



ALL WEATHER CAT SHELTER

STEP-BY-STEP INSTRUCTIONS



Petncharge COMMON SENSE
PET CARE

Materials & Safety Items



Materials List

- One (1) 70qt **Insulated** Cooler w/ Cup Holders in the Lid
- Two (2) pcs 6" inside diameter pvc pipe; cut in 4" sections
- Four (4) pcs 2" inside diameter pvc pipe; cut in 3-4" sections
- Phenoseal, vinyl adhesive caulk
- All-purpose marine grade flexible sealant (*permanent bond*)
- One (1) sheet of New, Unseamed 45 mil pond liner
- One (1) set of Marine Grade Snaps & Screws
- A bale of Clean Processed Straw; EZ-Straw is recommended

Tools & Hardware List

- High Powered Electric Drill / Driver, 20v / 4.0Ah
- High Speed 6-5/8 Inch Hole Saw, for plastic / acrylic-board
- Heavy Duty 7/16" Hex Shank Mandrel, for the Hole Saw
- Small screw bit that will fit on your drill
- Reciprocating Saw (Variable Speed Oscillating Tool)
- Rubber Mallet
- Dark colored Sharpie or Felt Tip Marker
- Tape Measurer and Ruler
- Rotary Cutter
- Cutting or Fabric Board

Safety Items List

- A pair of **safety goggles**
- A face mask
- A pair of work gloves
- A large tarp or cover

Links & References

Most of the materials, tools and items used in this project are listed in Design Kits on my Amazon Influencer Shop; www.amazon.com/shop/petsncharge. [Click to view this 70qt Design kit](#) and see, or purchase, items on my Amazon Influencer Shop.

The 6" PVC pipe required for this project is not available on Amazon and will need to be purchased separately. [Click here for an example with accurate dimensions](#).

Substitutions

- You can substitute the reciprocating saw for a manual hand saw or chisel; however these will slow down the overall project time.
- You can substitute the rotary tool for a utility knife or fabric scissors; however I highly recommend the tool for cutting the flaps.

DETAILS & PREP WORK

GET YOUR MATERIALS READY



Insulated Cooler

To ensure that the life of the shelter, and the internal weatherproofing, find **insulated coolers** to use as the base of your main shelter body.

I recommend a **70qt Coleman Xtreme** cooler for this project. The **70qt** size provides enough space for 2-3 cats per shelter. Plus this cooler has built in cup holders on the lid, which is essential for attaching the feet.

To build larger cat shelters you can use a 120qt cooler or a 150qt cooler and add a divider for a double enclosure. I'll cover these shelters in a future tutorial.

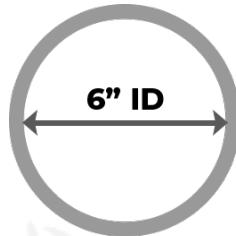
So long as the cooler is generally intact and the exterior wall is not punctured, the condition does not matter for the needs of this project. I prefer to find a stock of used, damaged and/or returned coolers from online or local retailers. Generally, these will be offered at highly discounted rate.

Look for coolers which are dark in color if possible, such as forest green or black, unless you have a request for a lighter color due to the location where the shelters will be placed. The color of the shelters is meant to provide a basic camouflage and cover effect when the shelters are set out on location. The more the shelters blend into the background, the less unwanted attention that they will draw, the safer the occupants will stay.

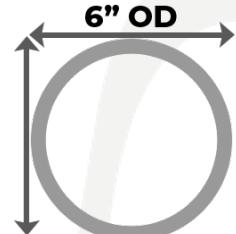
PVC Pipe (Exits & Feet)

For this project you will need **two (2)** different sizes of **PVC pipe**. Make sure that you get PVC pipe and not PVC tube.

the difference between PCV pipe and PVC tube



6" PVC pipe will always measure 6" from inside edge, to inside edge. exterior measurements will vary depending on the thickness of the outer wall of PVC itself.



6" PVC tube will always measures 6" from outside edge, to outside edge. interior dimensions will vary depending on the thickness of the outer wall of PVC itself.

For the **entrances / exits** to the shelter you will need **6" PVC pipe**. This is the perfect width for cats to fit into while keeping would be predators out. The number of shelters you plan to make will determine the overall length of pipe.

