

North Star Tile Press

User's Guide

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These instructions are intended to be only a guide to setting up and using the press. It is a new tool for most potters and draws on skills that will be new to many, such as using "hard plasters" (gypsum cements) and the use of compressed air.

Experimentation and a certain amount of caution are advisable.

Take time to learn the tool, the routines that go with it, the preparation needed, and the follow-through required. For instance, even though one is working with fairly small pieces, it is easy to crank out so many that the secondary processes, such as trimming, drying and glazing, become just about impossible if not planned.

If you are interested in making your own dies, see the book Pressing Ceramics With Air Release which is enclosed. It contains a fairly exhaustive treatment of die making.

North Star has contracted with Precision Terra Firma to make custom dies. This company, which was instrumental in developing the press, knows it better than anyone at the present time.

The company's mailing address is:

Precision Terrafirma, PMB #252, 2525 East 29th Avenue, Suite 10-B, Spokane, WA 99223; the phone number is (509) 879-5964; and the Internet address is precision-terrafirma.com.

It is expected that nearly all dies for this press will be one-of-a-kind.

For that reason, North Star Equipment will supply parts to, and share information with any person or company making dies for the press.

You should have received either two or three cartons containing:

- ◆ Press with air hoses attached and 4 x 4" plain tile die mounted
 - ◆ Unpacking instructions and this User's Guide
 - ◆ Wagon Wheel handle with grasp handle
- ◆ Hardware package with two mounting brackets, four lag screws, 4 washers and one hex key
- ◆ One copy of Pressing Ceramics With Air Release by Reid Harvey

Please call North Star Equipment immediately if anything is missing or damaged.



Manufactured by
North Star Equipment, Inc.
P.O. Box 189
Cheney, WA 99004 U.S.A.
Phone (509) 235-9200 or (800) 231-7896
Fax (509) 235-9203 or (800) 447-3293



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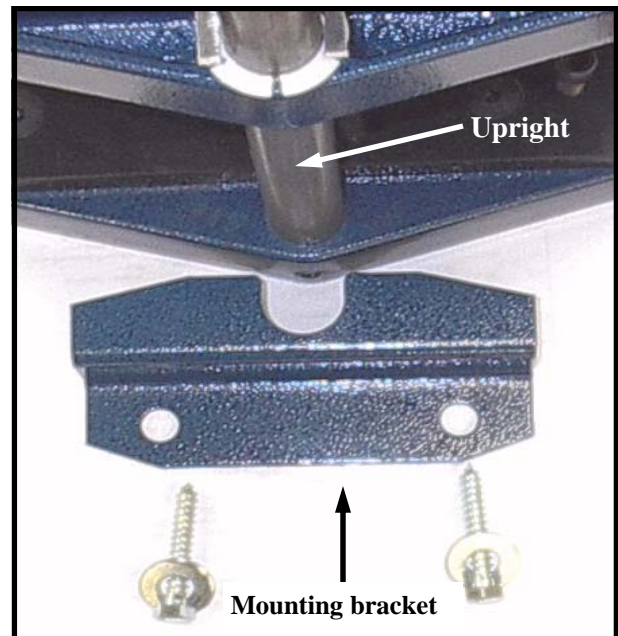
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1. SETTING UP

Mount the press only to a solid built-in bench or worktable and make sure to leave plenty of room to work. Right-handed users will usually want to use a left-to-right work flow pattern in which prepped clay is stacked to the left of the press and a ware truck or drying area is to the right of it.

Note that the side with no vertical post is the front of the press. The front is also identified by the North Star name decal on the top plate.

Position the press where you want it and move the two mounting brackets into place against the left and right uprights. Mark the holes with pencil, remove the brackets and center drill the holes with a 1/8" drill. Fasten down with the lag screws and washers provided.



2. FREE AND CONNECT THE DIE

The die is secured for shipping by a wire tie around the air fittings and a strip of duct tape over the dividing line between the two halves and each section is held in place by two screws. (The accessory package contains a hex key or "allen wrench" to fit these screws.) First check the tightness of the die mounting screws, then remove the duct tape and the wire tie.

