

Powergons

By Tracy Hamer

-Powergons are a powerful combination of LScripts and polygons. They are used for situations where you would have many of the same object such as doors or windows that could open and close or move independently of each other.

-They would also be useful for something like a forest full of trees, or a big school of fish.

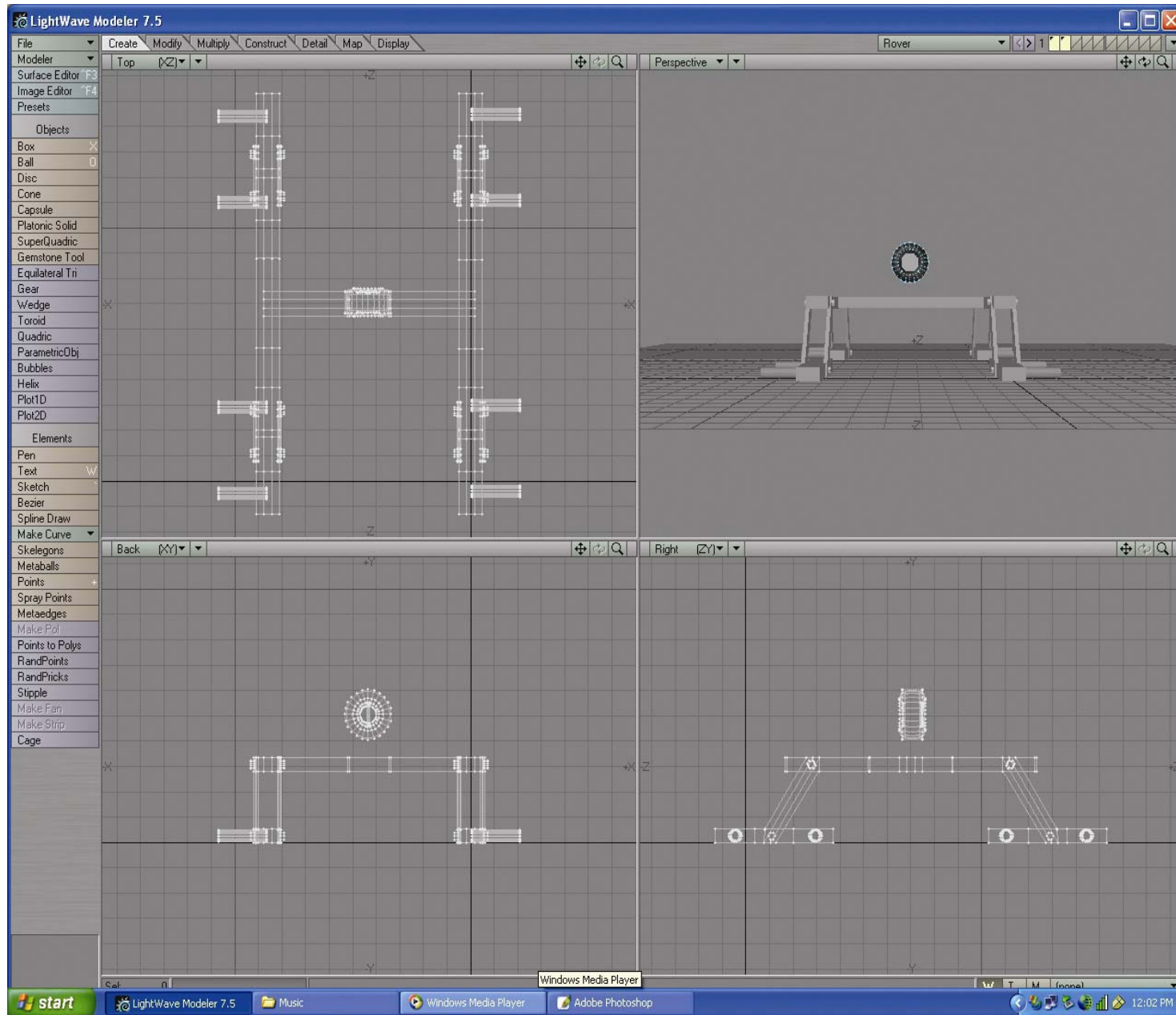
Step One

-First, create the object you wish to use powergons with.

-In this case I will be creating 8 tires, one on each axel.

-The one tire you see in the scene now will be the parent object for the other 8 tires that will be placed in the scene.

