

Details about our homemade feeding system and how to build it (Menet lab, December 2019)

Reference:

Greenwell B, Trott AJ, Beytebiere JR, Pao S, Bosley A, Beach E, Finegan P, Hernandez C, Menet JS. (2019) Rhythmic Food Intake Drives Rhythmic Gene Expression More Potently than the Hepatic Circadian Clock in Mice. Cell Reports 27:649-657.

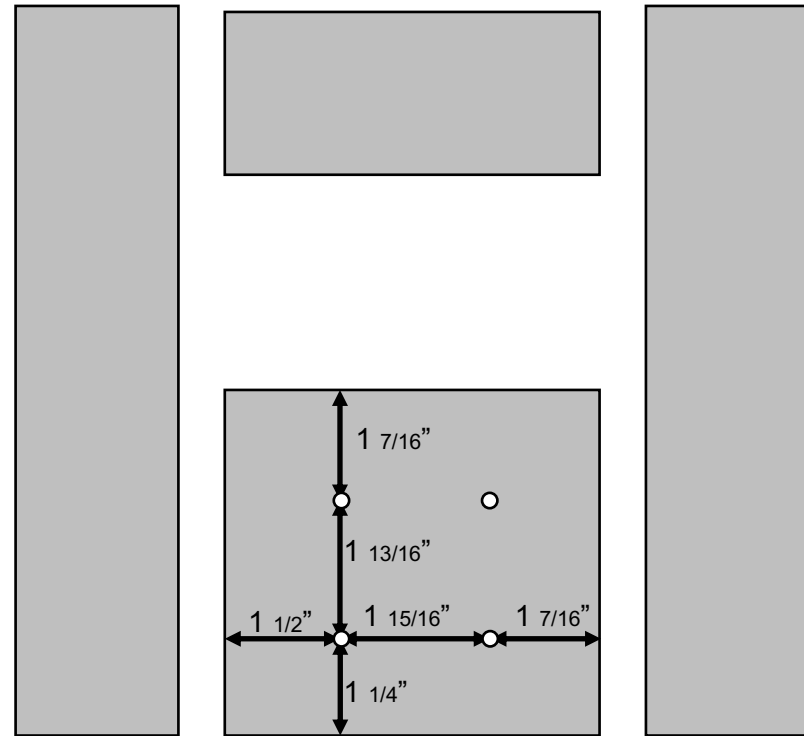
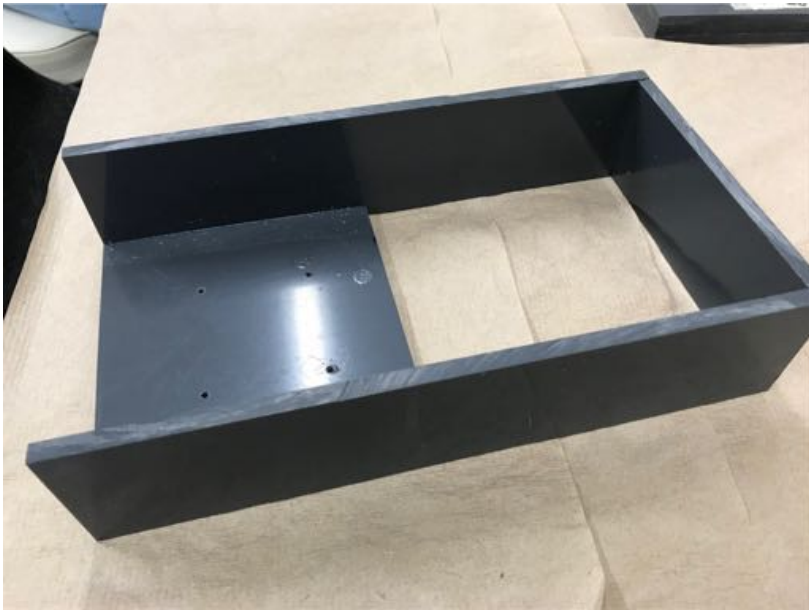
PVC base:

4 pieces of 0.25" PVC. Dimensions:

4 $\frac{7}{8}$ " x 4 $\frac{1}{2}$ "

4 $\frac{7}{8}$ " x 2 $\frac{1}{8}$ "

9 $\frac{1}{2}$ " x 2 $\frac{1}{8}$ " (2)



Position of the four holes to be drilled to fix the timer (see picture on the left)

Securing the timer on the PVC base:

Timer (General Electric; #15119).

- (1) Timer opened to remove the plug, and connection made using standard extension/electric cord (e.g., HDX HD#145-017).
- (2) Holes drilled where original timer screws were located, and 1.5" screws used to fix the timer on the PVC base.
With this system, the timer lies flat and is stable on the PVC base.
- (3) Four holes were drilled on the top of the timer and filled with 3/4" screws to hold the food container.

screws used to held the eight compartment food container (4 needed)
Holes were drilled carefully not to drill through the entire timer.



1.5" screws used to fix the timer on the PVC base (two are enough)



PVC pipe:

4" PVC Tube (Home Depot; #531103). External diameter of 4.5".

- (1) Cut w/ miter saw at a height of 3 1/8"
- (2) A hole of ~1/2" inch was drilled to let the cable through
- (3) The top of the pipe was heavily sanded using a Dremel to allow the cap to be removed easily when changing the food container.



Top of the pipe sanded.

Hole to let the electric cable go through

Cutting a hole in the cage:

Any cage with a width superior to 4.5" can be used for this; use the one you prefer.

Hole drilled with a 4.5" hole dozer (e.g., Home depot , Milwaukee # 49-56-9649) on one side of the cage.



Food container:

4" feeding Container (JewelrySupply; #PB8301).
The edge of the container needs to be removed to
fit well into the pipe



Part to be removed/cut



Extra tip:

Our system to transport the containers, made of scrap PVC.

Three pieces of 1/4" PVC, with two being drilled in the middle. Then glued together, and using a pipe that can be put in the hole or removed.



Final setup

