

CHAPTER

73

**ENGINE FUEL AND
CONTROL**

**CHAPTER 73
ENGINE FUEL AND CONTROL**

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R 2	Jun 15/2016		R 6	Jun 15/2016		11	Oct 15/2015	
R 3	Jun 15/2016		73-030-01-01	SYS		12	Oct 15/2015	
R 4	Jun 15/2016		R 1	Jun 15/2016		13	Oct 15/2015	
R 5	Jun 15/2016		2	Jun 15/2015		14	Oct 15/2015	
O 6	Jun 15/2016		3	Jun 15/2015		15	Oct 15/2015	
R 7	Jun 15/2016		R 4	Jun 15/2016		16	Oct 15/2014	
R 8	Jun 15/2016		5	Oct 15/2014		17	Jun 15/2015	
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A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

73-EFFECTIVE PAGES

AIRLINE CARD NO.		TITLE REPLACE THE LEFT ENGINE FUEL FILTER			BOEING CARD NO. 73-010-01-01
DATE	TASK REPLACE				RELATED CARD
TAIL NUMBER	WORK AREA LEFT ENGINE	VERSION 1.1	THRESHOLD 6000 FH	REPEAT 6000 FH	APPLICABILITY AIRPLANE ALL ENGINE ALL
STATION	SKILL AIRPL				
		ACCESS 413 414			ZONE 411

Replace the left engine fuel filter.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 70-20-02-400-801-F00	Tightening Practices and Torque Values (P/B 201)
AMM 71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
AMM 71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
AMM 71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
FIM 73-05 TASK 801	Fuel FILTER BYPASS Light is On - Fault Isolation

B. Consumable Materials

Reference	Description	Specification
B00676 [CP1041]	Alcohol - Isopropyl	CFM CP1041, TT-I-735
D00601 [CP2101]	High-temperature graphite compound	SAE AMS 2518
D00623 [CP5066]	Oil - Fuel System, Corrosion Preventive	MIL-PRF-6081, Grade 1010
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A
G02272	Fuel - Turbine, Aviation (Grades JP-4, JP-5, JP-5/JP-8ST)	MIL-DTL-5624
G02345 [CP8001]	Wire - Safety, 0.032 Inch (0.8 mm) Diameter	CFM CP8001, AMS 5687
G50065 [CP8006]	Cable, Safety, Stainless Steel, 0.032 inch (0.813 mm) Diameter	M50 TF 9 CL-A

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
STD-1154	Container - 5 Gallon (19 Liters)

EFFECTIVITY AKS ALL	SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01	Page 1 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
TASK 73-11-02-000-801-F00 1. Fuel Filter Removal (Figure 1, Figure 2, Figure 3) A. General (1) Each engine has one fuel filter element on the fuel pump assembly. B. Prepare for the Removal SUBTASK 73-11-02-840-001-F00 (1) Do these steps to prepare for the removal: (a) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. (b) Make sure the engine start lever is in the CUTOFF position. 1) Install a DO-NOT-OPERATE tag on the applicable engine start lever. (c) Make sure the ENG VALVE CLOSED (engine fuel shutoff valve) light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the engine fuel shutoff valve has three positions: Bright when the valve is in transition or does not agree with the commanded position; Dim when the valve is closed; and, Off when the valve is opened. (d) Make sure the SPAR VALVE CLOSED light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the fuel spar valve has three positions: Bright when the valve is in transition or does not agree with the commanded position; Dim when the valve is closed; and, Off when the valve is opened. (e) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812. NOTE: The removal of the electrical power is necessary while you disconnect the electrical and fluid connectors. You can reapply electrical power to the airplane after all of the electrical and fluid connectors are disconnected and the protective covers are installed. 1) Make sure that the BAT switch on panel P5-13 is set to OFF and install a DO-NOT-OPERATE tag. (f) Do this task: Open the Fan Cowl Panels, AMM TASK 71-11-02-010-801-F00. C. Fuel Filter Removal AKS ALL PRE SB CFM56-7B-73A034 NOTE: There are different configurations of the fuel filter cover. NOTE: The original design of the fuel pump filter cover attachment (bolts and fuel pump housing inserts) was canceled. It must be reworked by SB CFM56-7B-73-A0034 and SB CFM56-7B-73-0079. AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 SUBTASK 73-11-02-020-001-F00 (1) Do these steps to remove the fuel filter cover:				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
AKS ALL PRE SB CFM56-7B-73A034 AND (WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)				MECH	INSP
<p><u>NOTE:</u> This Subtask is for engines which have a fuel filter cover attachment with five D-Head bolts, five retaining rings, five washers, five nuts and one bolt with its insert (1 location) into the fuel pump housing (the main fuel pump reworked by SB CFM56-7B-73-A034).</p>					
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212					
<p><u>WARNING:</u> DO NOT GET FUEL IN YOUR MOUTH, OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. KEEP THE FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS A POISONOUS AND FLAMMABLE LIQUID, THAT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.</p>					
<p>(a) Do these steps to drain the fuel system:</p> <ol style="list-style-type: none"> 1) Put the 5 gallon (19 liter) container, STD-1154 under the fuel pump assembly. 2) Cut and remove the safety wire or cable from the drain plug [4]. 3) Remove the drain plug [4] from the fuel filter cover [6]. <ol style="list-style-type: none"> a) Let the fuel drain in the container. 4) Remove and discard the packing [5] from the drain plug [4]. <ol style="list-style-type: none"> a) Keep the drain plug [4] for the installation. 					
<p>(b) Remove the MW0312 wire harness from the Omega clip that is just to the left of the fuel filter cover [6].</p>					
<p>(c) Do these steps to remove the fuel filter cover [6]:</p> <ol style="list-style-type: none"> 1) Loosen and remove the bolt [2] and the flat washer [3] that hold the fuel filter cover [6]. <ol style="list-style-type: none"> a) Do an inspection of the bolt [2] for signs of thread damage. <p><1> If there is damage, discard and replace it.</p> b) Do an inspection of the flat washer [3] for signs of damage (nicks, flatness condition). <p><1> If there is damage, discard and replace it.</p> 2) Loosen and remove the five nuts [15] and five flat washers [14] that hold the fuel filter cover [6]. 					
<p><u>NOTE:</u> The five D-Head bolts [12] are captive in the fuel filter cover housing.</p> <ol style="list-style-type: none"> a) Do an inspection of the nuts [15] for signs of thread damage. <p><1> If there is damage, discard and replace them.</p> b) Do an inspection of the flat washers [14] for signs of damage (nicks, flatness condition). <p><1> If there is damage, discard and replace them.</p> 					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	MECH	INSP
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 (Continued)						
<p>3) Remove the fuel filter cover [6] from the fuel filter housing.</p> <p><u>NOTE:</u> When you remove the fuel filter cover [6], the filter element [11] remains attached to it.</p> <p>a) Do an inspection of the main fuel pump housing insert for signs of damage for a pulled out insert, insert movement, and the thread insert damage.</p> <p><u>NOTE:</u> There is only one insert in the main fuel pump housing, located in the hole adjacent to the nameplate.</p> <p><1> For 828300-4 fuel pump, if the insert is damaged, replace the fuel pump or apply SB CFM56-7B-73-0079.</p>						
<p>AKS ALL WITH 828300-5 FUEL PUMP AND PRE SB 737-CFM56-7B-73-0212</p> <p><2> For 828300-5 fuel pump, if the insert is damaged, replace the fuel pump or apply SB CFM56-7B-73-0212.</p>						
<p>AKS ALL POST SB 737-CFM56-7B-73-0212</p> <p><3> For 828300-8 fuel pump, if the insert is damaged, replace the fuel pump.</p>						
<p>AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212</p> <p>b) Do an inspection of the attached parts as follows:</p> <p><1> Do an inspection of the five D-Head bolts [12] for signs of damage.</p> <p><a> If there is damage, discard and replace them with their retaining ring [13].</p> <p>4) Remove and discard the packing [7] from the fuel filter cover [6].</p> <p>5) Remove the fuel filter element [11] from the fuel filter cover [6].</p> <p>a) Do the inspection of the fuel filter cover [6] for contamination.</p> <p>b) Do the inspection the fuel filter element [11] for contamination.</p> <p><1> If you find usual contamination.</p> <p><a> Discard the fuel filter element [11] and the packing [1] and the packing [10] that are attached to the filter element [11].</p> <p><u>NOTE:</u> Make sure that the packing [1] and the packing [10] are attached to the fuel filter element [11] and not stuck in the filter housing.</p> <p>c) If you find large quantities of contamination.</p> <p><1> Do this task: FIM 73-05 TASK 801.</p>						
EFFECTIVITY AKS ALL		SOURCE MRB		REPLACE THE LEFT ENGINE FUEL FILTER		
				D633A109-AKS 73-010-01-01		
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
AKS ALL POST SB CFM56-7B-73-079 SUBTASK 73-11-02-020-002-F00 <u>WARNING:</u> DO NOT GET FUEL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. PUT ON GOGGLES, AND GLOVES WHEN YOU USE FUEL. KEEP FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS POISONOUS AND FLAMMABLE. FUEL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT. <u>NOTE:</u> This Subtask is for engines which have a fuel filter cover attachment with five D-Head bolts, five retaining rings, five flat washers, five nuts and one bolt with one washer, one self-aligning washer and one self-aligning nut (the main fuel pump reworked by SB CFM56-7B-73-079). (2) Do these steps to remove the fuel filter cover [6]. (a) Do these steps to drain the fuel system: 1) Put the 5 gallon (19 liter) container, STD-1154 under the fuel pump assembly. 2) Cut and remove the safety wire or cable from the drain plug [4]. 3) Remove the drain plug [4] from the fuel filter cover [6]. a) Let the fuel drain in the container. 4) Remove and discard the packing [5] from the drain plug [4]. a) Keep the drain plug [4] for installation. (b) Remove the MW0312 wire harness from the Omega clip that is just to the left of the fuel filter cover [6]. (c) Do these steps to remove the fuel pump filter cover [6]: 1) Loosen and remove the five nuts [15] and the five washers [14] that hold the fuel filter cover [6]. <u>NOTE:</u> If there is damage, discard and replace them. a) Do an inspection of nuts [15] for signs of thread damage. <1> If there is damage, discard and replace it. b) Do an inspection of flat washers [14] for signs of damage (nicks, flatness condition). <1> If there is damage, discard and replace it. 2) Loosen and remove the bolt [16], the flat washers [17], the self-aligning washer [18] and the self-aligning nut [19] that hold the fuel filter cover [6]. a) Do an inspection of the bolt [16] for signs of thread damage. <1> If there is damage, discard and replace it. b) Do an inspection of the flat washer [17] for signs of damage (nicks, flatness condition). <1> If there is damage, discard and replace it. c) Do an inspection of the self-aligning washer [18] for signs of thread and spherical face damage. <1> If there is damage, discard and replace it.				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01		

AKS



737-600/700/800/900 TASK CARDS

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
AKS ALL POST SB CFM56-7B-73-079 (Continued)				MECH	INSP
<p>d) Do an inspection of the self-aligning nut [19] for signs of thread and spherical face damage.</p> <p><1> If there is damage, discard and replace it.</p> <p>3) Remove the fuel filter cover [6] from the fuel filter housing.</p> <p><u>NOTE:</u> When you remove the fuel filter cover [6], the fuel filter element [11] remains attached to it.</p> <p>a) Do an inspection of the attached parts as follows:</p> <p><1> Do an inspection of the five D-Head bolts [12] for signs of thread damage.</p> <p><a> If there is damage, discard and replace them with the retaining rings [13].</p> <p>4) Remove and discard the packing [7] from the fuel filter cover [6].</p> <p>5) Remove the fuel filter element [11] from the fuel filter cover [6].</p> <p>6) Do an inspection of the fuel filter cover [6] for contamination.</p> <p>7) Do an inspection of the fuel filter element [11] for contamination.</p> <p>a) If you find usual contamination.</p> <p><1> Discard the fuel filter element [11] and the packings that are attached to the fuel filter element [11].</p> <p><u>NOTE:</u> Make sure that the packings are attached to the fuel filter element [11] and not stuck in the fuel filter housing.</p> <p>8) If you find large quantities of contamination.</p> <p>a) Do this task: FIM 73-05 TASK 801.</p>					
AKS ALL					
<p style="text-align: center;">———— END OF TASK ————</p>					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER		
			D633A109-AKS		
			73-010-01-01		
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TASK 73-11-02-400-801-F00				MECH	INSP																								
2. Fuel Filter Installation (Figure 1, Figure 2, Figure 3)																													
A. Expendables/Parts <table border="1"> <thead> <tr> <th>AMM Item</th> <th>Description</th> <th>AIPC Reference</th> <th>AIPC Effectivity</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Packing</td> <td>73-11-01-01A-210</td> <td>AKS ALL</td> </tr> <tr> <td>4</td> <td>Plug</td> <td>73-11-01-01A-110</td> <td>AKS ALL</td> </tr> <tr> <td>7</td> <td>Packing</td> <td>73-11-01-01A-195</td> <td>AKS ALL</td> </tr> <tr> <td>10</td> <td>Packing</td> <td>73-11-01-01A-210</td> <td>AKS ALL</td> </tr> <tr> <td>11</td> <td>Filter element</td> <td>73-11-01-01A-215</td> <td>AKS ALL</td> </tr> </tbody> </table>				AMM Item	Description	AIPC Reference	AIPC Effectivity	1	Packing	73-11-01-01A-210	AKS ALL	4	Plug	73-11-01-01A-110	AKS ALL	7	Packing	73-11-01-01A-195	AKS ALL	10	Packing	73-11-01-01A-210	AKS ALL	11	Filter element	73-11-01-01A-215	AKS ALL		
AMM Item	Description	AIPC Reference	AIPC Effectivity																										
1	Packing	73-11-01-01A-210	AKS ALL																										
4	Plug	73-11-01-01A-110	AKS ALL																										
7	Packing	73-11-01-01A-195	AKS ALL																										
10	Packing	73-11-01-01A-210	AKS ALL																										
11	Filter element	73-11-01-01A-215	AKS ALL																										
B. Prepare for the Installation SUBTASK 73-11-02-840-002-F00 (1) Do these steps to prepare for the installation: <p><u>WARNING:</u> THE SOLVENT IS FLAMMABLE. DO NOT USE THE SOLVENT NEAR AN OPEN FLAME. DO NOT BREATHE THE FUMES OF THE SOLVENT. IF YOU DO NOT OBEY THESE INSTRUCTIONS, YOU CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.</p> <p><u>WARNING:</u> ISOPROPYL ALCOHOL IS TOXIC AND FLAMMABLE. USE PERSONAL PROTECTION EQUIPMENT. USE IN A WELL-VENTILATED AREA.</p> <p>(a) Use fuel, G02272 or alcohol, B00676 [CP1041] and cotton wiper, G00034 to clean the fuel filter housing and the fuel filter cover [6].</p> <p>(b) Examine all mating surfaces and adjacent areas of the fuel filter housing to make sure that they are clean and in a good condition.</p>																													
C. Fuel Filter Installation AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 SUBTASK 73-11-02-420-001-F00 (1) Do these steps to install the fuel filter: <p><u>NOTE:</u> There are different configurations of the fuel filter cover [6].</p> <p><u>NOTE:</u> The original design of the fuel pump filter cover attachment (bolts and fuel pump housing inserts) was cancelled. It must be reworked by SB CFM56-7B-73-A0034 and SB CFM56-7B-73-0079.</p> <p>(a) Install the packing [7] in the fuel filter cover [6]:</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>1) Lubricate a new packing [7] with oil, D00623 [CP5066].</p> <p>2) Install the packing [7] in the groove of the fuel filter cover [6].</p>																													
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01																										

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	MECH	INSP
AKS ALL PRE SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(b) Lubricate and install the new packing [1] and new packing [10] on the new fuel filter element [11]: <ol style="list-style-type: none"> 1) Lubricate the new packing [1] with oil, D00623 [CP5066]. 2) Install the packing [1] in the groove at the top of the new fuel filter element [11]. 3) Lubricate the packing [10] with oil, D00623 [CP5066]. 4) Install the packing [10] in the groove at the bottom of the fuel filter element [11]. 						
AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(c) Lubricate the packings of the new fuel filter element [11] with oil, D00623 [CP5066]. <u>NOTE:</u> The packings are already installed by the manufacturer in their grooves on the new fuel filter element [11].						
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212						
(d) Lightly lubricate the threads of the bolt [2] with graphite compound, D00601 [CP2101].						
(e) Lightly lubricate the threads of the five D-Head bolts [12] with graphite compound, D00601 [CP2101].						
<u>CAUTION:</u> MAKE SURE THAT THE WAVE SPRING AND THE RETAINING RING ARE CORRECTLY INSTALLED ON THE FUEL FILTER COVER. IF THE WAVE SPRING AND THE RETAINING RING ARE NOT CORRECTLY INSTALLED, THE FUEL FILTER ELEMENT COULD BE DAMAGED.						
(f) Make sure that the wave spring [8] and the retaining ring [9] are correctly installed into the fuel filter cover [6].						
AKS ALL PRE SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(g) Carefully install the fuel filter element [11] in the fuel filter cover [6]. <ol style="list-style-type: none"> 1) Look down the center of the filter element [11] for signs of extrusion and/or cut packing at the filter cover/packing interface. 2) Make sure that the packing [10] stays in its correct position in the groove in the fuel filter element [11]. 3) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 4) Make sure that the fuel filter element [11] does not move. 						
AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(h) Carefully install the fuel filter element [11] in the fuel filter cover [6].						
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01			

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212) (Continued)				MECH	INSP
<ol style="list-style-type: none"> 1) Look down the center of the filter element [11] for signs of extrusion and/or cut packing at the filter cover/packing interface. 2) Adjust the tabs of the fuel filter element [11] to the fuel filter cover. 3) Make sure that the packings stay in their grooves in the fuel filter element [11]. 4) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 5) Make sure that the fuel filter element [11] does not move. 					
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212					
<ol style="list-style-type: none"> (i) Carefully install the fuel filter cover [6] and the fuel filter element [11] into the fuel filter housing. <ol style="list-style-type: none"> 1) Make sure that the fuel filter element [11] is correctly installed on the guide of the fuel filter housing. 					
AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)					
<ol style="list-style-type: none"> 2) Adjust the tabs of the fuel filter element [11] to the ribs of the fuel filter housing. 					
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212					
<ol style="list-style-type: none"> 3) Make sure that the fuel filter cover [6] is correctly engaged into the fuel filter housing. (j) Before the bolt installation, make sure that the cover is correctly installed against the housing flange. <p><u>NOTE:</u> Do not use the bolts to help engage the filter cover. Damage on the insert will occur. A wood or plastic hammer may help to engage the cover, if it is necessary.</p> (k) Install the five retaining rings [13], the five flat washers [14], and the five nuts [15] on the five D-Head bolts [12] that hold the fuel filter cover [6] to the fuel filter housing. <ol style="list-style-type: none"> 1) Make sure that the nuts [15] screw freely by hand as follows: <p><u>NOTE:</u> No tool is permitted.</p> <ol style="list-style-type: none"> a) Turn each nut for a minimum of two full turns. <p><1> If the attached part is in a good condition, it should not be possible to fully hand tighten the nut.</p> 					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	MECH	INSP
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 (Continued)						
<p><u>CAUTION:</u> BE CAREFUL AS YOU TIGHTEN THE BOLTS THAT HOLD THE FUEL FILTER COVER TO THE HOUSING. MAKE SURE THAT YOU USE PROPER TORQUE TECHNIQUES AS YOU TIGHTEN THE BOLTS. IF YOU DO NOT USE PROPER TORQUE TECHNIQUES, YOU CAN CAUSE DAMAGE TO THE FUEL FILTER COVER OR CAUSE A FUEL LEAK.</p> <p>2) Tighten the five nuts [15] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m). <u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p>(l) Install the bolts [2] and the flat washer [3] that hold the fuel filter cover [6] to the fuel filter housing. <u>NOTE:</u> Only one bolt is used in the hole adjacent to the nameplate.</p> <p>1) Make sure that the bolt engages freely by hand as follows: <u>NOTE:</u> No tool is permitted.</p> <p>a) Hold the bolt head between your fingers, and turn the bolt for a minimum of two full turns. <1> If the insert is in a good condition, it should not be possible to fully hand tighten the bolt.</p> <p><u>CAUTION:</u> TIGHTEN THE BOLTS TO THE CORRECT TORQUE. THE INCORRECT TORQUE CAN CAUSE DAMAGE TO THE COMPONENTS. LARGE QUANTITIES OF FUEL LEAKAGE WILL OCCUR.</p> <p>2) Tighten the bolt [2] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m). <u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p>(m) Install the MW0312 wire harness in the Omega clip that is immediately to the left of the fuel filter cover [6].</p> <p>(n) Install the drain plug [4] on the fuel filter cover [6]:</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>1) Lubricate a new packing [5] with oil, D00623 [CP5066].</p> <p>2) Install the packing [5] in the groove of the drain plug [4].</p> <p>3) Lubricate the threads of the drain plug [4] with oil, D00623 [CP5066].</p> <p>4) Install the drain plug [4] in the fuel filter cover [6]. a) Tighten the drain plug [4] to 45 in-lb (5 N·m) – 55 in-lb (6 N·m).</p> <p>5) Install the safety wire, G02345 [CP8001] or cable, G50065 [CP8006] on the drain plug [4].</p>						
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01			

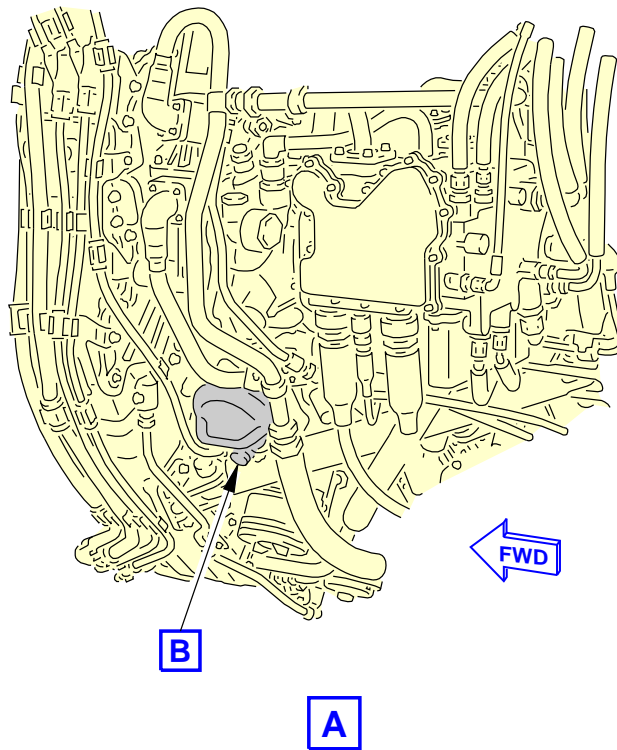
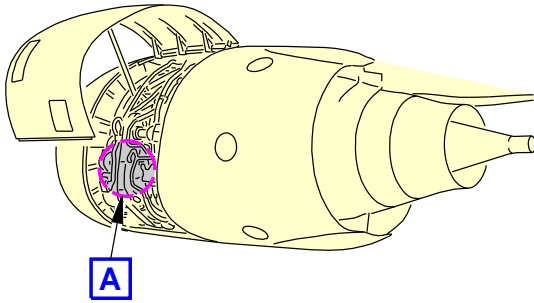
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
AKS ALL POST SB CFM56-7B-73-079 SUBTASK 73-11-02-420-002-F00 <u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. THE SYNTHETIC OIL CONTAINS ADDITIVES THAT CAN BE POISONOUS IF THEY ARE ABSORBED THROUGH THE SKIN. CLEAN AWAY ALL OIL THAT GETS ON THE SKIN. (2) Do these steps to install the fuel filter cover [6]. <u>NOTE:</u> This Subtask is for engines which have a fuel filter cover attachment with five D-Head bolts [12], five retaining rings [13], five flat washers [14], five nuts [15], one bolt [16], one flat washer [17], one self-aligning washer [18], and one self-aligning nut [19] (the main fuel pump reworked by SB CFM56-7B-73-079). (a) Install the packing [7] in the fuel filter cover [6]. 1) Lubricate the packing [7] with oil, D00623 [CP5066]. 2) Install the packing [7] in the groove of the fuel filter cover [6]. AKS ALL PRE SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (b) Lubricate and install the new packing [1] and the new packing [10] on the new fuel filter element [11]. 1) Lubricate the new packing [1] with oil, D00623 [CP5066]. 2) Install the packing [1] in the groove at the top of the new fuel filter element [11]. 3) Lubricate the new packing [10] with oil, D00623 [CP5066]. 4) Install the packing [10] in the groove at the bottom of the new fuel filter element [11]. AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (c) Lubricate the packings of the new fuel filter element [11] with oil, D00623 [CP5066]. <u>NOTE:</u> The packings are already installed by the manufacturer in their grooves on the new fuel filter element [11]. AKS ALL POST SB CFM56-7B-73-079 (d) Lightly lubricate the threads of the bolt [16] and the self-aligning washer [18] with graphite compound, D00601 [CP2101]. (e) Lightly lubricate the threads of the five D-Head bolts [12] with graphite compound, D00601 [CP2101]. (f) Make sure that the wave spring [8] and the retaining ring [9] are correctly installed into the fuel filter cover [6]. <u>NOTE:</u> Make sure that the wave spring [8] and the retaining ring [9] are correctly installed on the fuel filter cover [6]. If the wave spring [8] and the retaining ring [9] are not correctly installed, the fuel filter element [11] could be damaged. AKS ALL PRE SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (g) Carefully install the fuel filter element [11] on the fuel filter cover [6].				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
AKS ALL PRE SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (Continued)				MECH	INSP
1) Make sure that the packing [10] stays in its correct position in the groove in the fuel filter element [11]. 2) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 3) Make sure that the fuel filter element [11] does not move.					
AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (h) Carefully install the fuel filter element [11] on the fuel filter cover [6]. 1) Adjust the tabs of the fuel filter element [11] to the fuel filter cover. 2) Make sure that the packings stay in their grooves in the fuel filter element [11]. 3) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 4) Make sure that the fuel filter element [11] does not move.					
AKS ALL POST SB CFM56-7B-73-079 (i) Carefully install the fuel filter cover [6] with its fuel filter element [11] into the fuel filter housing. 1) Make sure that the fuel filter element [11] is correctly installed on the guide of the fuel filter housing.					
AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 2) Adjust the tabs of the fuel filter element [11] to the ribs of the fuel filter housing.					
AKS ALL POST SB CFM56-7B-73-079 3) Make sure that the fuel filter cover [6] is correctly engaged into the fuel filter housing. <u>NOTE:</u> Do not use the bolts to help engage the filter cover. Damage on the insert will occur. A wood or plastic hammer may help to engage the cover, if it is necessary.					
(j) Before the bolts installation, make sure that the cover is correctly installed against the housing flange.					
(k) Install the five retaining rings [13], the five flat washers [14], and the five nuts [15] on the five D-Head bolts [12] that hold the fuel filter cover [6] to the fuel filter housing. 1) Make sure that the nuts [15] screw freely by hand as follows: <u>NOTE:</u> No tool is permitted. <ul style="list-style-type: none"> a) Turn each nut for a minimum of two full turns. <1> If the attached part is in a good condition, it should not be possible to fully hand tighten the nut.					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
AKS ALL POST SB CFM56-7B-73-079 (Continued)				MECH INSP
<p><u>CAUTION:</u> TIGHTEN THE BOLTS TO THE CORRECT TORQUE. THE INCORRECT TORQUE CAN CAUSE DAMAGE TO THE COMPONENTS. LARGE QUANTITIES OF FUEL LEAKAGE WILL OCCUR.</p> <p>b) Tighten the five nuts [15] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m).</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p>(l) Install the bolt [16], the flat washer [17], the self-aligning washer [18] and the self-aligning nut [19] that hold the fuel filter cover [6] to the fuel filter housing.</p> <p><u>NOTE:</u> There are two attachment designs that are not interchangeable. The spherical profile of the nuts and washers is different (two suppliers hardware).</p> <p><u>NOTE:</u> This step is for the fuel filter cover attachment with Kit PH030035-4 or Kit NAS1727-4D.</p> <p><u>NOTE:</u> Only one bolt is used in the hole adjacent to the nameplate.</p> <p>1) Lubricate the head faces of the bolt [16] in contact with the flat washer [17].</p> <p>a) Lubricate the threads of the bolt and the spherical side of the self-aligning nut [19] with graphite compound, D00601 [CP2101].</p> <p>2) Install the bolt [16], the flat washer [17], the self-aligning washer [18] and the self-aligning nut [19] for each assembly configuration.</p> <p><u>NOTE:</u> An improper bolt, nut and washer installation can lead to damages. Pay special attention to the self-aligning nut and washer installation.</p> <p><u>NOTE:</u> Do not intermix the bolt, self-aligning nut and self-aligning washer from the different suppliers on the fuel pump which attach the fuel filter cover.</p> <p><u>CAUTION:</u> TIGHTEN THE BOLTS TO THE CORRECT TORQUE. THE INCORRECT TORQUE CAN CAUSE DAMAGE TO THE COMPONENTS. LARGE QUANTITIES OF FUEL LEAKAGE WILL OCCUR.</p> <p>3) Tighten the bolt [16] and the self-aligning nut [19] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m).</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. THE SYNTHETIC OIL CONTAINS ADDITIVES THAT CAN BE POISONOUS IF THEY ARE ABSORBED THROUGH THE SKIN. CLEAN AWAY ALL OIL THAT GETS ON THE SKIN.</p> <p>(m) Install the MW0312 wire harness in Omega clip that is immediately to the left of the fuel filter cover [6].</p> <p>1) Install the drain plug [4] on the fuel filter cover [6]:</p> <p>a) Lubricate the new packing [5] with oil, D00623 [CP5066].</p>				
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01	

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01	
AKS ALL POST SB CFM56-7B-73-079 (Continued)				MECH	INSP
<div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <p>b) Install the packing [5] in the groove of the drain plug [4].</p> <p>c) Lubricate the threads of the drain plug [4] with oil, D00623 [CP5066].</p> <p>d) Install the drain plug [4] in the fuel filter cover [6].</p> <p style="padding-left: 40px;"><1> Tighten the drain plug [4] to 45 in-lb (5 N·m) – 55 in-lb (6 N·m).</p> <p>e) Install the safety wire, G02345 [CP8001] or cable, G50065 [CP8006] on the drain plug [4].</p> <p>AKS ALL</p> <p>D. Put the Airplane in a Serviceable Condition</p> <p><small>SUBTASK 73-11-02-840-003-F00</small></p> <p>(1) Do these steps to put the airplane in a serviceable condition:</p> <p style="padding-left: 40px;">(a) Do this task: Close the Fan Cowl Panels, AMM TASK 71-11-02-410-801-F00.</p> <p style="padding-left: 40px;">(b) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.</p> <p style="padding-left: 80px;">1) Remove the DO-NOT-OPERATE tag from the BAT switch on panel P5-13.</p> <p style="padding-left: 40px;">(c) Remove the DO-NOT-OPERATE tag from the applicable engine start lever.</p> <p>E. Fuel Filter Replacement Test</p> <p><small>SUBTASK 73-11-02-790-001-F00</small></p> <p>CAUTION: DO NOT MOTOR THE ENGINE BEFORE VERIFYING THAT THE FUEL SPAR VALVE IS IN THE OPEN POSITION AND FUEL BOOST PUMP PRESSURE IS APPLIED TO THE FUEL PUMP INLET. THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT ARE FUEL LUBRICATED, ZERO FUEL PRESSURE CAN CAUSE DAMAGE TO THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT.</p> <p>(1) Do the tests that are listed in the Power Plant Test Reference Table (AMM TASK 71-00-00-800-811-F00).</p> <p style="text-align: center;">———— END OF TASK ————</p> </div> <div style="width: 15%; border-left: 1px solid black; border-right: 1px solid black;"></div> </div>					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01		
			Page 14 of 24 Jun 15/2016		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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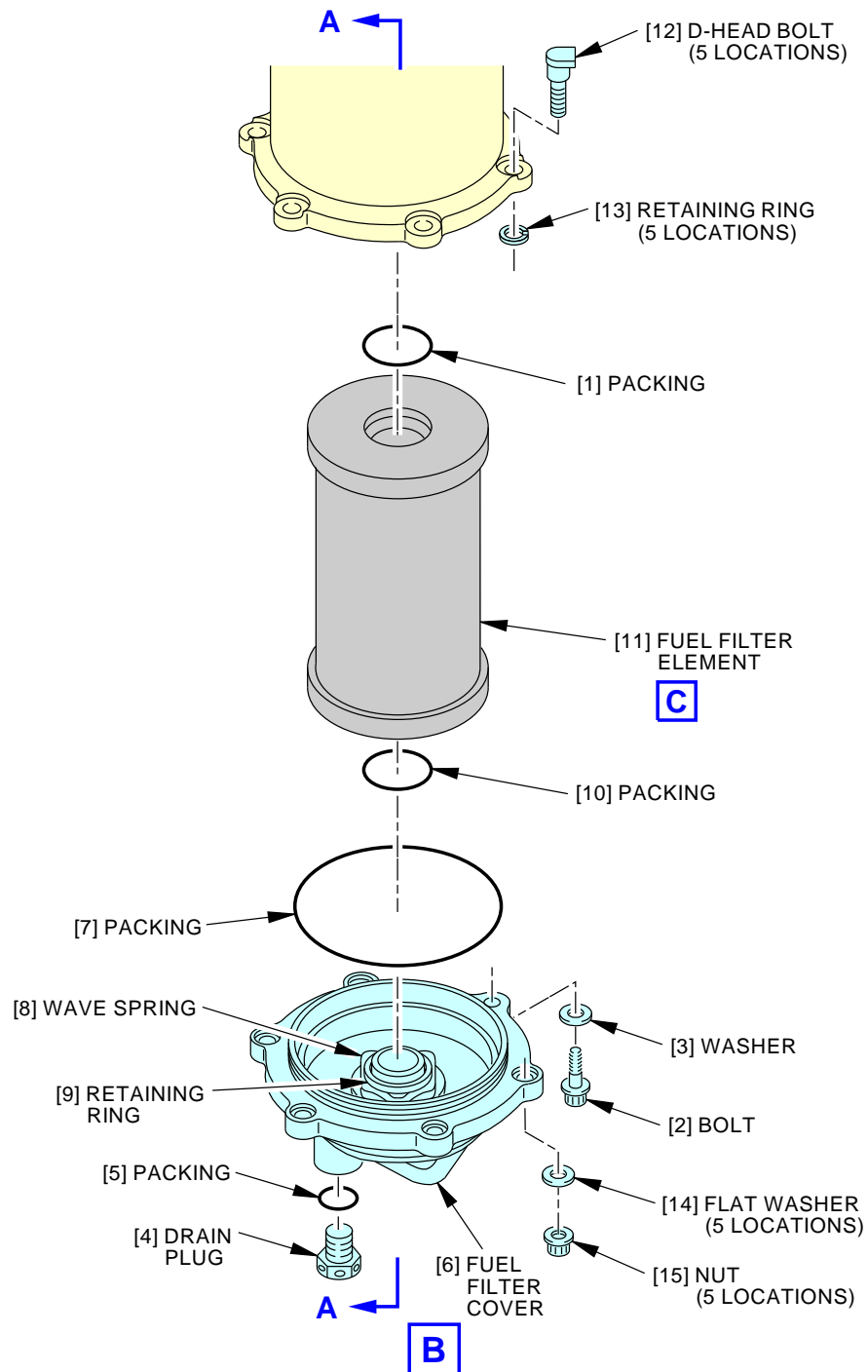
MM-00203-00-B

