

FOR REFERENCE ONLY

Applicability:

PIPER
Cherokee PA-28-140/150/160/180 & PA-28S-160/180
Warrior II PA-28-151/161
Archer II PA-28-181
Arrow PA-28R-180, PA-28R-200, PA-28R-201, PA-28RT-201
Tomahawk PA-38-112

Drawing: AFC-W306
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W306-A

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01a.	W-3003	AirSep Assy, 3/4" Breather, 5/8" Vacuum	(1)
01b.	W-3015	AirSep Assy [O320-E2A engines with 5/8" Breather, 5/8" Vacuum]	(1)
02.	W-2046	Air Syphon Pump	(1)
03.	W-2018-1	Air-Tee, 5/8"	(1)
04.	W-2011	Bracket	(1)
05.	AN526C-1032R8	Screw, #10 X 1/2" Long	(4)
06.	AN526C-1032R10	Screw, #10 X 5/8" Long	(4)
07.	AN960-10	Flat Washer, #10	(8)
08.	MS20365-1032A	Locknut, #10	(8)
09.	MIL6000-1/4	Hose, 1/4" ID	(38")
10.	MIL6000-5/16	Hose, 5/16" ID	(30")
11.	DELETED		
12.	MIL6000-5/8	Hose, 5/8" ID	(18")
13.	MIL6000-3/4	Hose, 3/4" ID	(16")
14.	MM-4	Hose Clamp, 1/4"	(2)
15.	MM-5	Hose Clamp, 3/8"	(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.	MS21919WDG-10	Adel Clamp, 5/8"	(2)
22.	MS21919WDG-12	Adel Clamp, 3/4"	(1)
23.	MS21919WDG-30	Adel Clamp, 1-7/8"	(1)
24.	CAT-7	Duct, 1-3/4" ID	(21")

