



GLOBAL PRODUCT CATALOGUE
IN-HOLE TOOLS



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ABOUT OUR PRODUCTS

Boart Longyear is the industry's only integrated drilling services and products provider, combining 24-hour engineering excellence, global manufacturing facilities and the most experienced drilling services group in the business. Our customers rely on our unique ability to develop, field test, and deliver any combination of drilling consumables, capital equipment, and expertise direct to any corner of the world.

Exploration Drilling Products

Boart Longyear is globally recognized as the leader in exploration drilling technology. From the rig to the drill string to the record-breaking Stage3 diamond coring bit at the bottom of the hole, our customers trust us to deliver the most innovative, advanced, and complete solution available.



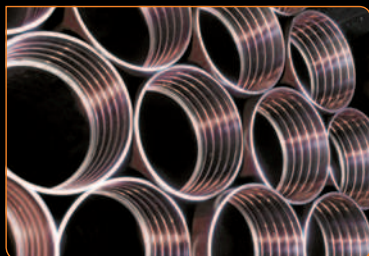
DIAMOND PRODUCTS

- Surface set bits
- Impregnated bits
- Reamers
- Casing shoes
- PCD bits
- Carbon bits



WIRELINE COMPONENTS

- Core barrel assemblies
- Water swivels and hoisting plugs
- Subs and adaptors
- Overshots and recovery tools
- Wrenches



RODS AND CASING

- Q® and Patented RQ® Drill Threads
- Coring Rod
- Casing

RC CONSUMABLES

- Rod
- Swivels
- Swivel Accessories
- Subs



EXPLORATION DRILL RIGS

- Surface core drills
- Underground core drills
- Multi-purpose drills
- Reverse circulation drills

ABOUT OUR PRODUCTS

In addition to our exploration drilling technology, Boart Longyear also engineers and manufactures world-class drill rigs and consumables for construction, overburden and percussive drilling.

Construction Drill Rigs

- DeltaBase® Site investigation and sampling drills
- DeltaBase® Multi-purpose drills
- DeltaBase® Foundation and construction drills



Construction Drilling Consumables

- DeltaTools™ rods and casing
- DeltaTools™ Bits and casing shoes
- DeltaTools™ Jet grouting tools



Percussive

- Production drill rigs
- Rock drills and breakers
- HRT consumables
 - Threaded bits, rods, couplings, and shank adaptors
 - Tapered bits and rods
 - Integral drill steel
 - Down the hole hammer bits



Aftermarket Support

- Genuine spare parts
- Spare parts kits
- First-aid drill repair boxes
- Maintenance programs



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SAFETY

SAFETY IDENTIFICATION AND SAFEGUARDS

SAFETY OVERVIEW 6



SAFETY

SAFETY IDENTIFICATION AND SAFEGUARDS

CAUTION

Practice **EXTREME CAUTION** when operating in or near inclined holes or **UP HOLES**. Always maintain a column of fluid in the drill rods to reduce the chance of uncontrolled descent of wireline tools or core.

Carefully read and understand all safety and operational instructions before operating this equipment. Failure to follow these instructions could result in serious personal injury or death.



WARNING

Head assemblies with a pump-in seal connected to the retracting case (such as the former QU style heads) are not recommended for drilling ground with pressurized fluid or gas zones. Boart Longyear recommends the Quick Pump-In head assembly which incorporates pump-in seals below the retracting case.

Always Follow These Rules:

- Always wear personal protective equipment such as a hard hat, safety glasses and steel-toe boots.
- Do not operate equipment while under the influence of drugs, alcohol or medication.
- Stay clear of power lines and any other dangerous working environments.
- All guards must be installed and maintained in good working order.
- Keep clear of rotating equipment. Never wear any loose clothing which could become entangled in the machinery.
- Keep visitors a safe distance away from work area.
- Read and understand the Operations and Service Manual. Complete all checks and adjustments as stated in Manual before starting equipment.
- Do not change or alter equipment or accessories without prior approval from Boart Longyear. Unauthorized alteration may void the warranty, render the equipment unsafe or result in decreased performance.

SAFETY

SAFETY IDENTIFICATION AND SAFEGUARDS (CONTINUED)

- Use only Boart Longyear replacement parts. Failure to do so could cause severe damage to the equipment, void your warranty or operator injury.
- If you do not fully understand the equipment and how it operates, do not attempt to make adjustments or repairs.
- Use only qualified service technicians. Failure to do so could cause severe damage to the machine or the operator and may void your warranty.
- Always keep the work area clean.
- Do not exceed rated capacity of any piece of equipment.
- Ensure all the equipment and accessories fully comply with applicable local safety and health regulations.
- Never stand or walk with any part of your body in front of the rod string. Never look up the rod string. Keep open rod string as close to the floor as possible and stand to the side.

When the rods remain in an INCLINED HOLE:

- Remove the inner-tube assembly. Plug the rod string by attaching the water swivel or loading chamber.
- Move the rods as close to the floor as possible.
- If it is not possible to remove the inner-tube, pump the rods full of water with the water swivel still attached. Attach a visible WARNING TAG to alert the next shift or anyone approaching the drill that there is a Safety Hazard.
- Never use air pressure to pump the inner-tube assembly or overshot into a rod string.
- DO NOT attempt to stop the core with your hand when emptying the inner-tube. The core can be sharp or heavy and cause severe injury. If it is necessary to look in an inner-tube, always look down, never look up the tube.
- Never rotate the rod string with a joint between the drill chuck and the water swivel. The joint may become loose and unscrew the rod that is not held by the chuck jaws.
- When the core barrel is transported on an angle where the head assembly is lower than the bit and shell, the inner-tube assembly will unlatch and slide out of the outer-tube. To prevent the inner-tube assembly from sliding out, it is good practice to thread a sub into the locking coupling, or remove the inner-tube assembly from the outer-tube.

For additional information on training, start-up or safety, contact your Boart Longyear sales representative.



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CORE RETRIEVAL SYSTEM

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CORE BARREL OVERVIEW

HISTORY

Boart Longyear introduced the wireline core retrieval system in 1958, being the first diamond drilling exploration product manufacturer to offer this revolutionary system which increased productivity on the worksite and made tripping core from the bottom of the hole safer for the drilling assistant.

Prior to the introduction of wireline technology, the drill crew was required to pull the entire rod string out of the ground to gain access to the conventional core barrel located behind the drill bit. Once the core barrel was emptied, the complete rod string would be lowered into the exploration hole prior to drilling the next core run.

The introduction of wireline technology allowed for the retrieval of the full inner-tube without the need to pull the rod string out of the hole. This was accomplished by creating a completely independent inner-tube which is not attached to the rod string but rests at the bottom of the rod string, directly behind the drill bit. Mounted at the top of the inner-tube assembly is a device called a head assembly. The head assembly includes the latching and retrieval hardware required to bring the inner-tube to the surface. When the inner-tube is full, a device called an overshot is lowered down the hole via a wireline cable and brought to the surface by use of a winch. Once the inner-tube assembly is at the surface, an empty inner-tube is lowered into the hole so drilling can resume.

1950

1960

1970

1980

10

1958

Boart Longyear introduced the original wireline core retrieval system

1966

Launched improved, patented Q® Wireline system

1989

Introduced Thin Kerf (QTK) to the Q® Wireline system



The Boart Longyear design engineering team continued to refine the initial system, resulting in the launch of the industry-standard patented Q[®] wireline system in 1966.

With the goal of providing our customers a larger diameter core sample without increasing hole diameter, Boart Longyear introduced the Thin Kerf wireline system product line in 1989.

In 1998, Boart Longyear once again secured its position as the leading innovator in wireline technology by introducing the patented Link Latch mechanism.

While the Q[®] system was adapted to pump-in applications for inclined holes underground, Boart Longyear maximized reliability of the latching mechanism with the release of the patented Quick Pump-In head assemblies in 2002. This head assembly added positive latch indication and removed the pump-in lip seal from the latch retracting case, eliminating latching concerns against in-ground fluid, gas pressure zones and fluid evacuation or suction.

Boart Longyear launched the patent pending Quick Descent™ core barrel head assembly. Providing the customer with the potential to increase core barrel descent speed up to 30%, this Quick Descent head assembly is a central component of the High Productivity Coring System™ which also includes the Stage3 diamond coring bit and the V-Wall™ coring rod.

1998

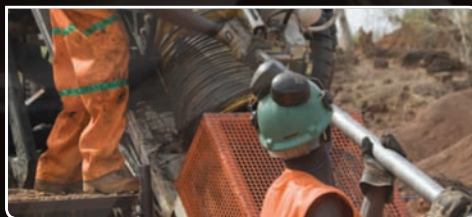
Introduced NextQ™
Wireline system

2002

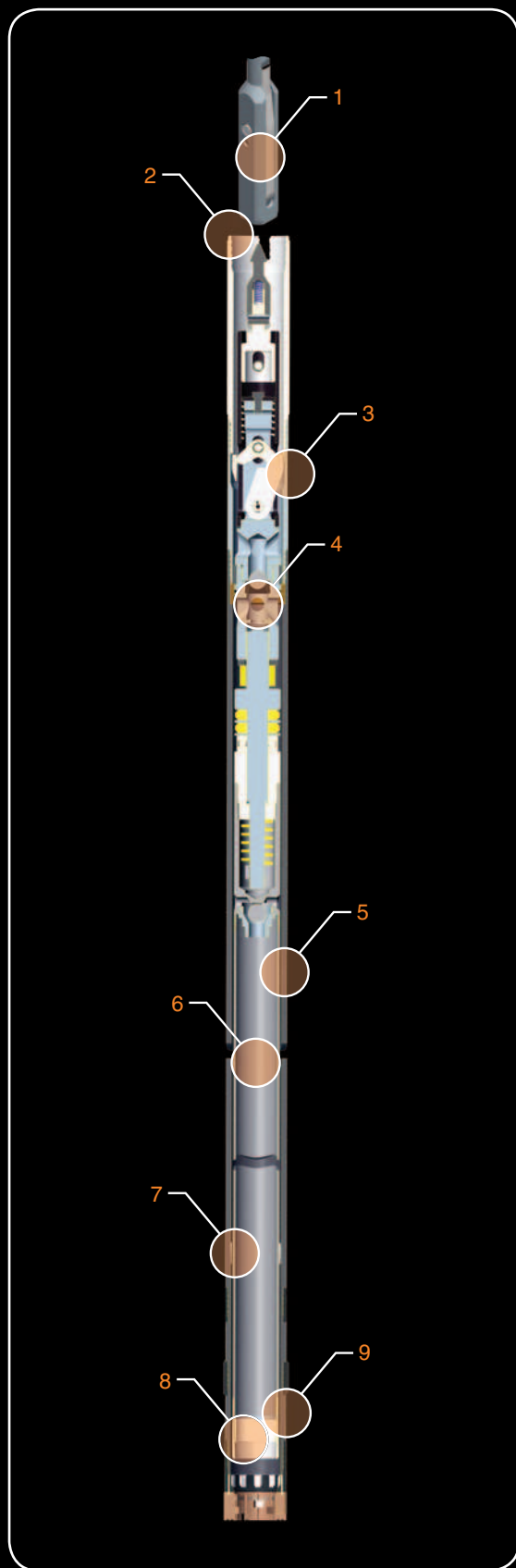
Added Quick Pump-In Head
Assembly to Q[®] Wireline system

2008

Released patented Quick
Descent Core Barrel Assembly



SYSTEM OVERVIEW



OVERSHOT ASSEMBLY (1)

The overshoot is dropped or pumped into the drill string to retrieve the inner-tube assembly via wireline cable and hoist.

LOCKING COUPLING (2)

The 'locking coupling' threads to the drill rod string and provides a hardened mating surface which the core barrel inner-tube assembly latches ride against while drilling.

Additionally, locking couplings provide directional control for the core barrel assembly through wear resistant stabilizing pads which abrade against the drill hole wall.

ADAPTER COUPLING (3)

The adapter coupling mates between the locking coupling and core barrel outer-tube, providing the pocket into which the head assembly latches deploy.

HEAD ASSEMBLY (4)

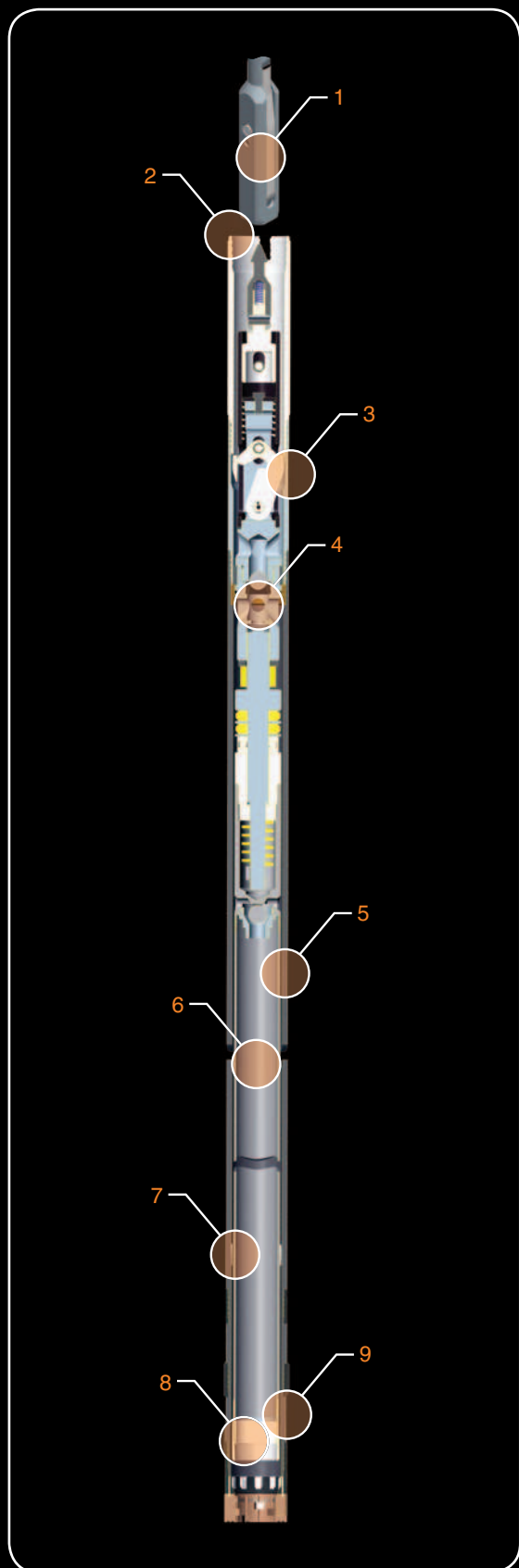
The head assembly provides: latching and pivoting spearpoint mechanisms to allow insertion and retrieval of the inner-tube assembly, a bearing assembly to allow the inner-tube to remain stationary and avoid sample damage while drilling, fluid pressure operating indications and fluid control valves.

All head assemblies incorporate a shut off valve assembly which provides a fluid pressure signal to the drill operator when the valve members are compressed, indicating a full or blocked inner-tube.

OUTER-TUBE (5)

The outer-tube houses the inner-tube assembly and connects to the diamond products cutting the hole. The increased wall thickness of the outer-tube provides additional stiffness for directional control and a tighter hole annulus for increased fluid velocity and rapid cuttings evacuation for bit performance.

Multiple outer-tubes can be assembled to extend the possible core sample length.



INNER-TUBE (6)

The inner-tube captures the core sample as drilling progresses. Multiple inner-tubes can be assembled with couplers or extensions to accept longer core samples.

INNER-TUBE STABILIZER (7)

Seated in the reaming shell or in mated outer-tube extensions the replaceable and reversible inner-tube Stabilizer provides centralizing for improved sample recovery and a bearing between the stationary inner-tube and the rotating outer-tube.

CORE LIFTER (8)

The core lifter is a hardened steel, split collar with a tapered body that mates to a tapered socket in the core lifter case.

In a core breaking operation, the drill string is lifted off bottom and the core sample begins to slide out of the inner-tube. Grip features on the inner surface of the core lifter catch the moving core sample and pull the core lifter towards the smaller end of the tapered socket in the core lifter case. The core lifter is constricted against the core sample and retains it after it has broken, allowing retrieval to surface.

CORE LIFTER CASE (8)

The core lifter case mates to the inner-tube and houses the core lifter in a tapered socket which controls movement of the core lifter.

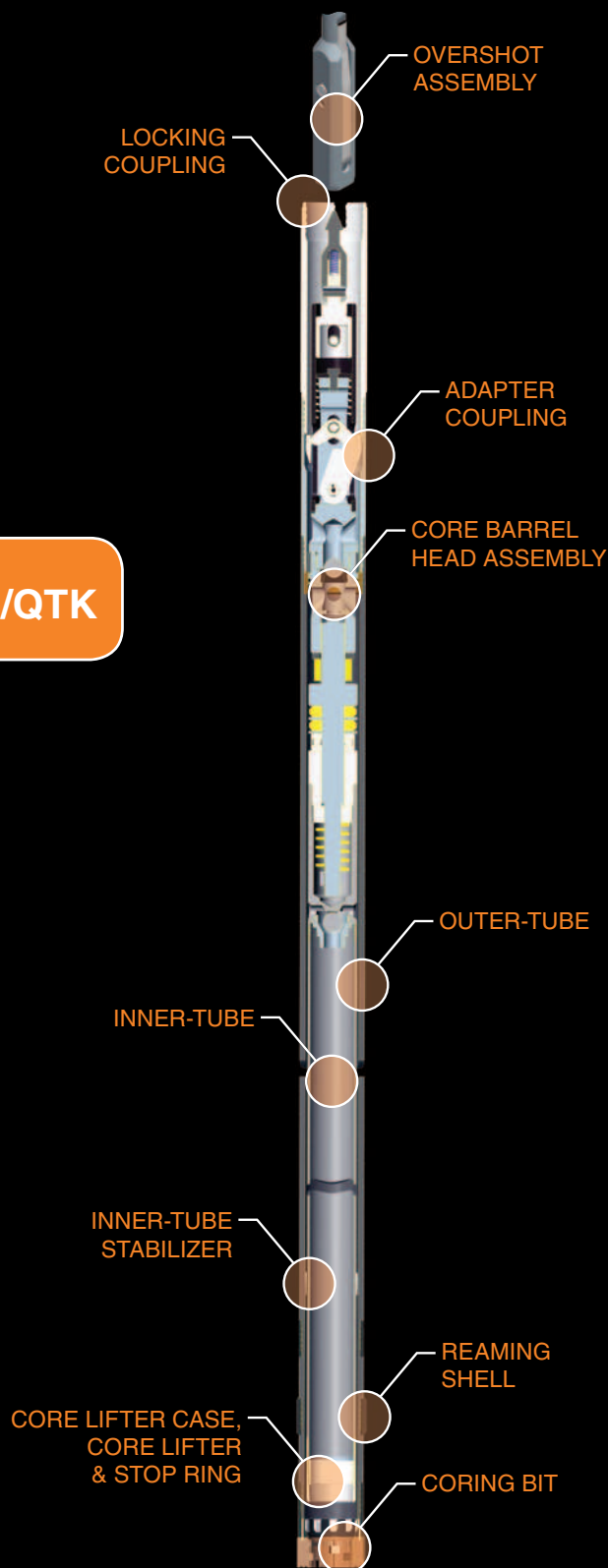
As the drill string is lifted during a core breaking operation, the core lifter case bottoms out on the inside of the drill bit transferring the pullback load from the drill string to the core lifter until the core sample breaks.

STOP RING (9)

The Stop Ring is hardened steel snap ring designed to seat into a mating groove, and retain the core lifter in the core lifter case.

SYSTEM OVERVIEW

Q/QTK



SYSTEMS

Boart Longyear currently offers three models of the wireline core barrel system:

Q

QTK

Q3

Q/QTK wireline systems (represented to the left) consist of the core barrel assembly and the overshot assembly. Both assemblies are integral to the wireline system.

The core barrel assembly is composed of the inner-tube group and outer-tube group.

The inner-tube group is composed of:

- Head Assembly
- Inner-tube
- Core lifter case
- Core lifter
- Stop ring

The inner-tube group collects the core sample during the drilling process and is independent of the outer-tube group.

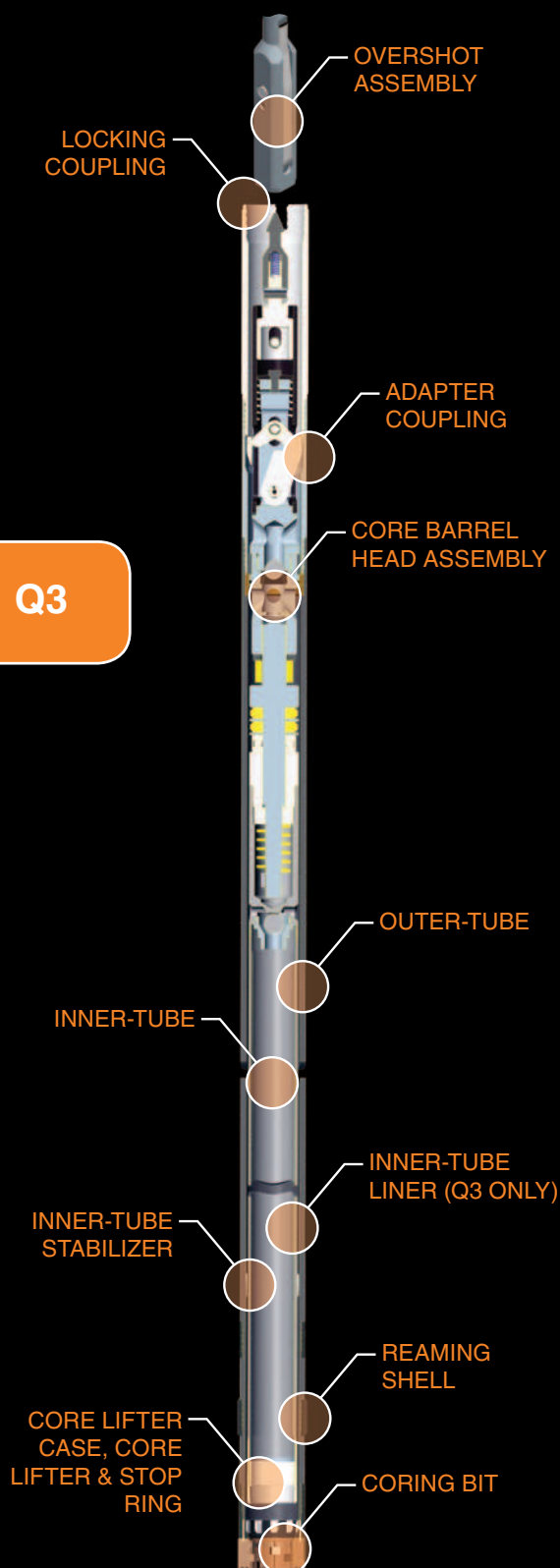
The outer-tube group is composed of the remainder of the core barrel components:

- Locking coupling
- Adapter coupling
- Outer-tube

The outer-tube group always remains at the bottom of the hole and houses the inner-tube group during the drilling process.

Q3 wireline systems (represented to the right) consist of the same groups as the Q® and QTK but utilize a third tube called an inner-tube liner or split tube. The liner is placed inside the inner-tube.

Q3



APPLICATIONS

Q® systems are ideal for use in most drilling conditions and are available for application in standard DCDMA hole sizes (A, B, N, H, P).

QTK systems are optimized to allow for a larger core sample while retaining the same hole, low fluid pressure, and robust inner and outer-tubes. QTK systems are offered in the A, B and N sizes.

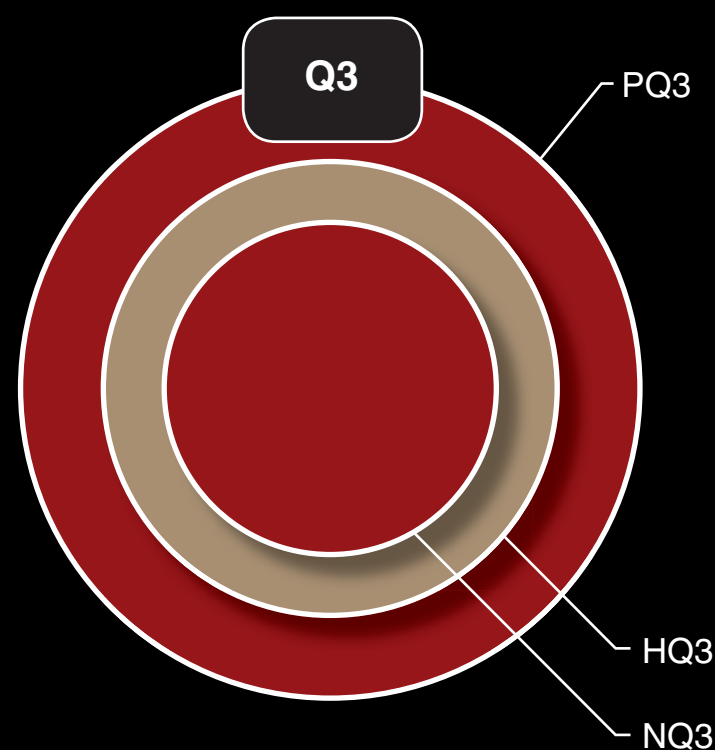
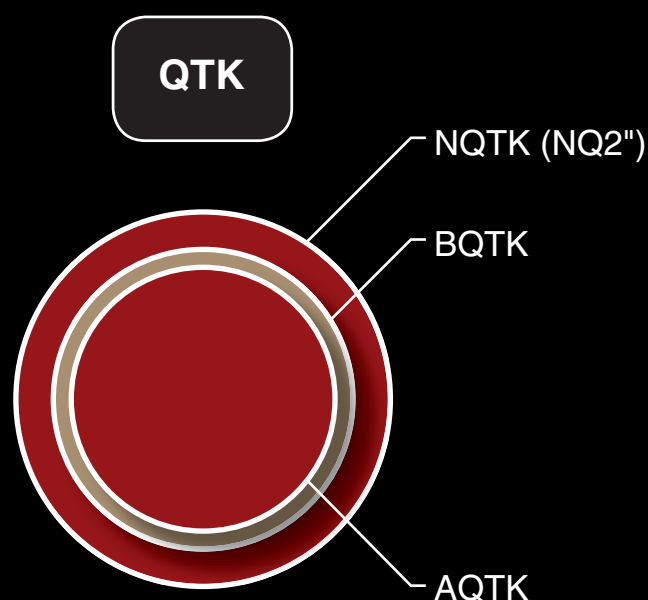
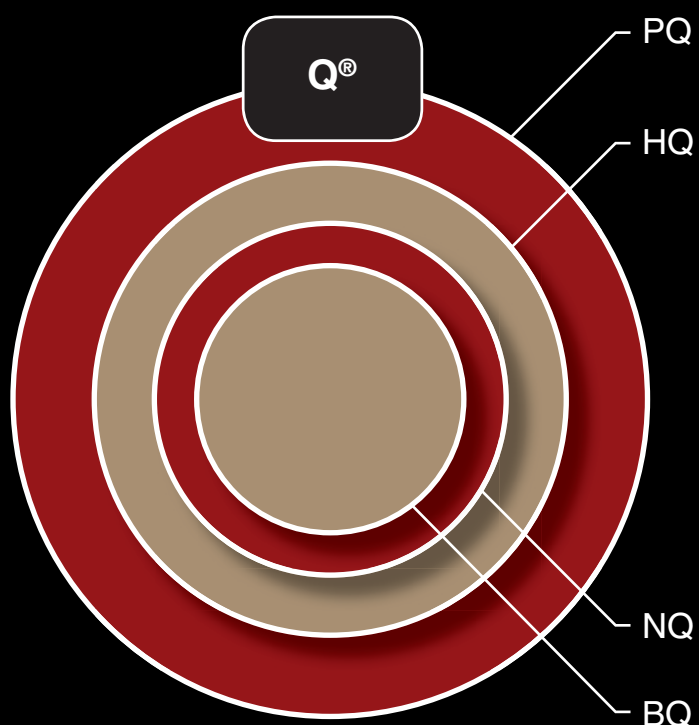
Q3 systems enable integral core recovery when drilling coal, clay bearing or highly fractured formations. The liner, or split tube, retains the core sample in its received state for easier loading into sample trays or for storage and subsequent presentation to the geologist. The Q3 system is only available in surface configurations and is available in N, H and P sizes.

The High Productivity Coring System™ is a time saving surface coring system which includes the Quick Descent™ head assembly, V-Wall™ coring rod and the Stage3™ diamond coring bit.

Each system component increases core recovery and productivity, delivering greater efficiencies to the driller. When all three products are used in conjunction, the High Productivity Coring System increases bit life by up to 300 percent and core barrel tripping speed by up to 50 percent over most coring systems.

SYSTEM OVERVIEW

DIAMETER OFFERING (ACTUAL CORE SIZE)



DIMENSIONS

SIZE	CORE Ø	HOLE Ø
AQTK	35.5 mm (1-3/8 in)	48 mm (1-7/8 in)
BQ	36.4 mm (1-7/16 in)	60 mm (2-3/8 in)
BQTK	40.7 mm (1-5/8 in)	60 mm (2-3/8 in)
NQ	47.6 mm (1-7/8 in)	75.7 mm (3 in)
NQTK (NQ2")	50.6 mm (2 in)	75.7 mm (3 in)
NQ3	45 mm (1-3/8 in)	75.7 mm (3 in)
HQ	63.5 mm (2-1/2 in)	96 mm (3-3/8 in)
HQ3	61.1 mm (2-3/8 in)	96 mm (3-3/8 in)
PQ	85 mm (3-3/8 in)	122.6 mm (4-7/8 in)
PQ3	83 mm (3-1/4 in)	122.6 mm (4-7/8 in)

The Boart Longyear nomenclature and hole sizes are based on the globally accepted Diamond Core Drilling Manufacturers Association (DCDMA) "W" series. Also note that the DCDMA specifications were adopted into ISO3551 (1992) and British Standard BS4019 (1993) Rotary Drilling Equipment.

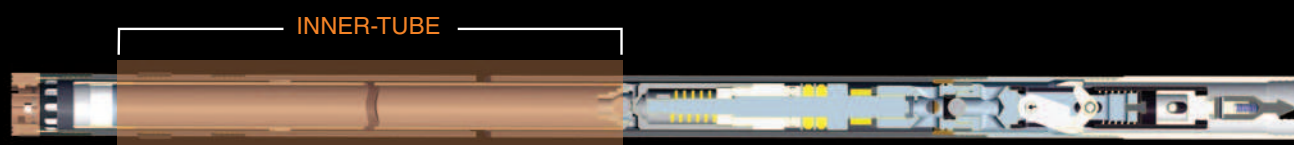
The Boart Longyear wireline systems also conform to ISO10097/BS4019 Wireline Core Drilling Equipment – System A.

CORE BARREL CONFIGURATIONS FEATURES AND OPTIONS

CORE RETRIEVAL LENGTH

Boart Longyear core barrel kits and inner-tube groups are available in two standard lengths of 1.5 m (5 ft) and 3.0 m (10 ft). These lengths refer to the inner-tube length which dictates the maximum amount of core that can be retrieved in one drilling run before the inner-tube must be retrieved.

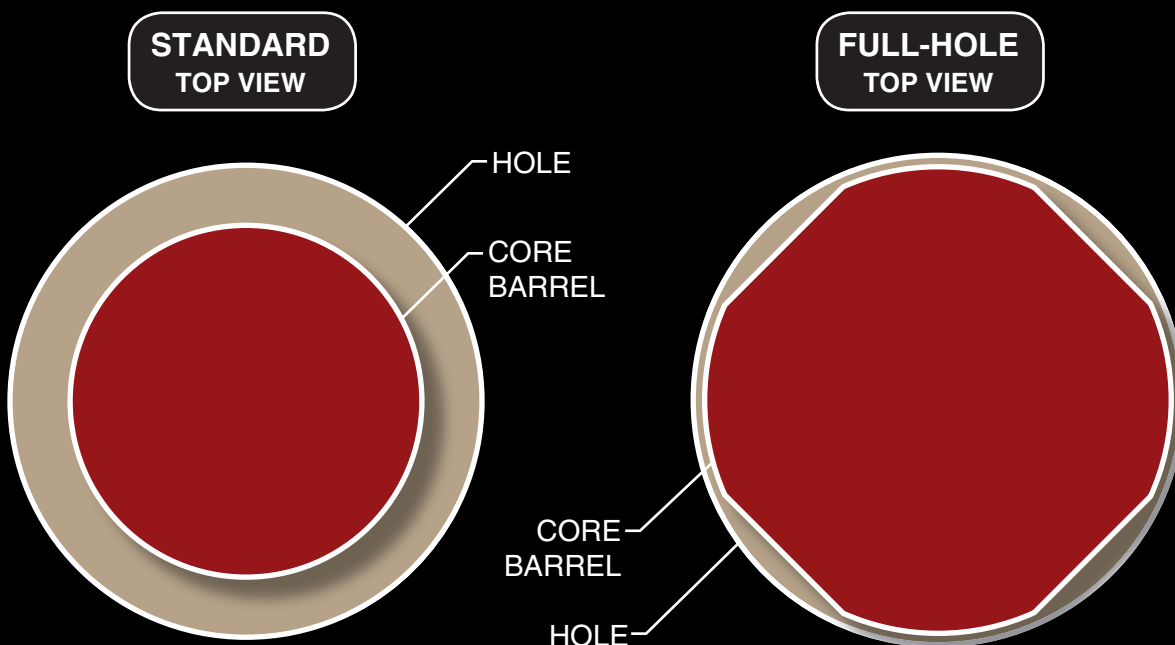
Note that optional couplings and adapters are available, for Q® and QTK systems, to extend the core barrel in 1.5 m (5 ft) or 3.0 m (10 ft) multiples. Also, optional inner-tube couplings and extensions are available to allow for extended length reaming shells.



FULL-HOLE OPTION

Full-hole systems are designed for operation in competent ground formations where hole accuracy is a top priority. The oversized outer diameter and 4-flat design keeps the core barrel system tight to the hole while allowing adequate cutting flow. It should be noted that while hole deviation is greatly minimized, higher-than-normal drilling pressures may be experienced when operating a full-hole coring system.

Boart Longyear A, B, N, and H size core barrel systems can be configured as full-hole wireline coring systems. This system is comprised of standard core barrel components, the full-hole locking coupling and outer-tube. When ordering a core barrel kit, these two optional full hole items must be selected.



CORE BARREL CONFIGURATIONS FEATURES AND OPTIONS

CONFIGURATION OVERVIEW

Within the Core Barrel Assemblies section of this catalogue, both core barrel assemblies and inner-tube groups are referenced. Both assemblies are independently configurable and include a distinct set of components as outlined below.

CORE BARREL ASSEMBLIES

The Core Barrel Kits include all the components required to make up a full core barrel and utilize it within a rod string:

HEAD ASSEMBLY

INNER-TUBE

STOP RING

CORE LIFTER

CORE LIFTER CASE

LOCKING COUPLING

ADAPTER COUPLING

LANDING RING

OUTER-TUBE

INNER-TUBE STABILIZER

THREAD PROTECTOR [OPTIONAL]

IN-HOLE TOOL PRODUCT MANUAL

SAFETY POSTER

INNER-TUBE GROUPS

The Inner-Tube Groups provide the necessary components to collect a core sample from head assembly to core lifter:

HEAD ASSEMBLY

INNER-TUBE

STOP RING

CORE LIFTER

CORE LIFTER CASE

IN-HOLE TOOL PRODUCT MANUAL

SAFETY POSTER

CONFIGURATION WALK-THROUGH

Boart Longyear offers a variety of core barrel systems to meet the different drilling conditions in the field. Customers have the ability to tailor the core barrel kit to best suit their needs.

On the following page is an example of our core barrel assembly configurator which includes the inner-tube group. The components within the core barrel kit and inner-tube groups can be separated into three types of components:



STANDARD COMPONENT



These are components which are standard for a specific application within the core barrel kit or inner-tube group.



USER CONFIGURED: CHOOSE ONE

These are required components within the core barrel kit; however, users must select a specific component to be included in the core barrel kit or inner-tube group.



OPTIONAL COMPONENT

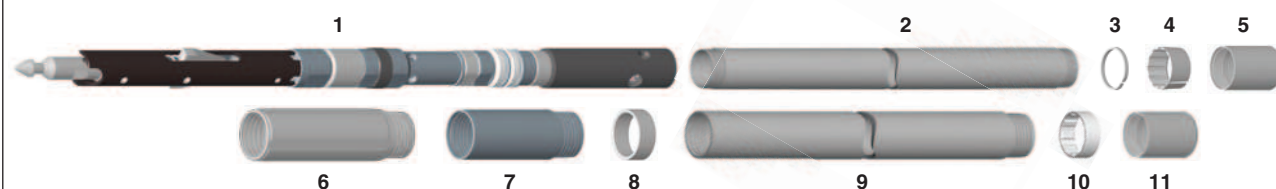
OPT

These are components that are fully optional to the customer, the core barrel kit or inner-tube group can be ordered without these components.

CORE BARREL CONFIGURATIONS FEATURES AND OPTIONS

CONFIGURATION WALK-THROUGH

ID #	PART #	DESCRIPTION				
	3545922	AQTK CORE BARREL ASSEMBLY, 1.5 M (5 FT)	3545922			
	3543021	AQTK INNER-TUBE GROUP, 1.5 M (5 FT)		3543021		
	3545923	AQTK CORE BARREL ASSEMBLY, 3.0 M (10 FT)			3545923	
	3543022	AQTK INNER-TUBE GROUP, 3.0 M (10 FT)				3543022
1	3545920	AQTK LINK LATCH HEAD ASSEMBLY	✓	✓	✓	✓
2	52911	AQTK INNER-TUBE, 1.5 M (5 FT)				
	52911CP	AQTK INNER-TUBE, CHROME PLATED, 1.5 M (5 FT)				
	52585	AQTK INNER-TUBE, 3.0 M (10 FT)				
	52585CP	AQTK INNER-TUBE, CHROME PLATED, 3.0 M (10 FT)				
3	52588	AQTK STOP RING	✓	✓	✓	✓
4	52877	AQTK CORE LIFTER, SPIRAL				
	3545588	AQTK CORE LIFTER, SPIRAL, DIAMOND COATED				
5	5001021	AQTK CORE LIFTER CASE	✓	✓	✓	✓
6	52911CP	ARQTK LOCKING COUPLING, FULL HOLE				
	3544639	ARQTK LOCKING COUPLING, CARBIDE				
7	3547073	AQTK ADAPTER COUPLING	✓		✓	
8	52589	AQTK LANDING RING	✓		✓	
9	52908	AQTK OUTER-TUBE, 1.5 M (5 FT)				
	52908CP	AQTK OUTER-TUBE, CHROME PLATED, 1.5 M (5 FT)				
	3545384	AQTK OUTER-TUBE, FULL HOLE, 1.5 M (5 FT)				
	52578	AQTK OUTER-TUBE, 3.0 M (10 FT)				
	52578CP	AQTK OUTER-TUBE, CHROME PLATED, 3 M (10 FT)				
	3545385	AQTK OUTER-TUBE, FULL HOLE, 3.0 M (10 FT)				
10	52635	AQTK INNER-TUBE STABILIZER	✓	✓	✓	✓
11	61390	AQTK THREAD PROTECTOR (OUTER-TUBE)	OPT	✓	OPT	✓
12	3542987	HEAD ASSEMBLY TOOL	OPT	OPT	OPT	OPT
13	61353	INNER-TUBE LOADING SLEEVE	OPT	OPT	OPT	OPT
14	3541994	IN-HOLE TOOL PRODUCT MANUAL	✓	✓	✓	✓
15	306390	CORE BARREL SAFETY POSTER	✓	✓	✓	✓



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

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CORING SYSTEM SELECTION

CORE BARREL ASSEMBLY

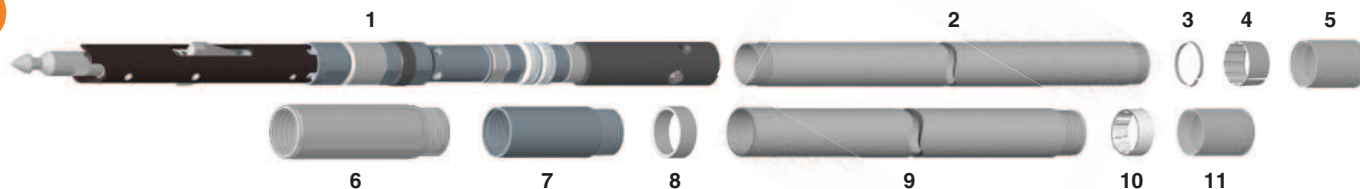
AQTK	22-23
AQTKU	24-25
BQ	26-27
BQU	28-29
BQTK	30-31
BQTKU	32-33
NQ	34-35
NQU	36-37
NQTK	38-39
NQ3	40-41
NQTKU	42-43
HQ	44-45
HQU	46-47
HQ3	48-49
PQ	50-51
PQ3	52-53



AQTK CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION	3545922	3543021	3545923	3543022
	3545922	AQTK CORE BARREL ASSEMBLY, 1.5M / 5'	3545922			
	3543021	AQTK INNER TUBE GROUP, 1.5M / 5'		3543021		
	3545923	AQTK CORE BARREL ASSEMBLY, 3.0M / 10'			3545923	
	3543022	AQTK INNER TUBE GROUP, 3.0M / 10'				3543022
1	3545920	HEAD ASM, AQTK	✓	✓	✓	✓
2	52911	I/TUBE, AQTK 1.5M/5'				
	52911CP	I/TUBE, AQTK 1.5M/5' C/P				
	52585	I/TUBE, AQTK 3M/10'				
	52585CP	I/TUBE, AQTK 3M/10' C/P				
3	52588	RING, AQTK STOP	✓	✓	✓	✓
4	52877	C/LIFTER, AQTK SPIRAL				
	3545588	C/LIFTER, AQTK D/C				
5	5001021	CASE, C/LIFTER AQ/AQTK FLUTED	✓	✓	✓	✓
6	3546397	L/CPLG, ARQTK F/H				
	3544539	L/CPLG, ARQTK STAB CARB				
7	3547073	CPLG, AQTKU Q/P ADAPTER	✓		✓	
8	52589	RING, AQTK LANDING	✓		✓	
9	52908	O/TUBE, AQTK 1.5M/5'				
	52908CP	O/TUBE, AQTK 1.5M/5' C/P				
	3545384	O/TUBE, AQTK 1.5M/5' F/H				
	52578	O/TUBE, AQTK 3M/10'				
	52578CP	O/TUBE, AQTK 3M/10' C/P				
	3545385	O/TUBE, AQTK 3M/10' F/H				
10	52635	STABILIZER, AQTK I/TUBE	✓		✓	
11	61390	PROTECTOR, AQTK O/TUBE THREAD	OPT		OPT	
12	3542826	DRIFT TOOL, LINK LATCH A	OPT	OPT	OPT	OPT
13	61353	LOADING SLEEVE, ARQTK	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - AQTK

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	61129	INNER-TUBE COUPLING
2	62200	INNER-TUBE EXTENDA, 1.5 M (5 ft)

* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.



Example A: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube coupling

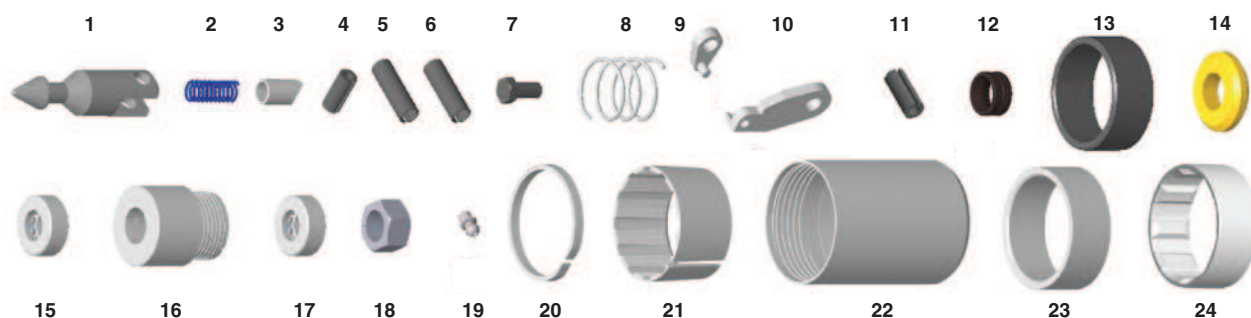
Inner-Tube Extendas can also be used to extend core barrels.

Example B: To extend in 1.5 M (5 FT) lengths:

- 1 outer-tube 1.5 M (15 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 1.5 (5 FT)

3545924 - AQTK CORE BARREL SPARE PARTS KIT

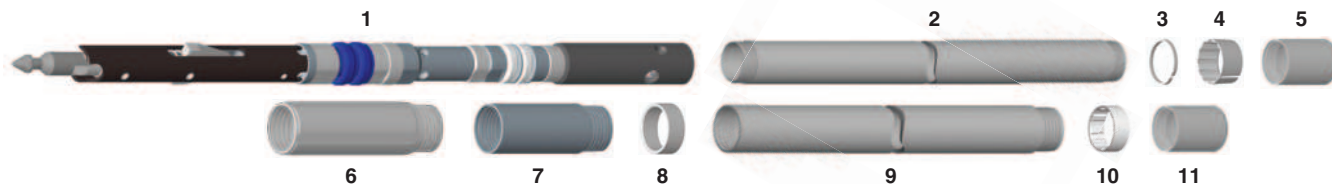
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3545924	AQTK CORE BARREL SPARE PARTS KIT			
1	42981	SPEARHEAD POINT	1	0.08	0.18
2	28321	COMPRESSION SPRING	1	0.01	0.02
3	42982	DETENT PLUNGER	1	0.10	0.22
4	24225	SPRING PIN 5/16" X 3/4"	1	0.01	0.02
5	24224	SPRING PIN 5/16" X 1-1/4"	2	0.02	0.04
6	23942	SPRING PIN 1/4" X 1-1/4"	1	0.01	0.02
7	3541932	NYLOK BOLT 3/8" -16UNC X 3/4"	2	0.10	0.22
8	3543077	COMPRESSION SPRING	1	0.09	0.20
9	104874	LINK	4	0.40	0.88
10	104873	LATCH	4	0.20	0.44
11	3540466	SPRING PIN 5/16" X 7/8"	2	0.02	0.04
12	3543921	LATCH INDICATOR BUSHING	4	0.00	0.00
13	3543888	LANDING SHOULDER	2	0.06	0.13
14	100387	SHUT-OFF VALVE, HARD	4	0.04	0.09
15	24220	THRUST BEARING	1	0.05	0.11
16	101683	SPINDLE BUSHING	1	0.18	0.40
17	25986	THRUST BEARING	1	0.01	0.02
18	22917	STOVER LOCK NUT	1	0.02	0.04
19	17447	GREASE FITTING	2	0.02	0.04
20	52588	STOP RING	2	0.20	0.44
21	52877	CORE LIFTER, SPIRAL	20	0.40	0.88
22	5001021	CORE LIFTER CASE, FLUTED	4	0.28	0.62
23	52589	LANDING RING	2	0.10	0.22
24	52635	INNER-TUBE STABILIZER	2	0.10	0.22
		TOTAL	66	2.50	5.50



AQTKU CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3544017	AQTKU CORE BARREL ASSEMBLY, 1.5M / 5'	3544017			
	3544029	AQTKU INNER TUBE GROUP, 1.5M / 5'		3544029		
	3544023	AQTKU CORE BARREL ASSEMBLY, 3.0M / 10'			3544023	
	3544035	AQTKU INNER TUBE GROUP, 3.0M / 10'				3544035
1	3544011	HEAD ASM, AQTKU Q/P	✓	✓	✓	✓
2	52911	I/TUBE, AQTK 1.5M/5'				
	52911CP	I/TUBE, AQTK 1.5M/5' C/P				
	52585	I/TUBE, AQTK 3M/10'				
	52585CP	I/TUBE, AQTK 3M/10' C/P				
3	52588	RING, AQTK STOP	✓	✓	✓	✓
4	52877	C/LIFTER, AQTK SPIRAL				
	3545588	C/LIFTER, AQTK D/C				
5	5001021	CASE, C/LIFTER AQ/AQTK FLUTED	✓	✓	✓	✓
6	3546397	L/CPLG, ARQTK F/H				
	3544539	L/CPLG, ARQTK STAB CARB				
7	3547073	CPLG, AQTKU Q/P ADAPTER	✓		✓	
8	52589	RING, AQTK LANDING	✓		✓	
9	52908	O/TUBE, AQTK 1.5M/5'				
	52908CP	O/TUBE, AQTK 1.5M/5' C/P				
	3545384	O/TUBE, AQTK 1.5M/5' F/H				
	52578	O/TUBE, AQTK 3M/10'				
	52578CP	O/TUBE, AQTK 3M/10' C/P				
	3545385	O/TUBE, AQTK 3M/10' F/H				
10	52635	STABILIZER, AQTK I/TUBE	✓		✓	
11	61390	PROTECTOR, AQTK O/TUBE THREAD	OPT		OPT	
12	3542826	DRIFT TOOL, LINK LATCH A	OPT	OPT	OPT	OPT
13	61353	LOADING SLEEVE, ARQTK	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - AQTKU

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	61129	INNER-TUBE COUPLING
2	62200	INNER-TUBE EXTENDA, 1.5 M (5 FT)



* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

Example A: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube coupling

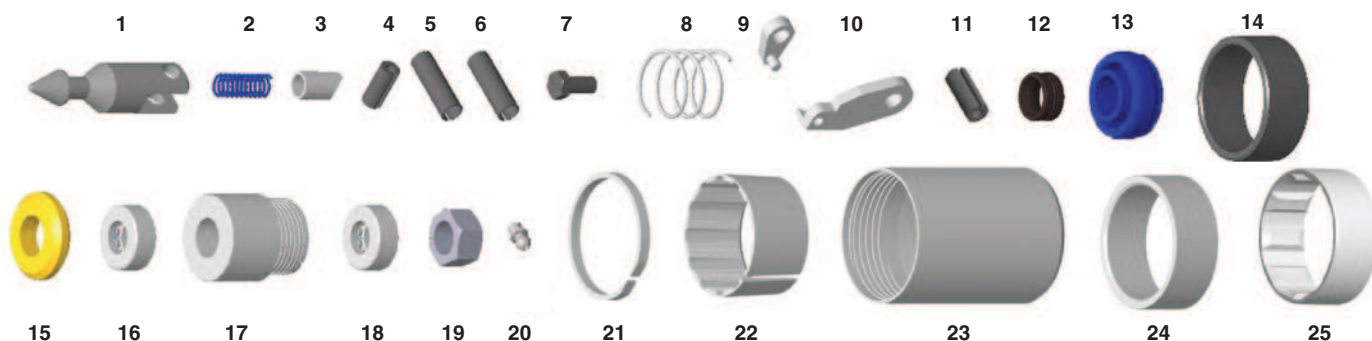
Inner-Tube Extendas can also be used to extend core barrels.

