

# FOR REFERENCE ONLY

**Applicability:** CESSNA  
210D, E, F, J, K, L, M, N, R  
P206, A, B, C, D, E  
U206, A, B, C, D, E, F, G

**Drawing:** AFC-W316  
**Revision:** B  
**Date:** 06/01/05

## Airwolf Parts List No. AFC-W316-A

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3002	AirSep Assy, 3/4" Breather, 1/2" Vacuum	(1)
02.	W-2031	Air Syphon Pump	(1)
03.	W-2018-1	Air-Tee	(1)
04.	W-2011	Bracket	(1)
05.	MS27039-0810	Screw. #8 X 5/8" Long	(4)
06.	AN960-8	Flat Washer, #8	(4)
07.	MS35338-41	Lock Washer. #8	(4)
08.	A8K-75	Rivnut, #8-32 X 7/16"	(4)
09.	MS35489-23	Grommet, 1" ID	(1)
10.	MIL6000-1/4	Hose, 1/4" ID	(11")
11.	MIL6000-5/16	Hose, 5/16" ID	(26")
12.	MIL6000-5/8	Hose, 1/2" ID	(16")
13.	MIL6000-3/4	Hose, 3/4" ID	(15")
14.	MM-4	Hose Clamp, 1/4"	(2)
15.	MM-5	Hose Clamp, 5/16"	(2)
16.	QS100M10H	Hose Clamp, 5/8"	(4)
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.	KW-2031	Drainback Kit	(1)
22.	655528	Continental Gasket	(1)
23.	MS20074-04-46	Bolt, 1/4" X 4-3/4"	(1)
24.	W-2004	Bushing	(1)
25.	AN960-416	Flat Washer, 1/4"	(1)
26.	MS35333-40	Star Washer, 1/4"	(1)
27.	MS21919WDG-05	Adel Clamp, 5/16" Long	(1)
28.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(1)
29.	SCAT-7	Duct, 1-3/4"	(22")

# FOR REFERENCE ONLY

**Applicability:** CESSNA  
210, A, B & C  
With IO470 Engines

**Drawing:** AFC-W316  
**Revision:** B  
**Date:** 06/01/05

## Airwolf Parts List No. AFC-W316-B

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3004	AirSep Assy, 3/4" Breather, 1/2" Vacuum	(1)
02.	W-2008	Air Syphon Pump	(1)
03.	W-2018	Air-Tee	(1)
04.	MS20823-5D	Fitting	(1)
05.	AN912-3D	Reducer Bushing	(1)
06.	W-2011	Bracket	(1)
07.	W-2150	Doubler	(1)
08.	AN526C-1032R10	Screw	(5)
09.	AN960-10	Washer	(5)
10.	MS20365-1032A	Locknut	(5)
11.	MIL6000-1/4	Hose, 1/4" ID	(24")
12.	MIL6000-5/16	Hose, 5/16" ID	(24")
13.	MIL6000-1/2	Hose, 1/2" ID	(18")
14.	MIL6000-3/4	Hose, 3/4" ID	(18")
15.	MM-4	Hose Clamp, 1/4"	(2)
16.	MM-5	Hose Clamp, 3/8"	(2)
17.	QS100M08H	Hose Clamp, 1/2"	(4)
18.	QS100M12H	Hose Clamp, 3/4"	(2)
19.	QS100M24H	Hose Clamp, 1-1/2"	(1)
20.	QS100M72H	Hose Clamp, 4-1/2"	(1)
21.	W-2100	"C" Channel	(10")
22.	MS21919WDG-30	Adel Clamp, 1-3/4"	(1)
23.	CAT-7	Duct, 1-3/4"	(24")