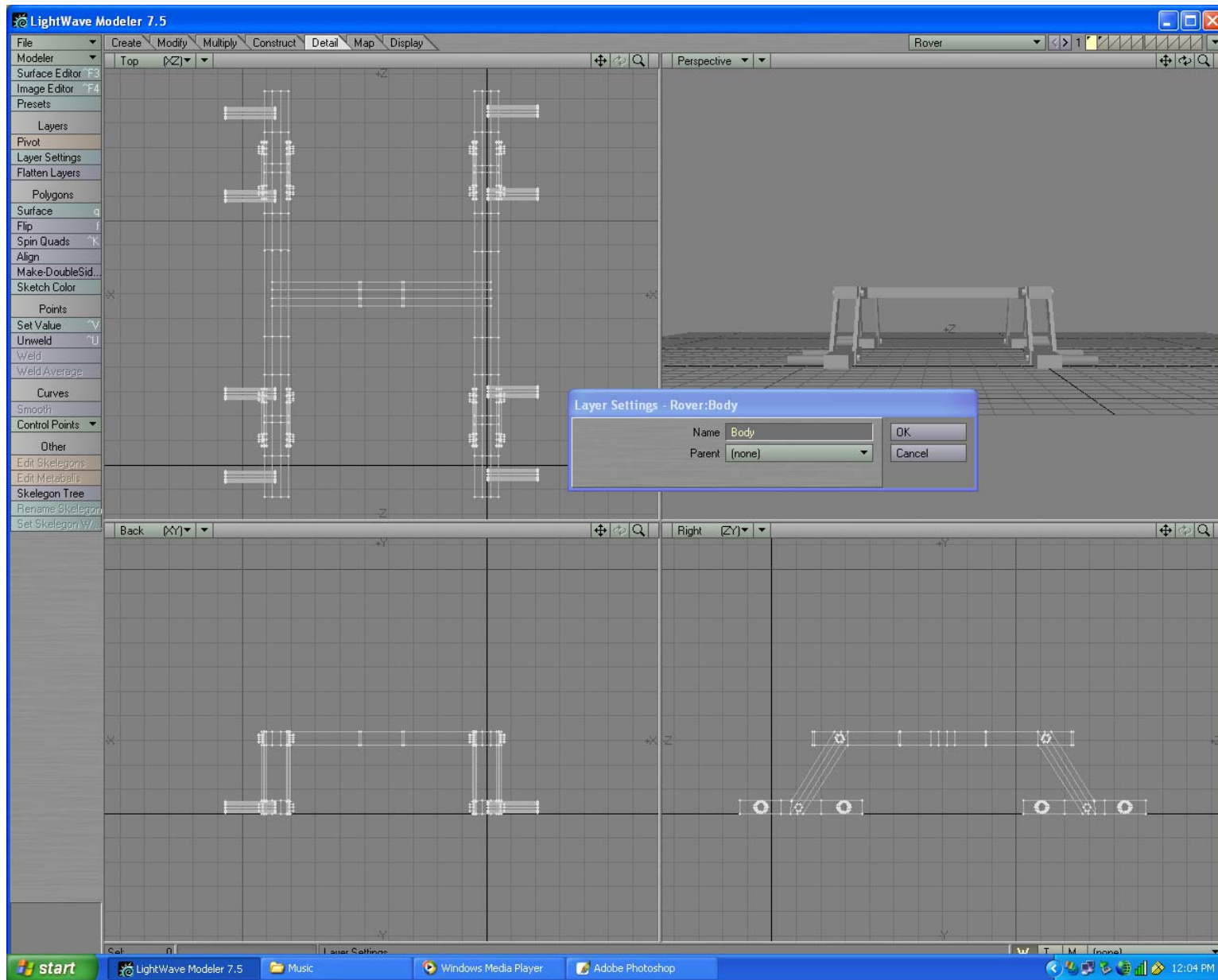
-The tire has to be on a separate layer from the frame of my vehicle.



Step Two

-For powergons to work you have to name each layer, and indicate what the parent object(s) are and which are the children objects.

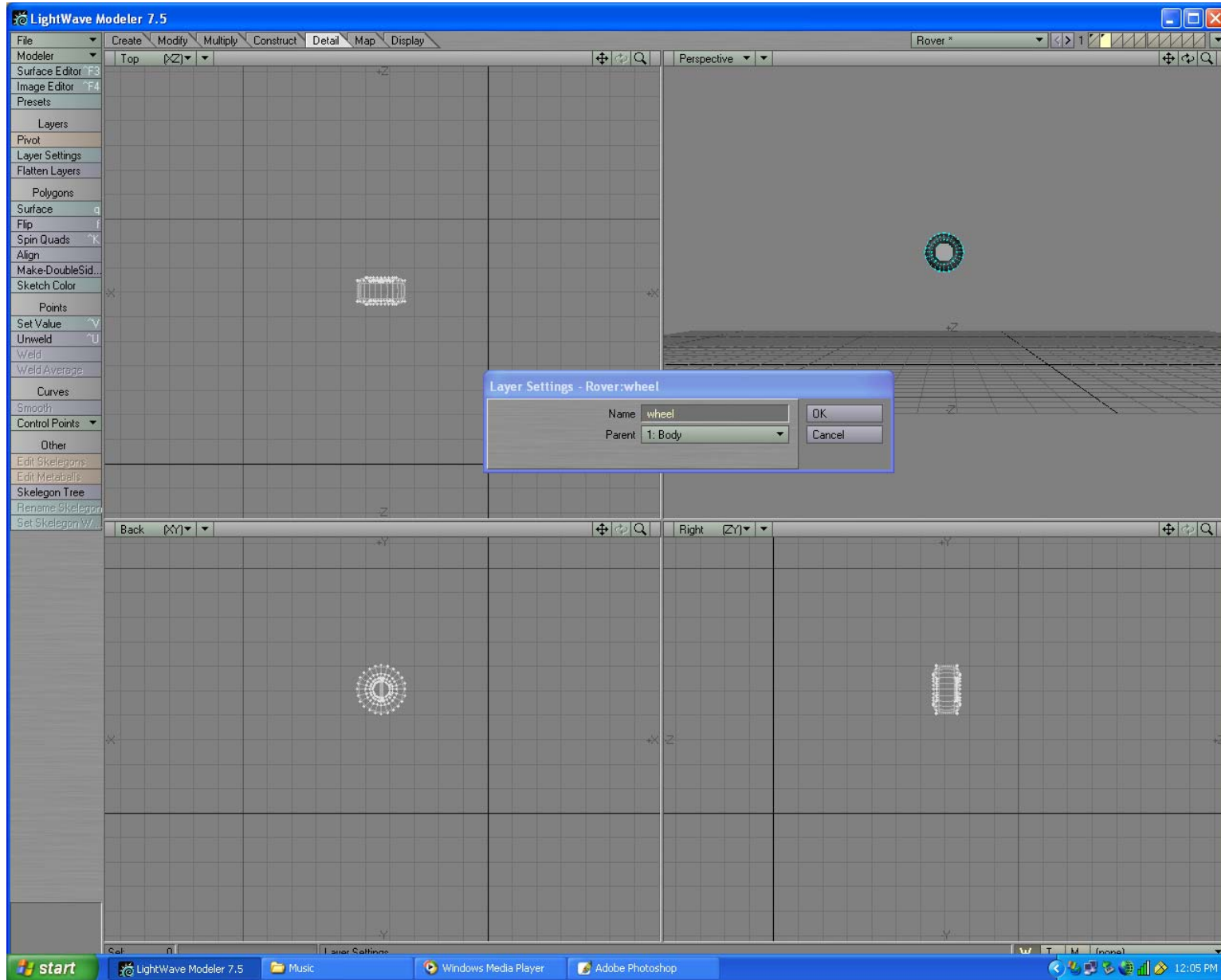
-To do this, go to Detail then Layer Settings. There you'll need to name the parent layer first, and since it is the parent, leave the parent box on none.



