AHDriFT Camera Trap Array Pictorial Assembly Guide

for Ohio PARC

Last updated: 03/24/2023

Tools you will need:

- Circular or Miter Saw
- Rotary tool (Dremel), Jigsaw, and/or Hacksaw
  - Recommended: Dremel Rotary Tool attachment (Model #678) and Multipurpose Cutting Bit (Model 561).
- Drill with $^{1}/_{4}$ " and $^{3}/_{32}$" bits
- Phillips head screwdriver
- Linesman pliers
- Measuring tape
- Sledgehammer
- Gloves
- Safety glasses
- Sharpie

Materials you will need can be found in the accompanying spreadsheet.

Each camera trap array requires 2 cameras, batteries, memory cards, 2 buckets with lids; 2 acrylic sheets, 4 wood guide boards, one roll of aluminum flashing, 18 rebar stakes, and associated small hardware.

Preparing the Wood

1. Use a circular or miter saw to cut four 10 ¾” pieces from the 2” x 10” x 8’ board.

2. Use a circular or miter saw to cut a horizontal channel, blade width about 3 - 4” long, about 3/8” from the bottom edge of the board.

Preparing the bucket

1. Remove bottom (will become top of camera trap) using a Dremel with circle cutter (model 678).

2. Identify and mark a center point, between the bucket handle attachment points. Wrap measuring tape around bucket, beginning on this center point, and mark:

4 ½, 16 ⅜, and 28 ¼”

These will be where the “L” brackets are mounted to hold the lid.

Preparing the bucket

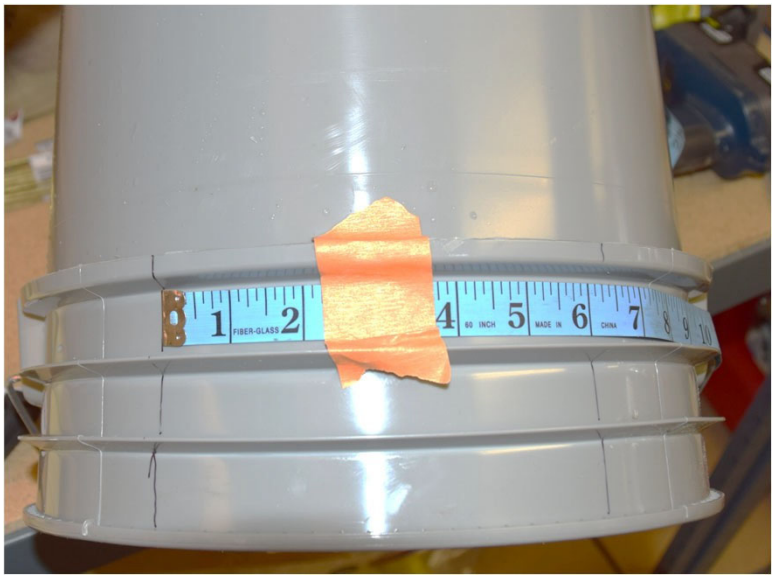
3. Line the "L" brackets over the marks and lay the acrylic on top. Position the brackets until they are flush with the acrylic, then mark the location of the holes on the bucket.

4. Drill the holes for the 3 "L" brackets (total of 6 holes). Note: the brackets are not evenly spaced on the bucket, and the two closest ones make up the *front* entrance of the camera trap.

Note! Label each bucket, lid, and acrylic piece with a permanent marker to make sure you know which ones go together. Label the front of the bucket too!

Preparing the bucket

5. On the side that was the top of the bucket (will now be the bottom), draw two lines, each 3” from the center of the bucket. Do this at the FRONT entrance of the bucket.

