

Animated Watchman KIT WATCH-1

Included in the Basic Kit:

- (1) Precision machined aluminum waist platform (assembled)
 - (7) UMB-1 Universal Mounting Bases
 - (1) ST-1 1 inch PVC slip-T fitting
 - (1) 1 inch PVC cross fitting
 - (1) 1/2" x 4" PVC neck pipe
 - (3) 1 inch PVC 45 degree elbow fittings
 - (1) SJ-1 Spider Joint fitting
 - (2) 1 inch PVC 90 degree elbow fittings
 - (1) 1 inch PVC T fitting
 - (2) Spine Brace Crossbars (F)
 - (1) Spine Brace Connector (H)
- (1) Wire fastener for attaching arm
 - (32) Self drilling screws
 - (8) Wood Screws
 - (1) Tube silicone grease
 - (1) 12 volt wiper motor
- (1) Wiper motor drive pin and roller
- (1) 12 volt 5 amp power supply with speed controller

The Complete Kit also includes:

- (1) Spine "A", (2) Spine Brace Risers "B", (2) Shoulders "C", (2) Upper Arms "D", (2) Forearms "E", (2) Legs "G"

What you need to build as shown:

- (1) 24" x 15" x 3/4" wood base (needed for both kits)
- (14) Feet of 1 inch Schedule 40 PVC pipe (Basic Kit only)

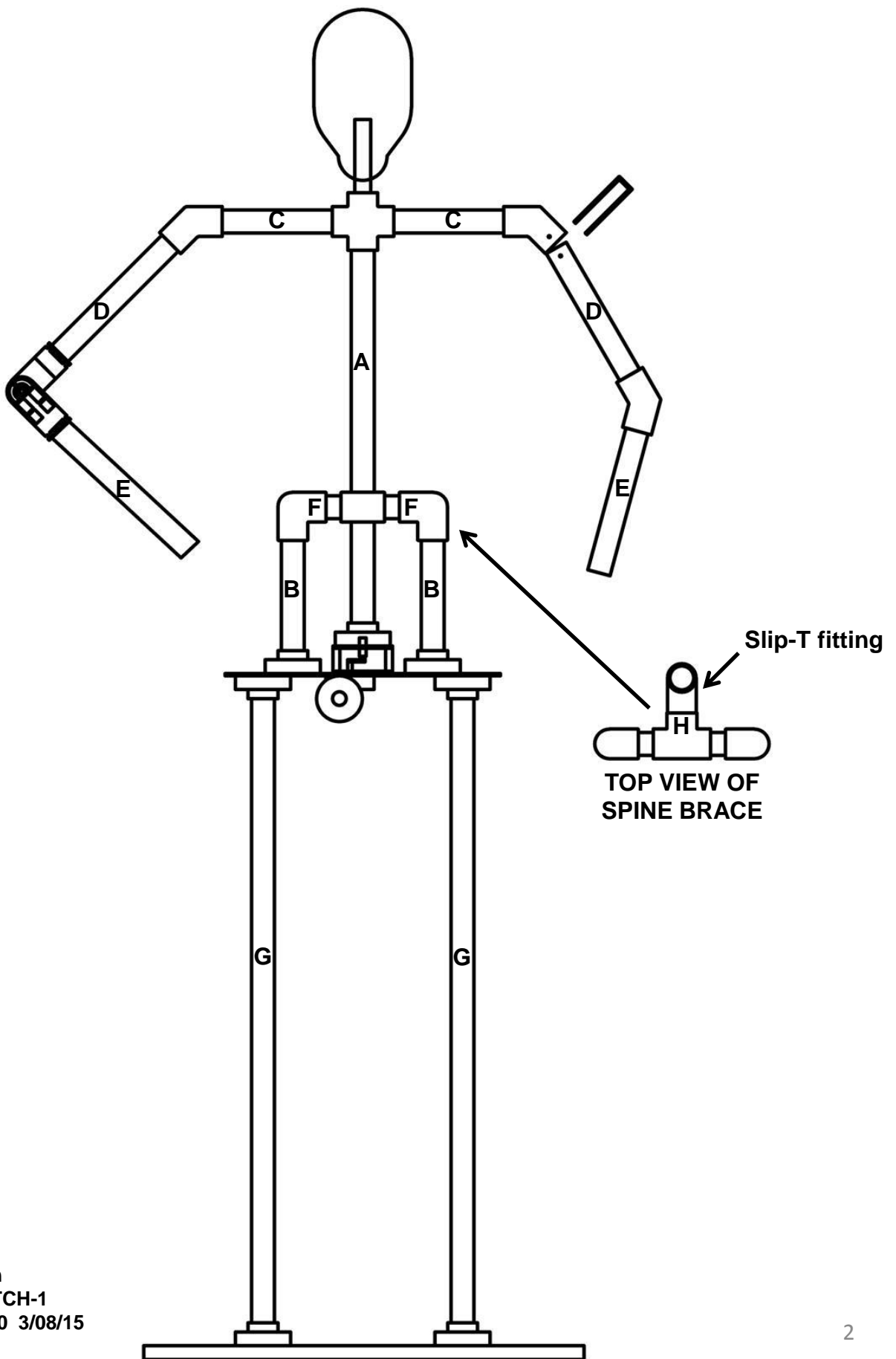
PVC Pipe Cut List for Basic Kit (All Pipe is 1 inch Schedule 40 PVC)

