

HDD

PRODUCTS CATALOG

StraightLine: A Pioneering Force in HDD

From the moment Horizontal Directional Drilling burst onto the utility installation scene, StraightLine was there. Our DirectLine horizontal directional drill, launched in 1989, transformed the promise of HDD technology into the mainstream and cemented our place as a pioneering force in the HDD industry.

Building a HDD Powerhouse

Over the years, StraightLine has reinvented itself far beyond the drill. From pilot bores to back reaming, steerable air hammers for the hardest rock to mud mixers—and everything in between—StraightLine has the tools and support equipment you need to run a more profitable drilling operation.

Our expanding product offering is directly tied to our philosophy of listening and learning from the people who are earning a living using HDD. From our field techs to engineering staff and manufacturing managers, we recognize that the best ideas come from the field.

Design and Manufacturing Efficiency

Successfully turning customer needs into a real product takes design experience. But making a product that performs at a high level and is cost effective is all about efficiency. That's where StraightLine stands alone.

Our state-of-the-art 70,000 square foot manufacturing and fabrication facility is 100% dedicated to the design and manufacture of HDD tools and employs the latest machining and manufacturing technologies. Efficient manufacturing capabilities, run by a management staff with over 150 combined years of manufacturing experience, means most of our parts are in-stock and ready for immediate delivery—limiting profit-draining downtime.

Our Success, Defined by Your Success

Entering into our third decade in HDD, we've learned a thing or two about what works and what doesn't. Experience has also taught us something that many companies just don't seem to get:

Our success is directly tied to the success of our customers.

So the next time you are looking for HDD tooling, consider StraightLine first. Not only do we have thousands of tools designed to boost productivity and reduce operational costs, you also get the added benefit of a company rich in field experience and invested in helping you build a profitable drilling operation.



STRAIGHTLINE® 2011 HDD CATALOG

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Ditch Witch® Compatible Sub Savers & Drive Chucks

StraightLine® produces Ditch Witch® compatible Sub Savers in 1 and 2-piece designs. Sub Savers are the foundation of the down hole operation. These components transfer the torque, thrust and pullback as well as participate in every makeup and breakout, day in and day out. Quality components will live through many thousands of cycles, eliminating downtime and improving profits. Using the same commitment to building ultra-tough, long-lasting original equipment (OEM) tools, StraightLine® precision machines each Drive Chuck and Sub Saver to exacting standards using 4145HT material.



\$199

JT520 Old Style
#1703-301-01



\$209

JT520 New Style
#1703-301-02



\$239

JT920 - JT920L
#1703-302-01



\$249

JT922
#1703-317-01



\$419

JT1220M1
#1703-314-01



\$259

JT1720 - JT1720M1
#1703-303-01

**3 EASY
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call 800.654.3484 for immediate sales assistance...
visit our *online store OR contact your local dealer.

*www.straightlinehdd.com



\$429

JT2020M1
#1703-311-01



\$349

JT2720
#1703-304-01



\$595

JT4020
#1703-305-01

NEW! Ditch Witch® Compatible JT922/JT1220M1/JT2020M1 Sub Savers

StraightLine® precision machines high-quality sub-savers for Ditch Witch® rigs from 4145HT material. Engineered to exacting standards, our Ditch Witch® compatible sub savers are available for the JT520, JT920, JT921, JT922, JT1220M1, JT1720/M1, JT2020M1, JT2720 & JT4020.

For JT2720M1, JT 2720AT, JT3020M1, JT3020AT, JT4020M1 & JT4020AT see next page.



Ditch Witch® Compatible 2-Piece Drive Chucks and Sub Savers

StraightLine's introduction of our **NEW** 2-piece Drive Chuck/Sub Saver design is another industry first. Ditch Witch® operators can now take advantage of the huge cost savings available by deploying a drive chuck/sub-saver combination. Designed to immediately lower your operating costs, our two-piece design is available for Ditch Witch® JT2720M1, JT2720AT, JT3020M1, JT3020AT, JT4020M1 and JT4020AT.

When the threads on the sub-saver require replacement, simply install a new sub-saver—at less than 1/3 the cost of the original 1-piece OEM design—putting thousands of dollars per year back onto your bottom line.

The Drive Chuck/Sub Saver Combination generates additional savings when switching between dirt pipe and AT pipe. Simply change the sub saver, rather than the complete assembly, saving time and money.



\$595

**2720M1 2-Piece
(Small Flange)**
#1703-315-01



\$675

**2720M1 2-Piece
(Large Flange)**
3020M1 & 3020AT 2-Piece
#1703-318-01



\$695

3020M1 & 3020AT 2-Piece
#1703-316-01



\$695

JT4020M1 2-Piece
#1703-319-01



\$795

JT4020AT 2-Piece
#1703-320-01



\$295

JT2720M1 2-Piece
#1703-315-02



\$365

JT2720AT 2-Piece
#1703-315-03



\$275

JT3020M1 2-Piece
#1703-316-02



\$375

JT3020AT 2-Piece
#1703-316-03



\$380

JT4020M1 2-Piece
#1703-319-02



\$395

JT4020AT 2-Piece
#1703-320-02

Ditch Witch® Compatible Crossover Rods

As directional drill manufacturers continue to put more horsepower into the rotary drives, transition rods are continually being subjected to higher forces. That's why durability is so important. Using the same commitment to building ultra-tough, long-lasting original equipment (OEM) tools, StraightLine® precision machines each part to exacting standards using 4145HT.

ADAPTS VERMEER® DOWN HOLE TOOLS TO DITCH WITCH® DRILLS - Ditch Witch® compatible starter rods provide a simple crossover from Ditch Witch® drill pipe to Vermeer® downhole tools. These starter rods are available for the JT520, JT920, JT1720, JT2020M1, JT2720M1 and the JT4020 directional drills. The starter rod provides a non-torqued connection between the starter rod and the downhole tool for safe and convenient tool installation and removal.

Ditch Witch® compatible starter rods provide a simple crossover from Ditch Witch® drill pipe to Vermeer® downhole tools. Available for JT520, JT920, JT1720, JT2020M1, JT2720, JT2720M1 and the JT4020 directional drills.



Ditch Witch® Compatible Transition Rods

StraightLine® manufactured transition rods, by design, serve two purposes: 1) provides a non-torqued connection between the transition rod and the downhole tool for safe and convenient tool installation and removal; and 2) with its length and reduced mid-body diameter these transition rods reduce the stress loads that would otherwise be transmitted directly to the drill pipe. Ditch Witch® compatible transition rods are available for all drills from the JT520 to the JT4020M1 directional drills.

Ditch Witch® compatible transition rods are available for all drills from the JT520 to the JT4020M1 directional drills.



\$349

JT520 Pin x EZ Connect II
#1704-310-01



\$399

JT920/JT920L/JT921
Pin x EZ Connect II
#1704-314-01



\$449

JT1220M1 Pin x EZ Connect III
#1704-319-01



\$449

JT1720/JT1720M1 Pin x EZ Connect II
#1704-312-01



\$499

JT2020M1 Pin x EZ Connect II
#1704-318-01



\$499

JT2720 Pin x EZ Connect II
#1704-313-01

**SAME
DAY
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All OEM products ordered by 3pm CST will be shipped the same day OR it ships for *FREE!

*Ground Shipping on all free shipments



\$549

JT2720M1
Pin x 2" EZ Connect II
#1704-332-01



\$549

JT2720M1
Pin x 2.25" EZ Connect II
#1704-325-01



\$549

JT2720M1 & JT3020M1
Pin x 2.25" EZ Connect III
#1704-323-01



\$569

JT2720AT & JT3020AT
Pin x 2.25" EZ Connect III
#1704-324-01



\$549

JT3020M1 x JT4020M1 Pin
#1704-329-01



\$569

JT3020AT x JT4020M1 Pin
#1704-328-01



\$769

JT4020
Pin x 2.63" EZ Connect II
#1704-321-01



\$649

JT4020M1
Pin x 2.63" EZ Connect III
#1704-322-01



\$549

JT4020M1 Pin x JT4020M1 Pin
#1704-327-01



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Ditch Witch® Compatible Transmitter Housings

Our Ditch Witch® compatible housings are available in 2", 2 3/4", 3" & 3 1/4" OD to match to your drill and drilling conditions. All housings are designed to accept Subsite® Beacons. StraightLine's unique 3-piece housing assembly consists of: housing body, nose and tail piece—which delivers a significant gain in service life over OEM and other aftermarket housings. Available for all drills from the JT520 to the JT4020M1.



\$895

(3-Bolt) Transmitter Housing

JT520
#1201-101-06



\$859

2-3/4 (5-Bolt) Transmitter Housing

JT920/JT920L/JT921/
JT922/JT1220M1
#1201-101-01



\$895

3" (5-Bolt) Transmitter Housing

JT1720/JT1720M1/
JT2020M1/JT2720/
JT2720M1/JT3020M1
#1201-101-10



\$1050

3-1/4" (6-Bolt) Transmitter Housing

JT2720/JT2720M1/
JT2720AT/JT3020M1/
JT4020/JT4020AT/
JT4020M1
#1201-101-07



\$205

2 3/8" Reg Pin x 1720/2720 Pin
EZ Connect II Box
PN# - AD237REGP200EZ2B



\$199

2 3/8" Reg Pin x 2720 Pin
PN# - AD237REGb2720P

EZ Connect & Direct Connect Tail Pieces Available

For the tail piece that fits your specific needs CALL TODAY!



\$45

Nose Piece
Fits 2" Housing
1201-102-07



\$45

Nose Piece
Fits 2 3/4" Housing
1201-102-02



\$45

Nose Piece
Fits 3" Housing
1201-102-04



\$60

Nose Piece
Fits 3 1/4" Housing
1201-102-08

- Precision machined from 4145HT material
- Replaceable tail piece
- Through hardened nose piece is available with a variety of nozzle sizes. The nose piece is 1/8" larger than the housing body which significantly reduces the wear on the housing.
- Mud passage clean out ports
- Accepts Ditch Witch® compatible bits (bolt pattern varies by housing size)
- Built In Check Valve





Ditch Witch® Compatible Standard Bits

Standard in name only, this bit combines a value price with performance and durability to cut through ground conditions such as alluvium, loam, sand and clay.

- Tapered leading edge reduces drag and enhances steering (a big advantage when operating small drills)
- Constructed from 4140 steel plate and heat-treated for long service life
- Field-proven durability delivers excellent service at a low cost per foot of operation

Standard Bits - 5 Bolt Pattern

| | | |
|-------------|---------------------|------|
| 1301-135-01 | Standard Bit 3" | \$69 |
| 1301-135-02 | Standard Bit 3-1/2" | \$79 |
| 1301-135-03 | Standard Bit 4" | \$89 |
| 1301-135-04 | Standard Bit 4-1/2" | \$95 |
| 1301-135-05 | Standard Bit 5" | \$99 |

Standard Bits - 6 Bolt Pattern

| | | |
|-------------|-----------------|-------|
| 1301-147-01 | Standard Bit 5" | \$129 |
| 1301-147-03 | Standard Bit 6" | \$169 |



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call 800.654.3484 for immediate sales assistance...
visit our *online store OR contact your local dealer.

*www.straightlinehdd.com

Ditch Witch® Compatible Hardfaced Bits

Our Hardfaced Bit features carbide impregnated hardfacing which is highly resistant to abrasion common to sands, gravels and small aggregate conditions. Long life and low cost make this bit an outstanding choice for contractors encountering abrasive conditions.

- Extensive use of carbide impregnated hardsurfacing protects the entire perimeter of the bit
- Constructed from 4140 steel plate and heat-treated for long service life
- Field-proven durability delivers excellent service at a low cost per foot of operation

Hardfaced Bits - 5 Bolt Pattern

| | | |
|-------------|----------------------|-------|
| 1301-134-01 | Hardfaced Bit 3" | \$99 |
| 1301-134-02 | Hardfaced Bit 3-1/2" | \$111 |
| 1301-134-03 | Hardfaced Bit 4" | \$124 |
| 1301-134-04 | Hardfaced Bit 4-1/2" | \$136 |
| 1301-134-05 | Hardfaced Bit 5" | \$149 |

Hardfaced Bits - 6 Bolt Pattern

| | | |
|-------------|----------------------|-------|
| 1301-146-01 | Hardfaced Bit 5" | \$149 |
| 1301-146-02 | Hardfaced Bit 5-1/2" | \$169 |



Ditch Witch® Compatible Fang Bits

The tapered nose of the Fang Bit improves penetration. Better penetration translates into improved steering characteristics in tough soil conditions.

