# 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 joins 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 ParentLength + LengthRatio * 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 ParentLength + LengthRatio * 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`

## Latest config settings for the Development Version

We endeavor to keep the config properties on this page up to date as often as possible. For up to the minute config information for the latest version of Orx, check the most recent published at:

CreationTemplate.ini and

SettingsTemplate.ini

Additionally these files can be found under your orx source tree in the `orx/code/bin` folder.

From:
https://www.orx-project.org/wiki/ - **Orx Learning**

Permanent link:
**https://www.orx-project.org/wiki/en/orx/config/settings_structure/orxjoint?rev=1419992190**

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