce Rate of Climb determined from basic RFM chart by 70 ft/min with bypass doors closed and 140 ft/min with bypass doors open.
- Reduce gross weight as indicated by the following charts for HIGE and HOGE (See Figure 1 and Figure 2).

**HOVER IN GROUND EFFECT**

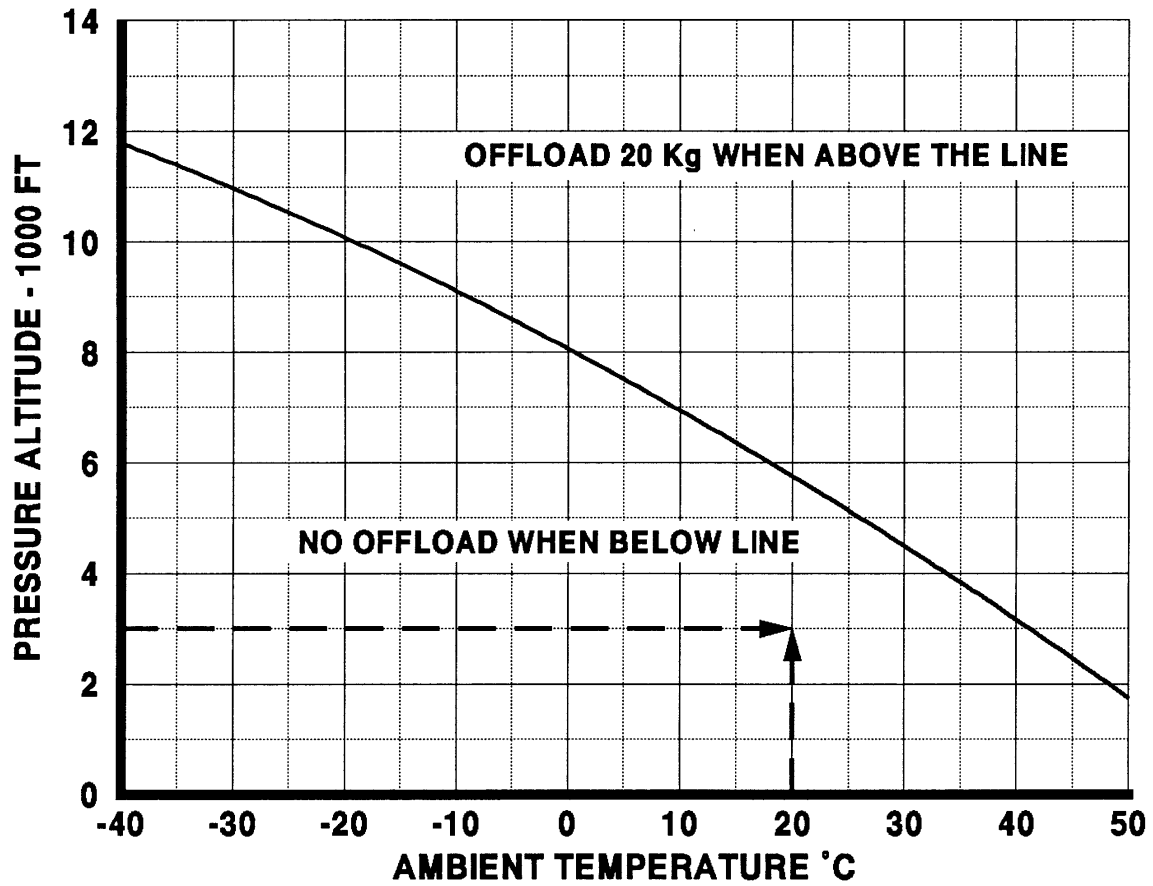


Example:  
 OAT = 30°C  
 Pressure Altitude = 8000 ft

Reduce HIGE ceiling gross weight by 15 kg.

**Figure 1 – HIGE for EC130 B4.**

**HOVER OUT OF GROUND EFFECT**



Example:  
 OAT = 20°C  
 Pressure Altitude = 3000 ft

No reduction in HOGE ceiling gross weight required.

**Figure 2 – HOGE for EC130 B4.**