# FOR REFERENCE ONLY

**Applicability:** CESSNA  
210 with IO550-P Conversion

**Drawing:** AFC-W316  
**Revision:** B  
**Date:** 06/01/05

## Airwolf Parts List No. AFC-W316-C

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3002	AirSep Assy, 3/4" Breather, 5/8" Vacuum	(1)
02.	W-2014	Air Syphon Pump	(1)
03.	W-2018-1	Air-Tee, 5/8"	(1)
04.	W-2011	Bracket	(1)
05.	W-2155-2	Pushrod Shroud Tube	(1)
06.	655705	Rocker Cover Gasket	(1)
07.	630286	Pushrod Tube Seal, Outer	(1)
08.	534610	Pushrod Tube Seal, Inner	(1)
09.	MIL6000-1/4	Hose, 1/4" ID	(48")
10.	MIL6000-5/16	Hose, 5/16" ID	(48")
11.	MIL6000-5/8	Hose, 5/8" ID	(24")
12.	MIL6000-3/4	Hose, 3/4" ID	(15")
13.	W-2100	"C" Channel	(10")
14.	MM-4	Hose Clamp, 1/4"	(2)
15.	MM-5	Hose Clamp, 3/8"	(4)
16.	QS100M10H	Hose Clamp, 5/8"	(4)
17.	QS100M12H	Hose Clamp, 3/4"	(2)
18.	QS100M24H	Hose Clamp, 1-1/2"	(1)
19.	QS100M72H	Hose Clamp, 4-1/2"	(1)
20.	MS35489-23	Grommet, 1" ID	(1)
21.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(1)
22.	SCAT-7	Duct, 1-3/4"	(22")
23.	AN525-10R10	Screw	(5)
24.	AN960-10	Washer	(5)
25.	MS20365-1032A	Locknut	(5)

*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. Cut the existing 3/4" breather tube 2.0" forward of the engine's rear baffle and remove the section from the baffle down to the cowl flap.
02. Plug the old breather tube hole through the rear baffle.
03. Locate a position 4.5" up from the bend in the engine rear baffle and 4.5" from the right outer perimeter of the baffle. Drill a 1.25" hole at that point and install the -23 grommet into the hole.
04. Locate a position 6.5" in from the right side of the aircraft and 1.5" down from the lower row of rivets in the firewall hat section.
05. Being careful not to drill any wires, tubes, etc., behind the firewall, drill a #11 hole at the located position and install one A8K-75 rivnut.
06. Position the W-2011 bracket on the firewall and secure it in place, square on the firewall using 1 ea. of #8 screw, lockwasher, & washer
07. Locate the other 3 holes. Remove the W-2011 bracket and drill the other 3 holes. Reinstall the bracket using the additional 3 ea. of the #8 screws, lockwashers, & washers.
08. Position the 4-1/2" clamp between the W-2011 bracket and the firewall.
09. Secure the AirSep to the W-2011 bracket using the installed 4-1/2" clamp, and position AirSep with the 3/4" inlet tube pointing forward towards the installed -12 grommet.
10. Install the 3/4" hose between the 3/4" AirSep inlet and the cut off existing breather tube as shown. Secure both ends using 3/4" clamps.
11. If the outlet tube on the vacuum pump is in the shape of a upside down "U", cut off the part of the tube before it turns downward, leaving enough of the tube running horizontally to secure a hose to it. Install the 1/2" hose over the cut off end of the existing tube.
12. Install the Air-Tee into the other end of the 1/2" hose and secure both ends of the 1/2" hose with 1/2" clamps.
13. Install the 1/2" hose over the remaining 1/2" port of the Air-Tee and the other over the 1/2" inlet port of the AirSep. Secure both ends with 1/2" clamps.
14. Install the KW-2013 rocker cover modification kit on the #1 cyl. rocker cover. Use the new TCM P/N 65528 rocker cover gasket in the kit for re-installation of the rocker cover.
15. Install the AirSyphon Pump onto the modified rocker cover with the exposed ends of the tubes facing aft.
16. Secure the Air Siphon Pump onto the valve cover, using the -46 bolt, W-2004 bushing, -5 Adel Clamp, -40 Washer and -41 Lock Washer.
17. Install the 1/4" hose to the 1/4" AirSep drain fitting and the other end over the 1/4" branch of the AirSyphon Pump, Secure both ends with 1/4" clamps.
18. Install the 5/16" hose to the 5/16" branch of the Air-Tee and the other end over the 5/16" branch of the AirSyphon Pump. Secure both ends with 5/16" clamps.
19. Install the 1-3/4 duct to the bottom of the AirSep and secure with 1-1/2" clamp.
20. Connect the lower end of the 1-3/4" duct to the cowl flap cable block using the -30 adel clamp and the existing AN-3 bolt securing the cowl flap cable block.
21. Determine weight & balance, initiate Form 337, and update the equipment list.

