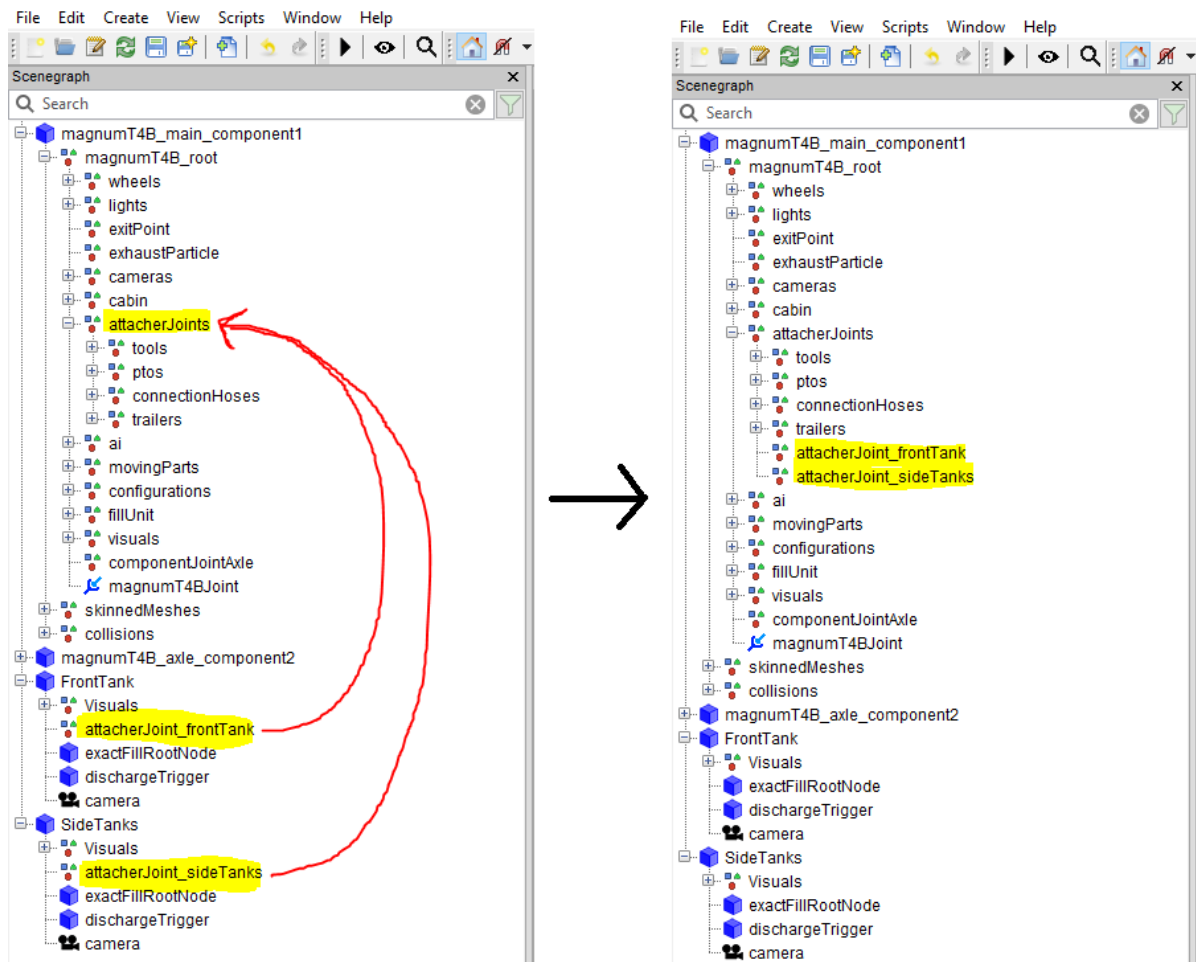


## HOW TO ADD HELICOPTER TANK ATTACHMENT JOINTS TO A TRACTOR

1. Download and un-zip helicopter tanks and the tractor of your choosing
2. Open up the tractor i3d file in Giants editor
3. Import the helicopter side tanks and front tank into the tractor i3d and position the tanks into your desired place
4. Once the tanks are in your desired place, open up the scenegraph and expand the tank nodes.
5. Using the **middle mouse** button, click and drag each attacher joint to a location within the tractors node tree (I usually place it in the “attacherJoints” tree. See below)



