

MANDATORY SERVICE BULLETIN**NUMBER:** SB13-04**REVISION:** 00**DATE:** November 1, 2013**SUBJECT:** MAIN LANDING GEAR FASTENER CORROSION PROTECTION**EFFECTIVITY:**

KODIAK 100 Series Aircraft Serial Numbers: 100-0001 through 100-0074

SUMMARY:

The accompanying Field Service Instruction provides guidance for protecting the main landing gear leg tubes from corrosion.

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-046	MAIN LANDING GEAR FASTENER CORROSION PROTECTION

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 for labor costs associated with this bulletin up to \$935.00 for aircraft under factory warranty. Refer to Quest's warranty information regarding submitting invoices for reimbursement.

Quest Customer Service**Service Bulletin:** SB13-04**Phone:** (208)263-1111 Toll Free: 1(866)263-1112**Email:** Customerservice@questaircraft.com**SPECIAL INSTRUCTIONS:**

N/A



FIELD SERVICE INSTRUCTION

TITLE:

Main Landing Gear Fastener Corrosion Protection

SERIAL RANGE:

100-0001 through 100-0074

JASC CODE: 3210

PAGE:

1 of 10

REPORT NO.:

FSI-046

REVISION:

00

SUBJECT

This Field Service Instruction provides guidance for protecting the main landing gear leg tubes from corrosion.

AFFECTED MANUALS AND PUBLICATIONS

None

INDUSTRY REFERENCES

None

WEIGHT AND BALANCE

Negligible

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 with Borescope): 3 hours

Corrosion Removal/Prevention (External Cargo Compartment): 8 hours

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 / Airplane Flight Manual* is up-to-date with the latest revision.
- Ensure the *KODIAK®100 Airplane Maintenance Manual* is up-to-date with the latest revision.

Quest Aircraft Company, LLC
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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

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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	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



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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	AR	Sealant meeting AMS-S-8802	N/A	N/A
2-4-2	Commercially Available	AR	Zinc Chromate Primer	N/A	N/A
2-4-3	Commercially Available	AR	Aeroshell Grease, 22	N/A	N/A
2-4-4	Commercially Available	AR	ProSeal 890 Class B (or equivalent per AMS-S-8802)	N/A	N/A
2-4-5	Commercially Available	AR	Heavy Duty Inhibitor (LPS-3)	N/A	N/A
2-4-6	MS24665-285	AR	Cotter Pin	N/A	N/A
2-4-7	Borescope	AR	Borescope – Optional	N/A	N/A
2-4-8	100-270-3567-D01	2	Fuselage Pads	N/A	N/A
2-4-9	100-270-3565-D01	1	Nose Jack Pad	N/A	N/A



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3. General

The following instructions provide guidance for inspecting and sealing the main landing gear leg attach-bolts and studs from corrosion.

