SUBJECT:

Required maintenance for the Airframe Mounted Fuel Filter (P/N 350-600024).

APPLICABILITY :

Aircraft with the subject modification embodied in accordance with TCCA STC No. SH02-42 or any relevant foreign approvals.

The information and data contained in this document supersede or supplement that contained in the basic AS 350 Maintenance documentation in those areas listed herein. For procedures not contained in this document refer to the Approved Maintenance Manual or any other accepted supplemental Maintenance Manual Supplemental.

This ICA is to be used in conjunction with the Approved AS 350 Maintenance Manual for the aircraft with the subject design change incorporated.

The information and data contained in this document supersede or supplement that contained in the basic AS 350 Maintenance documentation in those areas listed herein. For procedures not contained in this document refer to the Approved Maintenance Manual or any other Supplemental Instructions for Continued Airworthiness.

The Supplemental ICA is to be used in conjunction with the Approved AS 350 Maintenance Manual for the aircraft with the subject design change incorporated.

The Airworthiness Limitations section is FAA approved and specifies maintenance required under 14 CFR Secs. 43.16 and 91.403 unless an alternative program has been FAA approved.

	NAME AND SIGNATURE	DATE	COMPANY DEPARTMENT
PREPARED BY:	D. Kerr Digitally signed by D. Kerr Date: 2022.05.03 08:46:05 -04'00'		AHCA ENGINEERING
PREPARED BY:			
CHECKED BY:	J. Winfield Digitally signed by J. Winfield Date: 2022.05.03 11:04:42 -04'00'		AHCA ENGINEERING
CHECKED BY:	Dan Kapuscinsky Digitally signed by Dan Kapuscinsky Date: 2022.05.03 11:23:46 -04'00'		AHCA QUALITY ASSURANCE
REV. 8 ACCEPTED (Civil A/W Authority)	(As per ICA Compliance Check Sheet)		TCCA
REV. 8 RELEASED BY:	Loic Meuret Digitally signed by Loic Meuret Date: 2022.06.07 16:48:03 -04'00'		AHCA ENGINEERING

RECORD OF REVISIONS

Rev.	Pages at this Revision	Description, Reason Changed Pages	Prepared (name and date)	Checked (name and date)	App'd/Acc'd (Civil A/W Authority) (name and date)	Released (name and date)
0	1 through 12	Original Issue (Replaces MMS)	D. Kerr 29 July, 2004	C. Timmins 30 July, 2004	N/A	R. Manson 4 Aug., 2004
1	1 through 13	Changes to pages 1 to 13. General, and Troubleshooting revised as per TCCA request.	D. Kerr 8 September, 2004	C. Timmins 8 September, 2004	TCCA E. Cheung 8 September, 2004	R. Manson 8 September, 2004
2	1 through 21 A1 - A4	Format revised, Section 4 and 8 and Weight and Balance chart expanded. (Pages 3 to 6, 8 to 10, 12 to 21)	D. Kerr 21 July, 2006	C. Timmins 4 August, 2006	TCCA Floyd Eaves 9 August, 2006	R. Manson 9 August, 2006
3	1 through 24 A1 - A4	Replaced "boost" pump reference with "fuel" pump in Sec. 4. Added placard to outboard side of Fuel Filter. Wiring diagrams updated for latest basic a/c configuration. (Pages 3 to 5, 8, 9, 11 to 18, 20 to 24)	D. Kerr 28 March, 2008	C. Timmins 28 March, 2008	TCCA Floyd Eaves 7 April, 2008	R. Manson 10 April, 2008
4	1 through 29 A1 - A4	Revised format. Addition of 150 hr Press to Test. 100 flight hour increased to 150, 500 flight hours increased to 600 and 1000 flight hours increased to 1200 flight hours. Additional information added to Section 8. Weight and Balance Chart revised. (Pages 3 to 9, 11 to 23, 27)	D. Kerr 17 September 2012	C. Timmins 17 September 2012	TCCA G. David 19 December 2012	R. Manson 21 December 2012
5	1 through 29 A1 - A4	Revised the Airworthiness Limitations statement in Section 2. (Page 10)	D. Kerr 1 February 2013	C. Timmins 1 February 2013	TCCA G. David 4 February 2013	P. Sharpe 12 February 2013
6	1 through 30 A1 - A4	Revised to correct Operational Test in Section 4. Correction to Figure reference in Section 6. (Page 4, 5, 15 & 16)	D. Kerr 1 April 2013	C. Timmins 1 April 2013	TCCA G. David 3 April 2013	P. Sharpe 8 April 2013
7	1 through 30 A1 - A4	Addition of new company logo. Template changes to pages 1, 2, 3 & 16. Revised the Airworthiness Limitations statement in Section 2. All references to ECL changed to AHCA. (Pages 1, 2, 10 to 13, 16 & 17)	D. Kerr 17 July 2015	C. Timmins 17 July 2015	TCCA G. David 21 July 2015	P. Sharpe 21 July 2015

NOTE: Revisions to this document will be distributed to operators of this equipment by the STC holder.

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

NOTE: Minor changes are released in accordance with TCCA - ACCEPTED CAR 521 - 154 procedures (ref. DAPM- E- 0001).

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RECORD OF REVISIONS

Rev.	Pages at this Revision	Description, Reason Changed Pages	Prepared (name and date)	Checked (name and date)	App'd/Acc'd (Civil A/W Authority) (name and date)	Released (name and date)
8	1 through 38 A1 - A4	General description revised. Hardware part numbers added to Figures. 1200 FH inspection removed from Section 4. Wiring diagrams for PRE and POST MOD's added to Section 6. Section 8 revised. (Pages 6 to 38)	See page 1.	See page 1.	See page 1.	See page 1.

NOTE: Revisions to this document will be distributed to operators of this equipment by the STC holder.

NOTE: Revised portions of affected pages are identified by a vertical black line in the margin adjacent to the change.

NOTE: Minor changes are released in accordance with TCCA - ACCEPTED CAR 521 - 154 procedures (ref. DAPM- E- 0001).

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CONTENTS

FIGURES

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TABLES

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1. GENERAL

A. The installation of the Airframe Fuel Filter enables operation of the helicopter at low temperatures without the use of anti- ice additives in the fuel. The filter is designed to collect ice particles. The filter contains a bypass valve and a bypass delta pressure switch.

An"A/F FUEL FILT" annunciator warning light located on the Instrument Panel will illuminate during flight indicating an impeding bypass of the fuel filter. Refer to Figure 1.

The Airframe Fuel Filter consists of the following main components:

Fixed Provisions

- Fuel Filter Support Assembly
- Base
- Drain Pan Assembly
- Deck Doubler

Detachable Provisions

- Fuel Filter
- Hoses

The Airframe Fuel Filter is installed in accordance with Installation Procedure IP- ECL- 111.

B. These Instructions for Continued Airworthiness are applicable to aircraft with the subject modification embodied.

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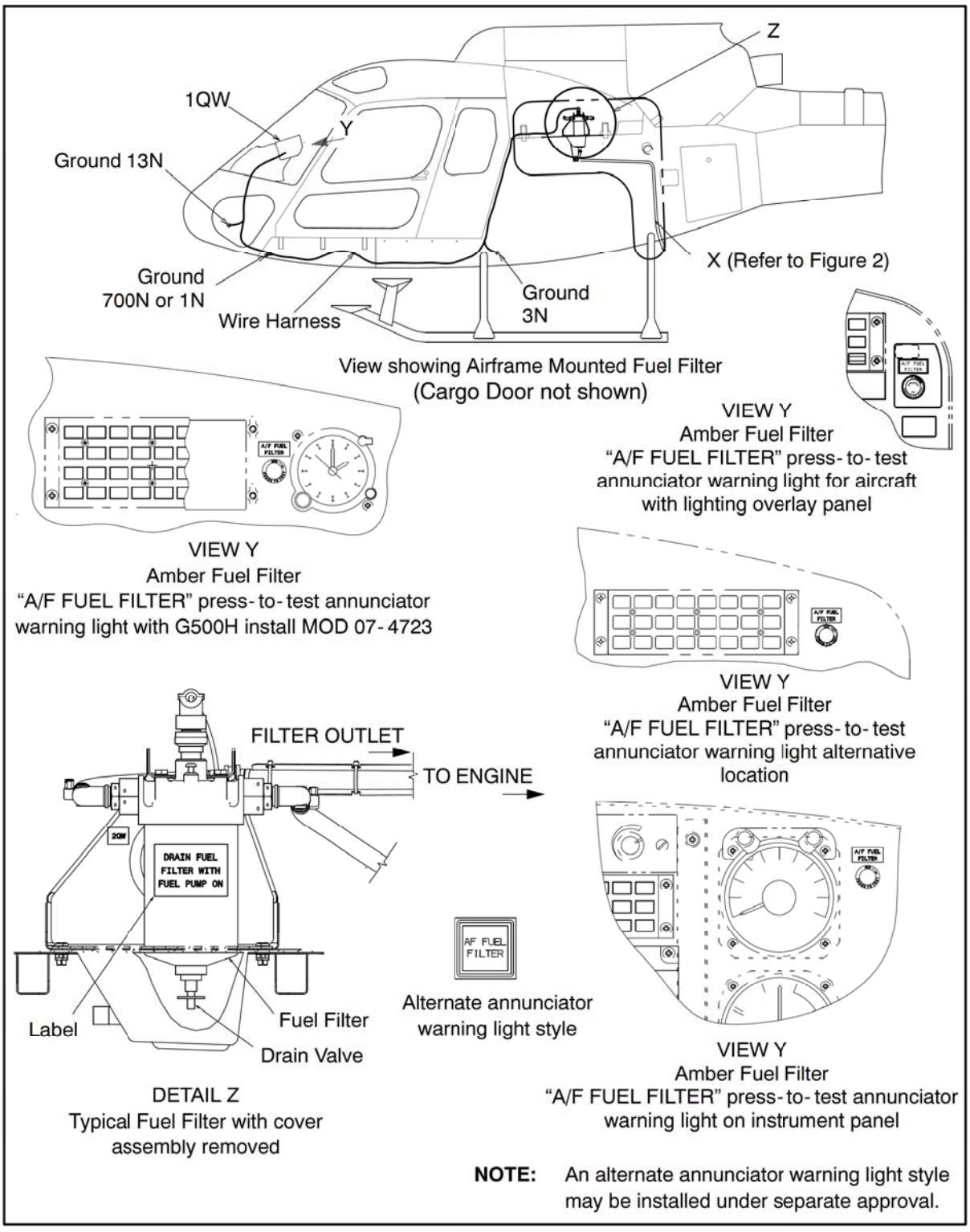

Figure 1 General Layout

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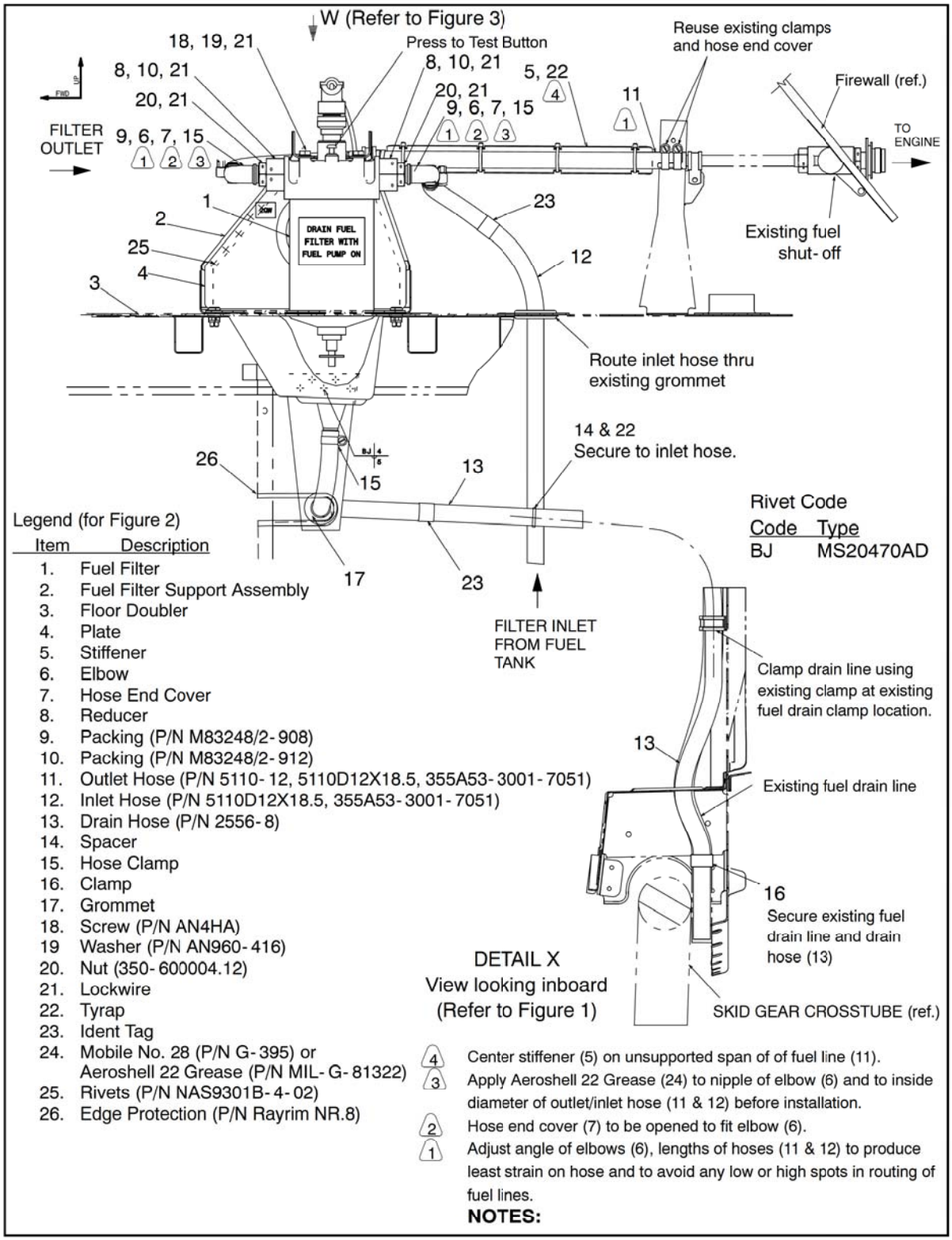