E91820 S0006582614_V4

**Fuel Filter Installation
Figure 1 (Sheet 1 of 4)**

EFFECTIVITY AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212	SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01	Page 15 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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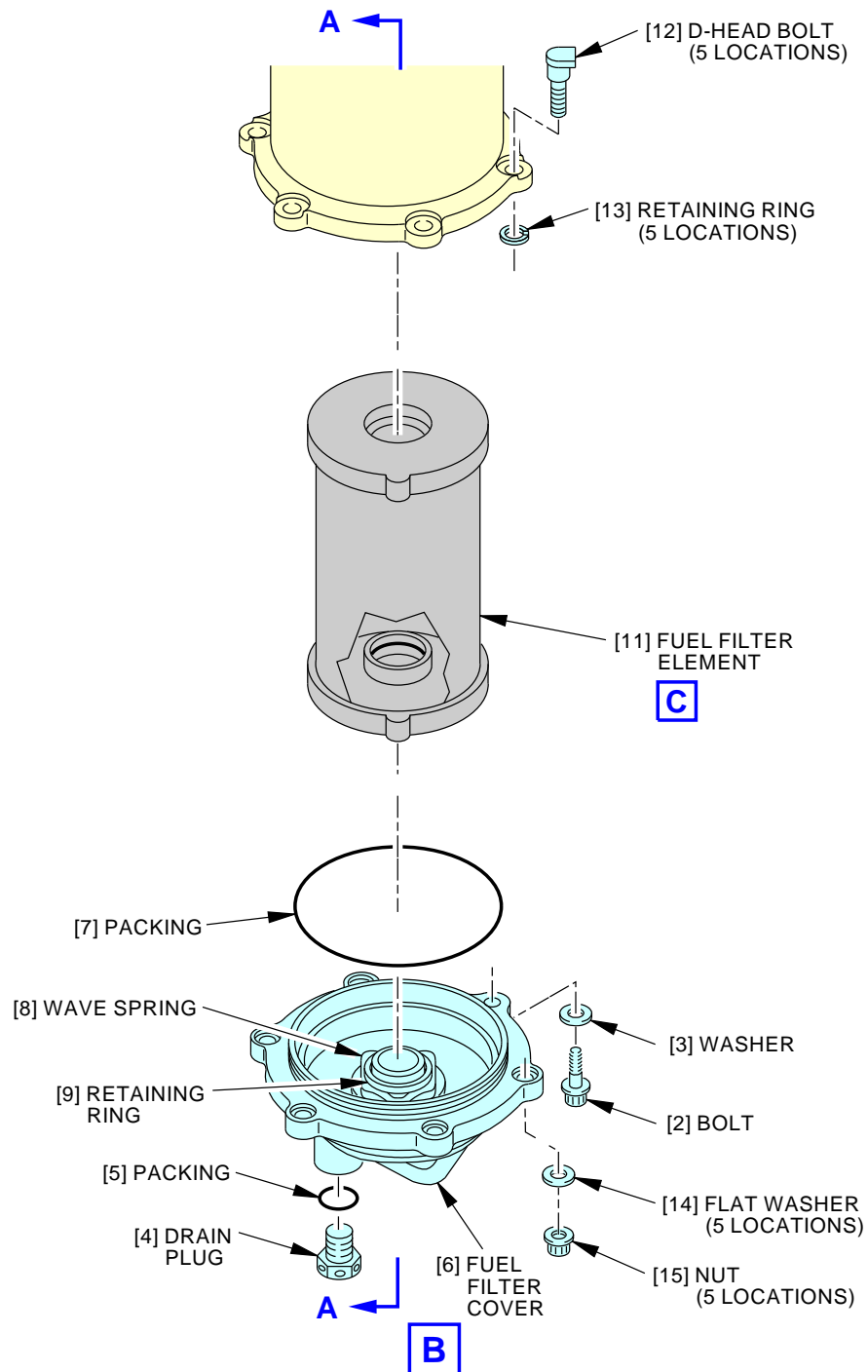


2478829 S0000581955_V1

**Fuel Filter Installation
Figure 1 (Sheet 2 of 4)**

EFFECTIVITY AKS ALL PRE SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)	SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01	Page 16 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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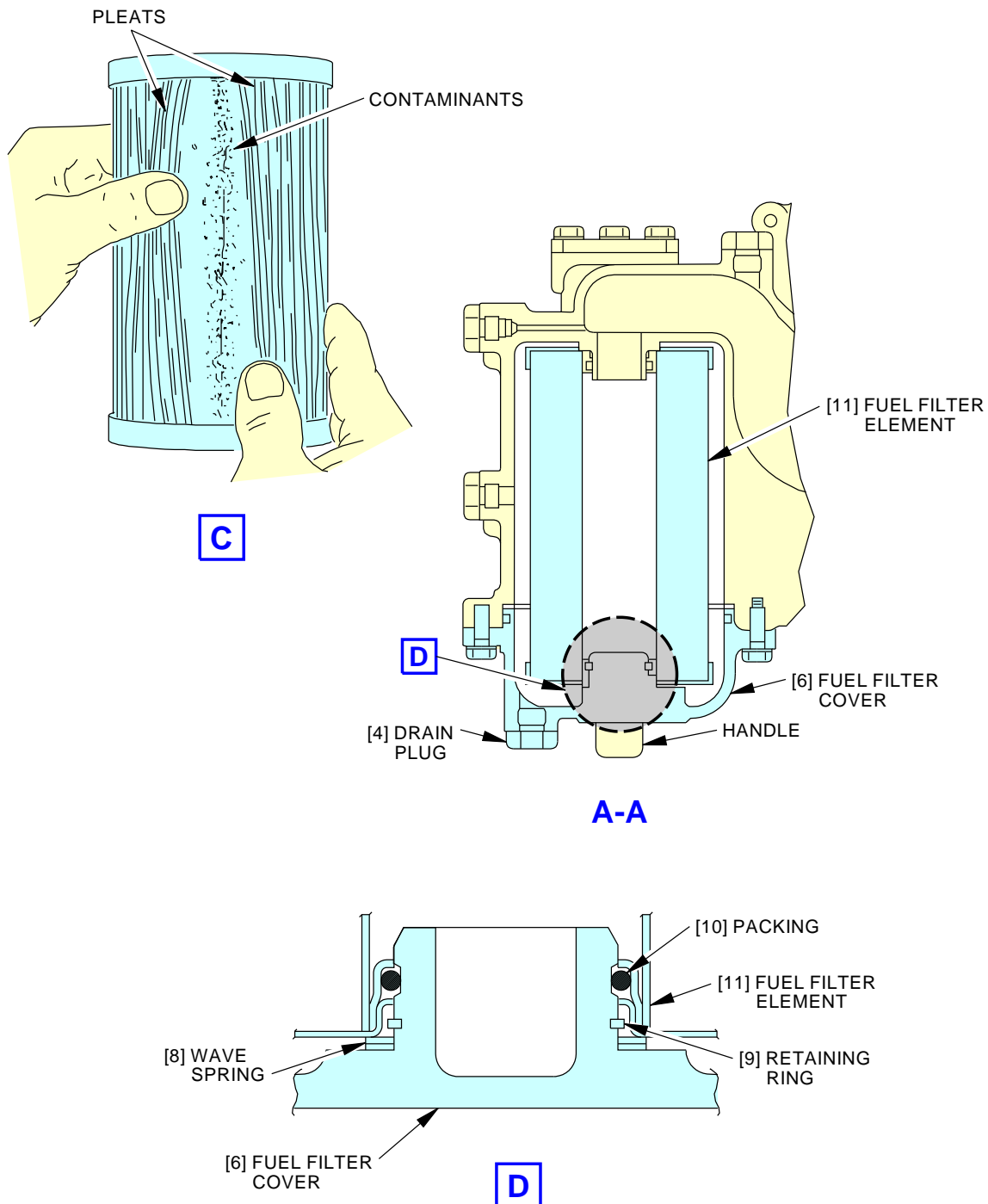


K57882 S0006582615_V5

**Fuel Filter Installation
Figure 1 (Sheet 3 of 4)**

<p>EFFECTIVITY</p> <p>AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)</p>	<p>SOURCE</p> <p>MRB</p>	<p>REPLACE THE LEFT ENGINE FUEL FILTER</p> <p>D633A109-AKS 73-010-01-01</p> <p>Page 17 of 24 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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G84399 S0006582616_V4

Fuel Filter Installation
Figure 1 (Sheet 4 of 4)

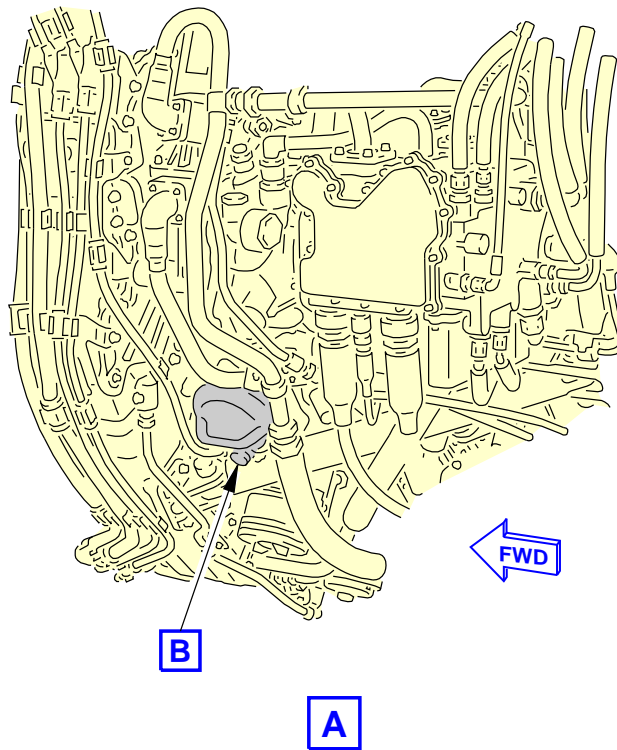
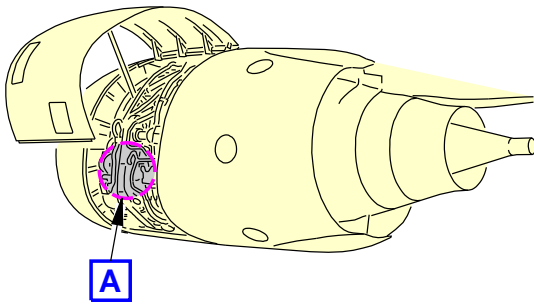
EFFECTIVITY AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212	SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01	Page 18 of 24 Jun 15/2016
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AKS



737-600/700/800/900 TASK CARDS

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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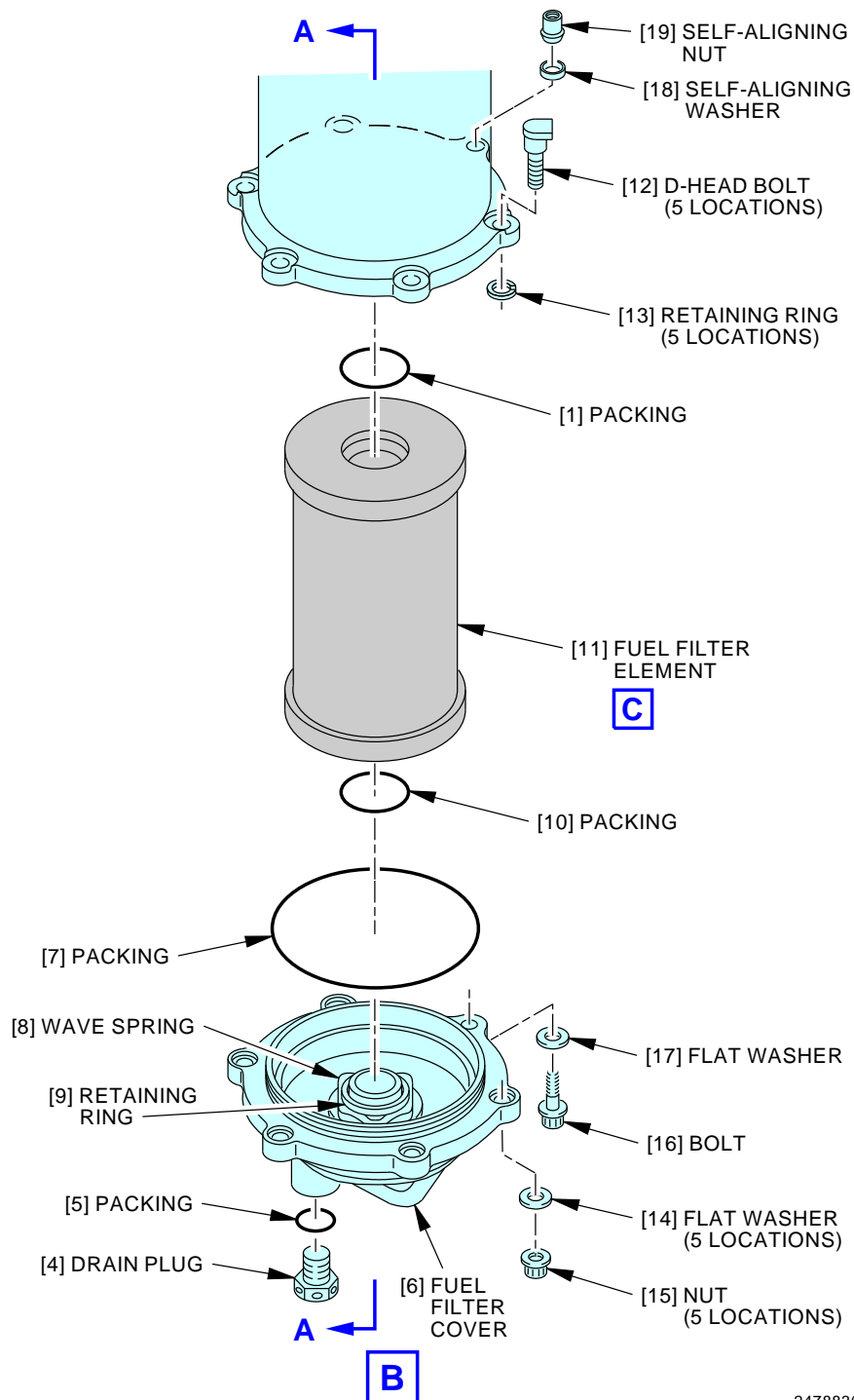
MM-00203-00-B

E91820 S0006582614_V4

**Fuel Filter Installation
Figure 2 (Sheet 1 of 4)**

<p>EFFECTIVITY AKS ALL POST SB CFM56-7B-73-079</p>	<p>SOURCE MRB</p>	<p>REPLACE THE LEFT ENGINE FUEL FILTER</p> <p>D633A109-AKS 73-010-01-01</p> <p>Page 19 of 24 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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2478830 S0000581958_V1

**Fuel Filter Installation
Figure 2 (Sheet 2 of 4)**

EFFECTIVITY
AKS ALL PRE SB CFM56-7B-73-078 AND
POST SB CFM56-7B-73-079

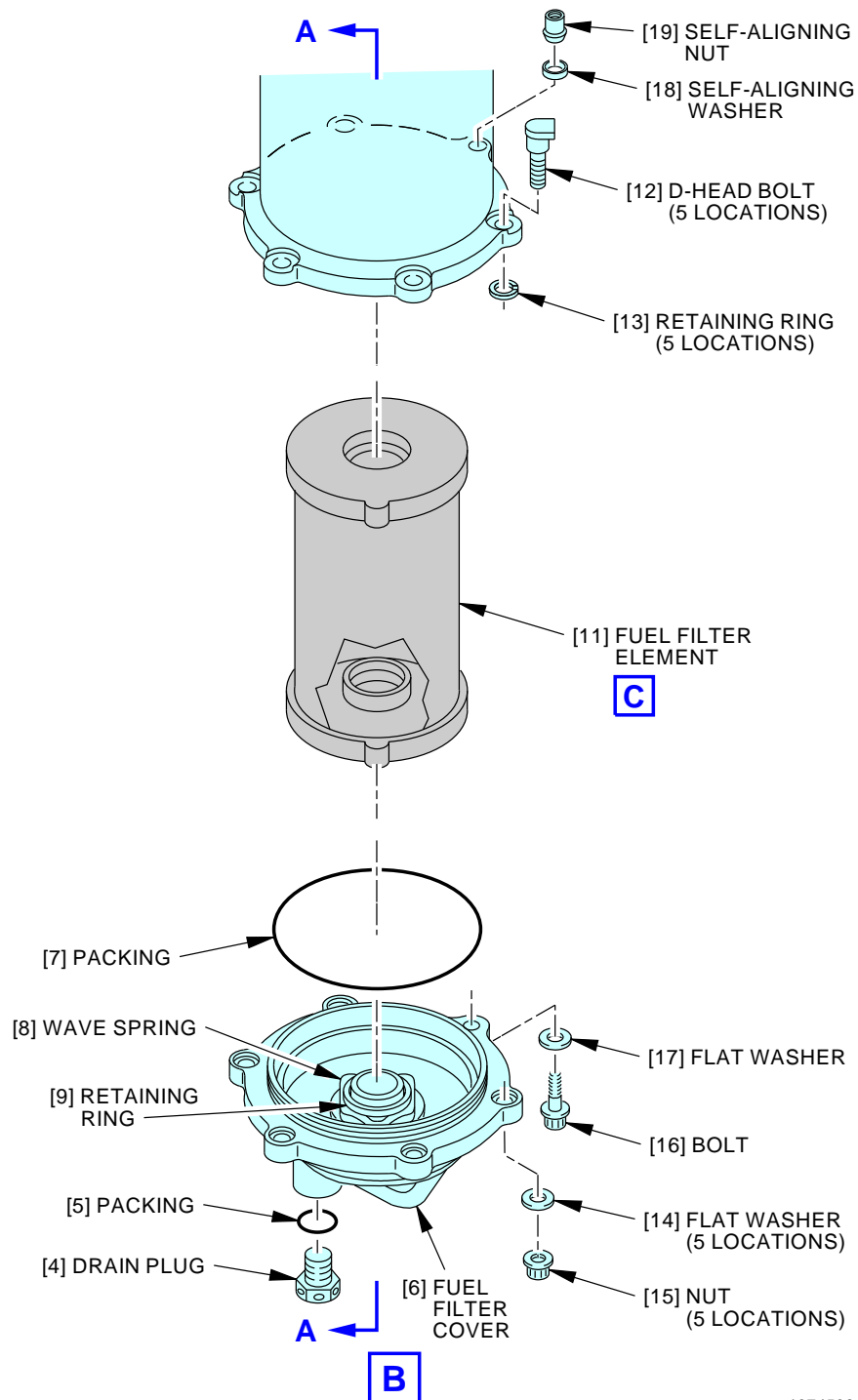
SOURCE
MRB

REPLACE THE LEFT ENGINE FUEL FILTER

**D633A109-AKS
73-010-01-01**

**Page 20 of 24
Jun 15/2016**

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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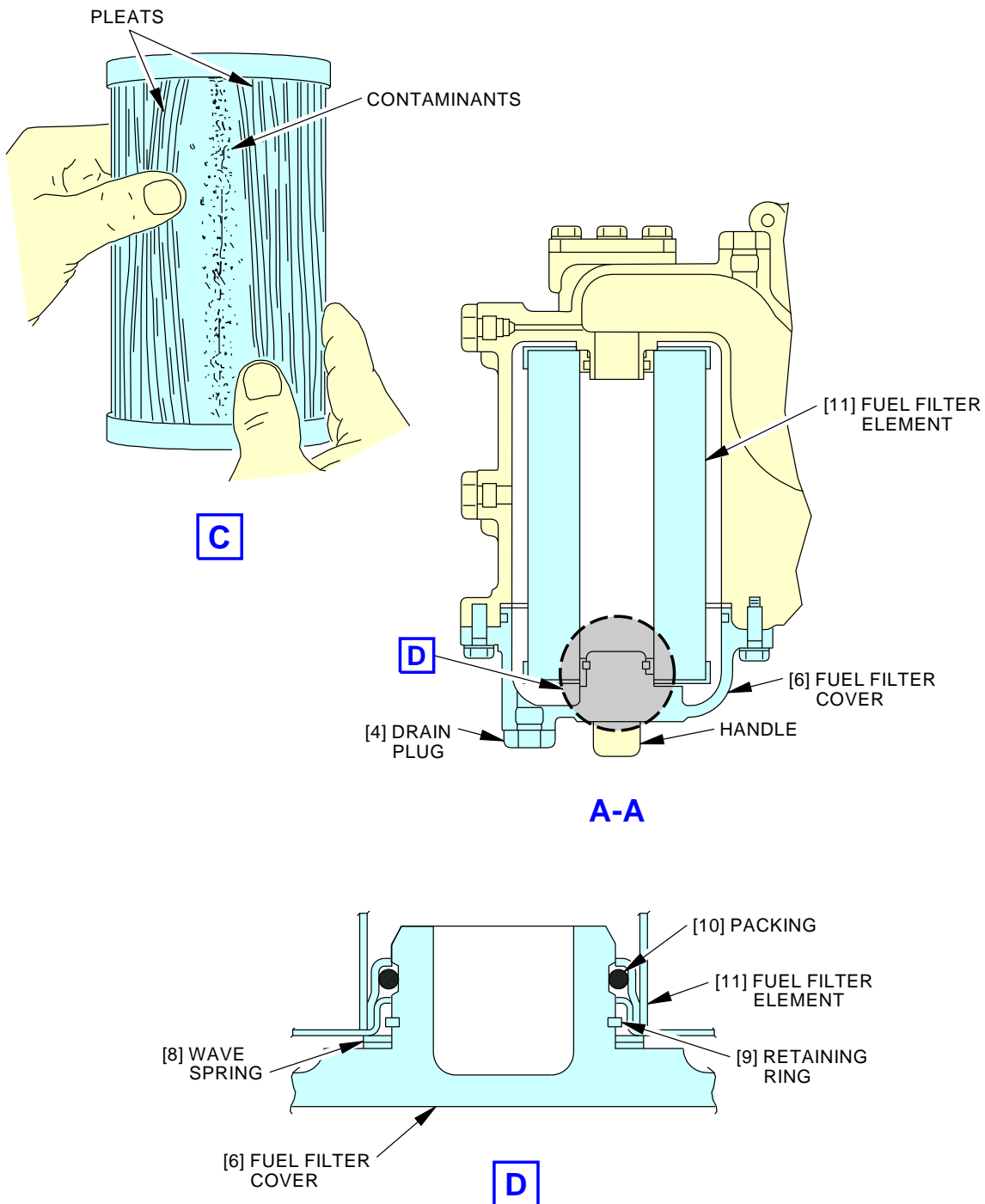


1374598 S0000248823_V4

**Fuel Filter Installation
Figure 2 (Sheet 3 of 4)**

EFFECTIVITY AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079	SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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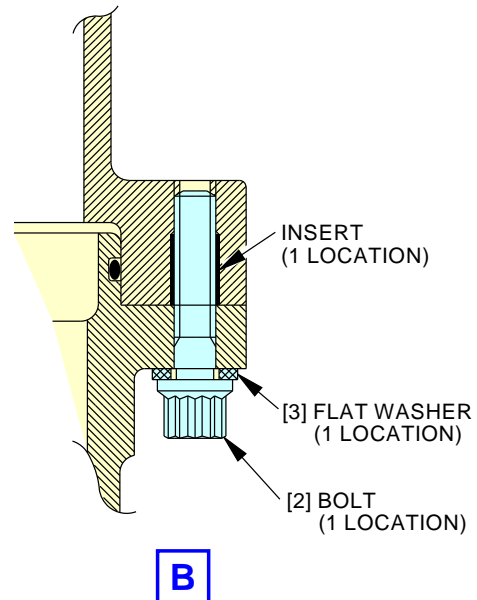
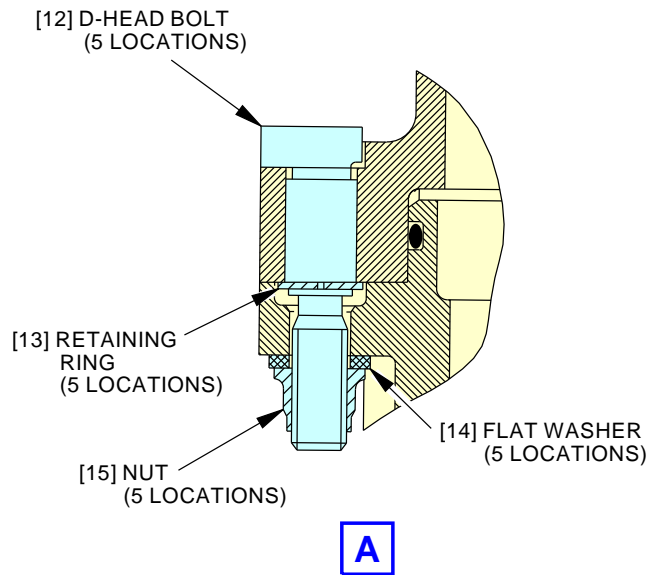
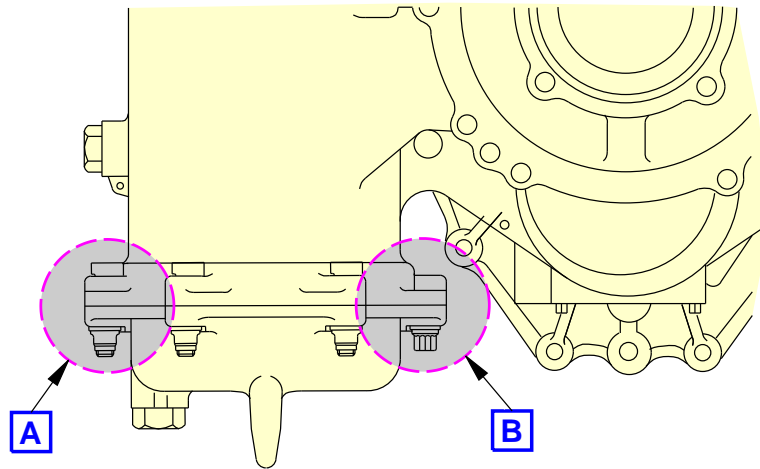


G84399 S0006582616_V4

**Fuel Filter Installation
Figure 2 (Sheet 4 of 4)**

<p>EFFECTIVITY</p> <p>AKS ALL POST SB CFM56-7B-73-079</p>	<p>SOURCE</p> <p>MRB</p>	<p>REPLACE THE LEFT ENGINE FUEL FILTER</p> <p>D633A109-AKS 73-010-01-01</p>	<p>Page 22 of 24 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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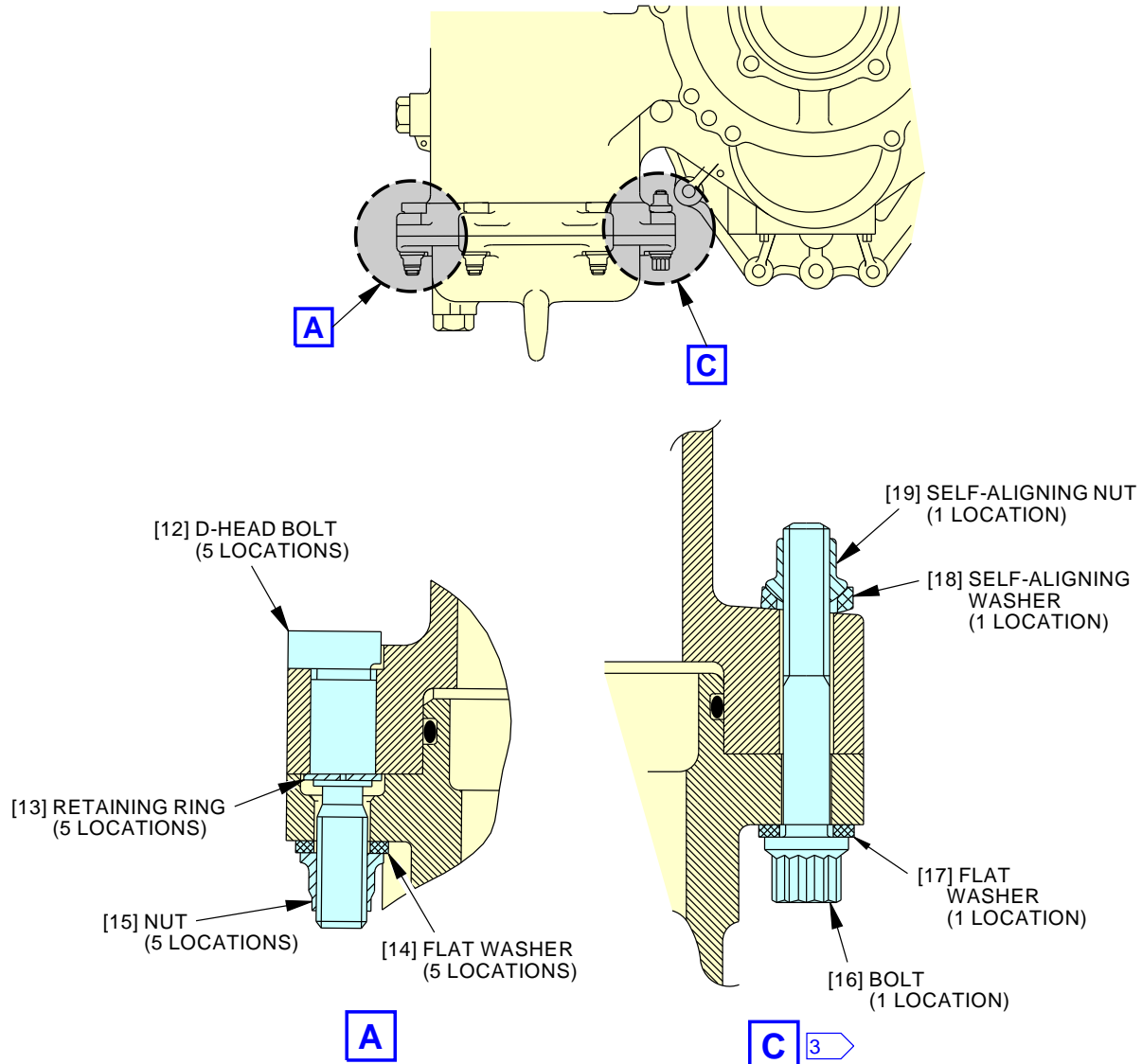


1374765 S0000248824_V2

**Fuel Filter Attachment Installation
Figure 3 (Sheet 1 of 2)**

EFFECTIVITY AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212	SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01	Page 23 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-01-01
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**NOTE:**

3 DO NOT INTERMIX THE DIFFERENT SUPPLIERS HARDWARE (SELF-ALIGNING WASHER AND SELF-ALIGNING NUT FROM KIT PH030035-4 OR KIT NAS1727-4D) AND BOLT.