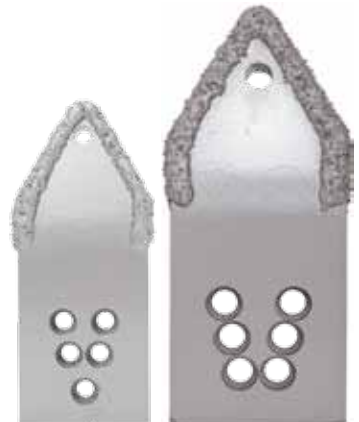
- Tapered nose geometry easily penetrates tough formations which improves steering ability
- Reduced steering surface area improves steering maneuvers in tight formations
- Durable bit body is constructed from 4140 plate and heat-treated for long service life
- Extensive use of carbide impregnated hardsurfacing protects the entire perimeter of the bit delivering long service life

Fang Bits - 5 Bolt Pattern

| | | |
|-------------|-----------------|-------|
| 1301-136-01 | Fang Bit 3" | \$129 |
| 1301-136-02 | Fang Bit 3-1/2" | \$139 |
| 1301-136-03 | Fang Bit 4" | \$149 |
| 1301-136-04 | Fang Bit 4-1/2" | \$169 |
| 1301-136-05 | Fang Bit 5" | \$189 |

Fang Bits - 6 Bolt Pattern

| | | |
|-------------|--------------------------|-------|
| 1301-142-01 | Ditch Witch® Fang Bit 5" | \$169 |
| 1301-142-03 | Ditch Witch® Fang Bit 6" | \$199 |



Ditch Witch® Compatible Chevron Bits

The Chevron bit makes easy work out of a variety of tough soil conditions.

- Two aggressive, full-faced, tungsten carbide tips chew through tough soils, while exhibiting exceptional service life
- Split face design, coupled with angled cutter surfaces, reduce resistance during steering making steering corrections easier to obtain
- Durable bit body is constructed from 4140 plate and heat-treated for long service life
- Extensive use of carbide impregnated hardsurfacing protects the entire perimeter of the bit body

Chevron Bits - 5 Bolt Pattern

| | | |
|-------------|--------------------|-------|
| 1301-137-01 | Chevron Bit 3-1/2" | \$195 |
| 1301-137-02 | Chevron Bit 4" | \$205 |
| 1301-137-03 | Chevron Bit 4-1/2" | \$217 |
| 1301-137-04 | Chevron Bit 5" | \$229 |

Chevron Bits - 6 Bolt Pattern

| | | |
|-------------|--------------------|-------|
| 1301-143-01 | Chevron Bit 5" | \$229 |
| 1301-143-02 | Chevron Bit 5-1/2" | \$239 |
| 1301-143-03 | Chevron Bit 6" | \$249 |



Ditch Witch® Compatible Raptor Bits

The name says it all — the aggressive carbide buttons lining the bit's perimeter, cuts, crushes and fractures a variety of tough aggregate conditions.

- Carbide inserts lining the entire perimeter of the bit deliver superior cutting, crushing and fracturing performance
- Angled bit face eliminates the tendency to “snag” rock outcroppings, which delivers a smoother cutting action
- Durable bit body is constructed from 4140 plate and heat-treated to insure long service life

Raptor Bits - 5 Bolt Pattern

| | | |
|-------------|-------------------|-------|
| 1301-138-02 | Raptor Bit 3-1/2" | \$229 |
| 1301-138-03 | Raptor Bit 4" | \$249 |
| 1301-138-04 | Raptor Bit 4-1/2" | \$259 |
| 1301-138-05 | Raptor Bit 5" | \$279 |



Ditch Witch® Raptor Bits - 6 Bolt Pattern

| | | |
|-------------|---------------|-------|
| 1301-151-01 | Raptor Bit 5" | \$269 |
| 1301-151-03 | Raptor Bit 6" | \$319 |

Ditch Witch® Compatible Thrasher Bits

Extensive use of tungsten carbide cutters makes the Thrasher bit the ideal choice for difficult soil conditions, including hardpan, caliche, shale and sandstone.

- Aggressive conical carbide cutters, precisely positioned at the optimum cutting angle, effortlessly cuts through tough soils
- Extensive use of tungsten carbide impregnated hardsurfacing protects the entire perimeter of the bit
- Constructed from 4140 plate and heat-treated for long service life

Thrasher Bits - 5 Bolt Pattern

| | | |
|-------------|---------------------|-------|
| 1301-133-00 | Thrasher Bit 3" | \$159 |
| 1301-133-01 | Thrasher Bit 3-1/2" | \$169 |
| 1301-133-02 | Thrasher Bit 4" | \$179 |
| 1301-133-03 | Thrasher Bit 4-1/2" | \$189 |
| 1301-133-04 | Thrasher Bit 5" | \$219 |

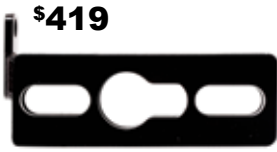
Thrasher Bits - 6 Bolt Pattern

| | | |
|-------------|---------------------|-------|
| 1301-145-01 | Thrasher Bit 5" | \$209 |
| 1301-145-02 | Thrasher Bit 5-1/2" | \$229 |
| 1301-145-03 | Thrasher Bit 6" | \$249 |



Ditch Witch® Compatible Wrenches

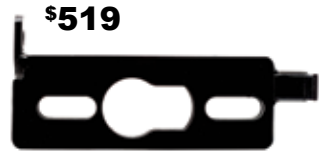
StraightLine® manufactures a complete line of direct replacement slide wrenches for all Ditch Witch® drill models from JT520 to JT4020.



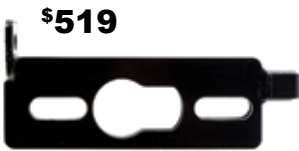
JT520
#6201-101-01



JT920/JT920L
#6201-102-01



JT1720 (Round Sensor, Horizontal)
#6201-103-01



JT1720 (Square Sensor)
#6201-103-02



JT1720 (Round Sensor, Vertical)
#6201-103-03



JT2321
#6201-104-01



JT2720
#6201-105-01



JT4020
#6201-106-01

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Ditch Witch® Compatible Rod Baskets

StraightLine® manufactures a complete line of rod baskets for all Ditch Witch® drills. Engineered to exacting standards our rod baskets are the perfect solution for an additional basket or to replace a damaged rod basket.



| Part Number | Description |
|-------------|------------------------------|
| 1901-101-01 | Holds 40 pieces (fits 920L) |
| 1901-101-02 | Holds 40 pieces (fits 1720) |
| 1901-101-03 | Holds 52 pieces (fits 2720) |
| 1901-101-04 | Holds 16 pieces (fits 4020) |
| 1901-101-05 | Holds 9 pieces (fits 4020AT) |

We are always adding to this product line, so if you don't see what you need please give us a call for a quote.



Convert your Ditch Witch® Drill

to run 1-piece forged drill pipe. StraightLine® makes it easy to convert your JT922, JT1220M1, JT2020M1 or JT3020M1 to take advantage of our field proven 1-piece forged drill pipe. This conversion will extend the life of your drill pipe and lower your operating costs. Call today to take advantage of this profit improving offer.



\$299

922 Conversion
Drive Chuck Crossover -
JT922 to 1.66" FSI stem
#1703-322-01



\$419

1220 Conversion
Drive Chuck Crossover -
JT1220 to 2.06" FSI stem
#1703-322-02



\$419

2020 Conversion
Drive Chuck Crossover -
JT2020 to 2.375" FSI stem
#1703-322-03



\$299

922 Conversion
Drive Chuck Crossover -
JT922 to 1.66" FSI stem
#1703-322-01



\$419

1220 Conversion
Drive Chuck Crossover -
JT1220 to 2.06" FSI stem
#1703-322-02



\$419

2020 Conversion
Drive Chuck Crossover -
JT2020 to 2.375" FSI stem
#1703-322-03



\$295

3020 Conversion
Drive Chuck Crossover -
JT3020 to 2.375" FSI stem
#1703-322-04

Also available with male connection.

Convert your Ditch Witch® Drill

| | | |
|-------------|--|-------|
| 1704-330-01 | Ditch Witch® Compatible Crossover Rod, 2-3/8" FS1 Pin x 2" EZ Connect II Pin | \$499 |
| 1704-330-02 | Ditch Witch® Compatible Crossover Rod, 1.90" FS1 Pin x 1.88" EZ3 Pin | \$499 |
| 1704-330-03 | Ditch Witch® Compatible Crossover Rod, 1.66" FS1 Pin x 1.63" EZ Connect II Pin | \$499 |



Breakout Wrench Kit

StraightLine's Portable Breakout Wrench Kit provides a safe and reliable method of breaking torqued joints. The unit is compact in design making it is easy to handle in and out of tight spots and with each half weighing in at just over 35-pounds the kit is easily maneuvered into position. This kit is designed for use with tool outer diameters of 2-3/8" through 5-1/4".



Portable Breakout Wrench Kit, (2-3/8" - 5-1/4")
80789





**STRAIGHTLINE'S
STATE OF THE ART
MACHINING FACILITIES ARE**

100%

DEDICATED TO THE HDD INDUSTRY

Vermeer® Compatible Drill Pipe

For the best prices on Hunting drill pipe in the industry call:

800.654.3484 or visit us on the web at www.straightlinehdd.com



| | |
|------------|--------|
| Model | D7x11 |
| Tube OD | 1.66" |
| Wall | .191W |
| Length | 6' |
| Weight | 26lbs. |
| Connection | HIWS1 |



| | |
|------------|--------|
| Model | D10x15 |
| Tube OD | 1.66" |
| Wall | .191W |
| Length | 10' |
| Weight | 38lbs. |
| Connection | HIWS1 |



| | |
|------------|------------------|
| Model | D16x20 D18x20 |
| Tube OD | 1.90" |
| Wall | .240W |
| Length | 10' |
| Weight | 55lbs. |
| Connection | HIWS1 |



| | |
|------------|--------|
| Model | D20x22 |
| Tube OD | 2.063" |
| Wall | .260W |
| Length | 10' |
| Weight | 62lbs. |
| Connection | HIWS1 |



| | |
|------------|--------|
| Model | D24x40 |
| Tube OD | 2.375" |
| Wall | .254W |
| Length | 10' |
| Weight | 73lbs. |
| Connection | HIWS1 |



| | |
|------------|---------|
| Model | D40x40 |
| Tube OD | 2.375" |
| Wall | .295W |
| Length | 15' |
| Weight | 112lbs. |
| Connection | HIWS1 |



| | |
|------------|---------|
| Model | D50x100 |
| Tube OD | 2.875" |
| Wall | .392W |
| Length | 15' |
| Weight | 180lbs. |
| Connection | HIWS1 |



| | |
|------------|---------|
| Model | D80x100 |
| Tube OD | 3.500" |
| Wall | .449W |
| Length | 15' |
| Weight | 250lbs. |
| Connection | HIWS1 |



HUNTING



| | |
|------------|--------|
| Model | D24x33 |
| Tube OD | 2.063" |
| Wall | .260W |
| Length | 10' |
| Weight | 63lbs. |
| Connection | HIWS2 |

| | |
|------------|--------|
| Model | D33x44 |
| Tube OD | 2.375" |
| Wall | .295W |
| Length | 10' |
| Weight | 81lbs. |
| Connection | HIWS2 |

| | |
|------------|---------|
| Model | D33x44 |
| Tube OD | 2.375" |
| Wall | .295W |
| Length | 15' |
| Weight | 115lbs. |
| Connection | HIWS2 |

| | |
|------------|-----------------|
| Model | D36x50 |
| Tube OD | 2.625" Flush |
| Wall | .400W |
| Length | 15' |
| Weight | 160lbs. |
| Connection | HIWS2 |



| | |
|------------|---------|
| Model | D55x100 |
| Tube OD | 2.875" |
| Wall | .440W |
| Length | 15' |
| Weight | 199lbs. |
| Connection | HIWS2 |

| | |
|------------|----------|
| Model | D100x120 |
| Tube OD | 3.500" |
| Wall | .449W |
| Length | 20' |
| Weight | 327lbs. |
| Connection | HIWS2 |





Vermeer® Compatible Rod Baskets

StraightLine® manufactures a complete line of rod baskets for all Vermeer® drills.

Engineered to exacting standards our rod baskets are the perfect solution for an additional basket or to replace a damaged rod basket.



Part Number

Description

| | |
|-------------|--|
| 1901-102-01 | Holds 44 Pieces (fits 10x15) |
| 1901-102-02 | Holds 40 Pieces (fits 16x20) |
| 1901-102-03 | Holds 20 Pieces (fits 24x40 Half Rack) |
| 1901-102-09 | Holds 50 Pieces (fits 24x40a Full Rack) |
| 1901-102-15 | Holds 50 pieces (24x40 SeriesII) |
| 1901-102-04 | Holds 40 Pieces (fits 33x44) |
| 1901-102-05 | Holds 20 Pieces (fits 33x44 Half Rack) |
| 1901-102-06 | Holds 21 2 - 7/8" or 18 3 - 1/2" Pieces (fits 50x100 - 80x100) |
| 1901-102-07 | Holds 9 pieces (fits 50x100 - 80x100 Half Rack) |
| 1901-102-11 | Holds 24 pieces (80x100 Series II) |
| 1901-102-12 | Holds 9 pieces (100x120 Half Rack) |
| 1901-102-13 | Holds 15 pieces (100x120 Full Rack) |
| 1901-102-10 | Holds 60 pieces (33x44) |
| 1901-102-14 | Holds 40 pieces (20x22) |

We are always adding to this product line, so if you don't see what you need please give us a call for a quote.

