

MANDATORY SERVICE BULLETIN

NUMBER: SB-001
REVISION: B
DATE: 06/01/2010

SUBJECT: FLAP SYSTEM, Flap Actuation; Mandatory Inspection Procedures

SUMMARY

QUEST AIRCRAFT RECOMMENDS THAT EACH OPERATOR EXAMINE THIS MANDATORY SERVICE BULLETIN IMMEDIATELY.

RECURRENT REQUIREMENTS

Perform the instructions listed in this Service Bulletin prior to every flight and prior to operating the KODIAK 100 flap system.

BACKGROUND

In a recent technical evaluation of the KODIAK100 flap system, it was found that if the flaps are operated with the temperature below +5°C (+41°F) and there is a blockage in the flap track (build-up, debris), damage to the flap could occur.

ACTION

Pilots must visually inspect the flaps and actuator attachment to the aft spar for damage prior to every flight. Pilots operating the flap system in temperatures below +5°C (+41°F) must visually inspect the lower wing surface and flap tracks for evidence of debris that could lead to a flap travel blockage or system jam.

EFFECTIVITY

KODIAK 100 Series Aircraft, Serial Numbers 100-0001 through 100-0018. This Mandatory Service Bulletin (**SB-001 Flap System, Flap Actuation; Mandatory Inspection Procedures**) is no longer applicable for the aircraft listed above if Mandatory Service Bulletin (**SB-016 Flap System; Flap Drive Actuator Replacement**) has been complied with.

AFFECTED PARTS

Parts: Refer to **Figure 2** on **Page 2**.
Documents: 100-000-901 POH/AFM

COMPLIANCE

Perform the instructions contained in this Service Bulletin immediately or prior to next flight.

INDUSTRY SUPPORT INFORMATION

N/A

MANPOWER

N/A

COMPLETION

N/A

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LOG OF CHANGES

REV B

REVISION:	DATE:	DESCRIPTION OF CHANGE:
A	09/12/2008	Initial Release
B	06/01/2010	
		Addition: Revision Information
		Clarification: Effectivity Information updated to comply with Service Bulletin <i>SB-016 Flap System; Flap Drive Actuator Replacement</i>
		Addition: Affected Parts Title
		Addition: Log of Revisions

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1.1 Overview

In a recent technical evaluation of the KODIAK100 flap system, it was found that in temperatures below +5° C (+41° F), the flap actuation system can exert a force greater than that tested during certification tests. The excess force is without risk unless there is a blockage in a flap track. If a blockage is present and the flaps are extended in temperatures less than +5° C (+41° F), the flap drive system could damage the flap. The damage to the flap that could result would be dependent on the amount of force exerted and the blockage condition. The excess force is dependent on the outside air temperature. See **Figure 1**.

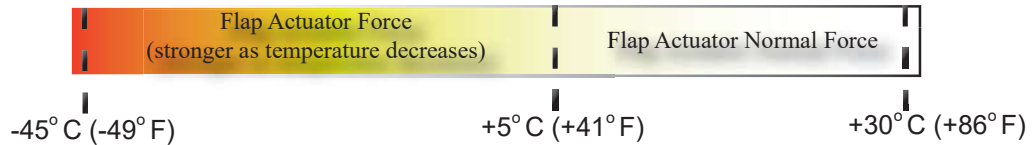


Figure 1: Force vs. Temperature

1.2 Areas of Special Attention

The illustrations in this section highlight the visual inspection areas that require special attention.

