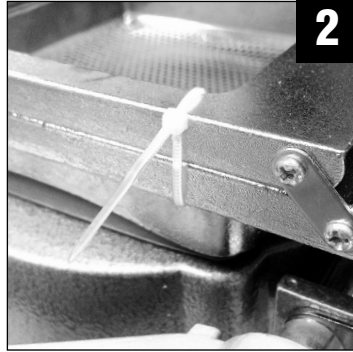


## #85756 VACUUM FORMING MACHINE – STEP-BY-STEP INSTRUCTIONS FOR USE

**The basic procedure:** A pattern is placed in the vacuum chamber. A sheet of thin plastic is suspended above it in a metal frame. A heater located above the plastic causes it to soften, at which time the vacuum is turned on and the plastic is moved downward over the pattern. Vacuum draws the soft plastic around the pattern and makes a copy of the pattern shape. When the plastic cools, it is removed from the chamber and excess trimmed away.



Unpack the machine and place it on your workbench in the position shown. Notice that the orange handle is in the horizontal position and the two control switches on the front of the machine are in the OFF position. Plug the line cord into a wall outlet. Note: The heater draws a lot of current, so try to avoid using an extension cord that could overheat.



After removing the plastic tie(s) that hold the frame together for transport safety, you will notice either a piece of black plastic or wood inside the frame that is also for transport only and needs to be removed as well prior to operation.



Rotate the heater all the way to the left to get it out of the way for the next few steps.



Optional – Pour the metal beads into the vacuum chamber. The beads act as a way to support patterns with irregular bottoms. If your pattern has a smooth bottom, you may elect to skip this step.



Use your fingers to spread out the metal beads evenly in the vacuum chamber.



Place your pattern in the chamber.



Use your fingers to push the metal beads around the bottom perimeter of your pattern. This will keep the plastic from wrapping around the pattern, making it difficult to remove later in the process.



Swing up the top half of the frame. It should stay in place. If the frame does not stay up, tighten the two screws at the left and right rear supporting hinges a bit.



Insert a 5" x 5" sheet of plastic into the recess in the bottom frame.

**Note: Not for use with polycarbonate.**



Swing down the top frame and pull the latch knob over the tongue to lock it in place. This will clamp the two frames together and hold the plastic ready for heating and forming.



Push the orange handle down to latch the metal frame in the UP position.



Turn on the heater.



13

Grab the heater knob (do not touch the metal part of the machine – it gets HOT!). Swing the heater over the center of the plastic sheet and watch for the plastic to soften and sag down in the frame about 3/4". Experiment with different amounts of sag for different plastics; your experience will help judge when to do the next step.



14

Moving quickly, turn off the Heat. Then, turn on the vacuum using the "Model" switch, and...

*See note below\**



15

...raise the orange handle to lower the softened plastic onto the pattern.



16

After about 8 seconds (to allow the plastic to cool), turn off the vacuum.



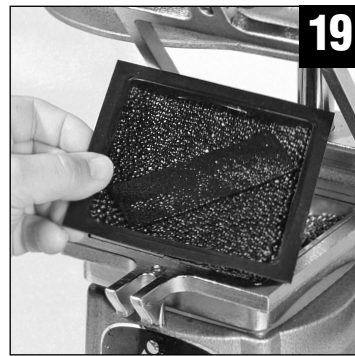
17

Swing aside the heater.



18

Unlock the frame and swing up the top half.



19

Remove the plastic sheet from the vacuum chamber. Watch out for all the metal beads that may stick to the plastic. Pop them out over a large tray or pan to catch them for re-use.



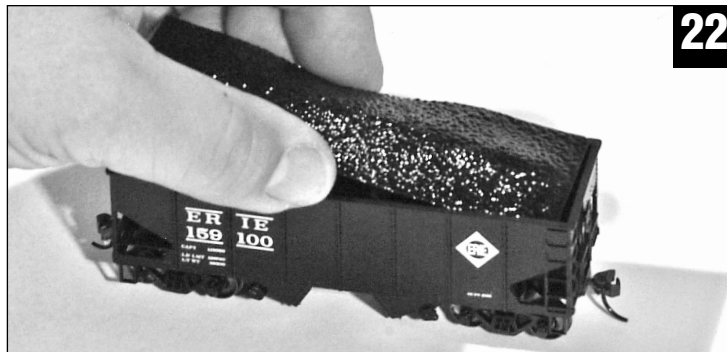
20

Remove the pattern from the plastic sheet.



21

Cut excess plastic sheet from the vacuum formed part.



22

In this sample, we made a coal load for an HO scale hopper car. It can now be installed in the car.

***\*Note: If the heater and vacuum are running at the same time, the machine will draw between 15 and 20 amps and a 15-amp circuit breaker may trip.***

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