

THE ROCK EYE STEERABLE AIR HAMMER SYSTEM FROM STRAIGHTLINE

A REVOLUTION IN ROCK DRILLING

Rock standing in your way of profits? As the old saying goes, "don't bring a knife to a gunfight." Forget finesse, our Air Hammer System will pound its way through your toughest conditions at rates in excess of 100' per hour, at a very low cost per drilled foot with little or no cleanup required. That's right, a modest investment that yields high productivity and leaves little signs that you have ever been there.

TRY THE ROCK EYE AIR HAMMER SYSTEM BEFORE YOU BUY!

For more information visit straightlinehdd.com/airhammer

ROCK EYE SYSTEM SPECIFICATIONS

	AH4.0 ROCK EYE	AH5.0 ROCK EYE	AH6.0 ROCK EYE
HAMMER BODY DIAMETER	3.625 Inch	4.600 Inch	5.500 Inch
PISTON WEIGHT	20 Pounds	30 Pounds	43 Pounds
STANDARD BIT	4.750 Inch	5.750 Inch	7.000 Inch
OPTIONAL BIT	5.125 Inch	6.000 Inch	7.500 Inch
MINIMUM RECOMMENDED COMPRESSOR SUPPLY†	400-cfm/200-psi	700-cfm/300-psi	900-cfm/350-psi
RECOMMENDED DRILL PIPE TOOL JOINT DIAMETERS	maximum 3.25 Inch	maximum 4.375 Inch	maximum 6.00 Inch
MAXIMUM RECOMMENDED TOOL JOINT DIAMETER	3.250 Inch	4.125 Inch	5.750 Inch
TYPICAL DRILL RIG THRUST/PULL	16,000lbs. - 40,000lbs.	30,000lbs. - 100,000lbs.	100,000 and larger

† Call for more discussion on compressor specifications - air compressor is not supplied with the AH system.

AIR HAMMER LOANER PROGRAM

NEVER BE DOWN ON THE JOB FOR MORE THAN 24 HOURS!

HAMMER DOWN? StraightLine hammer owners will be back at work the next day with our loaner program. StraightLine will send you a loaner hammer for the cost of the freight.

You ship us your hammer, we do a complete evaluation and will respond within 5 business days with a repair quote. Stay at work, let StraightLine's expertise work for you.

This service is no cost to StraightLine hammer owners.

STRAIGHTLINE
PROFESSIONAL DRILLING SOLUTIONS

FINCO, INC. STRAIGHTLINE WORLDWIDE HEADQUARTERS HUTCHINSON, KS 67501 U.S.A.

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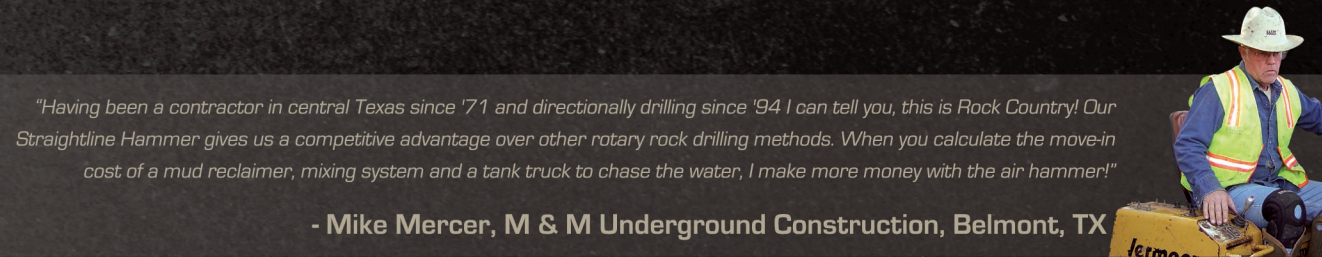
TRY IT ON THE JOB BEFORE
YOU BUY!

Call 800.654.3484 to inquire about our demo program



TURN YOUR RIG INTO A ROCK CRUSHING PROFIT MACHINE

StraightLine's Air Hammer Systems are available in 4.0", 5.0" and 6.0" models. Match the system to your drill rig and then put the power of the industry's hardest hitting hammers to work for you – delivering amazing productivity rates - in excess of 100' per hour.



"Having been a contractor in central Texas since '71 and directionally drilling since '94 I can tell you, this is Rock Country! Our Straightline Hammer gives us a competitive advantage over other rotary rock drilling methods. When you calculate the move-in cost of a mud reclaimer, mixing system and a tank truck to chase the water, I make more money with the air hammer!"

- Mike Mercer, M & M Underground Construction, Belmont, TX

UNMATCHED RETURN ON INVESTMENT, HERE'S WHY:

TURN ANY RIG INTO A ROCK DRILL

With our system a simple flip of the lever let's you go from drilling dirt to drilling rock.

POWERFUL HAMMER YIELDS HIGH PRODUCTION RATES

"The StraightLine Air Hammer hits really, really hard compared to our previous system... we are extremely pleased...we've run hammers for 6-years and have never had a hammer perform like this... my operators convinced me to trade in our previous system on a second StraightLine Hammer, it's that much better." Glenn Shick Jr., Pro Shot Directional Drilling, Oak Ridge PA.

