

Generic Instructions for Pneumatic Haunted House Devices

Introduction:

Pneumatic devices are new to most haunted house operators, but with some experimentation and basic knowledge they are easy to connect and get moving.

Attaching Props:

Our devices are designed for versatility so many commercial props and props you make can be attached to them. I recommend good plywood attached with bolts and lock nuts. Steel frames are better, but many haunted houses don't have extensive metal working resources. Always use a safety cable if items are suspended over an audience or are swung into the safety zone. When something goes wrong it is usually the prop that is vandalized or gets broken off the device.

Power:

Compressed air is needed for power. Generally about 90 psi is needed, but more will be needed if hoses are run for long lengths because a pressure drop will occur as the hose absorbs energy. The size of compressor depends on the number of devices you use and how often they are activated. A 3 hp compressor will operate several devices. When in doubt go big on your compressor, a 5 hp compressor with a 40 gal tank will do a large show, but you may want to use two smaller compressors if the devices are to be spread out over a large area. Don't try to use a compressor with out a tank as the compressor will have to run continuously.

It is a good idea to drop the air pressure so that just enough power is required to run the device. This makes it safer for the public and saves energy.

Control:

Devices can be controlled manually or electrically. Electric control is the most common and is very convenient. The air ram is controlled by an air valve, the air valve is controlled by a electric coil. The electric coil is controlled by a switch or timer. It seems complicated but it is not. Just think of your device as having two circuits, one for air and one for electricity.

The general guidelines for choosing the control voltage is this:

Use low voltage (12VDC) in wet environments or outside. Use high voltage (120VAC) indoors. The audience should not come in contact with any electrical parts. NO ELECTRICAL PARTS should come in contact with moister or water regardless of the voltage. Pneumatic devices can be submerged in water, but please make sure the control valves stay high and dry.

<p>WARNING: USE LOW VOLTAGE (12VDC) in wet environments only!</p>
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If you have a control with the wrong voltage, just order a replacement coil. This should be installed at the factory or by us because they can easily be installed incorrectly, but in a pinch a good electronic/mechanical person can do it.

Timers, PIRs, Switches:

To make the device operate you simply need to install a switch. A regular wall switch with on/off is fine if that is the function you want. Floor switches and pressure pads are simply "Momentary" switches and also work great. If you want your device to operate for a set time you will need to install a timer as well. "Delay relays" are common timers and are available at places like McMaster-Carr and W.W. Grainger. Any electrical supply house will have these or can tell you where to get them.

One of the cheapest and easiest ways to trigger and time a circuit is with a simple security light with PIR, or Passive Infra-Red. These are the lights many people use on their homes to automatically turn on the lights when someone comes up the walk. Get the kind with both sensitivity and a timer control. When set the device will activate when someone approaches your device and will stay "on" for the duration set by you. Hook up is very easy, simply screw in a light-bulb to plug adapter and plug the device into this circuit. Get the PIR/Security light at your local home store.

For more information about pneumatics please consider:

"Basic Pneumatics" with Steve Biggs
VHS, 28 mins. \$29.95
order from Special Effect Supply Co.
www.fxsupply.com
801-936-9762