

Model 653 Survey Cart Assembly Guide

Mobilizing your system on the GSSI Model 653 survey cart allows you to cover ground much more easily and conveniently than with the conventional system configuration. The cart can accommodate the 400 MHz, 900 MHz, 1 GHz, 1.6 GHz, and 2.6 GHz antennas. The 653 cart incorporates a unique antenna capsule design that protects these antennas from the elements and renders the antennas weatherproof. It also incorporates a survey wheel for high-precision distance measurements. Please read through the entire assembly manual before assembly.

Tools Required: Philips Head Screw Driver.

Helpful Hint: For best results always calibrate your survey wheel at the beginning of every job. See your SIR-3000 User's Manual or UtilityScan Quickstart Guide for instructions on survey wheel calibration.

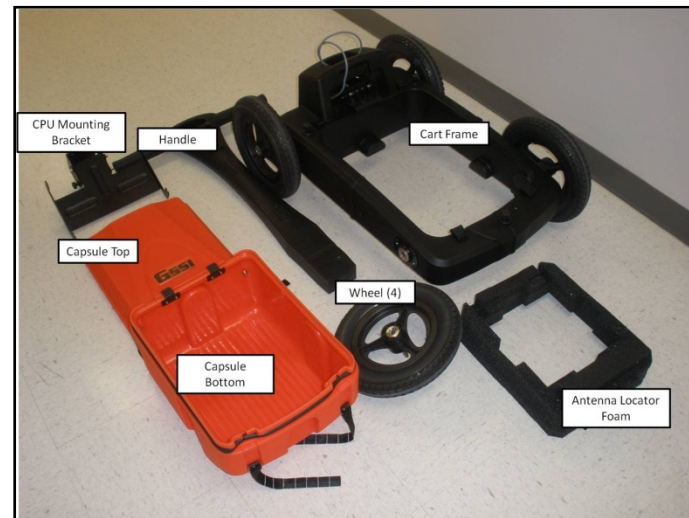


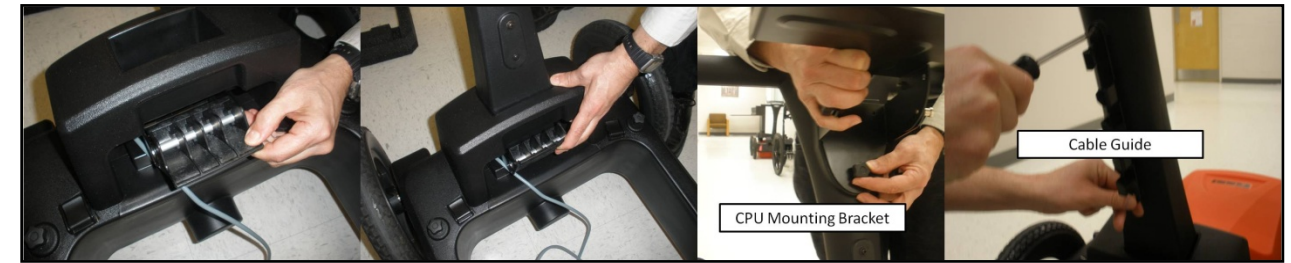
Figure 1: Cart components.

1 Wheel Assembly: Attach wheels to cart frame. Line up the flat side of the “D” shaped axle rod with the corresponding flat part of the “D” shaped hole on the cart frame. Slide the rod into the cart frame while keeping the blue button at the center of the wheel hub depressed.



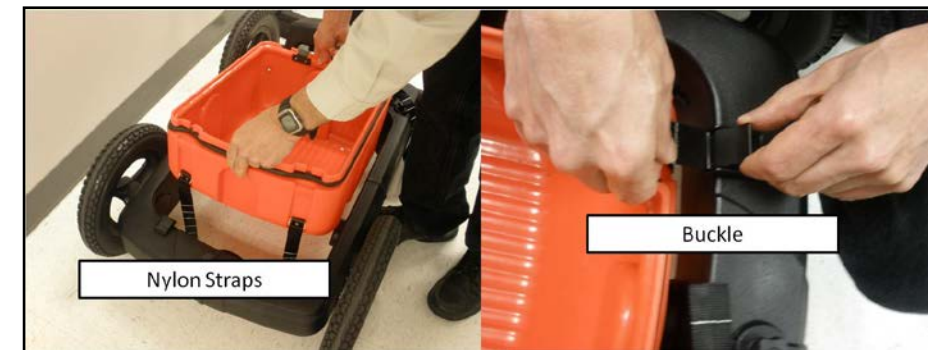
Step 1: Attach wheels.

2 Handle and CPU Mounting Bracket Assembly: Slide the handle bottom into the handle receiver on the cart frame. Flip the handle locking lever up to the closed position to secure the handle in place (Step 2). You will also need to attach the SIR-3000 mounting bracket to the handle top. The three threaded knobs used for attachment are already in the handle top. Attach the Cable Guide to the back of the handle using the screws on the handle.



