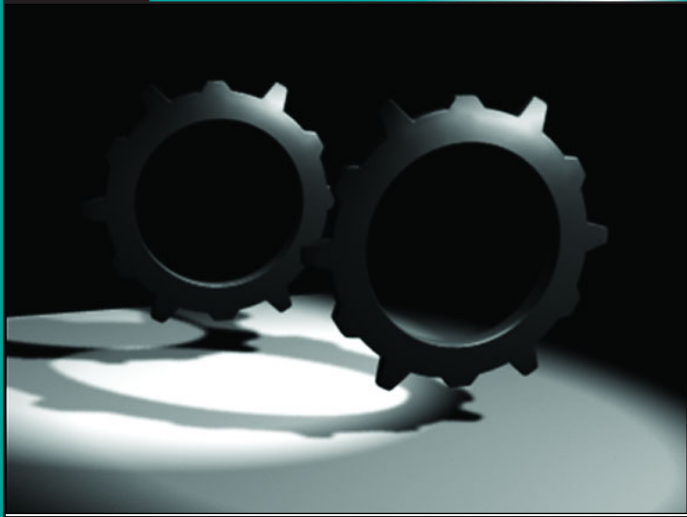


1

Illumination Lists Overview



In this exercise, we will explore Illumination Lists. Illumination Lists are powerful, yet easy, ways to control how your lights illuminate a scene.

We will walk through a very basic scene which consists of 4 lights and 3 objects.

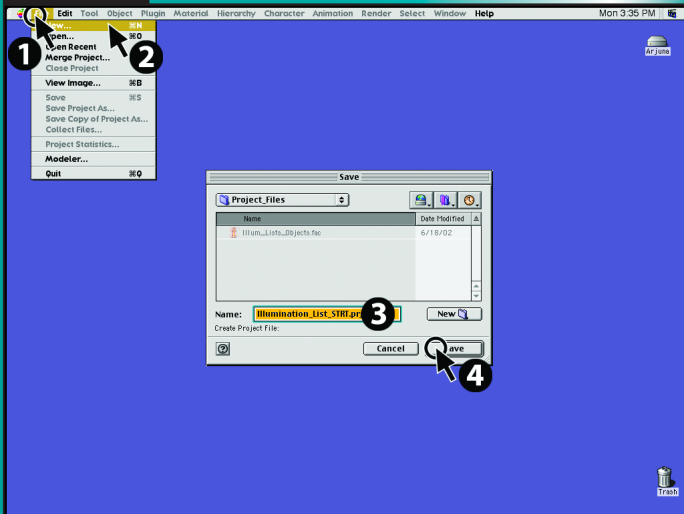
We will control each light, telling it to illuminate only a specific object. Our goal will be to control the shadows that are being cast from our light sources.

The illumination lists tell each light which object to illuminate or not to illuminate.



2

Open the Illumination Lists Tutorial File



Launch Animator.

Press **[CMD/CTRL+N]** to start a new project.

When Animator prompts you to name and save this new project, name it "Illumination_List_STRT.prj" file, then navigate to the Illumination_List_Tutorial folder and save it in there.

Note: Macintosh keyboard commands are indicated in **red**. Windows keyboard commands are indicated in **blue**. Some files may need to be manually located while loading.

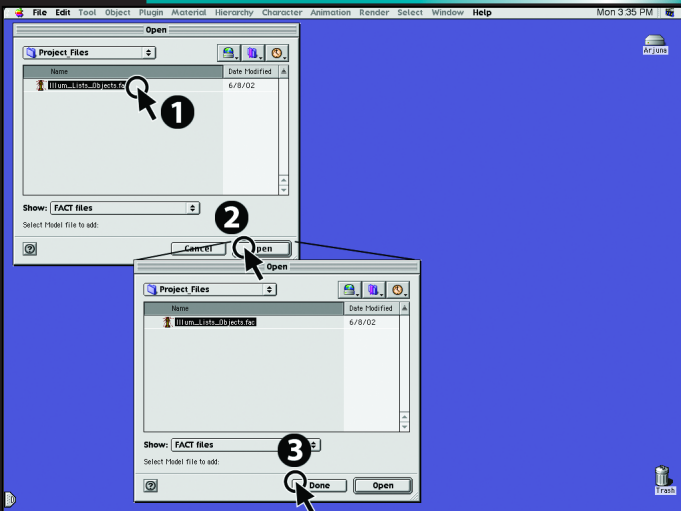


Lighting Tutorial: Illumination Lists



3

Load the Scene



After saving, you will be prompted to load your FACT files into this new project.