For each shelter cut **two (2)** sections, measuring **4"** (inches). Your local hardware store should be able to cut this for you if you do not have the tools at home.

For the **feet** you will need **2" PVC pipe**. With epoxy, this size pipe will fit perfectly into the cupholders on the lid of your cooler.

For each shelter you will need **four (4)** even pieces measuring **3-4"** (inches).

Liner, Snaps & Screws

For the winter flaps, you will need at least **one (1)** sheet of **45 mil**, unseamed pond liner. Make sure that you buy new liner and not used.

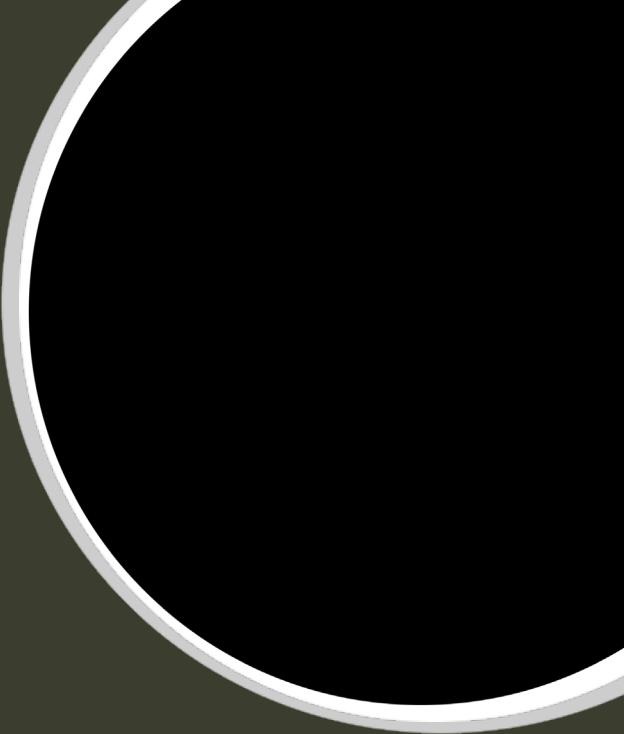
*mil is a derived unit of length in a system using inches, equal to $1/1000$ of an inch;
not to be confused with a millimeter or milliliter.*

The most cost-effective option that I have found is buying a 5' (foot) x 5' (foot) sheets from Amazon. However, always look to see if you have a local retailer who is willing to donate or provide a discount, find out.

*do **NOT** substitute pond liner for shower pan liner or plastic sheeting.
these materials are **TOXIC** to pets and unsafe for this project.*

You will also need a pack of marine grade snaps and screws to attach the flaps to the shelter, as well as a small bit for the drill. The bit and drill are to drill pilot holes for the screws.

For each shelter you will have **two (2)** screws per exit and **two (2)** snaps per flap; totaling **four (4)** sets per shelter.



***PUT ON YOUR
SAFETY GOGGLES***

Step 1: Remove the Left Handle

Use the reciprocating (rotating) saw* to remove the handle on your left when you are looking at the back of the cooler.

1. Secure the cooler before you begin sawing.
2. Position the reciprocating saw against one of the inside edges of the cooler handle.
3. Making sure to keep the blade flat against the cooler to avoid cutting into the shelter wall, slowly move the saw towards the outside edge.
4. Repeat for the other side of the handle.

Always keep the blade facing outward from your body, cutting out and away

**If you do not have access to, or feel comfortable enough with the electric saw, you can substitute a hand saw or chisel for the reciprocating saw.*

Step 1: Remove the Left Handle



***ADD A
FACE
MASK
TO YOUR
SAFETY
GOOGLES***



Step 2: Drill Holes for the Exits

1. Secure the cooler before you begin drilling.
2. Attach the shank mandrel and hole cutter to your drill.
3. Drill holes in both the front and left side of the cooler.
 - For the front of the cooler:
 - Measure and mark **6"** up from the bottom of the cooler
 - Measure and mark **20"** from the left side; left being the side where you removed the handle
 - Drill on center to these marks*
 - For the left, drill in the space where the handle was removed

Work slowly to make sure that the holes are not larger than intended, so that the PVC pipe for the exits will fit snugly later.

