

FOR REFERENCE ONLY

Applicability: PIPER
Commanche
PA-24-250, PA-24-260

Drawing: AFC-W315
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W314-A

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3001	AirSep Assy	(1)
02.	W-2031	Air Syphon Pump	(1)
03.	AN912-3D	Reducer Bushing	(1)
04.	AN816-5D	Straight Fitting, -5	(1)
05.	W-2018-1	Air-Tee	(1)
06.	W-2030	Tube	(1)
07.	W-2011	Bracket	(1)
08.	1K10-6-8	Vacuum Pump Fitting, 3/8" NPT X 1/2" Hose, Straight	(OPT)
09.	MIL6000-1/4	Hose, 1/4" ID	(19")
10.	MIL6000-5/16	Hose, 5/16" ID	(15")
11.	MIL6000-5/8	Hose, 5/8" ID	(24")
12.	MIL6000-1	Hose, 1" ID	(3")
13.	MM-4	Hose Clamp, 1/4"	(2)
14.	MM-5	Hose Clamp, 5/16"	(2)
15.	DELETED		
16.	QS100M10H	Hose Clamp, 5/8"	(2)
17.	QS100M16H	Hose Clamp, 1"	(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-832R8	Screw, #8 X 1/2" Long	(2)
22.	AN526C-832R24	Screw, #8 X 1-1/2" Long	(2)
23.	AN960-8	Flat Washer, #8	(4)
24.	MS35333-38	Lock Washer, #8	(4)
25.	NAS42DD5	Bushing	(2)
26.	A8K-75	Rivnut, #8-32 X 7/16" Long	(4)
27.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(2)
28.	CAT-7	Duct, 1-3/4" ID	(38")

FOR REFERENCE ONLY

Applicability: PIPER
Commanche
PA-24

Drawing: AFC-W315
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W314-B

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3001	AirSep Assy	(1)
02.	W-2008	Air Syphon Pump	(1)
03.	AN912-3D	Reducer Bushing	(1)
04.	MS20823-5D	Fitting, 45°	(1)
05.	W-2018-1	Air-Tee, 5/8"	(1)
06.	W-2011	Bracket	(1)
07.	1K10-6-8	Vacuum Pump Fitting, 3/8" NPT X 1/2" Hose, Straight	(OPT)
08.	MIL6000-1/4	Hose, 1/4" ID	(24")
09.	MIL6000-5/16	Hose, 5/16" ID	(24")
10.	MIL6000-5/8	Hose, 5/8" ID	(24")
11.	MIL6000-1	Hose, 1" ID	(3")
12.	MM-4	Hose Clamp, 1/4"	(2)
13.	MM-5	Hose Clamp, 5/16"	(2)
14.	QS100M10H	Hose Clamp, 5/8"	(4)
15.	QS100M16H	Hose Clamp, 1"	(2)
16.	QS100M24H	Hose Clamp, 1-1/2"	(1)
17.	QS100M72H	Hose Clamp, 4-1/2"	(1)
18.	W-2100	"C" Channel	(10")
19.	AN526C-832R8	Screw, #8 X 1/2" Long	(2)
20.	AN526C-832R24	Screw, #8 X 1-1/2" Long	(2)
21.	AN960-8	Flat Washer, #8	(4)
22.	MS35333-38	Lock Washer, #8	(4)
23.	NAS42DD5-32	Bushing	(2)
24.	A8K-75	Rivnut, #8-32 X 7/16" Long	(4)
25.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(2)
26.	CAT-7	Duct, 1-3/4" ID	(38")

