Gain Jobsite Efficiency by Improving Value of HDD Pipe

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Efficiency and productivity

- Time is money
- Top expense is DHT on a jobsite (especially drill pipe)
- High quality drill pipe is a very important key to successful completion of jobs (with proper use and maintenance of product)

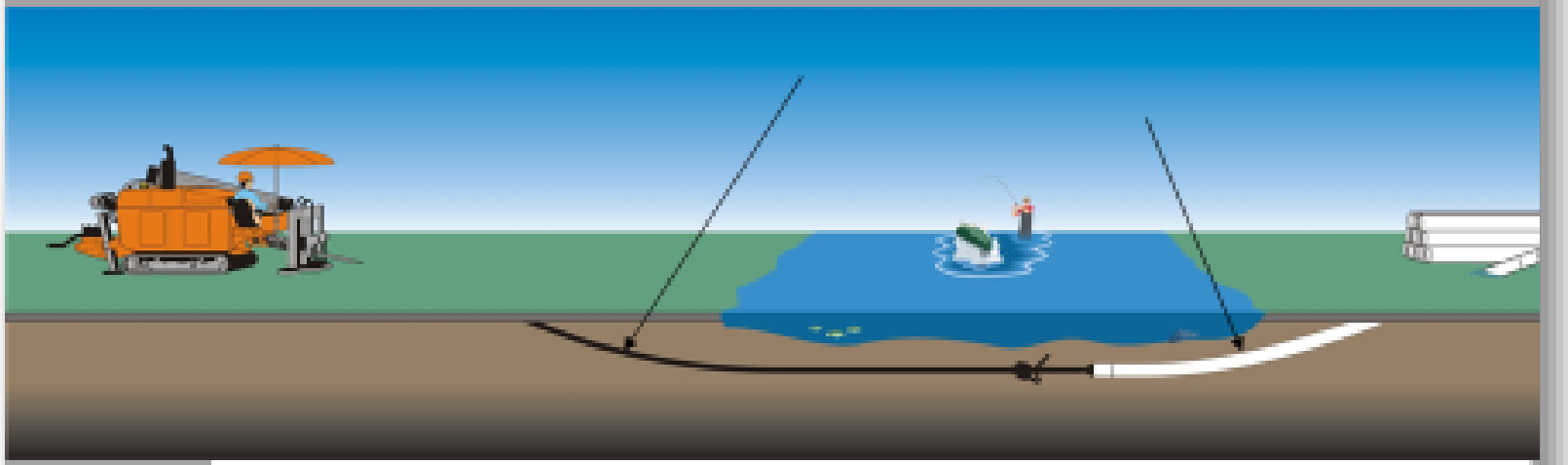
Extend Drill Pipe Life with Proper Drilling Techniques

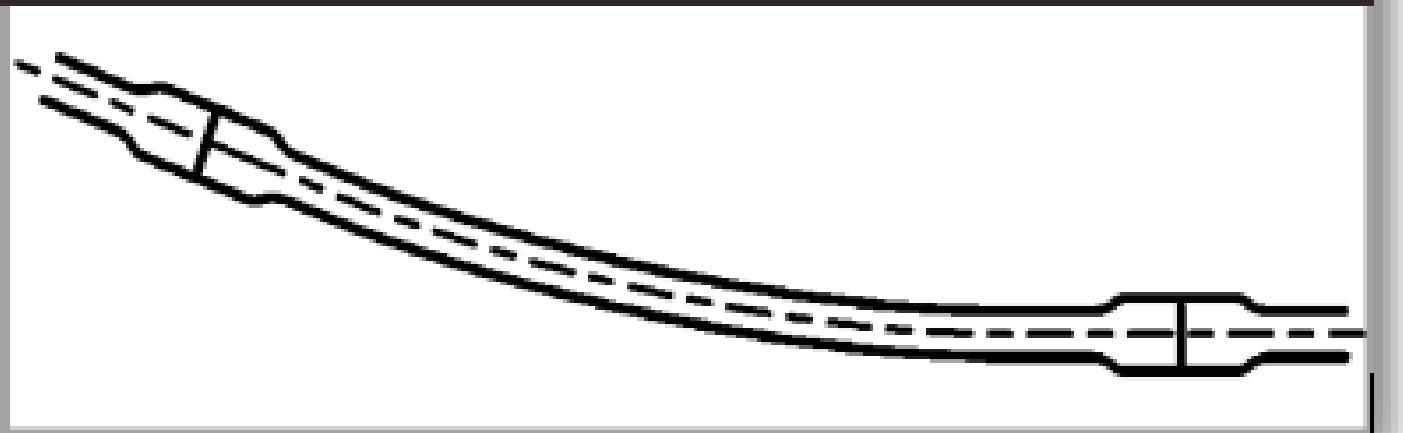
- Bend radius/limits
- Proper torque of tool joints
- Drilling fluids
- Maintenance schedules