*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.**

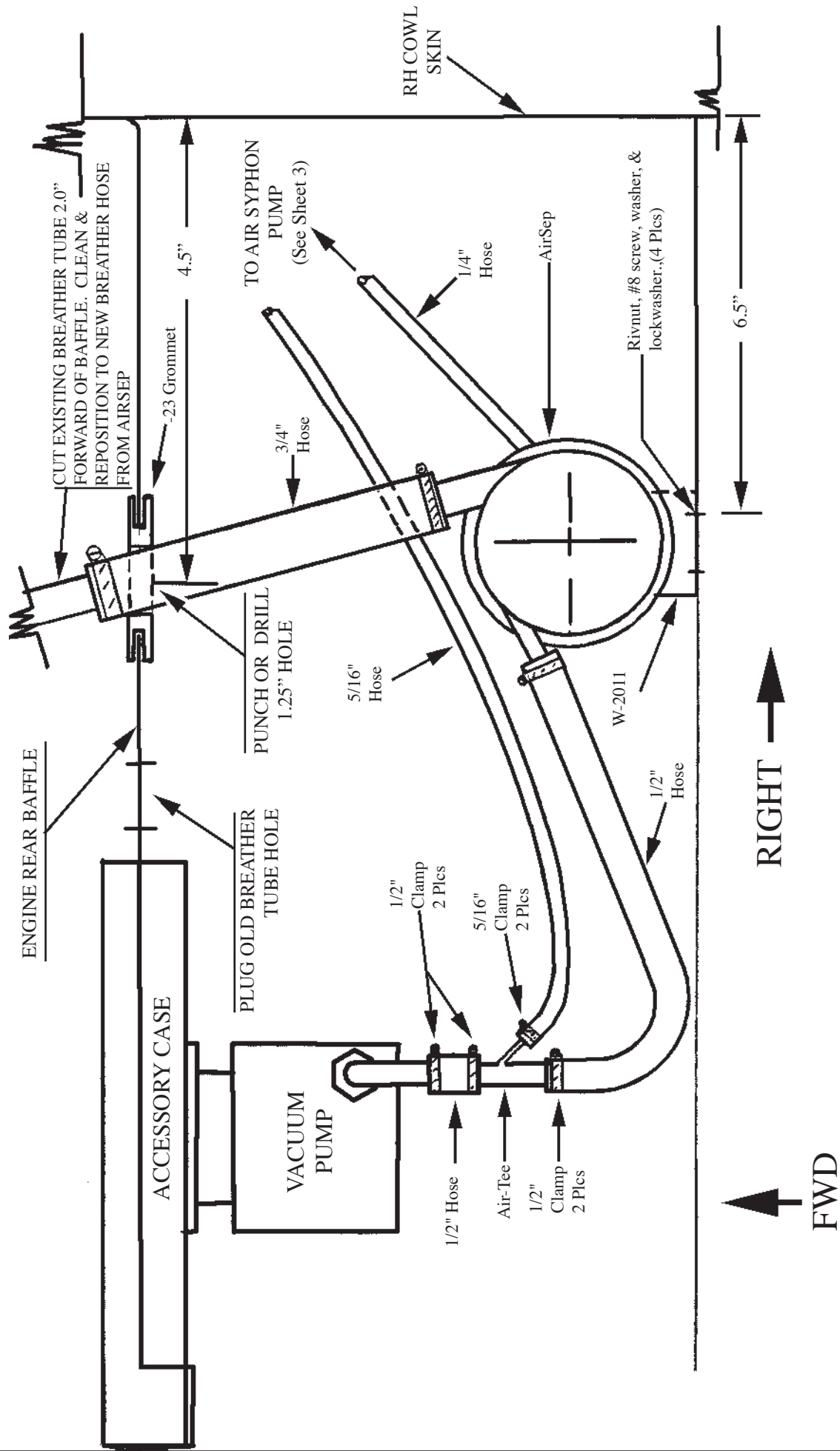
01. Cut the existing 3/4" breather tube 2.0" forward of the engine's rear baffle and remove the section from the baffle down to the cowl flap.
02. Plug the old breather tube hole through the rear baffle.
03. Locate a position 4.5" up from the bend in the engine rear baffle and 4.5" from the right outer perimeter of the baffle. Drill a 1.25" hole at that point and install the -23 grommet into the hole.
04. Locate a position 6.5" in from the right side of the aircraft and 1.5" down from the lower row of rivets in the firewall hat section.
05. Being careful not to drill any wires, tubes, etc., behind the firewall, drill a #11 hole at the located position and install one A8K-75 rivnut.
06. Position the W-2011 bracket on the firewall and secure it in place, square on the firewall using 1 ea. of #8 screw, lockwasher, & washer
07. Locate the other 3 holes. Remove the W-2011 bracket and drill the other 3 holes. Reinstall the bracket using the additional 3 ea. of the #8 screws, lockwashers, & washers.
08. Position the 4-1/2" clamp between the W-2011 bracket and the firewall.
09. Secure the AirSep to the W-2011 bracket using the installed 4-1/2" clamp, and position AirSep with the 3/4" inlet tube pointing forward towards the installed -12 grommet.
10. Install the 3/4" hose between the 3/4" AirSep inlet and the cut off existing breather tube as shown. Secure both ends using 3/4" clamps.
