

AIRWOLF FILTER CORP.

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TO THE MECHANIC:

This P/N AFC-K017 remote mount oil filter kit incorporates our generic STC approved for all Jacobs engine powered aircraft. The STC paperwork provided with this kit utilizes the new approved model list (AML) system recently instituted by the FAA. Although you may notice your particular aircraft is not specifically listed under this new classification, it is still approved.

Upon installing this filter kit, you will need to fill out and file a 337 form for this installation referencing the P/N AFC-K017 kit and the STC# SA01406NY. If your particular aircraft is not listed on the AML, you will also need a field approval by your local FSDO for this installation. This is necessary because the FAA only updates this list on a quarterly basis, and until your aircraft is listed, a field approval is required. If you are unsure whether or not you need a field approval, please call us directly.

With this paperwork, your local FSDO inspector has all the approved engineering data necessary to issue a field approval. This inspector is not an engineer and typically all he is doing is seeing if you installed it I/A/W the installation instructions and usually to make sure it doesn't leak. That's it.

If your local FSDO inspector has any questions or concerns on this STC, he is to call the following person who will clarify the details. Mr. Fiesel is very familiar with our filter kits and can address any concerns your FSDO inspector may have on your particular installation.

Richard Fiesel / Project Manager
FAA - New York Aircraft Certification Office (ACO)
Engine and Propeller Division
10 Fifth Street
Valley Stream, NY 11581
(516) 256-7504 / (516) 568-2716 Fax

If your aircraft required a field approval, we must have a copy in order to update the (AML) list on our STC. Please send us a copy in addition to the one you will file with your local FSDO. We will then forward our copy to Richard Fiesel for him to update the (AML) list on our STC.

PERTINENT TO ALL INSTALLATIONS

Prior to installing the filter kit on the aircraft, weigh the filter kit, adding the weight of the hoses and determine the net weight being added to the aircraft for calculating the new weight and balance of the aircraft later. Once the filter kit is installed on the aircraft, if you choose to purchase the hoses from Airwolf, we will supply you with the Titeflex Teflon Hoses specified in this STC. At the time of the order we will need the flare to flare length of the hoses, and hose ends needed on each hose ie: Straight to Straight, Straight to 90°, Straight to 45°, etc. allowing for engine torque and vibration per AC43.13.

Thank you for your help.

Airwolf Filter Corp



Applicability:

Jacobs powered Aircraft having firewalls of .021 ASTM A527 galvanized steel or equivalent.

First Release 09/01/99 Revised 10/01/00

		Parts List No. AFC-K017-A-PL	
01.	AN4H-4A	Bolts, Drilled Head	(4)
02.	AN960-416	Flat Washers	(16)
03.	OFB-15	Oil Filter Base	(1)
04a. or	AN844-16D	Hose Elbow, 45°,	(2)
04b.	AN844-12D	Hose Elbow, 45°,	(2)
05a. or	AN840-16D	Hose Fitting, Straight,	(2)
05b.	AN840-12D	Hose Fitting, Straight,	(2)
06a. or	AN842-16D	Hose Elbow, 90°,	(2)
06b.	AN842-12D	Hose Elbow, 90°,	(2)
07.	OFS-10	Oil Filter Stud	(1!
08.	AFC-600	Oil Filter, Long, or Equivalent [Champion CH48109]	(1)
09.	QS100M52H	Hose Clamp, 3-1/4"	(1)
10.	MIL6000-3/4-2	Dampener	(1)
11.	MS20365-428A	Locknuts	(6)
12.	AN4-5A	Bolts	(6)
13.	DBL-10	Doubler Plate	(1)
14a.	OFM-11	Oil Filter Mount Plate, Vertical	(1)
14b.	OFM-10	Oil Filter Mount Plate, Horizontal	(1)
15.	56707	Loctite® 567 PST Teflon Thread Sealant	(1)
16a.	MIL6000-1	Mil6000 Hose, 1" I.D.	(2)
16b.	MIL6000-3/4	Mil6000 Hose, 3/4" I.D.	(2)
17.	QS100M16H	Hose Clamp, 1"	(4)
18.	AFC-K017-II	Installation Instructions	(1)
19.	AFC-K017-MI	Instructions for Continued Airworthiness	(1)
20.	AFC-K017-PL	Parts List	(1)

Installation Instructions No. AFC-K017-A-II

Applicability: Jacobs powered Aircraft having firewalls

of .021 ASTM A527 galvanized steel or equivalent.

