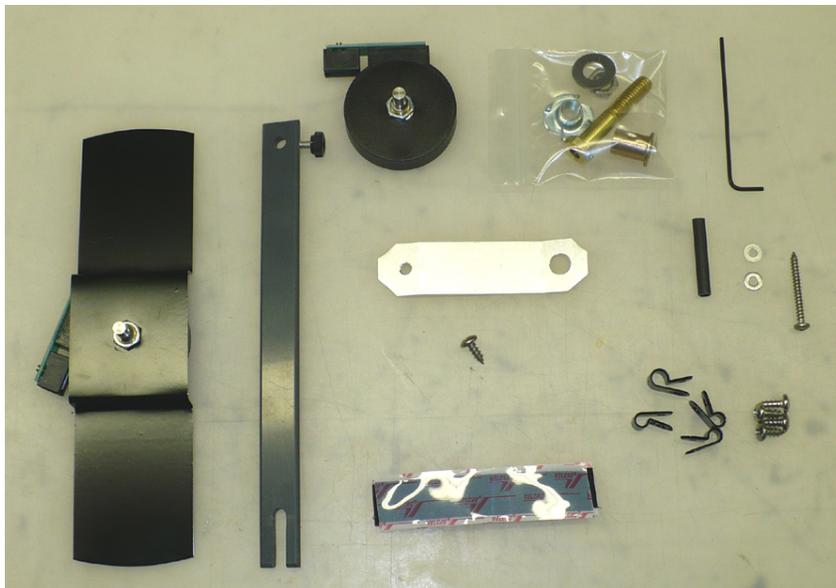
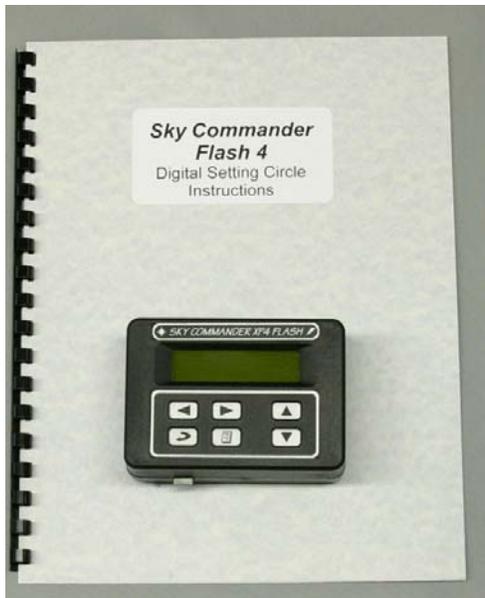


# AstroSystems Digital Setting Circles for the Meade Lightbridge



## Components

- 1 Sky Commander Digital Setting Circle Computer
- 1 Sky Commander Digital Setting Circle Manual
- 2 Encoders – 10,000 step
- 1 Cable set

- 1 Altitude Encoder Mount
- 1 Altitude Encoder Tangent Arm
- Alt. Cable
- Az. Cable

### Lightbridge Model

10"	12"	16"
6"	7"	8.6"
4.5"	4.5"	5.5"
32"	42"	54"
54"	62"	76"

## Hardware

- 1 Altitude Tangent Arm retaining screw #8 x 2"
- 2 Altitude Tangent Arm retaining screw washers #8
- 1 Altitude Tangent Arm pin 1/4" x 1.5"
- 1 Azimuth Encoder Tangent Arm
- 1 Azimuth Encoder Tangent Arm Screw #10 x 1/2"
- 1 Azimuth Encoder Tangent Arm Washer #10
- 4 Cable retainers
- 4 Cable retainer screws #8 x 1/2"
- 2 Encoder Star Washers (on encoders)
- 1 Pivot Bolt 3/8" x 2"
- 1 Pivot Bushing 3/8" ID x 1/2" OD
- 1 Pivot T nut 3/8"
- 1 Pivot nut 3/8"
- 1 Pivot washer 3/8"
- 1 Pivot Bolt hex key 5/64"
- 1 Computer mount Velcro

## Tools/Supplies

### Drill

Drill Bit 5/32" and 1/8"

