

National Radio Astronomy Observatory
Socorro, New Mexico
VLBA Antenna Memo #77

Kitt Peak, Arizona VLBA Maintenance Visit April 27- May 7, 2009.
Team members consisted of Mike Burgert, Eric Carlowe, Ramon Gutierrez,
Ken Lakies and Phillip Sanchez. VLBA Site Technicians Ray McFarlin
and Duane Clark assisted in all areas of antenna maintenance.

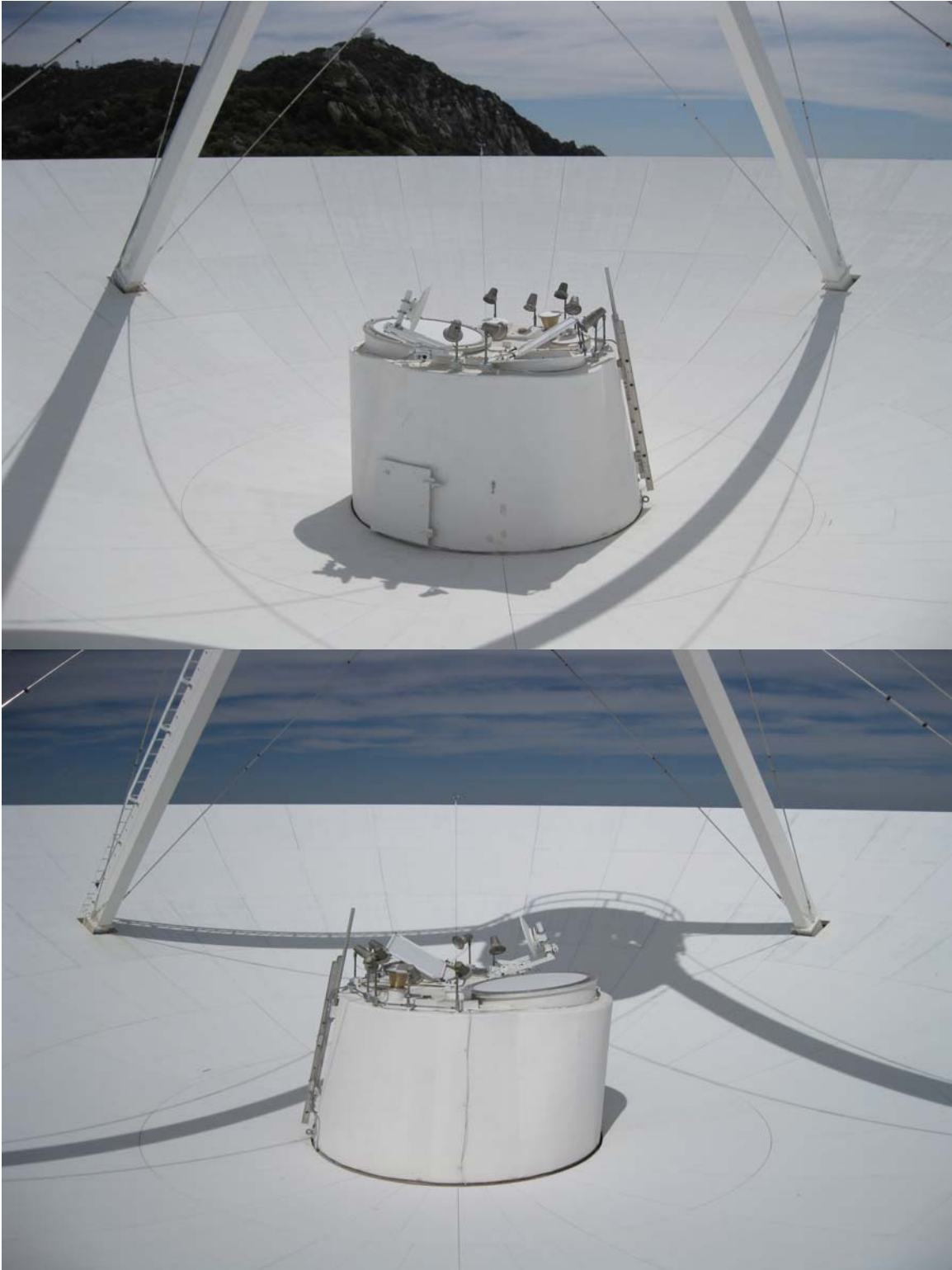




FRM was given a thorough inspection and the focus flex shaft was replaced.



Sub reflector is in good condition. The Di-Pole antenna was removed and sent to Socorro for refurbishing.



Dish panels are in good condition. The feed cone's elastomeric paint job is holding up well. The feed cone was sealed and painted during the 2003 maintenance trip.