Example B: To extend in 1.5 M (5 FT) lengths:

- 1 outer-tube 1.5 M (15 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 1.5 (5 FT)

3544046 - AQTKU CORE BARREL SPARE PARTS KIT

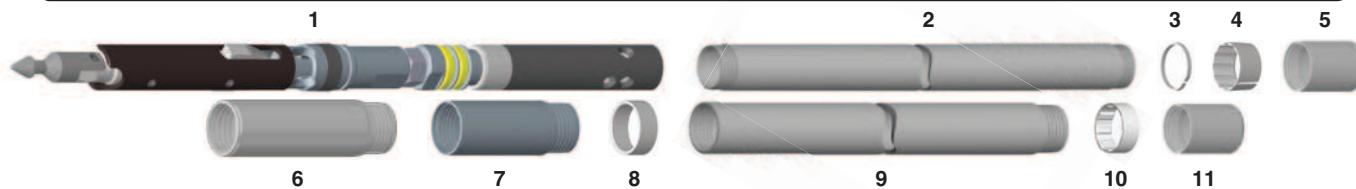
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3544046	AQTKU CORE BARREL SPARE PARTS KIT			
1	42981	SPEARHEAD POINT	1	0.08	0.18
2	28321	COMPRESSION SPRING	1	0.01	0.02
3	42982	DETENT PLUNGER	1	0.10	0.22
4	24225	SPRING PIN 5/16" X 3/4"	1	0.01	0.02
5	24224	SPRING PIN 5/16" X 1-1/4"	2	0.02	0.04
6	23942	SPRING PIN 1/4" X 1-1/4"	1	0.01	0.02
7	3541932	NYLOK BOLT 3/8" -16 UNC X 3/4"	2	0.10	0.22
8	3543077	COMPRESSION SPRING	1	0.09	0.20
9	104874	LINK	4	0.40	0.88
10	104873	LATCH	4	0.20	0.44
11	3540466	SPRING PIN 5/16" X 7/8"	2	0.02	0.04
12	3543921	LATCH INDICATOR BUSHING	4	0.00	0.00
13	100695	PUMP-IN SEAL LIP	4	0.04	0.09
14	3543888	LANDING SHOULDER	2	0.06	0.13
15	100387	SHUT-OFF VALVE, HARD	4	0.04	0.09
16	24220	THRUST BEARING	1	0.05	0.11
17	101683	SPINDLE BUSHING	1	0.18	0.40
18	25986	THRUST BEARING	1	0.01	0.02
19	22917	STOVER LOCK NUT	1	0.02	0.04
20	17447	GREASE FITTING	2	0.02	0.04
21	52588	STOP RING	2	0.20	0.44
22	52877	CORE LIFTER, SPIRAL	20	0.40	0.88
23	5001021	CORE LIFTER CASE, FLUTED	4	0.28	0.62
24	52589	LANDING RING	2	0.10	0.22
25	52635	INNER-TUBE STABILIZER	2	0.10	0.22
		TOTAL	70	2.54	5.59



BQ CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	306411	BQ CORE BARREL ASSEMBLY, 1.5M / 5'	306411			
	3542999	BQ INNER TUBE GROUP, 1.5M / 5'		3542999		
	306412	BQ CORE BARREL ASSEMBLY, 3.0M / 10'			306412	
	3543000	BQ INNER TUBE GROUP, 3.0M / 10'				3543000
1	3542292	HEAD ASM, BQ				
	5001180	HEAD ASM, BQTK Q/D				
2	24356	I/TUBE, BQ 1.5M/5'				
	24356CP	I/TUBE, BQ 1.5M/5' C/P				
	24339	I/TUBE, BQ 3M/10'				
	24339CP	I/TUBE, BQ 3M/10' C/P				
3	24831	RING, BQ STOP	✓	✓	✓	✓
4	30487	C/LIFTER, BQ SLOTTED				
	24342	C/LIFTER, BQ FLUTED				
	3546910	C/LIFTER, BQ D/C SLOTTED				
	5001509	C/LIFTER, BQ FLUTED D/C				
5	24830	CASE, BQ C/LIFTER	✓	✓	✓	✓
6	3545400	L/CPLG, BQ F/H W/TANG				
	3545401	L/CPLG, BQ F/H				
	24832	L/CPLG, BQ CONV W/TANG				
	62762	L/CPLG, BQ CONV				
	3545399	L/CPLG, BRQ F/H				
	3545398	L/CPLG, BRQ F/H W/TANG				
	3541818	L/CPLG, BRQ CONV				
	3541825	L/CPLG, BRQ CONV W/TANG				
7	24833	CPLG, BQ ADAPTER	✓		✓	
8	24345	RING, BQ LANDING	✓		✓	
9	24357	O/TUBE, BQ 1.5M/5'				
	24357CP	O/TUBE, BQ 1.5M/5' C/P				
	3545386	O/TUBE, BQ 1.5M/5' F/H				
	24346	O/TUBE, BQ 3M/10'				
	24346CP	O/TUBE, BQ 3M/10' C/P				
	3545387	O/TUBE, BQ 3M/10' F/H				
10	44406	STABILIZER, BQ I/TUBE	✓		✓	
11	24348	PROTECTOR, BQ O/TUBE THREAD	OPT		OPT	
12	3542827	DRIFT TOOL, LINK LATCH B	OPT	OPT	OPT	OPT
13	3542636	LOADING SLEEVE, BQ/BRQ	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED - CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - BQ

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	31402	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

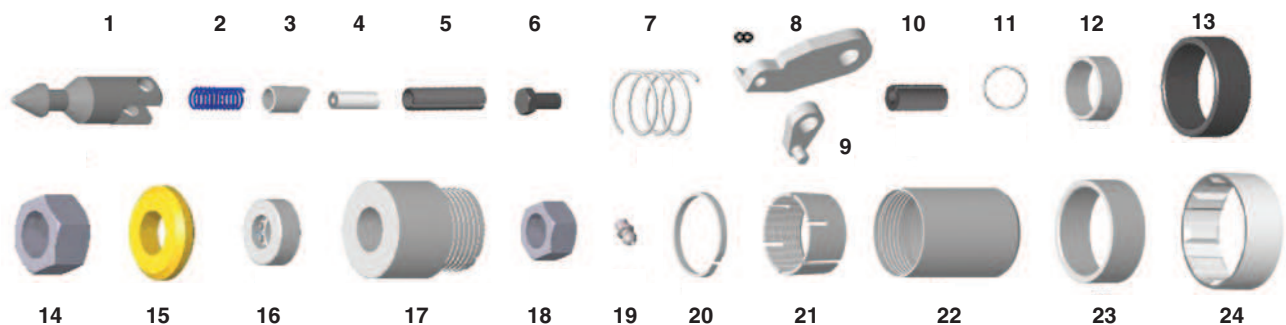


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

3542578 - BQ CORE BARREL SPARE PARTS KIT

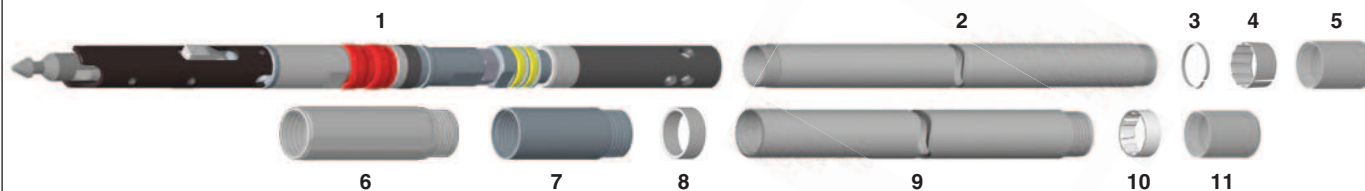
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542578	BQ CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	23941	SPRING PIN 3/8" X 1-3/4"	2	0.40	0.88
6	3541932	NYLOK BOLT 3/8" -16UNC X 3/4"	2	0.10	0.22
7	3543180	LATCH COMPRESSION SPRING	1	0.05	0.11
8	306417	LATCH	4	0.36	0.79
9	306418	LINK	4	0.08	0.18
10	23944	SPRING PIN 3/8" X 1-1/4"	2	0.02	0.04
11	62374	STAINLESS STEEL BALL, 22 MM	1	0.05	0.11
12	62380	LANDING INDICATOR BUSHING	2	0.02	0.04
13	306421	LANDING SHOULDER	1	0.07	0.15
14	44601	HEX NUT	1	0.08	0.18
15	44208	SHUT-OFF VALVE, HARD	4	0.40	0.88
16	24030	THRUST/HANGER BEARING BALL	2	0.14	0.31
17	24336	SPINDLE BUSHING	1	0.43	0.95
18	103144	STOVER LOCK NUT	1	0.03	0.07
19	17447	GREASE FITTING	2	0.02	0.04
20	24831	STOP RING SLOTTED	2	0.02	0.04
21	30487	CORE LIFTER SLOTTED	20	0.60	1.32
22	24830	CORE LIFTER CASE	4	0.36	0.79
23	24345	LANDING RING	2	0.14	0.31
24	44406	INNER-TUBE STABILIZER	2	0.10	0.22
		TOTAL	65	3.79	8.34



BQU CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION	3544018	3544030	3544024	3544036
	3544018	BQU CORE BARREL ASSEMBLY, 1.5M / 5'	↓			
	3544030	BQU INNER TUBE GROUP, 1.5M / 5'		↓		
	3544024	BQU CORE BARREL ASSEMBLY, 3.0M / 10'			↓	
	3544036	BQU INNER TUBE GROUP, 3.0M / 10'				↓
1	3544012	HEAD ASM, BQU Q/P	✓	✓	✓	✓
2	24356	I/TUBE, BQ 1.5M/5'				
	24356CP	I/TUBE, BQ 1.5M/5' C/P				
	24339	I/TUBE, BQ 3M/10'				
	24339CP	I/TUBE, BQ 3M/10' C/P				
3	24831	RING, BQ STOP	✓	✓	✓	✓
4	30487	C/LIFTER, BQ SLOTTED				
	24342	C/LIFTER, BQ FLUTED				
	3546910	C/LIFTER, BQ D/C SLOTTED				
	5001509	C/LIFTER, BQ FLUTED D/C				
5	24830	CASE, BQ C/LIFTER	✓	✓	✓	✓
6	3545401	L/CPLG, BQ F/H				
	62762	L/CPLG, BQ CONV				
	3545399	L/CPLG, BRQ F/H				
	3541818	L/CPLG, BRQ CONV				
7	3546704	CPLG, BQU Q/P ADAPTER	✓		✓	
8	24345	RING, BQ LANDING	✓		✓	
9	24357	O/TUBE, BQ 1.5M/5'				
	24357CP	O/TUBE, BQ 1.5M/5' C/P				
	3545386	O/TUBE, BQ 1.5M/5' F/H				
	24346	O/TUBE, BQ 3M/10'				
	24346CP	O/TUBE, BQ 3M/10' C/P				
	3545387	O/TUBE, BQ 3M/10' F/H				
10	44406	STABILIZER, BQ I/TUBE	✓		✓	
11	24348	PROTECTOR, BQ O/TUBE THREAD	OPT		OPT	
12	3542827	DRIFT TOOL, LINK LATCH B	OPT	OPT	OPT	OPT
13	3542636	LOADING SLEEVE, BQ/BRQ	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - BQU

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	31402	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

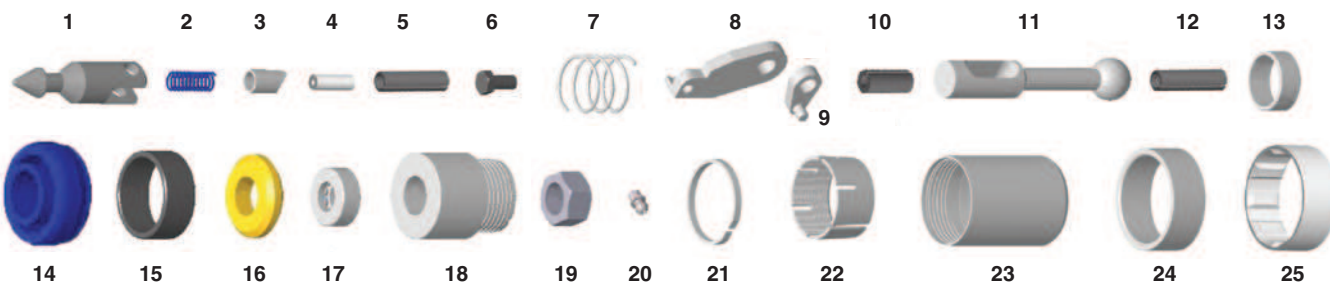


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

3544047 - BQU CORE BARREL SPARE PARTS KIT

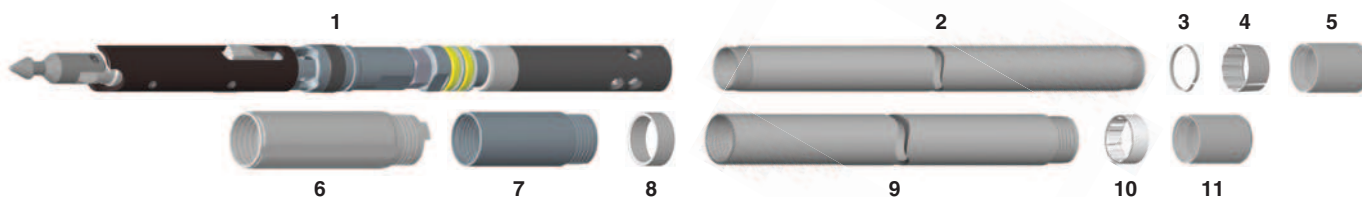
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3544047	BQU CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN, 7/16" X 1"	1	0.01	0.02
5	23941	SPRING PIN, 3/8" X 1-3/4"	2	0.40	0.88
6	3541932	NYLOK BOLT, 3/8"-16 X 3/4" HEX HEAD	2	0.10	0.22
7	3541836	COMPRESSION SPRING	1	0.23	0.51
8	306417	LATCH	4	0.36	0.79
9	306418	LINK	4	0.08	0.18
10	23944	SPRING PIN, 3/8" X 1-1/4"	1	0.01	0.02
11	3547672	VALVE PISTON	1	0.08	0.18
12	23946	SPRING PIN, 1/4" X 1-5/8"	1	0.02	0.04
13	3543904	LATCH INDICATOR BUSHING	4	0.04	0.09
14	100690	PUMP-IN SEAL LIP	4	0.12	0.26
15	306421	LANDING SHOULDER	2	0.14	0.31
16	44208	SHUT-OFF VALVE, HARD	4	0.40	0.88
17	24030	THRUST BEARING	2	0.14	0.31
18	24336	SPINDLE BUSHING	1	0.43	0.95
19	103144	STOVER LOCK NUT	1	0.03	0.07
20	17447	GREASE FITTING	2	0.02	0.04
21	24831	BQ STOP RING	2	0.02	0.04
22	30487	CORE LIFTER SLOTTED	20	0.60	1.32
23	24830	CORE LIFTER CASE	4	0.36	0.79
24	24345	LANDING RING	2	0.14	0.31
25	44406	INNER-TUBE STABILIZER	2	0.10	0.22
		TOTAL	70	4.13	9.09



BQTK CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3540458	BQTK CORE BARREL ASSEMBLY, 1.5M / 5'	3540458			
	3543001	BQTK INNER TUBE GROUP, 1.5M / 5'		3543001		
	3540459	BQTK CORE BARREL ASSEMBLY, 3.0M / 10'			3540459	
	3543002	BQTK INNER TUBE GROUP, 3.0M / 10'				3543002
1	306434	HEAD ASM, BQTK				
	5001180	HEAD ASM, BQTK Q/D				
2	61518	I/TUBE, BQTK 1.5M/5'				
	61518CP	I/TUBE, BQTK 1.5M/5' C/P				
	53197	I/TUBE, BQTK 3M/10'				
	53197CP	I/TUBE, BQTK 3M/10' C/P				
3	53198	RING, BQTK STOP	✓	✓	✓	✓
4	61536	C/LIFTER, BQTK SLOTTED				
	3545885	C/LIFTER, BQTK D/C				
5	53199	CASE, BQTK C/LIFTER	✓	✓	✓	✓
6	5002420	L/CPLG, BRQTK F/H W/TANG				
	3545402	L/CPLG, BRQTK F/H				
7	5001567	CPLG, BQTK ADAPTER	✓		✓	
8	53202	RING, BQTK LANDING	✓		✓	
9	61517	O/TUBE, BQTK 1.5M/5'				
	61517CP	O/TUBE, BQTK 1.5M/5' C/P				
	3545388	O/TUBE, BQTK 1.5M/5' F/H				
	53193	O/TUBE, BQTK 3M/10'				
	53193CP	O/TUBE, BQTK 3M/10' C/P				
	3545389	O/TUBE, BQTK 3M/10' F/H				
10	53201	STABILIZER, BQTK I/TUBE	✓		✓	
11	61664	PROTECTOR, BQTK O/TUBE THREAD	OPT		OPT	
12	3542827	DRIFT TOOL, LINK LATCH B	OPT	OPT	OPT	OPT
13	61663	LOADING SLEEVE, BRQTK	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - BQTK

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	31402	INNER-TUBE COUPLING
2	53197	INNER-TUBE, 3.0 M (10 FT)
3	62775	INNER-TUBE EXTENDA, 1.5 M (5 FT)

* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.



Example A: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

Inner-Tube Extendas can also be used instead of couplings and additional lower inner-tubes to extend core barrels.

Example B: To extend in 1.5 M (5 FT) lengths:

- 1 outer-tube 1.5 M (5 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 1.5 (5 FT)

Example C: To extend in 3.0 M (10 FT) lengths:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 3.0 M (10 FT)

3542582 - BQTK CORE BARREL SPARE PARTS KIT

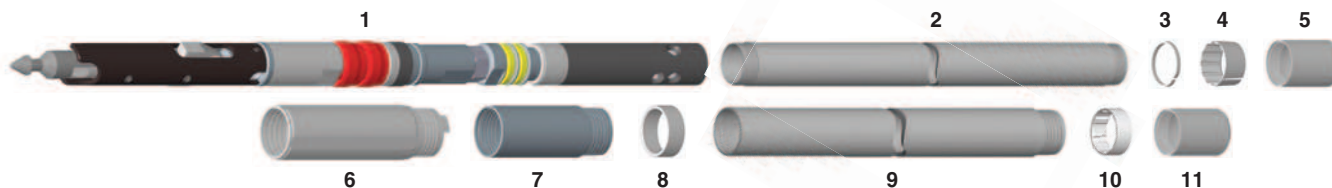
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542582	BQTK CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	23941	SPRING PIN 3/8" X 1-3/4"	2	0.40	0.88
6	3541932	NYLOK BOLT 3/8" -16UNC X 3/4"	2	0.10	0.22
7	3543180	LATCH COMPRESSION SPRING	1	0.05	0.11
8	306435	LATCH	4	0.44	0.97
9	306418	LINK	4	0.08	0.18
10	23944	SPRING PIN 3/8" X 1-1/4"	2	0.02	0.04
11	62374	STAINLESS STEEL BALL, 22 MM	1	0.05	0.11
12	62380	INDICATOR BUSHING	2	0.02	0.04
13	306437	LANDING SHOULDER	1	0.09	0.20
14	44601	HEX NUT	1	0.08	0.18
15	64354	SHUT-OFF VALVE, HARD	4	0.08	0.18
16	24030	THRUST/HANGER BEARING BALL	2	0.14	0.31
17	24336	SPINDLE BUSHING	1	0.43	0.95
18	103144	STOVER LOCK NUT	1	0.03	0.07
19	17447	GREASE FITTING	2	0.02	0.04
20	53198	STOP RING	2	0.20	0.44
21	61536	CORE LIFTER SLOTTED	20	0.60	1.32
22	53199	CORE LIFTER CASE	4	0.44	0.97
23	53202	LANDING RING	2	0.10	0.22
24	53201	INNER-TUBE STABILIZER	2	0.10	0.22
		TOTAL	70	4.13	9.09



BQTKU CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3544019	BQTKU CORE BARREL ASSEMBLY, 1.5M / 5'	3544019			
	3544031	BQTKU INNER TUBE GROUP, 1.5M / 5'		3544031		
	3544025	BQTKU CORE BARREL ASSEMBLY, 3.0M / 10'			3544025	
	3544037	BQTKU INNER TUBE GROUP, 3.0M / 10'				3544037
1	3544014	HEAD ASM, BQTKU Q/P	✓	✓	✓	✓
2	61518	I/TUBE, BQTK 1.5M/5'				
	61518CP	I/TUBE, BQTK 1.5M/5' C/P				
	53197	I/TUBE, BQTK 3M/10'				
	53197CP	I/TUBE, BQTK 3M/10' C/P				
3	53198	RING, BQTK STOP	✓	✓	✓	✓
4	61536	C/LIFTER, BQTK SLOTTED				
	3545885	C/LIFTER, BQTK D/C				
5	53199	CASE, BQTK C/LIFTER	✓	✓	✓	✓
6	3545402	L/CPLG, BRQTK F/H	✓		✓	
7	3546705	CPLG, BQTKU Q/P ADAPTER	✓		✓	
8	53202	RING, BQTK LANDING	✓		✓	
9	61517	O/TUBE, BQTK 1.5M/5'				
	61517CP	O/TUBE, BQTK 1.5M/5' C/P				
	3545388	O/TUBE, BQTK 1.5M/5' F/H				
	53193	O/TUBE, BQTK 3M/10'				
	53193CP	O/TUBE, BQTK 3M/10' C/P				
	3545389	O/TUBE, BQTK 3M/10' F/H				
10	53201	STABILIZER, BQTK I/TUBE	✓		✓	
11	61664	PROTECTOR, BQTK O/TUBE THREAD	OPT		OPT	
12	3542827	DRIFT TOOL, LINK LATCH B	OPT	OPT	OPT	OPT
13	61663	LOADING SLEEVE, BRQTK	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - BQTKU

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	61520	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

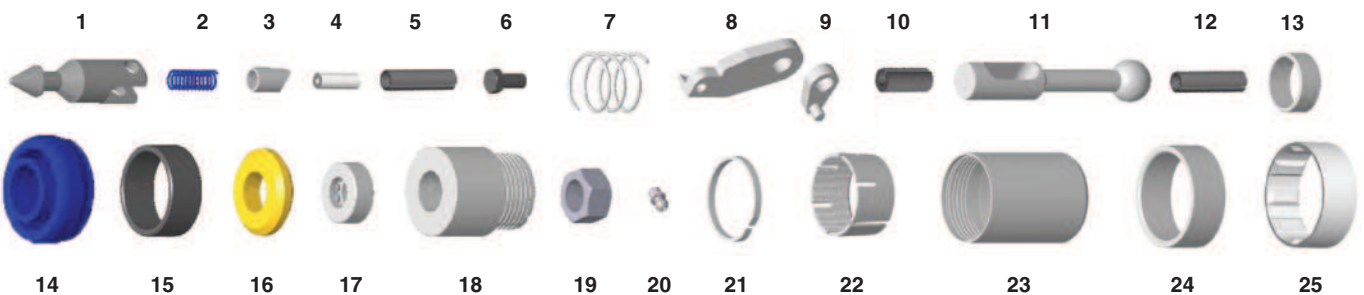


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

3544048 - BQTKU CORE BARREL SPARE PARTS KIT

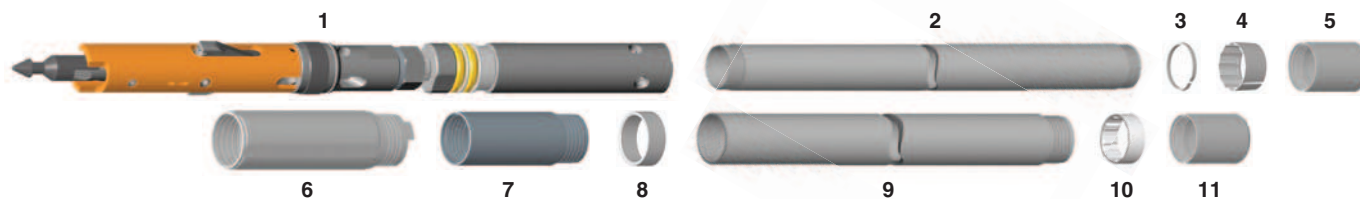
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3544048	BQTKU CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPRING PIN, 7/16" X 1"	1	0.01	0.02
5	23941	SPRING PIN, 3/8" X 1-3/4"	2	0.40	0.88
6	3541932	NYLOK BOLT, 3/8"-16 X 3/4"	2	0.10	0.22
7	3541836	COMPRESSION SPRING	1	0.23	0.51
8	306435	LATCH	4	0.44	0.97
9	306418	LINK	4	0.08	0.18
10	23944	SPRING PIN, 3/8" X 1-1/4"	1	0.01	0.02
11	3547672	PISTON BALL VALVE	1	0.08	0.18
12	23946	SPIROL PIN, 1/4" X 1-5/8"	1	0.02	0.04
13	3543904	LATCH INDICATOR BUSHING	4	0.04	0.09
14	64683	PUMP-IN SEAL LIP	2	0.10	0.22
15	306437	LANDING SHOULDER	2	0.18	0.40
16	64354	SHUT-OFF VALVE, HARD	4	0.08	0.18
17	24030	THRUST BEARING	2	0.14	0.31
18	24336	SPINDLE BUSHING	1	0.43	0.95
19	103144	STOVER LOCK NUT	1	0.03	0.07
20	17447	GREASE FITTING	2	0.02	0.04
21	53198	STOP RING	2	0.20	0.44
22	61536	CORE LIFTER SLOTTED	20	0.60	1.32
23	53199	CORE LIFTER CASE	4	0.44	0.97
24	53202	LANDING RING	2	0.10	0.22
25	53201	INNER-TUBE STABILIZER	2	0.10	0.22
		TOTAL	68	4.13	9.09



NQ CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	306001	NQ CORE BARREL ASSEMBLY, 1.5M / 5'	306001			
	3542920	NQ INNER TUBE GROUP, 1.5M / 5'		3542920		
	306002	NQ CORE BARREL ASSEMBLY, 3.0M / 10'			306002	
	3542921	NQ INNER TUBE GROUP, 3.0M / 10'				3542921
1	3542751	HEAD ASM, NQ				
	3548400	HEAD ASM, NQ Q/D				
2	24909	I/TUBE, NQ 1.5M/5'				
	24909CP	I/TUBE, NQ 1.5M/5' C/P				
	24891	I/TUBE, NQ 3M/10'				
	24891CP	I/TUBE, NQ 3M/10' C/P				
3	24893	RING, NQ STOP	✓	✓	✓	✓
4	30488	C/LIFTER, NQ SLOTTED				
	24894	C/LIFTER, NQ FLUTED				
	3546911	C/LIFTER, NQ D/C SLOTTED				
	3548554	C/LIFTER, NQ FLUTED D/C				
5	24892	CASE, NQ C/LIFTER	✓	✓	✓	✓
6	3545405	L/CPLG, NQ F/H W/TANG				
	3546190	L/CPLG, NQ F/H				
	24895	L/CPLG, NQ CONV W/TANG				
	62764	L/CPLG, NQ CONV				
	3545403	L/CPLG, NRQ F/H W/TANG				
	3545404	L/CPLG, NRQ F/H				
	3541826	L/CPLG, NRQ CONV				
	3541827	L/CPLG, NRQ CONV W/TANG				
7	24896	CPLG, NQ ADAPTER	✓		✓	
8	24897	RING, NQ LANDING	✓		✓	
9	24910	O/TUBE, NQ 1.5M/5'				
	24910CP	O/TUBE, NQ 1.5M/5' C/P				
	3545390	O/TUBE, NQ 1.5M/5' F/H				
	24898	O/TUBE, NQ 3M/10'				
	24898CP	O/TUBE, NQ 3M/10' C/P				
	3545391	O/TUBE, NQ 3M/10' F/H				
10	44407	STABILIZER, NQ I/TUBE	✓		✓	
11	24900	PROTECTOR, NQ O/TUBE THREAD	OPT		OPT	
12	3542637	LOADING SLEEVE, NQ/NRQ	OPT	OPT	OPT	OPT
13	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
14	3541994	MANUAL, I/HT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - NQ

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	31403	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

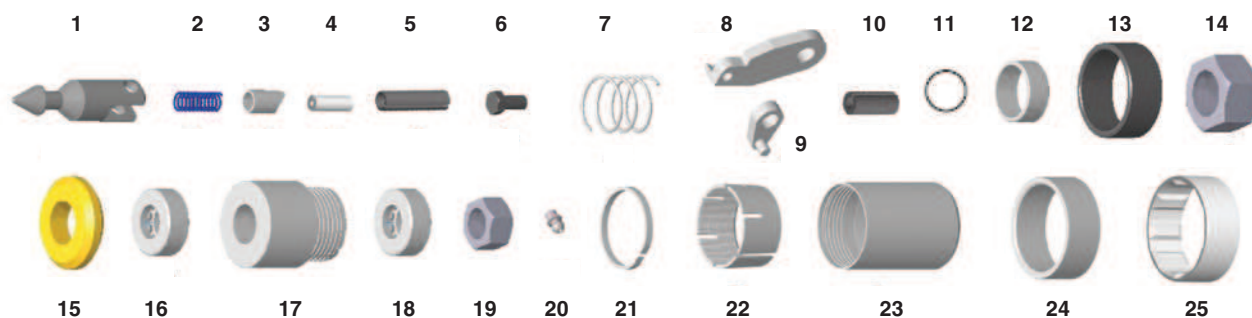


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

3542579 - NQ CORE BARREL SPARE PARTS KIT

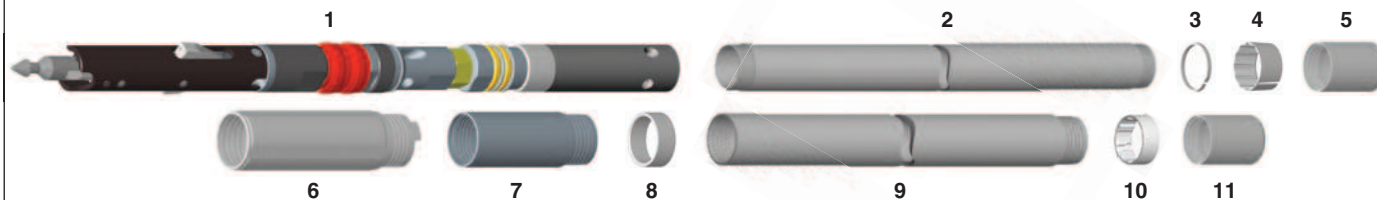
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542579	NQ CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	24305	SPRING PIN 1/2" X 2"	2	0.06	0.13
6	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	2	0.10	0.22
7	3543812	LATCH COMPRESSION SPRING	1	0.03	0.07
8	104816	LATCH	4	0.40	0.88
9	306454	LINK	4	0.12	0.26
10	24548	SPRING PIN 1/2" X 1-1/2"	2	0.04	0.09
11	62374	STAINLESS STEEL BALL, 22 MM	1	0.05	0.11
12	62380	LANDING INDICATOR BUSHING	2	0.02	0.04
13	306009	LANDING SHOULDER	1	0.11	0.24
14	24885	HEX NUT	1	0.16	0.35
15	44209	SHUT-OFF VALVE, HARD	4	0.08	0.18
16	24312	THRUST BEARING	1	0.16	0.35
17	24889	SPINDLE BUSHING	1	0.73	1.61
18	18298	HANGER BEARING	1	0.09	0.20
19	22918	STOVER LOCK NUT	1	0.05	0.11
20	17447	GREASE FITTING	2	0.02	0.04
21	24893	STOP RING	2	0.02	0.04
22	30488	CORE LIFTER SLOTTED	20	1.00	2.20
23	24892	CORE LIFTER CASE	4	0.80	1.76
24	24897	LANDING RING	2	0.36	0.79
25	44407	INNER-TUBE STABILIZER	2	0.28	0.62
		TOTAL	65	5.00	11.00



NQU CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION	3544020	3544032	3544026	3544038
	3544020	NQU CORE BARREL ASSEMBLY, 1.5 M (5 FT)	↓			
	3544032	NQU INNER-TUBE GROUP, 1.5 M (5 FT)		↓		
	3544026	NQU CORE BARREL ASSEMBLY, 3.0 M (10 FT)			↓	
	3544038	NQU INNER-TUBE GROUP, 3.0 M (10 FT)				↓
1	3548625	HEAD ASM, NQU Q/P	✓	✓	✓	✓
2	24909	I/TUBE, NQ 1.5M/5'				
	24909CP	I/TUBE, NQ 1.5M/5' C/P				
	24891	I/TUBE, NQ 3M/10'				
	24891CP	I/TUBE, NQ 3M/10' C/P				
3	24893	RING, NQ STOP	✓	✓	✓	✓
4	30488	C/LIFTER, NQ SLOTTED				
	24894	C/LIFTER, NQ FLUTED				
	3546911	C/LIFTER, NQ D/C SLOTTED				
	3548554	C/LIFTER, NQ FLUTED D/C				
5	24892	CASE, NQ C/LIFTER	✓	✓	✓	✓
6	3546190	L/CPLG, NQ F/H				
	3545404	L/CPLG, NRQ F/H				
	3541826	L/CPLG, NRQ CONV				
	62764	L/CPLG, NQ CONV				
7	3546706	CPLG, NQU Q/P ADAPTER	✓		✓	
8	24897	RING, NQ LANDING	✓		✓	
9	24910	O/TUBE, NQ 1.5M/5'				
	24910CP	O/TUBE, NQ 1.5M/5' C/P				
	3545390	O/TUBE, NQ 1.5M/5' F/H				
	24898	O/TUBE, NQ 3M/10'				
	24898CP	O/TUBE, NQ 3M/10' C/P				
	3545391	O/TUBE, NQ 3M/10' F/H				
10	44407	STABILIZER, NQ I/TUBE	✓		✓	
11	24900	PROTECTOR, NQ O/TUBE THREAD	OPT		OPT	
12	3542637	LOADING SLEEVE, NQ/NRQ	OPT	OPT	OPT	OPT
13	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - NQU

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	31403	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

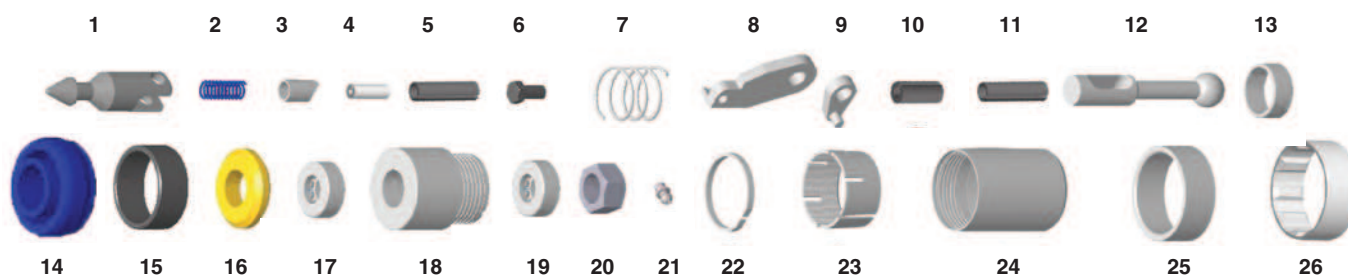


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

5001296 - NQU CORE BARREL SPARE PARTS KIT

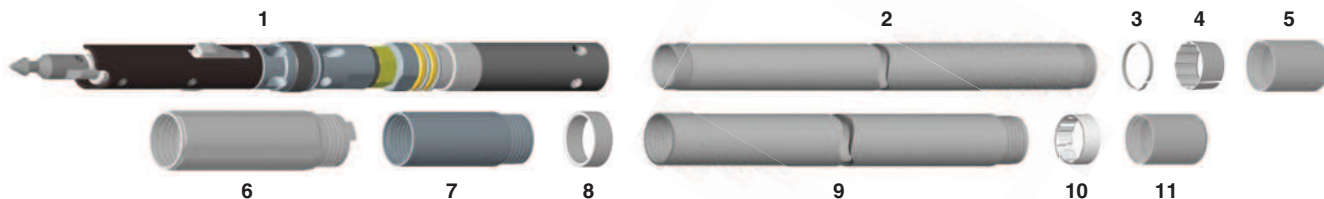
ID #	PART #	DESCRIPTION	QTY	KG	LB
	5001296	NQU CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN, 7/16" X 1"	1	0.01	0.02
5	24305	SPRING PIN, 1/2" X 2"	2	0.06	0.13
6	3541932	NYLOK BOLT, 3/8"-16 X 3/4"	2	0.10	0.22
7	3543136	COMPRESSION SPRING	1	0.05	0.11
8	104816	LATCH	4	0.40	0.88
9	104817	LINK	4	0.12	0.26
10	24548	SPRING PIN, 1/2" X 1-1/2"	1	0.02	0.04
11	24307	SPRING PIN, 1/2" X 2"	1	0.02	0.04
12	3547672	PISTON BALL VALVE	1	0.08	0.18
13	3543904	LATCH INDICATOR BUSHING	4	0.04	0.09
14	64302	PUMP-IN SEAL LIP	4	0.24	0.53
15	306009	LANDING SHOULDER	2	0.22	0.48
16	44209	SHUT-OFF VALVE, HARD	4	0.08	0.18
17	24312	THRUST BEARING	1	0.16	0.35
18	24889	SPINDLE BEARING	1	0.73	1.61
19	18298	HANGER BEARING	1	0.09	0.20
20	22918	STOVER LOCK NUT	1	0.05	0.11
21	17447	GREASE FITTING	2	0.02	0.04
22	24893	STOP RING	2	0.02	0.04
23	30488	CORE LIFTER SLOTTED	20	1.00	2.20
24	24892	CORE LIFTER CASE	4	0.80	1.76
25	24897	LANDING RING	2	0.36	0.79
26	44407	INNER-TUBE STABILIZER	2	0.28	0.62
		TOTAL	73	5.22	11.48



NQTK (NQ2") CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	306012	NQTK CORE BARREL ASSEMBLY, 1.5M / 5'	306012			
	3542922	NQTK INNER TUBE GROUP, 1.5M / 5'		3542922		
	306013	NQTK CORE BARREL ASSEMBLY, 3.0M / 10'			306013	
	3542923	NQTK INNER TUBE GROUP, 3.0M / 10'				3542923
1	3542752	HEAD ASM, NQTK				
	5000450	HEAD ASM, NQTK Q/D				
2	44366	I/TUBE, NQTK 1.5M/5'				
	44366CP	I/TUBE, NQTK 1.5M/5' C/P				
	43601	I/TUBE, NQTK 3M/10'				
	43601CP	I/TUBE, NQTK 3M/10' C/P				
3	29210	RING, NQTK STOP	✓	✓	✓	✓
4	61416	C/LIFTER, NQTK SLOTTED				
	5001510	C/LIFTER, NQTK SLOTTED D/C				
	29211	C/LIFTER, NQTK FLUTED				
	3547571	C/LIFTER, NQTK FLUTED D/C				
5	29209	CASE, NQTK C/LIFTER	✓	✓	✓	✓
6	3545405	L/CPLG, NQ F/H W/TANG				
	3546190	L/CPLG, NQ F/H				
	24895	L/CPLG, NQ CONV W/TANG				
	62764	L/CPLG, NQ CONV				
	3545403	L/CPLG, NRQ F/H W/TANG				
	3545404	L/CPLG, NRQ F/H				
	3541826	L/CPLG, NRQ CONV				
	3541827	L/CPLG, NRQ CONV W/TANG				
7	24896	CPLG, NQ ADAPTER	✓		✓	
8	29214	RING, NQTK LANDING	✓		✓	
9	24910	O/TUBE, NQ 1.5M/5'				
	24910CP	O/TUBE, NQ 1.5M/5' C/P				
	3545390	O/TUBE, NQ 1.5M/5' F/H				
	24898	O/TUBE, NQTK 3M/10'				
	24898CP	O/TUBE, NQTK 3M/10' C/P				
	3545391	O/TUBE, NQTK 3M/10' F/H				
10	43812	STABILIZER, NQTK I/TUBE	✓		✓	
11	24900	PROTECTOR, NQ O/TUBE THREAD	OPT		OPT	
12	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
13	3542637	LOADING SLEEVE, NQ/NRQ	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED - CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - NQTK

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	101999	INNER-TUBE COUPLING
2	63033	LOWER INNER-TUBE, 3.0 M (10 FT)
3	104884	INNER-TUBE EXTENDA, 1.5 M (5 FT)
4	102023	INNER-TUBE EXTENDA, 3.0 M (10 FT)

* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.



Example A: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

Inner-Tube Extendas can also be used instead of couplings and additional lower inner-tubes to extend core barrels.

Example B: To extend in 1.5 M (5 FT) lengths:

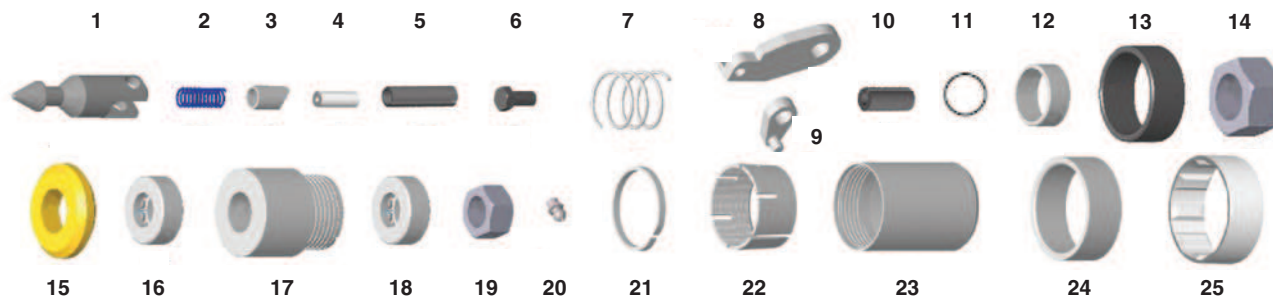
- 1 outer-tube 1.5 M (5 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 1.5 (5 FT)

Example C: To extend in 3.0 M (10 FT) lengths:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 3.0 (10 FT)

3542583 - NQTK CORE BARREL SPARE PARTS KIT

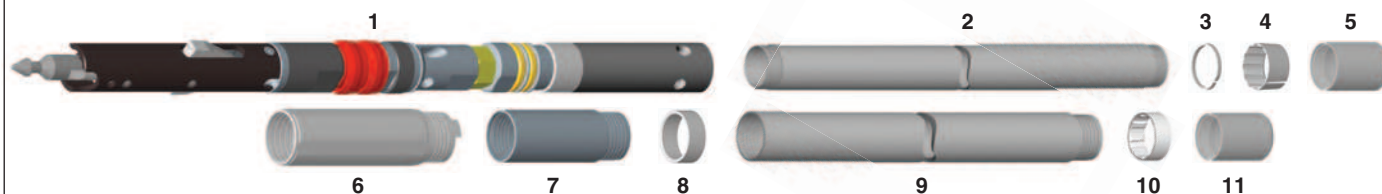
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542583	NQTK CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	24305	SPRING PIN 1/2" X 2"	2	0.06	0.13
6	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	2	0.10	0.22
7	3543812	LATCH COMPRESSION SPRING	1	0.03	0.07
8	104816	LATCH	4	0.40	0.88
9	306454	LINK	4	0.12	0.26
10	24548	SPRING PIN 1/2" X 1-1/2"	2	0.04	0.09
11	62374	STAINLESS STEEL BALL, 22 MM	1	0.05	0.11
12	62380	LANDING INDICATOR BUSHING	2	0.02	0.04
13	306026	LANDING SHOULDER	1	0.14	0.31
14	24885	HEX NUT	1	0.16	0.35
15	44209	SHUT-OFF VALVE, HARD	4	0.08	0.18
16	24312	THRUST BEARING	1	0.16	0.35
17	24889	SPINDLE BUSHING	1	0.73	1.61
18	18298	HANGER BEARING	1	0.09	0.20
19	22918	STOVER LOCK NUT	1	0.05	0.11
20	17447	GREASE FITTING	2	0.02	0.04
21	29210	STOP RING	2	0.02	0.04
22	61416	CORE LIFTER SLOTTED	20	0.80	1.76
23	29209	CORE LIFTER CASE	4	0.64	1.41
24	29214	LANDING RING	2	0.28	0.62
25	43812	INNER-TUBE STABILIZER	2	0.28	0.62
		TOTAL	65	4.59	10.10



NQTKU (NQ2"U) CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3544021	NQTKU CORE BARREL ASSEMBLY, 1.5M / 5'	3544021			
	3544033	NQTKU INNER TUBE GROUP, 1.5M / 5'		3544033		
	3544027	NQTKU CORE BARREL ASSEMBLY, 3.0M / 10'			3544027	
	3544039	NQTKU INNER TUBE GROUP, 3.0M / 10'				3544039
1	3549598	HEAD ASM, NQ2U Q/P	✓	✓	✓	✓
2	44366	I/TUBE, NQTKU 1.5M/5'				
	44366CP	I/TUBE, NQTKU 1.5M/5' C/P				
	43601	I/TUBE, NQTKU 3M/10'				
	43601CP	I/TUBE, NQTKU 3M/10' C/P				
3	29210	RING, NQ2" STOP	✓	✓	✓	✓
4	61416	C/LIFTER, NQ2" SLOTTED				
	5001510	C/LIFTER, NQTK SLOTTED D/C				
	29211	C/LIFTER, NQ2" FLUTED				
	3547571	C/LIFTER, NQ2 FLUTED D/C				
5	29209	CASE, NQ2" C/LIFTER	✓	✓	✓	✓
6	3546190	L/CPLG, NQ F/H				
	3545404	L/CPLG, NRQ F/H				
	3541826	L/CPLG, NRQ CONV				
	62764	L/CPLG, NQ CONV				
7	3546706	CPLG, NQU Q/P ADAPTER	✓		✓	
8	29214	RING, NQ2" LANDING	✓		✓	
9	24910	O/TUBE, NQ 1.5M/5'				
	24910CP	O/TUBE, NQ 1.5M/5' C/P				
	3545390	O/TUBE, NQ 1.5M/5' F/H				
	24898	O/TUBE, NQTK 3M/10'				
	24898CP	O/TUBE, NQTK 3M/10' C/P				
	3545391	O/TUBE, NQTK 3M/10' F/H				
10	43812	STABILIZER, NQ2" I/TUBE	✓		✓	
11	24900	PROTECTOR, NQ O/TUBE THREAD	OPT		OPT	
12	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
13	3542637	LOADING SLEEVE, NQ/NRQ	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - NQTKU

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	101999	INNER-TUBE COUPLING
2	63033	LOWER INNER-TUBE, 3.0 M (10 FT)
3	104884	INNER-TUBE EXTENDA, 1.5 M (5 FT)
4	102023	INNER-TUBE EXTENDA, 3.0 M (10 FT)

* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.



Example A: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

Inner-Tube Extendas can also be used instead of couplings and additional lower inner-tubes to extend core barrels.

Example B: To extend in 1.5 M (5 FT) lengths:

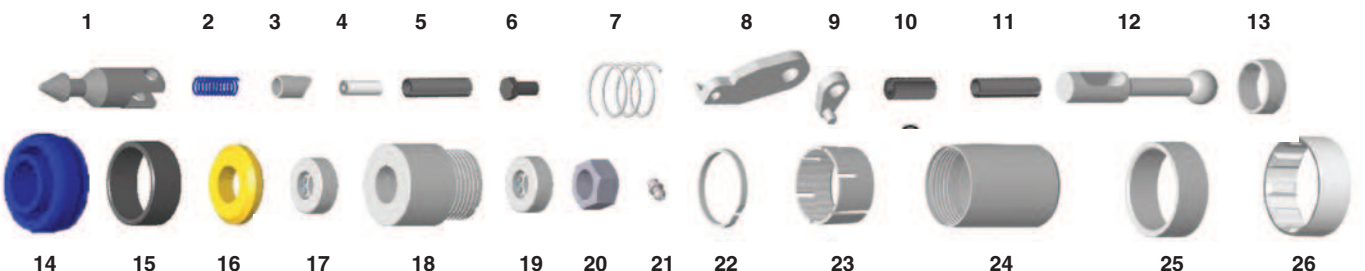
- 1 outer-tube 1.5 M (15 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 1.5 (5 FT)

Example C: To extend in 3.0 M (10 FT) lengths:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube extenda 3.0 (10 FT)

3544050 - NQTKU CORE BARREL SPARE PARTS KIT

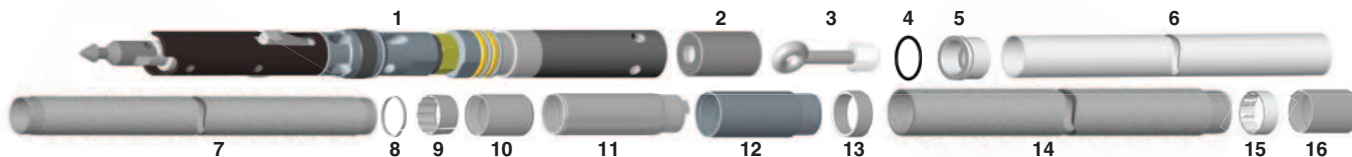
ID #	PART #	DESCRIPTION	QTY	KG	LB
	5001568	NQTKU CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN, 7/16" X 1"	1	0.01	0.02
5	24305	SPRING PIN, 1/2" X 2"	2	0.06	0.13
6	3541932	NYLOK BOLT, 3/8"-16 X 3/4"	2	0.10	0.22
7	3543136	LATCH COMPRESSION SPRING	1	0.05	0.11
8	104816	LATCH	4	0.40	0.88
9	104817	LINK	4	0.12	0.26
10	24548	SPRING PIN, 1/2" X 1-1/2"	1	0.02	0.04
11	3543944	NYLOK SHOULDER BOLT, 3/8 x 1.5"LG	1	0.03	0.07
12	3543902	NYLOK MACHINE SCREW, 1/4 x 1/2"LG	4	0.04	0.09
13	3543904	LATCH INDICATOR BUSHING	4	0.04	0.09
14	64302	PUMP-IN SEAL	4	0.24	0.53
15	306026	LANDING SHOULDER	2	0.28	0.62
16	44209	SHUT-OFF VALVE, HARD	4	0.08	0.18
17	24312	THRUST BEARING	1	0.16	0.35
18	43812	SPINDLE BUSHING	1	0.73	1.61
19	18298	HANGER BEARING	1	0.09	0.20
20	22918	STOVER LOCK NUT	1	0.05	0.11
21	17447	GREASE FITTING	2	0.02	0.04
22	29210	STOP RING	2	0.02	0.04
23	61416	CORE LIFTER SLOTTED	20	0.80	1.76
24	29209	CORE LIFTER CASE	4	0.64	1.41
25	29214	LANDING RING	2	0.28	0.62
26	43812	INNER-TUBE STABILIZER	2	0.28	0.62
		TOTAL	73	4.84	10.65



NQ3 CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION	3540572	3542924	3540573	3542925
	3540572	NQ3 CORE BARREL ASSEMBLY, 1.5M / 5'	3540572			
	3542924	NQ3 INNER TUBE GROUP, 1.5M / 5'		3542924		
	3540573	NQ3 CORE BARREL ASSEMBLY, 3.0M / 10'			3540573	
	3542925	NQ3 INNER TUBE GROUP, 3.0M / 10'				3542925
1	3542751	HEAD ASM, NQ	✓	✓	✓	✓
2	26532	ADAPTER, NQ3 PUMP-OUT	✓	✓	✓	✓
3	26662	PLUG, PISTON	✓	✓	✓	✓
4	26134	O-RING,	✓	✓	✓	✓
5	26526	PISTON, NQ3 CORE EJECTION	✓	✓	✓	✓
6	26527	TUBE, NQ3 1.5M/5' SPLIT	✓	✓		
	26528	TUBE, NQ3 3M/10' SPLIT			✓	✓
7	24909	I/TUBE, NQ 1.5M/5'	✓	✓		
	24891	I/TUBE, NQ 3M/10'			✓	✓
8	26530	RING, NQ3 STOP	✓	✓	✓	✓
9	26531	C/LIFTER, NQ3 FLUTED				
	3547181	C/LIFTER, NQ3 FLUTED D/C				
10	26529	CASE, NQ3 C/LIFTER	✓	✓	✓	✓
11	62764	L/CPLG, NQ CONV				
	24895	L/CPLG, NQ CONV W/TANG				
	3541826	L/CPLG, NRQ CONV				
	3541827	L/CPLG, NRQ CONV W/TANG				
12	24896	CPLG, NQ ADAPTER	✓		✓	
13	24897	RING, NQ LANDING	✓		✓	
14	24910	O/TUBE, NQ 1.5M/5'				
	24910CP	O/TUBE, NQ 1.5M/5' C/P				
	24898	O/TUBE, NQ 3M/10'				
	24898CP	O/TUBE, NQ 3M/10' C/P				
15	44407	STABILIZER, NQ I/TUBE	✓		✓	
16	24900	PROTECTOR, NQ O/TUBE THREAD	OPT		OPT	
17	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
18	3542637	LOADING SLEEVE, NQ/NRQ	OPT	OPT	OPT	OPT
19	3541994	MANUAL, ITHT PRODUCT	✓		✓	
20	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



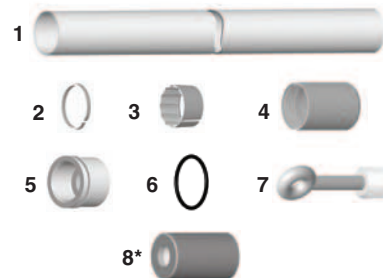
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

CORE BARREL CONVERSION KITS - NQ3

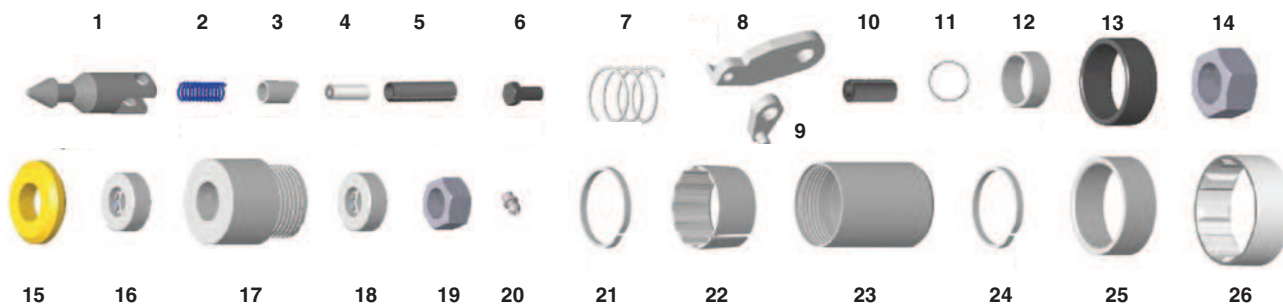
Q - Q3 CORE BARREL			
1-8	40941	NQ TO NQ3 CONVERSION KIT, 1.5 M (5 FT)	
1-8	40940	NQ TO NQ3 CONVERSION KIT, 3.0 M (10 FT)	
PARTS			QTY
1	26527	SPLIT TUBE, 1.5 M (5 FT)	1
1	26528	SPLIT TUBE, 3.0 M (10 FT)	1
2	26530	STOP RING	1
3	26531	CORE LIFTER, FLUTED	1
4	26529	CORE LIFTER CASE	1
5	26526	CORE EJECTION PISTON	1
6	26134	O RING	1
7	26662	PISTON PLUG	1
8	26532	PUMP-OUT ADAPTER	1



* Fluid pressure supplied with optional hand pump group or pump-out group.