Finally, identify the top and bottom air hoses from the decal on the switch bracket to the left of the gear box and attach them to the top and bottom die halves.

3. MOUNT AND TRY THE WAGONWHEEL HANDLE

A shaft projects from the right side of the gear box and through a hole near the end of it there is mounted a screw and nylock nut. Remove them, slide the WagonWheel on the shaft, line up the holes in the two parts and replace the screw and nut. Tighten firmly. Slowly crank the top die half up and down a few times to make sure everything works smoothly and that the air hoses are routed out of harm's way. (See the very end of this paper for information about the grasp handle.)

3. CONNECT TO COMPRESSED AIR

Connect your air hose to your source of compressed air with air coupler supplied.

SETUP IS NOW DONE

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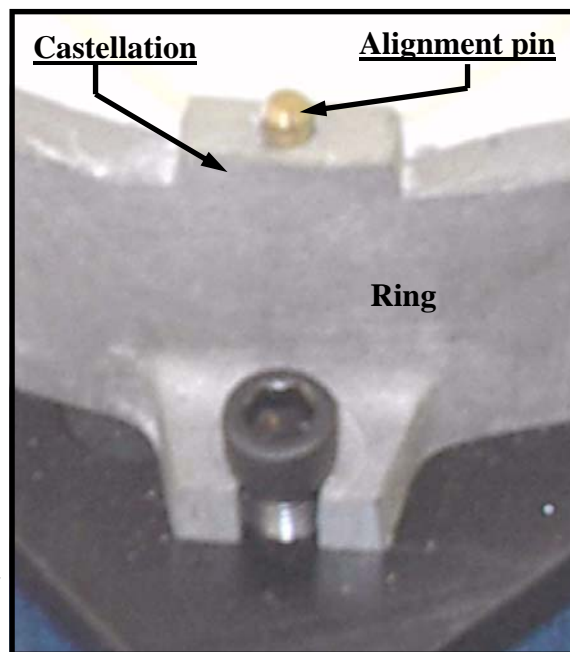
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MAKING THAT FIRST TILE

1. See photo below for registration pin. Only one is shown, but there are two.
2. Open the press and remove both registration pins. (NOTE: These must fit exactly in the holes in the bottom and top rings to assure that the two halves of the die are properly aligned. Save these! They will be needed whenever the die is removed and remounted or when a new die is mounted.)
3. Set the regulator on your compressor to about 90 psi. (Lower will work, though.)
4. Each tile produced with the die supplied will require about 10 ounces of clay. Prepare several charges of this size. (NOTE: This number has been determined by trial and error, and needs to be re-established for each new die.)
5. Prepare the die. Season both die halves by first sponging with water. (An easy way to do this is to gently squeeze a large wet sponge in the die.) Next, blow air into each half for a couple of seconds and, finally, sponge off any excess water. (See note below.)
6. Load a 10-oz. wad of clay in the center of the bottom die.
7. Turn the top die down until the castellations (see photo) on the top and bottom rings just touch. Hold for two to three seconds.
8. Open the air to the bottom die, then open the press four or five inches.
9. Turn off the air to the bottom die.
10. It is often easier to remove the excess clay at this point.
11. Hold a bat under the top die and open the air to the top.
12. After the tile has dropped on the bat, turn off the air.
13. Put tile in drying area and repeat the process.
14. The die supplied is blank on the face, but it can be modified in any number of ways. It can be carved, for instance, with a Dremel Tool to produce a raised decoration. Very thin bisque decorations can be laid (or even glued) in the die to make recessed decorations. In the lab we have had great success putting tree leaves and other plant material in the face of the die.



NOTE: There is a balance of moisture in the die that must be maintained, though the limits are rather broad. The air does not release the clay. Rather, it pushes water resident in the die against the clay to release it. Always add water to a dry die before beginning (See Step 5 above). At some point you will see little dimples and/or drops of water on pressed pieces. This is an indication the die is getting too wet. Simply remove all clay from the die and blow air to both halves for 15 seconds or so. Sponge away the excess water before continuing.

