

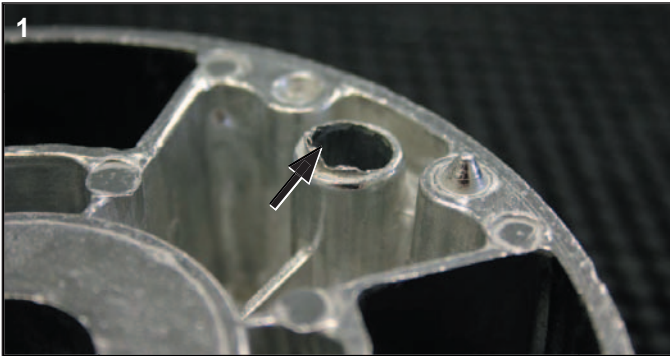
# Wheel and Brake Assembly and Installation

Instruction No. SNX-L01-01  
Reference Drawing SNX-L01  
05/17/06

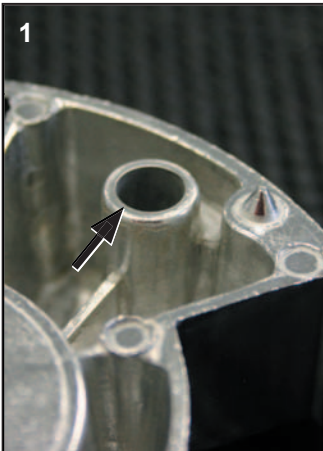
The Azusa wheels and brakes provide outstanding performance at a reasonable cost. We highly recommend following these simple steps to achieve the best performance.

## Preparing the Wheels

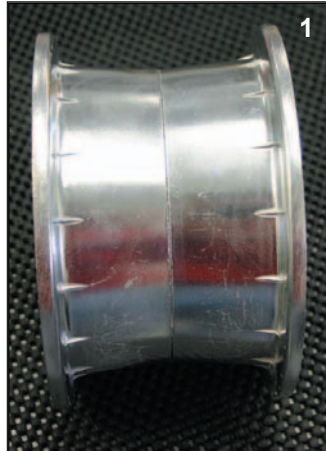
1. The wheel halves must mate together without a gap. If a gap is noted, the likely cause is "flash" on the bolt holes. Remove the flash with a file and/or sandpaper.



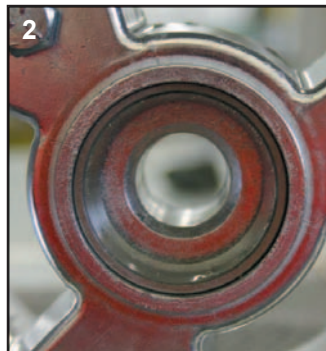
*Above: Flash on the bolt hole will prevent the wheel halves from seating.*



*With the flash removed (left) the wheel halves will seat tightly against each other.*



2. Insert all three bolts through the wheel. The bolts must pass through the wheel halves freely. If interference is noted, or the bolts cause a misalignment of the axle bore, the bolt holes must be redrilled with a  $21/64$ " diameter drill bit.



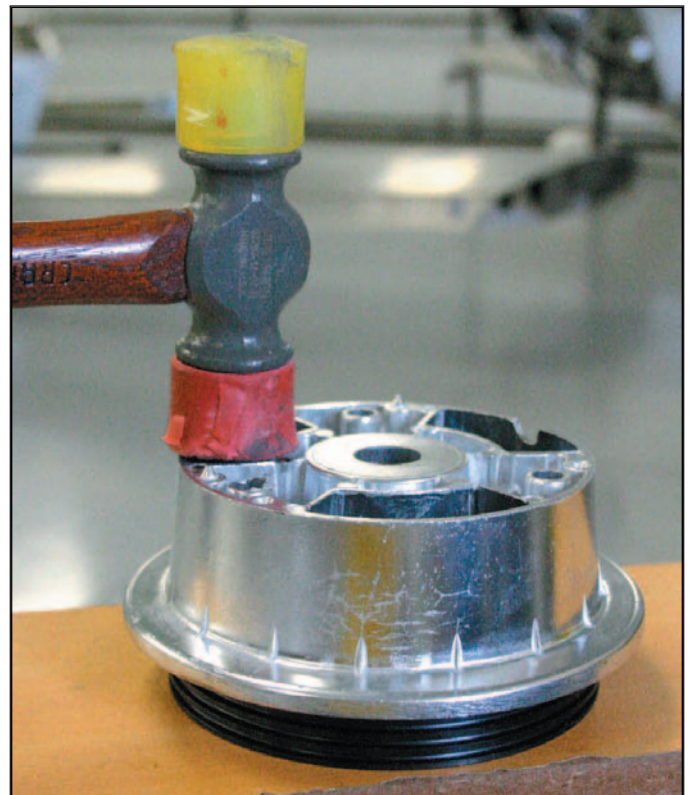
*The axle bore must be smooth. If it is not, the bolt holes need to be enlarged.*