Locate the `Illum_Lists_Objects.fac` file and **[CLK]** Open.

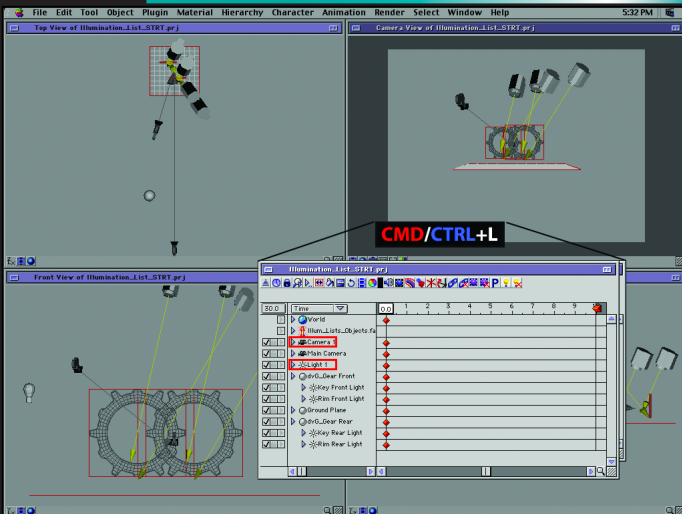
You will then be asked to create a hierarchy of the objects contained in this FACT file. Since we want them separate, **[CLK]** the Separate button.

If there were any more models to add, you could continue adding them into the project, but for this exercise, there aren't, so **[CLK]** the Done button



4

Removing Unnecessary Objects



Animator then generates the scene loosely based on the size of the FACT file we loaded.

Before we proceed, we need to remove two unwanted elements - a Camera and a Light.

Open the Project window **[CMD/CTRL+L]**.

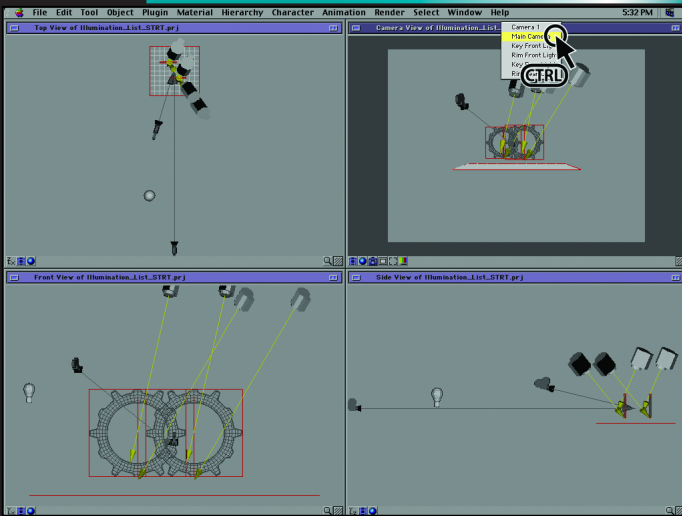
Animator defaults to adding a Light and a Camera into every new Project file. Since our FACT file contained a prebuilt Camera and Light, we do not need the default Camera and Light in our scene.

But before we delete the Camera, we need to switch our viewing angle from the default Camera to the Main Camera...



5

Switching the Camera View



In the Camera View window, **[CTRL/RIGHT+CLK]** on the Camera View window header bar.

In the pop-up menu, select Main Camera.

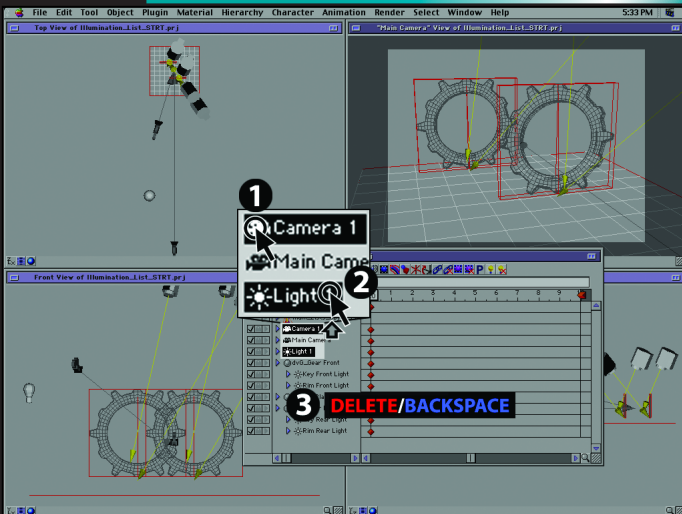
The Camera View window should now be looking at the set from a higher elevation.

