

OPERATING PROCEDURE
FOR THE LAAS OBSERVATORY

The following document consists of four sections as follows:

- I. Opening the Observatory
- II. Power plant and utilization
- III. Operating the telescope
- IV. Checklist for shutdown

I. Opening the Observatory

A. Unlock the rollaway roof.

1. Open hinged lock cover door at north-west corner of the roof next to the upper rail. Unlock and remove the lock. Note that for your protection the key cannot be removed from this lock while it is unlocked
2. Pull T-slotted pin out and replace with lower slot (left) in the lock U. Replace the lock, lock it and remove the key.

B. Open Rollaway Roof

1. The green reinforcing rod crank is concealed in the sagebrush ~~and~~ ~~Northwest~~ south of the Observatory.
2. Insert the cross pinned end of the crank in the socket on the south wall of the Observatory roof and rotate slowly counter clockwise. Both hand should be used: one on the crank handle and one on the shaft to relieve excessive lateral forces on the wooden supports of the drive shaft. The roof moves with difficulty at certain points. However, one should check to make sure that the roof is not hanging up on anything in the Observatory.
3. The folding handrail of pipe is on the east floor of the Observatory and should be mounted at this time.
4. Remove any plastic cover from the telescope; aperature and eyepiece covers may also be removed at this time.

5. You should find the following configuration of switches.

a. On west wall:

"GENERATOR-INVERTOR" switch "OFF"

"POWER VERTOR" switch "OFF"

Battery Charger switch "OFF"

b. On the clock drive at the base of the polar axis,
switch "OFF"

~~6.~~ The keys to the accessory cabinet and power plant will be found on a hook on the back of the accessory cabinet.

II. Power Plant and Utilization

Generally the power plant must be used to drive the telescope or at least to charge the battery

A. Unlock the power plant using the labled key from behind the accessory cabinet in the Observatory. Open the door full against the support chains. This door must be left fully open all of the time during motor operation.

B. check the oil level and adjust as neces
C. B. Place gas can in elevated position (on stump block) outside the power

plant enclosure facing somewhat away from engine so that the rubber fuel line does not pass too close to engine block. Open the air vent at top of container and the stop-cock feeding the line (handle in line with feed). *(No dips in line)*

D. Turn off the main breaker. Make sure the spark cut-out on the plug is not engaged. Place the fuel choke lever (below the air cleaner) on full choke. Pull the starter line on the side of the motor with a steady full, but not jerky, pull.

E. Cut the choke in half and pull starter rope again. If the engine starts, turn off choke and it should continue to run. Failure to start at this point requires a recheck of steps B and C. Beyond that, you must use your own judgement.

E. Once the motor generator is running, the power output may be checked by momentarily turning on the light on the door. Be sure to turn the main breaker on before returning to the Observatory.

*NOTE NO INTERNAL MAINT. IS TO BE PER
WITHOUT APPROV. OF STAR CHAIRMAN*

← CHECK OIL LEVEL

- F. Back at the Observatory one would normally wish to start by charging the battery regardless of the ultimate desired mode of operation. It is imperative that the charger cable clamps be securely attached to the battery terminals before the charger is turned on or power is applied to it. Make certain the red sheathed clamp is connected to the positive ("POS") terminal, and the black sheathed clamp is connected to the negative ("NEG") terminal. After these connections have been completed, the charger may be turned on by positioning the selector switch to "12 V. FAST CHARGE". The wall switch may now be switched from "OFF" to "GENERATOR". With the generator running, the charging may be checked by the meter on the front of the charger. The meter needle should be in the green area and will decrease as the battery becomes more fully charged. Charging will take two or three hours depending on the condition of the battery.

CHARGE BAT
AND AFTER B151

III. Operating the Telescope

- A. Open the accessory cabinet by the tagged key hanging on the back of the cabinet. The power may be tested by turning on the Tensor type map lamp in the cabinet. While the telescope is horizontal, it is a convenient time to mount the eyepiece adapter and a low power eyepiece from the cabinet.
- B. The laddered observing platform may be stood up at this time. This ladder should not be slid across the floor but carried as follows. Back in under the steps until your shoulders are near the center of gravity. Lift with your shoulders and balance the structure with your hands on the legs. Walk the laddered observing platform around in this manner taking care not to bump the telescope or people.
- C. Set the setting circles as follows. Plug the extension cord from telescope into the nearest wall socket. Flip the clock drive and V.M. switch on. You should be able to hear the hum of the motor; otherwise something is wrong. The voltmeter should read 120 volts. If you know the correct sidereal time the setting circle may be set against the index on the south edge of the setting circle. Grasp the setting circle on both sides with thumb and first finger of both

hands and rotate to the desired setting against this lower pointer. The more common way of setting the circle is to locate in the telescope one of the bright stars listed on the drive motor housing next to the polar axis. Choose a star near the meridian. When the star is well centered in the eyepiece, set the circle to the right ascension listed for that star. Celestial objects may then be easily located by using the declination and right ascension of the desired object. The R.A. setting circle may have to be recalibrated periodically.

- D. A hand-paddle has controls for both slow motion and fast slewing. It also contains a map light. ~~This control is only effective when using the generator as the power source.~~
- E. Caution must be exercised in using the telescope to prevent damage to the Observatory and personal injury. The ladder must be placed so that one is not unduly off balance in observing. Appended cables and lines must be distributed and watch that they are not unduly stretched by telescope movement; that they do not become engaged in the gears or mechanisms; or that they not represent a hazard to personnel.

IV. Checklist for Shutdown

Shutdown procedure is essentially the reverse of the start-up procedure but note:

1. The telescope must have its covers on and be stowed pointing north with a declination roughly equal to the roof. Eyepiece should be out and cap on. *SET CLUTCHES FIRMLY MAKE SURE ROOF CLEAR*
2. "POWER VERTER" switch must be "OFF"!! The battery must be disconnected from the charger. *AND BATT / GEN*
3. Be sure the ladders and the handrail are down and out of the way so that nothing can interfere with the roof closure.
4. Check power plant.
 - a. Engine OFF!!! *< OIL FULL*
 - b. Fuel tank properly stowed with stop-cock closed.
 - c. Main breaker "OFF".
 - d. Cover secured and locked.

- e. Key returned to the hook on the accessory cabinet.
5. Be sure roof is properly locked and crank stored in the sagebrush.

CRANK ROOF PART WAY RECHECK TEL CLEAR