

INSTRUCTIONS FOR INSTALLATION AND OPERATION OF SYNCHRONOUS MOTOR DRIVE FOR UNITRON REFRACTORS 2.4", 3" and 4"

A. All Models Except 160 and 166

1. EQUIPMENT: The unit consists of (a) synchronous motor unit, (b) shelf and mounting bracket
* (c) replacement right ascension knob

*This item is supplied for older model UNITRON refractors when specified, at no extra charge. Older models did not have a center hold and locking screw in the right ascension control knob which is necessary for installation of the motor.

2. INSTALLATION: All numbers refer to FIGURE 1

- a. Replacement right ascension knob (when required). Remove original right hand knob (1) by unscrewing in counter-clockwise direction, while holding left hand knob in a fixed position. Replace with the knob supplied with motor.
NOTE: Occasionally, as a result of design modification, the thread of the replacement knob may not match the shaft thread. If this occurs, please return the replacement knob with one of the original knobs from your instrument to the Service Department, UNITRON Instrument Company, 66 Needham Street, Newton Highlands, Massachusetts. We will rethread the replacement knob to match your instrument, and return it promptly, at no charge.
 - b. Shelf and Bracket: (2) Install by opening clamp and placing around base of mounting at point indicated in illustration. Engage, but do not tighten, thumbscrew (3).
 - c. Shelf: Insert chrome rod of shelf into hole in the shelf bracket but do not tighten locking screw (4)
 - d. Motor: Insert the hexagonal output shaft of the motor into the hole in the center of the right ascension knob (1), and at the same time engage the bolt at (5) in the slot of the shelf. The gear box (6) may be revolved about the input shaft, as shown by arrows, to allow for ease of installation. When mounting the motor, the bracket (2) may be moved and the shelf raised as required for alignment. When entire assembly is in alignment, all thumbscrews should be tightened to hold the motor in operating position.
3. OPERATION: To prevent possible shock, especially when operating on damp ground, the green wire (7) should be attached to any appropriate ground such as a water pipe or steel rod driven into the ground. To start motor, simply plug into any standard 110-120V., 60 cycle, A.C. power source.

B. For Models 160 and 166

1. EQUIPMENT: The unit consists of: (a) synchronous motor, (b) universal shaft

2. INSTALLATION: All numbers refer to FIGURE 2

- a. The motor should be mounted on pier shelf or tripod shelf normally employed by the weight driven clock. Insert the mounting bolt (1) through the right hand hole in shelf.
- b. Attach universal (2) to motor output shaft by screwing on in counter-clockwise direction.
- c. Connect motor to refractor, using the same rods (3) as supplied for the weight-driven clock.

3. OPERATION: Same as described above for other models.

- C. SPECIFICATIONS: Synchronous motor - 110V., 60 cycle A.C. Power Consumption: (a) 2.4" and 3" - 4 watts, (b) 4" - 6 watts

- D. WARRANTY: All UNITRON refractors and accessories are sold subject to your approval and inspection and may be returned for full credit within ten days after receipt if not completely satisfied. Any instruments or parts found to be defective will be repaired or replaced without charge.

- E. SERVICING: If service is required on this unit, package carefully, and accompany shipment with a letter indicating the reason for return. Send to Service Department at address shown on heading.

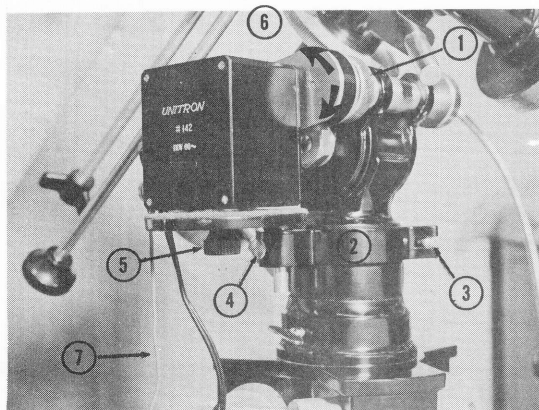


Figure 1



Figure 2