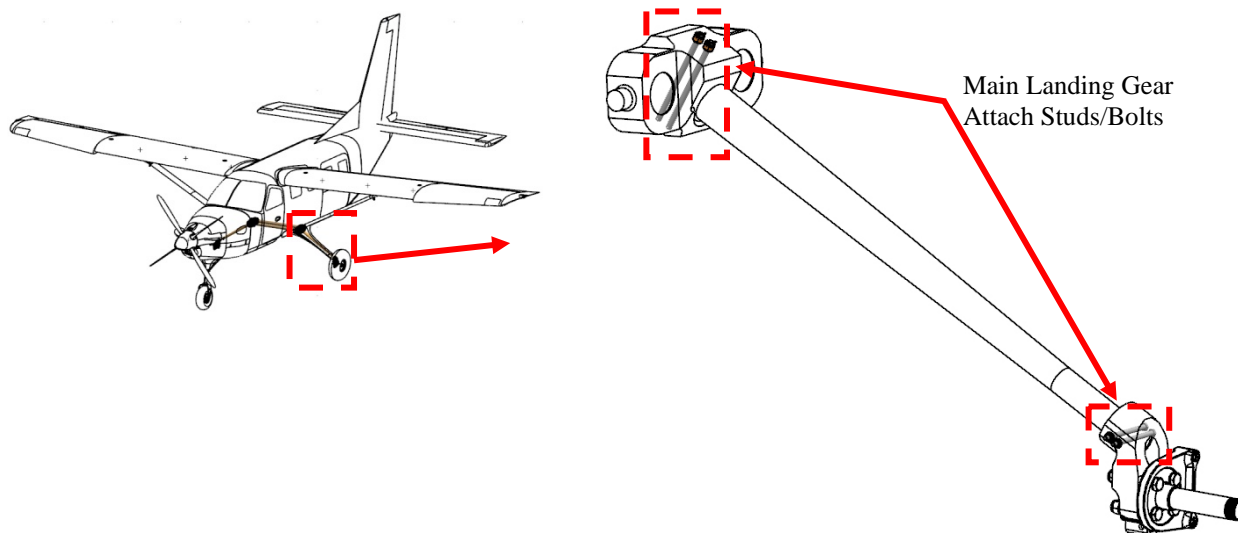


Figure 3-1: Main Landing Gear Overview

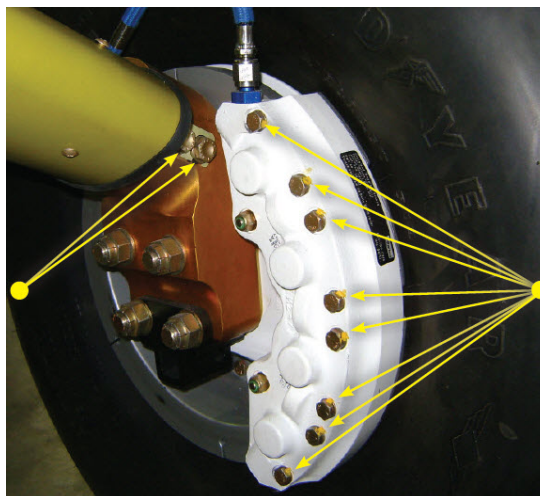
▲ NOTE ▲

The procedure described within this field service instruction must be completed on both sides of the main landing gear.

4. Preparation

1. Jack the aircraft in accordance with the *KODIAK® 100 Maintenance Manual*, Chapter 7.
2. Remove the main landing gear fairing in accordance with the *KODIAK® 100 Maintenance Manual*, Chapter 32.
3. Remove the eight (8) brake back-plate bolts and washers from the main landing gear brake assembly.

Two (2) Lower
Main Landing
Gear Bolts



Eight (8) brake
back plate bolts
and washers.

Figure 4-1: Left Main Landing Gear Brake

4. Slide the brake back-plate out of the way of the lower landing gear bolts and zip-tie or otherwise secure the back-plate to the wing strut or main landing gear leg to remove any tension on the flexible brake line.

▲ NOTE ▲

Main landing gear bolts must be reinstalled in the same holes from which they were removed.

5. Remove and mark the two (2) upper bolts that secure the gear leg to the trunnion and remove and mark the two (2) lower bolts that secure the gear leg to the axle attach fitting (**Figure 3-1**).
6. Clean the inside bore of the gear leg to remove any accumulated dirt, mud, grime, and other foreign debris.
7. If a long borescope is available for inspection, proceed to **Section 5.1**. If a borescope is not available, remove the landing gear in accordance with the *KODIAK® 100 Maintenance Manual*, Chapter 32, then proceed to **Section 5.1**.

▲ NOTE ▲

If equipped, remove external cargo compartment prior to main landing gear removal. Remove in accordance with the *KODIAK 100® Maintenance Manual*, Chapter 25.

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5. Instructions

5.1 Leg Tube Inspection and Corrosion Removal

1. If using a borescope, insert the borescope through the upper and lower bolt holes or through the end of the landing gear leg.
2. Inspect the inside bore of the gear leg for corrosion, specifically around the bolt holes, as shown in **Figure 5-1**.
3. If corrosion is found, perform **Step 4** through **Step 9**. If no corrosion is found, proceed to **Section 5.2**.

