



**CREATING ANIMATIONS
FOR WORLD OBJECTS
BY RAVEN SOFTWARE**

1.0 Introduction

To animate objects for Soldier of Fortune II, we use a proprietary format called ROFF (.rof) or Raven Object File Format. The animation for these objects are done in 3DS Max, then exported with a plug-in. The exporter writes the file used by the game.

Quick Reference:

- Make your object a **func_wall**.
- Copy your object into a new map.
- Texture your object a solid texture. (Colombia/rock02 works well). If your object is textured a transparent texture, it won't show up in Max.
- Save your map.
- Run a bsp no_vis on your new map. (Your object doesn't have to be enclosed in a room or sealed off, because we are only processing the object that you want to animate).
- At the command prompt type:
 - "Path to tools"\sof2map -lwo -max "path to game install"\base\maps\blah.bsp
- Note: -max will automatically scale the object by 15.24. If you don't add -max, then you will have to manually scale your object in Max by 15.24. We never did figure out why this is, but are guessing it is a problem with the LWO importer for Max.
- In Max. File > Import your blah.lwo file.
- Make sure your Grid Spacing and Line Every Nth line are set to 8.0
- Set your Custom FPS to 20
- Set your origin to the same spot as in the editor.
- Animate your object.
- Export your animation for scripting.

2.0 Setting up your objects in the editor

In Radiant, make the object that you want to animate. Be sure to give it an origin brush for brush models. Make the object a **func_breakable_brush** or a **func_wall**. Once your object is made, copy it to a new map. Be sure that you have that object only. If not, when you go to import your object into Max, you will get everything that is in the new map you created.

Make sure the object isn't using transparent textures (tools/_trigger for example) or it won't show up when imported into Max. Next, process the map with a no_vis (bsp only). Ignore leaks as you don't have a sealed area, just a few brushes.

Bring up a command prompt and compile the object so that it can be imported into Max. If everything is installed to the default directories, it would be:

```
C:\program files\Soldier of Fortune II – Double Helix\bin\sof2map -lwo -max c:\program files\Soldier of Fortune II – Double Helix\base\maps\blah.map
```

The `-lwo` flag makes the actual `.lwo` format for import. The `-max` flag scales the object properly for Max.

3.0 Setting up Max

3.1 Setup before starting

In order to import and export your objects from Radiant you will need to have these two files in your `3dsmax*_stdplugins` folder:

LWOImp.dli
Vmdexp.dle

3.2 Setup in Max

To get your animations to properly play in the game you will need to adjust a few settings for scaling purposes:

1. **Customize > Preferences**

Under the **General** tab, set your System Unit Scale to 1 Unit = 6.0 Inches.

2. **Customize > Grid and Snap**

Under the **Home Grid** tab, set your Grid Spacing and Major Lines every Nth to 8.0.

For your animation to play at the proper game speed you will need to set your Frame Rate to 20 FPS (Frames Per Second).

1. **Right click on the Play Animation button.**

Under Frame Rate, click on the Custom selection. In the FPS area enter 20, for 20 frames per second.

3.3 Importing your object

Now, import your object. If you didn't use the `-max` field, scale your object to 15.24%. If everything is correct, it should be set on the grid just like in Radiant.

1. **File > Import**

Under **Files of type**, select LW OBJ (*.LWO).

When importing your object from the editor, you will have to manually set up the origin on your new object in Max. If you can get away with it, try to have your origins at the center of objects. It is very important that the origins of both objects in Max and in the editor are in the same location. If not, you will get undesired results.

3.4 Setting up the origin

1. **Click on the Hierarchy tab.**

With your object selected click on the **Affect Pivot Only** button, under Move/Rotate/Scale.

Under Alignment, click on the **Center to Object** button.

If you made sure that your origin was at the center of your object in the editor, you won't have to manually move it to the correct position.

3.5 Exporting your object.

After your animation is done, you can export it. If you select Export Selected, you will only export the object that you currently have selected. If you do a normal Export, you can export more than one object at once. This way you can export a whole scene in seconds. If you name the first .rof Boom, then all the objects in your Max scene will be prefixed with the name Boom_(max name). This is very handy if you have a scene that consists of 20 plus objects.

1. File > Export

Under **Save as type**, select ROF (*.ROF).

3.6 Using a ROF in the game

Without going into a full explanation of scripting in ICARUS (this is in another doc), this is how to make your object utilize the ROF.

In Radiant, give your object an ICARUSname field.

In BehavEd, have the following in a script:

Affect (ICARUSname from above)
Play (Play_roff) (browse to where you placed the roff)

And that's it. Set up a trigger to a script_runner that runs the script and your object should go.