Vermeer® Compatible Drive Chucks

StraightLine® precision machines high-quality Drive Chucks & Sub-Savers for Vermeer® drills from 4145HT material. Engineered to exacting standards, our Drive Chucks and Sub Savers are available in Firestick® I, Firestick® II & the new Firestick® 650, 700 & 1000 connections for Vermeer® drills beginning with the D6x6 through the D100x120.



\$199

7x11 - 1.66" pipe
#1703-601-01



\$199

10x15 - 1.66" pipe
#1703-602-01



\$229

10x14 - 1.66" pipe
#1703-614-01



\$249

16x20 - 1.90" pipe
#1703-603-01



\$249

18x22 - 1.90" pipe
#1703-609-01



\$299

20x22 - 2.06" pipe
#1703-610-01

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*www.straightlinehdd.com



\$289

24x26 - 2.06" pipe
#1703-608-01



\$349

24x40/40x40 - 2.375" pipe
#1703-604-01



\$689

50x100 - 2.875" pipe
#1703-606-01



\$689

50x100/80x100 - 3.5" pipe
#1703-607-01

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*Ground Shipping on all free shipments

Vermeer® Compatible Sub Savers

StraightLine® manufactured Sub Savers are precision machined from 4145HT material making them incredibly durable, capable of thousands of makeups and breakouts. Available in Firestick® I, Firestick® II & the new Firestick® 650, 700 & 1000 connections for Vermeer® drills beginning with the D6x6 through the D100x120.



\$99

6x6 - 1.66" pipe
#1703-613-02



\$69

7x11 - 1.66" pipe
#1703-601-02



\$89

**7x11 Series II
1.66" pipe**
#1703-601-03



\$89

10x14 - 1.66" pipe
#1703-614-02



\$69

10x15 - 1.66" pipe
#1703-602-02



\$79

16x20 - 1.90" pipe
#1703-603-02



\$169

**16x20 Series II -
1.90" pipe**
#1703-603-03



\$99

18x22 - 1.90" pipe
#1703-609-02





\$99

20x22 - 2.06" pipe
#1703-610-02



\$169

20x22 Series II - 2.06" pipe
#1703-610-03



\$89

24X26 - 2.06" pipe
#1703-608-02



\$109

24X40/40x40 2.375" pipe
#1703-604-02



\$109

24x40a - 2.375" pipe
#1703-604-03



\$149

24X40 Series II 2.375" pipe
#1703-611-02



\$239

33x44/36x50 - 2-3/8" FSI-650
#1703-615-02



\$239

36x50 - 2-5/8" FSI-700
#1703-616-02



\$289

50x100 - 2.875" pipe
#1703-606-02



\$289

50x100/80x100 3.5" pipe
#1703-607-02



\$329

100x120 3-1/2" FSI-1000
#1703-617-02

NOW AVAILABLE, THE FULL LINE OF
FIRESTICK® II

COMPATIBLE DRILL PIPE • DRIVE CHUCKS • SUB SAVERS • STARTER RODS
WWW.STRAIGHTLINEHDD.COM • 800.654.3484



Firestick® II Compatible Drive Chucks, Sub Savers & Starter Rods

StraightLine®, your **One-Stop-Shop** for all things HDD has just strengthened our product offering by adding the full line of Firestick® II compatible products including drive chucks, sub savers, starter rods and drill pipe to our product offering. From D24x33 to the D100x120SII we have what you need ready for immediate delivery. These parts are machined to exacting specifications from 4145HT material for maximum service life.



\$329

33x44, 36x50 - 2-3/8" FSII pipe
#1703-619-01



\$970

100x120 - 3-1/2" FSII pipe
#1703-621-01



\$199

33x44, 36x50 - 2-3/8" FSII pipe
#1703-619-02



\$469

100x120 - 3-1/2" FSII pipe
#1703-621-02



\$299

24x33 2.06" FSII pipe
#1704-618-02

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Vermeer® Compatible Starter Rods

As directional drill manufacturers continue to put more horsepower into the rotary drives, starter rods are continually being subjected to higher forces. That's why durability is so important. Using the same commitment to building ultra-tough, long-lasting original equipment (OEM) tools, StraightLine® precision machines each part to exacting standards from 4145HT material.

Vermeer® compatible starter rods are available in both FS1 and FSII connections for drills from the D6x6 to the D36x50SII.



\$199

7x11 - 10x15 (1.66" pipe)
#1704-601-01



\$209

16x20 - 18x22 (1.90" pipe)
#1704-602-01



\$219

20x22 - 24x26 (2.06" pipe)
#1704-608-01



\$219

24x40 - 40x40 (2.375" pipe)
#1704-603-01



\$399

33x44 - 36x50 (2.375" pipe)
#1704-609-01



\$389

24x33 (2.06" FSII pipe)
#1704-612-01

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Vermeer® Compatible Transmitter Housings

Our Vermeer® compatible housings are available in 2 3/4", 3", 3 5/8" & 4 1/8" OD to match to your drill and drilling conditions. All housings are designed to accept 2-cell DCI transmitters. StraightLine's unique 3-piece housing assembly consists of: housing body, nose and tail piece—which delivers a significant gain in service life over OEM and other aftermarket housings. Available for all drills from the D6x6 to the D100x120.



\$639

2-3/4" Transmitter Housing
D6x6/D7x11a/D7x11SII/
D9x13/D10x14/D10x15
#1201-201-01



\$729

3" Transmitter Housing
D16x20a/D16x20SII/D18x22/
D20x22/D20x22SII/D24x26/
D24x40a/D24x40SII/D33x44/
D36x50
#1201-201-02



\$1059

3-5/8" Transmitter Housing
D36x50/D50x100a/D80x100/
D80x100SII
#1201-201-03



\$1995

4-1/8" Transmitter Housing
D50x100a/D80x100/
D80x100SII/D100x120
#1201-201-04



\$150

Vermeer® 2-3/8" FS1 Pin x
2-1/8" LP Hex Pin
PN# - AD237VP212LP



\$150

Vermeer® 2-3/8" FS1 Pin x
1-5/8" LP Hex Pin
PN# - AD237VP162LP

Quick Connect & Direct Connect Tail Pieces Available
For the tail piece that fits your specific needs CALL TODAY!



\$45

Nose Piece, 2 Holes
x .094" (fits 2-3/4")
#1201-202-02



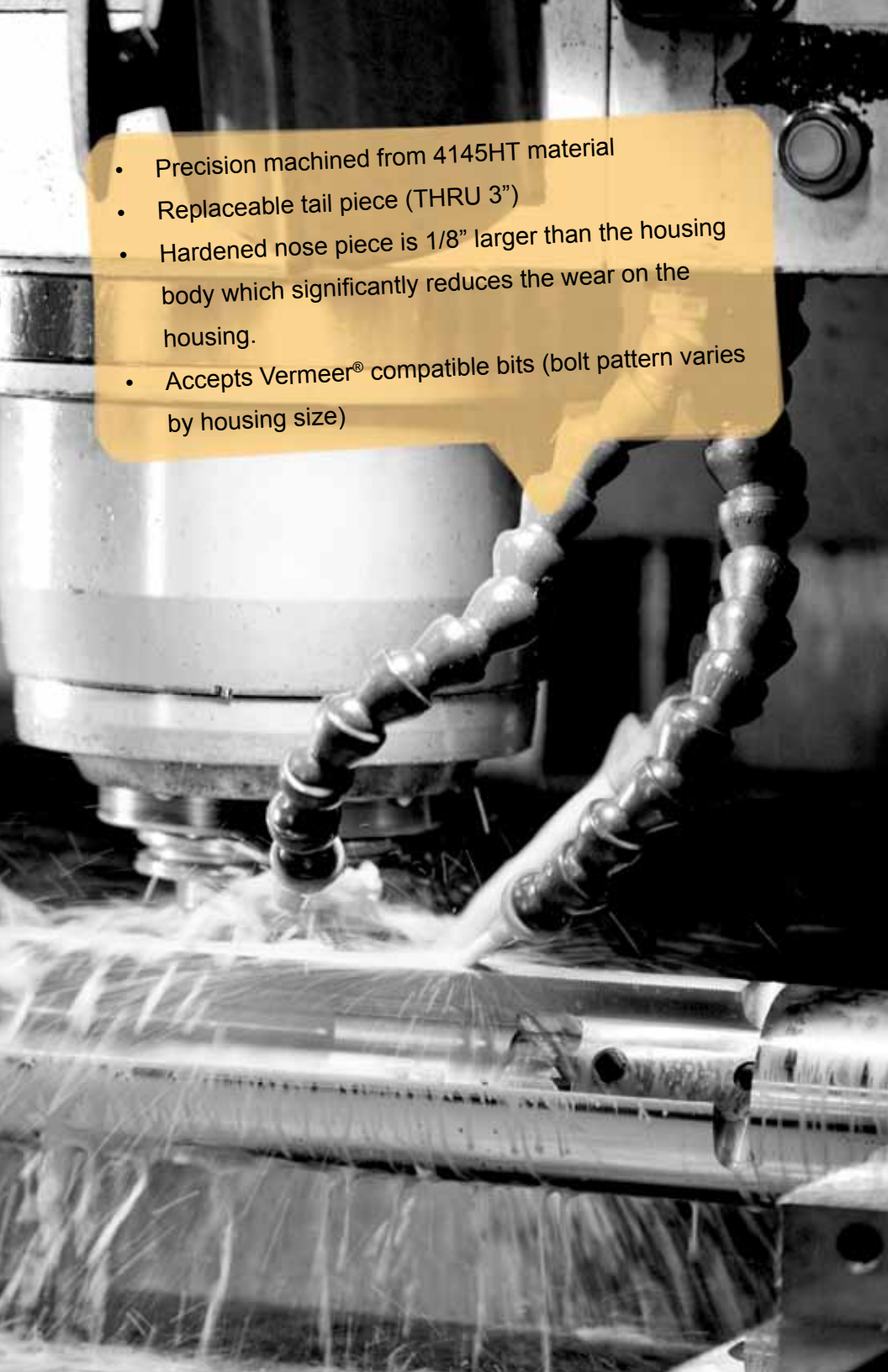
\$45

Nose Piece, 2 Holes
x .125" (fits 3")
#1201-202-04



\$60

Nose Piece, 2 Holes
x .188" (fits 3-5/8")
#1201-202-06

- 
- Precision machined from 4145HT material
 - Replaceable tail piece (THRU 3")
 - Hardened nose piece is 1/8" larger than the housing body which significantly reduces the wear on the housing.
 - Accepts Vermeer® compatible bits (bolt pattern varies by housing size)



Vermeer® Compatible Standard Bits

Standard in name only, this bit combines a value price with performance and durability to cut through ground conditions such as alluvium, loam, sand and clay.

- Tapered leading edge reduces drag and enhances steering (a big advantage when operating small drills)
- Constructed from 4140 steel plate and heat-treated for long service life
- Field-proven durability delivers excellent service at a low cost per foot of operation

Standard Bits - Small Bolt Pattern

| | | |
|-------------|---------------------|-------|
| 1301-426-01 | Standard Bit 3" | \$69 |
| 1301-426-02 | Standard Bit 3-1/2" | \$79 |
| 1301-426-03 | Standard Bit 4" | \$89 |
| 1301-426-04 | Standard Bit 4-1/2" | \$99 |
| 1301-426-05 | Standard Bit 5" | \$109 |

Standard Bits - Large Bolt Pattern

| | | |
|-------------|---------------------|-------|
| 1301-435-02 | Standard Bit 5" | \$149 |
| 1301-435-03 | Standard Bit 5-1/2" | \$159 |
| 1301-435-04 | Standard Bit 6" | \$169 |



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Vermeer® Compatible Hardfaced Bits

Our Hardfaced Bit features carbide impregnated hardfacing which is highly resistant to abrasion common to sands, gravels and small aggregate conditions. Long life and low cost make this bit an outstanding choice for contractors encountering abrasive conditions.

- Extensive use of carbide impregnated hardsurfacing protects the entire perimeter of the bit
- Constructed from 4140 steel plate and heat-treated for long service life
- Field-proven durability delivers excellent service at a low cost per foot of operation

Hardfaced Bits - Small Bolt Pattern

| | | |
|-------------|----------------------|-------|
| 1301-423-01 | Hardfaced Bit 3" | \$99 |
| 1301-423-02 | Hardfaced Bit 3-1/2" | \$109 |
| 1301-423-03 | Hardfaced Bit 4" | \$119 |
| 1301-423-04 | Hardfaced Bit 4-1/2" | \$129 |
| 1301-423-05 | Hardfaced Bit 5" | \$139 |

Hardfaced Bits - Large Bolt Pattern

| | | |
|-------------|----------------------|-------|
| 1301-434-01 | Hardfaced Bit 4-1/2" | \$159 |
| 1301-434-02 | Hardfaced Bit 5" | \$169 |
| 1301-434-03 | Hardfaced Bit 5-1/2" | \$179 |
| 1301-434-04 | Hardfaced Bit 6" | \$189 |



Vermeer® Compatible Fang Bits

The tapered nose of the Fang Bit improves penetration. Better penetration translates into improved steering characteristics in tough soil conditions.

