

# Spider Hill's 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) ½" 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 ¾" wood base (needed for both kits)
- (14) Feet of 1 inch Schedule 40 PVC pipe (Basic Kit only)

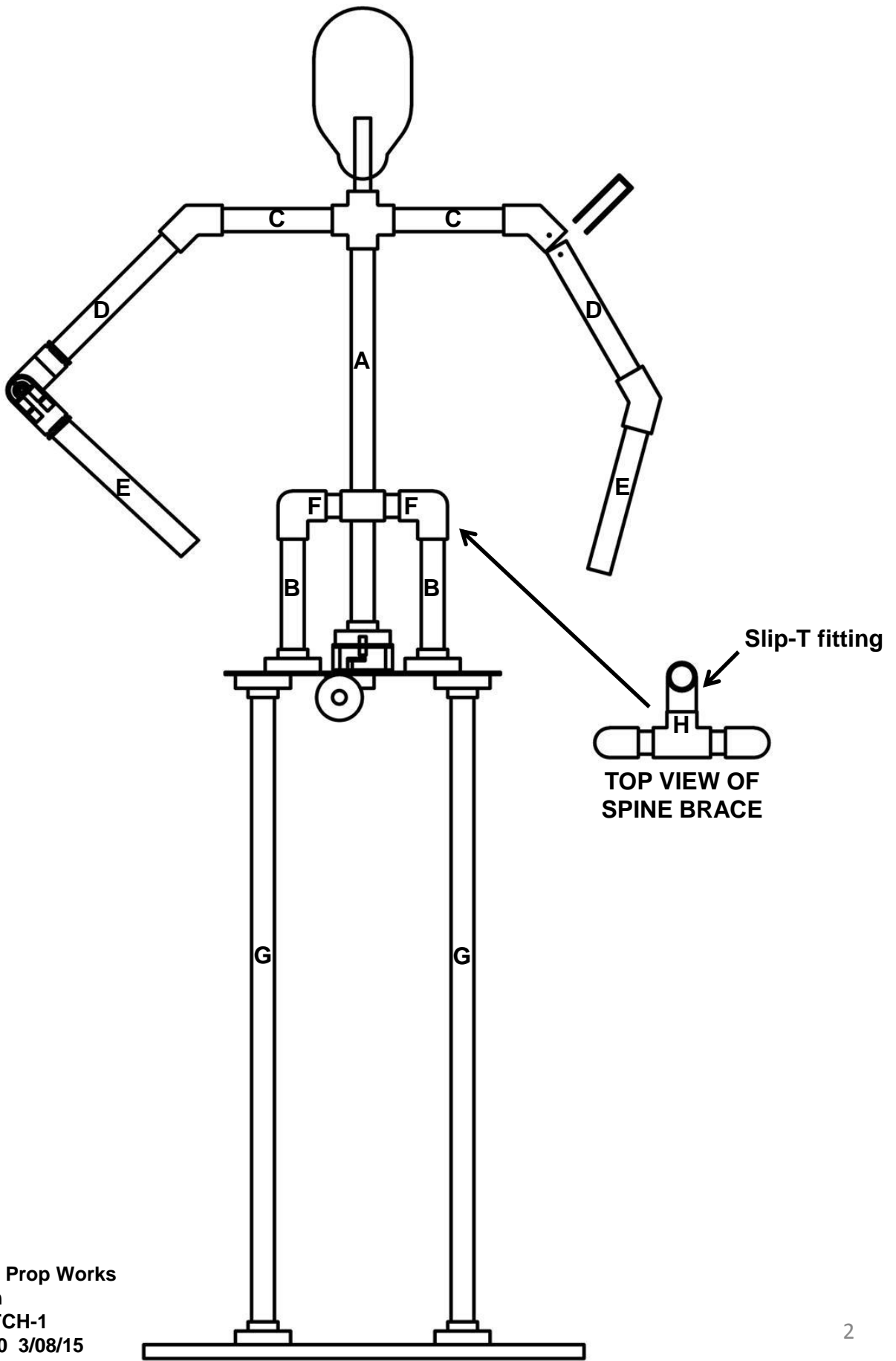
## PVC Pipe Cut List for Basic Kit (All Pipe is 1 inch Schedule 40 PVC)

- 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 ¾" 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!!!**