Legend (for Figure 2)

Item	Description
1.	Fuel Filter
2.	Fuel Filter Support Assembly
3.	Floor Doubler
4.	Plate
5.	Stiffener
6.	Elbow
7.	Hose End Cover
8.	Reducer
9.	Packing (P/N M83248/2- 908)
10.	Packing (P/N M83248/2- 912)
11.	Outlet Hose (P/N 5110- 12, 5110D12X18.5, 355A53- 3001- 7051)
12.	Inlet Hose (P/N 5110D12X18.5, 355A53- 3001- 7051)
13.	Drain Hose (P/N 2556- 8)
14.	Spacer
15.	Hose Clamp
16.	Clamp
17.	Grommet
18.	Screw (P/N AN4HA)
19	Washer (P/N AN960- 416)
20.	Nut (350- 600004.12)
21.	Lockwire
22.	Tyrap
23.	Ident Tag
24.	Mobile No. 28 (P/N G- 395) or Aeroshell 22 Grease (P/N MIL- G- 81322)
25.	Rivets (P/N NAS9301B- 4- 02)
26.	Edge Protection (P/N Rayrim NR.8)

4 Center stiffener (5) on unsupported span of of fuel line (11).

3 Apply Aeroshell 22 Grease (24) to nipple of elbow (6) and to inside diameter of outlet/inlet hose (11 & 12) before installation.

2 Hose end cover (7) to be opened to fit elbow (6).

1 Adjust angle of elbows (6), lengths of hoses (11 & 12) to produce least strain on hose and to avoid any low or high spots in routing of fuel lines.

NOTES:

Figure 2 Airframe Fuel Filter Installation

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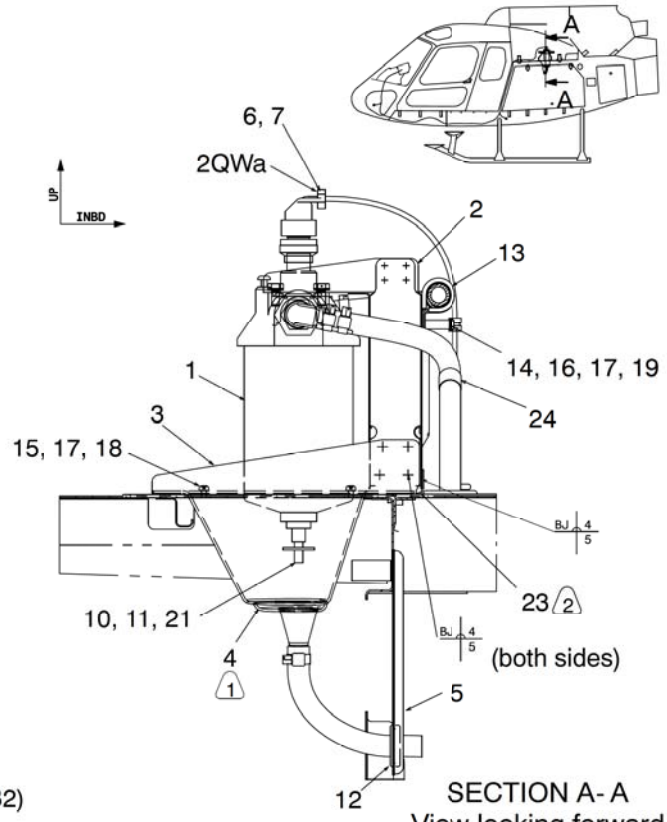
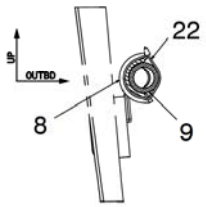
Legend (for Figure 3)

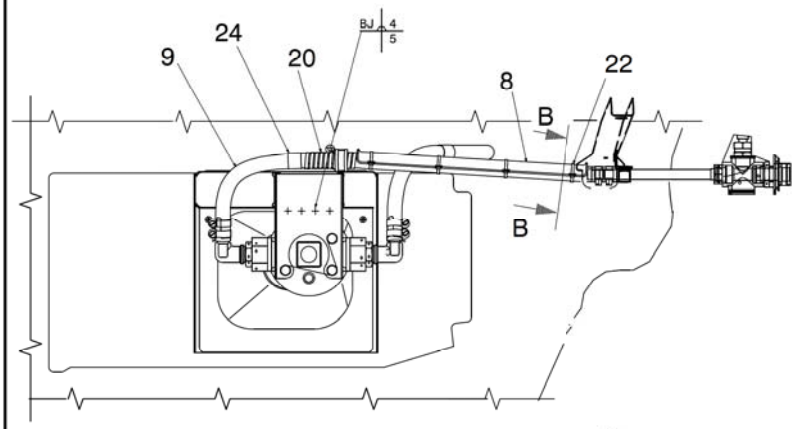
Item	Description
1.	Fuel Filter
2.	Fuel Filter Support Assembly
3	Base
4.	Drain Sump Assembly
5.	Drain Bracket
6.	Strip n stick
7.	Wiring (P/N WD 350-600024)
8.	Hose Stiffener
9.	Outlet Hose
10.	Drain Valve
11.	Packing (P/N MS29513-012)
12.	Grommet
13.	Clamp (P/N MS21919WDG13)
14.	Clamp (P/N MS21919WDG3)
15.	Screw (P/N LN9139M4X18)
16.	Screw (P/N LN9037-04036)
17.	Washer (P/N LN9016-04K)
18.	Nut (P/N LN9348-04)
19.	Spacer
20.	Spiral Wrap
21.	Lockwire
22.	Tyrap
23.	Sealing Compound (P/N PR 1422 B2)
24.	Ident tag



SECTION A-A
View looking forward



SECTION B-B



DETAIL W
Looking down on Fuel Filter
(Refer to Figure 2)

Rivet Code

Code	Type
BJ	MS20470AD

2 Seal faying surface of drain sump assembly (4) with sealing compound (23).

1 Fillet seal all around drain sump assembly (4) with sealing compound (23).

NOTES:

Figure 3 Airframe Fuel Filter Installation - views

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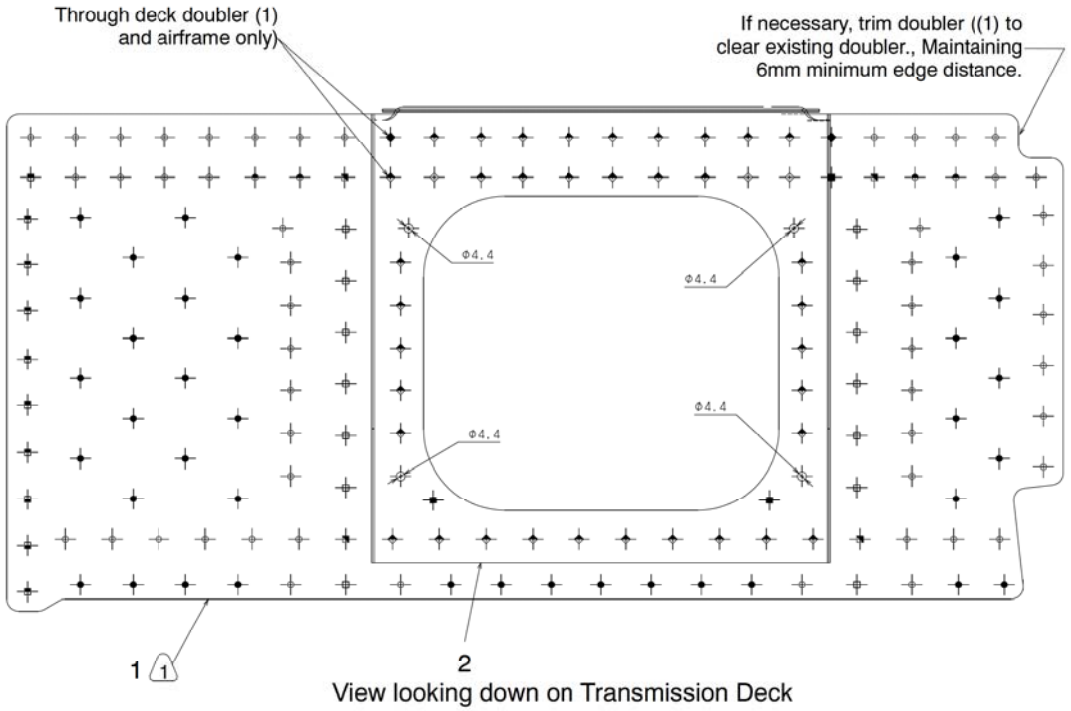
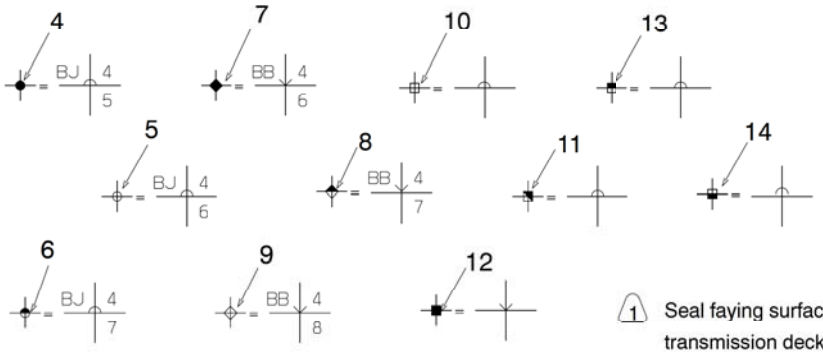
Legend (for Figure 4)

Item	Description
1.	Deck Doubler
2.	Base
3.	Sealing Compound (PR 1422 B2)
4.	Rivets (P/N MS20470AD 4-5)
5.	Rivets (P/N MS20470AD 4-6)
6.	Rivets (P/N MS20470AD 4-7)
7.	Rivets (P/N MS20426AD 4-6)
8.	Rivets (P/N MS20426AD 4-7)
9.	Rivets (P/N MS20426AD 4-8)
10.	Rivets (P/N NAS9301B-4-02 or CR3213-4-02)
11.	Rivets (P/N NAS9301B-4-03 or CR3213-4-03)
12.	Rivets (P/N NAS9302B-4-02 or CR3212-4-02)
13.	Rivets (P/N NAS9307M-4-03 or CR3523-4-03)
14.	Rivets (P/N NAS9307M-4-05 or CR3523-4-05)



View looking down on Transmission Deck
Drain Sump Assembly and Fuel Filter not shown



Rivets for this view shown above

1 Seal faying surface and fillet seal edge of doubler (1) to transmission deck using sealant (3).

NOTES:

Figure 4 Deck Doubler and Base Installation Details

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C. **REFERENCES**

DOCUMENT	DOCUMENT TITLE
AC- 43.13 - 1B	Advisory Circular, Acceptable Methods, Techniques and Practices - Aircraft Inspection and Repair
AMM	Aircraft Maintenance Manual
IP- ECL- 111	Installation Procedure
Manual Number 1743640- 01	"Operating and Design Specifications", Fuel Filter Assembly, Purolator Products Company
MTC	Standard Practices Manual

D. **ABBREVIATIONS AND DEFINITIONS**

ABBREVIATION	DEFINITION
Acc'd	Accepted
A/F	Airframe
AHCA	Airbus Helicopters Canada Limited
App'd	Approved
A/W	Airworthiness
CAR	Canadian Aviation Regulations
DAPM	Design Approval Procedure Manual
EASA	European Union Aviation Safety Agency
ECL	Eurocopter Canada Limited
FAA	Federal Aviation Administration
FWD	Forward
ICA	Instructions for Continued Airworthiness
LH	Left- Hand
Max.	Maximum
MGB	Main Rotor Gear Box
No.	Number
P/N	Part Number
Qty.	Quantity
Rev.	Revision
STC	Supplemental Type Certificate
TCCA	Transport Canada Civil Aviation

E. **UNITS OF MEASUREMENT**

ABBREVIATION / SYMBOL	UNIT OF MEASUREMENT
D	Days
FH	Flight Hours
hrs	hours
in	inch
kg	kilogram
lb	pound
m	meter
M	Months

2. AIRWORTHINESS LIMITATIONS

Canadian Approval
The Airworthiness Limitations section is approved by the Minister of Transport and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

FAA Approval
The Airworthiness Limitations section is FAA approved per Article II of the Bilateral Aviation Safety Agreement (BASA 2000) and Section III, Para. 3.2.2 of the implementation procedures, 2008 and specifies inspections and other maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

EASA Approval
The Airworthiness Limitations section is approved and variations must also be approved.