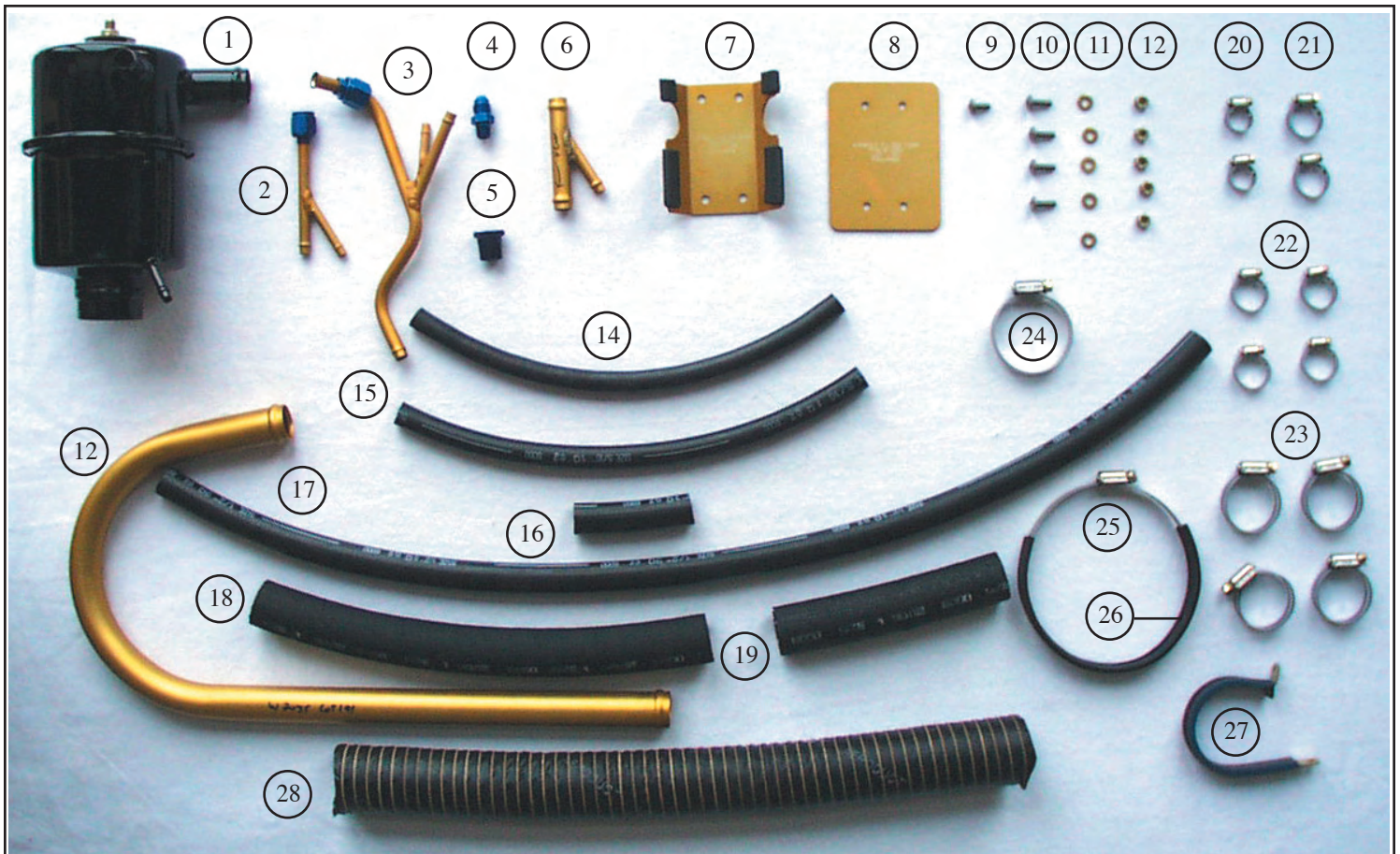
FOR REFERENCE ONLY

Applicability: PIPER
Turbo Arrow PA-28RT-201T
With Continental TSIO360 Engines

Drawing: AFC-W306
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W306-B

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3027	AirSep Assy, 3/4" Breather, 1/2" Vacuum	(1)
02.	W-2018	Air-Tee	(1)
03.	W-2008	Air Syphon Pump	(1)
04.	AN912-3D	Reducer Bushing	(1)
05.	AN816-5D	Straight Fitting, -5	(1)
06.	W-2011	Bracket	(1)
07.	W-2150	Doubler	(1)
08.	AN526C-1032R10	Screw, #10 X 5/8" Long	(4)
09.	AN526C-1032R8	Screw, #10 X 1/2" Long	(1)
10.	AN960-10	Flat Washer, #10	(5)
11.	MS20365-1032A	Locknut, #10	(4)
12.	MIL6000-1/4	Hose, 1/4" ID	(18")
13.	MIL6000-5/16	Hose, 5/16" ID	(18")
14.	MIL6000-1/2	Hose, 1/2" ID	(18")
15.	MIL6000-3/4	Hose, 3/4" ID	(12")
16.	MM-4	Hose Clamp, 1/4"	(2)
17.	MM-5	Hose Clamp, 5/16"	(2)
18.	QS100M08H	Hose Clamp, 1/2"	(4)
19.	QS100M12H	Hose Clamp, 3/4"	(2)
20.	QS100M24H	Hose Clamp, 1-1/2"	(1)
21.	QS100M72H	Hose Clamp, 4-1/2"	(1)
22.	W-2100	"C" Channel	(10")
23.	MS21919WDG-30	Adel Clamp, 1-7/8"	(1)
24.	CAT-7	Duct, 1-3/4" ID	(18")



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Applicability:

PIPER
PA-28-235, 236

Drawing: AFC-W306
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W306-C

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3001	AirSep Assy, 1" Breather, 1/2" Vacuum	(1)
02.	W-2046 or	Air Syphon Pump	(1)
03.	W-2008	Air Syphon Pump	(1)
04.	AN816-5D	Straight Fitting [Use with W-2008 Pump]	(1)
05.	AN912-3D	Reducer Bushing [Use with W-2008 Pump]	(1)
06.	W-2018-1	Air-Tee, 5/8"	(1)
07.	W-2011	Bracket	(1)
08.	W-2150	Doubler	(1)
09.	AN526C-1032R8	Screw, #10 X 1/2" Long	(1)
10.	AN526C-1032R10	Screw, #10 X 5/8" Long	(4)
11.	AN960-10	Flat Washer, #10	(5)
12.	MS20365-1032A	Locknut, #10	(5)
13.	W-2035	Breather Tube	(1)
14.	MIL6000-1/4	Hose, 1/4" ID	(12")
15.	MIL6000-5/16	Hose, 5/16" ID	(12")
16.	MIL6000-5/8	Hose, 5/8" ID	(24")
17.	MIL6000-1	Hose, 1" ID	(12")
18.	MM-4	Hose Clamp, 1/4"	(2)
19.	MM-5	Hose Clamp, 5/16"	(2)
20.	QS100M10H	Hose Clamp, 5/8"	(4)
21.	QS100M16H	Hose Clamp, 1"	(4)
22.	QS100M24H	Hose Clamp, 1-1/2"	(1)
23.	QS100M72H	Hose Clamp, 4-1/2"	(1)
24.	W-2100	"C" Channel	(10")
25.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(1)
26.	CAT-7	Duct, 1-3/4"	(18")

Applicability:**PIPER****Cherokee****Warrior II****Archer II****Arrow****Tomahawk****PA-28-140/150/160/180 & PA-28S-160/180****PA-28-151/161****PA-28-181****PA-28R-180, PA-28R-200, PA-28R-201, PA-28RT-201****PA-38-112****Drawing: AFC-W306****Revision: B****Date: 06/01/05**

*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 the breather tube assy from the engine breather fitting on the accessory housing to the lower cowl.
02. If the engine is equipped with a wet vacuum pump, remove the air/oil separator and lines
03. Install the W-2011 bracket on the left engine mount tubes as shown on using 1 ea. of #10 screws, washers, & locknut and -10 Adel clamp and on the two top mounts and 1 ea. of #10 screws, washers, & locknut, and -12 Adel clamp onto the middle tube.
04. Install the AirSep on the W-2011 bracket using the 4-1/2" clamp and protective "C" Channel.

CAUTION: Do not overtighten the clamp.

05. Install the 3/4" hose between the engine breather and the 3/4" inlet to the AirSep and secure it with 3/4" clamp.
06. Install the 1/2" hose between the vacuum pump outlet fitting and the Air-Tee.

Note B: Observe proper direction of Air Tee.