11. If the outlet tube on the vacuum pump is in the shape of a upside down "U", cut off the part of the tube before it turns downward, leaving enough of the tube running horizontally to secure a hose to it. Install the 1/2" hose over the cut off end of the existing tube.
12. Install the Air-Tee into the other end of the 1/2" hose and secure both ends of the 1/2" hose with 1/2" clamps.
13. Install the 1/2" hose over the remaining 1/2" port of the Air-Tee and the other over the 1/2" inlet port of the AirSep. Secure both ends with 1/2" clamps.
14. Install the KW-2013 rocker cover modification kit on the #1 cyl. rocker cover. Use the new TCM P/N 65528 rocker cover gasket in the kit for re-installation of the rocker cover.
15. Install the AirSyphon Pump onto the modified rocker cover with the exposed ends of the tubes facing aft.
16. Secure the Air Siphon Pump onto the valve cover, using the -46 bolt, W-2004 bushing, -5 Adel Clamp, -40 Washer and -41 Lock Washer.
17. Install the 1/4" hose to the 1/4" AirSep drain fitting and the other end over the 1/4" branch of the AirSyphon Pump, Secure both ends with 1/4" clamps.
18. Install the 5/16" hose to the 5/16" branch of the Air-Tee and the other end over the 5/16" branch of the AirSyphon Pump. Secure both ends with 5/16" clamps.
19. Install the 1-3/4 duct to the bottom of the AirSep and secure with 1-1/2" clamp.
20. Connect the lower end of the 1-3/4" duct to the cowl flap cable block using the -30 adel clamp and the existing AN-3 bolt securing the cowl flap cable block.
21. Determine weight & balance, initiate Form 337, and update the equipment list.