1374445 S0000248825_V2

Fuel Filter Attachment Installation
Figure 3 (Sheet 2 of 2)

EFFECTIVITY AKS ALL POST SB CFM56-7B-73-079	SOURCE MRB	REPLACE THE LEFT ENGINE FUEL FILTER D633A109-AKS 73-010-01-01	Page 24 of 24 Jun 15/2016
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AIRLINE CARD NO.		TITLE REPLACE THE RIGHT ENGINE FUEL FILTER			BOEING CARD NO. 73-010-02-01
DATE	TASK REPLACE				RELATED CARD
TAIL NUMBER	WORK AREA RIGHT ENGINE	VERSION 1.1	THRESHOLD 6000 FH	REPEAT 6000 FH	APPLICABILITY AIRPLANE ALL ENGINE ALL
STATION	SKILL AIRPL				
		ACCESS 423 424			ZONE 421

Replace the right engine fuel filter.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 70-20-02-400-801-F00	Tightening Practices and Torque Values (P/B 201)
AMM 71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
AMM 71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
AMM 71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
FIM 73-05 TASK 801	Fuel FILTER BYPASS Light is On - Fault Isolation

B. Consumable Materials

Reference	Description	Specification
B00676 [CP1041]	Alcohol - Isopropyl	CFM CP1041, TT-I-735
D00601 [CP2101]	High-temperature graphite compound	SAE AMS 2518
D00623 [CP5066]	Oil - Fuel System, Corrosion Preventive	MIL-PRF-6081, Grade 1010
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A
G02272	Fuel - Turbine, Aviation (Grades JP-4, JP-5, JP-5/JP-8ST)	MIL-DTL-5624
G02345 [CP8001]	Wire - Safety, 0.032 Inch (0.8 mm) Diameter	CFM CP8001, AMS 5687
G50065 [CP8006]	Cable, Safety, Stainless Steel, 0.032 inch (0.813 mm) Diameter	M50 TF 9 CL-A

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
STD-1154	Container - 5 Gallon (19 Liters)

EFFECTIVITY AKS ALL	SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01	Page 1 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01	
TASK 73-11-02-000-801-F00 1. Fuel Filter Removal (Figure 1, Figure 2, Figure 3) A. General (1) Each engine has one fuel filter element on the fuel pump assembly. B. Prepare for the Removal SUBTASK 73-11-02-840-001-F00 (1) Do these steps to prepare for the removal: (a) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. (b) Make sure the engine start lever is in the CUTOFF position. 1) Install a DO-NOT-OPERATE tag on the applicable engine start lever. (c) Make sure the ENG VALVE CLOSED (engine fuel shutoff valve) light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the engine fuel shutoff valve has three positions: Bright when the valve is in transition or does not agree with the commanded position; Dim when the valve is closed; and, Off when the valve is opened. (d) Make sure the SPAR VALVE CLOSED light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the fuel spar valve has three positions: Bright when the valve is in transition or does not agree with the commanded position; Dim when the valve is closed; and, Off when the valve is opened. (e) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812. NOTE: The removal of the electrical power is necessary while you disconnect the electrical and fluid connectors. You can reapply electrical power to the airplane after all of the electrical and fluid connectors are disconnected and the protective covers are installed. 1) Make sure that the BAT switch on panel P5-13 is set to OFF and install a DO-NOT-OPERATE tag. (f) Do this task: Open the Fan Cowl Panels, AMM TASK 71-11-02-010-801-F00. C. Fuel Filter Removal AKS ALL PRE SB CFM56-7B-73A034 NOTE: There are different configurations of the fuel filter cover. NOTE: The original design of the fuel pump filter cover attachment (bolts and fuel pump housing inserts) was canceled. It must be reworked by SB CFM56-7B-73-A0034 and SB CFM56-7B-73-0079. AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 SUBTASK 73-11-02-020-001-F00 (1) Do these steps to remove the fuel filter cover:				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01	
AKS ALL PRE SB CFM56-7B-73A034 AND (WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)				MECH	INSP
<p><u>NOTE:</u> This Subtask is for engines which have a fuel filter cover attachment with five D-Head bolts, five retaining rings, five washers, five nuts and one bolt with its insert (1 location) into the fuel pump housing (the main fuel pump reworked by SB CFM56-7B-73-A034).</p>					
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212					
<p><u>WARNING:</u> DO NOT GET FUEL IN YOUR MOUTH, OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. KEEP THE FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS A POISONOUS AND FLAMMABLE LIQUID, THAT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.</p>					
<p>(a) Do these steps to drain the fuel system:</p> <ol style="list-style-type: none"> 1) Put the 5 gallon (19 liter) container, STD-1154 under the fuel pump assembly. 2) Cut and remove the safety wire or cable from the drain plug [4]. 3) Remove the drain plug [4] from the fuel filter cover [6]. <ol style="list-style-type: none"> a) Let the fuel drain in the container. 4) Remove and discard the packing [5] from the drain plug [4]. <ol style="list-style-type: none"> a) Keep the drain plug [4] for the installation. 					
<p>(b) Remove the MW0312 wire harness from the Omega clip that is just to the left of the fuel filter cover [6].</p>					
<p>(c) Do these steps to remove the fuel filter cover [6]:</p> <ol style="list-style-type: none"> 1) Loosen and remove the bolt [2] and the flat washer [3] that hold the fuel filter cover [6]. <ol style="list-style-type: none"> a) Do an inspection of the bolt [2] for signs of thread damage. <p><1> If there is damage, discard and replace it.</p> b) Do an inspection of the flat washer [3] for signs of damage (nicks, flatness condition). <p><1> If there is damage, discard and replace it.</p> 2) Loosen and remove the five nuts [15] and five flat washers [14] that hold the fuel filter cover [6]. 					
<p><u>NOTE:</u> The five D-Head bolts [12] are captive in the fuel filter cover housing.</p> <ol style="list-style-type: none"> a) Do an inspection of the nuts [15] for signs of thread damage. <p><1> If there is damage, discard and replace them.</p> b) Do an inspection of the flat washers [14] for signs of damage (nicks, flatness condition). <p><1> If there is damage, discard and replace them.</p> 					
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01	MECH	INSP
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 (Continued)						
3) Remove the fuel filter cover [6] from the fuel filter housing. <u>NOTE:</u> When you remove the fuel filter cover [6], the filter element [11] remains attached to it. a) Do an inspection of the main fuel pump housing insert for signs of damage for a pulled out insert, insert movement, and the thread insert damage. <u>NOTE:</u> There is only one insert in the main fuel pump housing, located in the hole adjacent to the nameplate. <1> For 828300-4 fuel pump, if the insert is damaged, replace the fuel pump or apply SB CFM56-7B-73-0079. AKS ALL WITH 828300-5 FUEL PUMP AND PRE SB 737-CFM56-7B-73-0212 <2> For 828300-5 fuel pump, if the insert is damaged, replace the fuel pump or apply SB CFM56-7B-73-0212. AKS ALL POST SB 737-CFM56-7B-73-0212 <3> For 828300-8 fuel pump, if the insert is damaged, replace the fuel pump. AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 b) Do an inspection of the attached parts as follows: <1> Do an inspection of the five D-Head bolts [12] for signs of damage. <a> If there is damage, discard and replace them with their retaining ring [13]. 4) Remove and discard the packing [7] from the fuel filter cover [6]. 5) Remove the fuel filter element [11] from the fuel filter cover [6]. a) Do the inspection of the fuel filter cover [6] for contamination. b) Do the inspection the fuel filter element [11] for contamination. <1> If you find usual contamination. <a> Discard the fuel filter element [11] and the packing [1] and the packing [10] that are attached to the filter element [11]. <u>NOTE:</u> Make sure that the packing [1] and the packing [10] are attached to the fuel filter element [11] and not stuck in the filter housing. c) If you find large quantities of contamination. <1> Do this task: FIM 73-05 TASK 801.						
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01	
AKS ALL POST SB CFM56-7B-73-079 SUBTASK 73-11-02-020-002-F00 <u>WARNING:</u> DO NOT GET FUEL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. PUT ON GOGGLES, AND GLOVES WHEN YOU USE FUEL. KEEP FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS POISONOUS AND FLAMMABLE. FUEL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT. <u>NOTE:</u> This Subtask is for engines which have a fuel filter cover attachment with five D-Head bolts, five retaining rings, five flat washers, five nuts and one bolt with one washer, one self-aligning washer and one self-aligning nut (the main fuel pump reworked by SB CFM56-7B-73-079). (2) Do these steps to remove the fuel filter cover [6]. (a) Do these steps to drain the fuel system: 1) Put the 5 gallon (19 liter) container, STD-1154 under the fuel pump assembly. 2) Cut and remove the safety wire or cable from the drain plug [4]. 3) Remove the drain plug [4] from the fuel filter cover [6]. a) Let the fuel drain in the container. 4) Remove and discard the packing [5] from the drain plug [4]. a) Keep the drain plug [4] for installation. (b) Remove the MW0312 wire harness from the Omega clip that is just to the left of the fuel filter cover [6]. (c) Do these steps to remove the fuel pump filter cover [6]: 1) Loosen and remove the five nuts [15] and the five washers [14] that hold the fuel filter cover [6]. <u>NOTE:</u> If there is damage, discard and replace them. a) Do an inspection of nuts [15] for signs of thread damage. <1> If there is damage, discard and replace it. b) Do an inspection of flat washers [14] for signs of damage (nicks, flatness condition). <1> If there is damage, discard and replace it. 2) Loosen and remove the bolt [16], the flat washers [17], the self-aligning washer [18] and the self-aligning nut [19] that hold the fuel filter cover [6]. a) Do an inspection of the bolt [16] for signs of thread damage. <1> If there is damage, discard and replace it. b) Do an inspection of the flat washer [17] for signs of damage (nicks, flatness condition). <1> If there is damage, discard and replace it. c) Do an inspection of the self-aligning washer [18] for signs of thread and spherical face damage. <1> If there is damage, discard and replace it.				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01	
AKS ALL POST SB CFM56-7B-73-079 (Continued)				MECH	INSP
<p>d) Do an inspection of the self-aligning nut [19] for signs of thread and spherical face damage.</p> <p><1> If there is damage, discard and replace it.</p> <p>3) Remove the fuel filter cover [6] from the fuel filter housing.</p> <p><u>NOTE:</u> When you remove the fuel filter cover [6], the fuel filter element [11] remains attached to it.</p> <p>a) Do an inspection of the attached parts as follows:</p> <p><1> Do an inspection of the five D-Head bolts [12] for signs of thread damage.</p> <p><a> If there is damage, discard and replace them with the retaining rings [13].</p> <p>4) Remove and discard the packing [7] from the fuel filter cover [6].</p> <p>5) Remove the fuel filter element [11] from the fuel filter cover [6].</p> <p>6) Do an inspection of the fuel filter cover [6] for contamination.</p> <p>7) Do an inspection of the fuel filter element [11] for contamination.</p> <p>a) If you find usual contamination.</p> <p><1> Discard the fuel filter element [11] and the packings that are attached to the fuel filter element [11].</p> <p><u>NOTE:</u> Make sure that the packings are attached to the fuel filter element [11] and not stuck in the fuel filter housing.</p> <p>8) If you find large quantities of contamination.</p> <p>a) Do this task: FIM 73-05 TASK 801.</p>					
AKS ALL					
————— END OF TASK —————					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER		
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TASK 73-11-02-400-801-F00				MECH	INSP
2. Fuel Filter Installation (Figure 1, Figure 2, Figure 3)					
A. Expendables/Parts					
AMM Item	Description	AIPC Reference	AIPC Effectivity		
1	Packing	73-11-01-01A-210	AKS ALL		
4	Plug	73-11-01-01A-110	AKS ALL		
7	Packing	73-11-01-01A-195	AKS ALL		
10	Packing	73-11-01-01A-210	AKS ALL		
11	Filter element	73-11-01-01A-215	AKS ALL		
B. Prepare for the Installation					
SUBTASK 73-11-02-840-002-F00					
(1) Do these steps to prepare for the installation:					
<u>WARNING:</u> THE SOLVENT IS FLAMMABLE. DO NOT USE THE SOLVENT NEAR AN OPEN FLAME. DO NOT BREATHE THE FUMES OF THE SOLVENT. IF YOU DO NOT OBEY THESE INSTRUCTIONS, YOU CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.					
<u>WARNING:</u> ISOPROPYL ALCOHOL IS TOXIC AND FLAMMABLE. USE PERSONAL PROTECTION EQUIPMENT. USE IN A WELL-VENTILATED AREA.					
(a) Use fuel, G02272 or alcohol, B00676 [CP1041] and cotton wiper, G00034 to clean the fuel filter housing and the fuel filter cover [6].					
(b) Examine all mating surfaces and adjacent areas of the fuel filter housing to make sure that they are clean and in a good condition.					
C. Fuel Filter Installation					
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212					
SUBTASK 73-11-02-420-001-F00					
(1) Do these steps to install the fuel filter:					
<u>NOTE:</u> There are different configurations of the fuel filter cover [6].					
<u>NOTE:</u> The original design of the fuel pump filter cover attachment (bolts and fuel pump housing inserts) was cancelled. It must be reworked by SB CFM56-7B-73-A0034 and SB CFM56-7B-73-0079.					
(a) Install the packing [7] in the fuel filter cover [6]:					
<u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.					
1) Lubricate a new packing [7] with oil, D00623 [CP5066].					
2) Install the packing [7] in the groove of the fuel filter cover [6].					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01	MECH	INSP
AKS ALL PRE SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(b) Lubricate and install the new packing [1] and new packing [10] on the new fuel filter element [11]: <ol style="list-style-type: none"> 1) Lubricate the new packing [1] with oil, D00623 [CP5066]. 2) Install the packing [1] in the groove at the top of the new fuel filter element [11]. 3) Lubricate the packing [10] with oil, D00623 [CP5066]. 4) Install the packing [10] in the groove at the bottom of the fuel filter element [11]. 						
AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(c) Lubricate the packings of the new fuel filter element [11] with oil, D00623 [CP5066]. <u>NOTE:</u> The packings are already installed by the manufacturer in their grooves on the new fuel filter element [11].						
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212						
(d) Lightly lubricate the threads of the bolt [2] with graphite compound, D00601 [CP2101].						
(e) Lightly lubricate the threads of the five D-Head bolts [12] with graphite compound, D00601 [CP2101].						
<u>CAUTION:</u> MAKE SURE THAT THE WAVE SPRING AND THE RETAINING RING ARE CORRECTLY INSTALLED ON THE FUEL FILTER COVER. IF THE WAVE SPRING AND THE RETAINING RING ARE NOT CORRECTLY INSTALLED, THE FUEL FILTER ELEMENT COULD BE DAMAGED.						
(f) Make sure that the wave spring [8] and the retaining ring [9] are correctly installed into the fuel filter cover [6].						
AKS ALL PRE SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(g) Carefully install the fuel filter element [11] in the fuel filter cover [6]. <ol style="list-style-type: none"> 1) Look down the center of the filter element [11] for signs of extrusion and/or cut packing at the filter cover/packing interface. 2) Make sure that the packing [10] stays in its correct position in the groove in the fuel filter element [11]. 3) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 4) Make sure that the fuel filter element [11] does not move. 						
AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)						
(h) Carefully install the fuel filter element [11] in the fuel filter cover [6].						
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AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212) (Continued)				MECH	INSP
<ol style="list-style-type: none"> 1) Look down the center of the filter element [11] for signs of extrusion and/or cut packing at the filter cover/packing interface. 2) Adjust the tabs of the fuel filter element [11] to the fuel filter cover. 3) Make sure that the packings stay in their grooves in the fuel filter element [11]. 4) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 5) Make sure that the fuel filter element [11] does not move. 					
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212					
<ol style="list-style-type: none"> (i) Carefully install the fuel filter cover [6] and the fuel filter element [11] into the fuel filter housing. <ol style="list-style-type: none"> 1) Make sure that the fuel filter element [11] is correctly installed on the guide of the fuel filter housing. 					
AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)					
<ol style="list-style-type: none"> 2) Adjust the tabs of the fuel filter element [11] to the ribs of the fuel filter housing. 					
AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212					
<ol style="list-style-type: none"> 3) Make sure that the fuel filter cover [6] is correctly engaged into the fuel filter housing. (j) Before the bolt installation, make sure that the cover is correctly installed against the housing flange. <p><u>NOTE:</u> Do not use the bolts to help engage the filter cover. Damage on the insert will occur. A wood or plastic hammer may help to engage the cover, if it is necessary.</p> (k) Install the five retaining rings [13], the five flat washers [14], and the five nuts [15] on the five D-Head bolts [12] that hold the fuel filter cover [6] to the fuel filter housing. <ol style="list-style-type: none"> 1) Make sure that the nuts [15] screw freely by hand as follows: <p><u>NOTE:</u> No tool is permitted.</p> <ol style="list-style-type: none"> a) Turn each nut for a minimum of two full turns. <p><1> If the attached part is in a good condition, it should not be possible to fully hand tighten the nut.</p> 					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01		

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AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212 (Continued)						
<p><u>CAUTION:</u> BE CAREFUL AS YOU TIGHTEN THE BOLTS THAT HOLD THE FUEL FILTER COVER TO THE HOUSING. MAKE SURE THAT YOU USE PROPER TORQUE TECHNIQUES AS YOU TIGHTEN THE BOLTS. IF YOU DO NOT USE PROPER TORQUE TECHNIQUES, YOU CAN CAUSE DAMAGE TO THE FUEL FILTER COVER OR CAUSE A FUEL LEAK.</p> <p>2) Tighten the five nuts [15] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m). <u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p>(l) Install the bolts [2] and the flat washer [3] that hold the fuel filter cover [6] to the fuel filter housing. <u>NOTE:</u> Only one bolt is used in the hole adjacent to the nameplate.</p> <p>1) Make sure that the bolt engages freely by hand as follows: <u>NOTE:</u> No tool is permitted.</p> <p>a) Hold the bolt head between your fingers, and turn the bolt for a minimum of two full turns. <1> If the insert is in a good condition, it should not be possible to fully hand tighten the bolt.</p> <p><u>CAUTION:</u> TIGHTEN THE BOLTS TO THE CORRECT TORQUE. THE INCORRECT TORQUE CAN CAUSE DAMAGE TO THE COMPONENTS. LARGE QUANTITIES OF FUEL LEAKAGE WILL OCCUR.</p> <p>2) Tighten the bolt [2] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m). <u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p>(m) Install the MW0312 wire harness in the Omega clip that is immediately to the left of the fuel filter cover [6].</p> <p>(n) Install the drain plug [4] on the fuel filter cover [6]:</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>1) Lubricate a new packing [5] with oil, D00623 [CP5066].</p> <p>2) Install the packing [5] in the groove of the drain plug [4].</p> <p>3) Lubricate the threads of the drain plug [4] with oil, D00623 [CP5066].</p> <p>4) Install the drain plug [4] in the fuel filter cover [6]. a) Tighten the drain plug [4] to 45 in-lb (5 N·m) – 55 in-lb (6 N·m).</p> <p>5) Install the safety wire, G02345 [CP8001] or cable, G50065 [CP8006] on the drain plug [4].</p>						
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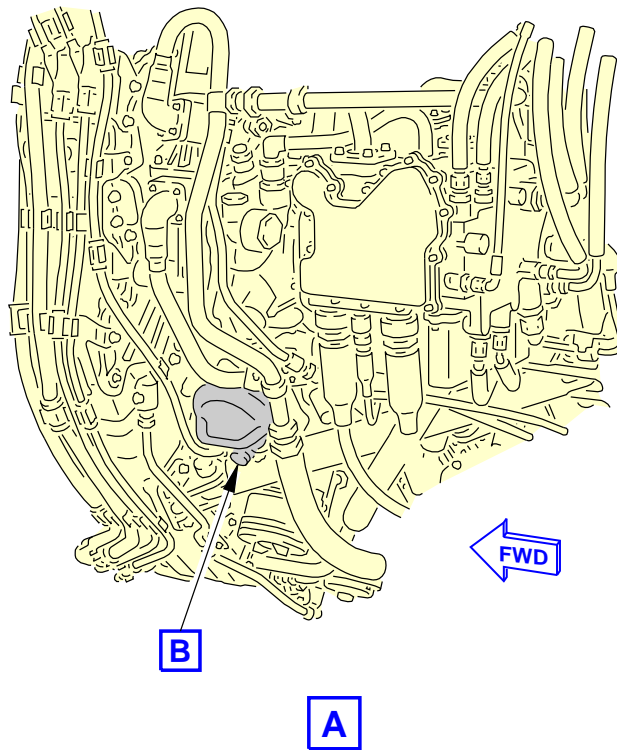
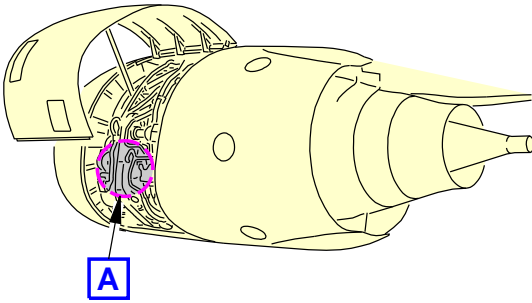
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AKS ALL POST SB CFM56-7B-73-079 SUBTASK 73-11-02-420-002-F00 <u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. THE SYNTHETIC OIL CONTAINS ADDITIVES THAT CAN BE POISONOUS IF THEY ARE ABSORBED THROUGH THE SKIN. CLEAN AWAY ALL OIL THAT GETS ON THE SKIN. (2) Do these steps to install the fuel filter cover [6]. <u>NOTE:</u> This Subtask is for engines which have a fuel filter cover attachment with five D-Head bolts [12], five retaining rings [13], five flat washers [14], five nuts [15], one bolt [16], one flat washer [17], one self-aligning washer [18], and one self-aligning nut [19] (the main fuel pump reworked by SB CFM56-7B-73-079). (a) Install the packing [7] in the fuel filter cover [6]. 1) Lubricate the packing [7] with oil, D00623 [CP5066]. 2) Install the packing [7] in the groove of the fuel filter cover [6]. AKS ALL PRE SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (b) Lubricate and install the new packing [1] and the new packing [10] on the new fuel filter element [11]. 1) Lubricate the new packing [1] with oil, D00623 [CP5066]. 2) Install the packing [1] in the groove at the top of the new fuel filter element [11]. 3) Lubricate the new packing [10] with oil, D00623 [CP5066]. 4) Install the packing [10] in the groove at the bottom of the new fuel filter element [11]. AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (c) Lubricate the packings of the new fuel filter element [11] with oil, D00623 [CP5066]. <u>NOTE:</u> The packings are already installed by the manufacturer in their grooves on the new fuel filter element [11]. AKS ALL POST SB CFM56-7B-73-079 (d) Lightly lubricate the threads of the bolt [16] and the self-aligning washer [18] with graphite compound, D00601 [CP2101]. (e) Lightly lubricate the threads of the five D-Head bolts [12] with graphite compound, D00601 [CP2101]. (f) Make sure that the wave spring [8] and the retaining ring [9] are correctly installed into the fuel filter cover [6]. <u>NOTE:</u> Make sure that the wave spring [8] and the retaining ring [9] are correctly installed on the fuel filter cover [6]. If the wave spring [8] and the retaining ring [9] are not correctly installed, the fuel filter element [11] could be damaged. AKS ALL PRE SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (g) Carefully install the fuel filter element [11] on the fuel filter cover [6].				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01		

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AKS ALL PRE SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (Continued)				MECH	INSP
1) Make sure that the packing [10] stays in its correct position in the groove in the fuel filter element [11]. 2) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 3) Make sure that the fuel filter element [11] does not move.					
AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 (h) Carefully install the fuel filter element [11] on the fuel filter cover [6]. 1) Adjust the tabs of the fuel filter element [11] to the fuel filter cover. 2) Make sure that the packings stay in their grooves in the fuel filter element [11]. 3) Make sure that the packing [7] stays in its correct position in the groove in the fuel filter cover [6]. 4) Make sure that the fuel filter element [11] does not move.					
AKS ALL POST SB CFM56-7B-73-079 (i) Carefully install the fuel filter cover [6] with its fuel filter element [11] into the fuel filter housing. 1) Make sure that the fuel filter element [11] is correctly installed on the guide of the fuel filter housing.					
AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079 2) Adjust the tabs of the fuel filter element [11] to the ribs of the fuel filter housing.					
AKS ALL POST SB CFM56-7B-73-079 3) Make sure that the fuel filter cover [6] is correctly engaged into the fuel filter housing. <u>NOTE:</u> Do not use the bolts to help engage the filter cover. Damage on the insert will occur. A wood or plastic hammer may help to engage the cover, if it is necessary.					
(j) Before the bolts installation, make sure that the cover is correctly installed against the housing flange.					
(k) Install the five retaining rings [13], the five flat washers [14], and the five nuts [15] on the five D-Head bolts [12] that hold the fuel filter cover [6] to the fuel filter housing. 1) Make sure that the nuts [15] screw freely by hand as follows: <u>NOTE:</u> No tool is permitted. <ul style="list-style-type: none"> a) Turn each nut for a minimum of two full turns. <1> If the attached part is in a good condition, it should not be possible to fully hand tighten the nut.					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
AKS ALL POST SB CFM56-7B-73-079 (Continued)				MECH INSP
<p><u>CAUTION:</u> TIGHTEN THE BOLTS TO THE CORRECT TORQUE. THE INCORRECT TORQUE CAN CAUSE DAMAGE TO THE COMPONENTS. LARGE QUANTITIES OF FUEL LEAKAGE WILL OCCUR.</p> <p>b) Tighten the five nuts [15] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m).</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p>(l) Install the bolt [16], the flat washer [17], the self-aligning washer [18] and the self-aligning nut [19] that hold the fuel filter cover [6] to the fuel filter housing.</p> <p><u>NOTE:</u> There are two attachment designs that are not interchangeable. The spherical profile of the nuts and washers is different (two suppliers hardware).</p> <p><u>NOTE:</u> This step is for the fuel filter cover attachment with Kit PH030035-4 or Kit NAS1727-4D.</p> <p><u>NOTE:</u> Only one bolt is used in the hole adjacent to the nameplate.</p> <p>1) Lubricate the head faces of the bolt [16] in contact with the flat washer [17].</p> <p>a) Lubricate the threads of the bolt and the spherical side of the self-aligning nut [19] with graphite compound, D00601 [CP2101].</p> <p>2) Install the bolt [16], the flat washer [17], the self-aligning washer [18] and the self-aligning nut [19] for each assembly configuration.</p> <p><u>NOTE:</u> An improper bolt, nut and washer installation can lead to damages. Pay special attention to the self-aligning nut and washer installation.</p> <p><u>NOTE:</u> Do not intermix the bolt, self-aligning nut and self-aligning washer from the different suppliers on the fuel pump which attach the fuel filter cover.</p> <p><u>CAUTION:</u> TIGHTEN THE BOLTS TO THE CORRECT TORQUE. THE INCORRECT TORQUE CAN CAUSE DAMAGE TO THE COMPONENTS. LARGE QUANTITIES OF FUEL LEAKAGE WILL OCCUR.</p> <p>3) Tighten the bolt [16] and the self-aligning nut [19] to 70 in-lb (8 N·m) – 80 in-lb (9 N·m).</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-20-02-400-801-F00), for the torque techniques.</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. THE SYNTHETIC OIL CONTAINS ADDITIVES THAT CAN BE POISONOUS IF THEY ARE ABSORBED THROUGH THE SKIN. CLEAN AWAY ALL OIL THAT GETS ON THE SKIN.</p> <p>(m) Install the MW0312 wire harness in Omega clip that is immediately to the left of the fuel filter cover [6].</p> <p>1) Install the drain plug [4] on the fuel filter cover [6]:</p> <p>a) Lubricate the new packing [5] with oil, D00623 [CP5066].</p>				
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01	

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01	
AKS ALL POST SB CFM56-7B-73-079 (Continued)				MECH	INSP
b) Install the packing [5] in the groove of the drain plug [4]. c) Lubricate the threads of the drain plug [4] with oil, D00623 [CP5066]. d) Install the drain plug [4] in the fuel filter cover [6]. <1> Tighten the drain plug [4] to 45 in-lb (5 N·m) – 55 in-lb (6 N·m). e) Install the safety wire, G02345 [CP8001] or cable, G50065 [CP8006] on the drain plug [4].					
AKS ALL					
D. Put the Airplane in a Serviceable Condition					
SUBTASK 73-11-02-840-003-F00					
(1) Do these steps to put the airplane in a serviceable condition: (a) Do this task: Close the Fan Cowl Panels, AMM TASK 71-11-02-410-801-F00. (b) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. 1) Remove the DO-NOT-OPERATE tag from the BAT switch on panel P5-13. (c) Remove the DO-NOT-OPERATE tag from the applicable engine start lever.					
E. Fuel Filter Replacement Test					
SUBTASK 73-11-02-790-001-F00					
CAUTION: DO NOT MOTOR THE ENGINE BEFORE VERIFYING THAT THE FUEL SPAR VALVE IS IN THE OPEN POSITION AND FUEL BOOST PUMP PRESSURE IS APPLIED TO THE FUEL PUMP INLET. THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT ARE FUEL LUBRICATED, ZERO FUEL PRESSURE CAN CAUSE DAMAGE TO THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT.					
(1) Do the tests that are listed in the Power Plant Test Reference Table (AMM TASK 71-00-00-800-811-F00).					
————— END OF TASK —————					
EFFECTIVITY AKS ALL		SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01		
			Page 14 of 24 Jun 15/2016		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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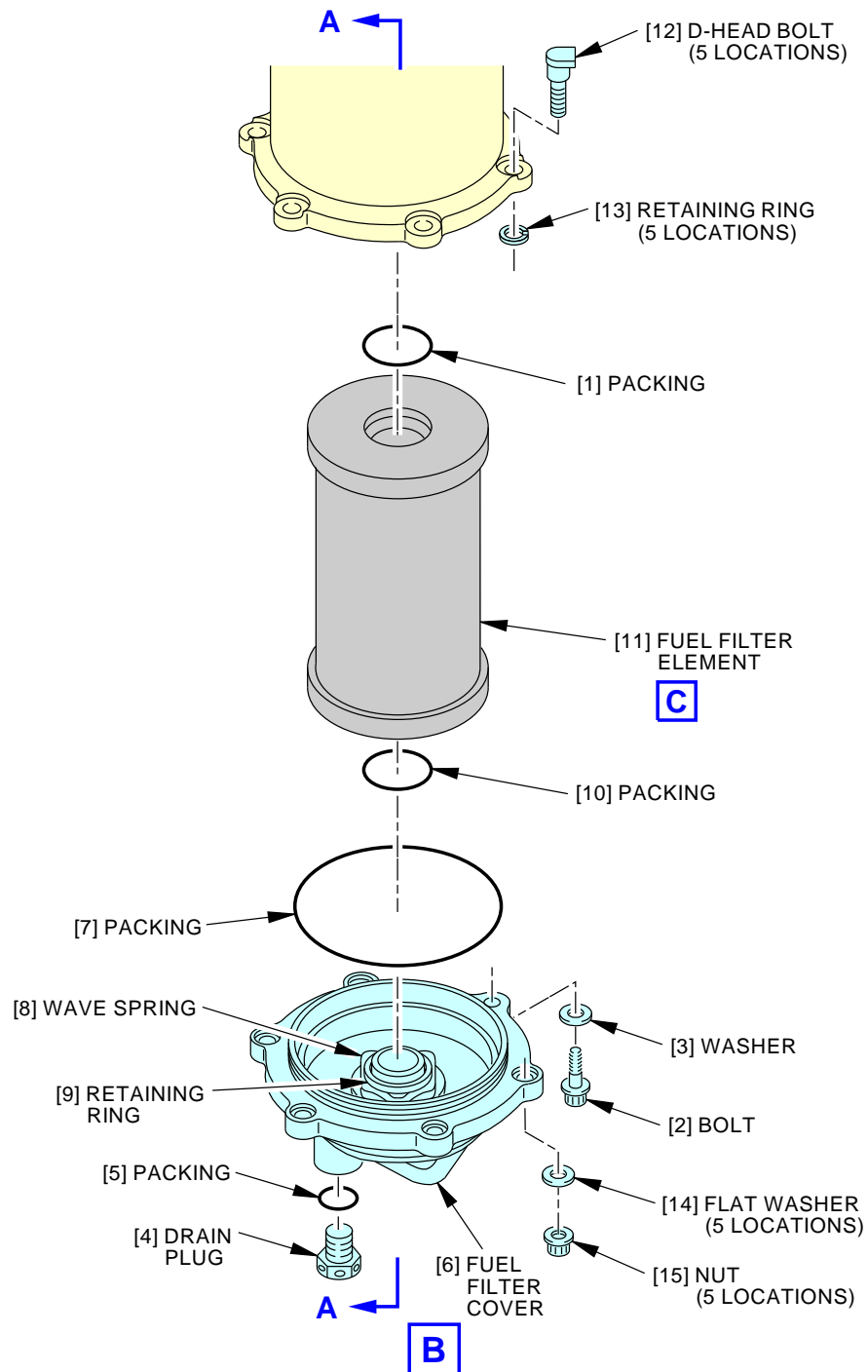
MM-00203-00-B

E91820 S0006582614_V4

**Fuel Filter Installation
Figure 1 (Sheet 1 of 4)**

EFFECTIVITY AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212	SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01	Page 15 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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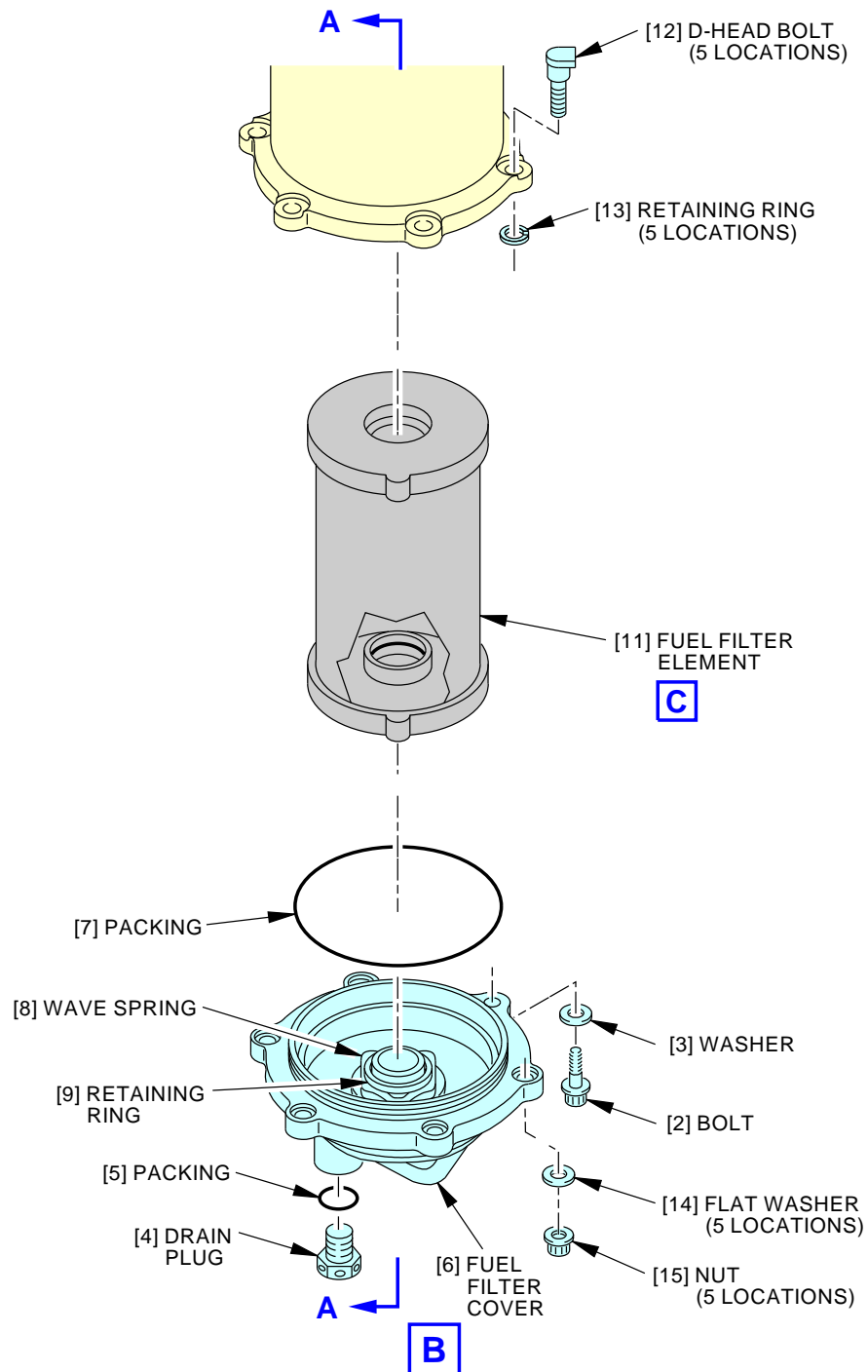