3540584 - NQ3 CORE BARREL SPARE PARTS KIT

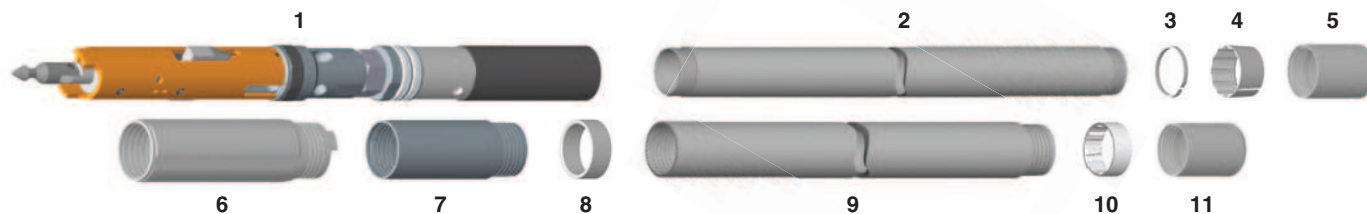
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3540584	NQ3 CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	24305	SPRING PIN 1/2" X 2"	2	0.06	0.13
6	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	2	0.10	0.22
7	3543812	LATCH COMPRESSION SPRING	1	0.03	0.07
8	104816	LATCH	4	0.40	0.88
9	306454	LINK	4	0.12	0.26
10	24548	SPRING PIN 1/2" X 1-1/2"	2	0.04	0.09
11	62374	STAINLESS STEEL BALL, 22 MM	1	0.05	0.11
12	62380	LANDING INDICATOR BUSHING	2	0.02	0.04
13	306009	LANDING SHOULDER	1	0.11	0.24
14	24885	HEX NUT	1	0.16	0.35
15	44209	SHUT-OFF VALVE, HARD	4	0.08	0.18
16	24312	THRUST BEARING	1	0.16	0.35
17	24889	SPINDLE BUSHING	1	0.73	1.61
18	18298	HANGER BEARING	1	0.09	0.20
19	22918	STOVER LOCK NUT	1	0.05	0.11
20	17447	GREASE FITTING	2	0.02	0.04
21	26530	STOP RING	2	0.02	0.04
22	26531	CORE LIFTER, FLUTED	20	1.00	2.20
23	26529	CORE LIFTER CASE	4	1.00	2.20
24	26134	O RING	5	0.05	0.11
25	24897	LANDING RING	2	0.36	0.79
26	44407	INNER-TUBE STABILIZER	2	0.28	0.62
		TOTAL	70	5.25	11.55



HQ CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3542946	HQ CORE BARREL ASSEMBLY, 1.5M / 5'	3542946			
	3542942	HQ INNER TUBE GROUP, 1.5M / 5'		3542942		
	3542947	HQ CORE BARREL ASSEMBLY, 3.0M / 10'			3542947	
	3542943	HQ INNER TUBE GROUP, 3.0M / 10'				3542943
1	5001440	HEAD ASM, HQ				
	3548500	HEAD ASM, HQ Q/D				
2	25258	I/TUBE, HQ 1.5M/5'				
	25258CP	I/TUBE, HQ 1.5M/5' C/P				
	25236	I/TUBE, HQ 3M/10'				
	25236CP	I/TUBE, HQ 3M/10' C/P				
3	25238	RING, HQ STOP	✓	✓	✓	✓
4	30489	C/LIFTER, HQ SLOTTED				
	3546912	C/LIFTER, HQ D/C SLOTTED				
	25239	C/LIFTER, HQ FLUTED				
	3548555	C/LIFTER, HQ FLUTED D/C				
5	25237	CASE, HQ C/LIFTER	✓	✓	✓	✓
6	3545409	L/CPLG, HQ F/H W/TANG				
	3545410	L/CPLG, HQ F/H				
	25240	L/CPLG, HQ CONV W/TANG				
	62765	L/CPLG, HQ CONV				
	306256	L/CPLG, HRQ CONV				
	3541829	L/CPLG, HRQ CONV W/TANG				
	3545408	L/CPLG, HRQ F/H				
	3545407	L/CPLG, HRQ F/H W/TANG				
7	25241	CPLG, HQ ADAPTER	✓		✓	
8	25242	RING, HQ LANDING	✓		✓	
9	25259	O/TUBE, HQ 1.5M/5'				
	25259CP	O/TUBE, HQ 1.5M/5' C/P				
	3545392	O/TUBE, HQ 1.5M/5' F/H				
	25243	O/TUBE, HQ 3M/10'				
	25243CP	O/TUBE, HQ 3M/10' C/P				
	3545393	O/TUBE, HQ 3M/10' F/H				
10	44408	STABILIZER, HQ I/TUBE	✓		✓	
11	25245	PROTECTOR, HQ O/TUBE THREAD	OPT		OPT	
12	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
13	3542638	LOADING SLEEVE, HQ/HRQ	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - HQ

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	31404	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

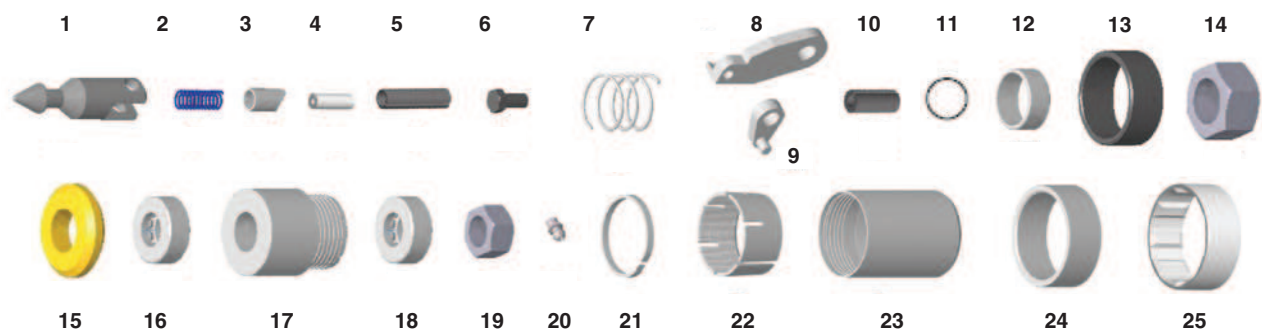


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

3542580 - HQ CORE BARREL SPARES PARTS KIT

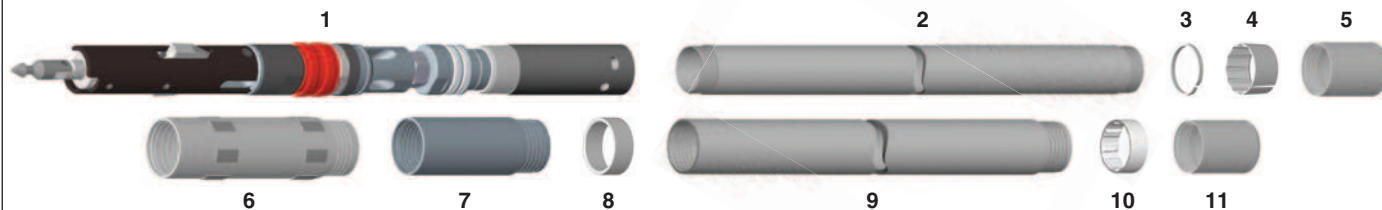
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542580	HQ CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	24524	SPRING PIN 1/2" X 2-3/4"	2	0.08	0.18
6	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	2	0.10	0.22
7	3543619	COMPRESSION SPRING	1	0.04	0.09
8	104818	LATCH	4	1.36	2.99
9	306216	LINK	4	0.24	0.53
10	24305	SPRING PIN 1/2" X 2"	2	0.06	0.13
11	62374	STAINLESS STEEL BALL, 22 MM	1	0.05	0.11
12	62380	LANDING INDICATOR BUSHING	2	0.02	0.04
13	104958	LANDING SHOULDER	1	0.17	0.37
14	44574	HEX NUT	1	0.32	0.70
15	43513	SHUT-OFF VALVE, HARD	4	0.20	0.44
16	24528	THRUST BEARING	2	0.46	1.01
17	25234	SPINDLE BUSHING	1	1.38	3.04
18	24312	HANGER BEARING	1	0.16	0.35
19	103465	STOVER LOCK NUT	1	0.12	0.26
20	17447	GREASE FITTING	2	0.02	0.04
21	25238	STOP RING	2	0.04	0.09
22	30489	CORE LIFTER SLOTTED	20	2.20	4.84
23	25237	CORE LIFTER CASE	4	1.36	2.99
24	25242	LANDING RING	2	0.58	1.28
25	44408	INNER-TUBE STABILIZER	2	0.50	1.10
		TOTAL	66	9.78	21.52



HQU CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3544022	HQU CORE BARREL ASSEMBLY, 1.5M / 5'	3544022			
	3544034	HQU INNER TUBE GROUP, 1.5M / 5'		3544034		
	3544028	HQU CORE BARREL ASSEMBLY, 3.0M / 10'			3544028	
	3544040	HQU INNER TUBE GROUP, 3.0M / 10'				3544040
1	3548750	HEAD ASM, HQU Q/P	✓	✓	✓	✓
2	25258	I/TUBE, HQ 1.5M/5'				
	25258CP	I/TUBE, HQ 1.5M/5' C/P				
	25236	I/TUBE, HQ 3M/10'				
	25236CP	I/TUBE, HQ 3M/10' C/P				
3	25238	RING, HQ STOP	✓	✓	✓	✓
4	30489	C/LIFTER, HQ SLOTTED				
	3546912	C/LIFTER, HQ D/C SLOTTED				
	25239	C/LIFTER, HQ FLUTED				
	3548555	C/LIFTER, HQ FLUTED D/C				
5	25237	CASE, HQ C/LIFTER	✓	✓	✓	✓
6	3545410	L/CPLG, HQ F/H				
	3545408	L/CPLG, HRQ F/H				
	306256	L/CPLG, HRQ CONV				
	62765	L/CPLG, HQ CONV				
7	3546707	CPLG, HQU Q/P ADAPTER	✓		✓	
8	25242	RING, HQ LANDING	✓		✓	
9	25259	O/TUBE, HQ 1.5M/5'				
	25259CP	O/TUBE, HQ 1.5M/5' C/P				
	3545392	O/TUBE, HQ 1.5M/5' F/H				
	25243	O/TUBE, HQ 3M/10'				
	25243CP	O/TUBE, HQ 3M/10' C/P				
	3545393	O/TUBE, HQ 3M/10' F/H				
10	44408	STABILIZER, HQ I/TUBE	✓		✓	
11	25245	PROTECTOR, HQ O/TUBE THREAD	OPT		OPT	
12	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
13	3542638	LOADING SLEEVE, HQ/HRQ	OPT	OPT	OPT	OPT
14	3541994	MANUAL, ITHT PRODUCT	✓		✓	
15	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



REQUIRED - CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - HQU

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 4.5 M (15 FT), or 3.0 M (10 FT) to 6.0 M (20 FT) lengths in consolidated ground conditions.

1	31404	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

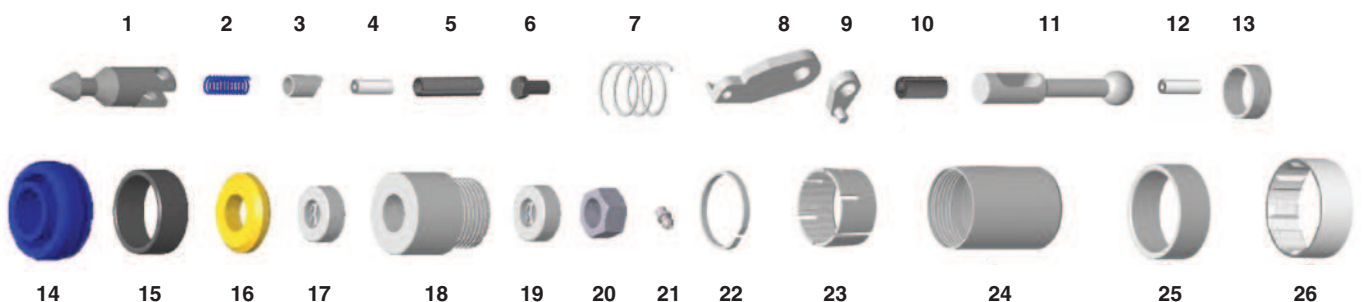


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

5001367 - HQU CORE BARREL SPARES PARTS KIT

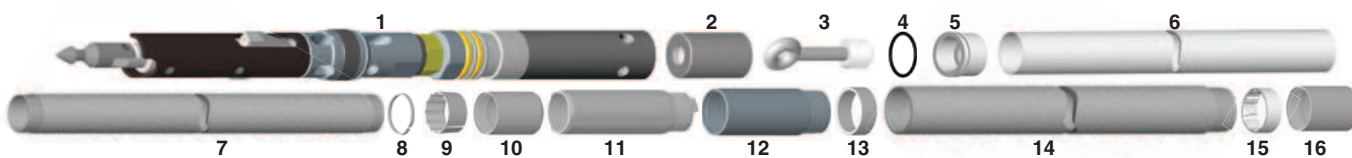
ID #	PART #	DESCRIPTION	QTY	KG	LB
	5001367	HQU CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN, 7/16" X 1"	1	0.01	0.02
5	24524	SPRING PIN, 1/2" X 2-3/4"	2	0.08	0.18
6	3541932	NYLOK BOLT, 3/8"-16 X 3/4"	2	0.10	0.22
7	3543047	COMPRESSION SPRING	1	0.23	0.51
8	104818	LATCH	4	1.36	2.99
9	3543999	LINK	4	0.12	0.26
10	24305	SPRING PIN, 1/2" X 2"LG	1	0.03	0.07
11	3548544	PISTON BALL VALVE	1	0.08	0.18
12	3548718	SPIROL PIN 1/4" X 2-3/4"	4	0.01	0.02
13	3543904	LATCH INDICATOR BUSHING	4	0.04	0.09
14	100696	PUMP-IN SEAL	4	0.40	0.88
15	104958	LANDING SHOULDER	2	0.34	0.75
16	43513	SHUT-OFF VALVE, HARD	4	0.20	0.44
17	24528	THRUST BEARING	2	0.46	1.01
18	25234	SPINDLE BUSHING	1	1.38	3.04
19	24312	THRUST BEARING	1	0.16	0.35
20	103465	STOVER LOCK NUT	1	0.12	0.26
21	17447	GREASE FITTING	1	0.01	0.02
22	25238	STOP RING	2	0.04	0.09
23	30489	CORE LIFTER SLOTTED	20	2.20	4.84
24	25237	CORE LIFTER CASE	4	1.36	2.99
25	25242	LANDING RING	2	0.58	1.28
26	44408	INNER-TUBE STABILIZER	2	0.50	1.10
		TOTAL	73	10.09	22.20



HQ3 CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3542948	HQ3 CORE BARREL ASSEMBLY, 1.5M / 5'	3542948			
	3542944	HQ3 INNER TUBE GROUP, 1.5M / 5'		3542944		
	3542949	HQ3 CORE BARREL ASSEMBLY, 3.0M / 10'			3542949	
	3542945	HQ3 INNER TUBE GROUP, 3.0M / 10'				3542945
1	5001440	HEAD ASM, HQ	✓	✓	✓	✓
2	26517	ADAPTER, HQ3 PUMP-OUT	✓	✓	✓	✓
3	26662	PLUG, PISTON	✓	✓	✓	✓
4	20651	O-RING, #229	✓	✓	✓	✓
5	26510	PISTON, HQ3 CORE EJECTION	✓	✓	✓	✓
6	26512	TUBE, HQ3 1.5M/5' SPLIT	✓	✓		
	26513	TUBE, HQ3 3M/10' SPLIT			✓	✓
7	25258	I/TUBE, HQ 1.5M/5'	✓	✓		
	25236	I/TUBE, HQ 3M/10'			✓	✓
8	26515	RING, HQ3 STOP	✓	✓	✓	✓
9	26516	C/LIFTER, HQ3 FLUTED				
	3547137	C/LIFTER, HQ3 FLUTED D/C				
10	26514	CASE, HQ3 C/LIFTER	✓	✓	✓	✓
11	62765	L/CPLG, HQ CONV				
	25240	L/CPLG, HQ CONV W/TANG				
	306256	L/CPLG, HRQ CONV				
	3541829	L/CPLG, HRQ CONV W/TANG				
12	25241	CPLG, HQ ADAPTER	✓		✓	
13	25242	RING, HQ LANDING	✓		✓	
14	25259	O/TUBE, HQ 1.5M/5'				
	25259CP	O/TUBE, HQ 1.5M/5' C/P				
	25243	O/TUBE, NQ 3M/10'				
	25243CP	O/TUBE, NQ 3M/10' C/P				
15	44408	STABILIZER, HQ I/TUBE	✓		✓	
16	24900	PROTECTOR, NQ O/TUBE THREAD	OPT		OPT	
17	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
18	3542637	LOADING SLEEVE, NQ/NRQ	OPT	OPT	OPT	OPT
19	3541994	MANUAL, ITHT PRODUCT	✓		✓	
20	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



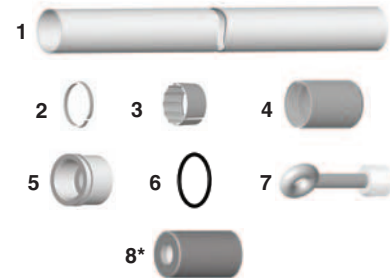
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

CORE BARREL CONVERSION KITS - HQ3

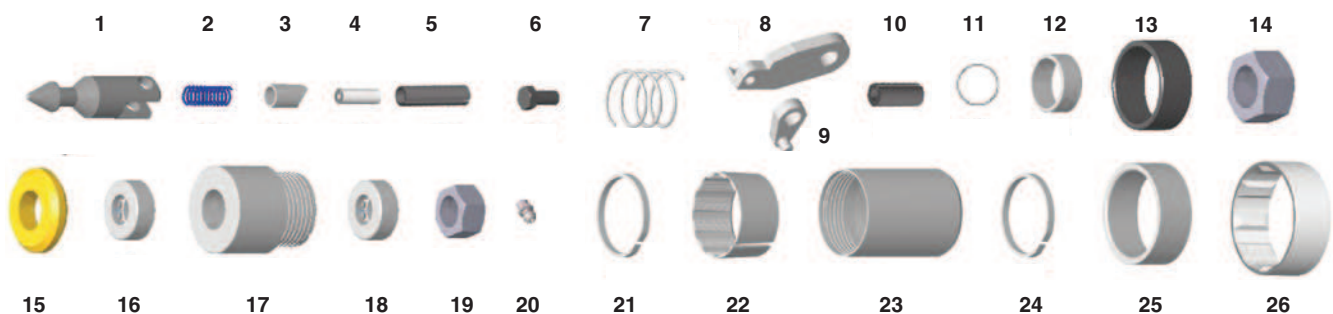
Q - Q3 CORE BARREL			
1-8	3542988	HQ TO HQ3 CONVERSION KIT, 1.5 M (5 FT)	
1-8	3542989	HQ TO HQ3 CONVERSION KIT, 3.0 M (10 FT)	
PARTS			QTY
1	26512	SPLIT TUBE, 1.5 M (5 FT)	1
1	26513	SPLIT TUBE, 3.0 M (10 FT)	1
2	26515	STOP RING	1
3	26516	CORE LIFTER, FLUTED	1
4	26514	CORE LIFTER CASE	1
5	26510	CORE EJECTION PISTON	1
6	20651	O RING	1
7	26662	PISTON PLUG	1
8	26517	PUMP-OUT ADAPTER	1



* Fluid pressure supplied with optional hand pump group or pump-out group.

3540592 - HQ3 CORE BARREL SPARE PARTS KIT

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3540592	HQ3 CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	24524	SPRING PIN 1/2" X 2-3/4"	2	0.08	0.18
6	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	2	0.10	0.22
7	3543619	COMPRESSION SPRING	1	0.04	0.09
8	104818	LATCH	4	1.36	2.99
8	306216	LINK	4	0.24	0.53
10	24305	SPRING PIN 1/2" X 2"	2	0.06	0.13
11	62374	STAINLESS STEEL BALL, 22 MM	1	0.05	0.11
12	62380	LANDING INDICATOR BUSHING	2	0.02	0.04
13	104958	LANDING SHOULDER	1	0.17	0.37
14	44574	HEX NUT	1	0.32	0.70
15	43513	SHUT-OFF VALVE, HARD	4	0.20	0.44
16	24528	THRUST BEARING	2	0.46	1.01
17	25234	SPINDLE BUSHING	1	1.38	3.04
18	24312	HANGER BEARING	1	0.16	0.35
19	103465	STOVER LOCK NUT	1	0.12	0.26
20	17447	GREASE FITTING	2	0.02	0.04
21	26515	STOP RING	2	0.04	0.09
22	26516	CORE LIFTER, FLUTED	20	2.00	4.40
23	26514	CORE LIFTER CASE	4	1.72	3.78
24	20651	O RING	5	0.05	0.11
25	25242	LANDING RING	2	0.58	1.28
26	44408	INNER-TUBE STABILIZER	2	0.50	1.10
		TOTAL	71	9.99	21.98

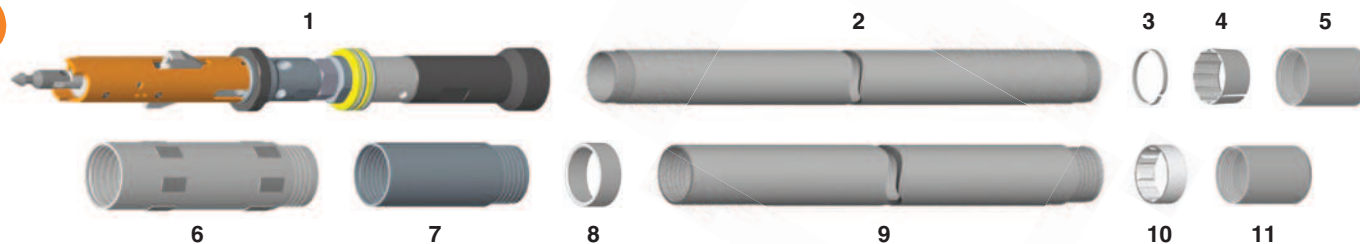


PQ CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3543865	PQ CORE BARREL ASSEMBLY, 1.5M / 5'	3543865			
	3543863	PQ INNER TUBE GROUP, 1.5M / 5'		3543863		
	3543866	PQ CORE BARREL ASSEMBLY, 3.0M / 10'			3543866	
	3543864	PQ INNER TUBE GROUP, 3.0M / 10'				3543864
1	5001444	HEAD ASM, PQ				
	3549000	HEAD ASM, PQ Q/D				
2	26159	I/TUBE, PQ 1.5M/5'				
	26159CP	I/TUBE, PQ 1.5M/5' C/P				
	26534	I/TUBE, PQ 3M/10'				
	26534CP	I/TUBE, PQ 3M/10' C/P				
3	26161	RING, PQ STOP	✓	✓	✓	✓
4	26162	C/LIFTER, PQ FLUTED				
	3548626	C/LIFTER, PQ FLUTED D/C				
5	52172	CASE, PQ C/LIFTER	✓	✓	✓	✓
6	101343	L/CPLG, PHD CONV W/TANG				
	101105	L/CPLG, PHD CONV				
	3000394	L/CPLG, PHD R/B PQ R/P				
7	3543808	CPLG, ADAPTER PHD				
	3002506	CPLG, ADAPTER PQ/PHD				
8	3543814	RING, PQ LANDING	✓		✓	
9	3543802	O/TUBE, PHD/PQ 1.5M/5'				
	3543802CP	O/TUBE, PHD/PQ 1.5M/5' CP				
	3543801	O/TUBE, PHD/PQ 3M/10'				
	3543801CP	O/TUBE, PHD/PQ 3M/10' CP				
10	44923	STABILIZER, PQ I/TUBE	✓		✓	
11	26168	PROTECTOR, PQ O/TUBE THREAD	OPT		OPT	
12	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
13	3541994	MANUAL, ITHT PRODUCT	✓		✓	
14	306390	POSTER, C/BBL SAFETY	✓		✓	

50



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

EXTENDED CORE BARRELS - PQ

The inner-tube coupling and lower inner-tube can be used to extend core barrels from 1.5 M (5 FT) to 3.0 m, 4.5 m or 6.0 m (10 ft, 15 ft, or 20 ft) lengths in consolidated ground conditions.

1	3543861	INNER-TUBE COUPLING
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* Core barrel extensions for use when utilizing extended reaming shells can be found on page 106.

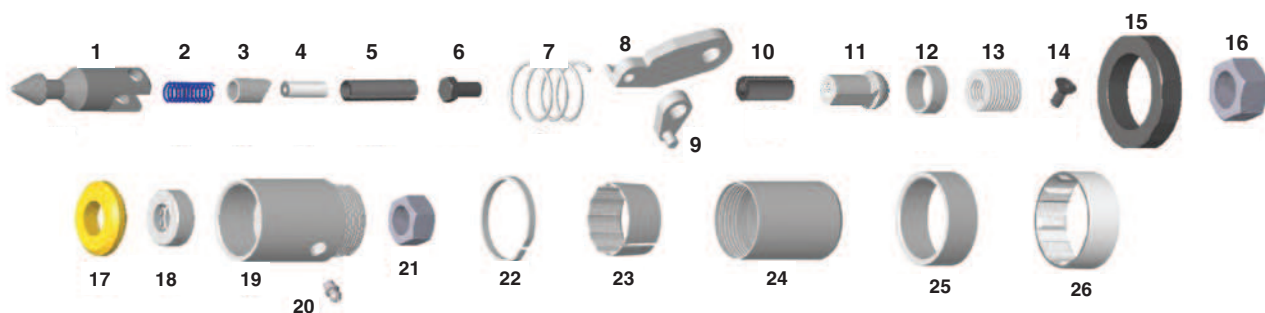


Example: To assemble a 6.0 M (20 FT) core barrel, use a 3.0 M (10 FT) core barrel plus the following:

- 1 outer-tube 3.0 M (10 FT)
- 1 inner-tube stabilizer
- 1 additional adapter coupling
- 1 inner-tube 3.0 M (10 FT)
- 1 inner-tube coupling

3543862 - PQ CORE BARREL SPARE PARTS KIT

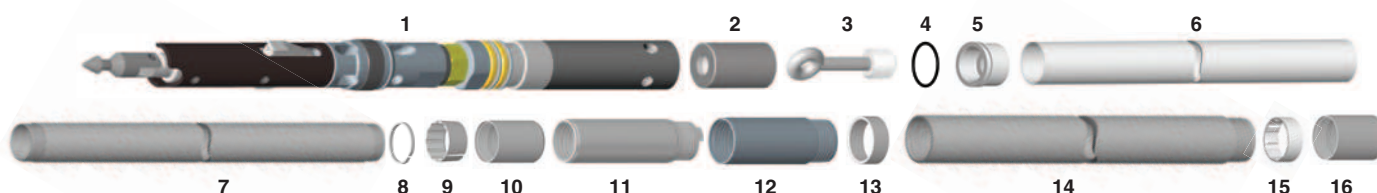
ID #	PART #	DESCRIPTION	QTY	KG	LB
	3543862	PQ CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	24524	SPRING PIN 1/2" X 2-3/4"	2	0.08	0.18
6	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	2	0.10	0.22
7	3543619	LATCH COMPRESSION SPRING	1	0.04	0.09
8	3543796	LATCH	4	1.52	3.34
9	306216	LINK	4	0.24	0.53
10	24305	SPRING PIN 1/2" X 2"	2	0.06	0.13
11	3540152	STEEL THREADED STEEL BALL, 22 MM	1	0.07	0.15
12	306131	FLUID RETENTION BUSHING	1	0.03	0.07
13	104966	FLUID RETENTION SPRING, LIGHT	1	0.03	0.07
14	3541117	NYLOK INSERT MACHINE SCREW	2	0.02	0.04
15	3543797	LANDING SHOULDER	1	0.74	1.63
16	44574	HEX NUT	1	0.32	0.70
17	3540308	SHUT-OFF VALVE, HARD	4	0.40	0.88
18	24528	THRUST BEARING	2	0.46	1.01
19	3540794	Q/D BUSHING	1	1.66	3.65
20	17447	GREASE FITTING	2	0.02	0.04
21	103062	STOVER LOCK NUT	1	0.23	0.51
22	26161	STOP RING	2	0.14	0.31
23	26162	FLUTED CORE LIFTER	20	4.20	9.24
24	52172	CORE LIFTER CASE	4	2.72	5.98
25	3543814	LANDING RING	2	0.48	1.06
26	44923	INNER-TUBE STABILIZER	2	0.70	1.54
27	3542987	HEAD ASSEMBLY TOOL (NOT SHOWN)	1	0.23	0.51
		TOTAL	68	14.81	32.58



PQ3 CORING SYSTEM SELECTION

1.5 M (5 FT) AND 3.0 M (10 FT) CORE BARREL

ID #	PART #	DESCRIPTION				
	3543869	PQ3 CORE BARREL ASSEMBLY, 1.5M / 5'	3543869			
	3543867	PQ3 INNER TUBE GROUP, 1.5M / 5'		3543867		
	3543870	PQ3 CORE BARREL ASSEMBLY, 3.0M / 10'			3543870	
	3543868	PQ3 INNER TUBE GROUP, 3.0M / 10'				3543868
1	5001444	HEAD ASM, PQ	✓	✓	✓	✓
2	26182	ADAPTER, PQ3 PUMP-OUT	✓	✓	✓	✓
3	26662	PLUG, PISTON	✓	✓	✓	✓
4	26178	O-RING, #236	✓	✓	✓	✓
5	26179	PISTON, PQ CORE EJECTION	✓	✓	✓	✓
6	26180	TUBE, PQ3 1.5M/5' SPLIT	✓	✓		
	26710	TUBE, PQ3 3M/10' SPLIT			✓	✓
7	26159	I/TUBE, PQ 1.5M/5'	✓	✓		
	26534	I/TUBE, PQ 3M/10'			✓	✓
8	26176	RING, PQ3 STOP	✓	✓	✓	✓
9	26177	C/LIFTER, PQ3 FLUTED				
	3548626	C/LIFTER, PQ FLUTED D/C				
10	26160	CASE, PQ3 C/LIFTER	✓	✓	✓	✓
	101343	L/CPLG, PHD CONV W/TANG				
11	101105	L/CPLG, PHD CONV				
	3000394	L/CPLG, PHD R/B PQ R/P				
12	3543808	CPLG, ADAPTER PHD				
	3002506	CPLG, ADAPTER PQ/PHD				
13	3543814	RING, PQ LANDING	✓		✓	
14	3543802	O/TUBE, PHD/PQ 1.5M/5'				
	3543802CP	O/TUBE, PHD/PQ 1.5M/5' CP				
	3543801	O/TUBE, PQ 3M/10'				
	3543801CP	O/TUBE, PQ 3M/10' C/P				
15	44923	STABILIZER, PQ I/TUBE	✓		✓	
16	26168	PROTECTOR, PQ O/TUBE THREAD	OPT		OPT	
17	3542987	DRIFT TOOL, LINK LATCH N/H/P	OPT	OPT	OPT	OPT
18	3541994	MANUAL, ITHT PRODUCT	✓		✓	
19	306390	POSTER, C/BBL SAFETY	✓		✓	



LEGEND



✓ STANDARD COMPONENT



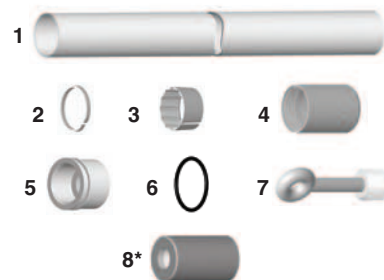
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

CORE BARREL CONVERSION KITS - PQ3

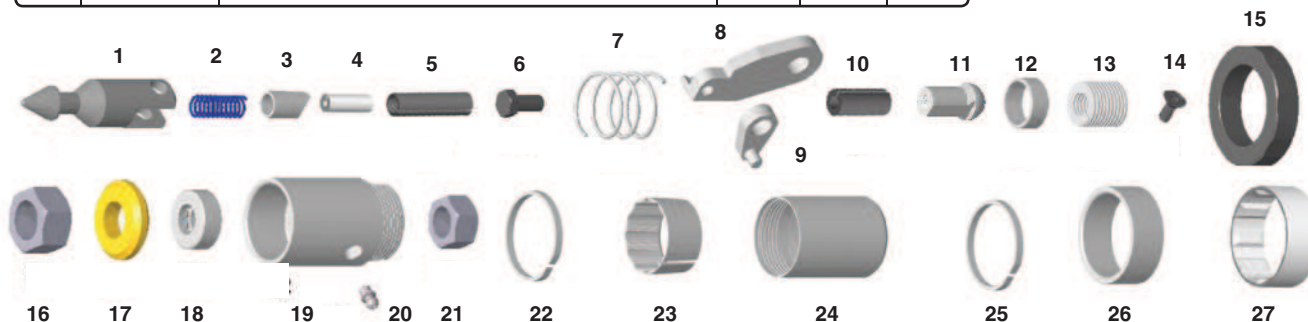
Q - Q3 CORE BARREL			
1-8	26558	PQ TO PQ3 CONVERSION KIT, 1.5 M (5 FT)	
1-8	26724	PQ TO PQ3 CONVERSION KIT, 3.0 M (10 FT)	
PARTS			QTY
1	26180	SPLIT TUBE, 1.5 M (5 FT)	1
1	26710	SPLIT TUBE, 3.0 M (10 FT)	1
2	26176	STOP RING	1
3	26177	CORE LIFTER, FLUTED	1
4	26160	CORE LIFTER CASE	1
5	26179	CORE EJECTION PISTON	1
6	26178	O RING	1
7	26662	PISTON PLUG	1
8	26182	PUMP-OUT ADAPTER	1



* Fluid pressure supplied with optional hand pump group or pump-out group.

3543971 - PQ3 CORE BARREL SPARE PARTS KIT

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3543971	PQ3 CORE BARREL SPARE PARTS KIT			
1	42913	SPEARHEAD POINT	1	0.19	0.42
2	15141	COMPRESSION SPRING	1	0.10	0.22
3	42914	DETENT PLUNGER	1	0.01	0.02
4	42905	SPIROL PIN 7/16" X 1"	2	0.02	0.04
5	24524	SPRING PIN 1/2" X 2-3/4"	2	0.08	0.18
6	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	2	0.10	0.22
7	3543619	COMPRESSION SPRING	1	0.04	0.09
8	3543796	LATCH	4	1.52	3.34
9	306216	LINK	4	0.24	0.53
10	24305	SPRING PIN 1/2" X 2"	2	0.06	0.13
11	3540152	STEEL THREADED BALL, 22 MM	1	0.07	0.15
12	306131	FLUID RETENTION BUSHING	1	0.03	0.07
13	104966	FLUID RETENTION SPRING, LIGHT	1	0.03	0.07
14	3541117	NYLOK INSERT MACHINE SCREW	2	0.02	0.04
15	3543797	LANDING SHOULDER	1	0.74	1.63
16	44574	HEX NUT	1	0.32	0.70
17	3540308	SHUT-OFF VALVE, HARD	4	0.40	0.88
18	24528	THRUST BEARING	2	0.46	1.01
19	3540794	Q/D BUSHING	1	1.66	3.65
20	17447	GREASE FITTING	2	0.02	0.04
21	103062	STOVER LOCK NUT	1	0.23	0.51
22	26176	STOP RING	2	0.14	0.31
23	26177	FLUTED CORE LIFTER	20	5.40	11.88
24	26160	CORE LIFTER CASE	4	2.56	5.63
25	26178	O RING	1	0.01	0.02
26	3543814	LANDING RING	1	0.24	0.53
27	44923	INNER-TUBE STABILIZER	1	0.35	0.77
28	3542987	HEAD ASSEMBLY TOOL (NOT SHOWN)	1	0.23	0.51
		TOTAL	67	15.27	33.59



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HEAD ASSEMBLY

HEAD ASSEMBLY SYSTEMS

QUICK DESCENT & QUICK PUMP-IN	56-57
AQTK LINK LATCH	58
AQTKU QUICK PUMP-IN	59
BQ LINK LATCH	60
BQ QUICK DESCENT	61
BQU QUICK PUMP-IN	62
BQTK LINK LATCH	63
BQTK QUICK DESCENT	64
BQTKU QUICK PUMP-IN	65
NQ LINK LATCH	66
NQ QUICK DESCENT	67
NQU QUICK PUMP-IN	68
NQTK LINK LATCH	69
NQTK QUICK DESCENT	70
NQTKU QUICK PUMP-IN	71
HQ LINK LATCH	72
HQ QUICK DESCENT	73
HQU QUICK PUMP-IN	74
PQ LINK LATCH	75
PQ QUICK DESCENT	76



QUICK DESCENT HEAD ASSEMBLY

Available in B,N,H and P sizes, the new Quick Descent Core Barrel draws on three distinct design improvements:

DETENTED LINK LATCH (ALL SIZES)

Improved, patents-pending® detented Link Latch design enables smooth inner-tube travel and eliminates drag against the rod string inner-wall during descent. When retracted, the latches are completely hidden inside the latch case – allowing the core barrel to travel freely through the rod string.

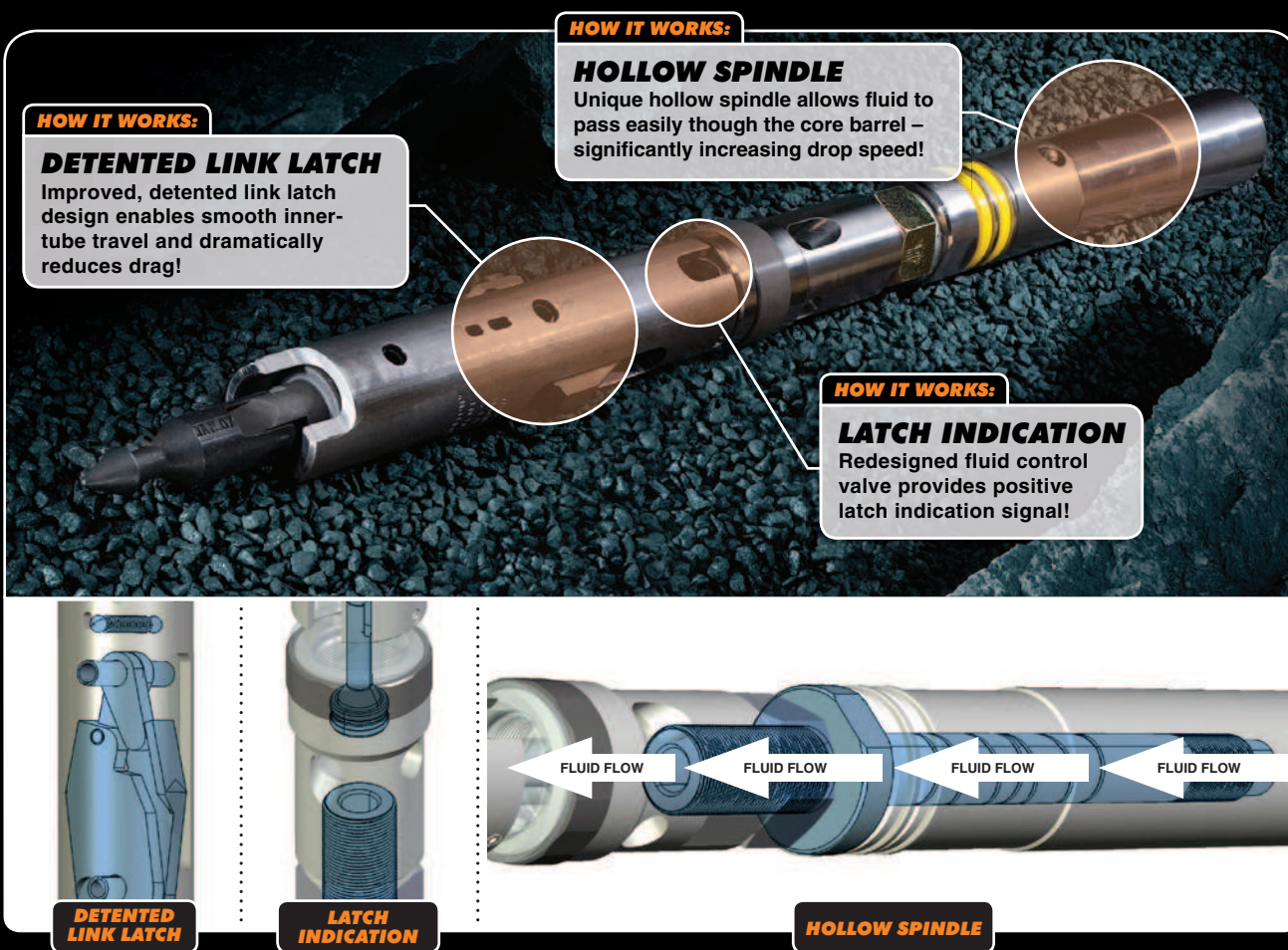
LATCH INDICATION (ALL SIZES)

The redesigned fluid control valve provides a positive latch indication signal. This design improvement goes far beyond existing systems that only give landing feedback – drill operators will now see a drilling fluid pressure spike when a positive latch has occurred.

HOLLOW SPINDLE (H & P ONLY)

Our unique hollow spindle allows fluid to pass easily through the core barrel – significantly increasing drop speed! The hollow spindle passes 2.0 L/s (31gpm) at 100kPa (15 psi) compared to our standard core barrel at 1.2 L/s (19gpm) which relies on the inner-tube outer annulus for all fluid transmission.

QUICK DESCENT HEAD ASSEMBLY DESIGN



PRODUCT PORTFOLIO

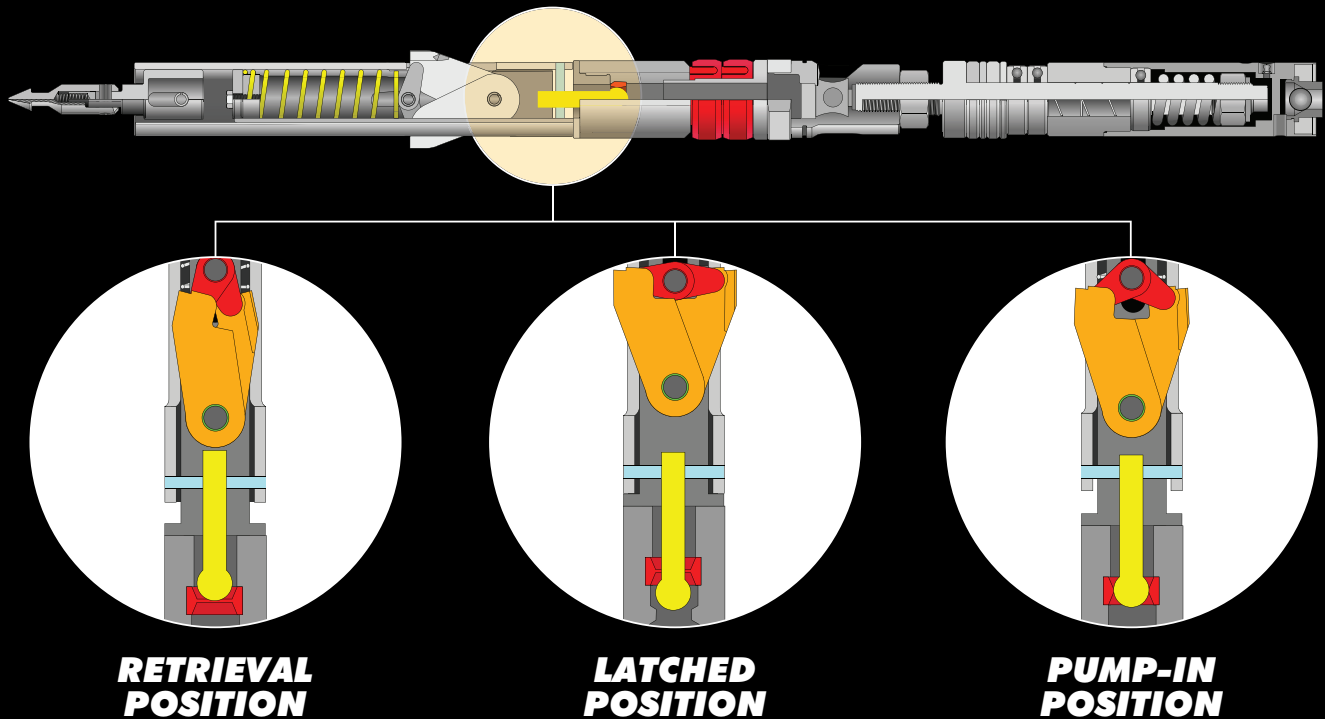
	B	N	H	P
LINK LATCH	←			→
LATCH INDICATION	←			→
HOLLOW SPINDLE			←	→

QUICK PUMP-IN HEAD ASSEMBLY

The Quick Pump-In head now features all of the advances of the surface Q® system plus a range of innovations focused on productivity underground:

- Improved pump-in velocity with dual pump-in lip seals and new pump-in valve (O-rings eliminated)
- Positive latch indication with new ball and bushing pump-in valve design
- Latching mechanism isolated from adverse in-ground fluid or gas pressure with lip seals relocated below the latch retracting case
- “Ezy-loading” of inner-tube with new retracting case and link latch mechanism eliminating loading sleeves.
- Easier unloading of inner-tube in confined spaces with knuckle-head spearpoint
- Easily converted for down-hole applications with standard surface components
- Available in standard or thin kerf systems from “A” to “H” sizes
- Isolated latching mechanism and dual pump-in seals eliminate the need for adapter coupling drive keys and locking coupling tangs.

QUICK PUMP-IN HEAD ASSEMBLY DESIGN



PRODUCT PORTFOLIO

	A	B	N	H
FEATURE				
PUMP-IN VALVE				
LATCH INDICATION				
EZY-LOADING				

Patent #6,425,449; 5,934,393; 5,020,612; 5,325,930 other patents pending

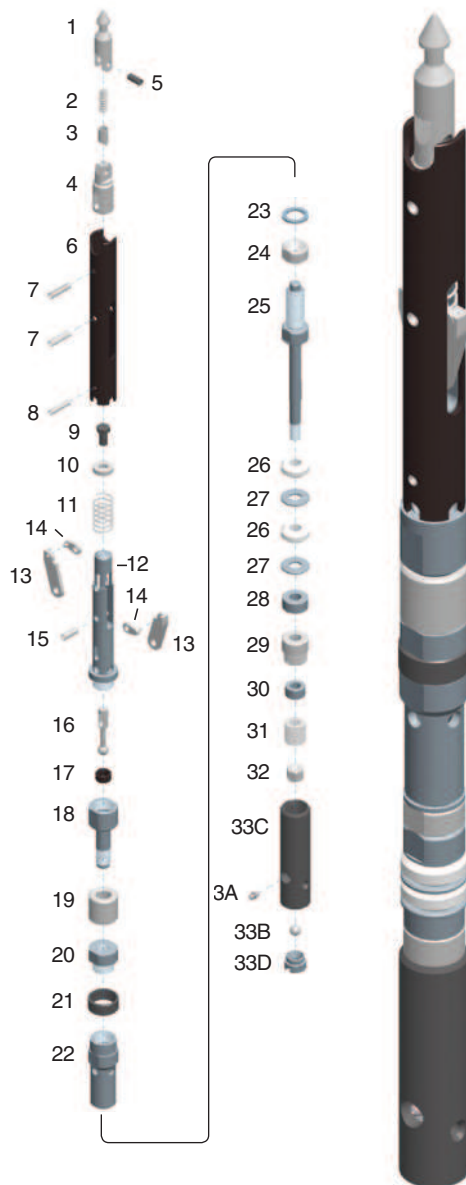
3545920 - AQTK LINK LATCH HEAD ASSEMBLY

HEAD ASSEMBLY AQTk

ID#	PART #	DESCRIPTION	QTY
	3545920	AQTK HEAD ASSEMBLY	
1	42981	SPEARHEAD POINT	1
2	28321	COMPRESSION SPRING	1
3	42982	DETENT PLUNGER	1
4	3544134	SPEARHEAD BASE	1
5	24225	SPRING PIN 5/16" X 3/4"	1
6	3543883	LATCH RETRACTING CASE	1
7	24224	SPRING PIN 5/16" X 1-1/4"	2
8	23942	SPRING PIN 1/4" X 1-1/4"	1
9	3541932	NYLOK BOLT 3/8" -16UNC X 3/4"	1
10	104870	WASHER	1
11	3543077	COMPRESSION SPRING	1
12	3543884	UPPER LATCH BODY	1
13	104873	LATCH	2
14	104874	LINK	2
15	3540466	SPRING PIN 5/16" X 7/8"	1
16	3543885	VALVE PISTON	1
17	3543921	LATCH INDICATOR BUSHING	1
18	3543886	SEAL SEAT	1
19	3545919	SPACER	1
20	3543887	LATCH BODY ADAPTER	1
21	3543888	LANDING SHOULDER	1
22	3543889	LOWER LATCH BODY	1
23	3548183	WASHER, NORD-LOCK	1
24	24721	LOCKING NUT	1
25	101684	SPINDLE	1
26	100387	SHUT-OFF VALVE, HARD	2
27	61597	VALVE ADJUSTING WASHER	2
28	24220	THRUST BEARING	1
29	101683	SPINDLE BUSHING	1
30	25986	THRUST BEARING	1
31	24222	COMPRESSION SPRING	1
32	22917	STOVER LOCK NUT	1
33	52999	INNER-TUBE CAP ASSEMBLY (33 A, B, C, D)	
33A	17447	GREASE FITTING	1
33B	25853	STAINLESS STEEL BALL, 1/2"	1
33C	52582	INNER-TUBE CAP	1
33D	40647	CHECK VALVE BODY	1

AQTK HEAD OPTIONS

26A	52592	SHUT-OFF VALVE, SOFT	2
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LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE

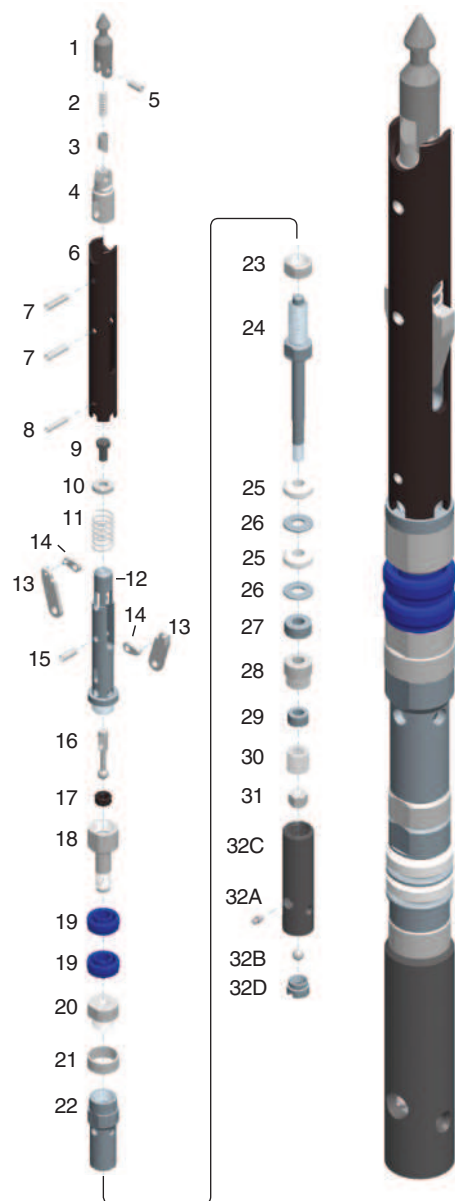


[OPT] OPTIONAL COMPONENT

3544011 - AQTKU QUICK PUMP-IN HEAD ASSEMBLY

ID#	PART #	DESCRIPTION	QTY
	3544011	AQTKU HEAD ASSEMBLY	
1	42981	SPEARHEAD POINT	1
2	28321	COMPRESSION SPRING	1
3	42982	DETENT PLUNGER	1
4	3544134	SPEARHEAD BASE	1
5	24225	SPRING PIN 5/16" X 3/4"	1
6	3543883	LATCH RETRACTING CASE	1
7	24224	SPRING PIN 5/16" X 1-1/4"	2
8	23942	SPRING PIN 1/4" X 1-1/4"	1
9	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	1
10	104870	WASHER	1
11	3543077	COMPRESSION SPRING	1
12	3543884	UPPER LATCH BODY	1
13	104873	LATCH	2
14	104874	LINK	2
15	3540466	SPRING PIN 5/16" X 7/8"	1
16	3543885	VALVE PISTON Q/P	1
17	3543921	LATCH INDICATOR BUSHING	1
18	3543886	SEAL SEAT	1
19	100695	PUMP-IN SEAL	2
20	3543887	LATCH BODY ADAPTER	1
21	3543888	LANDING SHOULDER	1
22	3543889	LOWER LATCH BODY	1
23	24721	LOCKING NUT	1
24	101684	SPINDLE	1
25	100387	SHUT-OFF VALVE, HARD	2
26	61597	VALVE ADJUSTING WASHER	2
27	24220	THRUST BEARING	1
28	101683	SPINDLE BUSHING	1
29	25986	THRUST BEARING	1
30	24222	COMPRESSION SPRING	1
31	22917	STOVER LOCK NUT	1
32	52999	INNER-TUBE CAP ASSEMBLY (32 A, B, C, D)	
32A	17447	GREASE FITTING	1
32B	25853	STAINLESS STEEL BALL, 1/2"	1
32C	52582	INNER-TUBE CAP	1
32D	40647	CHECK VALVE BODY	1

AQTK HEAD OPTIONS			
25A	52592	SHUT-OFF VALVE, SOFT	2

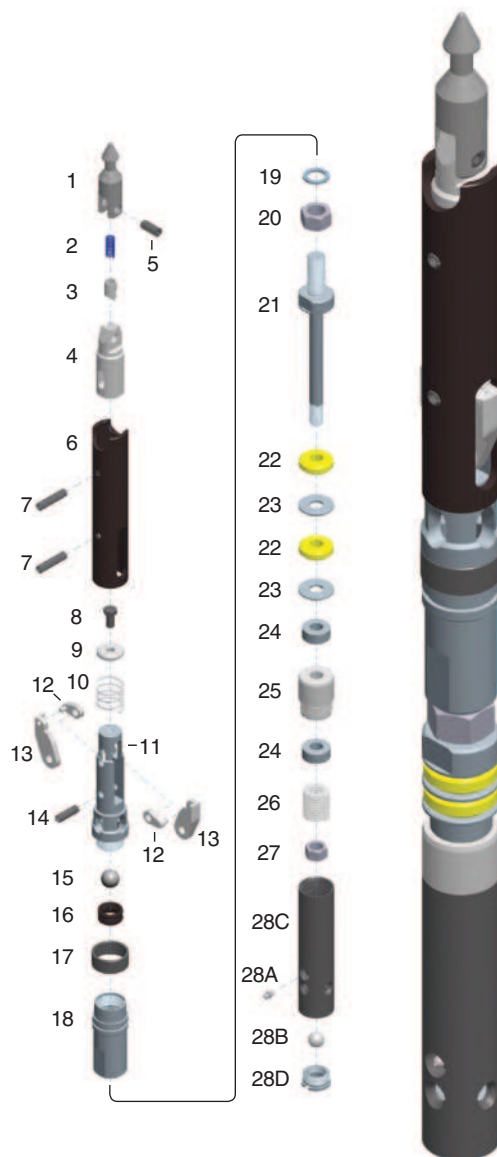


3542292 - BQ LINK LATCH HEAD ASSEMBLY

HEAD ASSEMBLY BQ

ID#	PART #	DESCRIPTION	QTY
	3542292	BQ HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544135	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3541647	LATCH RETRACTING CASE	1
7	23941	SPING PIN 3/8" X 1-3/4"	2
8	3541932	NYLOK BOLT 3/8" -16UNC X 3/4"	1
9	306427	WASHER	1
10	3543180	LATCH COMPRESSION SPRING	1
11	3541621	UPPER LATCH BODY	1
12	306417	LATCH	2
13	306418	LINK	2
14	23944	SPRING PIN 3/8" X 1-1/4"	1
15	62374	STAINLESS STEEL BALL, 22 MM	1
16	62380	INDICATOR BUSHING	1
17	306421	LANDING SHOULDER	1
18	306578	LOWER LATCH BODY	1
19	3548183	WASHER, NORD-LOCK	1
20	44601	HEX NUT	1
21	24331	SPINDLE	1
22	44208	SHUT-OFF VALVE, HARD	2
23	24335	VALVE ADJUSTING WASHER	2
24	24030	THRUST/HANGER BEARING	2
25	24336	SPINDLE BUSHING	1
26	24031	COMPRESSION SPRING	1
27	103144	STOVER LOCK NUT	1
28	40655	INNER-TUBE CAP ASSEMBLY (28 A, B, C, D)	
28A	17447	GREASE FITTING	1
28B	24943	STAINLESS STEEL BALL, 3/4"	1
28C	40676	INNER-TUBE CAP	1
28D	40656	CHECK VALVE BODY	1

BQ HEAD OPTIONS			
22A	24334	SHUT-OFF VALVE, SOFT	2
A	3542609	FLUID RETENTION KIT	
A1	62374	STAINLESS STEEL BALL, 22 MM	1
A2	306131	FLUID RETENTION BUSHING	1
A3	306443	FLUID RETENTION SPRING, LIGHT	1
A4	306444	FLUID RETENTION SPRING, MEDIUM	1



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE

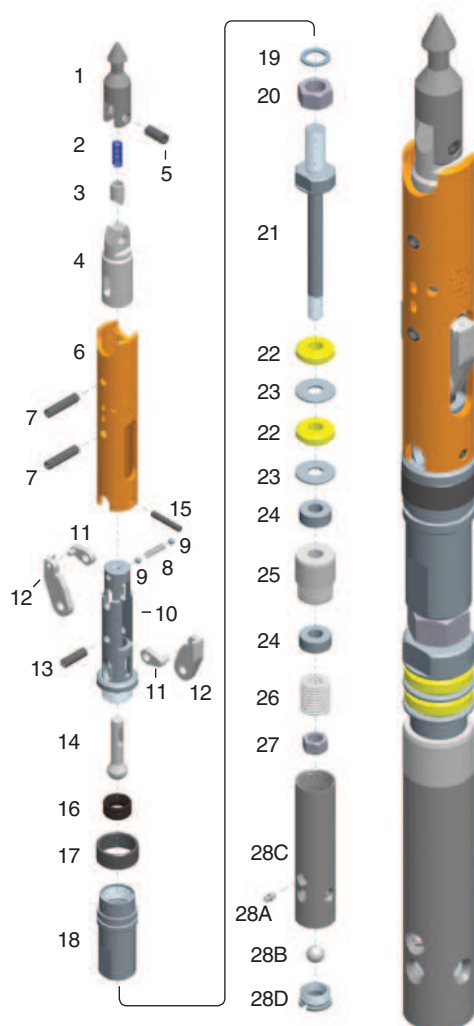


[OPT] OPTIONAL COMPONENT

3549260 - BQ QUICK DESCENT HEAD ASSEMBLY

ID#	PART #	DESCRIPTION	QTY
	3549260	BQ QUICK DESCENT HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544135	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3549259	LATCH RETRACTING CASE	1
7	23941	SPRING PIN 3/8" X 1-3/4"	2
8	3549263	DETENT LATCH COMPRESSION SPRING	1
9	3549264	DETENT STAINLESS STEEL BALL, 1/4"	2
10	3549261	UPPER LATCH BODY	1
11	306417	LATCH	2
12	306418	LINK	2
13	23944	SPRING PIN 3/8" X 1-1/4"	1
14	3547672	VALVE PISTON	1
15	23946	SPIROL PIN 1/4" X 1-5/8"	1
16	62380	INDICATOR BUSHING	1
17	306421	LANDING SHOULDER	1
18	30657 8	LOWER LATCH BODY	1
19	3548183	WASHER, NORD-LOCK	1
20	44601	LOCKING NUT	1
21	24331	SPINDLE	1
22	44208	SHUT-OFF VALVE, HARD	2
23	24335	VALVE ADJUSTING WASHER	2
24	24030	THRUST BEARING	2
25	24336	SPINDLE BUSHING	1
26	24031	COMPRESSION SPRING	1
27	103144	STOVER LOCK NUT	1
28	40655	INNER-TUBE CAP ASSEMBLY (28 A, B, C, D)	
28A	17447	GREASE FITTING	1
28B	24943	STAINLESS STEEL BALL, 3/4"	1
28C	40676	INNER-TUBE CAP	1
28D	40656	CHECK VALVE BODY	1

