



**Instructions for Continued Airworthiness
for the Installation of the
ABI-1010 WHEEL ASSEMBLY**

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Table of Contents

<u>Section</u>	<u>Page</u>
Title Page	1
Table of Contents	2
Record of Revisions	2
List of Effective Pages	3
Introduction	3
Revisions	4
Description and Operation	4
Airworthiness Limitations	5
Maintenance Practices	5
Inspection Requirements	7
ABI-1010 Drawing	8

Record of Revisions

This Record of Revisions identifies all revisions to this manual. When changes to this manual are needed, revisions will be issued by ABI.

This Record of Revisions shall remain in this manual at all times. Upon the receipt of revisions, insert the revised page(s) into this manual and enter the revision number, revision date, insertion date and signature of person incorporating the revision into the manual in the appropriate spaces below.

Revision Number	Pages Affected	Revision Date	Inserted By
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1	Title Page	May 17, 2017
2	Record of Revisions	October 2, 2012
2	Table of Contents	October 2, 2012
3	List of Effective Pages	October 2, 2012
3	Introduction	October 2, 2012
4	Revisions	October 2, 2012
4	Description and Operation	October 2, 2012
5	Maintenance Practices	October 2, 2012
7	Inspection Requirements	October 2, 2012
8	ABI-1010 Drawing	May 17,2017

Introduction:

The instructions for Continued Airworthiness document has been developed using the guidelines in Appendix “G” of FAR part 23 as required by FAR 23.

This document is designed to provide aircraft technicians with the sufficient information to inspect, troubleshoot, adjust, repair, test, remove and install the Alaskan Bushwheel(R) ABI-1010 Wheel Assembly.

Information provided here is designed to help purchasers and maintenance personnel obtain maximum service life from their Alaskan Bushwheel(R) ABI-1010 wheels.

(NOTE: The procedures included here are intended to supplement the specific instructions issued by aircraft and wheel/rim/brake manufacturers.)

Alaskan Bushwheel(R) Inc. (ABI) has obtained FAA TSO-C26d authorization for the ABI-1010 wheel assembly. Supplemental Type Certificates (STC) are available and will be provided to purchaser for all aircraft with STC approval. ABI makes no representations, express or implied, that FAA approval for use of ABI wheels is or will be available.

Use of ABI's wheels for any purpose whatsoever is entirely at the purchasers' risk. ABI shall not be liable for personal injury, property damage or consequential damages that might occur during the use of our wheels.

ALL PRODUCTS SHOULD BE INSPECTED IMMEDIATELY UPON RECEIPT FOR SHIPPING AND HANDLING DAMAGE.

Alaskan Bushwheel 1010 Wheels are eligible for installation on many General Aviation Make and Model aircraft in the conventional type configuration. For a list of currently approved, STC'd Makes & Models, please see our Approved Model List (AML) available from Airframes Alaska, P.O. Box 670989, Chugiak, AK 99567, 907-331-4480, or on our website (www.airframesalaska.com).

The information in this document supplements or supersedes the original manufacturer's maintenance manual only in those areas listed. For limitations, procedures and other information not contained in this document, refer to the aircraft manufacturer's maintenance manuals, illustrated parts manuals and/or vendor manuals as listed in the LOAP.

Revisions:

For continuous use of this document, this document must be maintained in current revision status. The List of Effective Pages found on page 3 of this document specifies the current effective date for each page of the document. Each time the approval holder finds it necessary to revise this document, a revision will be distributed with all new product shipments and be available on our website (www.akbushwheel.com). Upon receipt of the revision, the revised pages should be inserted into this document, the old pages should be discarded and the Record of Revisions page should be completed by the person inserting the revision.

It is the responsibility of the person performing maintenance on the installed system to ensure that this document is current prior to performing this maintenance. The current revision number may be verified by contacting Airframes Alaska, P.O. Box 670989, Chugiak, AK 99567, 907-331-4480, or on our website (www.airframesalaska.com).

Description and Operation:

The wheel is cast aluminum and conforms to FAA TSO-C26d standards. It is a tire-tube type design and manufactured for use with the 29" x 11/10 or 8:50 x 10" tire & tube.

The wheel incorporates inner and outer halves which are fastened together with bolts, washers, and nuts. The brake disc is attached to the wheel by the bolts. The wheel rotates on two tapered roller bearings, which seat in bearing cups in the wheel half hubs. Rubber grease seals provide cleanliness and grease retention for the bearings.

Each ABI-1010 wheel assembly comes complete with the materials needed to replace existing equipment to retrofit one aircraft to Alaskan Bushwheel ABI-1010 Wheel Assembly. Refer to Drawing ABI-1010-00 for parts list.

Description: *Manufacturing & Testing*

ABI aircraft wheel technology includes Computer Aided Design as well as the science of compounds and material applications. Materials and completed products are subjected to a variety of field and dynamometer evaluations to confirm performance and obtain certification.

The manufacturing process requires stringent Quality Control procedures to ensure that all individual components and finished products meet specifications.

TSO Notice:

The existence of TSO approval of the article, displaying the required marking, does not automatically constitute the authority to install and use the article on an airplane. The conditions and tests required for TSO approval of this article are minimum performance standards. It is the responsibility of those desiring to install this article either on or within a specific type or class of airplane to determine that the airplane operating conditions are within the capacity of the article demonstrated in accordance with the TSO standards. The article may be installed only if further evaluation by the user/installer documents an acceptable installation, and the installation is approved by the Administrator.

