

INSTALLATION MANUAL & ICA

ABI-10650 & 10650 LW

Wheel Assembly

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09/22/2021

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Revision History

Revision	Description	Date
	Original Issue	04/04/2007
A	Company Info, added Parts list, updated weight and balance info, maint. / insp. info	07/31/2014
B	Added Revision history table, updated weight and balance data, numbered installation steps, clarified text various locations.	01/26/2016
C	Added light weight 10650 version	09/22/2021

INSTALATION MANUAL FOR ABI-10650 & 10650 LW WHEEL ASSEMBLY

The information provided here addresses the installation of the ABI, LLC. ABI-10650 & 10650 LW Wheel Assemblies. It is provided as a reference for qualified maintenance personnel responsible for the installation of this ABI-10650 & 10650 LW wheel assemblies, manufactured by ABI, LLC. This manual should be passed on to the owner and/ or retained by the maintenance facility for future reference.

Each ABI-10650 & 10650 LW wheel assembly comes complete with materials needed to replace existing equipment to retrofit one aircraft wheel to Alaskan Bushwheel ABI-10650 or ABI-10650 LW Wheel Assemblies. Refer to ABI-10650 Parts list contained on pages 4 and 5.

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.

Wheel Assembly

The ABI-10650 & 10650 LW wheels are made from cast aluminum alloy and conform to FAA TSO-C26d standards. The 10650 LW is a lighter weight version of the original 10650 wheel. The wheels are a tubeless design and approved only for use with the Alaskan Bushwheel 351510.R1 Tire.

The wheel incorporates inner and outer halves which are bolted together. The brake disc is also bolted to the wheels. The wheel rotates on two tapered roller bearings, which seat in bearing cups in the wheel half hubs. Felt grease seals provide cleanliness and grease retention for the bearings.

Mounting

Correct mounting and demounting of the aircraft tire is essential for maximum safety and correct operation. The mounting and demounting process should be done with proper tools and careful attention to specific instructions and established procedures.

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

Safety Precautions and Wheels

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

Installation:

Note: ABI's wheel STCs require that Heavy Duty brakes be installed under a separate approval.

1. Lubricate the bead/core area of the 351510.R1 tire with a light coat of talc or soapy water.
2. Remove the wheel bearings and visually assure the wheel halves are drawn together evenly and aligned/mated and that none of the rubber on the tire core between the tire beads gets pinched between the wheel halves.
3. Insert brake disc.
4. Insert, evenly tighten, and correctly torques the wheel bolts/nuts/washers as follows:
 - AN5: 150 in-lbs.
 - AN4: 90 in-lbs.
5. Install the short, internal spring valve core provided or its equivalent.
6. 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.
7. When inflating a tire/wheel assembly, regulate the supply line to a pressure no more than 50 percent higher than the tire service pressure.
8. Do not inflate a tire above rated pressure to seat beads.
9. Install an airtight cap.
10. Re-install wheel bearings and grease seals.
11. Follow aircraft manufacturers installation instructions for tire/wheel installation onto the aircraft.
12. Update aircraft weight and balance and complete necessary FAA paperwork.

Weight and Balance Data

ABI-10650 Wheel Assembly with 164-03601 Brake disc: 14 Lbs.
ABI-10650 Wheel Assembly with 164-06700AB Brake disc: 13.2 Lbs.
ABI-10650 LW Wheel Assembly with 164-3601 Brake disc: 9.6 Lbs.
ABI-10650 LW Wheel Assembly with 164-06700AB Brake disc: 8.8 Lbs.

Maintenance / Inspection (ICA)

Inspection of mounted wheels should be performed on an annual or 100 hours basis, whichever is sooner. A higher frequency may be necessary if the aircraft is used for off airport operations. Ensure the felt grease seals are impregnated with wheel bearing grease. Proper grease in their felt is critical to keep contaminants out of the inner wheel assembly.

If there is any doubt that the wheel is airworthy or classified as unserviceable, it must not be used until it is properly repaired or inspected by qualified/authorized individuals. Call the factory for assistance with an airworthiness determination if needed.

10650 Wheel Assembly Parts List

<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
ABI-10650-01	Inner Wheel Half	1
ABI-10650-02	Outer Wheel Half	1
13889 or 13889-1.25	Bearing	2
13836	Race	2
ABI-153-00400 or 153-00400	Ring grease seal	2
ABI-154-00300 or 154-00300	Felt grease seal	1
ABI-155-00100 or 155-00100	Snap Ring	2
ABI-153-00300 or 153-00300	Ring grease seal	1
ABI-153-01500 or 153-01500	Ring grease seal	1
ABI-154-01300 or 154-01300	Felt grease seal	1
AN960-416L	Washer	12
AN4-35A	Bolt	6
MS21044-N4	Locknut	6
APS164-06700AB or 164-03601	Brake disc	1
AN5-36A	Bolt	3
AN960-516L	Washer	3
MS21044-N5	Locknut	3

10650 LW Wheel Assembly Parts List

Part Number	Description	Qty.
ABI-10650-01 LW	Light Weight Inner Wheel Half	1
ABI-10650-02 LW	Light Weight Outer Wheel Half	1
13889 or 13889-1.25	Bearing	2
13836	Race	2
ABI-153-00400 or 153-00400	Ring grease seal	2
ABI-154-00300 or 154-00300	Felt grease seal	1
ABI-155-00100 or 155-00100	Snap Ring	2
ABI-153-00300 or 153-00300	Ring grease seal	1
ABI-153-01500 or 153-01500	Ring grease seal	1
ABI-154-01300 or 154-01300	Felt grease seal	1
AN960-416L	Washer	12
AN4-34A	Bolt	6
MS21044-N4	Locknut	6
APS164-06700AB or 164-03601	Brake disc	1
AN5-35A	Bolt	3
AN960-516L	Washer	3
MS21044-N5	Locknut	3