



AIRWOLF FILTER CORP.

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READ THIS BEFORE INSTALLING AIR/OIL SEPARATOR DATA PERTINENT TO ALL INSTALLATIONS

1. REVIEW ALL INSTALLATION DATA AND WRITTEN MATERIAL BEFORE BEGINNING

2. There is **no reason** to open the Airwolf Air/Oil Separator before it is installed on the aircraft. It has been carefully assembled and tested at the factory. In the event of a dry vacuum pump failure, the Air/Oil Separator and all related fittings and hoses should be cleaned, inspected, or replaced as necessary.
3. **Do not** overtighten the large band clamp that holds the Air/Oil Sep to the universal mount. This can distort the shape of the can, causing oil to seep out at the seam. The Air/Oil Sep clamp is wrapped with a piece of rubber material for protection.
4. It is **EXTREMELY** important that the 1/4" & 5/16" oil return lines and lines from the vacuum pump have good gravity flow with **NO** low spots.
5. The installed Air/Oil Sep weighs an average of 24 oz. Please subtract for any items removed from the aircraft.
6. The placement of the 1-3/4" outlet duct is **CRITICAL** to the proper operation to the Airwolf Air/Oil Separator. The rules for placement are follows:
 - A. The velocity of the air passing the end of the duct, **cannot** exceed the velocity of the air exiting the end of the tube, or a syphon effect will occur.
 - B. The Air/Oil Sep is pressurized by the air discharged from the vacuum pump. This blows the fumes out through the bottom of the Air/Oil Sep, therefore there is **no need** for high velocity slipstream air to siphon fumes out of the Air/Oil Sep. If you fail to heed this advice and allow the 1-3/4" duct to stick into the high velocity slip stream, the air/oil stream exiting the crankcase breather tube will not have proper time to coalesce inside the Air/Oil Sep and this oil laden air **will** discharge onto the belly of the aircraft, creating the same problem that the Air/Oil Sep was thoroughly designed to stop. **Trust us, we know what we're talking about.**
 - C. On aircraft with cowl flaps, the 1-3/4" outlet ducting should be approximately 6" above the cowl flap area, and 3" to 4" on either side of the cowl flap centerline.
 - D. On **ALL** installations, it normally takes 2-3 flights and 4-5 hrs of aircraft operation to properly adjust the position of the 1-3/4" outlet ducting to achieve perfection. **BE PATIENT!!!** Take your time and you will see the clean results of your effort. The Airwolf Air/Oil Separator is up to 80% effective in separating the oil from the blow-by gasses and when properly tuned, will keep the bottom of the aircraft very clean.

Thank you for taking the time to read this.
Airwolf Filter Corp.

Applicability: DEHAVILLAND
DHC-2 Beaver

Drawing: AFC-W324
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W324

Index	Part Number	Description	Quantity
01.	W-3010	AirSep Assy, 3/4" Breather,	(1)
02.	AN911-6D	Nipple	(1)
03.	AN917-6D	Tee	(1)
04.	AN912-9D	Reducer Bushing	(1)
05.	AN816-6D	Nipple	(1)
06.	W-2011	Bracket	(1)
07.	A10K-80	Rivnut, #10-32 X 7/16"	(4)
08.	AN960-416L	1/4" Flat Washer, Thin, [Rivnut Doubler]	(4)
09.	AN526C-1032R10	Screw, #10 X 5/8" Long	(4)
10.	AN960-10	Flat Washer, #10	(4)
11.	MIL5593-3/8	Hose, 3/8" ID	(18")
12.	MIL6000-1/2	Hose, 1/2" ID	(18")
13.	MIL6000-3/4	Hose, 3/4" ID	(12")
14.	471-6D	Fitting	(1)
15.	MM-5	Hose Clamp, 3/8"	(1)
16.	QS100M08H	Hose Clamp, 1/2"	(2)
17.	QS100M12H	Hose Clamp, 3/4"	(2)
18.	QS100M24H	Hose Clamp, 1-1/2"	(1)
19.	QS100M72H	Hose Clamp, 4-1/2"	(1)
20.	W-2100	"C" Channel	(10")
21.	AN526C-1032R10	Screw, #10 X 5/8" Long	(4)
22.	AN526C-832R16	Screw, #8 X 1" Long	(1)
23.	MS20365-832A	Locknut, #8	(1)
24.	MS20365-632A	Locknut, #6	(2)
25.	AN960-8	Flat Washer, #8	(6)
26.	MS24693S28	Countersunk Screw, #6 X 1/2" Long	(2)
27.	W-2013	Duct Support	(1)
28.	MS21919WDG-30	Adel Clamp, 1-7/8"	(1)
29.	CAT-7	Duct, 1-3/4" ID	(48")

