

**\*MANDATORY SERVICE BULLETIN\*****NUMBER:** SB13-03**REVISION:** 00**DATE:** November 1, 2013

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**SUBJECT:** NOSE WHEEL SPACER INSTALLATION

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**EFFECTIVITY:**

KODIAK 100 Series Aircraft Serial Numbers: 100-0001 through 100-0093

**SUMMARY:**

The accompanying Field Service Instruction provides guidance for inspecting for wear damage caused by the spacer in the nose wheel assembly, replacing the nose wheel if wear damage has occurred, replacing the spacer, and repositioning the O-rings in the spacer.

**COMPLIANCE:**

This Mandatory Service Bulletin must be complied with on or before the next 100 Hour Inspection or Annual Inspection whichever comes first.

**ATTACHED DOCUMENTS:**

Document #:	Document Title:
FSI-056	NOSE WHEEL SPACER INSTALLATION

**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 Aircraft Company will supply one Service Kit FSI-056 per aircraft at no cost to owners of aircraft under factory warranty. For aircraft no longer under factory warranty, the kit is available for purchase for \$442.78 (price subject to change). To obtain Service Kit FSI-056, contact Quest Customer Service. Quest will reimburse for labor costs associated with this bulletin up to \$85.00 for aircraft under factory warranty. Refer to Quest's warranty information regarding submitting invoices for reimbursement.

**Quest Customer Service****Service Bulletin: SB13-03****Phone: (208)263-1111 Toll Free: 1(866)263-1112****Email: [Customerservice@questaircraft.com](mailto:Customerservice@questaircraft.com)****SPECIAL INSTRUCTIONS:**

N/A

**\*MANDATORY SERVICE BULLETIN\*****\*MANDATORY SERVICE BULLETIN\***



## FIELD SERVICE INSTRUCTION

TITLE:

Nose Wheel Spacer Installation

SERIAL RANGE:

100-0001 thru 100-0093

JASC CODE: 3222

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### SUBJECT

This Field Service Instruction provides guidance for inspecting for wear damage caused by the spacer in the nose wheel assembly, replacing the nose wheel if wear damage has occurred, replacing the spacer, and repositioning the O-rings in the spacer.

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### AFFECTED MANUALS AND PUBLICATIONS

None

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### INDUSTRY REFERENCES

None

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### WEIGHT AND BALANCE

Negligible

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### 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: 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.

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### RECORD OF COMPLETION

Update the appropriate maintenance log books

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QUEST® Aircraft Company, LLC  
1200 Turbine Drive  
Sandpoint, ID 83864



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## REVISION RECORD

REV	PAGE	CHANGE DESCRIPTION
00	All	Initial Release



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## 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	100-410-7007	2	Spacer	N/A	N/A
2-1-2	M83461-1-128	2	O-ring	N/A	N/A
2-1-3	154-03000	2	Molded Grease Seal	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	N/A

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

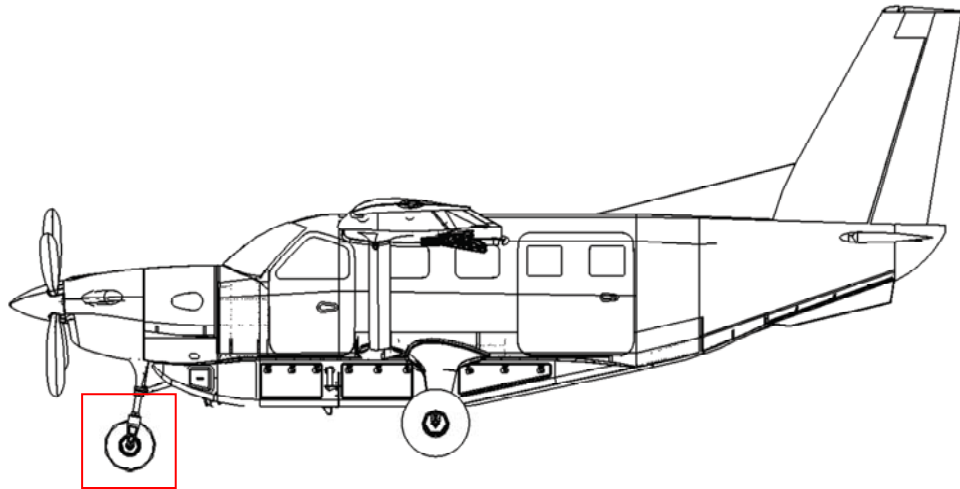
Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-3-1	N/A	N/A	N/A	N/A	N/A

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

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-4-1	Commercially Available	N/A	Parker O-ring Lubricant	N/A	N/A

### 3. General

This Field Service Instruction provides guidance for inspecting for wear damage caused by the spacer in the nose wheel assembly, replacing the nose wheel if wear damage has occurred, replacing the spacer, and repositioning the O-rings in the spacer.



**Figure 3-1: Overview**

### 4. Preparation

Remove the nose wheel in accordance with the *KODIAK 100 Airplane Maintenance Manual*, Chapter 32.