Now we can delete the default Camera and Light...



6

Deleting the Default Camera and Light



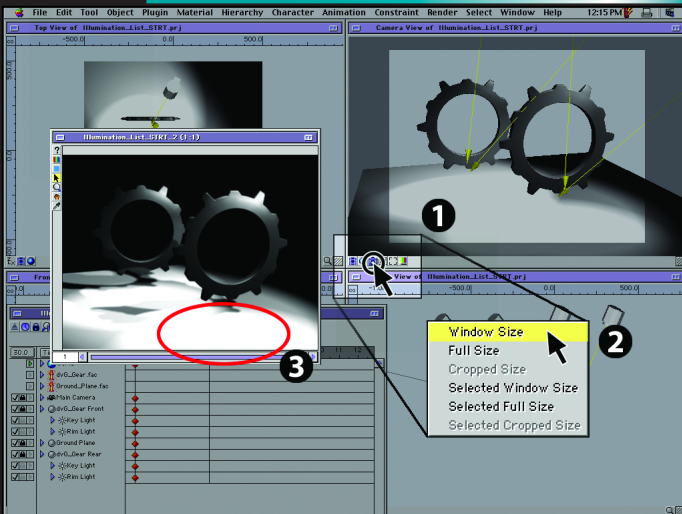
So, in the Project window, [CLK] on Camera 1 and [SHIFT+CLK] on Light 1, then press the **DELETE/BACKSPACE** button.

You should only see the following in the Project window : World, Illum_Lists_Objects.fac, Main Camera, dvG_Gear Front, Key Front Light, Rim Front Light, Ground Plane, dvG_Gear Rear, Key Rear Light, and Rim Rear Light.

You may want to turn off the Grid. To do that in the main menu bar, select Window > Hide Grid.

Now on to the exercise....





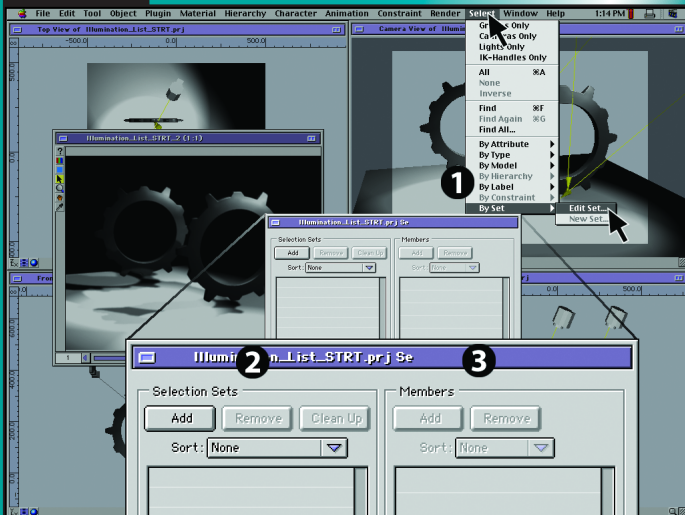
First we will render a snapshot of our scene.

In the lower left of the Camera View window, **[CLK]** on the Snapshot button and select Window Size.

Leave this render open to compare it with the render at the end of the tutorial.

As you can see, the shadows on the ground plane are blown out (overexposed). While we can fix this in a number of ways — such as adjusting the settings in the Shadow tabs or by adding Gobos to the scene — there is an easier way to bring the shadows under control.



