

**MANDATORY SERVICE BULLETIN****SUBJECT:** Elevator Control System – Cushion Edging Inspection**REVISION:** 01**DATE:** 11/23/2015**EFFECTIVITY:** KODIAK 100 Series Aircraft Serial Numbers 100-0001 through 100-0149**SUMMARY**

The accompanying Field Service Instruction (FSI) provides instruction for inspecting cushion edging installed on the elevator control anti-rotation guide. One operator reported one piece of edging became lodged in the guide slot and prevented the elevator from moving through its full range of travel during a preflight check.

**COMPLIANCE**

The initial inspection in Section 5.1 of the FSI accompanying this Mandatory Service Bulletin must be complied with prior to further flight. Note: The FSI includes both an initial inspection as well as a recurring inspection. The recurring inspection shall be continued until compliance with SB15-01, *Yoke Anti-rotation Guide Wear Pad Upgrade*, is completed.

Document Number	Document Title
FSI-105	Elevator Control System – Cushion Edging Inspection

**FAA APPROVAL STATUS**

The instructions attached to this Service Bulletin have demonstrated compliance with all applicable Federal Aviation Regulations and are approved by the Federal Aviation Administration.

**CREDIT AND WARRANTY INFORMATION**


Quest will reimburse up to .5 of an hour of labor costs associated with the inspection portion of this bulletin. Parts and labor related to the recurring inspections referenced in the FSI will not be covered. Refer to Quest's warranty information regarding submitting invoices for reimbursement.

If damage is found, refer to the SPECIAL INSTRUCTIONS section of this bulletin.

**Quest Customer Service****Phone:** (208) 263-1111 **Toll Free:** 1 (866) 263-1112**Email:** [customerservice@questaircraft.com](mailto:customerservice@questaircraft.com)**SPECIAL INSTRUCTIONS**

If damage requiring replacement of stripping is found, Quest will supply qty. (40 inches) P/N M22529/2-3R-25 CUSHION EDGING per aircraft, at no cost to owner, and reimburse up to 1 hour of labor costs associated with the replacement portion of this bulletin. Contact Quest Customer Service to place order, and refer to Quest's web site for information on submitting invoices for reimbursement.

Quest Aircraft Company LLC, 1200 Turbine Drive, Sandpoint, ID 83864

CONFIDENTIALITY NOTICE: The information contained in this document and any attachments are the property of Quest Aircraft Design LLC, and/or Quest Aircraft Company LLC, and may be used only by the intended recipient. In the event that this document has been transmitted or forwarded to you in error, please notify the sender immediately by calling 208-263-1111. No person other than the intended recipient is authorized to read, print, retain, copy, and/or disseminate this document or any part of it. After notifying the sender of receipt, please destroy the document and any attachments. This document may contain information that is proprietary, privileged, confidential, and/or otherwise legally exempt from disclosure. Any erroneous transmission and/or receipt of this document shall not constitute waiver of any applicable protections against unauthorized use or disclosure of the information. QUEST<sup>®</sup>, KODIAK<sup>®</sup>, and  logos are trademarks or registered trademarks of Quest Aircraft Design LLC, and licensed to Quest Aircraft Company LLC. English is the authoritative text of Quest Aircraft Design LLC, and Quest Aircraft Design LLC technical publications. If a technical publication is translated, then the English version will control.



## FIELD SERVICE INSTRUCTION

TITLE: Elevator Control System – Cushion Edging Inspection

SERIAL RANGE: As Required

JASC CODE: 2701

PAGE: 1 of 8

REPORT NO.: FSI-105

REVISION: 00

### SUBJECT

This Field Service Instruction provides procedures for inspecting cushion edging found on the elevator control system anti-rotation guide, and increases the inspection frequency.

### AFFECTED MANUALS AND PUBLICATIONS

AM902.0, KODIAK® 100 Aircraft Maintenance Manual

### INDUSTRY REFERENCES

None

### WEIGHT AND BALANCE

Not Applicable

### MANPOWER

The estimated man-hours and minimum number of persons required to perform this Field Service Instruction are listed below. The “Minimum Persons” refers only to maintenance personnel or installers, and unless otherwise specified within this instruction does not include additional personnel that may be needed solely to comply with safety requirements (for example, safety observers that are not performing tasks within this instruction). It is the responsibility of maintenance personnel to comply with safety requirements, including having a safety observer available as needed.

#### Estimated Man-hours:

Inspection Only: .5 hour

Replace Cushion Edging: 1 hour

Minimum Persons: 1 person

If more than the minimum personnel perform this instruction, the actual man-hours required may be reduced due to increased efficiencies. As appropriate, Quest encourages the use of additional personnel; man-hour estimates are based on the minimum personnel required.

