

Oil Filter Kit AFC-K011

Applicability: Robinson Model R-44 with Lycoming
Engines O540-F1B5

First Release 05/24/95

Ammended 01/08/2000

<u>Index</u>	<u>Part Number</u>	<u>Parts List No. AFC-K011-PL</u> <u>Description</u>	<u>Quantity</u>
01.	LYC-10	Adapter - Engine, Full Flow	(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)
08.	MS9387-08	"O" Ring, Viton	(2)
09.	AN4H-4A	Bolt, Drilled Head	(4)
10.	AN960-416	Flat Washers	(12)
11.	AN4-5A	Bolt	(4)
12.	MS20365-428A	Locknut	(4)
13.	OFM-16	Doubler Plate - R-44	(1)
14.	MS20613-3C3	Solid Rivet, Stainless	(15)
15.	OFM-11	Oil Filter Mount Plate	(1)
16.	OFB-10	Oil Filter Base	(1)
17.	MS20822-8D	Fitting, 90°	(1)
18.	MS20823-8D	Fitting, 45°	(1)
19.	OFS-10	Oil Filter Stud	(1)
20a.	AFC-500	Oil Filter, or Equivalent [Champion CH48108]	(1)
20b.	AFC-600	Oil Filter, or Equivalent [Champion CH48109]	(1)
21.	F13000008-0274	Teflon Hose w/ Firesleeving, 27-1/2" Length	(1)
22.	F13000008-0404	Teflon Hose w/ Firesleeving, 40-1/2" Length	(1)
23.	MS20365-1032A	Locknut	(2)
24.	MS21919WDG-14	Clamp, Cushion Loop Support	(4)
25.	AN3-4A	Bolt	(2)
26.	AN960-10	Flat Washer	(4)
27.	56707	Loctite® PST Teflon Thread Sealant	(1)
28.	AFC-K011-II	Installation Instructions	(1)
29.	AFC-K011-MI	Instructions for Continued Airworthiness	(1)
30.	AFC-K011-PL	Parts List	(1)

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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 LH and RH engine cowling.
02. Remove the Lycoming P/N 69510 engine oil screen housing from the accessory case.
03. Remove oil temperature sensor and thermostatic valve from existing oil screen housing.
04. Per assembly drawing AFC-D-0034, 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.
05. 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.

06. Per installation drawing AFC-D-0034 install gasket (02) on base of filter adapter (01) and install onto the engine accessory case. Torque to specifications 96 in/lbs.
07. Inside the R-44 cockpit, remove P/N C003-11 LH rear seat back assy. Using installation drawing AFC-D-0035 as a reference, locate firewall doubler to be positioned as follows. Angle of doubler plate to be positioned and butted against lower LH "J" channel. Doubler then to be positioned inboard and butted against LH side of existing doubler. Doubler is positioned correctly when butted against both "J" channel and existing firewall doubler as explained above. While maintaining position of doubler, drill attachment holes using a #40 drill bit. Drill oil filter mounting holes using a letter "F" drill bit. Remove doubler from firewall, debur all previously drilled holes, remove all drill chips from helicopter. Install doubler plate using solid stainless steel rivets (14) supplied.

NOTE: Exercise care not to contaminate aircraft electronics equipment as necessary.

08. Remove all remaining drill chips from aircraft.
09. Install oil filter mount as show in drawing AFC-D-0038.

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

10. Per installation drawing AFC-D-0038, 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 (16) and tighten. Mount to oil filter mount (15) per assembly drawing using bolts (09), washers (10), and secure with .032 MS20995-C safety wire.

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

11. Install hose assy (22) to the **"A" port** on the oil filter base (16) and tighten "B"-nut on the hose end.. Route hose towards oil filter adapter (01). forward of lower LH frame tube, underneath throttle control rod and up to the **"A" port** of the oil filter adapter (01). Assure that hose passes to the right of the manifold pressure sense line. Tighten bulkhead nut (06) at this time. Line to be adel clamped to LH frame per installation drawing AFC-D-0038, using 1ea. screw (25), locknut (23), and 2 ea. washers (26), provided.
12. Install hose assy (21) to the **"B" port** on the oil filter base (16) and tighten "B"-nut on the hose end. Route hose towards oil filter adapter (01). Hose is to pass on the aft side of the LH frame, above throttle control rod. and routed to **"B" port** of oil filter adapter (01). Assure that hose passes to the left side of manifold pressure sense line. Tighten end bulkhead nut (06) at this time. Line to be adel clamped to LH frame per assy drawing AFC-D-0038, using 1ea. screw (25), locknut (23), and 2 ea. washers (26), provided.