No airworthiness limitations associated with this installation.

3. CONTROL AND OPERATION

Control and operation of the aircraft remains unchanged.

The Airframe Fuel Filter is an additional filter forward of the existing engine mounted fuel filter. The "A/F FUEL FILTER" annunciator warning light on the Instrument panel will illuminate signaling an impending by-pass. Refer to Figure 1. A partially blocked filter element will cause the differential pressure switch in the head assembly to close and the "A/F Fuel Filter" annunciator to illuminate. If the filter becomes fully blocked, a differential pressure activated valve will permit fuel to by-pass the filter.

For information on operating the "Purolator/Parker"Fuel Filter, refer to the "Purolator/Parker" Operating and Design Specifications Fuel Filter Assembly Manual, Part Number 1743640-01 (Appendix A).

4. INSPECTION SCHEDULE AND MAINTENANCE ACTION

NOTE: Filter Element can be replaced more frequently if operational requirements dictate.

NOTE: Should the A/F FUEL FILTER annunciator light illuminate, the fuel filter element must be replaced.

Refer to Section 8 if removing or replacing any parts.

Refer to the "Purolator/Parker" Operating and Design Specifications, Fuel Filter Assembly Manual, Part Number 1743640-01, dated December 29, 2020 (or latest version). Refer to Appendix A of this document.

NOTE: Use torque per MTC, Chapter 20.02.05.404, unless otherwise specified

4.1. INSPECTION SCHEDULE

4.1.1. Before the first flight of each day:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Ensure fuel pump is off and check Fuel Filter (1) and lines, shown in Figures 3, 4 and 5 for:	
	a. debris in drain sump assembly (4, refer to Figure 3), below the filter and/or on the transmission deck. (Refer to Figure 2)	a. Remove debris and clean as necessary.
	b secure mounting and connection of fuel filter (1), inlet hose (12) and outlet hose (11). Refer to Figure 2.	b. Secure as required.
B	- Turn on fuel pump and check for water residing in fuel filter unit. If OAT>0°C, open drain valve (10) and purge any water from the filter unit. Close drain valve and check fuel filter (1) and lines, shown in Figure 3 for:	
	a. leaks and security	a. Check drain valve seating, replace packing (11, P/N MS29513-012) as necessary. Secure as required.

Table 1 Inspection Schedule and Maintenance Action
Before the first flight of each day

NOTE: The "Before the first flight of each day" task can be carried out by a suitably trained pilot or maintenance personnel.

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4. INSPECTION SCHEDULE AND MAINTENANCE ACTION

4.1.2. Pre- Flight Check:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Push A/F FUEL FILTER by- pass "Press to Test" caution light:	
	a. apply power to 4 Alpha Warning Panel (Master/Battery switch to ON and push Press to Test A/F FUEL FILTER annunciator - lamp must illuminate.	a. If lamp fails to illuminate, refer to Section 6, Troubleshooting, item 1, in this document

Table 2 Inspection Schedule and Maintenance Action
Pre- Flight Check

NOTE: The "Pre- Flight Check" task can be carried out by a suitably trained pilot or maintenance personnel.

4.1.3. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	- Push the Press- to- test button located on the outboard side of the Fuel Filter (1), shown in Figure 2 for:	
	a. The "A/F FUEL FILTER" annunciator - lamp must illuminate.	a. If lamp fails to illuminate, refer to Chapter 6, Troubleshooting, item 1, in this document.
	b. Ensure light goes out when Press- to- Test button is released.	b. If lamp fails to go out, do the fault isolation procedure of the Caution and Warning Panel. Refer to AS 350 B2/B3, AMM Chapter 31- 51- 00,1- 1.
B	- Visually inspect wiring (7), shown in Figure 3 for:	
	a. cracks, fraying, burns and chaffing	a. Contact AHCA for replacement wiring.
	b. security	b. Secure as required.
C	- Check hardware at ground locations (13N, 700N, 1N or 3N), shown in Figure 1 for:	
	a. security	a. Secure as required.

Table 3 Inspection Schedule and Maintenance Action
Every 150 FH or 12 M, to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first
(continued on following page)

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4. **INSPECTION SCHEDULE AND MAINTENANCE ACTION** (continued)

4.1.3. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
D	- Check outlet hose (11) and inlet house (12), shown in Figure 2 for:	
	a. leaks	a. If leaks are found, contact AHCA for replacement hose. Refer to Figure 2 for part numbers.
	b. cracking	b. No cracking is allowed. If cracking is found, contact AHCA for replacement parts.
		NOTE: Remove stiffener (5) from outlet hose (11) before inspection. Secure stiffener (5) to outlet hose (11) using tyraps (22, 4 places) before putting aircraft back in service.
	c. check hose clamp (15) for security.	c. Secure as required.
E	- Check drain hose (13), shown in Figure 2 for:	
	a. leaks	a. If leaks are found, contact AHCA for replacement hose. Refer to Figure 2 for part numbers.
	b. cracking	b. No cracking is allowed. If cracking is found, contact AHCA for replacement parts.
	c. check drain hose clamps (16) for security.	c. Secure as required.
F	- Check edge protection (26) on AFT panel in cargo compartment, shown in Figure 2 for:	
	a. wear on slotted area of AFT panel.	a. Replace edge protection if signs of deterioration or damage is present.
G	- Check fuel filter support assembly (2), base (3, shown in Figure 3) and floor doubler (1, refer to Figure 4), for:	
	a. cracks, corrosion or deformation	a. No cracks, corrosion or deformation are allowed. If cracks, corrosion or deformation are found, contact AHCA for replacement parts.

Table 3 Inspection Schedule and Maintenance Action
Every 150 FH or 12 M, to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first
(continued on following page)

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4. **INSPECTION SCHEDULE AND MAINTENANCE ACTION** (continued)

4.1.3. Every 150 FH or 12 M (Margin: 15 FH or 36 D) to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
H	- Check drain bracket (5) shown in Figure 3 for:	
	a. cracks, corrosion or deformation	a. No cracks, corrosion or deformation are allowed. If cracks, corrosion or deformation are found, contact AHCA for replacement parts.
I	- Check drain sump assembly (4), in Figure 3 for:	
	a. cracks or deformation	a. No cracks or deformation are allowed. If cracks or deformation are found, contact AHCA for replacement parts.
J	- Check placards and markings in Figures 12, 13, 14 and 15 (Section 10) for:	
	a. legibility	a. If placards and markings have become illegible, contact AHCA for replacement parts.
	b. secure mounting	b. Secure, reattach placards as required.

Table 3 Inspection Schedule and Maintenance Action
Every 150 FH or 12 M to coincide with the 150 FH or 12 M helicopter inspection, whichever occurs first

4.1.4. Every 600 FH or 24 M, (Margin: 60 FH or 73 D) to coincide with the 600 FH or 24 M helicopter inspection, whichever occurs first:

ITEM	INSPECTION OR MAINTENANCE WORK	CORRECTIVE ACTION
A	Perform Operational Test - Fuel Filler Switch and Bypass Valve	See Operational Test Instructions given in Section 4.1.5.
B	Replace Fuel Filter Element	See Replacement Instructions given in Section 4.1.6.

Table 4 Inspection Schedule and Maintenance Action
Every 600 FH or 24 M to coincide with the 600 FH or 24 M helicopter inspection, whichever occurs first

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4. **INSPECTION SCHEDULE AND MAINTENANCE ACTION** (continued)

4.1.5. Operational Test - Fuel Filter Switch and Bypass Valve

NOTE: This test simulates a clogged filter test.

a. Observe FUEL SYSTEM General Safety Instructions. Refer to AMM, Chapter 28-00-00, 3-1.

b. Apply power to annunciator panel. Press the differential pressure switch Test Button on the top of the fuel filter," AF F FILT" annunciator (or alternate, depending on configuration) must illuminate.

c. Drain filter bowl into a container.

d. Replace filter element with clean dummy element (P/N 1741185) and re-install filter bowl.

e. Turn on fuel pump and start engine. Failure to start engine may indicate improper bypass valve functioning.

f. The "AF F FILT" annunciator (or alternate) should illuminate.

g. When test is successfully completed, shut down engine, turn off fuel pump and drain filter bowl into a container. Remove dummy element and install filter element. Follow instructions given in Section 4, 4.1.6. Replacement - Fuel Filter Element.

h. Open fuel filter bowl drain valve and operate fuel pump until all air is purged. Close fuel filter drain valve and ensure there are no leaks.

4.1.6. Replacement - Fuel Filter Element

a. Observe FUEL SYSTEM General Safety Instructions. Refer to AMM, Chapter 28-00-00, 3-1.

b. Drain fuel from filter bowl into a container.

c. Refer to Appendix A "Operating Instructions" Parker Aerospace Filtration Division for Fuel Filter Element Change.

d. Once fuel filter is installed, operate fuel pump and open fuel filter bowl drain valve until all air is purged.

NOTE: The Purolator Parker Filter Assembly (Part No. 1743640-01) Replacement Element Kit is also available, Parker Aerospace Filtration Division No. 1743645.02. This kit consists of a seal, an O-ring and an element assembly.

Transport Canada - Accepted

5. REPLACEMENT COMPONENTS AND REPAIR / OVERHAUL INFORMATION

Contact AHCA for replacement parts. No overhaul information required for this installation.

For replacement components or repair information:

Airbus Helicopters Canada Limited
1100 Gilmore Road, P.O. Box 250
Fort Erie, Ontario L2A 5M4 Canada
Telephone: (905) 871-7772
www.airbushelicopters.ca

6. TROUBLESHOOTING

For electrical system troubleshooting, refer to Figures 5 to 12, Wiring Diagrams.

No.	Trouble Symptom	Probable Cause	Corrective Action
1	"A/F FUEL FILTER" lamp does not illuminate during either the "Before the first flight of each Day Inspection", "150 flight hours check" or the "Operational Test (600 flight hours check)".	Bulb burnt out	Replace bulb, P/N MS25237-327.
		Break or short in annunciator circuit	Perform circuit continuity check and repair/replace wiring as applicable in accordance with AC 43.13-1B, Chapter 11, Section 1.
		Warning Caution Panel	Do the fault isolation procedure for the warning caution panel. Refer to AS 350 B2/B3 AMM, Chapter 31-51-00, 1-1.
		Fuel Filter Head Assembly defective	Replace Head Assembly, refer to the Purolator/Parker Documentation
2	A/F FUEL FILTER illuminates during operations.	Excessive contamination in fuel supply.	Check quality of fuel supply.
		Filter is blocked prematurely.	Replace filter element.
		Short in annunciator circuit.	Perform circuit continuity check and repair/replace wiring as applicable in accordance with AC43.13-1B, Chapter 11, Section 1.

Table 5 Troubleshooting Guide

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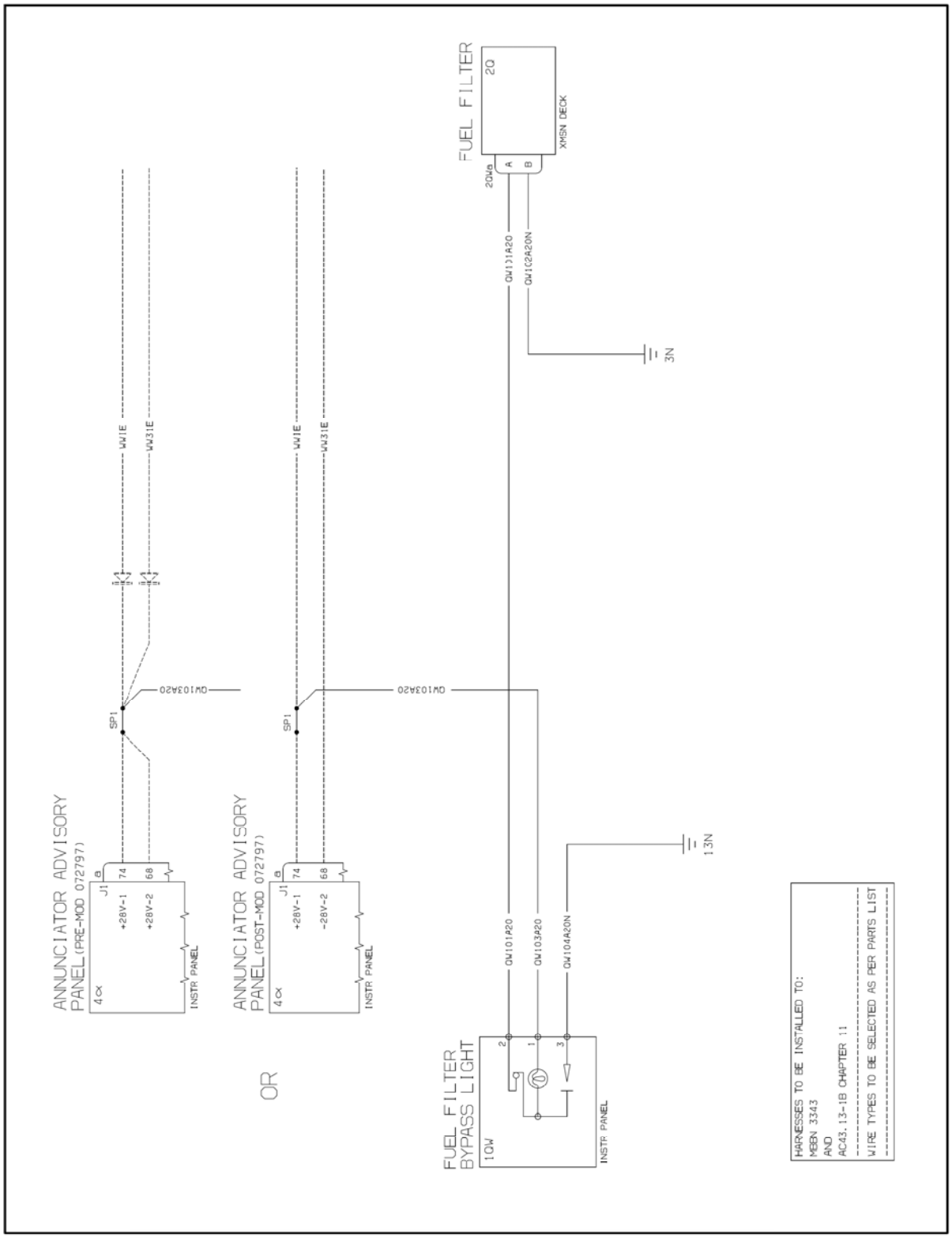

