

Basic Animation Guide

Digital Combat Simulator

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In Collaboration with The Fighter Collection and Eagle Dynamics

Mandatory Requirements:

3D Studio Max 2008, 2010, 2011, or 2012 (64bit): <http://usa.autodesk.com/3ds-max/>

3D Studio Max Plugins from Eagle Dynamics: ftp://ftp1.files.eagle.ru/mods/edm_plugins/

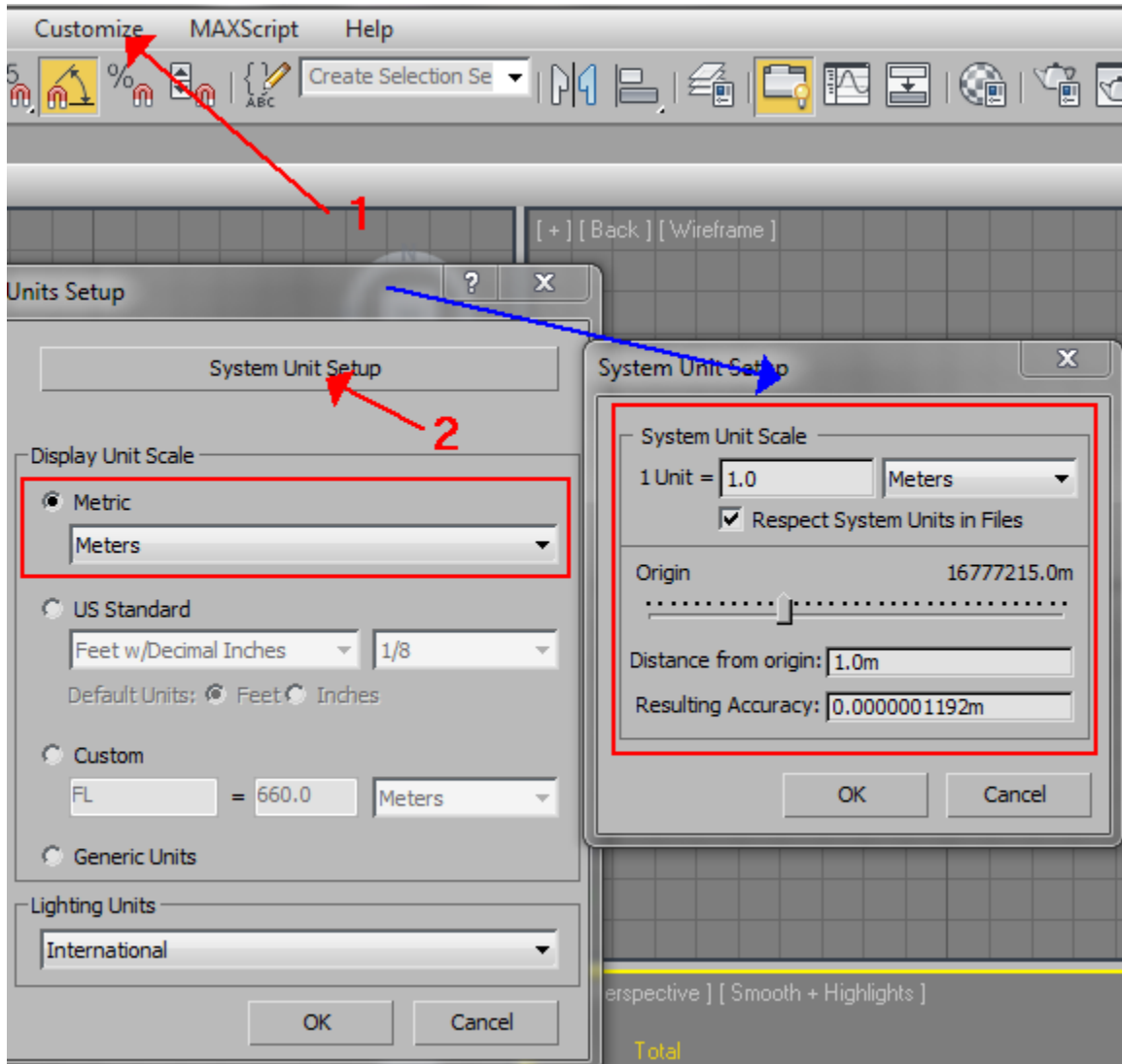
Preparation:

1. Install 3D Studio Max as usual
2. Download and install the plugins from Eagle Dynamics

Now we will prepare 3D Studio Max.