- Tapered nose geometry easily penetrates tough formations which improves steering ability
- Reduced steering surface area improves steering maneuvers in tight formations
- Durable bit body is constructed from 4140 plate and heat-treated for long service life
- Extensive use of carbide impregnated hardsurfacing protects the entire perimeter of the bit delivering long service life

Fang Bits - Small Bolt Pattern

| | | |
|-------------|-----------------|-------|
| 1301-427-02 | Fang Bit 3-1/2" | \$139 |
| 1301-427-03 | Fang Bit 4" | \$159 |
| 1301-427-04 | Fang Bit 4-1/2" | \$169 |
| 1301-427-05 | Fang Bit 5" | \$189 |

Fang Bits - Large Bolt Pattern

| | | |
|-------------|-------------|-------|
| 1301-437-01 | Fang Bit 5" | \$169 |
| 1301-437-03 | Fang Bit 6" | \$199 |



Vermeer® Compatible Chevron Bits

The Chevron bit makes easy work out of a variety of tough soil conditions.

- Two aggressive, full-faced, tungsten carbide tips chew through tough soils, while exhibiting exceptional service life
- Split face design, coupled with angled cutter surfaces reduce the resistance during steering making steering corrections easier to obtain
- Durable bit body is constructed from 4140 plate and heat-treated for long service life
- Extensive use of carbide impregnated hardsurfacing protects the entire perimeter of the bit body

Chevron Bits - Small Bolt Pattern

| | | |
|-------------|--------------------|-------|
| 1301-429-01 | Chevron Bit 3-1/2" | \$189 |
| 1301-429-02 | Chevron Bit 4" | \$199 |
| 1301-429-03 | Chevron Bit 4-1/2" | \$209 |
| 1301-429-04 | Chevron Bit 5" | \$219 |

Chevron Bits - Large Bolt Pattern

| | | |
|-------------|--------------------|-------|
| 1301-436-01 | Chevron Bit 5" | \$219 |
| 1301-436-02 | Chevron Bit 5-1/2" | \$229 |
| 1301-436-03 | Chevron Bit 6" | \$239 |



Vermeer® Compatible Raptor Bits

The name says it all — the aggressive carbide buttons lining the bit's perimeter, cuts, crushes and fractures a variety of tough aggregate conditions.

- Carbide inserts lining the entire perimeter of the bit deliver superior cutting, crushing and fracturing performance
- Angled bit face eliminates the tendency to “snag” rock outcroppings, which delivers a smoother cutting action
- Durable bit body is constructed from 4140 plate and heat-treated to insure long service life

Raptor Bits - Small Bolt Pattern

| | | |
|-------------|-------------------|-------|
| 1301-430-02 | Raptor Bit 3-1/2" | \$229 |
| 1301-430-03 | Raptor Bit 4" | \$239 |
| 1301-430-04 | Raptor Bit 4-1/2" | \$249 |
| 1301-430-05 | Raptor Bit 5" | \$309 |

Raptor Bits - Large Bolt Pattern

| | | |
|-------------|---------------|-------|
| 1301-438-01 | Raptor Bit 5" | \$279 |
| 1301-438-03 | Raptor Bit 6" | \$309 |



Vermeer® Compatible Thrasher Bits

Extensive use of tungsten carbide cutters makes the Thrasher bit the ideal choice for difficult soil conditions, including hardpan, caliche, shale and sandstone.

- Aggressive conical carbide cutters, precisely positioned at the optimum cutting angle, effortlessly cuts through tough soils
- Extensive use of tungsten carbide impregnated hardsurfacing protects the entire perimeter of the bit
- Constructed from 4140 plate and heat-treated for long service life

Thrasher Bits - Small Bolt Pattern

| | | |
|-------------|---------------------|-------|
| 1301-425-01 | Thrasher Bit 3-1/2" | \$189 |
| 1301-425-02 | Thrasher Bit 4" | \$199 |
| 1301-425-03 | Thrasher Bit 4-1/2" | \$209 |
| 1301-425-04 | Thrasher Bit 5" | \$219 |

Thrasher Bits - Large Bolt Pattern

| | | |
|-------------|---------------------|-------|
| 1301-433-01 | Thrasher Bit 5" | \$229 |
| 1301-433-02 | Thrasher Bit 5-1/2" | \$239 |
| 1301-433-03 | Thrasher Bit 6" | \$249 |



StraightLine® Designed & Built Swivels

Since 1991, StraightLine® swivels have a proven track record of performance and reliability in the harshest underground environments. At the heart of the design is a highly engineered “angular contact” bearing system that easily handles extreme thrust and radial loads. The bearings are then “stacked” to exceed the highest load levels. To prevent soil and drilling fluid intrusion, the sealing system features one shaft seal and two lip seals with steel reinforcing rings. StraightLine® swivels set a new standard in performance and prevent costly downtime.

\$395



StraightLine® 5-Ton Pullback Swivel
Clevis x Clevis - 2-1/4”
#1501-300-05

\$895



StraightLine® 10-Ton Pullback Swivel
Clevis x Clevis - 3-3/4”
#1501-300-16

\$995



StraightLine® 15-Ton Pullback Swivel
Clevis x Clevis - 4-1/2”
#1501-300-01

\$1495



StraightLine® 20-Ton Pullback Swivel
Clevis x Clevis - 5-3/4”
#1501-300-06

\$1795



StraightLine® 30-Ton Pullback Swivel
Clevis x Clevis - 6”
#1501-300-07

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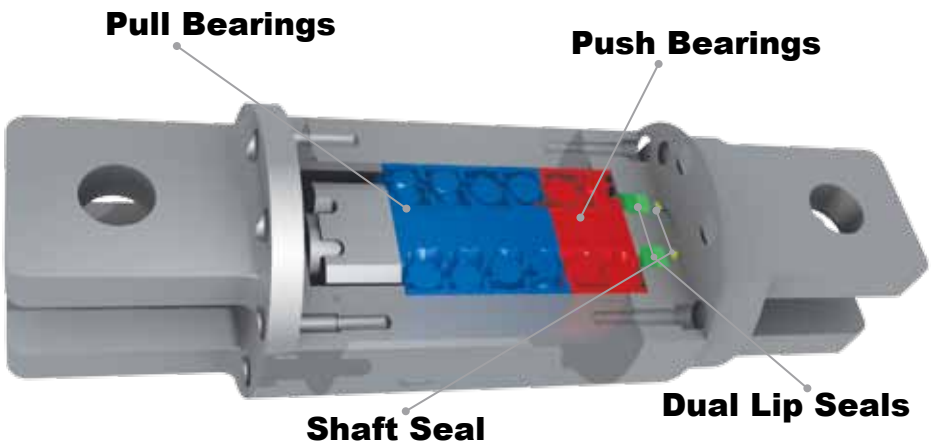
\$2795

StraightLine® 45-Ton Pullback Swivel 7-1/2"
Clevis x Clevis - #1501-300-02
2-7/8" IF Box x Clevis - #1501-300-03
3-1/2" IF Box x Clevis - #1501-300-04



\$5399

StraightLine® 60-Ton Pullback Swivel
4-1/2" IF x Clevis - 10"
#1501-300-09



**SWIVELS AVAILABLE TO 550-TON
CALL 800.654.3484**



StraightLine® Adapters

The subs you need when you need them. StraightLine® cuts over 75 different thread types common to the HDD industry, from Ditch Witch® JT520 to 6 5/8" FH. Our high quality subs are manufactured from 4145HT material for maximum strength and service life. We currently stock 470 unique crossover subs and adapters so it is likely that we have what you need, if not, you specify the threaded connections, the shoulder-to-shoulder length and we will build the sub to your specifications. Most custom adapters ship the next day, limiting profit-draining down time.

StraightLine's® Heavy-Duty Box X Box Side Load Housing

Versatile: Accepts any transmitter or beacon, 2 or 4-cell ... allows the contractor to quickly change bit styles to accommodate changing conditions, from dirt to rock.

Extends transmitter life: Two 3/8" diameter drilling fluid ports (handles higher mud flows) keep the mud flowing and the transmitter cool.

Rugged: Heavy-Duty housings are manufactured from 4145HT material.

Reliable: Transmitter lid has 2 retaining AND 2 locking bolts for added security... Fitted with a 24-position mechanical timing mechanism. Available for Digitrak® and Subsite®.

Serviceable: Drilling fluid cleanout ports provide direct access to the drilling fluid passages for easy cleanout.



| Part Number | Description | Price |
|-------------|---|--------|
| 1201-401-05 | Transmitter Housing - DCI, 2 3/4" OD, Side Load, 2.00 IF" Box IF Box x 2" IF Box | \$1199 |
| 1201-401-06 | Transmitter Housing - Subsite, 2 3/4" OD, Side Load, 2.00 " IF Box IF Box x 2" IF Box | \$1199 |
| 1201-401-01 | Transmitter Housing - DCI, 3 1/4" OD, Side Load, 2 3/8" REG Box IF Box x 2" IF Box | \$1259 |
| 1201-401-04 | Transmitter Housing - Subsite, 3 1/4" OD, Side Load, 2 3/8" REG Box x 2" IF Box | \$1259 |
| 1201-401-02 | Transmitter Housing - DCI, 3 1/2" OD, Side Load, 2 3/8" REG Box x 2 3/8" REG Box | \$1599 |
| 1201-401-03 | Transmitter Housing - Subsite, 3 1/2" OD, Side Load, 2 3/8" REG Box x 2 3/8" REG Box | \$1599 |
| 1201-401-07 | Transmitter Housing - DCI, 4 1/2" OD, Side Load, 2 - 7/8 " REG Box x 2-7/8" IF Box | \$2299 |

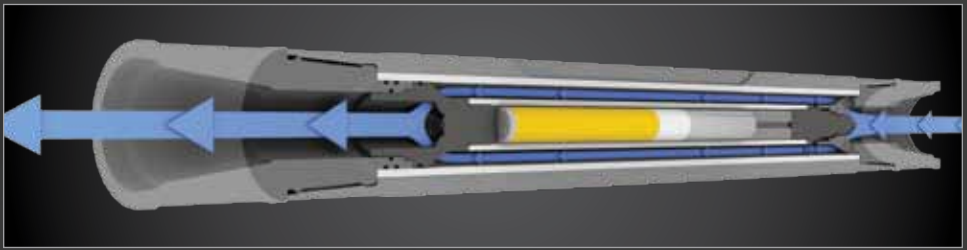


StraightLine's Ultra High Flow End Load Housing

Ultra High Flow. Our radical design substantially increases the flow characteristics over other end load housing designs. In our unique design the drilling fluid enters the housing through 6 – 1/2" holes in the end cap and out of the transmitter outer tube thru 6 – 1/2" slots. The main drilling fluid course is created between the inner sleeve that houses the transmitter and the outer assembly sleeve. This design allows drilling fluid to flow a full 360-degrees around the transmitter keeping it cool and extending transmitter life. **Versatile.** Use with any brand of drill ... any brand of locator ... mud motor ... and an endless variety of bits fitted with API connections from StraightLine®, Geological Boring®, drag bits, tri-cones and universal bit adapters. These Heavy-Duty housings are manufactured from 4145HT material and are available in 3 1/4", 3 3/4", 4 3/8" and in early 2010 will be available in 5 1/2" and 6 1/2".

| Part Number | Description | Price |
|-------------|--|--------|
| 1201-501-01 | Transmitter Housing (ASSEMBLY) - End Load - Box x Box - 3-1/4" OD - 2-3/8 REG Box x 2-3/8 REG Box | \$3995 |
| 1201-501-02 | Transmitter Housing (ASSEMBLY) - End Load - Box x Box - 3-3/4" OD - 2-7/8 Reg Box x 2-7/8 Reg Box | \$4495 |
| 1201-501-05 | Transmitter Housing (ASSEMBLY) - End Load - Box x Box - 4-3/8" OD - 2-7/8 IF Box x 2-7/8 Reg Box | \$5995 |
| 1201-501-03 | Transmitter Housing (ASSEMBLY) - End Load - Box x Box - 4-3/8" OD - 2-7/8 IF Box x 3-1/2 REG Box | \$5995 |
| 1201-501-06 | Transmitter Housing (ASSEMBLY) - End Load - Box x Box - 5- 1/2" OD - 3-1/2 IF Box x 3-1/2 REG Box | \$6295 |
| 1201-501-04 | Transmitter Housing (ASSEMBLY) - End Load - Box x Box - 6-1/2" OD - 4-1/2 IF Box x 4-1/2 REG Box | \$6695 |





Fluid Flow Full flow fluid path provides up to 60% more flow area than traditional end load housing designs. This increased fluid area delivers two significant benefits: 1) substantially reduces friction loss for improved mud motor performance and 2) the 360-degree fluid path improves transmitter cooling which in turn extends transmitter life.