FOR REFERENCE ONLY

Applicability: PIPER
Commanche
PA-24-400

Drawing: AFC-W314
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W314-C

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3001	AirSep Assy	(1)
02.	W-2031	Air Syphon Pump	(1)
03.	AN912-3D	Reducer Bushing	(1)
04.	AN816-5D	Straight Fitting, -5	(1)
05.	W-2018-1	Air-Tee, 5/8"	(1)
06.	NAS42DD5	Bushing	(2)
07.	W-2030	Tube	(1)
08.	W-2011	Bracket	(1)
09.	1K10-6-8	Vacuum Pump Fitting, 3/8" NPT X 1/2" Hose, Straight	(OPT)
10.	W-2035-1	Breather Tube	(1)
11.	MIL6000-1/4	Hose, 1/4" ID	(19")
12.	MIL6000-5/16	Hose, 5/16" ID	(15")
13.	MIL6000-1	Hose, 1" ID	(3")
14.	MIL6000-5/8	Hose, 5/8" ID	(30")
15.	MM-4	Hose Clamp, 1/4"	(2)
16.	MM-5	Hose Clamp, 3/8"	(2)
17.	DELETETD		
18.	QS100M10H	Hose Clamp, 5/8"	(4)
19.	QS100M16H	Hose Clamp, 1"	(2)
20.	QS100M24H	Hose Clamp, 1-1/2"	(3)
21.	QS100M72H	Hose Clamp, 4-1/2"	(1)
22.	W-2100	"C" Channel	(10")
23.	AN526C-832R8	Screw, #8 X 1/2" Long	(2)
24.	AN526C-832R24	Screw, #8 X 1-1/2" Long	(2)
25.	AN960-8	Flat Washer, #8	(4)
26.	MS35333-38	Lock Washer, #8	(4)
27.	A8K-75	Rivnut, #8-32 X 7/16" Long	(4)
28.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(2)
29.	CAT-7	Duct, 1-3/4" ID	(36")

Applicability: PIPER
Twin Commanche
PA-30/39

Drawing: AFC-W314
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W314-D

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
01.	W-3001	AirSep Assy	(1)
02.	W-2031	Air Syphon Pump	(1)
03.	W-2018	Air-Tee	(1)
04.	AN912-3D	Reducer Bushing	(1)
05.	AN816-5D	Straight Fitting, -5	(1)
06.	W-2030	Tube	(1)
07.	W-2011	Bracket	(1)
08.	1K10-6-8	Vacuum Pump Fitting, 3/8" NPT X 1/2" Hose, Straight	(OPT)
10.	MIL6000-1/4	Hose, 1/4" ID	(19")
11.	MIL6000-5/16	Hose, 5/16" ID	(15")
12.	MIL6000-1/2	Hose, 1/2" ID	(30")
13.	MIL6000-1	Hose, 1" ID	(3")
14.	MM-4	Hose Clamp, 1/4"	(2)
15.	MM-5	Hose Clamp, 3/8"	(2)
16.	QS100M08H	Hose Clamp, 1/2"	(4)
17.	QS100M10H	Hose Clamp, 5/8"	(2)
18.	QS100M16H	Hose Clamp, 1"	(2)
19.	QS100M24H	Hose Clamp, 1-1/2"	(3)
20.	QS100M72H	Hose Clamp, 4-1/2"	(1)
21.	W-2100	"C" Channel	(10")
22.	AN526C-832R8	Screw, #8 X 1/2" Long	(2)
23.	AN526C-832R24	Screw, #8 X 1-1/2" Long	(2)
24.	AN960-8	Flat Washer, #8	(4)
25.	MS35333-38	Lock Washer, #8	(4)
26.	NAS42DD5-32	Bushing	(2)
27.	A8K-75	Rivnut, #8-32 X 7/16" Long	(4)
28.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(2)
29.	CAT-7	Duct, 1-3/4" ID	(36")

Applicability: PIPER
Twin Commanche
PA-30 WITH RAJAY TURBO CONVERSION

Drawing: AFC-314
Revision: B
Date: 06/01/05

Airwolf Parts List No. AFC-W314-E

Index	Part Number	Description	Quantity
01.	W-3020-B	AirSep Assy, 5/8" Breather, 3/8" Drain	(1)
02.	W-2011	Bracket	(1)
03.	MIL6000-3/8	Hose, 3/8" ID	(36")
04.	MIL6000-5/8	Hose, 5/8" ID	(36")
05.	MM-5	Hose Clamp, 3/8"	(2)
06.	QS100M08H	Hose Clamp, 1/2"	(4)
07.	QS100M10H	Hose Clamp, 5/8"	(2)
08.	QS100M24H	Hose Clamp, 1-1/2"	(3)
09.	QS100M72H	Hose Clamp, 4-1/2"	(1)
10.	W-2100	"C" Channel	(10")
11.	AN526C-1032R8	Screw, #10 X 1/2" Long	(4)
12.	AN526C-1032R10	Screw, #8 X 1-1/2" Long	(1)
13.	MS20365-1032A	Locknut, #10	(5)
14.	AN960-10	Flat Washer, #10	(5)
15.	MS21919WDG-30	Adel Clamp, 1-7/8" Long	(2)
16.	CAT-7	Duct, 1-3/4" ID	(18")