- A) Spine – (1) 18 inch piece of 1 inch PVC
- B) Spine Brace Risers – (2) 6 inch pieces of 1 inch PVC
- C) Shoulders – (2) 6 inch pieces of 1 inch PVC
- D) Upper Arms – (2) 10 inch pieces of 1 inch PVC
- E) Forearms – (2) 10 inch pieces of 1 inch PVC
- F) Spine Brace Crossbars – (2) 2 3/8" inch pieces of 1 inch PVC (included)
- G) Legs – (2) 34 inch pieces of 1 inch PVC
- H) Spine Brace Connector – (1) 1 7/8" piece of 1 inch PVC (included)

READ THROUGH THESE PLANS BEFORE GETTING STARTED!

DO NOT SCREW ANY OF THE PVC TOGETHER UNTIL AFTER THE PROP IS COMPLETED AND TESTED!!!

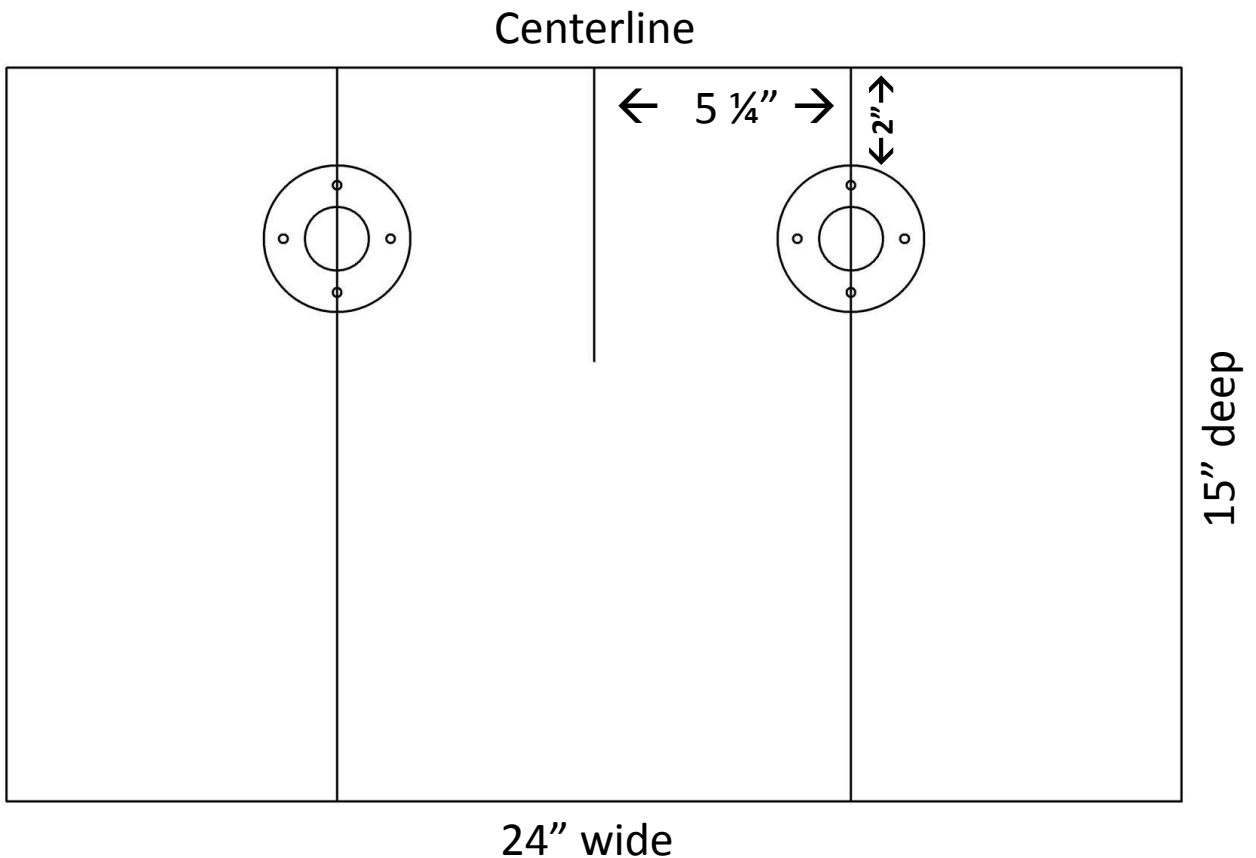
