

## Motor Encoder Guard Retrofit Kit

Follow these procedures to install the Canrig motor encoder retrofit kit on the 2000 HP Single Speed Commander™ Drawworks.

### Issue

Water may ingress the motor encoder causing false readings and shutdowns. Canrig has designed a motor encoder guard retrofit kit to protect the encoder from water exposure.

### Recommendation

Install the motor encoder guard retrofit kit on both traction motors. Order the appropriate kit for your motor (two are needed) from RIGLINE 24/7™ Support. See Table 1.

**Table 1: Encoder Guard Kit Numbers**

Qty	Part No	Description
2	AY21564	Encoder Guard Retrofit Kit (GEB22)
2	AY21874	Encoder Guard Retrofit Kit (OEM Motor)
4	DT31520	Warning Label

## Procedure



**Warning!** Follow proper lock-out/tag-out procedures before performing any work on the drawworks.

1. Remove old motor encoder guard, if present.
2. Remove existing encoder cable support bracket (DT21050). Retrofit guard design has this bracket integrated. See Figure 1 on page 2.

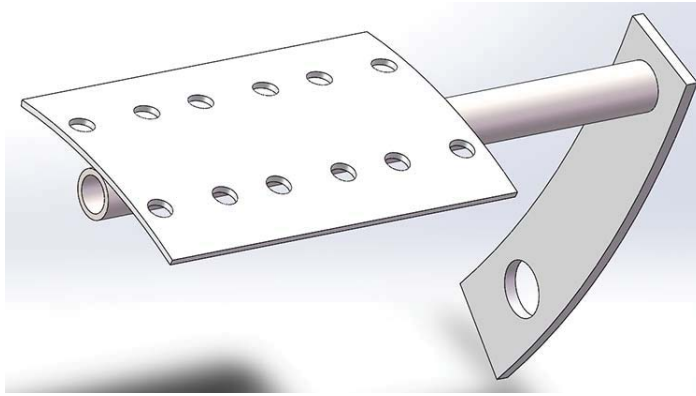


Figure 1: Remove existing encoder cable support bracket (DT21050)