**** SEE WARNING (C) BELOW ****

13. Ty- rap "B" hose assy (21) to manifold pressure sense line configuring tie raps to provide a standoff to prevent chaffing.

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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.

14. Install oil filter (16), torque per instructions on oil filter and secure with .032 MS20995-C safety wire.
15. Run engine and check for leaks.
16. 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 SHROUDED.
INSTALLER IS RESPONSIBLE FOR INTER-RELATIONSHIP BETWEEN THIS AND OTHER ENGINE CHANGES
(INCLUDING ACCESSORIES).

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

NO LOAD BEARING TO BE IMPOSED ON MANIFOLD PRESSURE SENSING LINE.

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Form AFC-K011-ICA Revised 10/01/00

A/C Make : Robinson Helicopter Co. Model: R44 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
15369 Madison Rd
Middlefield, OH 44062



ITEM	CHECKLIST INFORMATION
1.	<p>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, referenced publications, and distribution of the ICA as applicable.</p> <p>Comment: <u>Robinson R44 Series Helicopter</u> with <u>Lycoming O540 engine</u>. <div style="display: flex; justify-content: space-around; width: 100%;"> Aircraft Model Engine Model </div> </p>
2.	<p>Description: Of the major alteration, it's function including an explanation of it's interface with other systems, if any.</p> <p>Comment: <u>Installation of Airwolf Remote Mounted Oil Filter Kit P/N AFC-K011</u></p>
3.	<p>Control: Operation information: Or special procedures if any.</p> <p>Comment: <u>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.</u></p>
4.	<p>Servicing information: Such as types of fluids used, servicing points, and location of access panels, as appropriate.</p> <p>Comment: <u>Oil System to be serviced in accordance with Lycoming Service Bulletin 480C or higher. 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 metal contamination or any evidence that may indicate impending engine problems.</u></p>
5.	<p>Maintenance Instructions: Such as recommended inspection/maintenance periods in which each of the major alteration components are inspected, cleaned, lubricated, adjusted, tested, including applicable wear tolerances and work recommended at each scheduled maintenance period. This section can refer to the manufactures instructions for the equipment installed where appropriate e.g. functional checks, repairs, inspections.) It should also include any special notes, cautions, or warnings as applicable.</p> <p>Comment: <u>Inspect for security at each annual or 100 hr . inspection. After any oil change, always ground run the engine and check for leaks before flight.</u></p>
6.	<p>Trouble shooting information: Information describing probably malfunctions, how to recognize those malfunctions, and the remedial actions to be taken.</p> <p>Comment: <u>N/A</u></p>
7.	<p>Removal and replacement information: This section describes the order and method of removing and replacing products, parts, and any necessary precautions. This section should also describe or refer to the manufacture's instructions to make required tests trim checks, alignment, calibrations, center of gravity changes, lifting or shoring, etc., if any.</p> <p>Comments: <u>N/A</u></p>
8.	<p>Diagrams: Of access plates and information, if needed, to gain access for inspection.</p> <p>Comment: <u>N/A</u></p>
9.	<p>Special inspection requirements: Such as X-ray, ultrasonic testing, or magnetic particle inspection, if required.</p> <p>Comment: <u>N/A</u></p>
10.	<p>Application of protective treatments: To the affected area after inspection and/or maintenance, if any.</p> <p>Comment: <u>N/A</u></p>

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Form AFC-K011-ICA Revised 10/01/00