Clocking Accessory Our housings feature an integrated mechanical clocking mechanism, which prevents transmitter movement and its 36 clocking positions allow precise timing of the transmitter to the steering face.



Flow Path Our End Load Housings pass the drilling fluid between the inner and outer transmitter sleeves. The inner tube is tightly sealed by a series of o-rings that seals your transmitter from abrasive drilling fluids. Think of this as an insurance policy for your expensive downhole electronics.



- Industry's best flow characteristics
- Transmitter is fully contained in a "sleeve-in-a-sleeve" system:
- Provides cooling to 360-degrees of the transmitters surface
- The "drilling fluid flow" is contained between the two sleeves NO long drilled holes to plug
- The fight to remove the transmitter from the housing is over
- The 2-sleeve system makes clocking the transmitter very simple, simply slide the assembly in the housing, rotate to the desired roll position and push into place
- Accepts 2 AND 4-cell DCI®, Spot-D-Tek®, Radiodetection® AND Subsite® 86 series beacons
- Our End Load design is extremely rigid, virtually eliminating bending stresses on the transmitter.

StraightLine® 4th Generation On Grade Transmitter Housings

StraightLine's 4th Generation drill head assembly is manufactured from 4145HT material and is available in 2.5", 2.75", 3.25" and 3.75" OD to match your drill and drilling requirements and accepts 2-cell DCI®, Spot-D-Tek® and Radiodetection® transmitters. The patented centerline cutting design of the 4th Generation drill head delivers the following benefits:

- Reduces the torque required to obtain efficient cutting
- Efficient cutting improves the performance of all machines large or small
- Center line cut design travels straight and improves on grade bores
- Unlike a duck bill design, the 4th Generation assembly doesn't lose its steer when drilling out of a steer
- Allows the operator to engage and cut an entrance hole in a manhole or basement wall. In summary, the 4th Generation drill head will travel straighter and drill faster, while placing less stress on the drill and drill pipe.



Features:

- Precision machined from 4145HT material
- Replaceable tail piece
- Through hardened nose piece is available with a variety of nozzle sizes. The nose piece is 1/8" larger than the housing body which significantly reduces the wear on the housing.

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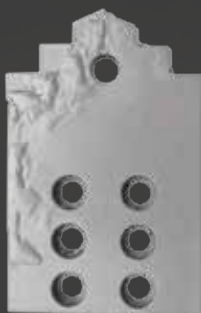
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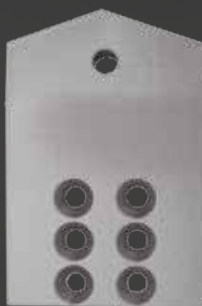
| Part Number | Description | Price |
|-------------|--------------------------------------|--------|
| 1201-301-01 | On Grade Transmitter Housing, 1-7/8" | \$925 |
| 1201-301-02 | On Grade Transmitter Housing, 2-3/4" | \$1250 |
| 1201-301-03 | On Grade Transmitter Housing, 2-7/8" | \$1350 |
| 1201-301-04 | On Grade Transmitter Housing, 3-3/4" | \$1999 |



| Part Number | Description | Price |
|-------------|--|-------|
| 236-8840-04 | Steering Shoe, 3", Fits 2-1/2" Housing | \$155 |
| 236-9025-04 | Steering Shoe, 3-1/2", Fits 2-1/2" Housing | \$165 |
| 361587 | Steering Shoe, 3", Fits 2-3/4" Housing | \$225 |
| 361314 | Steering Shoe, 3-1/2", Fits 2-3/4" Housing | \$230 |
| 236-6438-04 | Steering Shoe, 3-1/2", Fits 3-1/4" Housing | \$235 |
| 236-8508-04 | Steering Shoe, 4", Fits 3-1/4" Housing | \$245 |
| 236-5251-04 | Steering Shoe, 4", Fits 3-3/4" Housing | \$300 |
| 362215 | Steering Shoe, 4-1/2", Fits 3-3/4" Housing | \$325 |



Stepped Carbide Bit



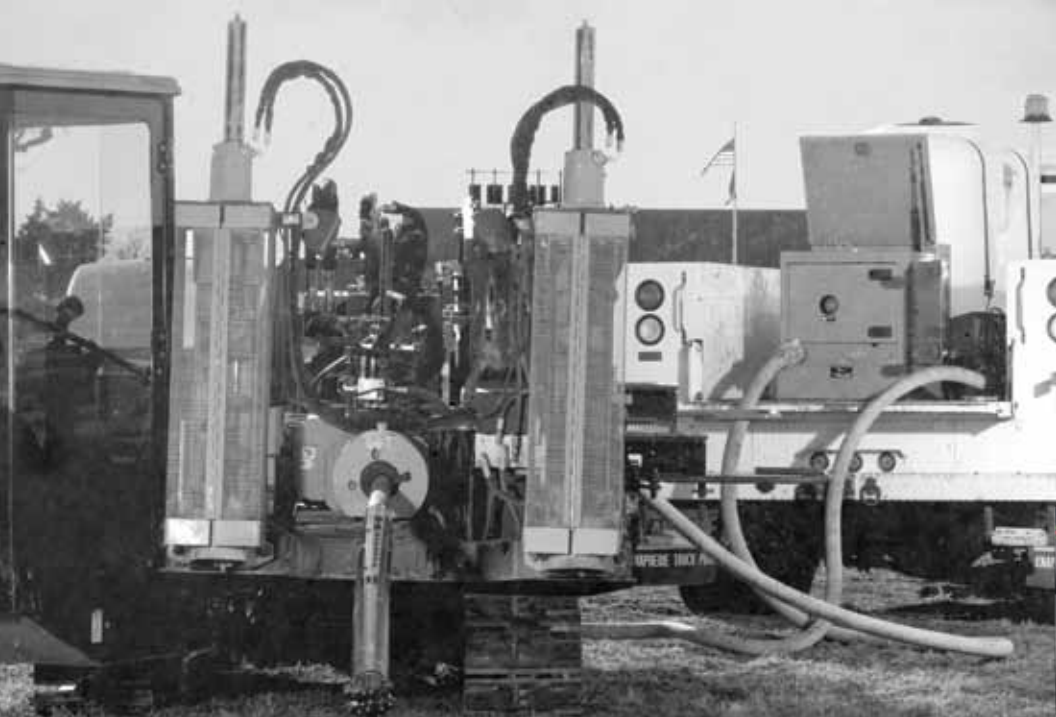
Tuff Bit



Bent Tuff Bit

RockEYE^{STRAIGHTLINE}

PRECISION STEERABLE AIR HAMMER SYSTEMS



Directed Technologies Inc. — Moshannon, PA

Equipment: CMS 6015; StraightLine® RockEye 5-inch Air Hammer System; Sullair1150XH Portable Air Compressor.

Ground conditions: Bore length was just over 1,100 feet in length. The entry area had 10 feet of concrete and debris. The bore would encounter varying rock formations from mild siltstone to school- bus-sized boulders of extremely hard sandstone.

Project: This bore was conducted to provide water to a nearby gas well. The bore path complexities included a 60 foot descent, a RH turn of over 50-degrees followed by an ascent of 180' up to the exit. The bore path crossed a Pennsylvania state highway followed by a creek. It then climbed up the mountainside that was covered by dense undergrowth, limiting travel in the slope.

The DTD experience with StraightLine at the Pennsylvania bore was a significant test for the RockEye Hammer System. According to Dan Ombalski President of Directed Technologies Drilling, the job confirmed the DTD team's belief in the hammer's ability to steer with precision in ground conditions beyond what many had thought possible. After just 60 hours of hammer time the hammer pounded its way out of the ground on target.

"The StraightLine RockEye hammer proved to be an invaluable tool for this bore. I am convinced that no other tool would have allowed this bore to be completed successfully with the site constraints."

“ The StraightLine RockEye hammer proved to be an invaluable tool for this bore. I am convinced that no other tool would have allowed this bore to be completed successfully with the site constraints. ”



RockEYE^{STRAIGHTLINE}

PRECISION STEERABLE AIR HAMMER SYSTEMS

Available in 4", 5" & 6" Sizes

WEAR GUARANTEE: StraightLine® includes a 6-month (non pro-rata) wear guarantee on the bent sub section and transmitter housing outer sleeve.



WARNING: USE OF THIS PRODUCT WILL DECREASE WORK TIME AND INCREASE PROFITS! CONTRACTORS, USE AT YOUR OWN RISK.

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.

DURABLE

StraightLine® has taken durability to a whole new level, extending component life up to 10x, driving operating costs down and profits up. It's no secret, we have simply fitted our ground engaging components with strategically placed raised carbides that provide serious gage protection. You can think of it as body armor. For example, our RockEye 5.0 sports 78 raised carbide buttons encasing the bent sub and running the entire length of the transmitter housing.

VERSATILE

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.



ENVIRONMENTALLY FRIENDLY Unlike many drilling methods that require a significant amount of fluid, our Air Hammer Systems typically use between .5 and 3-gallons of water per minute, resulting in less environmental impact and dramatically cleaner job-sites.

ALL NEW!
Wireless Control System





One Company: Fourteen Solutions

StraightLine® Reamers Produce Results In All Ground Conditions.

It's simple...successful HDD operators know their choice in tools is often the difference between making—or losing—money. But after that, things get complicated in a hurry. Alluvium, sand, sticky clays, aggregates or solid rock, matching ground conditions with a reamer design that delivers the lowest cost per drilled foot takes experience.

That's where StraightLine® offers a clear advantage. Since the launch of our first directional drill in 1989, we've learned a thing or two about drilling—what works and what doesn't. Our direct, hands-on experience can be seen in the design of each one of our four reamer categories:

- Open-Body designs—for non-compactable conditions including sands and gravels up to medium rock formations;
- Closed-Body designs—for compactable conditions including light aggregates;
- Fluted-Body designs—for compactable conditions including heavy aggregates and intermittent solid conditions;
- Hole-Opener designs—for solid formations from sandstone and coral to quartz and granite.

Every one of our reamers share the following features:

- Unique geometries which, by design, result in the lowest possible resistance and smooth cutting action;
- Precision placement of carbide teeth maximizes cutting performance and extends cutter life;
- Extensive use of replaceable fluid ports, constructed from hardened steel or carbide (depending on reamer style and shaft size), lowers torque by delivering superior fluid placement to the tool's perimeter;
- Extensive use of carbide-impregnated hardfacing on all exposed edges provide superior wear characteristics.

The Right Reamer – Available for Every Drill.

StraightLine® Reamers are available in diameters from 4- to 96-inches and are built on eight shaft sizes, ranging from 2- to 9 ½-inches (2-, 3-, 3 ½-, 4 ¼-, 5-, 6 ½-, 8-, and 9 ½-inches). Choose from 74 common HDD thread types, with new connections added as needed.

StraightLine® Custom Reamers: Use Our Experience To Enhance Your Profits.

Consistently making a profit in the fast-changing HDD industry isn't easy. That's why StraightLine® specialists can be found working alongside contractors in the field, identifying solutions and—more importantly—learning what it takes to drill profitably

It's experience, and knowing how to apply this experience to tool design, that sets StraightLine® apart. So next time you have a specific reamer design requirement or a unique challenge, put our experience to the test. Whatever the drill type, whatever the size, whatever the ground condition, our custom reamer design team can design, fabricate and deliver to your job site the reamer you need to produce money-making bores, fast!

CYCLONE

CYCLONE

OUR CYCLONE REAMER IS THE UNDISPUTED CHAMPION IN STICKY CLAY.

It's success is found in the combination of independent wing groups; steep wing angles; soil shear passages in all wing segments 10" and larger; carbide teeth and hardsurfacing on the wing edges and (replaceable) fluid ports located along the perimeter of the wings. When combined, these features minimize bit balling, maximize soil shearing, and facilitate the mixing of soils with drilling fluids. The result is a tool with extremely low torque requirements that works effortlessly in sands, loams and sticky clays.

GROUND CONDITIONS:

Sands, Loams & Sticky Clays.

SHAFT SIZE: 2¹/₂" - 6¹/₂"

SIZE RANGE: 8" - 24"

INDEPENDENT WING GROUPS

Wing groups do not overlap so sticky clays cannot build a bridge and ball up.



REPLACEABLE FLUID PORTS

Fluid ports deliver efficient mixing by placing the fluid at the tools perimeter.

HEAVY DUTY CARBIDE TEETH

Carbide teeth and hardsurfacing line the edges of the every wing.

SOIL SHEAR PASSAGES

Soil shear passages provide extra shear points to reduce clay to fines and the reduced surface area minimizes clay balling.

STEEP WING ANGLES

The steep wing angles further reduce the ability of sticky clays to cling to the wings.