Figure 5 Airframe Fuel Filter, Sheet 1, Rev. A, Wiring Diagram

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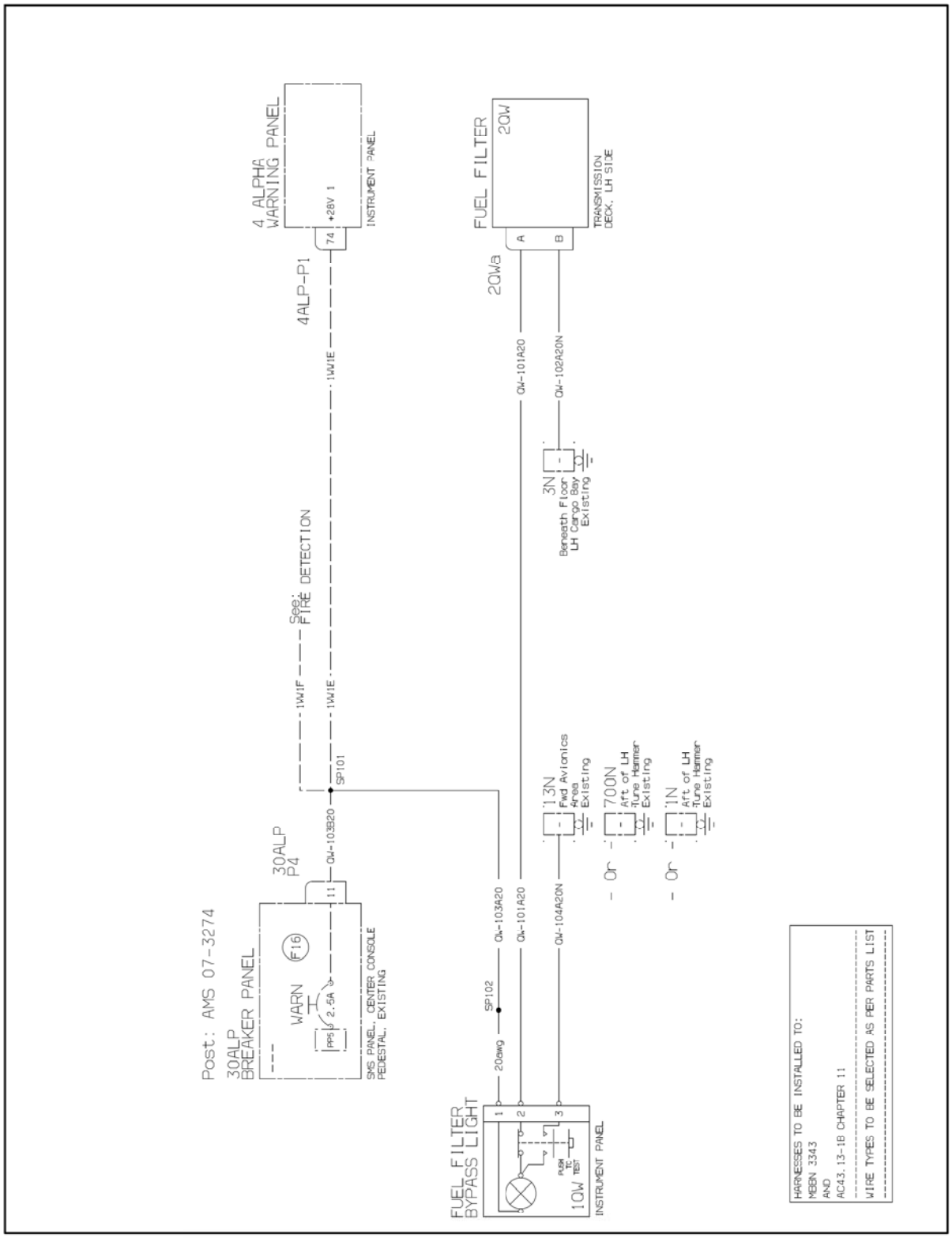

Figure 6 Airframe Fuel Filter, Sheet 2, Rev. A, Wiring Diagram

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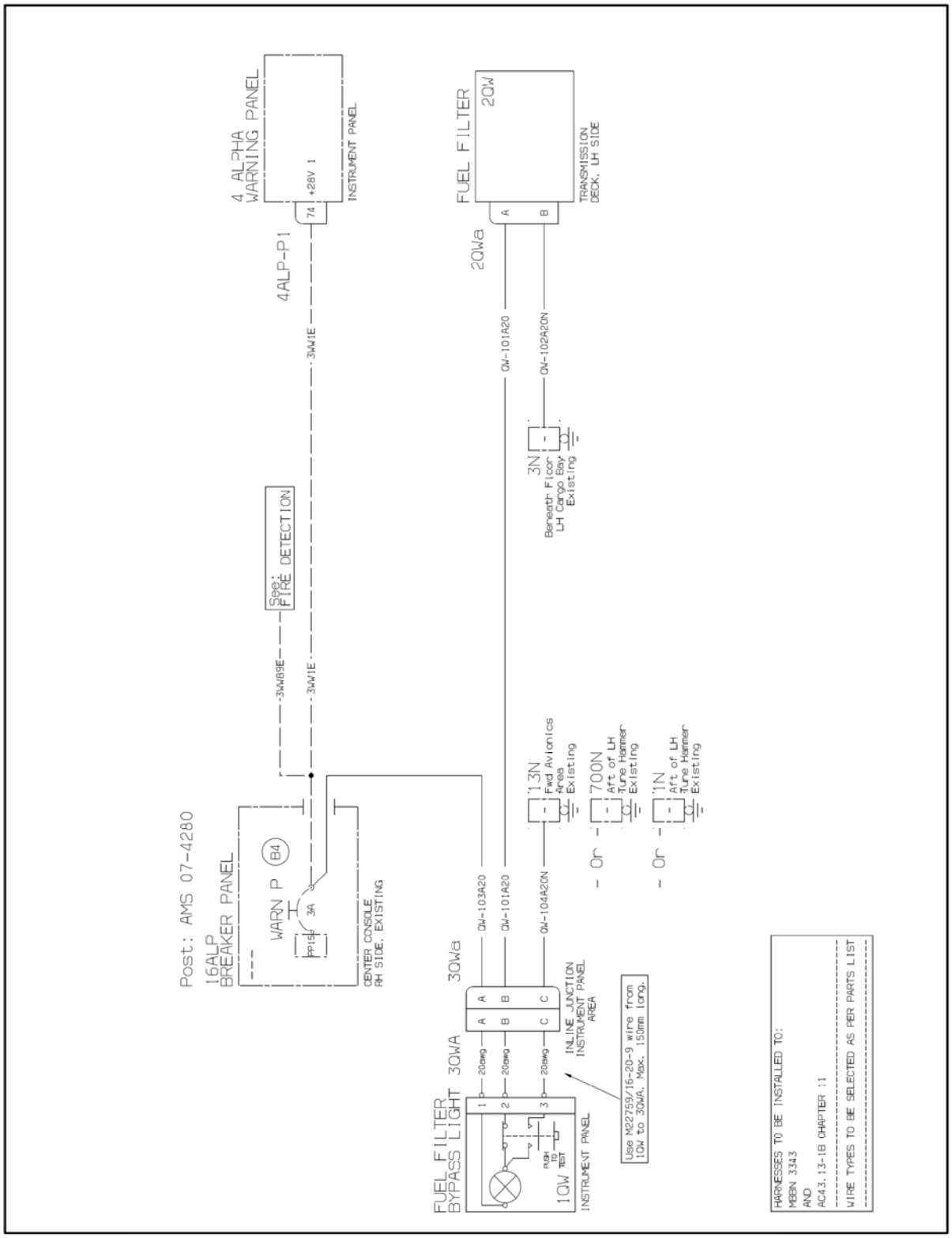

Figure 7 Airframe Fuel Filter, Sheet 3, Rev. A, Wiring Diagram

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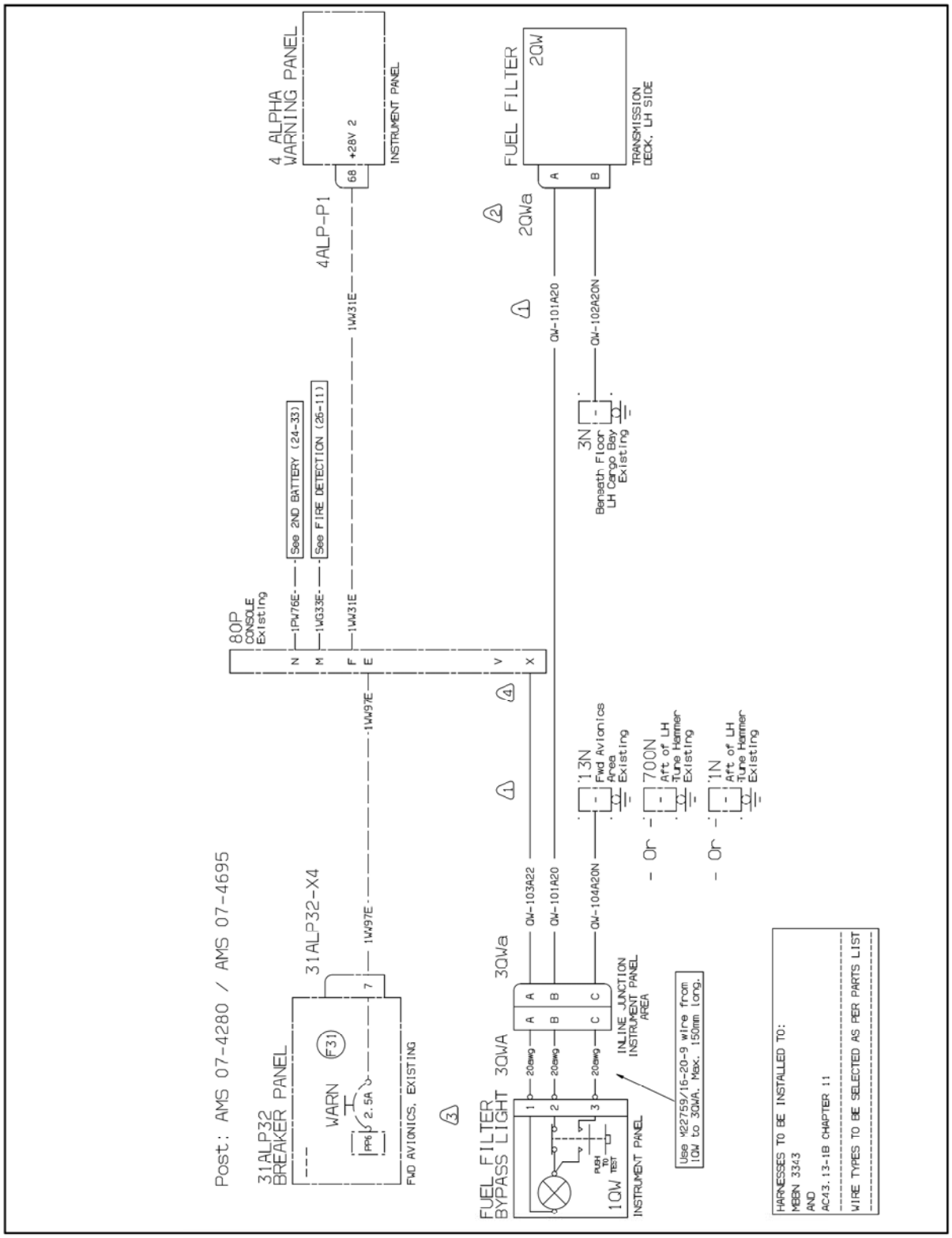

