

# Infinity Illusion Bottomless Pit Kit by Eerie Elegance NorCal Haunters Make & Take May 2024



An Infinity Illusion is created by facing two mirrors toward each other. With proper lighting and use of a 2-way mirror on one side, an external observer can see a pattern that repeats ‘ininitely,’ although the effect will fade out eventually depending on the brightness of the lighting and what percentage of light is reflected by the 2-way mirror.

Here are some examples of how this effect might be used in your haunt:

- Bottomless pit
- Endless hallway
- Underground tunnel
- Dark cave
- Lava tube
- Giant wolf spider den
- Mine shaft
- Deep well
- Maintenance shaft
- Jeffries tube (Star Trek)
- Vortex or dimensional gate

This kit is very basic and adaptable to many haunt ideas. To keep material costs down and remain easily transportable, this kit is intentionally very shallow without being too small for a person to “fall into,” perfect to add a low bridge for a bottomless pit effect



on the ground or easily stand along a wall as a small tunnel. We have a few kinds of wall designs and light sources available so you can experiment with different effects during your afternoon build.

## **Materials:**

- 2 sheets 24"x36" plexiglass acrylic 3mm thick (Amazon <https://a.co/d/gvFyI5S> )
- 2 sheets of 2-way mirror film cut to acrylic sheet size

We used Amazon <https://a.co/d/h1g4uis> 3ftW x 12ft roll \$40 2-way mirror film “Very Dark” comes with mini squeegee & cutter, smallest roll is 3ftW x 6.5ft for \$33, you may find other brands that work just as well

- precut & routed 2x4s with screws to assemble a simple rectangular frame
- screws & washers to attach the bottom plexiglass
- assorted peel & stick wallpaper designs

gray stacked stone: <https://a.co/d/4LKDUQz>

tan stacked stone: <https://a.co/d/72WS26N>

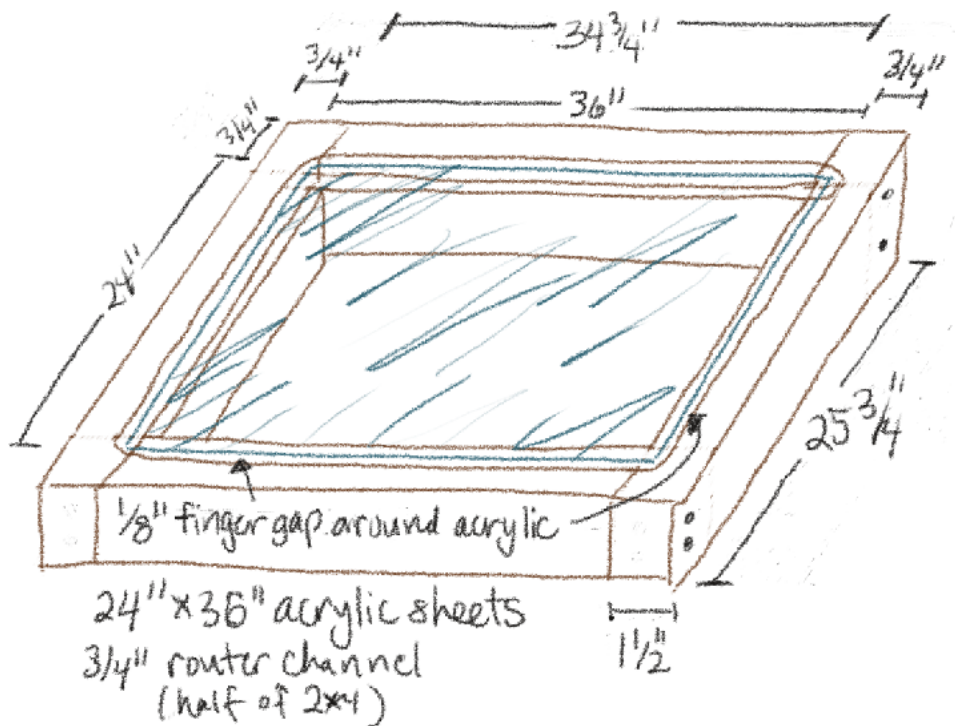
red brick: <https://a.co/d/1oY6CfO>

Since lighting depends so much on your final prop concept, we have a couple kinds of lights to test, then you can acquire & install your own light source at home. These are available to test here:

- Fright Props Nanospots (3 along one edge in kit example)
- Wifi app control color-changing LED light strings <https://a.co/d/22WDpSW>
- LED strip lights

## Tools:

- miter saw to cut 2x4s to length
  - router/router table to carve channel for acrylic sheets
  - power drill with bits
  - power Philips screwdriver
  - scissors
  - sharp box cutter
  - small squeegee
  - spray bottle for soap & water solution
- (Box cutter & small squeegee are provided in mirror film roll, or buy "window film install kit" from HomeDepot/Lowes for those tools & full spray bottle together)



## Instructions:

**1. Add the mirror film to one side of each acrylic sheet per the instructions on the roll. (Due to size, this is easier with a partner in an enclosed space away from breezes & dust.)**

- Unpeel the clear protective sheet from one side of the acrylic. Leave the clear protective sheet on the bottom side of the acrylic until final assembly.

- Cut mirror film slightly larger than your acrylic sheet.

- Generously spray the soap & water solution on the unprotected side of the acrylic sheet.

- With a partner in an enclosed space away from breezes & dust, unpeel the backing from the mirror film liberally spraying the adhesive side with more soap & water solution before carefully placing the film adhesive side down on the wet acrylic sheet. **Watch for dust & hairs sneaking under the film, since they will mar your reflective surface.**

- Aim one edge, gently lay the film down, slide around to aim all 4 sides so all acrylic is covered with mirror film, then slowly use the small squeegees to squeeze the air bubbles from the center of the mirror film out toward the edges. You may have tiny bubbles that should settle as the adhesive dries completely. Do not apply too much pressure as it may scratch the film.

- Use a box cutter to trim any excess mirror film flush with the acrylic edge, then set aside to dry. **The film adhesive may take up to 24 hrs to dry completely.**

- Repeat the same process for the second acrylic sheet.



## 2. Assemble the wood frame to house the top & bottom mirrors.

Arrange the routed channels to the inside of the precut frame pieces, with the bottom washer holes around the channel facing up, and matching the corner letters. Use 2 outdoor screws 2.5" long at each corner to assemble the frame square and sturdy. Leave frame bottom side up to set the bottom mirror in place first.

*Note:* If making your own wood frame and you do not have a router to carve the inset channel for the acrylic sheets, you can use washers by themselves to anchor the bottom mirror, or cut a bottom plywood panel to sandwich the mirror inside. A bottom plywood panel increases the total cost but may be worth it for protection depending on your ground surface in your final location. Drilling holes through the acrylic before adding the mirror film is possible but it could crack, and screwing through the mirror film cleared from the holes risks catching it in the threads and ruining your reflector. You can add a lip or decorative border to the top edge of your frame to keep the top mirror in position. Beware of using glue, since you will not be able to modify or repair the internal lighting or wall design later.



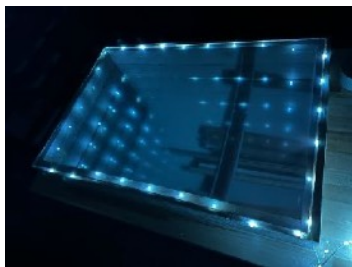
## 3. Add both mirrors into the wood frame, with mirrored sides facing each other to reflect infinitely.

Once the acrylic mirrors are dry enough to handle, clean the first mirror with a microfiber cloth, unpeel the original clear protective layer from the non-mirrored side, and place it in the channel with mirror film facing down inside the frame. Carefully screw the fender washers into the holes around the channel to anchor the mirror without cracking the acrylic. Turn the frame right



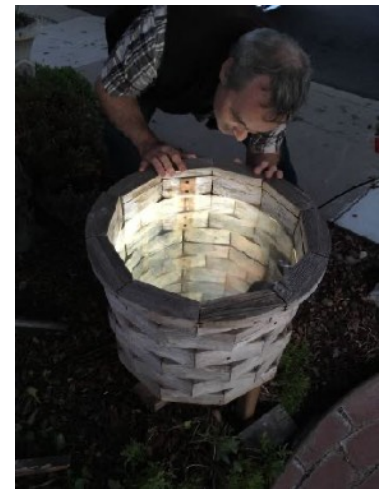
side up, clean the top mirror with a microfiber cloth, unpeel the original clear protective layer from the non-mirrored side, and your top mirror should rest in the top channel with mirror film side facing the other mirror. Now you are ready to experiment with wall decorating and light sources...