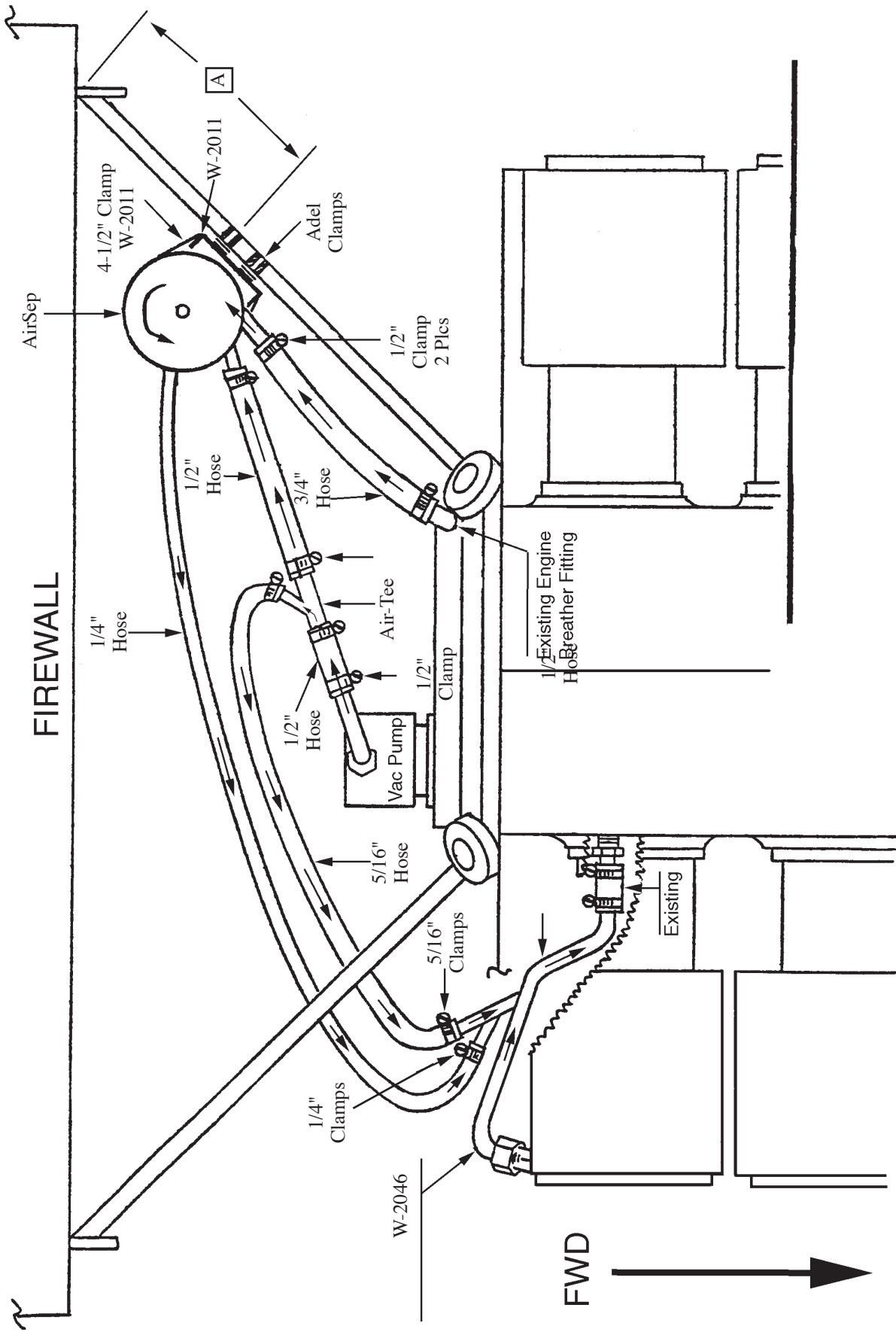
07. Install the 1/2" hose between the end of the Air Tee and the 1/2" inlet to the AirSep and secure with 1/2" clamp.
08. Remove the #3 cylinder rocker box drain tube.
09. Install the Air Syphon Pump in place of the rocker drain tubes shown.
10. Install the 5/16" hose between the 5/16" diagonal leg of the Air Tee and the 5/16" inlet to the AirSyphon Pump.
Secure with 5/16" clamps.
11. Install the 1/4" hose between the AirSep drain and the 1/4" diagonal leg of the AirSyphon Pump.
Secure with 1/4" clamps.
12. Install the 1-3/4" duct to the bottom of the AirSep and secure with 1-1/2" clamp.
13. Secure the lower end of the 1-3/4" duct to the lower engine mount tube using the -30 adel clamp and secure with 1 ea. of #10 screws, washers and locknut.
14. Determine weight & balance, initiate Form 337, and update the equipment list.

Note C: Under no circumstances should the overboard duct extend into the aircraft slipstream.

