OPERATION GUIDE

Litter Bug
A scene population tool
Created by Peter Wertz

CONTENTS

HOW TO INSTALL

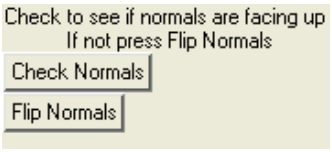
1. Open the script editor 
2. File > Load Script
3. Find where “litterbug.mel” is located
4. The code will load into the bottom section of the script, middle mouse click and drag it to the custom shelf.
5. Click the shelf icon whenever you need it. 

HOW TO USE

The tool was created with a logical progression in mind (i.e. start form the top and work your way down) When you first load the tool you are presented with several buttons. We will look at each field to see what they do.

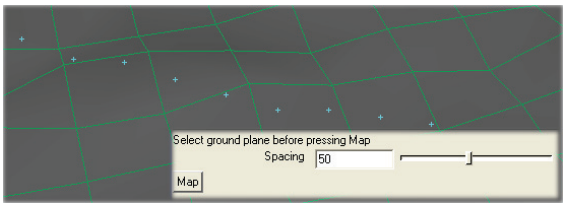
Checking your normals

The first section is an important checking state. The tool uses Maya’s dynamics to lay an object flush on a surface. To do this you need the normals facing the correct direction. Check the direction of the normals by pressing the “Check Normals” button and make sure that they are facing upwards. Click again to turn off the display. If the normals are facing the wrong way press “Flip Normals” to face them the other way.



Mapping your points

The power of the tool is to place an object where you want it or focus your litter to one section of a ground plane. Set the interval between each object by means of the “Spacing” slider bar. Select the ground plane onto where you would like to place the objects and press the “Map” button. Now left mouse click and drag/draw the points onto the surface. When done press the enter key.

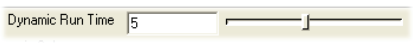


Selecting your objects

Because the tool randomizes what it will be placing you need to tell it what objects you want it to work with. Simply select the objects you want and press “Get Junk”.

Creating your objects

This part is the meat of the code and the main purpose of the tool. The following will be a break down of each item in this section of the tool.

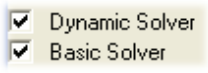


Dynamic Run Time

The amount of frames the tool will scrub through when dropping an object on a surface. The higher it is the longer the tool take to complete but the more accurate it is.

Dynamic Solver

This is the solver that uses Maya’s dynamics by picking up an object a few units off the ground plane and drops it using rigid body solvers.



Basic Solver

This solver is faster but much less precise. It rotate an object randomly and then freezes the position. Next it finds the lowest center point and moves the pivot point to that location to then be placed to position where you mapped previously.

Note: Use both solvers for best results.

Rotate Amount

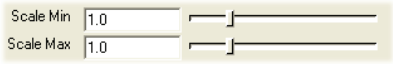
This is a slider that lets an object rotate from 0 to 360 or what ever you specify.

Rotate XYZ

Check the box to off if you don't want it to randomly rotate in that direction.

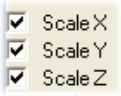
Scale Min and Max

Set the amount you want the object to randomly scale to. Setting the Min higher than the Max will cause the objects to be all scaled to the min value.



Scale XYZ

Check the box to off If you don't want it to randomly scale in that direction.



Create

This is the final button that will create all your objects to the ground plane. Press this only when you have your settings right.

Fine Tuning

The tool is not perfect enough for every object out there so you most likely need to fine tune it. The "Fine Tune" slider bar is the same as the "Dynamic Run Time" slider in that it is the time the dynamic system will scrub through. The "Strength" slider bar allows you to adjust the amount of gravity is forcing the object down. Some objects will be forced too hard and will pass through the ground plane, so lessen the amount if so. "Revert Center Point" undoes the Basic Solver of repositioning the pivot point. "Fine Tune" initiates the solver and "Undo Fine Tune" undoes the last initiation. You will need to run fine tune on an object more then once to have it correct.