Additional requirements may be imposed based on airplane specifications, wheel and brake design, and quality control specifications. In-service maintenance, modifications, and use of replacement components must be in compliance with the performance standards of this TSO, as well as any additional specific airplane requirements.

Airworthiness Limitations:

No additional Airworthiness Limitations. The Airworthiness Limitations Section is FAA approved and specifies maintenance required under 14 CFR §§ 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

Maintenance Practices:

Access Panels:

There are no access panels involved in the installation or maintenance of these wheels

WARNING: INSURE AIRCRAFT IS SECURE AND PROPERLY SUPPORTED BEFORE BEGINNING ANY WORK. WORKING UNDER AN IMPROPERLY STABILIZED AIRCRAFT COULD CAUSE INJURY OR DEATH.

- A) Properly raise the aircraft off the ground following the airframe manufacturer's instructions.
- B) Remove the axle nut.
- C) Remove existing main landing gear wheels.

REMOVAL OF MAIN WHEELS.

Correct mounting and demounting of aircraft tires and tubes are essential for maximum safety and economy. It should be done with the proper tools and careful attention to specific instructions and established procedures.

Manufacturer's Instructions

Aircraft wheels made today, for tube –type and tubeless tires, are the split wheel or demountable flange variety. Specific instructions on modern wheels are contained in maintenance manuals available from the aircraft manufacturer or directly from the wheel manufacturer. It is advisable to mount or dismount tires with the specific information contained in these manuals. Also refer to airframe manufacturer's manual on use of incline ramps and/or jacks for maintenance purposes.

Safety Precautions with Wheels

An inflated tire/wheel assembly is a potentially explosive device. Mounting and demounting of aircraft tires is a specialized job that is best done with the correct equipment.

Disassembly:

Refer to the ABI-1010-00 drawing which may be used as a guide during disassembly. (See appendix attachment)

Cleaning, Inspection, and Repair:

Thorough cleaning is important.

Clean and inspect all parts. When inspecting wheels for condition, replace damaged or excessively worn parts, check for corrosion and pitting. Maintain bearings and races as matched sets. A pitted or corroded race or bearing should be replaced.

Installation of Main Landing Wheels.

Mounting

Refer to airframe manufacturer's manual on use of incline ramps and/or jacks for maintenance purposes.

ABI STC's require that Heavy Duty brakes be installed under separate approval.

-Lubricate the Bead area of the tire with a light coat of talc or soapy water.

- Remove the wheel bearings and visually assure that the wheel halves are drawn together evenly and aligned/mated and that none of the rubber on the tube between the tire beads gets pinched between the wheel halves.
- Insert brake disc.
- Insert, evenly tighten, and correctly torque the wheel bolts/nuts/washers as follows;
 - AN5-37A bolts to 150in/lbs.
 - AN4-36A bolts to 90in/lbs.
- Install the short, internal spring valve core provided or its equivalent.
- Use a plastic valve stem extension to inflate your tires if necessary with your particular air pump. **DO NOT LEAVE THE EXTENSION ATTACHED TO THE TIRE.**
- When inflating a tire/wheel assembly, regulate the supply line to a pressure no more than 50 percent higher than the tire service pressure.
- Do not inflate a tire above rated pressure to seat beads.
- Install an airtight cap.
- Re-install wheel bearings and grease seals.
(Pack bearings with an approved aircraft wheel bearing grease (such as: Mobile SHC-100 aviation grease) prior to installation.)
- Avoid pre-loading the wheel bearing when installing the wheel on the aircraft by tightening the axle nut just enough to prevent wheel drag or side play.

Follow aircraft manufacturer's installation instructions for tire/wheel installation onto the aircraft.

Do not forget weight and balance and FAA paperwork requirements.

Weight and Balance Data:

ABI-1010 Wheel Assembly with 164-03601 Brake disc --- 16.8 lbs

TEST SYSTEM

Always stay within the aircraft manufacturer's limits. When your bush wheel installation is complete and inspected, and the brakes are safe, verify the function ability and adequacy of the whole system by conducting ground and air practice/comparison test runs at safe area/altitude at your gross weight. Make note of any operational differences and include these in your flight planning, decision making, and operating techniques.

Wear Limits.

Wheels should be removed when any cracking or corrosion is present.

Inspection Requirements:

Scheduled Inspections and Maintenance Checks:

This section of the document contains information regarding Time Limits- Inspection and Maintenance Checks, Overhaul and Replacement Items and Inspection Requirements.

Time Limits – Inspection and Maintenance Checks:

Note: Recommended inspection/maintenance intervals do not guarantee that the item will function properly between inspection/maintenance checks.

The inspection intervals are based on average usage and environmental conditions.

Aircraft operated under extreme conditions (salt water, muddy terrain, etc) may require more frequent maintenance than the intervals specified in this document. The aircraft operator may perform more frequent inspection/maintenance checks based on his own usage.

The operator should perform the first inspection interval of the Alaskan Bushwheel ABI-1010 wheels installation during pre-flight. Bearings should be inspected and packed during 100 hour and/or annual inspections.

Overhaul and Replacement Items:

There are no scheduled overhaul of replacement item requirements. Maintenance of Alaskan Bushwheel ABI-1010 wheels are “on Condition”.