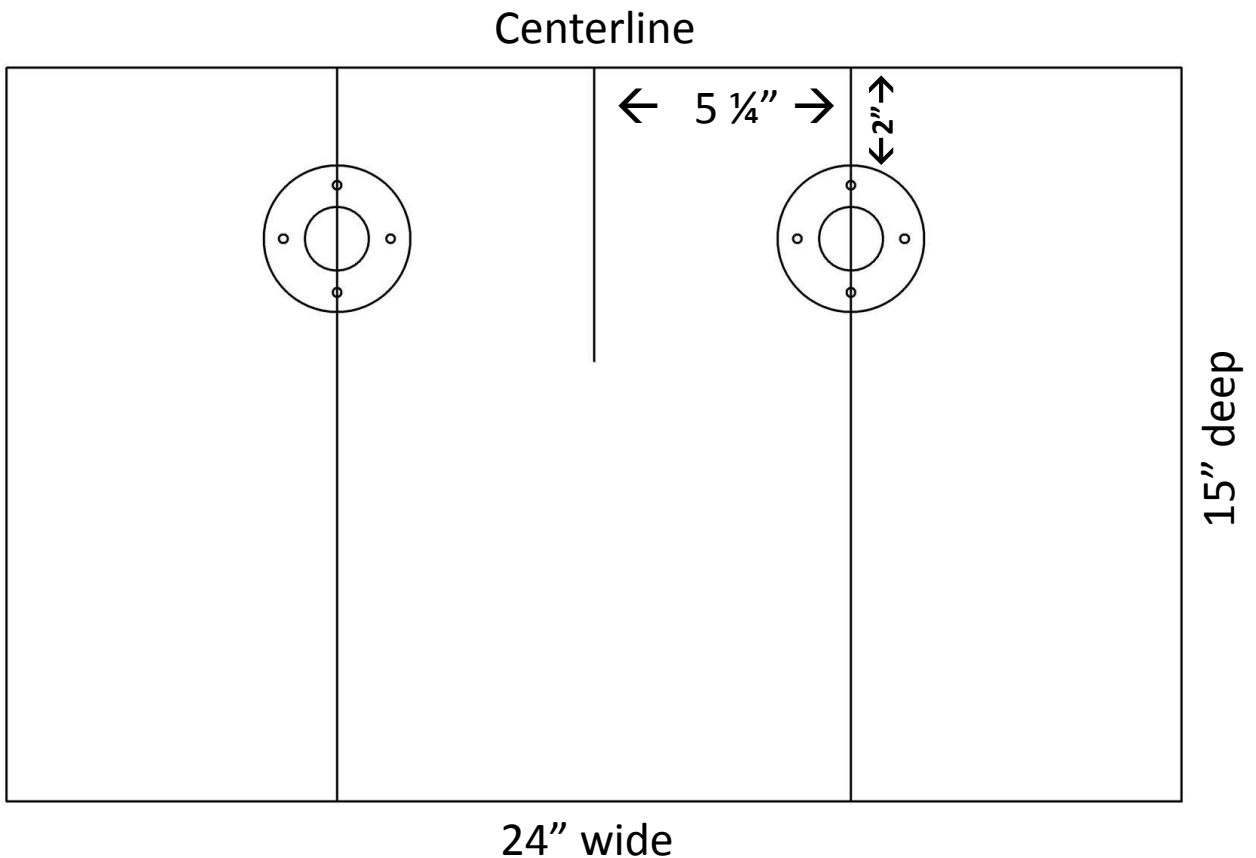
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## Wood Platform

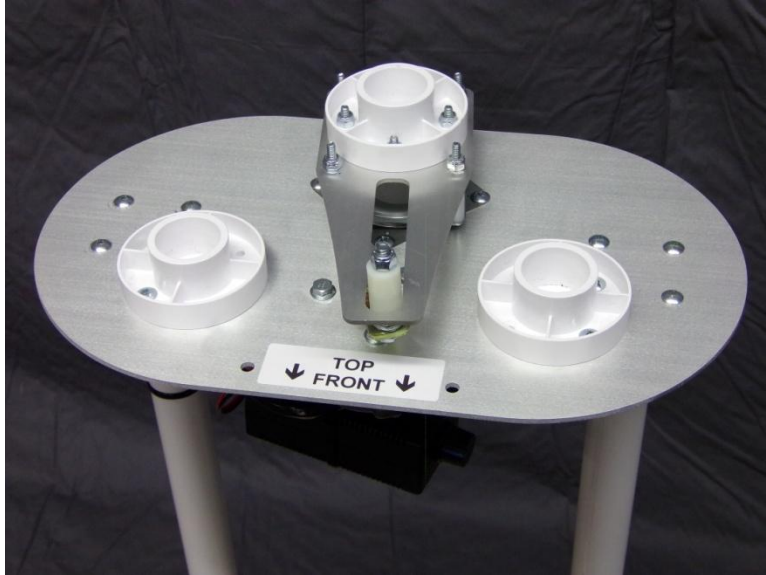
1) Mark the center of your platform. Measure  $5\frac{1}{4}$  inches from both the left and right of the center and draw 2 lines on the platform running from front to back.

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.