2478829 S0000581955_V1

**Fuel Filter Installation
Figure 1 (Sheet 2 of 4)**

<p>EFFECTIVITY</p> <p>AKS ALL PRE SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)</p>	<p>SOURCE</p> <p>MRB</p>	<p>REPLACE THE RIGHT ENGINE FUEL FILTER</p> <p>D633A109-AKS 73-010-02-01</p> <p>Page 16 of 24 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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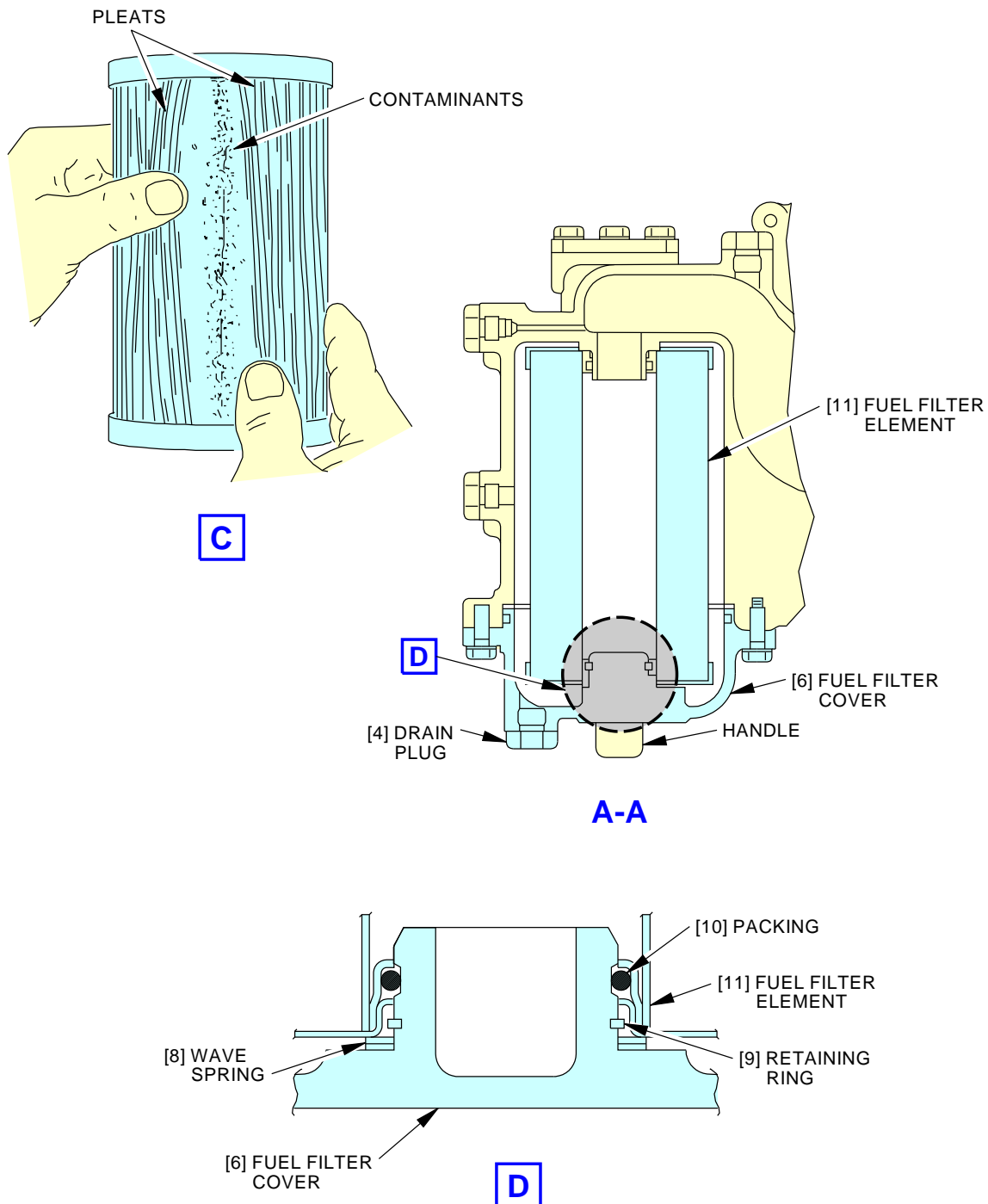


K57882 S0006582615_V5

**Fuel Filter Installation
Figure 1 (Sheet 3 of 4)**

<p>EFFECTIVITY</p> <p>AKS ALL POST SB CFM56-7B-73-078 AND (POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212)</p>	<p>SOURCE</p> <p>MRB</p>	<p>REPLACE THE RIGHT ENGINE FUEL FILTER</p> <p>D633A109-AKS 73-010-02-01</p> <p>Page 17 of 24 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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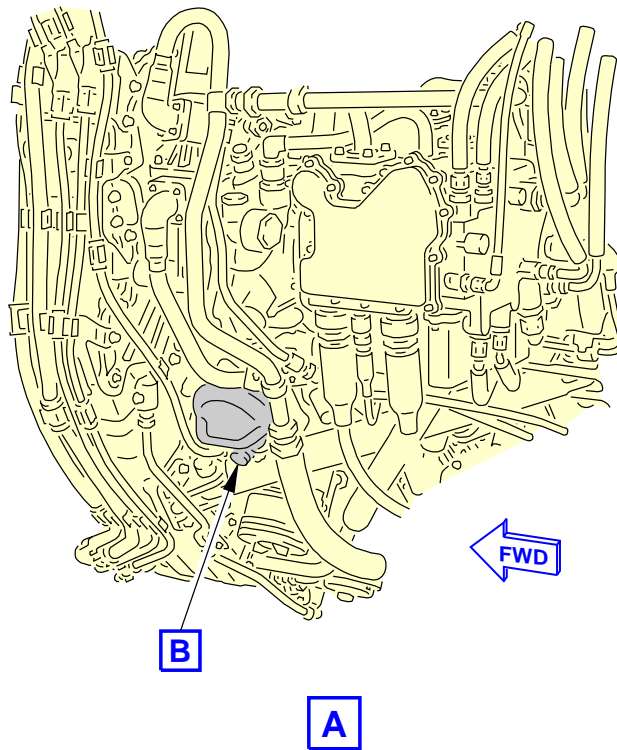
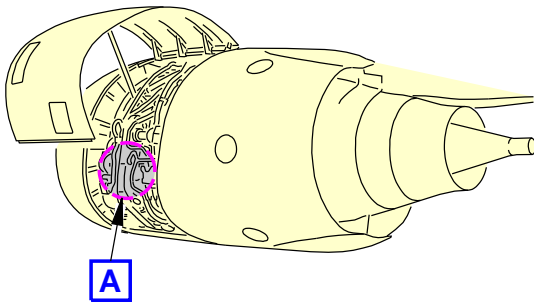


G84399 S0006582616_V4

Fuel Filter Installation
Figure 1 (Sheet 4 of 4)

EFFECTIVITY AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212	SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01	Page 18 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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MM-00203-00-B

E91820 S0006582614_V4

Fuel Filter Installation
Figure 2 (Sheet 1 of 4)

EFFECTIVITY
AKS ALL POST SB CFM56-7B-73-079

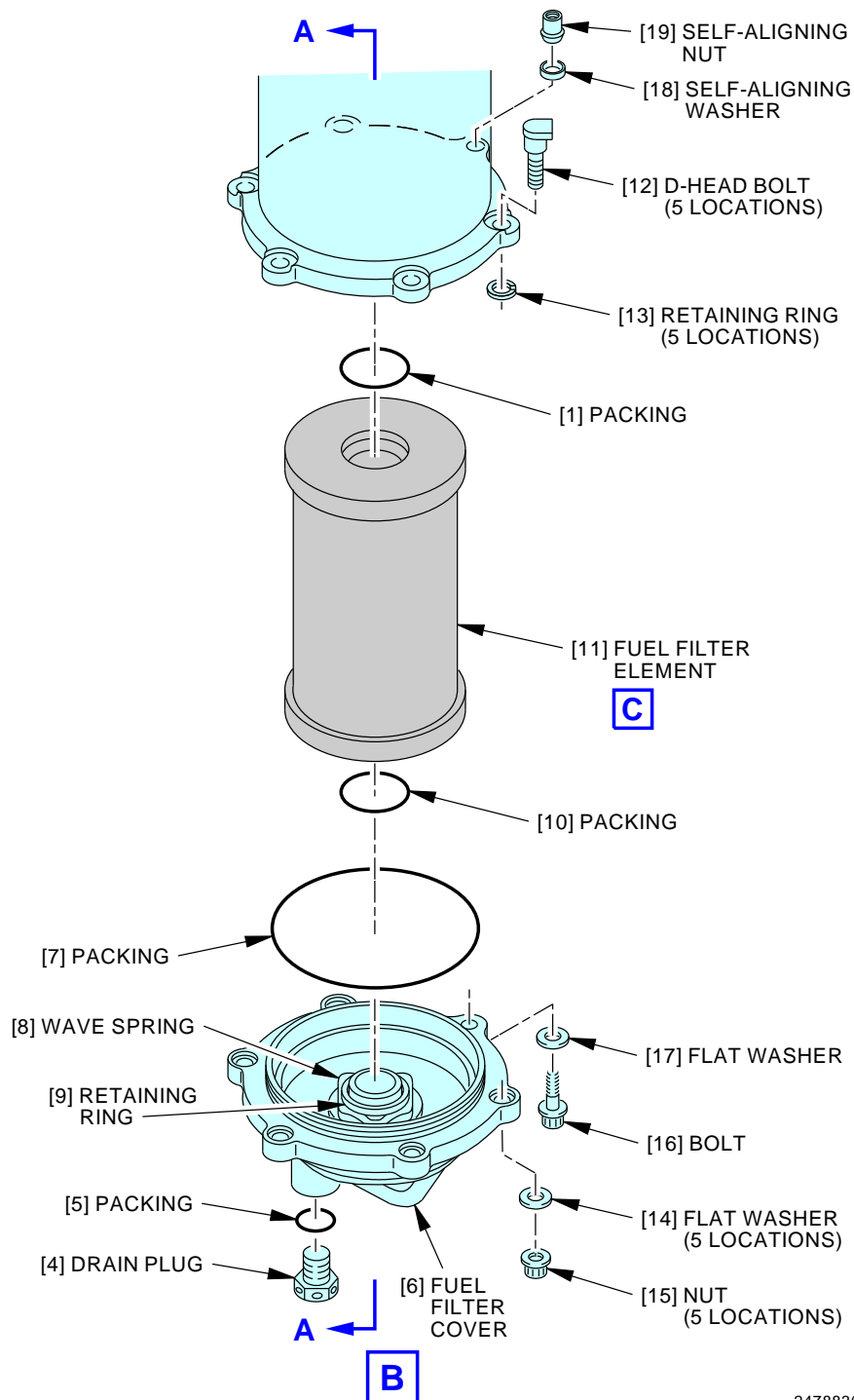
SOURCE
MRB

REPLACE THE RIGHT ENGINE FUEL FILTER

D633A109-AKS
73-010-02-01

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Jun 15/2016

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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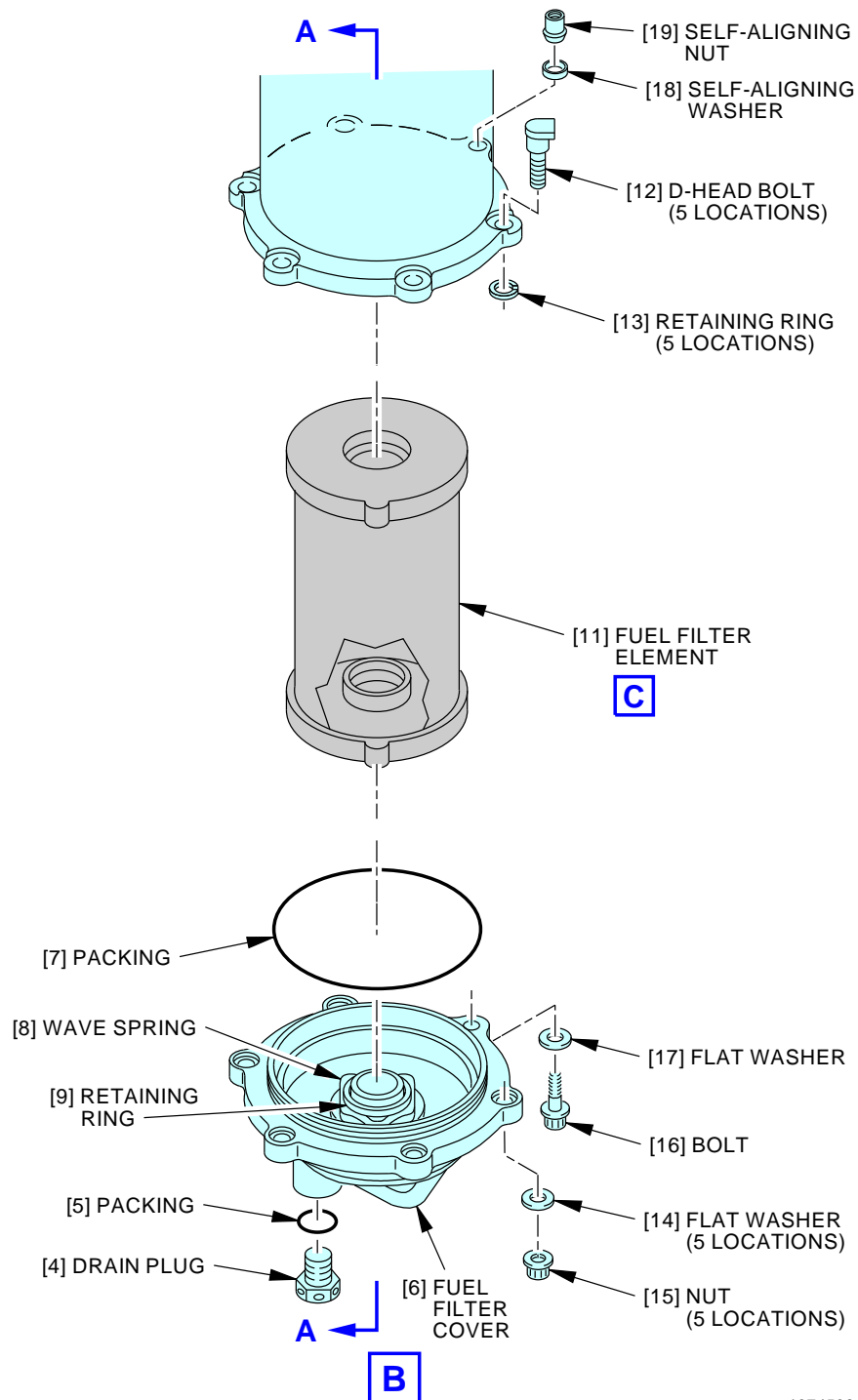


2478830 S0000581958_V1

**Fuel Filter Installation
Figure 2 (Sheet 2 of 4)**

<p>EFFECTIVITY</p> <p>AKS ALL PRE SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079</p>	<p>SOURCE</p> <p>MRB</p>	<p>REPLACE THE RIGHT ENGINE FUEL FILTER</p> <p>D633A109-AKS 73-010-02-01</p> <p>Page 20 of 24 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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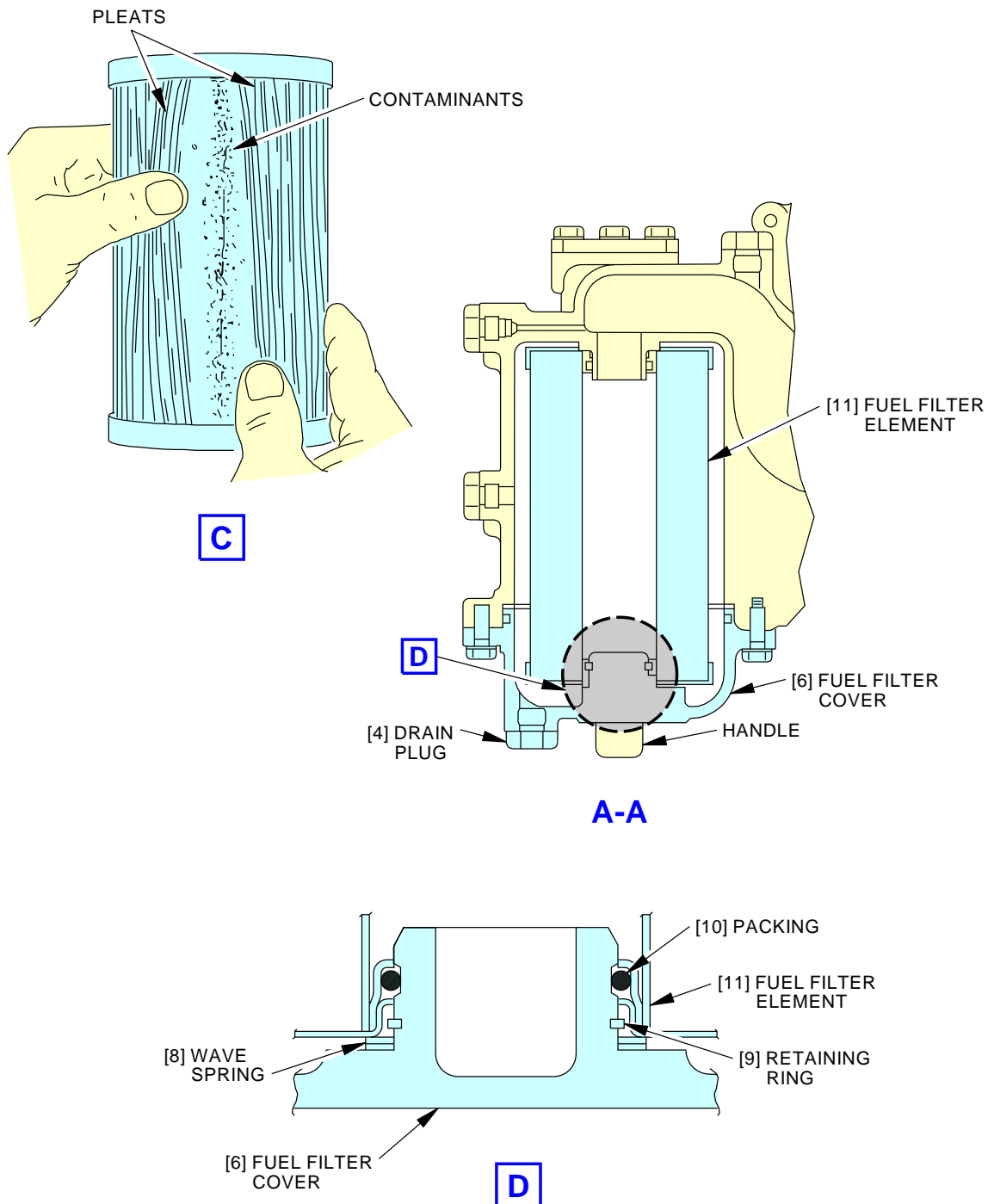


1374598 S0000248823_V4

**Fuel Filter Installation
Figure 2 (Sheet 3 of 4)**

<p>EFFECTIVITY</p> <p>AKS ALL POST SB CFM56-7B-73-078 AND POST SB CFM56-7B-73-079</p>	<p>SOURCE</p> <p>MRB</p>	<p>REPLACE THE RIGHT ENGINE FUEL FILTER</p> <p>D633A109-AKS</p> <p>73-010-02-01</p> <p>Page 21 of 24 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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G84399 S0006582616_V4

Fuel Filter Installation
Figure 2 (Sheet 4 of 4)

EFFECTIVITY
AKS ALL POST SB CFM56-7B-73-079

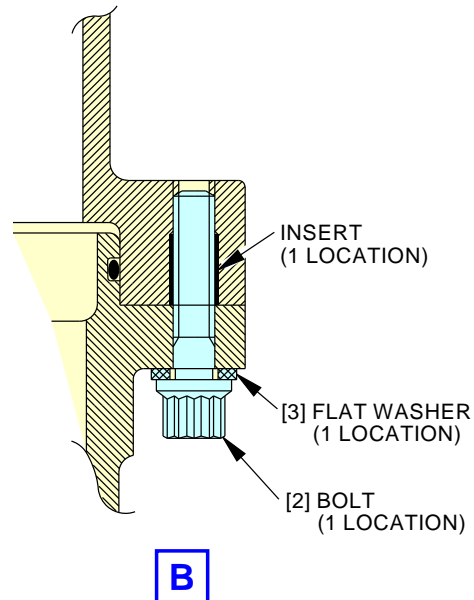
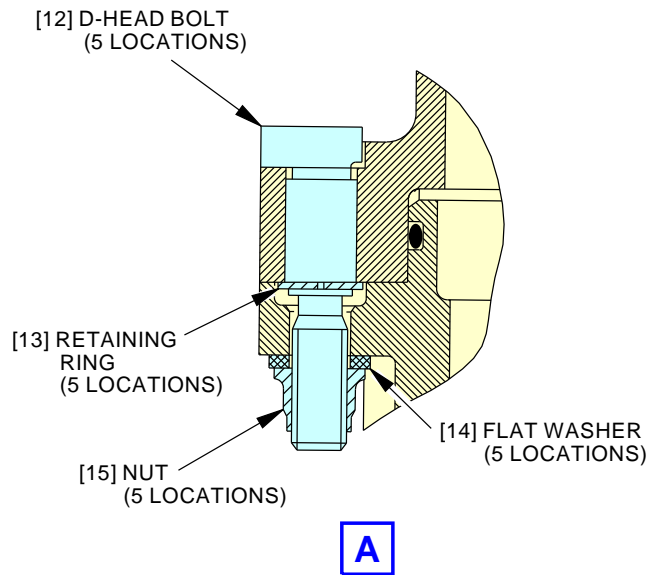
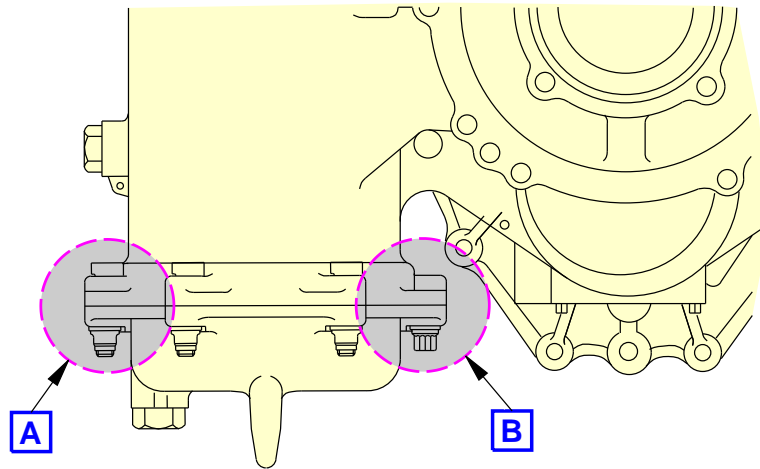
SOURCE
MRB

REPLACE THE RIGHT ENGINE FUEL FILTER

D633A109-AKS
73-010-02-01

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Jun 15/2016

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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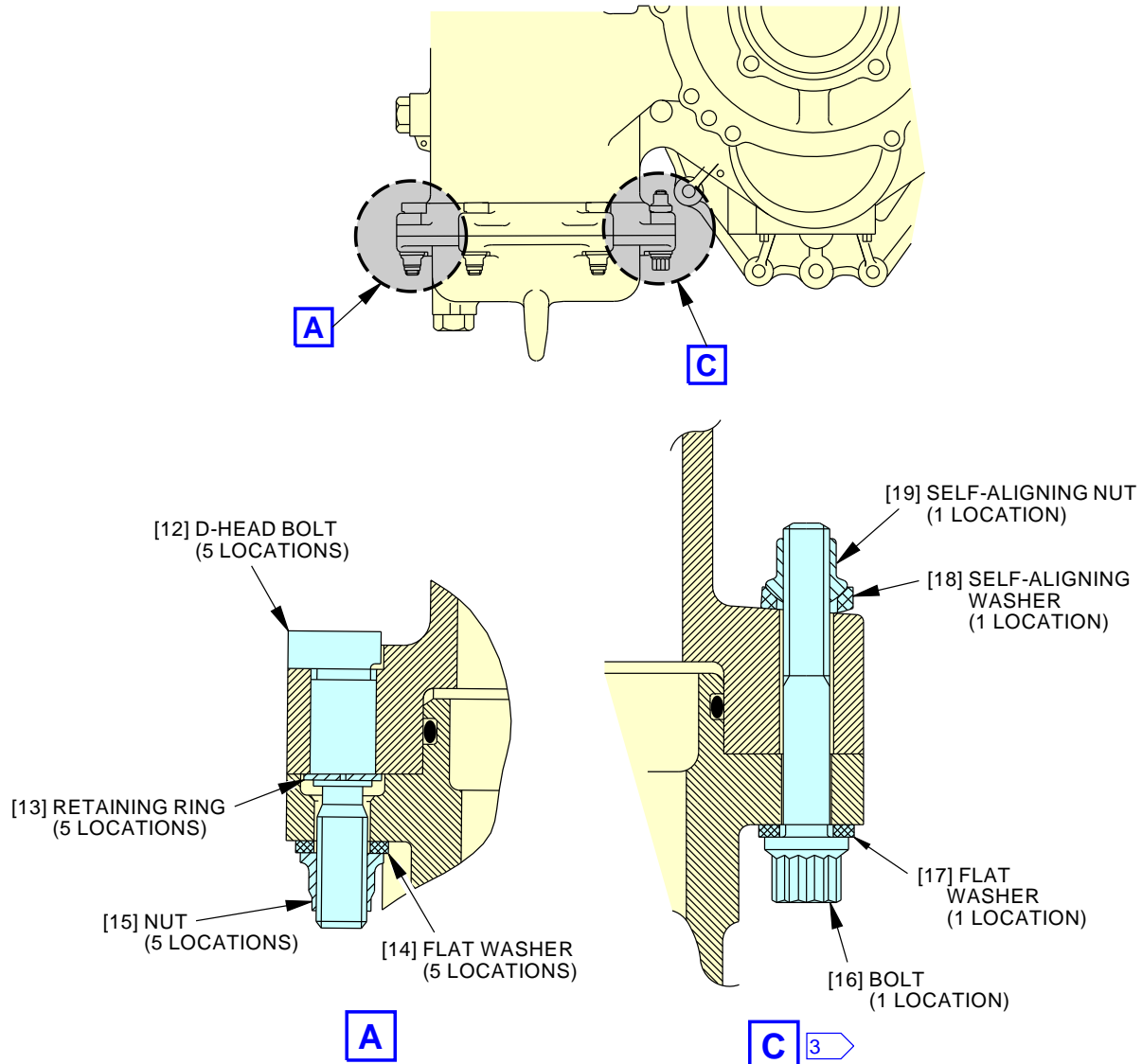


1374765 S0000248824_V2

**Fuel Filter Attachment Installation
Figure 3 (Sheet 1 of 2)**

EFFECTIVITY AKS ALL POST SB CFM56-7B-73A034 OR WITH 828300-5 FUEL PUMP OR POST SB 737-CFM56-7B-73-0212	SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01	Page 23 of 24 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-010-02-01
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**NOTE:**

3 DO NOT INTERMIX THE DIFFERENT SUPPLIERS HARDWARE (SELF-ALIGNING WASHER AND SELF-ALIGNING NUT FROM KIT PH030035-4 OR KIT NAS1727-4D) AND BOLT.

1374445 S0000248825_V2

Fuel Filter Attachment Installation
Figure 3 (Sheet 2 of 2)

EFFECTIVITY AKS ALL POST SB CFM56-7B-73-079	SOURCE MRB	REPLACE THE RIGHT ENGINE FUEL FILTER D633A109-AKS 73-010-02-01	Page 24 of 24 Jun 15/2016
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AIRLINE CARD NO		TITLE FMC CDU FOR LEFT ENGINE FAULTS			BOEING CARD NO. 73-020-01-01
DATE	TASK OPERATIONAL				RELATED CARD
TAIL NUMBER	WORK AREA CREW CABIN	VERSION 1.1	THRESHOLD 150 FH	REPEAT 150 FH	APPLICABILITY
STATION	SKILL ENGINE	NOTE			AIRPLANE ALL ENGINE ALL
		ACCESS			ZONE 211 212

Interrogate the FMC CDU for left engine faults.

INTERVAL NOTE: A. If any short time faults are found, corrective action for their repair is required immediately. The frequency of this check may be modified provided the new interval plus the time the fault corrective action may be deferred does not exceed 150 hrs total, as required per ATA 05-17-01 of the engine shop manual CFMI-TP.SM.10.

For example, check recent faults every 70 hrs and fix the reported short time faults within the next 80 hrs.

B. If any long time faults are found, corrective action for their repair is required with 425 hrs. The frequency of this check may be modified provided one half of the new interval plus the time the fault corrective action may be deferred does not exceed 500 hrs total, as required per ATA 05-17-01 of the engine shop manual CFMI-TP.SM.10.

For example, check recent faults every 70 hrs and fix the reported long time faults within the next 465 flight hours.