Step Three

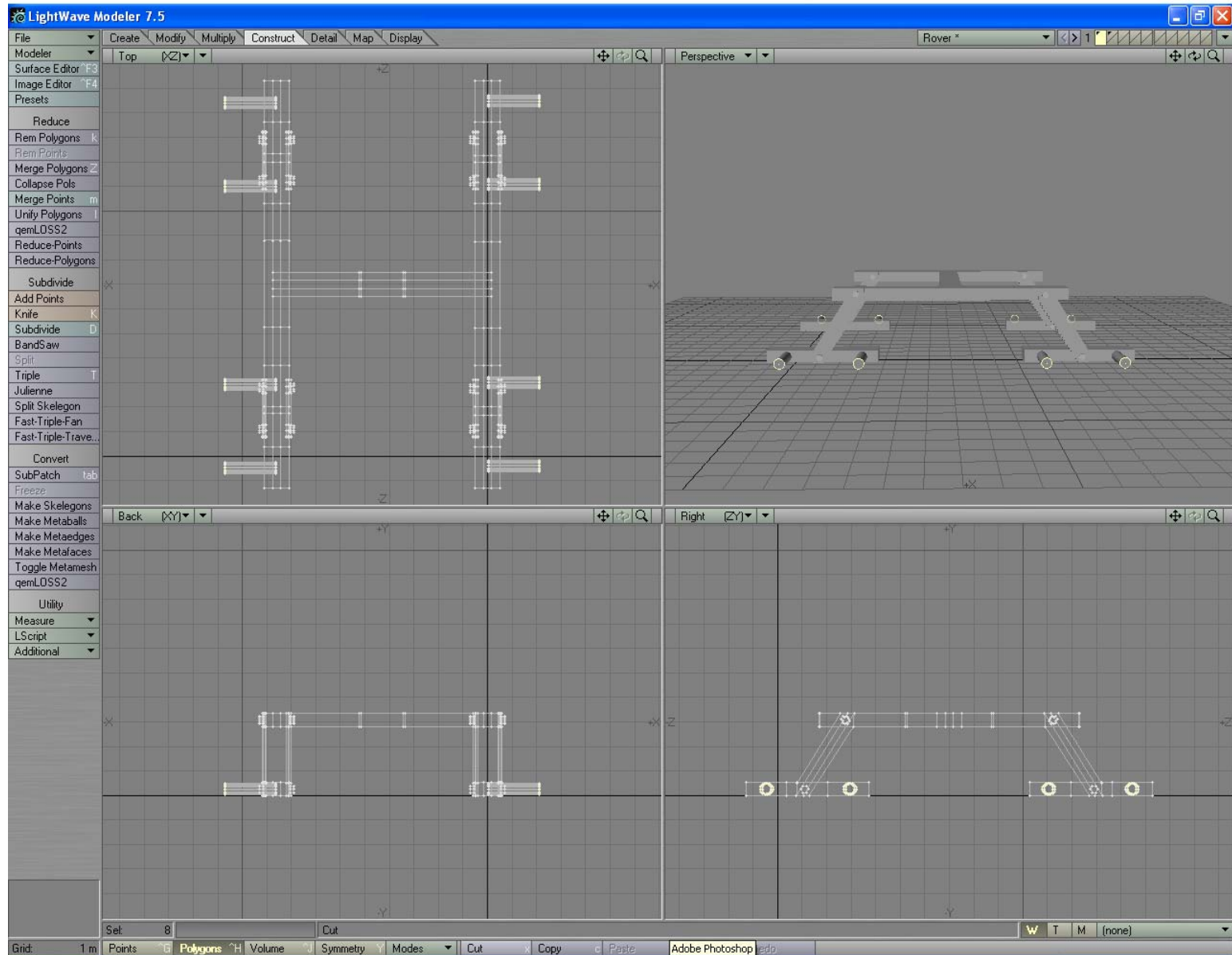
-After you name the parent layer, you can name the children layers (in this case only one child and one parent layer).

-Go to the layer of the object you are going to clone, and give the layer a name, and from the drop down list, select the parent object.



Step Four

Go back to the parent layer and select the polygons where you want the cloned object to be, in this case, the end of each axel.



Step 5

-While still on the parent layer, you are going to add a powergon. To do this hold down shift and control and click your middle mouse button.

-If you don't have a middle mouse button, you can go into Modeler-Interface-Edit Menu Layout-Additional, and put the AddPowergon option into one of the menus in Modeler.

