



# Safety Alert

From the International Association of Drilling Contractors

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**ALERT 07 – 05**

## **INCIDENT INVOLVING THE LINK TILT RESULTS IN A LTI**

### **WHAT HAPPENED:**

After releasing the elevators, the derrickman was pulling back a stand of drillpipe when the driller simultaneously retracted the link tilt. As the elevators returned to over well center the chains connecting the link tilt to the bale arms took the weight of the bales and elevators, causing a shuddering action on the link tilt system. This caused the link tilt intermediate stop bar to pass the intermediate stops resulting in the link tilt fully extending at an uncontrolled speed striking the derrickman.

### **WHAT CAUSED IT:**

- The Intermediate stop was not in the correct position because a rope tied on the intermediate stop had been fastened to one of the bail arms. The continual action of the link tilt extending and retracting resulted in the rope attached to the bail arm to move downwards. This resulted in the intermediate stop being gradually pulled downwards and out of position.
- Although the driller had begun to retract the link tilt, pressure still remained in the system as it is pneumatically operated. The resultant pressure caused the link tilt to extend with speed and force when the intermediate stop bar passed the intermediate stop.

**CORRECTIVE ACTIONS:** To address this incident, this company instructed rig personnel to do the following:

- Remove the rope when it is not required.
- Do not tie the rope to the bail arm at any time.
- Consultation with the manufacturer to seek an engineering solution

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**The Corrective Actions stated in this alert are one company's attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.**

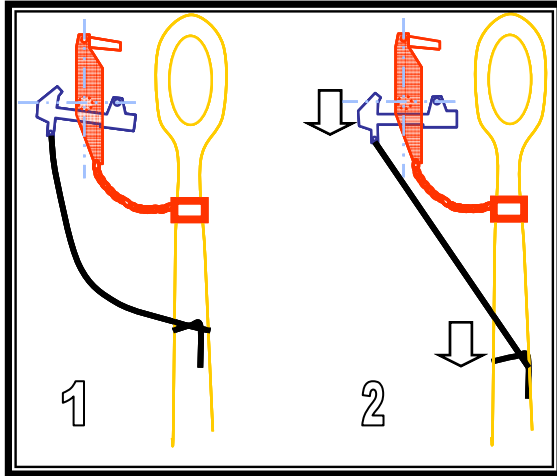
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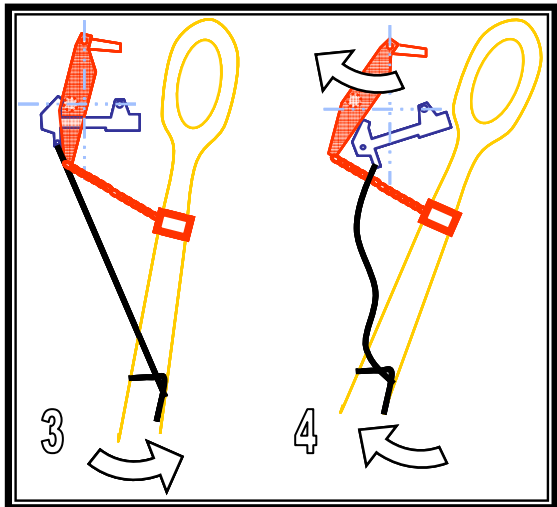
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**Picture 1** Rope attached loosely to the bail arm using a half hitch

**Picture 2** Rope moving down the bail arm causing the intermediate stop to swivel down against the link tilt spring. (The action of the link tilt extending and retracting allowed the knot to slide down the bail arm. The configuration of the knot allowed the rope to move down the bail arm and prevented it from traveling in an upwards motion)



**Picture 3** At the time of the incident the elevators returned to the position of the intermediate stops. The rope on the intermediate stop was pulling down. This resulted in the stops contacting the top of the intermediate stops.

**Picture 4** The action of the elevators returning to position caused either the intermediate stop bar to jump over the intermediate stops or the intermediate stops to travel downwards enough to let the stop bar travel past the intermediate position.

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