



DATE: March 22, 2002

SUBJECT: MAINTAINING TORQUE ON STUCK PIPE

SERIAL NUMBERS: ALL DC POWERED TOP DRIVES

DISCUSSION:

- Applying torque on a **stalled DC motor** causes excessive localized heat. In such a situation, the commutator and the windings will overheat and destroy in relatively short time.

RECOMMENDATION:

To avoid the above mentioned problem, the following procedures should be adhered to:

1. **Never leave the DC motor stalled with current applied beyond 30 seconds.**
2. The manual method to unwind pipe is by **slowly reducing** the drill torque limit until the pipe has fully unwound. **Do not reduce the throttle**, until the pipe has been fully unwound.
3. On serial number 21 and up, CANRIG has installed an automated routine, the "**UNWIND**" feature. With this feature, the following procedures can be adapted:
4. If it is OK to unwind the pipe, reduce throttle rapidly to zero. This will initiate the PLC UNWIND routine and the pipe will slowly unwind automatically. **Do NOT reduce the throttle slowly, as that action will not initiate the UNWIND routine and keep full torque on the motor until the very last part of the throttle reduction, where the torque will fall off quickly and the pipe will spin backwards very fast. This can damage the SCR and accidentally break-out a connection.**
5. If it is required to keep the wound-up torque on the pipe for an extended period, proceed as follows:
 - Apply the brake before the throttle is reduced.
 - Once the brake is set, reduce the throttle quickly to zero
 - Before the brake can be removed, advance the throttle approximately to the same position it was previously. Once the torque on the meter has reached torque limit, the brake can be released. If the pipe is free, the top drive will start to rotate. If the pipe is still stuck, the motor will stall-out and step 1 through 3 apply.

INFORMATION :

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