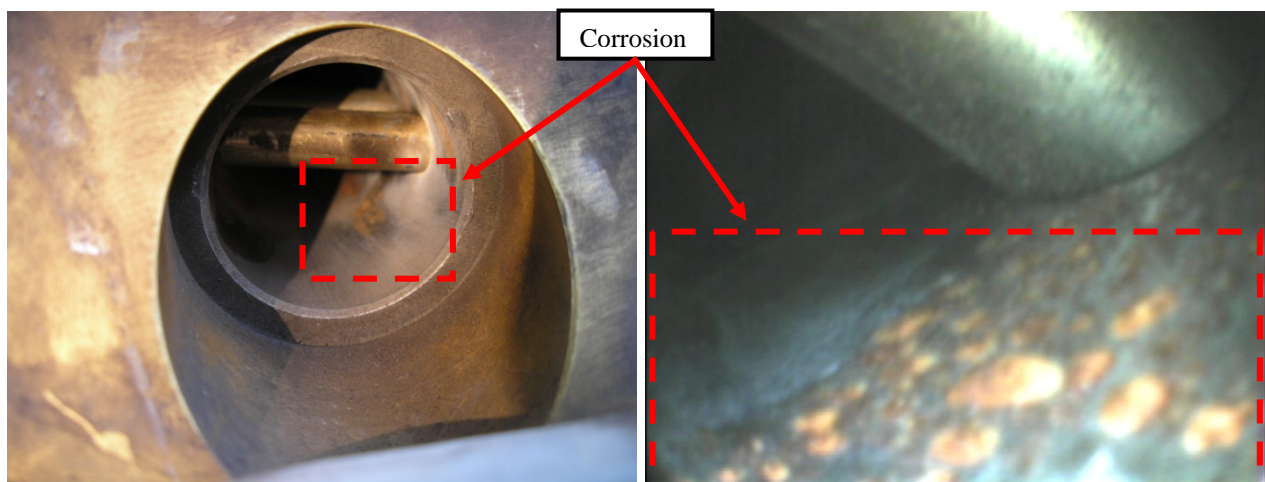


Figure 5-1: Main Landing Leg Tube Corrosion

4. If not already completed, remove the main landing gear in accordance with the *KODIAK® 100 Maintenance Manual*, Chapter 32.

▲ NOTE ▲

If equipped, remove external cargo compartment prior to main landing gear removal. Remove in accordance with the *KODIAK 100® Maintenance Manual*, Chapter 25.

5. Remove corrosion using a flap sanding wheel, silicone carbide sandpaper, or hone.

▲ CAUTION ▲

Ensure that all material is blended to a 25:1 ratio minimum, 63 RMS max surface finish, and that no more than 0.003" of material has been removed from the inner diameter of the gear leg.

6. Using a lint free cloth and acetone or methyl ethyl ketone, clean the dressed area(s).
7. Allow part to fully air dry.
8. Remove any remaining residue with a tack cloth or equivalent.

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9. Apply a zinc chromate epoxy, or equivalent primer, to the area(s) where corrosion was removed (per AC43.13-1B, section 6-40). Follow all manufacturers' safety and cure time instructions.

5.2 Corrosion Protection Application

1. Liberally apply LPS-3 heavy duty inhibitor to both ends of the inside of the gear leg. Ensure approximately 2 inches of the inside gear leg, on both sides of the bolt holes, is coated.