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.*

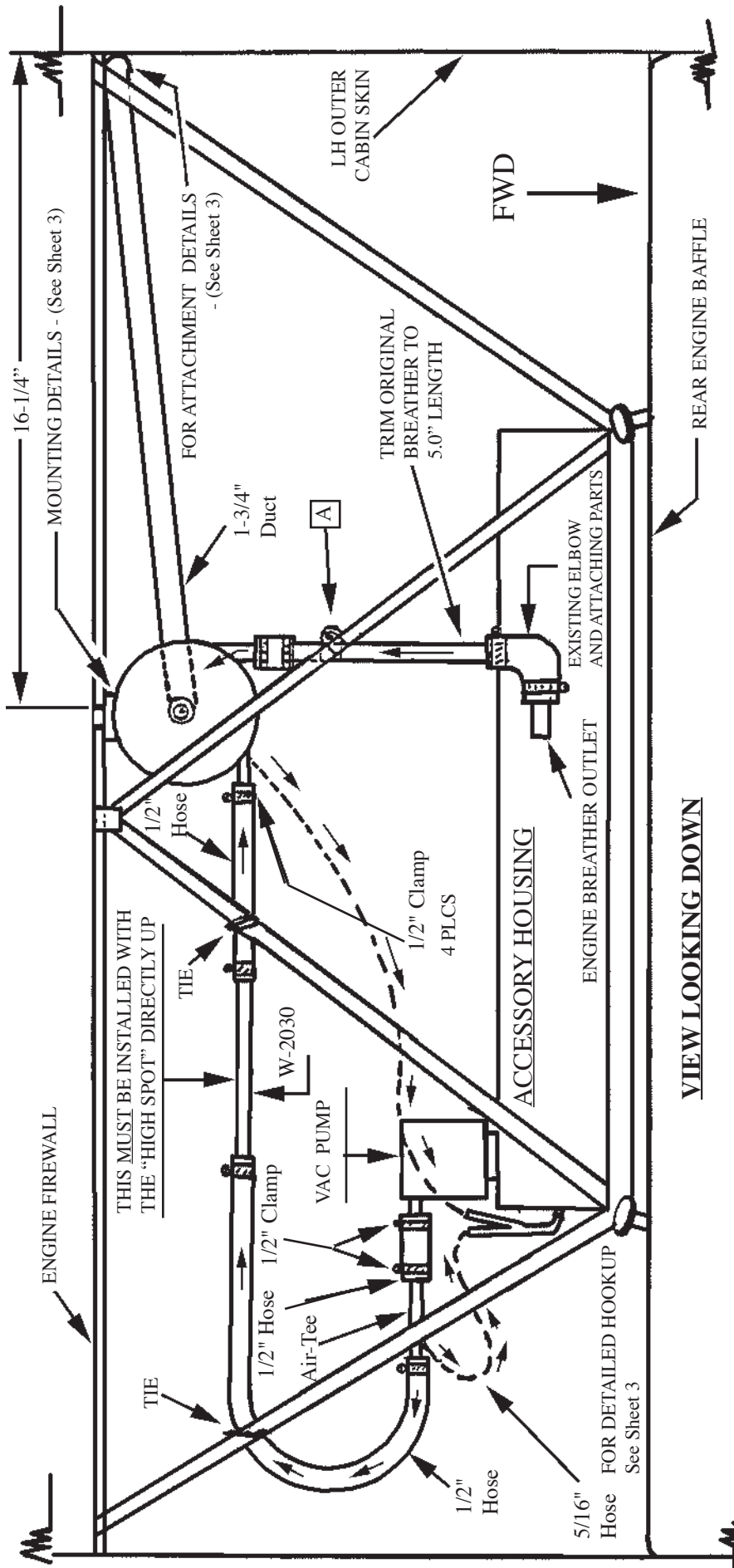
WARNING: ALL HOSES SHALL BE LOCATED AT LEAST 4.0" FROM ANY HEAT SOURCE LIKELY TO CAUSE VAPORIZATION OF THE OIL.

