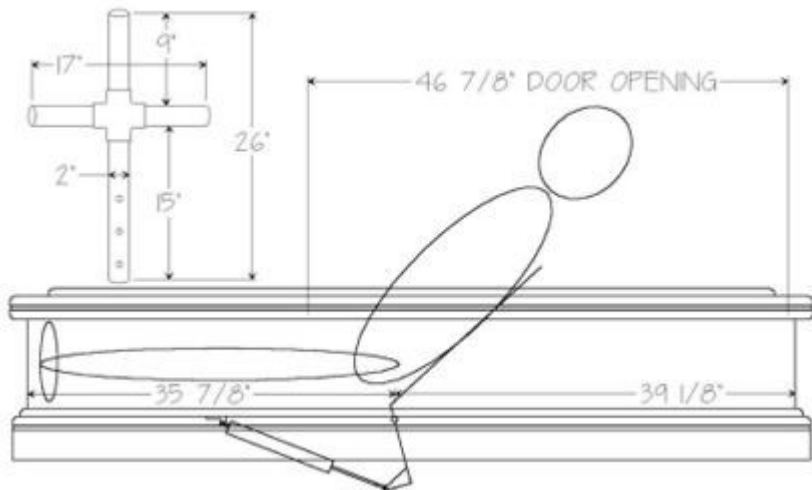


There are lots of places to find how to make a toe pincher casket on the internet, but I couldn't find a single place on building authentic coffins. Above you can see that we have used the dimensions of an actual casket to

place our "body" inside of to determine exactly how to build the coffin as well as how to fashion the lever that will animate our display. You will need to print out all the CAD drawings on these pages to reference as you construct your own Coffin Coronary. The mechanism I used for my pop up is a standard screen door closer air cylinder which has a

throw of approximately 4 3/4". So with this limitation I determined that the above lever and approximately a 47" wide opening for the pop up would do the trick.



extended position. Your dead body doesn't need to fully sit upright to get the startle, so this was acceptable for my animatronic. The cross shown on the upper left of this photo is the armature you will want to make out of 2" PVC pipe. The shoulders of course are the horizontal pipes and the neck section is very long, as you will be sliding this far up inside of the prop's head. The lower section will be bolted to the upper area of the lever.

Here is the cylinder in its fully

🔗 Now that we have identified the needed clearances for our pop up it is time to get started on constructing the coffin itself. I will be offering in this how-to the construction to reproduce this museum quality coffin, but obviously it could be done in a very crude and simple fashion and still give the impression of a real casket. Below you will

find the cut out list for this. My coffin was constructed of 3/4" solid northern red oak and 3/4" plain slice northern red oak plywood. The cross was made from 3/4" solid walnut. Here is a cut out list for the coffin construction;

3/4" OAK VENEER

- 1) 16 7/8 69 TOP LID
- 2) 15 7/8 73 1/2 FRONT
- 2) 15 7/8 22 1/2 SIDES
- 1) 22 1/2 73 1/2 FLOOR
- 2) 4 7/8 76 1/2 SUB LID
- 2) 4 7/8 15 3/4 SUB LID
- 1) 7 15 3/4 SUB LID

3/4" SOLID OAK TRIM;

- 4) 3/4 15 7/8 BOX TRIM
- 2) 3/4 22 GLUE BLOCK
- 2) 3/4 70 GLUE BLOCK
- 2) 3/4 70 1/2 TOP LID TRIM
- 2) 3/4 18 3/8 TOP LID TRIM
- 2) 2 1/4 78 LID TRIM
- 2) 2 1/4 27 LID TRIM

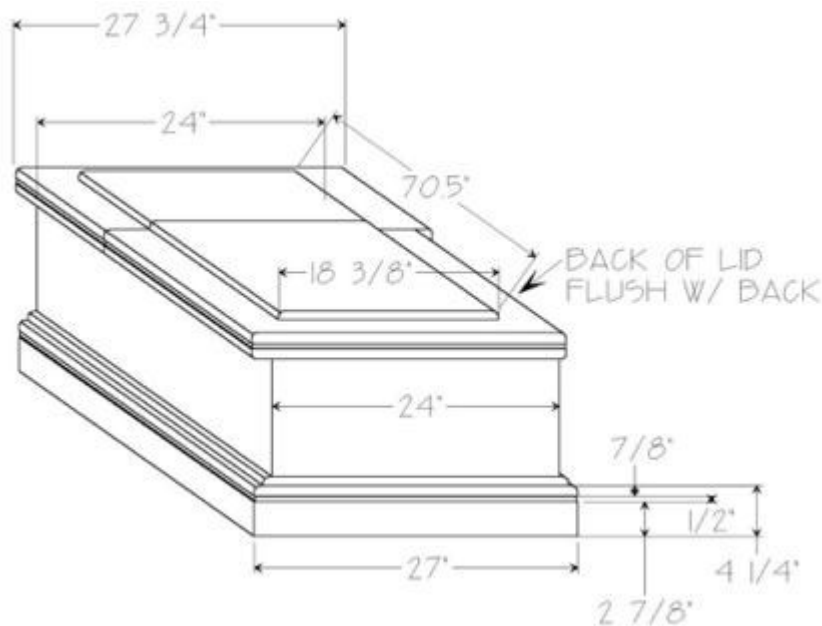
3/4" SOLID OAK KICK PLATE;