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Wood Platform

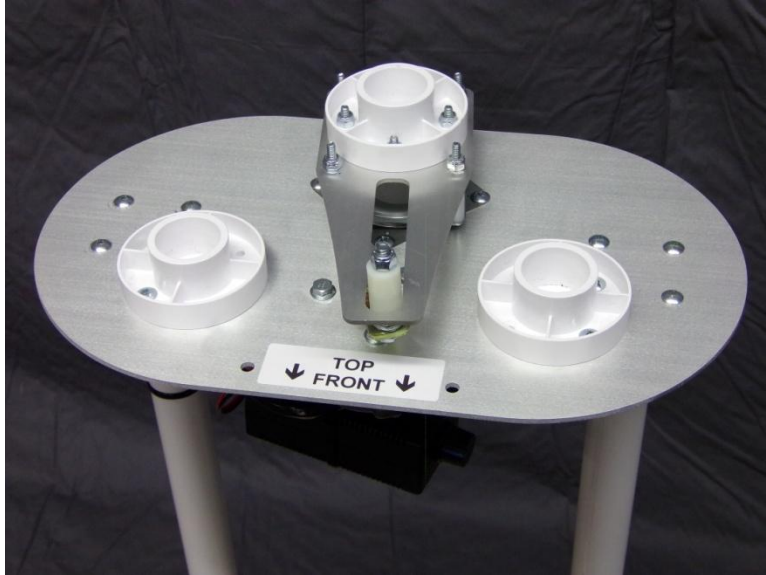
1) Mark the center of your platform. Measure $5 \frac{1}{4}$ inches from both the left and right of the center and draw 2 lines on the platform running from front to back.

2) Using the supplied wood screws, mount the bases 2 inches from the rear of the platform. Align the mounting holes in the bases with the lines drawn on the platform to keep them centered.



Legs

- 1) Insert a leg (G) into each mounting base on your wood platform.
- 2) Place the waist plate on top of the legs.