First Release 09/01/99 Revised 10/01/00

Note A Some hoses or wires may have to be rerouted so the oil filter assembly will fit into position. Reference and material per AC 43.13-1B & 2A.

- 01. Remove engine cowling as needed to gain access to engine, oil cooler and oil tank.
- 02. Drain engine oil and tank (optional).
- 03. Remove engine scavenge oil return line. (Note this may be a length of 3/4" or 1" MIL6000 hose). This line routes from the engine to the oil tank, or from the engine to the oil cooler, whichever is applicable on your aircraft.

NOTE: You always want to filter oil at it's hottest point, and in front of the oil cooler. The hotter the oil is, the more it is willing to get rid of dirt and contaminants, and it keeps the oil cooler from becoming a trash collector. Therefore the oil filter should always be installed ahead of the oil cooler.

- 04. Determine what size scavenge oil line is used in this particular aircraft.
- 05. Determine location of oil filter base (03) and decide where on the firewall it will be mounted.
- 06. Determine which fittings needed based upon hose size to be used.
- 07. Using the horizontal oil filter mount (14a.) or vertical oil filter mount (14b.) as a drilling template, locate and drill mounting holes using a letter "F" drill.

** SEE WARNING (A) ABOVE **

08a. Secure vertical oil filter mount plate (14a) to Fwd side of firewall and doubler plate (13) to Aft side of firewall using bolts (12), washers (02), and nuts (11).

08b. Secure oil filter base (03) to Fwd side of firewall and horizontal oil filter mount plate(14b) to rear side using bolts (01) and washers (02) and secure with .032 MS20995-C safety wire.

** SEE WARNING (B) BELOW **

09. Install any combination of fitting (04), (05), or (06) into oil filter base (03). Mount to oil filter mount plate (14a or 14b.) using bolts (01), washers (02), and secure with .032 MS20995-C safety wire.

** SEE WARNING C BELOW **

- 10. Connect hose from the outlet of the scavenge oil pump to the "IN" fitting on the oil filter base (03). If using MIL6000H hose secure with the provided hose clamps (19).
- Connect hose from "OUT" fitting on the oil filter base (03) to the inlet of the oil tank or oil cooler where applicable. If using 11. MIL6000H hose secure with the provided hose clamps (17).
- 12. Install oil filter (08) and torque per instructions on oil filter, and secure with MS20995-C safety wire. Using hose clamp (09) provided, secure dampener (10) to bottom to oil filter to provided attachment vehicle for safety wiring of oil filter.
- Safety wire drain plug and refill oil tank with oil. (If step #2 is omitted this step is not necessary). 13.
- 14. Run engine and check for leaks.
- 15. Determine weight and balance, initiate 337 form, and update the equipment list.

***** WARNING (A) ****

<u>LOCAL STIFFENING OF THE FIREWALL MAY BE NECESSARY TO SUPPORT WEIGHT OF OIL FILTER AND PREVENT</u> FIREWALL CRACKING.