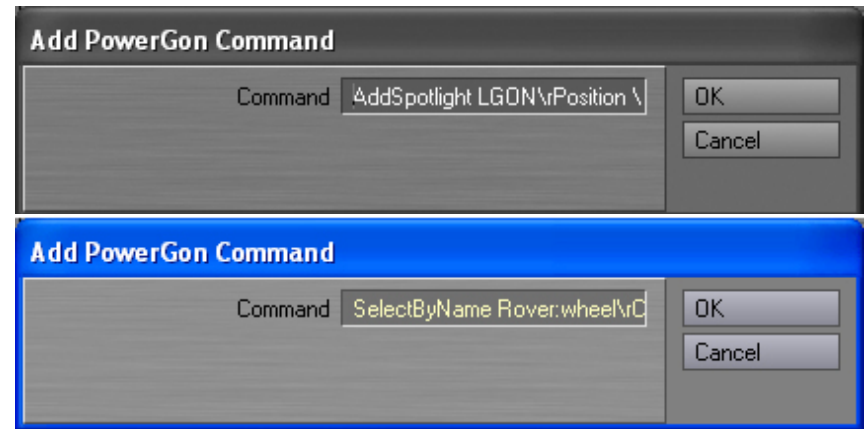
-You may have to mess around a bit with the plug-ins if you get an error message when you try to select AddPowergon.



Step 6

-A box should pop up that says Add PowerGon Command, and a command line in it. By default the command line will read:
AddSpotlight LGON\rPosition \c\rRotation \n\rParentItem \i\rCreateKey 0

-That command will add a spotlight at each of the polygons that you selected.



-You'll need to change the command line so that it reads: SelectByName (your filename):(your layer)\rClone 1\rPosition \c\rRotation \n\rParentItem \i\rCreateKey 0

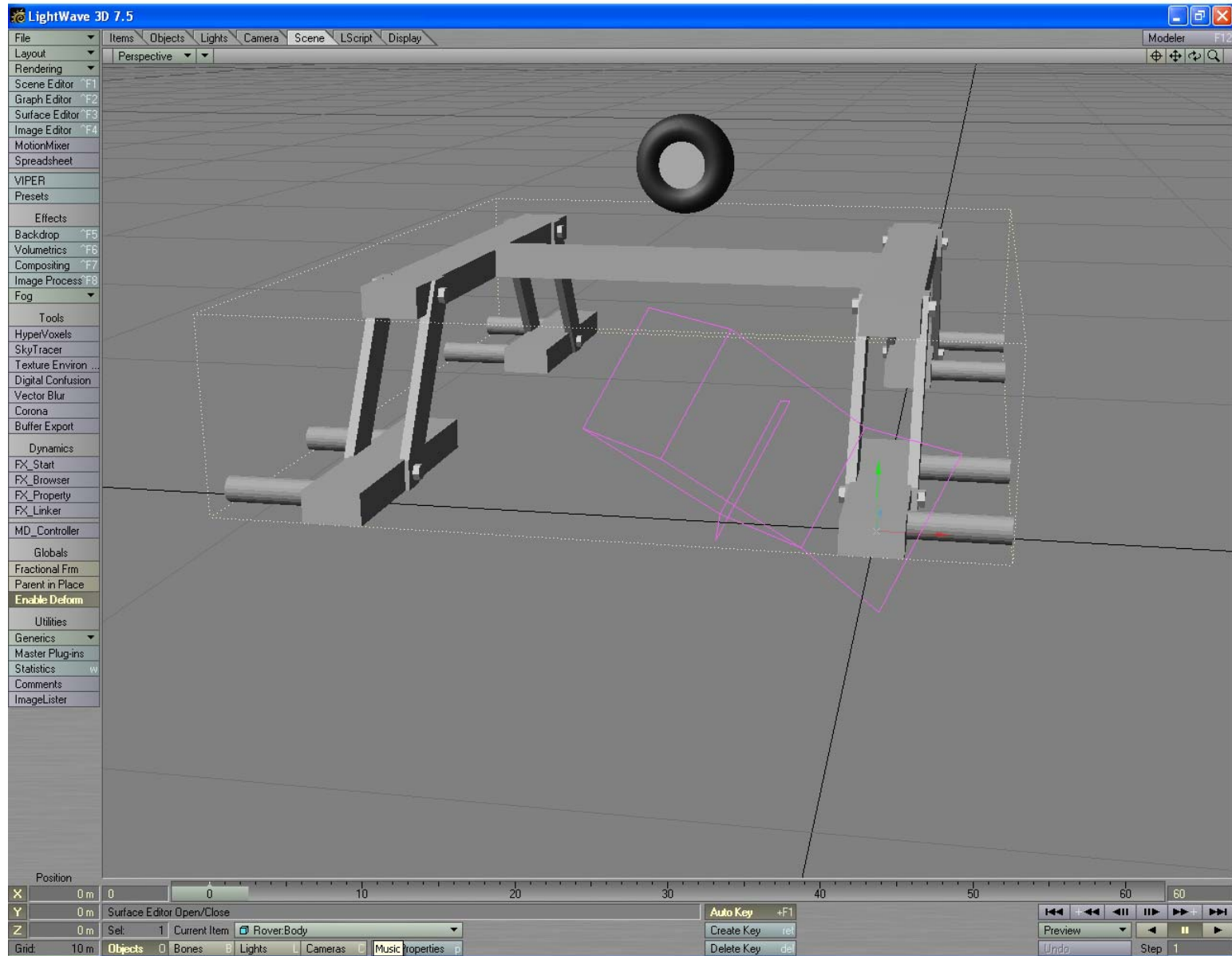
-In my case, since my filename is Rover.lwo, and I named the tire layer "wheel" I have:
SelectByName Rover:wheel\rClone 1\rPostion \c\rRotation \n\rParentItem \i\rCreateKey 0.

