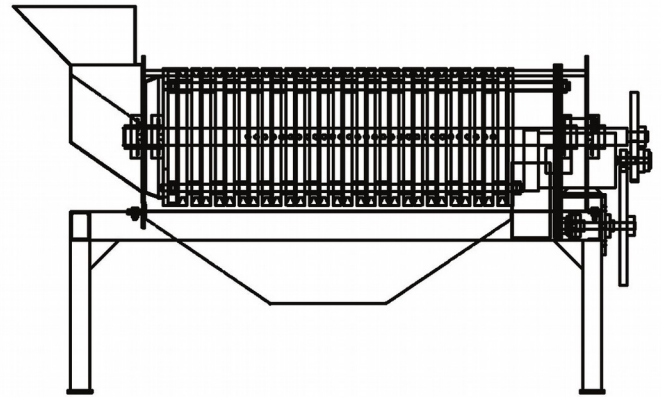


# 14 Inch Sheller

Model Number: ME-AS14-28R – Operation Manual



## THEORY OF OPERATION

As the pecans are fed into the input hopper, they will flow into the center of the rings. The rings rotate at a speed that will pick the pecans up and drop them onto the paddle shaft. The pins on the paddle shaft will impact the pecans and remove the shell from the nut. When the shell is removed, the nuts will pass through the gaps between the rings. If a nut is not sufficiently cracked, it will not “shell out” and will exit the override chute at the end of the rings. The speed of the paddle shaft and the space between the rings determine how aggressively the pecans will be processed.

## GENERAL OPERATING INSTRUCTIONS

Refer to Figure 3 for the location of referenced items. Before starting the sheller, remove the covers, and set the largest gap between the rings equal to the width of a perfectly shelled half plus 1/16 to 1/32 of an inch. This will allow the halves and small pieces to fall out between the rings as they are being shelled, and keep the nuts that need to be shelled inside the rings.

To adjust the gaps between the rings, Loosen the locking nut (See Figure 1) and turn the adjusting nut (See Figure 2).

When the sheller is running, monitor the condition of the pecans that are exiting the shelled nut discharge chute. If they are excessively damaged, reduce the speed of the paddle shaft or increase the gap between the rings. If an excessive amount of nuts are being discharged from the override chute, increase the speed of the paddle shaft or increase the gap between the rings. If an excessive amount of stick-tights (pecans with shell stuck to the kernel) are produced. Close the gaps between the rings.

If your sheller is supplied with one motor that turns the rings and paddle shaft, you can adjust the paddle shaft speed as follows. Loosen the T-Nut that clamps the motor mount. Raise the motor mount to increase the paddle shaft speed. Lower the motor mount to decrease the paddle shaft speed. Once the desired speed has been reached, tighten the T-Nut to clamp the motor mount in place.

For shellers that have two motors, two paddle shaft sheaves (pulleys) are supplied. The larger paddle shaft sheave will give you a low RPM range of paddle shaft speeds that are typically



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needed for larger nuts. The smaller paddle shaft sheave will give you a high RPM range of paddle shaft speeds that are typically needed for smaller nuts.

If your sheller is supplied with two motors, adjust the speed of the motor with the frequency drive that controls the paddle shaft motor until the desired speed has been reached.

**Special note for 14 inch shellers :** The 14 inch sheller does not have a male and a female ring. This means that when adjusting the gap between the rings, you will notice that there are large gaps and small gaps (See Figures 1 and 2). Disregard the small gaps, and set the large gap as instructed in the beginning of the general operating instructions.

## MACHINE MAINTENANCE

The 14 inch sheller requires very little maintenance. There are only six bearings that may need to be greased from time to time. All of these bearings are sealed, so very little grease should be used if greasing the bearings. Adding excessive grease will cause the seals to rupture and will lead to premature bearing failure. New 14 inch shellers do not require any grease in the bearings; they were greased from the factory. In addition to the bearings, make sure the drive chain has adequate roller chain lubrication.