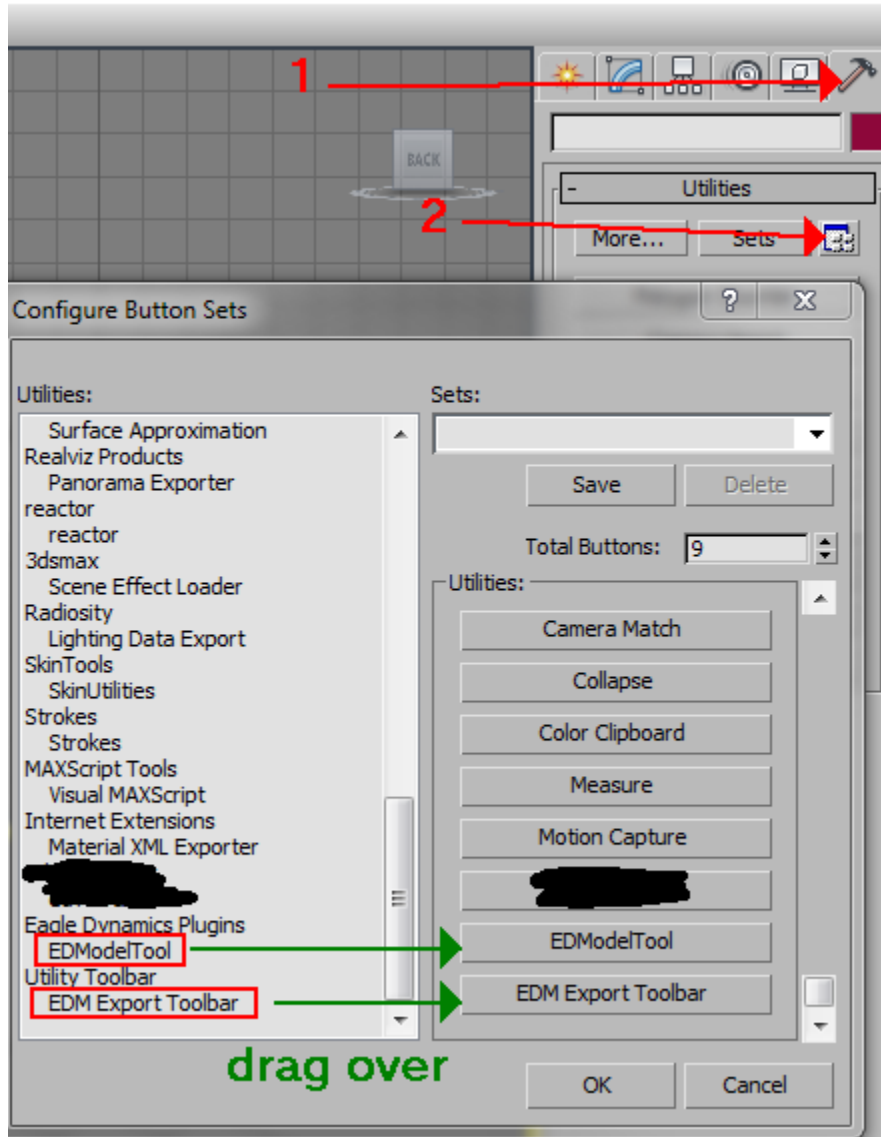
Open 3ds Max and verify that the units are set to Meters. This is done by clicking “Customize” on the toolbar, then clicking “Units Setup...” If not selected, change the “Display Unit Scale” to “Metric” and to “Meters” in the pull down selection. Next click “System Unit Setup” and verify the following to the image below:

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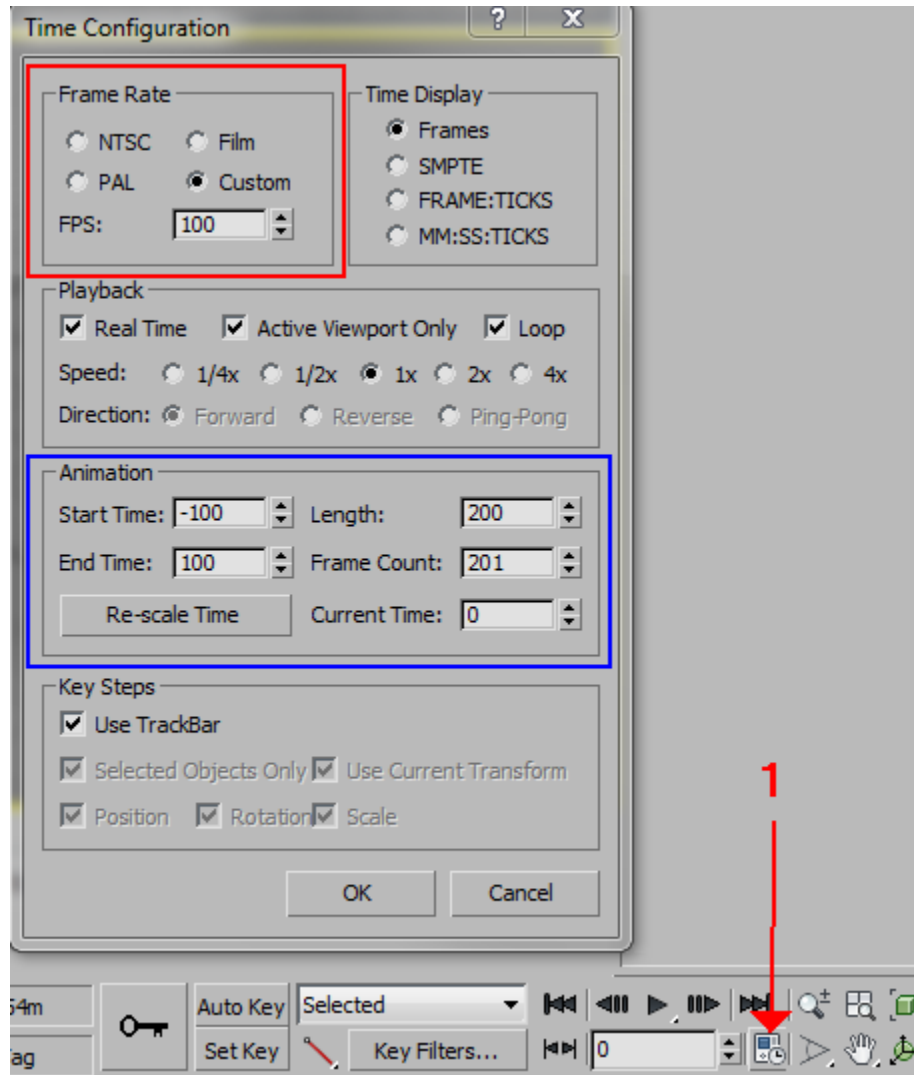
Next we must make sure the Eagle Dynamics plugins are installed correctly. Click the Utilities tab in the top right, (the hammer), and then click the small square next to the button “Sets”. Scroll down and verify that you have two sets of EDM plugins. EDMModelTool and EDM Export Toolbar. Drag both of them into a separate slot in the area to the right.

