

APEX INSPECION:

FRM 2-YEAR INSPECTION PM. Done, Flex shaft replaced.

Install INA zirks. Done.

CHECK TUBE BALANCE. Done, Ok.

INA bearing CW/CCW pull test. 18lbs. both directions.

FRM INA BEARING CHECK 50 LBS PULL ON EAST MOTOR

East Travel: +.001

West Travel: -.001

FRM INA BEARING CHECK 50 LBS PULL ON WEST MOTOR

East Travel: +.001

West Travel: -.001

SUBREFLECTOR INSPECTION:

Mounting Hardware. All OK.

Dipole. Good shape, cables too.

Peeling paint/delaminating. Badly stained.

Drill 3-inch drain holes. Done.

QUAD LEGS INSPECTION:

Guy wires. OK.

Turn buckles. OK.

Quad leg flange bolts. All tight.

PATCH QUAD LEGS AS NEEDED. Patched one leg, East Down.

DISH INSPECTION:

Anemometer mounts/operation. Both operate OK.

Panel surfaces. OK, badly stained.

Spot check panel bolts. Done, all checked OK.

FEED CONE INSPECTION:

Feed cone surface/insulation. In great condition.

FE feed windows. OK.

FE feed mounting hardware. All OK.

FE feed heaters. Hardware OK.

Dichroic reflector cracking/delaminating. (NOP#61EA) In very good condition.

Ellipsoid dish/mount. Good.

FC hatch latches replace as needed. OK.

ELEVATION BEARING/AXLE INSPECTION:

EL. Grease inspection/Encoder side	Good, with no metal.
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EL. Grease inspection/DGB side	Good, with no metal
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Remove excess grease from encoder side bearing. Done

Grease elevation bearings. Done, Grease rays needed to be emptied.

Check elevation axle for cracks. OK, with no cracks.

Listen for popping or grinding. OK, no noise.

ELEVATION BULL/PINION GEAR INSPECTION:

Bull gear. Ok, well lubricated.

Bull gear welds/hardware. OK.

Pinion gears. OK, Well lubricated.

Lube bull/pinion gears as needed. OK, well lubricated.

Check stow pin. Safety pin was missing! Installed new stow pin.

ELEVATION GEARBOX INSPECTION:

Elevation #1 seals/coupling. No leaks, spider in good condition.

Elevation #2 seals/coupling. No leaks, spider in good condition.

Lube pumps/seals/couplings. OK, no leaks.

Flow gauges/fish eyes. All cleaned.

Change gearbox oil. Both gearboxes done.

Listen for popping or grinding. Ok, no noise.

ELEVATION PLATFORM INSPECTION:

Swinging catwalk. OK, Needs safety paint.

Hoist. OK.

Install VTX HVAC platform. Completed.

ANTENNA STRUCTURAL INSPECTION:

Spot-check structural bolts. OK, Tight.

VTX walk way. OK, surface rust.

Antenna structural welds. OK.

Antenna backup/lower structure. OK.

AZIMUTH BEARING/GREASE INSPECTION

	INNER	OUTER
D1	Good grease, no metal.	Good grease, no metal.
D2	New Wheel.	New Wheel.
I1	Good grease, no metal.	Good grease, no metal.
I2	Good grease, no metal.	Good grease, no metal.

All bearings are well lubricated. Grease pans need cleaned more often.

AZIMUTH WHEEL INSPECTIONS:

Wheel to structure clearances. OK, good clearance.
Listen for popping or grinding. No popping or grinding detected.

AZIMUTH WHEEL RADIUS/ALIGNMENT

Measured	Specified	D1	D2
Horizontal	0.00.00 (<1'24")		
Vertical	93.26.23(+/-1'24")		
Radius	300.000" (+/- .25")		

AZIMUTH GEARBOX INSPECTION:

Azimuth #1 seals/coupling. OK, no leaks.
Azimuth #2 seals/coupling. OK, no leaks.
Lube pumps/seals/couplings. OK, AZ lube pump coupling bad. (Replaced). Lube pump sent.
Flow gauges/fish eyes. Removed and cleaned.
Change gearbox oil. Completed.
Listen for popping or grinding. None Detected.