Figure 8 Airframe Fuel Filter, Sheet 4, Rev. A, Wiring Diagram

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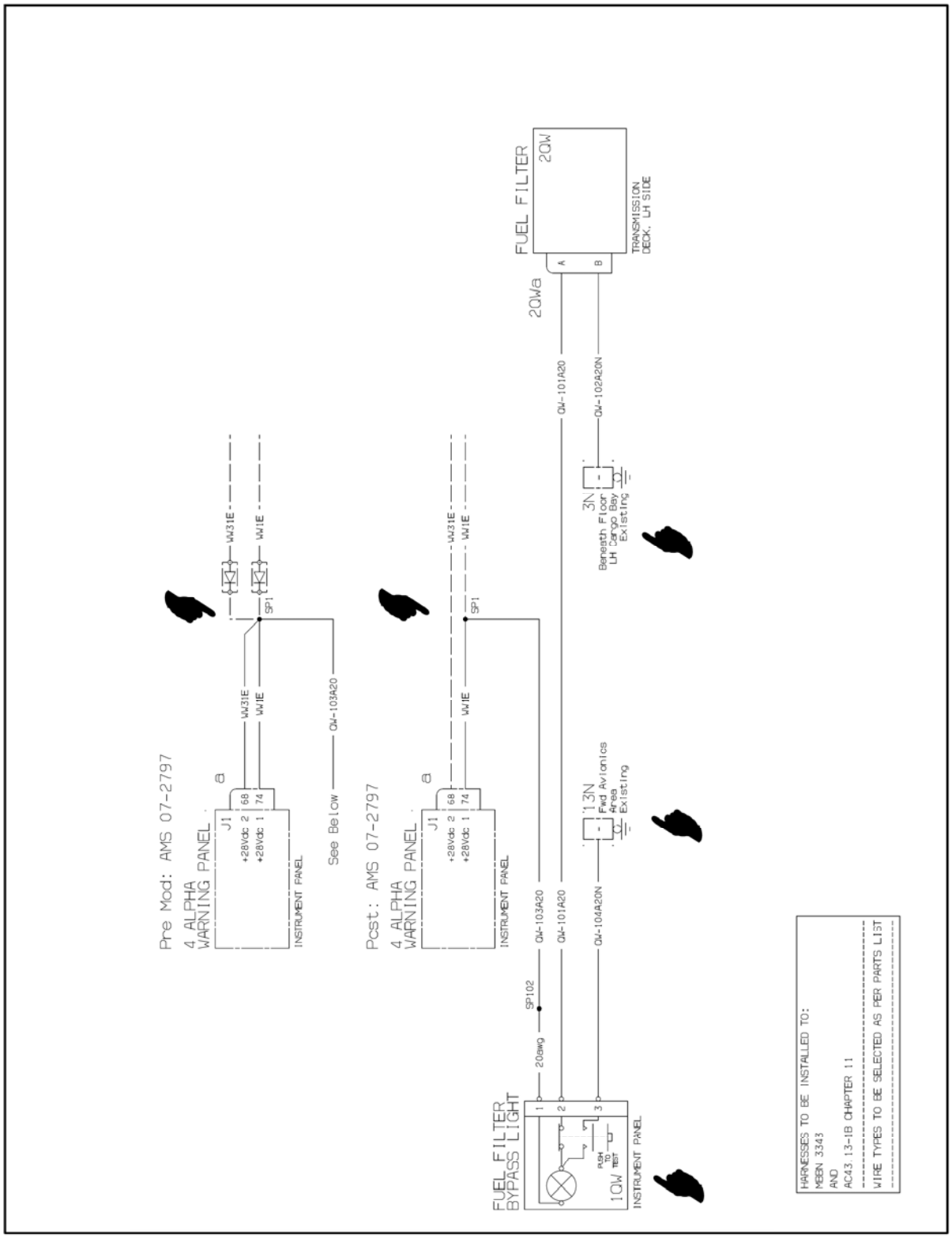

Figure 9 Airframe Fuel Filter, Sheet 1, Rev. B, Wiring Diagram

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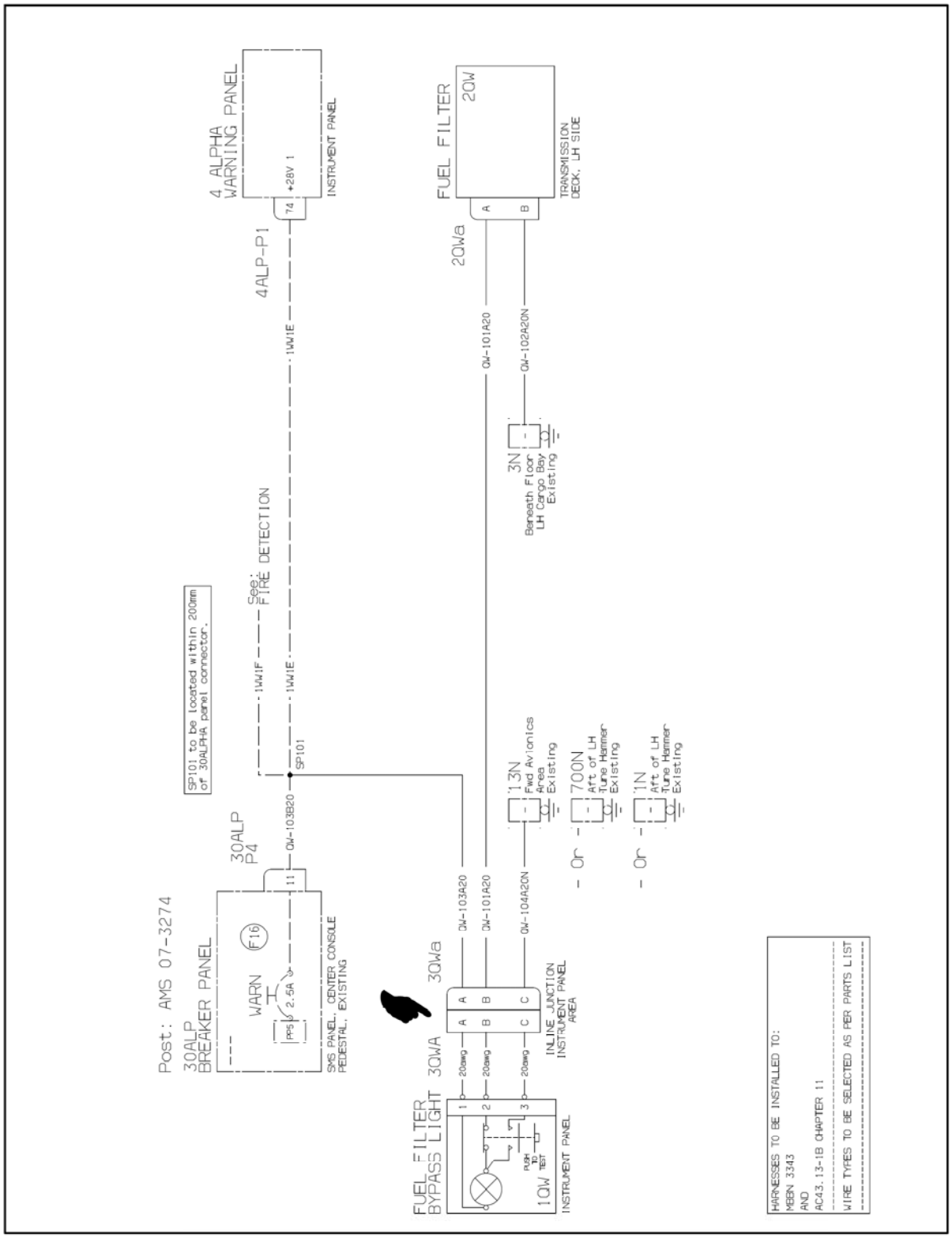

Figure 10 Airframe Fuel Filter, Sheet 2, Rev. B, Wiring Diagram

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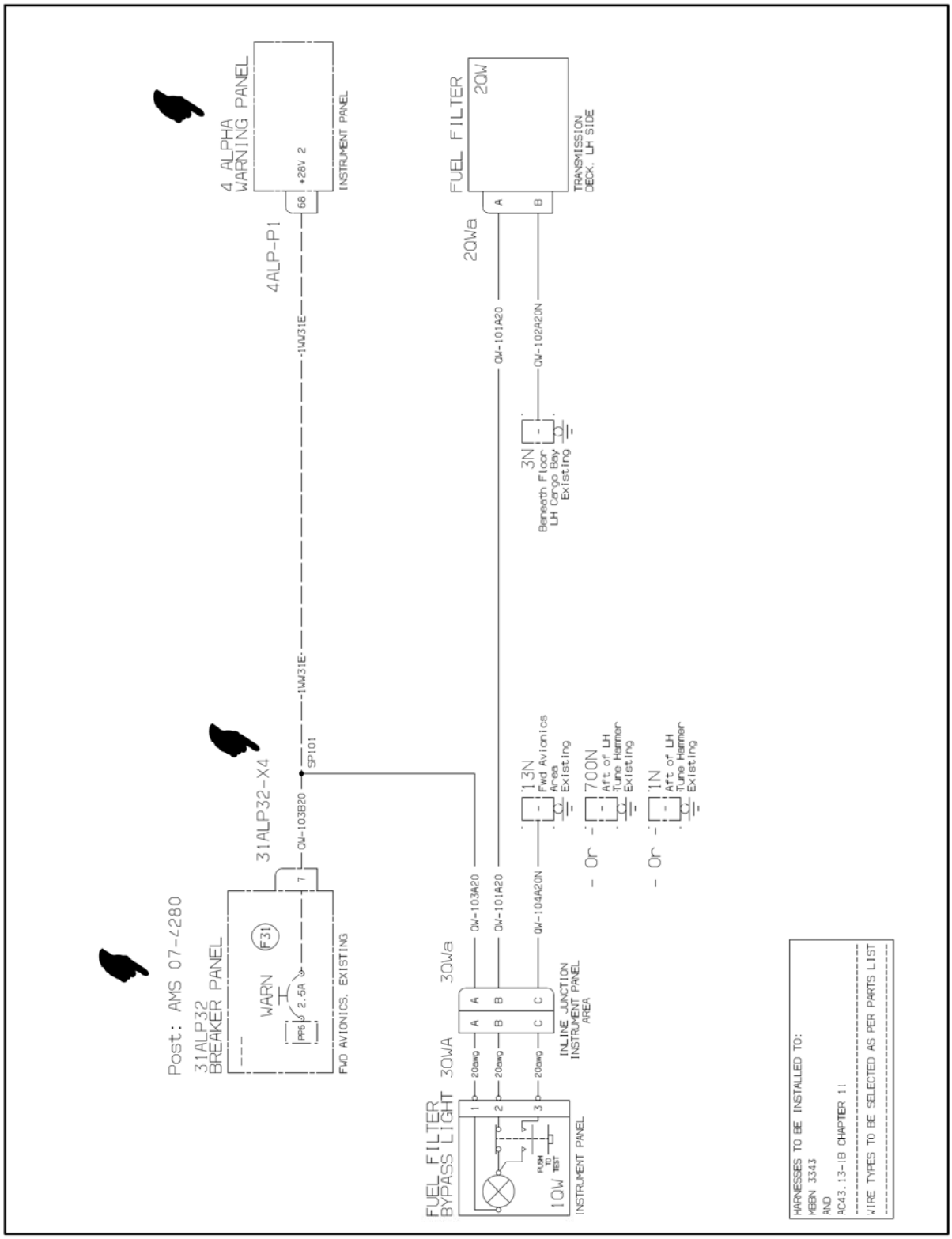