Bend Radius

- What is Bend Radius:
  - The forward distance required to make a 90 degree turn.
  - Always consult with Manufacture of pipe to learn Bend radius of Product
- Over steering (exceeding bend Radius) causes fatigue
  - thus reducing life of the pipe
  - damage may not be noticeable but it is done.
- Prevent over steering
  - Proper entrance angle
  - Be conscious with major steering at beginning of bore
  - If unable to achieve proper depth without major deviations then it is best to set up again and reshoot the bore. This will give you longer life of your drill pipe

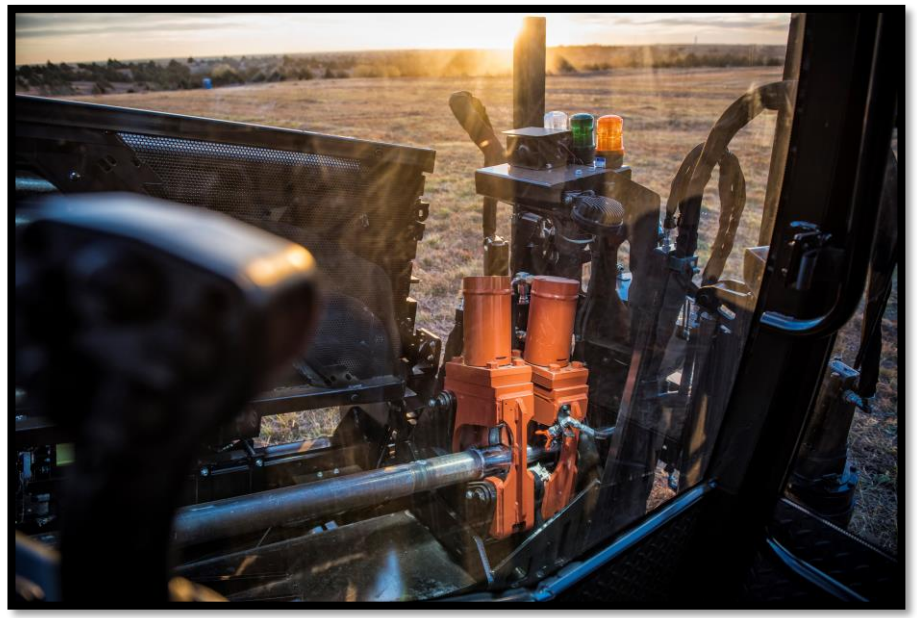
What Is Bend Radius?