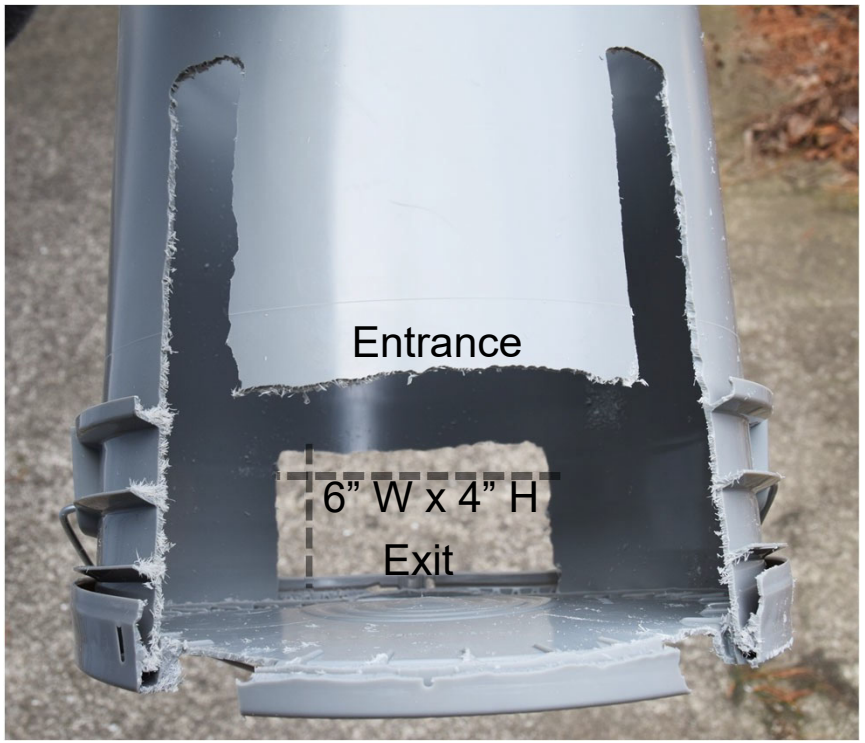


6. Line the guide boards up on these marks and trace the area to be cut. Note, there should be 6” between the two guide boards.

Preparing the bucket

7. Using a Dremel or hacksaw, cut out the area where the guide boards will be inserted, and the area in between about 4" high.

8. Mark off a 6” wide x 4” high section centered on the back of the bucket and remove this for the exit.



Preparing the bucket

9. Attach the 5-gal lid to the bottom of the bucket (the stage) and mark where the guide boards will be inserted. Cut away to the center portion of the lid. Also, remove the lip in the entrance (between the boards) with a Dremel or hacksaw.

10. Reattach the stage (5-gal lid) and slide the boards in so that the slit in the boards slides over the stage. Make any necessary adjustments.

Preparing the bucket

11. Use 6 machine screws and nuts to attach the “L” brackets to the (now) top of the bucket. Bucket is complete!

Preparing the acrylic lid

12. When you are finished, the acrylic will have a total of 5 holes: 3 along the edges for attaching to the "L" brackets and 2 along the middle (but not centered) for holding the camera.

13. Center the acrylic over the bucket, making sure it is nearly flush with the bucket on the front entrance side that will be flush with the fence. On the acrylic, mark where the outer holes are located for the two front brackets; mark the inner hole for the bracket over the exit. Once the holes are marked, use a 1/4" bit to drill the holes.