6. Delete the tanks from the tractor i3d.

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7. Open up the tractor .xml file, and locate the attacher joint code. Copy and paste the code below into the attacher joint configs

```
<attacherJoint node="sideTank_joint" jointType="implement" lowerRotLimit="0 0 0" lowerTransLimit="0 0 0" upperRotRotationOffset="0" allowsJointLimitMovement="false" comboTime="0">
  <schema position="1 0" rotation="0" invertX="true" />
</attacherJoint>

<attacherJoint node="frontTank_joint" jointType="implement" lowerRotLimit="0 0 0" lowerTransLimit="0 0 0" upperRotRotationOffset="0" allowsJointLimitMovement="false" comboTime="0">
  <schema position="1 0" rotation="0" invertX="true" />
</attacherJoint>
```

```
<attacherJoints comboDuration="2">
  <attacherJoint node="attacherJointBack" upperRotationOffset="-0.79" lowerRotationOffset="-0.79" moveTime="2.5" comboTime="1">
    <distanceToGround lower="0.32" upper="1.30" />
    <rotationNode node="attacherJointBackRot" lowerRotation="-17 0 0" upperRotation="35 0 0" />
    <rotationNode2 node="attacherJointBackRot2" />
    <bottomArm rotationNode="attacherJointBackArmBottom" translationNode="attacherJointBackArmBottomTrans" referenceNode="referencePointBackBottom" zScale="-1" startRotation="-10 0 0" categoryRange="1 4">
      <armLeft node="attacherJointBackArmBottomLeft" referenceNode="attacherJointBackArmBottomLeftRef" />
      <armRight node="attacherJointBackArmBottomRight" referenceNode="attacherJointBackArmBottomRightRef" />
    </bottomArm>
    <topArm baseNode="attacherJointBackArmTop" filename="2data/shared/assets/upperLinks/walterscheidHQ_140_750.xml" zScale="-1" materialTemplateName="CASETH_BLACK" />
    <schema position="1 0" rotation="0" invertX="false" />
    <visuals hide="trailerLowNode trailerAttacherNode" />
  </attacherJoint>
  <attacherJoint node="trailerAttacherJointBack" jointType="trailer" lowerRotLimit="25 60 50" allowsJointLimitMovement="false" comboTime="1">
    <distanceToGround lower="0.59" upper="1.23" />
    <transNode node="trailerAttacherNode" minY="0.631" maxY="1.275" height="0.25">
      <dependentBottomArm node="attacherJointBackArmBottom" threshold="0.8" rotation="35 0 0" />
    </transNode>
    <schema position="1 0" rotation="0" invertX="false" />
    <visuals nodes="trailerAttacherNode" hide="trailerLowNode" />
  </attacherJoint>
  <attacherJoint node="trailerAttacherJointBackLow" jointType="trailerLow" lowerRotLimit="25 60 50" lowerTransLimit="0 0 0" allowsJointLimitMovement="false" comboTime="1">
    <distanceToGround lower="0.59" upper="1.23" />
    <transNode node="trailerLowNode" minY="0.636" maxY="1.28">
      <dependentBottomArm node="attacherJointBackArmBottom" rotation="40 0 0" />
    </transNode>
    <schema position="1 0" rotation="0" invertX="false" />
    <visuals nodes="trailerLowNode" hide="trailerAttacherNode" />
    <steeringBars leftNode="trailerSteeringLeftRef" rightNode="trailerSteeringRightRef" />
  </attacherJoint>
  <attacherJoint node="sideTank_joint" jointType="implement" lowerRotLimit="0 0 0" lowerTransLimit="0 0 0" upperRotRotationOffset="0" allowsJointLimitMovement="false" comboTime="0">
    <schema position="1 0" rotation="0" invertX="true" />
  </attacherJoint>
  <attacherJoint node="frontTank_joint" jointType="implement" lowerRotLimit="0 0 0" lowerTransLimit="0 0 0" upperRotRotationOffset="0" allowsJointLimitMovement="false" comboTime="0">
    <schema position="1 0" rotation="0" invertX="true" />
  </attacherJoint>
</attacherJoints>
```

8. Go back into the tractor i3d and copy the node index path of the tank(s) and paste it into the respective spots in the xml.

```
<attacherJoint node="0>0[6]5" jointType="implement" lowerRotLimit="0 0 0" lowerTransLimit="0 0 0" upperRotRotationOffset="0" allowsJointLimitMovement="false" comboTime="0">
  <schema position="1 0" rotation="0" invertX="true" />
</attacherJoint>

<attacherJoint node="0>0[6]4" jointType="implement" lowerRotLimit="0 0 0" lowerTransLimit="0 0 0" upperRotRotationOffset="0" allowsJointLimitMovement="false" comboTime="0">
  <schema position="1 0" rotation="0" invertX="true" />
</attacherJoint>
```

9. Save the tractor .i3d and and xml. Once you do you can close them.
10. (Optional) Re-zip the tractor files. Delete the unzipped tank folder
11. In-game, the tanks should now connect to the tractor in the positions you chose