08 Shunter by Peter F. Davis G1MRA #257

Here’s general information covering the 3/8 scale BR 08 Shunter that I have built. I chose black ABS for the wheels, axles, and buffers heads (see addendum). Thinking this would wear well and the ABS I have has a nice matt finish and would not need painting. The rest was printed with PLA or PLA+. Parts are glued with super glue or held together with 2-56 screws (8 BA should work as well). The holes for screw may need to be drilled to size before being tapped. I used SketchUp 17.2.1555, Cura 4.7.1, and the Anet A6 printer. The frame is the longest piece 239mm and will print diagonally on my 220mm square table. 6 of the 34 STLs, also, have to be printed mirror image. Right side given.

The motor is for 6V and with the sprockets chosen, test ran at about 25 mph (scale) with 4 AA batteries. I also tried 9.6V (rechargeable) for about 40 mph. Today is 26 September 2020. Though not quite finished, it is now painted, assembled and runs nicely. With 6V of batteries and three printed mineral wagon in tow, 32’ in 32 seconds, a little over 20 scale MPH.

Purchased (in the US) and home made parts:

1 Geared Electric motor from Amazon: Uxcell(R) 300RPM 6V 0.45A High Torque Mini Electric DC Geared Motor

2 Chain .1227 pitch and sprockets 10T and 16T, #84791, #84785, #84788, from; [www.micromark.com](http://www.micromark.com)

Also available from (and a bit cheaper): [www.servocity.com](http://www.servocity.com)

3 1/8” ground rod for axles. 3 pieces 81mm long.

4 Bearings; Thick wall brass tubing 3/16”od x .128 id. 6 pieces 7.5 mm long

5 Crank Pin: 3mm od brass tubing drilled out for 2-56 screw. 6 pieces 4.5 mm long.

6 3mm id brass tubing. Turn the od down to fit the 10 T sprocket bore.

7 Screws:

21 2-56 x .156 long round head

4 2-56 x .5 long socket head

9 2-56 x .25 long socket head

7 2-56 x .375 long socket head

11 2-56 x .125 long set screws

8 Washers:

18 .280 dia. x .130 bore x .02 thick

6 .220 dia. x .093 bore x .015 thick

6 .185 dia. X .093 bore x .015 thick

9 Radio control of your choice.

Addendum: 4 October 2020. I have printed the cranks (#08-15) in ABS, replacing those printed in PLA. The PLA cracked at set screw and slipped on the axle.