

National Radio Astronomy Observatory
Socorro, New Mexico

VLBA Antenna Memo #60

Los Alamos, NM. VLBA Maintenance Visit July 28th – August 3rd 2005.

Team members consisted of Steve Aragon, Eric Carlowe, Kelly Greene, Ken Lakies and Bob McGoldrick. VLBA Site Technicians Paul Johnson and Gene Dunn assisted in all areas of maintenance during the visit.





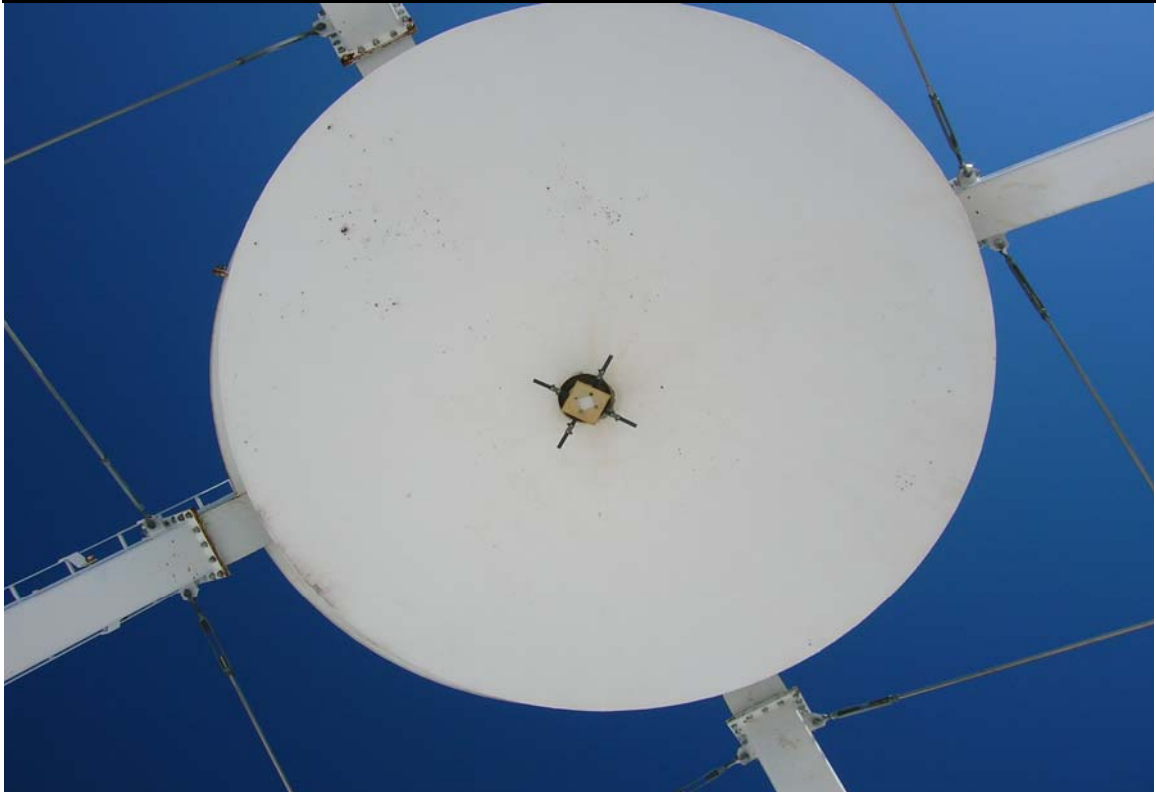
FRM was given a thorough inspection. A focus flex shaft was replaced and the new encoder coupling modification was installed. Both, 1st and 2nd screw bellows were replaced. Two bellows access holes were drilled in the mount.