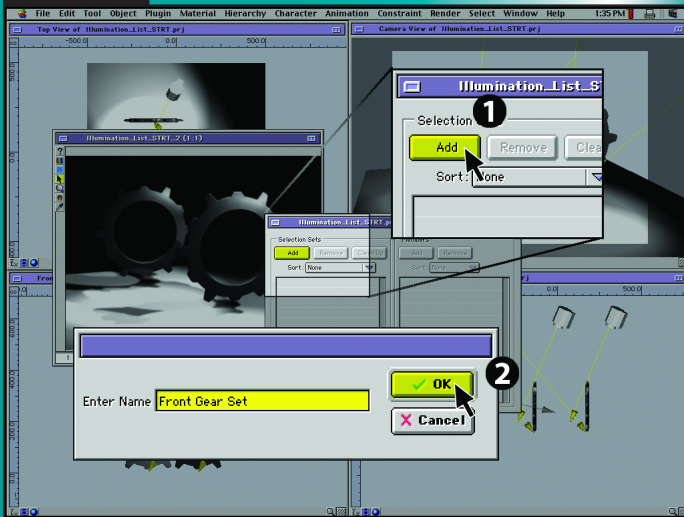


In the menu bar, choose **Select > By Set > Edit Set**.

Note: What we are about to do is create a named Set, or grouping, of our objects. To do that we define them in this dialog box. Leave this dialog box open for all following steps.

The left hand column contains our Selection Sets; the right column contains the objects, or members, that relate to the Selection Sets in the left-hand column.



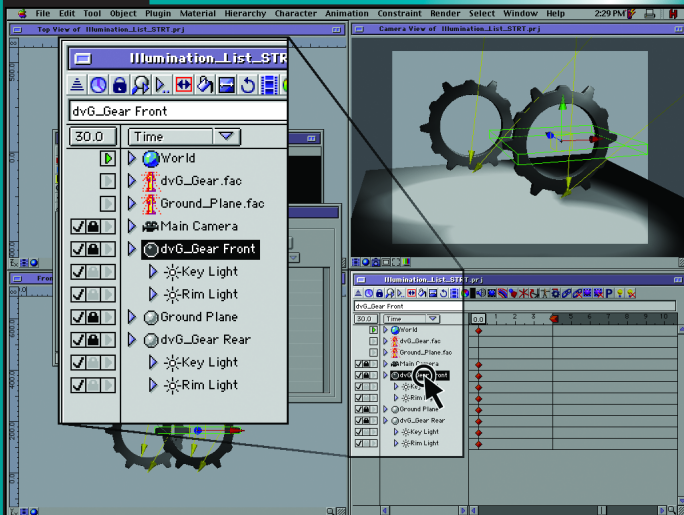


Under Selection Sets, **[CLK]** the Add button.

Name this set Front Gear Set and **[CLK]** OK.

We just created our first set. We are creating a set so that we can tell a particular light to only illuminate the objects in that set. In this case, we are preparing the rim light to only illuminate the front gear, not the rest of the scene. But, to be really functional, we need to add an object to this set.





If the Project window is not already open, open it now
[CMD/CTRL+L].

In the Project window, **[CLK]** on the dvG_Gear Front object.

This will be the object that we are going to add to the set we created.

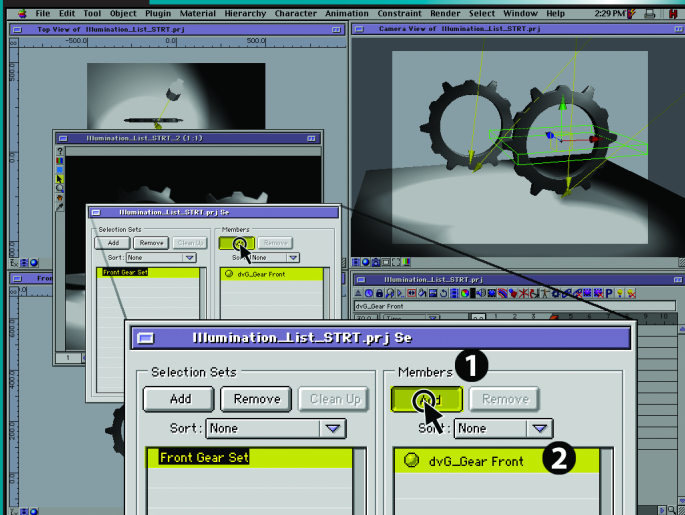




In the Selection Set dialog box, **[CLK]** on the Front Gear Set.

We are now defining which set we want our object to be added to.

