

Thank you for purchasing the Vortex Ball Roller from Forth Armoury!

For an electronic version of these instructions, plus videos on setup and operation, please visit:

<http://forth-armoury.com/instructions-for-using-the-vortex-ball-roller.html>



Instructions:

### Important

The Vortex Ball Roller is designed to be used in a drill press. This allows the base to be firmly fastened to the work table of the press, and the rotary head to remain parallel to the work table. It is not recommended to use the Vortex Ball Roller in any other configuration, such as attempting to use a hand-held drill. Attempting to do so may result in the operator losing control of the tool and possibly injuring themselves with the tool or with round balls ejected from the device.

As when using any power tool, you should use safety glasses when using this product. This device is designed to process lead and lead-alloy round ball ammunition. It may produce lead dust when in operation. It is recommended that you use a dust mask and suitable dust-collection strategies to contain any lead particles that might be worn away from the round ball ammunition. Do not wear any loose clothing while operating the Vortex Ball Roller as it could become entangled in the mechanism during operation and cause personal injury or death.

**WARNING: This device is designed to process lead and lead-alloy round ball ammunition. Use of this device will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling or operating.**

### Mounting the base

The Base has 4 screws, nuts, and washers that affix the Ball Rolling Cavity to it. The thicker Ball Rolling Cavity is designed for round ball ammunition larger than .5 inches in diameter. The thinner Ball Rolling Cavity is designed for round ball ammunition larger than .25 inches in diameter and smaller than .5 inches in diameter. It is not recommended to use round ball ammunition larger than .5" inches in diameter with the thinner Ball Rolling Cavity as it may cause premature wear on the cavity surfaces. The then cavity plates is shipped stacked on the unit – separate them before use.



When you have secured the desired Ball Rolling Cavity to the Base, you must secure it to the work table of your drill press. One way to do this is using a standard "C" Clamp, as shown. It is recommended to place a shim of metal or wood under the clamp foot so that it does not damage the surface of the Vortex Ball Roller. Make sure your drill press is off and unplugged when mounting the Base to your drill press work table.

### **Caution:**

**The Base must be firmly secured to the drill press work table. Failure to properly secure the Base to the drill press work table may result in injury.**

### Mounting the Rotary Head

The rotary head is provided with a hexagonal shaft. With the drill press off and unplugged, Insert this shaft into the chuck of your drill press, and tighten the chuck firmly per the instructions for your particular drill press.

### **Caution:**

**The Rotary Head must be firmly secured in the drill press chuck. Failure to properly secure the Rotary Head in the drill press chuck may result in injury.**

Adjust the height of your drill press work table so that there is enough gap between the Rotary Head and the Ball Rolling Cavity to insert and remove round balls. The work table height must be close enough to the Rotary Head so that when you lower the Rotary Head it can touch the round balls in the Ball Rolling Cavity.

### Using the Vortex Ball Roller

Once the Base and Rotary Head are firmly secured in your drill press, and the work table height has been adjusted to the correct height, you are ready to use your Vortex Ball Roller.

Set your drill press to its lowest speed. When viewed from above, the Rotary Head must rotate in a clockwise direction. Rotating the Rotary Head in a counter-clockwise direction may cause the hexagonal shaft to unthread from the Rotary Head, causing it to fly free and possibly causing injury.

With the drill press off, place a round ball into the Ball Rolling Cavity. The round ball must stand taller than the top of the Ball Rolling Cavity.



Placing (left) and removing (right) a round ball into the Ball Rolling Cavity  
Caution! The ball may be hot when removing!

Use the crank handle on your drill press to lower the Rotary Head until it comes in contact with the round ball ammunition in the Ball Rolling Cavity. With your hands away from the Rotary Head, turn on your drill press. The ball will then be rolled inside the Ball Rolling Cavity.

It is recommended that once per second you ease up on the pressure of the Rotary Head so that it just barely stops touching the ball, and then lower the Rotary Head again. In effect, you are "bouncing" the Rotary Head off of the round ball ammunition once a second. This allows the round ball to change orientation slightly inside the Ball Rolling Cavity and insures complete texturing of the round ball.

The Vortex Ball Roller does not require much force to process the round ball ammunition. Applying too much force may damage the device and may roll your round ball ammunition into cylinders instead of keeping them as spheres. This is particularly important with round ball ammunition made of pure lead, which is softer than lead alloys.

After 5-6 seconds of processing a round ball, turn off the drill press while keeping the Rotary Head in contact with the round ball ammunition. When the Rotary Head has come to a complete stop, you may raise the Rotary Head and remove the round ball. Use caution - the round ball may be HOT!

#### **Caution**

**Round ball ammunition heats up when being processed by the Vortex Ball Roller. Use caution when removing round ball ammunition from the Ball Rolling Cavity to avoid burns.**

#### **Caution**

**Do not completely raise the Rotary Head while the round ball is in motion. Doing so may result in the round ball being ejected from the device and possibly cause injury.**

#### **Note:**

Do not operate the Vortex Ball Roller for more than about 6 to 8 seconds per round ball. Extended operation will cause excessive wear on the device, and will result in removal of lead from the round ball ammunition and transfer of lead to the textured surfaces of the Vortex Ball Roller.

#### **Note:**

Do not squeeze the round ball ammunition very hard with the Rotary Head. Doing so may crush them and knock them out-of-round, especially when using pure lead round balls.

After removing the finished round ball from the Round Ball Cavity, another round ball can be placed into the cavity and the above process repeated.

#### **Note:**

Only one round ball should be placed in the Ball Rolling Cavity at a time. Multiple balls in the cavity may collide with one another and grind against each other, possibly locking up the device and damaging the round balls.