-The command line is case sensitive so you need to be careful when typing in your command.

-Save your object and open Layout.

Step 7

Load your object in Layout and select your parent layer, or the layer you selected the polygons in.

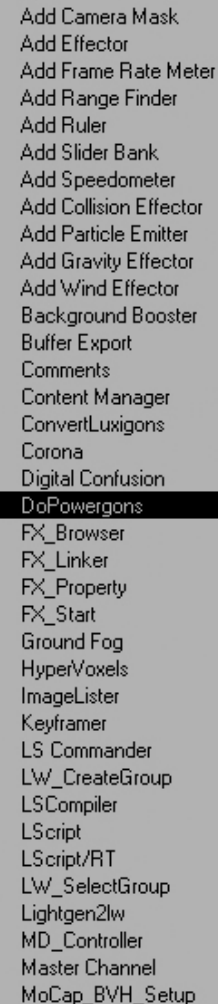


Step 8

-The next step is to select DoPowergons.

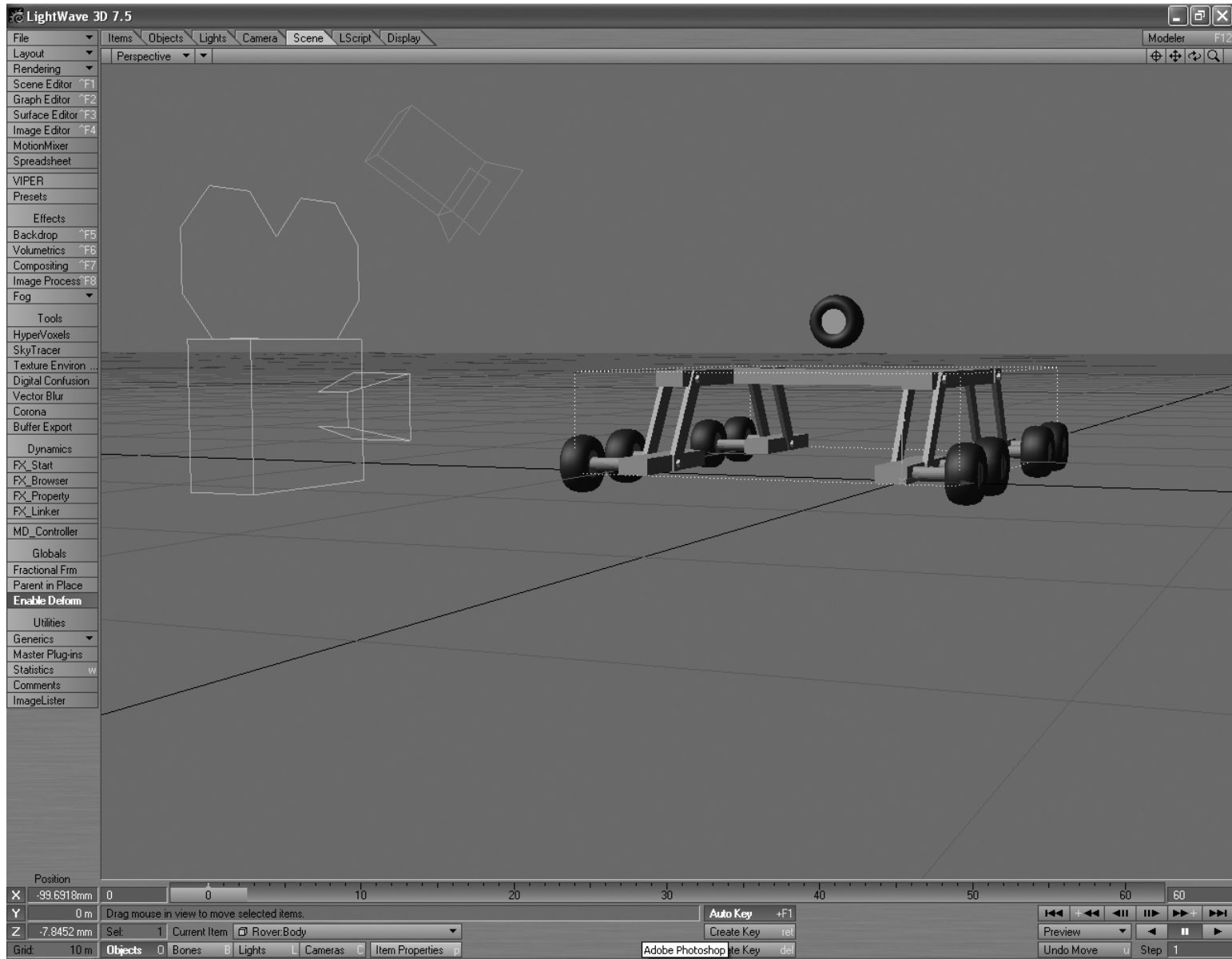
-Hold down shift and control keys, and this time click the left mouse button. A menu will pop up, select Layout-Plugins-Generic Plugins-DoPowergons.

-Again, if this doesn't work for you, you can go into the Layout tab and edit the menu lists.

A screenshot of a software menu with a dark grey background. The menu items are listed in white text. The item 'DoPowergons' is highlighted with a black background. Below the menu, there is a small white downward-pointing arrow.