**4. Decorate the walls.** If you leave these walls as plain 2x4s, you have a wooden mining tunnel look with a surprisingly believable repeat, but perhaps not your style. You are welcome to try some peel & stick wallpaper patterns like red brick or stacked stone, but you may need to build a taller box to disguise a longer repeat. You can test repeat designs in bright daylight without the top mirror in place, but you need ambient darkness with a light source between mirrors to see your final Infinity Illusion. See the examples at the end for inspiration.



The Infinity Illusion will work as a box with sides as short as 3.5" like this example, but your inner wall repeat will be very frequent so more obvious. The longer the space between mirrors means a less frequent repeat of the inner wall pattern, but the taller the box sides need to be.

Overlapping brick-style layers show where the overlap reflects vs offsets, but it might still work well enough like it did for us in our Eerie Elegance Bottomless Well. You can try splitting a row with each mirror, but you'll probably still see the reflection

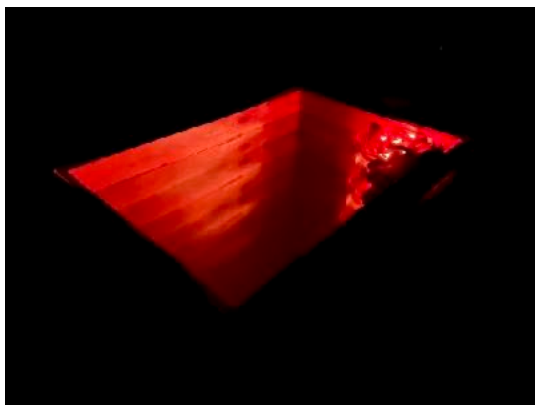


line due to the light levels declining with each repeat.



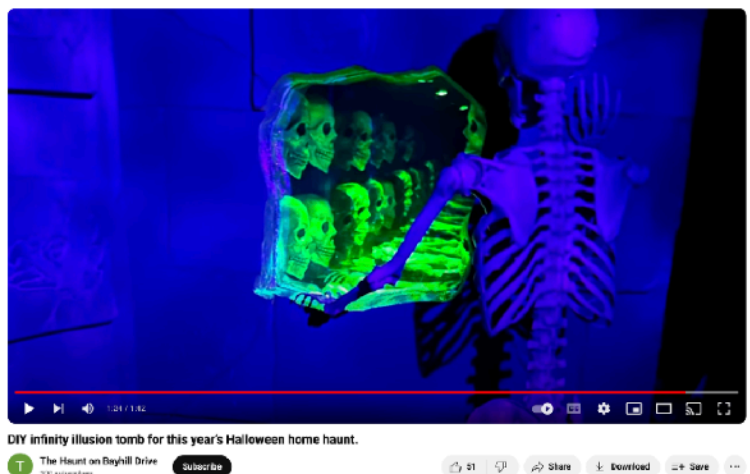
Here's an example where the skull wall pattern reflects upside-down then right-side up again. Is that repeat too obvious, or does that work for you?

**5. Decide your light source.** A logical visible light source is the easiest, like lanterns, torches, or chandeliers, but it's trickier to make that believable in a short repeat. Seeing a visible light source repeat works for many concepts like an LED infinity mirror magic portal, but too frequent a repeat often isn't believable, like this Knott's Scary Farm The Depths mini mining tunnel. Building a double-wall so your light source is hidden from the outside and only peeks through cracks towards the



mirrors can work, like the quickie red lava tunnel with paper rock texture, or maybe eerie light peeking through gaps in a taller box of wood planks. Hiding a bare, boring light source from the viewer can work well if you control the point of view, like this kit photo example, Eerie Elegance Bottomless Well, and the Bottomless Pit with Bridge.