### 5. Instructions

#### 5.1 Inspect for Nose Wheel Damage

1. Remove the snap rings, grease seals, and bearing cones from both sides of the nose wheel. Discard the grease seals.
2. Inspect the interior diameter of the grease seal bore surface for any wear or damage (**Figure 5-1**). Ensure that the bore diameter does not exceed 2.640 inches (**Figure 5-2**).

**If wear is found:**

- a. Replace the nose wheel (refer to Cleveland Wheel and Brake for product information) **OR** remove the wear by hand (Section 5.1.1).
- b. Proceed to Section 5.2.

**If wear is not found:**

Proceed to Section 5.2.

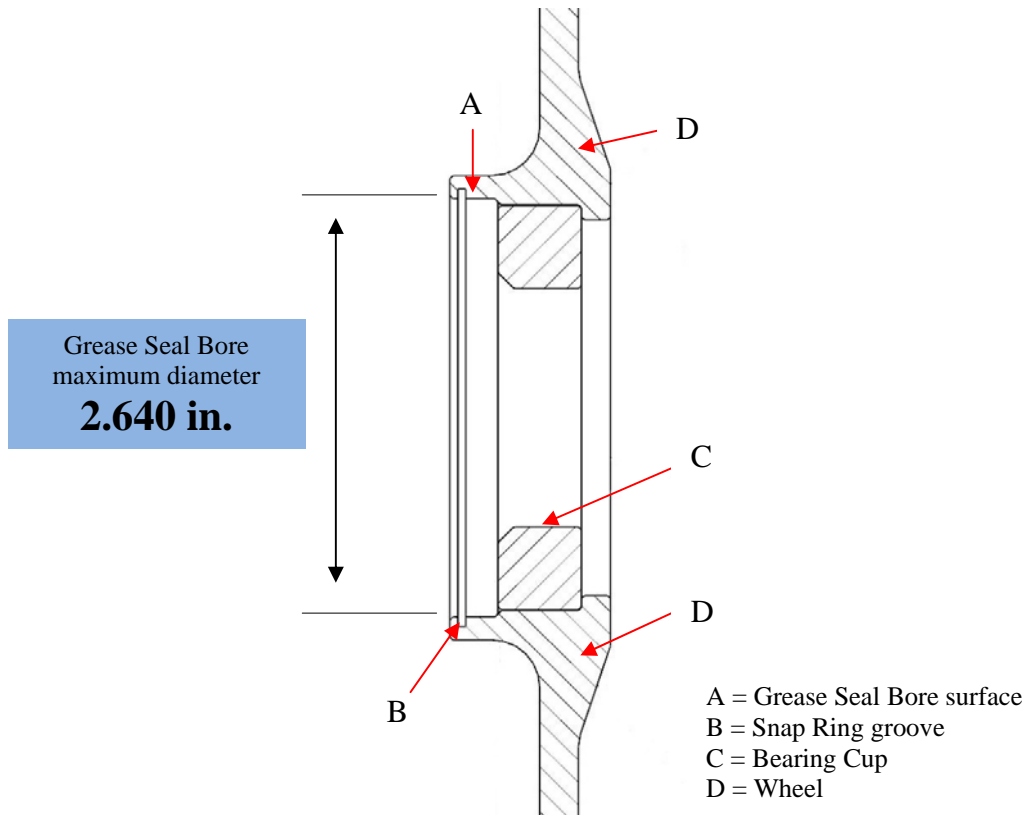
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**Figure 5-1: Damage to Grease Seal Bore**



**Figure 5-2: Wheel Half Cross-section at Grease Seal**



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### 5.1.1 Remove the Wear

Use 400 grit emery cloth with hand polishing techniques, taking care that the grease seal bore does not exceed 2.640 inches in diameter (**Figure 5-2**).

