Introduction

Inertia sanders can help you prepare your turnings for fine finishes, are great for removing tool marks, leveling the finished surface, erasing left over sanding scratches and most of the sins that we turners don't like to admit. Commercial sanders can cost $55 to $100 and often require their specific disks.

The following instructions will show you how to build your own sander and disks for far less and greater flexibility as to size and surface hardness.
What you need

Much of what you need can be found in your shop or your wife's garden shed.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
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<tr>
<td>1. Any wood you want to turn into a handle, 2” x 2” x 12”</td>
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<td>2. Rare Earth Magnets size OD of bushing; ball or cookie or half ball</td>
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<td>3. Bushing: Part # OB-040616 Oilite (SS 0812-16)</td>
<td>Size of Bushing is 12 mm or .4 inch (length of bushing is 1 inch)</td>
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<td>4. Threaded Bolt ¼ by 20 TPI - 2 1/2” long (1), remove head</td>
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<td>5. Washer (1)</td>
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<td>6. Nuts (2)</td>
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<td>7. Foam Mat, cut up a Garden Kneeling mat</td>
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<td>8. Velcro - Peel &amp; Stick ½ meter, 2” roll</td>
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There are as many ways of building these as there are tools. I've made them with hand tools, with a drill, on the lathe, with an electric sander or whatever is in your shop. What we will use this time is club equipment for demo purposes.

I had a lot of help not only putting this together but learning other ways to make it better so we should all thank John Winter, Beverley Pears, Norm Miles, and to Chris and Neva Hilliard for donating the maple blanks.

Let's have a look at it  Cut, Drill, and Shape a handle to fit your needs

For a double ended handle approximately 9 Inches long start with a 12 inch long blank. Use your table saw or bandsaw to trim the blank to 2”x2”x12” long. Turn a couple of bases for the disk holders, shape the handle. Then drill the holes in the handle to accommodate the Rare Earth Magnets and the Bronze Bushings. These holes should be as close to the bushing size as possible. Do not insert the bushings or magnets at this time. Just make sure they will fit. Turn the handle to fit your hand.
Here’s How:

1. Square off both ends of your blank
   Mark Center on one end of your Handle Blank and center punch a hole for the live centre

2. Mount the square end into chuck and bring up tailstock

3. Turn blank to 2” round and replace live centre with Jacobs chuck/drill chuck loaded with a 1/2” spade bit or Forstner bit.
WOOD PUCK FOR SANDING HEAD

4. Mark the 1/2” spade bit/Forstner bit to stop at 1/4” and drill a 1/4” depth. This is to countersink the nut.

5. Replace 1/2” flat/Forstner bit with a 1/4 inch Drill bit to drill the shaft for the mandrel (bolt).

6. Mark the 1/2” bit at 1 inch and Drill a hole 1 inch deep. This is for the Sanding Head Bolt. This will also leave a center mark on the end of the handle blank. Dry fit the nut. It must fit flush with the face.

7. Replace the drill chuck with your live centre.

8. Score a line 5/8” from the end of the blank and part off the (minimum) 5/8” thick puck.

Repeat steps (4 through 8) in blue to make a second sanding head.
9. Install the drill chuck with a 3/8” flat bit and drill a hole 3/4” to 7/8” deep into the end of the blank. This is for the magnet and bushing.

**Shaping the handle**

10. Bring up the live centre and shape your handle to fit your hand
11. At the headstock end part the blank down to a 3/8 inch neck with your parting tool, the width of your parting tool
12. Shape a 45 degree angle down to the 3/8” neck, at the headstock end

13. Sanding and finishing should take place now
14. Part off handle at the 3/8” neck

15. Install magnet and bushing to the tailstock end of the handle
   Roughen the exterior of the bushing with sandpaper (this gives the glue “grip”)
   Dab a drop of Five Minute 2 part epoxy to the exterior of the ‘roughened’ part of the bushing  
   DO NOT get glue inside the bushing
16. Use the mandrel to insert magnet and bushing into the hole. Remove the mandrel, keeping the bushing in the hole, then tap the bushing in with a mallet to secure the bushing
17. On the drill press drill a 3/8” hole into the side of the 45 degree face to fit the second bushing

18. Roughen the exterior of the bushing with sandpaper (to give the glue “grip”)
   Dab a drop of Five Minute 2 part epoxy to the exterior of the ‘roughed’ part of the bushing. DO NOT get glue inside the bushing

19. Use the mandrel to insert magnet and bushing into the hole. Remove the mandrel, keeping the bushing in the hole, then tap the bushing in with a mallet to secure the bushing

20. Wait 5 minutes to allow glue to set
Assembling the Sanding Head

21. Install the mandrel into the puck and tighten the nut on the washer end. Tighten very well

22. Mount Drill Chuck to headstock and mount mandrel bolt and shape your puck as desired, keeping the face of the puck as close to 2” diameter as possible, to fit the 2” foam pad.

23. Stick your foam pad to the wood puck

24. Stick your velcro to the foam and cut the velcro to round with scissors

Nb: The handle can be remounted “at home” for further sanding and finishing