Procedure to Install the 2.5m Wind Baffle

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Cautionary Notes

- **This operation requires 5 people.**
- **If the telescope runs away at any time, engage an e-stop button immediately.**
- **The following weather conditions must be met:**
  - No threat of precipitation
  - Sustained wind speed < 35 MPH for 15 minutes
  - Wind gusts for instrument changes < 25 MPH
  - Dew point depression: >= 4°F or 2°C
  - Dust count < 10,000 units
  - Check for condensation regularly when the dew point depression is less than 8°F or 6°C. Close the enclosure if condensation is found on rails, building skin, or the top of the doghouse.
  - Do not push the dust limit and the dew point limit at the same time. If the dust counts are near the stated limit, it is best to have a dew point depression of > 18°F or 20°C.
- Safety wear (recommended): rubber-soled shoes, hard hat.
- Only people trained by observatory staff may execute this procedure.

Equipment Required

- Hydraulic Jacks, located in the machine shop.
- Flat Field Petals (all 8), located in the 2.5m plug plate lab.
- Wind Baffle Pendant Control, located in the 2.5m enclosure.

Initial State of Telescope

- All instruments (excluding the spectrographs) removed and safely stowed.
- Spectrograph corrector removed and safely stowed.
- Telescope at horizon.
- Wind baffle frame tied to eyebolt in floor.
- Wind baffle frame supported on the front and back (east and west) by jackscrews.
- Wind baffle frame turnbuckled to PSS.
- Primary mirror, secondary truss and secondary mirror all installed.

Procedure

1. Read through the procedure. Make sure you understand all of it before you begin.

2. Make sure an e-stop is engaged.

3. Remove the wind baffle from its weather protective covering (tent or tarp).

4. Roll the wind baffle into the enclosure.

5. Bolt the wind baffle to the support frame, using the hydraulic jacks to aid in alignment.

6. Remove the wheels from the wind baffle.

7. Install the flat field petals.

8. Install all wires attached to the wind baffle.

9. Check the balance of the wind baffle plus telescope (the two are turnbuckled together and act as a unit):

    A. Attach the wind baffle pendant control.

    B. Station one person in the lower level to watch the torque reading on the wind baffle altitude motor amplifier.

C. Make sure the wind baffle tie-down strap allows approximately one foot of motion.

D. Remove the west jackscrew (the one preventing the wind baffle from going up).

E. Release all e-stops.

F. Release the altitude brake.

G. Move the wind baffle slightly up and down. The torque reading (which is in percent) should be no higher than 60 in both directions. If it is higher, press an e-stop and rebalance the telescope.

H. Engage an e-stop.

10. Remove the wind baffle tie-down strap and the jackscrews.

11. Release all e-stops and raise the wind baffle and telescope to zenith. Monitor the torque as you go: if it exceeds 80, engage an e-stop and rebalance the system.

12. Pin the telescope at zenith. Pushing the pin in engages an e-stop, so if the pin jams you'll have to use the turnbuckles (not the pendant) to free it.

13. Install the lower light baffles.

14. Remove the two turnbuckles attaching the wind baffle to the PSS.

15. Remove the wind baffle pendant control.

16. Run the counterweights up to ? to balance the telescope.

17. Verify proper operation by using Menu or the TCC to drive the telescope. Monitor the wind baffle torque.

18. Stow all equipment, including:

A. Wind baffle pendant control in the 2.5m enclosure.

B. Wind baffle wheels in the 2.5m storage trailer.

C. Hydraulic jacks in the 3.5m enclosure ground level.

D. Jackscrews in the 3.5m enclosure ground level.

Document History

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