Shoulders

- 1) Insert a shoulder (C) into each side of the 4-way cross fitting.
- 2) Attach a 45 degree elbow fitting to the end of each shoulder (C). Make sure the holes in the one fitting are on the outside as shown below!
- 3) Attach the 4-way cross fitting to the top of the spine (A).



Spine Brace Assembly

- 1) Insert the 2 Spine Brace Risers (B) into the mounting bases on the top of the waist.
- 2) Insert a Spine Brace Crossbar (F) into each side of the T fitting.
- 3) Insert the Spine Brace Connector (H) into the front of the T fitting.
- 4) Install the Slip-T fitting onto the end of the Spine Brace Connector.
- 5) Install a 90 degree elbow fitting onto each Spine Brace Crossbar (F)
- 6) Slide the assembly down onto the Spine Brace Risers.
- 6a) The Slip-T fitting should be parallel to the waist platform. If you look down through the Slip-T fitting, it should align with the hole in the base below.
- 7) Lightly grease the inside of the Slip-T and install the Spine down through the Slip-T fitting into the base on the drive plate.



Arms

- 1) Assemble one arm assembly using a 45 degree elbow fitting, one upper arm pipe (D), and one forearm pipe (E). Make sure the holes are at the top of the arm!
- 2) Assemble the second arm assembly using a Spider Joint fitting, one upper arm pipe (D), and one forearm pipe (E).

Arms

3) (Basic kit only) Drill an 1/8 inch hole through the upper arm pipe on the fixed arm. Drill the hole 1/2 inch down from the top of the upper arm with a matching hole in the front and the back of the pipe.



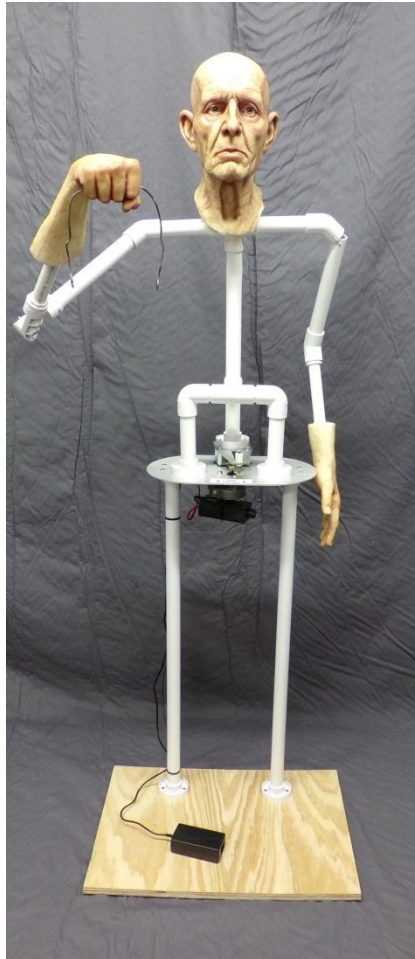
4) Attach the fixed arm to the shoulder using the supplied wire fastener. Leave enough slack so the arm can move freely.



5) Bend the fasteners around each other. It should look something like this when it is done.