01. If installed, remove the existing air oil separator and attaching parts.
02. Remove the existing metal breather tube assy. from the rubber elbow on the engine breather outlet to the lower cowl area.
03. Remove the 3/8" NPT, 6PT internal hex plug from the lower right hand side of the accessory housing.
04. Install the AN912-3D reducer bushing and AN816-5D fitting in the open hole in the right side of the accessory housing.
05. Install the AirSyphon Pump onto the AN816-5D fitting facing aft.
06. Locate a position 16-1/4" in from the left side of the aircraft at the firewall on the hat section, running across the firewall.
07. Position the W-2011 bracket vertically on the firewall with the lower left hole on the 16.25" mark on the hat section.
08. Mark both lower holes on the hat section.
09. Remove the W-2011 bracket from the firewall and drill the two lower holes in the hat section using a #2 drill bit.
10. Install the A8K-75 rivnuts into the two drilled holes.
11. Install the W-2011 bracket onto the firewall using (1) each of the items #8 screw, washer, & lockwasher in both lower holes.
12. Duplicate the upper holes in the universal bracket (Item 6) through the firewall using a #2 drill.

Caution: Care should be taken so as not to drill anything aft of the firewall.

13. Remove the W-2011 bracket and install the A8K-75 rivnuts into the two upper holes in the firewall.
14. Install the W-2011 bracket onto the firewall using only the lower holes in the bracket.
15. Install the long #8 screws, washers & lock washers through the upper holes & NAS42DD5 spacers onto the rivnuts.
16. Install the AirSep on the W-2011 bracket and clamp it in place using the 4-1/2" clamp with the 1" inlet facing forward toward the breather outlet elbow installed on the engine.
17. Install the 1" short hose on the 1" inlet fitting of the AirSep.
18. Measure the distance between the installed 1" hose on the separator and the 1.0" existing elbow on the engine breather tube. Add 1.5" to the measurement and cut the old breather tube that was originally installed to that length.
19. Install the cut breather tube, one end in the 1.0" air sep hose and the other in the existing breather tube elbow on the engine. Clamp all three points on the tube and the separator using 1" clamps on each point.
20. Install the long 1/4" hose one end on the 1/4" branch of the AirSep and the other end on the 1/4" branch of the small tube of the AirSyphon Pump. Secure both ends using 1/4" clamps.
21. Install a 3" length of 1/2" hose one end over the outlet of the vacuum pump and the other end over the inlet port of the Air-Tee exactly as shown. The "V" formed by the 5/16" and the 1/2" tube must be pointed away from the vacuum pump. Clamp both ends of the hose using 1/2" clamps.
22. Install the 5/16" hose from the 5/16" branch of the Air-Tee to the 5/16" branch of the AirSyphon and secure with 5/16" clamps.
23. Install a 12" long piece of 1/2" hose and connect the remaining port of the Air-Tee to the W-2030 tube
24. Install the short 1/2" hose (Item 15) one end over the 1/2" inlet of the AirSep and the other end over the remaining end of the W-2030 tube Position the W-2030 tube so that the raised part of the tube is turned up.
25. Clamp both ends of the hoses listed in steps 24 & 25 using with 1/2" hoses.
26. Install the 1-3/4" duct onto the bottom of the AirSep secure it with a 1-1/2" clamp.
27. Route the 1-3/4" duct from the AirSep to the left side of the aircraft along the firewall, on top the muffler, under the 3/4" upper engine mount brace and then down along the left side of the firewall to the lower 3/4" mount tube.
28. Using the old clamps from the old breather tube mounting system and the -30 Adel clamp, attach the new breather duct to the upper 3/4" engine mount tube.
29. Attach the lower end of the 1-3/4" duct to the lower 3/4" engine mount tube using the procedure in step 28.
30. Using the 1" clamp and the 1/2" clamp from the old breather tube mounting system attach the 1" tube that was installed in steps 19 & 20 to the center 1/2" upper engine mount tube using the removed hardware.
31. Determine weight & balance, initiate Form 337, and update the equipment list.