PINTLE BEARING INSPECTION:

Cable wrap & cables. OK.
Check for loose bolts. Loose cam follower, (tightened).
Check bearing grease. Well lubricated with no metal.

AZIMUTH RAIL INSPECTION:

Rail level measurements. Done.

Excessive rail movement. None.

Joint bars and clips. Tightened.

Antenna foundation/grout/vulchem. Bolt #'s 61 and 65 pockets will need attention.

Re-torque rail splice plates as needed. Tightened all splices.

Repair Rail Joint. Pocket #'s 21 and 25, 41 and 45 done.

ANTENNA PAINT/INSULATION INSPECTION:

Antenna paint condition. Overall, in FAIR to POOR condition.

Repair antenna insulation as needed. All OK.

MECHANICAL MAINTENANCE ITEMS TO BE COMPLETED:

1. Replace tie wraps w/metal as needed. Done, As needed.

ANTENNA MECHANICS NOTES:

Broke out 4 rail pockets, Bolt #'s 21, 25, 41 and 45. All regouted.

Grout is going bad @ Bolt #'s 61 and 65.

Spot painted around antenna. Used 1qt. rust bullet and 1qt. paint.

Recommend water blasting antenna and spot painting.

ANTENNA SERVO MAINTENANCE NLVLBA 9/20-27/05

ANTENNA SAFETY TESTS:

Ped Room Electrical Panel Inspection. All TB's tightenend—Non Crit. Panel relabeled.
Drive Cabinet Inspection, (**TURN OF LOGIC POWER**). All TB's tightened.
Check voltage/phase detectors & Timers for MAX settings. All settings are correct.

BRAKE HOLDING-TORQUE TESTS (FT-LBS)

AZ #1	64lbs.	Installed new blower air box.
AZ #2	90lbs.	“ “ “ “ “
EL #1	88lbs.	“ “ “ “ “
EL #2	70lbs.	“ “ “ “ “

MOTOR & GEARBOX INSPECTIONS:

Elevation motor/tach couplings. New tachs and couplings installed and tested.
Elevation brushes/commutator. Good—cleaned commutators.
Azimuth motor/tach couplings. New tachs and couplings installed and tested.
Azimuth brushes/commutator. AZ1 good, Replaced AZ2 brushes.
Test and inspect Gearbox heaters (32deg.F). All good, Replaced EL1 Heater.
Replace EL & AZ motor air boxes. All done.

ANTENNA GROUNDING INSPECTION:

Elevation ground cable. Both replaced.
Elevation platform to pintle turret. Good and tight.
Pedestal room. All panels OK/tight.
Azimuth wheel contacts. All good.
Pintle room/cable wrap. Good—retied with ss tie wraps.
Apex/Dish lightning rods. All good.

SERVO RECORDINGS:

Elevation response test. Done/OK.
Azimuth response test. Done/OK.
Elevation position loop test. Done, <100mVdc diff. 30deg. @60sec.
Azimuth position loop test. Done, <100mVdc diff. 90deg. @65sec.
AZ & EL tachometer timing/differential voltage.

ACU AUTO MODE TESTS:

System axis faults. OK.
AZ/EL motor fault status. All good
Stow commands. All work.
Synchro position feedback. Good.
VME to ACU communication/Restore ACU parameters. Done.

ANTENNA LIMIT SWITCHES:

Elevation UP/Down 1st, 2nd and final. All Check good.
Azimuth CW/CCW 1st, 2nd and final. All check good.
Antenna stow pin and interlock. Checked good.

SERVO MAINTENANCE ITEMS TO BE COMPLETED:

1. **Install digital tachs on both axis.** Completed and tested.
2. **Install new ACU backplane.** Done, 1st board didn't work.
3. **Install new blower motor air boxes.** Completed.
4. Replace EL & AZ motors if needed? Not necessary.
5. Replace Tie wraps w/metal as needed. Done as needed.
6. **Install AC outlets above AZ motors.** Completed and tested.

SERVO TECHNICIAN NOTES:

Ped room fire alarm battery's were dead. (replaced).

Removed excessive grease from EL encoder. Grease leaking into encoder.

EL #1 gear box heater was replaced.