C. If any economic faults are found, repair is recommended on an opportunity basis.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 73-21-00-700-804-F00	EEC TEST (P/B 501)
FIM 73-05 TASK 803	Ch A(B) EEC Data not Available - Fault Isolation
FIM 73-22 TASK 806	Engine Position Signal is out of Range - Fault Isolation

EFFECTIVITY AKS ALL	SOURCE MRB	FMC CDU FOR LEFT ENGINE FAULTS D633A109-AKS 73-020-01-01	Page 1 of 6 Jun 15/2015
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-01-01	
TASK 73-21-00-740-803-F00				MECH	INSP
1. <u>EEC BITE TEST - RECENT FAULTS</u> (Figure 1)					
A. General					
(1) Use the Flight Management Computer/Control Display Unit (FMCS CDU) to do the Engine EEC BITE TEST.					
(2) The EEC BITE - Recent Faults procedure shows maintenance messages for the three most recent flight legs.					
(a) The maintenance messages are stored in the EEC and show on the FMCS CDU.					
(b) The FMCS CDU shows the maintenance messages for only one engine at a time.					
(3) The FMCS CDU shows only one maintenance message on each screen.					
(a) The FMCS CDU shows the page you are on and the total number of pages.					
<u>NOTE:</u> If the FMCS CDU screen shows 2/4, you are on page 2 of 4 pages.					
(4) There are five categories of maintenance messages. The time limited dispatch limits which are given below are for on-condition events.					
<u>NOTE:</u> The CFM56-7B Engine Shop Manual (CFMI-TP.SM.10), ATA 05-17-01 is the certified authority for the Time Limited Dispatch.					
(a) ENGINE CONTROL LIGHT Faults - You can not dispatch the airplane with this fault.					
<u>NOTE:</u> These faults cause the ENGINE CONTROL Light to come ON.					
(b) ALTERNATE MODE LIGHT Fault - Refer to the Minimum Equipment List (MEL) for the dispatch limits.					
<u>NOTE:</u> These faults cause the ALTN Mode Light to come ON.					
(c) SHORT TIME Fault - Calculate the remaining flight hours that you can operate with this fault as follows:					
1) The remaining Flight Hours (R) = 150 flight hours - "Q", where "Q" is the scheduled maintenance interval your airline uses to check the EEC BITE TEST - RECENT FAULTS, SHORT TIME category.					
<u>NOTE:</u> If your airline looks for EEC faults every 70 flight hour, then "Q" = 70. If your airline looks for EEC faults every 150 flight hours, then "Q" = 150.					
(d) LONG TIME Fault - Calculate the remaining flight hours that you can operate with this fault as follows:					
1) The remaining Flight Hours (T) = 500 flight hours - "S/2", where "S/2" is one half of the scheduled maintenance interval your airline uses to check the EEC BITE TEST - RECENT FAULTS, LONG TIME category.					
<u>NOTE:</u> If your airline looks for EEC faults every 70 flight hour, then "S/2" = 35. If your airline looks for EEC faults every 150 flight hours, then "S/2" = 75.					
(e) ECONOMIC Awareness Fault - There are no time limits for dispatch. Repair the problem at a convenient time.					
EFFECTIVITY AKS ALL		SOURCE MRB		FMC CDU FOR LEFT ENGINE FAULTS	
				D633A109-AKS 73-020-01-01	
				Page 2 of 6 Feb 15/2015	

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-01-01	MECH	INSP
<p>(5) The recent faults function will show the maintenance message numbers for the most recent three flight legs and one ground operation.</p> <p>(a) Flight Legs 1 through 3 are the three most recent flight legs.</p> <p>(b) Flight Leg 0:</p> <ol style="list-style-type: none"> 1) Can show maintenance messages that occur more than 30 seconds after landing from the last flight leg. 2) Can show the most recent ground run of the engine. <p><u>NOTE:</u> If the engine is started and stopped more than once between flights, Flight Leg 0 will contain data from the last ground run of the engine.</p> <p>(c) The X below the flight leg number indicates that the fault occurred on that flight leg.</p> <ol style="list-style-type: none"> 1) For flight legs that did not have the fault, the space below the flight legs number is blank. 						
<p>B. Procedure</p> <p>SUBTASK 73-21-00-740-003-F00</p> <p>(1) Do these steps to get the RECENT FAULTS data for Engine 1 or Engine 2:</p> <ol style="list-style-type: none"> (a) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. (b) Get access to the FMCS CDU in the flight compartment. (c) Press the INIT REF key to show the PERF INIT screen on the FMCS CDU. <p><u>NOTE:</u> The FMCS CDU does not support a type-ahead function. You must have the prompt on the FMCS CDU screen before you type in the response.</p> <p>(d) Push these line select keys (LSK) on the FMCS CDU:</p> <ol style="list-style-type: none"> 1) INDEX 2) MAINT <p><u>NOTE:</u> This LSK causes the MAINT BITE INDEX screen to show.</p> <ol style="list-style-type: none"> 3) ENGINE <p><u>NOTE:</u> This LSK causes the ENGINE/EXCEED BITE INDEX screen to show.</p> <ol style="list-style-type: none"> 4) Applicable ENGINE X, (X = 1 or 2) <p><u>NOTE:</u> This LSK causes the ENGINE X BITE TEST MAIN MENU to show. Also, the ENGINE X LSK automatically applies power to the EEC and causes the EEC to initialize. The FMCS CDU will show INITIALIZING EEC X and EEC SORTING FAULT HISTORY DATA for a short time, just before the ENGINE X BITE TEST MAIN MENU shows.</p> <p>(e) Push the RECENT FAULTS LSK.</p> <p><u>NOTE:</u> This LSK causes the RECENT FAULTS screen to show. The HISTORY LSK, on the Recent Faults screen, will show the fault history for the maintenance message that shows on the screen. The NEXT PAGE key will continue to show the other faults in the RECENT FAULTS format. The INDEX LSK will send you to the ENGINE X BITE TEST MAIN MENU.</p> <ol style="list-style-type: none"> 1) If the FOR CH A ONLY or FOR CH B ONLY screen shows, then, do this task: Ch A(B) EEC Data not Available - Fault Isolation, FIM 73-05 TASK 803. 						
EFFECTIVITY AKS ALL		SOURCE MRB	FMC CDU FOR LEFT ENGINE FAULTS D633A109-AKS 73-020-01-01			

**737-600/700/800/900
TASK CARDS**

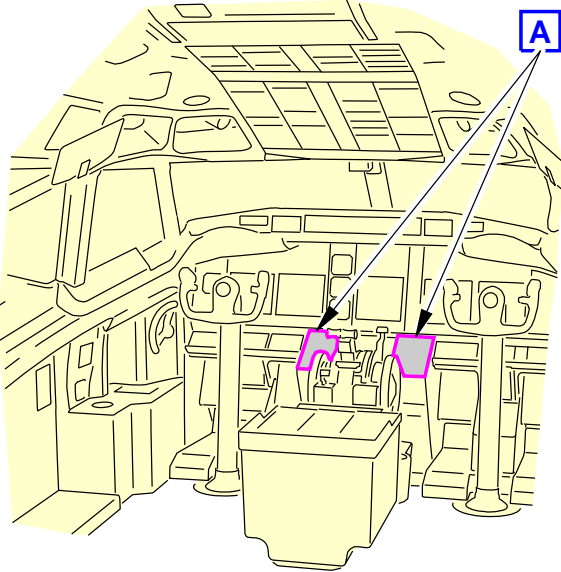
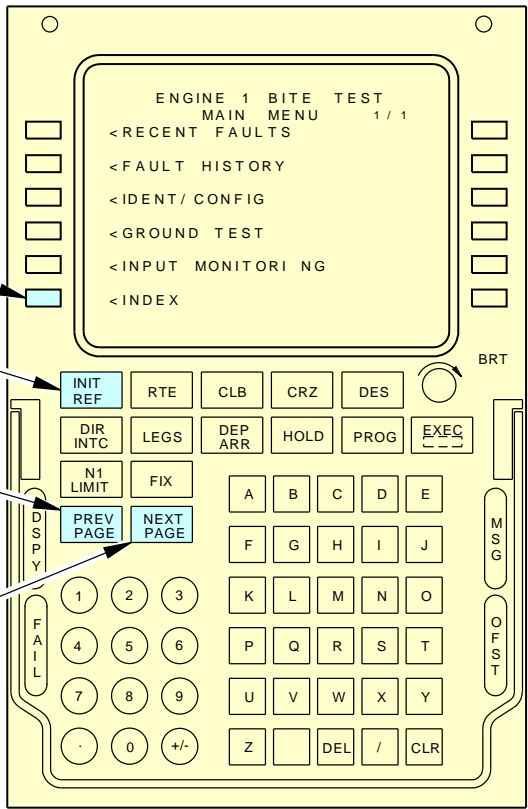
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-01-01	
<p>2) Record this data from each screen:</p> <p>a) The Dispatch Level</p> <p><u>NOTE:</u> The dispatch level will show at the top of the screen. The FMCS CDU will display the faults in the order of their dispatch level. The ENGINE CONTROL light faults will show first, then the ALTERNATE MODE LIGHT faults, then the SHORT TIME faults, then the LONG TIME faults, and last the ECONOMIC awareness faults. Refer to the CFM56-7B Engine Shop Manual 05-17-01, or the General Statement of this procedure for the Time Limited Dispatch capabilities for each category of message.</p> <p>b) Maintenance Message Number</p> <p><u>NOTE:</u> A seven digit number with this format: AA - XDDDN. AA = ATA Chapter, X = EEC Channel (1=Channel A, 2=Channel B, 3=Channels A and B), DDD = a unique fault number, and N = Engine Position (1=Engine 1, 2=Engine 2). If the message is reported with an engine position equal to zero, then for the applicable engine, do the corrective action for Engine Position Signal is out of Range (73-X138N) (FIM 73-22 TASK 806).</p> <p>3) Push the NEXT PAGE key to see the subsequent maintenance message.</p> <p>a) Continue to push the NEXT PAGE key until you record all of the faults.</p> <p>4) If you want to go back to the previous message, push the PREV PAGE key.</p> <p>5) If the ENGINE CONTROL light was ON and none of the ENGINE CONTROL light messages show during the EEC BITE Test, then, do this task: EEC TEST, AMM TASK 73-21-00-700-804-F00.</p> <p>a) Look for one or more of these Maintenance Message:</p> <p>b) 73-10201, 73-10202, 73-20201 73-20202, 73-30201, 73-30202, 73-10211, 73-10212, 73-20211 73-20212, 73-30211, 73-30212, 73-10221, 73-10222, 73-20221 73-20222, 73-30221 or 73-30222.</p> <p><u>NOTE:</u> These INTERNAL EEC messages can set the ENGINE CONTROL light, but the problem that causes the fault also causes problems with the EEC BITE Test. When this occurs, the EEC cannot write to the EEC fault memory.</p> <p>c) Do the corrective action in the FIM for the messages that you find.</p> <p>(f) If the fault data is not available from one of the two channels (A and B) of the EEC, the screen will show the EEC channel that has data.</p> <p>1) Example:</p> <p>FOR CH B (A) ONLY, CH A (B) EEC DATA NOT AVAILABLE, CAN NOT ACCESS CH A (B)</p> <p>(g) If you are in RECENT FAULTS and there are no faults stored for the flight legs 0 through 3, the screen will show NO RECENT FAULTS STORED.</p> <p>(h) If you wish to do other tests, push the INDEX LSK several times, until the correct menu shows.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	FMC CDU FOR LEFT ENGINE FAULTS D633A109-AKS 73-020-01-01		

AKS



737-600/700/800/900 TASK CARDS

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-01-01	
<p>(i) To end the test, push the INIT REF key.</p> <p><u>NOTE:</u> This causes the test to stop and automatically removes electrical power from the EEC.</p> <p>———— END OF TASK ————</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	FMC CDU FOR LEFT ENGINE FAULTS D633A109-AKS 73-020-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-01-01
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p style="text-align: center;">FLIGHT COMPARTMENT</p> </div> <div style="width: 50%;"> <p style="text-align: center;">FMCS CONTROL DISPLAY UNIT (CDU)</p> <p style="text-align: center;">A</p> <div style="text-align: center;">  <p style="text-align: center;">FMCS CONTROL DISPLAY UNIT (CDU)</p> <p style="text-align: center;">A</p> </div> </div> </div> <div style="text-align: center; margin-top: 10px;"> <p>Engine 1 BITE Test Main Menu</p> <p>Figure 1</p> </div> <div style="text-align: right; margin-top: 5px;">G53437 S0006582753_V2</div>				
EFFECTIVITY AKS ALL	SOURCE MRB	FMC CDU FOR LEFT ENGINE FAULTS D633A109-AKS 73-020-01-01		

AIRLINE CARD NO		TITLE FMC CDU FOR RIGHT ENGINE FAULTS			BOEING CARD NO. 73-020-02-01
DATE	TASK OPERATIONAL				RELATED CARD
TAIL NUMBER	WORK AREA CREW CABIN	VERSION 1.1	THRESHOLD 150 FH	REPEAT 150 FH	APPLICABILITY
STATION	SKILL ENGINE	NOTE			AIRPLANE ALL ENGINE ALL
		ACCESS			ZONE 211 212

Interrogate the FMC CDU for right engine faults.

INTERVAL NOTE: A. If any short time faults are found, corrective action for their repair is required immediately. The frequency of this check may be modified provided the new interval plus the time the fault corrective action may be deferred does not exceed 150 hrs total, as required per ATA 05-17-01 of the engine shop manual CFMI-TP.SM.10.

For example, check recent faults every 70 hrs and fix the reported short time faults within the next 80 hrs.

B. If any long time faults are found, corrective action for their repair is required with 425 hrs. The frequency of this check may be modified provided one half of the new interval plus the time the fault corrective action may be deferred does not exceed 500 hrs total, as required per ATA 05-17-01 of the engine shop manual CFMI-TP.SM.10.

For example, check recent faults every 70 hrs and fix the reported long time faults within the next 465 flight hours.

C. If any economic faults are found, repair is recommended on an opportunity basis.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 73-21-00-700-804-F00	EEC TEST (P/B 501)
FIM 73-05 TASK 803	Ch A(B) EEC Data not Available - Fault Isolation
FIM 73-22 TASK 806	Engine Position Signal is out of Range - Fault Isolation

EFFECTIVITY AKS ALL	SOURCE MRB	FMC CDU FOR RIGHT ENGINE FAULTS D633A109-AKS 73-020-02-01	Page 1 of 6 Jun 15/2015
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-02-01	
TASK 73-21-00-740-803-F00 1. <u>EEC BITE TEST - RECENT FAULTS</u> (Figure 1) A. General (1) Use the Flight Management Computer/Control Display Unit (FMCS CDU) to do the Engine EEC BITE TEST. (2) The EEC BITE - Recent Faults procedure shows maintenance messages for the three most recent flight legs. (a) The maintenance messages are stored in the EEC and show on the FMCS CDU. (b) The FMCS CDU shows the maintenance messages for only one engine at a time. (3) The FMCS CDU shows only one maintenance message on each screen. (a) The FMCS CDU shows the page you are on and the total number of pages. NOTE: If the FMCS CDU screen shows 2/4, you are on page 2 of 4 pages. (4) There are five categories of maintenance messages. The time limited dispatch limits which are given below are for on-condition events. NOTE: The CFM56-7B Engine Shop Manual (CFMI-TP.SM.10), ATA 05-17-01 is the certified authority for the Time Limited Dispatch. (a) ENGINE CONTROL LIGHT Faults - You can not dispatch the airplane with this fault. NOTE: These faults cause the ENGINE CONTROL Light to come ON. (b) ALTERNATE MODE LIGHT Fault - Refer to the Minimum Equipment List (MEL) for the dispatch limits. NOTE: These faults cause the ALTN Mode Light to come ON. (c) SHORT TIME Fault - Calculate the remaining flight hours that you can operate with this fault as follows: 1) The remaining Flight Hours (R) = 150 flight hours - "Q", where "Q" is the scheduled maintenance interval your airline uses to check the EEC BITE TEST - RECENT FAULTS, SHORT TIME category. NOTE: If your airline looks for EEC faults every 70 flight hour, then "Q" = 70. If your airline looks for EEC faults every 150 flight hours, then "Q" = 150. (d) LONG TIME Fault - Calculate the remaining flight hours that you can operate with this fault as follows: 1) The remaining Flight Hours (T) = 500 flight hours - "S/2", where "S/2" is one half of the scheduled maintenance interval your airline uses to check the EEC BITE TEST - RECENT FAULTS, LONG TIME category. NOTE: If your airline looks for EEC faults every 70 flight hour, then "S/2" = 35. If your airline looks for EEC faults every 150 flight hours, then "S/2" = 75. (e) ECONOMIC Awareness Fault - There are no time limits for dispatch. Repair the problem at a convenient time.				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	FMC CDU FOR RIGHT ENGINE FAULTS D633A109-AKS 73-020-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-02-01	MECH	INSP
<p>(5) The recent faults function will show the maintenance message numbers for the most recent three flight legs and one ground operation.</p> <p>(a) Flight Legs 1 through 3 are the three most recent flight legs.</p> <p>(b) Flight Leg 0:</p> <ol style="list-style-type: none"> 1) Can show maintenance messages that occur more than 30 seconds after landing from the last flight leg. 2) Can show the most recent ground run of the engine. <p><u>NOTE:</u> If the engine is started and stopped more than once between flights, Flight Leg 0 will contain data from the last ground run of the engine.</p> <p>(c) The X below the flight leg number indicates that the fault occurred on that flight leg.</p> <ol style="list-style-type: none"> 1) For flight legs that did not have the fault, the space below the flight legs number is blank. 						
<p>B. Procedure</p> <p>SUBTASK 73-21-00-740-003-F00</p> <p>(1) Do these steps to get the RECENT FAULTS data for Engine 1 or Engine 2:</p> <ol style="list-style-type: none"> (a) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. (b) Get access to the FMCS CDU in the flight compartment. (c) Press the INIT REF key to show the PERF INIT screen on the FMCS CDU. <p><u>NOTE:</u> The FMCS CDU does not support a type-ahead function. You must have the prompt on the FMCS CDU screen before you type in the response.</p> <p>(d) Push these line select keys (LSK) on the FMCS CDU:</p> <ol style="list-style-type: none"> 1) INDEX 2) MAINT <p><u>NOTE:</u> This LSK causes the MAINT BITE INDEX screen to show.</p> <ol style="list-style-type: none"> 3) ENGINE <p><u>NOTE:</u> This LSK causes the ENGINE/EXCEED BITE INDEX screen to show.</p> <ol style="list-style-type: none"> 4) Applicable ENGINE X, (X = 1 or 2) <p><u>NOTE:</u> This LSK causes the ENGINE X BITE TEST MAIN MENU to show. Also, the ENGINE X LSK automatically applies power to the EEC and causes the EEC to initialize. The FMCS CDU will show INITIALIZING EEC X and EEC SORTING FAULT HISTORY DATA for a short time, just before the ENGINE X BITE TEST MAIN MENU shows.</p> <p>(e) Push the RECENT FAULTS LSK.</p> <p><u>NOTE:</u> This LSK causes the RECENT FAULTS screen to show. The HISTORY LSK, on the Recent Faults screen, will show the fault history for the maintenance message that shows on the screen. The NEXT PAGE key will continue to show the other faults in the RECENT FAULTS format. The INDEX LSK will send you to the ENGINE X BITE TEST MAIN MENU.</p> <ol style="list-style-type: none"> 1) If the FOR CH A ONLY or FOR CH B ONLY screen shows, then, do this task: Ch A(B) EEC Data not Available - Fault Isolation, FIM 73-05 TASK 803. 						
EFFECTIVITY AKS ALL		SOURCE MRB	FMC CDU FOR RIGHT ENGINE FAULTS D633A109-AKS 73-020-02-01			

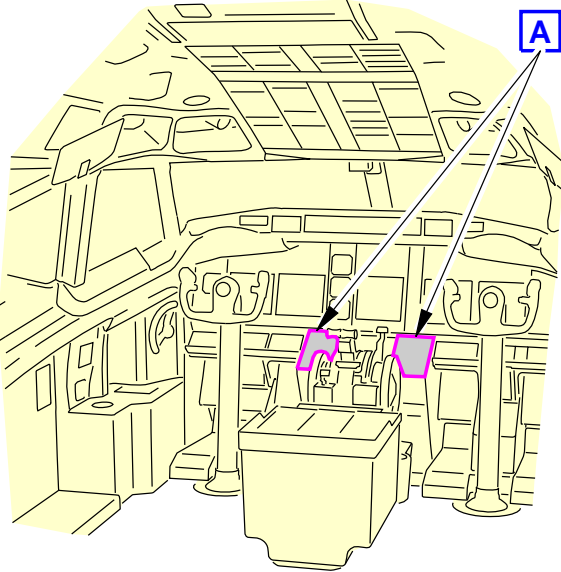
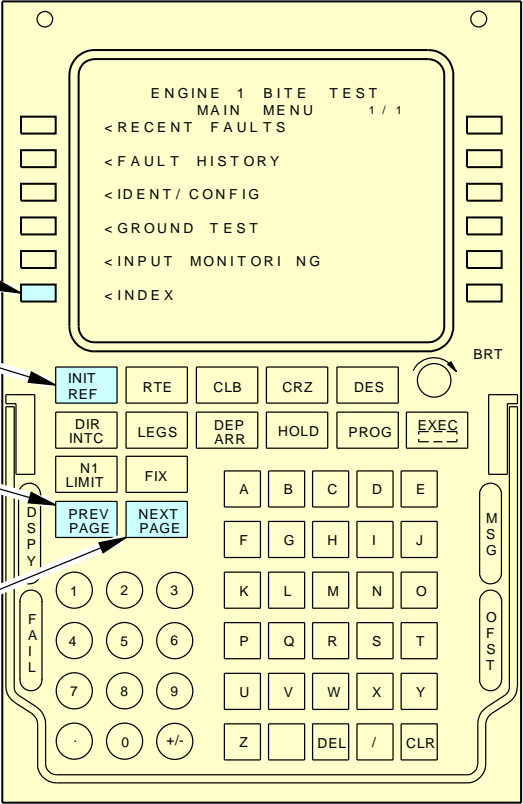
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-02-01	
<p>2) Record this data from each screen:</p> <p>a) The Dispatch Level</p> <p><u>NOTE:</u> The dispatch level will show at the top of the screen. The FMCS CDU will display the faults in the order of their dispatch level. The ENGINE CONTROL light faults will show first, then the ALTERNATE MODE LIGHT faults, then the SHORT TIME faults, then the LONG TIME faults, and last the ECONOMIC awareness faults. Refer to the CFM56-7B Engine Shop Manual 05-17-01, or the General Statement of this procedure for the Time Limited Dispatch capabilities for each category of message.</p> <p>b) Maintenance Message Number</p> <p><u>NOTE:</u> A seven digit number with this format: AA - XDDDN. AA = ATA Chapter, X = EEC Channel (1=Channel A, 2=Channel B, 3=Channels A and B), DDD = a unique fault number, and N = Engine Position (1=Engine 1, 2=Engine 2). If the message is reported with an engine position equal to zero, then for the applicable engine, do the corrective action for Engine Position Signal is out of Range (73-X138N) (FIM 73-22 TASK 806).</p> <p>3) Push the NEXT PAGE key to see the subsequent maintenance message.</p> <p>a) Continue to push the NEXT PAGE key until you record all of the faults.</p> <p>4) If you want to go back to the previous message, push the PREV PAGE key.</p> <p>5) If the ENGINE CONTROL light was ON and none of the ENGINE CONTROL light messages show during the EEC BITE Test, then, do this task: EEC TEST, AMM TASK 73-21-00-700-804-F00.</p> <p>a) Look for one or more of these Maintenance Message:</p> <p>b) 73-10201, 73-10202, 73-20201 73-20202, 73-30201, 73-30202, 73-10211, 73-10212, 73-20211 73-20212, 73-30211, 73-30212, 73-10221, 73-10222, 73-20221 73-20222, 73-30221 or 73-30222.</p> <p><u>NOTE:</u> These INTERNAL EEC messages can set the ENGINE CONTROL light, but the problem that causes the fault also causes problems with the EEC BITE Test. When this occurs, the EEC cannot write to the EEC fault memory.</p> <p>c) Do the corrective action in the FIM for the messages that you find.</p> <p>(f) If the fault data is not available from one of the two channels (A and B) of the EEC, the screen will show the EEC channel that has data.</p> <p>1) Example:</p> <p>FOR CH B (A) ONLY, CH A (B) EEC DATA NOT AVAILABLE, CAN NOT ACCESS CH A (B)</p> <p>(g) If you are in RECENT FAULTS and there are no faults stored for the flight legs 0 through 3, the screen will show NO RECENT FAULTS STORED.</p> <p>(h) If you wish to do other tests, push the INDEX LSK several times, until the correct menu shows.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	FMC CDU FOR RIGHT ENGINE FAULTS D633A109-AKS 73-020-02-01		

AKS



737-600/700/800/900 TASK CARDS

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-02-01	
<p>(i) To end the test, push the INIT REF key.</p> <p><u>NOTE:</u> This causes the test to stop and automatically removes electrical power from the EEC.</p> <p>———— END OF TASK ————</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE MRB	FMC CDU FOR RIGHT ENGINE FAULTS D633A109-AKS 73-020-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-020-02-01
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;">  <p>FLIGHT COMPARTMENT</p> </div> <div style="width: 50%;"> <p>FMCS CONTROL DISPLAY UNIT (CDU)</p> <p>A</p>  <p>LINE SELECT KEY (LSK) (12 LOCATIONS)</p> <p>INIT REF FUNCTION KEY</p> <p>PREVIOUS PAGE KEY</p> <p>NEXT PAGE KEY</p> <p>FMCS CONTROL DISPLAY UNIT (CDU)</p> <p>A</p> </div> </div> <p style="text-align: center;">Engine 1 BITE Test Main Menu Figure 1</p> <p style="text-align: right;">G53437 S0006582753_V2</p>				
EFFECTIVITY AKS ALL	SOURCE MRB	FMC CDU FOR RIGHT ENGINE FAULTS D633A109-AKS 73-020-02-01		

AIRLINE CARD NO		TITLE REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION			BOEING CARD NO. 73-030-01-01
DATE	TASK RESTORE				RELATED CARD
TAIL NUMBER	WORK AREA LEFT ENGINE	VERSION 1.1	THRESHOLD 300 FH	REPEAT 300 FH	APPLICABILITY
STATION	SKILL ENGIN				AIRPLANE 800 ENGINE ALL NOTE
		ACCESS 413			ZONE 411

Remove the left engine hydro mechanical unit for inspection per Service Bulletin CFM 56-7B 73-016.

SPECIAL NOTE: CMR task (73-CMR-01) interval for this task is 300 FH. See MPD Section 9.

ENGINE NOTE: Applicable to engine hydro mechanical unit P/N 1853M56P04 or P/N 1853M56P05.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 70-20-02-400-801-F00	Tightening Practices and Torque Values (P/B 201)
AMM 70-30-01-910-802-F00	Seals (Preformed Packings and O-Rings) and Gaskets (P/B 201)
AMM 71-00-00-700-821-F00	Dry Motor the Engine (P/B 201)
AMM 71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
AMM 71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
AMM 71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
AMM 72-00-00-980-801-F00	Turn the N2 Rotor (P/B 201)
AMM 73-11-01-000-801-F00	Fuel Pump Package Removal (P/B 401)
AMM 73-11-01-400-801-F00	Fuel Pump Package Installation (P/B 401)
AMM 73-21-09-000-801-F00	High Pressure Shutoff Valve (HPSOV) Switch Removal (P/B 201)
AMM 73-21-09-400-801-F00	High Pressure Shutoff Valve (HPSOV) Switch Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00601 [CP2101]	High-temperature graphite compound	SAE AMS 2518
D00623 [CP5066]	Oil - Fuel System, Corrosion Preventive	MIL-PRF-6081, Grade 1010
G00624	Bag - Plastic, General Purpose	
G00920	Tape - Waterproof, Packaging	ASTM D5486
G02345 [CP8001]	Wire - Safety, 0.032 Inch (0.8 mm) Diameter	CFM CP8001, AMS 5687
G50065 [CP8006]	Cable, Safety, Stainless Steel, 0.032 inch (0.813 mm) Diameter	M50 TF 9 CL-A

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01	Page 1 of 23 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01						
C. Tools/Equipment <u>NOTE:</u> When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional. <table border="1"><thead><tr><th>Reference</th><th>Description</th></tr></thead><tbody><tr><td>SPL-2358</td><td>Set - Adapter, Torque Hydromechanical UN & MN Fuel Pump Nuts Part #: 856A1827G01 Supplier: 58828</td></tr><tr><td>STD-1054</td><td>Container - Fuel Resistant, 5 Gallon (19 Liters)</td></tr></tbody></table>					Reference	Description	SPL-2358	Set - Adapter, Torque Hydromechanical UN & MN Fuel Pump Nuts Part #: 856A1827G01 Supplier: 58828	STD-1054	Container - Fuel Resistant, 5 Gallon (19 Liters)
Reference	Description									
SPL-2358	Set - Adapter, Torque Hydromechanical UN & MN Fuel Pump Nuts Part #: 856A1827G01 Supplier: 58828									
STD-1054	Container - Fuel Resistant, 5 Gallon (19 Liters)									
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01							

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01													
TASK 73-21-10-000-801-F00 1. HMU Removal (Figure 1) A. General (1) The HMU is connected to the fuel pump assembly that is at the 8:00 o'clock position on the aft side of the accessory gearbox. B. Expendables/Parts <table border="1"> <thead> <tr> <th>AMM Item</th> <th>Description</th> <th>AIPC Reference</th> <th>AIPC Effectivity</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Plug</td> <td>Not Specified</td> <td></td> </tr> <tr> <td>3</td> <td>O-ring</td> <td>Not Specified</td> <td></td> </tr> </tbody> </table> C. Prepare for the Removal SUBTASK 73-21-10-840-001-F00 (1) Do these steps to isolate the fuel system: (a) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. (b) Make sure the engine start lever is in the CUTOFF position. 1) Install a DO-NOT-OPERATE tag on the applicable engine start lever. (c) Make sure the FUEL VALVE CLOSED (engine fuel shutoff valve) light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the engine fuel shutoff valve has three positions: 1) bright when the valve is in transition; 2) dim when the valve is closed or 3) off when the valve is opened. (d) Make sure the SPAR VALVE CLOSED light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the spar shutoff valve has three positions: 1) bright when the valve is in transition; 2) dim when the valve is closed or 3) off when the valve is opened. (e) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812. NOTE: The removal of the electrical power is necessary while you disconnect the electrical and fluid connectors. You can reapply electrical power to the airplane after all of the electrical and fluid connectors are disconnected and the protective covers are installed. 1) Make sure that the BAT switch on panel P5-13 is set to OFF and install a DO-NOT-OPERATE tag. (f) Do this task: Open the Fan Cowl Panels, AMM TASK 71-11-02-010-801-F00. SUBTASK 73-21-10-680-002-F00 (2) Do these steps to drain the fuel from the fuel pump:				AMM Item	Description	AIPC Reference	AIPC Effectivity	2	Plug	Not Specified		3	O-ring	Not Specified		MECH	INSP
				AMM Item	Description	AIPC Reference	AIPC Effectivity										
2	Plug	Not Specified															
3	O-ring	Not Specified															
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01														

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
<p><u>WARNING:</u> DO NOT GET FUEL IN YOUR MOUTH, OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. KEEP THE FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS POISONOUS AND FLAMMABLE LIQUID THAT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.</p> <p>(a) Put a 5 gallon (19 liters) fuel resistant container, STD-1054 below the fuel pump.</p> <p>(b) Remove the drain plug [2] from the fuel filter cover.</p> <p>(c) Let the fuel drain in the container.</p> <p>(d) Remove and discard the O-ring [3] from the drain plug [2].</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(e) Lubricate a new O-ring [3] with oil, D00623 [CP5066].</p> <p>(f) Install a new O-ring [3] on the drain plug [2].</p> <p>(g) Lubricate the threads of the drain plug [2] with oil, D00623 [CP5066].</p> <p>(h) Install the drain plug [2].</p> <p>1) Tighten the drain plug to a torque of 45-55 pound-inches (5.0-6.2 Newton meters).</p> <p>(i) Install safety wire, G02345 [CP8001] or cable, G50065 [CP8006] on the drain plug [2].</p> <p>D. Remove the HMU</p> <p>SUBTASK 73-21-10-020-001-F00</p> <p>(1) Disconnect these electrical connectors from the HMU [1]:</p> <p><u>NOTE:</u> If it is necessary, you can use soft-nose connector pliers to loosen the coupling nuts on the connectors.</p> <p>(a) The DP1203 (MWO312) connector</p> <p>(b) The DP0501 (J5) connector</p> <p>(c) The DP1207 (MWO312) connector</p> <p>(d) The DP0601 (J6) connector</p> <p>(e) The DP0803 (J8) connector on the fuel filter differential pressure switch.</p> <p>(f) Install protective covers on the plugs and the receptacles.</p> <p>1) Move the electrical connectors out of the way, to make sure that they are not damaged.</p> <p>a) If it is necessary, use lockwire or tape to keep the connectors out of the way.</p> <p>SUBTASK 73-21-10-210-001-F00</p> <p>(2) Make sure that the container stays below the HMU during the removal procedure.</p> <p>(a) As you disassemble the fuel system, let the unwanted fluids drain into the container.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
SUBTASK 73-21-10-010-001-F00				MECH	INSP
<p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO LOOSEN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.</p> <p>(3) Disconnect the hoses from the HMU [1]:</p> <p>(a) Use two wrenches to disconnect these hoses:</p> <p><u>NOTE:</u> The hoses are arranged so that the same wrenches can be used at the same time.</p> <ol style="list-style-type: none"> 1) The LPT hose [4] 2) The HPT hose [5] <p>AKS ALL PRE SB CFM56-7B 73-44</p> <ol style="list-style-type: none"> 3) The BSV hose [10] <p><u>NOTE:</u> Engines POST CFMI SB 73-044 do not have the BSV hose [10] installed.</p> <p>AKS ALL</p> <ol style="list-style-type: none"> 4) The TBV hose [12]. <p>(b) Use two wrenches to disconnect these hoses:</p> <ol style="list-style-type: none"> 1) The VSV hose (ROD) [6] 2) The VBV hose (CLOSED) [8] 3) The PCR hose [11]. <p>(c) Use two wrenches to disconnect these hoses:</p> <ol style="list-style-type: none"> 1) The VSV hose (HEAD) [7] 2) The VBV hose (OPEN) [9]. <p>(d) Install protective covers on the hoses and the HMU.</p> <ol style="list-style-type: none"> 1) If it is necessary, use lockwire or tape to keep the hoses out of the way. <p>SUBTASK 73-21-10-020-007-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(4) Do these steps to remove the fuel tube [17] from the HMU:</p> <p>(a) Use two wrenches to disconnect fuel tube [17] from fuel tube [19].</p> <p>(b) Remove the four bolts [16] that hold the tube [17] and the gasket [18] to the HMU [1].</p> <p><u>NOTE:</u> To aid in the removal of the four bolts [16], a 20 inch (50 cm) extension can be used to remove the two inboard bolts. A 2 inch (5 cm) deep-well socket can be used to remove the two outboard bolts.</p>					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