**if you are using a Coleman Xtreme cooler, 6" from the bottom and 20" from the left side should end up where the logo sits on the cooler.*

Step 2: Drill Holes for the Exits

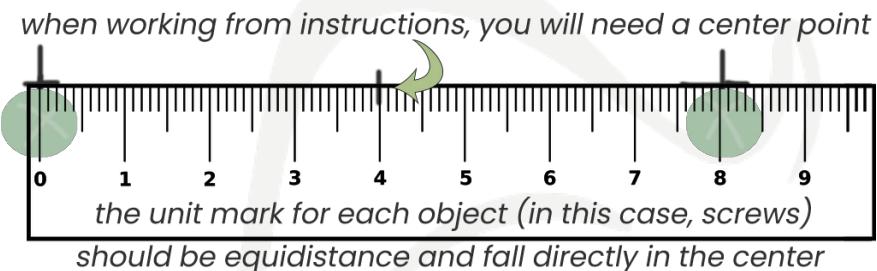


Step 3: Mark & Drill Pilot Holes

A term you will see often is **on center**. In building and DIY terms, measuring from the center of one object to the center of another. This is commonly used for framing and in floor plans. It's important here since we drill holes early in the project and add the counterparts later.

Using an **on center** measurement provides a reference to previous steps, without backtracking.

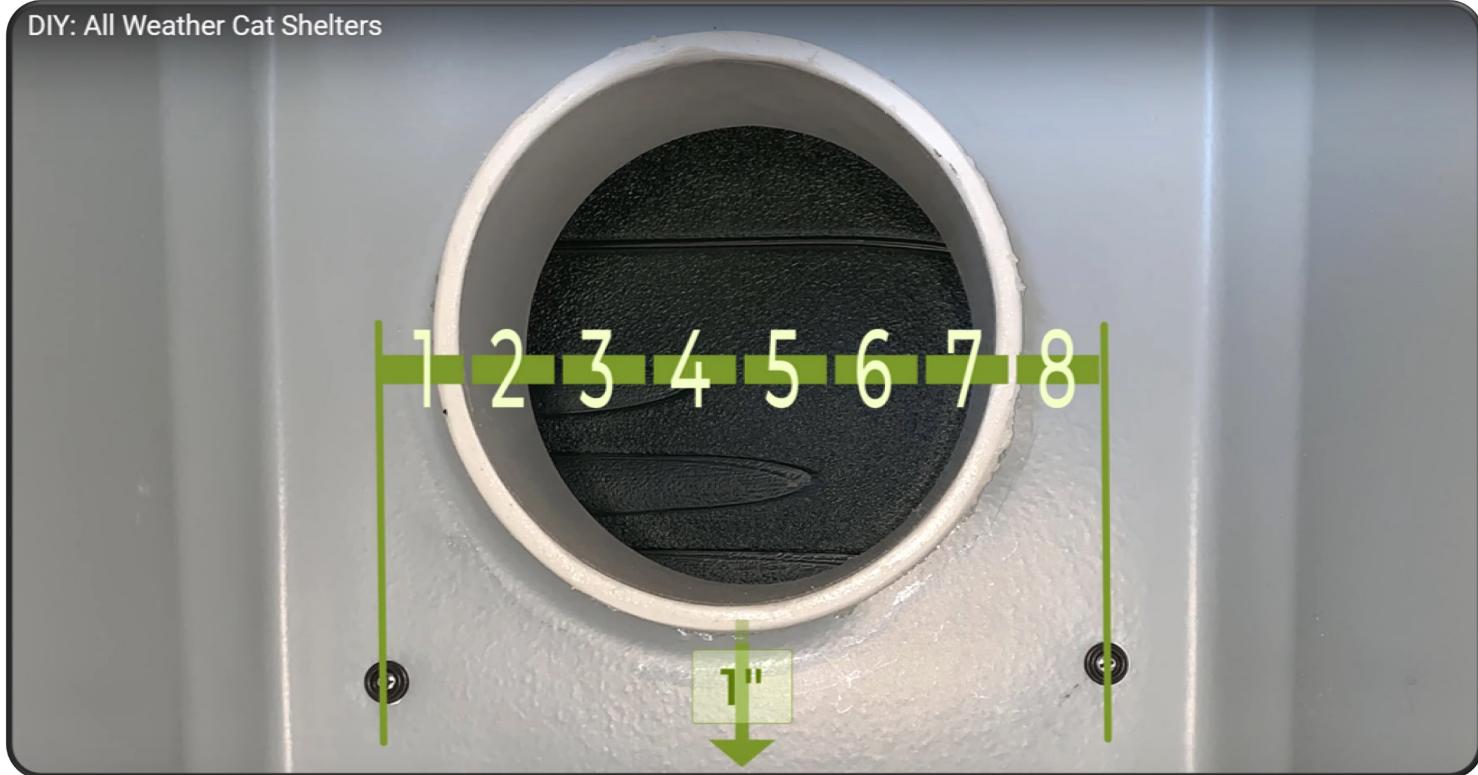
In this step, the pilot holes and screws are **8"** (inches) **on center** to the exit holes. This will match the snaps we put on the flaps in step 11.