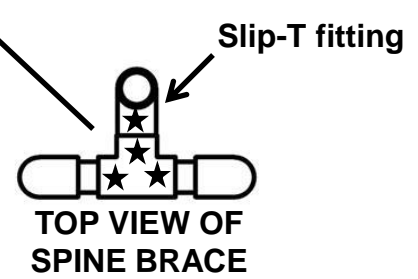
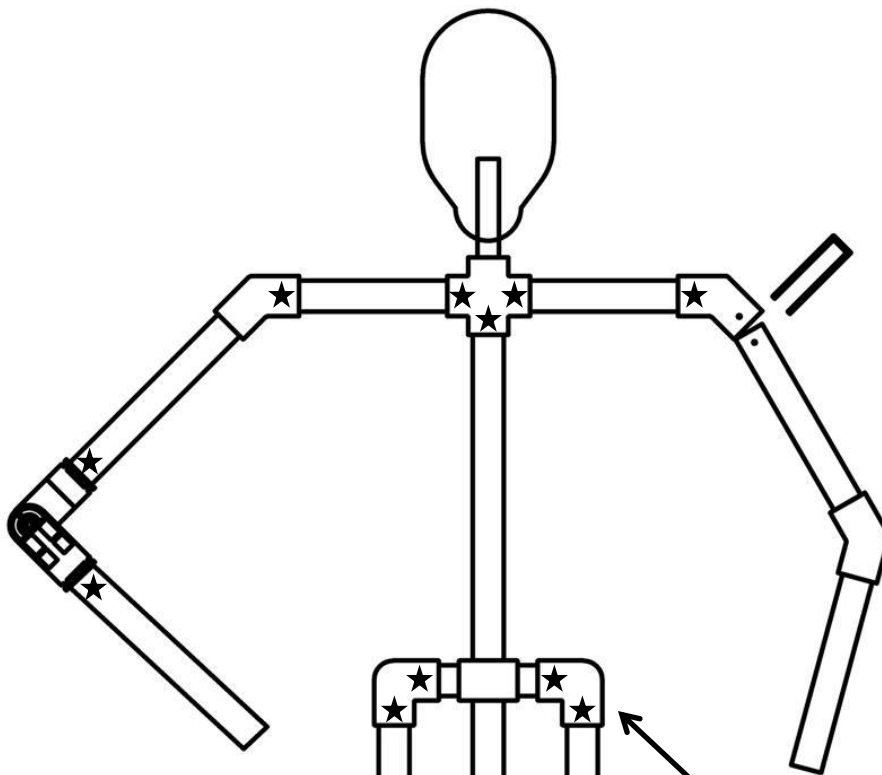
6) Install the adjustable arm (with the Spider Joint) into the other shoulder fitting.

Your armature should now look like this!



Testing

- 1) **Make sure all PVC fittings are fully seated and all hardware is tightened properly.**
- 2) **Connect the power supply to the motor.**
- 3) **Make sure the spine and bearing move smoothly.**
- 4) **Check to make sure the Slip-T fitting is parallel to the waist plate and that the Spine Brace Risers (B) are parallel to the Spine (A).**
- 5) **Once the prop is running smoothly, check again that all PVC fittings are fully seated.**
- 6) **Install self tapping screws where required.**



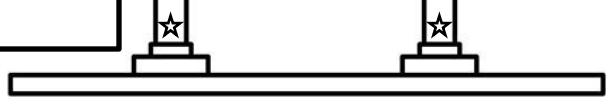
Install self drilling screws into the joints below:

- Top of Spine to 4-way cross (1)
- 4-way cross to shoulders (1 per side)
- Shoulders to 45 degree elbows (1 per side)
- Arm pipes to Spider Joint (1 each side)
- Bottom of Spine to mount (2)
- Spine connector to T and Slip-T (1 per side)
- Spine Crossbars to T fitting (1 per side)
- 90 elbows to Spine Brace Crossbars (1 per side)
- Spine Brace Risers to 90 elbows (1 per side)
- Spine Brace Risers to waist mounts (2 per side)
- Top of legs to waist mounts (2 per side)
- Bottom of legs to platform mounts (2 per side)

Key:

1 screw per joint = ★

2 screws per joint = ☆
(1 front, 1 rear)



Tips:

Use a rubber mallet for seating the PVC pipe into the fittings. A light coat of grease will help any problem joints go together easier.

Pool noodles, bubble wrap, or foam can be used to bulk up arms and legs.

The torso can be shaped from foam or metal hardware cloth (with ¼” squares).

We recommend using pants with a waist size of 36-38 inches and a 34 inch inseam.

Cut out the heels and soles of your shoes to fit down over the bases. Then use a screw down through the shoe into the platform to keep the shoe in place.

If this prop is going to be used in wet weather make sure you take steps to protect the motor, power supply, and speed controller from moisture!

Squeaks or groans can typically be silenced by using the included silicone grease. We do not recommend using petroleum based lubricants!