11.	Data: Relative to structural fasteners such as type, torque, and installation requirements if any. Comment: <u> N/A </u>
12.	List of special tools: Special tools that are required, if any. Comment: <u> N/A </u>
13.	For commuter category aircraft: The following additional information must be furnished, as applicable: <ul style="list-style-type: none"> 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: <u> N/A </u>
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: <u> N/A </u>
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: <u> N/A </u>
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: <u> 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. </u>

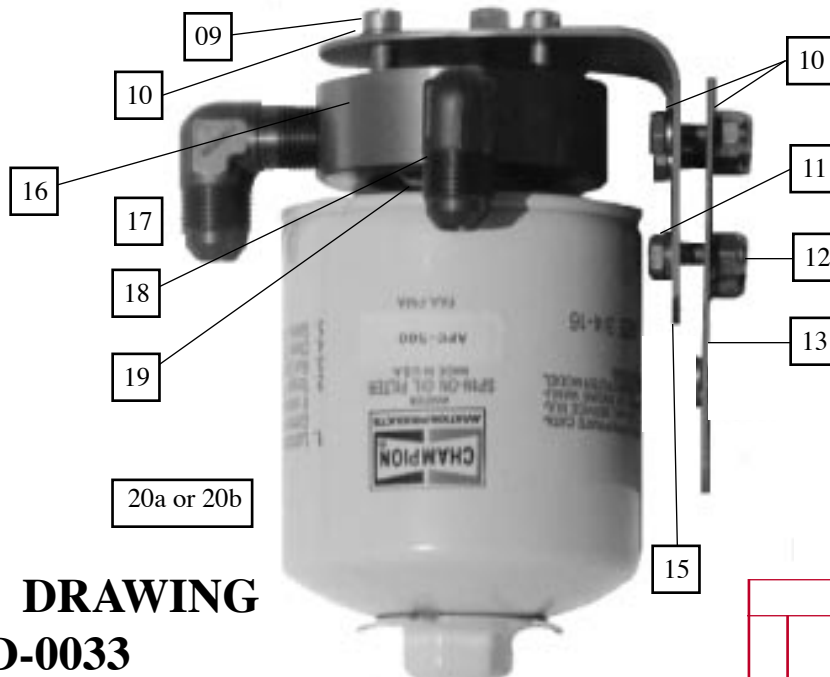
NOTE:

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 CIA 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-0033

