

Troubleshooting

Most body-collision jitter starts here

If a reactive rig touches or intersects a body collider in its normal pose, that collider must be excluded on the affected chain under ReactiveBoneChain > Collision > Excluded Reactive Colliders. Synchronizing every body collider to every chain is intentional; per-chain filters remove invalid starting contacts without breaking the shared set.

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Most setup problems are reported directly in the `ReactiveBoneChain` inspector or the authoring windows. This page explains the common messages and the intended fix.

Chain does not simulate

Check:

1. A primary **Root** is assigned.
2. A **Reactive Bone Profile** is assigned.
3. **Simulate** is enabled.
4. The root discovers at least one child bone or has a virtual endpoint.
5. The same Transform is not simulated by overlapping roots/components.

A one-bone hierarchy needs a virtual endpoint.

“No primary chain root is assigned”

Assign the first existing bone under **Chain Setup** or reopen the Setup Wizard.

“No Reactive Bone Profile is assigned”

Create or assign a profile under **Simulation**.

Branches are not moving

A single linear chain only follows one outgoing child path through a junction.

Use:

- **Split All Branches** in the chain inspector; or
 - **Split all hierarchy branches into independent roots** in the Setup Wizard.
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A Transform is reached by more than one root

Two configured roots overlap the same bone path.

Remove the nested/duplicate root so every simulated Transform belongs to exactly one chain path.

Root is also excluded

Remove the root from **Excluded Transforms** or choose a different root.

Zero-length segment warning

Two consecutive bones occupy effectively the same position.

Move the child bone, remove the unnecessary helper, or exclude it from chain discovery.

Non-uniform scale warning

The solver can run, but bone lengths and world collision radii are easier to reason about with uniform scale.

Apply scale in the source DCC package where practical.

Chain explodes after teleport/respawn

Enable **Detect Teleports** and tune **Teleport Distance** / **Teleport Angle** for the scale of your game.

Motion folds through the attachment

Try:

1. Increase **Stiffness**.
 2. Add or reduce **Maximum Deflection Angle**.
 3. Increase damping slightly.
 4. Confirm the anchor/root direction is correct.
 5. For a Rig Painter setup, confirm Root and Tip are not reversed.
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Rig Painter says the target must be in Prefab Mode or a scene

The painter does not directly modify a persistent prefab asset selected in the Project browser.

Open the prefab in **Prefab Mode** or instantiate it in a scene first.

Rig Painter says Read/Write is disabled

Click **Enable Read/Write and Reimport**.

Painting needs CPU-readable mesh vertices.

Recipe belongs to a different mesh

A recipe is tied to its original source mesh/generated output.

Select the matching renderer or create a new recipe.

Source mesh topology changed

The recipe stores one paint weight per source vertex. If vertex count/topology changes, old weights are no longer safe.

Create a new recipe for the changed mesh.

Paint disappeared after Auto Root / Tip or rebuild

Auto Root/Tip and baking do not intentionally replace the stored paint weights. Use **Refresh Preview** and confirm the correct recipe/layer is active.

If the recipe is compatible and the stored painted-vertex count is non-zero, the mask is still present.

Generated path points the wrong way

Use **Swap** under Root/Tip or manually Pick Root and Pick Tip.

Generated rig is attached to the wrong skeleton bone

Change **Anchor Mode** to Explicit and select the desired existing anchor bone.

For animation-safe rebaking on a skinned mesh, prefer a Transform from the renderer's original skeleton.

Additional renderer does not share the same bones

Shared Armature Weight Transfer requires the exact same armature Transform references.

If the part has its own separate skeleton, switch to **Similar Armature Pose Link**.

Similar Armature Pose Link finds zero matching bones

The two rigs need recognizable equivalent names.

Verify that common animation bones correspond by name, such as Head, Spine, LeftArm, etc. If one asset uses completely unrelated naming, rename/map the source in your content pipeline before expecting automatic matching.

Setup Wizard or Rig Painter has no collision controls

That is intentional in the current V1 workflow.

- **Setup Wizard** creates chains from existing bones.
- **Rig Painter** creates generated bones, weights, chains, and armature links.
- **Smart Collision Manager** owns all collision generation, synchronization, world-collision configuration, and connected chain collision-radius tuning.

Create/test the chain or generated rig first, then open:

Tools > STL Dynamics > Reactive Bones > Smart Collision Manager

Rig Painter generation rotates or lays down my character

The current V1 baker protects the source renderer and original skeleton transform state during generation.