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If you want to do animations, you must now properly set the time scale up. Click “Time Configuration” near the lower right. Change the Frame Rate to “Custom” and FPS: to “100”. You will notice that your time bar has automatically adjusted itself to the new settings, but this is not what we want. Under Animation, set the following:

Start Time: -100, Length: 200, End Time: 100, Frame Count: 201



Procedure:

Part 1: 3D Studio Max

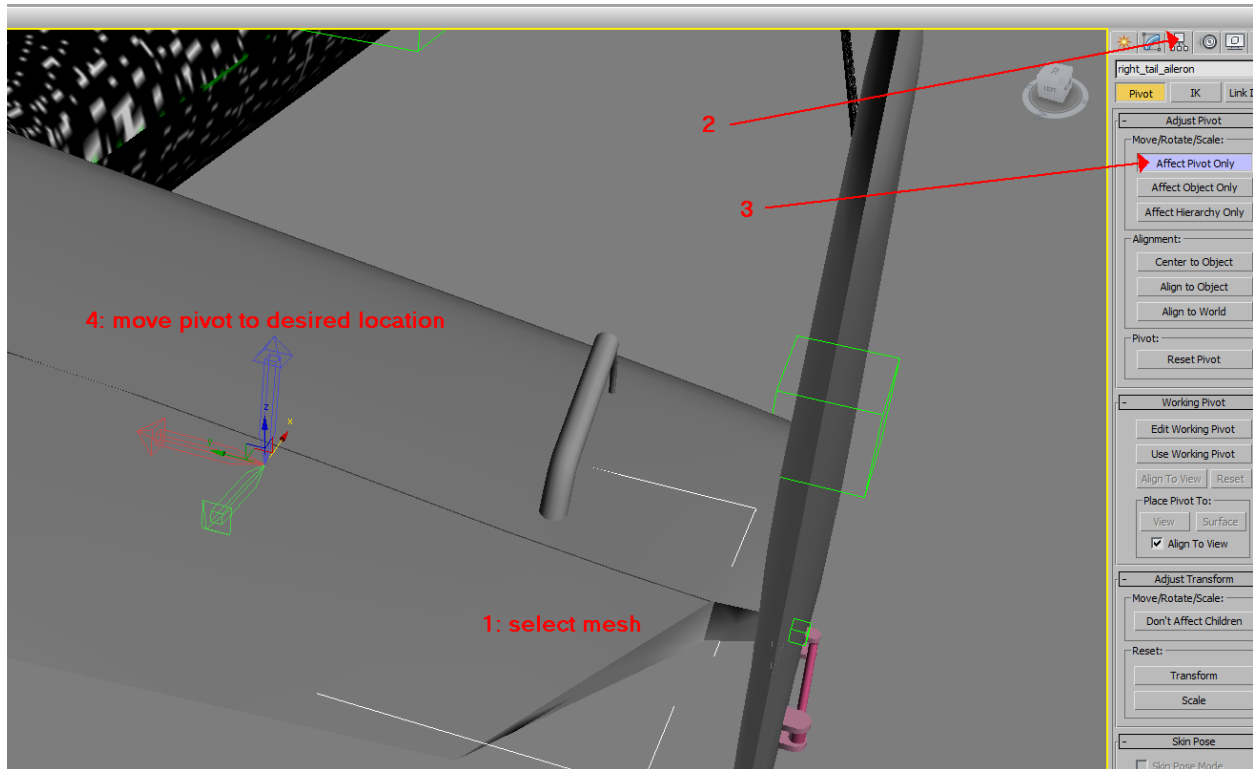
Open 3D Studio Max and open your model you wish to animate. I will be using 3D Studio Max 2010 in this document.

For this tutorial, I will be using a Dornier D17 model.

