ELECTRIFY YOUR SCENERY WITH STATIC GRASS Presented by Rick Luther

### WHY USE STATIC GRASS

Static grass is an easy and effective way to imitate the natural grasses seen in real life. It can also add to the "texture" of your scenery.













## WHAT IS STATIC GRASS ?

Static grass is made from plastic fibers, such as acrylic or polyester that easily accept and react to a static charge.





## WHAT IS STATIC GRASS ?

### **Static Grass Sizes**

HO Scale





## WHAT IS STATIC GRASS ?

### Wide Variety of Colors







## ADDITION STATIC GRASS ?

#### **Commercial Applicators**



### **Non-Electric / Hand Operated**

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# ADDING STATIC GRASS ?

### **Commercial Applicators**



(2) D Size Batteries Available on eBay



## WHAT IS NEEDED TO ADDLY STATIC GRASS ?

### **Commercial Applicators**



(2) D Size Batteries Available from Grass Tech

## WHAT IS NEEDED TO ADDLY STATIC GRASS ?



# ADDING STATIC GRASS ?

### **Commercial Applicators**



**9 Volt Battery** 

## WHAT IS NEEDED TO APPLY STATIC GRASS ?



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### **Commercial Applicators**



**9 Volt Battery** 

## OTHAT IS NEEDED TO ADDIT STATIC GRASS ?





## WHAT IS NEEDED TO APPLY STATIC GRASS ?

### **DIY Applicators**



### (2) D Size Batteries







# ADDITION OF GENERAL STATIC GRASS ?

### **Our DIY Applicator**



## WHAT IS NEEDED TO ADDLY STATIC GRASS ?

### Our DIY Applicator



## WHAT PARTS DO YOU NEED TO BUILD A STATIC GRASS APPLICATOR ?



### MATERIALS LIST

Electronic Fly Swatter

Harbor Freight, eBay, Amazon

Small Metal Kitchen Strainer

Dollar Tree, Family Dollar, Big Lots, Deseret Industries

• (2) D Cell Batteries

Anywhere

- Insulated Alligator Clip
  Radio Shack, Home Improvement Stores, Ace Hardware
- 18-20 Ga. Stranded Wire

Radio Shack, Home Improvement Stores, Ace Hardware

- (2) 3/4" #6 Round Head Screws & Nuts (4) Washers Home Improvement Stores, Ace Hardware
- Small Ring Connector

Radio Shack, Home Improvement Stores, Ace Hardware

• 1/4" #4 Round Head Screw & Nut Home Improvement Stores, Ace Hardware

### TOOL LIST

- 20 40 Watt Soldering Iron
- Soldering Flux
- Rosin Core Solder
- Wire Cutters
- Wire Strippers
- Crimpers
- (2) Needle Nose Plyers
- Phillips Screwdriver
- Straight Screwdriver
- Hobby Razor Saw
- 3/32" & 1/8" Drill Bit

## OUR DIY APPLICATOR

#### Front View



## OUR DIY APPLICATOR

#### **Back View**



### OUR DIY APPLICATOR

### The Bug ZAPPER




Remove screws holding handle together and separate top half of handle, leaving head and lower half of handle together.





Gently pull the head loose from lower handle. Note the color of the wires coming off the PC board. Remember "Green for Screen" and "Red for Lead"





# Trim the two wires close to the PC board. The location of the wires will be used to connect the new leads to later.





Prepare the head by separating it and removing the screens. Throw out the inner plastic spacers and screens (these will not be needed).



# Re-assemble the head and measure 2" using the small pin on the inside as the center point.



Trim the head down by sawing at a slight angle outward. You may need to use a small clamp to hold the head in place while sawing.



Using wire cutters, cut the handle of the strainer in half. Bend each side of the handle with two right angles that will fit inside the modified head. You will need to trim the ends of the wire handle to fit.



Sandwich the strainer between top and bottom of the head so that the edge of the strainer fits inside and the center pins touch the screen.



Drill a hole (1/8") on both sides of the head all the way through. Insert screws, washers (top and bottom) and tighten down with the nuts. Be careful not to over-tighten. These will act as a clamp to hold the strainer.





### Drill two 3/32" holes in the bottom of the handle with the PC board. Locate the holes just in front of the board.





Unsolder the "Green" wire from the board. Feed some wire through the hole on the same side as the "Green" wire. Tie a simple knot in the wire to act as a strain relief. Cut the wire to length needed to reach the PC board. Strip and tin the wire then solder it to the board.





Place the head back on the bottom half of the handle. Turn the handle over and figure out the length of wire needed to reach the strainer. Strip the wire and crimp the ring connector to the wire and attach to the strainer with a short screw and nut.





