

MANDATORY SERVICE BULLETIN**SUBJECT:** Main Landing Gear Tire Tubes**REVISION:** 01**DATE:** 12/28/2015**EFFECTIVITY:** KODIAK 100 Series Airplane Serial Numbers 100-0001 thru 100-0149 or any aircraft equipped with P/N 302-129-402 main landing gear tire tubes.**SUMMARY**

This Service Bulletin is to advise owners/operators and customers that Quest Aircraft has received reports of Goodyear butyl rubber tire inner tubes failing on large 29x11.00-10 main landing gear tires of the KODIAK 100 and is mandating a one-time inspection of the main landing gear tire tubes. The failures are associated with the material compound from which the tubes were manufactured and can lead to a loss of pressure and subsequent tire failure during ground operations. Quest recommends installing only P/N 302-129-403 on large main landing gear wheels.

Document Number	Document Title
FSI-127	Replacement of Main Landing Gear Tire Tubes

COMPLIANCE

This Service Bulletin must be complied with on or before the next 100 hour or annual inspection, whichever occurs first.

FAA APPROVAL STATUS


N/A

CREDIT AND WARRANTY INFORMATION

Contact Quest Customer Service if aircraft is found equipped with a short valve stem tube P/N 302-129-402 purchased within the past two years. Quest will provide a Return Material Authorization (RMA) to return tube P/N 302-129-402 to Quest, and one replacement tube P/N 302-129-403 at no charge as long as tube P/N 302-129-402 is received with RMA by Quest within 30 days of issue. Invoices will be issued for tubes not received within 30 days of issue.

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

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

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FIELD SERVICE INSTRUCTION
TITLE: Replacement of Main Landing Gear Tire Tubes
SERIAL RANGE: 100-0001 thru 100-0149
JASC CODE: 3245

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REPORT NO.: FSI-127
REVISION: 00

SUBJECT

This Field Service Instruction (FSI) for the KODIAK® 100 provides information about large main landing gear tire tube failures and procedures for identifying and replacing main landing gear tire tubes.

WEIGHT AND BALANCE

None

MANPOWER

Estimated Man-Hours

Inspect only: 0.5 hours

Inspect and Replace: 4 hours

Minimum Persons

1 person

Man-hour estimates are based on the minimum personnel required. As appropriate, Quest encourages the use of additional personnel, which may reduce the actual man-hours.

“Minimum Persons” refers only to maintenance personnel or installers, and unless otherwise specified within this instruction, does not include additional personnel who may be needed solely to comply with safety requirements (for example, safety observers who 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.

**Quest Aircraft Company LLC
1200 Turbine Drive
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▲ 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) or equivalently authorized modifications to verify that the instructions/procedures presented in this document can be properly completed. If an aircraft has an STC 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



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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 Reference Materials

This document may refer to reference manuals or documents. Any reference to these manuals or documents assumes the latest revision, which should be employed when performing the work described within this document, unless otherwise specified.

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
2-1-1	N/A	N/A	N/A

Table 2-2: Consumables Included in the Service Kit

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

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

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

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

Item #	Part No.	Qty	Description
2-4-1	302-129-403	AR	Main Landing Gear Oversized Tire Tubes



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3. General

This document is to advise owners, operators, and mechanics that Quest Aircraft has received reports of Goodyear butyl rubber inner tubes failing on large 29x11.00-10 main landing gear tires of the KODIAK 100. Several tire tubes (P/N 302-129-402) having splits were returned to Quest. It was also reported to Quest that some tubes deflated in service. Following inspection, Quest returned the tubes to Goodyear for further investigation. Quest has concluded that the splits are related to the tube manufacturing processes and material utilized at Goodyear.

▲ NOTE ▲

The tire tube failures are reported on aircraft operating in various environments, including soft field and hard surface operations, as well as during different phases of operation including taxi, rollout, takeoff, and landing.