3. Remove existing tether arm. *Retrofit guard design has integrated tether support.* See Figure 2.

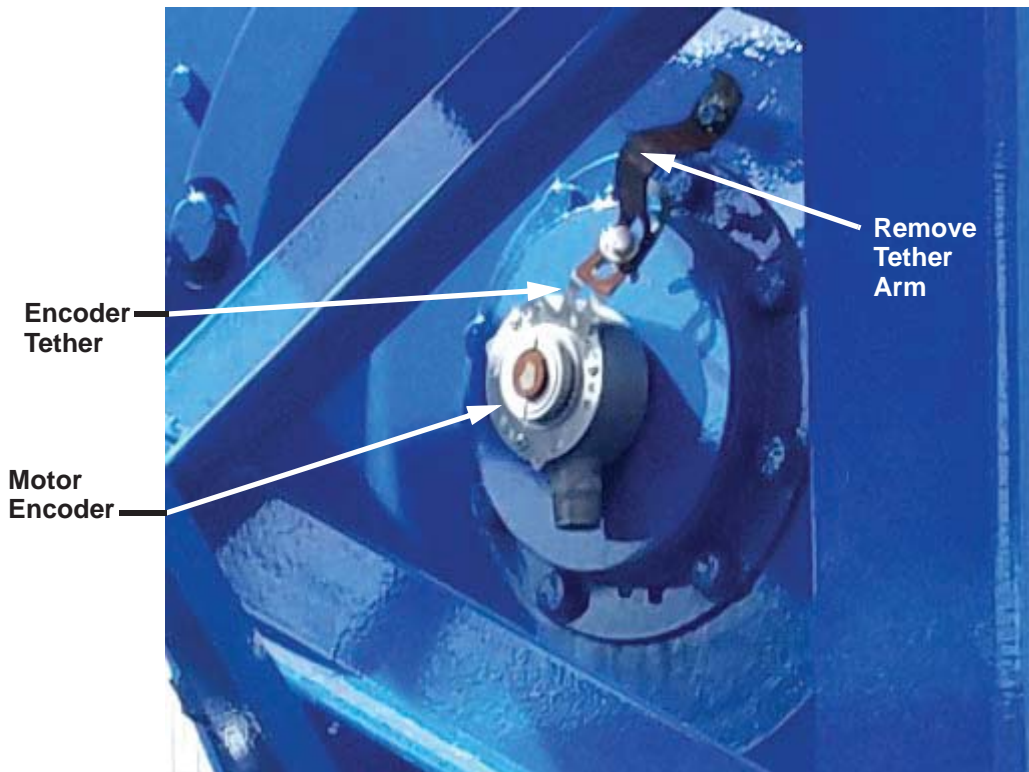


Figure 2: Motor encoder, encoder tether, and tether arm

4. Remove three (3) existing bolts holding the encoder tether to the encoder. See Figure 3.

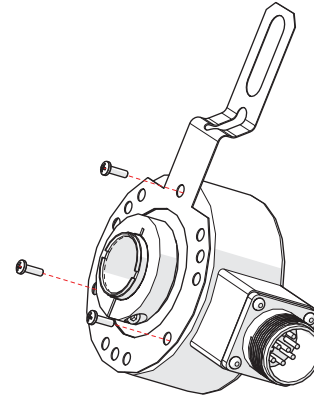


Figure 3: Remove Encoder Tether

5. Flip the encoder tether. See Figure 4.

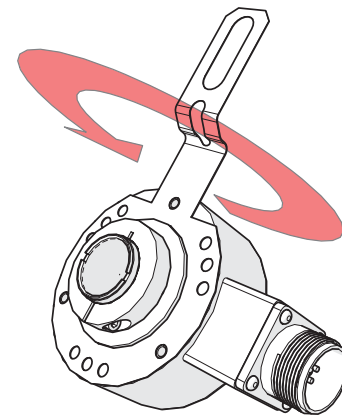


Figure 4: Flip Encoder Tether

6. Flip the encoder.
7. Reattach the encoder tether to the encoder using the three (3) existing bolts. See Figure 5.

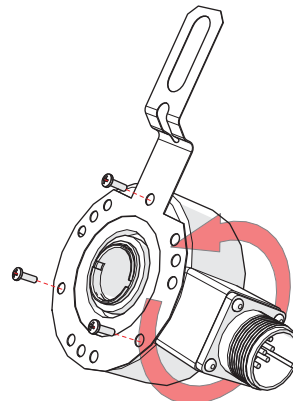


Figure 5: Flip Encoder

8. Install motor encoder guard retrofit using three hex head bolts and lock washers. See Figure 6 on page 4.
9. Add two (2) warning labels on the encoder guard as indicated in Figure 6.

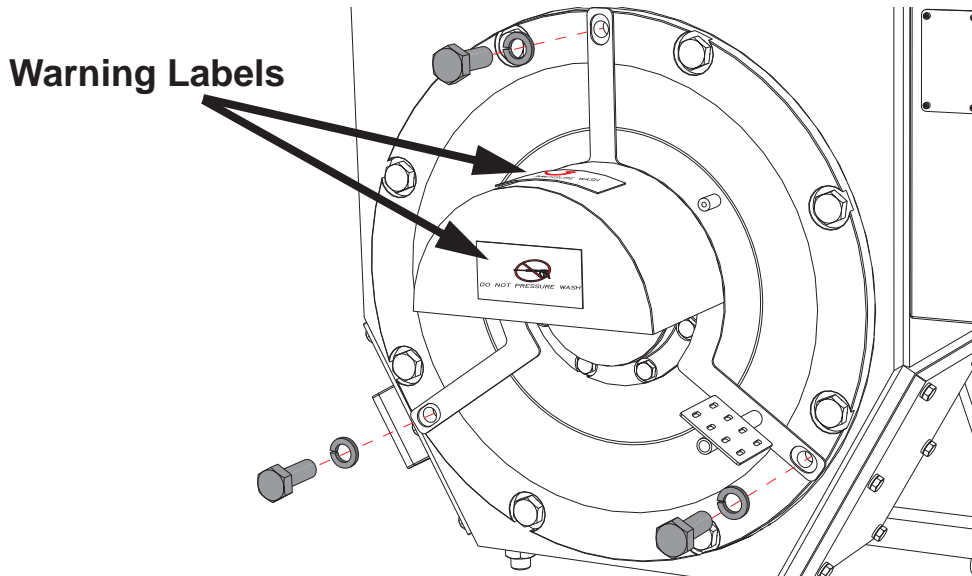


Figure 6: Install Encoder Cover, Warning Labels

10. Secure encoder tether with a bolt to the tether support inside the motor encoder guard using a bolt, lock washer, and nut supplied in the kit. See Figure 7.