FRM INA BEARING CHECK 50LBS PULL ON EAST MOTOR

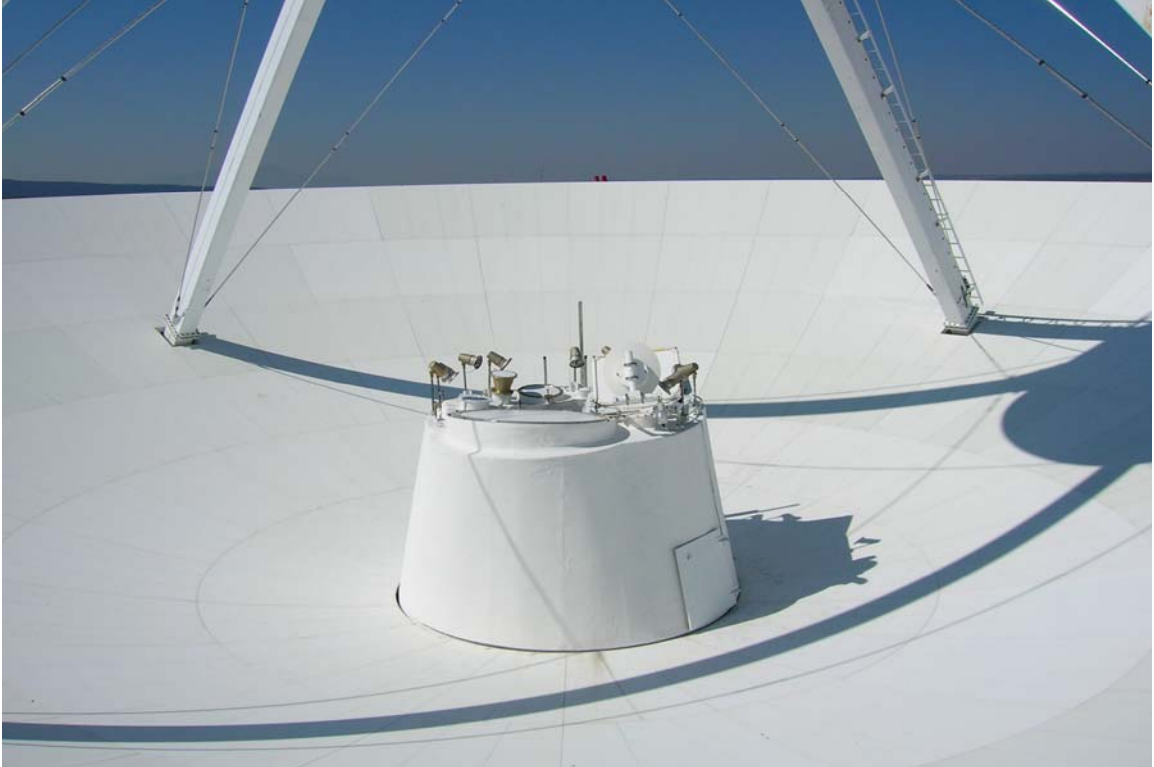
East Travel:	+ .0005	West Travel:	- .0005
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FRM INA BEARING CHECK 50LBS PULL ON WEST MOTOR

East Travel:	- .001	West Travel:	+ .001
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Sub reflector is in good condition. Three 1 inch holes were drilled in the center of the reflector for extra drainage. The snow tarp was removed.



Dish panels, and the dish panels paint are in good condition. Guy wires are in good condition. Feed cone was spot sealed and painted with elastomeric.



Dichroic reflector is good condition. Elipsoid reflector is in good condition.



Elevation #2 and azimuth #1 motors were replaced. Digital tachometers were installed and calibrated on the azimuth and elevation motors.



Both the encoder and synchro side elevation cable wraps were repaired by repositioning and replacing strain relief brackets. Both sides elevation ground cables were replaced.



The ACU backplane upgrade was installed and tested. The ACU power supply modification had been previously installed by Paul Johnson.



Azimuth wheel bearings were inspected. Azimuth #2 gear box seal was replaced with a double seal setup.

AZIMUTH BEARING GREASE INSPECTION

	INNER BEARING	OUTER BEARING
D1	New drive wheel.	New drive wheel.
D2	New drive wheel.	New drive wheel.
I1	OK	OK
I2	A few flakes.	OK
All bearings were very well lubricated.		

ELEVATION BEARING GREASE INSPECTION

Encoder	Good grease with no metal flakes.
Synchro	Good grease with no metal flakes.
Excess grease was removed from the encoder side bearing.	