- 2) 4 3/4 78
- 2) 4 3/4 27
- 2) 4 1/4 76 1/2
- 2) 4 1/4 25 1/2

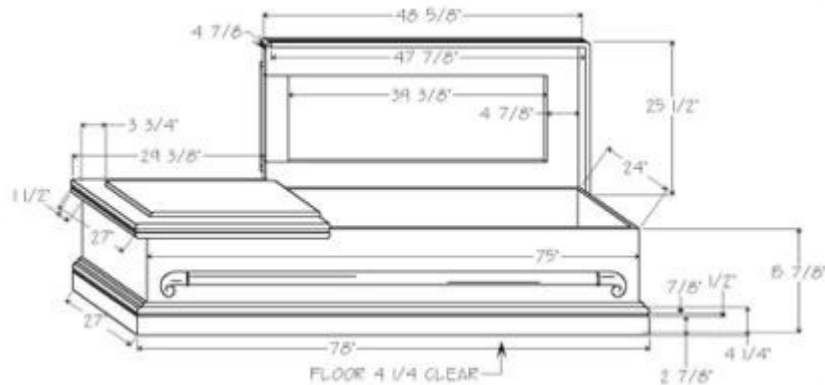
3/4" SOLID WALNUT CROSS;

- 1) 3 x 18 (2) 3 x 5
- 3) SPRING LOADED LIFT LID SUPPORTS
- 1) 48" X 3/4" PIANO HINGE
- 1) LENGTH OF 3/8" BRASS BEAD TRIM 31'
- 1) CAN BRILLIANT GOLD PAINT
- 2) YARDS WHITE TAFFETA
- 7) WOOD CURTAIN MOUNTS
- 1) WOOD CURTAIN RAIL 96" LONG
- 6) WOOD CURTAIN RAIL END CAPS
- 1) PAIR FOLDING TABLE LEGS
- 1) 4 YARDS BLACK DOUBLE KNIT FABRIC
- 1) SECTION 2" PVC PIPE 48" LONG
- 1) 4 WAY 2" PVC PIPE FITTING
- 1) SCREEN DOOR AIR cylinder 1) AIR TRIGGER

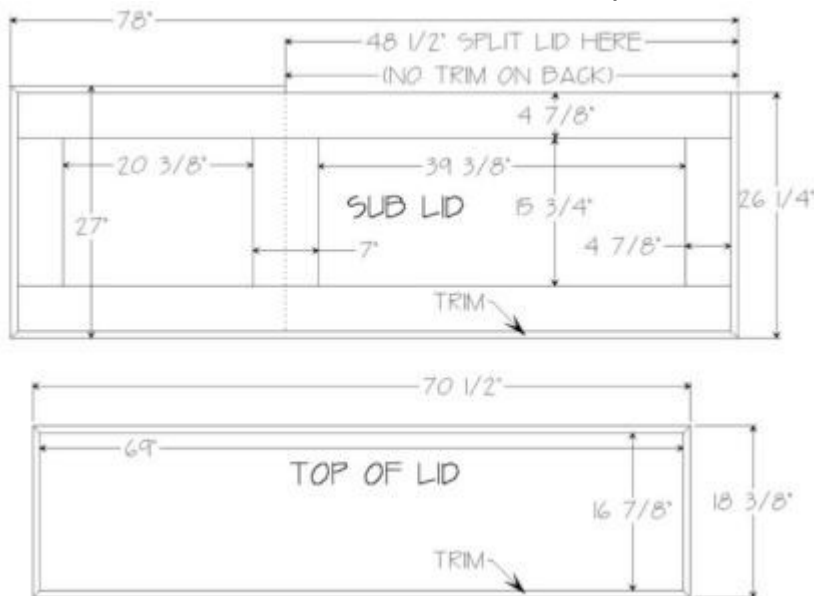
- 1) REINFORCED 1/8"X2"X28" STEEL LEVER
- MISCELLANEOUS L BRACKETS, MENDING PLATES, CONDUIT CLAMPS, SCREWS, GLUE
- 1) 3/8" X 24" AIR LINE
- 1) AIR REGULATOR
- 1) 1/4" AIR NEEDLE VALVE
- MISCELLANEOUS AIR FITTINGS
- 1) FOAM FILLED PROP HEAD
- 1) WHITE SHIRT & BLACK TIE
- 1) TUXEDO
- 1) PAIR OF "STAGE HANDS"
- 4) BED PILLOWS
- 4) LARGE KITCHEN TRASH BAGS



