

HOW TO USE A MECHANICAL PRESS



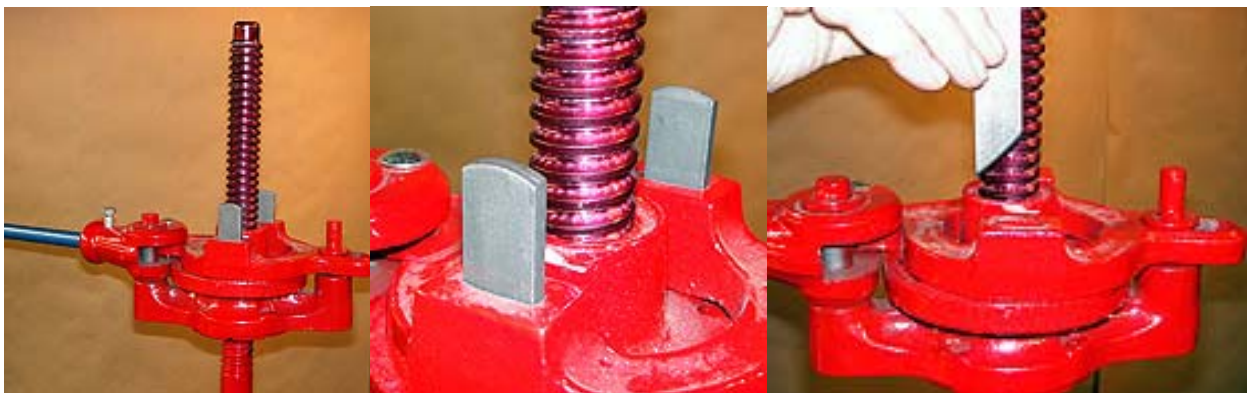
The modern mechanical press is almost identical to the oak wooden basket presses used by alchemists and winemakers in the Middle Ages. It is still an essential piece of equipment for extracting plant juices and essences. The presses vary in size from 8 inches to several feet in diameter, but the basic principles of operation remain the same for all units.

RATCHET OPERATION

Mechanical presses are easy to operate once you understand how the ratchet works. Remember that the ratchet won't work unless you have it under a load. You can do this with it full of grapes or other fruits or vegetables (the "biomass"), but you can also use one hand to provide resistance when first setting up the press.

See the photos below of the two sheaves in the ratchet head. These are essential parts, so don't lose them. They are small, only about 3 inches long, so put them in a safe place. You must have these two sheaves for the ratchet to work. There are two slots in the top center of the ratchet head. One sieve goes in each. Put the sheaves in with the pointed end down. They must point in opposite directions. In other words, if the right sieve has its point toward the north, the left sieve must have its point toward the south. Large ratchet presses may have two gear mechanisms, and they have inner and outer slots for the sheaves. The inner sheave operates a little faster than the outer sheave, and each turn of the ratchet turns the press a little further on the screw. This gives more stability on the larger units.

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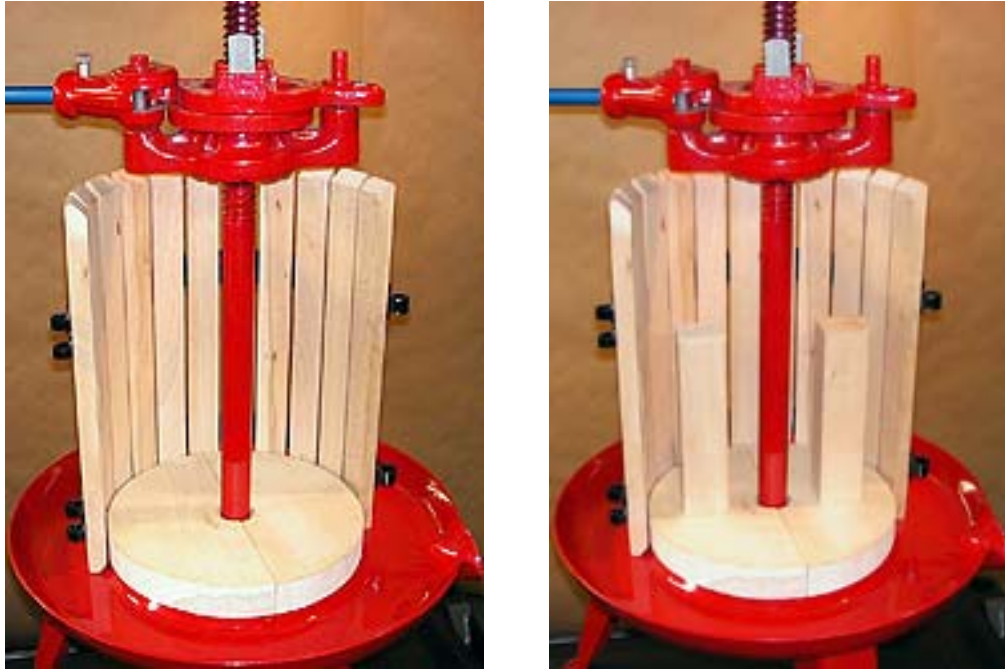
There are two ways to correctly insert the sheaves. One way for ratcheting down, the other for ratcheting up. As you are looking down on the press, when the sheaves are pointed in clockwise direction, the ratchet goes down.

Lubricate the central screw with water, mineral oil, or food safe lubricant only. You can spray some light mineral oil (like Pam) on the ratchet. If you have to use something like WD40 or silicone lubricant to get the ratchet working, be sure to wash the unit before use. You might need to take a rubber mallet or shoe and beat it a little to loosen it up. It will be fine once it is used and lubricated. You might have to do this every year after taking it out of storage.

To test the ratchet, insert the handle and tighten the set screw. Hold the base of the ratchet with your left hand to provide resistance, then simply ratchet back and forth. Now turn the sheaves the other direction and repeat.

SETTING UP THE PRESS

Assemble the two halves of the oak basket around the central screw. The oak slats run vertical. Secure the basket with the four locking pins. Fill the basket with the desired amount of biomass. The two semicircles of oak wood go on top of the grapes or other biomass. Next, screw on the ratchet mechanism, insert the handle, and tighten the set screw.



The 2x2 oak wood spacers go on top of the two semicircles and provide spacing as needed between the outer arms on the underside of the ratchet and the biomass. In other words, as you compress the biomass, you will need to insert more wood spacers.

Align a collection vessel with the pour spout in the base of the press and simply begin turning the handle to squeeze the juice out of the biomass. If the press becomes stuck at the end of the compression cycles, reverse the sheaves and ratchet the press out of the basket.

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