### 5.2 Complete the Inspections

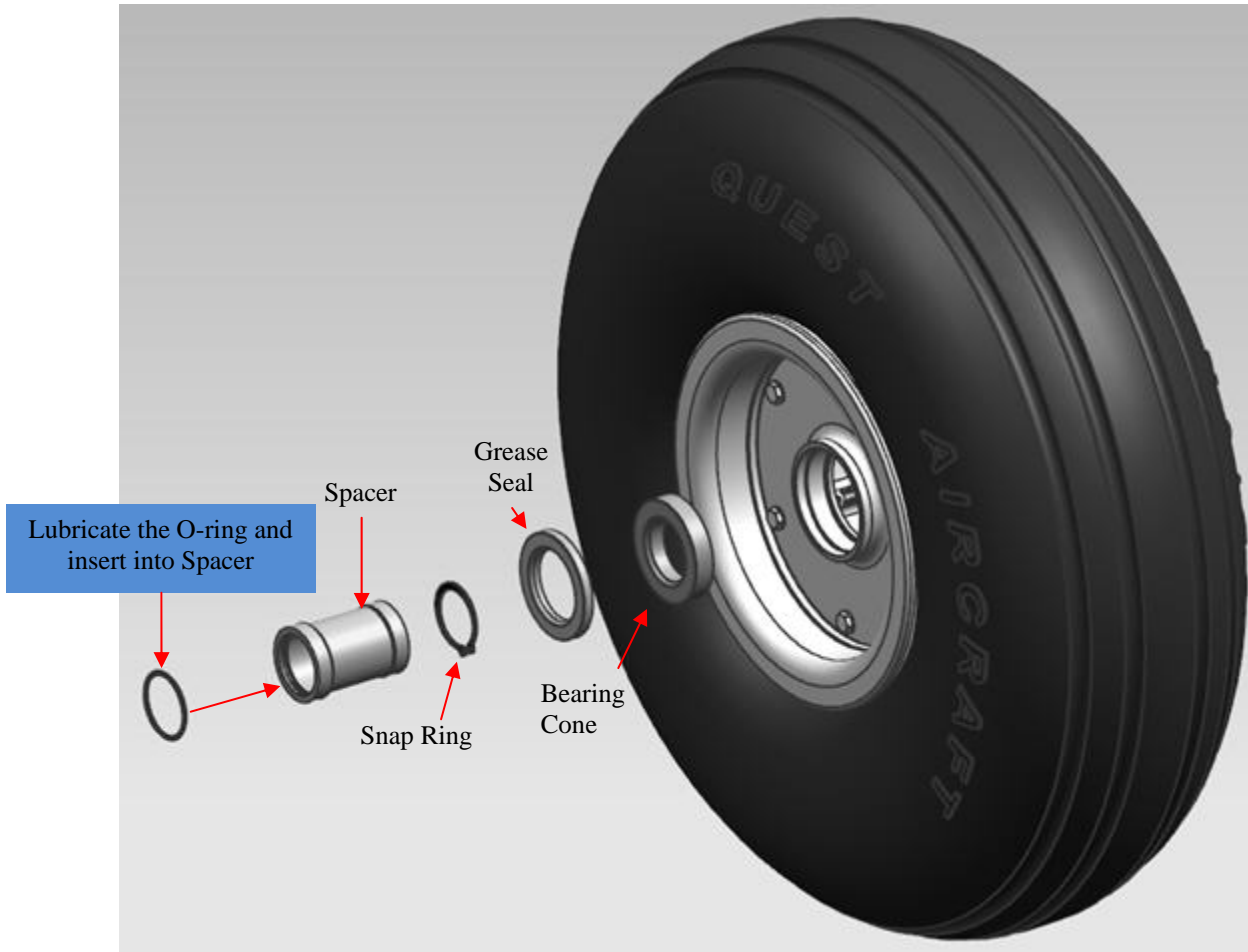
Perform inspections noted in the Cleveland Wheel and Brake maintenance manual, *Component Maintenance Manual for External Design Wheels and Brakes*, replacing parts as needed.

### 5.3 Replace the Spacer

Refer to **Figure 5-3**.

1. Install the bearing cone, replacement grease seal (P/N 154-0300), and snap ring into the wheel.
2. Lubricate the replacement O-ring (P/N M83461-1-128) using a commercially available O-ring lubricant (Parker O-Lube).
3. Install the replacement O-ring (P/N M83461-1-128) into the replacement nose wheel spacer (P/N 100-410-7007), positioning the O-ring at the outboard position on the spacer.
4. Repeat steps 1 through 3 on the opposite side of the wheel.





**Figure 5-3: O-ring and Spacer Placement**



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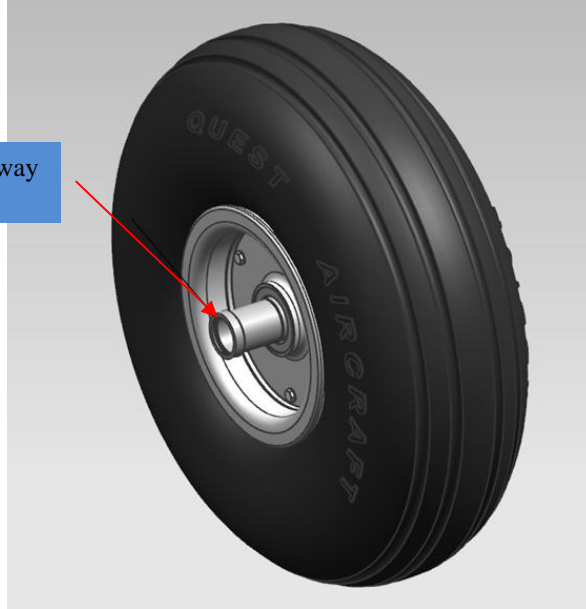
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### 5.4 Install the Nose Wheel

1. Insert one spacer on each side of the wheel and position the wheel/spacer assembly between the nose-wheel forks with the center holes aligned and O-rings facing outboard (**Figure 5-4**).
2. Install the nose wheel in accordance with the *KODIAK 100 Airplane Maintenance Manual*, Chapter 32.

Note position of O-ring away from the wheel.



**Figure 5-4: Nose Gear Assembly**

### 6. Completion

Update the appropriate maintenance log books.

**---END---**