

# HAUNTERS HANGOUT

<http://www.hauntershagout.com/home/santahangman.asp>

## Dancing Santa Hack - Hangman



You have had to have seen those dancing Santa's at Walmart around Xmas. Well last year after Xmas I happened into Walmart the day after Xmas that they went down to 75% off.

So, I bought the last 5. I also proved two things that day. One, I will buy anything if I think I can use it for a Halloween prop. Second 6 fat guys can just fit into my little Grand Am. (Five do have to be in boxes and the windows have to be down.)

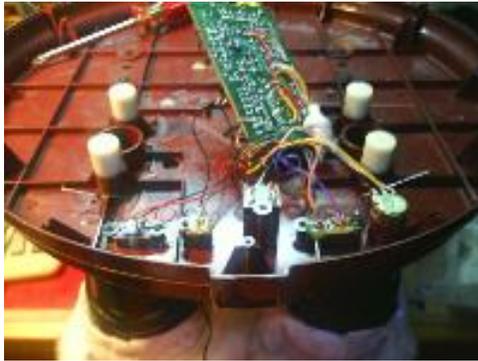
I tore apart one of the Santa right away. for \$15 if got lots of useful parts. 3 motors, power supply, speaker cord, fake hands, a microphone, a animatronics head, a circuit board, and a few other switches and parts.

Here is how the circuit board works. On the board there is a memory chip. On the chip is Santa's voice and the digital signal for all three motors. If you flip the switch to Aux it disables the memory chip and allows you to feed sound into the board. The sound operates the motor for the mouth.

For the hangman hack I used the circuit board. My idea was that I could connect a 9V relay to the wires that used to control the dancing motion. I took out the speaker so even though Santa is singing you will not hear it. I also later connected a relay to the mouth motor. This would control a light that will be aimed at the Hangman. The light will be random, flickering on and off as Santa sings.

This is not a step by step how to but it will give you an idea of how to make one.

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Here is the bottom of the dancing Santa. For the hangman hack I used the chest and arms, the circuit board, and the rods for the legs.



It took a bit of work to get the circuit board of the base. I did not cut most of the wires that I was not going to use. I just taped them together.



On one side of the board are the wires that work the Santa motors and the speaker. I remove them here to show the blue and green wires. I connected them to a 9 volt relay.



I bought a project box at radio shack to hold the components. Here you can see the start button and the motion sensor installed.

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Wires were soldered to the relay to power the wiper motor that will run the hangman. The wiper motor is powered by a 15V 1 amp power supply. One wire from the power supply goes to the wiper motor, the other goes to the relay. The other wire on the relay will go to the other wire on the wiper motor.



Here is the motion sensor. I drilled a hole in the case for it. As people walk by it should start the hangman kicking.



Here is the Kicking rig I made for the hangman. In the picture you see that at first I wanted to use springs to pull the legs up. It worked great in my first tests but later after the prop was dressed they did not have the power needed to lift with the extra weight.



The wiper motor is attached to PVC pipe. The motor is from All electronic. In the pic you can see the four way PVC connector.



I used a 8 inch bolt to attach the hangman together.



The hangman is not really hanging by a rope. I felt it would be safer to use cable. Here you can see that the cable is threaded into a hole in the back of the head and out. It later is placed around the bolt that goes through the chest.



Close up of the knees. they are just hinges. I placed a piece of metal over the top stop the leg from bending one way.



The chest was cut and rivets were used to make the hangman a bit less like Santa.



I had some old barge rope laying around. I made a noose and then threaded the cable inside the rope. Then I taped the wire for the wiper motor to the cable and pull it through the rope. The wire and cable are now hidden from view.



Here is a close up view of the wiper motor and kicking rig. Notice that I added a counter weight spring to the motor. It took a few times to adjust the spring for the right tension.



As I said before the springs for the legs did not work as I had hoped. I used cable in their



A few other pics of the kicking rig.



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Purple and red craft paint were sponged onto his hands to make it appear as if he had been trying to escape.



Here is a view of the hangman laying on the ground. You can see how the cable and wire are hidden in the rope.

The Hangman worked great! the only problem that I can see by using the Santa circuit board is that at time the motor stops at the high spot rather than the low spot. This makes the legs stay in the up position. All Electronic is now selling a wiper motor that stops at the same position every time that the power is shut off. This would eliminate the problem.

## **UPDATE**

The wall transformer that I used for the kicking motor stopped working after a few nights. It seemed that the motor requires a bit more power than the transformer can supply. I changed over to a computer power supply and took care of the problem. By increasing the power supply I also got a faster kicking motion than with the wall transformer.