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***** TRASH CAN TRAUMA *****

(c) by Carl Chetta 1996 Text written by Larry Lund



Introduction:

Carl Chetta owns and operates Mid-Island Appliance in Central Islip NY. I was looking for some used washing machine solenoids and called his store. The rest is history, when he found out I was interested in building stuff for Halloween, he got very excited. I met him and we became friends right away. When I told him I was going to run air through the solenoids he became very interested. He always had a display of used washing machines in front of his store for Halloween but had been using water to activate his special effects. Within a couple of days he came up with "Trash Can Trauma".

Effect:

What appears to be a normal looking 45 gallon trash pail suddenly comes alive. It seems as if someone has been hiding in the pail! The lid rises rapidly to show a hideous mask while an arm comes shooting out at you. All this, with the possibility of sounds and lights. This is guaranteed to scare the daylights out of any unsuspecting victim.

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Carl Chetta's TRASH CAN TRAUMA



Rubbermaid 55 gal. trashcan model 208L Note that when the lid is lowered, it does not close completely. This allows room for the arm. Also, the lid snaps shut, and would not allow the mechanism to work properly if it closed completely.

Right, above: The sequence shown in the four pictures happens very rapidly, and is accompanied by a loud horn concealed within the can. The entire unit is self-contained.

This photo shows Larry Lund's version, with the lid removed. The pump's handle is exposed to view, along with a pair of chains which limit the throw of the pump piston. These attach to the internal frame made of 2x4 sections.

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<u>How it works:</u>

2x4's are cut and screwed vertically into the middle of each side of the trash can. A support shelf is built between the 2 boards to support a bicycle tire pump so that the handle of the pump is right under the lid when the lid is on the can. If you get the parts described below, the handle will press firmly into the bottom of the lid. The handle is

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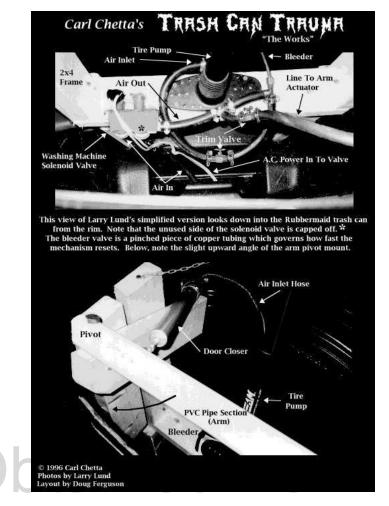
then secured to the lid with screws. When air is applied to the pump discharge side, up goes the handle carrying the lid or anything else with it.

The arm:

The arm is a piece of 1 1/2 inch PVC pipe that has a 1/2 inch hole drilled through one end. A long 1/2 inch bolt will serve as the attachment point of the arm.

About 3 inches from the attachment point, the fulcrum is attached. A 1/2 inch hole is drilled into a 2x4 and the bolt with the PVC is placed into the 2x4. The bolt does not have to be secured in any way. The arm is crossways across the front of the trash can and placed so that when air is applied it will extend out of the trash can. Remove the adjusting screw from the bottom of the screen door cylinder. Screw in some kind of connector and attach a piece of washing machine hose to it. I used 1/4 brass ell's and tee's. Applying air will force the cylinder out, and a spring will retract it when air is taken off.

Once the arm is set up, you can attach the cylinder to another piece of 2x4 and secure it with clamps. This will take a little adjusting.



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Controlling it:

I use a remote control power switch from radio shack. Part number 61-2667 it costs \$22.99.

It consists of a remote on/off control you can put in your pocket. Just like the remote control used for car alarms. This controls a receiver that you plug the washing machine solenoid wire into. I just hit the on, followed immediately by the off to trigger the device.

I have a lot of effects that I have to turn on/off (5 right now) and I decided I had to do them all remotely. I picked up a Stanley remote control system from home depot. It consists of a wireless hand held remote with 8 on/off buttons and a base unit that plugs into any wall outlet (\$39.95).

The base unit has an antenna that receives signals from the remote and transmits them through your house wiring to any lamp or appliance module you have plugged in (Lamp module \$9.95 appliance module \$12.95). The modules are addressable. Anything plugged into the modules can be controlled by the remote.

Here is the hooker.

My house has two 110 volt lines coming into the circuit breaker box. If a module is not on the same phase (110 side) as the base unit it doesn't work!

A call to Stanley was made, and they told me I had to purchase a Leviton signal bridge to bridge the 110 volt lines. They don't sell them.

I found one at my local electrical supply house (\$42.50). I took it home and read the directions and found out I must install 2 15 amp dedicated circuit breakers (each \$7.50) in my box to install the signal bridge. I wired it in myself and it really works fine. The problem I have is that Stanley had nothing in their directions to indicate that you might have this problem. As you can see, this really increases the expense.