Revisions

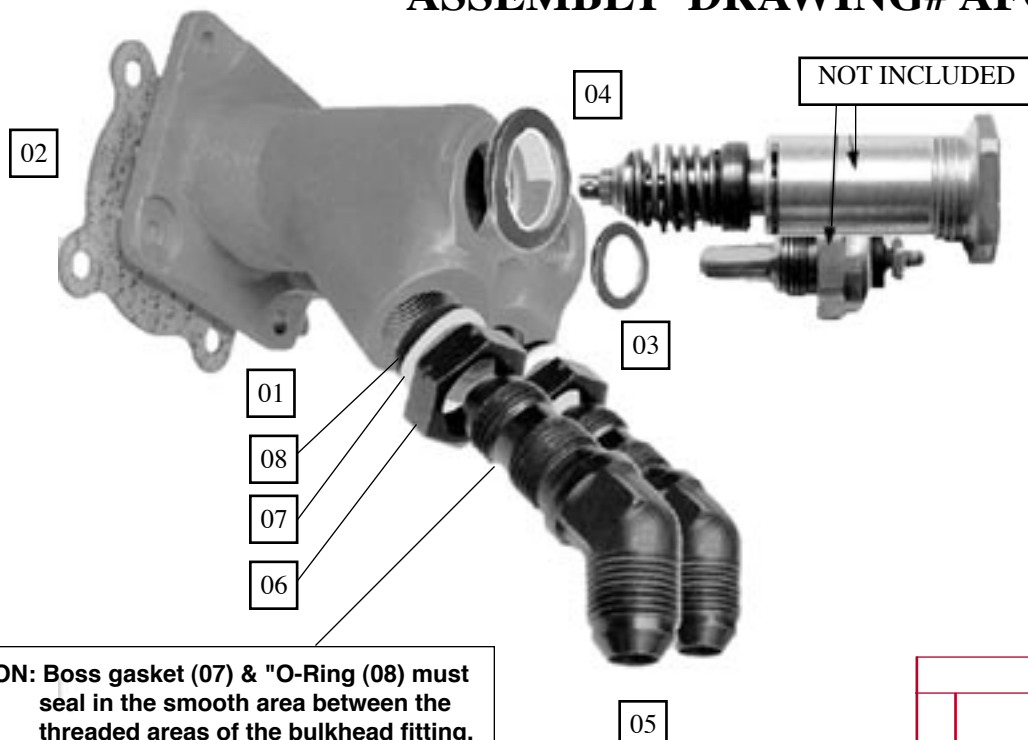
MATERIAL LIST

Index	Part Number	Description	Qty
09.	AN4H-4A	Bolt, Drilled Head	(4)
10.	AN960-416	Flat Washers	(12)
11.	AN4-5A	Bolts	(4)
12.	MS20365-428A	Locknut	(4)
13.	OFM-16	Doubler Plate, R-44	(1)
15.	OFM-11	Oil Filter Mount, Vertical	(1)

MATERIAL LIST

Index	Part Number	Description	Qty
16.	OFB-10	Oil Filter Base	(1)
17.	MS20822-8D	Fitting, 90°	(1)
18.	MS20823-8D	Fitting, 45°	(1)
19.	OFS-10	Oil Filter Stud	(1)
20.a	AFC-500	Oil Filter, Std.	(1)
20.b	AFC-600	Oil Filter, Long	(1)

ASSEMBLY DRAWING# AFC-D-0034



CAUTION: Boss gasket (07) & "O-Ring (08) must seal in the smooth area between the threaded areas of the bulkhead fitting.

Revisions

MATERIAL LIST

Index	Part Number	Description	Qty
01.	LYC-10	Adapter-Engine, Full Flow	(1)
02.	61173	Oil Filter Gasket	(1)
03.	MS35769-11	Gasket, Oil Temperature Sensor	(1)
04.	MS35769-21	Gasket, Thermostatic Valve	(1)

