

AndyMark Toughbox Nano Tube 20, One motor input, Two Key Shafts (am-0949) Assembly Instructions



July 2012

Parts needed to make a Toughbox Nano Tube:

Component	Qty.	Part #
Toughbox Large Cluster Gear	1	am-0149
Toughbox Small Cluster Gear	1	am-0151
Toughbox Large Output Gear	1	am-0150
Toughbox Nano Tube 20"	1	am-0800
500 Key Output Shaft	2	am-0506
$\frac{3}{8}$ " id Flanged, Bearing (FR6ZZ)	2	am-0028
#10-32 x $\frac{3}{8}$ " BHPS	2	am-1028
.145 x .593 x .875 od Nylon Spacer	1	am-1151
.51 x $\frac{1}{2}$ PVC Spacer	1	am-1186
External Klipping	2	am-0206
Toughbox Small Hex Shaft	1	am-0152
$\frac{1}{2}$ " id Flanged FR8ZZ Hex-Bore Bearing	2	am-0279
$\frac{3}{8}$ " id Flanged Bearing (FR6)	1	am-0027
$\frac{3}{8}$ " id bearing, shielded (R6ZZ)	1	am-0516

Tools needed:

14mm Crescent Wrench
Phillips Screwdriver

***Note:** Shown are assembly instructions for a Toughbox Nano Tube using a different shaft and body.

Perform steps 1-10 on the left side and steps 11-14 on the right side of the Toughbox Nano Tube so it looks like this:



Toughbox Nano Tube Assembly Instructions:

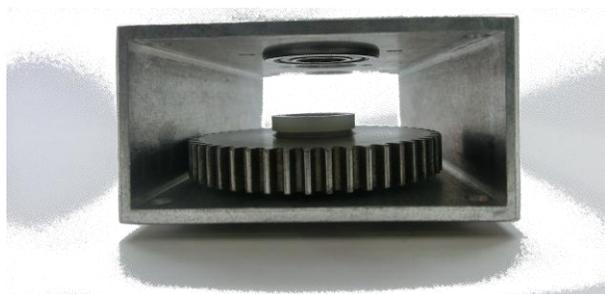
Step 1: Press an FR8ZZ bearing into the nano tube on the bottom side.



Step 2: Press in the FR6ZZ to the hole behind the FR8ZZ from the inside of the tube.



Step 3: Place the large output gear so that its flat side will face the FR6 bearing. Put the Nylon spacer above it.



Step 4: Push the 500 Key Output Shaft into the bearing.

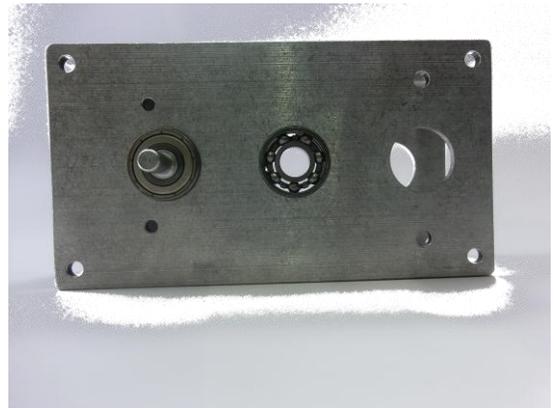


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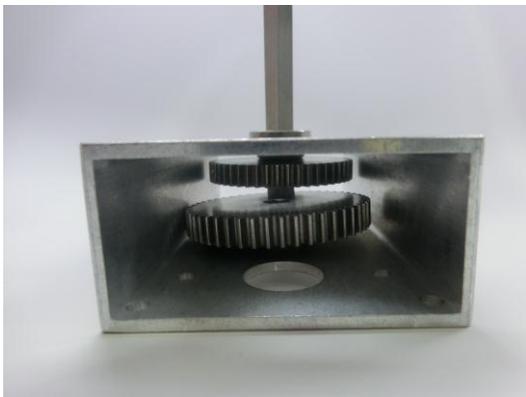
Step 5: Slide the large output gear towards the FR8ZZ bearing. Then press the external klipping into the groove shaft. If you're having troubles, use a 14mm crescent wrench.



Step 6: Press an FR6 bearing into the middle hole of the motor side.



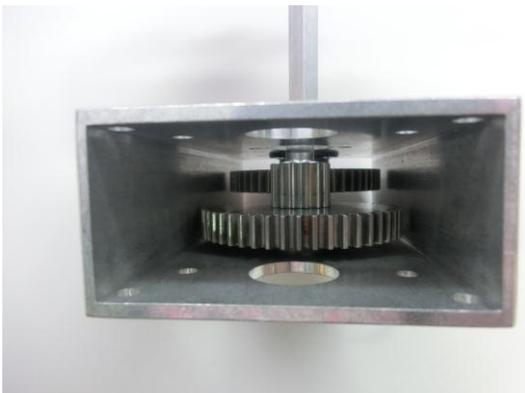
Step 7: Insert the large cluster gear with the raised portion facing the FR6 bearing.



Step 8: Insert the small cluster shaft.



Step 9: Insert the small cluster gear with the flat side facing towards the large cluster gear.



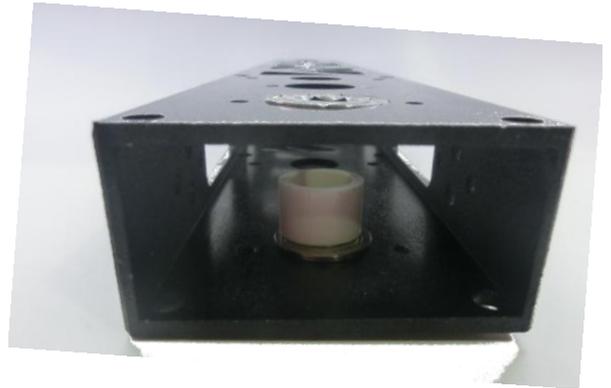
Step 10: Press the R6ZZ bearing into the middle hole of the output side. Right beside it, screw in the two #10-32 x 3/8" BHPS.



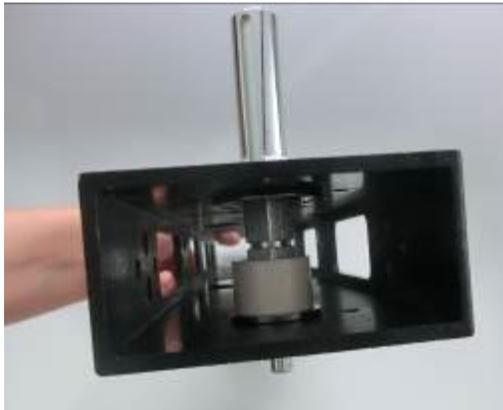
Step 11: On the right side of the Toughbox Nano Tube, place the FR8ZZ and FR6ZZ bearings as previously done.



Step 12: Place the .51 x 1/2 PVC Spacer above the FR6ZZ bearing.



Step 13: Push the 500 Key Output Shaft into the bearing.



Step 14: Slide the PVC spacer to the other side, and insert the e-clip.

