

Oil Filter Kit AFC-K014

Applicability:	Enstrom Helicopter Model F-28, F-28A, 280, F-28C, 280C, F-28F, 280F, & 280FX	First Release 04/30/96
	with Lycoming Engines HIO360-C1A, HIO360-C1B, HIO360-E1AD, HIO360-E1BD, & HIO360-F1AD	Ammended 01/08/2000

		Parts List No. AFC-K014-PL	
Index	Part Number	Description	Quantity
01a.	LYC-10	Adapter - Engine, Full Flow	(1)
01b	OFB-17	Adapter - Engine, Dual Mag, Single Drive	(1)
01c.	M83248/1-230	"O" Ring, Viton, Single Drive Dual Mags	(1)
01d.	AN919-15D-SP	Fitting, Reducer, -10 -> -8 Single Drive Dual Mag	(1)
02.	61173	Adapter Base Gasket	(1)
03.	MS35769-11	Gasket, Oil Temperature Sensor	(1)
04.	MS35769-21	Gasket, Thermostatic Valve	(1)
05.	AN837-8D	Bulkhead Fitting, 45°	(2)
06.	AN6289-8D	Bulkhead Nut	(2)
07.	MS28773-08	Boss Gasket, Teflon	(2)
08a.	MS9387-08	"O" Ring, Viton	(2)
08b.	MS9387-10	"O" Ring, Viton	(2)
09.	AN4H-4A	Bolt, Drilled Head	(4)
10.	AN960-416	Flat Washers	(16)
11.	AN4-5A	Bolt	(6)
12.	MS20365-428A	Locknut	(6)

Oil Filter Kit AFC-K014

Enstrom Helicopter Model F-28, F-28A, 280, F-28C, 280C, F-28F, 280F, & 280FX Applicability:

with Lycoming Engines
HIO360-C1A, HIO360-C1B, HIO360-E1AD, HIO360-E1BD, & HIO360-F1AD

First Release 04/30/96

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Parts List No. AFC-K014-PL [continued]

13.	OFM-18	Oil Filter Mount Plate, 75°	(1)
 14.	DBL-10	Doubler Plate	(1)
15.	OFB-10	Oil Filter Base	(1)
16.	OFS-10	Oil Filter Stud	(1)
17.	MS20822-8D	Fitting, 90°	(1)
18.	AN816-8D	Fitting, NPT to Tube	(1)
19a.	AFC-500 or	Oil Filteror Equivalent [Champion CH48108]	(1)
19b.	AFC-600	Oil Filteror Equivalent [Champion CH48109]	(1)
20.	F13000008-0300	Titeflex Teflon Hose w/ Firesleeving, 30" Length	(2)
21.	MS21919WDG-14	Adel Clamp	(6)
22.	MS21919WDG-12	Adel Clamp	(1)
23.	MS21919WDG-10	Adel Clamp	(1)
24.	AN3-4A	Bolt	(4)
25.	AN960-10	Flat Washer	(8)
26.	MS20365-1032A	Locknut	(4)
27.	56707	Loctite® PST Teflon Thread Sealant	(1)
28.	AFC-K014-II	Installation Instructions	(1)
29.	AFC-K014-MI	Instructions for Continued Airworthiness	(1)
30.	AFC-K014-PL	Parts List	(1)

Installation Instructions No. AFC-K014-A-II

Applicability: Enstrom Helicopter Model F-28, F-28A, 280,

with Lycoming Engines

HIO360-C1A.& HIO360-C1B

First Release 04/30/96

Ammended 01/08/2000

- 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 the Lycoming P/N 69510 engine oil screen housing from the accessory case.
- 02. Remove oil temperature sensor and thermostatic valve from existing oil screen housing.
- 03. Per assembly drawing AFC-D-0051, install a new gasket (03) under the head of the oil temperature sensor and install in the oil filter adapter (01). Turn the oil temp sensor until the sealing surfaces are in contact and then tighten an additional 135°. Install a new gasket (04) under the head of the P/N 75944 Lycoming thermostatic valve, install in the oil filter adapter (01), torque to 300 in/lbs and secure with .032 MS20995-C safety wire.
- 04. Onto each bulkhead fitting (05), install (in order) 1 ea. bulkhead nut (06), boss gasket (07), and "O" Ring (08). Install each completed assembly into the oil filter adapter (01). Do not tighten fittings until after routing of hoses has been determined in step 12. CAUTION: Boss gasket (07) & "O"-Ring (08) must seal in the smooth area between the threaded areas of the bulkhead fitting.

***** WARNING - DO NOT REUSE OIL SCREEN IN LYC-10 ADAPTER *****

- 05. Per installation drawing AFC-D-0051, install new gasket (02) on base of filter adapter (01) and install onto the engine accessory case. Torque to specifications 96 in/lbs.
- 06. Using the doubler Plate (14) as a drilling template, locate and drill mounting holes using a letter "F" drill. From the intersection of the three engine frame tubes at the lower LH side of the firewall, go up vertically 9-1/2", and then left horizontally 3-1/2". This will become the center of the upper RH bolt in the doubler plate. Located properly when equal distance is achieved between vertical frame tube and interior sill of engine access door. Make sure double plate is located so as not to drill into LH seatback assv.
- 07. Secure oil filter mount plate, 75° (13) to Aft side of firewall and doubler plate (14) to Fwd side of firewall using bolts (11), washers (10), and locknuts (12).

***** SEE WARNING (A) BELOW *****

08. Per installation drawing AFC-D-0052, install 1 ea. fittings (18) into port "B" of the oil filter base and 1ea. fitting (17) into port "A" of the oil filter base (15) and tighten. Mount to oil filter mount plate 75° (13) per assembly drawing using bolts (09), washers (10), and secure with .032 MS20995-C safety wire.

**** SEE WARNING (B) BELOW ****

- 09. Install hose assy. (20) connecting the "A" port on the Engine Adapter, to the "A" port on the oil filter base (15). Hose routing is as follows. Install this hose under the 3/4" framing tube and over the 5/8" framing tube. [Need to expand this description]
- 10. Install hose assy. (20) connecting the "B" port on the Engine Adapter (01), to the "B" port on the oil filter base (15). Hose routing is as follows. Install this hose over the 3/4" framing tube and over hose "A" and parallel hose a over the 5/8" framing tube to port "B" on Engine Adapter (01).