**6. Hide the edges?** The most effective Infinity Illusions have the top reflector recessed from the viewer to help control ambient light reflecting off the top or front, like the Haunted Mansion Endless Hallway and Eerie Elegance Bottomless Well. Your design may also need to hide the edges. Is your pit a natural hellhole with plants & rocks around the edge? Is there a hallway door or hatch opening to a manmade tunnel? Acrylic is easy enough to cut round with a jigsaw if you have a round vessel to house it. This skull & bones hallway has a clever carved foam stone surround and uses physical skulls and bones instead of flat wall decor.

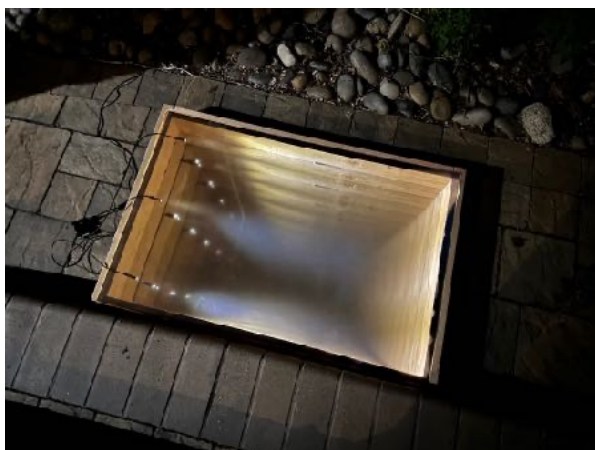


**7. Bottomless Pit with Bridge?** One request for this project was "a bottomless pit guests could walk over" which was a tall order. Not only is acrylic thick enough to walk on prohibitively expensive, but have you noticed how dirty and scratched those skyscraper sightseeing platforms get, ruining the invisible illusion? We were already brainstorming how to solve this, then we found a haunter online had already made a Walk Over Bottomless Pit using two shallow wood boxes flanking a low wooden bridge. They had the bright idea to use the bridge overhang to hide the light sources from the viewer, mimicking a light source under the center of the bridge, however their light colors don't match, which doesn't quite sell it as a continuous chasm under the bridge. As long as you have matching light sources and matching inside wall decoration, just make another box for the other side of your bridge to extend your bottomless pit.



**8.**

**Can I make a bigger Bottomless Pit?** You can make a larger vertical Endless Hallway Infinity Illusion more easily than a horizontal Bottomless Pit because the top acrylic mirror starts to bend under gravity too far away from the box walls, and thicker acrylic



can only help so much. Not only is 24"x36" a cheaper size for acrylic sheets (16"x20" was actually the same price?!?), but at only 1/8" (3mm) thick, this example is already sagging slightly at the center, which makes the tunnel effect curve as it repeats. 1/4" thick acrylic sheets are double the price, way too high for this project, and a larger footprint than 24"x36" is harder to transport and store. A decent size compromise is the Walk Over



Bottomless Pit example above as two thin but long boxes flanking the bridge, since before adding the mirror film you could cut these acrylic sheets in half lengthwise with a jigsaw (leave the original clear protective sheet on for cutting), add some more 2x4s to adjust the wood frame dimensions to house your final acrylic sizes, and flank your own bridge for only a little more materials cost.

**9. Displaying your illusion.** Because the 2-way mirror film allows some light to pass through, it is important that surrounding light be kept to a minimum. For the bottom reflector, this is easily done by placing the box on the floor or against a wall. For the top reflector, you want to keep the ambient light low and prevent bright light sources from reflecting off the top mirror. If you can recess the box into a confined space this may further help reduce unwanted reflections from the outside.



**10. Design modifications.** Here are a number of tweaks that can be made to the materials and how they may affect the resulting illusion.

