

# 8" D & G Setup Instructions

---

## 1) **Required Tools:**

- a) Flat head screw driver – medium.
- b) 3/16" & 1/4" allen wrenches – set in box if all else fails.
- c) Ply bar or large screw driver.
- d) Towels for drying.

## 2) **Set Pier:**

- a) Make sure equatorial head is off prior to moving pier outdoors.
- b) Rope 1' – 2' from base will find center of gravity for one person movement.
- c) Outlet faces south – sight along azimuth block for alignment.
- d) Mount tray.

## 3) **Set German Equatorial Head:**

- a) Pull three cap screws and store in tray – double washer is north. (3/16" allen wrench)
- b) Place head on pier.
- c) Loosely fasten rear cap screws followed by the front.
- d) Tighten front cap screw followed by rears. Torque progressively and check for firm fit.

## 4) **Declination Shaft Attachment:**

- a) Rotate head to the east and loosen both plastic knobs. Tangent arm should be slightly free.
- b) Place ¼" allen wrench, weight side ring, and tangent arm attachment hardware, in tray.
- c) Stage weights, and spring clamps (in tray).
- d) Slide declination shaft into head about ½" from home. Be careful not to lose head bearing.
- e) Attach tangent arm to brass carrier on worm screw. Plastic shim in contact with carrier.
- f) Run declination shaft home and secure with weight side ring. Tighten firmly.
- g) Tighten the top plastic knob (near the saddle) and set the other snug (near weights).
- h) Rotate the head to counter weights down and pointed at the pole. Home position.
- i) Check polar alignment.

## 5) **Adding Weights:**

- a) Run one spring clamp to top of the shaft – angled up.
- b) Place the weights as follows (top to bottom):
  - i) 1 ea 2.5 pound weight
  - ii) 3 ea 5.0 pound weight
  - iii) 2 ea 10 pound weight
- c) Run second spring clamp up the shaft just ¼" past the end – angled down.
- d) Chinch weights with upper clamp.

## 6) **Preparing the Tube:**

- a) Find the loop and two spanner pieces of wood – dowel stops outboard.
- b) Lift one end and support with wood spanner – I did focuser end first – may have to reverse.
- c) Lift and support other end.
- d) Rotate so Telrad base is up, and attach dew shield, finder, & Telrad.
- e) Stow lens cover, rag, wood, and rope.

# 8" D & G Setup Instructions

---

## 7) **Mounting the Tube:**

- a) Stage the eyepiece counter weight (midway). Stage ladder facing south.
- b) Open rings and loosen clamps fully.
- c) Two man job. Place tube in the rings with electrician tape just forward of the front ring.
- d) Pinch the rings and begin to tighten clamps. Adjust ring position as clamping fully.
- e) Attach the eyepiece counter weight. Wedge a piece of foam between it and the tube.

## 8) **Polar Alignment:**

- a) Adjust azimuth with pry bar under north leg.
- b) No adjustment for altitude.

## 9) **Balancing the Scope:**

- a) Attach diagonal and 30mm eyepiece. Lighter than the 20mm Nagler.
- b) Check eyepiece counter weight is at the midpoint.
- c) Check Right Ascension balance.
- d) Check Declination balance.
- e) Return to home position.

## 10) **Electronics:**

- a) Plug extension cord into outlet inside observatory – south wall, easterly of door.
- b) Run cord through east leg and plug in to power.
- c) If not running drive corrector – loosen zip tie and plug RA motor into the pier outlet.
- d) If running drive corrector:
  - i) Plug corrector into pier outlet.
  - ii) Plug RA motor into corrector – back labeled RA.
  - iii) Connect tangent arm motor – back labeled DEC.
  - iv) Connect hand paddle to front.
  - v) Test movements – tangent arm is visible – RA drive is audible.
- e) If utilizing focus motor – plug yellow cord into hand controller and mount on tube.

## 11) **Disassembly:**

- a) Reverse the steps above.
- b) When removing the head, rotate the declination shaft assembly for proper storage.
- c) Don't forget to unplug the power inside the observatory.
- d) Dry the tube off with a towel and blow dry the optics and focuser.