1. Open the cooler lid, grab your sharpie and a ruler.
2. Looking inside the cooler, mark two pilot holes at each exit.
 - The horizontal measurement should be centered on the exit holes, **8" on center**.
 - The vertical measurement should be **1"** up from the bottom of the cooler.
3. Attach the small bit to your drill.
4. Drill the pilot holes on your marks.

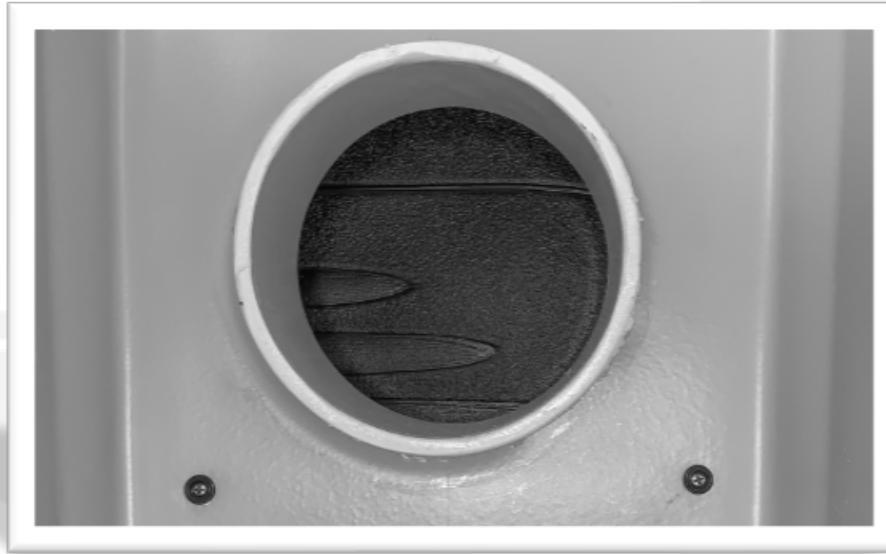
Step 3: Mark & Drill Pilot Holes

DIY: All Weather Cat Shelters



Step 4: Attach Screws for the Flaps

1. Dip the screws in the marine grade flexible sealant.
2. Attach the screws to the shelter in the pilot holes you drilled.

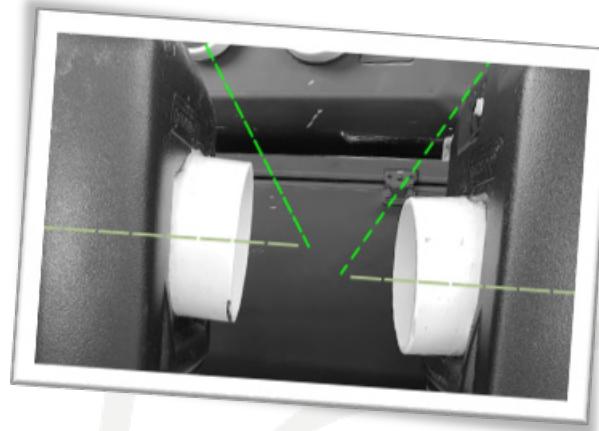


The addition of the sealant ensures weatherproofing on the shelters, as well as decreasing the chance that a screw will come loose or need to be replaced.

Step: 5 Align & Attach Exits (Entrances)

Since exits need to be placed at the best angle to allow for water run-off, I recommend that you do a test run before using adhesives.

I run this test on each shelter, since there are always slight variations from project to project.