*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 existing breather tube hardware and extension to cowl flap.
02. Cut existing breather tube approximately 1-1/2" after it exits from rear engine baffle.
03. Mount W-2011 bracket on rear engine baffle with doubler as indicated in drawings.
04. Install AirSep on bracket with 3/4" and 1/2" outlets pointing towards firewall.
05. Remove oil return drain plug in engine accy case housing. Install AN912-3D reducer with AN816-5D fitting. Assemble W-2008 AirSyphon Pump to AN816-5D fitting.
Note: 1/4" line on AirSyphon Pump must point up at slight angle
06. Install 1/4" hose from oil drain outlet on the bottom of the AirSep to the 1/4" inlet on the AirSyphon Pump.
07. Remove the pressure outlet elbow from the vacuum pump, cut off at the location shown, and reinstall to point discharge pipe to point towards the AirSep 1/2" line.
08. Assemble 1/2" hose to vacuum pump discharge outlet elbow. Install W-2018 Air-Tee with 5/16" outlet pointing in direction of airflow.
Install 1/2" hose from the Air-Tee to the 1/2" inlet on the AirSep making sure the 1/2" hose goes over the 3/4" vacuum inlet hose from the firewall.
09. Install 5/16" hose from the Air-Tee to the AirSyphon Pump.
10. Install 3/4" hose from the existing breather tube to the AirSep 3/4" inlet.
11. Attach 1-3/4" CAT-7 duct to the bottom of the AirSep. CAT-7 should not extend into the airstream below the engine cowling. Secure with MS21919WDG-30 clamp provided.
12. Check all connections, clamps, and attachments for tightness. Ty-Wrap as necessary.
Note: All Hose connections are clamped.
13. Determine weight & balance, initiate Form 337, and update the equipment list.



ON PA28R-180 & PA28R-200, REVERSE TOP
 CLAMPS AND INSTALL @ 10.0".
 ALL OTHERS INSTALL @ 7.0"

A

Applicability:

PIPER
 Cherokee
 Warrior II
 Archer II
 Arrow

PA-28-140/150/160/180 & PA-28S-160/180
 PA-28-151/161
 PA-28-181
 PA-28R-180, PA-28R-200, PA-28R-201, PA-28RT-201

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*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 all existing engine breather and vacuum pump outlet components. Retain the hose fittings on both the breather and the vacuum pump.
02. Loosen the nose baggage compartment interior at the firewall to facilitate bracket mounting. The interior need only be pulled back a little.
03. Locate a point on the firewall 7.0" inboard of the upper right engine mount, and 5.75" down from the upper cowl. Using a #11 drill bit, drill a hole at that point.
04. Secure the wW-2011 bracket with 1 each of #10 screws, washers, and locknuts. Match drill the other three holes.
05. Slide the 4-1/2" clamp under the bracket, slightly below the notch in the flanged edges. Secure the bracket to the firewall with the notches upward with an additional 3 ea of #10 screws, washers, and locknuts
06. Remove the 3/8" pipe plug in the lower right side accessory housing and install the AN912-3D reducer and AN816-5D fitting. If no 3/8" plug found in accy case, replace rocker box drain in RH rear cylinder with W-2046 drain.
07. Install the 1" breather tube & secure to the engine breather using the 1" hose (2) 1" clamps.
08. Connect the 1" inlet to the AirSep to the breather tube using the 1" hose and 1" clamps.
09. Secure the AirSep to the W-2011 bracket with the 4-1/2" clamp just slightly below the flanged split line on the AirSep. Position the hose and secure.
10. Insert the Air-Tee in one end of the 1/2" hose and install the hose onto the vacuum pump exhaust. Secure both ends with 1/2" clamps. Observe proper Air-Tee direction.

Note B: Rotation of the vacuum pump exhaust fitting may be necessary.

11. Connect the 1/2" hose to the 1/2" inlet of the AirSep and the other end to the remaining 1/2" opening on the Air-Tee. Secure both ends with 1/2" clamps.
12. Connect the 5/16" hose to the 5/16" diagonal tube of the Air-Tee, and to the 5/16" inlet tube of the AirSyphon Pump. Secure with 5/16" clamps.
13. Connect the 1/4" hose from the AirSep drain to the 1/4" diagonal inlet tube of the AirSyphon Pump. Secure with 1/4" clamps.
14. Tighten the AirSyphon Pump to the AN816-5D fitting.
15. Locate a point on the firewall 8.5" inboard of the right side of the cowl and 5.0" up from the bottom of the cowl. Drill a #11 hole.
16. Connect the 1-3/4" duct bottom of the AirSep and secure with 1-1/2" clamp.
17. Secure the lower end of the 1-3/4" duct at the using a -30 Adel clamp and 1 ea. of #10 screw, washer and locknut.