RADIAL FLOW

RADIAL FLOW

EXTREMELY VERSATILE DESIGN DELIVERS EXCELLENT PERFORMANCE IN SANDS AND LOAMS TO LIGHT AGGREGATES AND SANDSTONE.

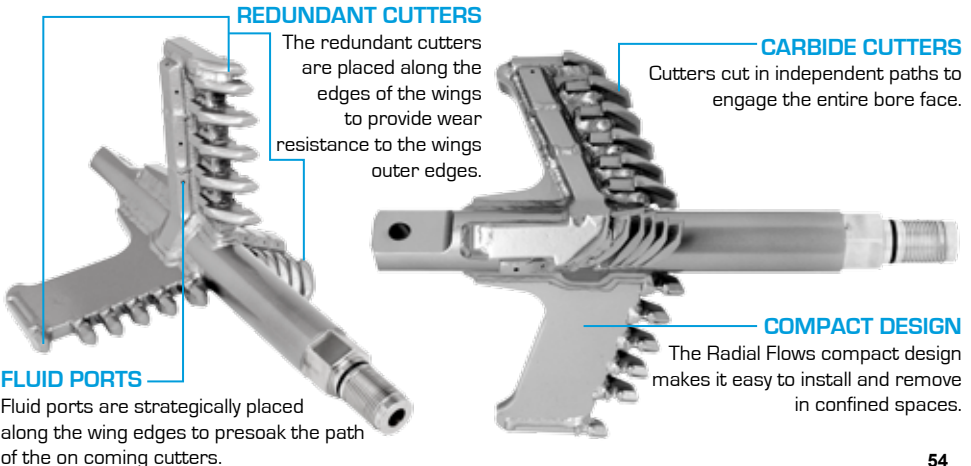
This compact reamer design combines precise carbide placement and efficient fluid delivery to effectively reduce torque on the drill string, increase productivity, and reduce wear. Key features include: carbide cutters follow independent paths; redundant carbide cutters on wing edges; fluid jets are positioned to effectively presoak the path of the oncoming cutters; compact design makes it easy to install and remove in confined spaces; low torque design makes for effective use with all sizes of drills.

GROUND CONDITIONS:

Sand, Loam, Light Aggregates & Sandstone.

SHAFT SIZE: 2" - 4 $\frac{1}{4}$ "

SIZE RANGE: 6" - 24"



FLY-CUTTER

FLY-CUTTER

AVAILABLE IN 3, 4 AND 5-WING DESIGNS, DEPENDING ON THE DIAMETER OF THE REAMER.

This open bodied reamer combines shallow wing angles for smooth cutting and excellent mixing characteristics with a centralizing ring to cause the tool to run true in the hole. Key features include: centralizing ring; large carbide cutters positioned along the length of the wings; leading edges of wings are hard surfaced; replaceable fluid ports located along the rear of each wing presoak the path of the oncoming cutters. All of this adds up to a low-mass, low-torque tool that allows more work to be accomplished with less effort.

GROUND CONDITIONS:

Loams, Light Aggregates & Shale.

SHAFT SIZE: 3" – 5"

SIZE RANGE: 12" – 48"

CENTRALIZING RING

Centralizing Ring helps the tool run true in the bore hole.

REPLACEABLE FLUID PORTS

Fluid Ports are located along the low pressure side of each wing to presoak the path of the oncoming cutter. This delivers super efficient mixing of soil and fluid.

CARBIDE TEETH

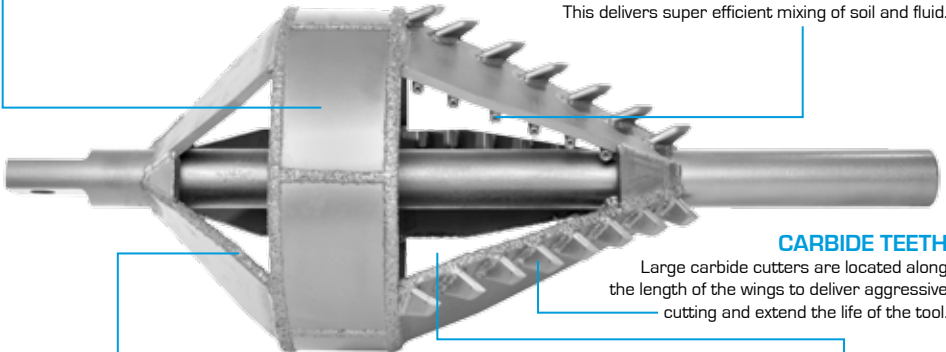
Large carbide cutters are located along the length of the wings to deliver aggressive cutting and extend the life of the tool.

HARD SURFACED WINGS

Carbide impregnated hard surfacing is placed along the leading edge of the wings to drastically extend the life of your tool.

OPEN BODY DESIGN

The Fly-Cutter's open body design makes it a low-mass/low-torque tool that allows more work to be accomplished with less effort.



STEEL TAPERED FLY-CUTTER

STEEL TAPERED FLY-CUTTER

AVAILABLE IN 3, 4 AND 5-WING DESIGNS

This open-bodied reamer features steep tapered wings with two rows of large carbide cutters and a heavy-duty centralizing ring for added toughness for use in hard ground and with larger drill rigs.

Key features include: HD centralizing ring; 2-rows of large carbide cutters positioned along the length of the wings; leading edge of wings are hard surfaced; replaceable fluid ports located all along the rear of each wing presoaks the path of the oncoming cutters for efficient mixing and a centralizing ring helps reamer run true in the bore hole; Like our standard Fly-Cutter this tool delivers smooth cutting along with excellent mixing characteristics.

GROUND CONDITIONS:

Loams, Aggregates, Shale & Limestone.

SHAFT SIZE: 3" – 6½"

SIZE RANGE: 12" – 54"

CENTRALIZING RING

Centralizing Ring helps the tool run true in the bore hole.

REPLACEABLE FLUID PORTS

Fluid Ports are located along the low pressure side of each wing to presoak the path of the oncoming cutter. This delivers super efficient mixing of soil and fluid.

CARBIDE TEETH

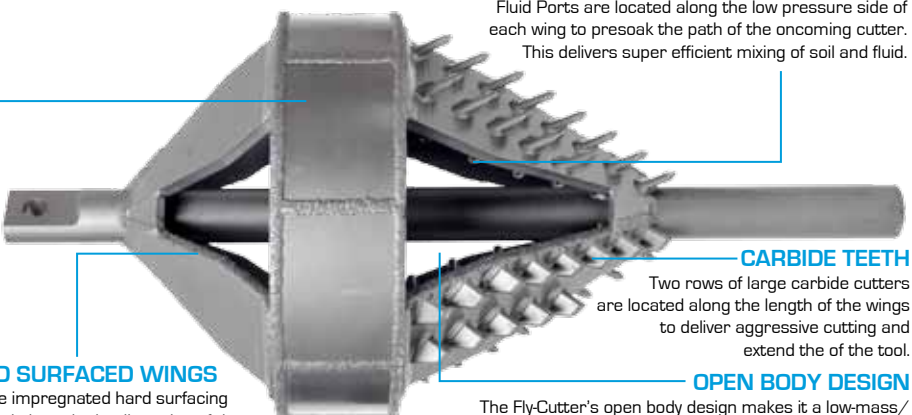
Two rows of large carbide cutters are located along the length of the wings to deliver aggressive cutting and extend the life of the tool.

OPEN BODY DESIGN

The Fly-Cutter's open body design makes it a low-mass/low-torque tool that allows more work to be accomplished with less effort.

HARD SURFACED WINGS

Carbide impregnated hard surfacing is placed along the leading edge of the wings to drastically extend the life of your tool.



WINGED

WINGED

AVAILABLE IN 3, 4, 5 & 6-WING DESIGNS DEPENDING ON THE DIAMETER OF THE REAMER.

This reamer combines a low mass, open body with a double slope wing design for exceptional toughness to deliver efficient cutting and mixing actions. The result is more work with less wear and tear on your drill and drill string. Key features include: large carbide cutters positioned along the length of the wings; carbide hardsurfacing on wing edges; replaceable fluid ports located along the rear perimeter of each wing to presoak the path of oncoming cutters for efficient mixing.

GROUND CONDITIONS:

Non-compactible conditions including Sands, Aggregates, Shale and Limestone.

SHAFT SIZE: 3" – 6 $\frac{1}{2}$ "

SIZE RANGE: 10" – 48"

REPLACEABLE FLUID JETS

The Fluid Ports are placed along the rear of each wing to presoak the path of the oncoming cutters delivering efficient mixing of soil and fluid.

DOUBLE SLOPE WING DESIGN

The double slope wing design provides exceptional toughness and improved mixing.

CARBIDE CUTTERS

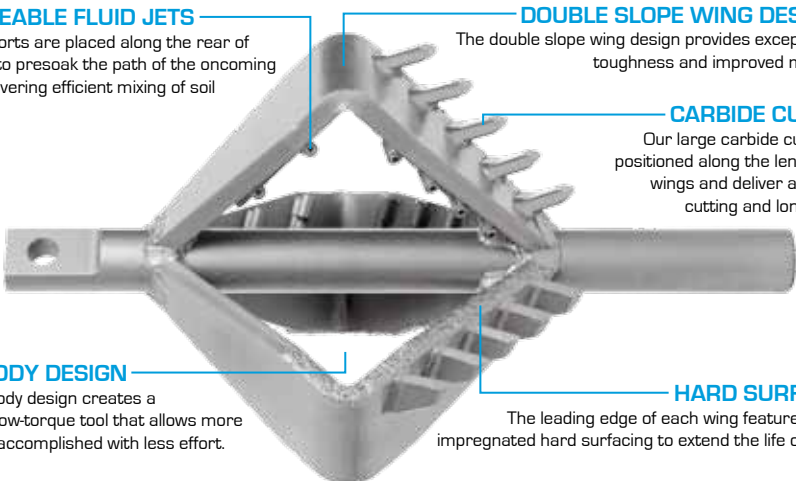
Our large carbide cutters are positioned along the length of the wings and deliver aggressive cutting and long tool life.

OPEN BODY DESIGN

The open body design creates a low-mass/low-torque tool that allows more work to be accomplished with less effort.

HARD SURFACING

The leading edge of each wing features carbide impregnated hard surfacing to extend the life of the tool.



HURRICANE

HURRICANE

A VERSATILE ALL-IN-ONE TOOL THAT CUTS, MIXES, AND PACKS.

Key features include: replaceable fluid ports; carbide tipped lead-in cutters; hardsurfaced mixing paddles; lead-in cutters and mixing paddles over cut the body, providing relief for fluid and cuttings; reversing paddles facilitate pushback.

GROUND CONDITIONS:

Loams, Clays and Light Aggregates.

SHAFT SIZE: 2" – 4 1/4"

SIZE RANGE: 6" – 20"

HARD SURFACING

Hardsurfacing on the reamer edges extend the life of the tool.

OVERSIZED MIXING PADDLES

Mixing paddles feature a helix design that lowers input torque requirement and improves mixing characteristics.

[OPTIONAL] BUILT-IN SWIVEL

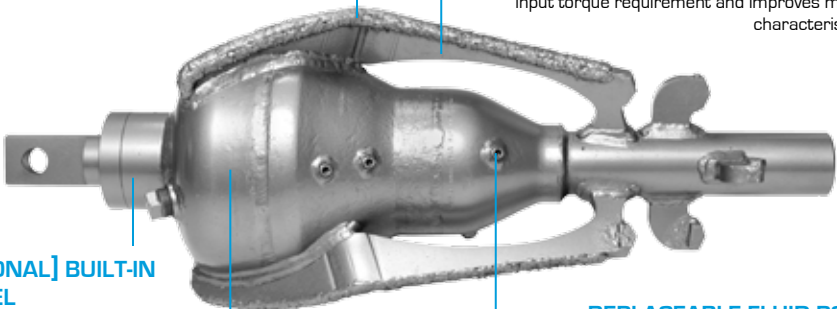
With the addition of our built-in swivel the tools overall length is shorter and stays in place when pushing backwards.

PACKING BELL

The packing bell packs the cuttings and helps facilitate utility installation.

REPLACEABLE FLUID PORTS

The fluid ports are located along the taper of the tool delivering efficient mixing of soil and fluid.



RHINO

RHINO

A VERSATILE ALL-IN-ONE TOOL THAT CUTS, MIXES, AND PACKS IN ONE EASY STEP.

Key features include: large carbide cutters positioned along the length of the body; cutters over cut the body to allow drilling fluid to pass by the reamer to prevent packing off; leading edges of cutters are hardsurfaced; replaceable fluid ports.

GROUND CONDITIONS:

Loams, Clays, Hardpan and Small Aggregates.

SHAFT SIZE: 2" – 4¹/₄"

SIZE RANGE: 6" – 20"

PACKING BELL

The packing bell packs the cuttings and facilitates utility installation.