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<p>(c) Remove the nut [21], bolt [22] and the clamp [20] that hold the tube [17] to the bracket.</p> <p><u>NOTE:</u> The nut [21] and the bolt [22] also hold a clamp for the oil tube [15].</p> <p>1) Let the additional clamp stay on the oil tube [15].</p> <p>(d) Remove the nut [23], bolt [24], and clamp [25] that hold the tube [17] to the bracket.</p> <p>(e) Remove the fuel tube [17].</p> <p>1) If the gasket [18] is serviceable, then keep it with the tube for the subsequent installation.</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-30-01-910-802-F00) for gasket and seal maintenance practices.</p> <p>(f) Install protective covers on the fuel tube [17], fuel tube [19] and the HMU [1].</p> <p>SUBTASK 73-21-10-030-001-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES WHEN YOU LOOSEN OR TIGHTEN THE CONNECTION. ONE WRENCH WILL HOLD ONE SIDE OF THE CONNECTION IN ITS POSITION. ONE WRENCH WILL TURN THE OTHER SIDE OF THE CONNECTION. IF YOU DO NOT OBEY THIS TWO-WRENCH PROCEDURE, YOU CAN CAUSE DAMAGE TO THE CONNECTION COMPONENTS.</p> <p>(5) Do these steps to remove the fuel tube [43] from the servo-fuel heater inlet port.</p> <p>(a) Use two wrenches to disconnect the fuel tube [43] from the servo-fuel heater inlet port.</p> <p>(b) Use two wrenches to disconnect the fuel tube [43] from the fuel pump.</p> <p>(c) Install protective covers on the fuel tube [43], servo-fuel heater and fuel pump.</p> <p>SUBTASK 73-21-10-020-008-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(6) Do these steps to remove the fuel tube [39] from the HMU and the servo-fuel heater:</p> <p>(a) Use two wrenches to disconnect the fuel tube [39] from the servo-fuel heater.</p> <p>(b) Remove the four bolts [27] that hold the fuel tube [39] and the gasket [26] to the HMU [1].</p> <p>(c) Remove fuel tube [39].</p> <p>1) If the gasket [26] is serviceable, then keep it with the tube for the subsequent installation.</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-30-01-910-802-F00) for gasket and seal maintenance practices.</p> <p>(d) Install protective covers on the fuel tube [39], servo-fuel heater, and HMU.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
SUBTASK 73-21-10-020-009-F00				MECH	INSP
<p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(7) Do these steps to remove the fuel tube [33] from the HMU [1]:</p> <ul style="list-style-type: none"> (a) Use two wrenches to disconnect fuel tube [33] from fuel tube [38]. (b) Remove the four bolts [32] that hold the fuel tube [33] and the gasket [34] to the HMU [1]. (c) Remove the nut [35], bolt [36], and clamp [37] that hold the fuel tube [33] to the bracket. <ul style="list-style-type: none"> 1) If it is difficult to remove fuel tube [33], loosen the clamps that hold the fuel tube [38] to the bracket that is above the fuel pump package. <p><u>NOTE:</u> This will permit you to move fuel tube [38] and can make it easier to remove the fuel tube [33].</p> <ul style="list-style-type: none"> (d) Remove fuel tube [33]. <ul style="list-style-type: none"> 1) If the gasket [34] is serviceable, then keep it with the tube for the subsequent installation. <p><u>NOTE:</u> Refer to this task (AMM TASK 70-30-01-910-802-F00) for gasket and seal maintenance practices.</p> <ul style="list-style-type: none"> (e) Install protective covers on the fuel tube [33], the fuel tube [38], and the HMU. 					
<p>SUBTASK 73-21-10-020-010-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(8) Remove drain tubes [30] and [31]:</p> <ul style="list-style-type: none"> (a) Use two wrenches to disconnect the drain tube [30] from the drain tube [29]. (b) Use two wrenches to disconnect the drain tube [30] from the bottom of the HMU. (c) Remove the drain tube [30]. <ul style="list-style-type: none"> 1) Install protective covers on the drain tube [30], the drain tube [29] and the HMU. (d) Use two wrenches to disconnect the drain tube [31] from the drain tube [28]. (e) Use two wrenches to disconnect the drain tube [31] from the drain. (f) Remove the drain tube [31]. <ul style="list-style-type: none"> 1) Install protective covers on the drain tube [31], the drain tube [28] and the drain. 					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
SUBTASK 73-21-10-020-005-F00 <u>WARNING:</u> BE CAREFUL WHEN YOU MOVE THE HMU. THE HMU WEIGHS 40 POUNDS (18 KILOGRAMS). THE WEIGHT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO THE EQUIPMENT. <u>CAUTION:</u> DO NOT LIFT THE HMU BY THE DRIVE SHAFT. DO NOT LET THE DRIVE SHAFT SUPPORT THE WEIGHT OF THE HMU. IF THE DRIVE SHAFT SUPPORTS THE WEIGHT OF THE HMU, IT CAN CAUSE DAMAGE TO THE HMU SEALS. (9) Do these steps to disconnect the HMU [1] from the fuel pump: (a) Remove the six nuts [40] and washers [41] that hold the HMU [1] to the fuel pump. <u>NOTE:</u> The three outboard studs are on the fuel pump and the three inboard studs are on the HMU. 1) Use the set, SPL-2358 to get access to the center and lower inboard studs. <u>NOTE:</u> If the tool is not available, then you can insert a long extension from the forward side, between the fan case and the accessory gearbox. (b) Remove the HMU [1]. (c) Remove the gasket [42]. 1) Examine the gasket [42] for scratches, nicks, dents and cuts (AMM TASK 70-30-01-910-802-F00). a) If the gasket is serviceable, keep it for the subsequent installation. b) If the gasket is not serviceable, replace it. (d) Install protective covers on the mating surfaces of the HMU [1] and the fuel pump. (e) To drain the fuel by gravity from the HMU, do these steps: <u>NOTE:</u> The HMU cannot be shipped with hazardous waste (fuel) inside. The HMU cannot be flushed with oil in the field. 1) Let the HMU sit on each of its four sides for approximately one minute. 2) Install protective covers on the ports and fittings of the HMU. Use the hardware from the installed HMU. (f) Pack the HMU in two to three plastic bag, G00624 or equivalent. 1) Remove as much air as possible from the bags. 2) Seal each bag with waterproof tape, G00920. <p style="text-align: center;">———— END OF TASK ————</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
73-CMR-01 TASK 73-21-10-200-801-F00 2. <u>HMU Inspection</u> A. General (1) This task includes the steps to examine (Internal) the HMU. (2) The HMU is connected to the fuel pump assembly on the aft side of the accessory gearbox. B. Procedure SUBTASK 73-21-10-210-008-F00 (1) If a HMU part number 1853M56P04 or 1853M56P05 is installed, refer to CFM SB 73-016. <p style="text-align: center;">———— END OF TASK ————</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
TASK 73-21-10-400-801-F00				MECH	INSP
3. <u>HMU Installation</u> (Figure 1)					
A. Expendables/Parts					
AMM Item	Description	AIPC Reference	AIPC Effectivity		
1	HMU	Not Specified			
18	Gasket	Not Specified			
26	Gasket	Not Specified			
34	Gasket	Not Specified			
42	Gasket	Not Specified			
B. Prepare for the Installation					
SUBTASK 73-21-10-840-002-F00					
(1) Do these steps to clean and examine the components for the HMU [1] installation:					
(a) Remove the protective covers from the HMU [1], the fuel pump, and the fuel tube connections.					
(b) Thoroughly clean the mating surfaces and the adjacent areas of the components. <u>NOTE:</u> Failure to clean the adjacent area can cause bubbles after HMU installation is complete.					
(c) Examine the component mating surfaces and the adjacent areas to make sure that they are serviceable.					
1) Replace the components that are not serviceable.					
(d) Re-install the protective covers on the HMU [1], the fuel pump, and the fuel tube connections.					
SUBTASK 73-21-10-210-003-F00					
(2) Examine the studs on the fuel pump:					
(a) If the threads on the fuel pump studs are not serviceable, then replace the fuel pump. These are the tasks: Fuel Pump Package Removal, AMM TASK 73-11-01-000-801-F00, Fuel Pump Package Installation, AMM TASK 73-11-01-400-801-F00.					
(b) Use your hand to move the ends of the fuel pump studs. <u>NOTE:</u> The three studs on the fuel pump are key locked studs. Due to the locking mechanism, you can feel a small lateral movement of the end of the studs.					
1) If the ends of the studs move 0.062 inch (1.6 mm) or greater, then do these steps:					
a) Use a small hammer and a punch to lightly hit the studs keys into the fuel pump housing.					
b) Continue to lightly hit the keys until the stud movement is in the limits, or the key is flush with the inserted end of the stud.					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
<p>c) If you can not get the stud movement into the limits, then replace the fuel pump.</p> <p>These are the tasks:</p> <p>Fuel Pump Package Removal, AMM TASK 73-11-01-000-801-F00,</p> <p>Fuel Pump Package Installation, AMM TASK 73-11-01-400-801-F00.</p> <p>2) If the stud movement is in the limits, then continue.</p> <p>AKS ALL PRE SB 737-CFM56-7B-73-067</p> <p><small>SUBTASK 73-21-10-430-001-F00</small></p> <p>(3) If it is necessary, install a new high pressure shutoff valve (HPSOV) switch per the service bulletin.</p> <p>(a) Or do these tasks, High Pressure Shutoff Valve (HPSOV) Switch Removal, AMM TASK 73-21-09-000-801-F00, and High Pressure Shutoff Valve (HPSOV) Switch Installation, AMM TASK 73-21-09-400-801-F00.</p> <p>AKS ALL PRE SB 737-CFM56-7B-73-0108</p> <p><small>SUBTASK 73-21-10-210-007-F00</small></p> <p>(4) Make sure that you install the correct HMU, refer to the AIPC.</p> <p>(a) HMUs with part number 1853M56P10 or P12 do not have the Burner Staging Valve solenoid. The BSV must be deactivated for this HMU installation, refer to CFM-SB 73-0108.</p> <p>AKS ALL</p> <p>C. HMU Installation</p> <p><small>SUBTASK 73-21-10-420-002-F00</small></p> <p><u>WARNING:</u> BE CAREFUL WHEN YOU MOVE THE HMU. THE HMU WEIGHS 40 POUNDS (18 KILOGRAMS). THE WEIGHT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO THE EQUIPMENT.</p> <p><u>CAUTION:</u> DO NOT LIFT THE HMU BY THE DRIVE SHAFT. DO NOT LET THE DRIVE SHAFT SUPPORT THE WEIGHT OF THE HMU. IF THE DRIVE SHAFT SUPPORTS THE WEIGHT OF THE HMU, IT CAN CAUSE DAMAGE TO THE HMU SEALS.</p> <p>(1) Install the HMU [1] on the fuel pump:</p> <p>(a) Lubricate the three studs on the fuel pump with graphite compound, D00601 [CP2101].</p> <p>(b) Lubricate the three studs on the HMU graphite compound, D00601 [CP2101].</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(c) Lubricate the gasket [42] with oil, D00623 [CP5066].</p> <p>(d) Remove the protective covers from the mating surfaces of the HMU and the fuel pump.</p> <p>(e) Put the gasket [42] in its correct position on the fuel pump.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
<p>(f) Put the HMU [1] on the fuel pump.</p> <p>1) If you cannot get the HMU shaft to align with the fuel pump, manually turn the N2 rotor until the HMU shaft engages the fuel pump (AMM TASK 72-00-00-980-801-F00).</p> <p>(g) Install the six washers [41] and nuts [40] on the studs to connect the HMU to the fuel pump.</p> <p><u>NOTE:</u> The three outboard studs are on the fuel pump and the three inboard studs are on the HMU.</p> <p>CAUTION: MAKE SURE THAT THE TORQUE ADAPTER SET IS NOT DAMAGED. MAKE SURE THAT THE CENTERLINE OF THE ADAPTER ALIGNS WITH THE CENTERLINE OF THE TORQUE WRENCH SQUARE DRIVE. IF THE TORQUE WRENCH IS NOT ALIGNED WITH THE ADAPTER CENTERLINE, YOU WILL GET INCORRECT TORQUE VALUES.</p> <p>1) Use the set, SPL-2358 to get access to the center inboard stud.</p> <p><u>NOTE:</u> If the tool is not available, then you can insert a long extension from the forward side, between the fan case and the accessory gearbox.</p> <p>2) Tighten the nuts [40] to 124-136 pound-inches (14.0-15.3 Newton meters).</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after the HMU post-installation test. Bubbles are permitted if the bubbles stop after five minutes of engine operation at idle.</p> <p>SUBTASK 73-21-10-020-011-F00</p> <p>CAUTION: USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(2) Install the drain tubes [30] and [31]:</p> <p>(a) Remove the protective covers from the drain tubes [30] and [31] and the drain.</p> <p>(b) Remove the applicable protective cover from the HMU.</p> <p>WARNING: DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(c) Lubricate the threads of the nipples with oil, D00623 [CP5066].</p> <p>(d) Use your hands to connect the drain tube [31] to the drain and the drain tube [28].</p> <p>1) Make sure that the drain tube [31] does not touch other components.</p> <p>(e) Use two wrenches to tighten the two coupling nuts to 257-284 pound-inches (29-32 Newton meters).</p> <p>(f) Use your hands to connect the drain tube [30] to the bottom of the HMU and the drain tube [29].</p> <p>1) Make sure that the drain tube [30] does not touch other components.</p> <p>(g) Use two wrenches to tighten the coupling nuts to 257-284 pound-inches (29-32 Newton meters).</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
SUBTASK 73-21-10-020-012-F00				MECH	INSP
<p><u>CAUTION:</u> MAKE SURE THAT YOU USE APPROVED BOLTS WHEN YOU CONNECT THE LINES TO THE HMU. INSTALLATION OF INCORRECT ATTACHMENT BOLTS CAN CAUSE AN IN-FLIGHT FUEL LEAK.</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(3) Do these steps to install the fuel tube [33]:</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <p>(a) Remove the protective covers from the fuel tube [33] and the fuel tube [38].</p> <p>(b) Remove the applicable protective covers from the HMU.</p> <p>(c) Lubricate these parts:</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>1) Lubricate the gasket [34] with oil, D00623 [CP5066].</p> <p>2) Lubricate the threads of the bolts [32] and [36] with graphite compound, D00601 [CP2101].</p> <p>3) Lubricate the threads of the nipple with oil, D00623 [CP5066].</p> <p><u>CAUTION:</u> LOOK AT THE GASKET BEFORE YOU INSTALL IT. OBEY THE INSTRUCTIONS IN SEALS (PREFORMED PACKINGS AND O-RINGS) AND GASKETS, AMM TASK 70-30-01-910-802-F00. DO NOT CAUSE DAMAGE TO THE RUBBER SEAL WHEN YOU INSTALL THE GASKET.</p> <p>(d) Put the fuel tube [33] and the gasket [34] in the correct position between the HMU and fuel tube [38].</p> <p>(e) Install and hand tighten the 4 bolts [32] that hold the fuel tube [33] and gasket [34] to the HMU [1].</p> <p>AKS ALL POST SB 737-CFM56-7B-72-0068</p> <p><u>NOTE:</u> Use the longer length bolts [32] (AS3237-14) for the fuel tube [33] installation.</p> <p>AKS ALL</p> <p>(f) Use your hands to connect fuel tube [33] to the fuel tube [38].</p> <p>(g) Install and hand tighten the nut [35], bolt [36], and clamp [37] that hold the tube [33] to the bracket.</p> <p>(h) Make sure that the fuel tube [33] is in its correct position.</p> <p>1) Make sure that there is no gap between the fuel tube [33] and gasket [34] or between the gasket [34] and HMU.</p>					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
<p>CAUTION: TIGHTEN THE BOLTS CORRECTLY. REFER TO TIGHTENING PRACTICES AND TORQUE VALUES, AMM TASK 70-20-02-400-801-F00. IF YOU TIGHTEN THEM INCORRECTLY, DAMAGE TO THE PARTS CAN OCCUR.</p> <p>(i) Tighten the bolts [32] to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>(j) Use two wrenches to tighten the coupling nut between fuel tube [33] and [38] to 900-1100 pound-inches (100-125 Newton meters).</p> <p>(k) If you loosened the clamps that holds the fuel tube [38] to the bracket above the fuel pump package, then tighten the clamp bolts to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>(l) Tighten the nut [35] to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>SUBTASK 73-21-10-020-013-F00</p> <p>CAUTION: MAKE SURE THAT YOU USE APPROVED BOLTS WHEN YOU CONNECT THE LINES TO THE HMU. INSTALLATION OF INCORRECT ATTACHMENT BOLTS CAN CAUSE AN IN-FLIGHT FUEL LEAK.</p> <p>CAUTION: USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(4) Do these steps to install the fuel tube [39]:</p> <p>NOTE: When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <p>(a) Remove the protective covers from the fuel tube [39], servo-fuel heater, and HMU.</p> <p>(b) Lubricate these parts:</p> <p>WARNING: DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>1) Lubricate the gasket [26] with oil, D00623 [CP5066].</p> <p>2) Lubricate the threads of the bolts [27] with graphite compound, D00601 [CP2101].</p> <p>3) Lubricate the threads of the nipple with oil, D00623 [CP5066].</p> <p>(c) Put the fuel tube [39] and the gasket [26] in the correct position between the HMU and the servo-fuel heater.</p> <p>(d) Install and hand tighten the four bolts [27] that hold the fuel tube [39] and the gasket [26] to the HMU [1].</p> <p>(e) Connect and hand tighten the fuel tube [39] to the servo-fuel heater.</p> <p>(f) Tighten the bolts [27] to 49-53 pound-inches (5.5-6.0 Newton meters).</p> <p>(g) Use two wrenches to tighten the coupling nut between fuel tube [39] and the servo-fuel heater to 650-770 pound-inches (75-85 Newton meters).</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

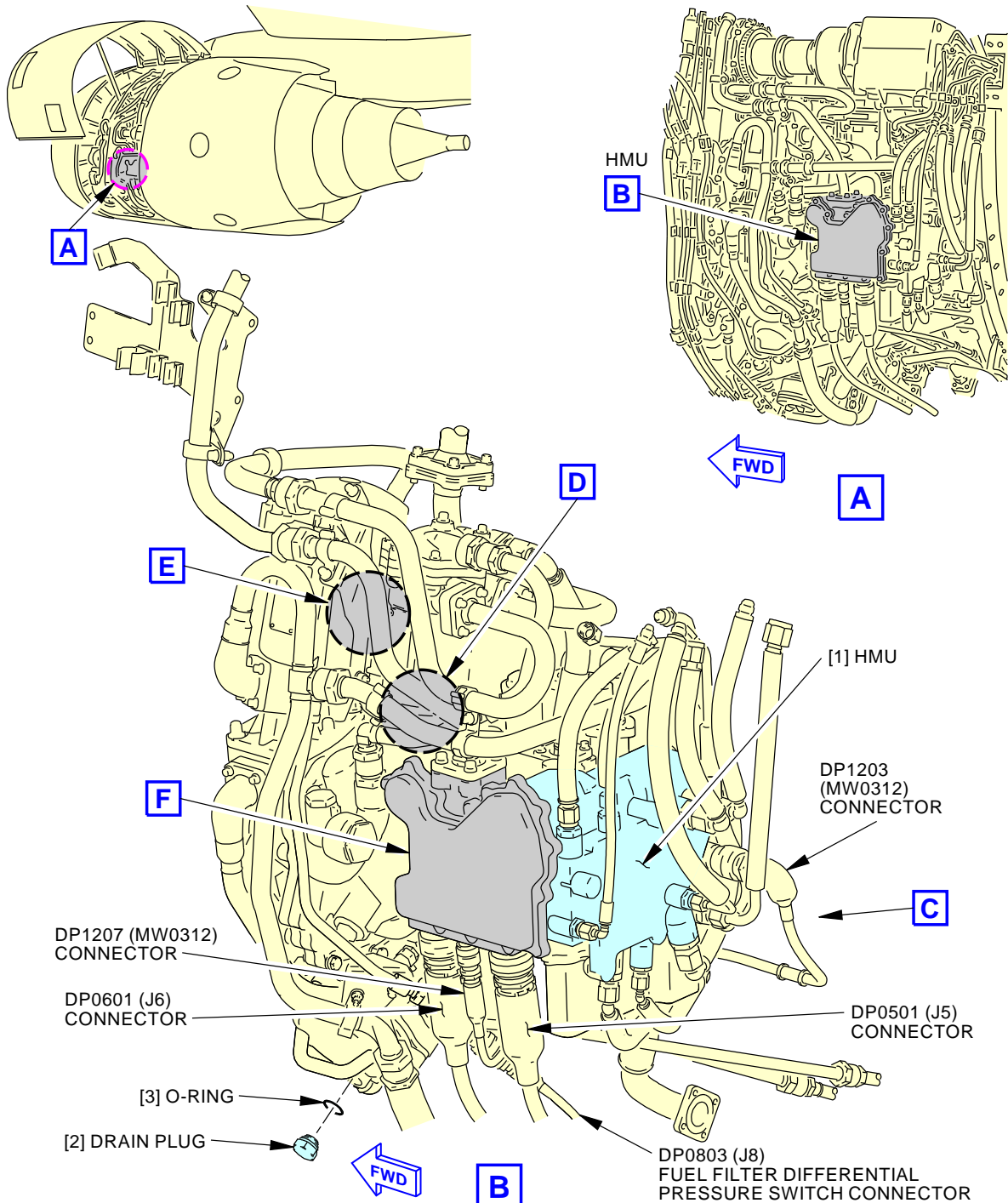
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
SUBTASK 73-21-10-430-002-F00				MECH	INSP
<p><u>CAUTION:</u> USE TWO WRENCHES WHEN YOU LOOSEN OR TIGHTEN THE CONNECTION. ONE WRENCH WILL HOLD ONE SIDE OF THE CONNECTION IN ITS POSITION. ONE WRENCH WILL TURN THE OTHER SIDE OF THE CONNECTION. IF YOU DO NOT OBEY THIS TWO-WRENCH PROCEDURE, YOU CAN CAUSE DAMAGE TO THE CONNECTION COMPONENTS.</p> <p>(5) Do these steps to install the fuel tube [43]:</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <ul style="list-style-type: none"> (a) Remove the protective covers from the fuel tube [43], servo-fuel heater and fuel pump. (b) Lubricate the threads of the nipples with oil, D00623 [CP5066] (c) Put the fuel tube [43] in the correct position between the servo-fuel heater inlet port and the fuel pump. (d) Connect and hand tighten the fuel tube [43] to the servo-fuel heater. (e) Connect and hand tighten the fuel tube [43] to the fuel pump. (f) Use two wrenches to tighten the two coupling nuts to 650-770 pound-inches (75-85 Newton meters). <p>SUBTASK 73-21-10-020-014-F00</p> <p><u>CAUTION:</u> MAKE SURE THAT YOU USE APPROVED BOLTS WHEN YOU CONNECT THE LINES TO THE HMU. INSTALLATION OF INCORRECT ATTACHMENT BOLTS CAN CAUSE AN IN-FLIGHT FUEL LEAK.</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(6) Do these steps to install the fuel tube [17]:</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <ul style="list-style-type: none"> (a) Remove the protective covers from the fuel tube [17], fuel tube [19] and the HMU [1]. (b) Lubricate these parts: <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <ul style="list-style-type: none"> 1) Lubricate the gasket [18] with oil, D00623 [CP5066]. 2) Lubricate the threads of the bolts [16], [22], and [24] with graphite compound, D00601 [CP2101]. 3) Lubricate the threads of the nipple with oil, D00623 [CP5066]. 					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
<p>(c) Put the fuel tube [17] and gasket [18] in the correct position between the fuel tube [19] and the HMU [1].</p> <p>(d) Install and hand tighten the four bolts [16] that hold the tube [17] and the gasket [18] to the HMU [1].</p> <p>(e) Connect and hand tighten the fuel tube [17] to the fuel tube [19].</p> <p>(f) Do these steps to connect the fuel tube [17] and the oil tube [15] to the brackets:</p> <ol style="list-style-type: none"> 1) Put the clamp on the oil tube [15] in its correct position at the bracket. <p>CAUTION: MAKE SURE THAT THE CLAMPS DO NOT INTERFERE WITH THE HMU, THE FUEL TUBES OR THE OIL TUBES. IF INTERFERENCE OCCURS, IT CAN CAUSE DAMAGE TO THE EQUIPMENT.</p> <ol style="list-style-type: none"> 2) Put the clamp [20] in its correct position on the fuel tube [17]. <ol style="list-style-type: none"> a) Make sure that the clamp [20], the clamp on the oil tube [15], and the bracket align. 3) Use you hand to install nut [21] and bolt [22] that hold the clamps and the tubes [15] and [17] to the bracket. <p>(g) Install and hand tighten the nut [23], bolt [24], and clamp [25] that hold the tube [17] to the fuel pump.</p> <p>(h) Tighten the bolts [16] to 49-53 pound-inches (5.5-6.0 Newton meters).</p> <p>NOTE: To aid in the proper installation of the four bolts [16], a 20 inch (50 cm) extension can be used to tighten the 2 inboard bolts. A 2 inch (5 cm) deep-well socket can be used to remove the 2 outboard bolts. Be sure to apply torque at 90 degrees to the centerline of the bolt.</p> <p>(i) Use two wrenches to tighten the coupling nut, between the fuel tubes [17] and [19], to a torque of 900-1100 pound-inches (100-125 Newton meters).</p> <p>(j) Tighten the nuts [21] and [23] for the clamps [20] and [25] to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>SUBTASK 73-21-10-420-006-F00</p> <p>CAUTION: USE TWO WRENCHES TO TIGHTEN THE HOSE COUPLING NUTS. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TIGHTEN THE HOSE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE HOSE AND NIPPLE CAN OCCUR.</p> <p>(7) Connect these hoses to the HMU [1]:</p> <p>NOTE: When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <p>NOTE: The hose installations are arranged so that same wrenches and torque values are used at the same time.</p> <p>(a) Remove the protective covers from the hoses and the HMU.</p> <p>WARNING: DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(b) Lubricate the threads of the nipples with oil, D00623 [CP5066].</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
<p>(c) Install and hand tighten these hoses:</p> <p>1) The HPT hose [5]</p> <p>AKS ALL PRE SB CFM56-7B 73-44</p> <p>2) The BSV hose [10]</p> <p><u>NOTE:</u> Engine POST CFMI SB 73-044 do not have the BSV hose [10] installed</p> <p>AKS ALL</p> <p>3) The TBV hose [12].</p> <p>4) Use two wrenches to tighten the coupling nuts on the hoses [5], [10], and [12] to 135-150 pound-inches (15.3-17.0 Newton meters).</p> <p><u>NOTE:</u> Engine with CFMI SB 73-044 do not have the BSV hose [10] installed</p> <p>AKS ALL POST SB CFM56-7B 73-44</p> <p>(d) If it is necessary, do these steps to install the plug in place of the BSV hose [10].</p> <p><u>NOTE:</u> The plug Part Number, refer to IPC 73-21-10.</p> <p>1) Lubricate the threads of the plug with oil, D00623 [CP5066].</p> <p>2) Install the plug in place of the BSV hose [10].</p> <p>3) Tighten the plug to 135-150 pound-inches (15.3-17.0 Newton meters).</p> <p>AKS ALL</p> <p>(e) Install and hand tighten these hoses:</p> <p>1) The LPT hose [4]</p> <p>2) The VSV hose (ROD) [6]</p> <p>3) The VBV hose (CLOSED) [8]</p> <p>4) The PCR hose [11].</p> <p>5) Use two wrenches to tighten the coupling nuts on the hoses [4], [6], [8], and [11] to 270-300 pound-inches (30.0-35.0 Newton meters).</p> <p>(f) Install and hand tighten these hoses:</p> <p>1) The VSV hose (HEAD) [7]</p> <p>2) The VBV hose (OPEN) [9].</p> <p>3) Use two wrenches to tighten the coupling nuts on the hoses [7] and [9] to 450-550 pound-inches (50.0-60.0 Newton meters).</p> <p>SUBTASK 73-21-10-210-004-F00</p> <p>(8) Make sure that the electrical power is removed from the airplane while you install the electrical connectors.</p> <p>(a) If it is necessary, do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.</p> <p>SUBTASK 73-21-10-420-007-F00</p> <p>(9) Connect these electrical connectors to the HMU:</p> <p><u>NOTE:</u> If it is necessary, you can use soft-nose pliers to turn the connector nuts.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01	
(a) Remove the protective covers from the electrical connectors and the receptacles. (b) The DP0803 (J8) connector on the fuel filter differential pressure switch. (c) The DP0601 (J6) connector (d) The DP1207 (MWO312) connector (e) The DP0501 (J5) connector (f) The DP1203 (MWO312) connector.				MECH	INSP
SUBTASK 73-21-10-210-002-F00 (10) Remove the cranking tool and install the handcranking drive cover on the gearbox drive pad (AMM TASK 72-00-00-980-801-F00).					
D. HMU Installation Test SUBTASK 73-21-10-840-003-F00 (1) Do these steps to prepare for the installation test: (a) Do this task: Close the Fan Cowl Panels, AMM TASK 71-11-02-410-801-F00. (b) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. 1) Remove the DO-NOT-OPERATE tag from the BAT switch on panel P5-13.					
SUBTASK 73-21-10-730-001-F00 (2) Do the tests that are listed in the Power Plant Test Reference Table (AMM TASK 71-00-00-800-811-F00).					
CAUTION: DO NOT MOTOR THE ENGINE BEFORE VERIFYING THAT THE FUEL SPAR VALVE IS IN THE OPEN POSITION AND FUEL BOOST PUMP PRESSURE IS APPLIED TO THE FUEL PUMP INLET. THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT ARE FUEL LUBRICATED, ZERO FUEL PRESSURE CAN CAUSE DAMAGE TO THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT.					
(a) If it is necessary on the engine to be dry motored, apply the boost pump pressure to the fuel pump inlet (Dry Motor the Engine, AMM TASK 71-00-00-700-821-F00). (b) If bubbling is seen from the HMU front cover or electro-hydraulic servo valve (EHSV) cover parting flanges for the HMU leak check, do these steps: NOTE: Residual fuel from the HMU connections can be the cause. The HMU front cover and EHSVs cover are not fluid tight. Heat from the HMU operation forces the air contained in the cavity to escape and create bubbles.					
1) The bubbling occurs during engine operation. With the engine shutdown, look for signs of fuel leakage [wetting] at the above areas of the HMU. 2) Dry the area with compressed air along the applicable parting surfaces. 3) Do the leak check again a) If the bubbles continue from the HMU front cover or EHSV's cover flange, create a maintenance carry-over and continue in service b) Do an inspection of the HMU for leaks and bubbling after three flights. c) If bubbles are present after three flights, replace the HMU.					
————— END OF TASK —————					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01		
			Page 18 of 23 Oct 15/2015		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01
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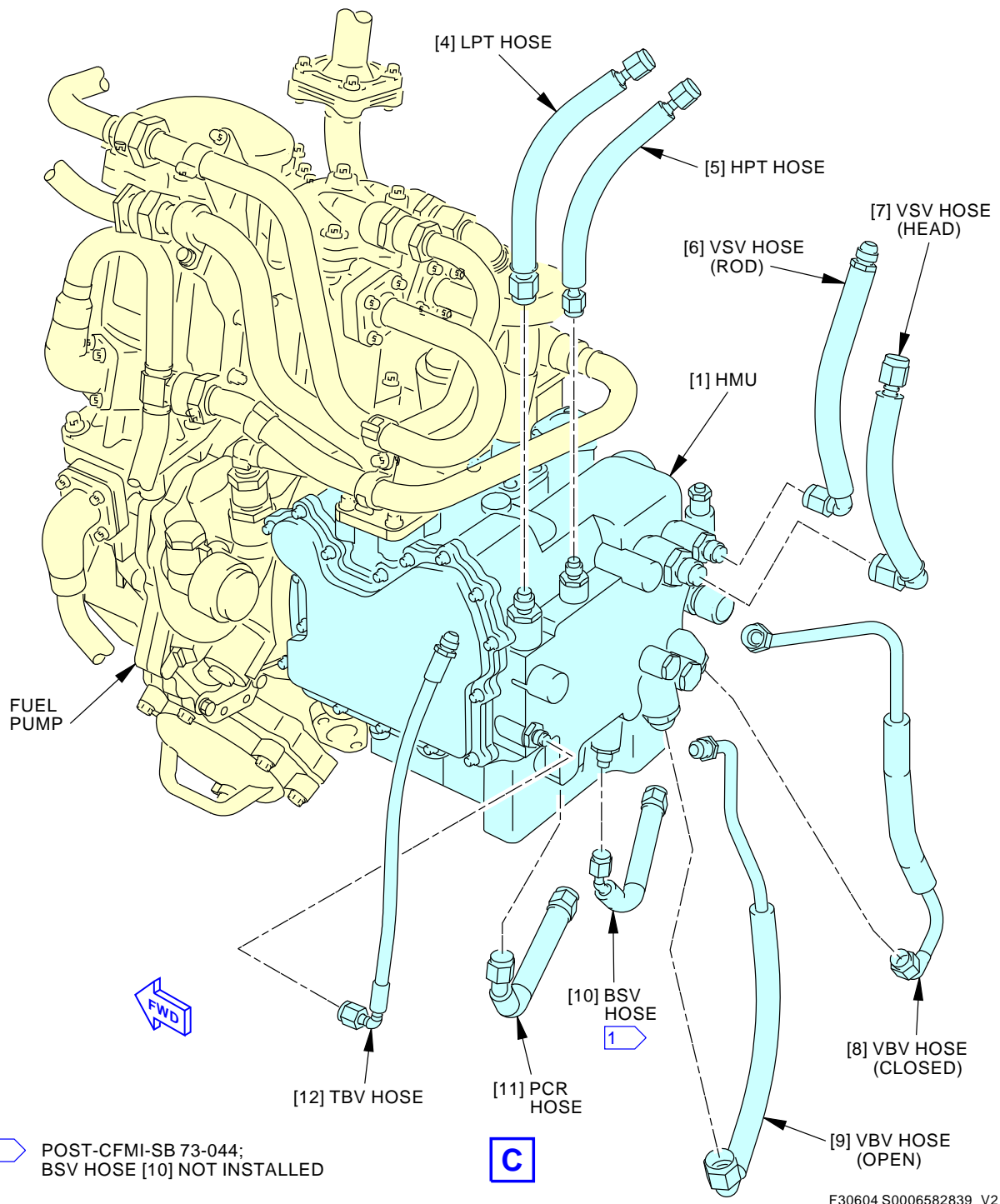


