

MANDATORY SERVICE BULLETIN

NUMBER: SB-016
REVISION: B
DATE: 06/01/2010

SUBJECT: FLAP SYSTEM; FLAP DRIVE ACTUATOR REPLACEMENT

SUMMARY

RECURRENT REQUIREMENTS

No recurrent requirements associated with this Mandatory Service Bulletin.

BACKGROUND

On 9/12/08, Quest issued Service Bulletin (SB-001) which placed mandatory inspections on the flap tracks during cold weather operation. The flap actuator for the KODIAK 100 has been redesigned which compensates for cold weather operation eliminating the potential for damage to the flap tracks if a flap track blockage condition existed.

ACTION

Follow the instructions in the Service Bulletin to replace the existing flap actuator on the KODIAK 100.

EFFECTIVITY

KODIAK 100 Series Aircraft, Serial Numbers 100-0001 through 100-0018.

Note: Mandatory Service Bulletin (*SB-001 Flap System, Flap Actuation; Mandatory Inspection Procedures*) is no longer applicable if this Mandatory Service Bulletin (*SB-016 Flap System; Flap Drive Actuator Replacement*) is complied with.

AFFECTED PARTS

KODIAK PART AFFECTED:
• 100-621-0103

REPLACEMENT PART FOR AIRCRAFT RECORDS:
• 100-621-0113

COMPLIANCE

This Mandatory Service Bulletin must be completed at next scheduled inspection, but no later than the next 100 flight hours.

INDUSTRY SUPPORT INFORMATION

None

MANPOWER

The instructions contained in this Service Bulletin will take approximately 6 man hours to complete.

COMPLETION

Update the KODIAK Maintenance Log Books.

WARRANTY INFORMATION

This modification is warranty reimbursable for the manpower listed above after Quest Aircraft has been notified of your completion.

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Figure 1: Flap Actuator Box

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LOG OF CHANGES

REV/B

REVISION:	DATE:	DESCRIPTION OF CHANGE:
A	07/08/2009	Initial Release
B	06/01/2010	
		Addition: Revision Information
		Addition: Effectivity Note
		Addition: Log of Revisions

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Flap Drive Actuator Replacement

INSTALLATION INSTRUCTIONS

1.1 Overview

Estimated Time to Complete: 6 man hours


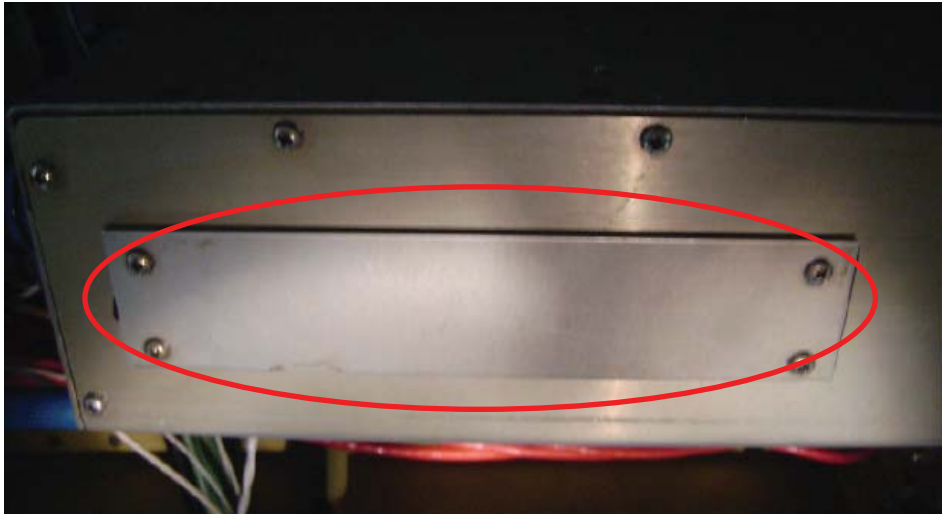
1.2 Parts Included in the Service Kit:

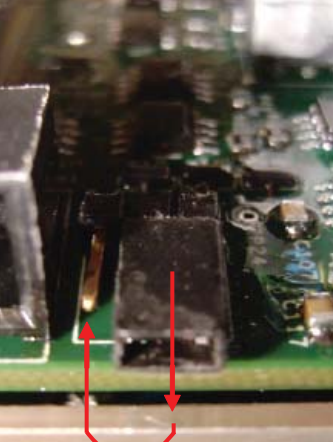
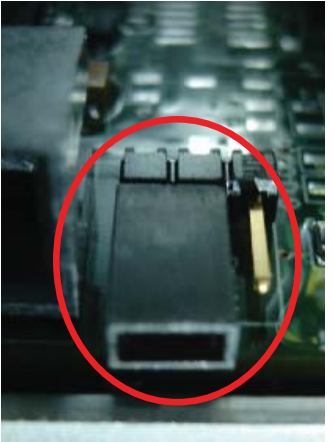
Part Number	Description	Quantity
SB-016	SERVICE BULLETIN AND WORK INSTRUCTIONS	1
100-621-0113	FLAP ACTUATOR	1