There is a bar suspended above the rings. This is the wiper bar, and helps to clear the gaps between the rings of shell and kernel. Periodically check to see if the bar is touching the rings as they rotate. If they are touching, adjust the wiper bar bolt to pick the wiper bar off of the rings. Not doing this can cause premature wear of the rings.

Keep the machine free from excessive buildup of dust and debris. Before the machine is to be set aside for an extended period of time, clear the rings of remaining shell and kernel. Do this by first adjusting the ring gap fully open. Then, turn the machine on and allow all shell and kernel to be discharged from the rings. Next, adjust the ring gap fully open and run the machine again allowing all the shell and kernel to be discharged. Repeat these steps until the internals of the sheller is sufficiently clean.

For replacement parts, contact Modern Electronics and Equipment Inc. Do not change pulley or sprocket sizes. Doing so will result in poor sheller performance.

## INSTALLATION

The sheller should be mounted to a frame or the floor with bolts through the holes provided in the sheller frame. If the sheller is going to be attached to casters, the casters should have a locking mechanism so that the machine is stable during use. Wire the motor according to the voltage and frequency stated on the motor name plate. Only operate the sheller with the pulleys and/or sprockets provided by Modern Electronics and Equipment. Changing pulley sizes will result in poor sheller performance.



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## SAFETY GUIDELINES

The 14 Inch Sheller comes equipped with protective guards. Do not operate this machine without these guards in place. Stop the machine and disconnect (Lockout/Tagout) the machine before performing maintenance and before performing any other activities that will require removal of protective guards. Stop the machine before reaching into the machine with tools or body parts. Failure to follow these guidelines can result in severe injury or even death. Alert employees of safety guidelines before allowing them to operate this machine. General safety training of all employees or other people that may interact with this machine is recommended.

## FIGURES

Figure 1

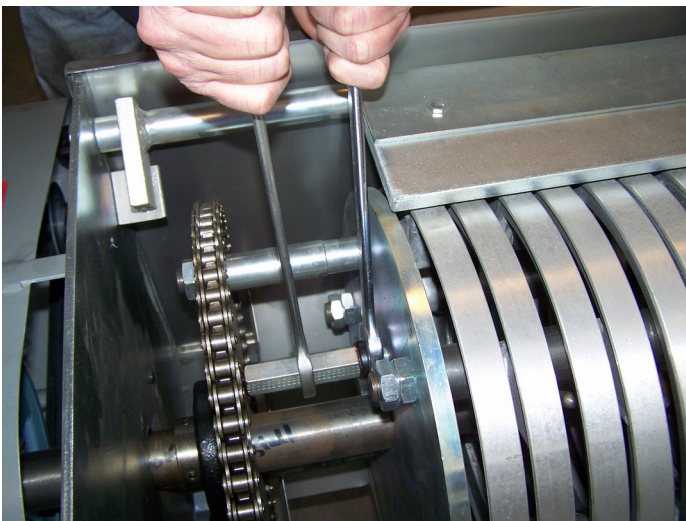
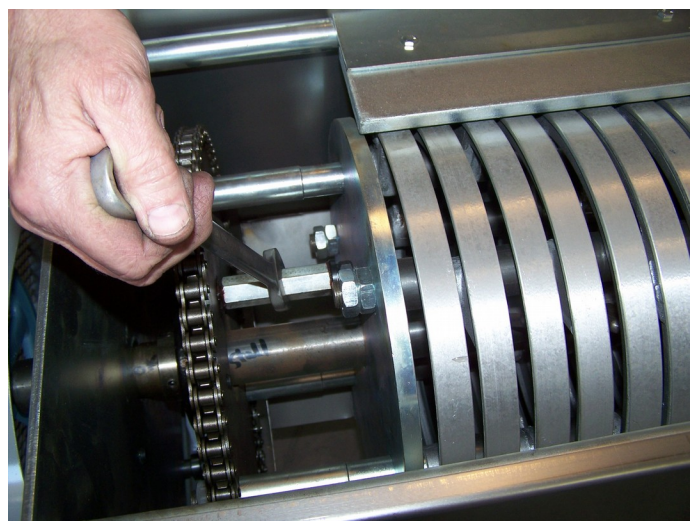


