

GBT Systems Report on Project Coordination for July 2000
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COMSAT completed the alignment of the Receiver Room. The room is being welded in place. Approximately 290 welded joints on the structure have been identified as high stress points. The welds at splice plates in these joints are being re-ground to produce a more "stress-friendly" shape in the weld. Ray Wright, the servo technician with PCD, has been on site to initiate the servo checkout. Servo work has started on the subreflector drive cabinet and the setting of drive limits on subreflector actuators.

COMSAT and NRAO investigated the cause of a pinging noise that occurs at the azimuth wheels when the telescope is rotated in azimuth. The noise seems to originate in the wheel bearings. An inspection of the bearings in wheel number 9 revealed a significant amount of rust on the bearing rollers. The rust is attributed to water leaking through the bearing seal and mixing with a molybdenum disulfide additive in the grease to produce sulfuric acid, which initiates the rust. COMSAT will likely inspect all bearings to determine the extent of the rust problem. The pinging noise and rust are thought to be unrelated. Currently, there is no consensus on what causes the noise.

The optical fiber cable that carries various signals between the GBT Receiver Room and the Jansky lab was installed in late June. A large fraction of the optical fibers in this cable will be terminated in the Servo Room. The installation of connectors on the multimode fibers in the Servo Room was completed on July 18. The single mode fibers in the room still need to be spliced. Connectors are now being installed on the multimode fibers in the Receiver Room. A separate cable services the prime focus area, and connectors have been installed on the multimode fibers in it.

Telescope operators started the installation of the surface retroreflectors on July 26. They are also removing the old photogrammetry targets from the surface panels as they install the retroreflectors.

The reinforcement of the ladder that services one of the lower feed arm lasers was completed on July 28. Fall protection was also installed on the ladder. The ladder reinforcement will also support the conduit and cable tray that are routed to the laser. COMSAT will install the conduit and cable tray, and NRAO will install the appropriate wiring as part of telescope outfitting.

The machine shop fabricated the mounts for the triplet assemblies. The mounts are now being painted. The plates which support the retroreflectors within the triplet assemblies are being fabricated. The mechanical assembly of the triplets should be complete in mid-August. A trial fit of the prototype triplet assembly will be made on the telescope in early August. A prototype mount for the feed arm lasers was also fabricated in the shop.

On July 25, telescope mechanics installed the actuator control panels in one of the four bays in the Actuator Control Room. Each bay supports 13 panels. Connecting actuator cables to the panels will begin in mid-August when manpower becomes available.

Approximately 61 of the 680 actuators cables that failed an insulation resistance test due to wet connectors are still not dry. There is some evidence that water in the connector has wicked into the cable. NRAO made a recommendation to COMSAT that the connectors on these cables be replaced. "Pigtails" consisting of a connector and about 15 feet of actuator cable can be made in the lab. A pigtail would then be spliced into the appropriate cable on the structure.

The molds and tooling that were used to fabricate the GBT surface panels were shipped from Sterling, VA to Green Bank. The molds and tooling are stored in one of the "cable barns" near the 85-2 telescope.

The rerouting of the road around the GBT site was completed during the first week of July.