***** MAKE SURE HOSE "A" IS CLEAR OF MIXTURE ARM IN FULL RICH POSITION *****

- 11. Tighten "B-Nuts" of at the ends of both hoses at this time and torque to specs.
- 12. Install oil filter (19,) torque per instructions on oil filter, and secure with MS20995-C safety wire.
- 12. Run engine and check for leaks.
- 13. Determine weight and balance, initiate a 337 form, and update the equipment list.

** WARNING (A) **

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 (B) **

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

Installation Instructions No. AFC-K014-B-II

Applicability: Enstrom Helicopter Model F-28C, 280C, F-28F, 280F, & 280FX

with Lycoming Engines

HIO360-E1AD, HIO360-E1BD, & HIO360-F1AD

First Release 04/30/96

Ammended 01/08/2000

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 existing spin on oil filter from rear of accessory case.
- 02. Remove Champion P/N CH48212 Converter Stud from rear of accessory case. <u>DO NOT remove the Champion P/N CH48210 converter plate and gasket.</u>

** SEE WARNING (A) ABOVE **

03. For new style OFB-17 (01b) oil filter adapter :

Apply liberal amount of Dow Corning DC-4 silicon grease to O-Ring (01c.) Install O-ring (01c.) into machined groove in oil filter adapter (01b) and install onto the accessory case.

- 04. Place O-rings (08b) onto fillings (01d) and install into oil filter adapter (01b).
- 05. Install assembled oil filter adapter (01b) onto rear of accessory case. Torque to specifications 16-18 ft./lbs. and secure with .032 MS20995-C safety wire.
- Using the doubler Plate (14) as a drilling template, locate and drill mounting holes using a letter "F" drill. From the intersection of the three engine frame tubes at the lower LH side of the firewall, go up vertically 9-1/2", and then left horizontally 3-1/2". This will become the center of the upper RH bolt in the doubler plate. Located properly when equal distance is achieved between vertical frame tube and interior sill of engine access door. Make sure double plate is located so as not to drill into LH seatback assy.
- 07. Secure oil filter mount plate, 75° (13) to Aft side of firewall and doubler plate (14) to Fwd side of firewall using bolts (11), washers (10), and locknuts (12).

***** SEE WARNING (A) BELOW *****

08. Per installation drawing AFC-D-0052, install 1 ea. fittings (18) into port "B" of the oil filter base and 1 ea. fitting (17) into port "A" of the oil filter base (15) and tighten. Mount to oil filter mount plate 75° (13) per assembly drawing using bolts (09), washers (10), and secure with .032 MS20995-C safety wire.

***** SEE WARNING (B) BELOW *****

- 09. Install hose assy. (20) connecting the "A" port on the Engine Adapter (01b), to the "A" port on the oil filter base (15). Hose routing is as follows. Install this hose under the 3/4" framing tube and over the 5/8" framing tube. [Need to expand this description]
- 10. Install hose assy. (20) connecting the "B" port on the Engine Adapter (01b), to the "B" port on the oil filter base (15). Hose routing is as follows. Install this hose over the 3/4" framing tube and over hose "A" and parallel hose a over the 5/8" framing tube to port "B" on Engine Adapter (01b).

***** MAKE SURE HOSE "A" IS CLEAR OF MIXTURE ARM IN FULL RICH POSITION *****

- 11. Tighten "B-Nuts" of at the ends of both hoses at this time and torque to specs.
- 12. Install oil filter (19a) or (19b), torque per instructions on oil filter, and secure with MS20995-C safety wire.
- 12. Run engine and check for leaks.
- 13. Determine weight and balance, initiate a 337 form, and update the equipment list.

** WARNING (A) **

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 (B) **

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

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Form AFC-K014-MI Revised 10/01/00

A/C Make: Enstrom Helicopter	Model:	S/N:	Reg#:	

Revision: Date: 01/08/2000

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:

SYSTEM: Airwolf Remote Mount Oil Filter System.

Airwolf Filter Corp 12801 Hwy 75 N Okmulgee, OK 74447



information on the content, scope, purpose, arrangement, applicability, definitions, abbreviations, precautions, units of measurement, reverenced publications, and distribution of the ICA as applicable. Comment:		
information on the content, scope, purpose, arrangement, applicability, definitions, abbreviations, precautions, units of measurement, reverenced publications, and distribution of the ICA as applicable. Comment:	ITEM	CHECKLIST INFORMATION
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-K014 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 withLycoming Service Bulletin 480. Oil should be changed at least once each 12 months. Cut the old filter open with Airwolf AFC-470 oil filter cutter at each oil change and inspect for me 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 comprents are inspected, cleaned, fubricated, adjusted, tested, including applicable wear tolerances and work recommended 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 enginant check for leaks before flight. 6. Trouble shooting information: Information describing probably malfunctions, how to recognize those malfunctions, and the rendial actions to be taken. Comment: _N/A 7. Removal and replacement information: This section describes the order and method of removing and replacing products, parand any necessary precautions. This section should also describe or refer to the manufacture's instructions to make required term checks, alignment, calibrations, center of gravity changes, lifting or shoring, etc., if any. Comment: _N/A Special inspection requirements: Such as X-ray, ultrasonic testing, or magnetic particle inspection,	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.
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9. Special inspection requirements: Such as X-ray, ultrasonic testing, or magnetic particle inspection, if required. Comment:N/A 10. Application of protective treatments: To the affected area after inspection and/or maintenance, if any.	8.	Diagrams: Of access plates and information, if needed, to gain access for inspection.
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10. Application of protective treatments: To the affected area after inspection and/or maintenance, if any.	9.	Special inspection requirements: Such as X-ray, ultrasonic testing, or magnetic particle inspection, if required.
		Comment:N/A
Comment:N/A	10.	Application of protective treatments: To the affected area after inspection and/or maintenance, if any.
<u> </u>		Comment:N/A

	INSTRUCTIONS FOR CONTINUED AIRWORTHINESS Form AFC-K014-MI 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.
NOTI	E:

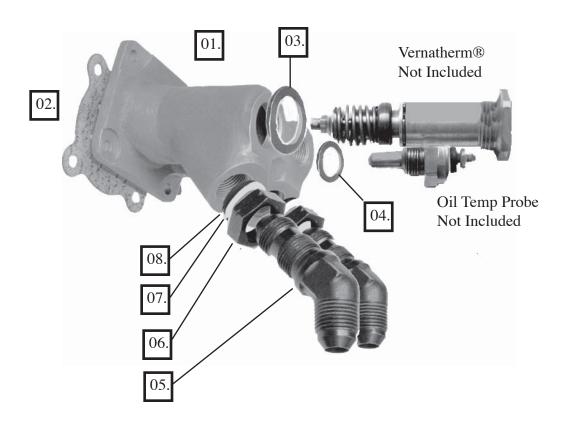
Implementation and Record Keeping: For major alterations performed in accordance with FAA Field Approval policy, the owner operator operating under part 91 is responsible for ensuring that the ICA is made part of the applicable section 92.409 inspection program for their aircraft. This is accomplished 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).

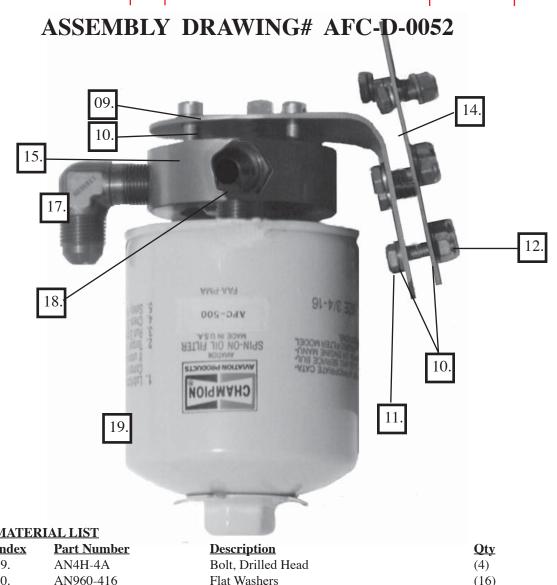
For air carrier aircraft inspected using an annual/100 hour inspection program, a reference to the new ICA will be made in the aircraft's maintenance record in accordance with section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., ICA are located/attached 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.

ASSEMBLY DRAWING# AFC-D-0051



MATERIAL LIST						
<u>Index</u>	Part Number	Description	Qty			
01.	LYC-10	Adapter-Engine, Full Flow	(1)			
02.	61173	Adapter Base Gasket	(1)			
03.	MS35769-21	Gasket, Thermostatic Valve	(1)			
04.	MS35769-11	Gasket, Oil Temperature Sensor	(1)			
05.	AN837-8D	Bulkhead Fitting - 45°	(2)			
06.	AN6289-8D	Bulkhead Nut	(2)			
07.	MS28773-08	Boss Gasket	(2)			
08.	MS9387-08	Viton O-Ring	(2)			

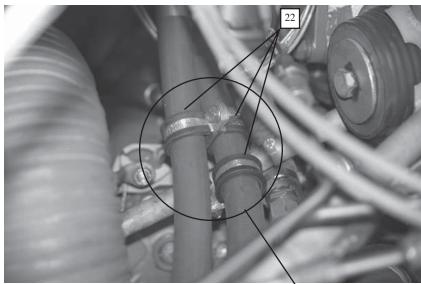
Airwolf Filter Corp.					
Assembly Drawing. LYC-10 Adapter - Engine, Full Flow					
04/30)/96	Dwg#	AFC-D-0051	SCALE : FULL	

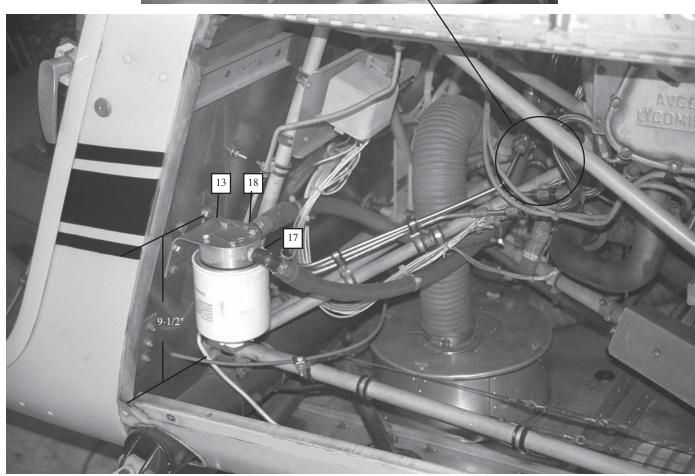


<u>MATER</u>	RIAL LIST		
<u>Index</u>	Part Number	<u>Description</u>	Qty
09.	AN4H-4A	Bolt, Drilled Head	(4)
10.	AN960-416	Flat Washers	(16)
11.	AN4-5A	Bolt	(6)
12.	MS20365-428A	Locknut	(6)
13.	OFM-18	Oil Filter Mount Plate - 75°	(1)
14.	DBL-10	Doubler Plate	(1)
15.	OFB-10	Oil Filter Base	(1)
16.	OFS-10	Oil Filter Stud	(1)
17.	MS20822-8D	Fitting, 90°	(1)
17.	AN816-8D	Fitting Straight	(1)
19a.	AFC-500	Oil Filter, or Equivalent [CH48108]	(1)
19b.	AFC-600	Oil Filter, or Equivalent [CH48109]	(1)

-	Airwolf Filter Corp.				
	Assembly Drawing. OFB-10, OFM-18, & DBL-10				
	04/30	/96	Dwg#	AFC-D-0052	SCALE : FULL

INSTALLATION DRAWING# AFC-D-0053





MATE	MATERIAL LIST						
Ind.	Part Number	Description					
13.	OFM-18	Oil Filter Moi					
15.	OFB-10	Oil Filter Bas					

15.	OFB-10	Oil Filter Base	(1
17.	MS20822-8D	Fitting, 90°	(1
18.	AN816-8D	Fitting, Tube to Straight	(1
19.	AFC-500	Oil Filter, Std.	(1
20.	F13000008-0300	Titeflex Teflon Hose	(2

21. MS21919WDG-14 MS21919WDG-??

Description	Qty
Oil Filter Mount, 75°	(1)
Oil Filter Base	(1)
Fitting, 90°	(1)
Fitting, Tube to Straight	(1)
Oil Filter, Std.	(1)
Titeflex Teflon Hose	(2)
Adel Clamp	(6)
Adel Clamp, Frame	(2)

Airwolf Filter Corp.