BQ HEAD OPTIONS			
22A	24334	SHUT-OFF VALVE, SOFT	2



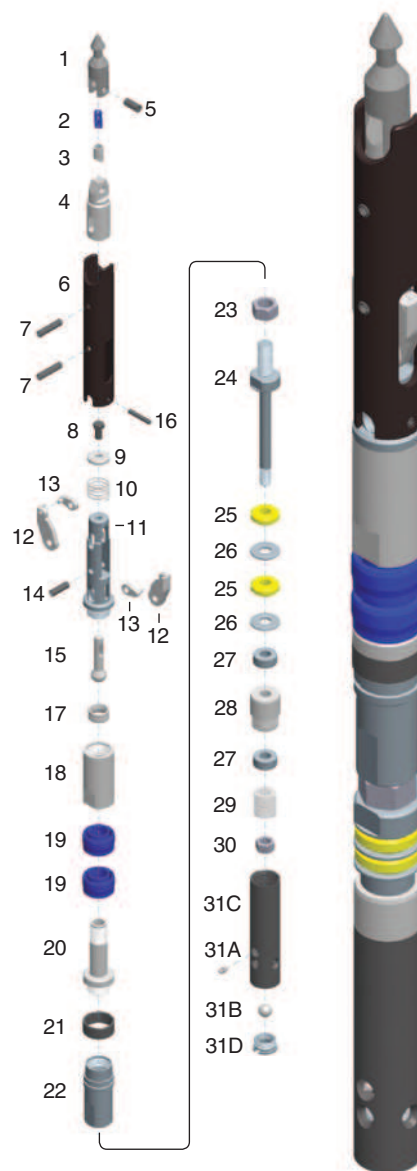
3544012 - BQU QUICK PUMP-IN HEAD ASSEMBLY

HEAD ASSEMBLY BQU

ID#	PART #	DESCRIPTION	QTY
	3544012	BQU HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544135	SPEARHEAD BASE	1
5	42905	SPIROL PIN, 7/16" X 1"	1
6	3547671	LATCH RETRACTING CASE	1
7	23941	SPRING PIN, 3/8" X 1-3/4"	2
8	3541932	NYLOK BOLT, 3/8"-16 X 3/4"	1
9	306427	WASHER	1
10	3541836	COMPRESSION SPRING	1
11	3547725	UPPER LATCH BODY	1
12	306417	LATCH	2
13	306418	LINK	2
14	23944	SPRING PIN, 3/8" X 1-1/4"	1
15	3547672	VALVE PISTON	1
16	23946	SPRING PIN, 1/4" X 1-5/8"	1
17	3543904	LATCH INDICATOR BUSHING	1
18	3543905	ADAPTER	1
19	100690	PUMP-IN SEAL	2
20	3543906	SEAL SEAT	1
21	306421	LANDING SHOULDER	1
22	306578	LOWER LATCH BODY	1
23	44601	HEX NUT	1
24	24331	SPINDLE	1
25	44208	SHUT-OFF VALVE, HARD	2
26	24335	VALVE ADJUSTING WASHER	2
27	24030	THRUST BEARING	2
28	24336	SPINDLE BUSHING	1
29	24031	COMPRESSION SPRING	1
30	103144	STOVER LOCK NUT	1
31	40655	INNER-TUBE CAP ASSEMBLY (31 A, B, C, D)	
31A	17447	GREASE FITTING	1
31B	24943	STAINLESS STEEL BALL, 3/4"	1
31C	40676	INNER-TUBE CAP	1
31D	40656	CHECK VALVE BODY	1

BQ HEAD OPTIONS

25A	53211	SHUT-OFF VALVE, SOFT	2
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LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE

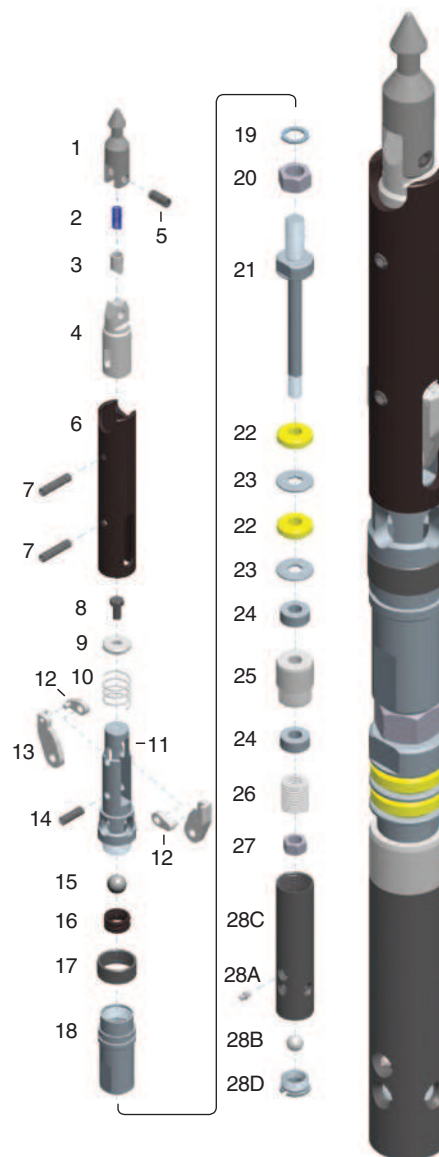


[OPT] OPTIONAL COMPONENT

306434 - BQTK LINK LATCH HEAD ASSEMBLY

ID#	PART #	DESCRIPTION	QTY
	306434	BQTK HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544135	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3541647	LATCH RETRACTING CASE	1
7	23941	SPRING PIN 3/8" X 1-3/4"	2
8	3541932	NYLOK BOLT 3/8" -16UNC X 3/4"	1
9	306427	WASHER	1
10	3543180	COMPRESSION SPRING	1
11	3541621	UPPER LATCH BODY	1
12	306435	LATCH	2
13	306418	LINK	2
14	23944	SPRING PIN 3/8" X 1-1/4"	1
15	62374	STAINLESS STEEL BALL, 22 MM	1
16	62380	INDICATOR BUSHING	1
17	306437	LANDING SHOULDER	1
18	306578	LOWER LATCH BODY	1
19	3548183	WASHER, NORD-LOCK	1
20	44601	HEX NUT	1
21	24331	SPINDLE	1
22	64354	SHUT-OFF VALVE, HARD	2
23	24335	VALVE ADJUSTING WASHER	2
24	24030	THRUST/HANGER BEARING	2
25	24336	SPINDLE BUSHING	1
26	24031	COMPRESSION SPRING	1
27	103144	STOVER LOCK NUT	1
28	53212	INNER-TUBE CAP ASSEMBLY (28 A, B, C, D)	
28A	17447	GREASE FITTING	1
28B	24943	STAINLESS STEEL BALL, 3/4"	1
28C	53196	INNER-TUBE CAP	1
28D	40656	CHECK VALVE BODY	1

BQTK HEAD OPTIONS			
22A	53211	SHUT-OFF VALVE, SOFT	2
A	3542609	FLUID RETENTION KIT	
A1	62374	STAINLESS STEEL BALL, 22 MM	1
A2	306131	FLUID RETENTION BUSHING	1
A3	306443	FLUID RETENTION SPRING, LIGHT	1
A4	306444	FLUID RETENTION SPRING, MEDIUM	1



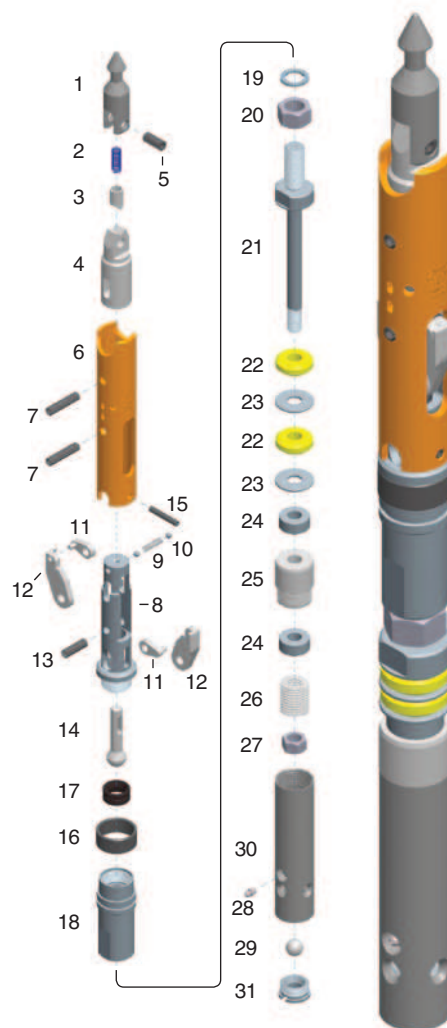
5001180 - BQTK QUICK DESCENT HEAD ASSEMBLY

HEAD ASSEMBLY BQTK

ID#	PART #	DESCRIPTION	QTY
	5001180	BQTK QUICK DESCENT HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544135	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3549259	LATCH RETRACTING CASE	1
7	23941	SPRING PIN 3/8" X 1-3/4"	2
8	3549261	UPPER LATCH BODY	1
9	3549263	COMPRESSION SPRING	1
10	3549264	STAINLESS STEEL BALL, 1/4"	2
11	306417	LATCH	2
12	306418	LINK	2
13	23944	SPRING PIN 3/8" X 1-1/4"	1
14	3547672	VALVE PISTON	1
15	23946	SPIROL PIN 1/4" X 1-5/8"	1
16	306421	LANDING SHOULDER	1
17	62380	INDICATOR BUSHING	1
18	306578	LOWER LATCH BODY	1
19	44601	LOCKING NUT	1
20	44601	HEX NUT, 7/8"	1
21	24331	SPINDLE	2
22	44208	SHUT-OFF VALVE, HARD	2
23	24335	VALVE ADJUSTING WASHER	2
24	24030	THRUST BEARING	1
25	24336	SPINDLE BUSHING	1
26	24031	COMPRESSION SPRING	1
27	103144	STOVER LOCK NUT	1
28	17447	GREASE FITTING	1
29	24943	STAINLESS STEEL BALL, 3/4"	1
30	40656	CHECK VALVE BODY	1
31	53196	INNER-TUBE CAP	1

BQTK HEAD OPTIONS

22A	53211	SHUT-OFF VALVE, SOFT	2
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LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



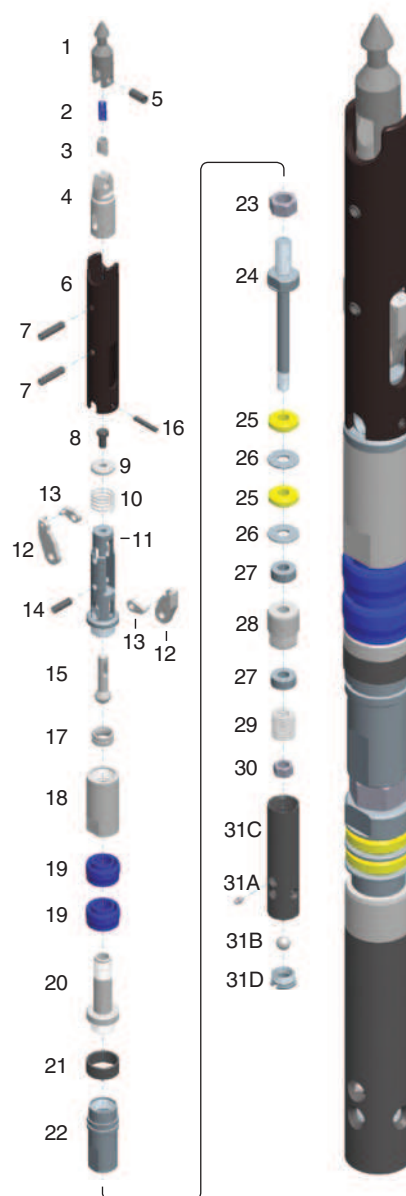
[OPT] OPTIONAL COMPONENT

3544014 - BQTKU QUICK PUMP-IN HEAD ASSEMBLY

HEAD ASSEMBLY BQTKU

ID#	PART #	DESCRIPTION	QTY
	3544014	BQTKU HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544135	SPEARHEAD BASE	1
5	42905	SPIROL PIN, 7/16" X 1"	1
6	3547671	LATCH RETRACTING CASE	1
7	23941	SPRING PIN, 3/8" X 1-3/4"	2
8	3541932	NYLOK BOLT, 3/8"-16 X 3/4"	1
9	306427	WASHER	1
10	3541836	COMPRESSION SPRING	1
11	3547725	UPPER LATCH BODY	1
12	306435	LATCH	2
13	306418	LINK	2
14	23944	SPRING PIN, 3/8" X 1-1/4"	1
15	3547672	VALVE PISTON	1
16	23946	SPRING PIN, 1/4" X 1-5/8"	1
17	3543904	LATCH INDICATOR BUSHING	1
18	3543905	ADAPTER	1
19	64683	PUMP-IN SEAL	2
20	3543906	SEAL SEAT	1
21	306437	LANDING SHOULDER	1
22	306578	LOWER LATCH BODY	1
23	44601	HEX NUT	1
24	24331	SPINDLE	1
25	64354	SHUT-OFF VALVE, HARD	2
26	24335	VALVE ADJUSTING WASHER	2
27	24030	THRUST BEARING	2
28	24336	SPINDLE BUSHING	1
29	24031	COMPRESSION SPRING	1
30	103144	STOVER LOCK NUT	1
31	53212	INNER-TUBE CAP ASSEMBLY (31 A, B, C, D)	
31A	17447	GREASE FITTING	1
31B	24943	STAINLESS STEEL BALL, 3/4"	1
31C	53196	INNER-TUBE CAP	1
31D	40656	CHECK VALVE BODY	1

BQTKU HEAD OPTIONS			
25A	53211	SHUT-OFF VALVE, SOFT	2

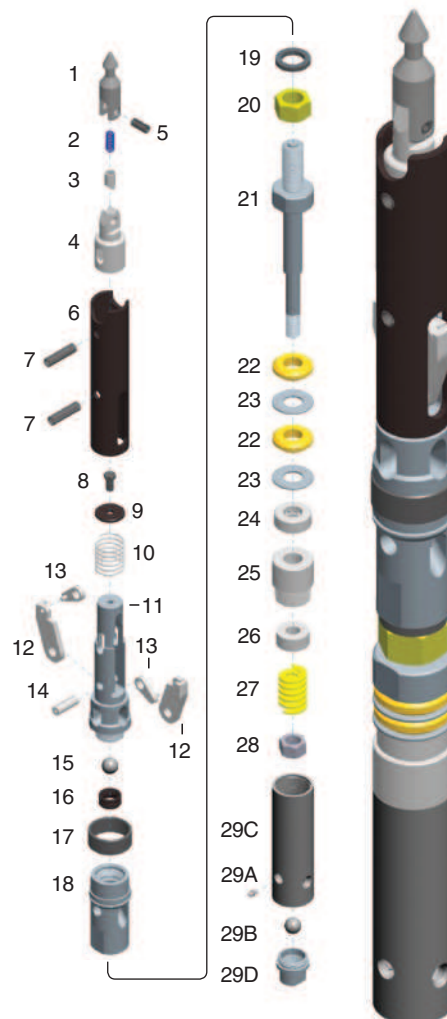


3542751 - NQ LINK LATCH HEAD ASSEMBLY

HEAD ASSEMBLY NQ

ID#	PART #	DESCRIPTION	QTY
	3542751	NQ HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544136	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	306455	LATCH RETRACTING CASE	1
7	24305	SPRING PIN 1/2" X 2"	2
8	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	1
9	306022	WASHER	1
10	3543812	LATCH COMPRESSION SPRING	1
11	3541778	UPPER LATCH BODY	1
12	104816	LATCH	2
13	306454	LINK	2
14	24548	SPRING PIN 1/2" X 1-1/2"	1
15	62374	STAINLESS STEEL BALL, 22 MM	1
16	62380	INDICATOR BUSHING	1
17	306009	LANDING SHOULDER	1
18	306008	LOWER LATCH BODY	1
19	3548161	WASHER, NORD-LOCK	1
20	24885	HEX NUT	1
21	24886	SPINDLE	1
22	44209	SHUT-OFF VALVE, HARD	2
23	24888	VALVE ADJUSTING WASHER	2
24	24312	THRUST BEARING	1
25	24889	SPINDLE BUSHING	1
26	18298	HANGER BEARING	1
27	24313	COMPRESSION SPRING	1
28	22918	STOVER LOCK NUT	1
29	40664	INNER-TUBE CAP ASSEMBLY (29 A, B, C, D)	
29A	17447	GREASE FITTING	1
29B	62374	STAINLESS STEEL BALL, 22 MM	1
29C	40677	INNER-TUBE CAP	1
29D	37382	CHECK VALVE BODY	1

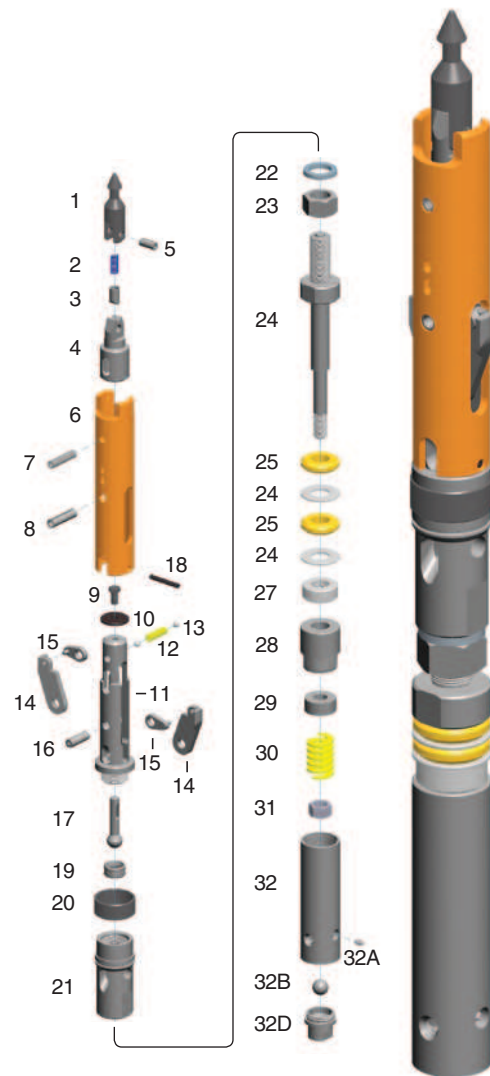
NQ HEAD OPTIONS			
16A	3542834	LANDING INDICATOR BUSHING, DEEP HOLE	1
22A	24887	SHUT-OFF VALVE, SOFT	2
A	3542610	FLUID RETENTION KIT	
A1	62374	STAINLESS STEEL BALL, 22 MM	1
A2	306131	FLUID RETENTION BUSHING	1
A3	104966	FLUID RETENTION SPRING, LIGHT	1
A4	104971	FLUID RETENTION SPRING, MEDIUM	1
B	104972	FLUID RETENTION SPRING, HEAVY	1



3548400 - NQ QUICK DESCENT HEAD ASSEMBLY

ID#	PART #	DESCRIPTION	QTY
	3548400	NQ QUICK DESCENT HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544136	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3548343	LATCH RETRACTING CASE	1
7	3545163	PIN 7/16" X 2" LG	1
8	24305	SPRING PIN 1/2" X 2"	1
9	3541932	NYLOK BOLT, 3/8-16 X 3/4"	1
10	306022	WASHER	1
11	3548336	UPPER LATCH BODY	1
12	3542027	LIFTING DOG COMPRESSION SPRING	1
13	3543772	STAINLESS STEEL BALL, 11/32"	2
14	104816	LATCH	2
15	104817	LINK	2
16	24548	SPRING PIN 1/2" X 1-1/2"	1
17	3547672	VALVE PISTON	1
18	5000352	SPIROL PIN 1/4" X 2"	1
19	62380	INDICATOR BUSHING	1
20	306009	LANDING SHOULDER	1
21	306008	LOWER LATCH BODY	1
22	3548161	WASHER, NORD-LOCK	1
23	24885	HEX NUT 1-1/8" UNC G8	1
24	24886	SPINDLE	1
25	44209	SHUT-OFF VALVE, HARD	2
26	24888	VALVE ADJUSTING WASHER	2
27	24312	THRUST BEARING	1
28	24889	SPINDLE BUSHING	1
29	18298	HANGER BEARING	1
30	24313	COMPRESSION SPRING	1
31	22918	STOVER LOCK NUT	1
32	40664	INNER-TUBE CAP ASSEMBLY (32 A, B, C, D)	
32A	17447	GREASE FITTING	1
32B	62374	STAINLESS STEEL BALL, 22MM	1
32C	40677	INNER-TUBE CAP	1
32D	37382	CHECK VALVE BODY	1

NQ HEAD OPTIONS			
25A	24887	SHUT-OFF VALVE, SOFT	2



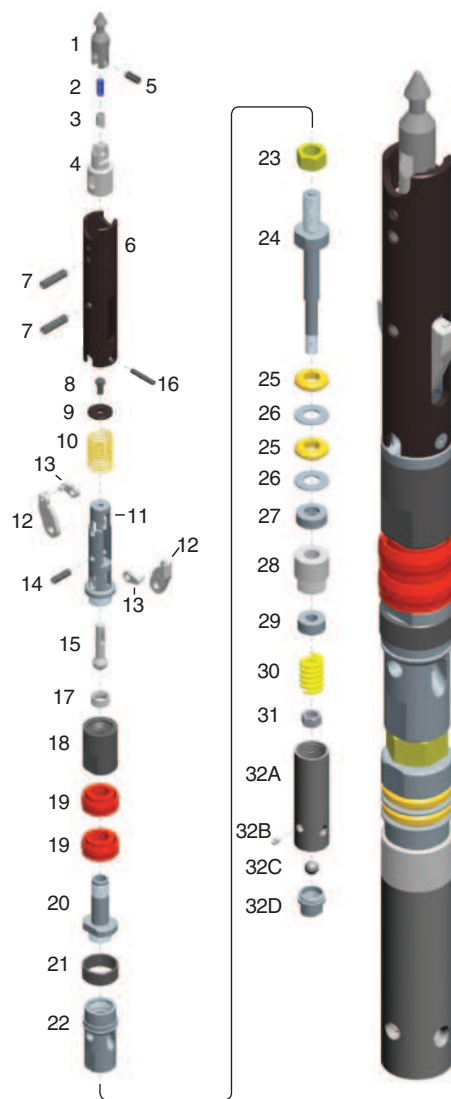
3548625 - NQU QUICK PUMP-IN HEAD ASSEMBLY

HEAD ASSEMBLY NQU

ID#	PART #	DESCRIPTION	QTY
	3548625	NQU Quick Pump-In Head Assembly	
1	42913	POINT, SPEARHEAD	1
2	15141	SPRING, COMPRESSION	1
3	42914	PLUNGER, DETENT	1
4	3544136	BASE, NQ / NQU SPEARHEAD	1
5	42905	PIN, SPIROL 7/16" X 1"	1
6	3548623	CASE, NQU Q/P LATCH RETRACTING	1
7	24305	PIN, SPRING 1/2" X 2"	2
8	3541932	C/SCR, HH 3/8-16 3/4" G8/NYLOK	1
9	306022	WASHER, NQ/NQU LATCH SPRING	1
10	3543136	SPRING, NQU COMPRESSION	1
11	3548336	BODY, NQ Q/P Q/D UPPER LATCH	1
12	104816	LATCH, NQ	2
13	104817	LINK, NQU	2
14	24548	PIN, SPRING 1/2" X 1-1/2"	1
15	3547672	BALL, BQ/NQ VALVE PISTON	1
16	24307	PIN, SPRING 1/4" X 2"LG	1
17	3543904	BUSHING, U/G LATCH INDICATOR	2
18	3543948	ADAPTER, NQU	1
19	64302	LIP SEAL, NQ PUMP-IN	1
20	3543949	SEAT, SEAL NQU	1
21	306009	LANDING SHOULDER, NQ	2
22	306008	BODY, NQ LOWER LATCH	1
23	24885	NUT, HEX 1-1/8 UNC G8	1
24	24886	SPINDLE, NQ C/BBL	1
25	44209	VALVE, NQ HARD SHUT-OFF	1
26	24888	WASHER, NQ VALVE ADJUSTING	1
27	24312	BEARING, BALL THRUST	2
28	24889	SPINDLE BUSHING, NQ	2
29	18298	BEARING, BALL THRUST	1
30	24313	SPRING, COMPRESSION NQ	1
31	22918	L/NUT, STOVER 3/4" UNC G8	1
32	40664	INNER-TUBE CAP ASSEMBLY (34 A, B, C, D)	
32A	40677	CAP, NQ I/TUBE	1
32B	17447	FITTING, HYD GREASE	1
32C	62374	BALL, 22MM	1
32D	37382	BODY, CHECK VALVE	1

NQU HEAD OPTIONS

27A	24887	SHUT-OFF VALVE, SOFT	2
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LEGEND



✓ STANDARD COMPONENT



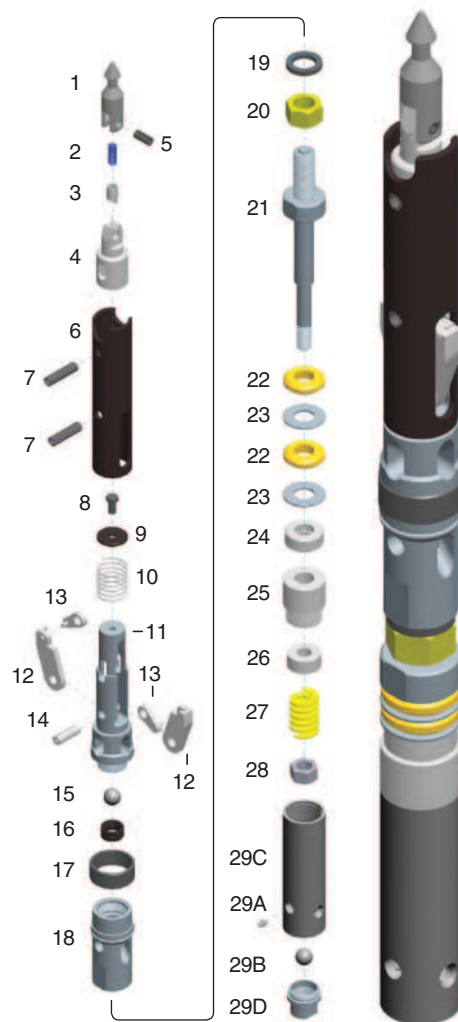
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

3542752 - NQTK (NQ2'') LINK LATCH HEAD ASSEMBLY

ID#	PART #	DESCRIPTION	QTY
	3542752	NQTK (NQ2'') HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT NQ	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544136	SPEARHEAD BASE NQ	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	306455	LATCH RETRACTING CASE NQ	1
7	24305	SPRING PIN 1/2" X 2"	2
8	3541932	NYLOK BOLT 3/8"-16UNC X 3/4"	1
9	306022	WASHER	1
10	3543812	COMPRESSION SPRING	1
11	3541778	UPPER LATCH BODY	1
12	104816	LATCH	2
13	306454	LINK	2
14	24548	SPRING PIN 1/2" X 1-1/2"	1
15	62374	STAINLESS STEEL BALL, 22 MM	1
16	62380	INDICATOR BUSHING	1
17	306026	LANDING SHOULDER	1
18	306008	LOWER LATCH BODY	1
19	3548161	WASHER, NORD-LOCK 1-1/8"	1
20	24885	HEX NUT	1
21	24886	SPINDLE	1
22	44209	SHUT-OFF VALVE, HARD	2
23	24888	VALVE ADJUSTING WASHER	2
24	24312	THRUST BEARING	1
25	24889	SPINDLE BUSHING	1
26	18298	HANGER BEARING	1
27	24313	COMPRESSION SPRING	1
28	22918	STOVER LOCK NUT	1
29	43604	INNER-TUBE CAP ASSEMBLY (28 A, B, C, D)	
29A	17447	GREASE FITTING	1
29B	62374	STAINLESS STEEL BALL, 22 MM	1
29C	43602	INNER-TUBE CAP	1
29D	37382	CHECK VALVE BODY	1



NQTK HEAD OPTIONS			
16A	3542834	LANDING INDICATOR BUSHING, DEEP HOLE	1
21A	24887	SHUT-OFF VALVE, SOFT	2
B	3542610	FLUID RETENTION KIT	
B1	62374	STAINLESS STEEL BALL, 22 MM	1
B2	306131	FLUID RETENTION BUSHING	1
B3	104966	FLUID RETENTION SPRING, LIGHT	1
B4	104971	FLUID RETENTION SPRING, MEDIUM	1
C	104972	FLUID RETENTION SPRING, HEAVY	1

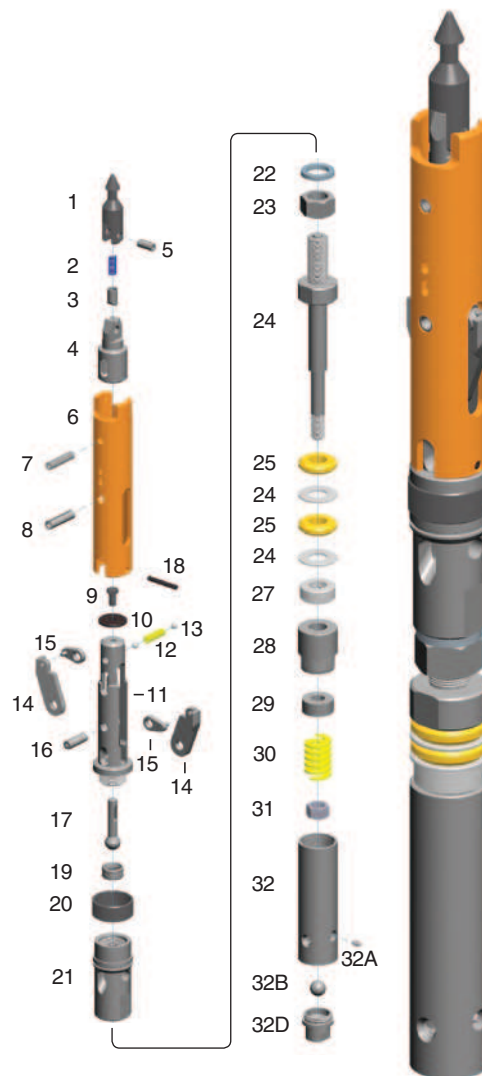
5000450 - NQTK (NQ2") QUICK DESCENT HEAD ASSEMBLY

HEAD ASSEMBLY NQTK

ID#	PART #	DESCRIPTION	QTY
	5000450	NQTK (NQ2") QUICK DESCENT HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3544136	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3548343	LATCH RETRACTING CASE	1
7	3545163	PIN 7/16" X 2" LG	1
8	24305	SPRING PIN 1/2" X 2"	1
9	3541932	NYLOK BOLT, 3/8-16 X 3/4"	1
10	306022	WASHER	1
11	3548336	UPPER LATCH BODY	1
12	3542027	LIFTING DOG COMPRESSION SPRING	1
13	3543772	STAINLESS STEEL BALL, 11/32"	2
14	104816	LATCH	2
15	104817	LINK	2
16	24548	SPRING PIN 1/2" X 1-1/2"	1
17	3547672	VALVE PISTON	1
18	5000352	SPIROL PIN 1/4" X 2"	1
19	62380	INDICATOR BUSHING	1
20	306026	LANDING SHOULDER	1
21	306008	LOWER LATCH BODY	1
22	3548161	WASHER, NORD-LOCK	1
23	24885	HEX NUT 1-1/8" UNC G8	1
24	24886	SPINDLE	1
25	44209	SHUT-OFF VALVE, HARD	2
26	24888	VALVE ADJUSTING WASHER	2
27	24312	THRUST BEARING	1
28	24889	SPINDLE BUSHING	1
29	18298	HANGER BEARING	1
30	24313	COMPRESSION SPRING	1
31	22918	STOVER LOCK NUT	1
32	43604	INNER-TUBE CAP ASSEMBLY (32 A, B, C, D)	
32A	17447	GREASE FITTING	1
32B	62374	STAINLESS STEEL BALL, 22MM	1
32C	43602	INNER-TUBE CAP	1
32D	37382	CHECK VALVE BODY	1

NQTK HEAD OPTIONS

25A	24887	SHUT-OFF VALVE, SOFT	2
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LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



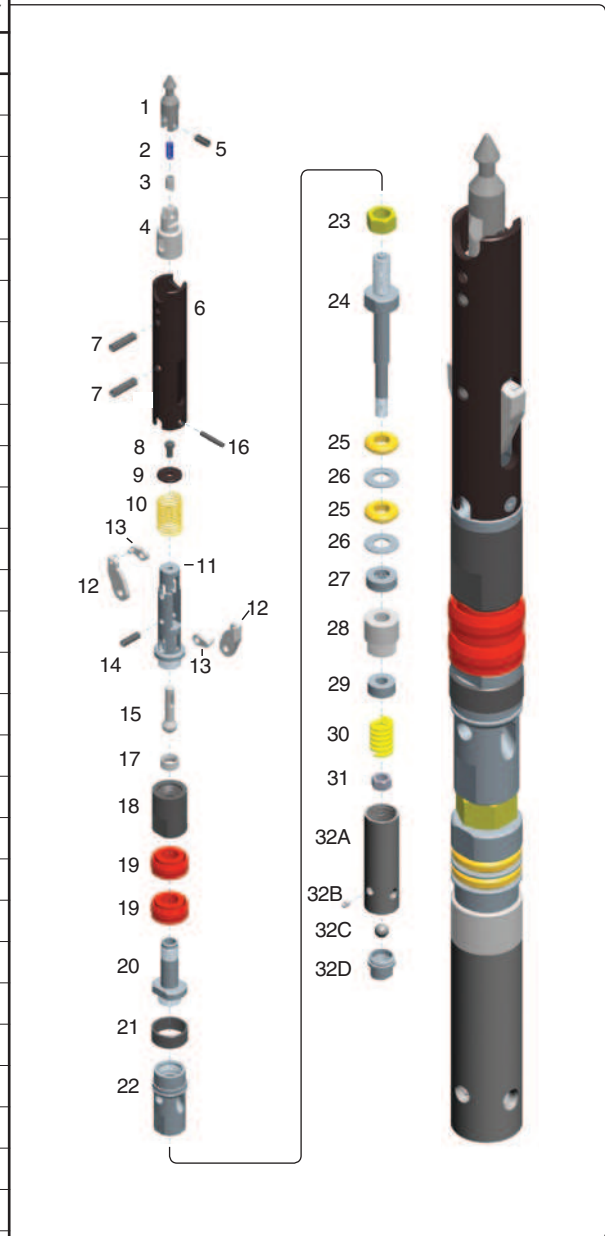
[OPT] OPTIONAL COMPONENT

3549598 - NQTKU (NQ2"U) QUICK PUMP-IN HEAD ASSEMBLY

HEAD ASSEMBLY NQTKU

ID#	PART #	DESCRIPTION	QTY
	3549598	NQTKU Quick Pump In H/Assy	
1	42913	POINT, SPEARHEAD	1
2	15141	SPRING, COMPRESSION	1
3	42914	PLUNGER, DETENT	1
4	3544136	BASE, NQ / NQU SPEARHEAD	1
5	42905	PIN, SPIROL 7/16" X 1"	1
6	3548623	CASE, NQU Q/P LATCH RETRACTING	1
7	24305	PIN, SPRING 1/2" X 2"	2
8	3541932	C/SCR, HH 3/8-16 3/4" G8/NYLOK	1
9	306022	WASHER, NQ/NQU LATCH SPRING	1
10	3543136	SPRING, NQU COMPRESSION	1
11	3548336	BODY, NQ Q/P Q/D UPPER LATCH	1
12	104816	LATCH, NQ	2
13	104817	LINK, NQU	2
14	24548	PIN, SPRING 1/2" X 1-1/2"	1
15	3547672	BALL, BQ/NQ VALVE PISTON	1
16	24307	PIN, SPRING 1/4" X 2"LG	1
17	3543904	BUSHING, U/G LATCH INDICATOR	2
18	3543948	ADAPTER, NQU	1
19	64302	LIP SEAL, NQ PUMP-IN	2
20	3543949	SEAT, SEAL NQU	1
21	306026	LANDING SHOULDER	1
22	306008	BODY, NQ LOWER LATCH	1
23	24885	NUT, HEX 1-1/8 UNC G8	1
24	24886	SPINDLE, NQ C/BBL	1
25	44209	VALVE, NQ HARD SHUT-OFF	2
26	24888	WASHER, NQ VALVE ADJUSTING	2
27	24312	BEARING, BALL THRUST	1
28	24889	SPINDLE BUSHING, NQ	1
29	18298	BEARING, BALL THRUST	1
30	24313	SPRING, COMPRESSION NQ	1
31	22918	L/NUT, STOVER 3/4" UNC G8	1
32	43604	INNER-TUBE CAP ASSEMBLY (32 A, B, C, D)	
32A	43602	CAP, NQTK I/TUBE	1
32B	17447	FITTING, HYD GREASE	1
32C	62374	BALL, 22MM	1
32D	37382	BODY, CHECK VALVE	1

NQTKU HEAD OPTIONS		
27A	24887	SHUT-OFF VALVE, SOFT



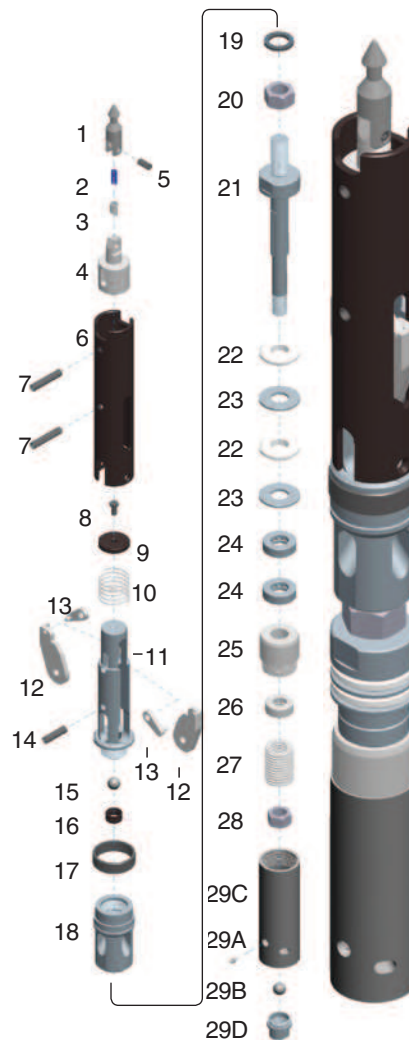
5001440 - HQ LINK LATCH HEAD ASSEMBLY

HEAD ASSEMBLY HQ

ID#	PART #	DESCRIPTION	QTY
	5001440	HQ HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3540330	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	5001332	LATCH RETRACTING CASE	1
7	24524	SPRING PIN 1/2" X 2-3/4"	2
8	3541932	NYLOK BOLT 3/8"-16UNC X 3/4" C/SCR	1
9	104953	WASHER	1
10	3543619	COMPRESSION SPRING	1
11	5001342	UPPER LATCH BODY	1
12	104818	LATCH	2
13	306216	LINK	2
14	24305	SPRING PIN 1/2" X 2"	1
15	62374	STAINLESS STEEL BALL, 22 MM	1
16	62380	INDICATOR BUSHING	1
17	104958	LANDING SHOULDER	1
18	104957	LOWER LATCH BODY	1
19	3548105	WASHER, NORD-LOCK	1
20	44574	HEX NUT	1
21	25231	SPINDLE	1
22	43513	SHUT-OFF VALVE, HARD	2
23	25233	VALVE ADJUSTING WASHER	2
24	24528	THRUST BEARING	2
25	25234	SPINDLE BUSHING	1
26	24312	HANGER BEARING	1
27	24529	COMPRESSION SPRING	1
28	103465	STOVER LOCK NUT	1
29	40678	INNER-TUBE CAP ASSEMBLY (29 A, B, C, D)	
29A	17447	GREASE FITTING	1
29B	62374	STAINLESS STEEL BALL, 22 MM	1
29C	40401	INNER-TUBE CAP	1
29D	37382	CHECK VALVE BODY	1

HQ HEAD OPTIONS

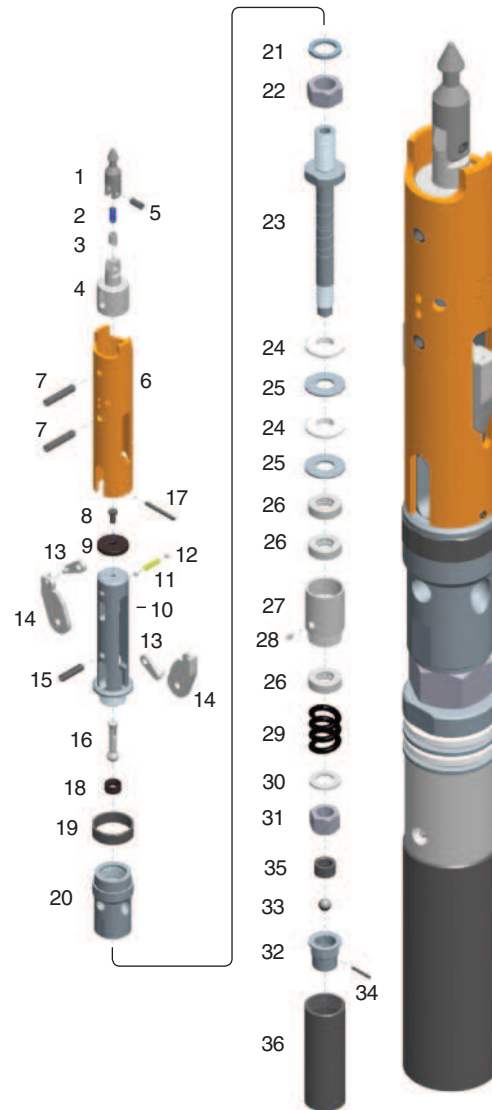
16A	3542834	LANDING INDICATOR BUSHING, DEEP HOLE	1
22A	25232	SHUT-OFF VALVE, SOFT	2
22B	25233	VALVE ADJUSTING WASHER	4
A	5001333	DRY HOLE VALVE KIT	
A1	3548544	VALVE PISTON	1
A2	306131	FLUID RETENTION BUSHING	1
A3	3543378	FLUID RETENTION BUSHING, HEAVY	1
A4	104966	FLUID RETENTION SPRING, LIGHT	1
A5	104971	FLUID RETENTION SPRING, MEDIUM	1
A6	3548718	PIN, SPRING 1/4" X 2 3/4"	1
A9	3542987	HEAD ASSEMBLY TOOL (NOT SHOWN)	1
A10	3543407	KIT BAG (NOT SHOWN)	1
B	3542610	FLUID RETENTION KIT	
B1	62374	STAINLESS STEEL BALL, 22 MM	1
B2	306131	FLUID RETENTION BUSHING	1
B3	104966	FLUID RETENTION SPRING, LIGHT	1
B4	104971	FLUID RETENTION SPRING, MEDIUM	1
C	104972	FLUID RETENTION SPRING, HEAVY	1



3548500 - HQ QUICK DESCENT HEAD ASSEMBLY

ID#	PART #	DESCRIPTION	QTY
	3548500	HQ HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3540330	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3548545	LATCH RETRACTING CASE	1
7	24524	SPRING PIN 1/2" X 2-3/4"	2
8	3541932	NYLOK BOLT, 3/8-16 X 3/4"	1
9	104953	WASHER	1
10	3549288	UPPER LATCH BODY	1
11	3548739	DETENT COMPRESSION SPRING	1
12	3543772	STAINLESS STEEL BALL, 11/32"	2
13	104818	LATCH	2
14	306216	LINK	2
15	24305	SPRING PIN 1/2" X 2"	1
16	3548544	VALVE PISTON Q/P	1
17	3548718	SPIROL PIN 1/4" X 2-3/4"	1
18	62380	INDICATOR BUSHING	1
19	3546056	LANDING SHOULDER	1
20	3548072	LOWER LATCH BODY	1
21	3545206	WASHER, NORD-LOCK	1
22	37475	LOCKING NUT	1
23	3548073	SPINDLE Q/D	1
24	43513	SHUT-OFF VALVE, HARD	2
25	25233	VALVE ADJUSTING WASHER	2
26	24528	THRUST BEARING	3
27	3540794	SPINDLE Q/D BUSHING	1
28	17447	GREASE FITTING	1
29	3540755	COMPRESSION SPRING	1
30	3544324	FLAT WASHER	1
31	103062	LOCKING NUT	1
32	3540745	CHECK VALVE BODY	1
33	62374	STAINLESS STEEL BALL, 22MM	1
34	100865	SPRING PIN 3/16" X 1-3/4"	1
35	3540737	SHUT-OFF VALVE, HARD	1
36	3546050	INNER-TUBE CAP ASSEMBLY	1

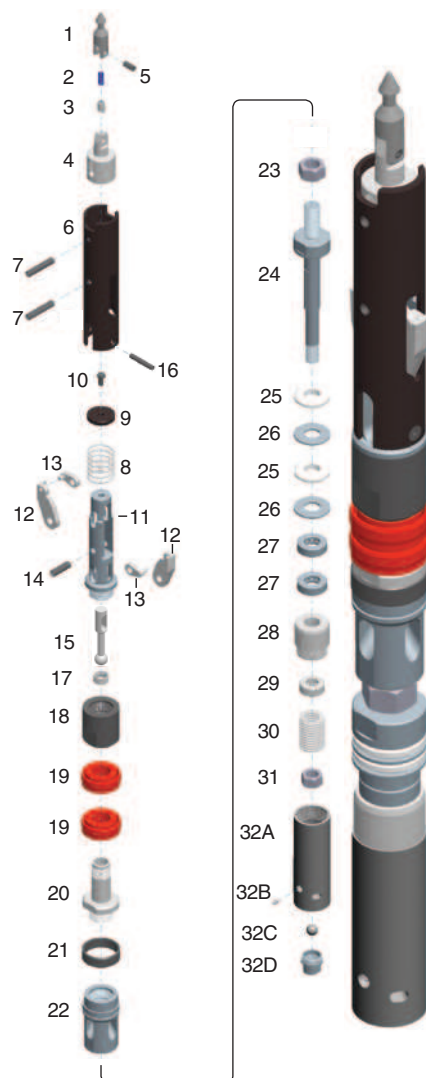
HQ HEAD OPTIONS			
24A	25232	SHUT-OFF VALVE, SOFT	2



3548750 - HQU QUICK PUMP-IN HEAD ASSEMBLY

HEAD ASSEMBLY HQU

ID#	PART #	DESCRIPTION	QTY
	3548750	HEAD ASM, HQU Q/P	
1	42913	POINT, SPEARHEAD	1
2	15141	SPRING, COMPRESSION	1
3	42914	PLUNGER, DETENT	1
4	3540330	BASE, HQ SPEARHEAD	1
5	42905	PIN, SPIROL 7/16" X 1"	1
6	3548749	CASE, HQU Q/P LATCH RETRACTING	1
7	24524	PIN, SPRING 1/2" X 2-3/4"	2
8	3548738	SPRING, HQU COMPRESSION	1
9	104953	WASHER, HQ	1
10	3541932	C/SCR, HH 3/8-16 3/4" G8/NYLOK	1
11	3548546	BODY, HQU Q/P UPPER LATCH	1
12	104818	LATCH, HQ	2
13	3543999	LINK, HQU Q/P	2
14	24305	PIN, SPRING 1/2" X 2"	1
15	3548544	PISTON, HQ-PQ Q/P VALVE	1
16	3548718	PIN, SPIROL 1/4 X 2 3/4 LG	1
17	3543904	BUSHING, U/G LATCH INDICATOR	1
18	3543995	ADAPTER, HQU	1
19	100696	LIP SEAL, HQ PUMP-IN	2
20	3543997	SEAT, SEAL HQU	1
21	104958	LANDING SHOULDER, HQ	2
22	104957	BODY, HQ LOWER LATCH	1
23	44574	NUT, HEX 1-1/4 UNC G8	1
24	25231	SPINDLE, HQ C/BBL	1
25	43513	VALVE, HQ HARD SHUT-OFF	2
26	25233	WASHER, HQ VALVE ADJUSTING	1
27	24528	BEARING, BALL THRUST	2
28	25234	SPINDLE BUSHING, HQ	1
29	24312	BEARING, BALL THRUST	1
30	24529	SPRING, HQ COMPRESSION	1
31	103465	L/NUT, STOVER 1-8 UNC G8	1
32	40678	INNER-TUBE CAP ASSEMBLY (32 A, B, C, D)	
32A	40401	CAP, HQ I/TUBE	1
32B	17447	FITTING, HYD GREASE	1
32C	62374	BALL, 22MM	1
32D	37382	BODY, CHECK VALVE	1



HQU HEAD OPTIONS

27A	25232	SHUT-OFF VALVE, SOFT	2
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LEGEND



✓ STANDARD COMPONENT



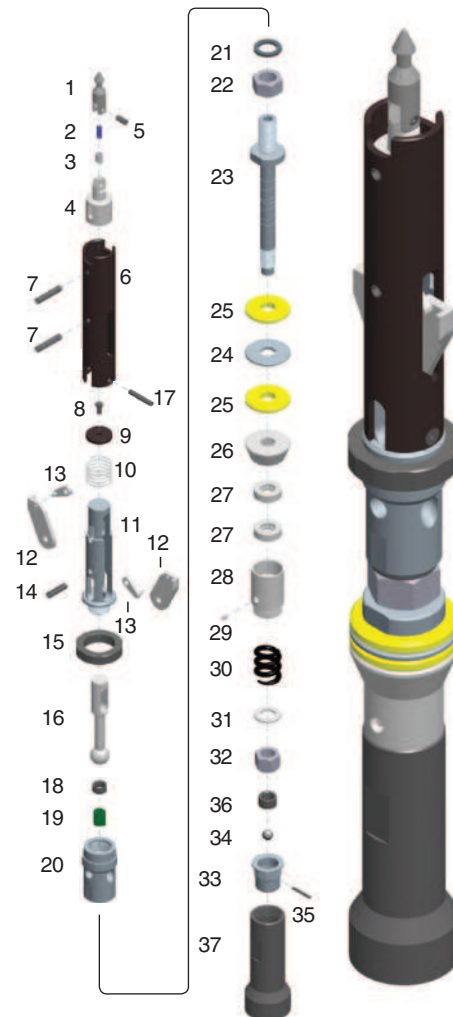
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

5001444 - PQ LINK LATCH HEAD ASSEMBLY

ID#	PART #	DESCRIPTION	QTY
	5001444	PQ Link Latch Head Assembly	
1	42913	POINT, SPEARHEAD	
2	15141	SPRING, COMPRESSION	
3	42914	PLUNGER, DETENT	
4	3540330	BASE, HQ SPEARHEAD	
5	42905	PIN, SPIROL 7/16" X 1"	
6	5001332	CASE, HQ LATCH RETRACTING	
7	24524	PIN, SPRING 1/2" X 2-3/4"	
8	3541932	C/SCR, HH 3/8-16 3/4" G8/NYLOK	
9	104953	WASHER, HQ	
10	3543619	SPRING, HQ/PQ COMPRESSION	
11	5001342	UPPER LATCH BODY	
12	3543796	LATCH, PQ	
13	306216	LINK, HQ	
14	24305	PIN, SPRING 1/2" X 2"	
15	3543797	LANDING SHOULDER, PQ	
16	3548544	PISTON, HQ-PQ Q/P VALVE	
17	3548718	PIN, SPIROL 1/4 X 2 3/4 LG	
18	306131	BUSHING, FLUID RETENTION	
19	104966	SPRING, FLUID RETENTION LIGHT	
20	3548072	BODY, HQ/PQ Q/D LOWER LATCH	
21	3545206	WASHER, NORD-LOCK 1-1/2"	
22	37475	NUT, HEX 1-1/2 UNC G8	
23	3548073	SPINDLE, HQ/PQ Q/D HOLLOW	
24	3540308	VALVE, PQ HARD SHUT-OFF	
25	3540300	WASHER, SHUT OFF VALVE	
26	3540299	WASHER, TAPERED SHUT-OFF PQ	
27	24528	BEARING, BALL THRUST	
28	3540794	SPINDLE BUSHING, HQ/PQ Q/D	
29	17447	FITTING, HYD GREASE	
30	3540755	SPRING, COMPRESSION	
31	3544324	WASHER, FLAT 1-1/4" NARROW	
32	103062	L/NUT, 1-1/4 UNC NYLOK	
33	3540745	BODY, CHECK VALVE HQ/PQ	
34	62374	BALL, 22MM	
35	100865	PIN, SPRING 3/16 X 1-3/4 LG	
36	3540737	BUSHING, HQ/PQ Q/D VALVE	
37	3543804	CAP, PQ Q/D I/TUBE	



HEAD ASSEMBLY PQ

75

PQ HEAD OPTIONS

18A	3543378	FLUID RETENTION BUSHING, HEAVY	1
19A	104971	FLUID RETENTION SPRING, MEDIUM	1
19B	104972	FLUID RETENTION SPRING, HEAVY	1
25A	3540300	WASHER SHUTOFF VALVE	4
A	5001333	DRY HOLE VALVE KIT HQ	
16	3548544	VALVE PISTON	1
17	306131	FLUID RETENTION BUSHING	1
17A	3543378	FLUID RETENTION BUSHING, HEAVY	1
18	104966	FLUID RETENTION SPRING, LIGHT	1
18A	104971	FLUID RETENTION SPRING, MEDIUM	1
19	3548715	PIN, SPRING 1/4" X 2 3/4"	1
20	3542987	HEAD ASSEMBLY TOOL (NOT SHOWN)	1
21	3543407	KIT BAG (NOT SHOWN)	1

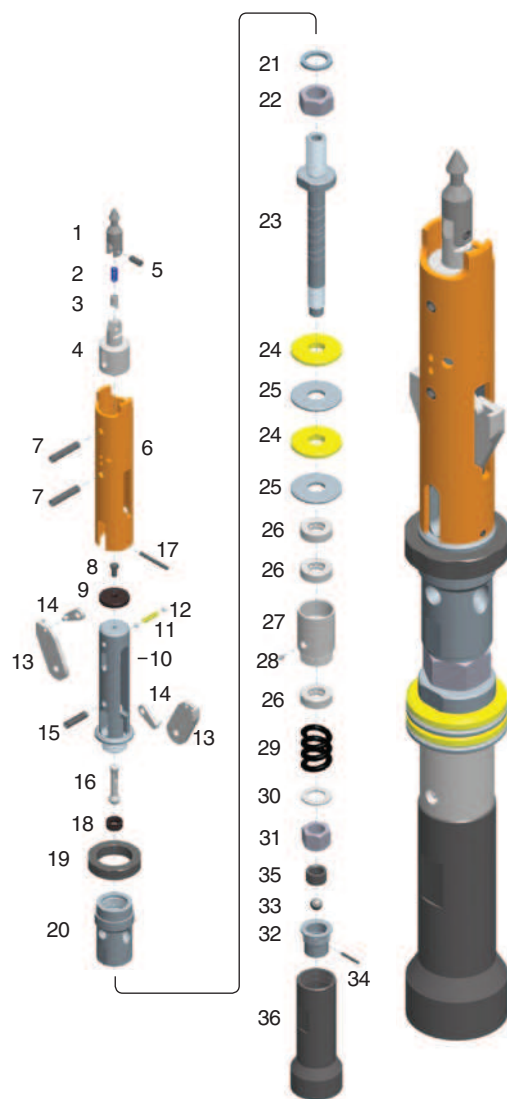
3549000 - PQ QUICK DESCENT HEAD ASSEMBLY

HEAD ASSEMBLY PQ

ID#	PART #	DESCRIPTION	QTY
	3549000	PQ HEAD ASSEMBLY	
1	42913	SPEARHEAD POINT	1
2	15141	COMPRESSION SPRING	1
3	42914	DETENT PLUNGER	1
4	3540330	SPEARHEAD BASE	1
5	42905	SPIROL PIN 7/16" X 1"	1
6	3548545	LATCH RETRACTING CASE	1
7	24524	SPRING PIN 1/2" X 2-3/4"	2
8	3541932	NYLOK BOLT, 3/8-16 X 3/4"	1
9	104953	WASHER	1
10	3549288	UPPER LATCH BODY	1
11	3548739	DETENT COMPRESSION SPRING	1
12	3543772	STAINLESS STEEL BALL, 11/32"	2
13	3543796	LATCH	2
14	306216	LINK	2
15	24305	SPRING PIN 1/2" X 2"	1
16	3548544	PISTON Q/P	1
17	3548718	SPIROL PIN 1/4" X 2-3/4"	1
18	62380	INDICATOR BUSHING	1
19	3543797	LANDING SHOULDER	1
20	3548072	LOWER LATCH BODY	1
21	3545206	WASHER, NORD-LOCK	1
22	37475	LOCKING NUT	1
23	3548073	SPINDLE Q/D	1
24	3540308	SHUT-OFF VALVE, HARD	2
25	3540300	VALVE ADJUSTING WASHER	2
26	24528	THRUST BEARING	3
27	3540794	SPINDLE Q/D BUSHING	1
28	17447	GREASE FITTING	1
29	3540755	COMPRESSION SPRING	1
30	3544324	FLAT WASHER	1
31	103062	LOCKING NUT	1
32	3540745	CHECK VALVE BODY	1
33	62374	STAINLESS STEEL BALL, 22MM	1
34	100865	SPRING PIN 3/16" X 1-3/4"	1
35	3540737	SHUT-OFF VALVE, HARD	1
36	3543804	INNER-TUBE CAP ASSEMBLY	1

PQ HEAD OPTIONS

24A	25232	SHUT-OFF VALVE, SOFT	2
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LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

OVERSHOTS

OVERSHOT ASSEMBLY

OVERVIEW	78-79
AQTK	80
AQTKU	81
AQTK LOADING CHAMBER	82
BQ / BQTK	83
BQU	84
BQTKU	85
BQ LOADING CHAMBER	86
BQ OVERSHOT CONVERSION KIT	87
NQ / NQTK / NQ3	88
NQU / NQTKU	89
NQ LOADING CHAMBER	90
NQ OVERSHOT CONVERSION KIT	91
HQ / HQ3	92
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OVERSHOTS

OVERVIEW

Boart Longyear's overshots are an integral part of the Q® Wireline system. Once the inner-tube is full of core, the overshoot is lowered (or pumped-in for an inclined-hole) to the bottom of the hole. Its heavy-duty lifting dogs grab a secure hold at the top of the inner-tube assembly.