This is the coffin shape I decided on after much thought. The box of the casket itself is assembled by attaching 3/4" x 3/4" trim on both ends of the front and back pieces of plywood. Once the trim has been woodpatched and belt sanded flush to the plywood, we will glue and nail the front and back pieces to the side pieces in a butt joint. After gluing and nailing the box together, woodpatch these joints and well and belt sand smooth. Slide the floor up under the bottom of your box to 4 1/4" clearance and nail it in. Note; since you will be able to see the top edge of the box where the lid opens, you will want to band them with wood tape. You can use a standard clothes iron to iron it on, or you can cut your box pieces 1/4" narrower and nailing on a 1/4" trim piece, woodpatch the joint and belt sand flush to the plywood before nailing your box together.



The next thing we will do is put on the kick plates. The kick plates must be mitered due to the dado for the brass beading. Also be sure to 1/2" round the top edges of all your kick plates and finish sand them before attaching to your box. The 1/2" round router bit guide bearing extends further than 3/4" so you cannot round this edge after attachment. Dado the 4 1/4" kick plates. I placed mine at 7/8" below the top edge. Just like the lid trim dado, it will be 1/2" wide and 3/8" deep. The first layer of kick plates will cover 4 3/4" of the box which means there will be a 1/2" reveal down to the next kickplate.

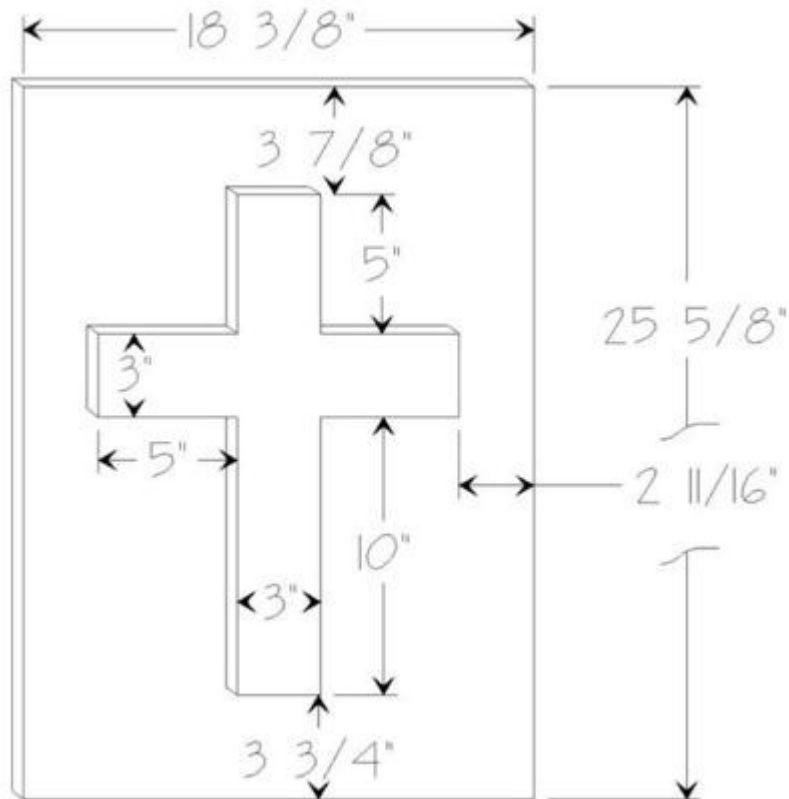


This is a look at the details of the two pieces that make up the top lid which we will cut into two sections after it is fully constructed so that the wood grain follows from one section to the next perfectly. The lower section of lid is permanently attached to the coffin box, where the upper section of lid will hinge back exposing our pop up. This is a little unusual that the lift lid is so wide, but it allows full view of the torso and hands and clearance for him to sit up without running into the lower lid. The trim on the lid is 2 1/4" and is dadoed for a 3/8" wide brass trim rail to be inlaid. The SUB LID is 5 pieces of plywood that is

face frame screwed together to make a framework. You can also just use a single piece of plywood for this level instead of this multi piece construction, as you must be able to attach these perfectly flush to one another since you cannot belt sand them flush later. You will be attaching the 3/4" x 2 1/4" trim edging to the SUB LID.