Installation Drawing. OFM-18, OFB-10, & AFC-500

Dwg# AFC-D-0053 SCALE: FULL 04/30/96

WEIGHT AND BALANCE REPORT ENSTROM HELICOPTER ALL MODELS

SURPLUS EQUIPMENT	WEIGHT	ARM-INCHES		ARM-INCHES		ARM-INCHES		MOMEN	T - IN/LBS.
EQUIPMENT - ITEM	LBS.	LONG	LATR	LONG	LATR				
REMOTE OIL FILTER	6.0	26.0	24.0	156.0	144.0				



for AFC-K014-A-II for STC SR00568NY Oil Filter Kit AFC-K014

Dated: 4/2/2021

Airwolf Filter, Corp 12801 Hwy. 75 N. OKMULGEE, OK 74447

(918) 561-8696 Ph (918) 561-8695 Fx

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READ THIS BEFORE INSTALLING OIL FILTER KITS, DATA PERTINENT TO ALL INSTALLATIONS

TO THE MECHANIC:

This P/N AFC-K014 remote mount oil filter kit incorporates our STC approved for Enstrom Helicopters, Powered by Lycoming engine models H10-360 Series or Continental C85 and C90 Series Engines.

Upon installing this filter kit, you will need to fill out and file a 337 form for this installation referencing the P/N AFC- K014 kit and the STC# SR00568NY.

If you have any questions or concerns on this STC, please call Airwolf Filter Corp, which we will clarify the details. Personnel are very familiar with our filter kits and can address any concerns you may have on your installation.

Airwolf Filter Corp 12801 Hwy 75 N. Okmulgee, OK 74447 Phone: (918) 561-8696

Fax: (918) 561-8695

After completion of the installation of this kit, place a copy of the instructions along with the ICA in the Aircraft records for maintenance and replacement parts identification.

DATA PERTINENT TO ALL INSTALLATIONS

Prior to installing the filter kit on the aircraft, weigh the filter kit, add the weight of the hoses, and subtract the oil screen or oil filter adapter removed from the engine, and determine the net weight being added to the aircraft for determining the 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 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 i.e.: Straight to Straight, Straight to 90°, Straight to 45°, etc. allowing for engine torque and vibration per AC43.13.

If our instructions do not specifically say your allowed to do something, assume that means you are not allowed to do it without our written approval

- 1. Review all installation data and written material before beginning
- 2. Please inspect contents of kit and inventory components before beginning.
- 3. <u>Do not</u> over tighten the fittings on Adapters or housings. This can distort or crack housings, causing oil to leak.
- 4. It is *EXTREMELY* important that oil lines be routed properly in accordance with AC 43.13-1A & 2A Acceptable Methods and Practices. (see Tip below)
- 5. See Warnings and Notes contained in the instructions concerning routing of lines and the use of sealant on NPT fittings.

DO NOT USE TEFLON TAPE ON FITTINGS.

- 6. The use of sealant on AN/Flared type fittings is not required, it is only required on NPT fittings.
- 7. When mounting Adapters use the supplied doublers for reinforcing mounting locations.
- 8. **BE PATIENT!!!** Take your time and you will see the results of your effort.

TIP

How to get correct length of hose

Hose length is measured from flare to flare. Do not use a string or a tape measure but take a section of old garden hose. Touch one end of the garden hose to the tip of one fitting and touch the other end of the hose to the other fitting, that is the correct length of hose needed. The garden hose is trying to bend to its natural set, which is normally the extra length needed for engine torque and vibration per AC43.13, Also, if you kink a garden hose, you are obviously going to kink an aircraft hose. Doing it this way allows you to snake a hose across the back of an engine and around obstacles and this will replicate exactly how the aircraft hose will fit.

Thank you for taking the time to read this.

WARNINGS & NOTES

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

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

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

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

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

THE USE OF PARTS AND COMPONENT NOT INCLUDED IN THE KIT, IS NOT COVERED BY THE STC APPROVAL. ALWAYS REMEMBER THAT THE DIRTY OIL FROM THE ENGINE ENTERS THE OIL FILTER FROM THE OUTSIDE OF THE FILTER. THE CLEAN OIL EXITS THROUGH THE LARGE HOLE IN THE CENTER OF THE OIL FILTER AND RETURNS TO THE ENGINE.

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

DO NOT, UNDER ANY CIRCUMSTANCES, CONNECT AN OIL COOLER THAT DOES NOT HAVE A THERMOSATIC CONTROL VALVE, IN SERIES WITH OUR REMOTE MOUNT OIL FILTER KIT. OUR FILTER KIT IS A "FULL FLOW" OIL FILTERING SYSTEM WHICH MEANS ALL OF THE OIL IS FILTERED ALL OF THE TIME. DURING STARTUP ON A COLD DAY, THE COLD THICK OIL WILL PARTIALLY BYPASS A CH48108 OR CH48109 OIL FILTER UNTIL THE VISCOSITY DROPS AND THE THIN OIL CAN FLOW THROUGH THE FILTER MEDIA THEREBY ALLOWING OIL TO CIRCULATE IN THE ENGINE. IF AN OIL COOLER HAS NO THERMOSTATIC BYPASS BUILT INTO THE UNIT, WHEN THE OIL FILTER GOES INTO PARTIAL BYPASS, THIS THICK SLUG OF OIL WILL BE STOPPED, OR SEVERELY RESTRICTED AT THE OIL COOLER. ONE OF THREE THINGS WILL HAPPEN:

- 1. THE OIL COOLER WILL SEPARATE IN HALF.
- 2. THE OIL FILTER GASKET WILL FAIL AND/OR THE OIL FILTER WILL EXPLODE.
- 3. THE OIL HOSE WILL FAIL

ANY OF THE THREE SCENARIOS ABOVE WILL CAUSE COMPLETE LOSS OF OIL IN A SHORT PERIOD OF TIME.

