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NATIONAL RADIO ASTRONOMY OBSERVATORY

Socorro, New Mexico

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VLBA Antenna Memo 97  
VLBA Pie Town Wheel Replacement (8/2016)

**Team members:**

Kelly Greene, Dominic Zamora, Jason Romero, Ed Soto, Shane Baca, Michael Romero

Work Dates: 8/29-8/30

Drive wheel #1 had an axel failure and was temporarily fixed by installing the Saint Croix wheel assembly.

While removing the wheel, the outer pillow block separated from the wheel assembly, exposing the broken axel. Figure 1 details the wheel and broken axel.



The SC wheel assembly had the axel cut at the VLA prior to arriving at Pie Town. After the new wheel was placed, we noticed the axel was cut at an angle. This angle did not allow the dial indicator to be placed in the traditional location. We were able to modify the measuring technique and move the dial indicator to the front of the gear coupling. Once this was figured out, the remaining wheel alignment and adjustments went smooth. There were no real problems or red flags with the installation. We slewed the antenna for approx. 20 minutes before handing it off to operations for pointing tests.

**Site Techs:**

Day 1: Ed M. did not seem too interested in the work we were performing and left by noon.

Day 2: Mark was very helpful and stayed outside and helped with the wheel change, switching motors and driving antenna.

Horizontal Runout: .002"

Vertical Runout: .005"

Horizontal Theodolite error: .003°

Vertical Theodolite error: .004°

Conical Radius: 300.56"

Wheel Overhang: .75"