Figure 2



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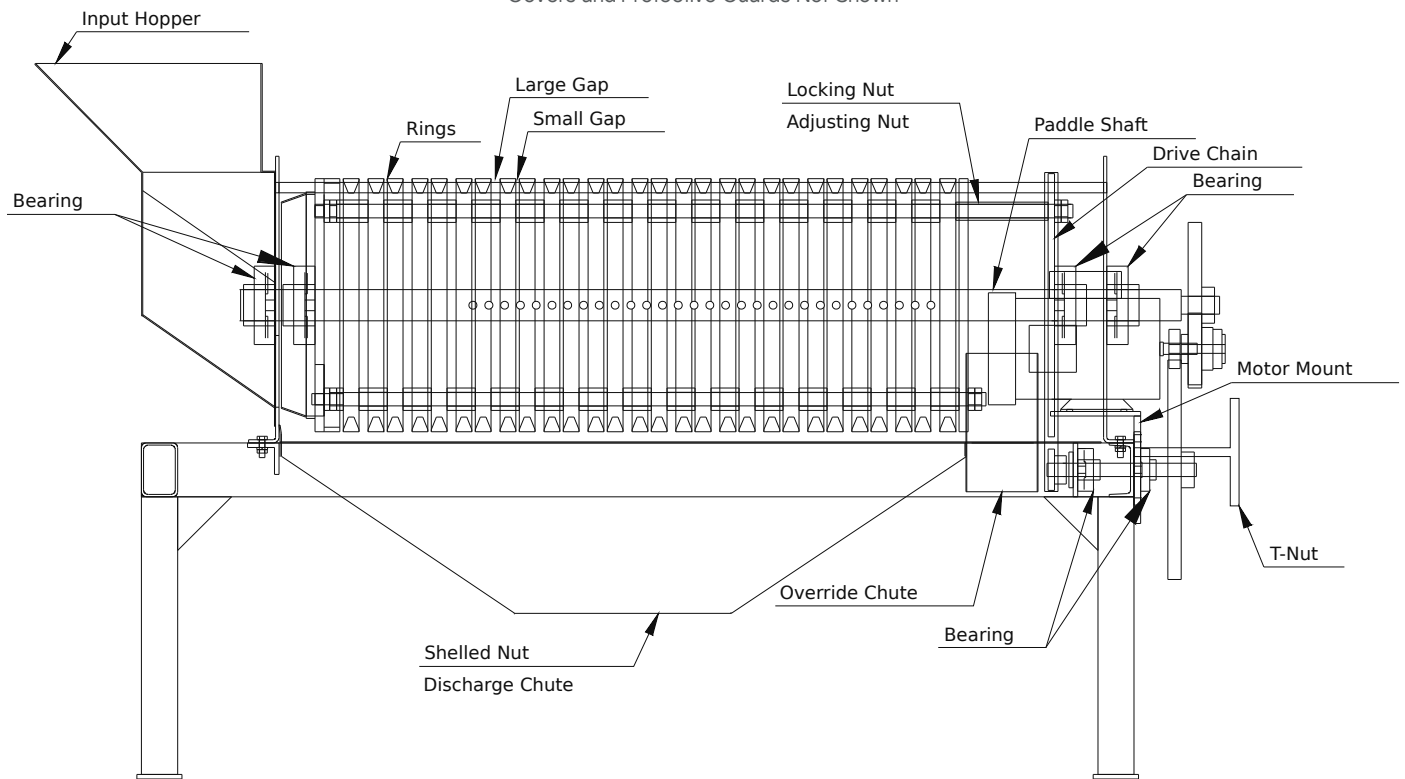
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Figure 3  
Covers and Protective Guards Not Shown



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