If this still happens:

1. Confirm you are using the updated V1 source containing the rig-generation transform guard.

2. Record the source renderer and Armature local position/rotation/scale before baking.
3. Generate/rebuild the rig and confirm those values are unchanged afterward.
4. Prefer an original skeleton bone as the layer anchor.
5. If the model is intentionally posed, return it to a stable bind/reference pose and retry.
6. If a bind-pose bake would drift, the baker should now abort/roll back rather than leave the character rotated. If it does not, capture the Console exception and the model's importer/armature setup for debugging.

Do not manually counter-rotate the generated rig as a permanent fix; that can hide a bind-space problem and make future rebuilds inconsistent.

The Console reports a `serializedObject` error in `OnSceneGUI`

The current `ReactiveBoneColliderEditor` caches multi-target state in `OnEnable` and uses the direct target reference inside `OnSceneGUI`. It does not access `Editor.serializedObject` or `Editor.targets` from `scene/preview` callbacks.

If either the `serializedObject` warning or the older `targets-array` warning still appears, the package is mixing editor revisions. Replace or reimport the entire Reactive Bones Editor folder as one version instead of copying only one inspector file.

Linked hair/clothing follows animation but does not collide with the body

1. Open **Smart Collision Manager** on either connected part.
 2. Confirm a connected armature link is detected.
 3. Click **Synchronize All Connected Chains**.
 4. Keep **Create / update runtime collision group** enabled for modular runtime characters.
 5. Confirm the required body/hair Reactive Bone Colliders exist.
 6. On each reactive chain, exclude every body collider it already touches or intersects in the normal pose.
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Two separate prefab instances do not collide

A connected collision group only covers one local/modular character family.

For independent objects:

1. Enable **Reactive Bone Colliders** under World / Prefab Collision on the chain.
 2. Ensure the source analytic collider has **Participates In World Collision** enabled.
 3. Ensure both layer masks include the relevant GameObject layers.
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Hair does not collide with a normal Unity wall/floor

You do not need to convert the wall.

1. Enable **Unity Colliders** under the chain's External Sources.
 2. Include the wall/floor layer in **Unity Collider Layers**.
 3. Confirm trigger interaction is appropriate.
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Collision is jittery or feels like self-collision

Check:

- **Ignore Unity colliders on each simulated segment** is enabled;
- generated analytic colliders have the correct **Attached Bone**;
- **Ignore Attached Bone** is enabled where appropriate;
- the connected collision set is not full of overlapping redundant volumes;
- automatic junction/leaf shapes are not stacked with large manually authored shapes;
- the particle radius/profile radius is not oversized for the mesh.

Critical: if the chain intersects a body collider at rest, add that volume to Excluded Reactive Colliders. Attached-bone self-ignore does not replace this per-chain exclusion.

Replanning destroys a collider I hand-tuned

Select that automatically generated shape and click **Lock Selected Auto Shapes** before replanning.

Keep **Preserve locked automatic collider edits** enabled.

Replanning keeps old unwanted shapes

Enable **Remove stale unlocked colliders before replanning** and make sure the unwanted shapes are not locked.

Runtime Debugger says no Reactive Bone World exists

A world is created automatically when an active configured chain registers in Play Mode.

If no world appears:

- verify at least one configured chain is enabled;
- verify you are actually in Play Mode;
- inspect chain validation errors.

You may also add a `ReactiveBoneWorld` component manually.

Offscreen optimization does nothing

If Offscreen Mode is not Ignore, the chain needs one or more observable Renderers.

Assign **Visibility Renderers** explicitly when the component does not have an appropriate renderer below it.

Performance drops with many characters

Use this order:

1. Enable distance culling and sleeping.
2. Add offscreen reduced-rate/sleep behavior.
3. Reduce generated bone/particle count where visually acceptable.
4. Reduce local analytic collider count.

5. Narrow world Reactive Collider layers.
 6. Narrow Unity Collider layers.
 7. Disable **Generate Contacts** unless consumed.
 8. Split very large chains/components.
 9. Inspect heavy chains in Runtime Debugger.
 10. Tune the Reactive Bone World's adaptive simulation budget only after the prefab-level work is clean.
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Unity Collider candidate buffer is saturated

First simplify/filter the query:

- narrow Unity Collider layers;
- avoid querying dense unrelated physics layers;
- reduce nearby collider clutter.

If the chain legitimately needs all those candidates, increase **Candidates Per Particle** above the default 32.

Generated rig needs rebuilding after an update

The `ReactiveBoneGeneratedRig` inspector reports when its stored format is older than the current generated-rig format.

Open it in the Rig Painter and run **Rebuild Reactive Rig** once. The recipe/source mesh are designed to make this rebuild non-destructive.