Figure 11 Airframe Fuel Filter, Sheet 3, Rev. B, Wiring Diagram

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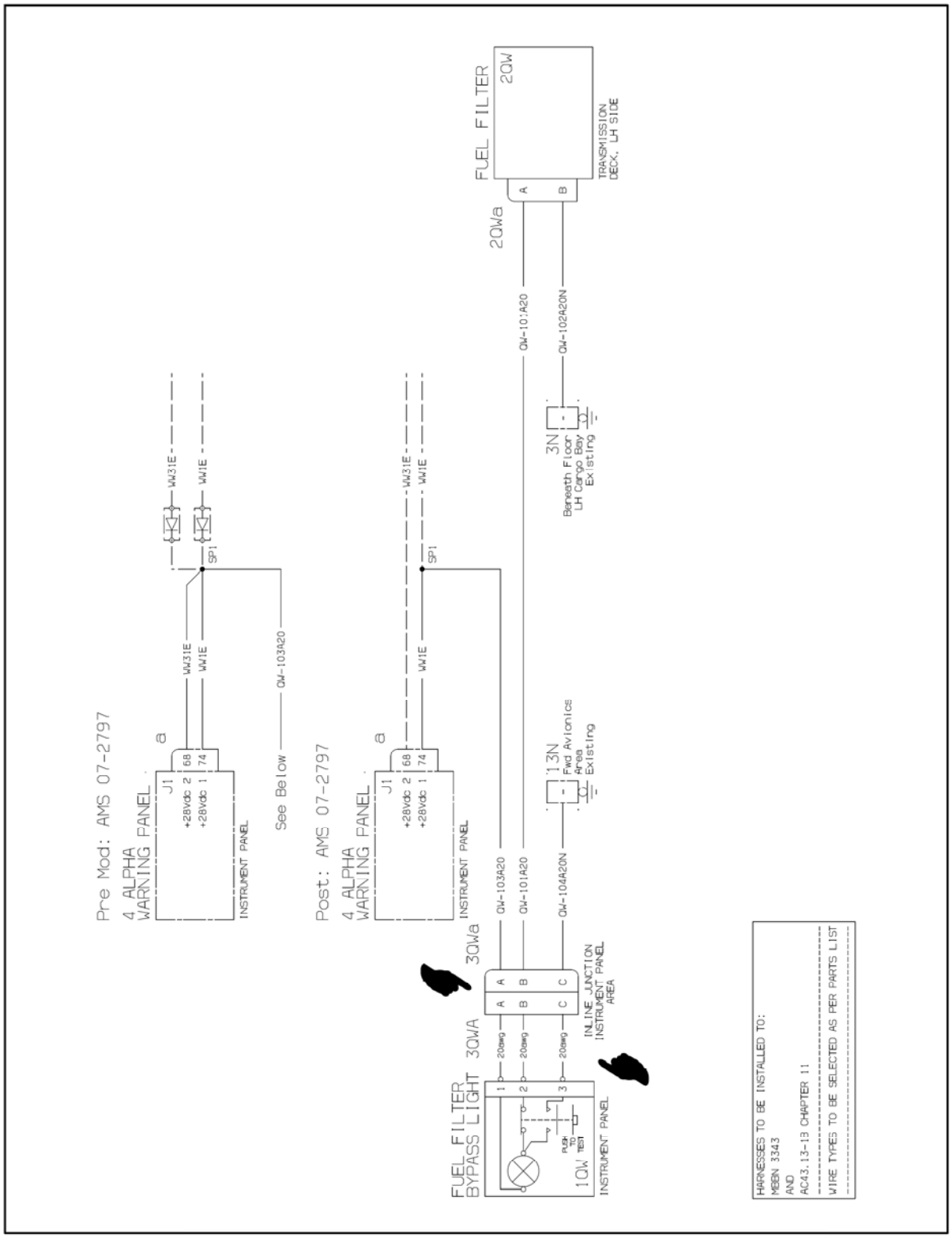

Figure 12 Airframe Fuel Filter, Sheet 1, Rev. C Wiring Diagram

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7. SPECIAL TOOLING

No special test equipment or tools are required. Standard tools are adequate.

8. REMOVAL AND REPLACEMENT

- Comply with General Safety Instructions for the Fuel System in accordance with AS 350 B2/B3 AMM, Chapter 28-00-00, 3-1.
- Defuel the helicopter in accordance with Draining-Servicing AS 350 B2/B3 AMM, Chapter 12-10-00, 3-2.
- Comply with General Safety Instructions for the Mechanical assemblies in accordance with AS 350 B2/B3 AMM Chapter 60-00-00, 3-1.
- Read General Safety Instruction - Electrical Power Supply System, AS 350 B2/B3 AMM, Chapter 24-00-00, 3-1.
- Disconnect the external power in accordance with AS 350 B2/B3, AMM, Chapter 24-00-00, 2-1a PRE MOD 07-4280 or 24-00-00, 2-1b POST MOD 07-4280 (if required).
- Disconnect the battery in accordance with AS 350 B2/B3 AMM, Chapter 24-33-00, 4-1.
- Open the LH MGB cowling
- Remove lateral cargo hold door in accordance with AS 350 B2/B3 AMM 52-31-00, 4-1.
- Remove the FWD and AFT panels in the LH cargo compartment.
- If removing inlet hose (12, refer to Figure 2), disconnect at fuel tank location. Refer to Removal - Fuel pump, AS 350 B2/B3 AMM Chapter 28-21-00, 4-1.
- Comply with Instructions Applicable during Maintenance, refer to MTC, Chapter 20-07-03-401.
- Observe General Repair Instructions Unriveting Principle - MTC, Chapter 20-03-01-102.

A. REMOVAL

1) FUEL FILTER WIRING (Refer to Figures 1, 3 and 13)

a) If removing wiring (2QWa) (7), disconnect connector (2QWa), remove backshell, strip n stick tape (6) and disconnect wires. Refer to SECTION A-A in Figure 3.

b) Remove screw (16), washer (17), and spacer (19), clamp (14) and clamp (13) securing wiring (7) to fuel filter support assembly (2). Refer to Figure 3.

c) Follow wiring (7) from under cabin floor along the LH side of the aircraft and disconnect (1QW) at the Instrument Panel. Refer to View showing Airframe Mounted Fuel Filter in Figure 1.

d) Disconnect ground wires (13N) and (3N) and retain hardware. Refer to View showing Airframe Mounted Fuel Filter in Figure 1.

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8. **REMOVAL AND REPLACEMENT** (continued)

2) HOSES (Refer to Figures 2 & 3)

OUTLET HOSE (Refer to Figures 2 & 3)

a) On the outlet side of fuel filter (1) remove hose clamps (15, 2 places) and disconnect outlet hose (11). Retain hardware for reinstallation. Refer to Figure 2.

NOTE If outlet hose (11) is not being replaced, position hose out of work area and close hose end cover (7). (Stiffener (5) may need to be removed).

If hose is being replaced:

NOTE Retain hose end cover (7).

b) Remove tyraps (22, 4 places) securing stiffener (5) to outlet hose. Retain stiffener (5) for reinstallation.

c) Remove clamp (13) securing outlet hose (11, refer to Figure 2) to inboard side of fuel filter support assembly (2). Retain hardware for reinstallation. Refer to SECTION A-A in Figure 3.

d) Remove spiral wrap (20) from outlet hose (11, refer to Figure 2) and retain for reinstallation. Refer to DETAIL W in Figure 3.

e) Remove existing clamps securing opposite end of outlet hose to the shut off valeve inlet pipe. Retain hardware and hose end cover for reinstallation. Refer to Figure 2.

f) Discard Ident tag (24) if outlet hose (11) is being replaced.

INLET HOSE (Refer to Figure 2)

a) On the inlet side of the fuel filter (1) remove hose clamps (15, 2 places) and disconnect inlet hose (12). Retain hardware for reinstallation. Refer to Figure 2.

NOTE If inlet hose (12) is not being replaced, position hose out of work area and close hose end cover (7).

If hose is being replaced:

NOTE Retain hose end cover (7).

b) Cut tyrap (22) securing spacer (14) to drain hose (13). Retain spacer (14) for reinstallation.

c) Disconnect inlet hose (12) from fuel pump located at fuel tank. Refer to Installation - Fuel pump, AS350 B2/B3, Chapter 28-21-00, 4-1.

d) Retain existing clamps and hose end cover.

e) Discard Ident tag (24) if inlet hose (12) is being replaced.

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8. **REMOVAL AND REPLACEMENT** (continued)

A. REMOVAL (continued)

3) FUEL FILTER (Refer to Figure 2)

NOTE Fuel Filter hoses and wiring must be disconnected.

a) Cut and remove lockwire between nut (20, 2 places) and elbow (6, 2 places).

b) Cut and remove lockwire between reducer (8, 2 places) and fuel filter (1).

c) Remove packing (9) from elbow (6, 2 places). Remove packing (10) from reducer (8, 2 places). Discard packing. Retain hardware for reinstallation.

d) Cut lockwire (21) and remove screws (18, 3 places), washers (19, 3 places) securing fuel filter (1). Retain hardware for reinstallation. Retain fuel filter if not being replaced.

4) FUEL FILTER SUPPORT ASSEMBLY and BASE ASSEMBLY (Refer to Figure 2)

NOTE Remove fuel filter and ensure wiring and hoses are disconnected.

a) If replacing fuel filter support assembly (2) drill out plate (4) and retain for reinstallation.

b) Drill out rivets securing the fuel filter support assembly (2, with attached plate [4]) and base (3, refer to Figure 3) to deck doubler (1) and discard damaged part(s). Refer to Figure 2.

5) DRAIN SUMP ASSEMBLY AND DRAIN BRACKET (Refer to Figures 2 and 3)

NOTE Remove Fuel Filter and Fuel Filter Support Assembly.

a) Remove FWD and AFT panels in cargo compartment.

b) Disconnect hose clamp (15) securing drain hose (13) to drain sump assembly (4, refer to Figure 3). Refer to DETAIL X in Figure 2 and SECTION A- A in Figure 3.

c) Remove screws (15, 4 places), washers (17, 8 places) and nuts (18, 4 places) from drain sump assembly and remove. Retain hardware for reinstallation. Refer to SECTION A- A in Figure 3.

d) If removing drain bracket (5), pull drain hose (13, refer to Figure 2) through grommet (12). Drill out rivets securing drain bracket (5) to rear bulk head and discard. Retain grommet (12) for reinstallation. Refer to Figure 3.

e) If drain hose (13) is being replaced cut tyrap (22) securing spacer (14). Remove existing clamp and clamp (16) securing existing fuel drain hose and drain hose (13). Retain hardware for reinstallation. Refer to Figure 2.

6) DECK DOUBLER (Refer to Figure 4)

NOTE Remove fuel filter support assembly and drain sump assembly.

a) Drill out remaining rivets securing deck doubler (1) to the transmission deck and discard damaged part. Refer to Figure 4.

8. **REMOVAL AND REPLACEMENT** (continued)

B. REPLACEMENT

NOTE Use torque per EC, MTC, Chapter 20.02.05.404, unless otherwise specified.

Observe General Safety Instructions - Fuel System, refer to EC 130 B2/B4, AMM, Chapter 28-00-00, 3-1.

Comply with general safety instructions for mechanical assemblies - EC 130 B2/B3 AMM, Chapter 60-00-00, 3-1.

General methods of applying sealing compounds - MTC, Chapter 20-05-01-102

General rules for bonding with adhesives - MTC, Chapter, 20-06-01-101

Safetying with Lockwire - MTC, Chapter 20-02-06-402.

Application of PR 1422 class B sealant - MTC, Chapter 20-05-01-206.

Electrical Bonding - MTC, Chapter 20.02.07.101.

1) DECK DOUBLER, DRAIN BRACKET, DRAIN SUMP ASSEMBLY, BASE, FUEL FILTER SUPPORT ASSEMBLY (Refer to Figures 2, 3 and 4)

a) If replacing drain bracket (5), locate onto X-frame and secure using rivets (MS20470AD4-5, 5 places [refer to Figure 2]). If drain bracket (5) was replaced, reinstall grommet (12). Refer to SECTION A-A in Figure 3.

b) Reposition deck doubler (1) onto transmission deck. If replacing deck doubler (1) position new deck doubler onto transmission deck. Align opening and back drill holes from transmission deck into deck doubler (1) and temporarily secure. Open 4 holes to ∅4.4 mm as shown in Figure 4.

c) Reposition base (3) onto deck doubler. If replacing base, back drill holes from deck doubler into base (3). Position fuel filter support assembly (2) onto base aligning pilot holes. Open up any pilot holes, match drill remaining holes. Refer to SECTION A-A in Figure 3.

d) If replacing drain sump assembly (4), locate drain sump assembly (4) into fuel filter base assembly (3). Temporarily place the fuel filter and fuel filter support assembly (2). The drain sump assembly must be positioned to enable the removal of the fuel filter. Back drill 4 holes into drain sump assembly (3). Refer to SECTION A-A in Figure 3.

e) Remove drain sump assembly, fuel filter support assembly, base, and deck doubler from the transmission deck and deburr all newly drilled holes.

f) Clean debris from transmission deck. Touch up alodine and prime rivet holes.

g) Apply fay sealant and wet install deck doubler (1) onto transmission deck. Locate base (2) onto deck doubler (1) and secure using rivets. Refer to NOTE 1 in Figure 4.

h) Fillet seal edges of deck doubler (1) to transmission deck using sealant (3). Refer to NOTE 1 in Figure 4.

i) Locate fuel filter support assembly (2) onto base (3) and secure into place using rivets (MS20470AD4-5, 15 places). Refer to SECTION A-A in Figure 3.

j) Position the drain sump assembly (4) onto base (3). Secure using screws (15, 4 places), washers (17, 4 places and nuts (18, 4 places). Refer to SECTION A-A in Figure 3.

k) Fillet seal all around drain sump assembly with sealing compound (23). Refer to NOTE 1 in Figure 3.

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8. **REMOVAL AND REPLACEMENT** (continued)

B. REPLACEMENT (continued)

l) Reposition plate (4) onto the fuel filter support assembly (2) and secure using rivets (25). Refer to Figure 2.

m) Seal faying surface of drain sump assembly with sealing compound (23). Refer to NOTE 2 in Figure 3.

2) FUEL FILTER (Refer to Figures 2 and 3)

a) If fuel filter (1) is being replaced, install drain valve (10) with new packing (11). Safety using lockwire (21). Refer to SECTION A- A in Figure 3.

b) Install reducers (8, 2 places) and new packing (10) into both sides of fuel filter (1). Safety using lockwire (21).

c) Install nuts (20, 2 places) and new packing (9) on elbows (6, 2 places). Install elbows (6, 2 places) in reducers (8, 2 places). Safety using lockwire (22). Refer to Figure 2.

d) Position fuel filter (1) into channel of support assembly and secure using screws (18, 3 places), and washers (19, 3 places). Safety using lockwire (21).

e) If a new fuel filter has been installed, ensure ident label, is installed facing outboard. Refer to Figure 1.