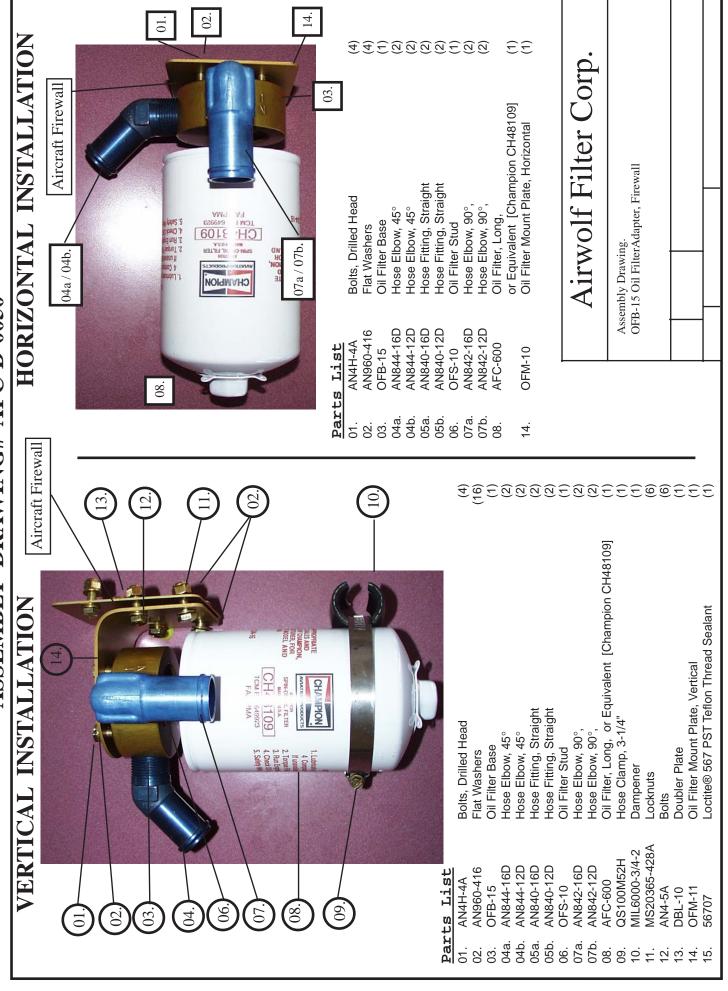
***** WARNING (B) *****

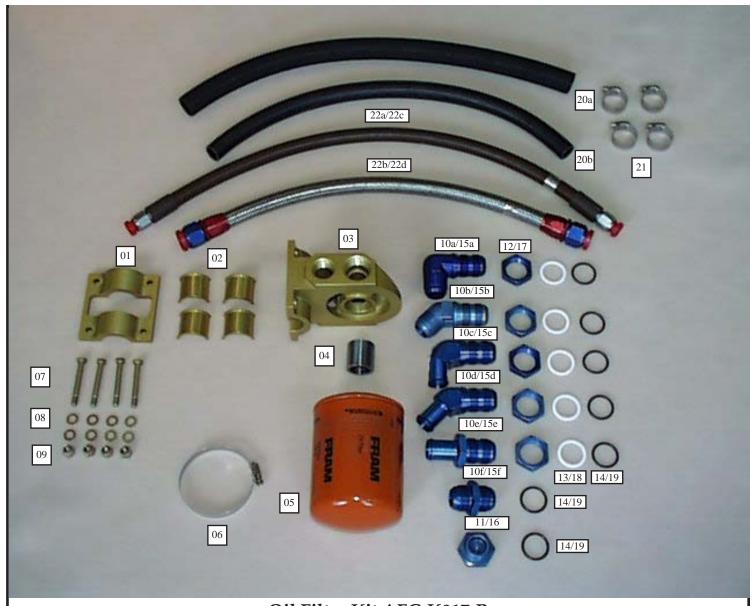
USE LOCTITE® 567 PST TEFLON THREAD SEALANT BEFORE INSTALLATION OF FITTINGS. DO NOT ASSEMBLE FITTINGS INTO OIL FILTER BASE WITHOUT SEALANT OTHERWISE GALLING OF MATERIAL WILL RESULT.