As part of Boart Longyear's commitment to safety on the drill site, we offer the patented Ezy Lock® overshoot for use with the Q® Wireline system on surface applications.

For maximum productivity in underground or pump-in applications, Boart Longyear offers the new Quick Pump-In overshoot.

The new Quick Pump-In overshoot provides significantly improved pump-in rates with dual pump-in lip-seals. In addition, it incorporates the proven, patented Landing Indicator bushing as an optional bypass valve feature. When drilling flat or slightly declined, the landing indicator bushing and valve ball (or valve piston in AQTK) will provide a pressure spike upon landing and allow fluid to bypass the overshoot when pulling from the hole, significantly improving retraction rates and eliminating the need to refill the hole with drilling fluid.

CONVERSION KITS

Boart Longyear has set up conversion kits to assist our customers in converting over to Quick Pumping, saving the expense of buying a completely new system. There are also kits available to convert between surface and underground applications.



EZY LOCK OVERSHOT

The Ezy Lock® overshoot is a favorite of drillers around the world. The safety and productivity features included in the design provide for highly reliable core barrel retrieval for all surface exploration applications.

The Ezy Lock is available for above-ground Q® wireline systems in sizes B to P.

Standard Boart Longyear overshoot features:

- Heavy duty lifting dogs and compression spring
- Threaded connection between jar staff and overshoot head
- High strength alloy steel jar staff with increased diameter and fail safe stop
- Locking sleeve prevents release of inner-tube
- Optional dry hole lowering kit

EZY LOCK® OVERSHOT DESIGN

HOW IT WORKS:

EZY LOCK SLEEVE

Provides a quick, one-handed rotation of the sleeve 90° to lock of the overshoot lifting dogs to the spearpoint to protect against accidental release.

**SLEEVE
ROTATION**

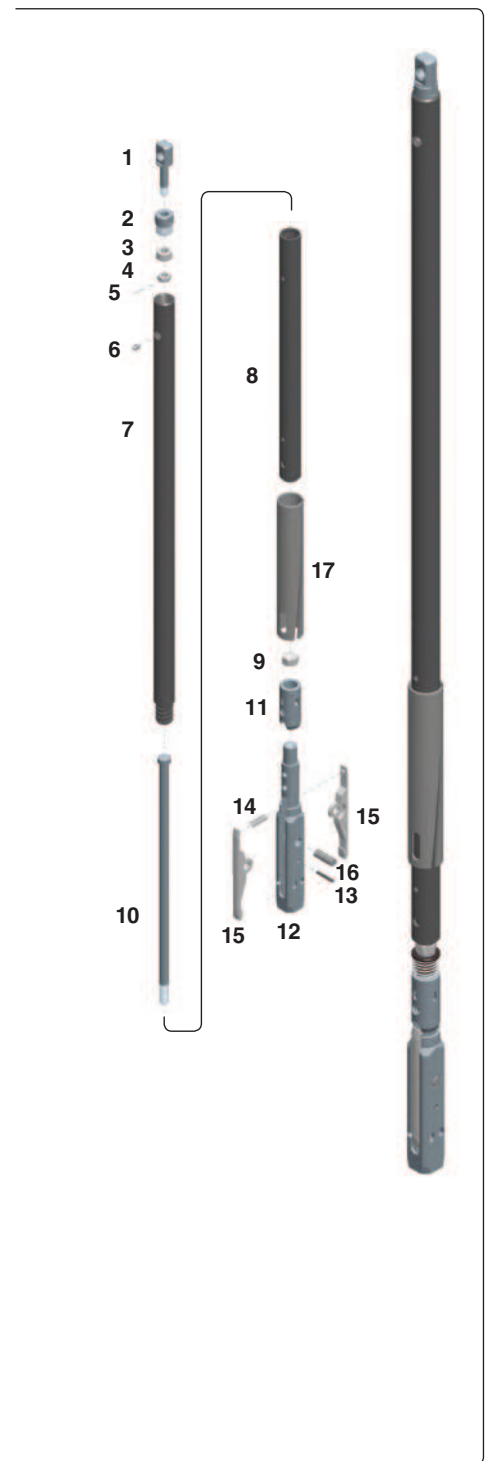
HOW IT WORKS:

QUICK RELEASE SAFETY PIN

A detented quick-pin allows for a two-hand-applied lock of the overshoot head to the spearpoint to guard against worn or overloaded lifting dogs.

61354 - AQTK OVERSHOT

ID #	PART #	DESCRIPTION	QTY	KG	LB
1-17	61354	AQTK OVERSHOT ASSEMBLY		7.98	17.56
1-5	25984	AQTK CABLE SWIVEL ASSEMBLY		0.26	0.57
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	CABLE SWIVEL COLLAR	1	0.11	0.24
3	25986	THRUST BEARING	1	0.01	0.02
4	25985	CASTLE NUT	1	0.02	0.04
5	44615	COTTER PIN	1	0.01	0.02
6	17447	GREASE FITTING	1	0.01	0.02
7	44427	CABLE SWIVEL BODY	1	4.01	8.82
8	44428	JAR TUBE	1	1.34	2.95
9	22915	STOVER LOCK NUT	1	0.02	0.04
10	44431	JAR STAFF	1	0.32	0.70
11	44432	JAR HEAD BOTTOM	1	0.25	0.55
12	61355	OVERSHOT HEAD	1	1.18	2.60
13	45581	SPIROL PIN 3/16" X 1"	3	0.03	0.07
14	17886	COMPRESSION SPRING	1	0.01	0.02
15	19128	LIFTING DOG	2	0.14	0.31
16	19125	PIVOT PIN 3/8" X 1-1/8"	1	0.02	0.04
17	19126	LOCKING SLEEVE, SLOTTED	1	0.39	0.86



3542586 - AQTK OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542586	AQTK OVERSHOT SPARE PARTS KIT		0.27	0.59
1	25986	THRUST BEARING	1	0.01	0.02
2	25985	CASTLE NUT	1	0.02	0.04
3	44615	COTTER PIN	2	0.02	0.04
4	17447	GREASE FITTING	1	0.01	0.02
5	22915	STOVER LOCK NUT	1	0.02	0.04
6	45581	SPIROL PIN 3/16" X 1"	2	0.02	0.04
7	17886	COMPRESSION SPRING	1	0.01	0.02
8	19128	LIFTING DOG	2	0.14	0.31
9	19125	PIVOT PIN 3/8" X 1-1/8"	1	0.02	0.04



LEGEND



✓ STANDARD COMPONENT



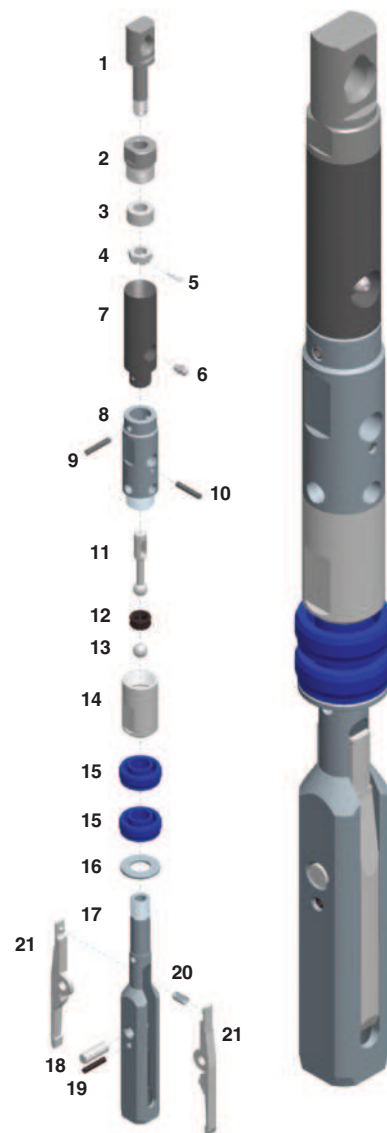
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

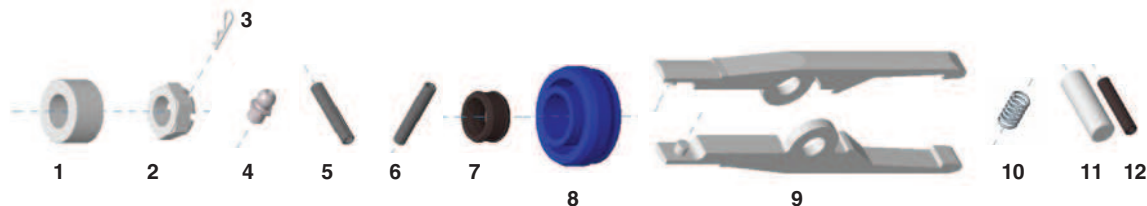
3547630 - AQTKU QUICK PUMP IN OVERSHOT

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3547630	QUICK PUMP-IN OVERSHOT - AQTKU		2.52	5.55
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	COLLAR, CABLE SWIVEL	1	0.11	0.24
3	25986	BEARING, BALL THRUST	1	0.01	0.02
4	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
5	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.02
6	17447	FITTING, HYD GREASE	1	0.01	0.02
7	30183	BODY, CABLE SWIVEL U/G O/SHOT	1	0.27	0.6
8	3547629	BODY, AQTKU O/SHOT UPPER	1	0.16	0.35
9	3545136	PIN, SHEAR 3/16" X 1-1/8" LG	1	0.01	0.02
10	22643	PIN, SPRING	1	0.01	0.02
11	3543885	PISTON, AQTK Q/P VALVE	1	0.01	0.02
12	3543921	LATCH INDICATOR BUSHING	1	0.01	0.02
13	25853	BALL, 1/2" -10	1	0.01	0.02
14	3547631	BODY, AQTKU O/SHOT LOWER	1	0.16	0.35
15	100695	LIP SEAL, AQTK PUMP-IN	2	0.02	0.04
16	3541028	WASHER, AQTK O/SHOT ADJUSTING	1	0.23	0.51
17	3547632	HEAD, AQTKU Q/P O/SHOT	1	1.18	2.6
18	19125	PIN, PIVOT 3/8" X 1-1/8"	1	0.02	0.04
19	45581	PIN, SPIROL 3/16" X 1"	1	0.01	0.02
20	17886	SPRING, COMPRESSION	1	0.01	0.02
21	19128	LIFTING DOG, AQTK	2	0.14	0.31



3548056 - AQTKU OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3548056	AQTKU OVERSHOT SPARE PARTS KIT		0.31	0.68
1	25986	BEARING, BALL THRUST	1	0.01	0.02
2	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
3	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.04
4	17447	FITTING, HYD GREASE	1	0.01	0.02
5	3545136	PIN, SPIROL SHEAR	2	0.02	0.04
6	22643	PIN, SPRING	2	0.02	0.04
7	3543921	BUSHING INDICATOR	2	0.02	0.04
8	100695	LIP SEAL, AQTK PUMP-IN	2	0.02	0.04
9	19128	LIFTING DOG, AQTK	2	0.14	0.3
10	17886	SPRING, COMPRESSION	1	0.01	0.02
11	19125	PIN, PIVOT 3/8" X 1-1/8"	1	0.02	0.04
12	45581	PIN, SPIROL 3/16" X 1"	1	0.01	0.02

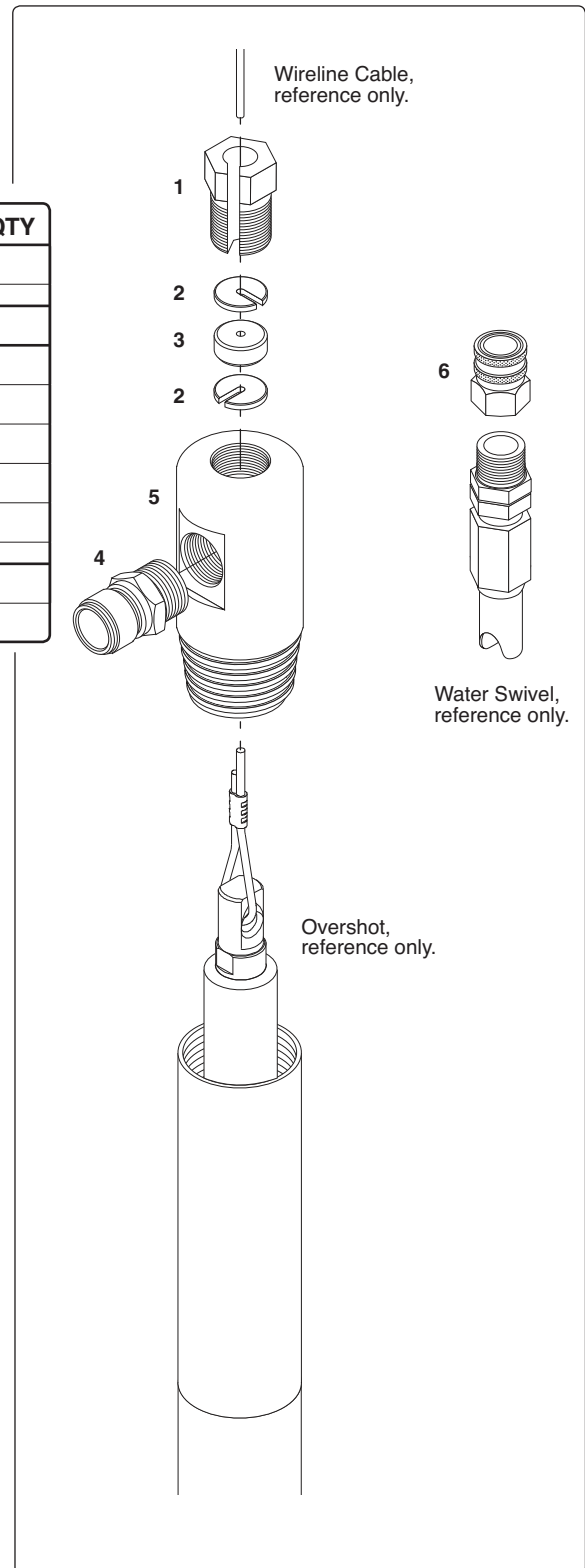


AQTK LOADING CHAMBER

Application:

- Underground applications with AQTKU core barrel and ARQTK rods.
- Used to pump the overshot into the rod string for retrieval of the inner-tube assembly.
- Identification groove supplied on ARQTK loading chamber body.

ASSEMBLY			QTY
1-5	3541814	ARQTK LOADING CHAMBER ASSEMBLY	
PARTS			
1	3541817	PACKING PLUG	1
2	3541816	CABLE GUIDE WASHER 3/16"	2
3	25546	CABLE PACKING	1
4	104597	QUICK COUPLER TIP #16 NPT	1
5	3541815	LOADING CHAMBER BODY	1
OPTIONS			
6	100876	#16 NPT QUICK COUPLER BODY, FEMALE	1



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

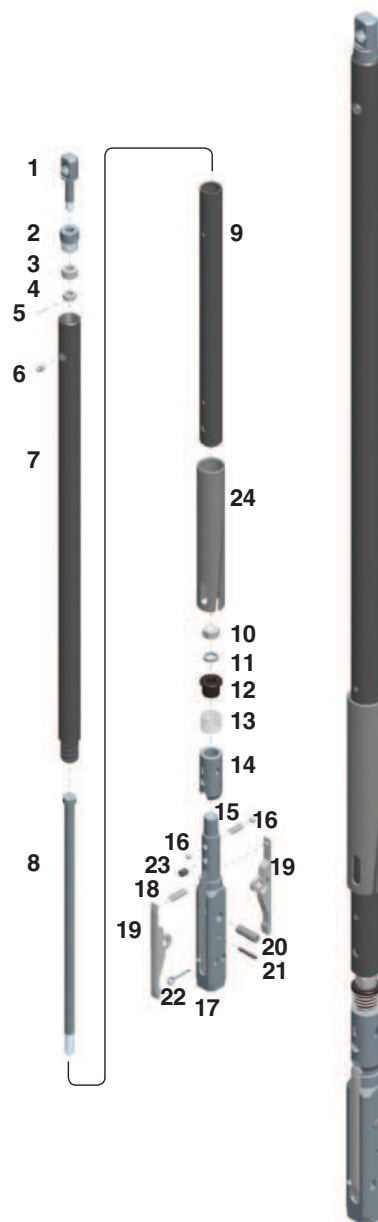
3546822 - BQ / BQTK EZY LOCK OVERSHOT

OVERSHOTS
BQ

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3546822	BQ / BQTK EZY LOCK OVERSHOT ASSEMBLY		15.58	34.27
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	CABLE SWIVEL COLLAR	1	0.11	0.24
3	25986	THRUST BEARING	1	0.01	0.02
4	25985	CASTLE NUT	1	0.02	0.04
5	44615	COTTER PIN	1	0.01	0.02
6	17447	GREASE FITTING	1	0.01	0.02
7	44434	CABLE SWIVEL BODY	1	5.15	11.33
8	3546821	JAR STAFF	1	0.32	0.70
9	44435	JAR TUBE	1	1.61	3.54
10	62904	HEX NUT 9/16" UNC	1	0.20	0.44
11	3548184	WASHER, NORD-LOCK	1	0.01	0.02
12	3546823	CAP, EZY LOCK O/SHOT	1		
13	3544104	SPRING, EZY LOCK O/SHOT	1	0.02	0.04
14	3546883	SLEEVE, EZY LOCK O/SHOT	1		
15	3545053	COMPRESSION SPRING	1	0.01	0.02
16	3543772	BALL 11/32"	2	0.02	0.04
17	3546825	EZY LOCK OVERSHOT HEAD	1	1.16	2.55
18	6951	COMPRESSION SPRING	1	0.02	0.04
19	6950	LIFTING DOG	2	0.32	0.70
20	42941	PLAIN PIN 1/2" X 1-1/2"	1	0.05	0.11
21	29073	SPRING PIN 3/16" X 1-3/8"	1	0.01	0.02
22	3546747	LOCKING PIN	1	0.03	0.06
23	3545073	SET SCREW, 3/8" UNF X 3/4" NYLOK	1	6.00	13.20
24	15575	LOCKING SLEEVE	1	0.70	1.54

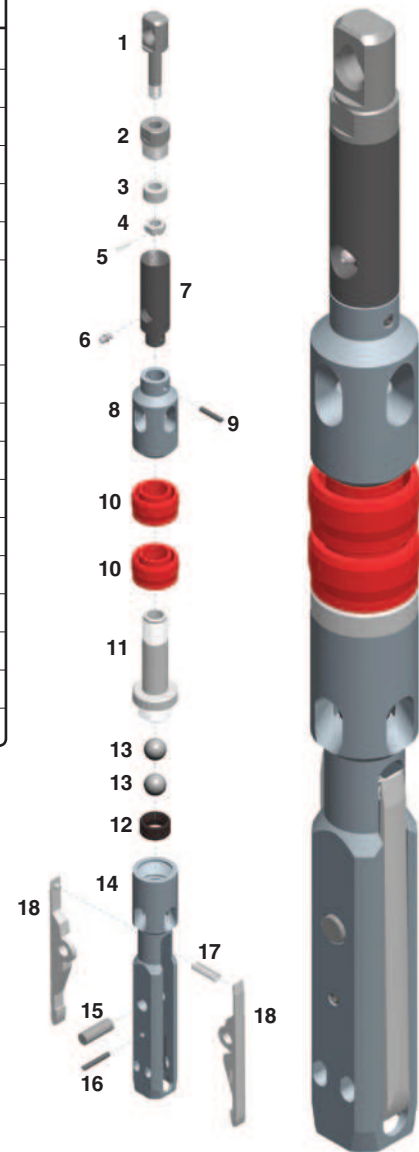
3547249 - BQ / BQTK OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3547249	BQ / BQTK OVERSHOT SPARE PARTS KIT		6.73	14.80
1	25986	THRUST BEARING	1	0.01	0.02
2	25985	CASTLE NUT	1	0.02	0.04
3	44615	COTTER PIN	2	0.02	0.04
4	17447	GREASE FITTING	1	0.01	0.02
5	62904	HEX NUT 9/16" UNC	1	0.20	0.44
6	3543772	BALL 11/32"	2	0.02	0.04
7	3545053	COMPRESSION SPRING	2	0.02	0.04
8	6951	COMPRESSION SPRING	1	0.02	0.04
9	6950	LIFTING DOG	2	0.32	0.70
10	42941	PLAIN PIN 1/2" X 1-1/2"	1	0.05	0.11
11	29073	SPRING PIN 3/16" X 1-3/8"	1	0.01	0.02
12	3546747	LOCKING PIN	1	0.03	0.06
13	3545073	SET SCREW	1	6.00	13.20



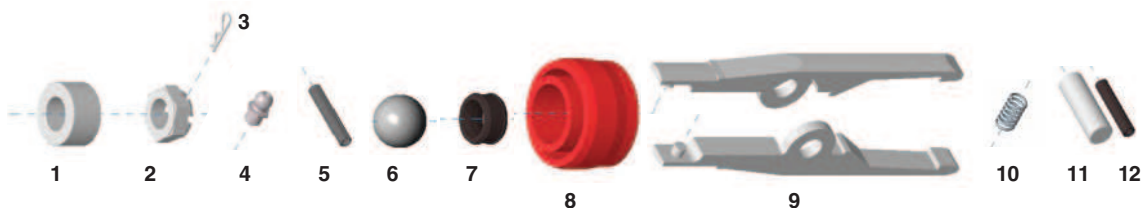
3547700 - BQU QUICK PUMP-IN OVERSHOT

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3547700	QUICK PUMP-IN OVERSHOT - BQU		2.82	6.21
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	COLLAR, CABLE SWIVEL	1	0.11	0.24
3	25986	BEARING, BALL THRUST	1	0.01	0.02
4	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
5	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.02
6	17447	FITTING, HYD GREASE	1	0.01	0.02
7	30183	BODY, CABLE SWIVEL U/G O/SHOT	1	0.27	0.59
8	3547807	BODY BQU UPPER O/SHOT Q/P	1	0.3	0.66
9	3545136	PIN, SHEAR 3/16" X 1-1/8" LG	1	0.01	0.02
10	100690	LIP SEAL, BQ PUMP-IN	2	0.06	0.13
11	3543906	SEAT, SEAL BQU/BQTKU	1	0.6	1.32
12	62380	INDICATOR BUSHING	1	0.01	0.02
13	62374	BALL, 22MM	2	0.1	0.22
14	3547848	HEAD, BQU O/SHOT Q/P	1	0.8	1.76
15	42941	PIN, PLAIN 1/2" X 1-1/2"	1	0.05	0.11
16	29073	PIN, SPRING 3/16" X 1-3/8"	1	0.01	0.02
17	6951	SPRING, COMPRESSION	1	0.02	0.04
18	6950	LIFTING DOG, BQ	2	0.32	0.7



3548057 BQU OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3548057	BQU OVERSHOT SPARE PARTS KIT		0.66	1.45
1	25986	BEARING, BALL THRUST	1	0.01	0.02
2	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
3	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.02
4	17447	FITTING, HYD GREASE	1	0.01	0.02
5	3545136	PIN, SPIROL SHEAR	2	0.02	0.02
6	62374	BALL, 22MM	1	0.05	0.11
7	62380	BUSHING, INDICATOR	2	0.02	0.04
8	100690	LIP SEAL, BQ PUMP-IN	2	0.12	0.26
9	6950	LIFTING DOG, BQ	2	0.32	0.7
10	6951	SPRING, COMPRESSION	1	0.02	0.04
11	42941	PIN, PLAIN 1/2" X 1-1/2"	1	0.05	0.11
12	29073	PIN, SPRING 3/16" X 1-3/8"	1	0.01	0.02



LEGEND



✓ STANDARD COMPONENT



REQUIRED - CHOOSE ONE

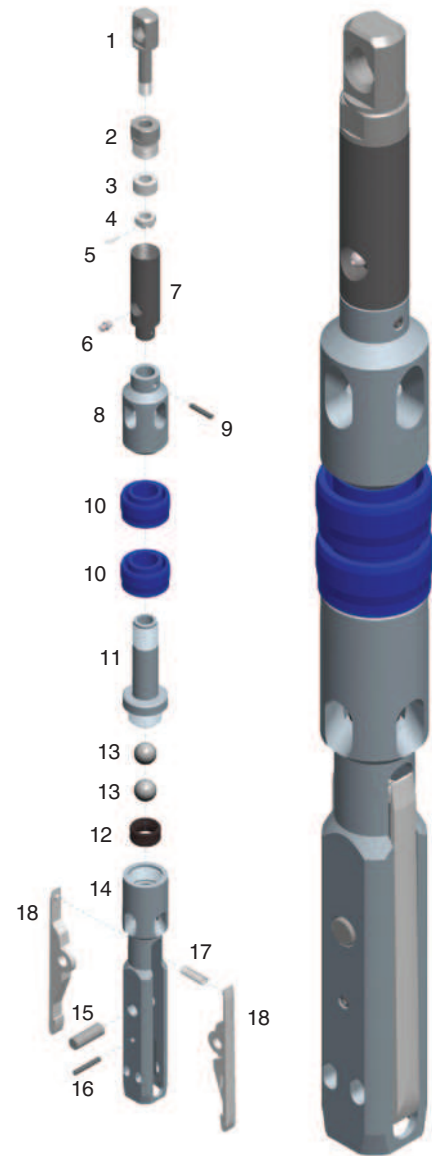


[OPT] OPTIONAL COMPONENT

3547870 - BQTKU QUICK PUMP-IN OVERSHOT

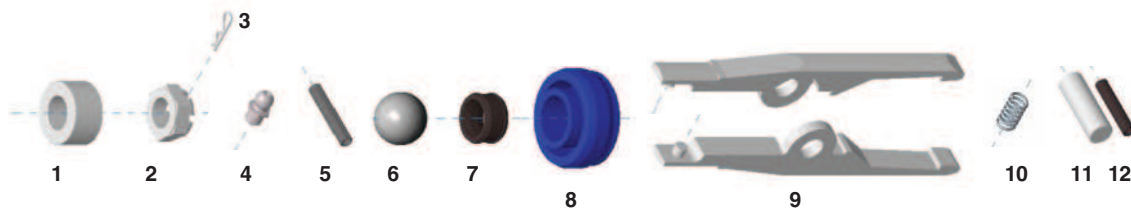
OVERSHOTS
BQTKU

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3547870	FAST PUMP-IN OVERSHOT - BQTKU		2.86	6.30
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	COLLAR, CABLE SWIVEL	1	0.11	0.24
3	25986	BEARING, BALL THRUST	1	0.01	0.02
4	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
5	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.02
6	17447	FITTING, HYD GREASE	1	0.01	0.02
7	30183	BODY, CABLE SWIVEL U/G O/SHOT	1	0.27	0.59
8	3547807	BODY, BQU UPPER O/SHOT L/I	1	0.3	0.66
9	3545136	PIN, SHEAR 3/16" X 1-1/8" LG	1	0.01	0.02
10	64683	LIP SEAL, BQTK PUMP-IN	2	0.1	0.22
11	3543906	SEAT, SEAL BQU / BQTKU	1	0.6	1.32
12	62380	INDICATOR BUSHING	1	0.01	0.02
13	62374	BALL, 22MM	2	0.1	0.22
14	3547848	HEAD, BQU O/SHOT L/I	1	0.8	1.76
15	42941	PIN, PLAIN 1/2" X 1-1/2"	1	0.05	0.11
16	29073	PIN, SPRING 3/16" X 1-3/8"	1	0.01	0.02
17	6951	SPRING, COMPRESSION	1	0.02	0.04
18	6950	LIFTING DOG, BQ	2	0.32	0.7



3548058 - BQTKU OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3548058	BQTKU OVERSHOT SPARE PARTS KIT		0.66	1.45
1	25986	BEARING, BALL THRUST	1	0.01	0.02
2	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
3	44615	PIN, COTTER 3/32" X 3/4"	2	0.01	0.02
4	17447	FITTING, HYD GREASE	1	0.01	0.02
5	3545136	PIN, SPIROL SHEAR	1	0.02	0.02
6	62374	BALL, 22MM	2	0.05	0.11
7	62380	BUSHING, INDICATOR	1	0.02	0.04
8	64683	LIP SEAL, BQTK PUMP-IN	4	0.12	0.26
9	6950	LIFTING DOG, BQ	1	0.32	0.7
10	6951	SPRING, COMPRESSION	2	0.02	0.04
11	42941	PIN, PLAIN 1/2" X 1-1/2"	1	0.05	0.11
12	29073	PIN, SPRING 3/16" X 1-3/8"	1	0.01	0.02

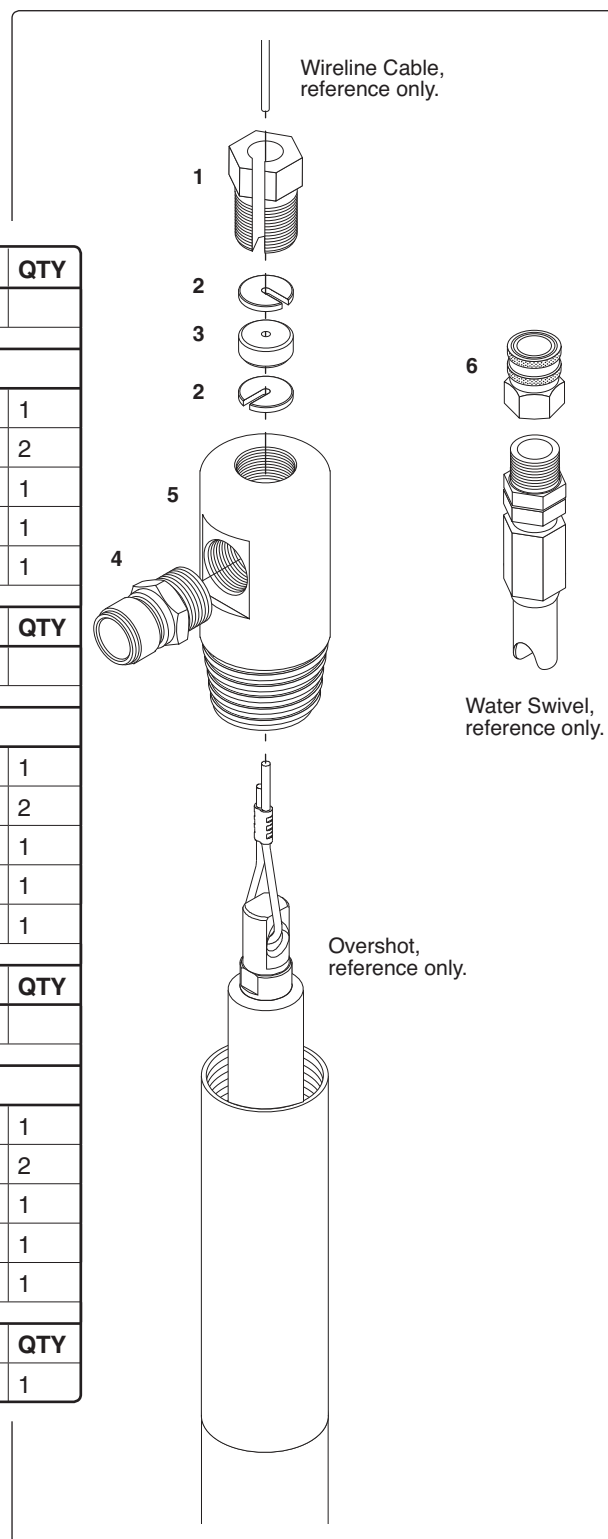


BQ LOADING CHAMBER

Application:

- Underground applications with BQU / BQTKU core barrels. Select assembly according to rods string type - BRQ / BRQTK / BQ.
- Used to pump the overshot into the hole for retrieval of the inner-tube assembly.
- Identification groove supplied on BRQTK loading chamber body.

ASSEMBLY				QTY
1-5	3541911	BRQ LOADING CHAMBER ASSEMBLY		
PARTS				
1	3541817	PACKING PLUG		1
2	3541816	CABLE GUIDE WASHER 3/16"		2
3	25546	CABLE PACKING		1
4	104597	QUICK COUPLER TIP #16 NPT		1
5	3541917	LOADING CHAMBER BODY		1
ASSEMBLY				QTY
1-5	3541821	BRQTK LOADING CHAMBER ASSEMBLY		
PARTS				
1	3541817	PACKING PLUG		1
2	3541816	CABLE GUIDE WASHER 3/16"		2
3	25546	CABLE PACKING		1
4	104597	QUICK COUPLER TIP #16 NPT		1
5	3541820	LOADING CHAMBER BODY		1
ASSEMBLY				QTY
1-5	3542493	BQ LOADING CHAMBER ASSEMBLY		
PARTS				
1	3541817	PACKING PLUG		1
2	3541816	CABLE GUIDE WASHER 3/16"		2
3	25546	CABLE PACKING		1
4	104597	QUICK COUPLER TIP #16 NPT		1
5	3542495	LOADING CHAMBER BODY		1
OPTIONS				QTY
7	100876	#16 NPT QUICK COUPLER BODY, FEMALE		1



LEGEND



✓ STANDARD COMPONENT



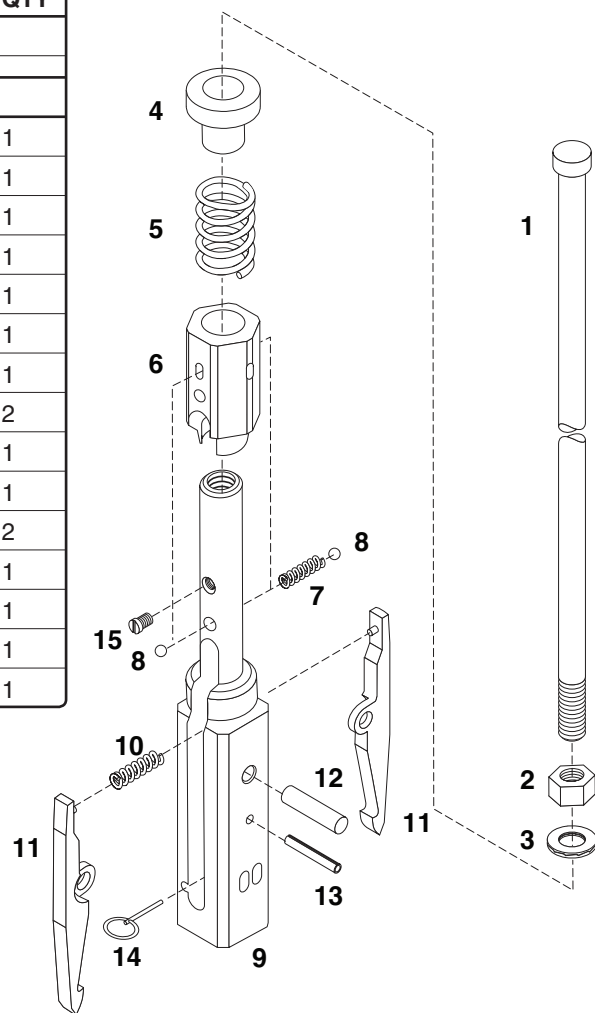
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

BQ OVERSHOT CONVERSION KITS

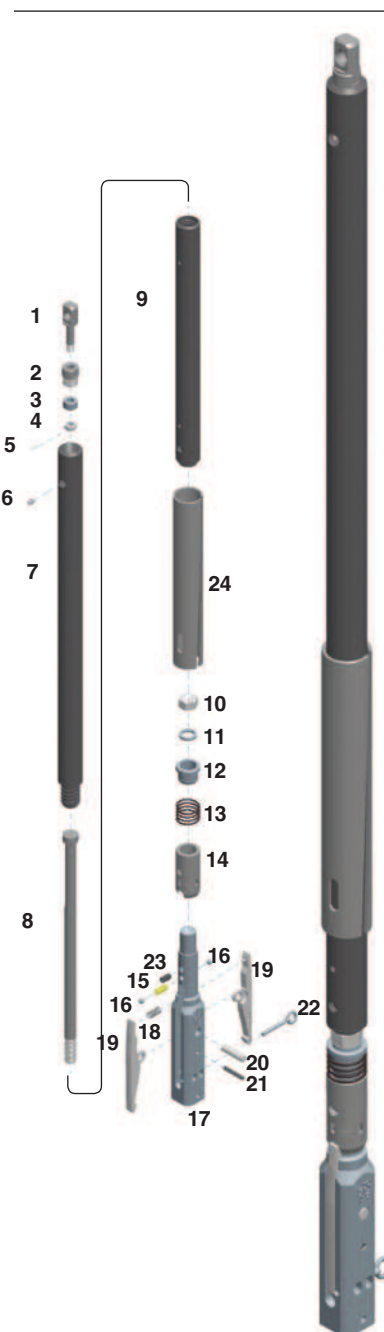
ASSEMBLY			QTY
1-15	3546749	EZY LOCK OVERSHOT CONVERSION KIT	
PARTS			
1	3546821	JAR STAFF	1
2	62904	HEX NUT 9/16" UNC	1
3	3548184	WASHER, NORD LOCK	1
4	3546823	CAP, EZY LOCK O/SHOT	1
5	3544104	SPRING, EZY LOCK O/SHOT	1
6	3546883	SLEEVE, EZY LOCK O/SHOT	1
7	3545053	COMPRESSION SPRING	1
8	3543772	BALL 11/32"	2
9	3546825	EZY LOCK OVERSHOT HEAD	1
10	6951	COMPRESSION SPRING	1
11	6950	LIFTING DOG	2
12	42941	PLAIN PIN 1/2" X 1-1/2"	1
13	29073	SPRING PIN 3/16" X 1-3/8"	1
14	3546747	LOCKING PIN	1
15	3545073	SET SCREW, 3/8" UNF X 3/4 NYLOK	1



3546744 - NQ / NQTK / NQ3 EZY LOCK OVERSHOT

OVERSHOTS
NQ / NQTK / NQ3

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3546744	NQ / NQTK / NQ3 EZY LOCK OVERSHOT ASSEMBLY		22.76	50.06
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	CABLE SWIVEL COLLAR	1	0.11	0.24
3	25986	THRUST BEARING	1	0.01	0.02
4	25985	CASTLE NUT	1	0.02	0.04
5	44615	COTTER PIN	1	0.01	0.02
6	17447	GREASE FITTING	1	0.01	0.02
7	44444	CABLE SWIVEL BODY	1	7.23	15.91
8	3540516	JAR STAFF	1	1.02	2.24
9	3540515	JAR TUBE	1	2.81	6.18
10	44524	HEX NUT 3/4" UNC	1	0.05	0.11
11	3548178	WASHER, NORD-LOCK	1	0.01	0.02
12	3544103	CAP, EZY LOCK O/SHOT	1	0.09	0.20
13	3544105	SPRING, EZY LOCK O/SHOT	1	0.03	0.06
14	3546745	SLEEVE, EZY LOCK O/SHOT	1	0.36	0.80
15	6951	COMPRESSION SPRING	1	0.02	0.04
16	3543772	BALL 11/32"	2	0.02	0.04
17	3546746	EZY LOCK OVERSHOT HEAD	1	2.66	5.85
18	3542027	LIFTING DOG COMPRESSION SPRING	1	0.01	0.02
19	3540529	LIFTING DOG	2	0.54	1.19
20	42906	PLAIN PIN 1/2" X 1-15/16"	1	0.05	0.11
21	37394	SPRING PIN 1/4" X 1-3/4"	1	0.01	0.02
22	3546747	LOCKING PIN	1	0.03	0.06
23	3545073	SET SCREW, 3/8" UNF X 3/4" NYLOK	1	6.00	13.20
24	15965	LOCKING SLEEVE SLOTTED	1	1.56	3.43
	3544079	NQ / NQTK / NQ3 DRY HOLE LOWERING KIT		0.20	0.44
25	3547647	DRY HOLE OVERSHOT CAP	1	0.10	0.22
26	306359	SPRING PIN 1/4" X 1/2"	2	0.02	0.04
27	3547648	SPACER	1	0.08	0.18



3542588 - NQ OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542588	NQ OVERSHOT SPARE PARTS KIT		6.79	14.93
1	25986	THRUST BEARING	1	0.01	0.02
2	25985	CASTLE NUT	1	0.02	0.04
3	44615	COTTER PIN	2	0.02	0.04
4	17447	GREASE FITTING	1	0.01	0.02
5	44524	HEX NUT 3/4" UNC	1	0.05	0.11
6	3543772	BALL 11/32"	2	0.02	0.04
7	6951	COMPRESSION SPRING	1	0.02	0.04
8	3542027	LIFTING DOG COMPRESSION SPRING	1	0.01	0.02
9	3540529	LIFTING DOG	2	0.54	1.19
10	42906	PLAIN PIN	1	0.05	0.11
11	37394	SPRING PIN 1/4" X 1-3/4"	1	0.01	0.02
12	3546747	LOCKING PIN	1	0.03	0.06
13	3545073	SET SCREW	1	6.00	13.20



LEGEND



✓ STANDARD COMPONENT



REQUIRED - CHOOSE ONE

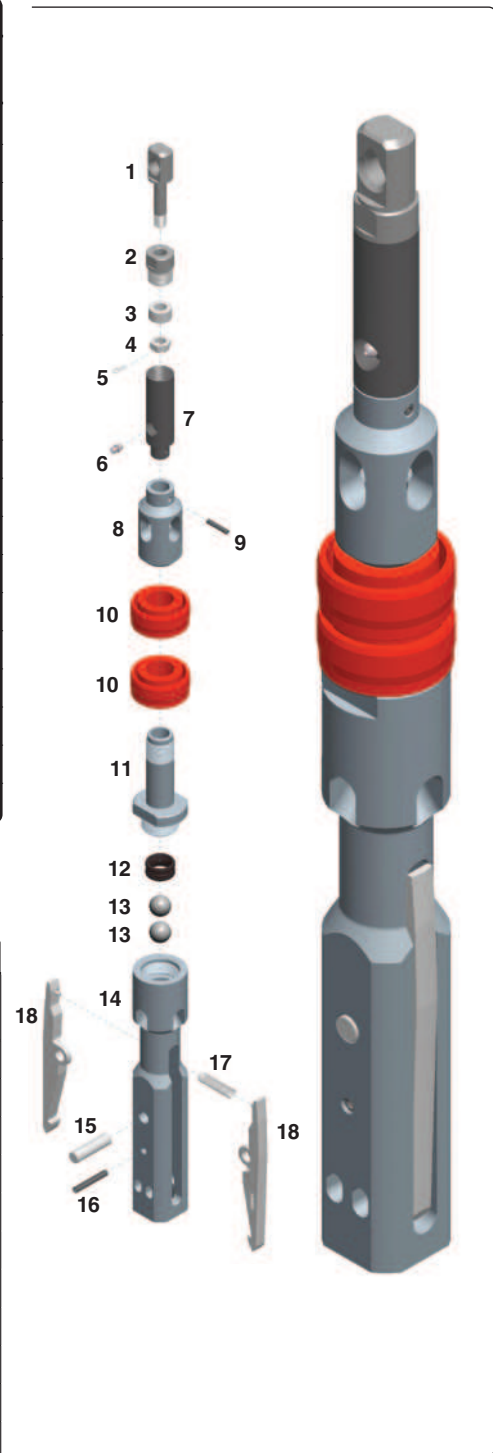


[OPT] OPTIONAL COMPONENT

3547850 - NQU / NQTKU QUICK PUMP IN OVERSHOT

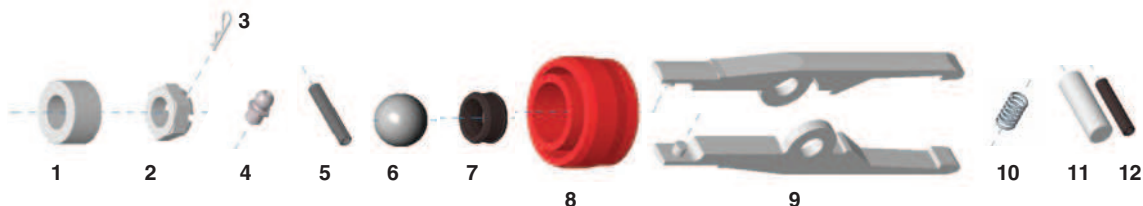
OVERSHOTS
NQU / NQTKU

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3547850	QUICK PUMP-IN OVERSHOT - NQU		2.86	6.30
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	COLLAR, CABLE SWIVEL	1	0.11	0.24
3	25986	BEARING, BALL THRUST	1	0.01	0.02
4	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
5	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.02
6	17447	FITTING, HYD GREASE	1	0.01	0.02
7	30183	BODY, CABLE SWIVEL U/G O/SHOT	1	0.27	0.59
8	3547849	BODY, NQU UPPER O/SHOT L/I	1	0.3	0.66
9	3545136	PIN, SHEAR 3/16" X 1-1/8" LG	1	0.01	0.02
10	64302	LIP SEAL, NQ PUMP-IN	2	0.1	0.22
11	3543949	SEAT, SEAL NQU	1	0.6	1.32
12	62380	INDICATOR BUSHING	1	0.01	0.02
13	62374	BALL, 22 MM	2	0.1	0.22
14	3547851	HEAD, NQU O/SHOT L/I	1	0.8	1.76
15	42906	PIN, PLAIN 1/2" X 1-15/16"	1	0.05	0.11
16	37394	PIN, SPRING 1/4" X 1-3/4"	1	0.01	0.02
17	3542027	SPRING, LIFTING DOG	1	0.02	0.04
18	3540529	LIFTING DOG, O/SHOT	2	0.32	0.7



3548059 - NQU OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3548059	NQU OVERSHOT SPARE PARTS KIT		0.92	2.02
1	25986	BEARING, BALL THRUST	1	0.01	0.02
2	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
3	44615	PIN, COTTER 3/32" X 3/4"	2	0.01	0.02
4	17447	FITTING, HYD GREASE	1	0.02	0.04
5	3545136	PIN, SPIROL SHEAR	1	0.01	0.02
6	62374	BALL, 22MM	2	0.1	0.22
7	62380	BUSHING, INDICATOR	4	0.02	0.04
8	64302	LIP SEAL, NQ PUMP-IN	1	0.12	0.26
9	3540529	LIFTING DOG, O/SHOT	2	0.54	1.19
10	3542027	SPRING, LIFTING DOG	1	0.01	0.02
11	42906	PIN, PLAIN 1/2" X 1-15/16"	1	0.05	0.11
12	37394	PIN, SPRING 1/4" X 1-3/4"	1	0.01	0.02

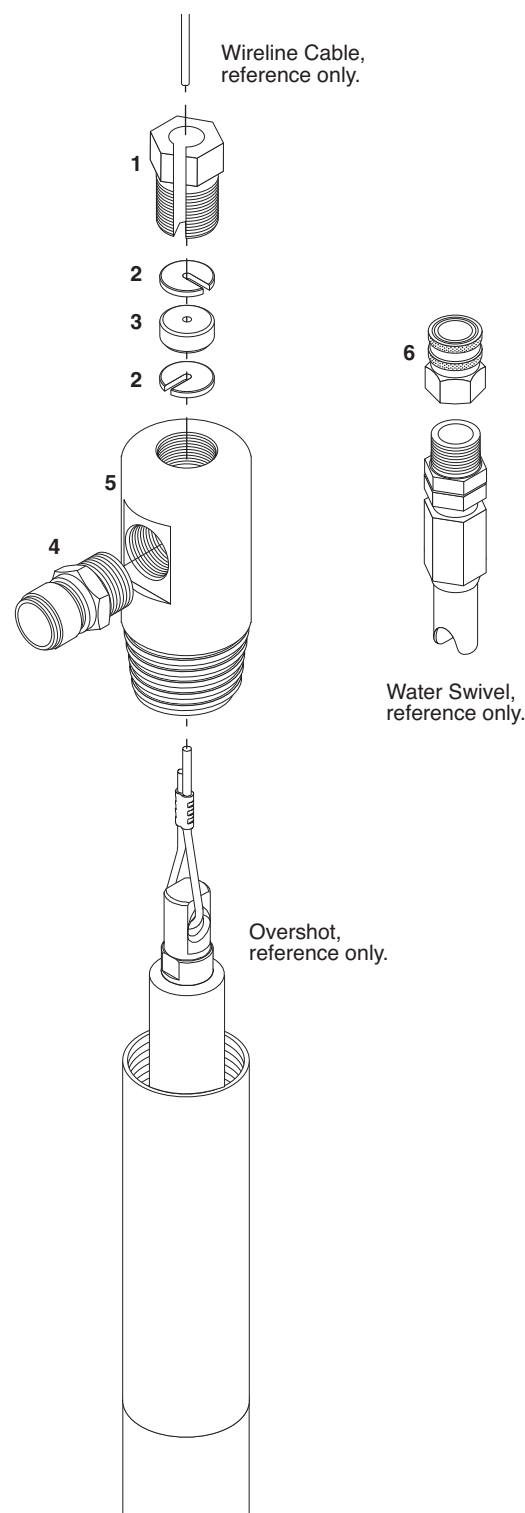


NQ LOADING CHAMBER

Application:

- Underground applications with NQU / NQ2"U core barrels. Select assembly according to rods string type - NRQ / NQ.
- Used to pump the overshot into the rod string for retrieval of the inner-tube assembly

ASSEMBLY			QTY
1-5	3541912	NRQ LOADING CHAMBER ASSEMBLY	
PARTS			
1	3541817	PACKING PLUG	1
2	3541816	CABLE GUIDE WASHER 3/16"	2
3	25546	CABLE PACKING	1
4	104597	QUICK COUPLER TIP #16 NPT	1
5	3541918	LOADING CHAMBER BODY	1
ASSEMBLY			QTY
1-5	3542496	NQ LOADING CHAMBER ASSEMBLY	
PARTS			
1	3541817	PACKING PLUG	1
2	3541816	CABLE GUIDE WASHER 3/16"	2
3	25546	CABLE PACKING	1
4	104597	QUICK COUPLER TIP #16 NPT	1
5	3542497	LOADING CHAMBER BODY	1
OPTIONS			QTY
7	100876	#16 NPT QUICK COUPLER BODY, FEMALE	1



LEGEND



✓ STANDARD COMPONENT



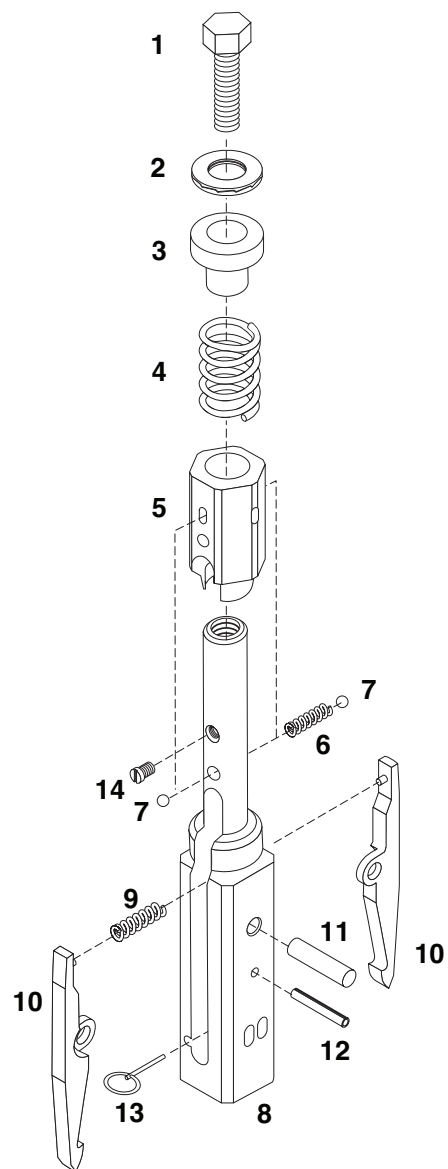
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