## Preparing the Brake Drums

While functional, the stamped Azusa brake drums are typically out of round. These can be worked by hand for better performance.

We recommend upgrading to AeroConversions' machined steel brake drum, part number ACV-W01-10. These steel brake drums are precision machined and include cooling fins which help prevent brake fade.

Because of variations in the cast wheels, the brake drums do not always fit flush against the face of the wheels. Placing the drum on a flat table and tapping the wheel onto the drum with a mallet will seat the drum squarely in the wheel.



*The optional machined brake drums can be easily seated in the wheels with a few gentle strikes with a mallet.*

The wheels should be test-assembled once again to check for interference-free insertion of the bolts. If the bolts do not pass freely through the wheel/brake drum combination, the bolt holes in the brake drums can be updrilled with a  $23/64$ " or letter "T" drill.

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## Assembling the Wheels

After the wheels and brake drum have been prepared the wheels can be assembled with the tires and tubes.

### Assembly Tips:

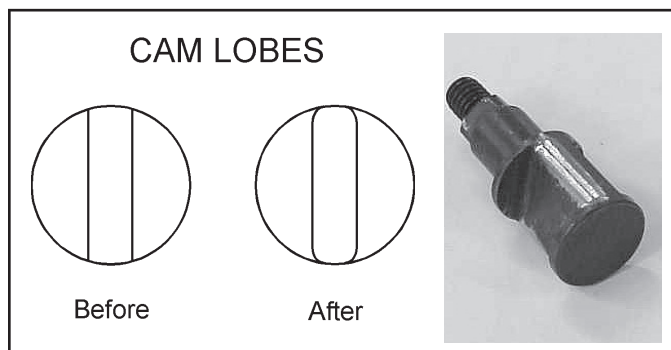
- Dust the inside of the tire and the outside of the tube with baby powder.
- Install the wheel assembly bolts with the heads against the brake drums and the nuts on the outside of the wheel.
- Before tightening the bolts, make sure the axle bore is in proper alignment. If a "step" is noted between the wheel halves, adjust the alignment of the wheel halves and/or redrill the bolt holes so proper alignment can be achieved.
- Slightly inflate the inner tube and then release the air. This helps get twists out of the tube before they become creases which may lead to tube failure.
- Inflate the tubes to approximately 50 psi. 30 psi provides a bit more "cushion" but increases rolling drag and may cause a pinched tube if flying off a hard surface runway.
- Grease and install the wheel bearings. Use a high-quality bearing grease. **Do not** use white lithium grease.

## Brake Cam Modification

This simple modification provides smoother brake application.

**Warning. Always wear safety glasses when working on the brake shoes and backing plates. The shoes are held in place with spring tension.**

- Remove the brake pads from the backing plate
- Remove the brake actuating cam from the backing plate.
- Round all four corners of the cam with a file. Be sure to round all corners uniformly.



*Round the cam lobes to achieve smooth brake application.*

- Re-install the actuating cam.
- Lightly grease the lobes of the cam and re-install the brake shoes.

## Installing the Brake Backing Plate

Smooth brake operation depends on the brake backing plate being mounted perpendicular to the axle. This is easy to check by placing a small draftsman's triangle against the axle in the 12:00 and 3:00 O'clock positions, and the striking the backing plate with a mallet to square it to the axle.

## Installing the Wheels on the Axles

When the wheel is slid onto the axle, the brake drum *will not* cover the brake backing plate. The brake drum will cover the brake shoes, leaving a space between the backing plate and the brake drum.



*The brake drums are not supposed to cover the brake backing plate.*

The axle nut should be tightened against the wheel snugly to seat the bearings, and then backed off until the wheel turns freely, but without any sign of looseness on the axle.

Drill a 5/32" diameter hole through the axle for an axle-nut cotter pin.