

JMI's GO-TO & Tracking

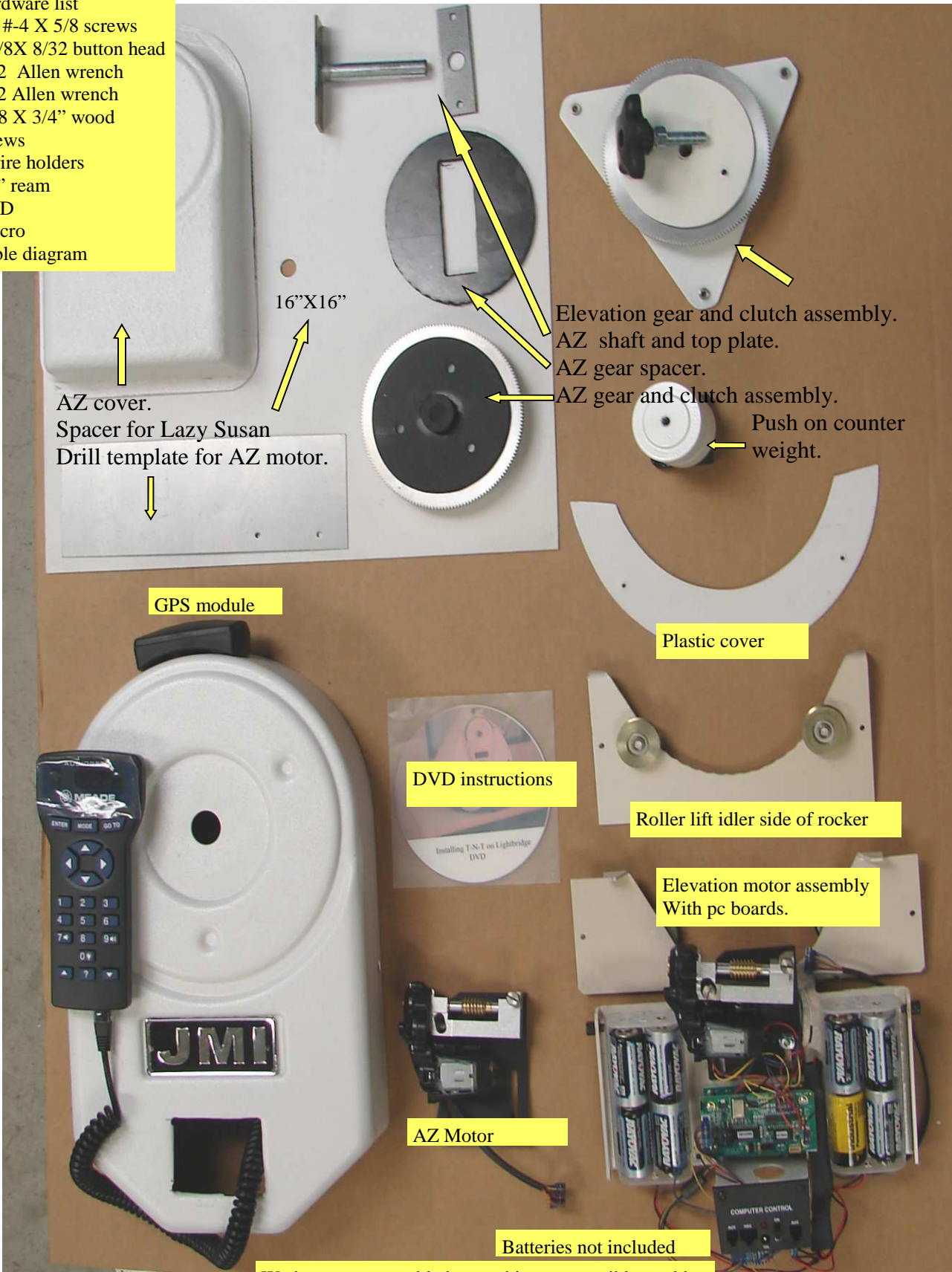
JMI in cooperation with Meade has developed
GT&T for the 12" LIGHTBRIDGE
GO-TO & Tracking using Meade's LX-90 Autostar with GPS

Installation Instructions



www.jmitelescopes.com

Hardware list
 10- #4 X 5/8 screws
 3-3/8X 8/32 button head
 3/32 Allen wrench
 5/32 Allen wrench
 6-#8 X 3/4" wood
 screws
 3 wire holders
 1/2" ream
 DVD
 Velcro
 Cable diagram



16"X16"
 AZ cover.
 Spacer for Lazy Susan
 Drill template for AZ motor.