NOTE:

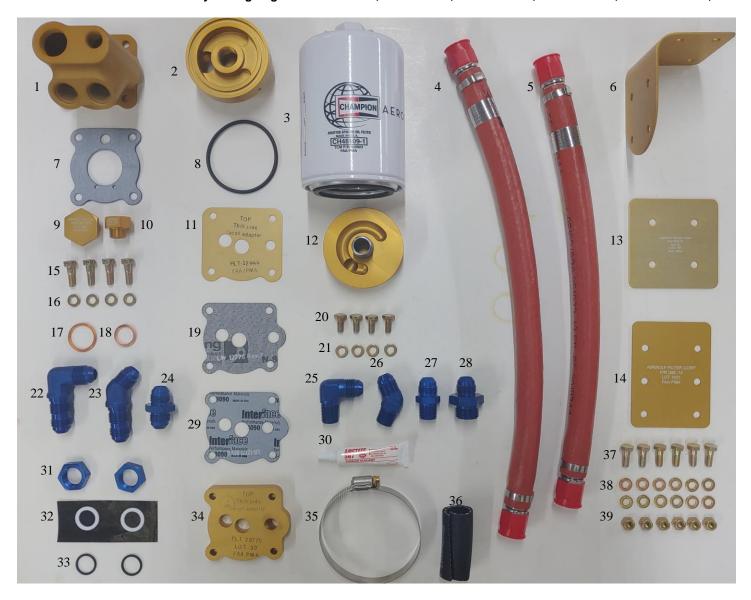
COMMON TO ALL INSTALLATIONS

SOME HOSES OR WIRES MAY HAVE TO BE REROUTED SO THE OIL FILTER ASSEMBLY WILL FIT INTO POSTION. REFERENCE AND MATERIAL PER AC 43.13-1B & 2A.

Applicability:

Illustrated Parts List No. AFC-K014-PL-Lycoming Enstrom Helicopter Models: F-28, F-28A, 280, F-28C, 280C, F-28F, 280F, & 280FX

with Lycoming Engines: HIO360-C1A, HIO360-C1B, HIO360-E1AD, HIO360-E1BD, & HIO360-F1AD,



Parts Illustration Lycoming Engine Series

Parts List No. AFC-K014-PL - Lycoming Engines (see Illustration) Lycoming Engine Series

	I David November	Lycoming Engine Series	Occasión.
<u>Index</u>	Part Number	Description Advantage Fundamental Control of the C	Quantity
1	LYC-10	Adapter - Engine, Full Flow, All O-235 -540 except below	1
1	LYC-11	Adapter - Engine, Full Flow, IO-720	1
2	OFB-17	Full Flow Engine Adapter, Single Drive Dual Mags	1
3	AFC-500 or AFC-600	Oil Filter, or Equivalent [Champion CH48108/CH48109]	1
4	TBD	Fire sleeved Hose Assy, TSO'D,	1
5	TBD	Fire sleeved Hose Assy, TSO'D,	1
6	OFM-11	Oil Filter Mount Plate - 90°	1
7	61173 or GT-61173	Gasket, Adapter Base, O-235-540	1
8	M83248/1-230	"O" Ring, Viton, Single Drive Dual Mags	1
9	CAP-1350	Bypass Valve Cap (opitional)	1
10	OTA-527	Oil Temp Bulb Adapter	1
11	PLT-12999	Plate, Restrictor, O-235	1
12	OFB-10	Oil Filter Base, -8 Ports, O-235-540 (with OFS-10 Installed)	1
12	OFB-11	Oil Filter Base, -10 Ports, IO-720 (with OFS-10 Installed)	1
12	OFB-15	Oil Filter Base, -12 Ports, O235-540 (with OFS-10 Installed)	1
13	OFM-10	Horizontal Oil Filter Mount Plate	1
14	DBL-10	Plate, Doubler	1
15	AN74A-6	Bolt	4
			· ·
16	AN960-416	Flat Washer	4
17	MS35769-21	Gasket, Thermostatic Valve	1
18	MS35769-11	Gasket, Oil Temperature Sensor	1
19	12776 or GT-12776	Gasket, Adapter Base, IO-720	1
20	AN4H-4A	Bolt	4
21	AN960-416	Flat Washer	4
22	AN833-8D	Bulkhead Fitting 90°, O-235-540	Opt
22	AN833-10D	Bulkhead Fitting 90°, IO-720	Opt
23	AN837-8D	Bulkhead Fitting 45°, O-235-540	2
23	AN837-10D	Bulkhead Fitting 45°, IO-720	2
24	AN815-8D	Union, O-235-540	Opt
24	AN815-10D	Union, IO-720	Opt
25	MS20822-8D	Fitting, NPT to Flare - 90°, O-235-540	1
25	MS20822-10D	Fitting, NPT to Flare - 90°, IO-720	1
25	MS20822-12D	Fitting, NPT to Flare - 90°, GO/GSO/IGSO 435/480/540	1
25	AN842-16D	Fitting, NPT to Flare - 90°, W670	1
26	MS20823-8D	Fitting, NPT to Flare - 45°, O-235-540	1
26	MS20823-10D	Fitting, NPT to Flare - 45°, IO-720	1
26	MS20823-10D MS20823-12D	Fitting, NPT to Flare - 45°, GO/GSO/IGSO 435/480/540	1
26	AN844-16D	Fitting, NPT to Flare - 45°, W670	1
27			
	AN816-8D	Nipple, NPT to Flare, O-235-540	Opt
27	AN816-10D	Nipple, NPT to Flare, IO-720	Opt
27	AN816-12D	Nipple, NPT to Flare, GO/GSO/IGSO 435/480/540	Opt
27	AN840-16D	Nipple, NPT to Flare, W670	Opt
28	AN919-15-SP	Fitting, Reducer, -10-8 Single Drive Dual Mags	2
29	12777 or GT-12777	Gasket, Adapter Base, IO-720	1
30	567	Loctite 567 Thread Sealant	1
31	AN6289-8D	Bulkhead Nut, O-235-540	2
31	AN6289-10D	Bulkhead Nut, IO-720	2
32	MS28773-08	Boss Gasket, O-235-540	2
32	MS28773-10	Boss Gasket, IO-720	2
33	M83248/1-908	Viton "O" Ring, O-235-540	2
33	M83248/1-910	Viton "O" Ring, IO-720	2
34	PLT-28775	Plate, Adapter, IO-720	1
35	QS100M52H	Clamp	1
36	MIL6000-3/4-2	Dampener, Vibration	1
37	AN4-5A	Bolt	6
38	AN960-416	Flat Washer	12
39	MS20365-428A		6
აყ	1VIO20005-420A	Locknut	U