### RECORD OF COMPLETION

- Update the appropriate Maintenance Records
- Ensure the KODIAK® 100 Pilot's Operating Handbook / Aircraft Flight Manual is up-to-date with the latest revision
- Ensure the KODIAK® 100 Aircraft Maintenance Manual is up-to-date with the latest revision

Quest Aircraft Company, LLC  
1200 Turbine Drive  
Sandpoint, ID 83864

### ⚠ DISCLAIMER ⚠

*The instructions / procedures presented herein are based upon the systems and components of the aircraft when it was delivered from the factory, or as modified by Quest Service Bulletins. Third-party modifications that have affected any component, system, or operating characteristic discussed by this document may invalidate the instructions / procedures provided. Before performing the instructions / procedures herein, examine all Supplemental Type Certificate (STC), Supplemental Type Authority (STA), or equivalently authorized modifications to verify that the instructions/procedures presented in this document can be properly completed. If an aircraft has an STC, STA, or equivalently authorized modification that affects any component, system, or operating characteristic also affected by this document, the operator is responsible for obtaining appropriate regulatory approval before performing the instructions / procedures herein. Quest Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this document.*

*If you have any questions as to the applicability of this document to your specific aircraft, contact Quest Customer Service by telephone at (208) 263-1111, toll-free at (866) 263-1112, or via email at [CustomerService@QuestAircraft.com](mailto:CustomerService@QuestAircraft.com)*

	<b>FIELD SERVICE INSTRUCTION</b>		PAGE:	2 of 8
	TITLE: Elevator Control System – Cushion Edging Inspection		REPORT NO.:	FSI-105
	SERIAL RANGE: As Required	JASC CODE: 2701	REVISION:	00

**REVISION RECORD**

REV	PAGE	CHANGE DESCRIPTION
00	All	Initial Release

CONFIDENTIALITY NOTICE: The information contained in this document and any attachments are the property of Quest Aircraft Design, LLC and/or Quest Aircraft Company, LLC. and may be used only by the intended recipient. In the event that this document has been transmitted or forwarded to you in error, please notify the sender immediately by calling 208-263-1111. No person other than the intended recipient is authorized to read, print, retain, copy, and/or disseminate this document or any part of it. After notifying the sender of receipt, please destroy the document and any attachments. This document may contain information that is proprietary, privileged, confidential, and/or otherwise legally exempt from disclosure. Any erroneous transmission and/or receipt of this document shall not constitute waiver of any applicable protections against unauthorized use or disclosure of the information. QUEST® and KODIAK® are registered trademarks of Quest Aircraft Design, LLC.



## FIELD SERVICE INSTRUCTION

TITLE: Elevator Control System – Cushion Edging Inspection

SERIAL RANGE: As Required

JASC CODE: 2701

PAGE:

3 of 8

REPORT NO.:

FSI-105

REVISION:

00

## TABLE OF CONTENTS

REVISION RECORD.....	2
TABLE OF CONTENTS.....	3
1. Special Safety Instructions.....	4
1.1 Warnings .....	4
1.2 Cautions .....	4
1.3 Notes .....	4
2. Parts, Tools, and Equipment .....	4
Table 2-1: Parts and Tools Included in the Service Kit.....	4
Table 2-2: Consumables Included in the Service Kit.....	4
Table 2-3: Serial-Number-Specific Parts Included in the Service Kit .....	4
Table 2-4: Parts and Tools NOT Included in the Service Kit .....	4
3. General.....	5
Figure 3-1: Overview .....	5
4. Preparation .....	5
5. Instructions.....	6
5.1 Cushion Edging Inspection .....	6
Figure 5-1: Cushion Edging .....	6
5.2 Continued Inspections.....	7
5.3 Replacing Cushion Edging (if required per Sections 5.1 or 5.2) .....	7
6. Completion.....	8



## FIELD SERVICE INSTRUCTION

TITLE: Elevator Control System – Cushion Edging Inspection

SERIAL RANGE: As Required

JASC CODE: 2701

PAGE:

4 of 8

REPORT NO.:

FSI-105

REVISION:

00

### 1. Special Safety Instructions

#### 1.1 Warnings

Failure to comply with “Warnings” contained in this instruction may result in financial loss, significant delay in the completion time, and/or serious injury to personnel.

#### 1.2 Cautions

Failure to comply with “Cautions” contained in this instruction may result in the destruction of components, unnecessary complications, the need to reverse completed work, and/or delays in the completion time.

#### 1.3 Notes

“Notes” are provided when additional information may lead to an increase in efficiency.

### 2. Parts, Tools, and Equipment

The following tables describe the parts, tools, and equipment necessary to successfully complete this instruction. Where applicable, reference to drawings provided with this instruction is provided.