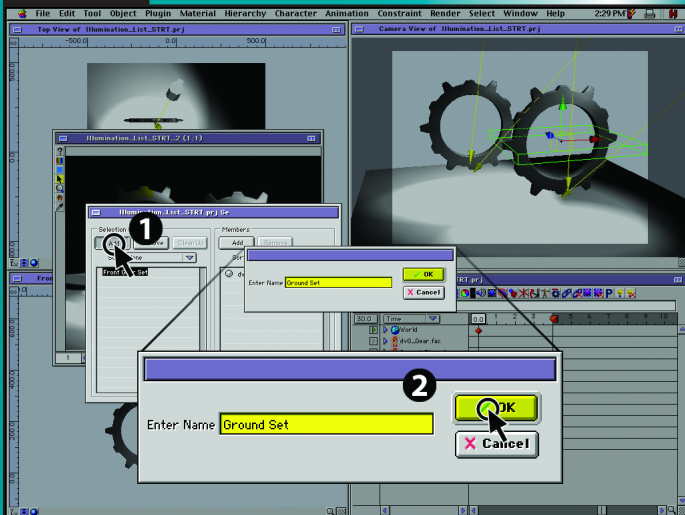




Under the Members heading, **[CLK]** the Add button.

Note: Our dvG_Gear Front object is now added to this selection set. For this exercise we are adding one object to this set. If we needed to we could add more objects to this set. Objects can also be in more than one list.



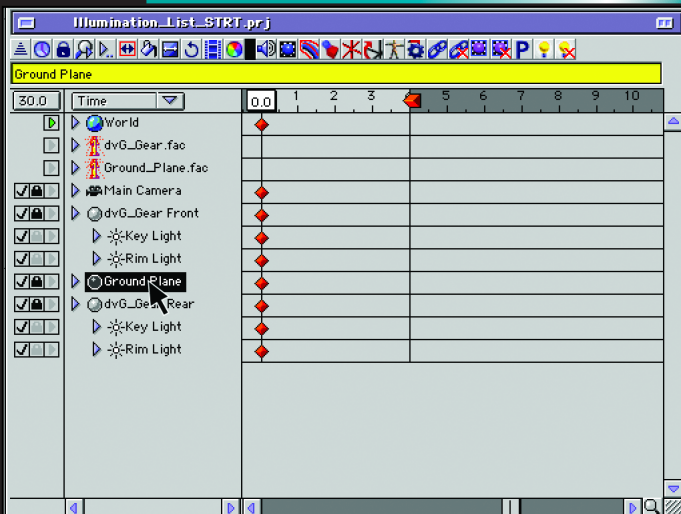


Under Selection Sets, [**CLK**] the Add button.

Name this set Ground Set.

Note: What we are going to do is create a set for each object in our scene.

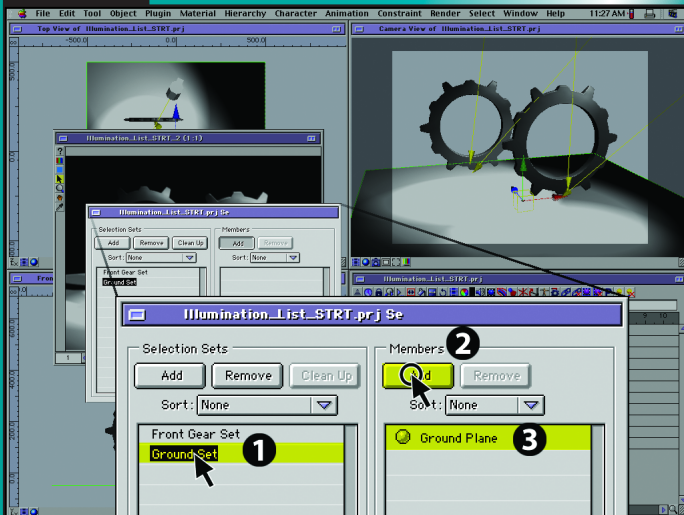




In the Project window, select the Ground Plane object.

Just as before, we add the selected object to the set.