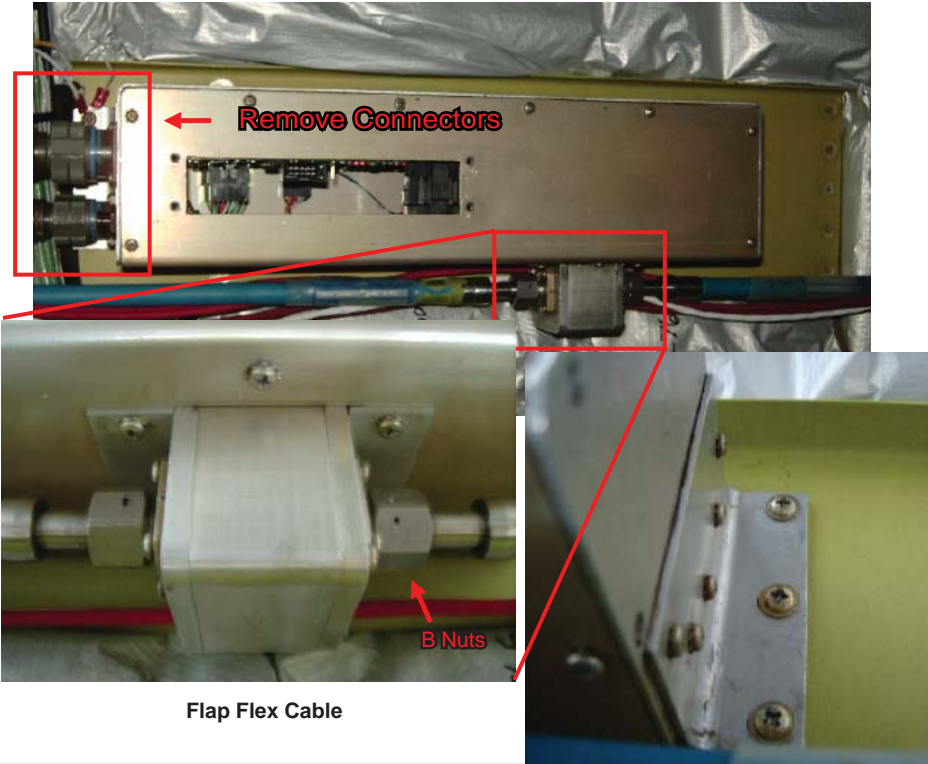
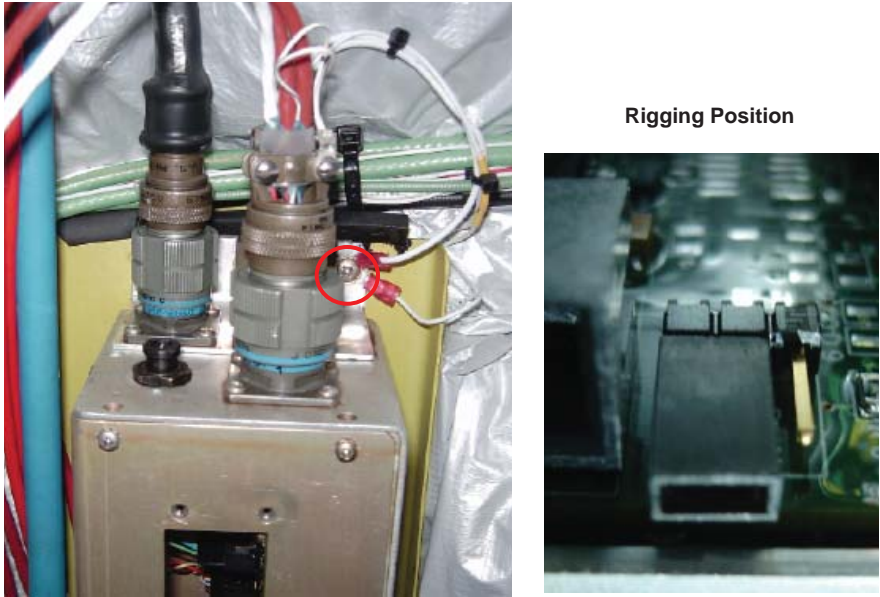
1.3 Tools Required:


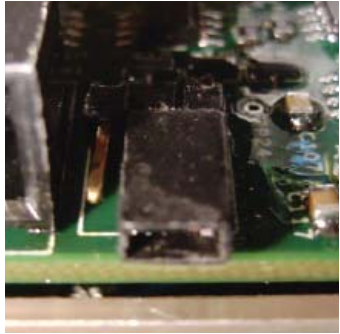

Tool Name	Tool Duty
#2 Phillips Screw Driver	For removing the old flap actuator box.
5/8 Wrench	For Removing the flex cables from the flap actuator box.
#3 Phillips Screw Driver	For removing Cargo Tie downs
Spanner	Oxygen Port Retaining Rings
Safety Wire Pliers	Safety B-Nuts on Flexible Drive Cables
Needle nose Pliers	For moving the Jumper.

Flap Drive Actuator

Task	Instruction	Visual
1	<p>Remove PSU Duct (if installed) in accordance with the KODIAK 100 Maintenance Manual.</p> <p>Remove the forward ceiling panel according to the KODIAK 100 Maintenance Manual.</p>	 <p>The visual section for task 1 contains two photographs. The top photograph shows the interior of an aircraft cabin, focusing on the ceiling area. A red label 'PSU Duct' points to a rectangular duct on the ceiling. The bottom photograph shows a close-up of the forward ceiling panel, with a red label 'Forward Ceiling Panel' pointing to a circular panel. A 'NO SMOKING IN AIRCRAFT' sign is visible in both photos.</p>
2	<p>Locate the Flap Actuator Box and remove the small panel located on the bottom.</p>	 <p>The visual section for task 2 contains a close-up photograph of a metal panel. A red oval highlights a small rectangular panel on the bottom of the metal panel.</p>

3	<p>Turn the Aircraft Master Switch ON and move the flap lever to 10°. Turn the Aircraft Master Switch OFF.</p>	
4	<p>Move the Jumper located within the box to the rigging position as shown in Figure 2.</p> <p>NOTE: Figure 1 shows the jumper in the operating position, and Figure 2 shows the jumper in the rigging position.</p> <p>NOTE: The jumper can be removed and replaced in its proper position easily with a pair of needle nosed pliers.</p>	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <p data-bbox="678 884 967 909">Figure 1: Operating Position</p> <p data-bbox="1109 884 1375 909">Figure 2: Rigging Position</p> </div>
5	<p>Turn the Aircraft Master Switch ON. The flaps will automatically move to 30°. After the flaps have stopped moving to 30°, turn the Aircraft Master Switch OFF.</p>	

<p>6</p>	<p>NOTE: Before disconnecting the connectors, pull the two circuit breakers labeled “FLAPS” and “FLAP IND”.</p> <p>Remove the Flap Actuator Box by disconnecting the connectors and the flex cables. Remove the 6 Phillips screws that hold the box (3 on each side).</p> <p>NOTE: Once the connectors are disconnected, access to the Phillips screws will be available.</p>	 <p>Remove Connectors</p> <p>B Nuts</p> <p>Flap Flex Cable</p>
<p>7</p>	<p>Install the new Flap Actuator Box by installing the 6 Phillips screws and re-install the electrical connectors. DO NOT install the flex cables yet.</p> <p>Ensure the grounding wires are re-installed.</p> <p>Move the jumper on the new box to the rigging position</p>	 <p>Rigging Position</p>
<p>8</p>	<p>Reset the flap circuit breakers.</p> <p>Turn the Aircraft Master Switch ON. The Flap Actuator will automatically move to the 30° setting, if the jumper is in the rigging position. Turn the Aircraft Master Switch OFF.</p>	

9	<p>Reconnect the flap flex cables and re-safety wire the B Nuts. Move the jumper back to its operating position.</p>	  <p style="text-align: center;">Operating Position</p>
10	<p>Turn the Aircraft Master Switch ON. Move the Flap lever down to 20°. The flaps should now be fully operational. Move the flaps back to their original position and turn the Aircraft Master Switch OFF.</p>	
11	<p>Re-install the plate on the Flap Actuator Box, and then re-install the forward ceiling panel and the PSU Duct (if installed) in accordance with the KODIAK 100 Maintenance Manual.</p>	
12	<p>Annotate the work performed in the KODIAK 100 Log Books.</p>	