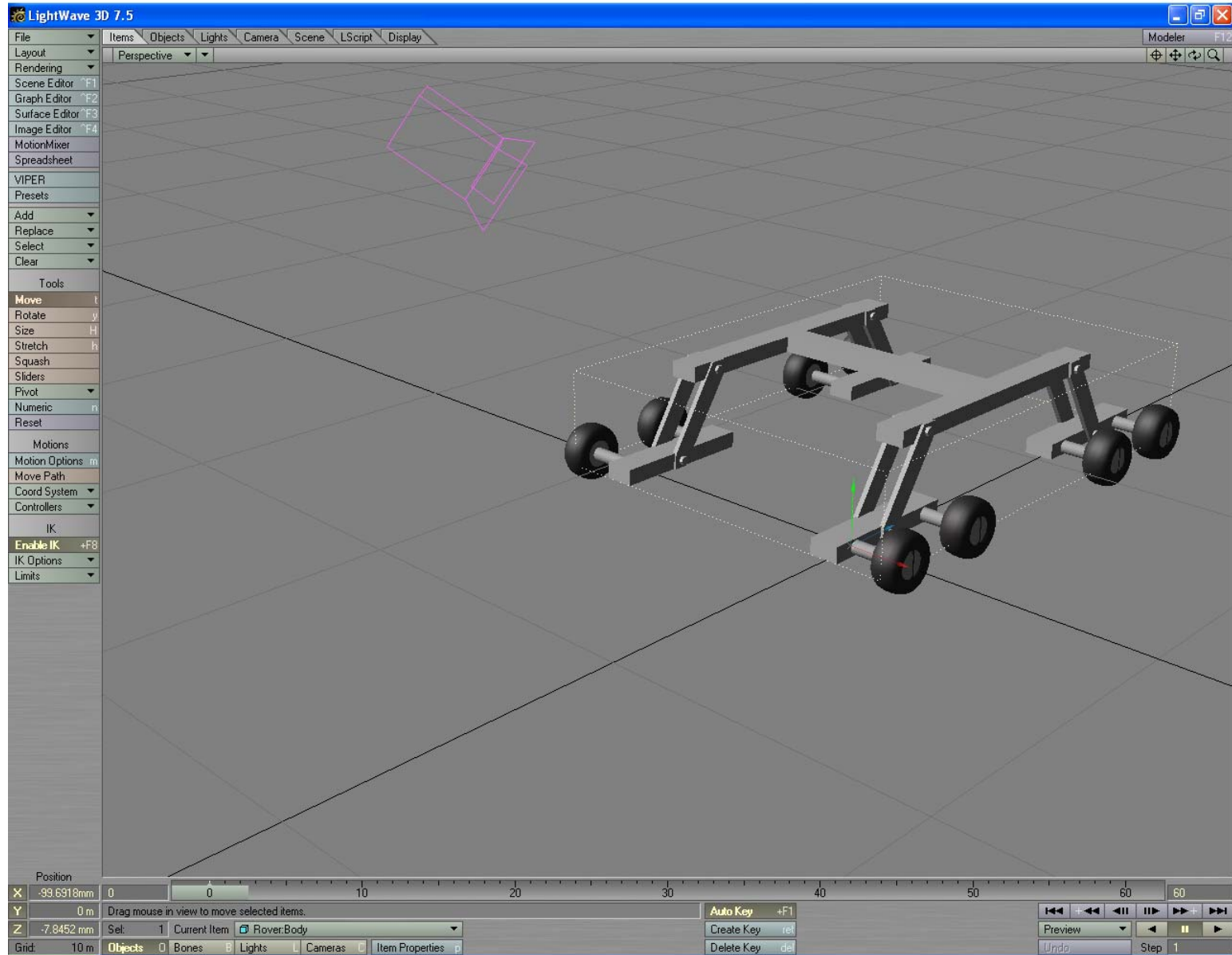
Add Camera Mask
Add Effector
Add Frame Rate Meter
Add Range Finder
Add Ruler
Add Slider Bank
Add Speedometer
Add Collision Effector
Add Particle Emitter
Add Gravity Effector
Add Wind Effector
Background Booster
Buffer Export
Comments
Content Manager
ConvertLuxigons
Corona
Digital Confusion
DoPowergons
FX_Browser
FX_Linker
FX_Property
FX_Start
Ground Fog
HyperVoxels
ImageLister
Keyframer
LS Commander
LW_CreateGroup
LSCompiler
LScript
LScript/RT
LW_SelectGroup
Lightgen2lw
MD_Controller
Master Channel
MoCap_BVH_Setup