1. Apply a thin layer of Phenoseal on the inside foam core of the left hole you drilled. *If some gets onto the outer wall of the cooler, don't worry we will use that in step 6.*
2. Insert one of the **6" PVC pipes** into the exit from the outside.
3. Adjust the pipe so that it is aligned to a good angle to allow for water run-off.
4. Push the pipe through the exterior of the cooler wall so that it is just over flush with the interior wall of the cooler
5. Use the Rubber Mallet to ensure a snug fit.

Step: 5 Align & Attach Exits (Entrances)



Step 6: Seal & Air Dry the Interior

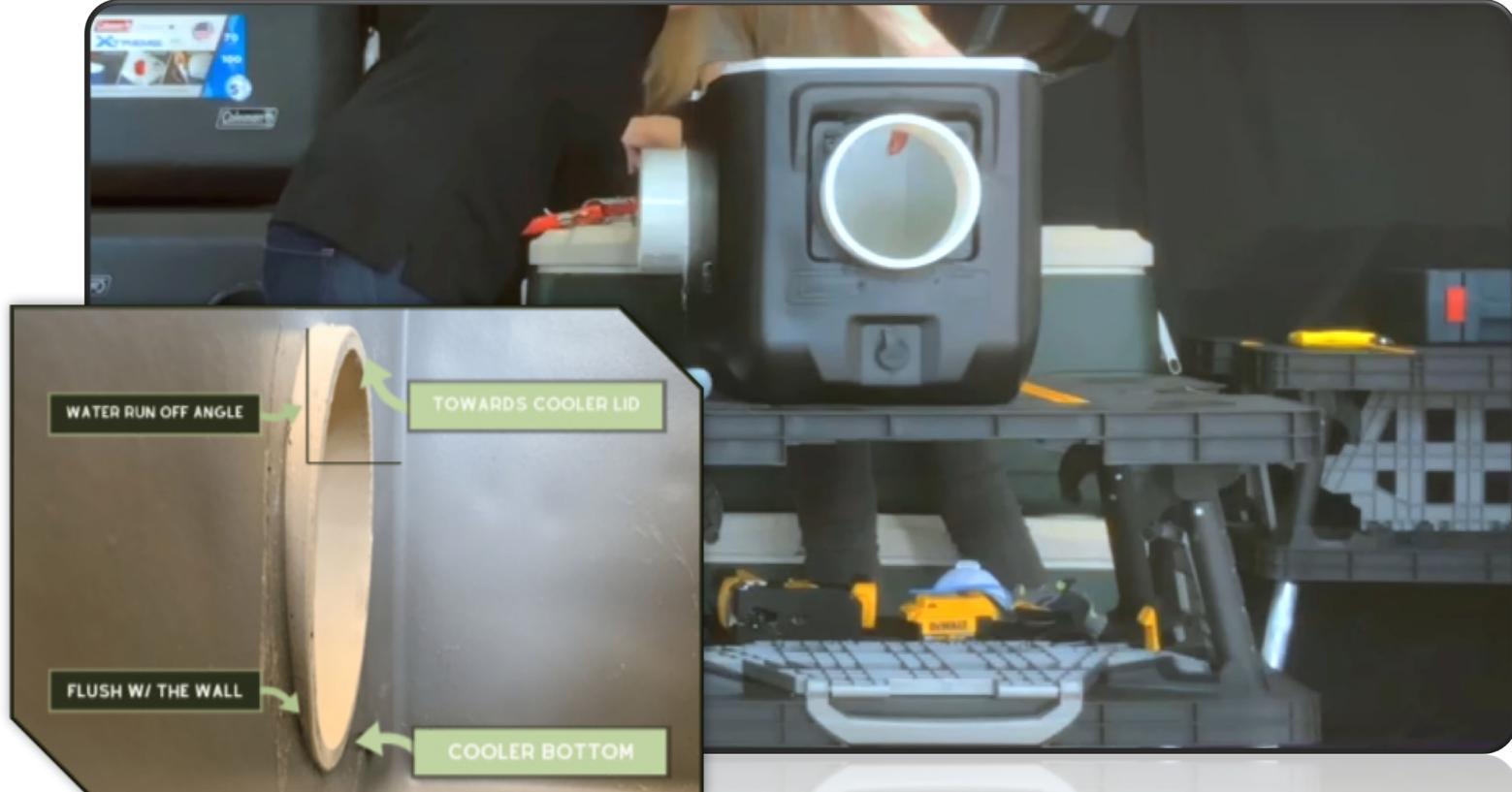
There are a few reasons why I am using **Phenoseal** for this project in addition to a flexible sealant. Unlike the quick setting flexible sealant or epoxy, **Phenoseal** dries more slowly. This is perfect for attaching, aligning and adjusting the exits. Plus **Phenoseal** is a caulk which is used to create a weatherproof seal between objects, like windows (*portholes*) on boats.