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

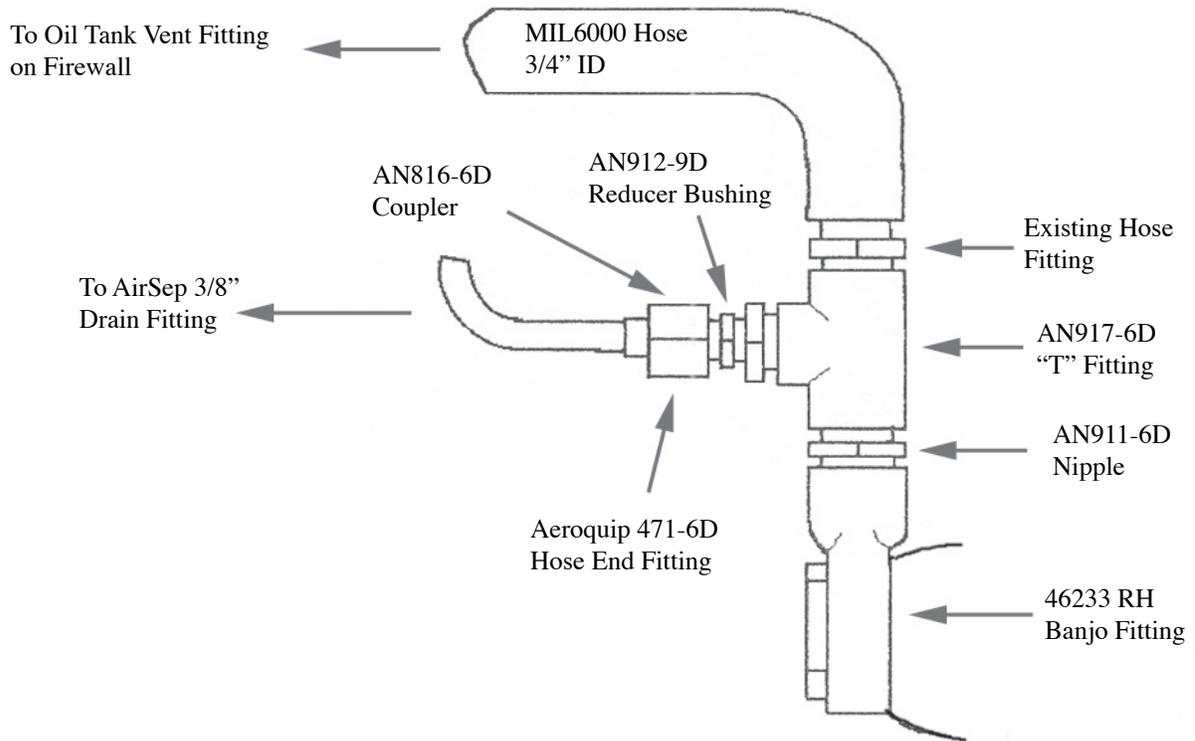
WARNING: ALL HOSES SHALL BE LOCATED AT LEAST 4.0" FROM ANY HEAT SOURCE LIKELY TO CAUSE VAPORIZATION OF THE OIL.

01. Remove accessory cowling.
02. Remove 3/4" diameter crankcase breather pipe and hose couplings extending from the 1:00 position on the engine diffuser case, [under RH ignition manifold where it crosses through fire shield], to the existing DeHavilland Air/Oil Collector Box, located on the bottom center of firewall or on the left lower engine mount tube of the firewall.
03. Remove 1/2" vacuum pump exhaust pipe and hose coupling to existing Dehavilland Collector Box or Air/Oil Separator from firewall or engine mount tube.
04. Remove existing DeHavilland Collector Box or Air/Oil Separator from firewall or engine mount tube.
05. Remove 3/4" oil vent hose from engine accy case right breather port banjo fitting, [located above RH magneto drive coupling], to firewall hose fitting.
06. Remove right breather port banjo fitting from engine. Remove existing 3/4" hose adapter from banjo fitting.
07. Install AN911-6D nipple into banjo fitting.
08. Install one end of AN917-6D "T" fitting on the AN816-6D nipple and clock so that the leg of "T" fitting points aft.
09. Install previously removed 3/4" hose adapter on opposite end of "T" fitting.
10. Install AN912-reducer bushing on leg of "T" fitting.
11. Install AN816-6D nipple into AN912-reducer bushing.
12. Reinstall RH banjo fitting assy on engine accy case.
13. Locate W-2011 bracket on forward face of firewall so that the legs are pointing forward, and the bends are vertical. The separator must be positioned so the the lower 3/8" oil return port is above the level of the "T" fitting described above, and clear of other items mounted on the firewall. [Mount as near the top of the firewall as possible.]
14. Using the W-2011 bracket as a template, locate and scribe location of (4) holes on the firewall. Remove bracket.
15. Drill (4) holes through the firewall at marked locations using 3/16" drill.
16. Install (4) A10K-80 rivnuts, using AN960-416L washers as doublers on backside of firewall.
17. Using the 4-1/2" clamp and W-2100 "C" Channel, locate hose clamp between the W-2011 bracket and firewall, passing just below center of bracket. Secure to rivnuts previously installed into firewall with #10 screw and washers.
Note: Trim "C" channel so none is sandwiched between W-2011 bracket and firewall.
18. Install Item AirSep to w-2011 bracket and secure with 4-1/2" clamp.