NQ OVERSHOT CONVERSION KIT

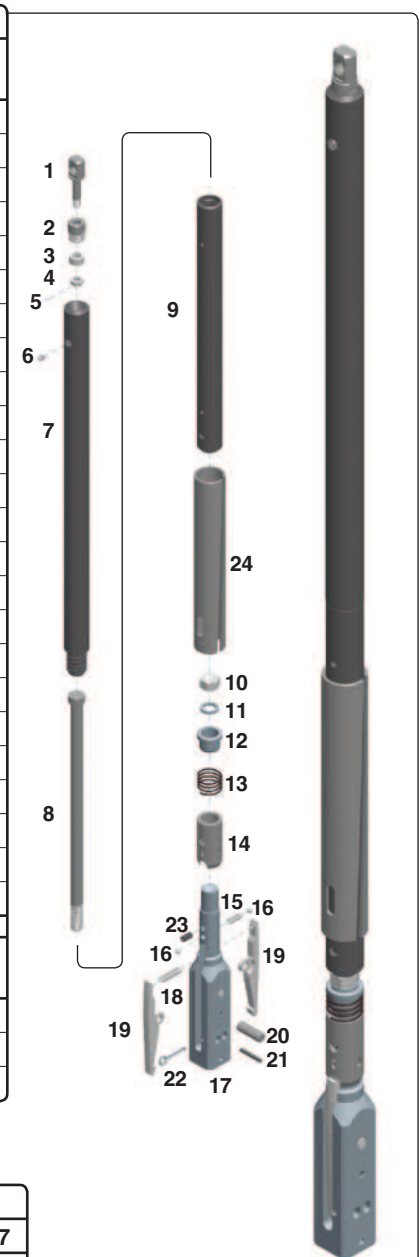
ASSEMBLY			QTY
1-15	3546878	EZY LOCK OVERSHOT CONVERSION KIT	
PARTS			
1	46098	CAP SCREW, HH 3/4" UNC X 1-1/2"	1
2	3548178	WASHER, NORD-LOCK	1
3	3544103	CAP, EZY LOCK O/SHOT	1
4	3544105	SPRING, EZY LOCK O/SHOT	1
5	3546745	SLEEVE, EZY LOCK O/SHOT	1
6	3545053	COMPRESSION SPRING	1
7	3543772	BALL 11/32"	2
8	3546746	EZY LOCK OVERSHOT HEAD	1
9	3542027	LIFTING DOG COMPRESSION SPRING	1
10	3540529	LIFTING DOG	2
11	42906	PLAIN PIN 1/2" X 1-15/16"	1
12	37394	SPRING PIN 1/4" X 1-3/4"	1
13	3546747	LOCKING PIN	1
14	3545073	SET SCREW, 3/8" UNF X 3/4 NYLOK	1



3546750 - HQ EZY LOCK OVERSHOT

OVERSHOTS HQ

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3546750	HQ / HQ3 EZY LOCK OVERSHOT ASSEMBLY		25.52	56.15
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	CABLE SWIVEL COLLAR	1	0.11	0.24
3	25986	THRUST BEARING	1	0.01	0.02
4	25985	CASTLE NUT	1	0.02	0.04
5	44615	COTTER PIN	1	0.01	0.02
6	17447	GREASE FITTING	1	0.01	0.02
7	44444	CABLE SWIVEL BODY	1	7.23	15.91
8	3540516	JAR STAFF	1	1.02	2.24
9	3540515	JAR TUBE	1	2.81	6.18
10	44524	HEX NUT 3/4" UNC	1	0.05	0.11
11	3548178	WASHER, NORD-LOCK	1	0.01	0.02
12	3544103	CAP, EZY LOCK O/SHOT	1	0.09	0.20
13	3544105	SPRING, EZY LOCK O/SHOT	1	0.03	0.06
14	3546745	SLEEVE, EZY LOCK O/SHOT	1	0.36	0.80
15	6951	COMPRESSION SPRING	1	0.02	0.04
16	3543772	BALL 11/32"	2	0.02	0.04
17	3546748	EZY LOCK OVERSHOT HEAD	1	5.45	12.00
18	3542027	LIFTING DOG COMPRESSION SPRING	1	0.01	0.02
19	3540529	LIFTING DOG	2	0.54	1.19
20	3540528	PLAIN PIN 1/2" X 2-1/8"	1	0.02	0.04
21	24307	SPRING PIN 1/4" X 2"	1	0.01	0.02
22	3546747	LOCKING PIN	1	0.03	0.06
23	3545073	SET SCREW, 3/8" UNF X 3/4" NYLOK	1	6.00	13.20
24	15965	LOCKING SLEEVE SLOTTED	1	1.56	3.43
	3543855	HQ / HQ3 / PQ / PQ3 DRY HOLE LOWERING KIT		0.26	0.57
25	3543854	DRY HOLE OVERSHOT CAP	1	0.09	0.20
26	35788	SPRING PIN 1/4" X 5/8"	2	0.02	0.04
27	19464	FLAT WASHER 1" SAE	3	0.15	0.33



3542589 - HQ / PQ OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542589	HQ / PQ OVERSHOT SPARE PARTS KIT		6.76	14.87
1	25986	THRUST BEARING	1	0.01	0.02
2	25985	CASTLE NUT	1	0.02	0.04
3	44615	COTTER PIN	2	0.02	0.04
4	17447	GREASE FITTING	1	0.01	0.02
5	44524	HEX NUT 3/4" UNC	1	0.05	0.11
6	3543772	BALL 11/32"	2	0.02	0.04
7	6951	COMPRESSION SPRING	1	0.02	0.04
8	3542027	LIFTING DOG COMPRESSION SPRING	1	0.01	0.02
9	3540529	LIFTING DOG	2	0.54	1.19
10	3540528	PLAIN PIN	1	0.02	0.04
11	24307	SPRING PIN 1/4" X 2"	1	0.01	0.02
12	3546747	LOCKING PIN	1	0.03	0.06
13	3545073	SET SCREW	1	6.00	13.20



LEGEND



✓ STANDARD COMPONENT



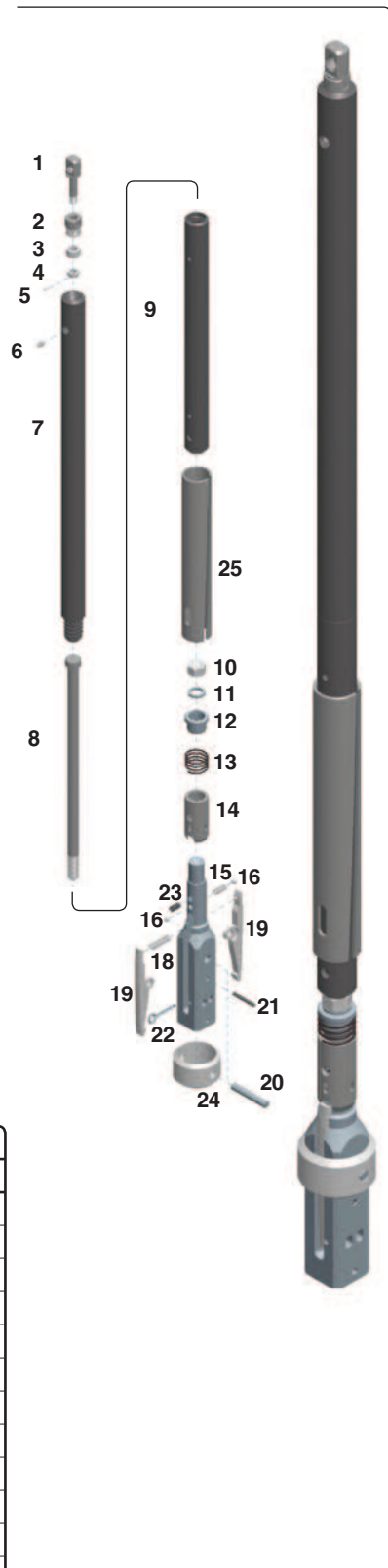
REQUIRED - CHOOSE ONE



[OPT] OPTIONAL COMPONENT

3546895 - PQ EZY LOCK OVERSHOT

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3546895	O/SHOT, PQ EZY LOCK		26.16	57.55
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	COLLAR, CABLE SWIVEL	1	0.11	0.24
3	25986	BEARING, BALL THRUST	1	0.01	0.02
4	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
5	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.02
6	17447	FITTING, HYD GREASE	1	0.01	0.02
7	44444	BODY, O/SHOT CABLE SWIVEL	1	7.23	15.91
8	3540516	JAR STAFF, O/SHOT	1	1.02	2.24
9	3540515	JAR TUBE, O/SHOT	1	2.81	6.18
10	15965	SLEEVE, SLOTTED LOCKING	1	0.05	0.11
11	44524	NUT, HEX 3/4 UNC G8	1	0.01	0.02
12	3548178	WASHER, NORD-LOCK 3/4"	1	0.09	0.20
13	3544103	CAP, EZY-LOCK O/SHOT	1	0.03	0.06
14	3544105	SPRING, EZY-LOCK O/SHOT	1	0.36	0.80
15	3546745	SLEEVE, EZY-LOCK O/SHOT	1	0.02	0.04
16	3546748	HEAD, HQ EZY LOCK O/SHOT	2	0.02	0.04
17	3545073	S/SCR, SH 3/8 UNF X 3/4 NYLOK	1	5.45	12.00
18	3543772	BALL, 11/32"	1	0.01	0.02
19	6951	SPRING, COMPRESSION	2	0.54	1.19
20	3542027	SPRING, LIFTING DOG	1	0.08	0.18
21	3540529	LIFTING DOG, O/SHOT	1	0.01	0.02
22	3546747	PIN, LOCKING	1	0.03	0.06
23	3540213	PIN, PLAIN 1/2" X 3-1/4"	1	6.00	13.20
24	24307	PIN, SPRING 1/4" X 2" LG	1	0.58	1.28
25	3541072	SLEEVE, O/SHOT PQ HEAD	3	0.15	0.33



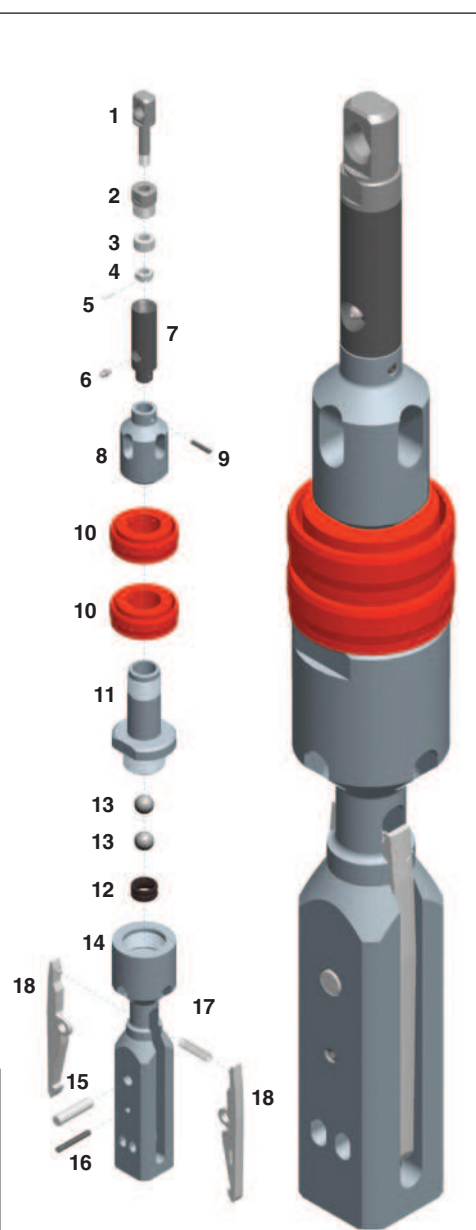
3542589 - HQ / PQ OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3542589	HQ / PQ OVERSHOT SPARE PARTS KIT		6.76	14.87
1	25986	THRUST BEARING	1	0.01	0.02
2	25985	CASTLE NUT	1	0.02	0.04
3	44615	COTTER PIN	2	0.02	0.04
4	17447	GREASE FITTING	1	0.01	0.02
5	44524	HEX NUT 3/4" UNC	1	0.05	0.11
6	3543772	BALL 11/32"	2	0.02	0.04
7	6951	COMPRESSION SPRING	1	0.02	0.04
8	3542027	LIFTING DOG COMPRESSION SPRING	1	0.01	0.02
9	3540529	LIFTING DOG	2	0.54	1.19
10	3540528	PLAIN PIN	1	0.02	0.04
11	24307	SPRING PIN 1/4" X 2"	1	0.01	0.02
12	3546747	LOCKING PIN	1	0.03	0.06
13	3545073	SET SCREW	1	6.00	13.20



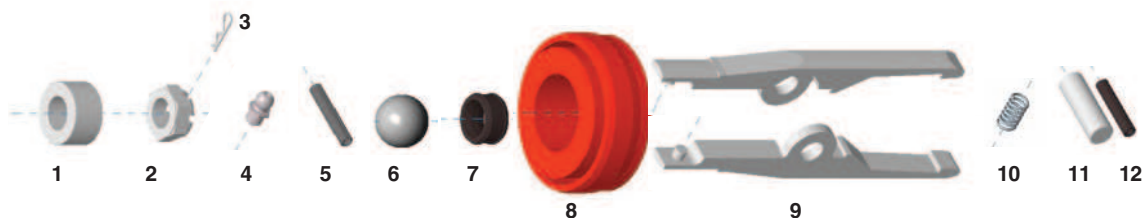
3547855 - HQU QUICK PUMP IN OVERSHOT

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3547855	QUICK PUMP-IN OVERSHOT - HQU		6.13	13.51
1	25991	BOLT, CABLE SWIVEL EYE	1	0.11	0.24
2	25990	COLLAR, CABLE SWIVEL	1	0.11	0.24
3	25986	BEARING, BALL THRUST	1	0.01	0.02
4	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
5	44615	PIN, COTTER 3/32" X 3/4"	1	0.01	0.02
6	17447	FITTING, HYD GREASE	1	0.01	0.02
7	30183	BODY, CABLE SWIVEL U/G O/SHOT	1	0.27	0.59
8	3547853	BODY, HQU UPPER O/SHOT L/I	1	0.5	0.11
9	3545136	PIN, SHEAR 3/16" X 1-1/8"LG	1	0.01	0.02
10	100696	LIP SEAL, HQ PUMP-IN	2	0.2	0.44
11	3543997	SEAT, SEAL HQU	1	1.29	2.84
12	62380	INDICATOR BUSHING	1	0.01	0.02
13	62374	BALL, 22 MM	2	0.1	0.22
14	3547854	HEAD, HQU O/SHOT L/I	1	2.9	6.39
15	3540528	PIN, PLAIN 1/2" X 2-1/8"LG	1	0.02	0.04
16	24307	PIN, SPRING 1/4" X 2" LG	1	0.01	0.02
17	3542027	SPRING, LIFTING DOG	1	0.01	0.02
18	3540529	LIFTING DOG, O/SHOT	2	0.54	1.19



3548060 - HQU OVERSHOT SPARES

ID #	PART #	DESCRIPTION	QTY	KG	LB
	3548060	HQU OVERSHOT SPARE PARTS KIT		0.92	2.02
1	25986	BEARING, BALL THRUST	1	0.01	0.02
2	25985	NUT, CASTLE HEX 1/2" UNF G2	1	0.02	0.04
3	44615	PIN, COTTER 3/32" X 3/4"	2	0.01	0.02
4	17447	FITTING, HYD GREASE	1	0.01	0.02
5	3545136	PIN, SPIROL SHEAR	1	0.02	0.04
6	62374	BALL, 22MM	4	0.05	0.11
7	62380	BUSHING, INDICATOR	1	0.02	0.04
8	100696	LIP SEAL, HQ PUMP-IN	2	0.2	0.04
9	3540529	LIFTING DOG, O/SHOT	2	0.54	1.19
10	3542027	SPRING, LIFTING DOG	1	0.01	0.02
11	24307	PIN, SPRING 1/4" X 2"LG	1	0.01	0.02
12	3540528	PIN, PLAIN 1/2" X 2-1/8"LG	1	0.02	0.04



LEGEND



✓ STANDARD COMPONENT



REQUIRED - CHOOSE ONE



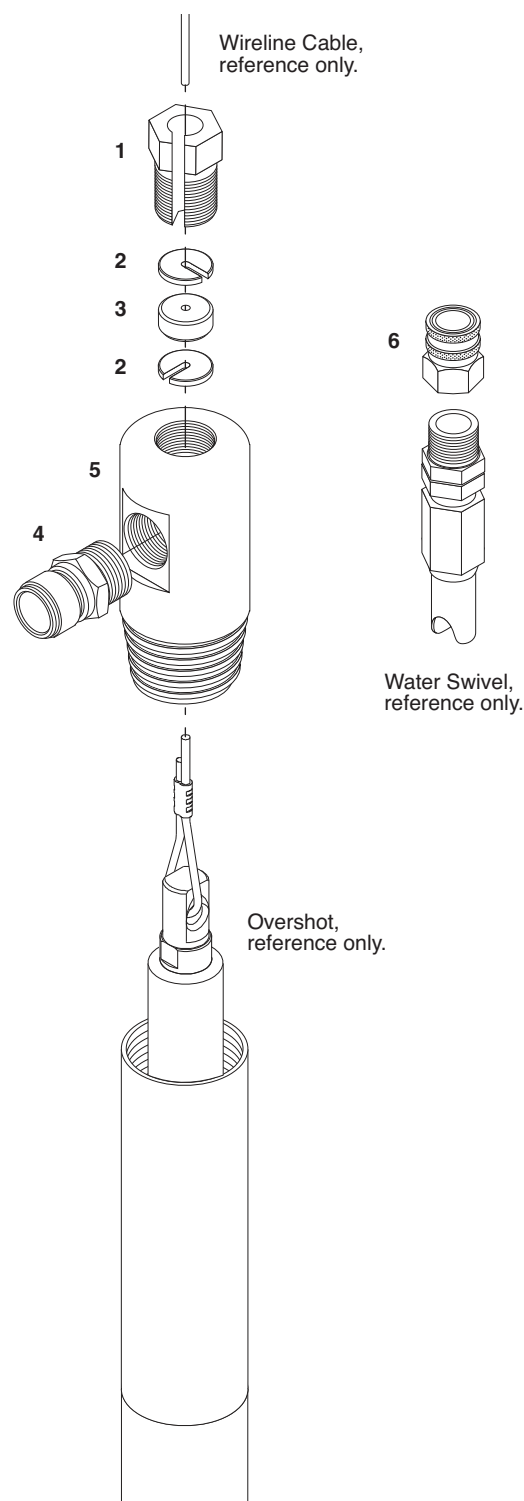
[OPT] OPTIONAL COMPONENT

HQ LOADING CHAMBER

Application:

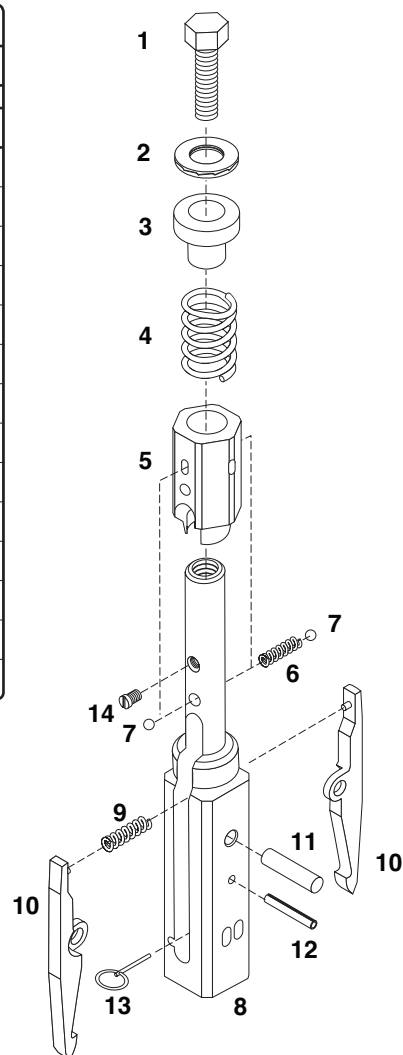
- Underground applications with HQU core barrels. Select assembly according to rod string type - HRQ / HQ. Rods require an adapter sub, see adapter sub section.
- Used to pump the overshot into the rod string for retrieval of the inner-tube assembly

ASSEMBLY			QTY
1-5	3542138	HRQHP LOADING CHAMBER ASSEMBLY	
PARTS			
1	3541817	PACKING PLUG	1
2	3541816	CABLE GUIDE WASHER 3/16"	2
3	25546	CABLE PACKING	1
4	104597	QUICK COUPLER TIP #16 NPT	1
5	3542137	LOADING CHAMBER BODY	1
ASSEMBLY			
1-5	3542498	HQ LOADING CHAMBER ASSEMBLY	
PARTS			
1	3541817	PACKING PLUG	1
2	3541816	CABLE GUIDE WASHER 3/16"	2
3	25546	CABLE PACKING	1
4	104597	QUICK COUPLER TIP #16 NPT	1
5	3542138	LOADING CHAMBER BODY	1
OPTIONS			
7	100876	#16 NPT QUICK COUPLER BODY, FEMALE	1



HQ OVERSHOT CONVERSION KIT

ASSEMBLY			QTY
1-15	3546879	EZY LOCK OVERSHOT CONVERSION KIT	
PARTS			
1	46098	CAP SCREW, HH 3/4" UNC X 1-1/2"	1
2	3548178	WASHER, NORD-LOCK	1
3	3544103	CAP, EZY LOCK O/SHOT	1
4	3544105	SPRING, EZY LOCK O/SHOT	1
5	3546745	SLEEVE, EZY LOCK O/SHOT	1
6	6951	COMPRESSION SPRING	1
7	3543772	BALL 11/32"	2
8	3546748	EZY LOCK OVERSHOT HEAD	1
9	3542027	LIFTING DOG COMPRESSION SPRING	1
10	3540529	LIFTING DOG	2
11	3540528	PLAIN PIN 1/2" X 2-1/8"	1
12	24307	SPRING PIN 1/4" X 2"LG	1
13	3546747	LOCKING PIN	1
14	3545073	SET SCREW, 3/8" UNF X 3/4" NYLOK	1



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

COMPONENTS

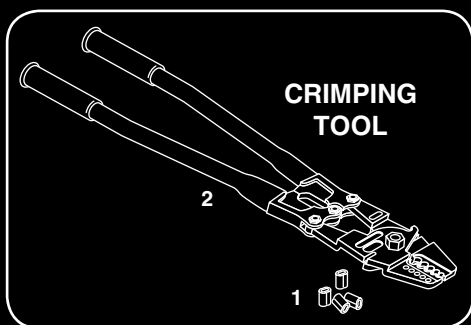
WIRELINE CABLE..... 98

OTHER COMPONENTS

CORE LIFTERS	99
INNER TUBES	100
STOP RINGS	101
CORE LIFTER CASE	101
LOCKING COUPLINGS	102
ADAPTER COUPLINGS.....	103
LANDING RINGS	104
INNER TUBE STABILIZER	104
OUTER TUBES.....	105
INNER TUBE LOADING SLEEVE	106
HEAD ASSEMBLY TOOL	106



WIRELINER CABLE



WIRELINER CABLE			KGS / M	LBS / FT
1	5001181	GALVANIZED, 3/16" (5 MM)	0.134	.090
2	5001182	SWAGED, 3/16"	0.134	.090
3	5001183	GALVANIZED, 1/4" (6 MM)	0.134	.090
4	5001184	GALVANIZED, 3/8"	0.134	.090

WIRELINER CABLE OVAL SLEEVE			KG	LBS
5	30172	GALVANIZED, 3/16"	0.02	0.05
6	60382	GALVANIZED, 1/4"	0.02	0.05

SWAGED CONSTRUCTION WIRE ROPE FEATURES

- Longer life.
- Safer to handle.
- 50 percent higher breaking strength than cable previously offered.
- High resistance to unraveling, resists "bird nesting".
- Compatible with 3/16" Nicopress oval sleeve (p/n 30172).

NOTE:

Swaged cable is not recommended for underground applications where minimum radius is less than 127 mm (5 inches).

WIRELINER CABLE			KG	LB
1	30172	OVAL SLEEVE, 3/16" OR 11/64"	0.05	.1
2	30171	CRIMPING TOOL	2.1	4.6

These items are used in conjunction with wireline cable.

CORE LIFTERS



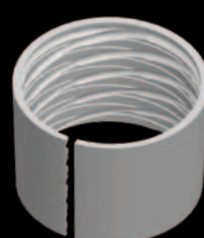
SLOTTED

- Improved core lifter design.
- Ideal for use in competent ground conditions
- Increased grip area with the core sample
- Also known as the Brown core lifter



FLUTED

- Ideal for use in broken ground.
- Increased flexibility; ideal for use when encountered irregular core shapes
- Also known as the broached core lifter



SPIRAL

- Ideal for use in ultra hard ground conditions
- Only available in AQTK sizing
- Available with optional diamond coating

PRODUCT FEATURES

Boart Longyear core lifters are made out of high-quality alloy steel that has been heat treated to increase strength, toughness and wear life.

DIAMOND COATED CORE LIFTERS

are made of composite diamond coating (CDC) which is a hard metal alloy with synthetic diamonds. The diamond coating process we utilize provides a superior wear resistance. Based on field results, the diamond coated core lifter returns approximately 300% longer life compared to a standard core lifter.



**STANDARD
CORE LIFTER**

**DIAMOND COATED
CORE LIFTER**

STANDARD CORE LIFTERS

A-SIZED STANDARD CORE LIFTERS

52877	AQTK CORE LIFTER - SPIRAL
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B-SIZED STANDARD CORE LIFTERS

24342	BQ CORE LIFTER - FLUTED
30487	BQ CORE LIFTER - SLOTTED
61536	BQTK CORE LIFTER - SLOTTED

N-SIZED STANDARD CORE LIFTERS

24894	NQ CORE LIFTER - FLUTED
29211	NQTK CORE LIFTER - FLUTED
26531	NQ3 CORE LIFTER - FLUTED
30488	NQ CORE LIFTER - SLOTTED
61416	NQTK CORE LIFTER - SLOTTED

H-SIZED STANDARD CORE LIFTERS

25239	HQ CORE LIFTER - FLUTED
26516	HQ3 CORE LIFTER - FLUTED
30489	HQ CORE LIFTER - SLOTTED

P-SIZED STANDARD CORE LIFTERS

26162	PQ / PQU CORE LIFTER - FLUTED
26177	PQ3 CORE LIFTER - FLUTED

DIAMOND COATED CORE LIFTERS

A-SIZED DIAMOND COATED CORE LIFTERS

3545588	AQTK CORE LIFTER, SPIRAL
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B-SIZED DIAMOND COATED CORE LIFTERS

5001509	BQ CORE LIFTER, FLUTED
3546910	BQ CORE LIFTER, SLOTTED
3545885	BQTK CORE LIFTER, SLOTTED

N-SIZED DIAMOND COATED CORE LIFTERS

3548554	NQ CORE LIFTER, FLUTED
3547571	NQTK CORE LIFTER, FLUTED
3547181	NQ3 CORE LIFTER, FLUTED
3546911	NQ CORE LIFTER, SLOTTED
5001510	NQTK CORE LIFTER, SLOTTED

H-SIZED DIAMOND COATED CORE LIFTERS

3548555	HQ CORE LIFTER, FLUTED
3547137	HQ3 CORE LIFTER, FLUTED
3646912	HQ CORE LIFTER, SLOTTED

P-SIZED DIAMOND COATED CORE LIFTERS

3548626	PQ CORE LIFTER, FLUTED
5001511	PQ3 CORE LIFTER, FLUTED

INNER-TUBES



AVAILABLE LENGTHS:
INNER-TUBE - 1.5 M (3 FT)
INNER-TUBE - 3.0 M (10 FT)

PRODUCT FEATURES

The Boart Longyear **EXCLUSIVE Q3 SYSTEM** is designed to be used in very broken ground where core recover is difficult. The split tube liner sits inside the standard inner-tube and keeps the sample intact and easy to use.



Boart Longyear offers the option of **CHROME PLATING** that provides a tough abrasion resistant coating that increases product life and better core recovery in broken ground.

STANDARD INNER-TUBES

A-SIZED STANDARD INNER TUBES		KG	LBS
52911	AQTK INNER TUBE 1.5 M / 5'	2.27	4.994
52585	AQTK INNER TUBE 3.0 M / 10'	5.25	11.55

B-SIZED STANDARD INNER TUBES			
24356	BQ INNER TUBE 1.5 M / 5'	3.63	7.986
61518	BQTK INNER TUBE 1.5 M / 5'	3.95	8.69
24339	BQ INNER TUBE 3.0 M / 10'	7.3	16.06
53197	BQTK INNER TUBE 3.0 M / 10'	7.89	17.358

N-SIZED STANDARD INNER TUBES			
24909	NQ INNER TUBE 1.5 M / 5'	5.58	12.276
44366	NQTK INNER TUBE 1.5 M / 5'	5.58	12.276
26527	NQ3 INNER TUBE [SPLIT] 1.5 M / 5'	2.31	5.082
24891	NQ INNER TUBE 3.0 M / 10'	11.79	25.938
43601	NQTK INNER TUBE 3.0 M / 10'	11.11	24.442
26528	NQ3 INNER TUBE [SPLIT] 3.0 M / 10'	4.63	10.186

H-SIZED STANDARD INNER TUBES			
25258	HQ INNER TUBE 1.5 M / 5'	8.07	17.754
26512	HQ3 INNER TUBE [SPLIT] 1.5 M / 5'	2.9	6.38
25236	HQ INNER TUBE 3.0 M / 10'	17.24	37.928
26513	HQ3 INNER TUBE [SPLIT] 3.0 M / 10'	6.12	13.464

P-SIZED STANDARD INNER TUBES			
26159	PQ INNER TUBE 1.5 M / 5'	10.48	23.056
26180	PQ3 INNER TUBE [SPLIT] 1.5 M / 5'	4.08	8.976
26534	PQ INNER TUBE 3.0 M / 10'	22.68	49.896
26710	PQ3 INNER TUBE [SPLIT] 3.0 M / 10'	8.21	18.062

CHROMED PLATED INNER-TUBES

A-SIZED CHROMED INNER TUBES		KG	LBS
52911CP	AQTK INNER TUBE 1.5M / 5'	2.66	5.852
52585CP	AQTK INNER TUBE 3.0M / 10'	5.21	11.462

B-SIZED CHROMED INNER TUBES			
24356CP	BQ INNER TUBE 1.5M / 5'	3.74	8.228
61518CP	BQTK INNER TUBE 1.5M / 5'	4.01	8.822
24339CP	BQ INNER TUBE 3.0M / 10'	7.71	16.962
53197CP	BQTK INNER TUBE 3.0M / 10'	7.99	17.578

N-SIZED CHROMED INNER TUBES			
24909CP	NQ INNER TUBE 1.5M / 5'	5.72	12.584
44366CP	NQTK INNER TUBE 1.5M / 5'	5.44	11.968
24891CP	NQ INNER TUBE 3.0M / 10'	11.13	24.486
43601CP	NQTK INNER TUBE 3.0M / 10'	10.41	22.902

H-SIZED CHROMED INNER TUBES			
25258CP	HQ INNER TUBE 1.5M / 5'	8.16	17.952
25236CP	HQ INNER TUBE 3.0M / 10'	16.66	36.652

P-SIZED CHROMED INNER TUBES			
26159CP	PQ INNER TUBE 1.5M / 5'	10.48	23.056
26534CP	PQ INNER TUBE 3.0M / 10'	22.68	49.896

STOP RINGS



PRODUCT FEATURES

Boart Longyear stop rings are made of high-quality alloy steel tubing that is specially heat treated to increase strength, toughness and wear life.

STOP RINGS

A-SIZED STANDARD STOP RINGS		KG	LBS
52588	AQTK STOP RING	0.01	0.022
B-SIZED STANDARD STOP RINGS			
24831	BQ STOP RING	0.01	0.022
53198	BQTK STOP RING	0.01	0.022
N-SIZED STANDARD STOP RINGS			
24893	NQ STOP RING	0.01	0.022
29210	NQTK STOP RING	0.01	0.022
26530	NQ3 STOP RING	0.01	0.022
H-SIZED STANDARD STOP RINGS			
25238	HQ STOP RING	0.02	0.044
26515	HQ3 STOP RING	0.02	0.044
P-SIZED STANDARD STOP RINGS			
26161	PQ STOP RING	0.07	0.154
26176	PQ3 STOP RING	0.07	0.154

CORE LIFTER CASES



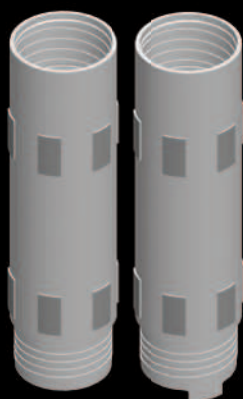
PRODUCT FEATURES

Boart Longyear core lifter cases are made of a high-quality alloy steel that is specially heat treated to increase strength, toughness and wear life.

CORE LIFTER CASE

A-SIZED CORE LIFTER CASE		KG	LBS
5001021	AQTK CORE LIFTER CASE	0.07	0.154
B-SIZED CORE LIFTER CASE			
24830	BQ CORE LIFTER CASE	0.09	0.198
53199	BQTK CORE LIFTER CASE	0.11	0.242
N-SIZED CORE LIFTER CASE			
24892	NQ CORE LIFTER CASE	0.2	0.44
29209	NQTK CORE LIFTER CASE	0.16	0.352
26529	NQ3 CORE LIFTER CASE	0.25	0.55
H-SIZED CORE LIFTER CASE			
25237	HQ CORE LIFTER CASE	0.34	0.748
26514	HQ3 CORE LIFTER CASE	0.43	0.946
P-SIZED CORE LIFTER CASE			
52172	PQ CORE LIFTER CASE	0.68	1.496
26160	PQ3 CORE LIFTER CASE	0.64	1.408

LOCKING COUPLINGS



STANDARD

- Dual ring of precision ground carbide pads to minus reaming shell gauge for hole stabilization.
- Can be used in all drilling conditions.



FULL HOLE

- Oversized pads for improved hole stabilization.
- Pads induction hardened for increased wear resistance.
- For use in competent ground conditions.
- Hard-faced latch resting area for increased latching reliability.

PRODUCT FEATURES

Boart Longyear locking couplings are made out of high quality alloy steel with a hard-faced latch resting area for better latching reliability.

FULL HOLE SYSTEMS (locking coupling and outer-tube) are suited for competent ground formations where hole accuracy is a top priority. The 4-flat designs keep the core barrel system tight to the hole while allowing plenty of cutting flow. Note that while hole deviation is minimized with this system, higher drilling pressures will be experienced.

Boart Longyear offers the option of a TANG which is the tab of steel located on the pin end of the locking coupling. The tang acts as a physical stop against the core barrel head latches to ensure the core barrel head rotates with the rod string, eliminating latch wear against the locking coupling. These are to be used for surface applications only. Refer to the adapter coupling page for underground applications.

CONVENTIONAL LOCKING COUPLINGS

A-SIZED CONVENTIONAL LOCKING COUPLING		KG	LBS
3544639	AQTK STABILIZED CARBIDE LOCKING COUPLING	1.48	

B-SIZED CONVENTIONAL LOCKING COUPLING			
62762	BQ LOCKING COUPLING	1.54	3.388
3541818	BRQ LOCKING COUPLING	1.76	3.872
24832	BQ LOCKING COUPLING WITH TANG	1.72	3.784
3541825	BRQ LOCKING COUPLING WITH TANG	1.83	4.026

N-SIZED CONVENTIONAL LOCKING COUPLING			
62764	NQ LOCKING COUPLING	2.43	5.346
3541826	NRQ LOCKING COUPLING	2.73	6.006
24895	NQ LOCKING COUPLING WITH TANG	2.4	5.28
3541827	NRQ LOCKING COUPLING WITH TANG	2.83	6.226

H-SIZED CONVENTIONAL LOCKING COUPLING			
62765	HQ LOCKING COUPLING	4.08	8.99
306256	HRQ LOCKING COUPLING	4.06	8.95
25240	HQ LOCKING COUPLING WITH TANG	4.01	8.84
3541829	HRQ LOCKING COUPLING WITH TANG	4.68	10.32

P-SIZED CONVENTIONAL LOCKING COUPLING			
101105	PHD LOCKING COUPLING	4.26	9.39
101343	PHD LOCKING COUPLING WITH TANG	4.26	9.39

FULL HOLE LOCKING COUPLINGS

A-SIZED FULL HOLE LOCKING COUPLING		KG	LBS
3546397	ARQTK FULL HOLE LOCKING COUPLING	2.66	5.852

B-SIZED FULL HOLE LOCKING COUPLING			
3545401	L/CPLG, BQ F/H	3.74	8.25
3545399	L/CPLG, BRQ F/H	4.01	8.84
3545402	L/CPLG, BRQTK F/H	7.71	17.00
3545400	L/CPLG, BQ F/H W/TANG	1.72	3.79
3545398	L/CPLG, BRQ F/H W/TANG	1.74	3.84

N-SIZED FULL HOLE LOCKING COUPLING			
3546190	L/CPLG, NQ F/H	5.72	12.584
3545404	L/CPLG, NRQ F/H	5.44	11.968
3545405	L/CPLG, NQ F/H W/TANG	11.13	24.486
3545403	L/CPLG, NRQ F/H W/TANG	10.41	22.902

H-SIZED FULL HOLE LOCKING COUPLING			
3545410	L/CPLG, HQ F/H 4 FLATS	8.16	17.99
3545408	L/CPLG, HRQ F/H	16.66	36.73
3545409	L/CPLG, HQ F/H W/TANG	5.78	12.74
3545407	L/CPLG, HRQ F/H W/TANG	5.78	12.74

ADAPTER COUPLING



PRODUCT FEATURES

Boart Longyear adapter couplings are made of a high quality alloy steel for increased durability.

STANDARD ADAPTER COUPLING

A-SIZED STANDARD ADAPTER COUPLING		KG	LBS
3547073	AQTK(U) ADAPTER COUPLING	0.52	1.15
B-SIZED STANDARD ADAPTER COUPLING			
24833	BQ ADAPTER COUPLING	0.86	1.90
3546704	BQU ADAPTER COUPLING	0.86	1.90
5001567	BQTK ADAPTER COUPLING	0.86	1.90
3546705	BQTK(U) ADAPTER COUPLING	0.86	1.90
N-SIZED STANDARD ADAPTER COUPLING			
24896	NQ / NQTK ADAPTER COUPLING	1.43	3.15
3546706	NQU / NQTKU ADAPTER COUPLING	3.02	6.66
H-SIZED STANDARD ADAPTER COUPLING			
25241	HQ ADAPTER COUPLING	2.47	5.45
3546707	HQU ADAPTER COUPLING	4.88	10.76
P-SIZED STANDARD ADAPTER COUPLING			
3543808	PHD ADAPTER COUPLING	4.2	9.26

LANDING RINGS



PRODUCT FEATURES

Made of high quality alloy steel that is specially heat treated for improved impact toughness and durability.

LANDING RINGS

A-SIZED LANDING RINGS		KG	LBS
52589	AQTK LANDING RING	0.05	0.11
B-SIZED LANDING RINGS			
24345	BQ LANDING RING	0.07	0.154
53202	BQTK LANDING RING	0.05	0.11
N-SIZED LANDING RINGS			
24897	NQ LANDING RING	0.18	0.396
29214	NQTK LANDING RING	0.14	0.308
H-SIZED LANDING RINGS			
25242	HQ LANDING RING	0.29	0.638
P-SIZED LANDING RINGS			
3543814	PQ LANDING RING	0.24	0.528

INNER-TUBE STABILIZERS



PRODUCT FEATURES

Boart Longyear inner-tube stabilizers are made of high quality bronze alloy.

The purpose of the inner-tube stabilizer is to stabilize the inner-tube at the bottom of the hole, directly above the bit or near the core lifter case.

INNER-TUBE STABILIZERS

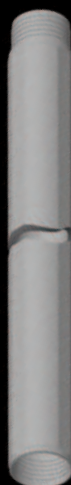
A-SIZED INNER TUBE STABILIZER		KG	LBS
52635	AQTK INNER TUBE STABILIZER	0.05	0.11
B-SIZED INNER TUBE STABILIZER			
44406	BQ INNER TUBE STABILIZER	0.05	0.11
53201	BQTK INNER TUBE STABILIZER	0.05	0.11
N-SIZED INNER TUBE STABILIZER			
44407	NQ INNER TUBE STABILIZER	0.14	0.31
43812	NQTK INNER TUBE STABILIZER	0.14	0.31
H-SIZED INNER TUBE STABILIZER			
44408	HQ INNER TUBE STABILIZER	0.25	0.55
P-SIZED INNER TUBE STABILIZER			
44923	PQ INNER TUBE STABILIZER	0.35	0.77

OUTER-TUBES



STANDARD

- For use in all drilling conditions.
- Available with chrome plated outer surface.



FULL HOLE

- Oversized pads for improved hole stabilization.
- Pads induction hardened for increased wear resistance.
- Available with chrome plated outer surface.
- For use in competent ground conditions.

PRODUCT FEATURES

Boart Longyear outer-tubes are made of high quality alloy steel for increase durability.

FULL HOLE SYSTEMS (locking coupling and outer-tube) are suited for competent ground formations where hole accuracy is a top priority. The 4-flat design keeps the core barrel system tight to the hole while allowing plenty of cutting flow. Note that while hole deviation is minimized with this system, higher drilling pressures will be experienced.

Boart Longyear offers the option of CHROME PLATING which provides a tough, abrasion resistant coating that increases product life and durability.

STANDARD OUTER-TUBES

A-SIZED STANDARD OUTER TUBES		KG	LBS
52908	AQTK OUTER TUBE 1.5 M / 5'	6.35	13.97
52578	AQTK OUTER TUBE 3.0 M / 10'	12	26.4

B-SIZED STANDARD OUTER TUBES			
24357	BQ OUTER TUBE 1.5 M / 5'	13.15	28.93
61517	BQTK OUTER TUBE 1.5 M / 5'	9.07	19.95
24346	BQ OUTER TUBE 3.0 M / 10'	24.04	52.89
53193	BQTK OUTER TUBE 3.0 M / 10'	14.51	31.92

N-SIZED STANDARD OUTER TUBES			
24910	NQ OUTER TUBE 1.5 M / 5'	19.96	43.91
24898	NQ OUTER TUBE 3.0 M / 10'	35.2	77.44

H-SIZED STANDARD OUTER TUBES			
25259	HQ OUTER TUBE 1.5 M / 5'	25.85	56.87
25243	HQ OUTER TUBE 3.0 M / 10'	51.26	112.78

P-SIZED STANDARD OUTER TUBES			
3543802	PQ OUTER TUBE 1.5 M / 5'	33.7	74.14
3543801	PQ OUTER TUBE 3.0 M / 10'	67.4	148.28

CHROME PLATED OUTER-TUBES

A-SIZED CHROMED OUTER TUBES		KG	LBS
52908CP	AQTK OUTER TUBE 1.5 M / 5'	6.48	14.26
52578CP	AQTK OUTER TUBE 3.0 M / 10'	12	26.4

B-SIZED CHROMED OUTER TUBES			
24357CP	BQ OUTER TUBE 1.5 M / 5'	13.15	28.93
61517CP	BQTK OUTER TUBE 1.5 M / 5'	9.07	19.95
24346CP	BQ OUTER TUBE 3.0 M / 10'	23.59	51.90
53193CP	BQTK OUTER TUBE 3.0 M / 10'	14.51	31.92

N-SIZED CHROMED OUTER TUBES			
24910CP	NQ OUTER TUBE 1.5 M / 5'	19.96	43.91
24898CP	NQ OUTER TUBE 3.0 M / 10'	35.83	78.83

H-SIZED CHROMED OUTER TUBES			
25259CP	HQ OUTER TUBE 1.5 M / 5'	25.85	56.87
25243CP	HQ OUTER TUBE 3.0 M / 10'	51.26	112.77

P-SIZED CHROMED OUTER TUBES			
3543802CP	PQ OUTER TUBE 1.5 M / 5'	33.7	74.14
3543801CP	PQ OUTER TUBE 3.0 M / 10'	67.4	148.28

FULL HOLE OUTER-TUBES

A-SIZED FULL HOLE OUTER TUBES		KG	LBS
3545384	AQTK OUTER TUBE 1.5 M / 5'	6.56	14.46
3545385	AQTK OUTER TUBE 3.0 M / 10'	13.12	28.92

B-SIZED FULL HOLE OUTER TUBES			
3545386	BQ OUTER TUBE 1.5 M / 5'	13.15	28.99
3545388	BQTK OUTER TUBE 1.5 M / 5'	9.07	20.00
3545387	BQ OUTER TUBE 3.0 M / 10'	28	61.6
3545389	BQTK OUTER TUBE 3.0 M / 10'	28	61.6

N-SIZED FULL HOLE OUTER TUBES			
3545390	NQ OUTER TUBE 1.5 M / 5'	19.96	44.00
3545391	NQ OUTER TUBE 3.0 M / 10'	42.1	92.62

H-SIZED CHROMED OUTER TUBES			
3545392	HQ OUTER TUBE 1.5 M / 5'	25.85	56.99
3545393	HQ OUTER TUBE 3.0 M / 10'	63.05	138.71

INNER-TUBE LOADING SLEEVE



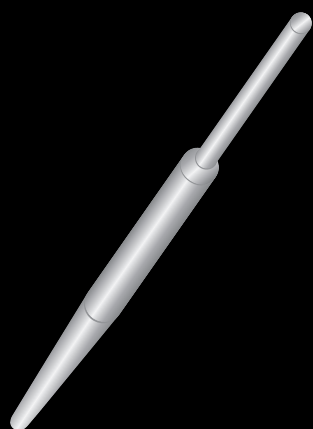
PRODUCT FEATURES

The loading sleeve is recommended for loading the inner-tube assembly into the core barrel outer-tube assembly or rod string. Loading sleeves are designed to work with both Q® and RQ threads of equal size.

INNER-TUBE LOADING SLEEVE

A-SIZED LOADING SLEEVE		KG	LBS
61353	AQTK INNER TUBE LOADING SLEEVE	0.05	0.11
B-SIZED LOADING SLEEVE			
3542636	BQ INNER TUBE LOADING SLEEVE	0.45	0.99
61663	BQTK INNER TUBE LOADING SLEEVE	0.43	0.946
N-SIZED LOADING SLEEVE			
3542637	NQ INNER TUBE LOADING SLEEVE	0.91	2.002
H-SIZED LOADING SLEEVE			
3542638	HQ INNER TUBE LOADING SLEEVE	1.13	2.486

HEAD ASSEMBLY TOOL



PRODUCT FEATURES

The head assembly tool is used to drive in the spring pin when assembling links and latches with the latch retraction case.

HEAD ASSEMBLY TOOL

HEAD ASSEMBLY DRIFT TOOL		KG	LBS
3542987	HEAD ASSEMBLY TOOL	0.23	0.51

ROD STRING ACCESSORIES

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WATER SWIVELS

OVERVIEW - UNIVERSAL WATER SWIVEL

For continuous operation without downtime for your demanding diamond drilling jobs, Boart Longyear offers a full selection of Universal Water Swivels.



- Long-wearing wash tube and packing. Spring loading provides self-adjusting gland packing.
- Compact dimensions and light weight.
- Weep holes prevent any leakage past the packing from reaching the bearing, and also indicate packing condition to the operator.
- Specially designed bearing lubrication conducts contaminants away from the bearing and relieves excess lubrication pressure.
- Easy servicing. Swivel can be disassembled with pipe wrenches, a screw driver, C spanner and soft mallet.
- Suitable for use with water, drilling mud, foam or air.
- Subs are available to adapt to all current DCDMA rods and casing and the Q® wireline system.

WATER SWIVELS

OVERVIEW - COMPACT WATER SWIVEL

For dependable, lightweight unit for shallower diamond drilling surface or underground, Boart Longyear offers a full selection of Compact Water Swivels.



- Heavy duty cap with hoisting ball
- Easily replaceable V Packing
- Easily replaceable hardened steel sleeve to protect the spindle from packing wear.
- Heavy duty double row ball bearing.
- Protected grease fitting to allow easy lubrication of the bearings.
- Weep hole to relieve excess lubrication in the bearing and allow run-off of any circulating fluid leakage packing.
- AW box connection.
- Easy servicing. The Compact Swivel can be completely disassembled, with pipe wrenches, a screw driver and a soft mallet, which makes packing or wear sleeve replacement a matter of minutes.
- Suitable for use with water, drilling mud, foam or air.
- Subs are available to current DCDMA rods and casings through NW and the Q® wireline system.

WATER SWIVEL SELECTOR GUIDE — SURFACE

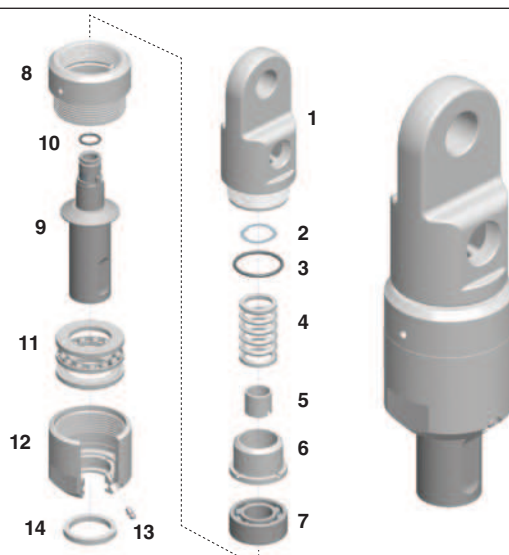
WATER SWIVEL SELECTOR GUIDE — SURFACE						
LOAD RATING		AQTK	BQ	NQ	HQ	PQ
4540 kg.	10000 lb.	3546952	3546952	3546952	3546952	
5000 kg.	11000 lb.		67321	67321	67321	67321

3546952 - COMPACT PLUS WATER SWIVEL

ID #	PART #	DESCRIPTION	KG	LB
	3546952	COMPACT PLUS WATER SWIVEL	7.6	16.7
			QTY	
1	3546529	SWIVEL CAP	1	
2	23863	WAVY WASHER	1	
3	19678	O RING	1	
4	23861	SWIVEL PACKING	1	
5	3546530	SLOTTED WEAR SLEEVE	1	
6	23866	PACKING CAGE	1	
7	20324	THRUST BALL BEARING	1	
8	3546531	UPPER SWIVEL BODY	1	
9	3546907	SPINDLE	1	
10	20169	O RING	1	
11	3546908	THRUST BALL BEARING	1	
12	3546909	LOWER SWIVEL BODY	1	
13	17447	GREASE FITTING	1	
14	25612	FELT SEAL	1	

Features:

- #16 NPT hose connection.
- AW rod box spindle connection.

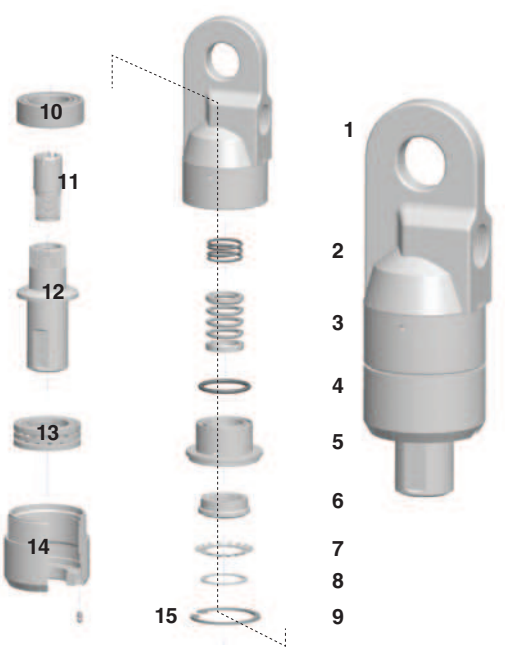


67321 - UNIVERSAL WATER SWIVEL

ID #	PART #	DESCRIPTION	KG	LB
	67321	UNIVERSAL WATER SWIVEL	12.4	27.4
			QTY	
1	39169	HOISTING CAP	1	
2	39168	COMPRESSION SPRING	1	
3	39171	SWIVEL PACKING	1	
4	29737	O RING	1	
5	39172	PACKAGE HOUSING	1	
6	67325	SPINDLE NUT	1	
7	67186	LOCK WASHER	1	
8	67322	SPACER	1	
9	40965	RETAINING RING	1	
10	19906	BALL BEARING	1	
11	39170	SPINDLE EXTENSION	1	
12	67324	SPINDLE	1	
13	67187	BALL THRUST BEARING	1	
14	67631	SWIVEL BODY, BW R/B	1	
15	17447	GREASE FITTING	1	
ALTERNATE OPTION NQ & HQ ONLY (PICK ONE)				
11A	88444	CERAMIC SPINDLE EXTENSION	1	

Features:

- #20 NPT hose connection.
- BW rod box spindle connection.
- Mates with running bail.



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



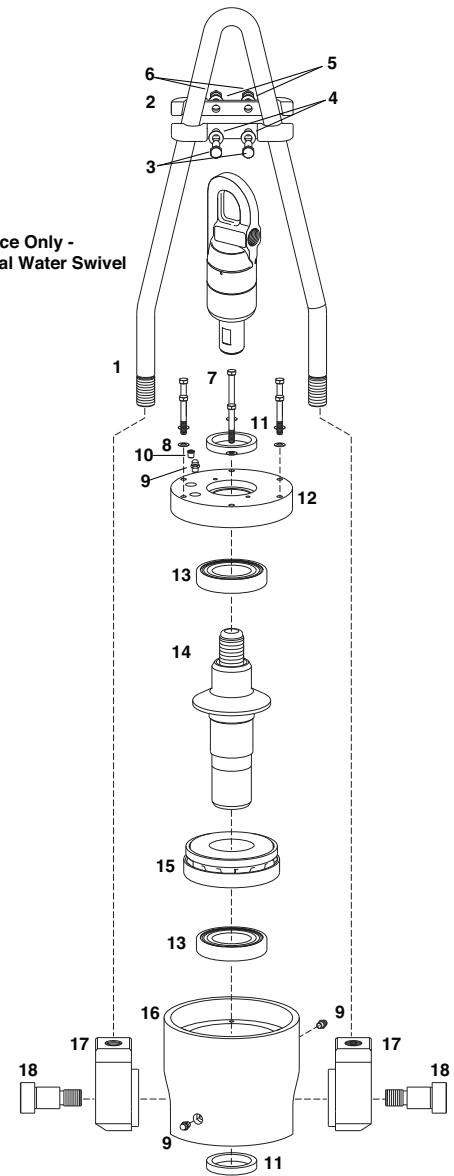
[OPT] OPTIONAL COMPONENT

3546030 — RUNNING BAIL — 40,000 LB

When the hoist is required to hold the rod string weight in deep hole applications, the running bail provides ample thrust capacity. It mates with the universal water swivel for high flow rates.