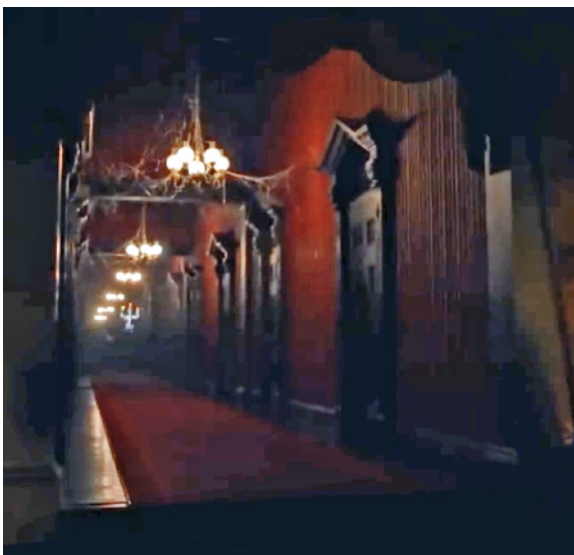
- **Glass mirror vs acrylic.** A way to lower costs is to substitute glass mirrors for the rear reflector vs. acrylic sheets (plexiglass), but glass breakage may be a safety concern. The most expensive part of this build is the acrylic, but it is still a lot cheaper than buying a 2-way mirror.
- **Acrylic thickness.** If your illusion will be horizontal and larger, 1/8" acrylic may sag too much, distorting the illusion. In this case you may need to use thicker acrylic like 1/4" which will probably double the price of your acrylic.
- **Window film.** Window films reflect and transmit different amounts of light. The window film used in this kit reflects about 88% of light and transmits about 12%. If you used film with different characteristics, then this would affect how 'deep' the rabbit hole goes. More reflection would create a deeper hole, but brightness would be reduced, making it more important to reduce ambient light so the effect is visible.

- **Light brightness.** By increasing the brightness of the internal light, you may be able to see farther into infinity. Increasing brightness may also do a better job of hiding unwanted reflections to allow displaying the effect in a brighter room, but too much brightness may create an unrealistic glow that emerges from a dark cave, for example.
- **Depth of repeating pattern.** By increasing the depth of the repeating pattern (the distance between the mirrors), you can create a more realistic effect since the repeating pattern will be less noticeable to the human eye. So if you want to create something organic like a cave, lava tube, or spider web this may help create a more convincing effect, but you will need more space to place your prop.

### **Infinity Illusion Examples:**

Here are some online examples of various props using this same effect to inspire how you'd like to use an Infinity Illusion in your own haunt. See if you can spot the tradeoffs of the different variables like box height, light source, and design of wall repeat. Which setups are the most believable and why?

**Haunted Mansion Endless Hallway:** From original blueprints, it seems the original Disneyland Endless Hallway is not a true Infinity Illusion, only a rear mirror reflecting a very long physical hallway. However, many fans like us have made miniatures as Infinity Illusions, including our diorama pictured in comparison. We can still look to the original for perfectly controlled ambient light, vertical stripe wallpaper pattern hiding the repeat, and very dim chandelier light sources wider spaced so the repeat looks natural.



<https://youtu.be/fHCZiizDm2s?si=dA7hs7uf9J64IPqJ&t=49>

**Eerie Elegance Bottomless Well:** Single light source, recessed top reflector, longer repeat. The well roof also helped prevent ambient reflections, and a physical spider with web prevented viewers from leaning in to see the side light source between mirrors. Not really a scare since not large enough to "fall," but we retrofitted this into an existing garden well that also stood above the whole-house projector to hide it.