Installation Instructions No. AFC-K014-A-II

Applicability: Enstrom Helicopter Models: F-28, F-28A, 280, with Lycoming Engines: HIO360-C1A, & HIO360-C1B,

1. Remove the Lycoming P/N 69510 engine oil screen housing from the accessory case.

- 2. Remove oil temperature sensor and thermostatic valve from existing oil screen housing.
- 3. Per assembly drawing AFC-D-0051, install a new gasket (4) under the head of the oil temperature sensor and install in the adapter (1). Turn the oil temp sensor until the sealing surfaces are in contact and then tighten an additional 135°. Install a new gasket (3) under the head of the P/N 75944 Lycoming thermostatic valve, install in the adapter (1), torque to 300 in/lbs. and secure with .032 MS20995-C safety wire.
- 4. Per assembly drawing AFC-D-0051, Onto each bulkhead fitting (5), install (in order) 1 ea. bulkhead nut (6), boss gasket (7), and "O" Ring (8). Install each completed assembly into the adapter (1). Do not tighten fittings until after routing of hoses has been determined in step 12.

CAUTION:

Per assembly drawing AFC-D-0051, Boss gasket (7) & "O"-Ring (8) must seal in the smooth area between the threaded areas of the bulkhead fitting. If this is not done, when you tighten down the blue bulkhead nut (6), you will force the O-Ring (8) against the end of the first set of threads on the bulkhead fitting, cutting the O-Ring, and mushrooming out the Teflon Boss gasket (7) like a large "C" causing a small oil leak.

***** WARNING - DO NOT REUSE OIL SCREEN IN LYC-10 ADAPTER *****

- 5. Per installation drawing AFC-D-0051, install new gasket (2) on base of adapter (1) and install onto the engine accessory case. Torque to specifications 96 in/lbs.
- 6. Per assembly drawing AFC-D-0052, Using the doubler Plate (6) as a drilling template, locate and drill mounting holes using a letter "F" drill at the locations identified in step 7.
- 7. Per installation drawing AFC-D-0053, From the intersection of the three engine frame tubes at the lower LH side of the firewall, go up vertically 9-1/2", and then left horizontally 3-1/2". This will become the center of the upper RH bolt in the doubler plate. Located properly when equal distance is achieved between vertical frame tube and interior sill of engine access door. Make sure double plate is located so as not to drill into LH seatback assy.
- 8. Per assembly drawing AFC-D-0052, Secure oil filter mount plate, 75° (5) to Aft side of firewall and doubler plate (6) to Fwd. side of firewall using bolts (3), washers (2), and locknuts (4).

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

9. Per installation drawing AFC-D-0052, install 1 ea. fittings (10) into port "B" of the oil filter base and 1ea. fitting (9) into port "A" of the oil filter base (7) and tighten. Mount to oil filter mount plate 75° (5) per assembly drawing using bolts (1), washers (2), and secure with .032 MS20995-C safety wire.

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

- 10. Per Parts List, install hose assy. (1) connecting the "A" port on the Engine Adapter (3), to the "A" port on the oil filter base (9). Hose routing is as follows. Install this hose under the 3/4" framing tube and over the 5/8" framing tube.
- 11. Per Parts List, install hose assy. (1) connecting the "B" port on the Engine Adapter (3), to the "B" port on the oil filter base (9). Hose routing is as follows. Install this hose over the 3/4" framing tube and over hose "A" and parallel hose "A" over the 5/8" framing tube to port "B" on Engine Adapter (3).

***** MAKE SURE HOSE "A" IS CLEAR OF MIXTURE ARM IN FULL RICH POSITION *****

12. Tighten Bulkhead Nuts on fittings previously installed in Step 4 and Tighten "B-Nuts" of at the ends of both hoses' at this time and torque to specs.

NOTE:

Per installation drawing AFC-D-0051, The entire sealing function occurs by lightly compressing the O-Ring. Once the Teflon boss gasket (7) comes in contact with the O-Ring (8), 1/2 to 3/4 turn on the bulkhead nut (6) is all that is needed. Do not overtighten bulkhead nut as it does not need to bottom out against the engine adapter (1).

- 13. Install oil filter (3,) torque per instructions on oil filter, and secure with MS20995-C safety wire.
- 14. Run engine and check for leaks.
- 15. Determine weight and balance, initiate a 337 form, and update the equipment list.

Installation Instructions No. AFC-K014-B-II

Applicability: Enstrom Helicopter Models: F-28C, 280C, F-28F, 280F, & 280FX with Lycoming Engines: HIO360-E1AD, HIO360-E1BD, & HIO360-F1AD,

- 1. Remove existing spin on oil filter from rear of accessory case.
- Remove Champion P/N CH48212 Converter Stud from rear of accessory case. <u>DO NOT remove the Champion P/N CH48210 converter plate and gasket.</u>
- 3. Per installation drawing AFC-D-0013, For OFB-17 (2) Engine oil filter adapter Apply liberal amount of Dow Corning DC-4 silicon grease or equivalent to O-Ring (8) Install O-ring (8) into machined groove in oil filter adapter (2) and install onto the accessory case. Torque to specifications 16-18 ft./lbs. and secure with .032 MS20995-C safety wire.
- 4. Per installation drawing AFC-D-0013, Place O-rings (33) onto fittings (28) and install into Engine oil filter adapter (2).
- 5. Per assembly drawing AFC-D-0052, Using the doubler Plate (6) as a drilling template, locate and drill mounting holes using a letter "F" drill at the locations identified in step 7.
- 6. Per installation drawing AFC-D-0053, From the intersection of the three engine frame tubes at the lower LH side of the firewall, go up vertically 9-1/2", and then left horizontally 3-1/2". This will become the center of the upper RH bolt in the doubler plate. Located properly when equal distance is achieved between vertical frame tube and interior sill of engine access door. Make sure double plate is located so as not to drill into LH seatback assy.
- 7. Per assembly drawing AFC-D-0052, Secure oil filter mount plate, 75° (5) to Aft side of firewall and doubler plate (6) to Fwd. side of firewall using bolts (3), washers (2), and locknuts (4).