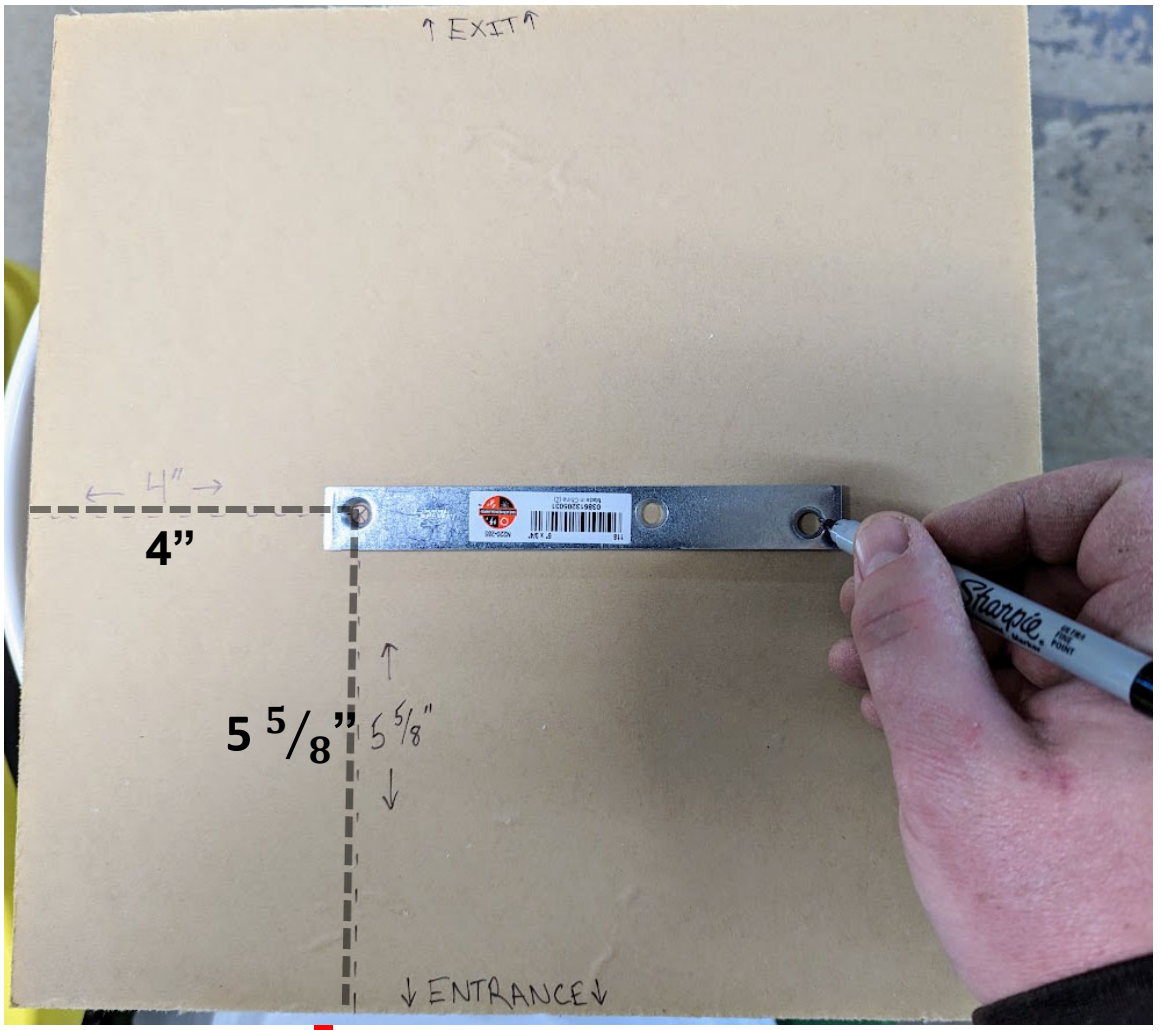
Preparing the acrylic lid

14. The holes for the camera hanger (6 x ¾” mending brace) are staggered and are slightly closer to the front entrance of the bucket (2 “L” brackets).

Locate the spot 5 $^{5}/_{8}$” from the front entrance and 4” from the edge of the acrylic. Mark this.

Lay the mending brace so that the left most hole lines up with the mark. Level the brace and mark the location of the right most hole.

Use a 1/4" bit to drill holes at the two marked spots.

