

MRK-1 Print Your Own Parts

3D print the following:

- o 1 Scoop *
- o 1 Chassis **
- o 1 Battery compartment *
- o 1 Motor cover **
- o 1 Lid ** (the optional "Lid Flat.stl" prints fine without support. After printing kids can put stickers on it, glue a separate 3D print to it, and so on to customize it)
- o 4 Wheels with through-hole for screws *
- o 2 Wheels that mount on the motors *
- o 1 Finger guard (this item is included in some kits)

*These parts can sometimes print without supports. Scoops printed without support will require cutting or tearing dangling strands of filament out of the way before the chassis can be attached but this is generally quicker than removing support material and it is not seen once the robot is assembled.

**These parts require enabling supports in your 3D printer settings for successful printing. The motor cover can be reoriented and printed without supports but may require some trimming after printing and may not have the structural strength it needs if reoriented.

Tips

- o Use the current orientation of the stl files for 3D printing. Set the 3D printer to print at a resolution (layer height) of approximately 0.2mm for speed or less for better looks.
- o Remove support material with plyers, a putty knife, and as needed a knife, exacto, or safety blade.
- o Wheels should spin freely on a 4-40 machine screw (which can be acquired at most hardware stores). If they don't spin freely, use a 7/64" (or 1/8") drill bit to widen the hole.
- o The 4-40 machine screws that hold on the wheels need to tighten into the chassis and battery box. If the holes on the chassis and battery box are too tight or have support material in them, use a 3/32" or smaller drill bit to clear them out and make them work.



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