



Safety Alert

From the International Association of Drilling Contractors

ALERT 11 – 25

DEFECTIVE CLUTCH RESULTS IN DROPPED TOP DRIVE

WHAT HAPPENED:

While tripping out of the hole, a stand had been backed out by the Driller. The Tourpusher then relieved him to handover to his relief. With the Tourpusher running the rig, he discovered that the pipe threads had snagged. He slacked back off the stand to rotate the pipe out again. When he released the drum clutch, in order to slack off and rotate the stand, the clutch did not release thus causing the brake to loosely set. When the clutch did release, the added weight of the top drive on the brakes caused the assembly to descend. The top drive contacted the top tool joint and bowed out the stand of pipe. The Tourpusher applied the brake further, which stopped the top drive's descent.

WHAT CAUSED IT:

- The operation was stopped during the process of breaking off the stand, rather than waiting until the Driller had the block at the floor for the start of the cycle; The rig operator did not notice that the clutch had not dumped its air when the clutch control was released to neutral;
- The clutch control had debris in the control mechanism, thus preventing the air's release and signaling to the dump valves to dump the air to the clutch;
- The Driller noticed the brakes were not acting normal about two stands before the incident took place, but thought that the brakes had merely gotten water on them;
- The brake flange was leaking water and the driller thought the sluggishness of the brakes was due to water on the flanges.

CORRECTIVE ACTIONS: To address this incident, this company did the following:

- Instructed Drillers not to hand over control of the rig in the middle of breaking out a stand—set it back and bring the blocks to the floor in order to begin a new cycle in the procedure.
- Instructed Drillers to listen for changes; investigate smells; investigate the feel of controls or any changes in vibration.
 - Things have a “normal” sound, appearance, smell and feel. The Driller should have investigated the cause when the brake felt sluggish for the two prior stands.
 - A change in the sound of the brake or the sound of the air in the clutch dumping a few seconds late are indicators that something is wrong.
 - If the brakes become wet the sound changes as they are applied.

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.

This material is presented for information purposes only. Managers & Supervisors should evaluate this information to determine if it can be applied to their own situations and practices

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Issued October 2011