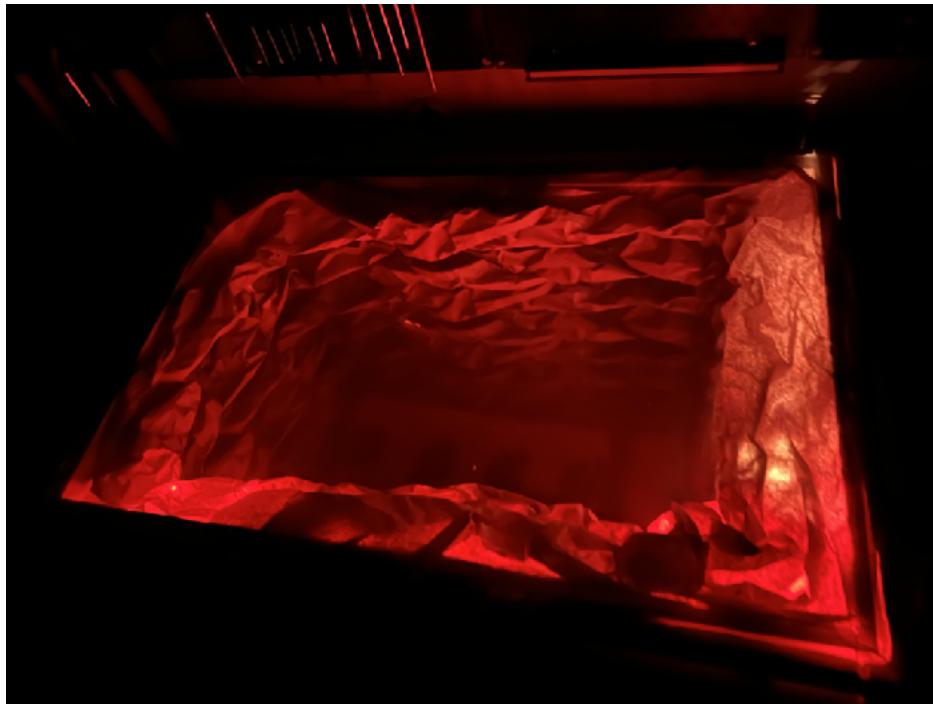


<https://hauntmakers.substack.com/p/walk-over-bottomless-pit>

**Walk Over Bottomless Pit:** Two shallow box Infinity Illusions flanking a low-rise bridge, with the light sources under the edges of the bridge but could be hidden better. Top mirror not recessed is a risk of ambient lighting reflections, shallow inner wall repeat, and hard to match lighting in both boxes to seem like a wider continuous pit under the bridge.



**Quickie red lava tunnel:** crumpled brown packing paper over red/orange "flickering" LED light string as an indirect light source, maybe try foam coals?



[https://www.youtube.com/watch?v=pskIc5u5h\\_Q](https://www.youtube.com/watch?v=pskIc5u5h_Q)

**Knott's Scary Farm The Depths:** mini mining tunnel shows some of the tradeoffs with too shallow a repeat showing too many light sources, plus reflecting ambient light without recessing the front mirror, but rails work instead of a ladder.



Knott's Scary Farm | The Depths Maze POV | 50th Anniversary 2023



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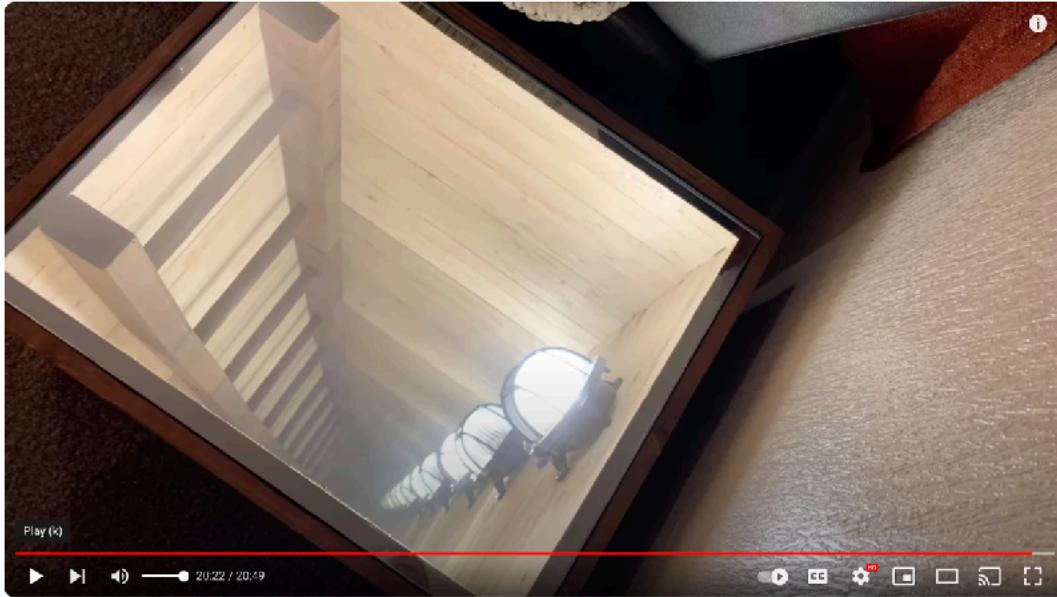


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<https://www.youtube.com/watch?v=euZiqDT5bQg>

**Ladder access shaft:** many online examples, but this one shows the risk of your acrylic bending or your mirrors not being completely parallel, since the ladder vertical has a slight bend revealing the repeat.



