

Reaching Arm Instructions

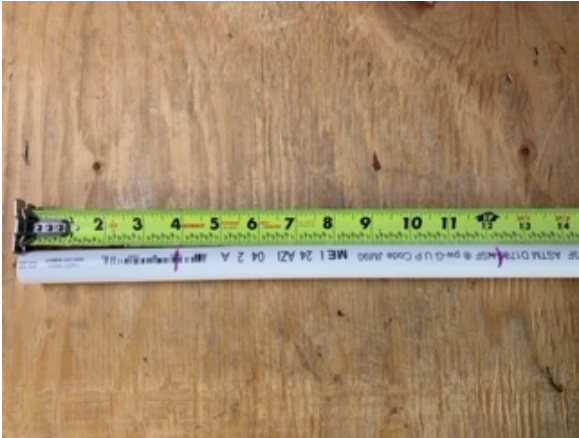
Items supplied in kit:

- Spooky hand
- 2' 1/2 inch PVC
- 5 RPM motor
- Scratch awl
- Metal Axle Nut
- Fishing Sinkers
- 2 cup hooks
- 1/2" right elbow
- 1/2" pipe cap or union (zombie and severed spooky hand)
- pipe insulation
- wood block for motor base
- 5/8" x 6" square wood dowel
- 3/8" x 11" x 12" wood base
- 2 ceramic disk magnets
- rectangular magnet
- black craft foam
- black spray paint
- Creepy cloth
- Screws
- Wire ties (for skeleton arm)

Items to bring for build:

- Drill
- T20 Torx/Star bit
- Drill bit sizes (5/64, 1/8, 7/32, 1/4)
- Scissors
- Phillips screwdriver or drill bit
- Pencil or marker
- Tape measure
- Box knife or razor sharp knife (Only needed for severed spooky hand. I will have one at the build to share.)
- Hacksaw or PVC pipe cutters (I will have a pipe cutter at the build to share.)
- Hot glue gun with glue sticks (I will have a glue gun at the build to share.)
- Take 2' of 1/2" PVC and mark at 4" and 12"

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Drill 7/32" hole at 12" mark to fit axle hat. Should be a tight fit. You can add hot glue if desired. This is the pivot point.



Cut the pipe at the 4" mark and attach 90-degree elbow fitting. Connect other end of elbow fitting on cut end of PVC (end closest to the pivot point). **Do not** glue pieces together. Ensure that pivot point and the open end of the 4" PVC pipe are aligned.



On the back of the 4" PVC pipe, draw a line and make a mark at 1-3/4" and 3". Drill a 5/64" pilot hole at both marks. The drill bit should be smaller than the size of the cup hook. Screw cup hooks into pilot holes.



Attach the hand that you are using to the other end of the PVC pipe. How it is attached depends on your arm.

- Ghoul and Severed Spooky hands will use a PVC coupler and can be hot glued to the coupler.
 - The Severed Spooky hand will need to have part of the knob cut away for it to be able to connect with the coupler.



- Skeleton hand will need to be zip tied or screwed to the PVC pipe.
- Skeleton Scary hand can be screwed to the PVC pipe.

Depending on the type of arm, you might want to put pipe insulation on the PVC to give the arm some bulk. Measure and cut off 6" and set aside to be used later. The remaining pipe insulation can be used to bulk up the arm.



Attach the awl to the wood base. Pre-drill a $\frac{5}{64}$ " hole in the bottom of the awl. Mark center of (11"x12"x $\frac{3}{8}$ "). Mark center on the 12" side of the base. Center the awl at the center mark and put it flush with the edge of the base. Mark the base at the handle's midpoint. Connect the two lines to find where you drill. The hole should be about 6" over from the side and $\frac{3}{8}$ " in. from the front. Pre-drill a $\frac{1}{8}$ " hole in the base. Screw the awl to the base from the underside using the $\frac{1}{4}$ " screw. The awl should be perpendicular to base and the screw should be flush with the bottom of the base. Set the base aside.



Note: Place a small piece of duct tape over the tip of the awl when not in use. You will thank me later.

Take the square wood dowel that is 5½” long. Mark center of wood at 2¾” and drill 1/4” + a little more extra reaming of the hole to make it the same diameter or slightly larger than the motor shaft. Make sure hole is perpendicular to dowel. Slip the dowel over the shaft. **Do not** push the dowel all the way down. You will need some clearance for mounting. It should make a snug fit. If not wrap a piece of painter’s tape around the shaft or apply a small dab of hot glue.



Take your magnets and find the sides that repel each. **Be careful to keep the magnets from slapping together because they can break due to the force.** There is a dimple on the magnets so if you glue the magnet with the dimple facing out, they will correctly repel each other. Glue the rectangular magnet on opposite side of cup hooks with dimple side facing out. Glue the round magnets to each end of the 5½” dowel with the dimple side facing out.