The alignment on this project is important, seal the pipe one side at a time (front then back) to give yourself time to adjust when needed.

In order to verify that the alignment is correct, do not seal both sides of the pipe (interior and exterior) at the same time. Create the seal for the interior of the pipe first and finish the seal on the exterior after the interior has dried.

1. Look for the excess **Phenoseal** on the interior wall of the cooler and use a damp paper towel, or your finger, to form a seal between the wall of the cooler and the exterior of the pipe.
2. If there are any cracks in the seal or not enough **Phenoseal** to form a complete bond, add more.
3. Let the interior **Air Dry** for at least **24 hours**. Do **not add heat** to speed up the process, this will weaken the lifespan and weatherproofing of the **Phenoseal**.

Step 6: Seal & Air Dry the Interior



Step 7: Attach the Feet

Use the time while the interior is drying and attach the feet.

Cup holders built into the lid of the cooler will save time, hassle and money.

2" inside diameter PVC pipe, like couplings, will fit perfectly inside the cup holders to make the feet. For this step in the project, make sure to use the fast-drying marine grade flexible sealant.

1. Apply a thick layer of the permanent bond, flexible sealant in the bottom of a cup holder.
2. Insert one of the **2" PVC pipes** into the cup holder at a slight angle.
3. Apply sealant along the base of the pipe while you rotate the pipe into the cup holder. Continue rotating and applying sealant until:
 - You have created a nice strong bond between the cooler and the PVC pipe;
 - AND
 - The end of the pipe is flush with the bottom of the cup holder and the pipe is perpendicular to the cooler.
4. Move onto the next cup holder until all four (4) feet are finished.
5. Continue to let the shelter **Air Dry** for the remainder of the **24 hours** from step 5 before turning it over.

Step 7: Attach the Feet



Step 8: Seal & Air Dry the Exterior

Once the cooler has finished drying, complete the seal on the exits by adding **Phenoseal** to the cooler exterior and the rim of the exits.

Check the PVC pipe alignment as adjustments may be needed after drying.

1. Starting with the left side, check the water run-off alignment and adjust as needed.
2. Add **Phenoseal** around the exterior wall of the cooler and the exterior of the pipe.
3. Use a damp paper towel, or your finger, to form a seal between the wall of the cooler and the exterior of the pipe.
4. Let the exterior **Air Dry** for at least **24 hours**. Do **not add heat** to speed up the process, this will weaken the lifespan and weatherproofing of the **Phenoseal**.

Step 8: Seal & Air Dry the Exterior

DIY: All Weather Cat Shelters



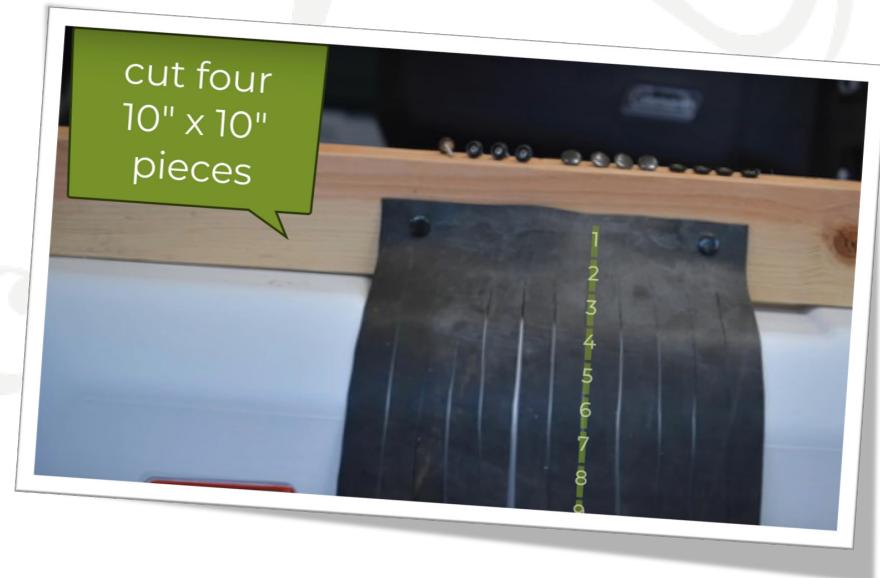
Step 9: Cut the Flaps

While the exterior seal on the cooler is drying, make the winter flaps.