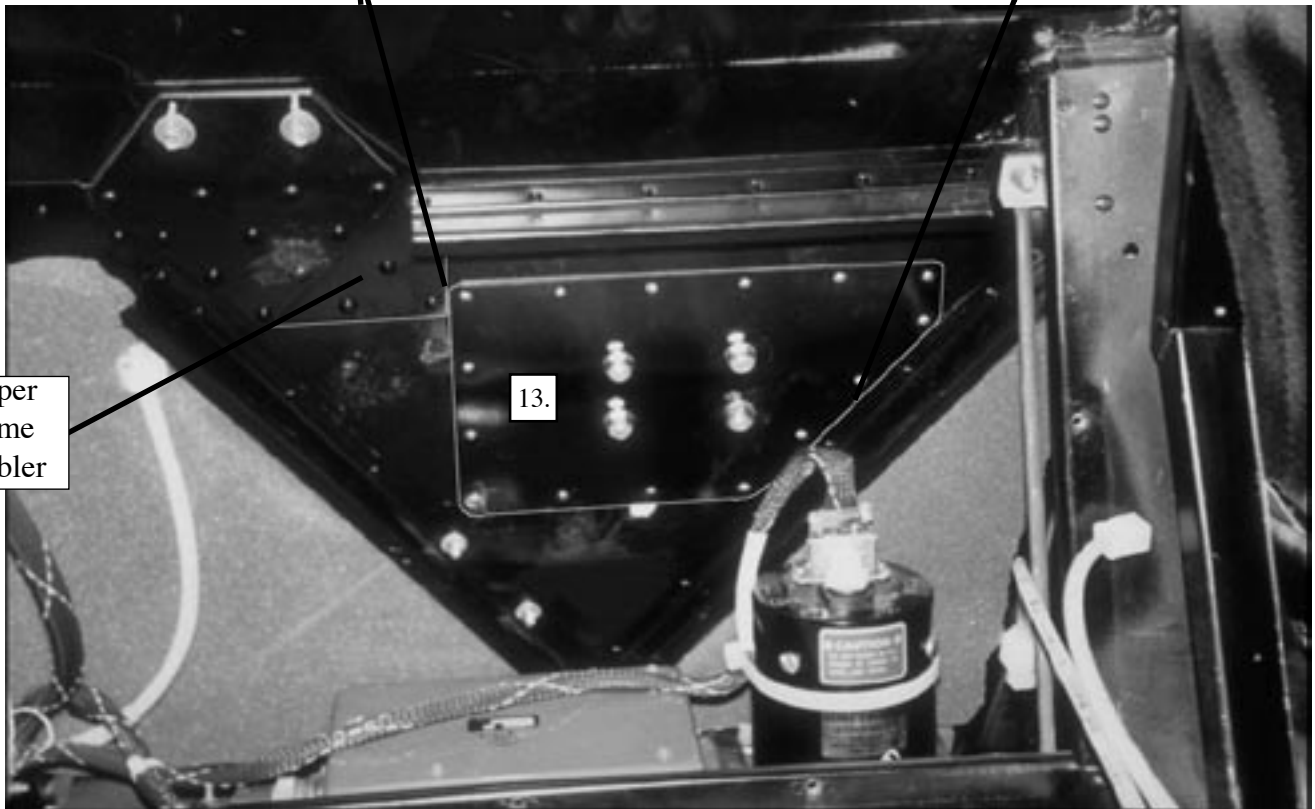
MATERIAL LIST

Index	Part Number	Description	Qty
05.	AN837-8D	Bulkhead Fitting, 45°	(2)
06.	AN6289-8D	Bulkhead Nut	(2)
07.	MS28773-08	Boss Gasket	(2)
08.	MS9387-08	"O" Ring	(2)

INSTALLATION DRAWING# AFC-D-0035

STEP 2. Continue to slide doubler plate (13) down until it makes contact with LH side of existing upper frame doubler.

STEP 1. Slide doubler plate (13) down until it makes contact with the lower LH "J" channel.