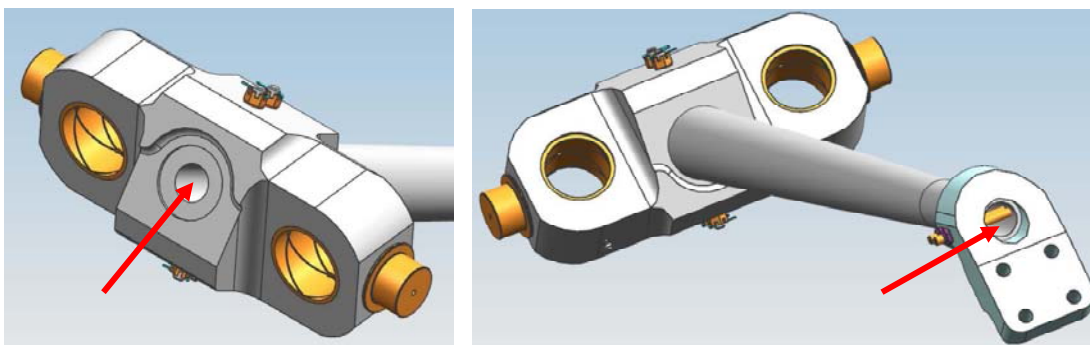


Figure 5-2: Trunnion and Axle CPC (Heavy Duty Inhibitor) Locations

▲ NOTE ▲

If the landing gear is installed on the aircraft, apply LPS-3 by inserting nozzle through bolt holes. The nozzle of the LPS-3 spray may need to be slightly bent in order to reach all of the areas to be coated. If landing gear is removed, apply LPS-3 through the end of the leg tube.

2. Inspect the bolts and replace the bolts if any evidence of corrosion or damage exists. Contact Quest Aircraft for replacement parts.
3. Clean and remove any residual LPS-3 from the bolt holes.

▲ CAUTION ▲

Failure to re-install each bolt and stud into the same location where it was removed from may result in compromised structural strength.

4. Wet install each removed bolt (new or reused) using Pro-Seal 890 class B or any sealant meeting the requirements in AMS-S-8802 (any type and class is acceptable). Follow all manufacturers' safety and cure time instructions.
5. Reinstall washers and castle nuts. Torque the castle nuts to 270-300 in-lb. Install new cotter pins.

5.3 Re-Install Landing Gear

If the landing gear was removed,

1. Inspect and clean the pin bushings to remove any residual grease or contaminants from the interior and exterior of the bushings.
2. Using Aeroshell Grease, 22 or equivalent, grease all interior surfaces of the four (4) Main Landing Gear Trunnion Pin Bushings (P/N 100-420-1105) prior to installation onto trunnion. Reference **Figure 5-3**.
3. Install the Pin Bushings onto the trunnion.
4. Coat the exterior surfaces on the four (4) Bushings and the mating surfaces on the aircraft structure prior to installation into the aircraft structure. Reference **Figure 5-3**.

Grease entire circumference and interior of each 100-420-1105 Bushing

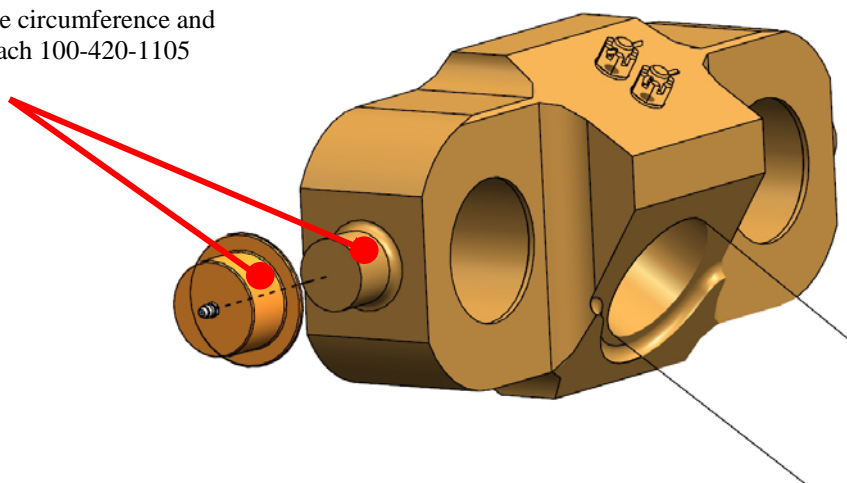


Figure 5-3: Bushing Grease Locations

5. Reinstall the main landing gear in accordance with the *KODIAK[®] 100 Maintenance Manual*, Chapter 32.
6. Reinstall the brake back plate in accordance with the *KODIAK[®] 100 Maintenance Manual*, Chapter 32.
7. Install the main landing gear fairing in accordance with the *KODIAK[®] 100 Maintenance Manual*, Chapter 32
8. If equipped, reinstall the external cargo compartment in accordance with the *KODIAK[®] 100 Maintenance Manual*, Chapter 25.

6. Completion

Record all work performed in the appropriate maintenance records.

---END---