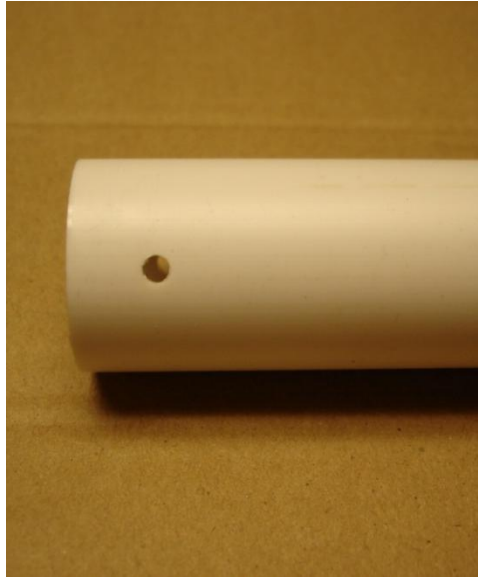


## Arms

- 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.**



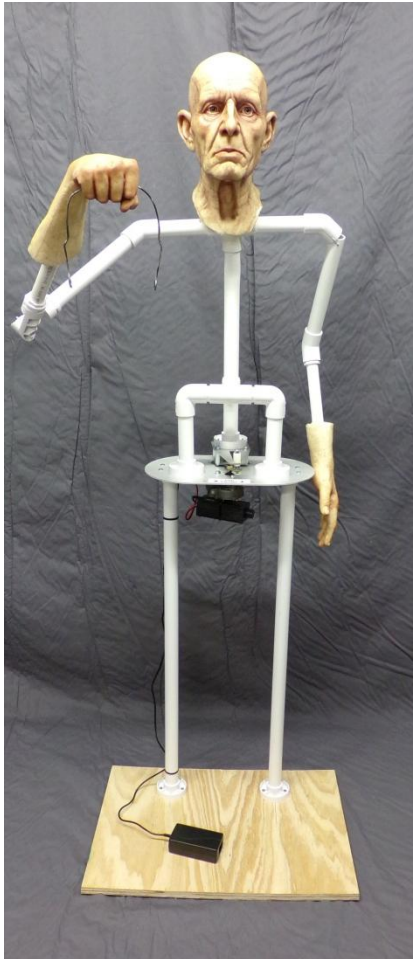
**4) Attach the fixed arm to the shoulder using the supplied wire fastener. Leave enough slack so the arm can move freely.**



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

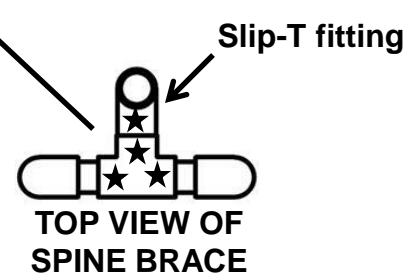
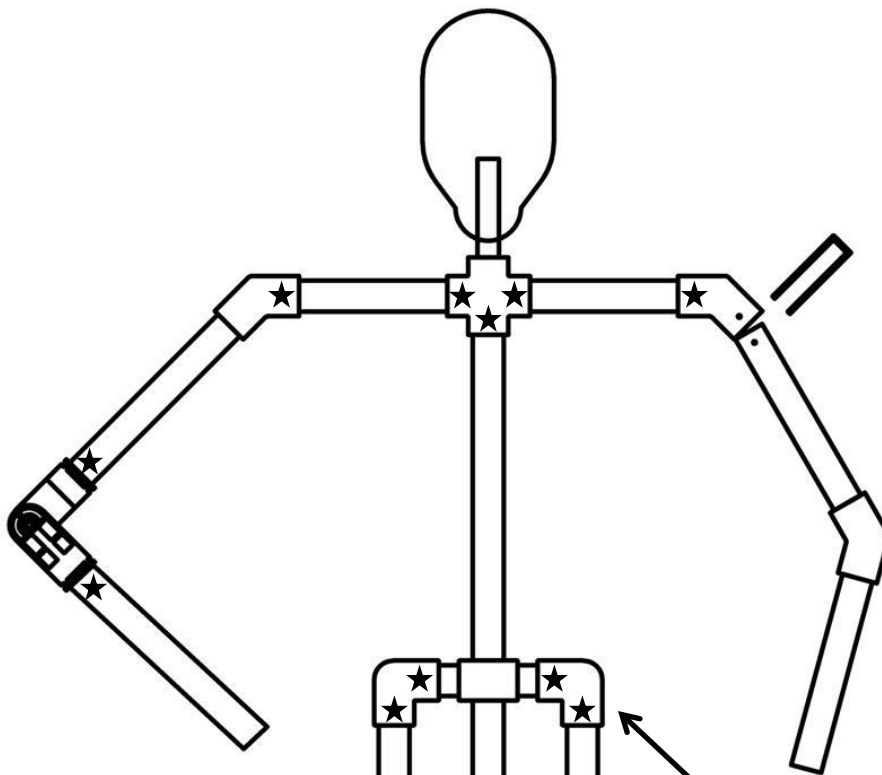
**6) Install the adjustable arm (with the Spider Joint) into the other shoulder fitting.**

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.**



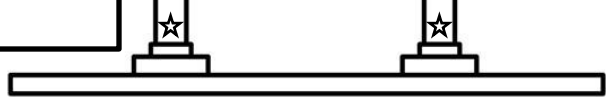
**Install self drilling screws into the joints below:**

- 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!**