LARGE CARBIDE CUTTERS

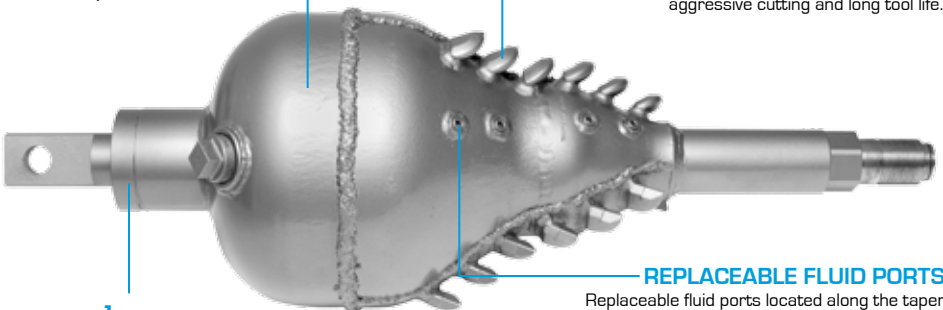
3 rows of carbide cutters positioned along the tapered portion of the body delivers aggressive cutting and long tool life.

REPLACEABLE FLUID PORTS

Replaceable fluid ports located along the taper of the tool delivers efficient fluid placement and improves mixing of soil and fluid.

[OPTIONAL] BUILT-IN SWIVEL

With the addition of our built-in swivel the tools overall length is shorter and stays in place when pushing backwards.



TRI-ACTION

TRI-ACTION

THE TRI-ACTION IS DESIGNED TO CUT, PULVERIZE, AND FINALLY TO FORCE THE REMAINING PIECES INTO THE FORMATION WALL.

Key features are: long tapered compaction style body with three large-relief flutes that allow cuttings, small aggregates and drilling fluid to pass through the body; the leading edge of each flute is hardsurfaced; replaceable jets and carbide cutters maximize performance and tool life.

GROUND CONDITIONS:

Loams, Clays, Hardpan, Aggregates and Rock formations up to 15,000 PSI.

SHAFT SIZE: 3" – 4 1/4"

SIZE RANGE: 6", 8" & 10"

HEAVY DUTY CARBIDE TEETH

Carbide teeth deliver aggressive cutting action and extends service life

TAPERED SPIRAL BODY

Long tapered spiral body promotes smooth cutting action.

HARD SURFACING

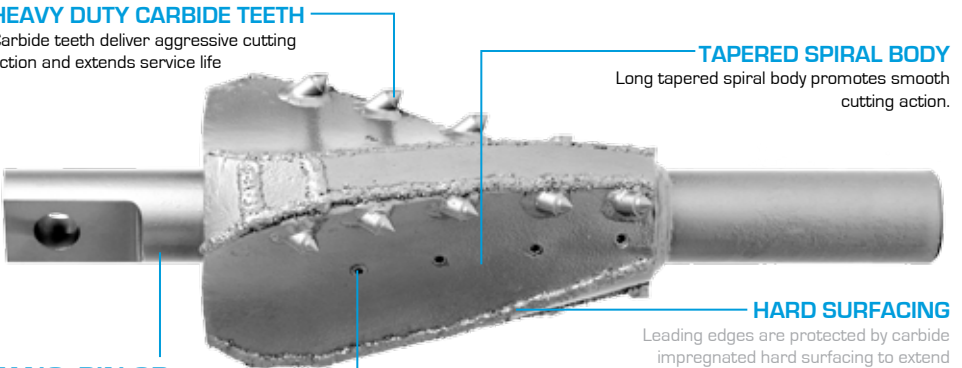
Leading edges are protected by carbide impregnated hard surfacing to extend service life.

TANG, PIN OR [OPTIONAL] BUILT-IN SWIVEL

With the addition of our built-in swivel the tools overall length is shorter and stays in place when pushing backwards.

REPLACEABLE FLUID PORTS

Fluid ports are located in each flute. Easy to adjust fluid placement to maximize drilling performance.



ALL-TERRAIN

ALL-TERRAIN

THE HEAVY CONSTRUCTION OF THE ALL-TERRAIN REAMER MAKES IT SIMPLY THE TOUGHEST, MOST DURABLE FLUTE AVAILABLE ON THE MARKET TODAY.

This tool cuts and pulverizes, and finally forces the remaining pieces into the formation wall. Key features include: constructed from steel plate; product is fully welded; aggressive spiraling flutes allow cuttings, small aggregates and drilling fluids to pass by the body; replaceable jets facilitate precise mud flow and placement; extra heavy carbide cutters provide maximum performance and tool life; carbide hardfacing on all wear surfaces.

GROUND CONDITIONS:

Clay, Hardpan, Aggregate and Rock formations up to 20,000+ PSI.

SHAFT SIZE: 2" – 6 1/2"

SIZE RANGE: 8" – 48"

FULLY WELDED

Constructed from fully welded steel plate segments provides unequalled service life.

AGGRESSIVE SPIRALING FLUTES

The spiraling flutes deliver smooth cutting action and provides relief for cuttings and drilling fluid to pass by the body.

CARBIDE TEETH

Heavy duty carbide teeth deliver aggressive cutting action and extends service life.

FLUID PORTS

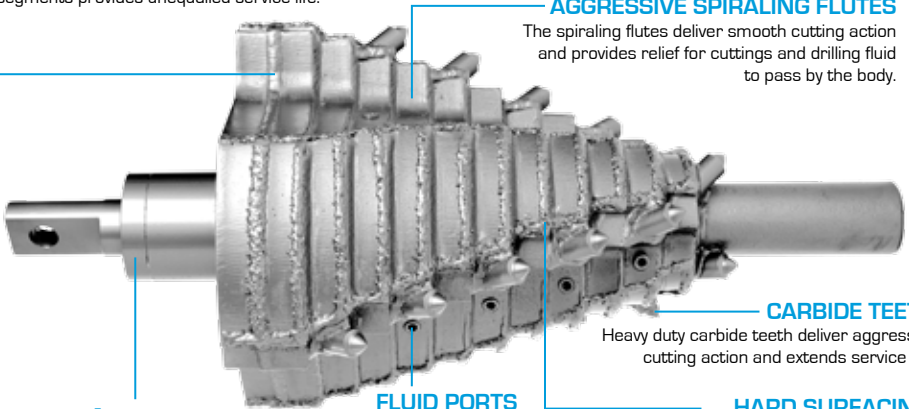
Replaceable fluid ports located along the taper of the tool delivers efficient fluid placement and improves mixing of soil and fluid.

HARD SURFACING

All welds and cutting edges are protected by carbide impregnated hard surfacing for extended service life.

[OPTIONAL] BUILT-IN SWIVEL

With the addition of our built-in swivel the tools overall length is shorter and facilitates pushing backwards.



HOLE OPENER

HOLE OPENERS DELIVER SMOOTH CUTTING IN SOLID FORMATIONS FROM SHALE TO GRANITE.

Hole Openers are quickly classified as a custom design/build product on a job by job basis. Designing the proper Hole Opener for a given situation takes experience. The choices include cutter selection, Mill Tooth or Tungsten Carbide Insert (TCI) Cutters, new or premium re-run condition cutters, size and quantity of cones, will it require a front and/or rear stabilizer? StraightLine® brings that experience to help guide you through the process of specifying the best tool for the job.

GROUND CONDITIONS:

Solid non-compactable formation from Caliche to Granite.

SHAFT SIZE: 3" - 9 $\frac{1}{2}$ "

SIZE RANGE: 10" - 60"

DESIGN FACTORS:

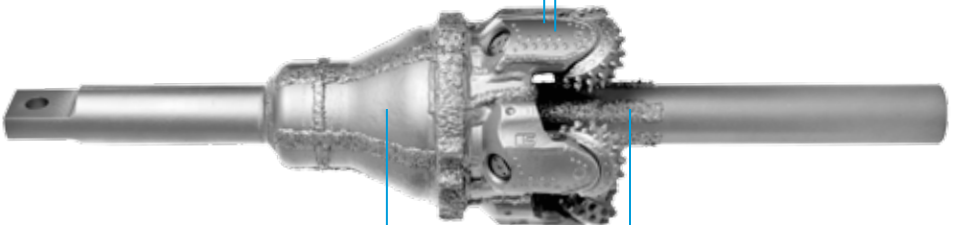
1. Determine the tool diameter
2. Determine front and rear connections
3. Determine the rock condition ... choose the cutting structure
4. Select the cone size and quantity
5. Choose pushback cone size
6. Identify pilot diameter and determine if a front stabilizer will be required.

PROPER CONE SPACING

Central to the success of the tool is minimizing the distance between the individual cones and between the cones and the shaft or centralizer.

CONE SELECTION

Success begins with the proper selection of cone type and size. The cone's cutting structure is selected based on the rock formation. The cone's ideal size is based on the tool diameter.



PUSHBACK CAP

Pushback caps provide a tapered surface on the back side of the reamer to assist pushing the tool backwards when required.

FRONT STABILIZER

When a gap greater than 2" exists between the cones and the shaft all tools are fitted with a centralizer to help center the tool, force the rock to the outside, delivering a smoother cut and longer tool life.

REVERSE

REVERSE RADIAL FLOW

THE KEY DESIGN CONCEPTS BEHIND THE RRF ARE BI-DIRECTIONAL (CUTS IN BOTH DIRECTIONS), EXTREME TOUGHNESS IN AN OPEN BODY DESIGN AND COMPACT TOOL LENGTH WHICH EASES INSTALLATION AND REMOVAL IN CONFINED SPACES.

The success of the RRF centers around its low mass/high strength core that allows it to perform well in sands, aggregates and light rock conditions. Its open body design delivers exceptional mixing characteristics while the extra heavy wing segments deliver dependable service in tough ground conditions. Add to this precise carbide placement and perimeter drilling fluid delivery and you get unmatched versatility in a single tool, making the RRF one of our most popular large diameter tools.

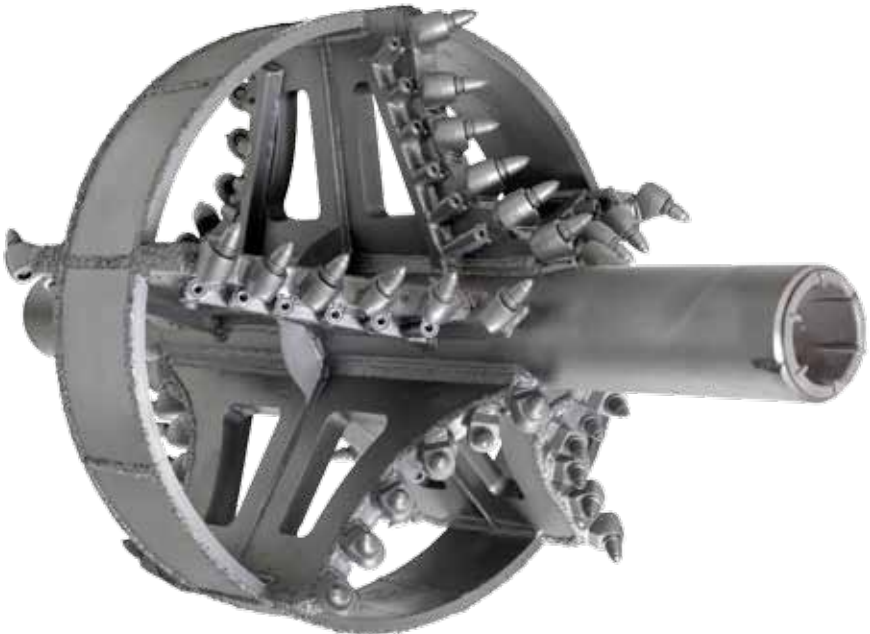
Key features include: bi-directional (cuts in both directions), facilitates pushing backwards out of the hole; large replaceable carbide cutters positioned in independent cutting paths; replaceable fluid ports located along the edge of each wing presoak the path of the oncoming cutters; centralizing ring. All this adds up to a low mass, low torque tool that delivers extremely efficient drilling..

GROUND CONDITIONS:

Loams, moderate aggregates, clays, shale and light rock formations.

SHAFT SIZE: 4" - 10"

SIZE RANGE: 16" - 72"



BARREL

BARREL

THE BARREL REAMER STABILIZES THE TUNNEL EASING UTILITY INSTALLATION.

The barrel reamer has a relatively flat face lined with rows of carbide cutters that allow the tool to cut and open the hole slightly larger than the diameter of its solid body. The barrel reamer is a very versatile tool; first, it is commonly used in bores where the formation types are relatively soft, secondly, the barrel reamer is used as a stabilizer when pulling larger reamers, fly cutters or hole openers and finally, the barrel reamer is regularly used when installing the final product.

SHAFT SIZE: 3" - 5"

SIZE RANGE: 12" - 30"

REPLACEABLE FLUID PORTS

The replaceable fluid ports positioned along the face of the tool provides operator mud flow and placement control.