Infinity mirror mineshaft coffee table

Wiz's Woodwork  
6.44K subscribers

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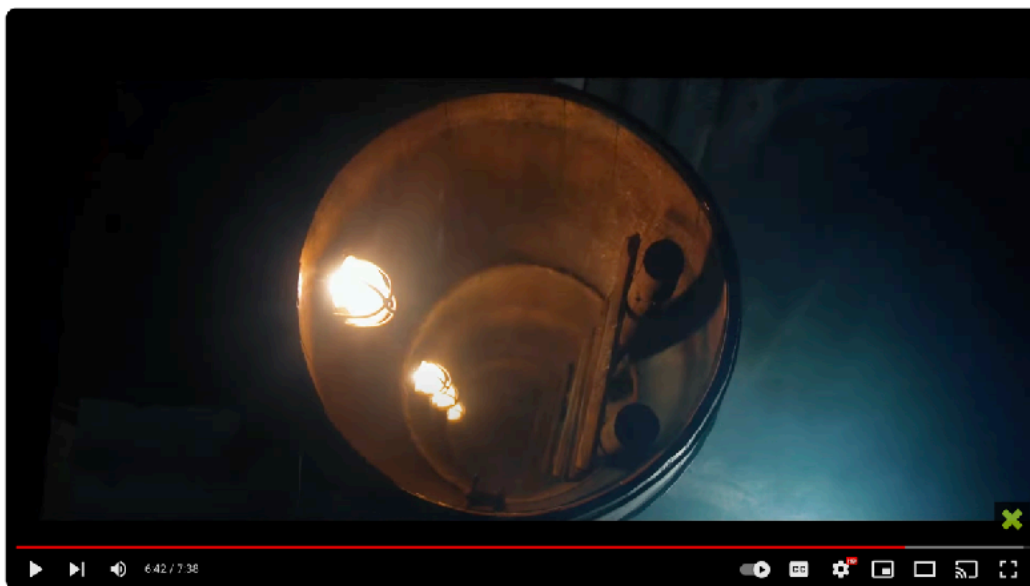
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<https://www.youtube.com/watch?v=ft2LOcGvGWU>

**Ladder in a round barrel:** Simple wall design where the barrel bottom acts as welded construction seams



Making an endless creepy tunnel. DIY Halloween decorations.

Axes: Woodwork  
3.75K subscribers

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<https://www.youtube.com/watch?v=wJrVCkEZqIk>

**Interesting printed skull pattern repeat.** Does the reflected pattern of upside-down skulls bother you?



Bottomless Pit - Halloween Prop Illusion

Brier Rock Cemetery  
2.51K subscribers

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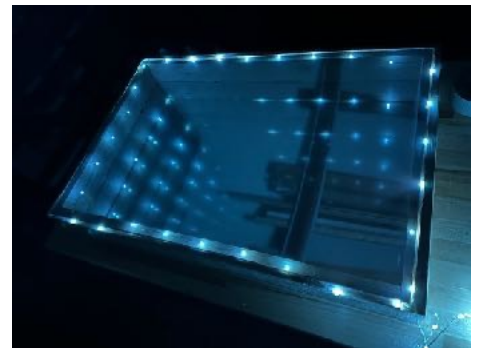
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<https://www.youtube.com/watch?v=grFMyGv5NpE>

**LED Infinity Illusion Mirror Magic Portal:** Futuristic portal effect lights all around works with an even thinner box, but light brightness determines how quickly your portal fades into the distance.



How to Make an Led Infinity Illusion Mirror

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Make An L.E.D Illusion Mirror!

Andy Elliott Craft & Creations  
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Infinity Illusion Bottomless Pit Kit by Eerie Elegance

<https://www.youtube.com/watch?v=og5JyGv81Nc>

**Infinity Illusion Tomb:**

good set dressing peeking into an Endless Hallway, recessing the front reflector against ambient light, and repeating physical skulls & bones vs flat surface wall decor.



DIY infinity illusion tomb for this year's Halloween home haunt.

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Enjoy your Infinity Illusion, however you decide to decorate it and use it!