APEX FRM INSPECTION:

FRM cable/j-box condition. (Check TB's for loose connections). Done, OK.
FRM motor/encoder. Done-coupling on good condition.
90/50cm FE/dipole/cables. Good condition.
Replace tie-wraps w/metal as needed. Done as needed.

FEEDCONE INSIDE/OUTSIDE INSPECTION:

Ellipsoid operation. Good condition, Needs painted.(painted with rust bullet).
Feed heater operation. OK, All work.
All FE cables. Neat and orderly.
CRYO systems. All OK.
FE dry air. All OK, 3mm FE pinched off.
Replace tie-wraps as needed. Done.

VTX ROOM IN/OUT INSPECTION:

IF/PWR cable/connector blkhd. Cables and baulk head OK.
Power blkhd/rfi filters. All looks OK.
A/B racks/cables. Neat and orderly.

ANTENNA CABLE INSPECTION:

Elevation cable wraps. Repaired, New strain relief added by antenna mechanics.
All cable trays. Trays in good shape. Ties added as needed.
Elevation platform. Cable OK, Tie wraps added as needed.
Replace tie-wraps with metal as needed. Done as needed.

PINTLE BEARING INSPECTION:

Cable wrap/blkhd. OK, looks good.
IF Cable Wrap. (Clock Spring operation). Operates correctly, in good condition.
Cable strain relief. All look OK, added a few tie wraps.

PEDESTAL ROOM INSPECTION:

ACU/FRM/Encoder logic on UPS. All on UPS.
UPS operation/by-pass switch. Operate correctly.
Breakers labeled correctly. UPS sub panel relabeled.
Dry air compressor. (Run time <25%) 50%, new Gast compressor.
Marv Air operation. Weak air flow, backup AC installed and works good.

STATION BUILDING INSPECTIONS:

ROOM 100:

UPS operation (Best or Liebert 20 min battery test). Tested OK, 24min run=105min runtime.

Electrical panels. Done, some relabeled.

Onan x/switch test generator. Test OK.

ROOM 102:

Contempo 1&2 operation/inspection. OK, Both operated correctly.

ROOM 103:

VME/comm rack. Cables neat and orderly.

Electrical Panels. Done, labeled correctly.

Recorders 1&2. OK, Hookup mark V and tested.

Fire alarm operation. Battery's dead. (replaced).

Chatter box/phone operation. Battery dead. (replaced).

Under floor cables/bulk head. Repaired GPS interface cable.

ROOM 104:

Maser/C&D rack. OK

Under floor cables/bulk hd. OK.

Electrical Panels. Done, tightened all electrical connections.

WEATHER STATION INSPECTION:

Check operation/test alarms. Done, Ok.

Cabinet/tower. Done, OK added a few SS tie wraps.

SITE GROUNDS & STATION INSPECTION:

Check generator. (Battery, Leaks, Run Time). Done, No radiator leaks.

Contempo condensers. Good condition.

Station building. (Roof & Eve's) Good condition. Camera needs secured to side of building.

Fence/gate/signs/grounds/storage. A few signs on antenna foundation need replaced.

ELECTRONIC MANTENANCE ITEMS TO BE COMPLETED:

1. Install FRM focus motor encoder/coupling. Done.

2. Install ACU Backplane upgrade. Completed and tested. 1st board failed.

3. Single motor rotation. (FRM PATCH). Done, and tested—east motor removed.

4. Install digital tachs on both axis. Completed and tested.

5. Install new PED room AC. (Done By site techs).

6.

7. Replace Tie wraps with metal as needed. Done as needed.

8. Check FRM servo amp contactors for auto reset/FRM on UPS.. All on auto reset.

FINAL ANTENNA/SITE INSPECTIONS:

Spot-check PM's Done.

Any TT oversights. AZ # 1 lube pumps needs replaced.

Site cleanup. Done.

Review TT list/problems with site techs. Done, Left punch list with site techs.

VLBA operations startup tests. Got antenna back array on 9/25.

ELECTRONIC TECHNICIAN NOTES:

Station building fire battery's dead. (Replaced).

Web cam cable needs secured to the side of the control building.

Mark V installed and tested.