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VIEW LOOKING DOWN

NOTES:

ATTACH MODIFIELD 1.0" BREATHER TUBE TO UPPER ENGINE MOUNT TUBE USING THE CLAMPS, HARDWARE, & ORIGINAL BREATHER TUBE

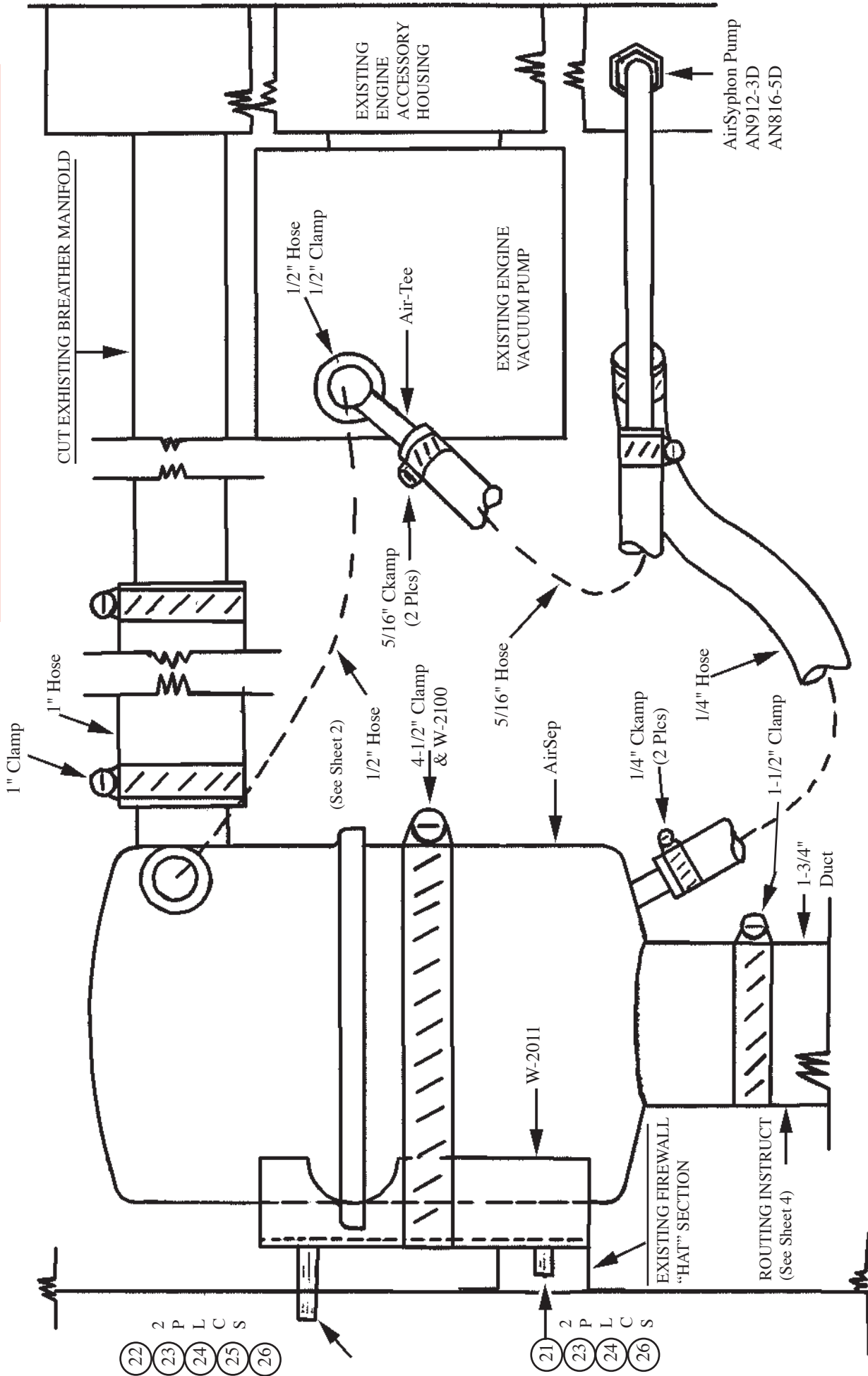
A

5/16" Hose FOR DETAILED HOOKUP See Sheet 3

Drawing: AFC-W315
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 Date: 06/01/05

