

Basic Vehicle Animations Tutorial

First off, this tutorial does NOT teach you how to animate in 3ds max or Gmax. You will have to search the web/your local bookshop for that. I'm going to go through the basic vehicle animations, what they do, their keyframes, and any setting up of the animation tag that needs to be done.

A keyframe name 'Default' always means the state the vehicle would be in if that animation is not active,

1. Vehicle Ground-Speed

This animation shows the vehicle moving forward, for example the warthog's wheels spinning (It does not work for tracked vehicles, currently tracks are done by animated shaders).

Keyframes (for a wheel):

0=Default
1=90° forwards
2=90° forwards
3=90° forwards
4=90° forwards

This completes one whole turn. The actual speed that is spins is worked out from the vehicles speed by Halo.

Export Name:

Vehicle ground-speed.JMO

Animation Type:

Overlay animation

Tag Setting Up:

In the .model_animations tag, the animation will be listed as 'vehicle ground-speed' in the 'Animations' drop-down box under the 'Vehicles' section. If named correctly, this will be done automatically.

2. Vehicle Steering

This animation shows the vehicle turning, for example the warthog's wheels turning left and right

Keyframes (for a wheel):

0=Default
1=Right Turn
2=Default
3=Left Turn

This tells Halo what to be rotated and in which direction when steering in a certain direction. The actual steering angle that it turns is worked out from the vehicles speed by Halo.

Export Name:

Vehicle steering.JMO

Animation Type:

Overlay animation

Tag Setting Up:

In the .model_animations tag, the animation will be listed as 'vehicle steering' in the 'Animations' drop-down box under the 'Vehicles' section. If named correctly, this will be done automatically. Also, the 'Steering screen' values should be filled in. Look at another vehicle's tag similar to your own to get the rough values.

3. Vehicle Firing

This animation shows the vehicle's gun firing, for example the warthog's chaingun barrel spinning. It can be any length, but it should loop to look good.

Keyframes (for a wheel):

0=Default

Rest of animation

Last Frame=Default

Export Name:

Vehicle firing.JMO

Animation Type:

Overlay animation

Tag Setting Up:

In the .model_animations tag, the animation will be listed as 'vehicle ground-speed' in the 'Animations' drop-down box under the 'Vehicles' section. If named correctly, this will be done automatically.

4. Vehicle Suspension

This animation shows the vehicle's suspension movement, for example the warthog's wheels moving up and down. You will need a separate animation for each wheel/track

Keyframes (for a wheel):

0=Default

1=Fully Extended

2=Fully Compressed

Export Name:

Suspension *[side]* *[end]*.JMO

Example: *suspension left front.JMO*

Animation Type:

Overlay animation

Tag Setting Up:

In the .model_animations tag, the animation will be under 'Suspension Animations' under the 'Vehicles' section. Add one animation in that box for each suspension animation if not done already, type in which mass point it uses and the full extension and compression values.

5. Vehicle Stand Idle

This animation shows the vehicle as it will be when it is unoccupied. It can be any length.

Keyframes (for a wheel):

0=Default

Rest of animation

Last Frame=Default

Export Name:

Stand Fixed Idle.JMA

Animation Type:

Base animation

Tag Setting Up:

None, automatic.

6. Vehicle Stand Opening

This animation shows the vehicle as it will be when someone enters it, for example the Scorpion's hatch opening. It can be any length.

Keyframes (for a wheel):

0=Default

Rest of animation

Export Name:

Stand Opening.JMA

Animation Type:

Base animation

Tag Setting Up:

None, automatic.

7. Vehicle Stand Closing

This animation shows the vehicle as it will be when someone leaves it, for example the Scorpion's hatch closing. It can be any length.

Keyframes (for a wheel):

0=Default

Rest of animation

Last Frame=Default

Export Name:

Stand Closing.JMA

Animation Type:

Base animation

Tag Setting Up:

None, automatic.

8. Vehicle Aim Animations

This animation tells Halo where the turret or gun of a vehicle can aim. (If you don't wish to use a particular keyframe like facing 180 degrees backwards, leave it blank [*subject to change*])

Keyframes (for a wheel):

0=Default	0=Default
1 =Down back	1-Right Down
2=Down right	2=Middle Down
3=Down front	3=Left Down
4=Down left	4=Right Middle
5=Down back	5=Middle Middle
6=Back	6=Left Middle
7=Right	7=Right Up
8=Mid	8=Middle Up
9=Left	9=Left Up
10=Back	
11=Up back	
12=Up right	
13=Up mid	
14=Up left	
15=Up back	

Export Name:

Stand Fixed aim-still.JMO

Animation Type:

Overlay animation

Tag Setting Up:

None, automatic.