CAUTION: Under no circumstances should the duct extend into the aircraft slip stream

18. Determine weight & balance, initiate Form 337, and update the equipment list.

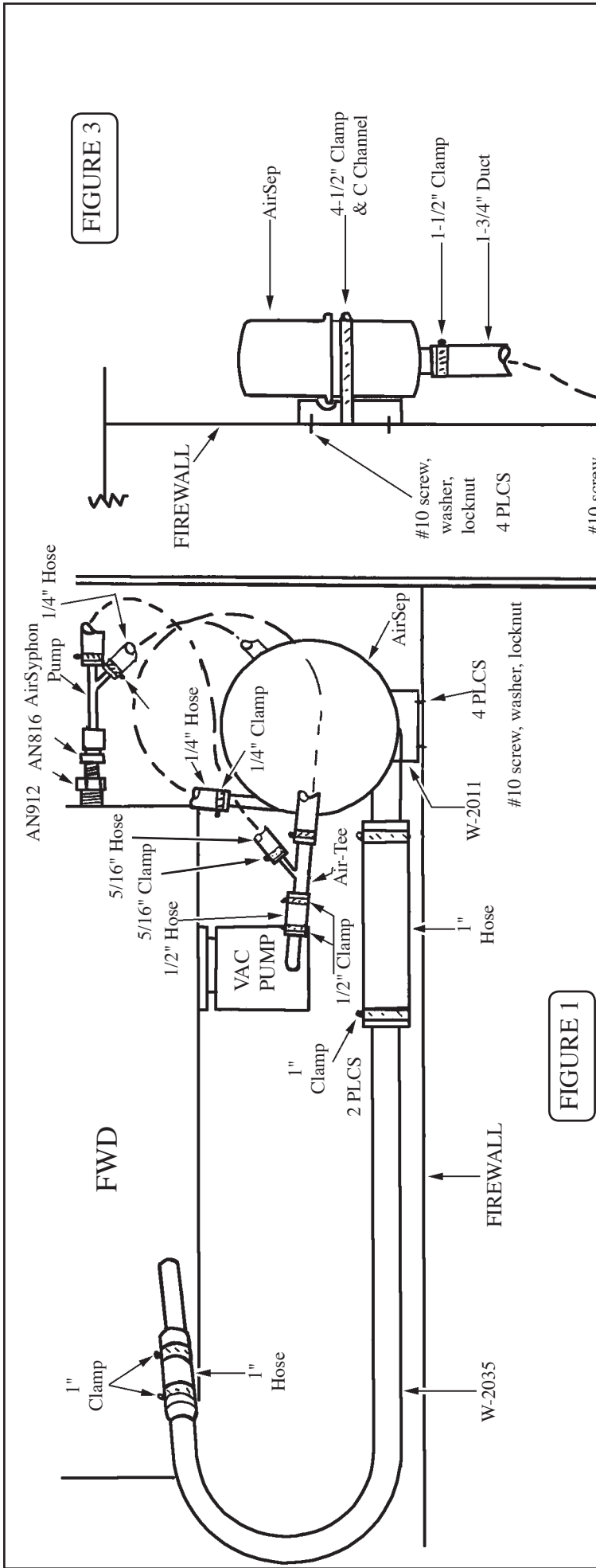


FIGURE 1

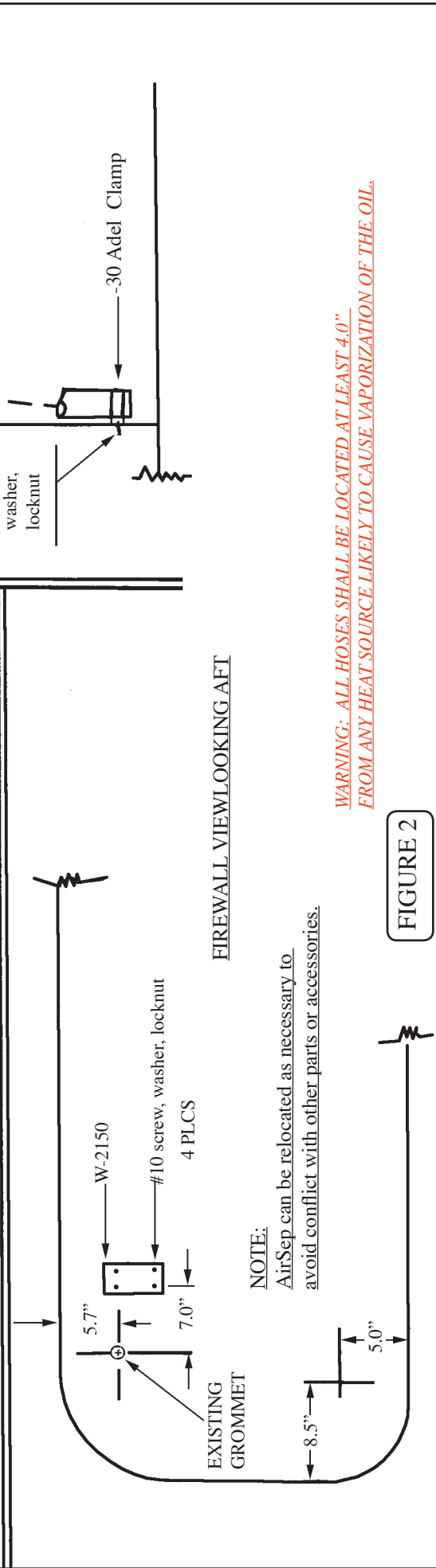
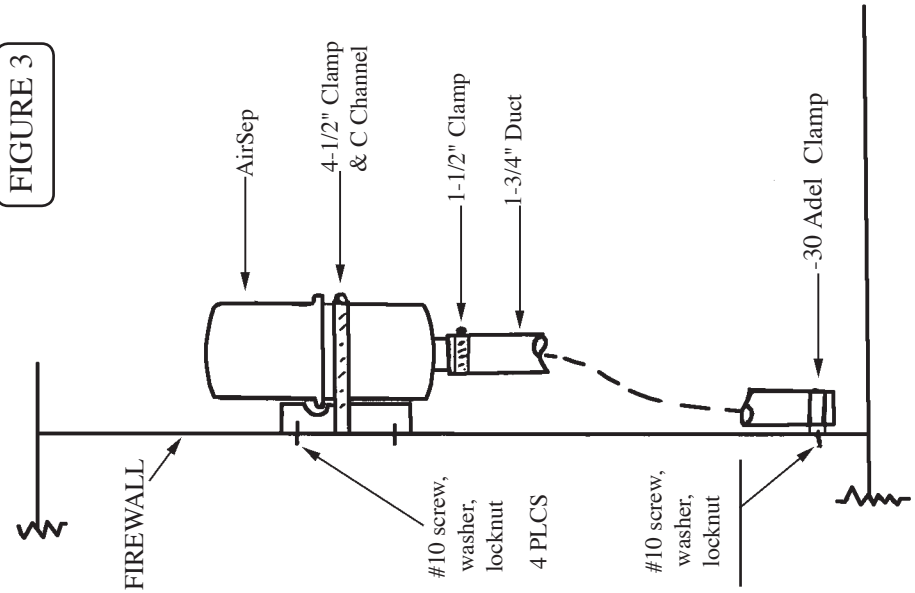


FIGURE 2

WARNING: ALL HOSES SHALL BE LOCATED AT LEAST 4.0\"/>

NOTE:
AirSep can be relocated as necessary to avoid conflict with other parts or accessories.

FIGURE 3



Applicability: Cherokee PA-28-140/150/160/180 & PA-28S-160/180
 Warrior II PA-28-151/161
 Archer II PA-28-181
 Arrow PA-28R-180, PA-28R-200, PA-28R-201, PA-28RT-201

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