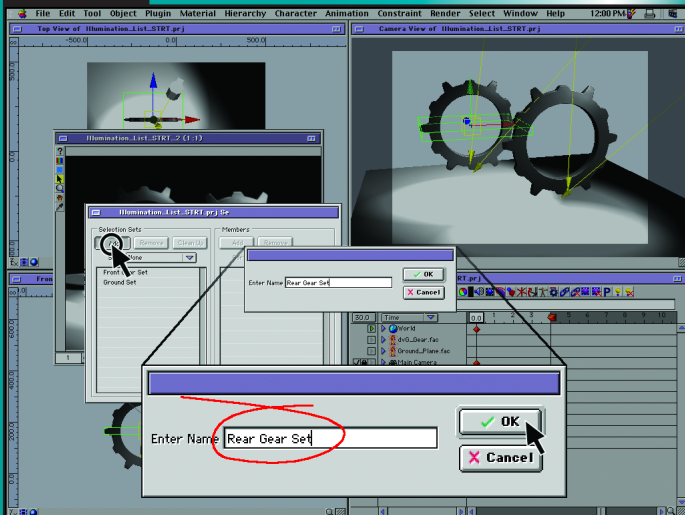




In the Selection Sets dialog box, **[CLK]** on the Ground Set to choose it and in the Members area, **[CLK]** the Add button.

We have now added the Ground Plane to the Ground Set.

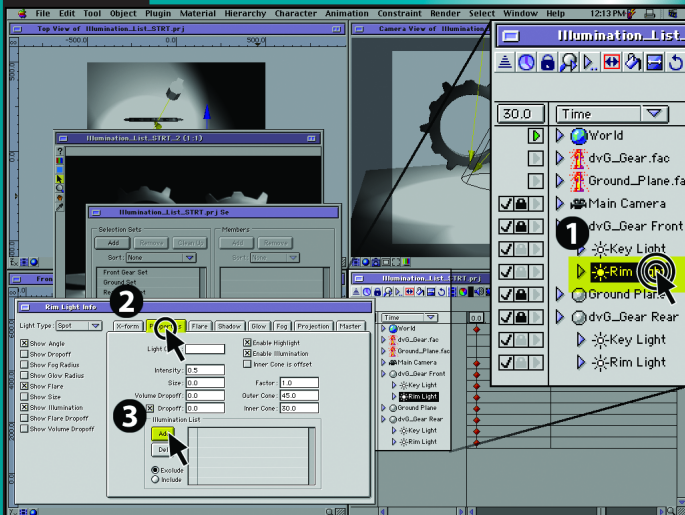




Following the steps above, create a Rear Gear Set and add the dvG_Gear Rear object to this set.

When finished with this last set, close the Selection Set window.





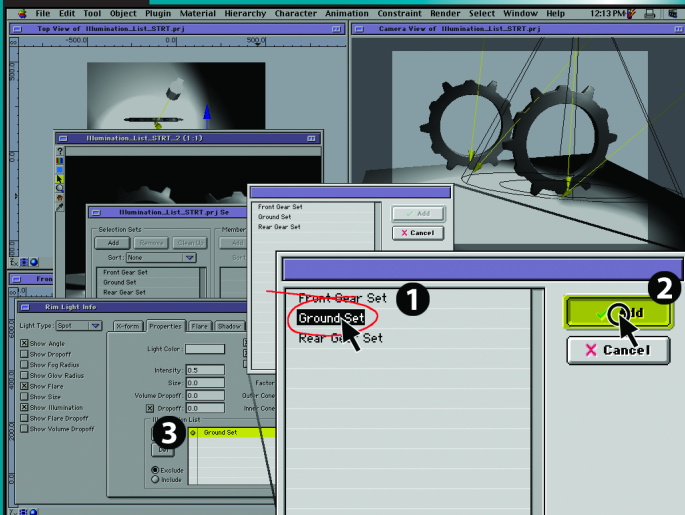
In the Project window, **[DBL+CLK]** the Rim Front Light of the dvG_Gear Front object.

In the Rim Light Info window, select the Properties tab.

In the Illumination List, **[CLK]** on the Add button.

Note: It is here that we will be adding the Sets that we created in the previous steps.



