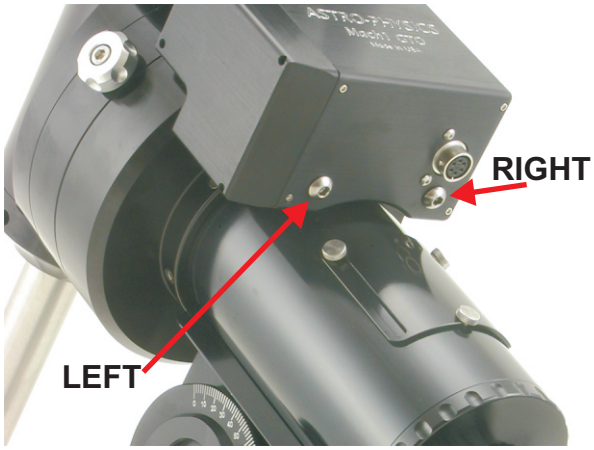
Astro-Physics Mach1GTO
Re-Meshing the Worm Gear and Wheel

The revolutionary design of the Mach1GTO motor / gearbox makes re-meshing the worm gear into the worm wheel a simple process. The instructions apply equally to either axis.



1/4-20x5/16" Button Head
Use 5/32" Allen Wrench

1. On the face of the motor / gearbox that has the cable connection are two 1/4-20x5/16 Button Head Cap Screws. These are by far the two largest screw heads on that surface, and will be located on either side at the bottom of the box. (See the photo at right.) These screws are merely place holders to fill the holes that give access to the mounting bolts underneath. They do not hold anything. Simply remove them using a 5/32" Allen (hex) wrench and set them aside.

2. Insert the long end of the same 5/32" Allen wrench into the RIGHT hole (under the cable connection) and engage the socket of the attachment shoulder bolt that is inside. The bolt and the hole are lined up, so only minimal "fishing around" should be required. Loosen this bolt between 1/4 and 1/2 turn. DO NOT loosen any further or remove the bolt!

3. Repeat step 2 with the LEFT hole. As you loosen the second bolt you will feel the motor / gearbox come loose on the axis.

4. Gently rock the motor / gearbox from side to side and from front to back to be sure that the worm is fully seated in the wheel.

5. Tighten the LEFT shoulder bolt first. *It is critical for proper worm mesh to tighten the LEFT bolt first.* Tighten the bolt in small increments. As you tighten, wiggle the box slightly so that it finds its center as the bolt is gradually tightened. Once the bolt has made full contact, tighten about another 1/8 turn.

6. When the LEFT bolt is tight, tighten up the RIGHT bolt, also about 1/8 turn past the point of full contact. When you have the RIGHT bolt properly tightened, check the LEFT bolt to be sure that it still feels tight.

7. Once the attachment bolts are both tight, replace the two button head screws to close the access holes back up, and the re-meshing is complete.

NOTE: These are not lug nuts that hold the wheel onto your car. If you are unsure how tight to make the attachment bolts, I would suggest that you err on the side of caution and don't risk over tightening. It is easier to do this whole process over making everything a bit tighter the second time around than it is to undue the damage from too heavy a hand on the wrench. We have found that a good practice is to have the long end of the wrench in the hole, so that you only have the short end for leverage. Make it as tight as you can with this short lever, and then reverse the wrench and tweak the tightness by no more than 10 additional degrees.

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