Applicability: PIPER Commanche
 PA-24-250, PA-24-260

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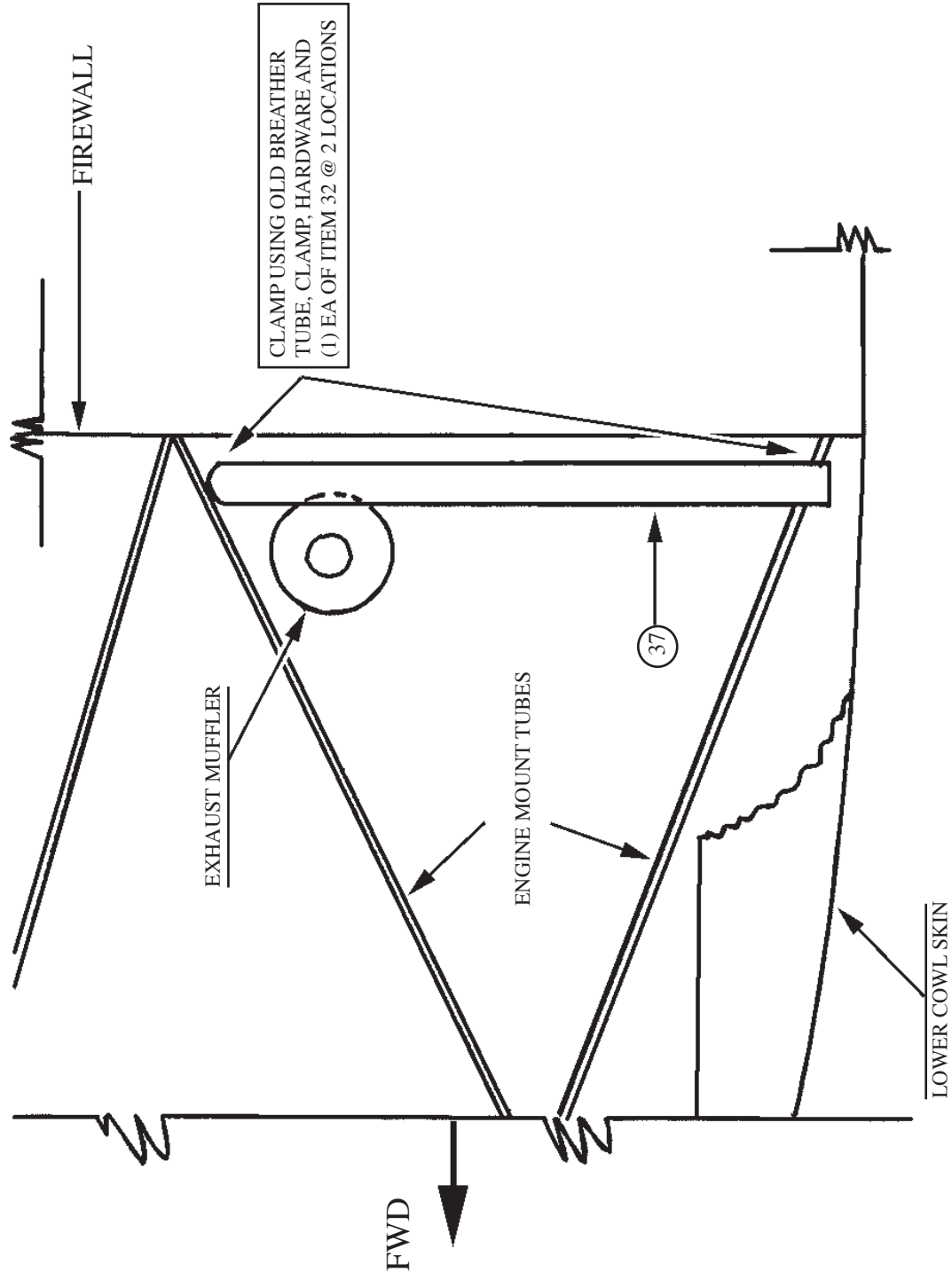
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