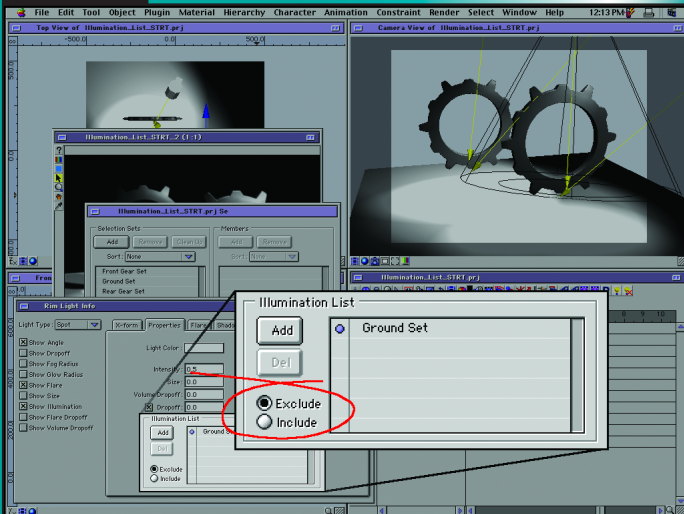


In the window that pops up, you will now see a list of the sets that we created.

Select the Ground Set and **[CLK]** the Add button.

Note: You should now see the Ground Set in the Illumination List column.



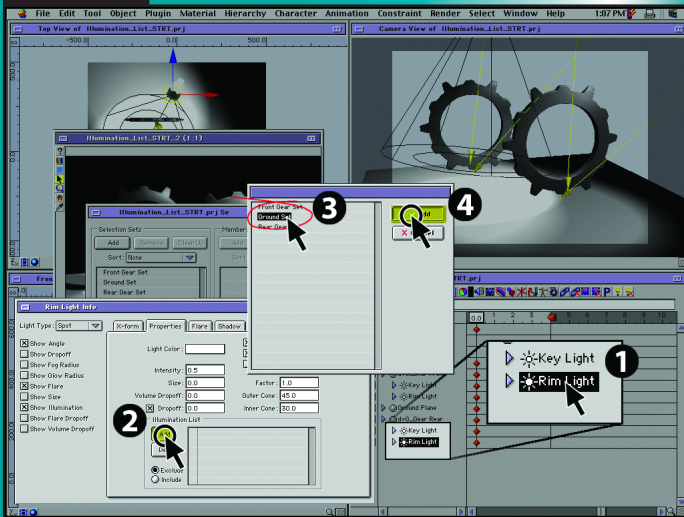


In the Illumination List section, there are two radio buttons in the lower left corner - Exclude and Include. These two radio buttons control how the list interacts with this light source.

We want the Rim Light to illuminate the Gear object, but not illuminate the Ground Plane. So we are going to leave the radio button set to Exclude so that this particular light does not illuminate the Ground Plane object.

Do not close the Light Info window, we will need it for the other lights.



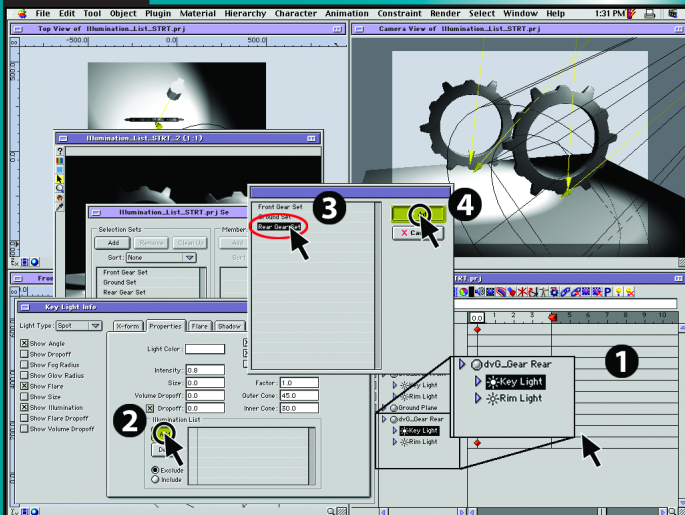


In the Project window, **[CLK]** the Rim Rear Light of the dvG_Gear Rear object.

Go to the Illumination List in the Light Info window, **[CLK]** the Add button, then select and Add the Ground Set to this light from this list.

Again, leave the Exclude option selected for each of the following steps.