F30618 S0006582838_V2

**Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 1 of 5)**

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01	Page 19 of 23 Jun 15/2016
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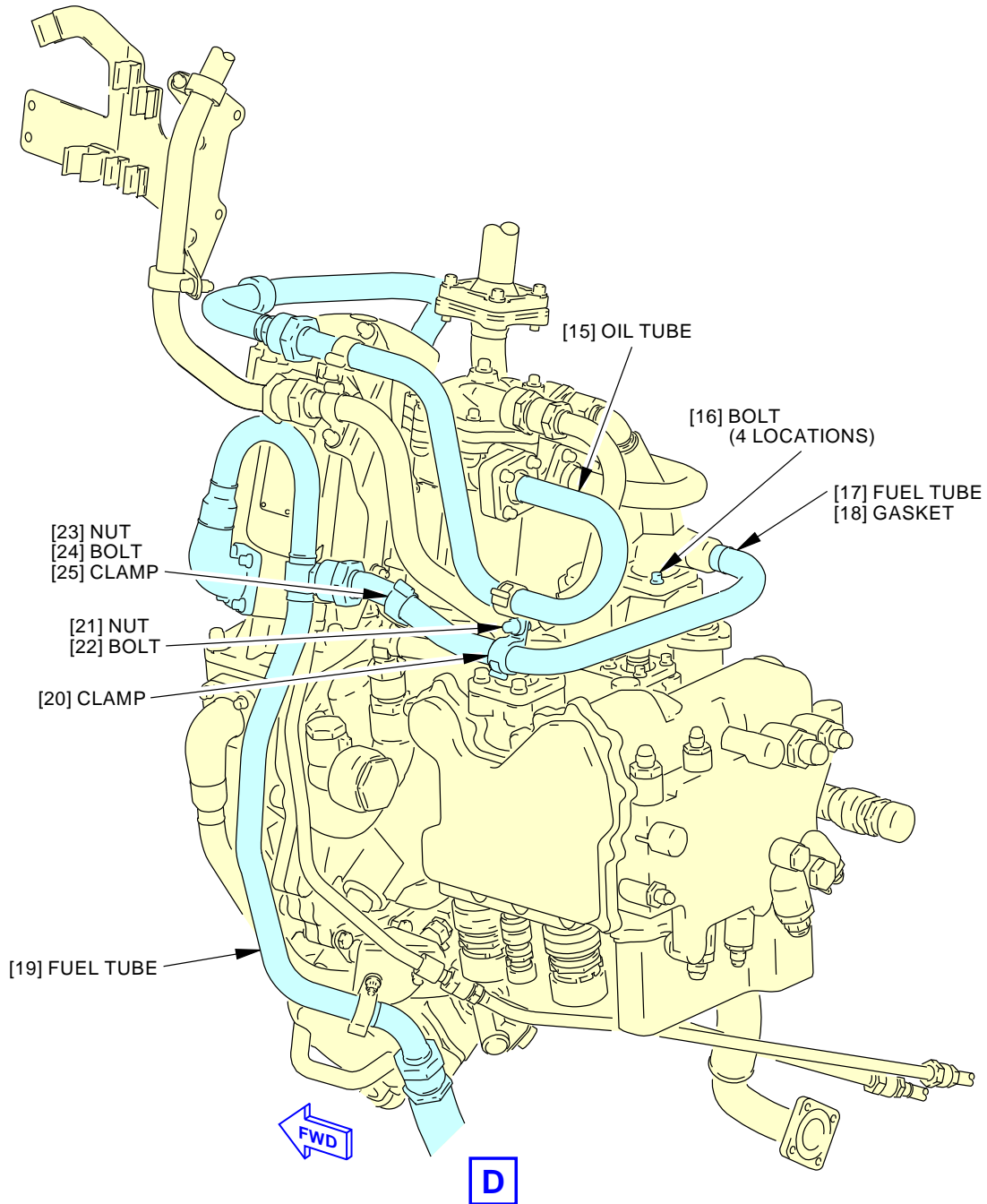
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01
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**Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 2 of 5)**

<p align="center">EFFECTIVITY</p> <p>AKS ALL; AIRPLANES WITH SINGLE ANNULAR COMBUSTOR (SAC) ENGINES</p>	<p>SOURCE CMR</p>	<p>REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION</p> <p>D633A109-AKS 73-030-01-01</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01
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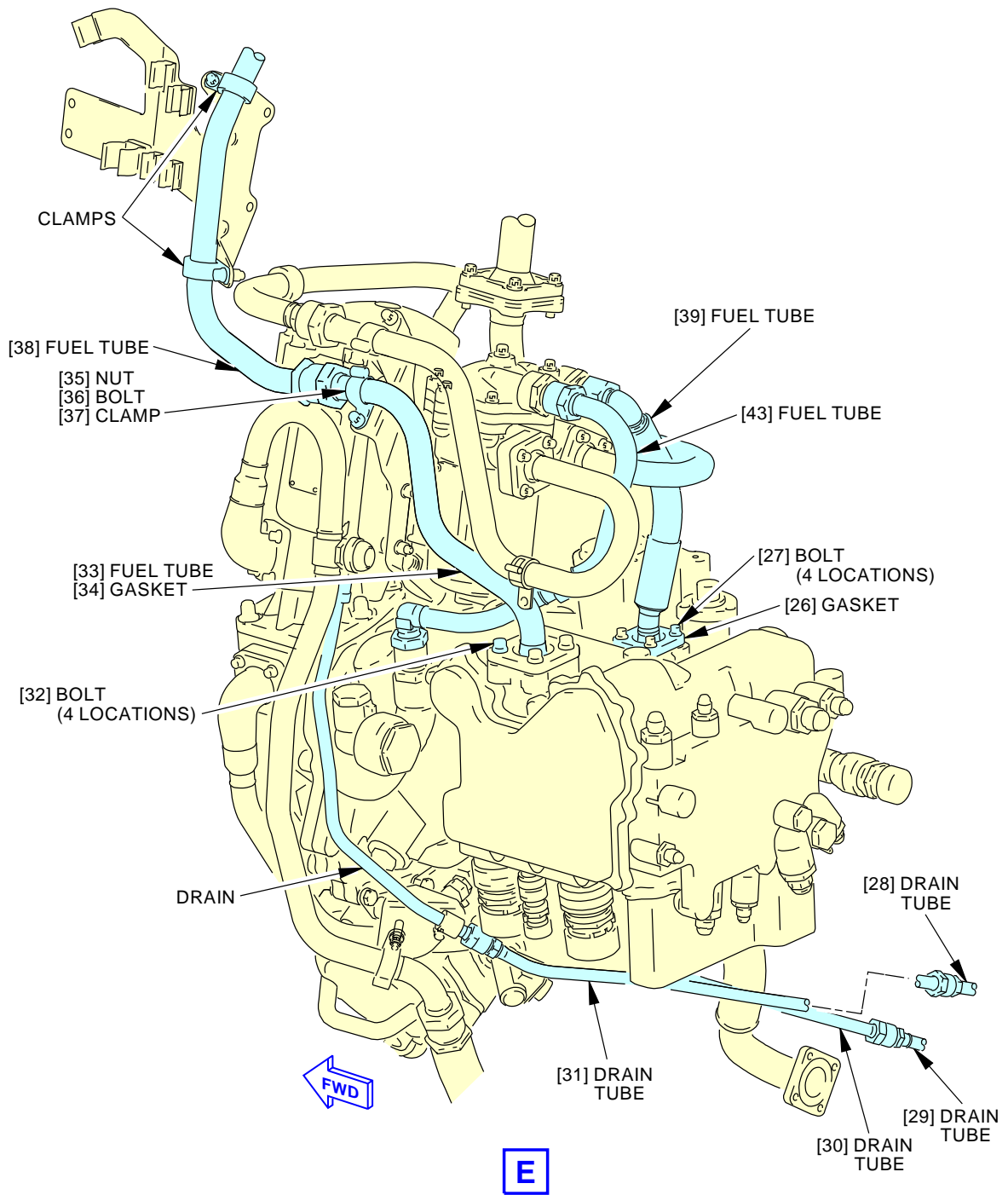


F30606 S0006582842_V2

Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 3 of 5)

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01	Page 21 of 23 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01
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G21098 S0006582843_V4

**Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 4 of 5)**

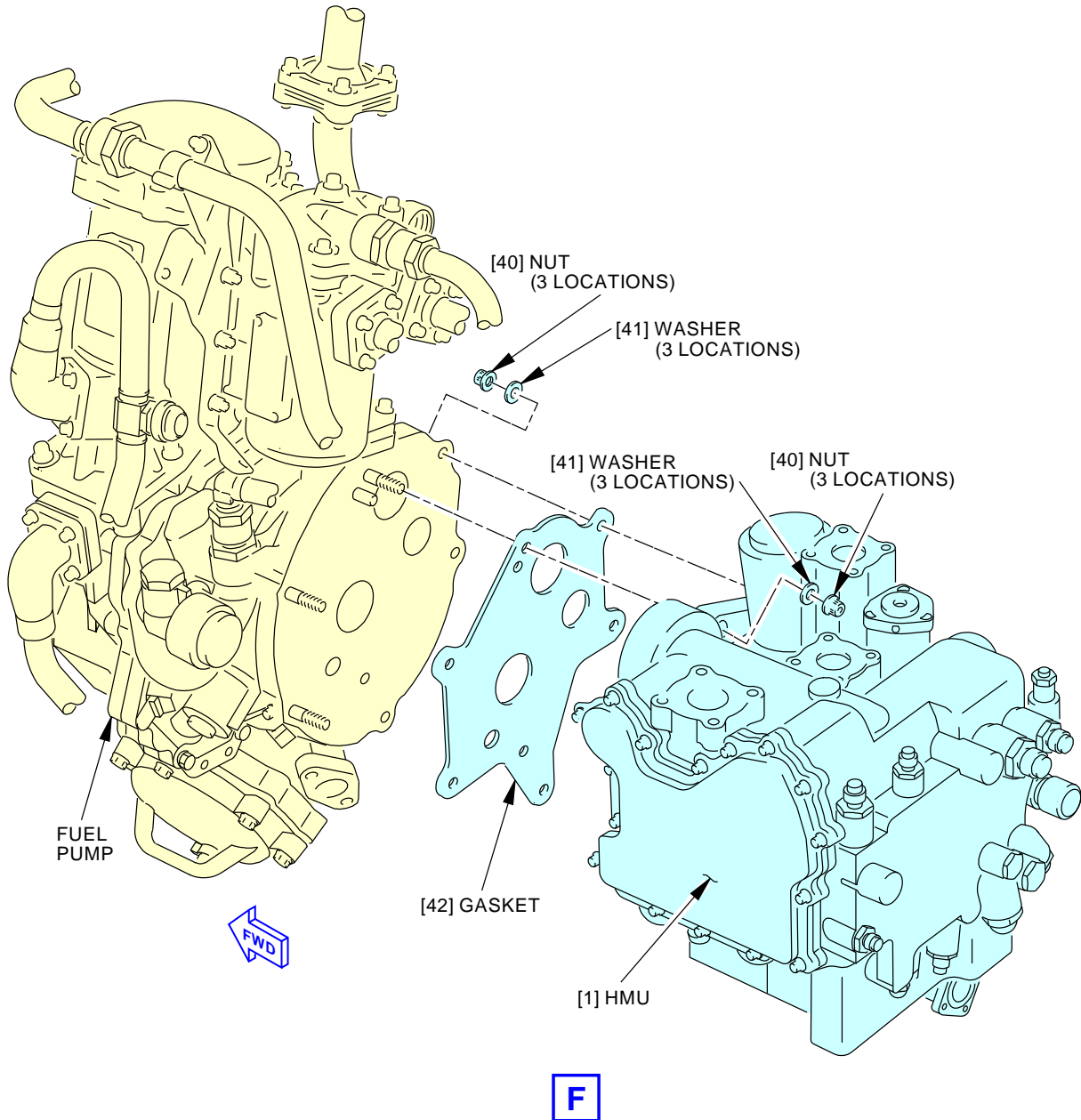
EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01	Page 22 of 23 Jun 15/2016
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AKS



737-600/700/800/900
TASK CARDS

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-01-01
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G93371 S0006582844_V2

Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 5 of 5)

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE LEFT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-01-01	Page 23 of 23 Jun 15/2016
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AIRLINE CARD NO.		TITLE REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION			BOEING CARD NO. 73-030-02-01
DATE	TASK RESTORE				RELATED CARD
TAIL NUMBER	WORK AREA RIGHT ENGINE	VERSION 1.1	THRESHOLD 300 FH	REPEAT 300 FH	APPLICABILITY
STATION	SKILL ENGIN				AIRPLANE 800 ENGINE ALL NOTE
		ACCESS 423			ZONE 421

Remove the right engine hydro mechanical unit for inspection per Service Bulletin CFM 56-7B 73-016.

SPECIAL NOTE: CMR task (73-CMR-01) interval for this task is 300 FH. See MPD Section 9.

ENGINE NOTE: Applicable to engine hydro mechanical unit P/N 1853M56P04 or P/N 1853M56P05.

A. References

Reference	Title
AMM 24-22-00-860-811	Supply Electrical Power (P/B 201)
AMM 24-22-00-860-812	Remove Electrical Power (P/B 201)
AMM 70-20-02-400-801-F00	Tightening Practices and Torque Values (P/B 201)
AMM 70-30-01-910-802-F00	Seals (Preformed Packings and O-Rings) and Gaskets (P/B 201)
AMM 71-00-00-700-821-F00	Dry Motor the Engine (P/B 201)
AMM 71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
AMM 71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
AMM 71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
AMM 72-00-00-980-801-F00	Turn the N2 Rotor (P/B 201)
AMM 73-11-01-000-801-F00	Fuel Pump Package Removal (P/B 401)
AMM 73-11-01-400-801-F00	Fuel Pump Package Installation (P/B 401)
AMM 73-21-09-000-801-F00	High Pressure Shutoff Valve (HPSOV) Switch Removal (P/B 201)
AMM 73-21-09-400-801-F00	High Pressure Shutoff Valve (HPSOV) Switch Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00601 [CP2101]	High-temperature graphite compound	SAE AMS 2518
D00623 [CP5066]	Oil - Fuel System, Corrosion Preventive	MIL-PRF-6081, Grade 1010
G00624	Bag - Plastic, General Purpose	
G00920	Tape - Waterproof, Packaging	ASTM D5486
G02345 [CP8001]	Wire - Safety, 0.032 Inch (0.8 mm) Diameter	CFM CP8001, AMS 5687
G50065 [CP8006]	Cable, Safety, Stainless Steel, 0.032 inch (0.813 mm) Diameter	M50 TF 9 CL-A

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01	Page 1 of 23 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01						
C. Tools/Equipment <u>NOTE:</u> When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.										
<table border="1"> <thead> <tr> <th>Reference</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>SPL-2358</td> <td>Set - Adapter, Torque Hydromechanical UN & MN Fuel Pump Nuts Part #: 856A1827G01 Supplier: 58828</td> </tr> <tr> <td>STD-1054</td> <td>Container - Fuel Resistant, 5 Gallon (19 Liters)</td> </tr> </tbody> </table>					Reference	Description	SPL-2358	Set - Adapter, Torque Hydromechanical UN & MN Fuel Pump Nuts Part #: 856A1827G01 Supplier: 58828	STD-1054	Container - Fuel Resistant, 5 Gallon (19 Liters)
Reference	Description									
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STD-1054	Container - Fuel Resistant, 5 Gallon (19 Liters)									
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01							

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01													
TASK 73-21-10-000-801-F00 1. HMU Removal (Figure 1) A. General (1) The HMU is connected to the fuel pump assembly that is at the 8:00 o'clock position on the aft side of the accessory gearbox. B. Expendables/Parts <table border="1"> <thead> <tr> <th>AMM Item</th> <th>Description</th> <th>AIPC Reference</th> <th>AIPC Effectivity</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Plug</td> <td>Not Specified</td> <td></td> </tr> <tr> <td>3</td> <td>O-ring</td> <td>Not Specified</td> <td></td> </tr> </tbody> </table> C. Prepare for the Removal SUBTASK 73-21-10-840-001-F00 (1) Do these steps to isolate the fuel system: (a) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. (b) Make sure the engine start lever is in the CUTOFF position. 1) Install a DO-NOT-OPERATE tag on the applicable engine start lever. (c) Make sure the FUEL VALVE CLOSED (engine fuel shutoff valve) light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the engine fuel shutoff valve has three positions: 1) bright when the valve is in transition; 2) dim when the valve is closed or 3) off when the valve is opened. (d) Make sure the SPAR VALVE CLOSED light on the fuel control panel (P5 overhead panel) is dim. NOTE: The light for the spar shutoff valve has three positions: 1) bright when the valve is in transition; 2) dim when the valve is closed or 3) off when the valve is opened. (e) Do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812. NOTE: The removal of the electrical power is necessary while you disconnect the electrical and fluid connectors. You can reapply electrical power to the airplane after all of the electrical and fluid connectors are disconnected and the protective covers are installed. 1) Make sure that the BAT switch on panel P5-13 is set to OFF and install a DO-NOT-OPERATE tag. (f) Do this task: Open the Fan Cowl Panels, AMM TASK 71-11-02-010-801-F00. SUBTASK 73-21-10-680-002-F00 (2) Do these steps to drain the fuel from the fuel pump:				AMM Item	Description	AIPC Reference	AIPC Effectivity	2	Plug	Not Specified		3	O-ring	Not Specified		MECH	INSP
				AMM Item	Description	AIPC Reference	AIPC Effectivity										
2	Plug	Not Specified															
3	O-ring	Not Specified															
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01														

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
<p><u>WARNING:</u> DO NOT GET FUEL IN YOUR MOUTH, OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THE FUEL. KEEP THE FUEL AWAY FROM SPARKS, FLAME, AND HEAT. FUEL IS POISONOUS AND FLAMMABLE LIQUID THAT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.</p> <p>(a) Put a 5 gallon (19 liters) fuel resistant container, STD-1054 below the fuel pump.</p> <p>(b) Remove the drain plug [2] from the fuel filter cover.</p> <p>(c) Let the fuel drain in the container.</p> <p>(d) Remove and discard the O-ring [3] from the drain plug [2].</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(e) Lubricate a new O-ring [3] with oil, D00623 [CP5066].</p> <p>(f) Install a new O-ring [3] on the drain plug [2].</p> <p>(g) Lubricate the threads of the drain plug [2] with oil, D00623 [CP5066].</p> <p>(h) Install the drain plug [2].</p> <p>1) Tighten the drain plug to a torque of 45-55 pound-inches (5.0-6.2 Newton meters).</p> <p>(i) Install safety wire, G02345 [CP8001] or cable, G50065 [CP8006] on the drain plug [2].</p> <p>D. Remove the HMU</p> <p>SUBTASK 73-21-10-020-001-F00</p> <p>(1) Disconnect these electrical connectors from the HMU [1]:</p> <p><u>NOTE:</u> If it is necessary, you can use soft-nose connector pliers to loosen the coupling nuts on the connectors.</p> <p>(a) The DP1203 (MWO312) connector</p> <p>(b) The DP0501 (J5) connector</p> <p>(c) The DP1207 (MWO312) connector</p> <p>(d) The DP0601 (J6) connector</p> <p>(e) The DP0803 (J8) connector on the fuel filter differential pressure switch.</p> <p>(f) Install protective covers on the plugs and the receptacles.</p> <p>1) Move the electrical connectors out of the way, to make sure that they are not damaged.</p> <p>a) If it is necessary, use lockwire or tape to keep the connectors out of the way.</p> <p>SUBTASK 73-21-10-210-001-F00</p> <p>(2) Make sure that the container stays below the HMU during the removal procedure.</p> <p>(a) As you disassemble the fuel system, let the unwanted fluids drain into the container.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
SUBTASK 73-21-10-010-001-F00				MECH	INSP
<p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO LOOSEN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.</p> <p>(3) Disconnect the hoses from the HMU [1]:</p> <p>(a) Use two wrenches to disconnect these hoses:</p> <p><u>NOTE:</u> The hoses are arranged so that the same wrenches can be used at the same time.</p> <p>1) The LPT hose [4]</p> <p>2) The HPT hose [5]</p> <p>AKS ALL PRE SB CFM56-7B 73-44</p> <p>3) The BSV hose [10]</p> <p><u>NOTE:</u> Engines POST CFMI SB 73-044 do not have the BSV hose [10] installed.</p> <p>AKS ALL</p> <p>4) The TBV hose [12].</p> <p>(b) Use two wrenches to disconnect these hoses:</p> <p>1) The VSV hose (ROD) [6]</p> <p>2) The VBV hose (CLOSED) [8]</p> <p>3) The PCR hose [11].</p> <p>(c) Use two wrenches to disconnect these hoses:</p> <p>1) The VSV hose (HEAD) [7]</p> <p>2) The VBV hose (OPEN) [9].</p> <p>(d) Install protective covers on the hoses and the HMU.</p> <p>1) If it is necessary, use lockwire or tape to keep the hoses out of the way.</p> <p>SUBTASK 73-21-10-020-007-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(4) Do these steps to remove the fuel tube [17] from the HMU:</p> <p>(a) Use two wrenches to disconnect fuel tube [17] from fuel tube [19].</p> <p>(b) Remove the four bolts [16] that hold the tube [17] and the gasket [18] to the HMU [1].</p> <p><u>NOTE:</u> To aid in the removal of the four bolts [16], a 20 inch (50 cm) extension can be used to remove the two inboard bolts. A 2 inch (5 cm) deep-well socket can be used to remove the two outboard bolts.</p>					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
<p>(c) Remove the nut [21], bolt [22] and the clamp [20] that hold the tube [17] to the bracket.</p> <p><u>NOTE:</u> The nut [21] and the bolt [22] also hold a clamp for the oil tube [15].</p> <p>1) Let the additional clamp stay on the oil tube [15].</p> <p>(d) Remove the nut [23], bolt [24], and clamp [25] that hold the tube [17] to the bracket.</p> <p>(e) Remove the fuel tube [17].</p> <p>1) If the gasket [18] is serviceable, then keep it with the tube for the subsequent installation.</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-30-01-910-802-F00) for gasket and seal maintenance practices.</p> <p>(f) Install protective covers on the fuel tube [17], fuel tube [19] and the HMU [1].</p> <p>SUBTASK 73-21-10-030-001-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES WHEN YOU LOOSEN OR TIGHTEN THE CONNECTION. ONE WRENCH WILL HOLD ONE SIDE OF THE CONNECTION IN ITS POSITION. ONE WRENCH WILL TURN THE OTHER SIDE OF THE CONNECTION. IF YOU DO NOT OBEY THIS TWO-WRENCH PROCEDURE, YOU CAN CAUSE DAMAGE TO THE CONNECTION COMPONENTS.</p> <p>(5) Do these steps to remove the fuel tube [43] from the servo-fuel heater inlet port.</p> <p>(a) Use two wrenches to disconnect the fuel tube [43] from the servo-fuel heater inlet port.</p> <p>(b) Use two wrenches to disconnect the fuel tube [43] from the fuel pump.</p> <p>(c) Install protective covers on the fuel tube [43], servo-fuel heater and fuel pump.</p> <p>SUBTASK 73-21-10-020-008-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(6) Do these steps to remove the fuel tube [39] from the HMU and the servo-fuel heater:</p> <p>(a) Use two wrenches to disconnect the fuel tube [39] from the servo-fuel heater.</p> <p>(b) Remove the four bolts [27] that hold the fuel tube [39] and the gasket [26] to the HMU [1].</p> <p>(c) Remove fuel tube [39].</p> <p>1) If the gasket [26] is serviceable, then keep it with the tube for the subsequent installation.</p> <p><u>NOTE:</u> Refer to this task (AMM TASK 70-30-01-910-802-F00) for gasket and seal maintenance practices.</p> <p>(d) Install protective covers on the fuel tube [39], servo-fuel heater, and HMU.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		


DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
SUBTASK 73-21-10-020-009-F00				MECH	INSP
<p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(7) Do these steps to remove the fuel tube [33] from the HMU [1]:</p> <ul style="list-style-type: none"> (a) Use two wrenches to disconnect fuel tube [33] from fuel tube [38]. (b) Remove the four bolts [32] that hold the fuel tube [33] and the gasket [34] to the HMU [1]. (c) Remove the nut [35], bolt [36], and clamp [37] that hold the fuel tube [33] to the bracket. <ul style="list-style-type: none"> 1) If it is difficult to remove fuel tube [33], loosen the clamps that hold the fuel tube [38] to the bracket that is above the fuel pump package. <p><u>NOTE:</u> This will permit you to move fuel tube [38] and can make it easier to remove the fuel tube [33].</p> <ul style="list-style-type: none"> (d) Remove fuel tube [33]. <ul style="list-style-type: none"> 1) If the gasket [34] is serviceable, then keep it with the tube for the subsequent installation. <p><u>NOTE:</u> Refer to this task (AMM TASK 70-30-01-910-802-F00) for gasket and seal maintenance practices.</p> <ul style="list-style-type: none"> (e) Install protective covers on the fuel tube [33], the fuel tube [38], and the HMU. 					
<p>SUBTASK 73-21-10-020-010-F00</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO LOOSEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(8) Remove drain tubes [30] and [31]:</p> <ul style="list-style-type: none"> (a) Use two wrenches to disconnect the drain tube [30] from the drain tube [29]. (b) Use two wrenches to disconnect the drain tube [30] from the bottom of the HMU. (c) Remove the drain tube [30]. <ul style="list-style-type: none"> 1) Install protective covers on the drain tube [30], the drain tube [29] and the HMU. (d) Use two wrenches to disconnect the drain tube [31] from the drain tube [28]. (e) Use two wrenches to disconnect the drain tube [31] from the drain. (f) Remove the drain tube [31]. <ul style="list-style-type: none"> 1) Install protective covers on the drain tube [31], the drain tube [28] and the drain. 					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION		
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01
SUBTASK 73-21-10-020-005-F00				<div>MECH</div> <div>INSP</div>
<p><u>WARNING:</u> BE CAREFUL WHEN YOU MOVE THE HMU. THE HMU WEIGHS 40 POUNDS (18 KILOGRAMS). THE WEIGHT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO THE EQUIPMENT.</p> <p><u>CAUTION:</u> DO NOT LIFT THE HMU BY THE DRIVE SHAFT. DO NOT LET THE DRIVE SHAFT SUPPORT THE WEIGHT OF THE HMU. IF THE DRIVE SHAFT SUPPORTS THE WEIGHT OF THE HMU, IT CAN CAUSE DAMAGE TO THE HMU SEALS.</p> <p>(9) Do these steps to disconnect the HMU [1] from the fuel pump:</p> <p>(a) Remove the six nuts [40] and washers [41] that hold the HMU [1] to the fuel pump.</p> <p><u>NOTE:</u> The three outboard studs are on the fuel pump and the three inboard studs are on the HMU.</p> <p>1) Use the set, SPL-2358 to get access to the center and lower inboard studs.</p> <p><u>NOTE:</u> If the tool is not available, then you can insert a long extension from the forward side, between the fan case and the accessory gearbox.</p> <p>(b) Remove the HMU [1].</p> <p>(c) Remove the gasket [42].</p> <p>1) Examine the gasket [42] for scratches, nicks, dents and cuts (AMM TASK 70-30-01-910-802-F00).</p> <p>a) If the gasket is serviceable, keep it for the subsequent installation.</p> <p>b) If the gasket is not serviceable, replace it.</p> <p>(d) Install protective covers on the mating surfaces of the HMU [1] and the fuel pump.</p> <p>(e) To drain the fuel by gravity from the HMU, do these steps:</p> <p><u>NOTE:</u> The HMU cannot be shipped with hazardous waste (fuel) inside. The HMU cannot be flushed with oil in the field.</p> <p>1) Let the HMU sit on each of its four sides for approximately one minute.</p> <p>2) Install protective covers on the ports and fittings of the HMU. Use the hardware from the installed HMU.</p> <p>(f) Pack the HMU in two to three plastic bag, G00624 or equivalent.</p> <p>1) Remove as much air as possible from the bags.</p> <p>2) Seal each bag with waterproof tape, G00920.</p> <p style="text-align: center;">———— END OF TASK ————</p>				
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION	
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AKS



737-600/700/800/900 TASK CARDS

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
 73-CMR-01 TASK 73-21-10-200-801-F00 2. <u>HMU Inspection</u> A. General (1) This task includes the steps to examine (Internal) the HMU. (2) The HMU is connected to the fuel pump assembly on the aft side of the accessory gearbox. B. Procedure SUBTASK 73-21-10-210-008-F00 (1) If a HMU part number 1853M56P04 or 1853M56P05 is installed, refer to CFM SB 73-016. <div style="text-align: center;">———— END OF TASK ————</div>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
TASK 73-21-10-400-801-F00				MECH	INSP
3. <u>HMU Installation</u> (Figure 1)					
A. Expendables/Parts					
AMM Item	Description	AIPC Reference	AIPC Effectivity		
1	HMU	Not Specified			
18	Gasket	Not Specified			
26	Gasket	Not Specified			
34	Gasket	Not Specified			
42	Gasket	Not Specified			
B. Prepare for the Installation					
SUBTASK 73-21-10-840-002-F00					
(1) Do these steps to clean and examine the components for the HMU [1] installation: <ul style="list-style-type: none"> (a) Remove the protective covers from the HMU [1], the fuel pump, and the fuel tube connections. (b) Thoroughly clean the mating surfaces and the adjacent areas of the components. <u>NOTE:</u> Failure to clean the adjacent area can cause bubbles after HMU installation is complete. (c) Examine the component mating surfaces and the adjacent areas to make sure that they are serviceable. <ul style="list-style-type: none"> 1) Replace the components that are not serviceable. (d) Re-install the protective covers on the HMU [1], the fuel pump, and the fuel tube connections. 					
SUBTASK 73-21-10-210-003-F00					
(2) Examine the studs on the fuel pump: <ul style="list-style-type: none"> (a) If the threads on the fuel pump studs are not serviceable, then replace the fuel pump. These are the tasks: Fuel Pump Package Removal, AMM TASK 73-11-01-000-801-F00, Fuel Pump Package Installation, AMM TASK 73-11-01-400-801-F00. (b) Use your hand to move the ends of the fuel pump studs. <u>NOTE:</u> The three studs on the fuel pump are key locked studs. Due to the locking mechanism, you can feel a small lateral movement of the end of the studs. <ul style="list-style-type: none"> 1) If the ends of the studs move 0.062 inch (1.6 mm) or greater, then do these steps: <ul style="list-style-type: none"> a) Use a small hammer and a punch to lightly hit the studs keys into the fuel pump housing. b) Continue to lightly hit the keys until the stud movement is in the limits, or the key is flush with the inserted end of the stud. 					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
<p>c) If you can not get the stud movement into the limits, then replace the fuel pump.</p> <p>These are the tasks:</p> <p>Fuel Pump Package Removal, AMM TASK 73-11-01-000-801-F00,</p> <p>Fuel Pump Package Installation, AMM TASK 73-11-01-400-801-F00.</p> <p>2) If the stud movement is in the limits, then continue.</p> <p>AKS ALL PRE SB 737-CFM56-7B-73-067</p> <p><small>SUBTASK 73-21-10-430-001-F00</small></p> <p>(3) If it is necessary, install a new high pressure shutoff valve (HPSOV) switch per the service bulletin.</p> <p>(a) Or do these tasks, High Pressure Shutoff Valve (HPSOV) Switch Removal, AMM TASK 73-21-09-000-801-F00, and High Pressure Shutoff Valve (HPSOV) Switch Installation, AMM TASK 73-21-09-400-801-F00.</p> <p>AKS ALL PRE SB 737-CFM56-7B-73-0108</p> <p><small>SUBTASK 73-21-10-210-007-F00</small></p> <p>(4) Make sure that you install the correct HMU, refer to the AIPC.</p> <p>(a) HMUs with part number 1853M56P10 or P12 do not have the Burner Staging Valve solenoid. The BSV must be deactivated for this HMU installation, refer to CFM-SB 73-0108.</p> <p>AKS ALL</p> <p>C. HMU Installation</p> <p><small>SUBTASK 73-21-10-420-002-F00</small></p> <p><u>WARNING:</u> BE CAREFUL WHEN YOU MOVE THE HMU. THE HMU WEIGHS 40 POUNDS (18 KILOGRAMS). THE WEIGHT CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO THE EQUIPMENT.</p> <p><u>CAUTION:</u> DO NOT LIFT THE HMU BY THE DRIVE SHAFT. DO NOT LET THE DRIVE SHAFT SUPPORT THE WEIGHT OF THE HMU. IF THE DRIVE SHAFT SUPPORTS THE WEIGHT OF THE HMU, IT CAN CAUSE DAMAGE TO THE HMU SEALS.</p> <p>(1) Install the HMU [1] on the fuel pump:</p> <p>(a) Lubricate the three studs on the fuel pump with graphite compound, D00601 [CP2101].</p> <p>(b) Lubricate the three studs on the HMU graphite compound, D00601 [CP2101].</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(c) Lubricate the gasket [42] with oil, D00623 [CP5066].</p> <p>(d) Remove the protective covers from the mating surfaces of the HMU and the fuel pump.</p> <p>(e) Put the gasket [42] in its correct position on the fuel pump.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
<p>(f) Put the HMU [1] on the fuel pump.</p> <p>1) If you cannot get the HMU shaft to align with the fuel pump, manually turn the N2 rotor until the HMU shaft engages the fuel pump (AMM TASK 72-00-00-980-801-F00).</p> <p>(g) Install the six washers [41] and nuts [40] on the studs to connect the HMU to the fuel pump.</p> <p><u>NOTE:</u> The three outboard studs are on the fuel pump and the three inboard studs are on the HMU.</p> <p>CAUTION: MAKE SURE THAT THE TORQUE ADAPTER SET IS NOT DAMAGED. MAKE SURE THAT THE CENTERLINE OF THE ADAPTER ALIGNS WITH THE CENTERLINE OF THE TORQUE WRENCH SQUARE DRIVE. IF THE TORQUE WRENCH IS NOT ALIGNED WITH THE ADAPTER CENTERLINE, YOU WILL GET INCORRECT TORQUE VALUES.</p> <p>1) Use the set, SPL-2358 to get access to the center inboard stud.</p> <p><u>NOTE:</u> If the tool is not available, then you can insert a long extension from the forward side, between the fan case and the accessory gearbox.</p> <p>2) Tighten the nuts [40] to 124-136 pound-inches (14.0-15.3 Newton meters).</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after the HMU post-installation test. Bubbles are permitted if the bubbles stop after five minutes of engine operation at idle.</p> <p>SUBTASK 73-21-10-020-011-F00</p> <p>CAUTION: USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(2) Install the drain tubes [30] and [31]:</p> <p>(a) Remove the protective covers from the drain tubes [30] and [31] and the drain.</p> <p>(b) Remove the applicable protective cover from the HMU.</p> <p>WARNING: DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(c) Lubricate the threads of the nipples with oil, D00623 [CP5066].</p> <p>(d) Use your hands to connect the drain tube [31] to the drain and the drain tube [28].</p> <p>1) Make sure that the drain tube [31] does not touch other components.</p> <p>(e) Use two wrenches to tighten the two coupling nuts to 257-284 pound-inches (29-32 Newton meters).</p> <p>(f) Use your hands to connect the drain tube [30] to the bottom of the HMU and the drain tube [29].</p> <p>1) Make sure that the drain tube [30] does not touch other components.</p> <p>(g) Use two wrenches to tighten the coupling nuts to 257-284 pound-inches (29-32 Newton meters).</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
SUBTASK 73-21-10-020-012-F00				MECH	INSP
<p><u>CAUTION:</u> MAKE SURE THAT YOU USE APPROVED BOLTS WHEN YOU CONNECT THE LINES TO THE HMU. INSTALLATION OF INCORRECT ATTACHMENT BOLTS CAN CAUSE AN IN-FLIGHT FUEL LEAK.</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(3) Do these steps to install the fuel tube [33]:</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <p>(a) Remove the protective covers from the fuel tube [33] and the fuel tube [38].</p> <p>(b) Remove the applicable protective covers from the HMU.</p> <p>(c) Lubricate these parts:</p> <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>1) Lubricate the gasket [34] with oil, D00623 [CP5066].</p> <p>2) Lubricate the threads of the bolts [32] and [36] with graphite compound, D00601 [CP2101].</p> <p>3) Lubricate the threads of the nipple with oil, D00623 [CP5066].</p> <p><u>CAUTION:</u> LOOK AT THE GASKET BEFORE YOU INSTALL IT. OBEY THE INSTRUCTIONS IN SEALS (PREFORMED PACKINGS AND O-RINGS) AND GASKETS, AMM TASK 70-30-01-910-802-F00. DO NOT CAUSE DAMAGE TO THE RUBBER SEAL WHEN YOU INSTALL THE GASKET.</p> <p>(d) Put the fuel tube [33] and the gasket [34] in the correct position between the HMU and fuel tube [38].</p> <p>(e) Install and hand tighten the 4 bolts [32] that hold the fuel tube [33] and gasket [34] to the HMU [1].</p> <p>AKS ALL POST SB 737-CFM56-7B-72-0068</p> <p><u>NOTE:</u> Use the longer length bolts [32] (AS3237-14) for the fuel tube [33] installation.</p> <p>AKS ALL</p> <p>(f) Use your hands to connect fuel tube [33] to the fuel tube [38].</p> <p>(g) Install and hand tighten the nut [35], bolt [36], and clamp [37] that hold the tube [33] to the bracket.</p> <p>(h) Make sure that the fuel tube [33] is in its correct position.</p> <p>1) Make sure that there is no gap between the fuel tube [33] and gasket [34] or between the gasket [34] and HMU.</p>					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
<p>CAUTION: TIGHTEN THE BOLTS CORRECTLY. REFER TO TIGHTENING PRACTICES AND TORQUE VALUES, AMM TASK 70-20-02-400-801-F00. IF YOU TIGHTEN THEM INCORRECTLY, DAMAGE TO THE PARTS CAN OCCUR.</p> <p>(i) Tighten the bolts [32] to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>(j) Use two wrenches to tighten the coupling nut between fuel tube [33] and [38] to 900-1100 pound-inches (100-125 Newton meters).</p> <p>(k) If you loosened the clamps that holds the fuel tube [38] to the bracket above the fuel pump package, then tighten the clamp bolts to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>(l) Tighten the nut [35] to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>SUBTASK 73-21-10-020-013-F00</p> <p>CAUTION: MAKE SURE THAT YOU USE APPROVED BOLTS WHEN YOU CONNECT THE LINES TO THE HMU. INSTALLATION OF INCORRECT ATTACHMENT BOLTS CAN CAUSE AN IN-FLIGHT FUEL LEAK.</p> <p>CAUTION: USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(4) Do these steps to install the fuel tube [39]:</p> <p>NOTE: When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <p>(a) Remove the protective covers from the fuel tube [39], servo-fuel heater, and HMU.</p> <p>(b) Lubricate these parts:</p> <p>WARNING: DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>1) Lubricate the gasket [26] with oil, D00623 [CP5066].</p> <p>2) Lubricate the threads of the bolts [27] with graphite compound, D00601 [CP2101].</p> <p>3) Lubricate the threads of the nipple with oil, D00623 [CP5066].</p> <p>(c) Put the fuel tube [39] and the gasket [26] in the correct position between the HMU and the servo-fuel heater.</p> <p>(d) Install and hand tighten the four bolts [27] that hold the fuel tube [39] and the gasket [26] to the HMU [1].</p> <p>(e) Connect and hand tighten the fuel tube [39] to the servo-fuel heater.</p> <p>(f) Tighten the bolts [27] to 49-53 pound-inches (5.5-6.0 Newton meters).</p> <p>(g) Use two wrenches to tighten the coupling nut between fuel tube [39] and the servo-fuel heater to 650-770 pound-inches (75-85 Newton meters).</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