Elevation gear and clutch assembly.
 AZ shaft and top plate.
 AZ gear spacer.
 AZ gear and clutch assembly.
 Push on counter weight.

GPS module

Plastic cover

DVD instructions

Roller lift idler side of rocker

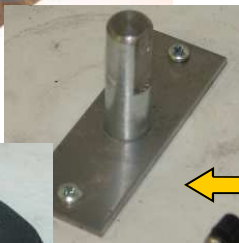
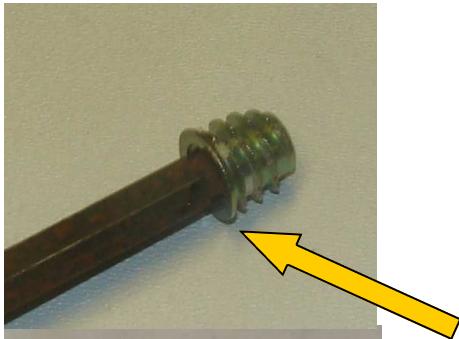
Elevation motor assembly
 With pc boards.

AZ Motor

Batteries not included

We have pre-assembled everything we possibly could.

Installing Go-To on Lightbridge 12"

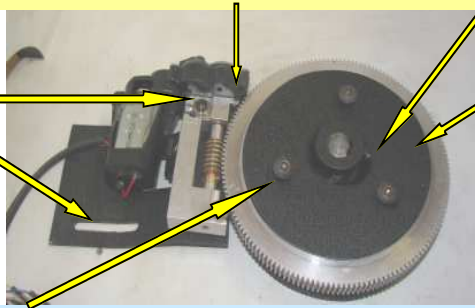


1. Remove azimuth bolt .
2. Turn base over and remove this threaded sleeve with Allen wrench.
3. Remove pipe that goes between ground board and rocker.
4. The azimuth bolt hole in the rocker and ground board must both be drilled out with 1/2" drill bit.
5. Install new azimuth shaft to the **bottom of the ground board**. Drill bit (#29) .136"holes to get the screws started. (1/2" deep. Screws are #8 X 3/4.
6. Turn ground board over. Install spacer over the shaft and then the Lazy Susan with metal discs on each side. (spacer prevents dragging that can occur between rocker and ground board)
7. Install the rocker over the Lazy Susan and place this plate with screws, to the inside of the rocker, this serves as a bearing support for the new azimuth shaft. Drill #29 .136" starter holes and attach with #8X3/4" wood screws.
8. This is a plastic clutch spacer it sets right on top of the previous plate as illustrated.

This shaft has a flat on one side. The set screw should be lined up to the flat. It is very important that this set screw be very tight with the 3/16 Allen wrench. Also be sure gear is not touching either side of housing.

5/16" set screw

This is the slot that should be nearly compressed. That is accomplished by sliding this assembly inward as necessary and tightening #8



#-9 Install the azimuth clutch plate over the shaft as shown.

#-10 Line up the azimuth motor worm gear to engage the large gear. The worm assembly has a spring that should be nearly compressed there should only be room for slight flexure of the worm assembly and not locked tight.

There are three azimuth clutch tension bolts. Tighten them evenly until you feel friction in azimuth rotation. You do not want to lock it tight. When the scope is moved in transport (such as loading in and out of a vehicle) tremendous pressure is placed on the worm gears. It would be better to start with light pressure and add more if needed later. The problem with too little pressure bumping the scope can loose alignment during observing. Of course you could always move the scope manually back to the object. Be sure it is exactly centered as before. (The computer did not know it was moved because the encoders are on the motors not the scope)

