Friction Wheel Tensioning

Troubleshooting Guide

Start Here

Friction drive and encoder wheels are only accurate and successful when they have constant contact with the bearing surface (the edge of a turntable or the deck for a wagon). Good contact is achieved several ways, though the first and most important is through tension.

Setting the tension

Every friction drive machine should have some method to set the tension against the drive wheel. With our Revolver (either type) setting the tension on the drive wheel is accomplished by tightening the 2 nuts at the end of the tension rods. It is good to start by compressing the springs about 1". For most applications, enough force should be able to be generated without needing a wrench. The springs allow the machine to accommodate an out of round turntable while keeping sufficient force against the edge.

Setting the tension on the encoder wheel is just as important as the drive wheel. In addition to proper tension it is important to confirm that the encoder wheel is running parallel to the top of the turntable. An out of alignment encoder wheel can cause inconsistent encoder readings. Setting the tension on the TR3 encoder that ships with the Revolver v2 is very straight forward. Confirm the encoder wheel is contacting the middle of the turntable edge, adjust the height if necessary. To adjust the height (and the tension) loosen the 2 cap head bolts clamping the spring to the shaft and adjust the height. With the bolts loose insert a bolt into the end of the clamp assembly, using the bolt as a lever to increase the tension on the leaf spring. Once there is tension on the spring tighten the 2 cap bolts.

Testing for Accuracy and Slippage

One of the most common issues encountered with a revolver is encoder accuracy. Before writing your first cue, follow these steps referencing the diagram on the next page, to check for any encoder slippage.

- Confirm the encoder wheel is parallel with the top of the revolve surface, realign as necessary.
- Add match marks
    - Mark the top of the revolve and the surround with matching marks. These will be your reference marks through the testing process.
    - Mark the top of the encoder wheel and a matching mark on the top of the revolve. These will be your encoder reference marks.
- Run the revolver manually from the face of the Stagehand 360 degrees, then back. Lining up the revolve reference marks.
    - Once the revolve reference marks are aligned, check the encoder reference marks
        - If the encoder reference marks are aligned (within a ½") the encoder is making good contact and it is time to set the position scale.
        - If the encoder reference marks are not aligned, add some tension to the encoder spring and redo the encoder reference marks. Repeat the testing process.
    - Repeat these steps until the encoder reference marks are aligned.

After confirming there is no drive wheel or encoder wheel slippage you are ready to *Make It Move™!* Connect to the Stagehand through Spikemark, set your position scale and begin programming it like any other machine.

Pro Tip: Before executing your first cue, ensure the "Abort on Position Error" box is checked in Spikemark. This will stop any movement if there are any errors.

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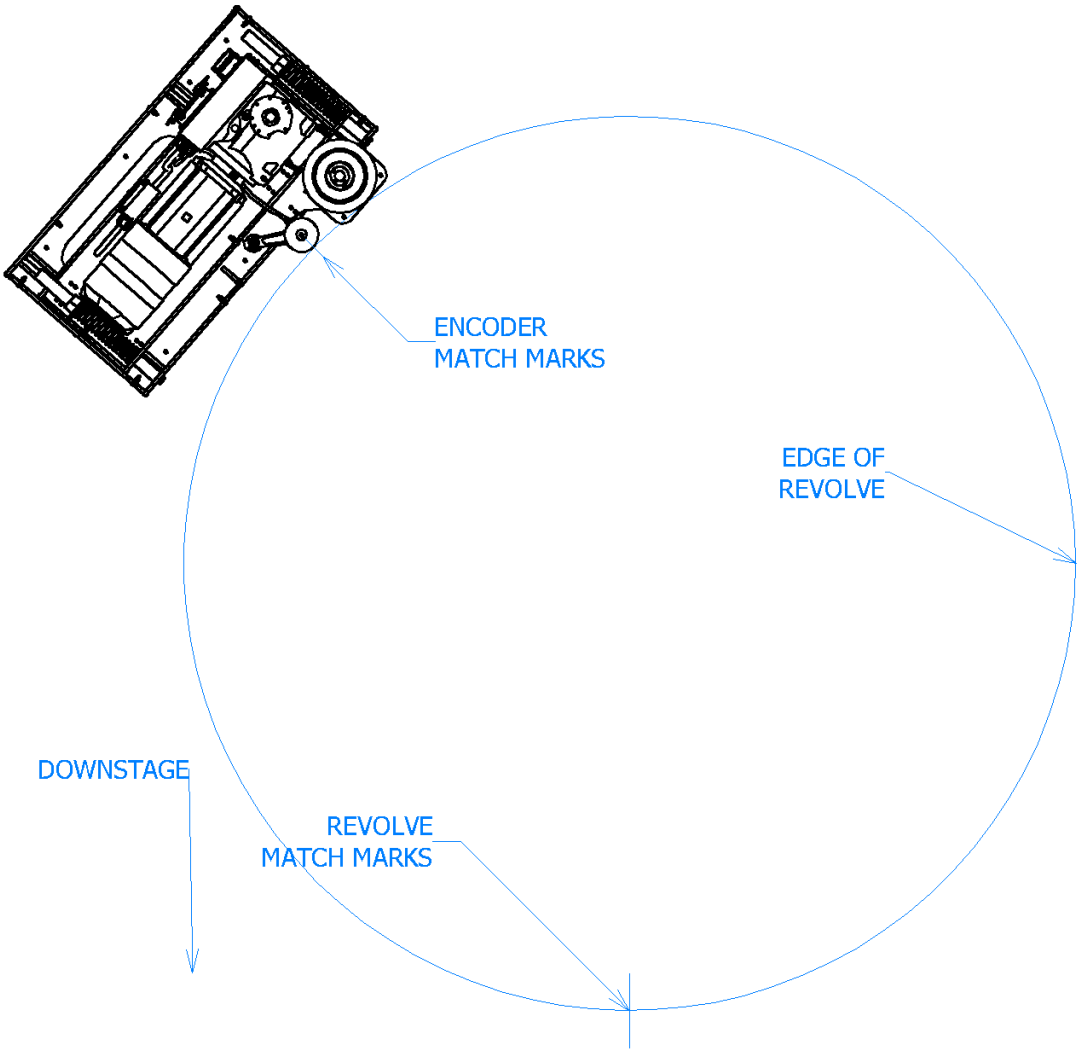

If you need further assistance we are available on the phone at 401-289-2942 during normal business hours, or via email at support@creativeconners.com.