*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. Cut the existing 3/4" breather tube 2.0" forward of the engine's rear baffle and remove the section from the baffle down to the cowl flap.
02. Plug the old breather tube hole through the rear baffle.
03. Locate a position 4.5" up from the bend in the engine rear baffle and 4.5" from the right outer perimeter of the baffle. Drill a 1.25" hole at that point and install the -23 grommet into the hole.
04. Locate a position 6.5" in from the right side of the aircraft and 1.5" down from the lower row of rivets in the firewall hat section.
05. Being careful not to drill any wires, tubes, etc., behind the firewall, drill a #11 hole at the located position and install one A8K-75 rivnut.
06. Position the W-2011 bracket on the firewall and secure it in place, square on the firewall using 1 ea. of #8 screw, lockwasher, & washer
07. Locate the other 3 holes. Remove the W-2011 bracket and drill the other 3 holes. Reinstall the bracket using the additional 3 ea. of the #8 screws, lockwashers, & washers.
08. Position the 4-1/2" clamp between the W-2011 bracket and the firewall.
09. Secure the AirSep to the W-2011 bracket using the installed 4-1/2" clamp, and position AirSep with the 3/4" inlet tube pointing forward towards the installed -12 grommet.
10. Install the 3/4" hose between the 3/4" AirSep inlet and the cut off existing breather tube as shown. Secure both ends using 3/4" clamps.
11. If the outlet tube on the vacuum pump is in the shape of a upside down "U", cut off the part of the tube before it turns downward, leaving enough of the tube running horizontally to secure a hose to it. Install the 1/2" hose over the cut off end of the existing tube.
12. Install the Air-Tee into the other end of the 1/2" hose and secure both ends of the 1/2" hose with 1/2" clamps.
13. Install the 1/2" hose over the remaining 1/2" port of the Air-Tee and the other over the 1/2" inlet port of the AirSep. Secure both ends with 1/2" clamps.
14. Install the W-2154-2 shroud tube Use the new TCM P/N 655705 rocker cover gasket and pushrod tube seals in the kit for re-installation of the shroud tube.
15. Connect the AirSyphon Pump to the W-2154-2 shroud tube using 5/16" hose and secure with 5/16" clamps.
16. Install the 1/4" hose to the 1/4" AirSep drain fitting and the other end over the 1/4" branch of the AirSyphon Pump, Secure both ends with 1/4" clamps.
17. Install the 5/16" hose to the 5/16" branch of the Air-Tee and the other end over the 5/16" branch of the AirSyphon Pump. Secure both ends with 5/16" clamps.
18. Install the 1-3/4 duct to the bottom of the AirSep and secure with 1-1/2" clamp.
19. Connect the lower end of the 1-3/4" duct to the cowl flap cable block using the -30 adel clamp and the existing AN-3 bolt securing the cowl flap cable block.
20. Determine weight & balance, initiate Form 337, and update the equipment list.

