

## ASH-DOME MAINTENANCE - OPERATING INSTRUCTIONS page 1

With regular maintenance your new **Ash-Dome** should provide many years of service. The following general information also attempts to provide you with basic dome operations.

- 1) When your Ash-Dome is not being used it is suggested you keep the shutters turned into the prevailing winds. This practice minimizes the possibility of blowing dust, fine snow or driving rain from entering the dome.
- 2) Should your observatory be located over or near a heated area it is recommended the observing area be vented to keep the temperature ambient with the outside air. This will greatly reduce condensation from forming inside the dome or on the telescope.
- 3) The Ash-Dome is a positive rack and gear drive system in the shutter and azimuth drives. These require attention and it suggested a regular maintenance schedule be followed.
- 4) Apply a good grade of all weather grease to the shutter drive gear teeth and the worm gear. (This can be done BI annually)
- 5) The edges of the shutter drive track should also be greased to minimize wear over years. (This can be done BI annually)
- 6) The Neoprene Weather Seals along each side of the dome aperture, around the azimuth rollers and across the front and back of the shutter should be sprayed with a dry silicone to extend the life of the material. (This can be done BI annually)
- 7) The oil levels in the azimuth drive and upper shutter drive gear boxes are filled with: Klubersynth UH16-460. If you do not see any oil leaking it is not necessary to change this oil.
- 8) The MEBH Ash-Dome uses a hydraulic pump to operate the lower dropout shutter. The reservoir on the pump should be at least 3/4 full and should be checked regularly. Refill to 3/4 using any all temperature hydraulic oil. Mobil DTE 24 or equal: see pump manual (This can be done BI annually)
- 9) The Model 'M' Ash-Dome rotates on steel tires with sealed roller bearings. The area between the tire and the dome track should be greased. (This can be done BI annually)
- 10) The Model 'R' Ash-Dome rotates on steel tires with open bearing rollers. These should be lubricated with alight spray oil. (This can be done BI annually.)
- 11) The azimuth drive on Model 'R' Ash-Domes may require adjustment over time. The azimuth drive gear may need to be pressed down further into the drive track. This is done using the wing nut in the motor mounting bracket. The azimuth drive system should be adjusted so the gear engages the azimuth drive track just pressing against the track. The azimuth drive motor mount is spring-loaded and the drive gears more or less floats along in the drive track. Over tightening of the compression spring and drive gear will promote excessive wear of the drive gear and track. The drive track itself requires no lubrication.
- 12) During the fabrication roll forming, drilling, cutting, grinding and welding is done. Upon completion of the fabrication and testing, the dome is marked, disassembled, cleaned and made ready for shipment. The welds and any raw edges are sprayed with a rust inhibitor. After the assembly on the observatory site it may be necessary to re-spray these areas. (These areas should be checked BI annually.)
- 13) If it is felt necessary to paint your Ash-Dome after years of service, any high quality exterior paint used on metal buildings should be adequate. Follow the manufactures instructions.
- 14) The shutters have horizontal seams sealed with silicone tube caulking. In the event the silicone sealant separates from the metal any exterior high quality silicone tube caulking can be used to re-seal these areas. (See Sketch)
- 15) The areas along the sides of the dome aperture are sealed with a high quality caulking. Over time this material may shrink and need to be sealed over. After removing any lose material it is suggested a tube silicone be used right over the area.