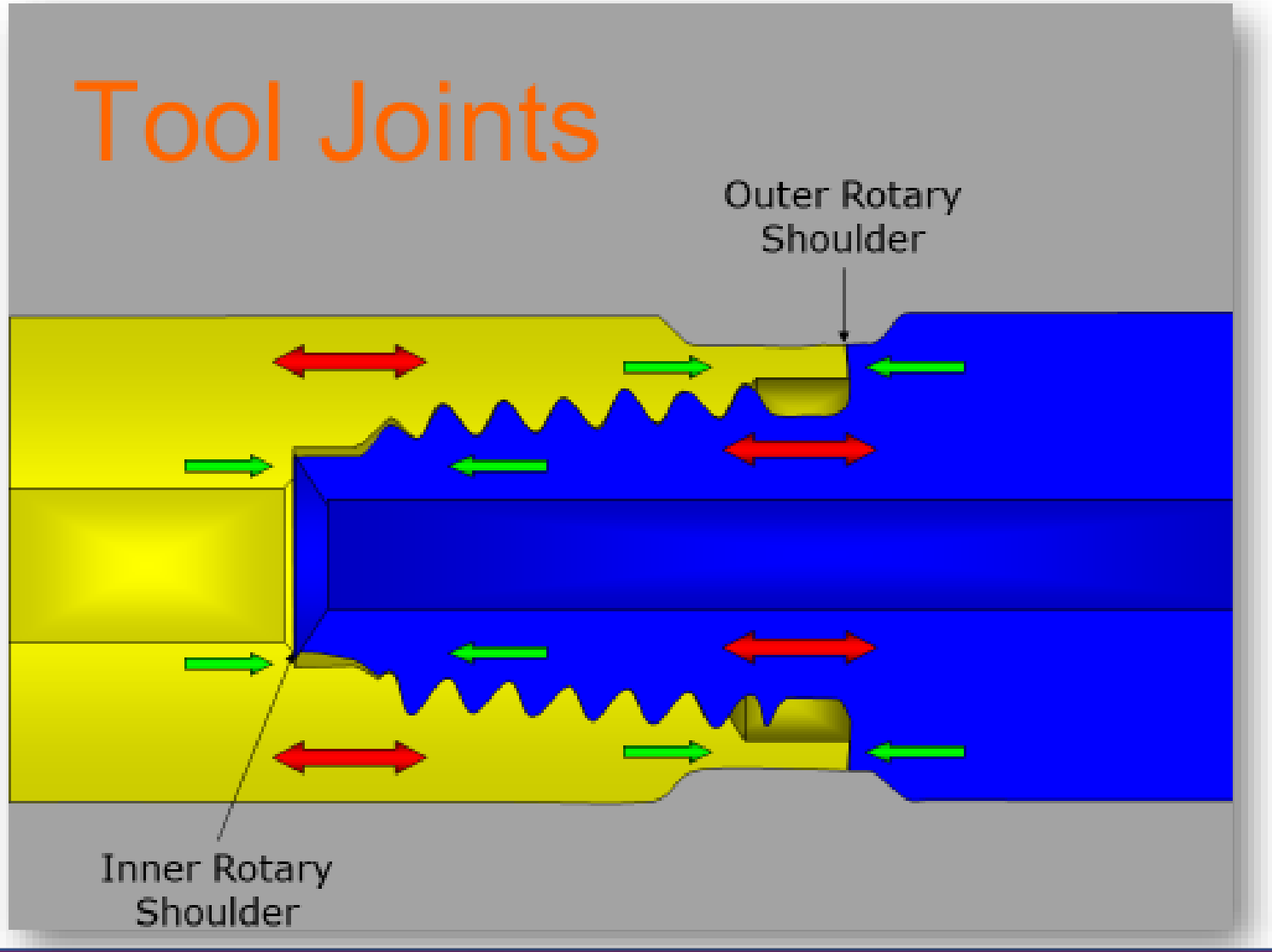
Tool Joint Torque

- Matching drill pipe to drill
  - Thread sizes have min and max. torque loads



- Proper makeup and breakout torque
  - Always apply manufactures recommended torque
    - Maximum Rig Torque in low speed
  - Understanding over torqueing and under torqueing
    - Over torqueing results in excessive compression/mushrooming, Galling, wedging and splitting boxes
    - Under torqueing result in fretting, pin carries the bending load and shoulders separate when bending.