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



↑ FWD

→ RIGHT

Drawing: AFC-W/316  
 Revision: B  
 Date: 06/01/05

Applicability: CESSNA  
 210D, E, F, J, K, L, M, N, R  
 P206, A, B, C, D, E  
 U206, A, B, C, D, E, F, G

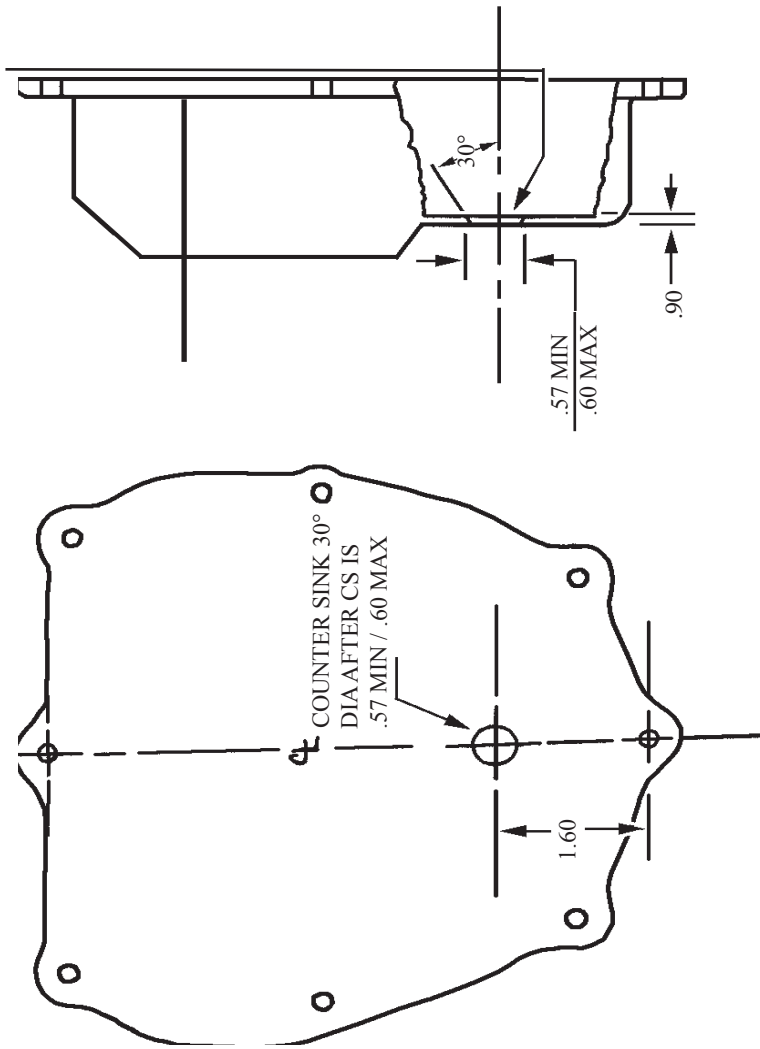
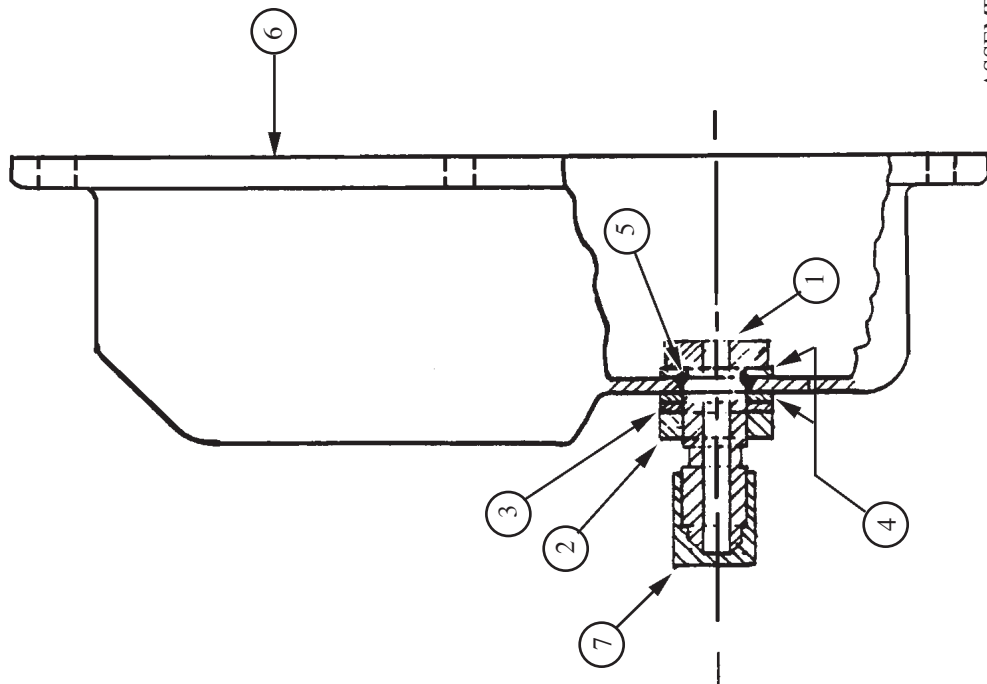




Applicability:

CESSNA  
210D, E, F, J, K, L, M, N, R  
P206, A, B, C, D, E  
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Drawing: AFC-W316  
Revision: B  
Date: 06/01/05



DRAWING: DLW-2031

ASSEMBLY INSTRUCTIONS:

1. DRILL ROCKER BOX COVER PER SHEET 2.
2. INSTALL ITEM 4 ONTO ITEM 1.
3. INSTALL ITEM 5 ONTO ITEM 1, AGAINST ITEM 4.
4. INSTALL ITEM 1 INTO DRILLED HOLE IN ROCKER BOX COVER FROM INSIDE POINTING OUTWARD.
5. INSTALL IN ORDER, ITEM 4, 3, & 2, ONTO ITEM 1 AND TIGHTEN.
6. INSTALL ITEM 7 ONLY IF NO AIR/OIL SEPARATOR IS TO BE INSTALLED AT THIS TIME.

**NOTE:**  
THIS RETURN FITTING IS APPROVED ONLY FOR RETURNING OIL FROM THE FAA APPROVED AIRWOLF AIRSEP.

QTY	ITEM	PART#	DESCRIPTION
1	7	AN20-5D	Blockoff Cap, -5 [Not Included]
1	6	625615	Rocker Box Cover [Not Included]
1	5	M83248/1-013	Viton O-Ring, 1/2"
2	4	AN960-PD816	Flat Washer, 1/2"
1	3	MS35333-44	Lock Washer, 1/2"
1	2	AN924-5D	Nut, -5
1	1	AN832-5D-SP	Bulkhead Fitting, -5