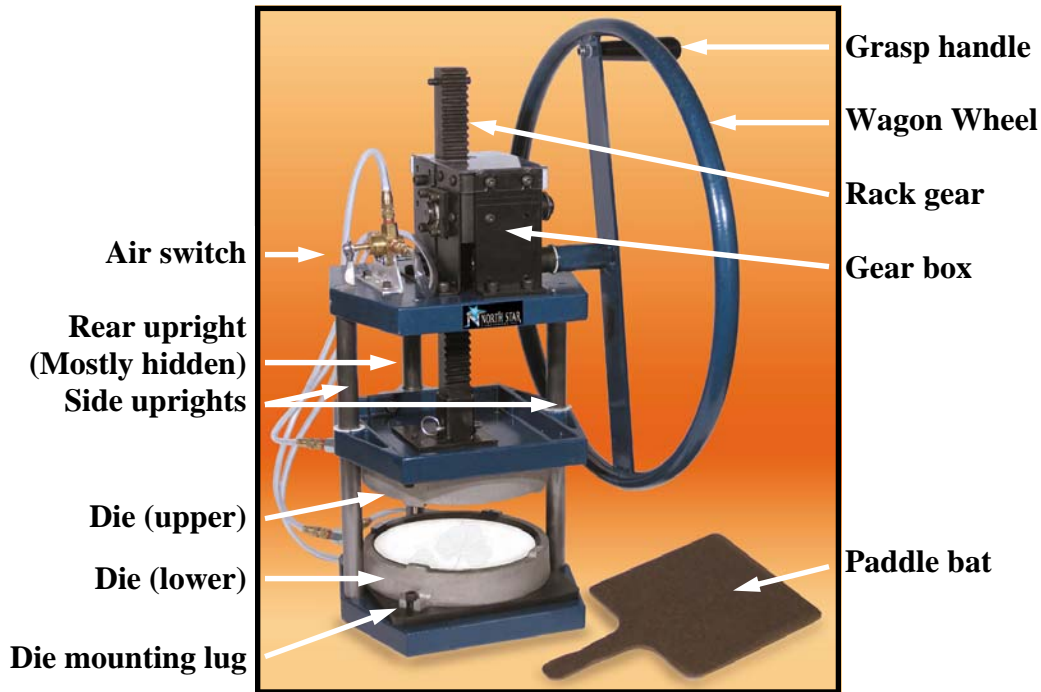
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SOME MAJOR COMPONENTS OF THE TILE PRESS



TWO IMPORTANT NOTES

First, the WagonWheel handle has a grasp handle in a separate package taped to it. Not everyone uses the grasp handle but if you want it, here is how to mount it. Note that the WagonWheel has a small hole near one end of the center cross bar.

- A. Remove the nut from the grasp handle. (A wrench may be needed.)
- B. Along with the nut, also remove just one of the nylon washers.
- C. Mount the grasp handle on the Wagon Wheel with the nut facing the press and one nylon washer on each side of the Wagon Wheel's center cross bar. Tighten the nut on the stud of the grasp handle.

IMPORTANT: The adjustment of this nut is critical. It should be just loose enough to allow the grasp handle to revolve in your hand as you turn the WagonWheel, but snug enough to prevent it from wobbling about. It may take some experimentation to get it just right.

Second, you will notice a small bolt about centered on the back side of the gearbox that looks like it is only partly screwed in and not holding anything. This is an adjustment screw for the slide in which the rack gear rides. If the rack becomes excessively loose so that the top wobbles back and forth when it is all the way up, this screw should be tightened a half turn or so to pull the rack back into a vertical line. There is a jam nut inside the gearbox to hold this screw in position, so the clear guard must be removed to make this adjustment.

Enjoy!