Tool Joint Torque



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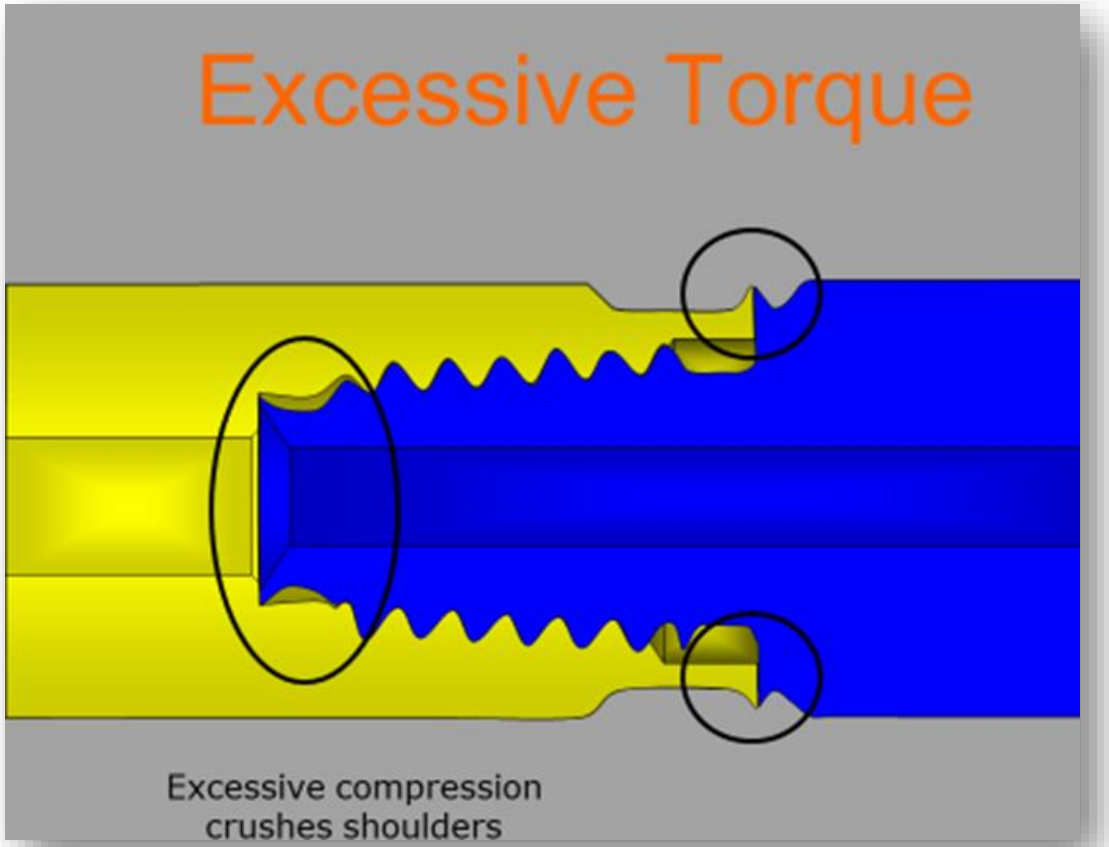