3) HOSES (Refer to Figures 2 and 3)

OUTLET HOSE (Refer to Figures 2 and 3)

a) If replacing outlet hose (11), reuse existing hose end cover (7). Attach outlet hose (11) to fwd elbow (6) on outlet side of fuel filter (1) and secure using hose clamps (15, 2 places). Refer to NOTE 2 in DETAIL X in Figure 2.

b) Install existing hose cover onto opposite end of outlet hose (11). Connect opposite end of outlet hose (11) to the existing fuel shut of valve once trimmed to correct length. Secure using retained clamps and hardware.

NOTE: Apply grease (24) to the nipple of elbow (6) and to the inside diameter of the hose (11) before installation. Refer to NOTE 3 in Figure 2.

c) Apply spiral wrap (20) to outlet hose (11, refer to Figure 2) at point of contact with clamp (13). Refer to DETAIL W and SECTION A- A in Figure 3.

d) Position clamp (13) onto spiral wrapped outlet hose and secure to inboard side of fuel filter support assembly (2) using screw (16), washer (17) and spacer (19). Refer to SECTION A- A in Figure 3.

e) If removed, reinstall stiffener (5) and secure using tyraps (22, 4 places). Refer to DETAIL X in Figure 2.

f) If outlet hose (13) was replaced, attach new ident tag (23).

NOTE: Adjust angle of elbow (6), position clamps (15) and install stiffener (5) and tyraps (22, 4 places) to produce least strain on outlet hose (11) and to avoid any low or high spots in routing of the fuel lines. Refer to NOTE 1 in Figure 2.

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8. **REMOVAL AND REPLACEMENT** (continued)

B. REPLACEMENT (continued)

INLET HOSE (Refer to Figure 2)

a) If inlet hose (12) is being replaced, connect hose at fuel tank location. Refer to Installation - Fuel Pump AS 350 B2/B3 AMM, Chapter 28-21-00, 4-1.

b) Route inlet hose (12) from the fuel tank, through existing grommet in the transmission deck.

c) Install existing hose end cover onto new inlet hose (12). Secure inlet hose (12) to elbow (6) on inlet side of fuel filter (1) and secure using hose clamps (15, 2 places). Refer to NOTE 3 and DETAIL X.

NOTE: Apply grease (24) to the nipple of elbow (6) and to the inside diameter of the hose (12) before installation. Refer to NOTE 3 in Figure 2.

d) If inlet hose was replaced, attach new ident tag (23).

4) DRAIN HOSE (Refer to Figures 2 and 3)

a) If replacing drain hose (13, refer to Figure 2), run drain hose through existing grommet (12) in drain bracket (5), connect to drain sump assembly and secure using clamp (15, refer to Figure 2). Refer to Figure 3.

b) Route drain hose (13) behind cargo panel and secure using existing clamp. Run drain hose towards skid tube and secure existing drain line and drain hose (13) using clamp (16). Refer to Figure 2.

c) Secure drain hose (13) to inlet hose (12) using spacer (14) and tyrap (22).

d) Attach new tag (23) if replacing drain hose (13).

5) FUEL FILTER WIRING (Refer to Figures 2, 3, 5 to 12)

a) Refer to Airframe Fuel Filter, Wiring Diagrams in this document to replace damaged components or wiring. Refer to Figures 5 to 12.

b) Install in accordance with AC43.13-1B, Chapter 11.

c) Attach connector (2QWa) to top of fuel filter. Refer to SECTION A-A in Figure 3.

d) Reconnect wire (2Qwa) (7) to connector (2QWa) using strip n stick tape (6).

e) Run wire (7) under transmission deck and route under cabin floor along the LH side of the aircraft following the existing harness. Secure using tyraps and lacing cord.

f) Locate ground wires (13N) and (3N) picking up on existing holes and secure using existing hardware. Refer to Figures 1, 5 to 12.

g) Secure opposite end of wires to (1QW) in the Instrument Panel.

h) Use an ohm meter, point to point check all connections to ensure correct installation.

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8. **REMOVAL AND REPLACEMENT** (continued)

B. REPLACEMENT (continued)

6) Check After Maintenance Work - Fuel System in accordance with AS 350 B2/B3 AMM, Chapter 28-00-01, 6-2.

7) Comply with General Safety Instruction - Electrical Power Supply System, AS 350 B2/B3, AMM, Chapter 24-00-00, 3-1.

8) Close all areas opened for service in the PRELIMINARIES paragraph of this section.

9) Refuel the helicopter in accordance with Filling-Servicing AS 350 B2/B3, Chapter 12-10-00, 3-2.

10) Re-connect battery, AS 350 B3, AMM, Chapter 24-33-00, 4-1.

11) Re-connect the external power in accordance with AS 350 B2/B3, AMM, Chapter 24-00-00, 2-1a PRE MOD 07-4280 or 24-00-00, 2-1b POST MOD 07-4280 (if required).

12) Reference functional test - DC Power Supply System in accordance with AS 350 B2/B3 AMM, Chapter 24-30-00, 5-1.

13) Press the "Press-to-test" button located on the outboard side of the fuel filter. The "AF F FILT" annunciator lamp (or alternate) must illuminate.

14) As per Section 4.1.5 Operational Test - Fuel Filter Switch and Bypass Valve of this document, check for the correct operation of the fuel filter bypass function.

15) Install the fuel filter element (P/N 1743645-01) and perform a leak check on runup.

16) Perform operational check of all systems that were serviced in accordance with the AS 350 B2/B3 procedures and the system's installation/operation manual.

17) Close the LH side MGB engine cowling.

18) Install LH baggage FWD and AFT interior panels.

19) Install LH lateral cargo hold door in accordance with Installation - 52-31-00, 4-1.

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9. WEIGHT AND BALANCE DATA

A. Removed Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Transmission Deck Cut- out	0.09	0.2	3.50	137.7	0.31	27.54
Total	- 0.09	- 0.2	3.50	137.7	- 0.31	- 27.54

B. Added Items

DESCRIPTION	WEIGHT		ARM		MOMENT	
	kg	lbs	m	in	kg m	lb in
Airframe Fuel Filter	0.91	2.0	3.50	137.8	3.19	275.6
Fuel Filter Support Assembly	0.28	0.6	3.50	137.8	0.98	82.7
Hardware and Harness	2.25	5.0	3.50	137.8	7.88	689.0
Total	3.44	7.6	3.50	137.8	12.04	1047.3

10. **PLACARDS AND MARKINGS**

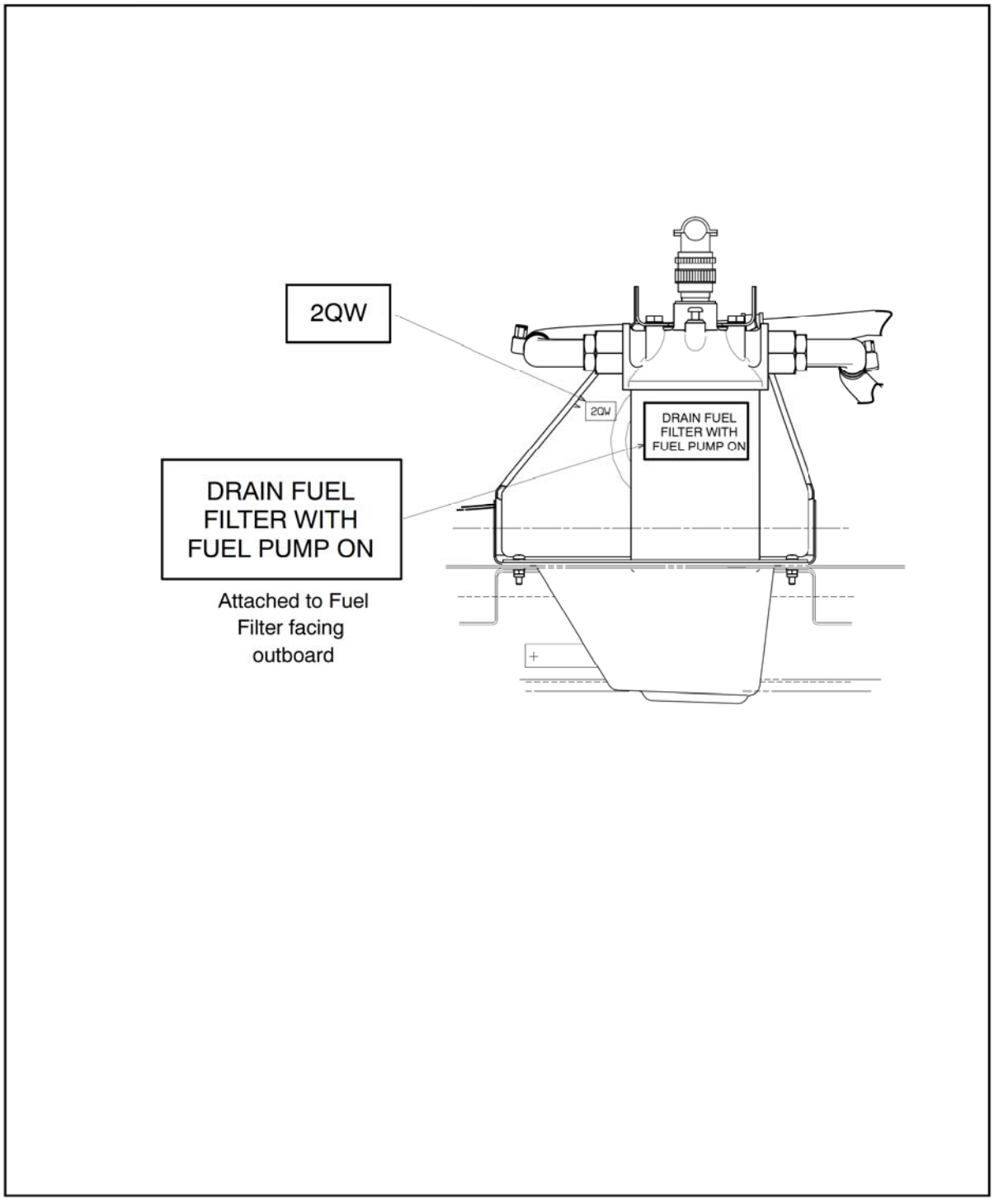

Figure 13 Typical label locations on Fuel Filter and Support Assembly

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10. **PLACARDS AND MARKINGS** (continued)