Be sure to stop your trim that you will be applying to the SUB LID 48 1/2" away from the back end shown to the right here. Your hinge mechanism will not allow you to have any trim behind the section that will be lifting up. You don't have to worry about this trim missing, as your coffin will only be seen with the lid in the upright position, hiding the back edge anyway.

The TOP OF LID is a full piece of plywood that will be trimmed as shown with 3/4" x 3/4" edge to cover the veneer core and give you a solid edge to round. Woodpatch and belt sand the top and bottom edges of your trim pieces flush with the veneer. Once you have your trim on both levels, 1/2" round route the top edge of both. You will want to round the corners of the trim on the SUB LID and then round the bottom edge of the same. It will be up to you whether you even put an edge on the TOP OF LID section or not. If you plan to paint your coffin and not finish it like fine furniture, then you really don't need to trim this piece. Once you have trimmed both of your levels you will need to dado a 1/2" wide 3/8" deep groove in the center of your 2 1/4" trim for your brass bead. You are ready to finish sand both of your tops at this time with 100 grit sandpaper. We use 1/2 sheet Porter Cable sanders to achieve a nice finished raw product. Now you can glue and nail the TOP OF LID to the SUB LID. Be sure it is on center and allow this to dry completely before moving to the next step. Now you will need to cut your lid in half. A table saw with a large fence and table is important for this step. Set your saw at 48 1/2 and this will put your cut to center the 7" stile you placed in the middle of the SUB LID. Once cut into two pieces you can now attach the lower section directly to the coffin, as you will not be needing to get at that area anyway.



The cross that will be attached to the lower section of your lid is shown here in this schematic. The center piece (stile) goes through while the sides are attached to it from underneath by pocket boring and face frame screws. The top edges of this will be 1/2" rounded. Once you have completed and attached the cross, you are ready to stain the entire coffin the color you desire. I used a very light walnut stain. After the stain dries apply a coat of clear wood sanding sealer and once dry, sand with 220 grit sandpaper to smooth. Then apply one to 3 coats of clear lacquer according to how nicely finished you desire.



Once your coffin is lacquered you will need to attach your brass beading in the dadoes of the kick plate and trim as shown. This is self-adhesive backed trim, so it is easy to apply. You can purchase the trim at Outwater Plastics at 800-631-8375. The item number for the bead is #1821. You will need to cut your piano hinge down to around 46" in length and attach your lift lid. I used three center mount spring loaded lift lid supports made by Brainerd, item #1088XC to keep the lid from coming down when I didn't want it to. The photo above is immediately after finish before the animatronic was fitted. That's next.



I went to a metal shop to have my 1/8" X 2" X 28" lever bent and an axle pin welded on to it. Instead of using a heavy 1/4" thick stock I chose to reinforce the more stressed section of the lever with some 1/2" square metal tube as you can see here to keep the weight down. The small sections of the square tube seen at the left end of the lever were put there to achieve another idea I was working on that I abandoned, so you need not address this. The precise placement of the 1/4" diameter axle pin is shown on the very first photo of this how-to. This must be on a perfect right angle to the lever to throw your pop up straight up and not at an angle. This is what will need to be mounted next to the bottom of your coffin. Cut out a 2 1/8" wide by 1" deep slot for this positioned as shown also in the first photo, "coffin11.jpg". Notice that the dimensions shown there are from the outside of the coffin box, and not the inside of the walls. If you measure from the inside of the walls from underneath the coffin as I am sure you will, the dimension of where to place this cut out in the floor is on center at 39 1/8" away from the right, or pop up side, and 35 7/8" away from the left, or legs side. I bent two 1" x 2" mending plates to create a groove in the middle of each to attach my lever, sandwiching the axle pin against the underneath side of my floor.



This photo shows how I attached the lever. At first glance you may not notice, but on closer inspection you will notice there is an extension bolted to the end of my lever to give me more throw. The

reason this is there is because initially I had more than 3" less leverage for my air cylinder to push against. I found that although that arrangement allowed my pop up to travel to a vertical position, this short fulcrum required a very high air pressure to fully execute the motion. That caused the dummy to then travel at a very high speed on the final 1/2 of his movement and the lever would slam hard against the stop you see angled behind the lever. In order to get the air pressure needed down to where the pop up would move up quickly but not violently slam once at the end, I had to add this extension. That extra distance has already been added to this how to. The dimensions you are working with have been proven to work well at about 45 pounds.

