

## Tornado Machine Lightning Simulator Upgrade Plans

We recently upgraded our tornado machine at the Louisville WFO with a lightning simulator. The lightning simulator provides an output to a strobe light and sound system to enhance the tornado machine. A PVC cap was also added to protect the lightning simulator during transport.



**Materials List:**

Lights Alive Firefly FF-301 Lightning Simulator ([lightsalive.com](http://lightsalive.com))

12" PVC Solvent Weld Cap

Radio Remote Receiver with Remote Key Fob Transmitter (We found ours on E-Bay)

Mini Strobe Light

Sound System Cables with Headphone Jack Connector or Adaptor

Speaker(s)

Machine Screws

Marker

Sandpaper or File

Jigsaw

Drill

Drill Bits

**1) Preparing the Lightning Simulator.**

- A. Make a template of the bottom of the lightning simulator with the position of the screws.
- B. Remove the top of the tornado machine and mark it using the template.
- C. Drill holes in the tornado machine top for the simulator screws, simulator power cord, and strobe light power cord into the top.

**2) Preparing the PVC Cap for Installation**

- A. Mark the PVC cap for a 5" by 3 1/2" opening.
- B. Using a jigsaw cutout the access hole.
- C. Using either sandpaper or file smooth any rough edges.
- D. Drill four pilot holes into the cap to attach it to the top of the tornado machine.

E. Make a template of the PVC cap and mark the position of the pilot holes on the top of the tornado machine.

F. Drill holes in the tornado machine top for the PVC cap.

G. Paint PVC cap.



### **3) Installing the Strobe Light**

A. Drill a hole for the power cord in the top of the viewing port on the tornado machine.

B. Cut about 6" off the power cord and pull the remainder into top compartment.

C. Mount the strobe light inside the tornado machine.

### **4) Putting It All Together**

A. Using slightly longer screws attach the simulator to the top.

B. Cut the plug off of the simulator power cord and run it through the tornado machine top.

- C. Install the remote receiver using the instructions included by the manufacturer.
- D. Pull strobe light power cord through tornado machine top, reattach plug, and plug into lightning simulator.
- E. Plug sound system cable into lightning simulator audio output (headphone jack).
- F. Attach the PVC cap to the tornado machine top using machine screws.
- G. Wire the lightning simulator into the input power.
- H. Reattach the tornado machine top.