▲ NOTE ▲

The FAA recommends that pilots/operators use special attention during pre-flight to airplane tires with Goodyear butyl inner tubes by taking the following precautions:

- Check to ensure that all tires are properly inflated and are holding pressure.
- Be prepared to compensate for a flat tire during landing, as this may pull the airplane off centerline.
- Use extra awareness during cross-wind landing conditions on narrow and on short runways.

Refer to FAA Special Airworthiness Information Bulletin CE-11-47R1 for additional information. Though the bulletin does not specifically address the KODIAK tire size, the precautionary measures are applicable and must be followed.



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In 2013, to improve tube performance, Goodyear modified the compound from which the large tubes (P/N 302-129-402) for the KODIAK 100 are manufactured. Goodyear identified the change by marking tubes made with new material with an orange stripe instead of a green stripe (**Figure 3-1**).



Green Stripe



Orange Stripe

Figure 3-1: Tire Tube Stripe Color

On September 22, 2014, Goodyear Aviation released Marketing Bulletin 2014-07 notifying customers of a change in the tire tubes. Tube P/N 302-129-402 was replaced with P/N 302-129-403, which is the same tube but with a TR 25 valve stem, which is ½ inch (12 mm) longer. Long valve stems are found on the newer-style tubes that are not associated with failures linked to material compound. On the KODIAK 100 wheel installation, a long valve stem can be determined by visual inspection, and does not require disassembly (**Figure 3-2**).

▲ NOTE ▲

Due to the new material being introduced prior to the change in valve stem length, short valve stem tubes may be found with either a green or orange stripe. The only sure method to verify the material color stripe is wheel/tire disassembly.



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Short Stem



Long Stem

Figure 3-2: Wheel Valve Stems

Since main landing gear tubes when installed on a KODIAK 100 and marked with a green stripe fail to meet Goodyear and Quest Aircraft expectations, Quest recommends that they be removed from inventory and aircraft, and replaced with tubes that are made from the new compound and identified by the orange stripe. Failure to replace the tube can result in a “blow out” or loss of control leading to damage to the aircraft and/or serious injury or death.

▲ NOTE ▲

At this time, tube failures are associated only with the large main landing gear tubes with the green stripe, and not with the factory installed small main tubes or either size of the nose tubes. However, tubes Goodyear makes from the new materials (orange stripe) are expected to improve performance, regardless of tube size.

▲ NOTE ▲

Quest recommends that all tire tubes be purchased through Quest Aircraft Customer Service in the future. New tire tubes should be carefully inspected by the mechanic for damage of any sort prior to installation. Refer any questionable tire tubes to Quest Aircraft Customer Service.

4. Preparation

N/A

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5. Instructions

1. If equipped with a large main landing gear tire/tube combination, inspect the right and left main landing gear tire tube stem for length as shown in **Figure 3-2**.
 - a. If the stem is found long, no further action is needed.
 - b. If the stem is found short, replace tube (refer to AM902.0, *KODIAK 100 Airplane Maintenance Manual*, for replacement procedures).

▲ NOTE ▲

After tube removal, some short stem tubes may have an orange material stripe, but since tube reinstallation is not recommended, the tube must be replaced.

6. Completion

6.1 Restore Airplane to Airworthy Condition

N/A

6.2 Perform Functional Check

Ensure tube is inflated in accordance with AM901.0, *KODIAK 100 Pilot's Operating Handbook and Airplane Flight Manual*.

6.3 Records of Completion

Update the appropriate KODIAK 100 maintenance records.

6.4 Applicable Manual Revisions/Updates

None.

▲ NOTE ▲

Quest Aircraft Company recommends updating the approved *KODIAK 100 Pilot's Operating Handbook and Airplane Flight Manual* (AM901.0) and any applicable supplements to the latest revisions, and maintaining the airplane in accordance with the latest approved *KODIAK 100 Airplane Maintenance Manual* (AM902.0). Contact Quest Aircraft Customer Service with any questions related to maintenance material.

---END---