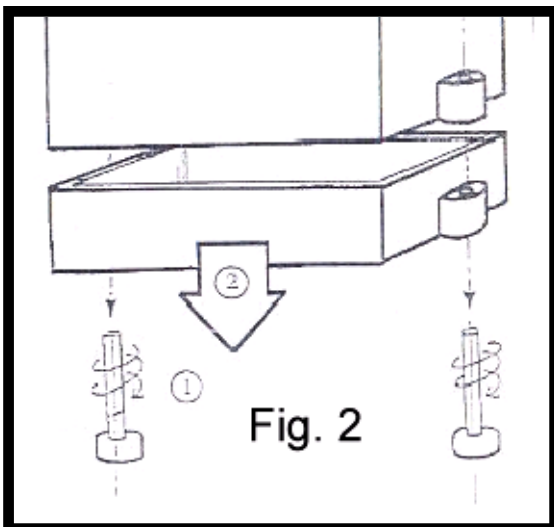
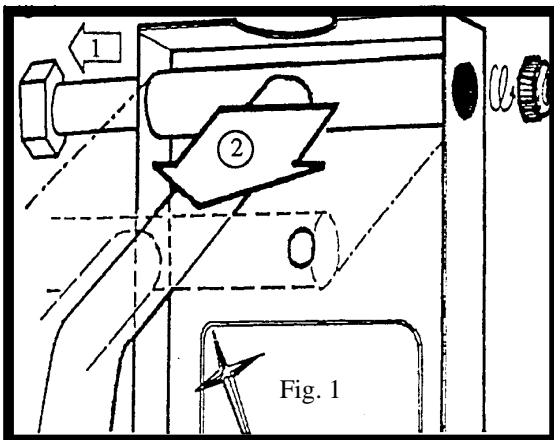




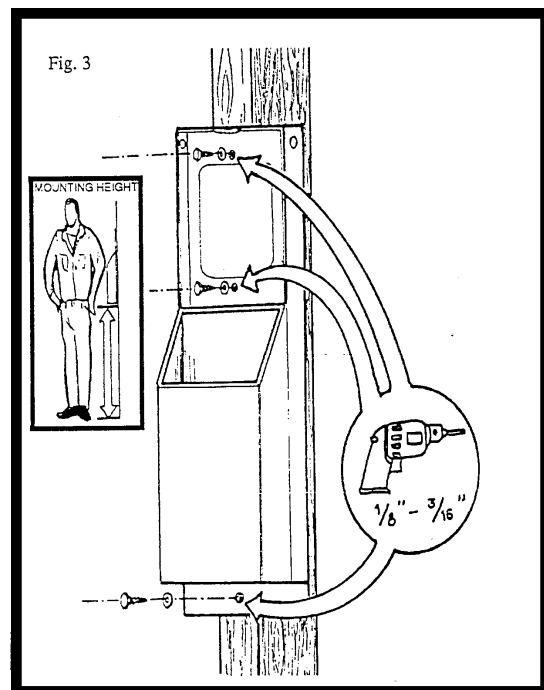
# Standard Extruder Instructions and Owner's Guide

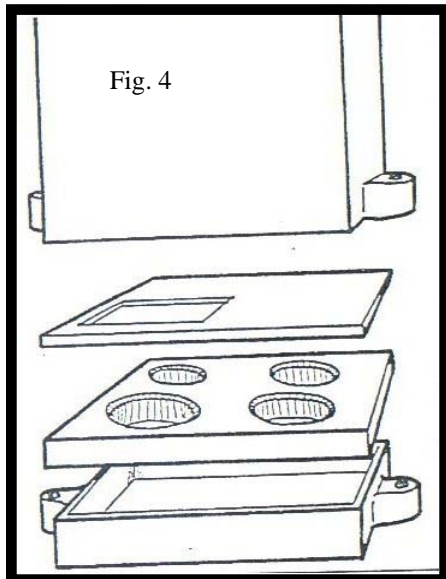
Thank you for purchasing the North Star Extruder. It is a simple, safe, sturdy little machine that will be useful for many years. This Extruder is designed for small to medium projects - the kind most of us do most of the time. There are some important differences between this and other extruders. Most important and apparent are the slightly smaller barrel and the single-pivot handle. The reasons for them are simple: After using most of the other extruders available in the United States, we firmly decided to avoid the detachable ratcheting handle. This arrangement, while cheap and powerful, has too many pinch points and is too clumsy and too heavy. It is, in short, too dangerous.

If you follow these simple instructions, the North Star Extruder will give you long, dependable service with the least wear and tear on you.