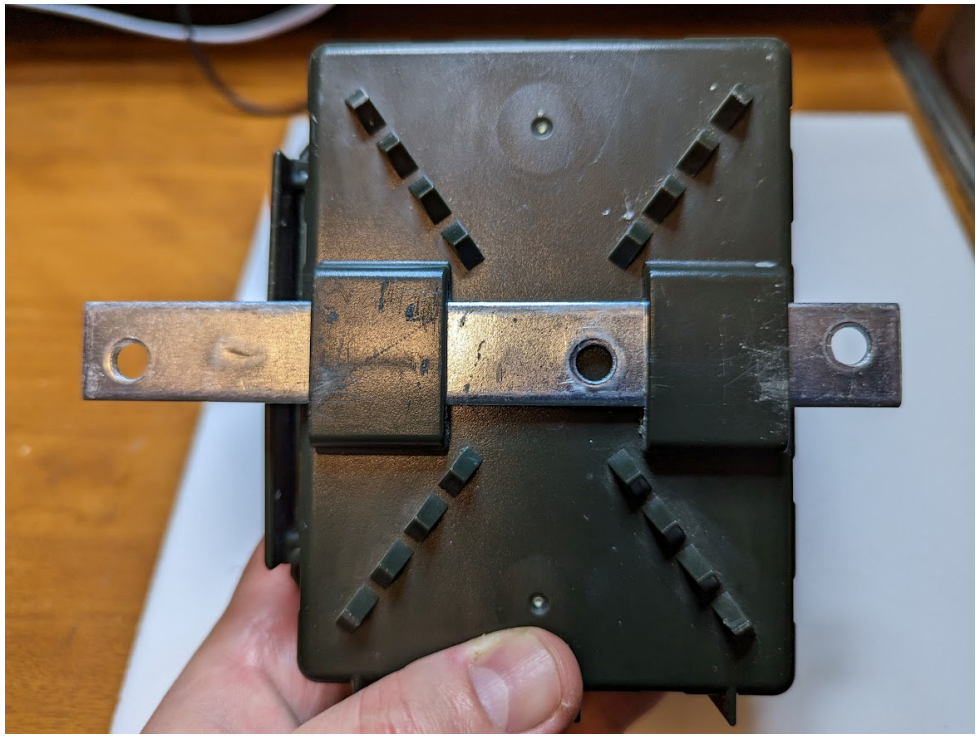


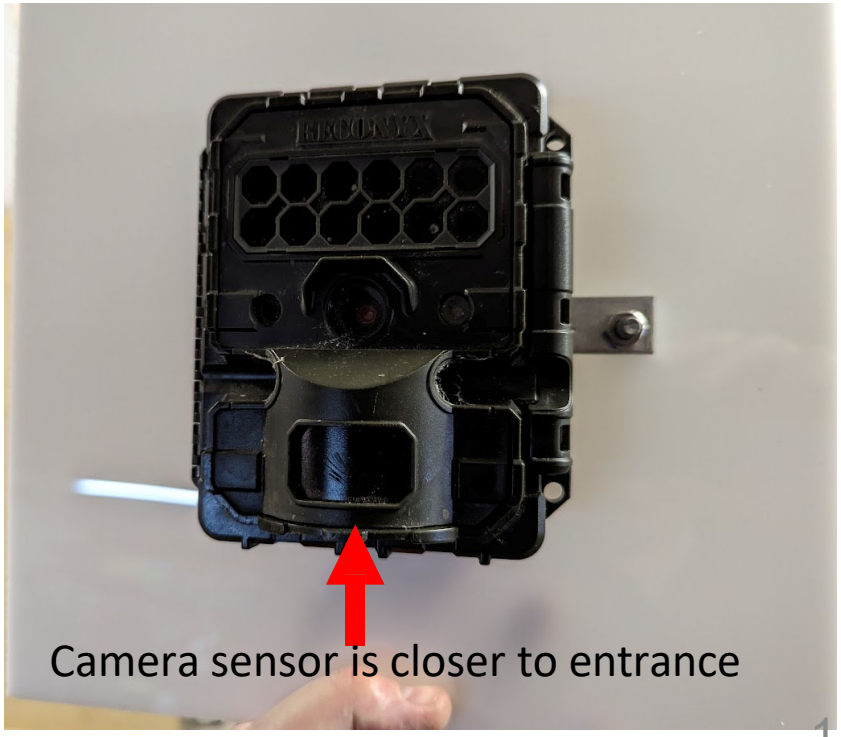
Entrance (2 “L” brackets)

Preparing the acrylic lid

15. Insert the 6 x ¾” mending brace through the slots of the back of the camera. The brace must be pushed through so that there is adequate space for the latch on the camera door to operate. See image below.

16. Secure the mending brace to the acrylic with two 1” machine screws and nuts. Be sure the door of the camera can be unlatched and opened, and the camera sensor is closest to the entrance (2 “L” bracket side).





Putting it together

17. Lay the acrylic lid onto the bucket and align the holes in the acrylic with holes in the "L" brackets. Secure with a total of 3 machine screws and 3 wing nuts.

A few notes

- Shade cloth is not needed. The semi-transparent acrylic keeps the camera from overheating.
- Attach a waterproof sign under a wingnut with your contact information. No camera is visible, so don't mention it. *"Wildlife research. Do not disturb. Manufacturer modified. Will not function if removed."*

Programming the Reconyx Hyperfire 2 cameras

1. Insert the memory card and charged batteries into the cameras.
2. Erase the card.
3. Refer to the Reconyx Hyperfire 2 user guide for details. For most settings we use the default, but we recommend changing the following settings to maximize photo quality for our set up.
4. Set the date and time
5. Set the sensitivity to “very high”
6. Set the flash output to “low”
7. Set the shutter speed to “1/480th”
8. Set the PIR type to “high frequency”
9. Set the battery type to “NiMH”

Installing Drift Fence

1. Roll out aluminum flashing. Lay 1 rebar at end of flashing, wrap flashing around it, drill 2 holes about 1” apart through flashing at top, and at bottom. Repeat at other end of flashing.

Installing Drift Fence

2. Thread a rebar tie in and out through the top holes and twist ends together with pliers to secure. Repeat for bottom 2 holes. Repeat at other end of flashing.

3. Use mattock to excavate a trench the length of the fence, about 3 - 4” deep.

Installing Drift Fence

4. Starting at one end, stand the flashing up in the trench. Pound the end rebar into the ground with a hammer, and move down the trench, standing up and pulling the flashing taught as you go.
5. About every 6 feet, anchor the flashing by sandwiching it tightly between 2 rebar and pounding them into the ground with a hammer. Tie the rebar together at the top with rebar tie. Pull flashing tight and move further down. At the end, pull the flashing tight one last time and pound the rebar into the ground.
6. Backfill the trench along the flashing tightly!

Installing Drift Fence

7. Place the bucket so that it is flush with the fence and the ground. Drill two small holes in the front of the bucket on either side of the fence.

8. Drill a hole through the wrapped fence just past the rebar and at the same height as the holes just drilled in the bucket. Use a rebar tie to thread through the one hole in the fence and the 2 holes in the front of the bucket. Twist to tighten and hold the bucket to the fence.

Installing Drift Fence

9. Secure lid/camera on top of bucket. Camera trap is complete!

A few notes

- Be sure the camera was turned on and was counting down to arming before the acrylic lid was fastened closed.
- Check the fence more frequently if freezing temperatures are occurring, which may cause soil heaving and gaps to appear under the fence.
- Clear vegetation from around the entrance and exit to the buckets on each visit to minimize false triggers.