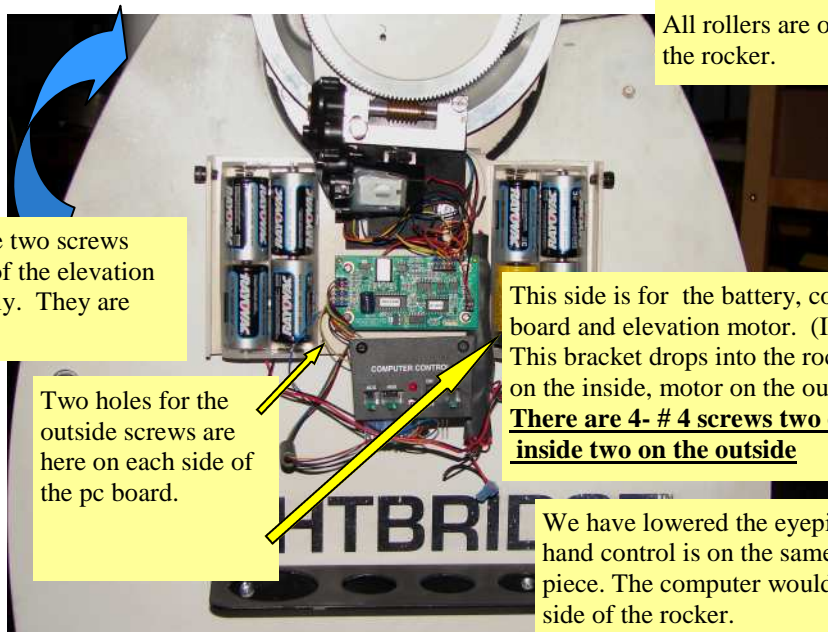
These ears can be used to get even spacing of the tabs This is important and should be followed for the motor side as well.

Drill pilot holes with # 40 drill bit For #4 wood screws

Here is an example of improper spacing

We have installed two rubber o rings here. It seems to help dampen vibration. 4 may cause too much friction due to compression of the rubber.

This roller plate is installed on the inside of the rocker. On the opposite side from the eyepiece tray. It is held in place with two screws. Pilot holes should be drilled to start the screws. Rollers are used to create clearance for the AZ motor and reduce friction.



All rollers are on the inside of the rocker.

Don't miss the two screws on the inside of the elevation motor assembly. They are important.

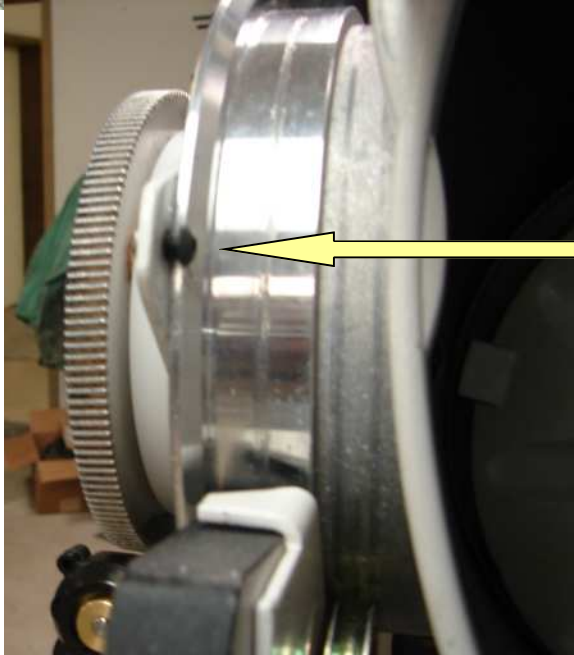
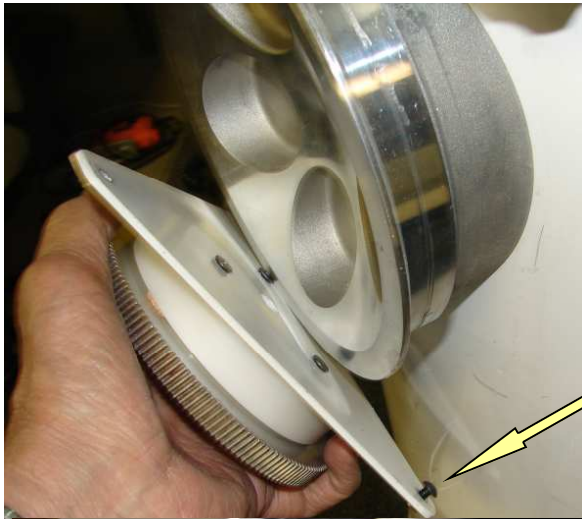
Two holes for the outside screws are here on each side of the pc board.

This side is for the battery, computer board and elevation motor. (Installed) This bracket drops into the rocker, rollers on the inside, motor on the outside. **There are 4- # 4 screws two on the inside two on the outside**

We have lowered the eyepiece tray so the hand control is on the same side as the eyepiece. The computer would work on either side of the rocker.

Elevation drive gear.