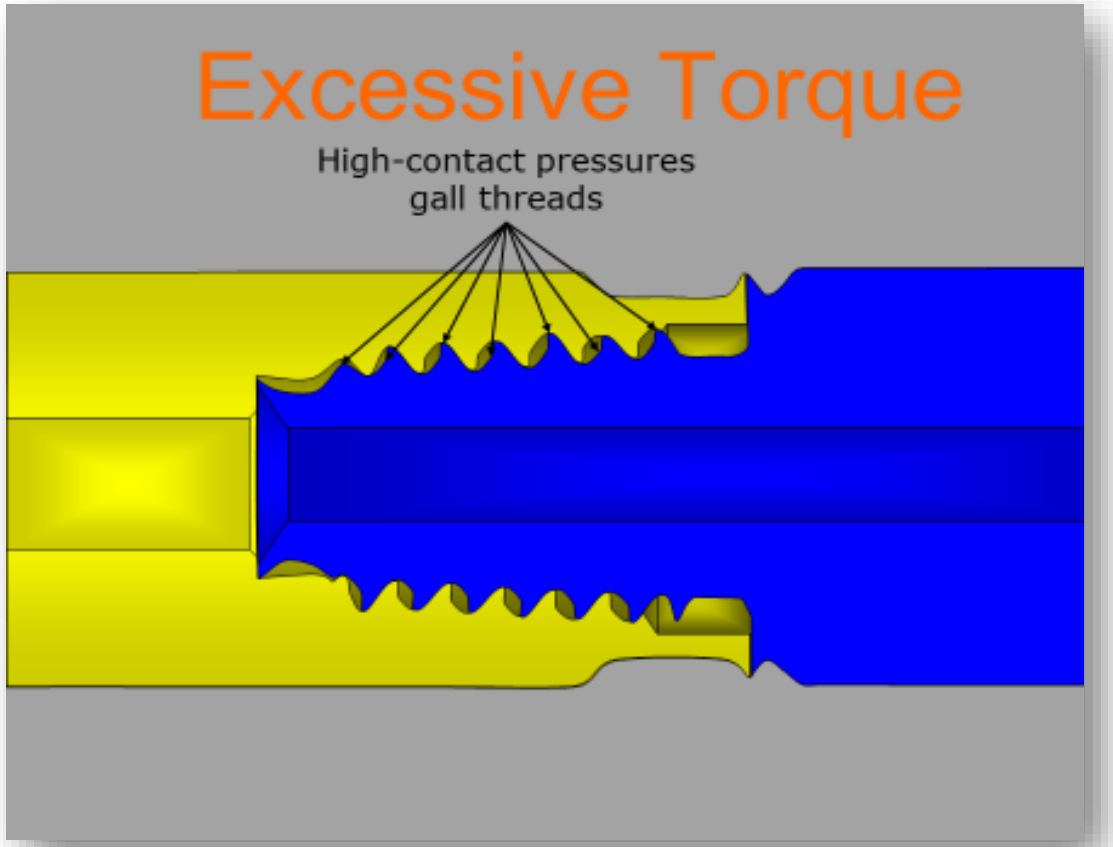

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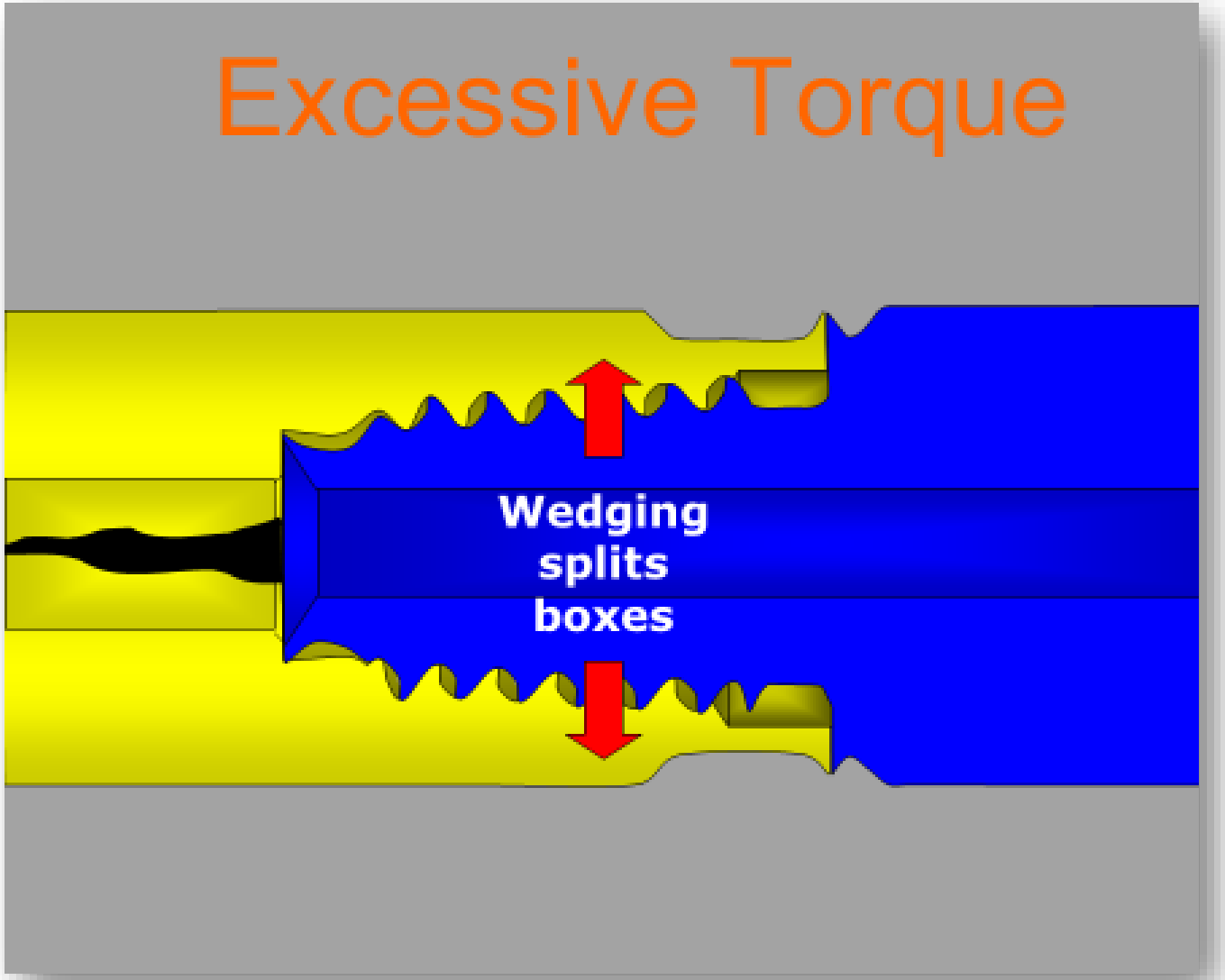
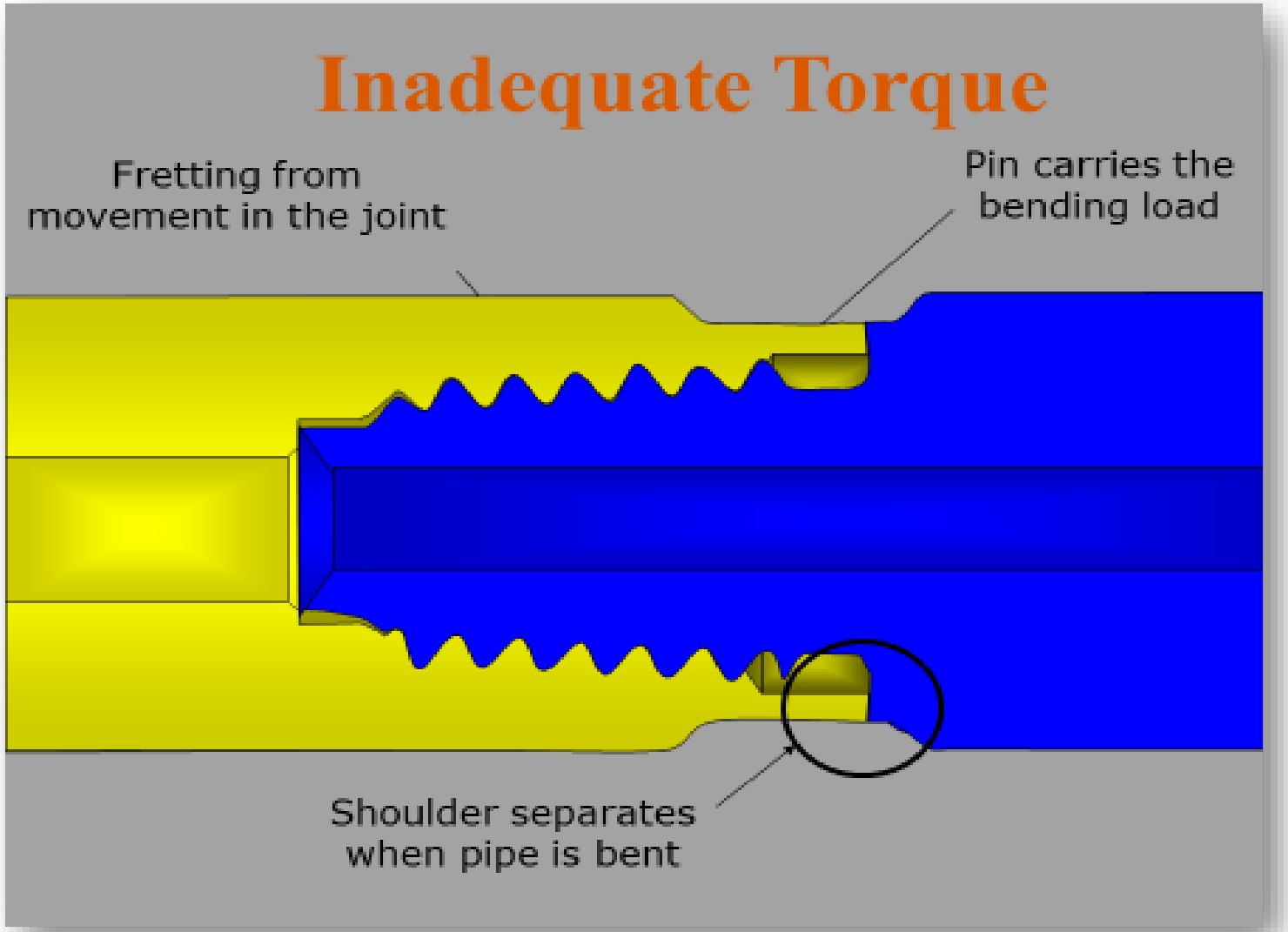
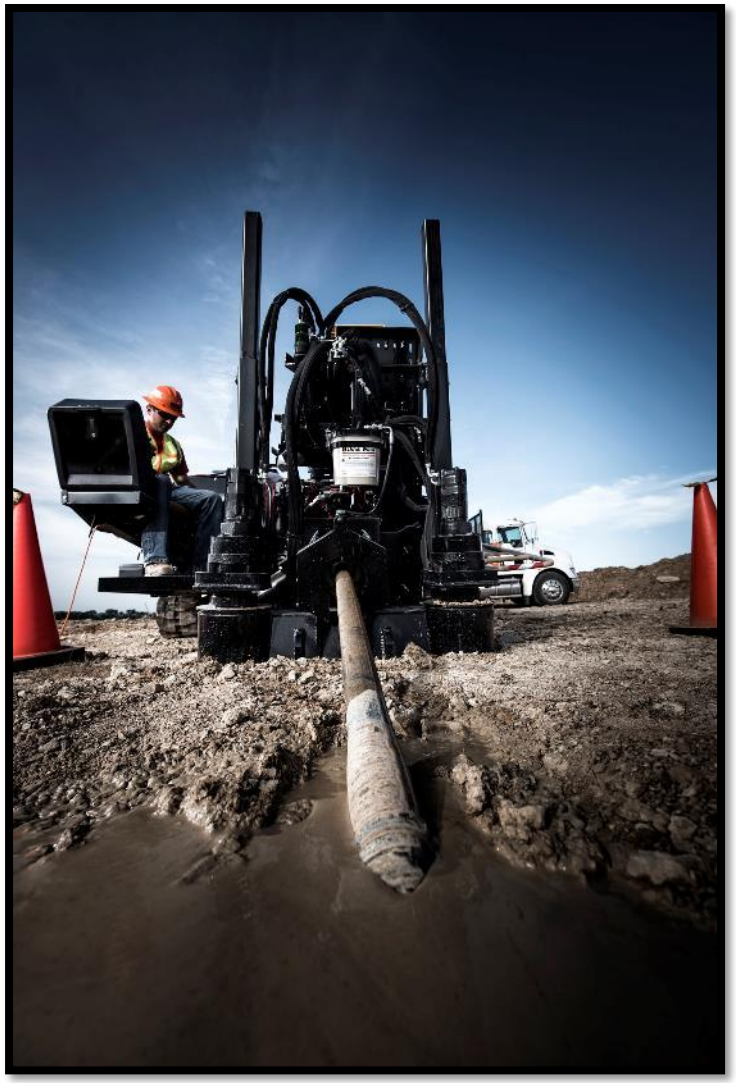


Tool Joint Torque



Drilling Fluids

- Keep temperatures down
- Help removing the cutting out of the bore path
- Lubricate the components
- Prevent excessive wear on tooling and drill pipe



Drilling Fluids

- Bentonite and Polymers increase your success and help extend the life of your drill pipe
- What happens when you don't use drilling fluids or use the right product
  - increase the risk of drill pipe breaking downhole
  - Increase the risk of DHT, drill pipe and product being stuck in the hole
  - Damage to electronics
  - Loss of Downhole horsepower
- Correct product and amounts correlate with distance of bore, size of bore hole and equipment being used to complete bore

Maintenance

- Break in of threads before first use
- Keep threads clean of debris
- Lubrication before each use, recommended thread compound
- Inspect drill pipe for any damage to threads, shoulders, scarring on pipe and any cracks or severely bent stems

Extending Drill Pipe Life

- High quality drill pipe is the first step to getting the most out of equipment
- Even the best equipment cannot withstand mistreatment
- Proper use and maintenance helps operators complete a job on time and on budget
- Bend radius, proper torque, drilling fluids and maintenance will help extend drill pipe life give you the most value out of your drill pipe


QUESTIONS?