

National Radio Astronomy Observatory
Socorro, New Mexico
VLBA Antenna Memo #80

Hancock NH, VLBA Maintenance Visit February 8-20 2010. Team members consisted of Eric Carlowe, Ramon Gutierrez, Martin Lopez, Ken Lakies, Ray McFarlin and Tommy Montoya. VLBA Site Technicians Tom Baldwin and Don Haenichen assisted in all areas of antenna maintenance throughout the visit.





The Sub Reflector is in good condition.





Paint is deteriorating on a few dish panels. All dish panels are stained with mold.



Simple Green cleaner is very effective removing mold off the dish panels.



The Dichroic reflector was replaced. The Ellipsoid reflector needed realignment. Ellipsoid actuator operates correctly and is good condition.



Azimuth #2 motor and Elevation # 1 motor were replaced.



The FRM was given thorough inspection and the focus flex shaft was replaced. FRM is very well lubricated.



A grease inspection of the synchro and encoder elevation bearings revealed small brass and steel particles in both bearings



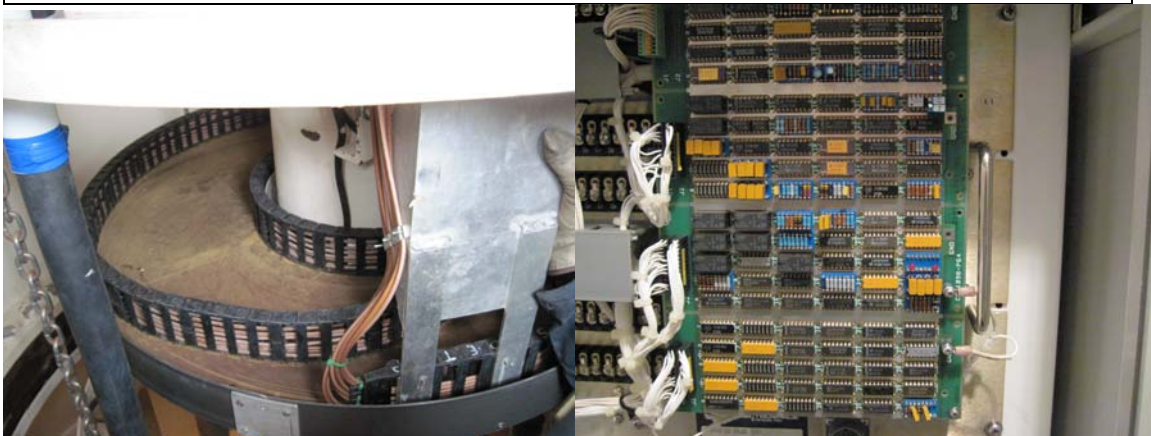
No Azimuth idler wheel bearings needed replacement.

AZIMUTH BEARING GREASE INSPECTION

	INNER BEARING	OUTER BEARING
D1	New Wheel.	New Wheel.
D2	New Wheel.	New Wheel.
I1	Good, no metal.	Good, no metal.
I2	Good, no metal.	Good, no metal
All bearings are very well lubricated.		

ELEVATION BEARING GREASE INSPECTION

Encoder	Good grease with a few metal flakes.
Synchro	Good grease with a few metal flakes.
All bearings are very well lubricated.	
Pintle is very well lubricated. Grease revealed no signs of metal.	



Cable wrap is in good condition. Reverse preload modification was installed.



Elevation axle has no visible signs of cracks. Paint is in poor condition with lots of surface rust eating through it.



Feed cone feed heaters and FE windows are in good condition.



Antenna backup structure is in good condition. Paint is in fair condition with lots of surface rust.



The antenna pedestal room roof has deteriorated so much that the site technicians attached a tarp to keep moisture from leaking into the Servo and FRM electronics. This roof needs replaced ASAP.



Antenna paint condition is fair to poor, with allot of surface rust.

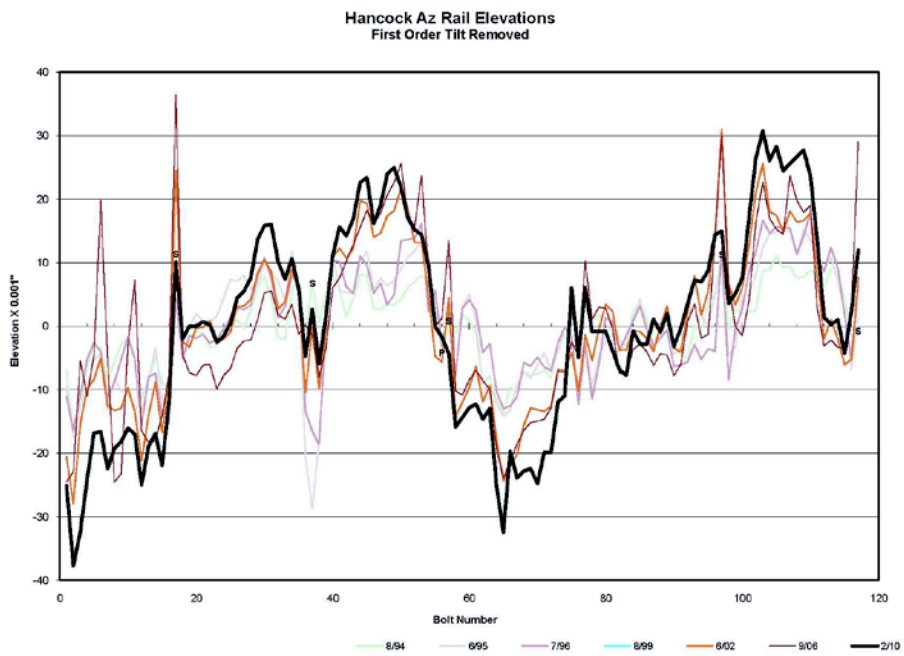


Azimuth #2 Drive Wheel assembly was replaced. The new drive wheel assembly rotated smoothly without any popping or grinding noises.

	MEASURED	SPECIFIED
Conic Radius	300.260	300.00 +/- .25
Coupling Runout	.001	<.005
Vertical	93.458	93.440 +/- .023
Horizontal	.020	<.023



The last 180 degrees of rail is scheduled to be repaired in July 2010.



Hancock Rail Elevations.