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

8. Per installation drawing AFC-D-0052, install 1 ea. fittings (10) into port "B" of the oil filter base and 1ea. fitting (9) into port "A" of the oil filter base (7) and tighten. Mount to oil filter mount plate 75° (5) per assembly drawing using bolts (1), washers (2), and secure with .032 MS20995-C safety wire.

***** SEE WARNING (B) BELOW *****

- 9. Per Parts List, install hose assy. (1) connecting the "A" port on the Engine Adapter (3), to the "A" port on the oil filter base (9). Hose routing is as follows. Install this hose under the 3/4" framing tube and over the 5/8" framing tube.
- 10. Per Parts List install hose assy. (1) connecting the "B" port on the Engine Adapter (3), to the "B" port on the oil filter base (9). Hose routing is as follows. Install this hose over the 3/4" framing tube and over hose "A" and parallel hose "A" over the 5/8" framing tube to port "B" on Engine Adapter (3).

***** MAKE SURE HOSE "A" IS CLEAR OF MIXTURE ARM IN FULL RICH POSITION *****

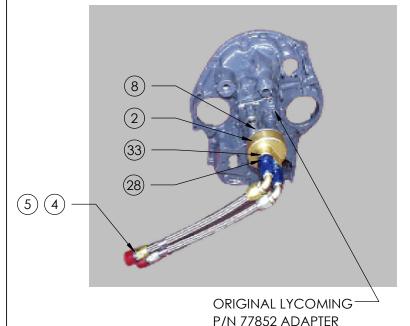
- 11. Tighten fittings previously installed in Step 4 and Tighten "B-Nuts" at the ends of both hoses' at this time and torque to specs.
- 12. Install oil filter (3), torque per instructions on oil filter, and secure with MS20995-C safety wire.
- Run engine and check for leaks.
- Determine weight and balance, initiate a 337 form, and update the equipment list.

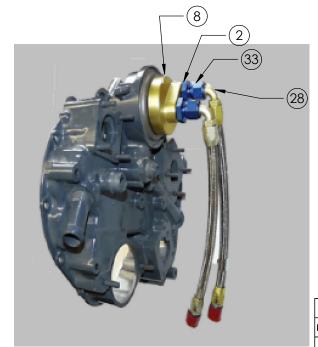
WEIGHT AND BALANCE REPORT ENSTROM HELICOPTER ALL MODELS

SURPLUS EQUIPMENT	WEIGHT	ARM-	INCHES	MOMENT - IN/LI	
EQUIPMENT - ITEM	LBS.	LONG	LATR	LONG	LATR
REMOTE OIL FILTER	6.0	26.0	24.0	156.0	144.0

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REVISIONS			
REV.	DESCRIPTION	BY	DATE





	MATERIAL LIST					
	ITEM	PART NUMBER	DESCRIPTION	QTY.		
	2	OFB-17	FULL FLOW ENGINE ADAPTER - SINGLE DRIVE DUAL MAGS (NEW STYLE)	1		
	4	TBD	FIRESLEEVED HOSE ASSY, TSO'D	(OPT)		
	5	TBD	FIRESLEEVED HOSE ASSY, TSO'D	(OPT)		
	8	M83248/1-230	VITON "O" RING, SINGLE DRIVE DUAL MAGS (NEW STYLE)	1		
	28	AN919-15D-SP	REDUCER FITTING, -10 -> -8 SINGLE DRIVE DUAL MAGS (NEW STYLE)	2		
	33	M83248/1-910	VITON "O" RINGS,	2		
Г						

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE	
DIMENSIONS ARE IN INCHES TOLERANCES:	DRAWN	GM	12/15/2020	
1 PLACE ±.030 2 PLACE ±.010	APPR. BY	BDA	12/15/2020	TITLE:
3 PLACE ±.005 4 PLACE ±.0005	ENG APPR.			
ANGULAR ±0°30'	MFG APPR.			
INTERPRET GEOMETRIC TOLERANCING PER: ANSY Y 14.5H	Q.A.			
MATERIAL				SIZE

FINISH

Airwolf Filter Corp.

ASSEMBLY DRAWING OFB-17 ADAPTER, ENGINE - FULL FLOW

SIZE DWG. NO.

A FC-D-0013

REV
IR

SCALE: WEIGHT: SHEET 1 OF 1

5

APPLICATION 4

USED ON

NEXT ASSY

3

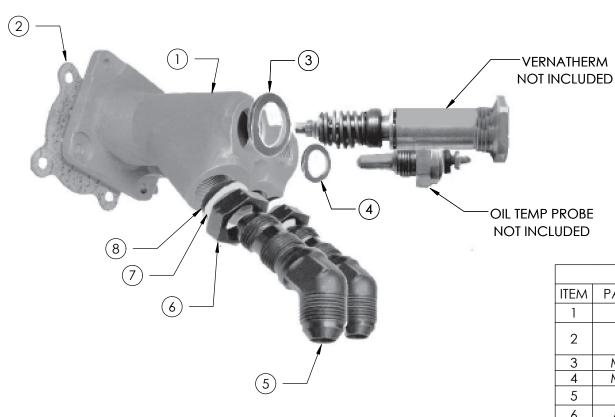
COMMENTS:

2

SHEET 1

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	REVISIONS		
REV.	DESCRIPTION	BY	DATE
Α	REDRAWN IN SOLIDWORKS	GM	12/15/2020