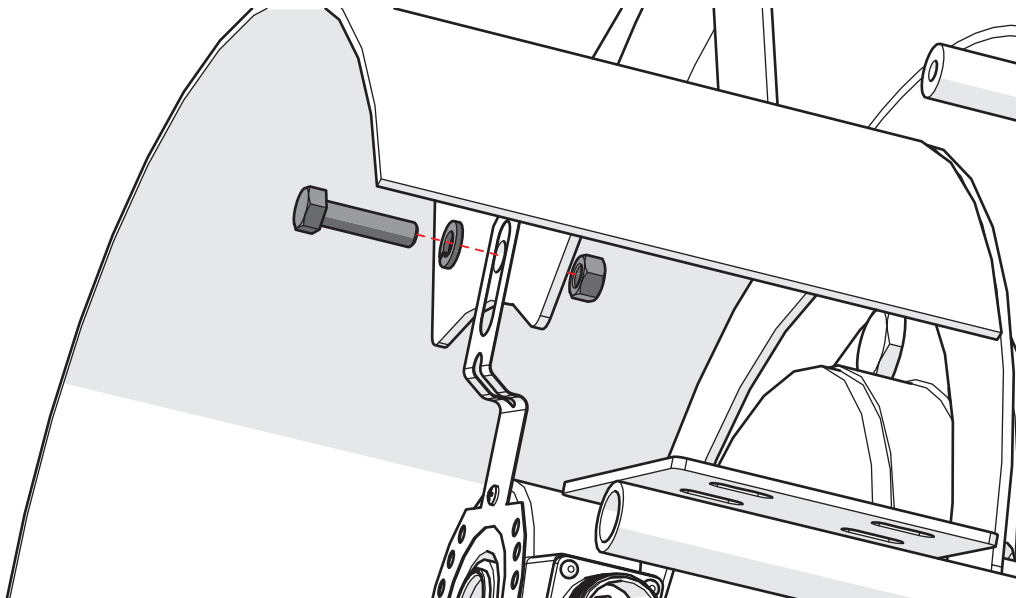


Figure 7: Attach Encoder to Encoder Guard (cover guard partially hidden for clarity)

11. Use zip-ties to attach the motor encoder cable to the cable support bracket of the motor encoder guard.



Figure 8: Motor Encoder Guard Retrofit Kit Installed

12. Repeat steps 1 through 11 on the second motor.
13. Ensure that encoders are flipped in opposite directions. The motor clamp should be on the outside of the shaft on one motor, and on the inside between the encoder and the motor on the second motor.

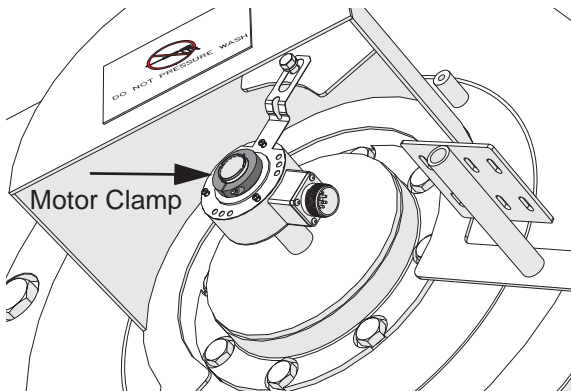


Figure 9: Encoder with Motor Clamp Outside (Motor 1)

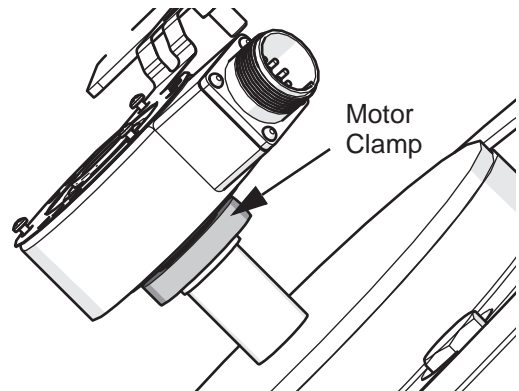


Figure 10: Encoder with Motor Clamp Inside (Motor 2)

14. Remove lock-out/tag-out.
15. Start up the system and test.
16. **Run drawworks up and down and verify that the encoder count on the HMI updates correctly.**