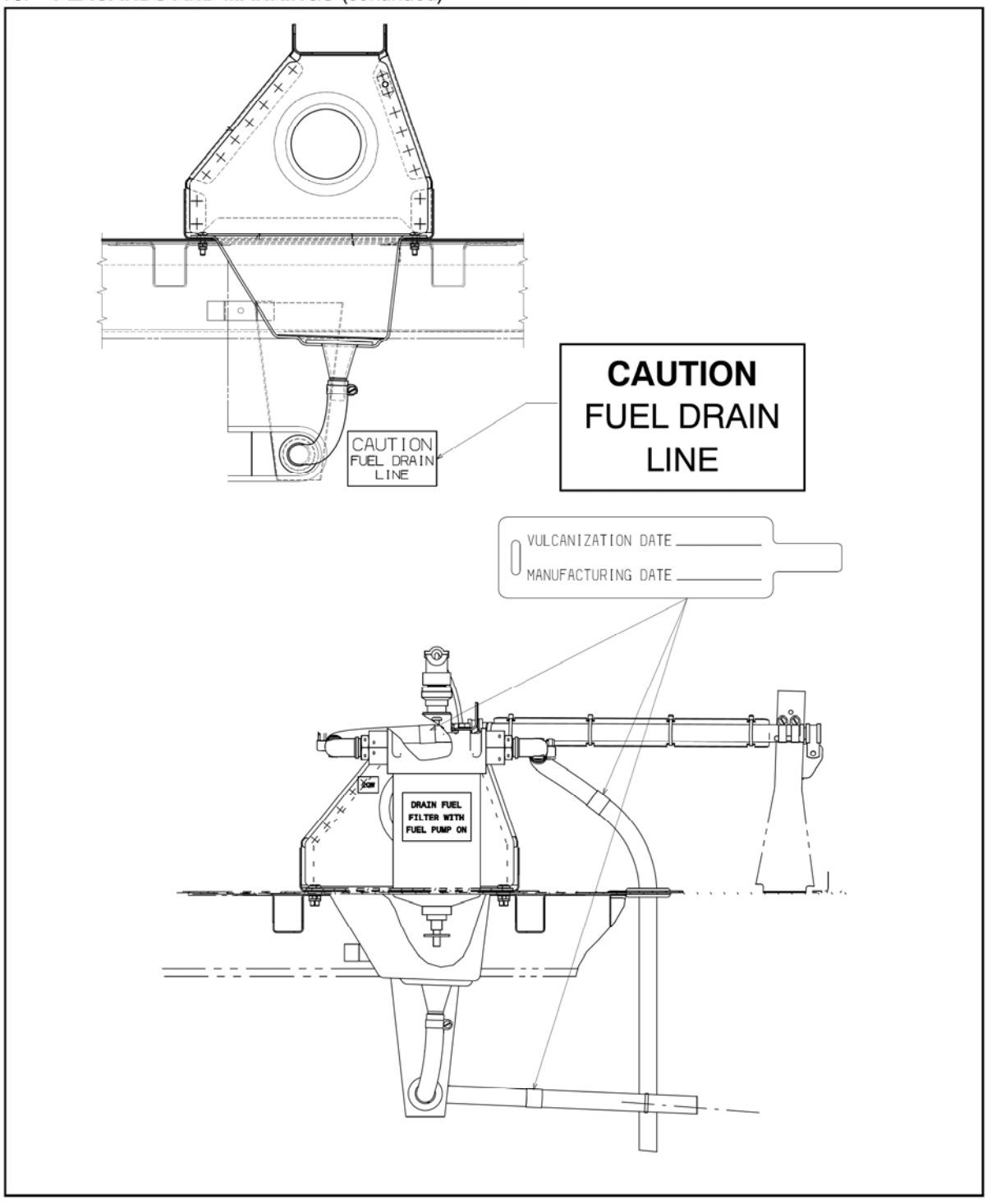

Figure 14 Typical label and identification tag locations

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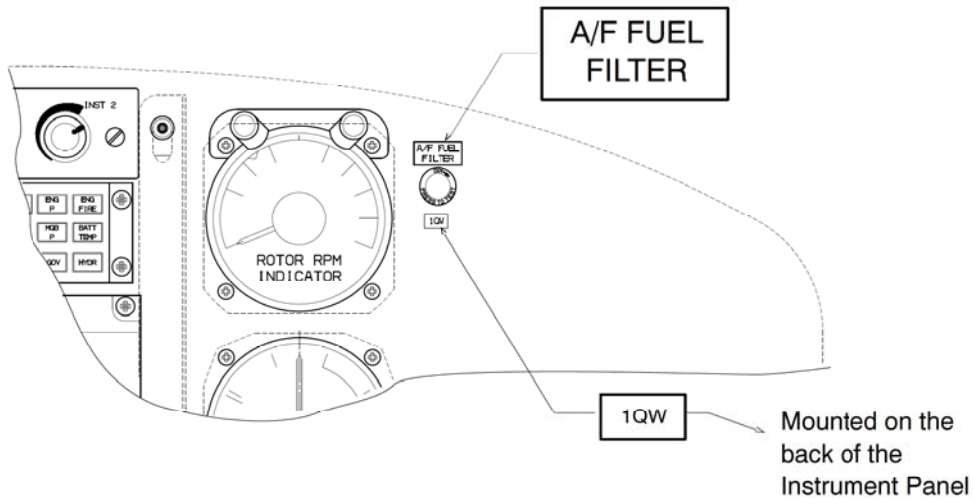
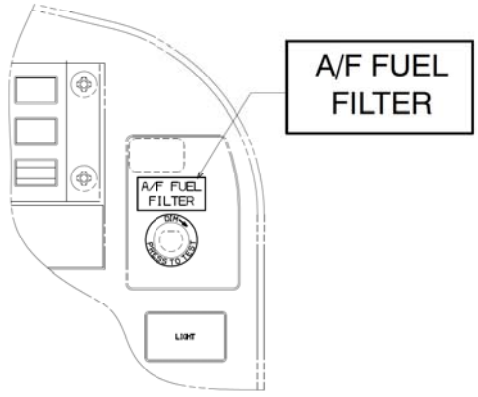
10. **PLACARDS AND MARKINGS** (continued)



Label location on Instrument panel



Label location on Instrument Panel with lighting overlay panel

Figure 15 Typical label location on Instrument Panel

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10. **PLACARDS AND MARKINGS** (continued)

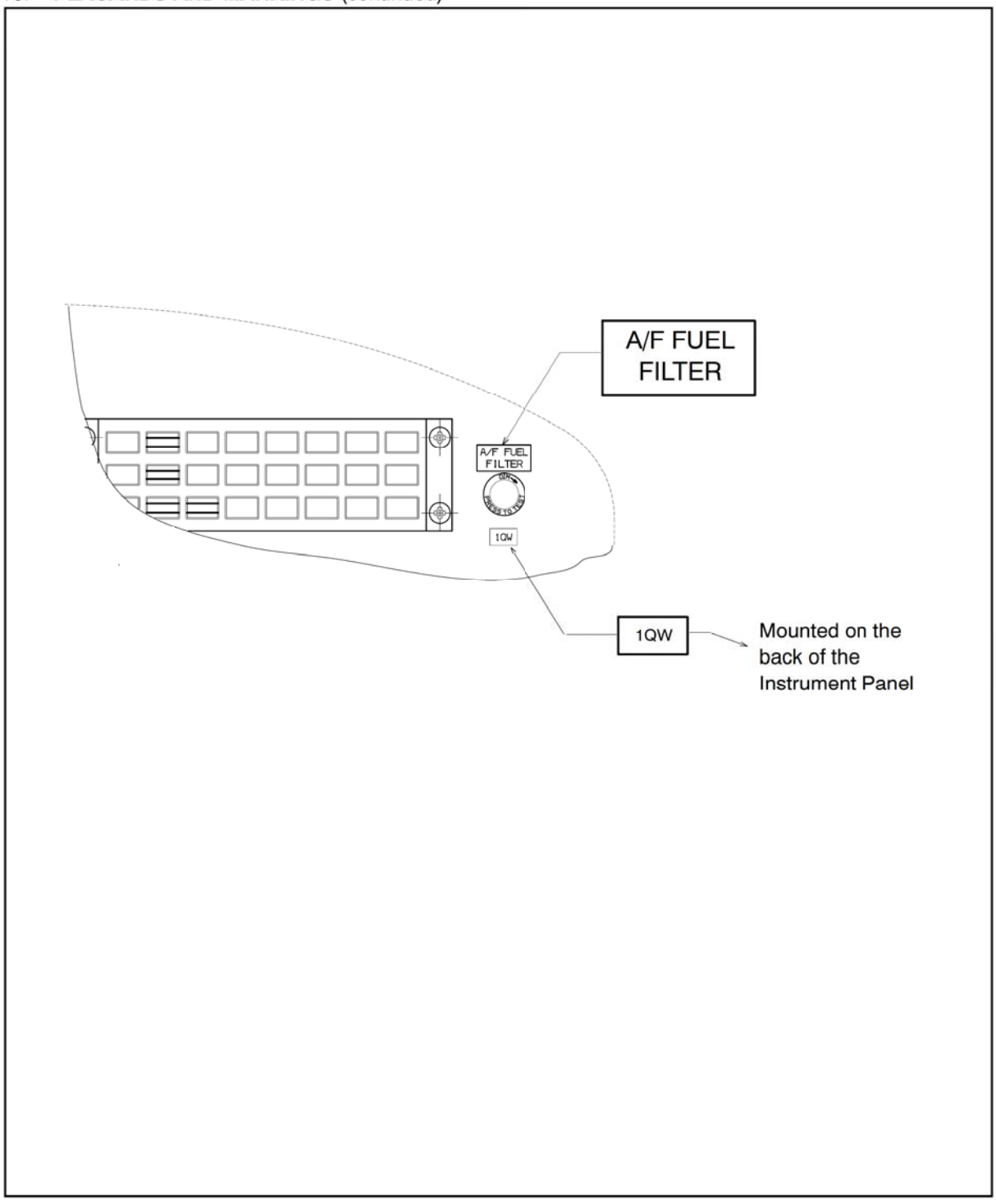

Figure 16 Typical label location on alternative Instrument Panel

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Operating Instructions
Fuel Filter Assembly
Part Number: 1743640-01

Contents:

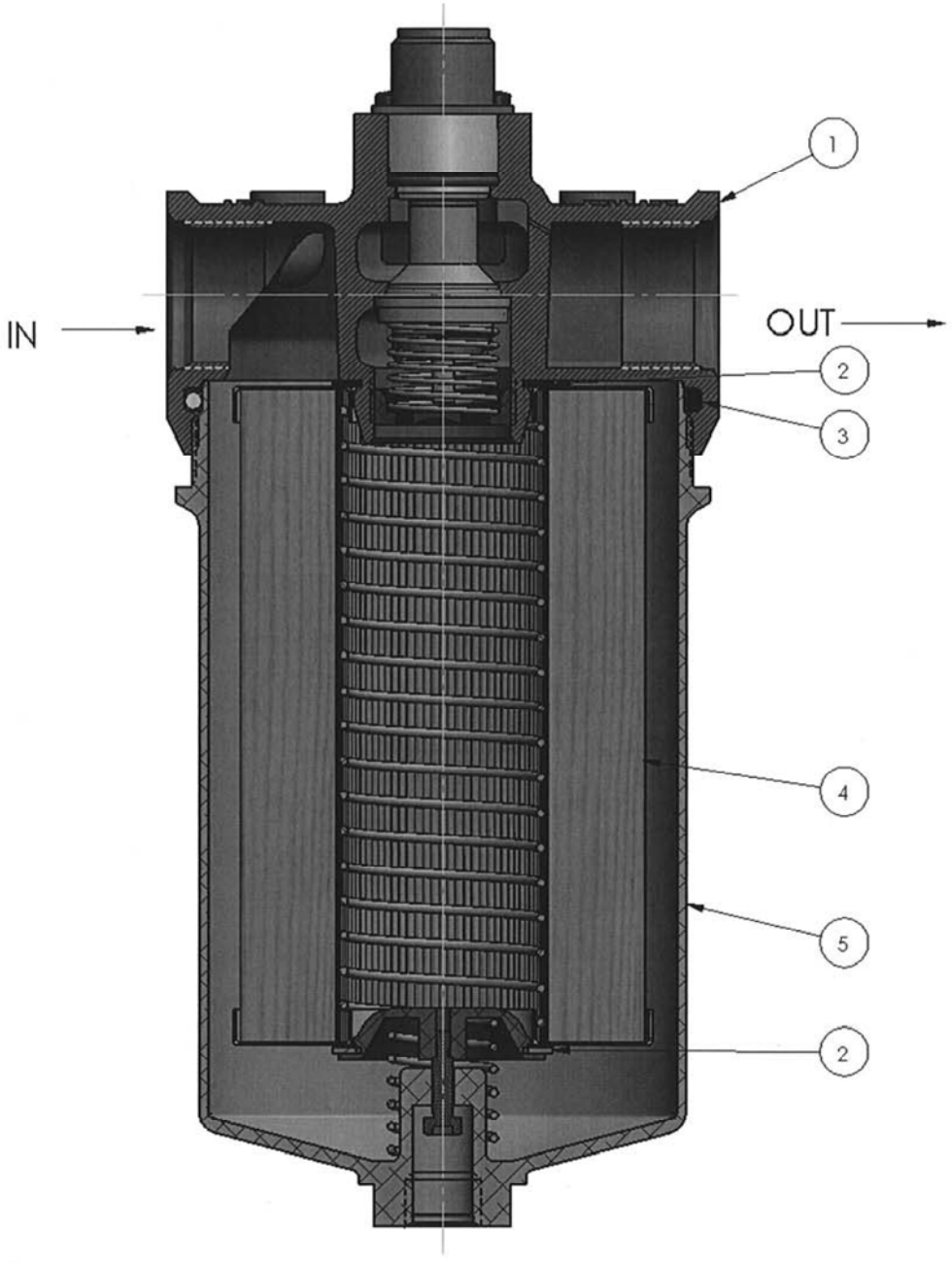
Operating & Design Specifications:

Parker Aerospace Filtration Div.
Purolator Facet Inc.
8439 Triad Drive
Greensboro, NC 27409-9621
(336) 668-4444, Fax (336) 668-4452

Record of Revisions

Revision No	Description	Date
A	Item 1 Replacement part (page 4) was 1744990-01	Dec. 29, 2020

Fuel Filter Assembly
Part No. 1743640-01



Replacement Parts for Filter Assembly Part No. 1743640-01

Item No.	Qty. Req.	Part No.	Description:
1.	1	2177100-30	Head Assembly
2.	2	1743629-01	Seal
3.	1	034921-01	O-Ring
4.	1	1743645-01	Element Assembly
5.	1	1745011	Bowl Assembly

NOTE: **Purolator replacement element kit part no. 1743645-02 consists of items 2, 3 & 4**

Operating Instructions:

Preflight Inspection Procedure Change:

1. Follow aircraft manufacturers recommended preflight instructions.

Scheduled Maintenance:

1. Fuel Filter Element Change:

   A. Replace element at the intervals specified by the aircraft manufacturer.

   B. Remove lockwire and unscrew filter bowl.

   C. Remove used element.

   D. Remove O-Ring and flat seals from filter head and inside of bottom of filter bowl.

   E. Install new seals P/N: 1743629-01 on the nipple of the filter head and retainer in the filter bowl.

   F. Install new filter element p/n: 1743645-01.

   G. Install new O-Ring P/N: 034921-01 in the filter head.

   H. Re-install filter bowl and torque to 130 ±20 inch pounds.

   I. Secure filter head to filter bowl with lock wire.

Purolator Fuel Filter Assembly
Part Number 1743640-01

Design Specifications:

1. Filtration Rating: 10 Micometres Nominal
2. Fluid: Mil-T 5624 Gr. JP-4, JP-5, ASTM-D-1655 Type A, A1or B.
3. Temperature Range: -65°F to +160°F.
4. Bypass valve cracking Pressure: 3.75 PSID.
5. Microdelta® Differential Pressure Switch actuates at 0.875 PSID
6. Pressures:
   - Operating: 60 PSI
   - Proof: 90 PSI
   - Burst: 180 PSI
7. Rated Flow: 0.5 GPM
8. Weight: 1.75 lbs. Max.