ID #	PART #	DESCRIPTION	QTY
	3546030	RUNNING BAIL — 40,000 LB	
1	3546573	BAR	1
2	3546546	CLAMP	1
3	44640	CAP SCREW, 1/2 UNC X 1-3/4"	2
4	44621	FLAT WASHER, 1/2"	2
5	44521	LOCK WASHER, 1/2"	2
6	44525	HEX NUT, 1/2 UNC	2
7	44595	CAP SCREW, 3/8 UNC X 2-1/2"	6
8	44520	LOCK WASHER, 3/8"	6
9	16634	GREASE FITTING	3
10	3546547	GREASE RELIEF FITTING	1
11	3546548	OIL SEAL	2
12	3546549	COVER	1
13	3546550	BALL BEARING	2
14	3546551	SPINDLE	1
15	3546552	THRUST BEARING	1
16	3546553	HOUSING	1
17	3546554	EAR	2
18	3546555	SHOULDER BOLT	2
19	3546560	ALLEN WRENCH, 7/8" (NOT SHOWN)	1

Reference Only -
Universal Water Swivel



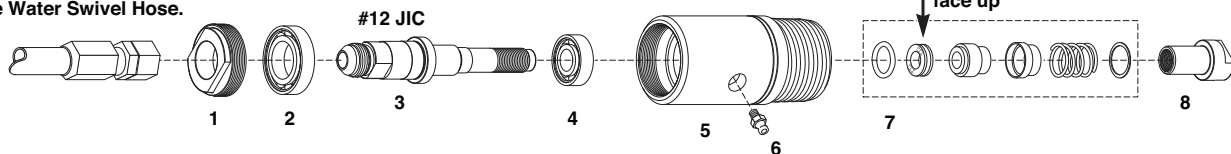
UNDERGROUND HI-SPEED WATER SWIVEL

ID#	DESCRIPTION	QTY						
	Underground Hi-Speed Water Swivel ARQTK		3545445					
	Underground Hi-Speed Water Swivel BRQ R/P			3545446				
	Underground Hi-Speed Water Swivel BRQTK R/P				3545447			
	Underground Hi-Speed Water Swivel BQ R/P					3546544		
	Underground Hi-Speed Water Swivel NRQ R/P						3545448	
	Underground Hi-Speed Water Swivel NQ R/P							3546545
1	Swivel Cap	1	3546497	3546497	3546497	3546497	3546497	3546497
2	Seal Bearing	1	24243	24243	24243	24243	24243	24243
3	Swivel Stem	1	3546499	3546498	3546498	3546498	3546498	3546498
4	Ball Bearing	1	3546501	3546524	3546524	3546524	3546524	3546524
5	Swivel Body	1	3545452	3545453	3545454	3546542	3545455	3546543
6	Grease Fitting	1	17447	17447	17447	17447	17447	17447
7	Swivel Seal	1	3546522	3546525	3546525	3546525	3546525	3546525
8	Seal Retainer	1	3546523	3546477	3546477	3546477	3546477	3546477

Features:

- #12 JIC hose connection.
- ARQTK rod pin direct connection.

Reference only.
See Water Swivel Hose.

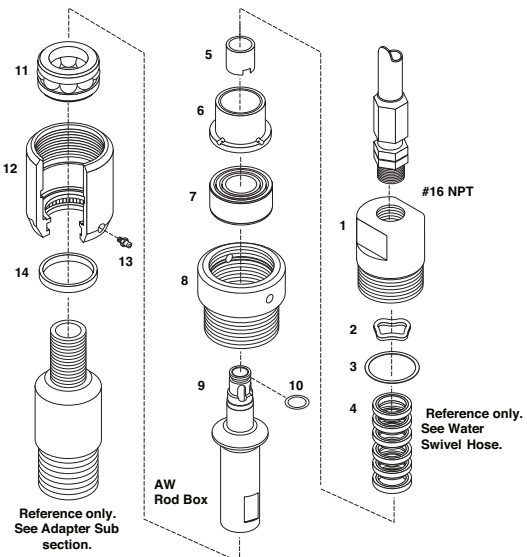


3546953 - UNDERGROUND COMPACT PLUS WATER SWIVEL BQ/NQ/HQ

ID #	PART #	DESCRIPTION	KG	LB
	3546953	UNDERGROUND COMPACT PLUS WATER SWIVEL BQ/NQ/HQ	6.6	14.5
			QTY	
1	3542931	SWIVEL CAP	1	
2	23863	WAVY WASHER	1	
3	19678	O RING	1	
4	23861	SWIVEL PACKING	1	
5	3546530	SLOTTED WEAR SLEEVE	1	
6	23866	PACKING CAGE	1	
7	20324	THRUST BALL BEARING	1	
8	3546531	UPPER SWIVEL BODY	1	
9	3546907	SPINDLE	1	
10	20169	O RING	1	
11	3546908	THRUST BALL BEARING	1	
12	3546909	LOWER SWIVEL BODY	1	
13	17447	GREASE FITTING	1	
14	25612	FELT SEAL	1	

Features:

- #16 NPT hose connection.
- AQ rod box spindle connection.



LEGEND



✓ STANDARD COMPONENT



REQUIRED - CHOOSE ONE



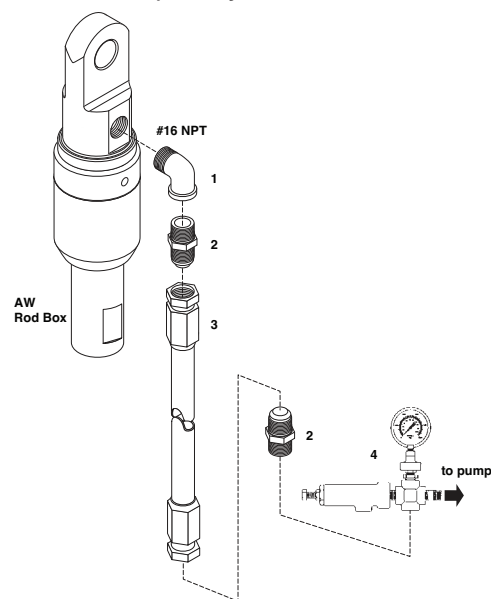
[OPT] OPTIONAL COMPONENT

HOSE AND CONNECTIONS — SURFACE

ID#	PART #	DESCRIPTION	QTY
COMPACT PLUS WATER SWIVEL TO PUMP			
1	17003	#16 NPT 90° STREET ELBOW	1
2	19971	#16 NPT TO #16 JIC-M ADAPTER	2
3	3542419	WATER SWIVEL HOSE, 9M (30 FT)	1
4	18040	DISCHARGE ASSEMBLY, #16 NPT	1
UNIVERSAL WATER TO SWIVEL PUMP			
1	18473	#20 NPT 90° Street Elbow	1
2	35879	#20 NPT TO #20 JIC-M	2
3	3542419	WATER SWIVEL HOSE, 9M (30 FT)	1
4	18185	DISCHARGE ASSEMBLY, #20 NPT	1

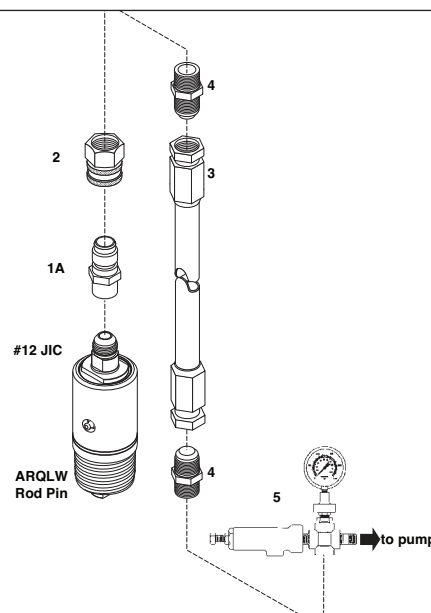
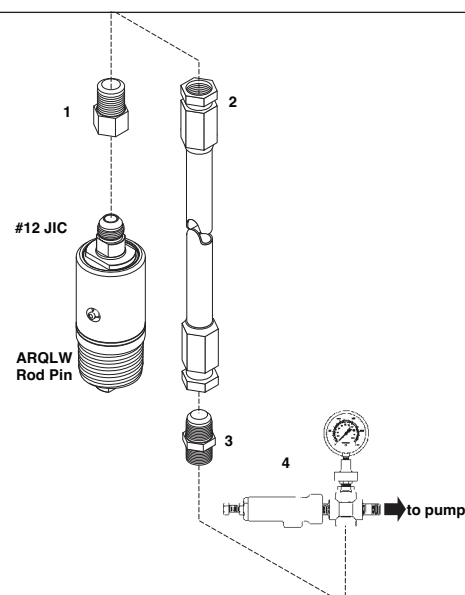
Features:

- MASHA accepted synthetic rubber cover.



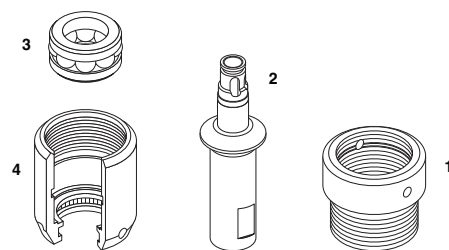
HOSE AND CONNECTIONS: UNDERGROUND

ID #	PART #	DESCRIPTION	QTY
COMPACT PLUS WATER SWIVEL TO PUMP			
1	3542419	WATER SWIVEL HOSE, 9M (30 FT)	1
2	19971	#16 NPT TO #16 JIC-M ADAPTER	2
3	18040	DISCHARGE ASSEMBLY, #16 NPT	1
HI-SPEED WATER TO SWIVEL PUMP			
1	41361	#12 JIC-F TO #16 JIC-M ADAPTER	1
2	3542419	WATER SWIVEL HOSE, 9M (30 FT)	1
3	19971	#16 NPT-F TO #16 JIC-M ADAPTER	1
4	18040	DISCHARGE ASSEMBLY, #16 NPT	1
QUICK COUPLER CONNECTION			
Using quick couplers is recommended when drilling with underground coring systems. They allow for rapid connecting/disconnecting from water swivel to loading chamber when alternating between drilling and overshot pump-in.			
COMPACT PLUS WATER SWIVEL TO PUMP			
1	104597	#16 NPT QUICK COUPLER TIP, MALE	1
2	100876	#16 NPT QUICK COUPLER TIP, FEMALE	1
3	3542419	WATER SWIVEL HOSE, 9M (30 FT)	1
4	19971	#16 NPT TO #16 JIC-M ADAPTER	2
5	18040	DISCHARGE ASSEMBLY, #16 NPT	1
HI-SPEED WATER TO SWIVEL PUMP			
1	3545899	#16 NPT QUICK COUPLER TIP, MALE	1
2	100876	#16 NPT QUICK COUPLER TIP, FEMALE	1
3	3542419	WATER SWIVEL HOSE, 9M (30 FT)	1
4	19971	#16 NPT TO #16 JIC-M ADAPTER	2
5	18040	DISCHARGE ASSEMBLY, #16 NPT	1



3546682 — CONVERSION KIT

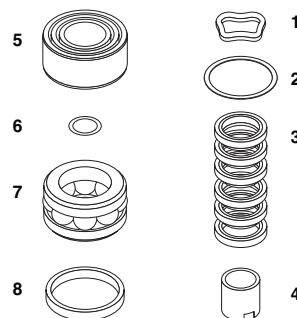
ID #	PART #	DESCRIPTION	QTY
	3546682	CONVERSION KIT COMPACT TO COMPACT PLUS	
1	3546531	UPPER SWIVEL BODY	1
2	3546907	SPINDLE	1
3	3546908	THRUST BALL BEARING	1
4	3546909	LOWER SWIVEL BODY	1



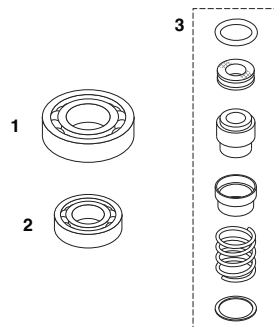
SPARE PARTS KITS

Spare Parts Kits are designed to meet the average requirements for 1,000m (3,300ft) of drilling.

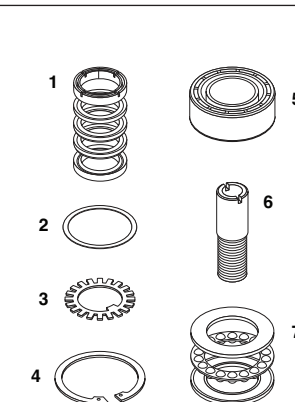
ID #	PART #	DESCRIPTION	QTY
1-8	3546955	COMPACT PLUS WATER SWIVEL	
1	23863	WAVY WASHER	2
2	19678	O RING	6
3	23861	SWIVEL PACKING	3
4	3546530	SLOTTED WEAR SLEEVE	2
5	20324	THRUST BALL BEARING	1
6	20169	O RING	6
7	3546908	THRUST BEARING	1
8	25612	FELT SEAL	2



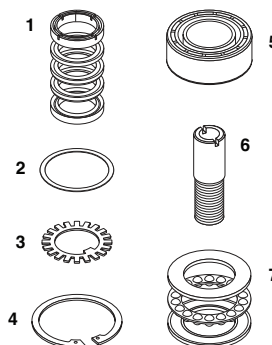
1-3	3546540	U/G HI-SPEED WATER SWIVEL AQTK	
1	24243	SEAL BEARING	1
2	3546501	BALL BEARING	1
3	3546522	SEAL ASSEMBLY	1



1-3	3546541	U/G HI-SPEED WATER SWIVEL BQ/NQ/HQ	
1	24243	SEAL BEARING	1
2	3546524	BALL BEARING	1
3	3546525	SEAL ASSEMBLY	1



1-7	67628	UNIVERSAL WATER SWIVEL	
1	39171	SWIVEL PACKING	1
2	29737	O RING	1
3	67186	LOCK WASHER	1
4	40965	RETAINING RING	1
5	19906	BALL BEARING	1
6	39170	SPINDLE EXTENSION	1
7	67187	BALL THRUST BEARING	1



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

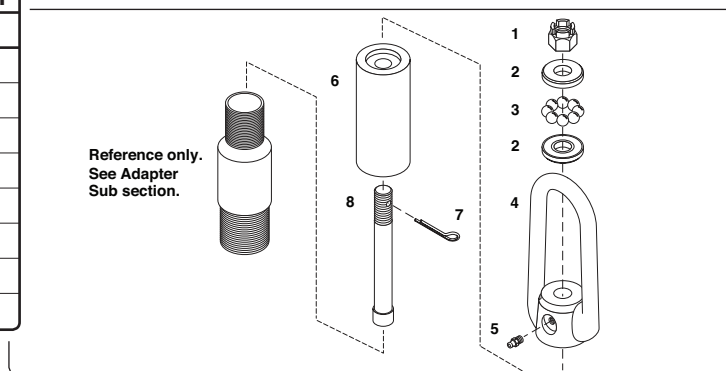
HOISTING PLUGS

HOISTING PLUG SELECTOR GUIDE						
LOAD RATING	SAFETY FACTOR	AQTK	BQ	NQ	HQ	PQ
5000 LBS.	5 TO 1	25855				
15000 LBS.	5 TO 1		3545380	3545380	3545380	
25000 LBS.	3 TO 1		3545380	3545380	3545380	
30000 LBS.	5 TO 1		3542898	3542898	3542898	3542898
50000 LBS.	3 TO 1		3542898	3542898	3542898	3542898

Features:

- AW rod box spindle connection.

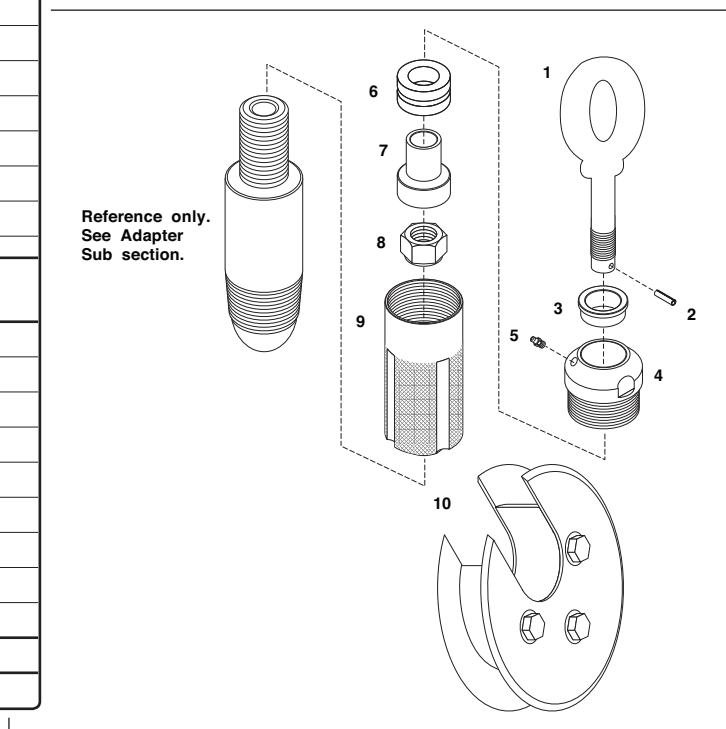
ID#	PART #	DESCRIPTION	QTY
	25855	HOISTING PLUG (5,000 LBS.)	
1	46123	3/4" HEX NUT	2
2	6873	PLUG BALL RACE	8
3	25853	STAINLESS STEEL BALL	1
4	6870	HOISTING PLUG BAIL	1
5	17447	GREASE FITTING	1
6	25856	HOISTING PLUG BODY	1
7	44617	COTTER PIN, 3/16" X 1-1/2"	1
8	6872	PLUG SPINDLE	1



Features:

- 12.5 mm (0.5 in) diameter down-angled vent is incorporated into the body to eliminate side spray from pressurized drilling fluid.
- Long-life thrust roller bearing provides pivot for ease of connecting and reduces hoisting cable winding during hoisting and lowering.
- NW rod box spindle connection.
- Optional shackle guide is recommended to eliminate jamming of certain hoist cable shackles in the eye bolt.

ID#	PART #	DESCRIPTION	QTY
	3545380	HOISTING PLUG - STANDARD	
1	3545376	EYE BOLT	1
2	37394	SPRING PIN 1/4" X 1-3/4"	1
3	3545377	WEAR SLEEVE	1
4	3545378	BEARING HOUSING	1
5	17447	GREASE FITTING	1
6	3542992	HOIST PLUG BEARING	1
7	3545379	SHAFT SLEEVE	1
8	3543012	STOVER LOCK NUT	1
9	3545381	LOWER HOUSING	1
	3545380	HOISTING PLUG HEAVY DUTY	
1	3542899	EYE BOLT	1
2	24307	SPRING PIN 1/4" X 2"	1
3	3542900	WEAR SLEEVE	1
4	3542901	BEARING HOUSING	1
5	17447	GREASE FITTING	1
6	3542902	THRUST BEARING	1
7	3542903	SHAFT SLEEVE	1
8	3542914	STOVER LOCK NUT	1
9	3542904	LOWER HOUSING	1
OPTIONS			
10	3542907	SHACKLE GUIDE	1



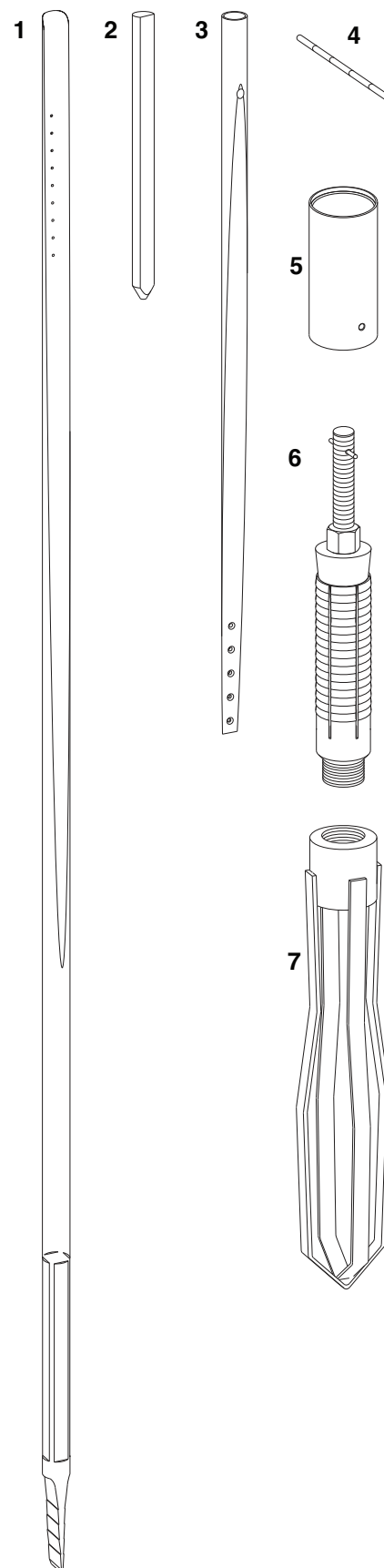
WEDGES

Deflection wedges are used to alter the course of a drill hole in a number of applications:

- Intersecting targets at a stipulated angle.
- Intersecting multiple targets below a common drill hole collar.
- Allowing multiple target intersections by drilling branch holes from a previously drilled parent hole.
- To bypass problematic areas or abandoned equipment in a hole to allow drilling to continue.

Boart Longyear's Bypass wedges provide a nominal 1.5° deflection. It is recommended that multiple wedges are not installed closer than 15 m (50 ft) apart.

ID#	PART #	DESCRIPTION	WEIGHT	
BQ BYPASS WEDGE			KG	LBS
1	3547315	BQ BYPASS WEDGE	56.8	125
2	3542975	BQ PLUG, WOODEN	.4	1.0
3	3542976	BQ WEDGE DROPPER, BW R/B	11.8	26
4	3547292	COPPER SHEAR PIN	.1	.25
5	3547374	BQ ADAPTER	1.3	2.95
6	3542977	BQ WEDGE PLUG	3.8	8.5
7	3542979	BQ PLUG BASKET	.7	1.53
NQ BYPASS WEDGE				
1	3540346	NQ BYPASS WEDGE	115.9	255
2	3542971	NQ PLUG, WOODEN	1.6	3.5
3	3542969	NQ WEDGE DROPPER, BW R/B	25.6	57
4	3547292	COPPER SHEAR PIN	.1	.25
5	3547375	NQ ADAPTER	2.0	4.56
6	3542970	NQ WEDGE PLUG	5.5	12.1
7	3542973	NQ PLUG BASKET	.7	1.53
HQ BYPASS WEDGE				
1	3547316	HQ BYPASS WEDGE	204.5	450
2	3543060	HQ PLUG, WOODEN	3.1	7.0
3	3542969	HQ WEDGE DROPPER, BW R/B	25.6	57
4	3547292	COPPER SHEAR PIN	.1	.25
5	3547376	HQ ADAPTER	3.3	7.34
6	3543058	HQ WEDGE PLUG	7.7	17.0
7	3543059	HQ PLUG BASKET	.7	1.53



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

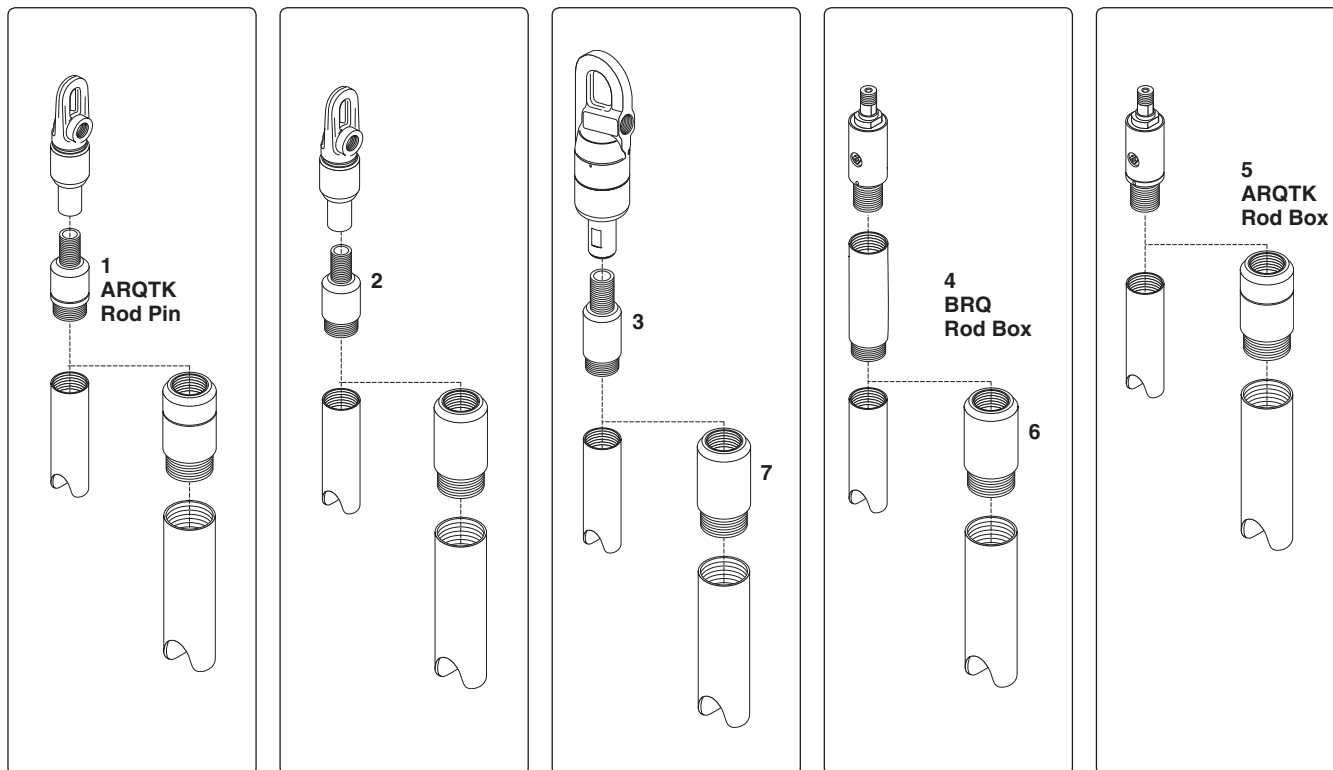
WATER SWIVEL ADAPTER SUBS

ID #	PART #	DESCRIPTION	KG	LB
COMPACT WATER SWIVEL TO AW ROD PIN				
1	3540733	ARQTK ROD PIN	0.9	2.0
2	3540877	BRQ ROD PIN	1.6	3.5
2	3540883	BRQTK ROD PIN	1.6	3.5
2	25615	BQ ROD PIN	1.9	4.2
2	3540879	NRQ ROD PIN	4.0	8.8
2	25617	NQ ROD PIN	4.0	8.8
2	3541874	HRQ ROD PIN	4.4	9.8
2	31093	HQ ROD PIN	4.4	9.8
UNIVERSAL WATER SWIVEL TO BW ROD PIN				
3	3541813	BRQ ROD PIN	2.4	5.4
3	3542177	BRQTK ROD PIN	2.3	5.0
3	30476	BQ ROD PIN	2.4	5.4
3	27559	NQ ROD PIN	3.9	8.7
3	306251	HRQ ROD PIN	4.7	10.3
3	44464	HQ ROD PIN	4.7	10.3
3	103008	PHD ROD PIN	9.62	21.21

ID #	PART #	DESCRIPTION	KG	LB
HIGH SPEED WATER SWIVEL TO BQ ROD PIN				
4	306248	BQ ROD PIN	0.9	1.9
4	3540886	BQ ROD PIN	0.9	1.9
CASING ADAPTER SUBS				
5	3540283	ARQTK ROD BOX TO AW CASING PIN	2.0	4.3
6	3540406	BRQ ROD BOX TO BW CASING PIN	3.3	7.3
6	3540885	BRQTK ROD BOX TO BW CASING PIN	3.1	6.9
6	30056	BQ ROD BOX TO BW CASING PIN	3.3	7.3
7	306452	NRQ ROD BOX TO NW CASING PIN	3.4	7.4
7	30040	NQ ROD BOX TO NW CASING PIN	3.4	7.4
7	3541879	NRQ ROD BOX TO HW CASING PIN	8.2	18.0
7	27558	HQ ROD BOX TO HW CASING PIN	8.2	18.0
7	306255	HRQ ROD BOX TO HWT CASING PIN	8.2	18.0
7	101341	HQ ROD BOX TO HWT CASING PIN	8.2	18.2
7	3543992	PHD ROD BOX TO PWT CASING PIN	9.1	20.0

Note:

Water swivel, drill rod and casing shown for reference only. See those sections for more information.



HOISTING PLUG ADAPTER SUBS

ID #	PART #	DESCRIPTION	KG	LB
LIGHT DUTY				
1	3540733	AW ROD PIN TO ARQ ROD PIN	0.9	2.0
5,000 LB				
2	3540877	AW ROD PIN TO BRQ ROD PIN	1.9	4.2
2	3540883	AW ROD PIN TO BRQTK ROD PIN	1.6	3.5
2	25615	AW ROD PIN TO BQ ROD PIN	1.9	4.2
2	3540879	AW ROD PIN TO NRQ ROD PIN	4.0	8.8
2	25617	AW ROD PIN TO NQ ROD PIN	4.0	8.8
10,000/30,000 LB				
3	3542883	NW ROD PIN TO BRQ ROD PIN	5.4	12.0
3	3543017	NW ROD PIN TO BRQTK ROD PIN	3.4	7.4
3	3542934	NW ROD PIN TO BQ ROD PIN	5.4	12.0
3	3542884	NW ROD PIN TO NRQ ROD PIN	3.4	7.4
3	3542932	NW ROD PIN TO NQ ROD PIN	3.4	7.4
3	3542885	NW ROD PIN TO HRQ ROD PIN	6.4	14.0
3	3542933	NW ROD PIN TO HP ROD PIN	6.4	14.0
30,000 LB				
4	102912	NW ROD PIN TO PHD ROD PIN	9.21	20.30
30,000 LB HOISTING PLUG TO CASING				
5	3544177	NW ROD PIN TO PWT CASING PIN	9.1	20.0

Features:

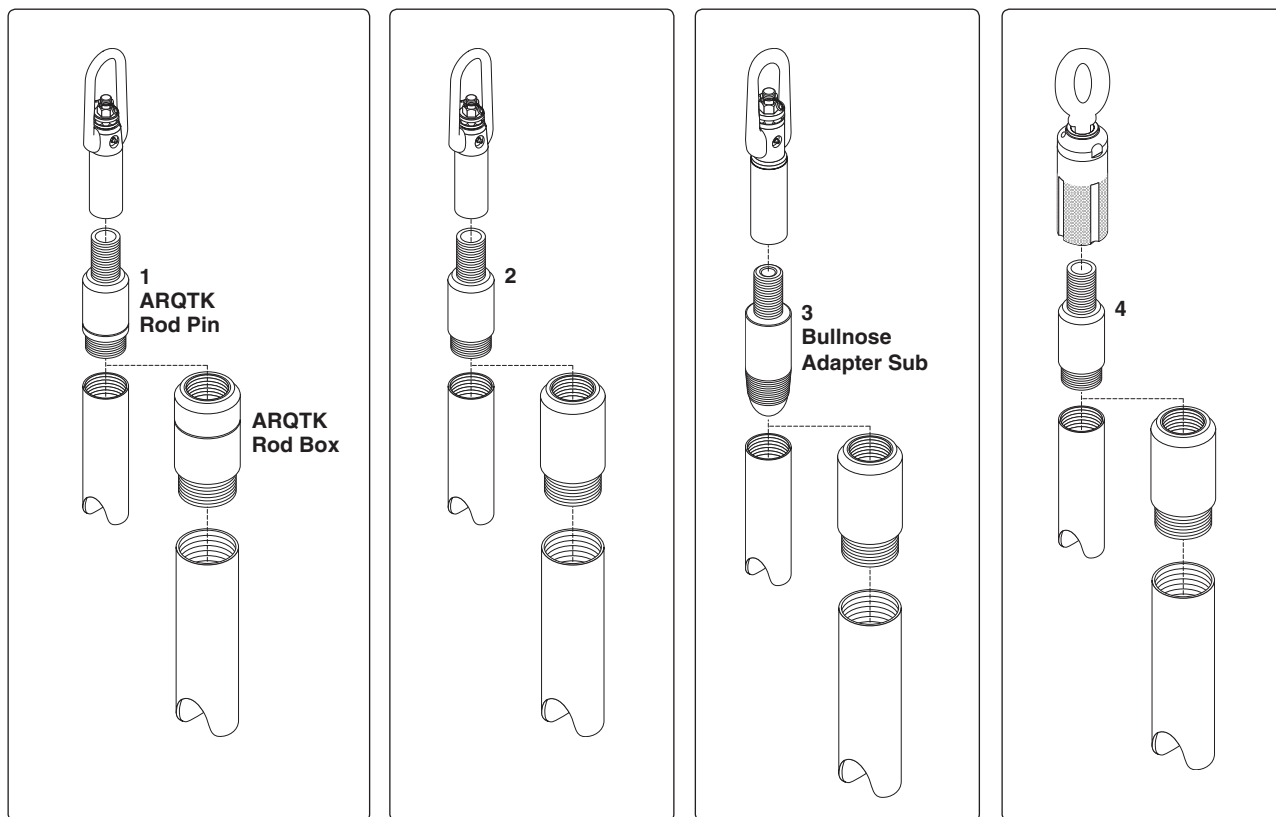
- The rod pin threads are electric induction hardened to ensure long life and minimize rod box thread galling, extending drill rod thread life and joint performance.
- Identification groove supplied on ARQTK and BRQTK subs.

Bullnose Adapter Subs:

- Curved lead-in nose guides the sub into the rod box eliminating unwanted “stabbing” damage.
- Sub thread has minimum “stand-off” allowing it to be made-up fully by hand ensuring a full capacity connection.

Note:

Water swivel, drill rod and casing shown for reference only. See those sections for more information.



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



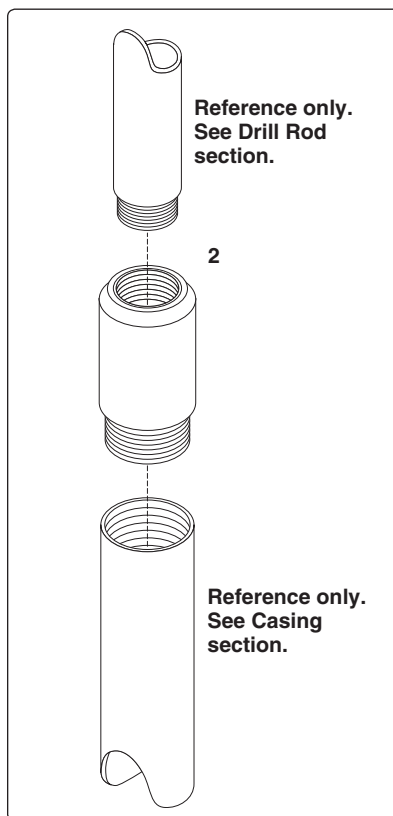
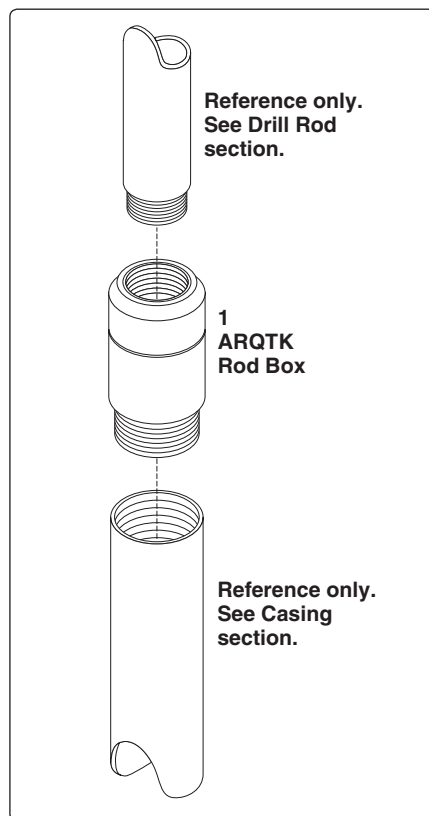
[OPT] OPTIONAL COMPONENT

CASING ADAPTER SUBS

ID #	PART #	DESCRIPTION	KG	LB
1	3540283	ARQTK ROD BOX TO AW CASING PIN	2.0	4.3
2	3540406	BRQ ROD BOX TO BW CASING PIN	3.3	7.3
2	3540885	BRQTK ROD BAX TO BW CASING PIN	3.1	6.9
2	30056	BQ ROD BOX TO BW CASING PIN	3.3	7.3
2	3541876	NRQ ROD BOX TO BW CASING PIN	4.4	9.7
2	30558	NQ ROD BOX TO BW CASING PIN	4.4	9.7
2	306452	NRQ ROD BOX TO NW CASING PIN	4.4	9.7
2	30040	NQ ROD BOX TO NW CASING PIN	4.4	9.7
2	3541877	NRQ ROD BOX TO NW CASING PIN	5.9	13.1
2	30101	NQ ROD BOX TO HW CASING PIN	5.9	13.1
2	306453	NRQ ROD BOX TO HWT CASING PIN	5.9	13.1
2	103654	NQ ROD BOX TO HWT CASING PIN	5.9	13.1
2	3541878	HRQ ROD BOX TO NW CASING PIN	2.4	5.4
2	30555	HQ ROD BOX TO NW CASING PIN	2.4	5.4
2	3541879	HRQ ROD BOX TO HW CASING PIN	8.2	18.0
2	27558	HQ ROD BOX TO HW CASING PIN	8.2	18.0
2	306255	HRQ ROD BOX TO HWT CASING PIN	8.2	18.0
2	101341	HQ ROD BOX TO HWT CASING PIN	8.2	18.0
2	3543992	PHD ROD BOX TO PWT CASING PIN	9.1	20.0
2	3541334	PW CASING BOX TO PWT CASING PIN	4.0	8.82
2	3541433	PWT CASING BOX TO PW CASING PIN	4.0	8.82

Features:

- The rod pin threads are electric induction hardened to ensure long life and minimize rod box thread galling, extending drill rod thread life and joint performance.
- Identification groove supplied on ARQTK and BRQTK subs.

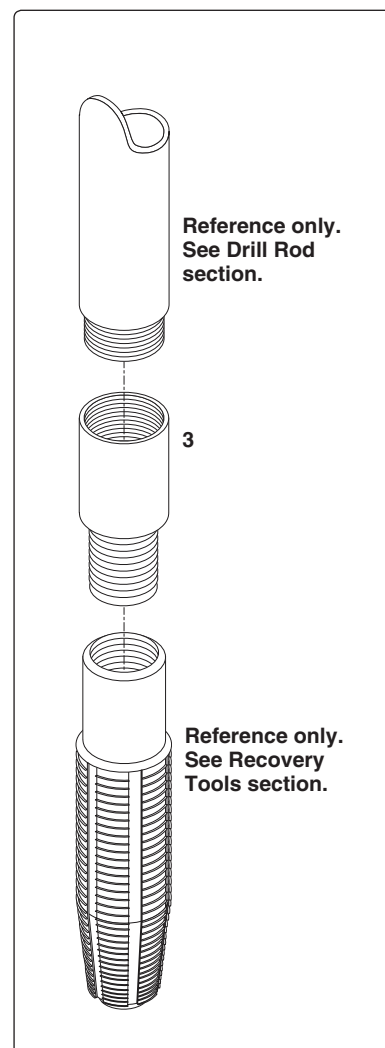
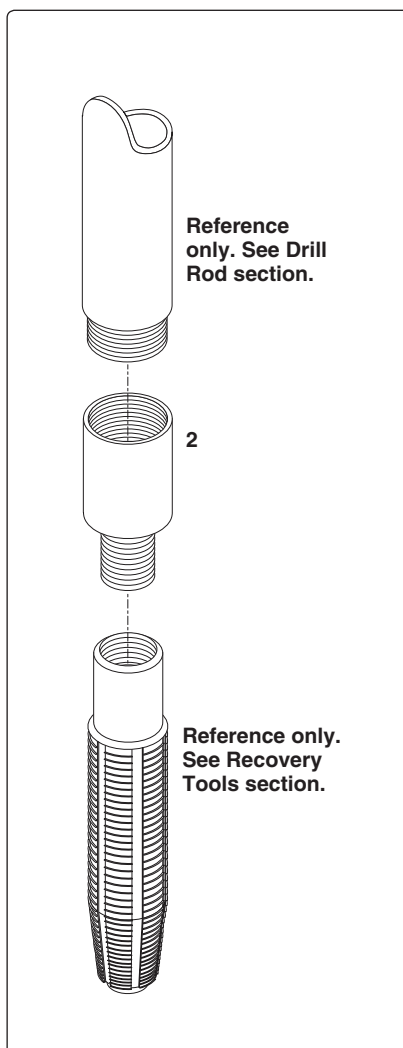
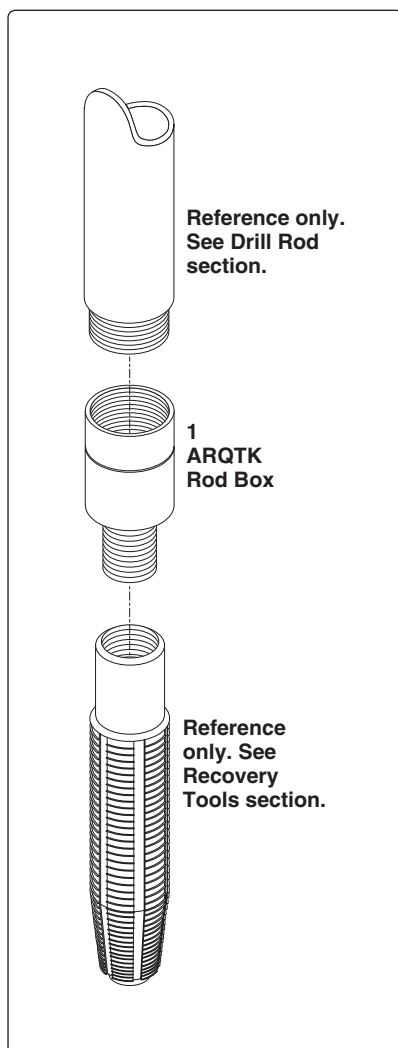


RECOVERY TOOL ADAPTER SUBS

ID #	PART #	DESCRIPTION	KG	LB
1	3540307	ARQTK ROD BOX TO AW ROD PIN	1.3	2.8
2	3541880	BRQ ROD BOX TO AW ROD PIN	2.3	5.0
2	3542179	BRQTK ROD BOX TO AW ROD PIN	2.0	4.3
2	24929	BQ ROD BOX TO AW ROD PIN	2.3	5.0
3	3542379	BRQ ROD BOX TO BW ROD PIN	2.3	5.0
3	3543008	BRQTK ROD BOX TO BW ROD PIN	2.0	4.3
3	25485	BQ ROD BOX TO BW ROD PIN	2.3	5.0
2	3541881	NRQ ROD BOX TO BW ROD PIN	3.3	7.2
2	24928	NQ ROD BOX TO BW ROD PIN	3.3	7.2
3	3542825	NRQ ROD BOX TO NW ROD PIN	3.3	7.2
3	24931	NQ ROD BOX TO NW ROD PIN	3.3	7.2
3	3541882	HRQ ROD BOX TO NW ROD PIN	7.8	17.2
3	25262	HQ ROD BOX TO NW ROD PIN	7.8	17.2
3	3542319	PHD ROD BOX TO NW ROD PIN	3.92	8.64

Features:

- Identification groove supplied on RQTK and BRQTK subs.



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

BLANK END ADAPTER SUBS

ID #	PART #	DESCRIPTION	KG	LB
1	3541907	ARQTK ROD BOX TO SOLID BLANK	1.30	2.85
2	306162	ARQTK ROD PIN TO SOLID BLANK	1.78	3.90
3	3540910	ARQTK ROD BOX TO TUBING BLANK	0.62	1.35
4	3540766	ARQTK ROD PIN TO TUBING BLANK	0.48	1.05
5	3540545	BRQ ROD BOX TO SOLID BLANK	2.64	5.85
5	3541901	BRQTK ROD BOX TO SOLID BLANK	2.84	6.25
5	40738	BQ ROD BOX TO SOLID BLANK	2.24	4.95
6	3540546	BRQ ROD PIN TO SOLID BLANK	3.50	7.70
6	3541902	BRQTK ROD PIN TO SOLID BLANK	2.84	6.25
6	40742	BQ ROD PIN TO SOLID BLANK	3.46	7.65
7	3543033	BRQ ROD BOX TO TUBING BLANK	1.23	2.70
7	3543031	BRQTK ROD BOX TO TUBING BLANK	1.23	2.70
8	3543032	BRQ ROD PIN TO TUBING BLANK	1.23	2.70
8	3543030	BRQTK ROD PIN TO TUBING BLANK	1.23	2.70
5	306319	NRQ ROD BOX TO SOLID BLANK	3.66	8.05
5	40739	NQ ROD BOX TO SOLID BLANK	3.34	7.35
6	306318	NRQ ROD PIN TO SOLID BLANK	5.58	12.3
6	40743	NQ ROD PIN TO SOLID BLANK	5.54	12.2
7	3542997	NRQ ROD BOX TO TUBING BLANK	1.50	3.30
8	3542996	NRQ ROD PIN TO TUBING BLANK	1.50	3.30
5	306321	HRQ ROD BOX TO SOLID BLANK	6.54	14.4
5	40740	HQ ROD BOX TO SOLID BLANK	5.68	12.5
6	306320	HRQ ROD PIN TO SOLID BLANK	9.08	20.0
6	40744	HQ ROD PIN TO SOLID BLANK	8.13	17.9
7	3543035	HRQ ROD BOX TO TUBING BLANK	2.70	5.00
8	3543034	HRQ ROD PIN TO TUBING BLANK	2.70	5.00
5	103416	PHD ROD BOX TO SOLID BLANK	9.06	19.97
5	3545166	PWT CASING BOX TO SOLID BLANK	9.06	19.97
6	103415	PHD ROD PIN TO SOLID BLANK	14.8	32.6
6	3545167	PWT CASING PIN TO SOLID BLANK	14.8	32.6
7	102924	PHD ROD BOX TO TUBING BLANK	2.74	6.04
8	103054	PHD ROD PIN TO TUBING BLANK	3.39	7.47

Application:

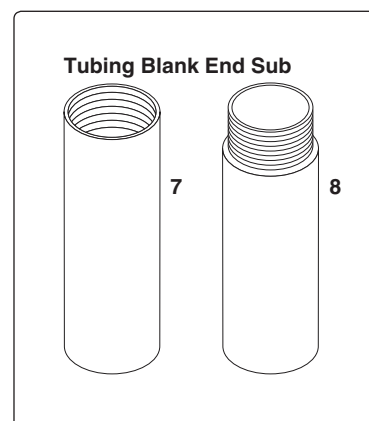
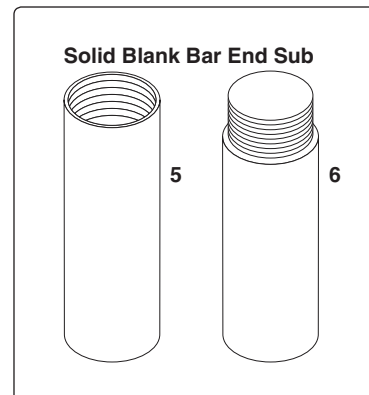
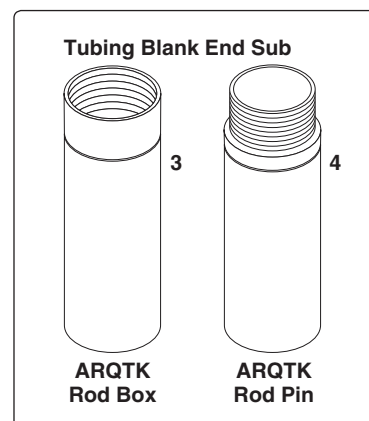
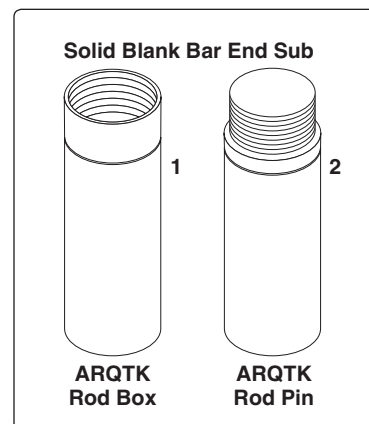
Blank end adapter subs enable you to manufacture your own adapter subs for your requirements. They are supplied as rod pin or rod box to either SOLID BLANK bar end or TUBING BLANK end.

Solid bar end subs are for use with hoist plugs and water swivels ONLY. They are NOT for use as cross over subs. Thread stand off is adjusted for hand tight box/pin shoulder makeup.

Identification groove supplied on RQTK and BRQTK accessories.

Warning:

Do not bore solid pin end subs greater than 25 mm (1 inch) to avoid shrinkage due to heat stresses.



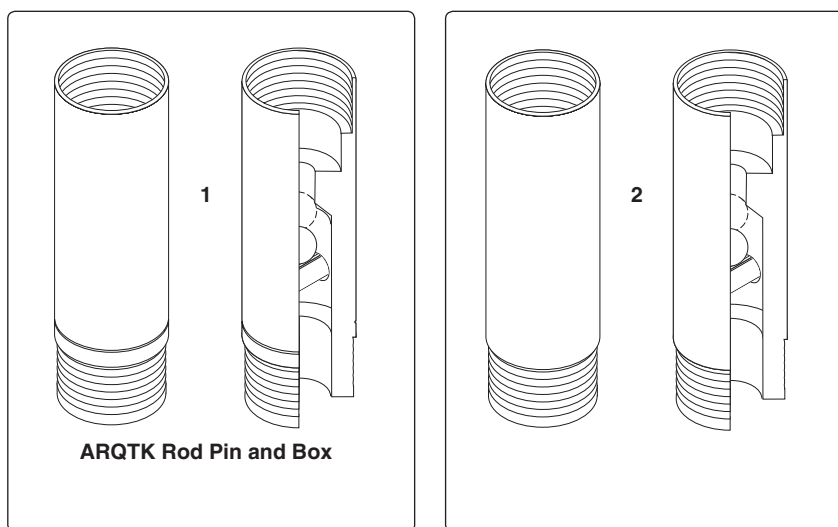
WATER SAVER SUBS

ID #	PART #	DESCRIPTION	KG	LB
1	3540170	ARQTK WATER SAVER SUB	1.5	3.4
2	3542641	BRQ WATER SAVER SUB	2.3	5.0
2	3541898	BRQTK WATER SAVER SUB	2.0	4.5
2	101606	BQ WATER SAVER SUB	2.3	5.0
2	3542642	NRQ WATER SAVER SUB	3.3	7.2
2	3542276	NQ WATER SAVER SUB	3.3	7.2
2	3542643	HRQ WATER SAVER SUB	4.6	10.1
2	3542919	HQ WATER SAVER SUB	4.6	10.1

Application:

The Water Saver Sub includes a check valve feature that retains the column of drilling fluid in the rod string in angle-up holes. It can also be used to save time and increase production by eliminating the need to re-fill the rod string each time a rod is added when using extended core barrels.

Identification groove supplied on RQTK and BRQTK accessories.



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE

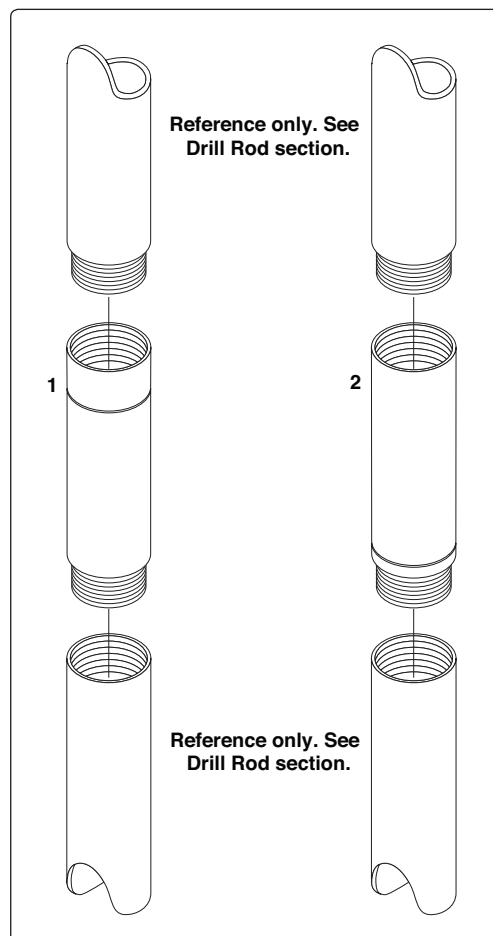


[OPT] OPTIONAL COMPONENT

DRILL ROD ADAPTER SUBS

Drill Rod to Drill Rod/Locking Coupling.

ID#	PART #	DESCRIPTION	WEIGHT	
AQTK ADAPTER SUBS			KG	LB
1	3540717	ARQTK ROD BOX TO AQ ROD PIN	.5	1.1
2	3540716	AQ ROD BOX TO ARQTK ROD PIN	.5	1.1
BQ ADAPTER SUBS				
1	306248	BRQ ROD BOX TO BQ ROD PIN	.9	1.9
1	3542148	BRQ ROD BOX TO BRQTK ROD PIN	.9	1.9
1	3542151	BRQTK ROD BOX TO BRQ ROD PIN	.9	1.9
1	3540886	BRQTK ROD BOX TO BQ ROD PIN	.9	1.9
1	306249	BQ ROD BOX TO BRQ ROD PIN	.9	1.9
1	3540887	BQ ROD BOX TO BRQTK ROD PIN	.9	1.9
NQ ADAPTER SUBS				
1	104743	NRQ ROD BOX TO NQ ROD PIN	1.1	2.5
1	104744	NQ ROD BOX TO NRQ ROD PIN	1.1	2.5
HQ ADAPTER SUBS				
1	306252	HRQ ROD BOX TO HQ ROD PIN	1.7	3.7
1	306253	HQ ROD BOX TO HRQ ROD PIN	1.7	3.7
PQ ADAPTER SUBS				
1	101366	PHD CASING BOX TO PQ ROD PIN	2.1	4.6
1	101367	PQ ROD BOX TO PHD ROD PIN	2.3	5.0



Note:
Identification groove supplied on RQTK and BRQTK accessories.

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OTHER TOOLS

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CORING WRENCHES 130

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CASING CUTTERS

Operations:

Upon lowering the assembly, the cutting lugs are retracted inside the body by the spring. With low rotation (25 rpm) initially, the cutting lugs are forced out using water pressure, 1,380 kpa (200 psi). A drop in pressure indicates that the cutting operation is complete.