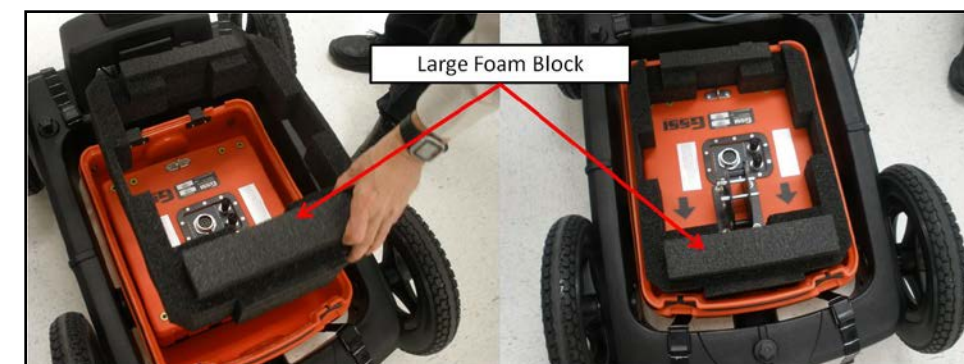
Step 2: Attach handle and CPU bracket.

3 Capsule Assembly: Place the capsule bottom into the frame and thread the nylon support straps through the buckles on the cart frame corners. Each stitched line is 1 inch (2.54 cm) apart. The capsule bottom is a replaceable item and it is OK for it to drag on the ground. You will extend its life by adjusting the nylon support straps so much of the weight is taken by the straps and the bottom is just slightly in contact with the ground. If you are working in rough terrain then you should adjust the straps for maximum travel to allow the capsule to follow the ground surface topography.



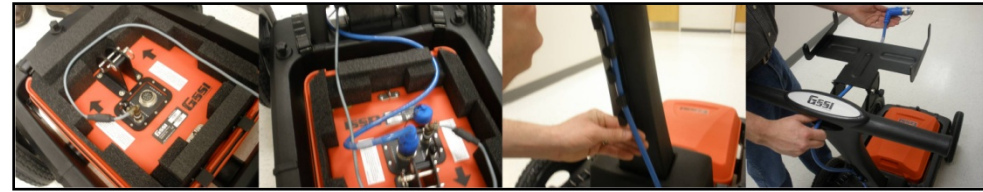
Step 3: Attach capsule bottom.

4 Insert Antenna: Place the 400 MHz (Model 5103) antenna into the capsule bottom with the arrows pointing forward. Then place the Antenna Locator Foam over the top of the antenna. The large foam block should be facing forward.



Step 4: Place antenna.

- 5 Attach Cabling:** Attach the survey wheel cable and control cable to the antenna. The “mark” port on the antenna is not used with the cart. Run the cables through the channels at the rear of the antenna capsule.



Step 5: Attach cabling.

- 6** Place the Capsule Top on the Capsule Bottom so that the “GSSI” logo faces forward. Lower the back end of the top capsule and hook the capsule over the black tabs, then lower the front end. Clip the metal latches at the four corners of the capsule to secure the two halves together. Make sure that the cables are run correctly through the cable ports at the rear of the capsule. Run the control cable through the left-hand port and the survey wheel through the right-hand port.

Helpful Hint: Attaching the latches is easier if you lift the capsule slightly.



Step 6: Attach capsule top.

- 7** Place the SIR-3000 on the handle Control Unit Mount by slotting the bottom thumbscrews on the SIR-3000 into the bottom slots on the mount. Then pivot the SIR-3000 into the top slots on the mount. Tighten to secure. Then run the control cable through the cable restraint on the back of the handle and attach to the SIR-3000.



Step 7: Attach CPU.

Field Use

- The Model 653 Cart renders the antennas weatherproof, but not the SIR-3000. Care must still be taken to avoid getting the SIR-3000 wet.
- When marking anomalies in the field, the proper mark location is identified by a molded ridge on the side of the cart frame. Note that the data is located directly under the center of the antenna, GSSI recommends that you mark both the left and right side of the cart so you know where the mid-point is after moving the cart.

Optional Use of Higher Frequency Antennas

The Model 653 Cart can also be used with the 900 MHz (Model 3101), 1.5 GHz (Model 5100), 1.6 GHz (Model 5100B), 1.0 GHz (Model 5101) and the 2.6 GHz (Model 52600) antennas. Use of these antennas require the High Frequency Antenna Foam Insert (HFAFI). The HFAFI is sold separately. It is GSSI part number FG640/INSERT-SM.

Note: If you are using the Model 653 Cart with the 1.6 GHz, 1.0 GHz or 2.6 GHz, you will need the survey wheel adaptor cable. This is GSSI part number FG62X/5100B CBL. Contact your GSSI Sales Representative for more information.