Excitron MRT6", 8", 10", 12" Rotary Table/Gearbox Assembly Instructions Jan 01, 2013

These instructions are for assembling the Au motor/controller/gearbox/worm gear to the rotary table base unit. They apply for any MRT6, 8, 10, 12 ***heavy*** rotary tables. Excitron ships the MRT6, 8, or 10 in 2 boxes to protect the precision parts, and some assembly is required. MRT12 HV table base and table top ship in 2 separate boxes, and all other parts in a 3rd box.

Your Au motor/controller may be disassembled from the drive box. If so, you can install it to the gear box before or after you install the worm gear drive into the large table base hole. Best is to install the worm gear drive without the motor so you can better feel the gear play.

Remove the plug from the rotary table large opening, and insert the motor/worm gear subassembly into the large round opening. You will need to rotate slightly so that the worm gear is fully inserted into the table base. When inserted fully, the gear box metal collar is close to the large table base opening. We provide a .20" wide square o-ring that seals the opening from water spray. You must press with about 5 pounds into the table base while tightening the locking lever arm. This o-ring also ensures correct inward worm gear mesh, and must never be removed.

Engage the worm gear assembly into the large table gear by rotating the motor/gear subassembly CW, and simultaneously shifting the large table top until no perceptible table movement/backlash occurs. Lock the motor/gear subassembly with the short lever arm on top. This firmly secures it from moving. If the gears are too tight, the motor will not be able to rotate it. If too loose you will have excess backlash. You can loosen the motor mounting hardware and rotate the stepper motor to any of 4 quadrants.

We ship the power supply cable in two ways. If you have a single 8 pin connector housing, plug it into the power supply/RS232 cable into the middle 8 pin header position. If you have a power supply with a 8 pin housing and a separate RS232 8 pin housing, plug the power supply into the outer 8 pin header, and plug the RS232 into the middle 8 pin header. Turn on the power supply. Never plug/unplug the power 8 pin housing with power ON.

You are now going to rotate the stepper motor slightly to check the worm gear engagement. We set the torque T value to less than full power, usually T=055 or 060. Later you may increase this T value to 080 to 090 for higher torque. Type 'G' to run the motor a short distance, noting worm gear engagement. If you have too much play, then loosen the locking lever arm, and rotate the motor/worm gear subassembly CW. If you have too much engagement and the motor does not turn, or seems to turn hard, then you could rotate the motor/worm gear subassembly very slightly CCW.

To free wheel the table top, you can unlock and turn the eccentric steel body CCW, which disengages the motor/worm gear subassembly. If you disengage the worm teeth, then you will need to re-adjust the worm gear meshing.

Never apply large forces to the stepper motor, and do not support any part of the rotary table using the motor. Consider that the stepper motor is a precision and delicate instrument. Keep coolant and liquids from splashing onto any electronics; use the enclosed neoprene rubber sheet for covering.

The motor-to-power supply wires must be short (2" to 8") to minimize current and voltage spikes. Mount the power supply on the side of the motor, or on an adjacent surface. The enclosed cable clamps are for your wire management.

Your precision rotary table is designed to last for tens of years, thank you.

The Excitron Engineering Design Team

www.excitron .com info@excitron.com