***** WARNING (C) *****

NO ROUTING OF FLAMMABLE FLUID LINES ABOVE EXHAUST SYSTEM, UNLESS SHROUDED. INSTALLER IS RESPONSIBLE FOR INTER-RELATIONSHIP BETWEEN THIS AND OTHER ENGINE CHANGES (INCLUDING ACCESSORIES)

ASSEMBLY DRAWING# AFC-D-0050





Oil Filter Kit AFC-K017-B

Applicability:	Jacobs powered Aircraft having firewalls	First Release 09/01/99
	of .021 ASTM A527 galvanized steel or equivalent.	Revised 10/01/00

Parts List No. AFC-K017-B-PL **Description** Quantity **Index** Part Number Clamp Plate, Oil Filter Base 01. OFB-18-12 (1) 02a. or OFB-18-13 1.000" Bushing Set (1) 1.125" Bushing Set 02b. or OFB-18-14 (1) 1.250" Bushing Set 02c. or OFB-18-15 (1) 02d. or OFB-18-16 1.375" Bushing Set (1) 02e. or OFB-18-17 1.500" Bushing Set (1) OFB-18-18 1.625" Bushing Set 02f. (1) Adapter Body, Oil Filter Base 03. OFB-18-11 (1) Oil Filter Stud 04. OFS-12 (1) 05. AFC-700 Oil Filter (1) 06. QS100M76H 5-1/2" Hose Clamp (1) 07. AN5H-12A 5/16" Bolt, 1-1/4" Long (4)08. AN960-516 5/16" Flat Washer (8)09. MS20365-516 5/16" Locknut (4)90° Bulkhead Fitting, Flared Ends (2) 10a. or AN833-16D 10b. or AN837-16D 45° Bulkhead Fitting, Flared Ends (2) AN838-16D 90° Bulkhead Fitting, MIL6000 Type Hose (2) 10c. or 45° Bulkhead Fitting, MIL6000 Type Hose (2) 10d. or AN839-16D

Oil Filter Kit AFC-K017

Applicability:

Jabobs powered Aircraft having firewalls of .021 ASTM A527 galvanized steel or equivalent.

First Release 09/01/99 Revised 10/01/00

Parts List No. AFC-K017-B-PL (continued)

<u>Index</u>	Part Number	Description	Quantity
10e. or	AN807-16D	Straight Tube to Hose Adapter	(2)
10f.	AN815-16D	Union	(2)
11.	AN814-16D	Plug	(2)
12.	AN6289-16D	Bulkhead Nut	(2)
13.	MS28773-916	Teflon Boss Gasket	(2)
14.	M83248/1-916	Viton O-Ring	(2)
15a. or	AN833-12D	90° Bulkhead Fitting, Flared Ends	(2)
15b. or	AN837-12D	45° Bulkhead Fitting, Flared Ends	(2)
15c. or	AN838-12D	90° Bulkhead Fitting, MIL6000 Type Hose	(2)
15d. or	AN839-12D	45° Bulkhead Fitting, MIL6000 Type Hose	(2)
15e. or	AN807-12D	Straight Tube To Hose Adapter	(2)
15f.	AN815-12D	Union	(2)
16.	AN814-12D	Plug	(2)
17.	AN6289-12D	Bulkhead Nut	(2)
18.	MS28773-912	Teflon Boss Gasket	(2)
19.	M83248/1-912	Viton O-Ring	(2)
20a. or	MIL6000-1	1" I.D. MIL6000 Hose	(2)
20b.	MIL6000-3/4	3/4" I.D. MIL6000 Hose	(2)
	AE102-22	Firesleeve for MIL6000 Hose	
	J253	Firesleeve Band Clamps	
21.	QS100M16H	1" Hose Clamp	(4)
22a. or	F13000016-0xxx	Titeflex® Teflon Hose Assy with Fire Sleeving. [-16 Size]	(2)
22b. or	13000016-0xxx	Titeflex® Teflon Hose Assy w/o Fire Sleeving. [-16 Size]	(2)
22c. or	F13000012-0xxx	Titeflex® Teflon Hose Assy with Fire Sleeving. [-12 Size]	(2)
22d. or	13000012-0xxx	Titeflex® Teflon Hose Assy w/o Fire Sleeving. [-12 Size]	(2)
23.	DBL-14	Doubler Plate, Beaver	(1)
24.	B-7669B	Chip Detector	(1)
25.	AFC-K017-II	Installation Instructions	(1)
26.	AFC-K017-MI	Instructions for Continued Airworthiness	(1)
27.	AFC-K017-PL	Parts List	(1)

***** WARNING (A) *****

LOCAL STIFFENING OF THE FIREWALL MAY BE NECESSARY TO SUPPORT WEIGHT OF OIL FILTER AND PREVENT FIREWALL CRACKING.