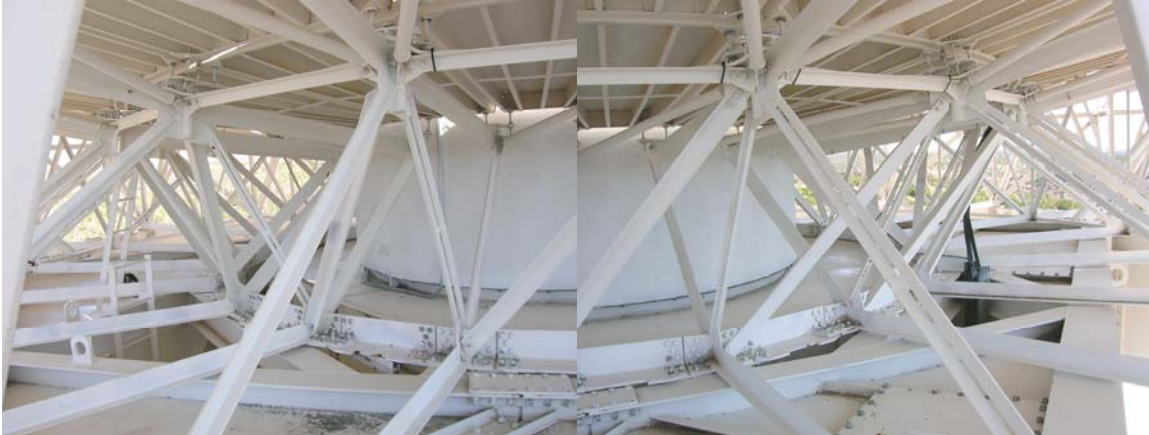
Pintle bearing is well lubricated with no metal flakes.



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



Feed windows & heaters are in good condition. Apex paint is in good shape.



Backup structure paint is in good condition.



A new HVAC platform extension was installed. Maintenance performed on the vertex room compressor/condenser can now be completed safely.



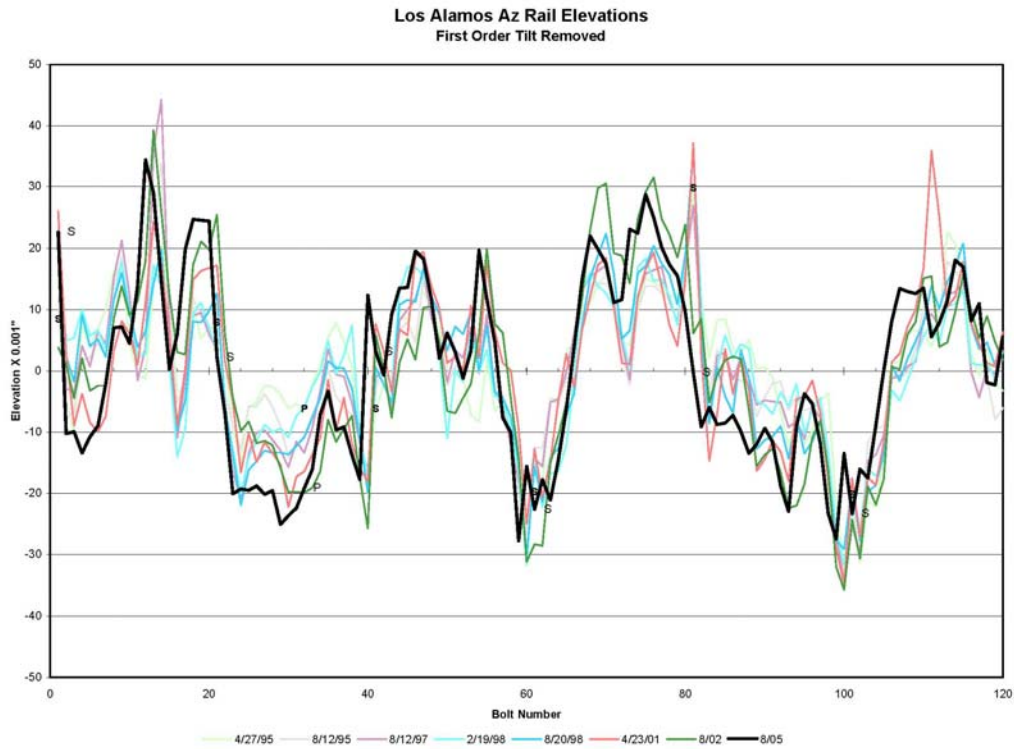
The vertex room door was replaced.



Overall the paint on the Los Alamos antenna is in good condition. Notice the drain holes drilled in the Quad Legs.



Rail is in good condition. Site techs will remove remaining vulchem.



Los Alamos antenna rail elevations.

ACTION ITEMS:

1. Repair, (band) antenna leg insulation.
2. Replace azimuth #2 motor with a sealed bearing motor.
3. Tie wrap loose cables on the elevation knuckle cable tray.
4. Replace 6cm FE.
5. (FRM) single rotation motor retrofit.

A team consisting of Steve Aragon, Eric Carlowe, and Kelly Greene returned to the Los Alamos antenna on August 16th and 17th. With the help of Paul Johnson and Gene Dunn all action items 1 thru 5 were completed.