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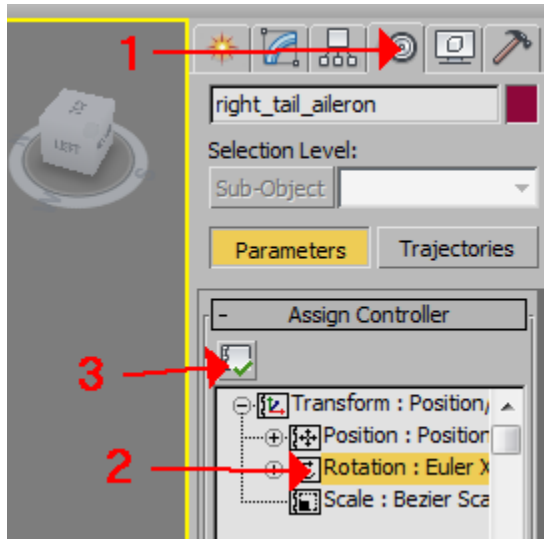
First we must prepare a piece of mesh for animation. The first step is to verify that the pivot point is where the actual rotation will take place. You can check the pivot point by selecting your mesh and looking where the Gizmo is, (XYZ axis thingy).

If you need to change/ move it, select your mesh, click the “Hierarchy” tab, click “Affect Pivot Only” and then move the pivot point to your desired location.

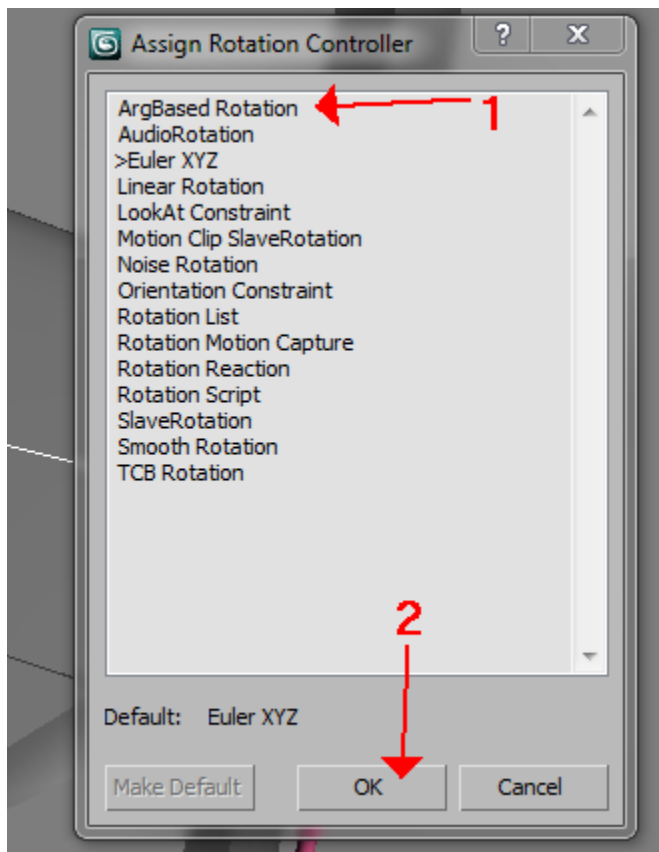


Next we must assign the controller to the mesh. First select your mesh. Click on the “Motion” tab, then under “Assign Controller” click on “Rotation”, and then click on the little button with the green checkbox and a dialog box will appear.

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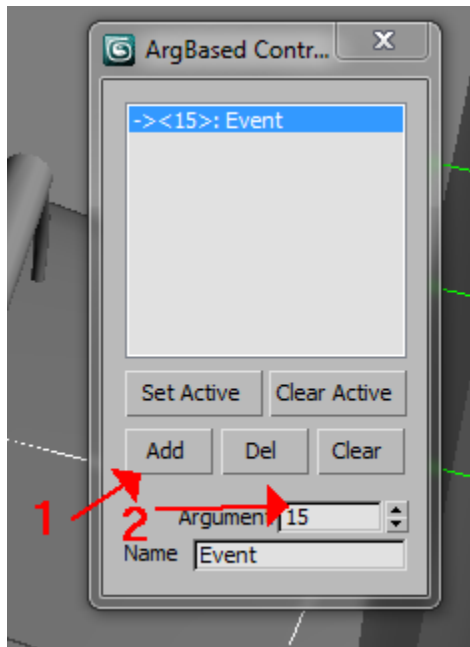
In the new dialog box that appeared, select “ArgBased Rotation” and click “OK”. Another box will appear.