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MAINTENANCE: If the vertical uprights are allowed to rust, the rough surface will degrade the nylon bushings on which the center plate rides. An occasional light application of WD-40 or similar lubricant will prevent rust. A bit of WD-40 applied to a soft cloth is an excellent way to keep the press clean. Be sure to keep clay and clay dust off all the gears. Beyond that, no routine maintenance is required.

Price List

Part #	Description	Price	Ship wt
700	Tile Press, complete. Includes press, Wagon Wheel handle, air hose, fittings, plain 4 x 4 x 1/4" (approximate fired measurements) tile die, alignment pin, instructions, copy of book <u>Pressing Ceramics With Air Release</u> by Reid Harvey. Requires compressed air supply.	\$1,750.00	148, 7, 10 (3 ctns)
702	Bare Bones Press. Exactly as above but without tile die. Requires compressed air supply.	\$1,600.00	125, 20 (2 ctns)
725	1/8" mold duct tube, 25-ft section (Each die half uses about 30")	\$8.50	2
726	Single ring (upper & lower are the same)	\$57.50	8
727	Rings, set of two	\$107.50	15
728	Die Maker's Kit (2 pcs wire mesh, 5' mold duct tube, 32 wire ties, 2 rings, 2 alignment pins).	\$130.00	30
729	Complete 4" tile die (same as supplied with press)	\$245.00	15
730	Die alignment pins, package of 5	\$21.50	1
731	Paddle Bats, ctn of 12, 8 x 8" exclusive of handle (pictured on front)	\$46.00	15
997	Tile accessory die set. (2" inside corner, 2" outside corner, 2" edge trim) available for Big Blue Extruder	\$73.50	5

GUARANTEE:

The press (but not the die) is guaranteed to the original purchaser to be free of defects in materials and workmanship for two years from date of purchase. Any failure within that time will be repaired or the machine will be replaced without charge by the manufacturer, provided only that in the sole judgment of North Star the machine has neither been abused nor used for purposes for which it was not intended. If there is a problem, you should contact the manufacturer North Star Equipment at (800) 231-7896 or (509) 235-9200 rather than going through your dealer. Dated proof of purchase may be required if repairs are to be made. In certain but unusual cases during the guarantee period the user will be required to ship the machine by prepaid freight to the factory after which it will be repaired, rebuilt or replaced at North Star Equipment's discretion and returned prepaid to the user.

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THIS PAGE CONTAINS MISCELLANEOUS INFORMATION, AFTERTHOUGHTS, FEEDBACK FROM USERS, ETC.

AIR COMPRESSORS: The speed at which you can work is, to a large degree, dependent on the air supply. In the lab we have found that a compressor with a 10-gallon or larger tank, capable of producing three or more cubic feet per minute at 90 psi is ideal. However, that doesn't rule out a smaller compressor. We have used a Makita MAC500, which makes 3 cubic feet a minute at 90 psi. It has a 2½-gallon tank, is rated at 1½ horsepower, is "oil-less" and is portable, weighing only 25 pounds. This compressor sells on the Internet for about \$200 and, while it's a bit noisy, it kept up when we were operating the press as fast as we could go.

WEAR-IN: The press is very tight when it comes from the factory, but people report that they find that after 300 to 500 impressions it loosens up to be much more comfortable. We suggest you do not hurry the first few pieces to let the machine wear in gradually.

WORKSPACE: Several of the first users of the machine suggested to us that it be mounted much higher than standard counter height. Some experimentation proved them right. If it is at mid-chest or so, you can see the faces of both halves of the die and the castellations on them without too much bending and stooping. Further, if it is mounted near the front edge of the stand or table the forward section of the WagonWheel handle is always easily available. Here, especially if the user is short, the grasp handle may prove to be in the way for some people.

MAINTENANCE: There is relatively little to do, but keeping the uprights smooth and lubricated is vitally important! (See P. 5.) They are plated with a black iron oxide to prevent rust, but even that perhaps is not an absolute guarantee. If they do rust, take it off with steel wool, emery cloth or silicon carbide paper of at least 250 grit, then lubricate with WD-40.

**Be sure to fill out the online warranty form at
www.NorthStarEquipment.com**

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