

VR4MAX PHYSICS TUTORIAL – RACE GAME

This tutorial model shows how to make a simple race game using the VR4MAX ODE Physics engine to simulate car physics. The game is far from perfect but is a good example of how you can use the physics engine to add physics behavior to your interactive model.

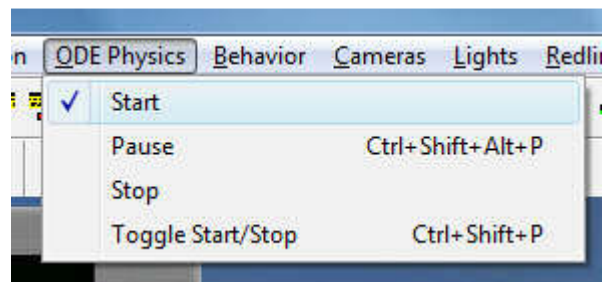
NOTE: Some experience with the VR4MAX ODE components is recommended before you start studying this model.



Start the physics engine to begin racing:

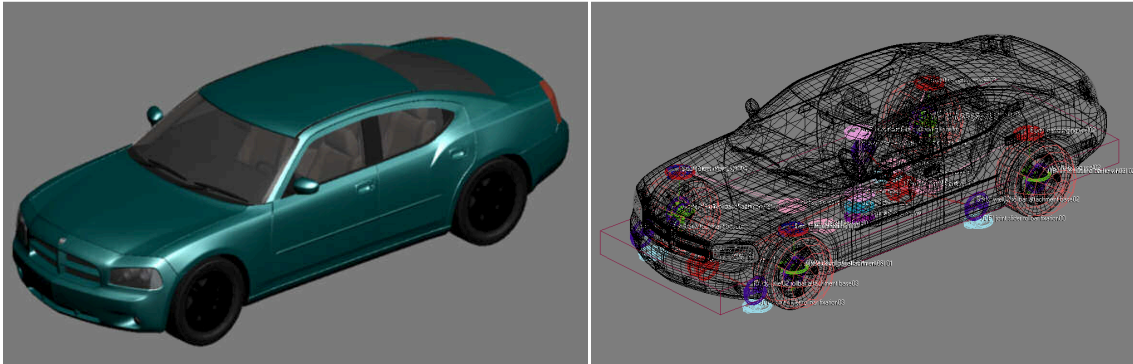


or

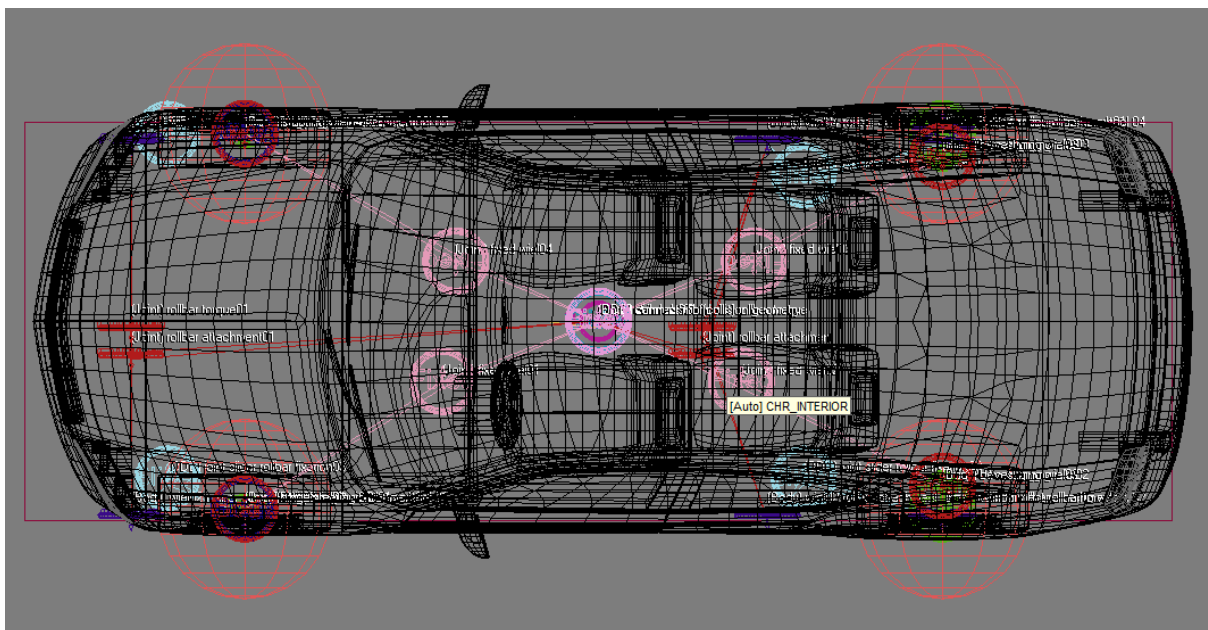


PHYSICS RIG

In this demo we used a Dodge Charger model to connect to the physics rig. The wheels are separated from the car body because they need to move/rotate independent of the car body. The car and all wheels are connected to separate ODE Body's, the Body's of the wheels are linked with the Body of the car using a mechanism built from ODE components to simulate the cars suspension.



The wheels are simulated using ODE capsules (these perform better than ODE cylinders) and the road by ODE boxes. The wheels are driven by ODE PU- Joints, these joints also define the spring behavior of the car.



CONTROLLING THE CAR

The best way to control the car is using a gamepad controller, the alternative is to use the mouse.

To drive the car using a mouse Left click and hold in the middle of the screen, drag the mouse up to speed up and down to brake, drag left and right for steering.

TUNING THE CAR

Using VR4MAX Event Action helps the most important physics properties that define the behavior of the car can be modified in the game using the keyboard.

DETAILED INFORMATION

Inside the 3ds max model extensive comment can be found on the mechanisms and VR4MAX helper objects used to build the cars suspension and other interactive functionality.