1. **MOUNT THE EXTRUDER FIRMLY:** For operator safety, **THIS IS EXTREMELY IMPORTANT.** Lag screws and washers are provided for wall mounting. We suggest the handle (Fig. 1) and the die retainer (Fig. 2) be removed for ease of mounting. Be sure the mounting holes go directly into the center of a solid wall stud as shown in Fig. 3. We suggest mounting the machine so the bottom of the barrel is about waist high.





2. SECURE THE DIE: Your Extruder has been shipped with a blank die in place so you can see exactly how dies are mounted. Use the enclosed hex key to make sure the retaining screws are tight. Always center the die so there is equal overhang outside the barrel all the way around. Several dies have more than one opening. The holes you are NOT using are closed off with the black neoprene die mask which mounts on top of the die (Fig. 4). Here, especially, the retaining bolts must be tight to prevent clay from seeping out around the sides of the barrel. Occasionally dies will need touching up to give a clean extrusion, and a fine round file or an emery board is the best tool for this purpose.

3. EXTENSION HANDLE: Your extruder had a two-part handle with the top in place as a permanent part of the Extruder. There is one extension provided. Slide the extension onto the top handle section, line up the holes, and USING THE BOLT AND LOCKWASHER PROVIDED, secure the two parts using a wrench to tighten the bolt.

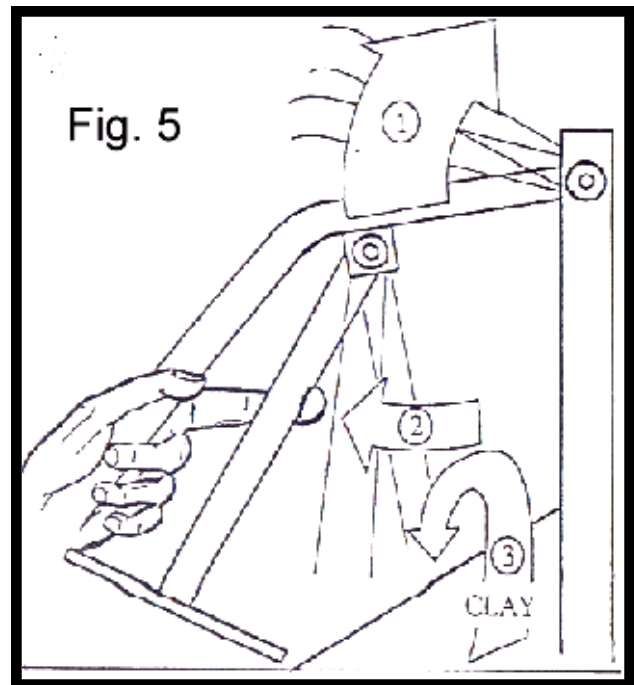
4. USING THE EXTRUDER: Raise the handle (Fig. 5 Step 1) and pull the plunger forward out of the barrel (Fig. 5 Step 2). Lower the handle and load clay into the barrel behind it (Step 3). Then raise the handle, push the plunger into the top of the barrel and start down. It is important that you use soft clay, but when the extrusion is small IT BECOMES NECESSARY. Never swing your entire body weight from the handle. With many clays, you will find retracting and reloading easier if you sponge the bottom of the plunger with water before starting down.

5. MAINTENANCE: Once every three months or so, remove the handle anchor bolt (Fig. 1 Step 1) and coat it with grease. No other maintenance should be needed.

6. USING BLANK DIES: One blank die made of UHMW plastic suitable for a one-piece die has been included with your extruder. This material is easily worked with ordinary hand tools. Be sure to taper the opening you make to compress the clay as it passes through. Finish the opening with fine sandpaper or a fine file. Very high speed tools with very small cutting edges (such as Dremel tools) may melt this material instead of cutting it. A small square of exterior plywood or similar material will also serve to make an excellent die.

**Be sure to fill out the online warranty form at [www.NorthStarEquipment.com](http://www.NorthStarEquipment.com)**

Your warranty is not in effect until the form has been received by North Star.



### EXTRUDER REPLACEMENT PARTS

#### PART

- (1 req) Upper Handle and Tee
- (1 req) Long (30") handle
- (1 req) Stainless steel Z-brace
- (1 req) Backing plate / barrel assy. (steel)
- (1 req) Backing plate / barrel assy. (stainless)
- (1 req) Plunger (without piston)
- (1 req) Neoprene die mask
- (1 req) Piston
- (1 req) Piston hardware set
- (1 req) Die Retainer
- (1 req) Die Retainer hardware set
- (1 req) Mounting hardware set
- (1 req) Instruction set

Contact North Star Equipment for current prices.