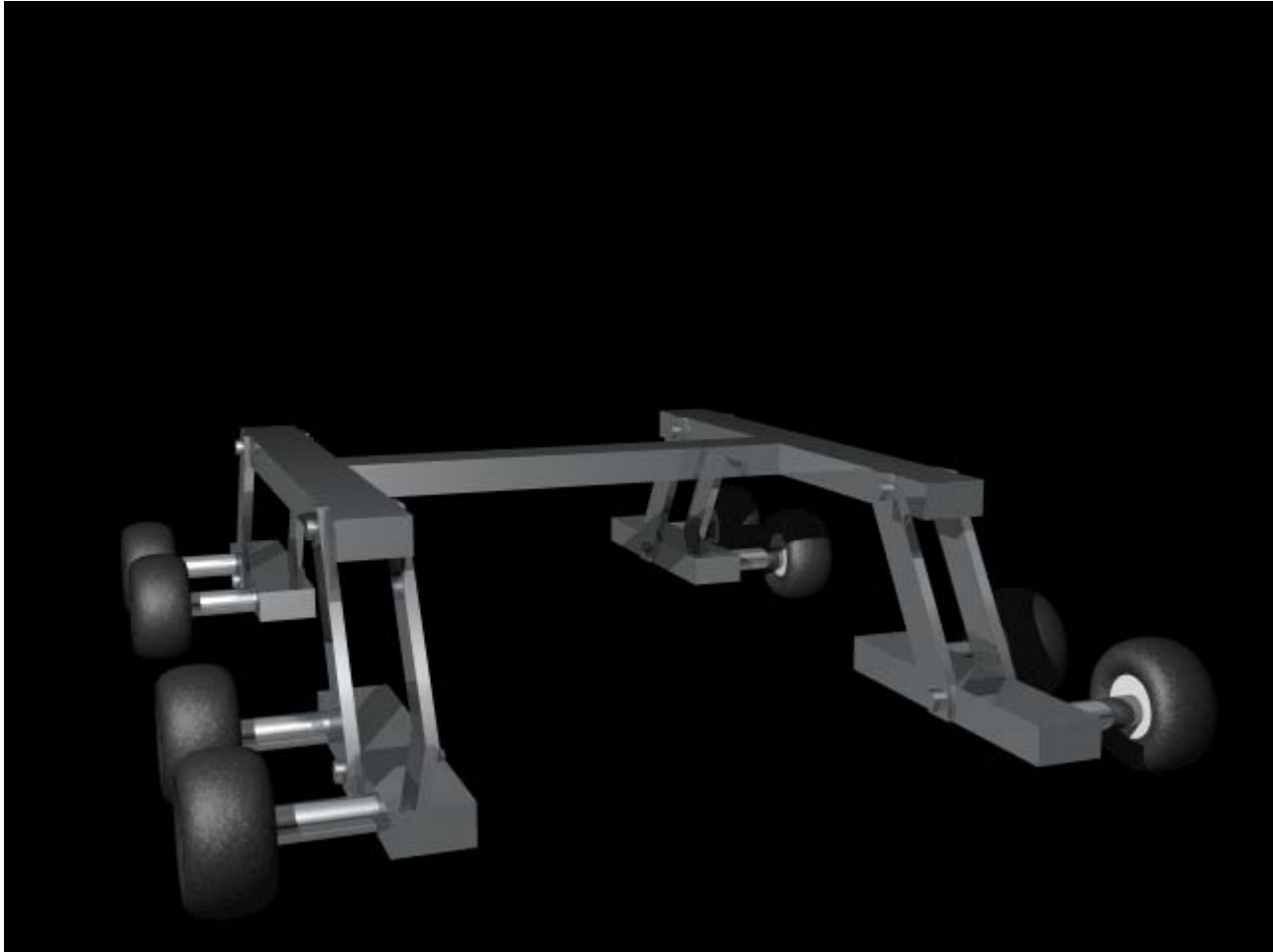
If you get an error message you probably typed in the command line incorrectly. You should get all of your cloned items placed exactly in the center of the polygons you selected in Modeler. This will also place the tire on the axel on the center of the tire object as well.