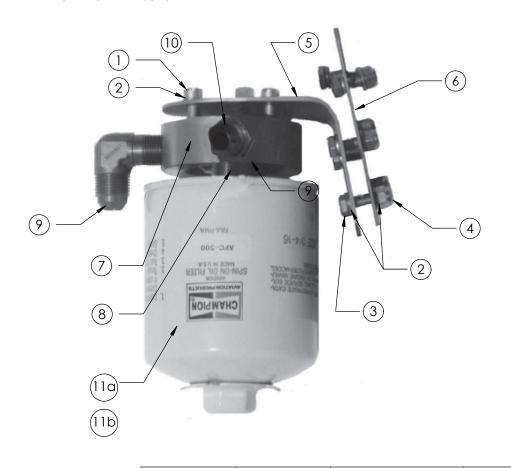
		MATERIAL LIST	
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	LYC-10	ADAPTER-ENGINE, FULL FLOW	1
2	61173 OR GT-61173	OIL FILTER ADAPTER GASKET	1
3	MS35769-21	GASKET, THERMOSTATUIC VALVE	1
4	MS35769-11	GASKET, OIL TEMPERATURE SENSOR	1
5	AN837-8D	BULKHEAD FITTING, 45°	2
6	AN6289-8D	BULKHEAD NUT	2
7	MS28773-08	BOSS GASKET	2
8	M83248/1-908	"O" RING	2

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE		Airwolf Filter	Corr	<u> </u>
		DIMENSIONS ARE IN INCHES TOLERANCES:	DRAWN	GM	12/15/2020		All Woll I liter Golp.		
		1 PLACE ±.030 2 PLACE ±.010 3 PLACE ±.005 4 PLACE ±.0005	APPR. BY	BDA	12/15/2020	TITLE:			
			ENG APPR.			,	V V V I V I V I V I V I V I V I V I V I		
		ANGULAR ±0°30'	MFG APPR.				ASSEMBLY DRAWING LYC-10 ADAPTER - ENGI		
		INTERPRET GEOMETRIC TOLERANCING PER: ANSY Y 14.5H	Q.A.					FULL FLOW	
		MATERIAL					/G. NO.	<i>-</i> 1	REV
NEXT ASSY	USED ON	FINISH	COMMENTS:		A	AFC-D-00	51	А	
 APPLICATION						SCALE:	WEIGHT:	SHE	ET 1 OF 1

5

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REVISIONS						
REV.	DESCRIPTION	BY	DATE			
Α	REDRAWN IN SOLIDWORKS	GM	12/15/2020			



MATERIAL LIST						
ITEM PART NUMBER		DESCRIPTION	QTY.			
1	AN4H-4A	BOLT, DRILLED HEAD	4			
2	AN960-416	WASHER	16			
3	AN4-5A	BOLT	6			
4	MS20365-428A	LOCKNUT	6			
5 OFM-18		OIL FILTER MOUNT, 75°	1			
6	DBL-10	DOUBLER PLATE	1			
7	OFB-10	OIL FILTER BASE	1			
8	OFS-10	OIL FILTER STUD	1			
9	MS20822-8D	FITTING, 90°	1			
10	AN816-8D	FITTING, STRAIGHT	1			
11a AFC-500		OIL FILTER, OR EQUIVALENT (CH48108)	1			
11b	AFC-600	OIL FILTER, OR EQUIVALENT (CH48109)	1			

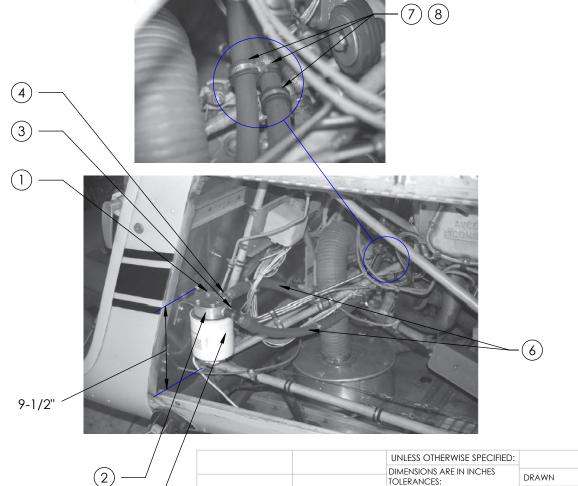
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Airwolf	Filtor (`orn	
		DIMENSIONS ARE IN INCHES TOLERANCES:	DRAWN	GM	12/15/2020	All WOII	i iitei C	<i>ο</i> ιρ.	
		1 PLACE ±.030 2 PLACE ±.010	APPR. BY	BDA	12/15/2020	TITLE:			
		3 PLACE ±.005 4 PLACE ±.005	ENG APPR.			ASSEMBLY DRAWING			
		ANGULAR ±0°30'	MFG APPR.			OFB-10, OFM-18, & DBL		DBL-1	0
		INTERPRET GEOMETRIC TOLERANCING PER: ANSY Y 14.5H	Q.A.						
		MATERIAL		-		SIZE DWG. NO.	0056	RE	ĒV.
NEXT ASSY	USED ON	FINISH	COMMENTS:		A AFC-D)-0052	<u> </u>	7	
APPLICATION						SCALE: WEIGHT:		SHEET 1 (OF 1

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REVISIONS						
REV.	REV. DESCRIPTION		DATE			
Α	REDRAWN IN SOLIDWORKS		12/15/2020			



MATERIAL LIST						
ITEM	PART NUMBER	DESCRIPTION	QTY.			
1	OFM-18	OIL FILTER MOUNT, 75°	1			
2	OFB-10	OIL FILTER BASE	1			
3	M\$20822-8D	FITTING, 90°	1			
4	AN816-8D	FITTING, STRAIGHT	1			
5	AFC-500	OIL FILTER, STD	1			
6	F13000008-0300	TITEFLEX TEFLON HOSE	2			
7	MS21919WDG-14	ADEL CLAMP	6			
8	M\$21919WDG-12	ADEL CLAMP, FRAME	2			

NAME DATE 12/15/2020 GM 12/15/2020 TITLE: BDA APPR. BY ENG APPR. MFG APPR. Q.A. TOLERANCING PER: ANSY Y 14.5H

Airwolf Filter Corp.

INSTALLATION DRAWING, OFM-18, OFB-10, & AFC-500

SIZE DWG. NO. AFC-D-0053

REV

SCALE:

WEIGHT:

SHEET 1 OF 1

5

APPLICATION

NEXT ASSY

USED ON

3

1 PLACE ±.030

2 PLACE ±.010 3 PLACE ±.005

4 PLACE ±.0005

MATERIAL

FINISH

ANGULAR ±0°30'

INTERPRET GEOMETRIC

2

COMMENTS: