DC Design Studio, LLC – Trash Can Lifter
Setup and Use Instructions

Disclaimer: Upon purchase of this mechanism, operator takes full responsibility for its use as well as the safety of the people around and or exposed to it. Failure to take precautions, attempt structural modifications, or use outside the operating guidelines is dangerous and is highly discouraged. Taking the proper precaution and using this mechanism within the scope it was designed will give you years of worry free use.

Thank you for purchasing a DC Trash Can Lifter. As you can hopefully notice this mechanism has been professionally constructed using industry grade pneumatic components in conjunction with a 100% welded steel frame and heavy duty hardware.

The trash can lifter was designed to be used in conjunction with most props that range from 10-40lbs and provide a vertical and slightly forward lifting motion, while being housed/hidden within a standard garbage can.

Since the lifter ships with all pneumatic plumbing complete and tested, the first step in setting up the lifter is to secure it to a baseboard or weight it down with sandbags or steel weights. The trash can lifter provides a lot of force, so securely mounting it is extremely important. To do so run a 1/4" lag bolt through each mounting hole into your floor or if using a baseboard, use 1/4" bolts with lock nuts. The mechanism must be secured to the floor for proper use as well as safety. If the mechanism is not secured down, it will attempt to flip forward causing harm to the lifter, prop, and your scene. It also creates a dangerous safety hazard for your viewers.

With the mechanism and tubing secured you are ready to connect your air source. To do so thread your female threaded ¼" NPT air compressor coupler to the included push-in-fitting (located on the coil of tubing attached to the "P" port on the valve); tighten. Once secure, carefully add air pressure (40-60 test pressure recommended). The mechanism should stay retracted and no air leaks should be present. If it does not remain lowered make sure power is not supplied, and if it is still upright switch the tubing on the valve ports (move tube B to port A and tube A to port B). If leaks are heard, disconnect the air supply, and push the tubing further into the fittings. Re-connect your air source and re-test.

Once the mechanism is working properly it is now time to apply the prop. If you are planning on using a light skeletal torso (this lifter generally will not lift a bucky torso), we recommend attaching

it securely through the mounting platform through the pre-drilled holes. We also recommend having a sturdy sub-frame running through your prop that can securely attach to the lifter; attaching the prop securely is extremely important. You can also run a bar from the lifter platform up to the garbage can lid, to allow the lid to rise off and up with the prop.

With the prop attached, your trash can lifter is now a complete prop and you're ready to test and adjust the speed. To do so, adjust your compressor to output 40-60PSI. Next connect your air compressor couplers (male and female) to pressurize the valve and cylinder. Tighten the flow controls screw by turning clockwise until it is snug. This will prevent any air from traveling, so don't be alarmed when your prop does not move when power is applied.

Now test the movement by adding power and un-screwing the lift flow control until it lifts at the speed you desire. If it does not lift fast enough at 40-60 increase your compressors output until you have the ideal lifter speed. You will need to adjust the flow controls for both the lift and decent speeds (once again - tightening the thumb screw will decrease the speed, and unscrewing the screw will increase the speed) each time you increase or decrease the air pressure. Once you're happy with the lift and lower speeds, tighten the retaining nut to hold it in place.

In regards to displaying your prop, never use this mechanism at more then 120PSI. We recommend 80PSI which will prolong the lifter and prop life and avoid possibly hurting an innocent viewer. Also never use this mechanism in close vicinity (arms reach) of viewers. All of our pneumatic parts are rated to 120PSI, adding more will cause them to fail and begin leaking air or possibly a release of the tubing (never try and "catch" a loose/whipping pressurized airline).

Lastly, for personal safety never stand over a prop when pressure is applied. It is a potential accident that can be easily avoided.

Maintenance:
It is recommended to oil the cylinder rod periodically with pneumatic tool oil, and store the lifter/prop in a dry area. Also check the nuts and bolts to ensure they are just tight enough to not spin freely, but do move easily with a wrench. Greasing the nuts, bolts and bearings is also highly recommended.

Wiring in a controller:

Basic setup and integration of a "non-wired" manual trigger - (ie power cord or X-10 system):

By far the easiest (and cheapest) way to activate the valve setup is to manually plug in the power supply to a household wall receptacle. As mentioned above adding 110V to the power supply will switch the valves airflow, and extend the cylinder.

Many people do not want to manually plug in a power supply for each activation, so the next easiest option is to integrate a wireless 120V appliance/light controller (available at www.dcprops.com). For about $40 you can wirelessly turn on and off the lifter from up to 40' away. For this setup, please follow the manufacturer's instructions for setup and triggering.

Basic setup and integration of a Push Button Trigger: (available at **www.dcprops.com**)

If you are using a low voltage 12-24V valve and manual triggering is preferred, a push button trigger is a great solution. To connect this type of triggering device first ensure the power supply is unplugged and had not been plugged in for at least 10 minutes; the power supply holds power, and if it is or was recently plugged in, there is a possible shock hazard.

With the power supply un-energized, take the power cord (running from the power supply to the valve) and separate (spilt apart) the two wires about a foot from the power supply. As a precaution, all wiring should be kept as far from the valve and water as possible. Once split you should be left with a solid black wire and a black wire with a white stripe.

The black wire with the white stripe is the constant and you won't touch that one. The solid black wire needs to be cut and the shielding stripped about 3/8 of an inch on each cut end. With both ends stripped, now you can connect the push button's trigger.

In the case of a DC hand held trigger (WARNING - Only use hand held triggers with 12-24V DC setups, never integrate a hand held trigger into a 110V setup!), you will want to connect the wire coming from the power supply to the red wire, and the other cut side (the wire that's running to the valve) to the black wire. We strongly recommend soldering these connections, then covering all of the bare wire with heat shrink tubing and or wrapping with electrical tape.

With those connected, you have created a normally open circuit (switch that closes the connection turning on the valve) when the button is depressed.

Basic setup and integration of a "relayed" animation controller:

These instructions are for wiring a "relayed" controller, such as an Animation Maestro (available at www.dcprops.com). The manufacturer's instructions supersede these instructions, so read and follow those instructions and precautions prior to wiring.

To connect a "common" relayed controller first ensure the power supply is un-energized and take the power cord that is running from the power supply to the valve and separate (spilt apart) the two wires about a foot from the power supply. As a precaution, all wiring should be kept as far from the valve and water as possible.

Once split you should be left with a solid black wire and a black wire with a white stripe. The black wire with the white stripe is the constant and you won't touch that one. The solid black wire needs to be cut and the shielding stripped about 1/4 of an inch on each cut end. With both ends stripped, now you can connect the first (common) wire coming from the power supply into the "C" (constant) terminal. Next connect the wire running to the valve on the lifter into the "N/O" (normally open) terminal.

This will complete the circuit, and the controller will "close" the circuitry loop, per your program using a PIR (passive infrared) sensor, push button trigger, or switch mat (only connect ONE trigger at a time!).

Basic setup and integration of a "powered" animation controller:
These instructions are for wiring a "powered" controller, such as a Prop 1 micro controller or Sprawling Delusions Keybanger (using a 12V-24V main power supply, with 12V-24V output).

This setup uses the power supply from the controller to power the valve, so in this setup you will want to cut the power supply off about 18" away from the power supply. Keep the power supply for future use, or for powering the controller.

With the power supply removed, separate (spilt apart) the two wires you just cut about 3" and strip approximately ¼" off each end. As a precaution, all wiring should be kept as far from the valve and water as possible. Once split you should be left with a solid black wire and a black wire with a white stripe.

The black wire with the white stripe is the constant and will need to be connected into the "V+" or "POS" terminal. The solid black wire will need to be connected into one of the "N/O" (normally open) terminals.

This will complete the circuit, and the program you enter into the controller, will control the opening and closing of the circuit (ie start and stop of the lift).

Suggested Animation controllers:

- Animation Maestro: great for triggering 1 item, extremely easy setup and real-time programming. Available from **www.dcprops.com**.

- Animation Maestro 2: Great for triggering two items with real-time programming (ie spitter and a pneumatic solenoid valve). Available from **www.dcprops.com.**

- SD Keybanger Lite: Great for triggering up to 2 items with extremely easy setup and real-time programming. Available from **www.dcprops.com**.

- SD Keybanger: Great for triggering up to 6 items with extremely easy setup and real-time programming. Available from **www.dcprops.com.**

- Basic Wireless Remote control: Extremely easy to use and wireless up to 40'. Available from **www.dcprops.com**.

- Prop 1 Microcontroller: Great for triggering multiple items (up to 8), requires programming knowledge. Available from **www.dcprops.com**.

Please be safe and enjoy.

If you have any questions on these instructions or this props operation, please contact DC Design Studio at **support@dcprops.com**.

Thanks again for your purchase and enjoy.

DC Design Studio
P.O. Box 132
Mountain View, CA 94042
650-962-9254
www.dcprops.com