Grab your base and place arm's axle hat on the awl. Hang weights on cup hooks and balance on awl. Each kit come with a 2-ounce weight. Additional smaller weights will be at the front table for fine tuning the balance. For additional fine tuning, you can also add different lengths of screws (not included in kit) in the end of the 4" PVC. The screws will stick to the inside of the PVC due to the magnet. The arm should move freely and easily with the slightest touch.

- The overall length of the arm will be different based on the different hands. If the length of your arm is too long, you can shorten the PVC pipe by cutting off a little from the longest length from the pivot point. I removed about 1½" from two of mine. Remove no more than 1/4" to 1/2" at a time so you do not remove too much. Continue to remove until you hit your desired length.
- Add some creepy cloth or other bling of your choice to finish off the arm.
- Changing the length of the arm or adding to the end of the arm will change the amount of weight you will need to balance it.

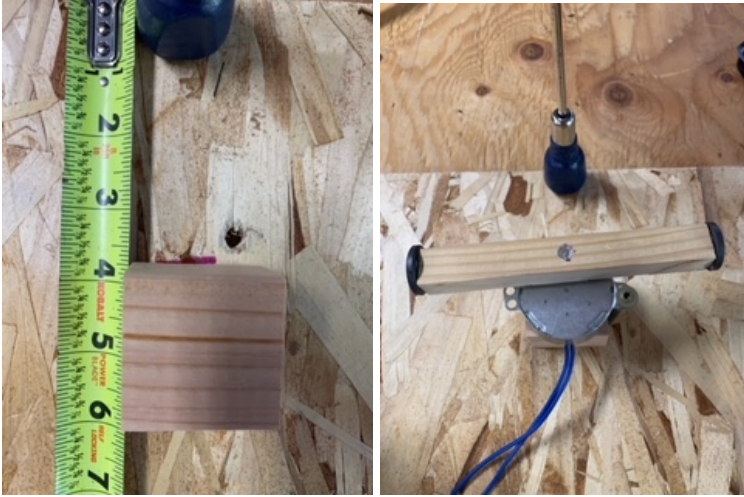
Grab your 6" piece of pipe insulation and cut in half-length wise so you have 2 halves that are 6" each. Place one of the foam pieces on one end of the board with the curved side inward where the weighted arm will swing and hit it. Mark where the insulation is touching the base, so you know the location. Repeat for the other side. A good location is somewhere between 2 ½" to 3" from the back edge of the base. However, you can put it elsewhere to change the swing reach of the arm.



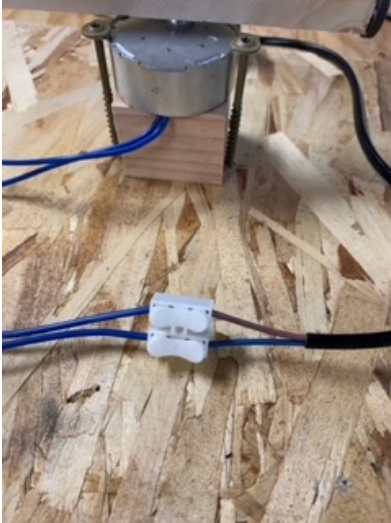
Glue the pipe insulation pieces with hot glue by placing about 4 small dots of glue on the board. Too much hot glue will melt the insulation. Place the foam onto the glue and provide a light downward pressure until the glue cools.



Finding the motor mount position. Place the square block on the wood base so that the face of the block is about $3\frac{3}{4}$ " from the front (awl side) of the base and the other side faces are about $5 - 5\frac{1}{8}$ " from either side of the base. Orientate the motor on the block so that the shaft is closest to the awl. The magnets on the dowel must clear the awl and its handle but also come close to the magnet on the PVC swing arm. If it is too close to the magnet on the arm magnet then the magnets might connect. If that happens, you will want to move the block and motor closer to the awl. You should have about $\frac{1}{2}$ " of space to play with between the magnets on the motor and the awl. Play around with the location until you find one you like. Once you have found the desired location, mark and predrill with a $\frac{5}{64}$ " drill bit. Use the two $2\frac{3}{4}$ " screws to mount the motor to the base.



Connect the motor's wire leads to the power plug using the quick connect connector. You might need to trim the metal wire ends a bit to get them to insert all the way into the connector. You **do not** want any bare wires showing.



Use the black craft foam to hide motor and base. The craft foam will need to be cut length wise and should be slightly lower than the pivot point height. I cut mine in half so I could use it for two builds, but you can cut it to any desired height. It will wrap around the front of the base. You can use hot glue to glue it to the face of the base. I used several dots of hot glue across the front and down part of the sides.



Make a crease in the top corners of the craft foam and add a little dab of hot glue and hold until cool to square off the top of the craft foam.



Spray paint everything you do not want seen with flat black paint.