***** WARNING (B) *****

LUBRICATE FITTINGS WITH THREAD LUBE OR LIGHT OIL BEFORE INSTALLATION INTO OIL FILTER BASE OTHERWISE GALLING OF MATERIAL MAY RESULT.

***** WARNING (C) *****

NO ROUTING OF FLAMMABLE FLUID LINES ABOVE EXHAUST SYSTEM, UNLESS SHROUDED.
INSTALLER IS RESPONSIBLE FOR INTER-RELATIONSHIP BETWEEN THIS AND OTHER ENGINE CHANGES (INCLUDING ACCESSORIES)

***** WARNING (D) *****

NO SUBSTITUTION OF OIL FILTER ALLOWED. THIS FILTER INCORPORATES AN INTERNAL BYPASS RELIEF VALVE SET TO OPEN TO AIRWOLF'S SPECS, HAS THE LASTEST MICROGLAS FILTER TECHNOLOGY WHICH ALLOWS FOR HI FLOW RATES AND HIGH EFFICIENCY, AND HAS AN INTERNAL SCREEN COVERING THE OIL PRESSURE BYPASS VALVE, WHICH HELPS CONTAIN THE METAL INSIDE THE FILTER CAN WHEN A CATASTROPHIC ENGINE FAILURE OCCURS.

Installation Instructions No. AFC-K017-B-II

Applicability: Jacobs engines having firewall of .021 ASTM A527 galvanized steel or equivalent. First Release 09/01/00 Revised 10/01/00

- Note A: Some hoses or wires may have to be rerouted so the oil filter assembly will fit into position. Reference and material per AC 43.13-1B & 2A.
- 01. Remove engine cowling as needed to gain access to engine, oil cooler and oil tank.
- 02. Drain engine oil and tank (optional).
- 03. Remove engine scavenge oil return line. (Note this may be a length of 3/4" or 1" MIL6000 hose). This line routes from the engine to the oil tank, or from the engine to the oil cooler, whichever is applicable on your aircraft.

NOTE: You always want to filter oil at it's hottest point, and in front of the oil cooler. The hotter the oil is, the more it is willing to get rid of dirt and contaminants, and it keeps the oil cooler from becoming a trash collector. Therefore the oil filter should always be installed ahead of the oil cooler.

- 04. Determine what size scavenge oil line is used in this particular aircraft.
- 05. Determine location of oil filter base (03) and decide on what engine mount tube it will be mounted to.
- 06. Determine size of above mentioned engine mount.
- 07. After determining engine tube size, install appropriate bushing (02a-f) into oil filter base (03) and oil filter base clamp.
- 08. Using bolts (07), washers (08), and locknuts (09) supplied, secure assembled oil filter base to engine mount and torque to 100-140 in/lbs.
- 09. Determine which fittings needed based upon hose size and whether or not the original MIL6000 will still be used or whether the hose will be upgraded to the newer flare fitting type hose.
- 10. Onto each bulkhead fitting (10a-f) or (14a-f), install in order 1 ea. bulkhead nut (11/15), boss gasket (12/16), and O-Ring (13/17).

CAUTION: O-ring (13/17) and boss gasket (12/16) <u>must</u> seal and be positioned in the center, smooth, non threaded area of the bulkhead fitting. If this is not done, when you tighten down the blue bulkhead nut (11/15), you will force the O-Ring (13/17) against the end of the first set of threads on the bulkhead fitting, cutting the O-Ring, and mushrooming out the Teflon Boss gasket (12/16) like a large "C" causing a small oil leak.

11. Lightly oil assembled bulkhead fittings and install into appropriate inlet/outlet holes of oil filter base (03) but do not tighten at this time.

***** WARNING *****

DO NOT INSTALL DRY FITTINGS INTO OIL FILTER BASE OTHERWISE GALLING OF MATERIAL WILL RESULT.

