



SAFETY MATTERS

Safety Matters is intended to promote discussions of safety issues among underground construction professionals. You should always read and understand the operator's manual before operating any equipment. For additional information, please e-mail safety@ditchwitch.com.

TOPIC:

TRACKING—HAZARDS A HORIZONTAL DIRECTIONAL DRILL TRACKER MIGHT FACE

Potential Hazards

- Struck by
- Drawn into
- Buried hazards

Precautions

- ALWAYS track drilling progress.
- Do not stand on ground over drill string unless drilling has stopped.
- Locate drill head after each joint of pipe if possible.
- Never push broken pipe.
- Never assume drill string will follow a pre-drilled path.
- If crossing a known utility, expose the line and watch crossing both directions.
- When drill head surfaces, use tracker control to disable thrust and rotation.
- Stay away from material being installed. If swivel binds, material can rotate.
- Shut off drill string thrust and rotation when breaking joints at exit pit.
- Never use a pipe wrench to break joints loose or tighten joints.

Information/Facts

- Buried utilities can vary in depth throughout their length. For example, a utility may be at 2' depth on each end of a block; but places in between may be at 4' depth.
- A broken drill string being pushed through the earth can create a new bore path.
- If an electric line is struck by a drill string, the ground can become electrified. Under certain circumstances, it can even explode when the strike occurs.
- Rotating drill heads and backreamers can "walk" an exposed drill string sideways.
- If the swivel malfunctions or there is a lack of adequate tension on the swivel, material being installed can rotate.

TALES FROM THE TRENCH

HDD vs. Minivan

A drill operator was drilling under a residential road and broke a drill pipe. After pulling back and removing the broken pipe, the operator began feeding a new string back in the hole. The operator and tracker assumed that the drill string would follow the original bore path, so they did not track the bore. Unknown to them, the drill head had veered off midway and had come up through a sidewalk and gone all the way through a minivan in a driveway. It tore the door off of the van as it exited. Fortunately, no one was injured.

Beaconless

A crew was drilling through a dense forest and broke a fluid miser drill pipe. They dug a pit at the drill head and pulled out the broken string with a backhoe. They decided to push the remaining string approximately 30' to the pit, assuming it would follow the original bore path. Because there was no beacon, they did not know that the broken pipe veered off the original path. The end packed with dirt, allowing fluid pressure to build up in the drill string. When the broken end of the drill string surfaced, the liner in the pipe was forced out of the end of the pipe like a javelin. It pierced the tracker operator in the shoulder, severely injuring him.

Wrong Tool

A tracker operator was using a large pipe wrench to break joints loose. For some reason, the machine operator rotated the pipe. This caused the pipe wrench to strike the tracker operator. He incurred a fractured jaw, had blood coming from his ears and was taken by helicopter to a local hospital. He subsequently required speech therapy.