We can also see here the air feed to the ram. You can see the air "in" comes from the brass fitting at the top of this picture. That is them routed immediately into an air regulator so that you can hook up a compressor that is set at a high pressure and it won't do any damage to your animatronic. The air then comes out and into your air trigger. You can assemble your trigger here. The triggered air then feeds to a needle valve that is simply used here as a bleed off valve so your dummy will lay back down again after he is triggered. And then of course the air finally is fed to your air ram. You can assemble your air cylinder here. I attached all these items directly under the floor of the coffin so I wouldn't have a bunch of dinglewhompers dragging all over the floor.



Here we pull out to show a view of the folding leg system. I had to build up blocks of wood to flush with the bottom edge of the bottom of the kick plates to attach the legs to so the mechanism would lock out in a vertical position. Then the folding legs had to be cut off at the bottom of the center connecting down rods that are flattened and welded to the bottom "C" pipe that goes onto the floor. I had to shorten the legs about 6" and flatten the new ends of the down rods and re-weld to the "C" pipe so the coffin would be at a good viewing height. You can see I added 4 "legs" to the four corners of the coffin so I could set it down in the legs-folded position without damaging the extended actuation lever. Now that you can raise your coffin to a good height to work inside of it, let's give it life!



It isn't hard to stretch your taffeta tight and hot glue it to the underneath side of the lid and inside the coffin. You won't need to line the entire coffin, as the TOTs will never see down into the leg portion of the prop. You'll need to put in your lining before assembling your dead body.

By referencing the second Cad drafting in this how-to, "coffin12.jpg" under Blueprints, you will see how to assemble the armature that you will bolt to your actuation lever. The armature will be attached with the top of your lever directly behind the 4-way fitting. This should place the shoulders of your animatronic 20" to 21" from where his hips would pivot. Now that you have the PVC skeleton in place, we are ready to make a man out of it.

We'll start by using a large bed pillow and narrow it down to about waist width at one end with duct tape, leaving the other end wider, about the size of a man's chest. This can duct taped directly to the armature. Now we will remove the cover off another pillow and stuff about half of the stuffing inside a large kitchen trash bag. Shape and arrange the stuffing to approximate a man's arm with duct tape. Seal off the open end and attach that to the end of one of the armature's shoulder sections. Repeat for the other arm and attach your Stage Hands to the ends of the arms with some duct tape. Now you can make a slit down the back of the waist to the bottom of the rear of your tuxedo pants. Lay the pants into the bottom of the coffin and wrap the ends of the slit to both sides of the actuation lever. You can tack down these ends with a staple gun to the floor of the coffin. Make two legs out of your pillow stuffing and trash bags and tuck these down the legs of the pants. It's time to dress your dead fred. Outfit him with shirt, tie and tuxedo jacket. Finally you will cut a hole out of the bottom of your

foam filled prop head and open a passage way into it nearly to the top of the head. You can use contact cement to glue the head on or put two or three screws through the neck of the head into the PVC pipe to hold it in place.



When triggered your pop us should stop exactly where you see the guy above. The movement was smooth and the reset was adjusted to slowly rest him back down again.



There are only a couple more details before your project is complete now! Cut your wood curtain rod to the desired length for the front side and both ends and screw your rod ends to each of the three rods. These and the 7 mounting brackets will all need to be sealed with your clear wood sanding sealer and then painted with brilliant gold paint. Once they are dry, coat them generously with your clear lacquer to protect the paint. It is important to note here that if you skip the clear coat step recommended here you will have badly tarnished hand rails immediately, as the brilliant shine that makes these look convincingly

like brass rails will go away. Now you will need to center each rod to each end and the front of the coffin and screw on the mounting brackets. The brackets will allow you to slip your hand rails on and off for each use instantly.

Next we need to measure the distance from the bottom of the kick plate of and the carpet and cut our black double knit fabric to attach to the kick plate on both ends and across the front of the coffin with velcro and just hover above the carpet. This will keep the TOTs from seeing the air line and power cords going up to the underneath of the event. Not to mention the sound system you will be using to give your guy a voice. The system I use to detect and trigger this event as well as give him a voice can be found [here](#).

And there you have your very own Coffin Coronary! Congratulations for undertaking a rating 5 on the challenging scale! Send me a picture of your finished event so I can post that here on my website under reader's props! See this one in action [here](#).

Rest In Pieces,

Death Lord