**Table 2-1: Parts and Tools Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-1-1	N/A	–	N/A	N/A	N/A

**Table 2-2: Consumables Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-2-1	N/A	–	N/A	N/A	N/A

**Table 2-3: Serial-Number-Specific Parts Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-3-1	N/A	–	N/A	N/A	N/A

**Table 2-4: Parts and Tools NOT Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-4-1	M22529/2-3R-25	40"	Cushion Edging	N/A	N/A



## FIELD SERVICE INSTRUCTION

TITLE: Elevator Control System – Cushion Edging Inspection

SERIAL RANGE: As Required

JASC CODE: 2701

PAGE:

5 of 8

REPORT NO.:

FSI-105

REVISION:

00

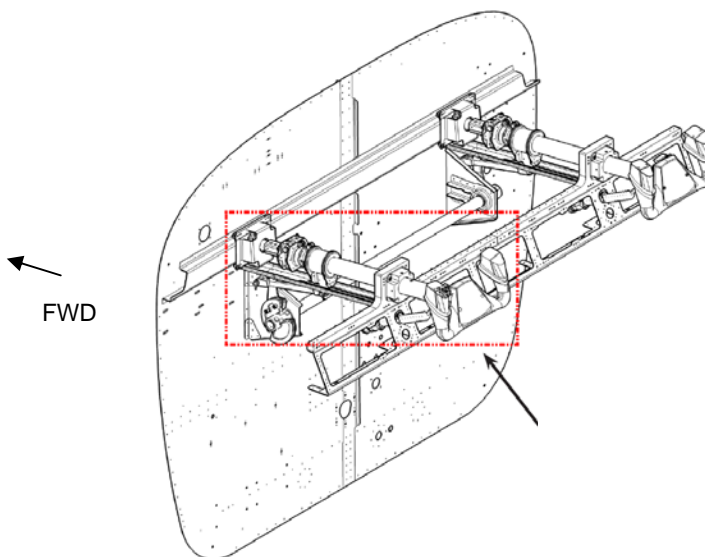
### 3. General

This information applies to all aircraft regarding the cushion edging (P/N M22529/2-3R-25) installed along the elevator control anti-rotation guide slot (P/N 100-619-0008).

### **⚠ WARNING ⚠**

Failure to comply with this Field Service Instruction may result in damage to the aircraft, serious injury, or death.

One operator reported to Quest Aircraft Customer Service that during a preflight inspection on the control yoke (FREE and CORRECT), the elevator became stiff and felt jammed. The pilot inspected the control yoke system forward of the control yoke and found cushion edging (P/N M22529/2-3R-25) jammed in the elevator control anti-rotation guide (P/N 100-619-0008) slot. The jammed edging prevented the control yoke from having full nose up and down travel. A second report was sent to Quest Aircraft Customer Service which showed the cushion edging plastic portion separated from the metal track on a different KODIAK® 100 aircraft.



**Figure 3-1: Overview**

After investigation it has been discovered that over time the edging may become worn and degrade. To ensure the edging remains in place and functions as required, Quest is mandating inspections and replacement on condition in accordance with **Section 5.1** and **Section 5.2** of this Field Service Instruction for all KODIAK® 100 aircraft.

### 4. Preparation

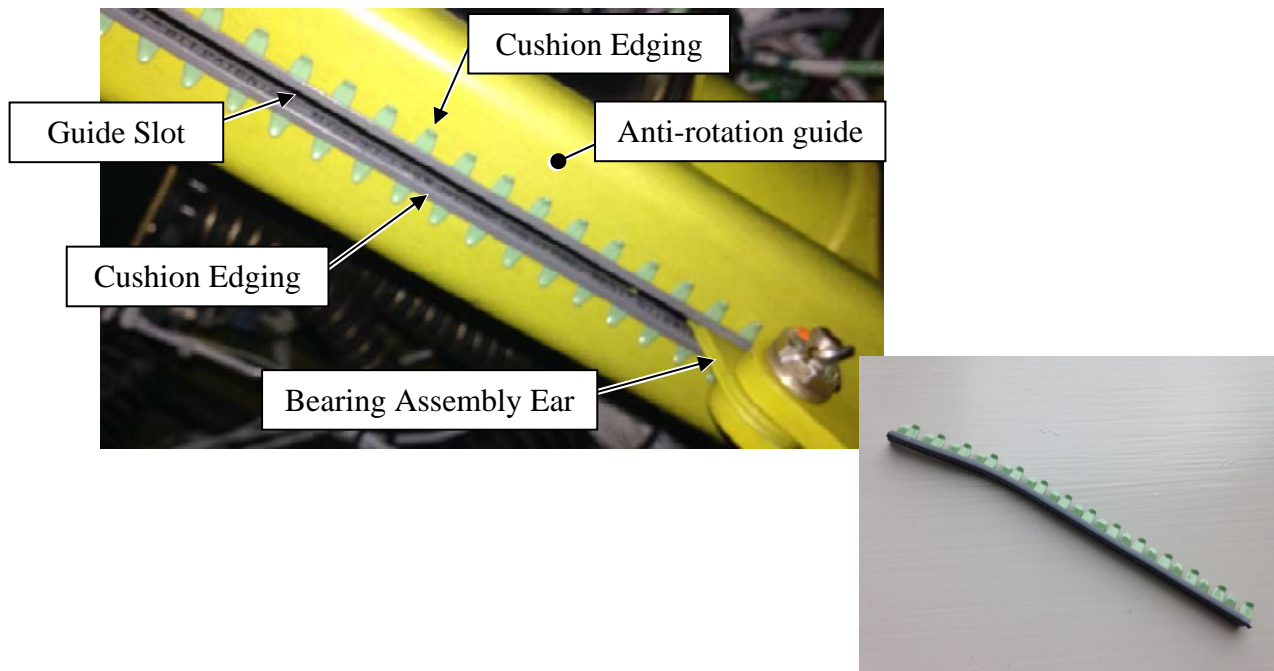
To aid in gaining access to the area of inspection, slide both crew seats aft along their respective seat tracks until they come to a stop against their appropriate seat stops.