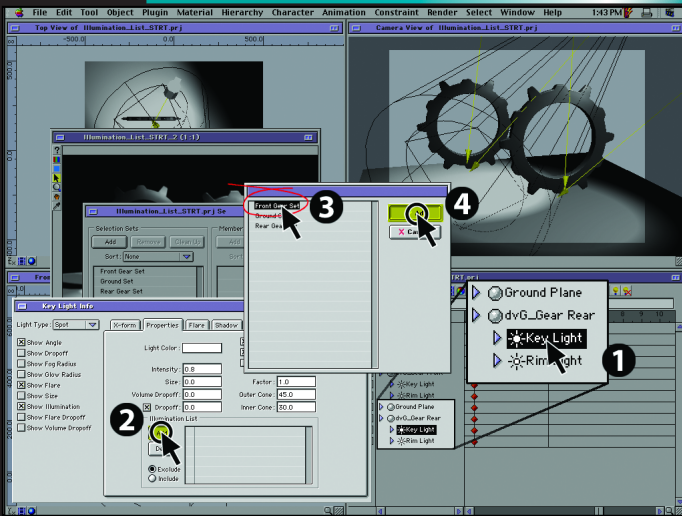


In the Project window, **[CLK]** the Key Front Light of the dvG_Gear Front object.

In the Illumination List, **[CLK]** the Add button, and from the list, select the Rear Gear Set and **[CLK]** Add.

Note: We added this set to this light so that A) we wouldn't cast a shadow on this object and B) so that this object would not cast a shadow on the ground from this light source.



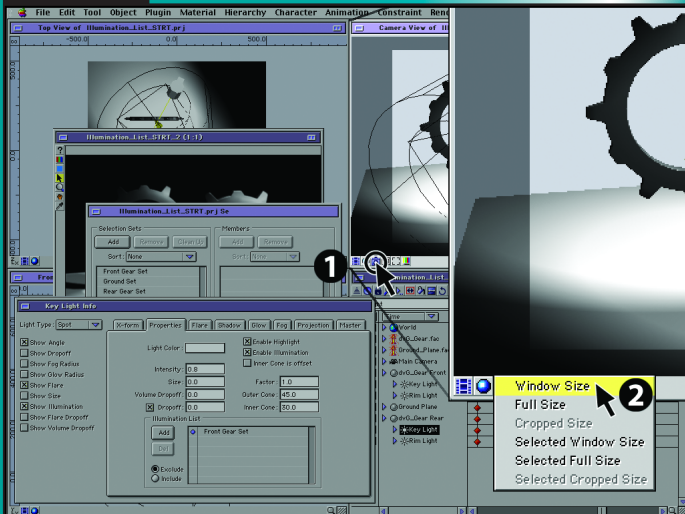


In the Project window, **[CLK]** the Key Rear Light of the dvG_Gear Rear object.

In the Illumination List, Add the Front Gear Set.

Note: Similar to the other light, we added this set to this light so that, again, A) we wouldn't illuminate this object and B) so that this object would not cast a shadow on the ground from this light source.



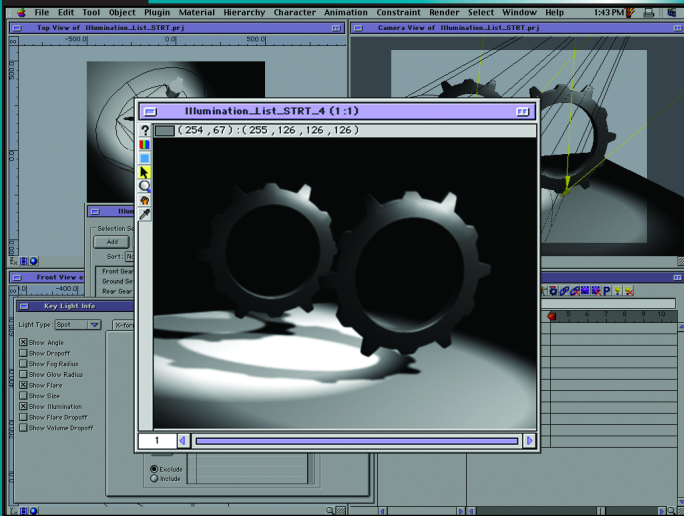


Render a Window Size snapshot of the Camera View window.

In the lower left of the Camera View window, **[CLK]** on the Snapshot button and select Window Size.

Compare this render with our original render. As you can see, this render is much more pleasing to look at compared to the other one.





As demonstrated, Illumination Lists are very powerful, yet very easy to use.

They come in handy when lighting large scenes or important product shots.