Phillips Screwdriver #2

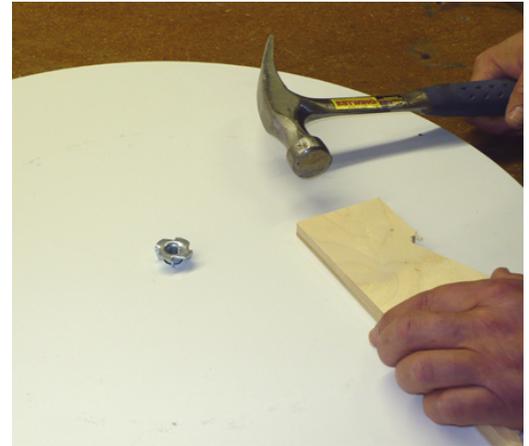
Wrench - 1/2" or pliers

Crescent wrench and 9/16" wrench or (2) 9/16" wrenches

## Installation

### Pivot Bolt

Remove the azimuth knob in the bottom of the rocker box and lift the rocker box off the groundboard. Remove the round metal plates with the azimuth bearings sandwiched between. Use a large hex key to remove the threaded insert in the groundboard. Tap the 3/8" T nut into the groundboard from the bottom (foot side) using a scrap piece of wood so the T nut is not deformed. Turn the groundboard over. Replace bearing/metal bearing plates on the top of the groundboard, center over the pivot hole and carefully replace the rocker box, centering it over the bearing plate hole. Install the flanged bushing into the bottom of the rocker box with the flange on top and insert the pivot bolt. Thread the pivot bolt into the T nut finger tight. Turn the rocker box/groundboard assembly on its side and place the 3/8" washer on the pivot bolt. Place the 3/8" nut on bolt and tighten by holding the head of the pivot bolt and the nut on the bottom of the pivot bolt with wrenches. The pivot bolt is held relative to the groundboard by the nut being tightened against the T nut. When adjusted properly the pivot bolt should allow the rocker box to rotate easily with a slight drag. If the telescope moves too easily in azimuth you can install a felt furniture glide in between the groundboard and rocker box to give a slight drag.



### Azimuth Encoder

Remove the nut and washer from the azimuth encoder and place the star washer on encoder shaft. Place the short aluminum azimuth arm on the encoder with the bend angle toward the encoder shaft. Place the small star washer and nut over the encoder shaft and tighten with a 1/2" wrench, crescent wrench or square nose pliers. Press encoder shaft into the pivot bolt and tighten the pivot bolt set with the supplied 5/64" hex key. Mark the end hole of the arm on the rocker box bottom and drill 1/2" deep with a 5/32" bit. Install the retaining screw and washer to fasten the azimuth tangent arm. Photo at right shows the arm painted flat black.



### Altitude Encoder

Remove the nut and small star washer from the altitude encoder. Place the large star washer on encoder and install the encoder shaft through the mount bracket, orienting the encoder as shown in the photo. Place the small star washer and nut on encoder and tighten with a wrench or pliers. Position the telescope tube to the vertical and then orient the ends of the bracket to 11 o'clock and 5 o'clock and the connection board on the encoder is up, as in the photo above. This is important for proper clearance of the plug and cables for movement from Horizon to Zenith. Position the double sided tape on the rounded ends of the altitude encoder mount. Remove the backer and position on the altitude bearing. Flush the rounded ends with altitude bearing and measure to the bracket from top and bottom of the bearing so it is evenly spaced. When the bracket is aligned, press onto the bearing. Place the tangent arm on encoder and mark the center of the slot on the rocker box. Remove the altitude tangent arm from the encoder and drill the rocker box side for the pin using a 1/8" drill bit. Place a #8 washer on the #8 x 2" bolt followed by the 1/4" x 1.5" fiberglass pin and then the second #8 washer. Install in the rocker box side with a #2 phillips screwdriver and tighten until snug, do not



overtighten. Replace the tangent arm by positioning the slot on the pin and push the top onto encoder shaft and tighten thumbscrew.



### **Wiring/computer**

Determine the preferred position of the computer and apply the Velcro to the back of the computer, avoid covering the battery access and then fasten to the telescope. Install the 8 pin plug into computer and run the shorter wire to the altitude encoder. Run the longer wire to the azimuth encoder. Check the movement of the telescope and position the wires so the telescope moves freely. Fasten the wires to the rocker box with the wire retainers to complete the installation.

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