## 5. Instructions

### 5.1 Cushion Edging Inspection

For the following steps, use a high-powered flashlight and mirror as needed to check the full length of the anti-rotation guide (**P/N 100-619-0008**).

1. Inspect the cushion edging (**P/N M22529/2-3R-25**) located on each side of the elevator control anti-rotation guide slot (**P/N 100-619-0008**) to ensure it runs the full length of the slot; reference **Figure 5-1**. If the cushion edging does not run the full length of the slot, replace the edging in accordance with **Section 5.3**.
2. Inspect the cushion edging located on each side of the elevator control anti-rotation guide slot for general condition, wear, and security; reference **Figure 5-1**. If wear is found, replace the cushion edging in accordance with **Section 5.3**.



**Figure 5-1: Cushion Edging**



## FIELD SERVICE INSTRUCTION

TITLE: Elevator Control System – Cushion Edging Inspection

SERIAL RANGE: As Required

JASC CODE: 2701

PAGE:

7 of 8

REPORT NO.:

FSI-105

REVISION:

00

3. Inspect for FREE movement of the elevator control column bearing assembly (P/N 100-619-4000) by gently moving the bottom ear of the assembly from side to side, left to right. If it is binding or more than light hand pressure is required to move the assembly from side to side, contact Quest Aircraft Customer Service before further flight.

### ▲ NOTE ▲

The assembly should move easily with hand pressure.

4. Inspect the forward and aft edges of the elevator control column bearing assembly that ride along within the anti-rotation guide slot (P/N 100-619-0008). If any sharp edges or burrs are found, remove with emery cloth, and spot Alodine and prime the bare aluminum.
5. By pulling on the control yoke, ensure the cushion edging is secure and free from catching on the elevator control column bearing assembly. Ensure the control yoke movement is free from excessive friction throughout the control yoke movement.
6. Repeat each inspection on the left and right side of the aircraft for the pilot and co-pilot control yoke assemblies.

## 5.2 Continued Inspections

Perform the inspections listed in **Section 5.1** every 50 hours or at every annual inspection, whichever comes first, and replace the cushion edging on condition if worn.

## 5.3 Replacing Cushion Edging (if required per Sections 5.1 or 5.2)

1. Detach the existing cushion edging (P/N M22529/2-3R-25) and remove from the aircraft.
2. Cut a length of new cushion edging (P/N M22529/2-3R-25) to a length of  $9.00 \pm 0.10$  inches.
3. Slide the cushion edging into position.

### ▲ NOTE ▲

The ends of the cushion edging should extend as close to the ends of the slot as practicable.

4. By pulling on the control yoke, ensure the edging is secure and free from catching on the elevator control column bearing assembly. Ensure the control yoke movement is free from excessive friction throughout the control yoke movement.





## FIELD SERVICE INSTRUCTION

TITLE: Elevator Control System – Cushion Edging Inspection

SERIAL RANGE: As Required

JASC CODE: 2701

PAGE:

8 of 8

REPORT NO.:

FSI-105

REVISION:

00

### 6. Completion

1. Record all work performed in the appropriate maintenance records.
2. Record a reminder, as required, in the appropriate maintenance records to perform the additional inspections.
3. Contact Quest Customer Service with any questions, problems, or notable findings.

**---END---**