Now we need to add the Argument number so the game engine can identify what we are animating. Click “Add”, and then change the Argument value to what you are animating. In this example I am

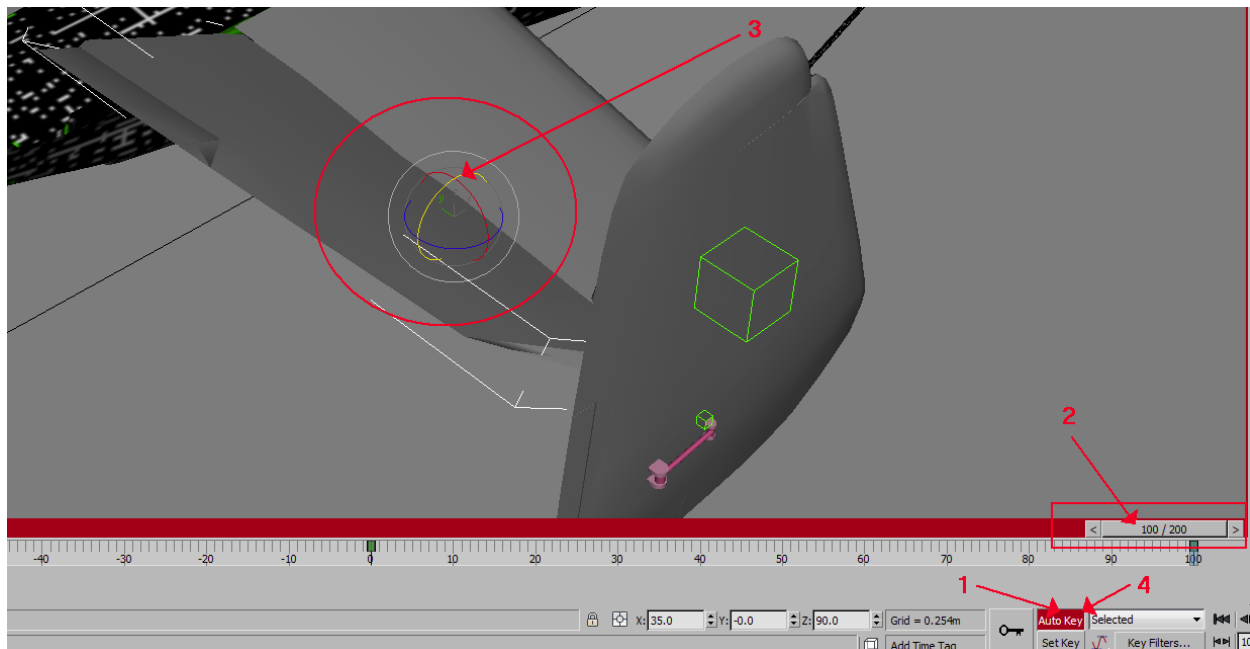
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animating the back right aileron which is Argument 15. Press “Enter” when done and the number will change from 0 to your desired value.



You can now close this box. If not already in rotation mode, enter it by pressing ‘E’ on your keyboard. Most animations in DCS will animate between -100 and 100 with 0 being the neutral position. For the aileron, 100 is full up angle, while -100 is full down angle, while 0 is no angle.

Now we are going to do the actual animation. We will start with an up angle. Towards the bottom, click on “Auto Key” and move the slider all the way to 100. You will notice the bar turn red. Now rotate your mesh to the desired angle. Then click “Auto Key” again once done.



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Repeat the above steps for all parts of your model using the corresponding Argument values to finishing animating your object. When finished, export as usual and you can verify the animations in the ED Model Viewer.

Special Note:

When animating something that does a rotation over 180 degrees of rotation, you MUST add keyframes at every 25 frames.