12. Connect hose from the outlet of the scavenge oil pump to the "IN" fitting on the oil filter base (03). If using MIL6000H hose secure with the provided hose clamps (19).

***** SEE WARNING C ABOVE *****

- 13. Connect hose from "OUT" fitting on the oil filter base (03) to the inlet of the oil tank or oil cooler where applicable. If using MIL6000H hose secure with the provided hose clamps (19).
- 14. Tighten bulkhead nuts at this time.

NOTE: The entire sealing function occurs by lightly compressing the O-Ring. Once the Teflon boss gasket (12/16) comes in contact with the O-Ring (13/17), 1/2 to 3/4 turn on the bulkhead nut (11/15) is all that is needed. Do not overtighten bulkhead nut as it does not need to bottom out against the oil filter adapter (03).

- 15. Install appropriate O-Ring (13/17) onto plug/bleeder and install into unused inlet/outlet holes,torque to specs and safety wire.
- 16. Install oil filter (05) and tighten per filter manufacturers specifications.

 Using hose clamp (06) provided, secure to bottom to oil filter to provided attachment vehicle for safety wiring of oil filter.
- 17. Safety wire drain plug and refill oil tank with oil. (If step #2 is omitted this step is not necessary).
- 18. Run engine and check for leaks.
- 19. Determine weight and balance, initiate 337 form, and update the equipment list.

INSTALLATION DRAWING# AFC-D-0050



TYPICAL ENGINE MOUNT INSTALLATION

Airwolf Filter Corp.

Installation Drawing.
OFB-18 Oil Filter Adapter, Engine Tube

Drawing# AFC-D-0050

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS Form AFC-K017-ICA Revised 10/01/00 A/C Make: _ _____ S/N: ____ Reg#: _ Model: Revision: Date: __ This sixteen item checklist are Instructions for Continued Airworthiness (ICA), to comply with FAA Handbook Bulletin for Airworthiness (HBAW-98-18 Dated October 7, 1998), are applicable to the aircraft above when the following equipment is installed: Airwolf Filter Corp 15369 Madison Rd SYSTEM: Airwolf Remote Mount Oil Filter System. Middlefield, OH 44062 ITEM CHECKLIST INFORMATION 1. Introduction: This section briefly describes the aircraft, engine, propeller, or component that has been altered. Include and other information on the content, scope, purpose, arrangement, applicability, definitions, abbreviations, precautions, units of measurement, reverenced publications, and distribution of the ICA as applicable. with Jacobs _ _ engine. Comment: Aircraft Model Enaine Model 2. Description: Of the major alteration, it's function including an explanation of it's interface with other systems, if any. Comment: Installation of Airwolf Remote Mounted Oil Filter Kit P/N AFC-K017 3. **Control:** Operation information: Or special procedures if any. Comment: Pre-heating of both the engine and engine oil is recommended prior to starting the engine during periods of cold weather where the temperature is 30°F or below. 4. Servicing information: Such as types of fluids used, servicing points, and location of access panels, as appropriate. Comment: Oil System to be serviced in accordance with Jacobs Engine Service Bulletin. Oil should be changed at least once each 12 months. Cut the old filter open at with Airwolf AFC-470 oil filter cutter each oil change and inspect for metal contamination or any evidence that may indicate impending engine problems. 5. Maintenance Instructions: Such as recommended inspection/maintenance periods in which each of the major alteration components are inspected, cleaned, lubricated, adjusted, tested, including applicable wear tolerances and work recommended at each scheduled maintenance period. This section can refer to the manufactures instructions for the equipment installed where appropriate e.g. functional checks, repairs, inspections.) It should also include any special notes, cautions, or warnings as applicable. Comment: Inspect for security at each annual or 100 hr . inspection. After any oil change, always ground run the engine and check for leaks before flight. 6. Trouble shooting information: Information describing probably malfunctions, how to recognize those malfunctions, and the remedial actions to be taken. Comment: N/A Removal and replacement information: This section describes the order and method of removing and replacing products, parts. and any necessary precautions. This section should also describe or refer to the manufacture's instructions to make required tests trim checks, alignment, calibrations, center of gravity changes, lifting or shoring, etc., if any. Comments: N/A 8. Diagrams: Of access plates and information, if needed, to gain access for inspection. Comment: N/A 9. **Special inspection requirements:** Such as X-ray, ultrasonic testing, or magnetic particle inspection, if required. Comment: __N/A

Application of protective treatments: To the affected area after inspection and/or maintenance, if any.