Some tips:

You must remove the air line exiting the bicycle pump, there is a check valve that has to be removed to allow the air to go in the opposite direction. You have to install a bleeder valve somewhere to allow the air to escape and the effect to be automatically reset. I used a brass Tee with a nut, ferrule and small piece of tubing that I could crimp.

You also have to be very careful not to use too much air pressure or you will blow the top of the bicycle pump off. I attached old window sash chains to the pump handle and secured the chain to the 2x4's on the sides, limiting the throw to just short of full. To adjust the cylinders so that they operate good together, shut off both air metering valves (see parts description below) and then crack open the valve leading to the bicycle pump. When that is operating OK, crack open the valve leading to the screen door cylinder.

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If everything is set up OK, the lid will rise just before the arm comes out and when the air is taken away, the spring return in the screen door closure will snap it back in as the lid slowly descends from it's own weight and is reset.

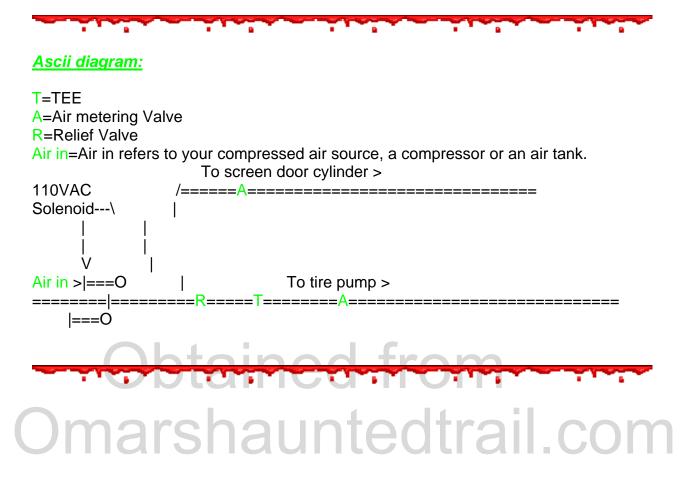
You can now dress up the apparition, putting a sleeve and rubber hand on the PVC pipe. A couple of blocks of 2x4 with a hole for the pump rod can be used to secure the mask to the trash can lid.

I also use a bicycle air horn (rubber bulb removed) attached to my air supply which works well to create some sound.

If you have trouble with the lid twisting and not resetting properly, get 2 pieces of PVC plastic pipe where 1 piece will fit easily into the other. I recommend 1 inch and 1/2 (1 1/4 and 3/4 work fine too) inch ID. put a cap on the smaller of the 2 pieces and attach the larger piece vertically to the rear of the trash can. (drilling small holes into the rear of the trash can to accept electricians tie wraps will work.) This will serve as a sleeve for the smaller piece which will go inside of it. Secure the smaller pipe to the lid of the trash can with a screw through the lid into the cap of the smaller pipe. This arrangement will enable the lid to return to it's closed position properly.

Flow of air:

The air should flow from the source to the washing machine solenoid through the relief valve to a tee with each side of the tee going to separate air metering valves. One side goes to the bicycle pump and the other to the screen door cylinder.



Material list:

Rubbermaid 45 gallon trash can model	Home Depot	\$23.00
208L or 170L	Wall-Mart	\$19.99
Techteam Advanced uni-body composite bicycle tire pump 120 PSI max	Toys-R-Us	\$ 9.90
Screen door hydraulic cylinder	Home Depot	\$ 6.00
2 2x4 8'	Your pick	\$ 3.00
2 feet of 1 1/2in PVC pipe for the arm	Your pick	
Ugly mask	Your pick	
Fake hand.	Your pick	
Clothes washing machine solenoid valve (hot/cold)	Washing Machine repair place.	\$ 2.00
Cap for one side of valve.	Garden supply	\$ 1.00
120VAC line cord to connect to the washing machine valve.	Scrounge it	
Washing machine hose for all the air lines. Cut and clamp all fittings	Scrounge it	
2 in-line air metering valves (like the ones used on spray guns to regulate the air pressure) I found Home Depot had 1/4 CXC needle valves (\$ 3.97ea.) which turned out to be perfect and cheap. SKU #048643070509 You don't need the nuts and ferrule's	Your pick	\$??.00
Miscellaneous fittings and clamps. I found that 1/4 inch brass fittings worked real good, I was able to force an elbow into the pump base after the air line was taken off.	t from	

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It threaded itself right into the plastic. I did	
the same with the screen door closure.	

Warning!

Be very careful when applying air to this device, some holes were blown in ceilings and pumps blown apart.

The device will operate with 25-35 lbs of air pressure. Maybe less.

Do not activate the effect if anyone is within a few feet of the trash can, the arm comes out with considerable force and could injure someone.

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