```
driver
(
  name "create"
  provides ["position2d:0"
"power:0" "bumper:0" "ir:0" ]
  port "/dev/ttyS2"
  safe 1
)
define roomba position
(
  size [0.33 0.33 0.1]
  block( #this block approximates
the circular shape of a Roomba
    points 16
    point[0] [ 0.225 0.000 ]
    point[1] [ 0.208 0.086 ]
    point[2] [ 0.159 0.159 ]
    point[3] [ 0.086 0.208 ]
    point[4] [ 0.000 0.225 ]
    point[5] [ -0.086 0.208 ]
    point[6] [ -0.159 0.159 ]
    point[7] [ -0.208 0.086 ]
    point[8] [ -0.225 0.000 ]
    point[9] [ -0.208 -0.086 ]
    point[10] [ -0.159 -0.159 ]
    point[11] [ -0.086 -0.208 ]
    point[12] [ -0.000 -0.225 ]
    point[13] [ 0.086 -0.208 ]
    point[14] [ 0.159 -0.159 ]
    point[15] [ 0.208 -0.086 ]
  )
  bumper( bcount 2
          blength 0.33
          bpose[0] [0.12  0.12
45]
          bpose[1] [0.12 -0.12 -
45]
  )
```

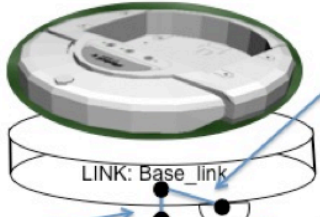
```
<controller:diffdrive_plugin name="differential_drive_controller"
plugin="libdiffdrive_plugin.so">
    <alwaysOn>true</alwaysOn>
    <update>100</update>
    <updateRate>100.0</updateRate>
    <leftJoint>base_link_right_wheel_joint</leftJoint>
     <rightJoint>base_link_left_wheel_joint</rightJoint>
     <wheelSeparation>${caster_wheel_offset_y*2}</wheelSeparation>
    <wheelDiameter>${wheel_radius*2}</wheelDiameter>
    <torque>50</torque>
    <interface:position name="position_iface_0"/>
    <robotNamespace>/</robotNamespace>
    <topicName>cmd_vel</topicName>
</controller:diffdrive_plugin >
```

# ROS URDF Overview for iRobot Create

Framework specific data defines parameters for ROS/ Gazebo Simulation

Mesh/stl files attached to base link provide “skin” and collision models

JOINT: Continuous joint defines wheel actuation relative to the base




JOINT: Rigid joint defines link to ground plane

Links include visual, Inertial and collision information to support visualization of robots

LINK: Rear_left_wheel Defines geometry (sphere), actuation type (Simple), wheel radius, friction, max velocity, damping, etc