



## SAFETY DISCUSSION

# MAKING & BREAKING CONNECTIONS

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## What is your procedure for safely making & breaking connections?

- Jobsite safety is a major concern for all project participants
- Project participants want to complete jobs as quickly as possible while keeping everyone safe
- Making & breaking connections can be a very dangerous task if not addressed properly



## Connections...dangerous business

- Contractors need to make/break many connections each day
  - Bits
  - Reamers
  - Drill collars
  - Drill pipe
- However, safety meetings often times do not address this activity and not all contractors define procedures in their safety manuals
- Connections made using the rig are fairly safe, but those that are not can be very dangerous



## A common approach

- Contractor attempting to break at 2-7/8" IF connection
  - Requires 7,100 ft/lbs of force to make
  - Potentially more to break
- Equipment used
  - 24" pipe wrench
  - 36" pipe wrench
  - 4 x 6 wood block
  - Back hoe



## A common outcome



- After connection broke, the wrench looked like this
- How close was the wrench to failure?
- How much force was applied?



- ...but could have looked like this
- When a wrench breaks
  - Metal fragments fly
  - Wrench components scatter
  - People get injured or worse



# The importance of using recommended torque

- Wrenches do not allow for precise application of torque values
  - Safety issues
  - Tool performance
  
- Drill tool manufacturers require specific torque values
  - Prevent failure down hole
  - Prevent damage (galling of threads)
  - Prevent over torquing

Size	Tool	Torque
2-7/8" IF	Drill Pipe	~7,000
4-1/2" IF	Drill Pipe	~27,000
5-1/2" FH	Drill Pipe	~54,000
6-5/8" FH	Drill Pipe	~56,000

Note: approximate values, will vary based on specific pipe used



## Safety tongs

- Safety tongs are specifically designed to safely make and break HDD connections
  - System is engineered for a specific range of forces
  - Provide exact values of torque every time
- Available for wide variety of rig sizes from small to maxi rigs
- AC/DC/Hand Hydraulic pump options available
- Safe, reliable and easy to operate





Questions?