This project calls for two (2) flaps per shelter.

I always make four (4) so that I have backups in case of accident or loss.

1. Measure and mark out **four (4)** 10" by 10" squares on the sheet of pond liner.
2. Using the rotary tool*, utility knife or fabric scissors cut out the squares.



**I highly recommend using a rotary tool for cutting the flaps and in the step 10, the strips on the flaps. This is the most effective tool and your wrists will thank me too.*

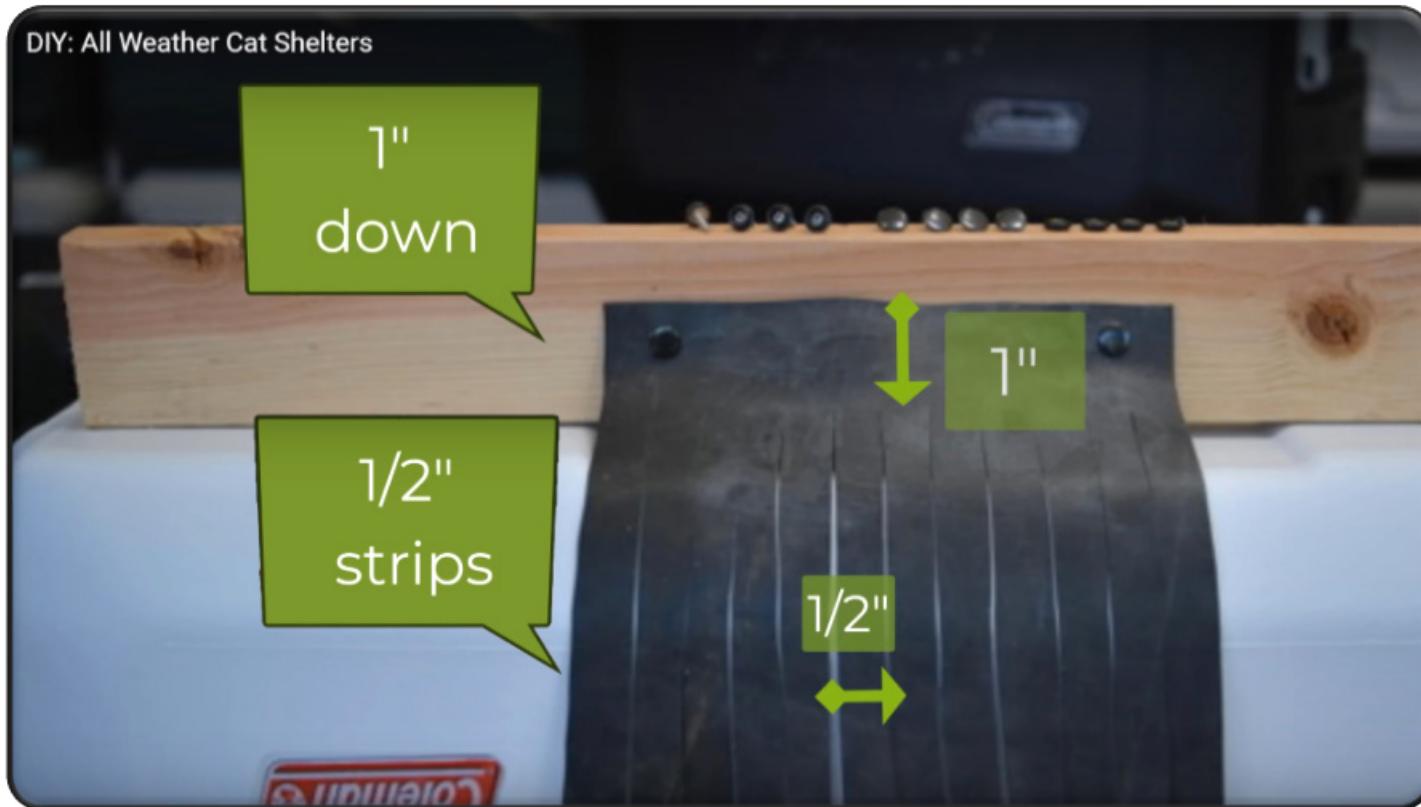
Step 10: Cut the Strips in the Flaps

After experimenting with different designs, the $\frac{1}{2}$ " strips have been the most well received. I highly recommend cutting the strips out on a fabric board using a rotary tool.