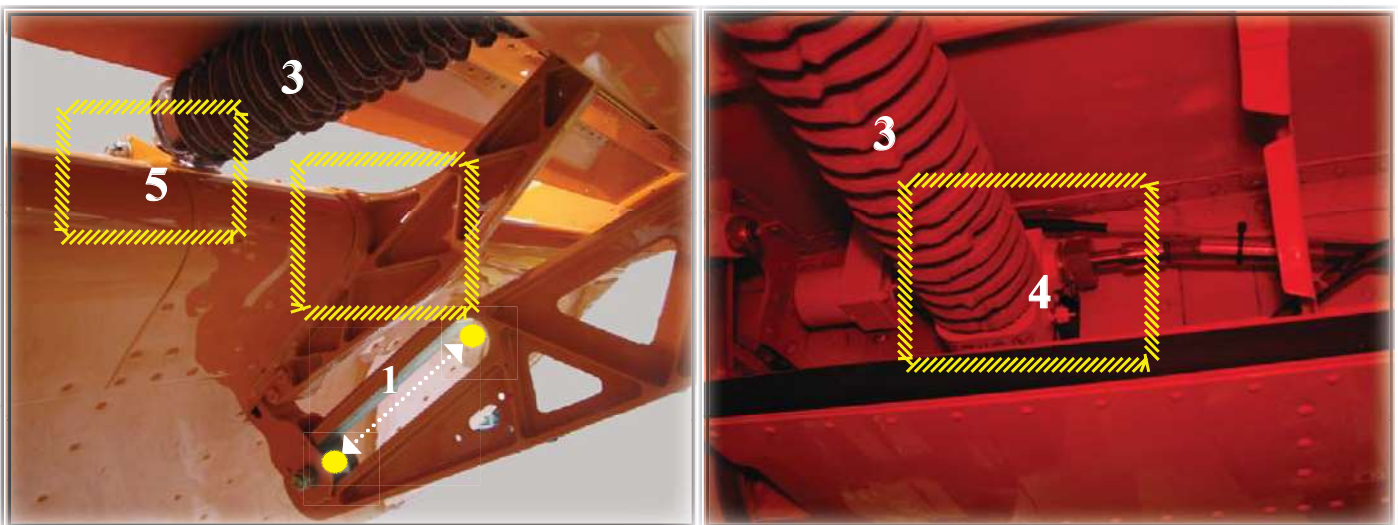
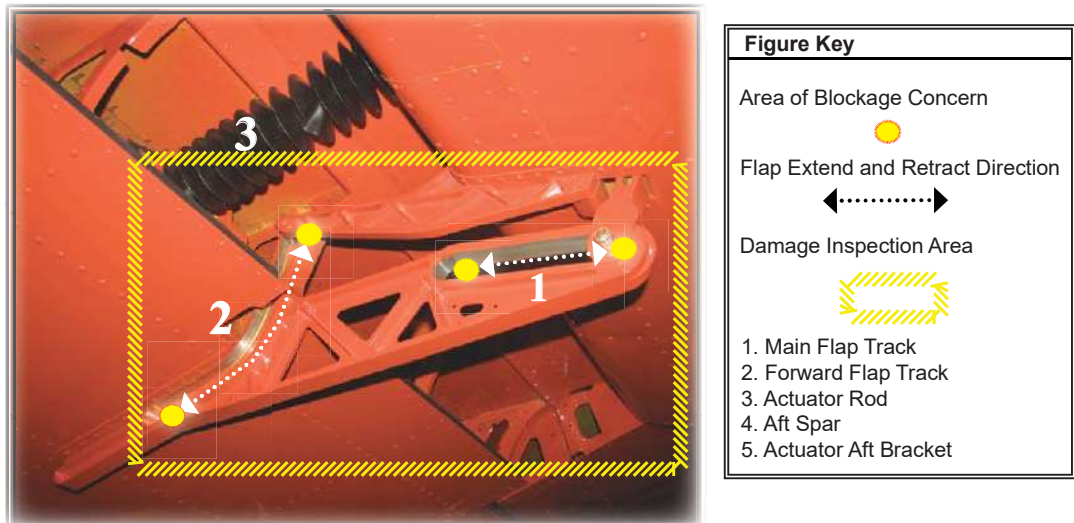


Figure 2: Inspection Areas

1.3 Required Action

Pilots must inspect to avoid the potential situation. When operating in temperatures below +5°C (+41°F), pilots must ensure that all debris are removed from the main flap tracks. During cold weather operations, if the aircraft takes off in snow or slush, visually check the main flap tracks for any debris build-up that may have occurred. If build-up has formed after takeoff or in-flight, **DO NOT** operate the flaps. Follow the guidance listed in the KODIAK 100 Pilot Operating Handbook/Aircraft Flight Manual to perform a 0° flap landing. If the flap tracks became blocked during takeoff, leave the flaps in the takeoff setting (normally 20°) and return to the airfield. A revision to the Pilots Operating Handbook/Aircraft Flight Manual and abbreviated checklist will be issued in the near future adding flap inspection procedures. Use the procedures below to perform the inspection.

Preflight Inspection (Page 4-9 of the Pilot Operating Handbook/Aircraft Flight Manual)

During the Exterior Preflight Inspection, visually check the forward and main flap tracks (12 total) to ensure that debris has not become lodged in the track and that there was no damage to the flaps during the previous flights. In addition, inspect the upper and lower wing surfaces for signs of debris build-up. See **Figure 3**.

Upper Wing and Flap Surface
(Flap Connection Point Outlined in White)



Figure 3: Upper Flap Surface

After Takeoff Climb (Page 4-16 of the Pilot Operating Handbook/Aircraft Flight Manual)

Prior to retracting the flaps, visually confirm that the flap tracks are free of build-up and debris. If build-up or debris is visually spotted in any flap track, **DO NOT** retract the flaps. Follow the guidance listed in the KODIAK 100 Pilot Operating Handbook/Aircraft Flight Manual to perform a 20° flap landing.

Before Landing (Page 4-18 of the Pilot Operating Handbook/Aircraft Flight Manual)

Prior to extending the flaps, visually confirm that the flap tracks are free of build-up and debris. If build-up or debris is visually spotted in any flap track, **DO NOT** extend the flaps. Follow the guidance listed in the KODIAK 100 Pilot Operating Handbook/Aircraft Flight Manual to perform a 0° flap landing.

Cold Weather Operations (Page 4-36 of the Pilot Operating Handbook/Aircraft Flight Manual)

In cold weather operations, ensure that special attention is paid to ice build-up in the wing and flap area. **DO NOT** lower the flaps if a build-up is present in the flap tracks.