INSTALLATION DRAWING# AFC-D-0036



Revisions

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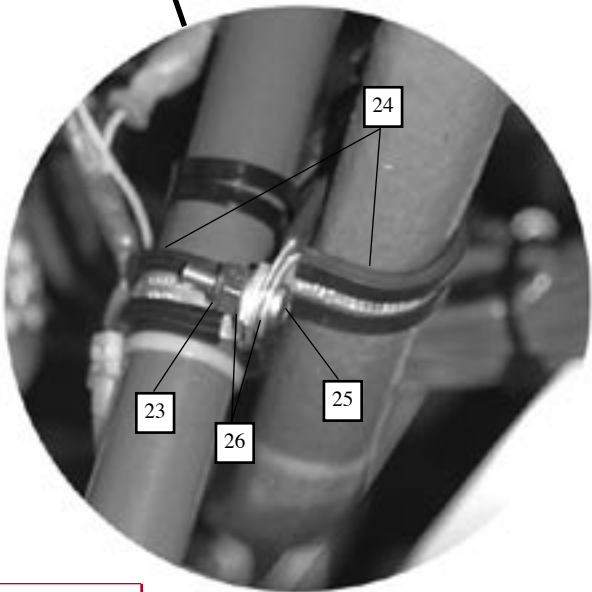
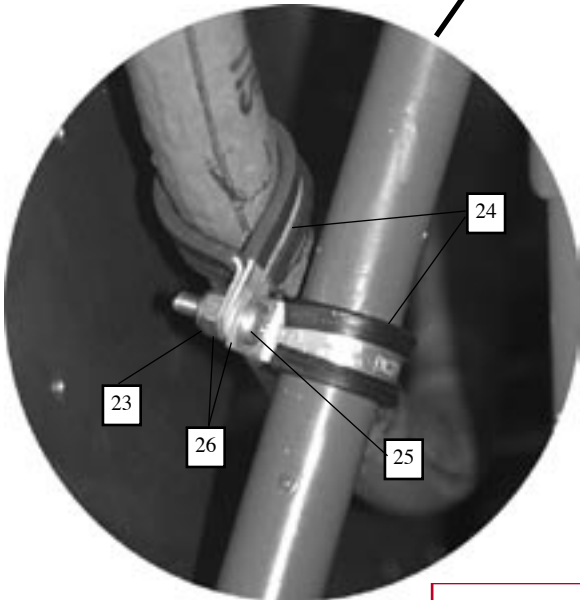
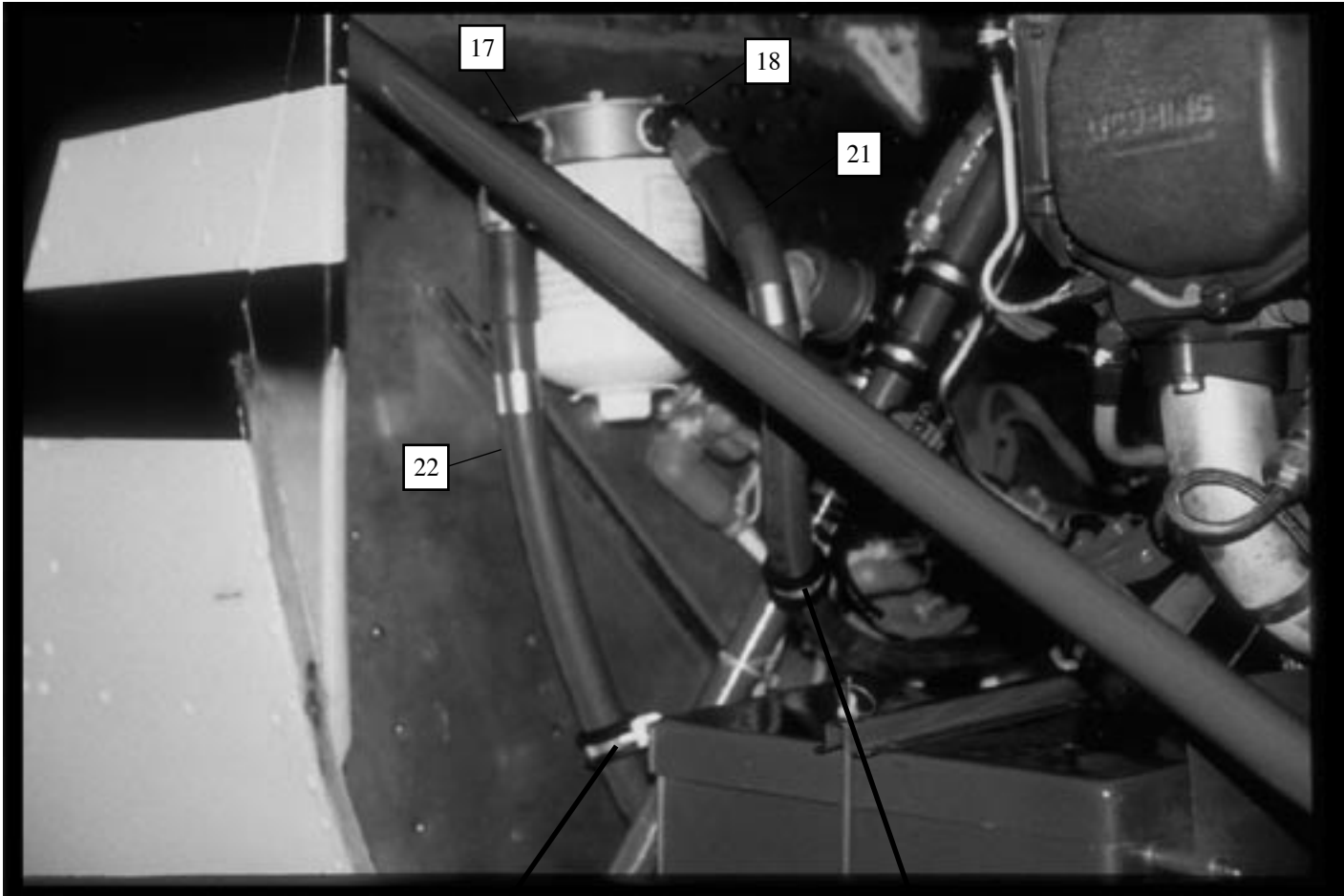
INSTALLATION DRAWING# AFC-D-0037