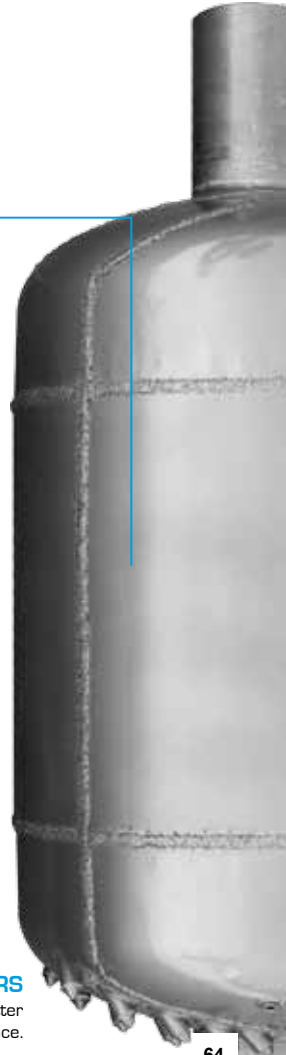
LONG FULL DIAMETER BODY

The long full diameter body centralizes the reamer and utility in the hole during pullback.



LARGE CONICAL CARBIDE CUTTERS

The large conical carbide cutters maximizes cutter performance.



MAXI BARREL

MAXI BARREL

THE MAXI-BARREL REAMER STABILIZES THE TUNNEL EASING UTILITY INSTALLATION.

The barrel reamer has a relatively flat face lined with rows of carbide cutters that allow the tool to cut and open the hole slightly larger than the diameter of its solid body. The barrel reamer is a very versatile tool; first, it is commonly used in bores where the formation types are relatively soft, secondly, the barrel reamer is used as a stabilizer when pulling larger reamers, fly cutters or hole openers and finally, the barrel reamer is regularly used when installing the final product.

SHAFT SIZE: 4¹/₄" - 9¹/₂"

SIZE RANGE: 24" - 96"

LONG FULL DIAMETER BODY

The long full diameter body centralizes the reamer and utility in the hole during pullback.

REPLACEABLE CARBIDE FLUID PORTS

The replaceable carbide fluid ports minimized erosion and allows operator to precisely control fluid pressure.

HARD SURFACING

The carbide impregnated hard surfacing in the critical wear areas extends the life of the tool.

MAXI FLY

MAXI FLY-CUTTER

THE MAXI-FLY CUTTER HANDLES BIG TORQUE TO TACKLE A VARIETY OF CONDITIONS FROM SAND TO LIMESTONE.

This tool is a 3-wing design that features three large cutting surfaces and three equal sized spoil passage areas. The Maxi-Fly features extra heavy-duty construction; wing structures are constructed using $\frac{3}{4}$ " or 1" plate depending on tool size that are then welded to the 1" thick centralizing ring to form a tool that is capable of handling the torque and pullback of today's Maxi-Rigs. The centralizing ring helps the reamer run true in the bore hole; shallow wing angle facilitates smooth cutting in large diameter holes; replaceable conical carbide cutters for maximum performance and tool life; and replaceable carbide jets deliver precise fluid placement.

SHAFT SIZE: 3" - 5"

SIZE RANGE: 24" - 96"

SEMI OPEN BODY DESIGN

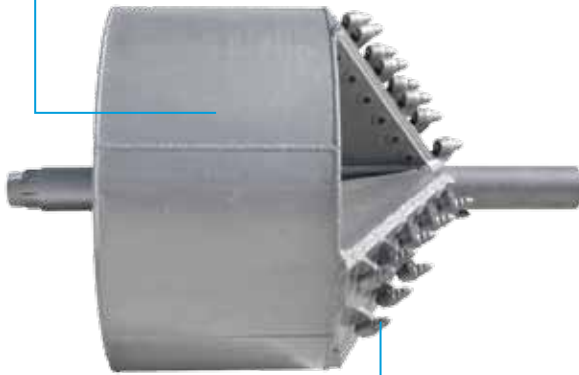
The semi open body design combines exceptional cutting and good mixing qualities.

EXTRA WIDE CENTRALIZING RING

The centralizing ring helps the tool run true in the bore hole.

LARGE CONICAL CARBIDE CUTTERS

The large replaceable carbide cutters deliver excellent cutting performance and extends the life of the tool.



PERFORMIX® SL300

SELF-CONTAINED MIXING SYSTEM

The SL300 is a complete, self-contained 300-gallon mixing solution ready to bolt to your truck or trailer and go to work. Its compact footprint makes it an ideal solution where space is at a premium.

Bentonite is introduced to the system through a large diameter port, where it immediately encounters a high speed jet stream. This high-speed stream is extremely effective at shearing and separating the bentonite plates, producing a clump free mix. With the SL300 you will spend less time mixing and more time drilling.

- **Tank Capacity:** 300 gallons
- **Engine:** Kohler® Command CS Pro 6 Hp (4.5 Kw) engine
- **Pump:** 170-gpm (643-lpm) designed to turn tank over in less than 2 minutes
- **Fuel Tank:** 6-gallon (23 L) fuel tank for extended run time between refueling
- **Hopper:** Large capacity with pivoting lid that doubles as a bag rest
- **Jet:** High speed jet effectively shears/separates the bentonite plates
- **Tank Guns:** 3 tank guns intensify tank roll for rapid shearing and yielding
- **Connections:** 2" (5.1 cm) suction and discharge ports w/ball valves



PERFORMIX® G140

14-HP MIXING UNIT

The Performix® G120 Mixer with its 365-gpm output will get you from bentonite introduction to fully sheared, yielded and ready to drill in a matter of minutes. The Performix G120 is the ideal match for our 700-gallon (2650-liter) tanks.

Bentonite is introduced to the system through a large diameter port, where it immediately encounters a high speed jet stream. This high-speed stream is extremely effective at shearing and separating the bentonite plates. With the G120 you will spend less time mixing and more time drilling.

- **Engine:** Kohler® Command CS Pro 14 Hp (9 Kw) gas engine w/heavy duty cyclonic air cleaner and electric start
- **Pump:** 365-gpm (1,381-lpm) designed to turn tank over in less than 2 minutes
- **Fuel Tank:** 10-gallon (37.9 L) fuel tank for extended run time between refueling
- **Hopper:** Large capacity with pivoting lid that doubles as a bag rest
- **Jet:** High speed jet effectively shears/separates the bentonite plates
- **Mechanical Seal:** Runs in antifreeze so seal is constantly lubricated (the pump can be run dry without damaging the seal)
- **Connections:** 3" (7.6 cm) camlock on suction side, 3" (7.6 cm) hose barb on discharge side and a 2" (5.1 cm) male cam-lock for supply hose
- **Mounting:** Adapts easily to any truck or trailer



PERFORMIX® G200

20-HP MIXING UNIT

The Performix® G200 Mixer with its 450-gpm output will get you from bentonite introduction to fully sheared, yielded and ready to drill in a matter of minutes. The Performix G200 is ideally suited for our 1,000-gallon (3,800-liter) tank skid.

Bentonite is introduced to the system through a large diameter port, where it immediately encounters a high speed jet stream. This high-speed stream is extremely effective at shearing and separating the bentonite plates. With the G200 you will spend less time mixing and more time drilling.

- **Engine:** Kohler® 20 Hp (15 Kw) gas engine w/electric start
- **Pump:** 450-gpm (1,703 lpm) designed to turn tank over in about 2 minutes
- **Fuel Tank:** 10-gallon (37.9 L) fuel tank for extended run time between refueling
- **Hopper:** Large capacity with pivoting lid that doubles as a bag rest
- **Jet:** High speed jet effectively shears/separates the bentonite plates
- **Mechanical Seal:** Runs in antifreeze so seal is constantly lubricated (the pump can be run dry without damaging the seal)
- **Connections:** 3" (7.6 cm) camlock on suction side, 3" (7.6 cm) hose barb on discharge side and a 2" (5.1 cm) male cam-lock for supply hose
- **Mounting:** Adapts easily to any truck or trailer



PERFORMIX® D250

25-HP DIESEL MIXING UNIT

The Performix® D250 Diesel Mixer with its 450-gpm output will get you from bentonite introduction to fully sheared, yielded and ready to drill in a matter of minutes. The D250 is ideally suited for our 1,000-gallon (3,800-liter) tank skid.

Bentonite is introduced to the system through a large diameter port, where it immediately encounters a high speed jet stream. This high-speed stream is extremely effective at shearing and separating the bentonite plates. With the D250 you will spend less time mixing and more time drilling.

- **Engine:** Kohler 25 Hp (18.7 Kw) diesel engine w/electric start
- **Pump:** 450-gpm (1,703 lpm) designed to turn tank over in about 2 minutes
- **Fuel Tank:** 10-gallon (37.9 L) fuel tank for extended run time between refueling
- **Hopper:** Large capacity with pivoting lid that doubles as a bag rest
- **Jet:** High speed jet effectively shears/separates the bentonite plates
- **Mechanical Seal:** Runs in antifreeze so seal is constantly lubricated (the pump can be run dry without damaging the seal)
- **Connections:** 3" (7.6 cm) camlock on suction side, 3" (7.6 cm) hose barb on discharge side and a 2" (5.1 cm) male cam-lock for supply hose
- **Mounting:** Adapts easily to any truck or trailer



PERFORMIX®
SL700
710-GALLON MIXING TANK

Improve your drilling performance with the SL700 mixing and storage tank from StraightLine®.

KEY FEATURES:

- Superb Mixing Characteristics - round bottom enhances tank roll during mixing
- Intense Tank Agitation - tank is fitted with three tank guns to deliver a fast and thorough yield

SPECIFICATIONS:

- Urethane paint on steel components.
- 3" (7.6 cm) full port bungs
- Shutoff valves on the suction and discharge ports



PERFORMIX®

SL1000

1000-GALLON MIXING TANK

Improve your bottom line with the all NEW SL1000 tank from StraightLine®. Small footprint, excellent mixing characteristics and easy to clean, those are the benefits you will get with the NEW SL1000.

KEY FEATURES:

- Superb Mixing Characteristics - while rectangular in appearance this tank features a radiused bottom which significantly enhances tank roll during mixing.
- Intense Tank Agitation - tank is fitted with four tank guns to deliver a fast and thorough yield
- Eliminates Solids Settling - radiused tank bottom also eliminates the places for solids to settle on the bottom of the tank.
- Simplified Tank Cleaning – the tank is sloped from the rear to the discharge port making complete cleaning of the tank possible in only a couple of minutes.
- Compact Footprint - tank dimensions, skid mounted, are only (101" L X 66" H X 44" W) which enables the installation of two tanks on a standard 8-foot truck bed, inside of a box truck or in a shipping container.

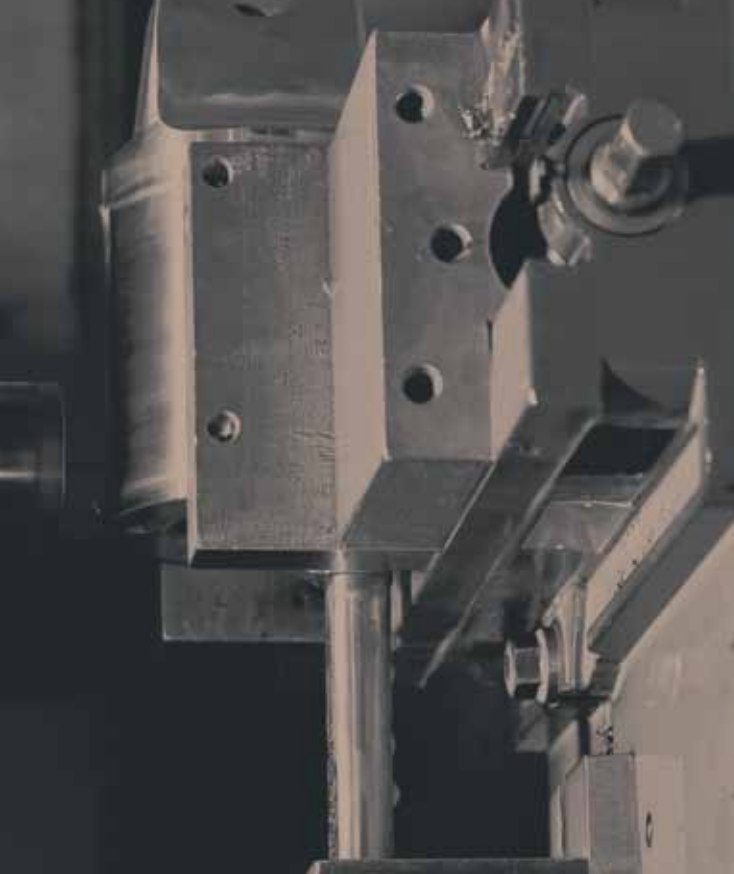
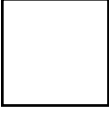
SPECIFICATIONS:

- Heavy-duty tank features ½" thick sidewalls
- Urethane paint on steel components.
- 3" (7.6 cm) full port bungs
- Shutoff valves on the suction and discharge ports





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3 EASY WAYS TO BUY

1.) Call 800.654.3484 for immediate sales assistance...

2.) Contact your local dealer
see website for details

3.) Visit our online store

www.straightlinehdd.com