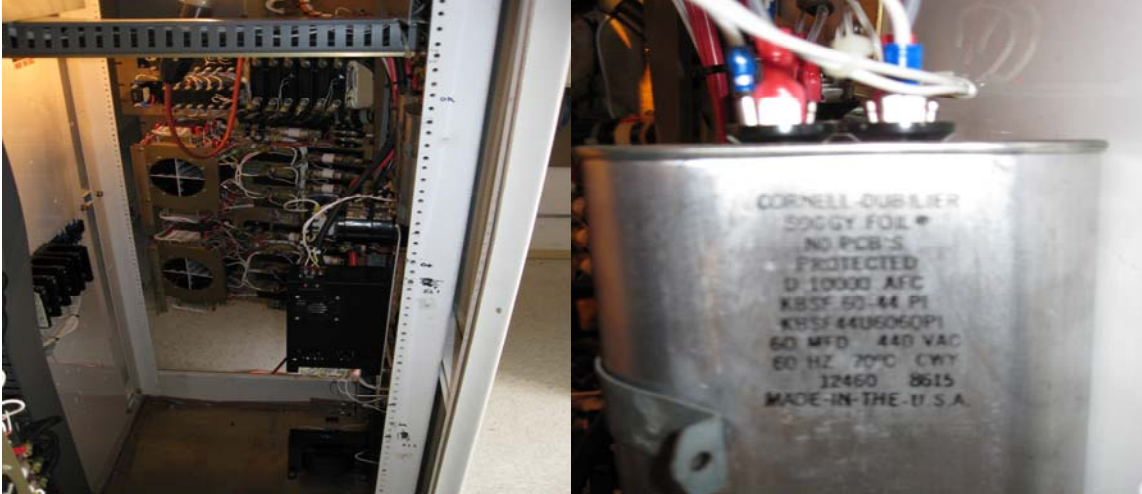
The Dichroic reflector is in good condition. The Ellipsoid reflector is in good condition. Ellipsoid actuator operates correctly.



Azimuth #1 blower motor and spider coupling was replaced. Elevation # 2 motor was replaced.



The new IF cable wrap is in good condition. The ped room Marv Air, air condition compressor failed. It was removed and brought back to the VLA for repair.



The servo drive cabinet power supply upgrade was completed by the site technicians. A drive cabinet 440v 60uf cap was leaking and was replaced.



Both Elevation cable wraps are in good condition.

AZIMUTH BEARING GREASE INSPECTION

	INNER BEARING	OUTER BEARING
D1	New Wheel.	New Wheel.
D2	Few small metal flakes.	Good, no metal.
I1	Good, no metal.	Few small metal flakes.
I2	Good, no metal.	Good, no metal.

All bearings are very well lubricated.

ELEVATION BEARING GREASE INSPECTION

Encoder	Good grease with no metal flakes.
Synchro	Good grease with no metal flakes.
All bearings are very well lubricated.	

Pintle bearing is well lubricated with no metal flakes.



Elevation axle has no visible signs of cracks. Paint is in good condition.



The feed heaters and FE windows are in good condition. Apex paint is in good condition.



Antenna backup structure is in good condition. Paint is in good condition.

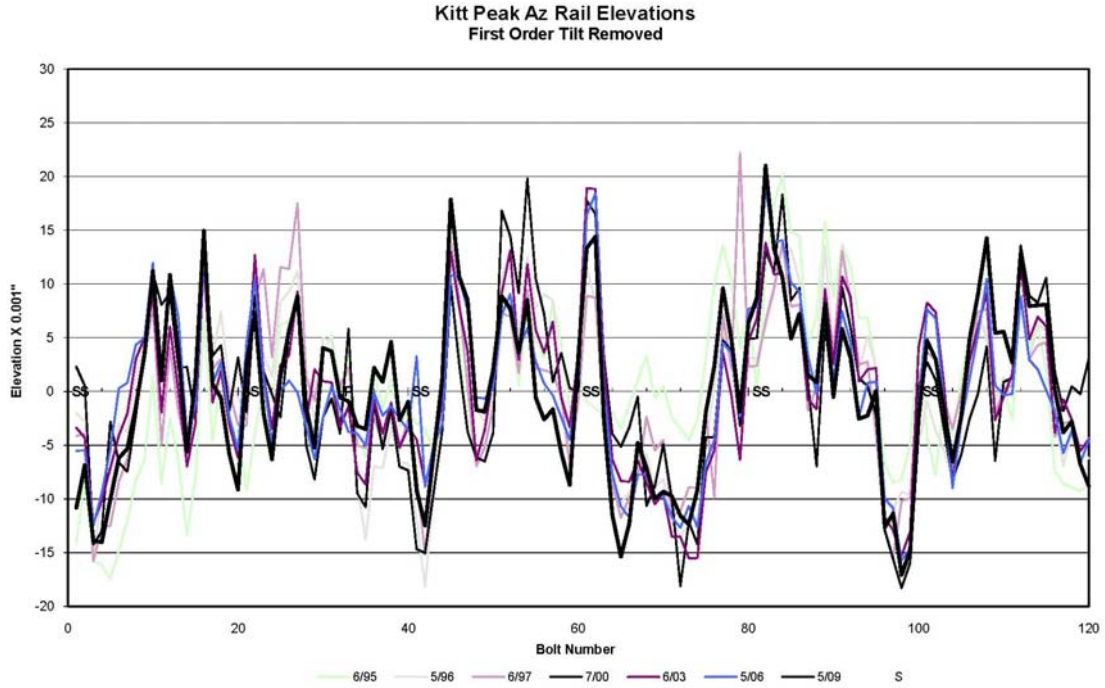


Azimuth #1 Wheel assembly was replaced. The new drive wheel assembly rotated smoothly without any popping or grinding noises.

	MEASURED	SPECIFIED
Conic Radius	300.218	300.00 +/- .25
Coupling Runout	.004	<.005
Vertical	93.433	93.440 +/- .023
Horizontal	.003	<.023



Kitt Peaks rail is in good condition. Sites Techs succeeded in removing all of the vulchem.



Kitt Peaks Rail Elevations.