Revisions

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INSTALLATION DRAWING# AFC-D-0038



Revisions

Revisions			

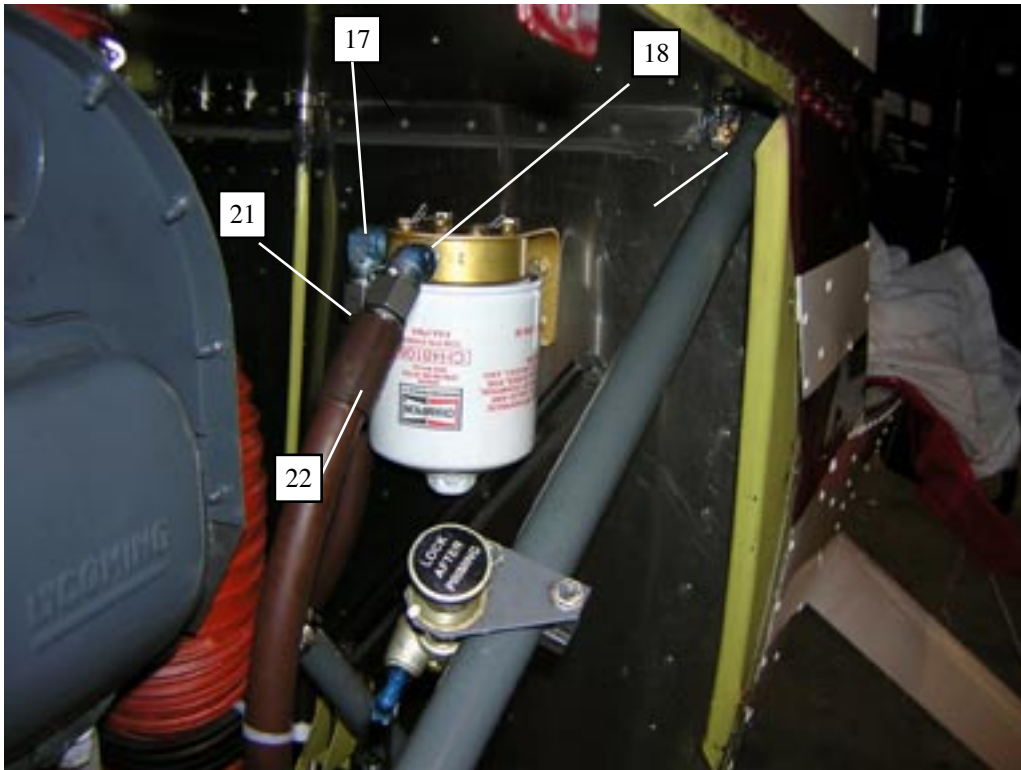
MATERIAL LIST

Index	Part Number	Description	Qty
17.	MS20822-8D	Fitting, 90°	(1)
18.	MS20823-8D	Fitting, 45°	(1)
21.	F13000008-0274	Teflon Hose w/ Firesleeving	(1)
22.	F13000008-0404	Teflon Hose w/ Firesleeving	(1)

MATERIAL LIST

Index	Part Number	Description	Qty
23.	MS20365-1032A	Locknut	(2)
24.	MS21919DG-14	Clamp, Cushion Loop Support	(4)
25.	MS27039-1-10	Screw	(2)
26.	AN960-10	Washer	(4)

INSTALLATION DRAWING# AFC-D-0038-A



Optional RH Location



MATERIAL LIST

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty</u>
17.	MS20822-8D	Fitting, 90°	(1)
18.	MS20823-8D	Fitting, 45°	(1)
21.	F13000008-0274	Teflon Hose w/ Firesleeving	(1)
22.	F13000008-0404	Teflon Hose w/ Firesleeving	(1)

MATERIAL LIST

<u>Index</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty</u>
23.	MS20365-1032A	Locknut	(2)
24.	MS21919DG-14	Clamp, Cushion Loop Support	(4)
25.	MS27039-1-10	Screw	(2)
26.	AN960-10	Washer	(4)

WEIGHT AND BALANCE REPORT

ROBINSON R-44 ALL MODELS

[illegible]