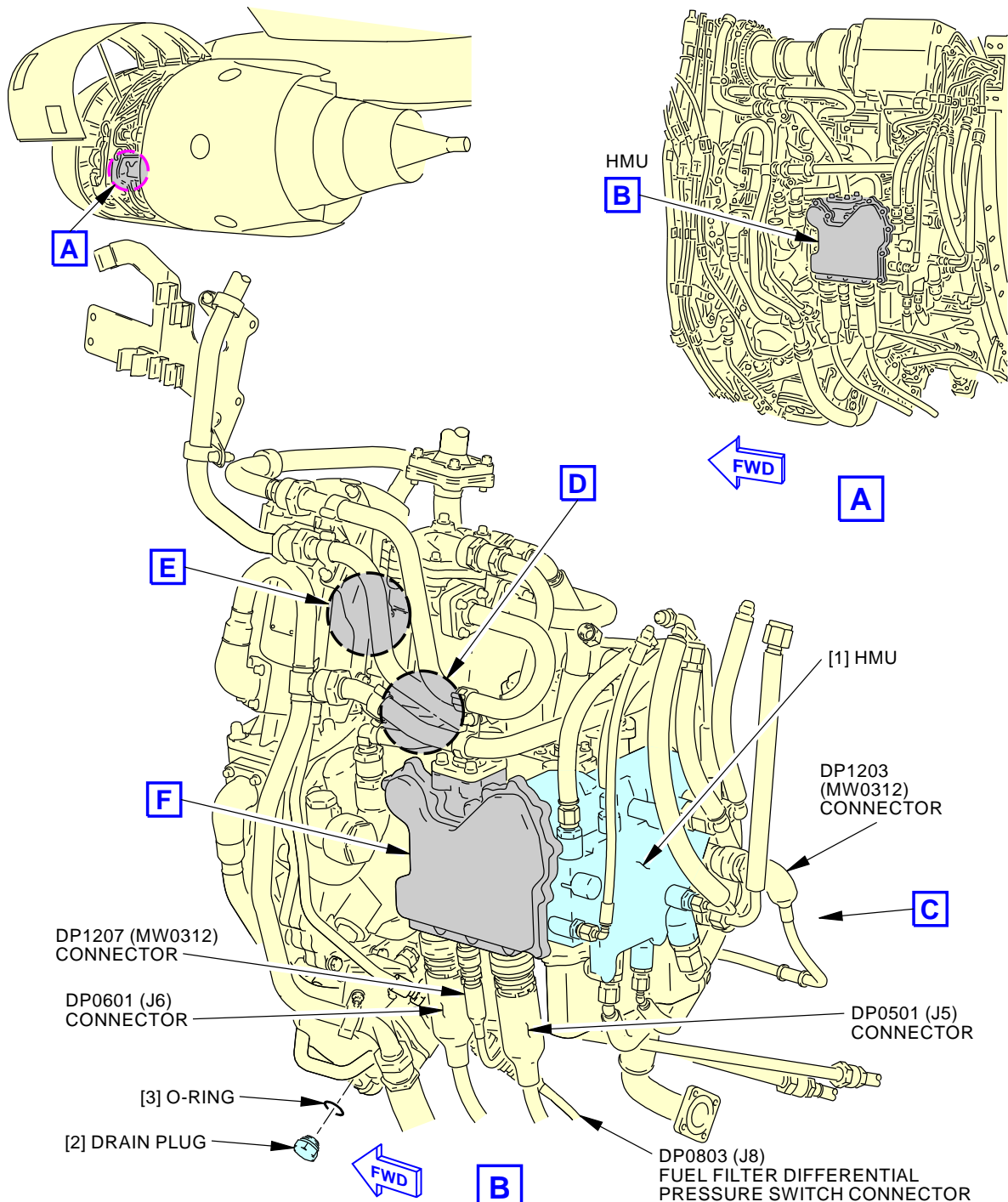
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
SUBTASK 73-21-10-430-002-F00				MECH	INSP
<p><u>CAUTION:</u> USE TWO WRENCHES WHEN YOU LOOSEN OR TIGHTEN THE CONNECTION. ONE WRENCH WILL HOLD ONE SIDE OF THE CONNECTION IN ITS POSITION. ONE WRENCH WILL TURN THE OTHER SIDE OF THE CONNECTION. IF YOU DO NOT OBEY THIS TWO-WRENCH PROCEDURE, YOU CAN CAUSE DAMAGE TO THE CONNECTION COMPONENTS.</p> <p>(5) Do these steps to install the fuel tube [43]:</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <ul style="list-style-type: none"> (a) Remove the protective covers from the fuel tube [43], servo-fuel heater and fuel pump. (b) Lubricate the threads of the nipples with oil, D00623 [CP5066] (c) Put the fuel tube [43] in the correct position between the servo-fuel heater inlet port and the fuel pump. (d) Connect and hand tighten the fuel tube [43] to the servo-fuel heater. (e) Connect and hand tighten the fuel tube [43] to the fuel pump. (f) Use two wrenches to tighten the two coupling nuts to 650-770 pound-inches (75-85 Newton meters). <p>SUBTASK 73-21-10-020-014-F00</p> <p><u>CAUTION:</u> MAKE SURE THAT YOU USE APPROVED BOLTS WHEN YOU CONNECT THE LINES TO THE HMU. INSTALLATION OF INCORRECT ATTACHMENT BOLTS CAN CAUSE AN IN-FLIGHT FUEL LEAK.</p> <p><u>CAUTION:</u> USE TWO WRENCHES TO TIGHTEN THE COUPLING NUT. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TURN THE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE EQUIPMENT CAN OCCUR.</p> <p>(6) Do these steps to install the fuel tube [17]:</p> <p><u>NOTE:</u> When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <ul style="list-style-type: none"> (a) Remove the protective covers from the fuel tube [17], fuel tube [19] and the HMU [1]. (b) Lubricate these parts: <p><u>WARNING:</u> DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <ul style="list-style-type: none"> 1) Lubricate the gasket [18] with oil, D00623 [CP5066]. 2) Lubricate the threads of the bolts [16], [22], and [24] with graphite compound, D00601 [CP2101]. 3) Lubricate the threads of the nipple with oil, D00623 [CP5066]. 					
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
<p>(c) Put the fuel tube [17] and gasket [18] in the correct position between the fuel tube [19] and the HMU [1].</p> <p>(d) Install and hand tighten the four bolts [16] that hold the tube [17] and the gasket [18] to the HMU [1].</p> <p>(e) Connect and hand tighten the fuel tube [17] to the fuel tube [19].</p> <p>(f) Do these steps to connect the fuel tube [17] and the oil tube [15] to the brackets:</p> <ol style="list-style-type: none"> 1) Put the clamp on the oil tube [15] in its correct position at the bracket. <p>CAUTION: MAKE SURE THAT THE CLAMPS DO NOT INTERFERE WITH THE HMU, THE FUEL TUBES OR THE OIL TUBES. IF INTERFERENCE OCCURS, IT CAN CAUSE DAMAGE TO THE EQUIPMENT.</p> <ol style="list-style-type: none"> 2) Put the clamp [20] in its correct position on the fuel tube [17]. <ol style="list-style-type: none"> a) Make sure that the clamp [20], the clamp on the oil tube [15], and the bracket align. 3) Use you hand to install nut [21] and bolt [22] that hold the clamps and the tubes [15] and [17] to the bracket. <p>(g) Install and hand tighten the nut [23], bolt [24], and clamp [25] that hold the tube [17] to the fuel pump.</p> <p>(h) Tighten the bolts [16] to 49-53 pound-inches (5.5-6.0 Newton meters).</p> <p>NOTE: To aid in the proper installation of the four bolts [16], a 20 inch (50 cm) extension can be used to tighten the 2 inboard bolts. A 2 inch (5 cm) deep-well socket can be used to remove the 2 outboard bolts. Be sure to apply torque at 90 degrees to the centerline of the bolt.</p> <p>(i) Use two wrenches to tighten the coupling nut, between the fuel tubes [17] and [19], to a torque of 900-1100 pound-inches (100-125 Newton meters).</p> <p>(j) Tighten the nuts [21] and [23] for the clamps [20] and [25] to 98-110 pound-inches (11.0-12.5 Newton meters).</p> <p>SUBTASK 73-21-10-420-006-F00</p> <p>CAUTION: USE TWO WRENCHES TO TIGHTEN THE HOSE COUPLING NUTS. USE ONE TO HOLD THE FITTING, AND THE OTHER TO TIGHTEN THE HOSE COUPLING NUT. IF YOU DO NOT USE TWO WRENCHES, DAMAGE TO THE HOSE AND NIPPLE CAN OCCUR.</p> <p>(7) Connect these hoses to the HMU [1]:</p> <p>NOTE: When you connect the lines to the HMU and fuel spills out of the lines, bubbles may occur after installation. Bubbles are acceptable provided the bubbles stop after three cycles.</p> <p>NOTE: The hose installations are arranged so that same wrenches and torque values are used at the same time.</p> <p>(a) Remove the protective covers from the hoses and the HMU.</p> <p>WARNING: DO NOT LET OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.</p> <p>(b) Lubricate the threads of the nipples with oil, D00623 [CP5066].</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
<p>(c) Install and hand tighten these hoses:</p> <p>1) The HPT hose [5]</p> <p>AKS ALL PRE SB CFM56-7B 73-44</p> <p>2) The BSV hose [10]</p> <p><u>NOTE:</u> Engine POST CFMI SB 73-044 do not have the BSV hose [10] installed</p> <p>AKS ALL</p> <p>3) The TBV hose [12].</p> <p>4) Use two wrenches to tighten the coupling nuts on the hoses [5], [10], and [12] to 135-150 pound-inches (15.3-17.0 Newton meters).</p> <p><u>NOTE:</u> Engine with CFMI SB 73-044 do not have the BSV hose [10] installed</p> <p>AKS ALL POST SB CFM56-7B 73-44</p> <p>(d) If it is necessary, do these steps to install the plug in place of the BSV hose [10].</p> <p><u>NOTE:</u> The plug Part Number, refer to IPC 73-21-10.</p> <p>1) Lubricate the threads of the plug with oil, D00623 [CP5066].</p> <p>2) Install the plug in place of the BSV hose [10].</p> <p>3) Tighten the plug to 135-150 pound-inches (15.3-17.0 Newton meters).</p> <p>AKS ALL</p> <p>(e) Install and hand tighten these hoses:</p> <p>1) The LPT hose [4]</p> <p>2) The VSV hose (ROD) [6]</p> <p>3) The VBV hose (CLOSED) [8]</p> <p>4) The PCR hose [11].</p> <p>5) Use two wrenches to tighten the coupling nuts on the hoses [4], [6], [8], and [11] to 270-300 pound-inches (30.0-35.0 Newton meters).</p> <p>(f) Install and hand tighten these hoses:</p> <p>1) The VSV hose (HEAD) [7]</p> <p>2) The VBV hose (OPEN) [9].</p> <p>3) Use two wrenches to tighten the coupling nuts on the hoses [7] and [9] to 450-550 pound-inches (50.0-60.0 Newton meters).</p> <p>SUBTASK 73-21-10-210-004-F00</p> <p>(8) Make sure that the electrical power is removed from the airplane while you install the electrical connectors.</p> <p>(a) If it is necessary, do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.</p> <p>SUBTASK 73-21-10-420-007-F00</p> <p>(9) Connect these electrical connectors to the HMU:</p> <p><u>NOTE:</u> If it is necessary, you can use soft-nose pliers to turn the connector nuts.</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01	
(a) Remove the protective covers from the electrical connectors and the receptacles. (b) The DP0803 (J8) connector on the fuel filter differential pressure switch. (c) The DP0601 (J6) connector (d) The DP1207 (MWO312) connector (e) The DP0501 (J5) connector (f) The DP1203 (MWO312) connector. SUBTASK 73-21-10-210-002-F00 (10) Remove the cranking tool and install the handcranking drive cover on the gearbox drive pad (AMM TASK 72-00-00-980-801-F00). D. HMU Installation Test SUBTASK 73-21-10-840-003-F00 (1) Do these steps to prepare for the installation test: (a) Do this task: Close the Fan Cowl Panels, AMM TASK 71-11-02-410-801-F00. (b) Do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811. 1) Remove the DO-NOT-OPERATE tag from the BAT switch on panel P5-13. SUBTASK 73-21-10-730-001-F00 (2) Do the tests that are listed in the Power Plant Test Reference Table (AMM TASK 71-00-00-800-811-F00). CAUTION: DO NOT MOTOR THE ENGINE BEFORE VERIFYING THAT THE FUEL SPAR VALVE IS IN THE OPEN POSITION AND FUEL BOOST PUMP PRESSURE IS APPLIED TO THE FUEL PUMP INLET. THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT ARE FUEL LUBRICATED, ZERO FUEL PRESSURE CAN CAUSE DAMAGE TO THE FUEL PUMP AND THE HYDRO MECHANICAL UNIT. (a) If it is necessary on the engine to be dry motored, apply the boost pump pressure to the fuel pump inlet (Dry Motor the Engine, AMM TASK 71-00-00-700-821-F00). (b) If bubbling is seen from the HMU front cover or electro-hydraulic servo valve (EHSV) cover parting flanges for the HMU leak check, do these steps: NOTE: Residual fuel from the HMU connections can be the cause. The HMU front cover and EHSVs cover are not fluid tight. Heat from the HMU operation forces the air contained in the cavity to escape and create bubbles. 1) The bubbling occurs during engine operation. With the engine shutdown, look for signs of fuel leakage [wetting] at the above areas of the HMU. 2) Dry the area with compressed air along the applicable parting surfaces. 3) Do the leak check again a) If the bubbles continue from the HMU front cover or EHSV's cover flange, create a maintenance carry-over and continue in service b) Do an inspection of the HMU for leaks and bubbling after three flights. c) If bubbles are present after three flights, replace the HMU. <p style="text-align: center;">———— END OF TASK ————</p>				MECH	INSP
EFFECTIVITY AKS ALL		SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01		

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01
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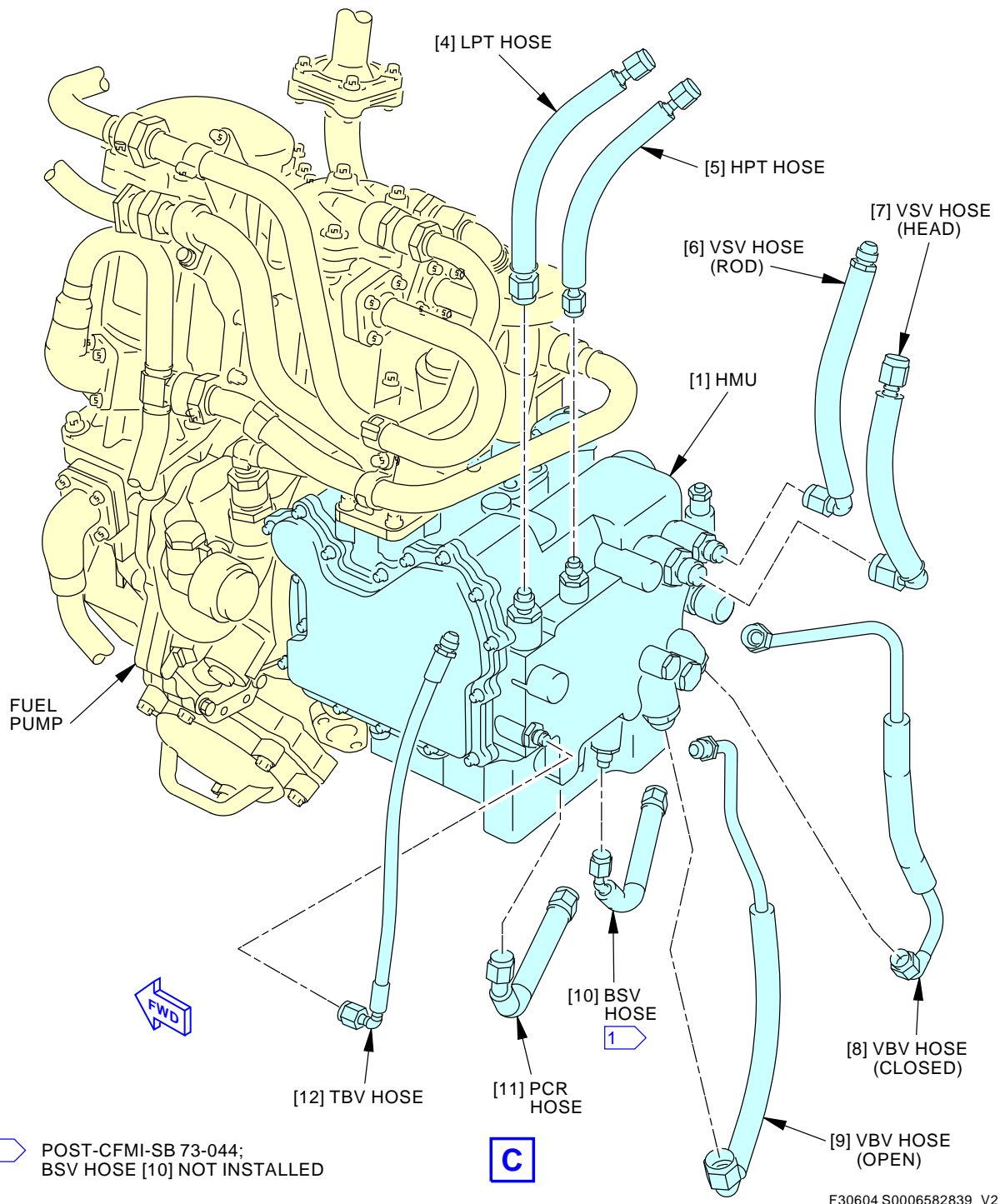


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**Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 1 of 5)**

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01
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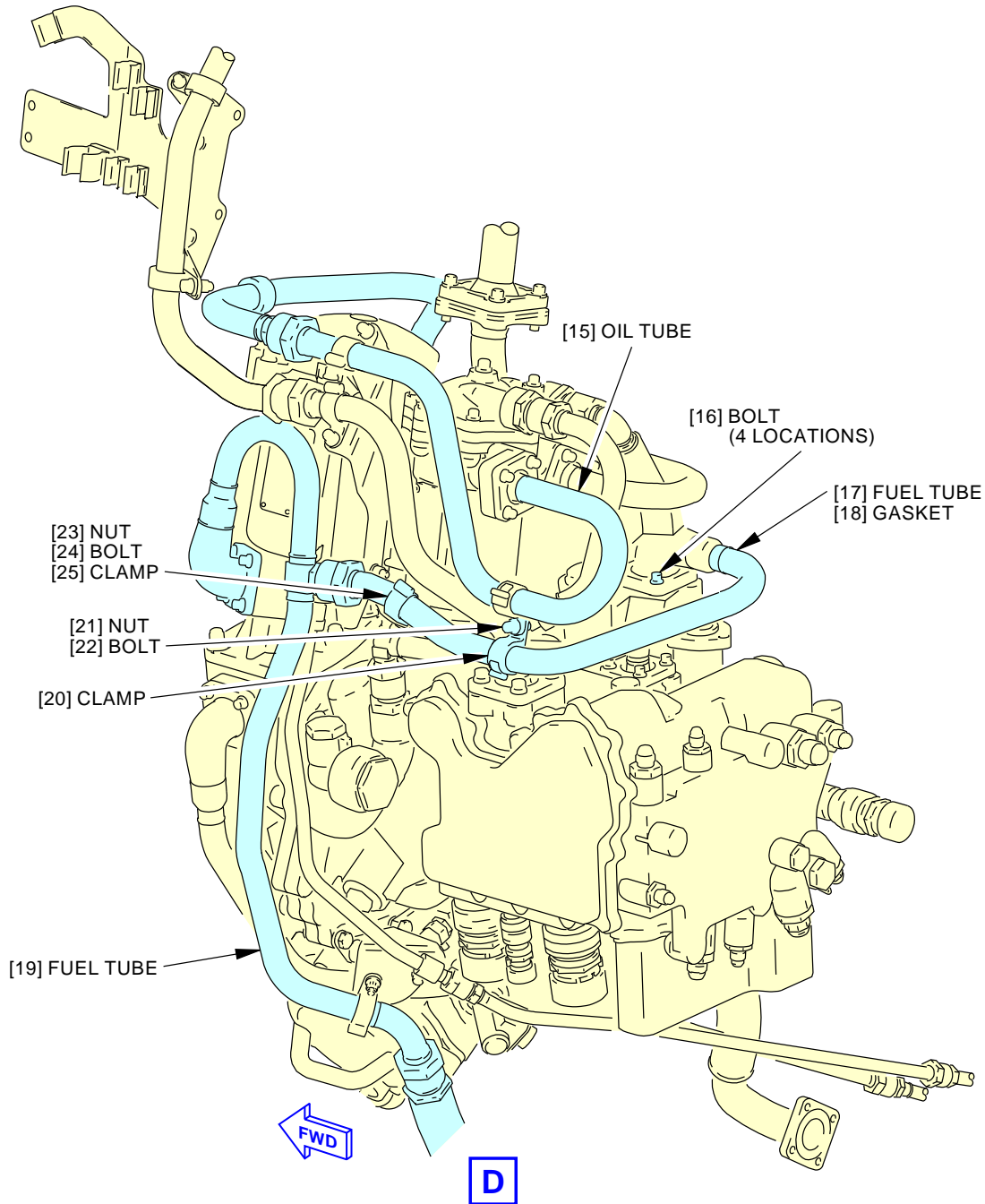
DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01
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**Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 2 of 5)**

<p align="center">EFFECTIVITY</p> <p>AKS ALL; AIRPLANES WITH SINGLE ANNULAR COMBUSTOR (SAC) ENGINES</p>	<p>SOURCE CMR</p>	<p>REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION</p> <p>D633A109-AKS 73-030-02-01</p> <p align="right">Page 20 of 23 Jun 15/2016</p>
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01
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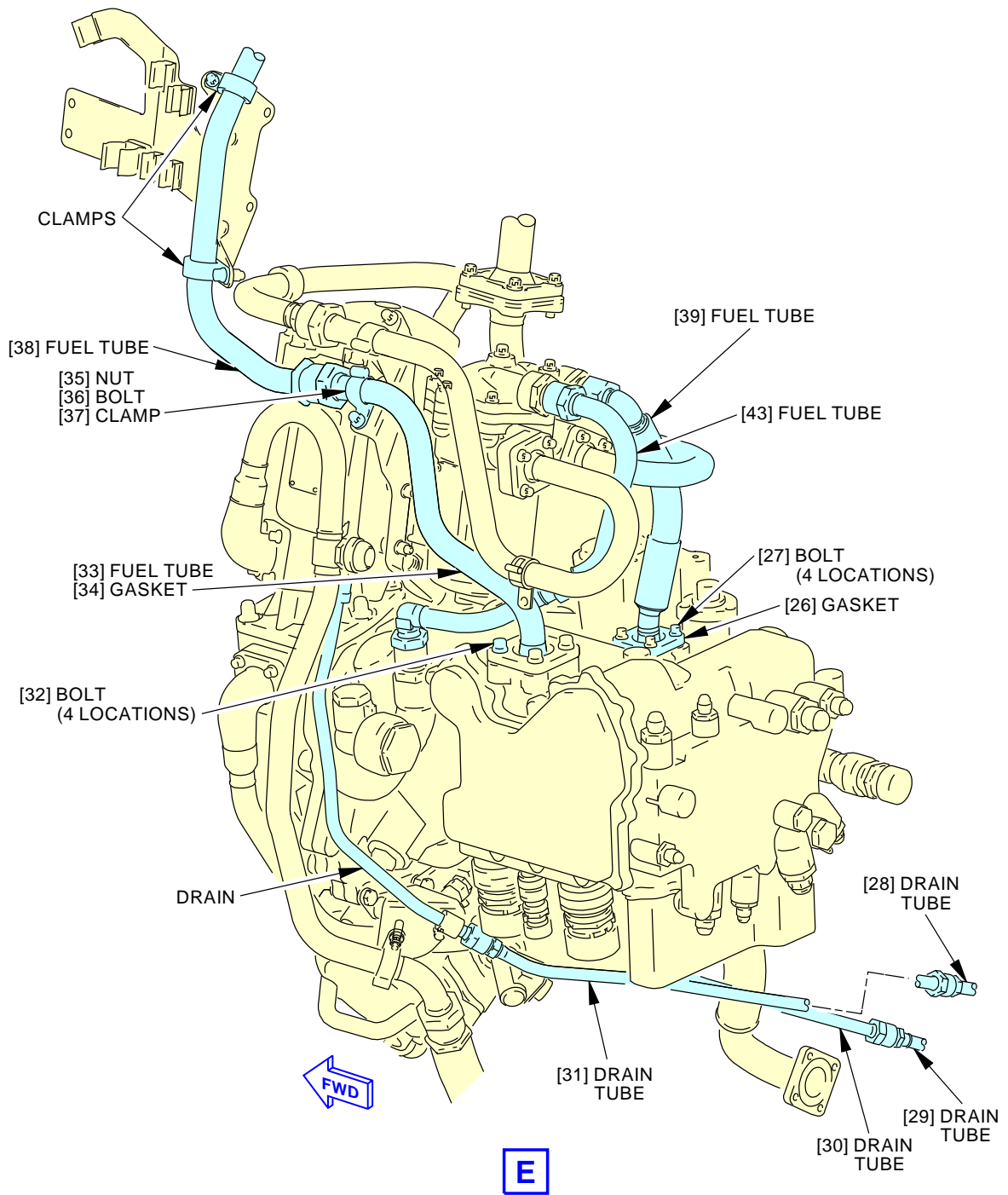


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Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 3 of 5)

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION
		D633A109-AKS 73-030-02-01
		Page 21 of 23 Jun 15/2016

DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01
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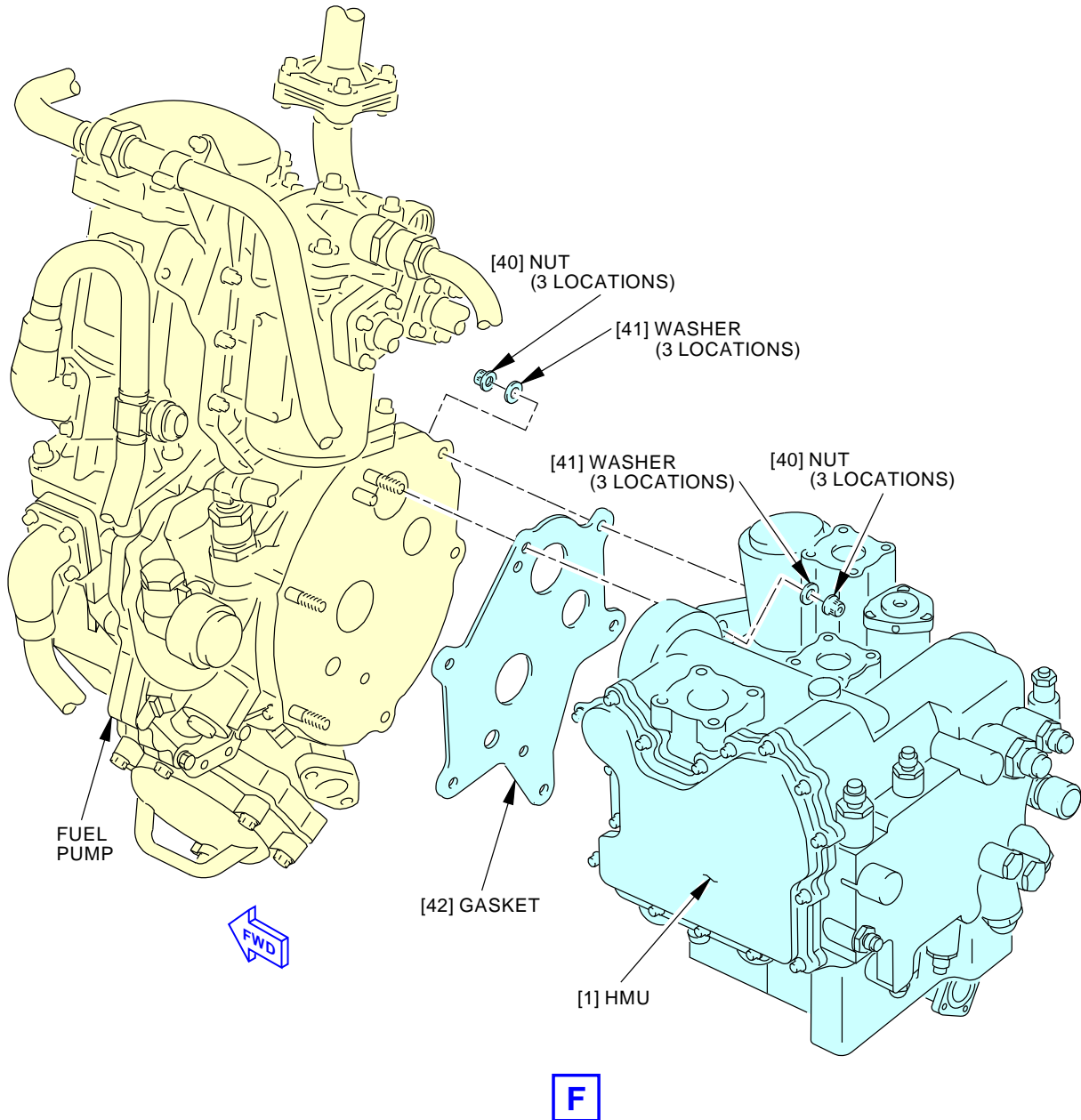


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Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 4 of 5)

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01	Page 22 of 23 Jun 15/2016
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DATE	TAIL NUMBER	STATION	AIRLINE CARD NO.	BOEING CARD NO. 73-030-02-01
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Hydromechanical Unit (HMU) Installation
Figure 1 (Sheet 5 of 5)

EFFECTIVITY AKS ALL	SOURCE CMR	REMOVE THE RIGHT ENGINE HYDRO MECHANICAL UNIT FOR INSPECTION D633A109-AKS 73-030-02-01	Page 23 of 23 Jun 15/2016
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