Caution: Do not overtighten clamp otherwise distortion may occur to AirSep causing it to leak.

Orient AirSep with both top ports pointing as closely as possible toward vacuum pump exhaust port and crankcase breather line at the 1:30 position on blower housing.

19. Install the 471-6D fitting onto the 3/8" hose provided. Connect one end to the AN816-6D on "T" fitting and the other end to 3/8" drain on AirSep Assy. Assure clearance on the full length of hose to any other object or structure.
20. Modify existing 1/2" OD aluminum breather line to route it in an upward and rearward direction from the vacuum pump exhaust port to forward to of separator, allowing for a the connection of the 1/2" hose from end of modified breather tube to 1/2" inlet on top of AirSep assy. Vacuum pump end of pipe will have an AN tube attachment and other end will be a pipe to hose connection utilizing hose clamps provided. Install hose and pipe.
21. Install the 3/4" hose from top RH side of engine diffuser case to 3/4" inlet on AirSep and secure with 3/4" clamps.
22. Install the 1-3/4" duct to bottom of AirSep and secure with the 1-1/2" clamp. Route duct down and out through existing "quick drain" hole in accy cowling. Enlarge hole as necessary for clearance.
23. Secure the 1-3/4" duct using -30 Adel clamp and W-2013 duct support. Secure 1-3/4" duct to the W-2013 duct support using bracket using #8 screws, washers, and locknuts.
24. Secure all pipes and hoses with adel clamps as necessary.
25. Reinstall all removed cowling panels.
26. Determine weight and balance, initiate a 337 form and update the equipment list.



Mat'l 6061-T6 .040 THK

W-2013 Duct Bracket Mfg Locally.

AIRWOLF AIRSEP INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICA)



A/C Make : _____ Model: _____

Serial#: _____ N#: _____

This Instructions for Continued Airworthiness (ICA) meets the requirements of 14 CFR Part 23 Appendix G.

AIRWORTHINESS LIMITATIONS

- 1.0 The Airworthiness Limitations Section is FAA approved and specifies maintenance required under 43.16 and 91.403 of the Federal Aviation Regulations unless an alternate program has been FAA approved.
- 2.0 An STC incorporated in a larger field approval major alteration may have an airworthiness limitation. The FAA inspector should not establish, alter, or cancel an airwothiness limitation without coordinating with the appropriate FAA Type Certificate Holding Office.

SECTION	DESCRIPTION
1.	Introduction: The Airwolf AirSep system is a passive oil recovery system. There are no moving parts within the AirSep.
2.	Description: The AirSep is a device through which the process of coalescence, allows the oil that is normally expelled out the engine breather tube into the atmosphere, to be collected within the device for recovery at which time it is then returned back into the engine for reuse.
3.	Servicing information: N/A
4.	Maintenance Instructions: Clean inside of AirSep and oil return line to engine with Stoddard Solvent, Mineral Spirits or other suitable solvent, at each annual or 100 hr. inspection. In the event of a vacuum pump failure, disassemble Air/Oil Separator, thoroughly clean it and all lines, hoses and fittings and remove any traces of vacuum pump debris. Reassemble and lightly torque top nut only enough to prevent top and bottom can from rotating and center gasket to seal to prevent any leakage.
5.	Trouble shooting information: If any oil is seeping out of center seam of AirSep can, replace center gasket and lightly torque top nut only enough to prevent further leakage which in most cases is 12 in/lb. If breather oil is found on the belly of the aircraft, check that outlet duct is located as per the above installation instructions and is not located in or near the high velocity airstream.
6.	Removal and replacement information: Refer to the specific Approved Installation Instructions for the AirSep kit.
7.	Diagrams: N/A
8.	Special inspection requirements: None
9.	Application of protective treatments: N/A
10.	List of special tools: N/A
11.	Recommended overhaul periods: N/A
12.	Revision: The latest revision of this ICA can be found at www.airwolf.com