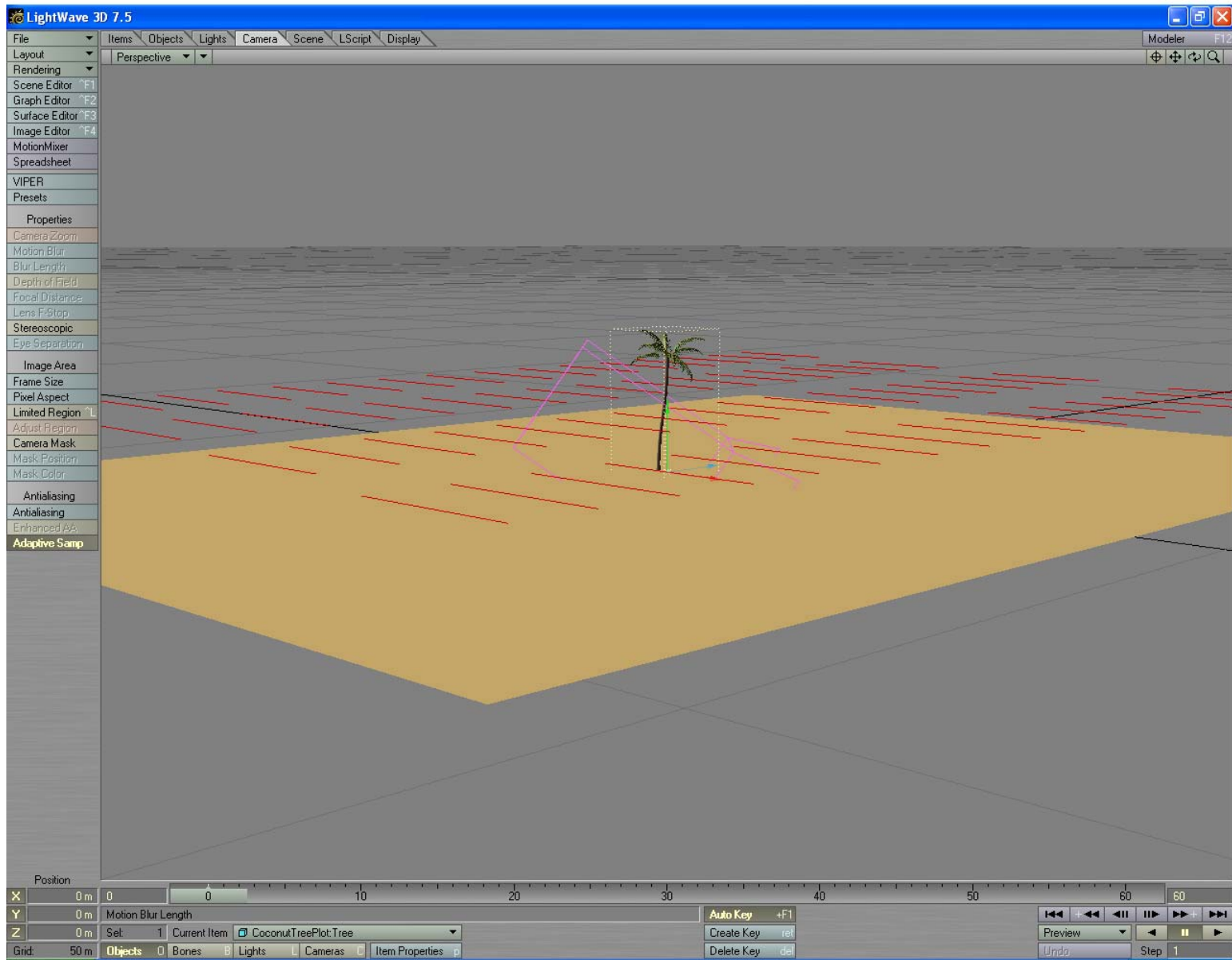
Step 9

Finally, you can delete the original tire you created (which has now become the parent tire of all the new tires). If you get a window that pops up asking if you want to delete all descendants choose no, or else it will delete all of the cloned items you just created.

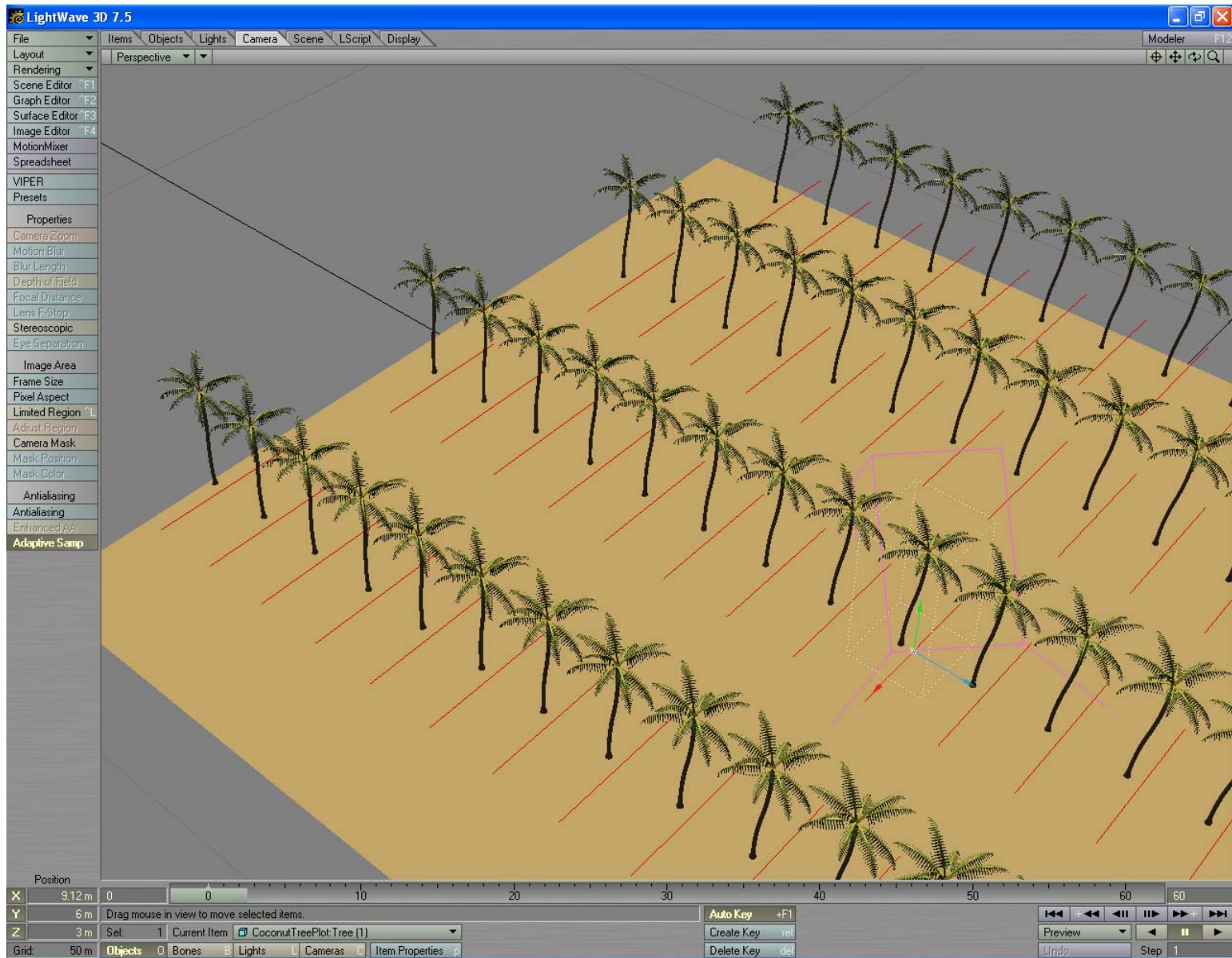




You can use Powergons to save you time in Layout. For instance, if you are going to create a forest, but you want to place other objects in your scene as well, using Powergons you can insert the rest of the trees at the very end, but still have some idea where all the trees will be.



You may have to play around with the placement polygons a bit, but in the end it can make working in layout much faster.



Conclusion

Powergons can speed up Layout when you have a scene with many of the same objects. Each object can move independently of the other clones, without having to create a ton of different layers in Modeler.

References

http://www.newtek.com/products/lightwave/contests/dec02/winners/tutorials/model/Leon_Chu/