Each strip should measure $\frac{1}{2}$ " wide for a total of twenty (20) strips per flap.

1. Lay a flap on your fabric or cutting board.
2. Pick one side to be the **top edge** of your flap, measure and mark 1" down from the *actual edge* across the flap.
3. Measure and mark out the strips for the flap. Each strip measures **$\frac{1}{2}$ " wide** starting at the **top edge**. There *should be a total of twenty (20) strips per flap*.
4. Using the rotary tool, utility knife or fabric scissors cut the strips into the flap.
5. Repeat steps 1-4 for the other three (3) flaps.

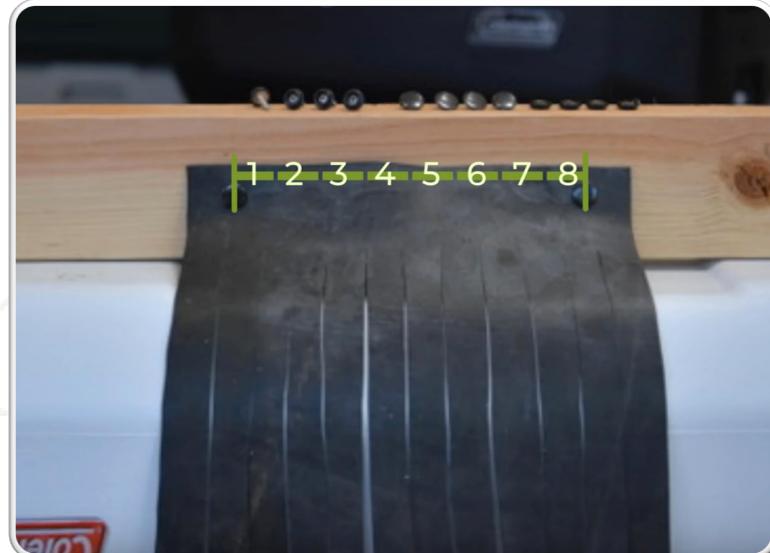
Step 10: Cut the Strips in the Flaps



Step 11: Attach Snaps to Flaps

In step 3 we measured **8" on center** to align the pilot holes and screws to the exit holes. In this step we'll use that measurement again to line up the snaps on the flaps.

1. On the **top edge** of a flap, measure and mark two snaps per flap
 - *Measurement is 8" on center from the flap to match the screws we added inside the cooler.*
2. Attach the screws to the flap.
3. Repeat steps 1 & 2 for the other three (3) flaps.



CONGRATULATIONS!

YOU'VE COMPLETED YOUR SHELTER

Once the shelter is dry it is ready to be picked up or taken to its final location.

There are just a couple final touches to make these great homes.

Add clean straw into the bottom of the shelters regardless of the season.



Adding the Winter Flaps

When the shelters go out, give cats time to adjust to their homes and get used to entering and exiting.

The feral colonies and rescue groups already using the shelters report that it does not take long for cats to adjust.

Always start with the flaps off, even in winter months.

To add a flap, just reach inside an exit and snap the flap onto the screws above the exit. Start with one flap at a time, again allowing cats time to adjust to the change.

Flaps retain heat, during summer months the internal temperature will raise too high with them on.

Once the flaps are on, come back as soon as the weather starts to get warm and remove them. These shelters are designed to be easy; easy to open, easy to clean, easy to build.

Social Media & YouTube

Hopefully, you've learned something new during this project.

If you did, or if you would like to see future projects, follow me on social media.

I will have more tutorial videos in the future, or you can check out my other posts and design projects.



Watch the tutorial video on my YouTube Channel

Social Media & YouTube



usually you find me as @Petchncharge

slight mishap signing up for reddit, [u/petchncharglife](https://www.reddit.com/u/petchncharglife)



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THANK YOU!

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