

VTRx Screws and Torque setting

Updated Jun 17, 2016

- looked into screws and washers again for the VTRx module
 - found a bigger washer which seems to work well: McMaster-Carr 91116A240
 - Type 18-8 Stainless Steel Oversized Flat Washer, M2 Screw Size, 2.2mm ID, 7.0mm OD
 - 0.6mm to 1.0mm thick (other washers are only 0.2mm to 0.4mm thick)
 - <http://www.mcmaster.com/#91116a240/>
 - the head of the screw that I have been using barely works but it does seem to work well
 - the washer is a little thicker (0.6mm thicker) so the 4 mm long screw may be best to use now
 - 96817A783
 - 18-8 Stainless Steel, M1.4 × 0.57—T3 Drive; #56 Drill
 - <http://www.mcmaster.com/#96817a783/>
 - need to allow 5.3 mm from center of screw on PCB for the fatter washer
 - Ianos recommended an M1.6 washer (1.7mm ID, 4.0mm OD)? McMaster 90965A120: <http://www.mcmaster.com/#catalog/122/3246/=12vo4s0>
- Is the 4.0mm OD large enough?
- this is from Jim H.
 - I think that the 4mm OD may work
 - The part number that Ianos suggested is 316 SS
 - ordering samples of both 18-8 and 316 to see which is less magnetic
- the torque setting is a bit more difficult to determine
 - it takes very little over torque to strip the plastic housing of the VTRx modules
 - > 1 ozf-in to turn the screw
 - < 6 ozf-in or else can strip
 - not totally sure about the exact value as my torque meter does not go below 6 ozf-in
 - 0.2 kgf-cm = 2.78 ozf-in
 - 0.3 kgf-cm = 4.17 ozf-in
 - 0.02 Nm = 2 cNm = 2.83 ozf-in
 - 0.03 Nm = 3 cNm = 4.25 ozf-in
 - 2-15 cNm range: http://www.amazon.com/gp/product/B00IRJ6UYG?psc=1&redirect=true&ref=ox_sc_sfl_title_10&smid=A2W17VK109FWC6
 - so get this one and set to its lowest setting
 - purchased on Sept. 10, 2015 using my PTAO - so Eshop will own it and use for other projects like my other tools
 - decided to use the Tohnichi set to 2.3 cNm = 3.257 ozf-in
 - however, in practice, that is not nearly enough torque
 - so found best to set for 4.0 cNm (5.66 ozf-in) and then increase as needed up to 4. cNm (6.9 ozf-in)
 - this is with the T3 bit and 1/4" adapter from iFixIt set
 - remember to always return Tohnichi back to its minimum setting and Free once done