10.

Comment:__N/A

	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS Form AFC-K017-ICA Revised 10/01/00
11.	Data: Relative to structural fasteners such as type, torque, and installation requirements if any.
	Comment:N/A
12.	List of special tools: Special tools that are required, if any.
	Comment:N/A
13.	For commuter category aircraft: The following additional information must be furnished, as applicable: A. Electrical Loads B. Methods of balancing flight controls. C. Identification of primary and secondary structures> D. Special repair methods applicable to the airplane.
	Comment:N/A
14.	Recommended overhaul periods: Are required to be noted on the ICA when an overhaul period has been set by the manufacturer of a component, or equipment. If there is no overhaul period, the ICA should state for item 14: "No additional overhaul time limitations."
	Comment:N/A
15.	Airworthiness Limitation Section: Include any "approved" airworthiness limitations identified by the manufacturer of FAA type Certificate Holding Office (e.g., An STC incorporated in a larger field approved major alteration may have an airworthiness limitation.) The FAA inspector should not establish, alter, or cancel airworthiness limitations without coordinating with the appropriate FAA type Certificate Holding Office. If there are no changes to the airworthiness limitations, the ICA should state for item 15: "No additional airworthiness limitations" or " Not Applicable."
	Comment:N/A
16.	Revision: This section should include information on how to revise the ICA. For example, a letter will be submitted to the local FSDO with a copy of the revised FAA Form 337 and revised ICA. The FAA inspection accepts the change by signing Block 3 and including the following statement: "The attached revised/new Instructions for Continued Airworthiness (date) for the above aircraft or component major alteration have been accepted by the FAA, superseding the Instructions for Continued Airworthiness (date)." Once the revision has been accepted, a maintenance record entry will be made, identifying the revision, its location, date of the Form 337.
	Comment: A letter will be submitted to the local FSDO with a copy of the revised FAA Form 337 and revised ICA. The FAA inspector accepts the change by signing Block 3 and including the following statement: "The attached revised/new Instructions for Continued Airworthiness (date) for the above aircraft or component major alteration have been accepted by the FAA, superseding the Instructions for Continued Airworthiness (date)." Once the revision has been accepted, a maintenance record entry will be made, identifying the revision, its location, date of the Form 337.
NOT	-

NOTE:

Implementation and Record Keeping: For major alterations performed in accordance with FAA Field Approval policy, the owner operator operator operating under part 91 is responsible for ensuring that the ICA is made part of the applicable section 92.409 inspection program for their aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with section 43.9. This entry recorded the major alteration and identifies the original ICA location (e.g., Block 8 of FAA Form 337, dated 5/28/98) along with a statement that the ICA is now part of the aircraft's inspection/maintenance requirements.

For major alterations performed in accordance with field approval on air carrier aircraft, the air carrier operator is responsible for ensuring that the ICA is made part of the applicable inspection/maintenance program for their aircraft. If a procedure is not currently included in the operator's manual to incorporate ICA, this process will need to be appropriately addressed (i.e. the operator submits a revision to its maintenance program to the applicable certificate-holding district office (CHDO).

For aircraft inspected under an Approved Aircraft Inspection Program (AAIP), the operator will submit a change to the CHDO in accordance with section 135.419b).

For air carrier aircraft inspected using an annual/100 hour inspection program, a reference to the new ICA will be made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., ICA are located/attached to Block 8 of FAA Form 337, dated 5/28/98). In addition, the operator will request a revision to the operator's Operations Specifications, additional maintenance requirements, which incorporates the ICA into the inspection program.