

FAST REAM FAST BACK HDD

Overall Lighter Construction Site Presence



Attaching cable and product to the swivel in preparation for a direct pullback with the FastBack System. The cutter on the FastReam housing will enlarge the bore to pull multiple pipe

By: Melfred Borzall, Inc.

With the steady growth of the fiber sector to city and suburban households and businesses, as well as small utility infrastructure installation and restoration, the need for trenchless construction with a minimal footprint and less disruption continues to grow.

In the mid 2000s the HDD industry began to rebound from the recession of 2000. By the late 2000s major telecommunication carriers were once again investing heavily in fiber deployment, HDD installation jobs were booming and drill manufacturers began to see a customer driven demand for mid-sized and compact drills. By 2015 sales began to shift from the larger 100,000+ lb. thrust/pullback drills for pipeline work to the smaller 20,000 lb. and under thrust/pullback drills for fiber work. This change was also reflected in the tooling being sold with a clear demand for the smaller HDD tool market.

About the same time Melfred Borzall (MB) engineers saw the need for a more efficient boring system suited to limited space and time constraints. Fiber and small utilities often called for a series of

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short bores less than 100 feet and pulling multiple pipe or ducts. “Drillers needed to get more bores done in a day. We were looking to design a system that did quick, efficient direct pullbacks by simply adding the swivel and product to the cutting tool,” said Eric Melsheimer, Engineer and President of Melfred Borzall. “We designed our existing bits and blades to accommodate a specifically designed component that allowed a swivel and product to be attached to the cutting device immediately after the pilot bore, so within minutes of completing the pilot bore drillers were pulling back utility lines without removing the housing or cutting head.”

Once in the field, the FastBack® was an immediate success, however the need

for larger bores in congested urban areas was still a concern for contractor but the constraints of limited space and small receiving pits remained. “A small receiving pit means less landscape or pavement being removed and replaced,” Melsheimer said. “On some jobs there isn’t the option for a pit large enough to remove the drill head and attach a backreamer. We decided to see if we could take the cutting blades from our best reamer and adapt them to a housing to give it reaming capabilities.”

Using the same concept as the FastBack® for a direct pullback after the pilot bore, the transmitter housing was designed so cutters could be attached to both the front and/or back of the housing. The blades could also be set up in incremental sizes to enlarge the pilot bore

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in a two-step process up to 12 inches and adapt it to different soil types.

With the FastReam/FastBack System® (FR/FB) back out in the field together, drillers were finding the system to be extremely versatile. Not only was there a noticeable savings in time, but also fewer environmental disturbances and restoration costs, and an overall lighter construction presence not having to excavate larger pits and haul in heavy equipment and tools.

Dana Villiere from HDD Parts Plus of the Rockies, Denver, CO is on the road about ten hours a day making deliveries and visiting job sites. Currently he has about 30 customers using the FR/FB System® and Villiere has seen the system in a variety of situations.

“They’re a real efficient tool,” said Villiere. “I have customers who use them for different types of jobs – some who are doing the smaller utility installation and multiple bores. Others use them on larger diameter and longer bores with the same benefit of the direct pullback.”

Recently he had a customer doing a job where a short part of the bore went under several previously installed utility lines. The FR/FB System® was used because of the direct pullback feature.

Troy Tharp, owner of Hardcore Drilling, Inc. in Denver, CO was contracted by Xcel Energy to put in a six-inch Bore-Gard conduit and run electrical lines to a substation in Denver. The job consisted of multiple bores totaling 12,000 feet. Boring from the road they had to consider traffic and limited space conditions. One 560-foot bore crossed under several utilities including sewer, gas, storm drain, fiber and phone.



An example of the FastBack System boring close to existing utilities as well as in tight, closed-in conditions. In this instance it was a fiber installation next to a sewer main and a fence. The driller was able to pull his utilities without removing any structures or disrupting any existing utilities

After setting up for the pilot bore and subsequent direct pullback, Thorp’s crew located each utility and dug a small pit at each one so they could have a visual to steer through during the pilot bore or without do any damage when pulling back. Using a Ditch Witch JT2720 they did the pilot bore, then set up the housing with 8 and 10-inch cutters on the housing for the direct pullback.

“Being able to attach the blades and do the direct pullback was an advantage,” Thorp said. “It’s quick and versatile. We were able to get in, get the job done and get back out with very little disruption.”

Thorp uses FR/FB System® to do a few small, utility and single phase electrical or cable replacement bores, but typically does more of the larger diameter, longer bores of several hundred feet or more.

“The major idea behind the FR/FB System® is a method for quickly installing

service lines to homes and businesses,” says Melsheimer. “Our design concept is for a tool that addresses all of the contractor’s requirements, so we continue to refine for different ground conditions and different drill sizes. We listen to the feedback and try to improve according to what the need is.”

ABOUT MELFRED BORZALL INC.



Melfred Borzall Inc. has been designing,

developing and manufacturing directional drilling tools producing real results for our customers for over 70 years. We take a personal approach to service and believes customer service and product reliability take priority over cutting corners to cut costs. We guarantee our work because the work we do is right.