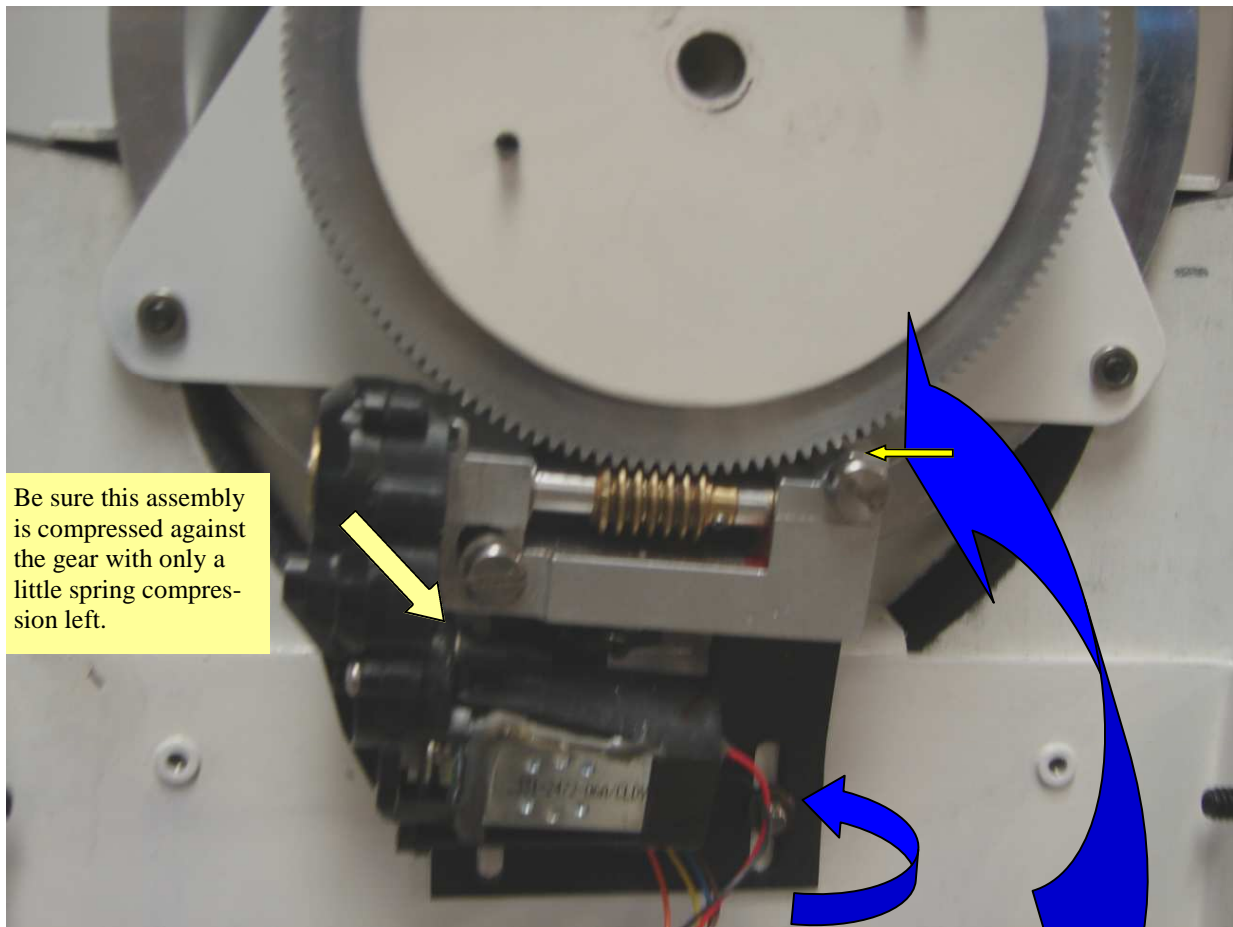
The elevation clutch drive attaches to the elevation casting as illustrated. The triangular plate has three 8-32 button head screws to hold it centered in place. Install two of the screws part way in and then hook the two screws on the bottom as shown.



Then install the top screw. The lip of the casting should be between the screw head and the triangular plate. Then they can all be tightened up with finger pressure and finally with the 3/32 Allen wrench provided. This should keep the gear assembly centered on the elevation hub.