Cut a length of wire (25" to 30") to use as the lead to the scenery. Remove the cover from the alligator clip and feed it down the wire. Solder one end of the wire to the alligator clip. Push the cover back over the clip.





Unsolder the "Red" wire from the board. Feed the wire through the hole on the same side as the "Red" wire. Tie a simple knot in the wire to act as a strain relief. Cut the wire to length needed to reach the PC board. Strip and tin the wire then solder it to the board.





Place the head assembly back on the pins in the handle. Check that all wires are inside the handle and place the top half of the handle on the bottom. Once everything is back in place, replace the screws and add two "D" size batteries. Replace the battery cover and **You're Done!** 







# When these units are on they can generate from 500 to 3500 Volts!

Never touch the screen while using the applicator. When you have finished, always touch the scenery lead to the screen to discharge the capacitor.

If you have children in the house, remove a battery or store the applicator in a safe place.

The applicator won't kill you, but it will give you a shock that may cause other accidents!

### WHAT IS NEEDED TO ADDLY STATIC GRASS ?

#### **Basic Tools**



## WHAT IS NEEDED TO ADDLY STATIC GRASS ?

#### **Optional Tools**



Separating Mini-Vacuum





Tweezers

#### White Glue Recipe



Elmer's or other White Glue 2/3 glue and 1/3 water

Aleene's Tacky Glue 1/2 glue and 1/2 water (Not recommended for large areas)

### Preparing the scenery base



Apply the glue mix and static grass in areas no larger than 12 square inches. Any larger and the glue mix may soak into your scenery base.

#### Preparing the scenery base



When applying the glue mix, do not create straight edges in the area your working in. Seams will show and may give you a checkerboard look.

### Preparing the scenery base



Apply the glue mix with rough, un-even edges. Seams are less likely to show and will give you a more natural look to your static grass areas.

#### Making the Connection



You will need a way to make an electrical connection to the glue mix. A "T-Pin" is a great way for scenery created on foam or plaster shell.

#### Making the Connection



Use a small brad or finishing nail for scenery base created directly on wood. Drill a small hole and insert the nail in the hole. Make sure the glue mix is touching the nail.

### Hold the applicator no more than 3/4" to 1" above the scenery base.



#### Applying the Grass



Using a quick side to side motion, move over the entire area. Continue moving until the area is completely covered with an even layer of grass.

#### Applying the Grass



If you're having trouble getting the grass out of the screen, use a pencil, dowel, paint brush handle or other non-conductive object to tap the side of the screen as you move.

#### Applying the Grass



I usually wait 24 hours for the glue mix to completely dry. Take the vacuum and staying 1" - 2" above the scenery, vacuum up the excess fibers.

#### Keeping the Grass Off!



Mask areas like roads and track where you don't want any static grass. Use a slightly moist paper towel to cover the area. Apply the grass and remove the paper towel after a few minutes.

#### Making Changes to Applied Grass



If needed, you can make changes to the grass you have just applied by following these simple steps.

1. Apply the grass as you normally would.

### Making Changes to Applied Grass



2. Using tweezers remove grass from the areas where you don't what it.

- 3. Grab just the grass and not the scenery base. Pull the grass up as needed.
- 4. Make any repairs to the scenery base.

#### Making Changes to Applied Grass



To remove grass from larger areas, use a pipette and a mixture of "wet water". Apply the "wet water" to area to be removed and wait 10 to 20 minutes for the mixture to soak in.

#### Making Changes to Applied Grass



Using a small paint scraper or putty knife, remove the grass and scenery base from the area. Add your building or other scenery element and make repairs to the scenery base as needed.

A D D L O NA L INFORMATION Google is your friend! www.google.com Use search terms such as "Homemade static grass applicator" "Applying Static Grass" "DIY Static Grass Applicator"

ADDTIONAL MFORMATION

Youtube is another friend! www.youtube.com Use search terms such as "Homemade static grass applicator" "Applying Static Grass" "DIY Static Grass Applicator"
## ADDITIONAL INFORMATION

## Manufacturers Websites

- Scenic Express : www. sceneryexpress.com
- Woodland Scenics : woodlandscenics.woodlandscenics.com
- Grass Tech : www.grasstechusa.com (Includes Videos)
- Noch : www.noch.com
- Heki : www.heki-kittler.de (German)
- Busch: www.busch-model.com/englisch/e-moba.htm (German)
- Gale Force Nine : www.gf9.com
- The Army Painter : www.thearmypainter.com

## TRANK YOU?

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