

orxBODY_JOINT structure

Summary

Revolute Joint

```
[RevoluteJoint]  
Type = revolute;  
ParentAnchor = [Vector]  
ChildAnchor = [Vector]  
Collide = true|false  
Rotation = [Float]  
MinRotation = [Float]  
MaxRotation = [Float]  
MotorSpeed = [Float]  
MaxMotorTorque = [Float]
```

Prismatic Joint

```
[PrismaticJoint]  
Type = prismatic;  
ParentAnchor = [Vector]  
ChildAnchor = [Vector]  
Collide = true|false  
Rotation = [Float]  
TranslationAxis = [Vector]  
MinTranslation = [Float]  
MaxTranslation = [Float]  
MotorSpeed = [Float]  
MaxMotorForce = [Float]
```

Spring Joint

```
[SpringJoint]  
Type = spring  
ParentAnchor = [Vector]  
ChildAnchor = [Vector]  
Collide = true|false  
Length = [Float]  
Frequency = [Float]  
Damping = [Float]
```

Rope Joint

```
[RopeJoint]
Type = rope
ParentAnchor = [Vector]
ChildAnchor = [Vector]
Collide = true|false
Length = [Float]
```

Pulley Joint

```
[PulleyJoint]
Type = pulley
ParentAnchor = [Vector]
ChildAnchor = [Vector]
Collide = true|false
ParentGroundAnchor = [Vector]
ChildGroundAnchor = [Vector]
ParentLength = [Float]
MaxParentLength = [Float]
ChildLength = [Float]
MaxChildLength = [Float]
LengthRatio = [Float]
```

Suspension Joint

```
[SuspensionJoint]
Type = suspension;
ParentAnchor = [Vector]
ChildAnchor = [Vector]
Collide = true|false
TranslationAxis = [Vector]
MinTranslation = [Float]
MaxTranslation = [Float]
MotorSpeed = [Float]
MaxMotorForce = [Float]
```

Weld Joint

```
[WeldJoint]
Type = weld;
ParentAnchor = [Vector]
ChildAnchor = [Vector]
Collide = true|false
```

```
Rotation = [Float]
```

Friction Joint

```
[FrictionJoint]  
Type = friction;  
ParentAnchor = [Vector]  
ChildAnchor = [Vector]  
Collide = true|false  
MaxForce = [Float]  
MaxTorque = [Float]
```

Gear Joint

```
[GearJoint]  
Type = gear  
ParentAnchor = [Vector]  
ChildAnchor = [Vector]  
Collide = true|false  
ParentJoint = [String]  
ChildJoint = [String]  
JointRatio = [Float]
```

Details

Common

Here's a list of common properties for the joints. Note that not all of the joints support these properties.

- **Type**: Defines the type of the joint. Available types are: revolute, prismatic, spring, rope, pulley, suspension, weld, friction and gear.
- **ParentAnchor**: The position the parent object is joined at, defined in local parent's space.
- **ChildAnchor**: The position the child object is joined at, defined in local child's space.
- **Collide**: Defines if collision between parent and child object is allowed.
- **Rotation**: Default rotation between parent and child bodies, in degrees. If none is provided, the current rotation difference between both bodies will be used.
- **MotorSpeed**: Only used if **MaxMotorTorque** is also defined. In degrees / seconds.
- **MaxMotorTorque**: Only used if **MotorSpeed** is also defined.

Revolute Joint

- **MinRotation**: Only used if **MaxRotation** is also defined.
- **MaxRotation**: Only used if **MinRotation** is also defined.

Prismatic joint

- TranslationAxis: Should be normalized.
- MinTranslation: In meters, only used if MaxTranslation is also defined.
- MaxTranslation: In meters, only used if MinTranslation is also defined.

Spring Joint

- Length: In meters. If not defined, the current distance between parent and child bodies will be used.
- Frequency: In hertz.
- Damping: Between 0 (min) and 1 (max)

Rope Joint

- Length: In meters. If not defined, the current distance between parent and child bodies will be used.

Pulley Joint

- ParentGroundAnchor
- ChildGroundAnchor
- ParentLength: In meters. If not defined, the current distance between parent and its ground anchor will be used;
- MaxParentLength: In meters. If not defined $\text{ParentLength} + \text{LengthRatio} * \text{ChildLength}$ will be used;
- ChildLength: In meters. If not defined, the current distance between child and its ground anchor will be used;
- MaxChildLength: In meters. If not defined $\text{ParentLength} + \text{LengthRatio} * \text{ChildLength}$ will be used;
- LengthRatio

Suspension Joint

- TranslationAxis: Should be normalized;
- MinTranslation: In meters; Only used if MaxTranslation is also defined;
- MaxTranslation: In meters; Only used if MinTranslation is also defined;

Weld Joint

Does not have any properties except those defined in the summary.

Friction Joint

- `Collide = true|false`: Allows collision between joint's parent and child bodies. Defaults to false;
- `MaxForce`:
- `MaxTorque`:

Gear Joint

- `ParentJoint`: Should be a revolute or prismatic joint already existing on the parent.
- `ChildJoint`: Should be a revolute or prismatic joint already existing on the child.
- `JointRatio`

From:

<https://www.orx-project.org/wiki/> - Orx Learning

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