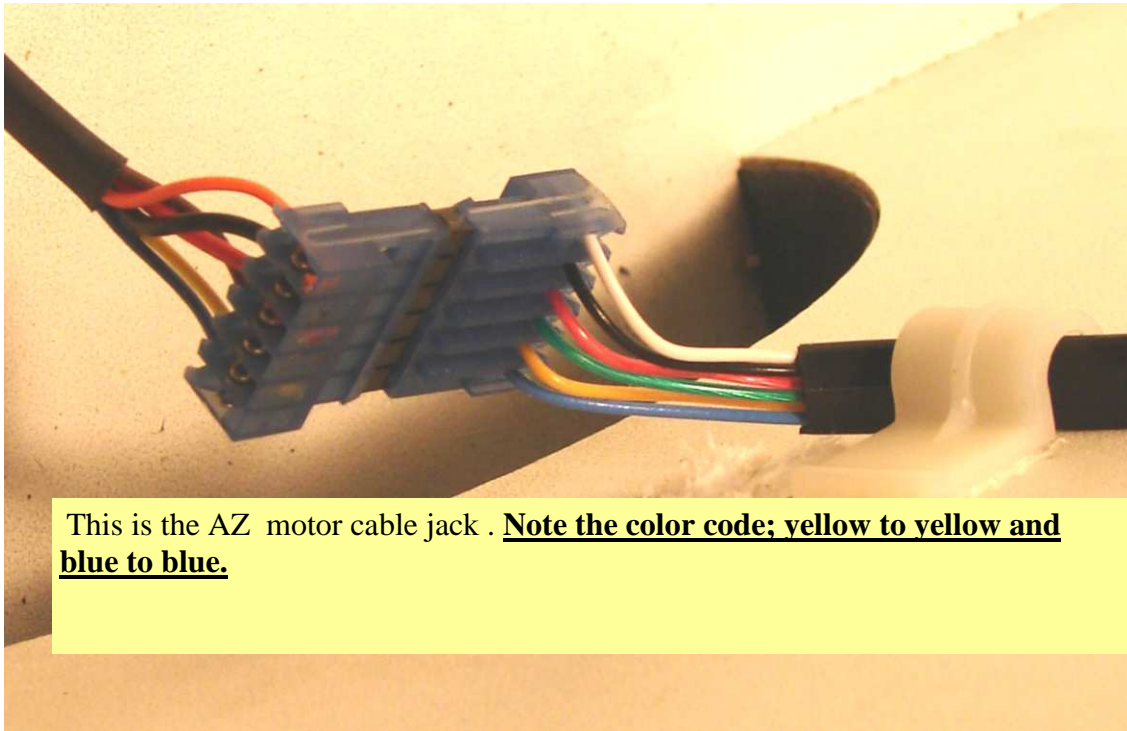


View of final assembly.

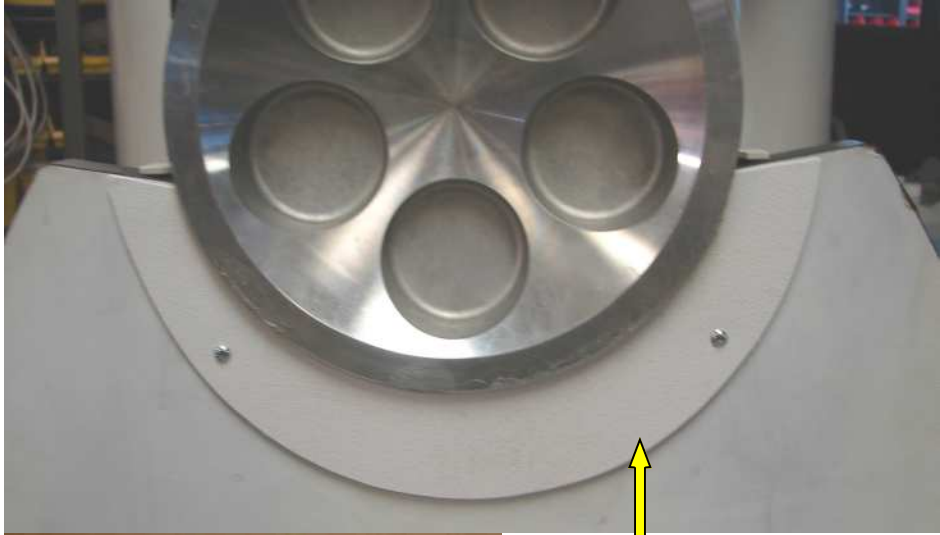


Be sure this assembly is compressed against the gear with only a little spring compression left.

Follow the same guidelines as for the AZ drive. Tension is adjusted here.
Be sure the gear does not rub on the housing here, on either side.



This is the AZ motor cable jack . **Note the color code; yellow to yellow and blue to blue.**



This is a plastic decorative cover to seal up the gap. It's held in place with two #4 wood screws.



This is the GPS module held in place with Velcro. It has a tiny plug that attaches to the elevation circuit board.

The hand unit can be held with Velcro on the front of this cover.

There are holes on each side of this cover. First slide the right side over the stud, then pull out on this to snap over the left side.

The large cover snaps into place without any screws.



Left side of cover.