STEERABLE

"We were recently handed a very challenging bore in Atlanta, GA that was just over 300' in length. It required 4' of cover, included 20' of elevation change between the entry and exit points, had a sewer main located 80' in front of the entrance point that was 9' deep and required the product to be placed 3' below the pipe. To add to the complexity, there was an existing fiber cable that had to be paralleled throughout the entire bore path. Making matters even worse, the majority of the bore was in solid rock. To my amazement our StraightLine Air Hammer System handled every challenge with ease and we achieved perfect placement in just under 6-hours." Jack Freeman, Southern Diversified Technology, Brookhaven MS.

STRAIGHTLINE WEAR GUARANTEE

StraightLine has taken durability to a whole new level, our bent sub and transmitter housings are regularly seeing 10x the service life over those of our competitors components, the result of this is much lower cost per foot of operation. We have grown so confident of this performance that we are now providing a 6-month replacement guarantee, not pro-rated, on the bent sub and transmitter housing outer tube if they fail from wear.

SO VERSATILE IT STEERS IN ROCK AND SOIL

Our Air Hammer System has proven to be extremely successful in a wide variety of ground conditions, easily negotiating solid formations stitched together with long stretches of soil.

MINIMAL RIG WEAR AND TEAR

Unlike rotary cutting tools, air hammers require very little torque and minimal thrust to achieve maximum productivity.

ENVIRONMENTALLY FRIENDLY Unlike many drilling methods that require a significant amount of fluid, our Air Hammer Systems typically use between .25 and 1.5-gallons of water per foot, resulting in less environmental impact and dramatically cleaner job-sites.

FOR MORE INFORMATION

800.654.3484 | STRAIGHTLINEHDD.COM/AIRHAMMER

GOODLEY, TEXAS

TEXAS CONTRACTOR PUMPCO NAILS TOUGH BORE PATH WITH MINIMAL ENVIRONMENTAL IMPACT

Equipment: Vermeer D100x120SII drill, StraightLine 5" ROCK EYE Air Hammer System and an Ingersoll Rand 1100-CFM/350-PSI air compressor.

Project Scope and Requirements: To install 640' of steel pipeline while maintaining a very precise bore profile and minimize the environmental risk to the Railroad bed and to the substructure of Texas State Highway 171.

Obstacles: 1) 35' of elevation changes from the entrance to the exit pit, 2) maintain precise bore path as defined by Universal Inesco, the projects design engineering firm, 3) eliminate track outs and potential subsurface damage under Santa Fe railroad tracks and Texas State Highway 171.

Ground Conditions: The challenge was further compounded by ever changing sub surface conditions, which alternated between unconsolidated soil and rock to solid shale and limestone formations.

Bore Path: The bore began 430 feet east of the railroad tracks, at an elevation 35 feet higher than the final exit pit, located just over 200 feet west of Highway 171. The sloping terrain along the bore path also included a ditch on both sides of the railroad track and a steep bank on the west side of the highway nearest the exit pit.

Accuracy: Throughout the course of the bore the air hammer's steerability was precise, keeping the bore path within less than 6-inches of the bore plan over the entire length of the bore, which made easy work out of installing the 12" steel pipe.

The Outcome: The 640-foot pilot bore was successfully completed in 16-hours. Impressively, only 800 total gallons of fluid were used to complete the pilot bore. The nominal use of water demonstrated the air hammer's unique ability to produce and maintain a pilot hole while consuming very little fluid thereby eliminating the risks of sub-base damage.

Inspector Observations: Based on the first day's performance, the StraightLine ROCK EYE Air Hammer System proved its ability to pound through difficult rock and accurately navigate extreme elevation changes all with a fluid consumption of just over 1-gpm per foot. Both the performance of the Hammer System and the extremely low consumption of drilling fluids exceeded the expectations of the DOT and the railroad inspectors. The concern of subsurface damage was put to rest. When asked to comment on the nominal amount of fluids required, a Texas DOT inspector summed it up this way.

"You knew exactly what was happening during the bore by the chips being blown out of the bore hole."

"On a traditional horizontal crossing, using lots of drilling fluid, you don't always know what's happening until you are done. Problems with this method often show up weeks or even months later, when the surface structure caves in because of the void created by excessive amounts of drilling fluid. The use of the StraightLine ROCK EYE Air Hammer eliminated this concern."

"I complete at least one air hammer bore a week. Our success rate for installing on grade sewer lines in rock has been 100% since we started using the StraightLine Air Hammer."

- Jeromy Dutra, Gastony Directional Drilling, Fort Smith, AR



When **StraightLine** made the decision to produce a steerable rock drilling solution, we began by interviewing dozens of contractors who make their living in the rock. After careful examination, it became evident that the most promising technology for efficiently and economically making pilot holes in hard formations was an air hammer. Once we determined that the air hammer technology was the best solution, we then spent hundreds of hours in the field working with contractors who had experience with hammers in their HDD operations. We took their suggestions, incorporated them into our prototypes and then went back to these same contractors for field testing and, more importantly, their feedback. This development process produced significant improvements which were incorporated into our final production units. The contractors input contributed to better steering, faster penetration rates, improved operator interface and increased durability.

Since our Air Hammer Systems were made available to the market in June 2008, we have been piling up one success story after another. Our customers have achieved amazing accomplishments including on-grade sewer bores, easily navigated 35' of elevation change in a 640' bore, utilized a small drill to complete solid rock road crossings and tackled extremely hard granite. Not a week goes by without the report of another amazing jobsite story. Each success further expands the diversity of projects that this system has conquered.

If hard formations are standing in the way of profits and you are ready to write your own success story, we invite you to contact us to put our Air Hammer System to work for you today.

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