



Unintended Pipe Handler Rotation

Issue

If all of the following conditions occur, the pipe handler may inadvertently rotate:

- The top drive mode joystick is in spin or torque position; and
- The Back-Up Wrench (BUW) gripper is closed; and
- The Handler Lock is not locked (i.e., the Handler Lock alarm is activated).



Warning! Do not release the BUW gripper before canceling the spin/torque request.

If the BUW gripper is opened before the spin/torque request is canceled, the system will cancel the gripper interlock, and the spin/torque request will be activated. This may allow the pipe to rotate before the BUW gripper has time to release, possibly causing the entire pipe handler to rotate.

Recommendation

Canrig is modifying the controls program to incorporate a zero throttle signal delay to allow time for the BUW gripper to open. The spin/torque request will also have to return to neutral before the request is allowed.



Caution! Always operate the top drive properly as per Section 3 of the Canrig Top Drive Operating Manual. In addition, follow proper usage and care instructions for the pipe handler system as indicated in Subsection 3A of the Canrig Top Drive Operating Manual (see attachment).

To obtain a controls program update, contact RigLine 24/7™ Support.

Pipe Handler

Care and Usage

Proper use of the Handler Lock system and the Link Tilt system can greatly reduce the chances of an accident or personal injury.

- All elevators must be installed with the handles on the OPPOSITE side from the link tilt cylinders.
 - The link tilt is designed such that at the fully extended position, the elevators clear the racking board. It is recommended that this clearance be verified by passing the top drive slowly past the racking board with the links extended. There should be a minimum 2" of clearance between the elevator handles and the racking board.
 - If there is insufficient clearance, position the link tilt clamps lower on the links to increase the clearance.
 - The link tilt overdrill position (retracted) is used for drilling as low as possible before connections, allowing for maximum bit clearance off bottom when making a connection.
- When torquing against the Back-Up Wrench (BUW), the Handler Lock prevents rotation of the handler assembly due to the applied torque. It is important to avoid the hazard of inadvertent handler rotation with the elevator links retracted.
- When the links and elevators are retracted (in the overdrill position), keep personnel from standing below the elevators or in the path of elevator travel.
- When torquing against the BUW, always keep personnel clear of the swing radius of the links and elevators in case of inadvertent handler rotation.
- The driller should keep the links and elevators as close to center as possible when torquing against the BUW. This will minimize the swing radius of the elevators.
- The lock pin or locking dog mechanism should be magnetic particle inspected annually.
- The lock alarm should be tested daily. A fault can be simulated on a lock dog by closing the dog on a 1/8" dia. rod or making tooth tip to tooth tip contact when closing.

IMPORTANT: Do NOT rotate the top drive with the drill string weight in the elevators. Serious damage to the rotary manifold may result.