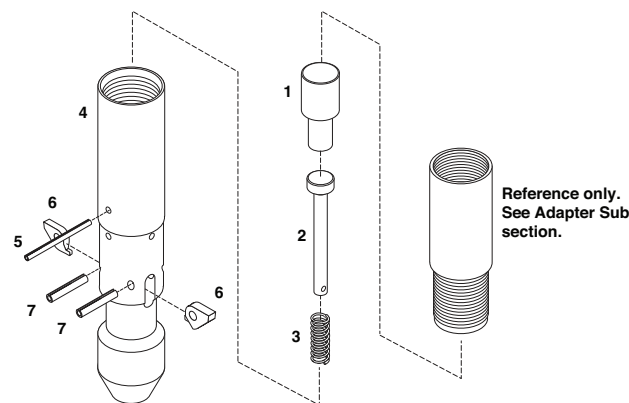
ID #	PART #	DESCRIPTION	QTY
1-7	3543026	AW CASING/"B" ROD CUTTER ASSEMBLY	
1	30816	PISTON	1
2	60159	PLUNGER	1
3	26480	SPRING	1
4	3543027	BODY	1
5	25969	SPRING PIN 1/8" X 1-3/4"	1
6	60158	CASING CUTTER LUG	2
7	23175	SPRING PIN 1/4" X 1"	2

1-12	52775	BW CASING CUTTER ASSEMBLY	
1	61265	RETAINING RING	1
2	52776	PLUNGER CASE	1
3	21837	STAINLESS STEEL BALL, 15/16"	1
4	14520	WATER TUBE	1
5	14519	PLUNGER	1
6	15260	SHEAR PIN	1
7	14522	SPRING	1
8	14521	SPRING REST	1
9	14517	BODY	1
10	14523	CASING CUTTER LUG	2
11	14587	CASING CUTTER PIN	2
12	44663	SET SCREW	1

1-12	52777	NW CASING/"H" ROD CUTTER ASSEMBLY	
1	61460	RETAINING RING	1
2	52778	PLUNGER CASE	1
3	26157	STAINLESS STEEL BALL, 1-1/8"	1
4	14529	WATER TUBE	1
5	14528	PLUNGER	1
6	22834	PIN, 3/16" X 1-11/16"	1
7	14531	SPRING	1
8	14530	SPRING REST	1
9	14526	BODY	1
10	14532	CASING CUTTER LUG	2
11	14588	CASING CUTTER PIN	2
12	44663	SET SCREW	1

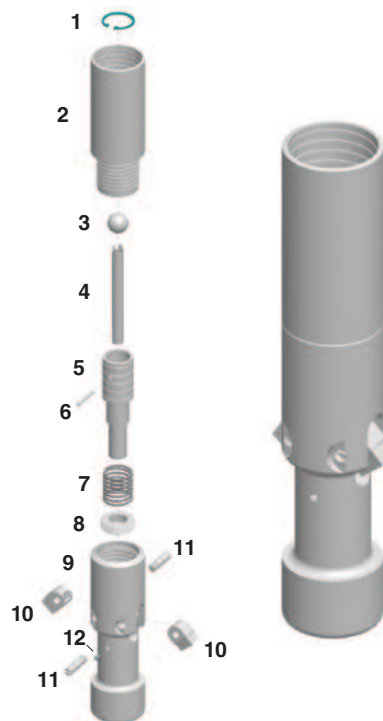
AW Applications:

- Used for cutting AW casing or "B" rod at any point in a drill hole when the entire string can not be retrieved.
- ARQTK rod box connection.



BW Applications:

- Used for cutting BW casing at any point in a drill hole when the entire string can not be retrieved.
- BQ rod box connection.



NW Applications:

- Used for cutting NW casing or HRQ/HQ/HMQ rod at any point in a drill hole when the entire string can not be retrieved.
- NQ rod box connection.

LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

CASING CUTTERS

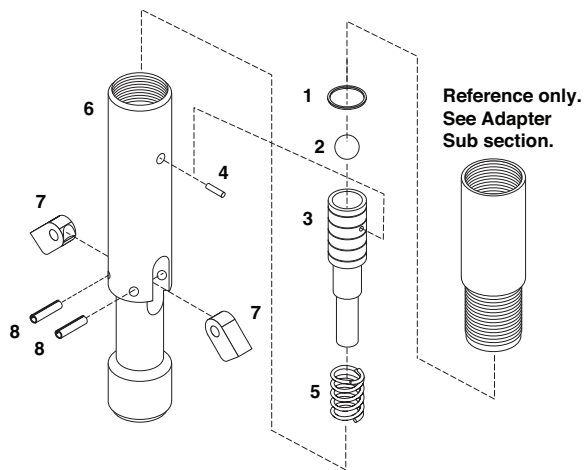
Operations:

Upon lowering the assembly, the cutting lugs are retracted inside the body by the spring. With low rotation (25 rpm) initially, the cutting lugs are forced out using water pressure, 1,380 kpa (200 psi). A drop in pressure indicates that the cutting operation is complete.

ID #	PART #	DESCRIPTION	QTY
1-8	60879	HW/HWT CASING ROD CUTTER ASSEMBLY	
1	61460	RETAINING RING	1
2	26157	STAINLESS STEEL BALL, 1-1/8"	1
3	14528	PLUNGER	1
4	22834	PIN, 3/16" X 1-11/16"	1
5	14531	SPRING	1
6	60880	BODY	1
7	62830	CASING CUTTER LUG	2
8	36216	SPRING PIN, 7/16" X 3"	2
1-9	3547485	PW CASING CUTTER ASSEMBLY	
1	3547484	SUB, PHD R/B TO HQ R/P	1
2	61460	RETAINING RING	1
3	26157	STAINLESS STEEL BALL, 1-1/8"	1
4	14528	PLUNGER	1
5	22834	PIN, 3/16" X 1-11/16"	1
6	14531	SPRING	1
7	60880	BODY	1
8	3547486	CASING CUTTER LUG	2
9	36216	SPRING PIN, 7/16" X 3"	2

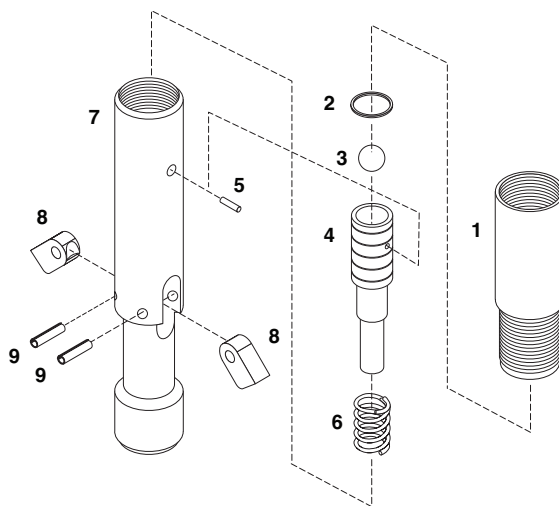
HW Applications:

- Used for cutting HW/HWT casing at any point in a drill hole when the entire string can not be retrieved.
- HQ rod box connection.



PW Applications:

- Used for cutting PW casing at any point in a drill hole when the entire string can not be retrieved.
- PHD rod box connection.



CASING ADVANCERS

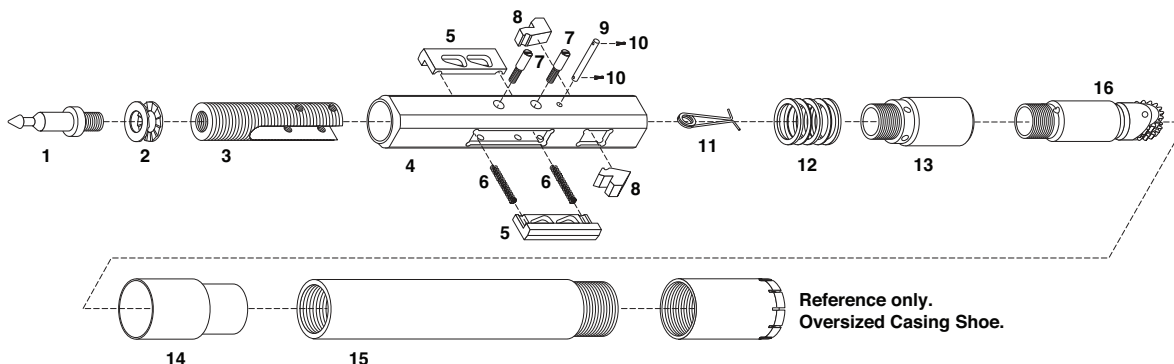
BQ/NQ/HQ/PQ CASING ADVANCERS

Boart Longyear provides a full line of wireline casing advancers for soil sampling and overburden coring in conjunction with casing. These can also be used for casing through difficult overburden or formations.

ID#	DESCRIPTION	QTY								
1-15	BW WIRELINE CASING ADVANCER	1	59090							
1-14	BW WIRELINE INNER ASSEMBLY	1		82420						
1-15	NW WIRELINE CASING ADVANCER	1			59000					
1-14	NW WIRELINE INNER ASSEMBLY	1				82421				
1-15	HWT WIRELINE CASING ADVANCER	1					3000863			
1-14	HWT WIRELINE INNER ASSEMBLY	1						3000868		
1-15	PWT WIRELINE CASING ADVANCER	1							3543991	
1-14	PWT WIRELINE INNER ASSEMBLY	1								3543771
1	SPEARHEAD	1	93391	93391	93415	93415	93415	93415	93415	93415
2	DISH LOCK WASHER	1	58041	58041	58040	58040	58040	58040	58040	58040
3	RELEASE SHAFT	1	58053	58053	58038	58038	58038	58038	58038	58038
4	LATCH BODY	1	59094	59094	58999	58999	59078	59078	59435	59435
5	LATCH SHOE	2	93393	93393	93417	93417	93865	93865	59438	59438
6	SPRING	2	93396	93396	93420	93420	93420	93420	93420	93420
7	LOCATING PIN	2	58054	58054	58035	58035	58035	58035	58035	58035
8	STOP LATCH SET	1	59092	59092	59001	59001	59076	59076	59436	59436
9	STOP LATCH PIN	1	59093	59093	59087	59087	59077	59077	59437	59437
10	SPLIT COTTER PIN	2	44861	44861	44861	44861	44861	44861	44861	44861
11	STOP LATCH SPRING	1	59082	59082	59082	59082	59082	59082	59082	59082
12	SPACER SET	1	93394	93394	93418	93418	93863	93863	59440	59440
13	BIT SUB	1	93392	93392	93416	93416	93864	93864	59441	59441
14	LOADING SLEEVE	1	59095	59095	59063	59063	3000869	3000869	59454	59454
15	DRIVER	1	80965		80963		3000864		3543990	
ROCK ROLLER BIT										
16	TWO CONE CARBIDE TUNGSTEN BUTTON (for very hard formations)	1	97179							
	TRI-CONE STEEL TOOTH (for medium hard formations)	1			97100		97128		97132	
	TRI-CONE CARBIDE TUNGSTEN BUTTON (for very hard formations)	1			98058		98063		97152	

Features:

- Provides a positive latch for a one-step method of drilling through overburden and casing off to bedrock.



LEGEND



✓ STANDARD COMPONENT



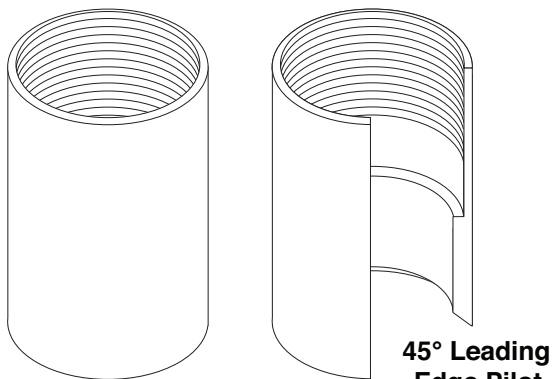
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

CASING DRIVE SHOES

1



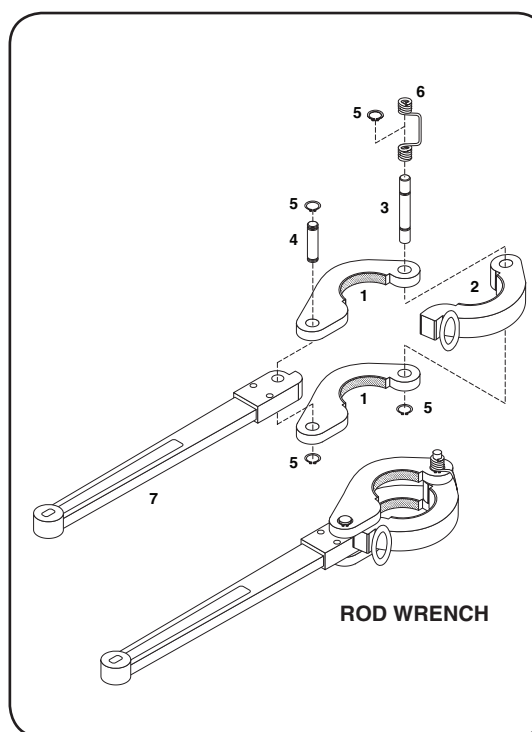
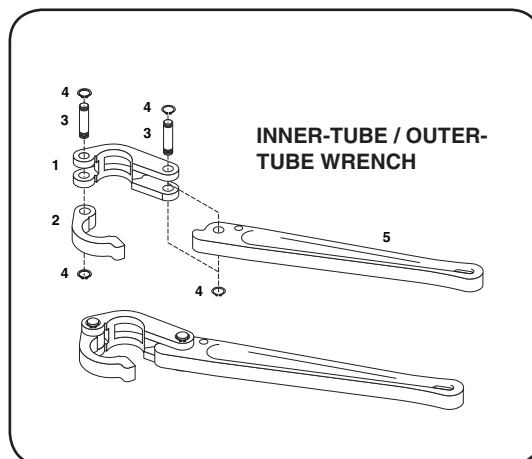
Features:

- Commonly used with drive hammers as a method of driving or advancing casing.
- Recommended for use with geotechnical soil sampling tools in clay, sand and other soft formations.
- Hardened surface with 45° leading edge pilot.

ID#	PART #	DESCRIPTION	WEIGHT	
CASING DRIVE SHOE			KG	LB
1	30152	BW CASING DRIVE SHOE	0.8	1.8
1	30108	NW CASING DRIVE SHOE	1.2	2.7
1	3543989	PWT CASING DRIVE SHOE	4.4	9.8

CORING WRENCHES - AQTK

ID #	PART #	DESCRIPTION	QTY	KG	LB
1-5	52604	FULL GRIP AQTK INNER-TUBE WRENCH		1.84	4.05
1	52605	STATIONARY JAW	1	0.18	0.40
2	52606	SWING JAW	1	0.25	0.55
3	38581	PIN	2	0.10	0.22
4	38582	RETAINING RING	4	0.40	0.88
5	28251	WRENCH HANDLE	1	0.91	2.00
1-5	28247	FULL GRIP AQTK OUTER-TUBE WRENCH		1.98	4.36
1	28248	STATIONARY JAW	1	0.25	0.55
2	28249	SWING JAW	1	0.32	0.70
3	38581	PIN	2	0.10	0.22
4	38582	RETAINING RING	4	0.40	0.88
5	28251	WRENCH HANDLE	1	0.91	2.00
1-7	45790	FULL GRIP A ROD WRENCH		6.12	13.46
1	45983	STATIONARY JAW	2	1.08	2.38
2	45982	SWING JAW	1	0.95	2.09
3	43484	PIN, 5/8" X 4"	1	0.16	0.35
4	43485	PIN, 5/8" X 2-3/4"	1	0.11	0.24
5	38583	RETAINING RING	4	0.40	0.88
6	43422	SPRING	1	0.02	0.04
7	43483	WRENCH HANDLE	1	3.40	7.48



LEGEND



✓ STANDARD COMPONENT



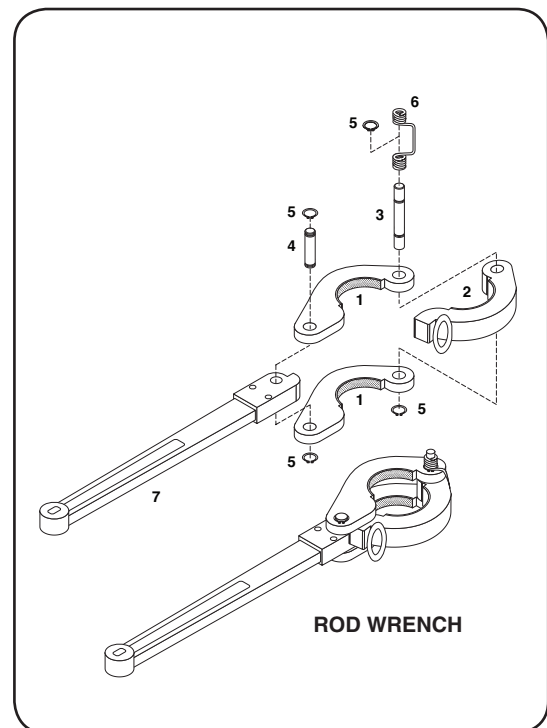
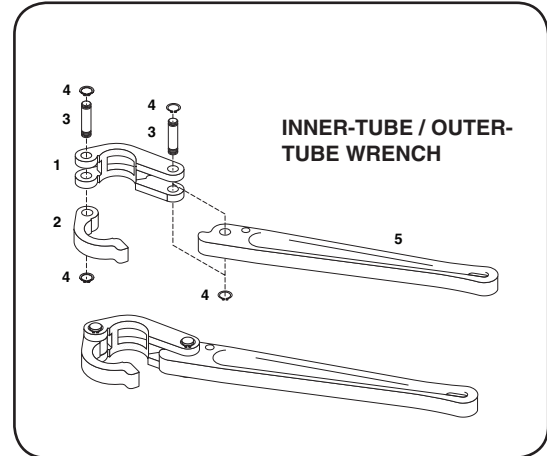
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

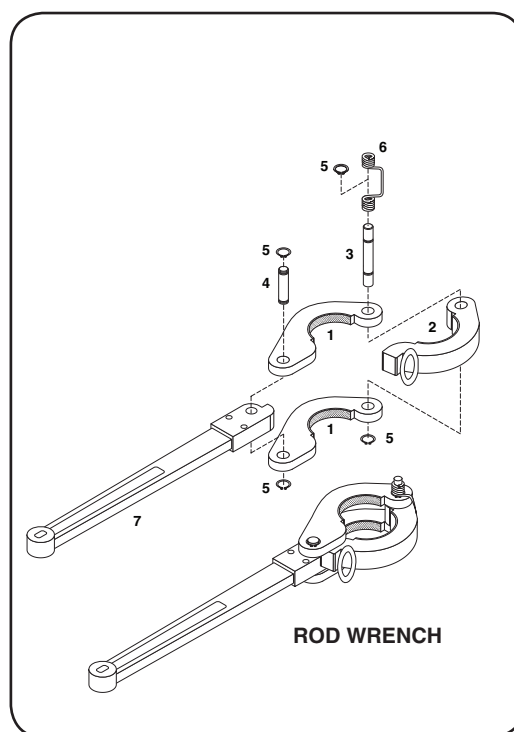
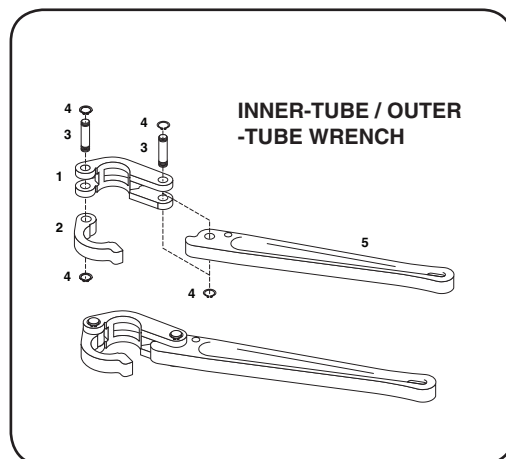
CORING WRENCHES - BQ

ID #	PART #	DESCRIPTION	QTY	KG	LB
1-5	28247	FULL GRIP BQTK INNER-TUBE WRENCH		1.95	4.29
1	28248	STATIONARY JAW	1	0.25	0.55
2	28249	SWING JAW	1	0.32	0.70
3	38581	PIN	2	0.10	0.22
4	38582	RETAINING RING	4	0.40	0.88
5	28251	WRENCH HANDLE	1	0.91	2.00
1-5	25318	FULL GRIP BQ INNER-TUBE WRENCH		1.6	3.5
1	48916	STATIONARY JAW	1	0.34	0.75
2	29025	SWING JAW	1	0.20	0.44
3	38581	PIN	2	0.10	0.22
4	38582	RETAINING RING	4	0.40	0.88
5	28251	WRENCH HANDLE	1	0.91	2.00
1-5	28252	FULL GRIP BQTK / BQ OUTER-TUBE WRENCH		2.0	4.4
1	28253	STATIONARY JAW	1	0.28	0.62
2	28254	SWING JAW	1	0.36	0.79
3	38581	PIN	2	0.10	0.22
4	38582	RETAINING RING	4	0.40	0.88
5	28251	WRENCH HANDLE	1	0.91	2.00
1-7	43481	FULL GRIP B ROD WRENCH		6.2	13.6
1	43415	STATIONARY JAW	2	1.36	2.99
2	43418	SWING JAW	1	0.95	2.09
3	43484	PIN, 5/8" X 4"	1	0.16	0.35
4	43485	PIN, 5/8" X 2-3/4"	1	0.11	0.24
5	38583	RETAINING RING	4	0.40	0.88
6	43422	SPRING	1	0.02	0.04
7	43483	WRENCH HANDLE	1	3.40	7.48



CORING WRENCHES - NQ

ID #	PART #	DESCRIPTION	QTY	KG	LB
1-5	25319	FULL GRIP NQ INNER-TUBE WRENCH		1.7	3.7
1	48917	STATIONARY JAW	1	0.41	0.90
2	29027	SWING JAW	1	0.25	0.55
3	38581	PIN	2	0.10	0.22
4	38582	RETAINING RING	4	0.40	0.88
5	28251	WRENCH HANDLE	1	0.91	2.00
1-5	28252	FULL GRIP NQTK (NQ2") INNER- TUBE WRENCH		2.0	4.4
1	28253	STATIONARY JAW	1	0.28	0.62
2	28254	SWING JAW	1	0.36	0.79
3	38581	PIN	2	0.10	0.22
4	38582	RETAINING RING	4	0.40	0.88
5	28251	WRENCH HANDLE	1	0.91	2.00
1-5	28255	FULL GRIP NQ / NQTK OUTER-TUBE WRENCH		3.4	7.4
1	28256	STATIONARY JAW	1	0.45	0.99
2	28257	SWING JAW	1	0.66	1.45
3	38580	PIN	2	0.18	0.40
4	38583	RETAINING RING	4	0.40	0.88
5	28259	WRENCH HANDLE	1	1.56	3.43
1-7	43480	FULL GRIP N ROD WRENCH		6.6	14.5
1	43414	STATIONARY JAW	2	1.54	3.39
2	43417	SWING JAW	1	1.36	2.99
3	43484	PIN, 5/8" X 4"	1	0.16	0.35
4	43485	PIN, 5/8" X 2-3/4"	1	0.11	0.24
5	38583	RETAINING RING	4	0.40	0.88
6	43422	SPRING	1	0.02	0.04
7	43483	WRENCH HANDLE	1	3.40	7.48



LEGEND



✓ STANDARD COMPONENT



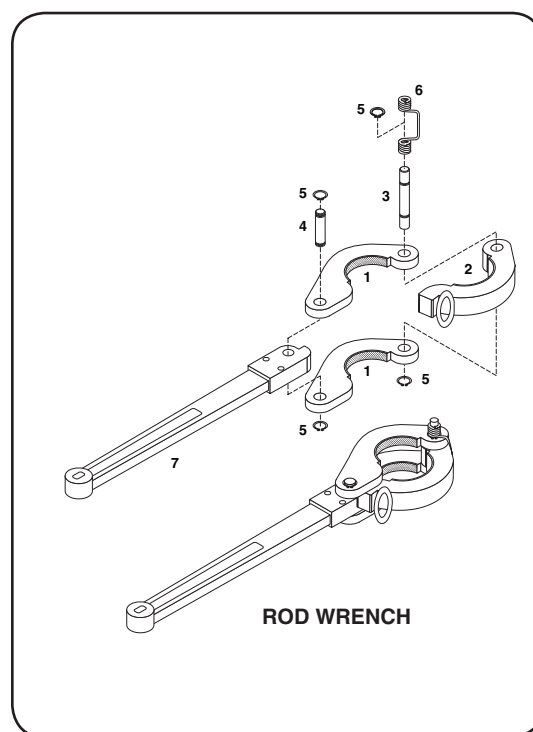
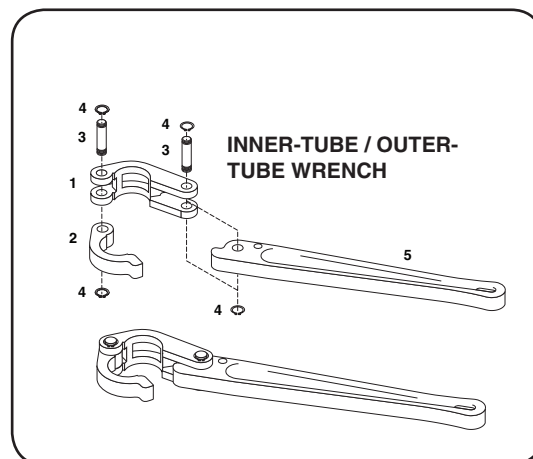
REQUIRED – CHOOSE ONE



[OPT] OPTIONAL COMPONENT

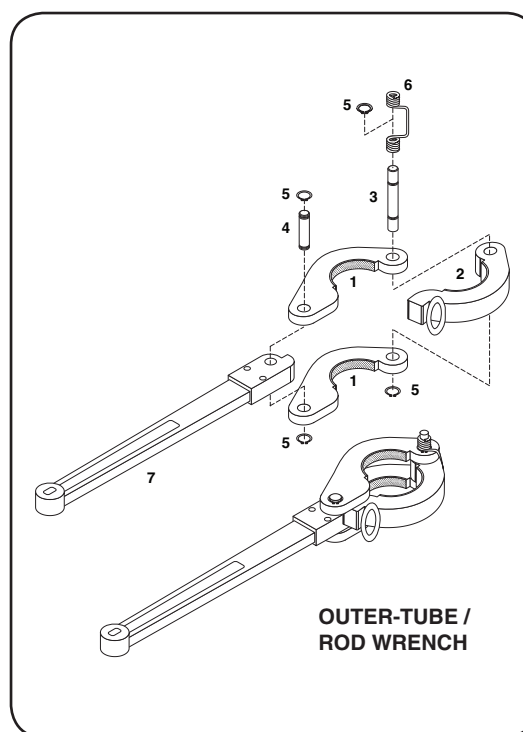
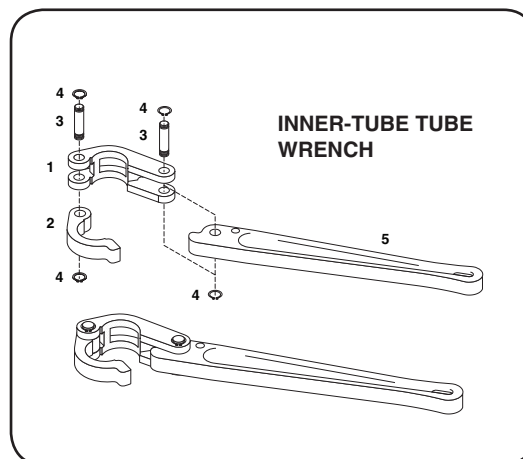
CORING WRENCHES - HQ

ID #	PART #	DESCRIPTION	QTY	KG	LB
1-5	28255	FULL GRIP HQ INNER-TUBE WRENCH		3.4	7.4
1	28256	STATIONARY JAW	1	0.45	0.99
2	28257	SWING JAW	1	0.66	1.45
3	38580	PIN	2	0.18	0.40
4	38583	RETAINING RING	4	0.40	0.88
5	28259	WRENCH HANDLE	1	1.56	3.43
1-5	28260	FULL GRIP HQ OUTER-TUBE WRENCH		3.6	8.0
1	28261	STATIONARY JAW	1	0.57	1.25
2	28262	SWING JAW	1	0.77	1.69
3	38580	PIN	2	0.18	0.40
4	38583	RETAINING RING	4	0.40	0.88
5	28259	WRENCH HANDLE	1	1.56	3.43
1-7	43482	FULL GRIP H ROD WRENCH		10.5	23.15
1	43416	STATIONARY JAW	2	1.72	3.78
2	43419	SWING JAW	1	1.77	3.89
3	43484	PIN, 5/8" X 4"	1	0.16	0.35
4	43485	PIN, 5/8" X 2-3/4"	1	0.11	0.24
5	38583	RETAINING RING	4	0.40	0.88
6	43422	SPRING	1	0.02	0.04
7	43483	WRENCH HANDLE	1	3.40	7.48



CORING WRENCHES - PQ

ID #	PART #	DESCRIPTION	QTY	KG	LB
1-5	26171	FULL GRIP PQ INNER-TUBE WRENCH		3.6	7.9
1	28972	STATIONARY JAW	1	0.52	1.14
2	28973	SWING JAW	1	0.77	1.69
3	38580	PIN	2	0.18	0.40
4	38583	RETAINING RING	4	0.40	0.88
5	28259	WRENCH HANDLE	1	1.56	3.43
1-7	45804	FULL GRIP PQ OUTER-TUBE WRENCH		11.02	24.29
1	45989	STATIONARY JAW	2	1.90	4.18
2	45988	SWING JAW	1	1.93	4.25
3	43484	PIN, 5/8" X 4"	1	0.16	0.35
4	43485	PIN, 5/8" X 2-3/4"	1	0.11	0.24
5	38583	RETAINING RING	4	0.40	0.88
6	43422	SPRING	1	0.02	0.04
7	43483	WRENCH HANDLE	1	3.40	7.48
1-7	45792	FULL GRIP H ROD WRENCH		7.6	16.7
1	45987	STATIONARY JAW	2	2.00	4.40
2	45986	SWING JAW	1	1.86	4.09
3	43484	PIN, 5/8" X 4"	1	0.16	0.35
4	43485	PIN, 5/8" X 2-3/4"	1	0.11	0.24
5	38583	RETAINING RING	4	0.40	0.88
6	43422	SPRING	1	0.02	0.04
7	43483	WRENCH HANDLE	1	3.40	7.48



MISCELLANEOUS PLIERS AND WRENCHES

PIPE WRENCHES

Estimated Torque:

45 KG (100 LB) HAND LOAD

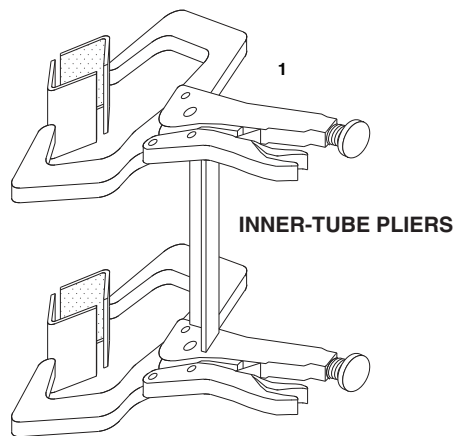
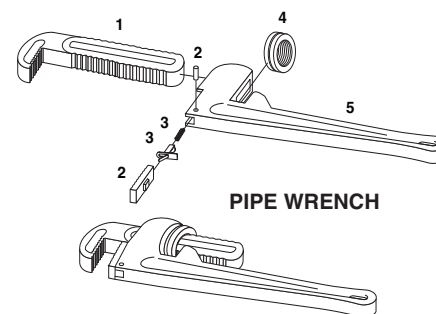
18" Heavy Duty Pipe Wrench200 Nm (150 ft lbf)

24" Heavy Duty Pipe Wrench270 Nm (200 ft lbf)

36" Heavy Duty Pipe Wrench400 Nm (300 ft lbf)

48" Heavy Duty Pipe Wrench540 Nm (400 ft lbf)

ID #	PART #	DESCRIPTION	QTY	KG	LB
1-5	14942	18" HEAVY DUTY PIPE WRENCH		2.60	5.80
1	14944	HOOK JAW	1	0.68	1.50
2	14943	HEEL JAW WITH PIN	1	0.1	0.22
3	200561	COIL AND SPRING	1	0.02	0.04
4	200562	WRENCH NUT	1	0.08	0.18
5	N/A	WRENCH HANDLE (INCLUDED)	1	1.72	3.86
1-5	14945	24" HEAVY DUTY PIPE WRENCH		4.30	9.40
1	14947	HOOK JAW	1	1.0	2.0
2	14946	HEEL JAW WITH PIN	1	0.14	0.31
3	200563	COIL AND SPRING	1	0.02	0.04
4	200564	WRENCH NUT	1	0.15	0.33
5	N/A	WRENCH HANDLE (INCLUDED)	1	2.99	6.52
1-5	14948	36" HEAVY DUTY PIPE WRENCH		8.40	18.60
1	14950	HOOK JAW	1	1.88	4.14
2	14949	HEEL JAW WITH PIN	1	0.24	0.53
3	200565	COIL AND SPRING	1	0.03	0.07
4	200566	WRENCH NUT	1	0.22	0.48
5	N/A	WRENCH HANDLE (INCLUDED)	1	6.03	13.39
1-5	14951	48" HEAVY DUTY PIPE WRENCH		12.7	28.0
1	14953	HOOK JAW	1	3.33	7.37
2	14952	HEEL JAW WITH PIN	1	0.34	0.75
3	200567	COIL AND SPRING	1	0.05	0.10
4	200568	WRENCH NUT	1	0.31	0.68
5	N/A	WRENCH HANDLE (INCLUDED)	1	8.67	19.14



INNER-TUBE PLIERS

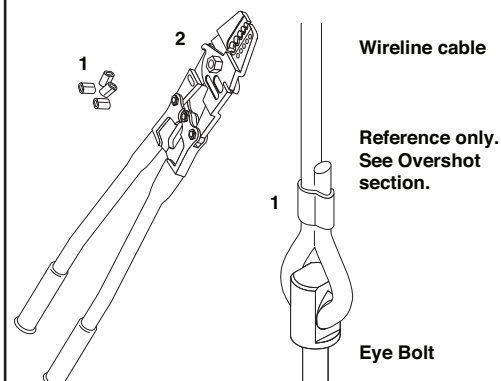
This handling tool is ideal to assist in the retrieval of the inner-tube assembly and core sample. The lower grip can be tightened onto the rod string and the second grip released or tightened as the inner-tube assembly is brought out of the string.

ID #	PART #	DESCRIPTION	KG	LB
1	100508	INNER-TUBE PLIERS	0.93	2.05

WIRELINE CABLE TOOLS

These items are used in conjunction with wireline cable.

ID #	PART #	DESCRIPTION	KG	LB
1	30172	OVAL SLEEVE, 3/16" OR 11/64"	0.05	0.1
1	60382	GALVANIZED, 1/4"	0.02	0.05
2	30171	CRIMPING TOOL	2.1	4.6

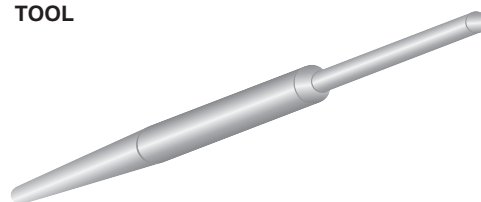


HEAD ASSEMBLY TOOL

The head assembly tool is used to drive in the spring pin when assembling links and latches with the latch retraction case.

ID #	PART #	DESCRIPTION	QTY
1	3542826	AQTK HEAD ASSEMBLY DRIFT TOOL	1
1	3542827	BQ HEAD ASSEMBLY DRIFT TOOL	1
1	3542987	N/H/P HEAD ASSEMBLY DRIFT TOOL	1

**HEAD
ASSEMBLY
TOOL**

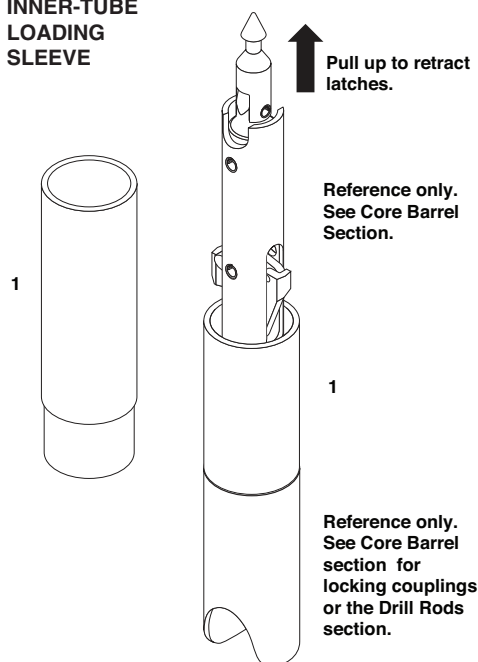


INNER-TUBE LOADING SLEEVE

The loading sleeve is recommended for loading the AQTK/AQTKU inner-tube assembly into the core barrel outer-tube assembly or rod string. The AQTK/AQTKU loading sleeve is for use with AQTK/AQTKU core barrels and ARQTK rods.

ID #	PART #	DESCRIPTION	QTY
1	61353	AQTK INNER-TUBE LOADING SLEEVE	1
1	3542636	BQ INNER-TUBE LOADING SLEEVE	1
1	61663	BQTK INNER-TUBE LOADING SLEEVE	1
1	3542637	NQ INNER-TUBE LOADING SLEEVE	1
1	3542638	HQ INNER-TUBE LOADING SLEEVE	1

**INNER-TUBE
LOADING
SLEEVE**

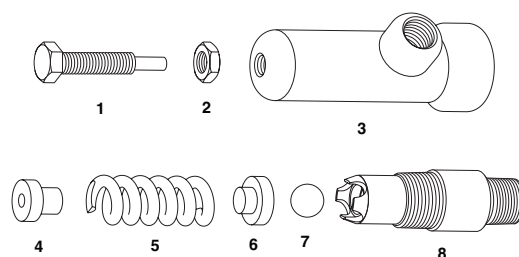


RELIEF VALVE

This rugged pressure relief valve ensures protection of your pump during drilling operations. It automatically snaps to full open position when the predetermined pressure is exceeded. The pressure setting can be adjusted within the operating range by simply turning the adjusting screw on the top of the valve.

ID #	PART #	DESCRIPTION	QTY
1-8	3546492	RELIEF VALVE	1
1	21841	ADJUSTING SCREW	1
2	22179	JAM, BRASS NUT	1
3	3546493	BODY	1
4	3546494	SPRING GUIDE	2
5	24313	SPRING	2
6	3546495	BALL HOLDER	1
7	21837	STEEL BALL, 15/16"	4
8	3546496	SEAT	4

**RELIEF
VALVE**



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



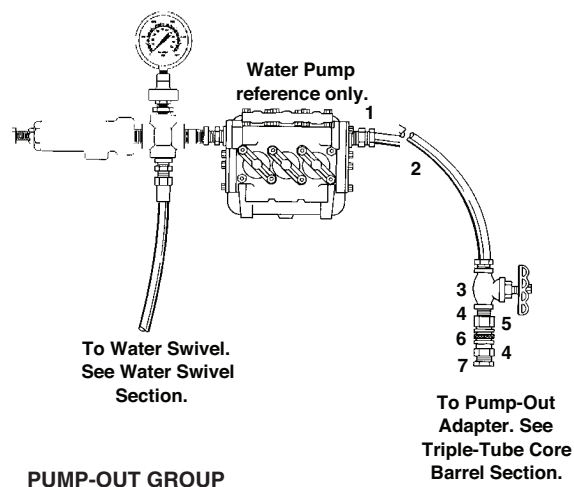
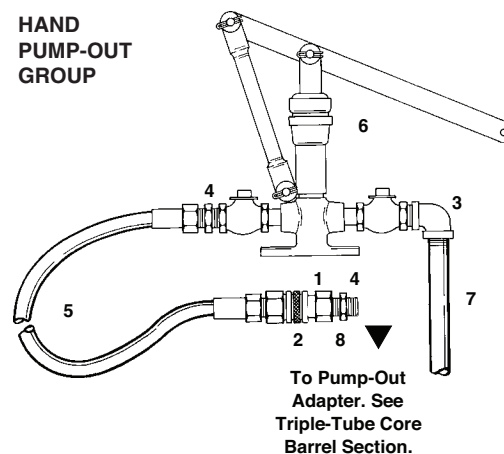
[OPT] OPTIONAL COMPONENT

TRIPLE-TUBE PUMP-OUT GROUPS

Fluid pressure supplied by optional hand pump group or pump-out group is required to pump the second inner-tube (split lengthwise) out of the standard inner-tube.

ID #	PART #	DESCRIPTION	QTY
1-8	26738	HAND PUMP-OUT GROUP	1
1	29257	QUICK COUPLING 1/2" NPT-F	1
2	29258	QUICK COUPLING 1/2" NPT-M	1
3	20829	90° STREET ELBOW 3/4" NPT	1
4	21413	HEX BUSHING 3/4" X 1/2"	2
5	26739	HOSE ASSEMBLY, 8 FT X 1/2" NPT-M	1
6	26740	HAND PUMP	1
7	31746	SUCTION PIPE 3/4" X 24" LENGTH	1
8	17905	CLOSE NIPPLE 1/2" NPT	1
1-7	26742	PUMP-OUT GROUP	1
1	18922	HEX BUSHING 1-1/4" X 1/2" NPT	1
2	26739	HOSE ASSEMBLY, 8 FT X 1/2" NPT-M	1
3	26741	GLOBE VALVE 1/2" NPT	1
4	17905	CLOSE NIPPLE 1/2" NPT	2
5	29257	QUICK COUPLING 1/2" NPT-F	1
6	29258	QUICK COUPLING 1/2" NPT-M	1
7	21413	HEX BUSHING 3/4" X 1/2"	1

**HAND
PUMP-OUT
GROUP**



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RECOVERY TOOLS

ROD RECOVERY TAPS.....	140
CASING RECOVERY TAPS.....	141
WIRELINE CABLE RECOVERY TOOLS..	142
OUTER TUBE RECOVERY TAPS.....	143

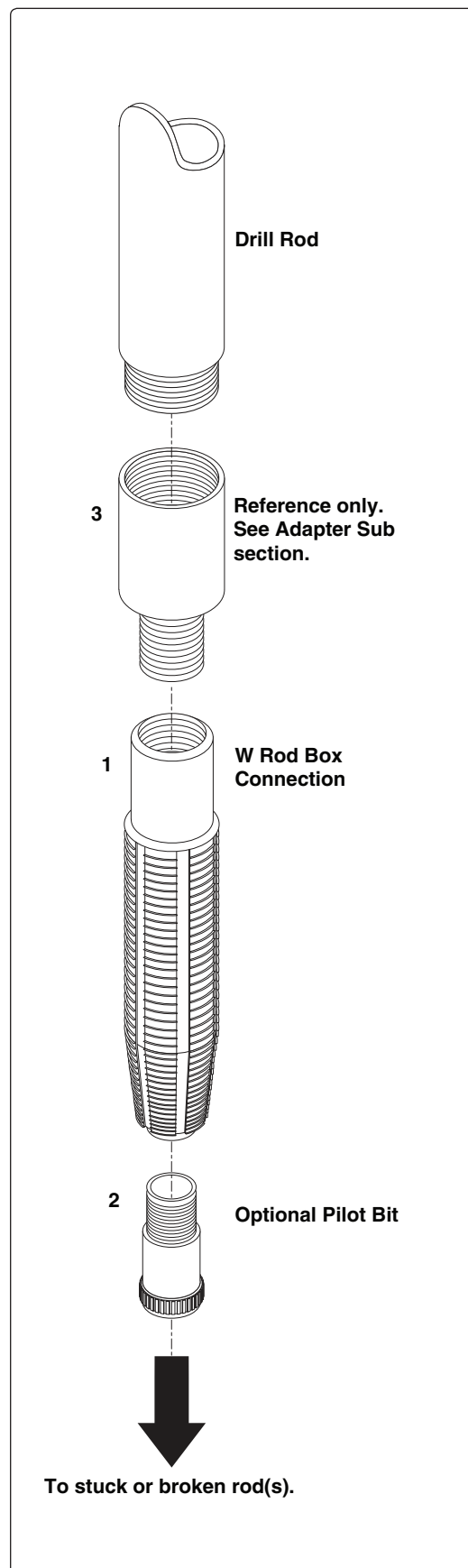


ROD RECOVERY TAPS

Features:

- Boart Longyear offers rod recovery taps that have parallel walls, and self-tapping threads for full penetration, improved recovery connection and longer tap life.
- Right hand thread.
- Connection for optional pilot bit is supplied as standard.

ID #	PART #	DESCRIPTION	KG	LB
ROD RECOVERY TAPS				
1	3542937	ARQTK ROD RECOVERY TAP	2.3	5
1	306076	BQ / BRQ ROD RECOVERY TAP	2.6	5.7
1	306060	BRQTK ROD RECOVERY TAP	2.3	5.1
1	306034	NQ / NRQ ROD RECOVERY TAP	3.9	8.5
1	306079	HQ / HRQ ROD RECOVERY TAP	5.5	12.1
1	3542968	PHD ROD RECOVERY TAP	11.34	24.95
ROD RECOVERY TAPS PILOT BITS				
2	*	A PILOT BIT	1	
2	*	B PILOT BIT	1	
2	4011685	N PILOT BIT	1	
2	4011574	H PILOT BIT	2.0	4.5
ROD RECOVERY TAPS ADAPTER SUBS				
3	3541880	BRQ ROD BOX TO AW ROD PIN	2.3	5
3	3542179	BRQTK ROD BOX TO AW ROD PIN	2	4.3
3	24929	BQ ROD BOX TO AW ROD PIN	2.3	5
3	3541881	NRQ ROD BOX TO BW ROD PIN	3.3	7.2
3	24928	NQ ROD BOX TO BW ROD PIN	3.3	7.2
3	3541882	HRQ ROD BOX TO NW ROD PIN	7.8	17.2
3	25262	HQ ROD BOX TO NW ROD PIN	7.8	17.2
3	3542319	PHD ROD BOX TO NW ROD PIN		



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



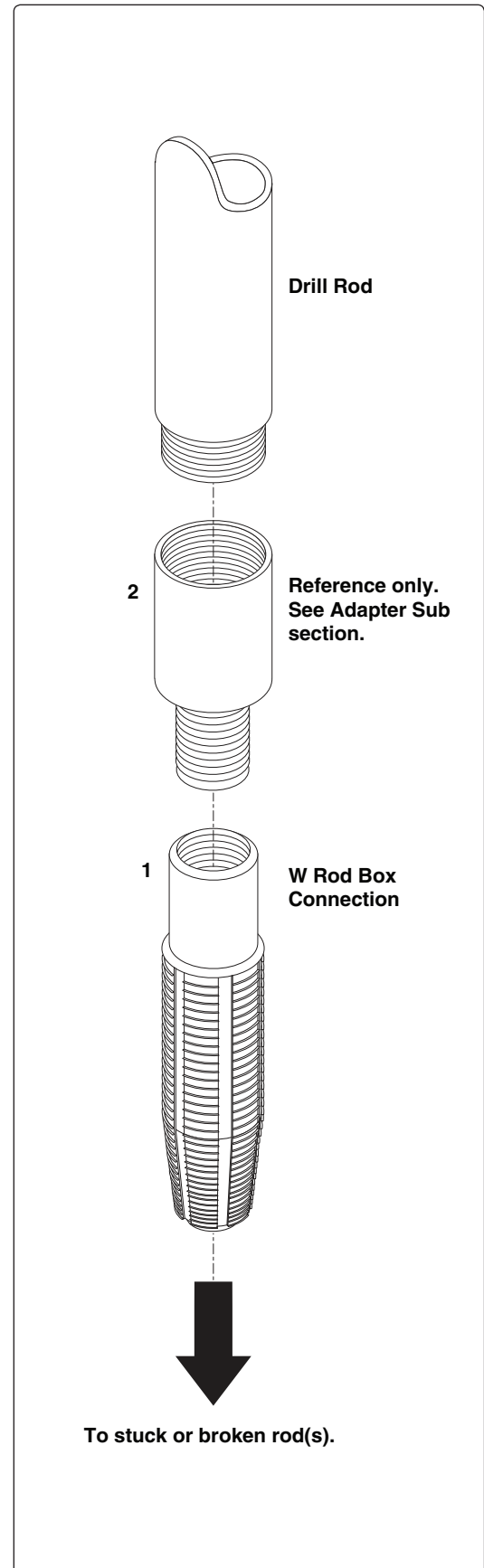
[OPT] OPTIONAL COMPONENT

CASING RECOVERY TAPS

Features:

- Boart Longyear offers casing recovery taps that have parallel walls, and self-tapping threads for full penetration, improved recovery connection and longer tap life.
- Right hand thread.

ID #	PART #	DESCRIPTION	KG	LB
CASING RECOVERY TAPS				
1	306060	AW CASING RECOVERY TAP	2.3	5.1
1	306034	BW CASING RECOVERY TAP	3.9	8.5
1	306066	NW CASING RECOVERY TAP	5.4	12
1	3542968	HW/HWT CASING RECOVERY TAP	11.34	24.95
1	3543013	PWT CASING RECOVERY TAP	17.71	38.96
CASING RECOVERY TAPS ADAPTER SUBS				
2	3540307	ARQTK ROD BOX TO AW ROD PIN	1.3	2.8
2	3542379	BRQ ROD BOX TO BW ROD PIN	2.3	5
2	3543008	BRQTK ROD BOX TO BW ROD PIN	2	4.3
2	25485	BQ ROD BOX TO BW ROD PIN	2.3	5
2	3542825	NRQ ROD BOX TO NW ROD PIN	3.3	7.2
3	24931	NQ ROD BOX TO NW ROD PIN	3.3	7.2



WIRELINER RECOVERY TOOL

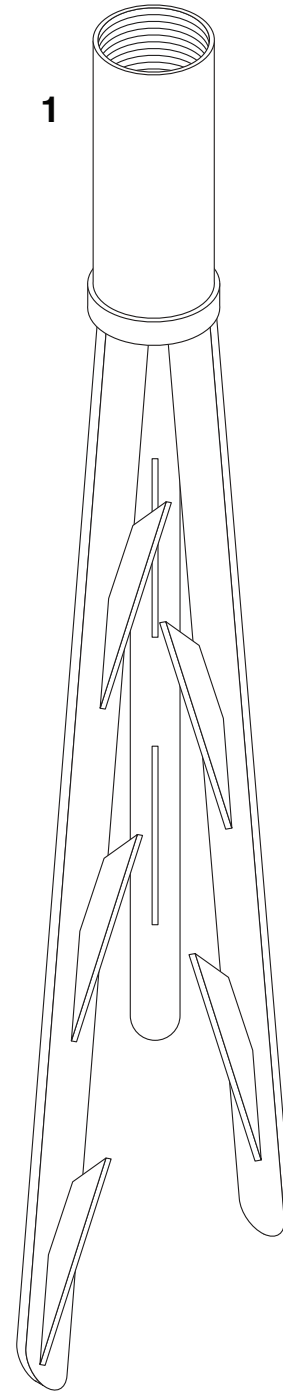
The wireline cable recovery tool is used for fishing wireline cable when breakage has occurred in the rod string.

Boart Longyear offers a full listing of wireline cable recovery tools that:

- Cable fisher housing is connected to the inner-tube, after removal of the core lifter case, and is lowered with the inner-tube assembly and overshot.
- Reduces instances of having to pull the rods, and complications which occur when broken wireline cable has to be cut while pulling the rods.
- Reduces amount of scrap wireline cable through recovery.

ID #	PART #	DESCRIPTION	KG	LB
1	61726	BQ CABLE FISHER	1.1	2.4
1	61733	NQ CABLE FISHER	1.2	2.5
1	61734	HQ CABLE FISHER	1.3	2.8

1



LEGEND



✓ STANDARD COMPONENT



REQUIRED – CHOOSE ONE



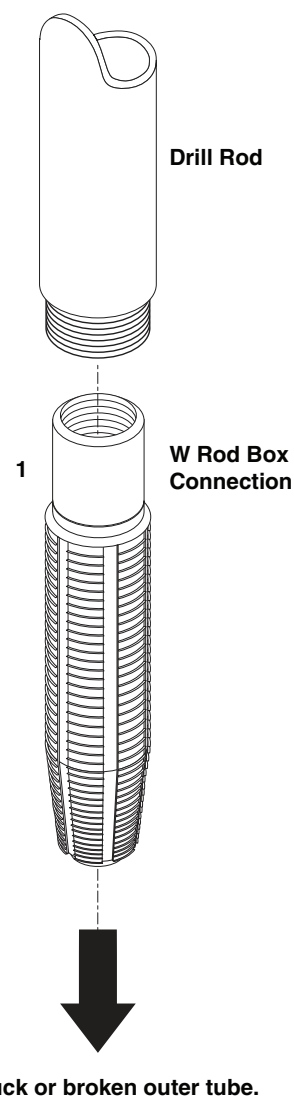
[OPT] OPTIONAL COMPONENT

OUTER-TUBE RECOVERY TAPS

Features:

- Parallel wall, self-tapping thread allows for full penetration, improved recovery connection and longer tap life.
- Right hand thread.
- Identification groove supplied on ARQTK rod recovery tap box end.

ID #	PART #	DESCRIPTION	KG	LB
1	3544204	OUTER-TUBE RECOVERY TAP	2.3	5.07



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WARRANTY

Limited Warranty.

- (a) Consumables. Boart Longyear warrants for a period of one (1) year after the date of shipment of the consumable products manufactured by it, or the performance of related services, under the Contract, that such consumable products are free from defects in materials and workmanship and such services are performed in a professional and workmanlike manner; provided, however, with respect to consumable products purchased through an authorized Boart Longyear distributor, the warranty period shall commence on the date of purchase by the end-user.
- (b) Capital Equipment. Boart Longyear warrants for a period equal to the lesser of (i) one (1) year after the date of shipment, or (ii) the initial 1,000 operating hours. Boart Longyear warrants for a period of six (6) months after the performance of related services that such services are performed in a professional and workmanlike manner.
- (c) General Terms. Boart Longyear further warrants that, to the extent applicable, as of the date of shipment or performance, all goods manufactured by it and services performed shall conform to the written specifications agreed between the parties. THIS IS BOART LONGYEAR'S ONLY WARRANTY. BOART LONGYEAR MAKES NO OTHER WARRANTY, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. As a condition to Boart Longyear's warranty obligations, any goods claimed to be defective under the foregoing warranty must be returned to the facility designated by Boart Longyear, which return shall be made promptly upon Purchaser's discovery of the alleged defect. With respect to consumable products purchased through an authorized Boart Longyear distributor, the party making the warranty claim must also deliver to Boart Longyear reasonable evidence of the date of purchase. Boart Longyear shall perform its examination of the goods so returned by Purchaser and shall report the results of its examination to Purchaser within thirty (30) days following its receipt of such goods from Purchaser, or, if longer time is required to complete such examination, within such time as would be required through the exercise of reasonable diligence. As a further condition to Boart Longyear's obligations hereunder for breach of warranty, Purchaser shall offer its reasonable cooperation and assist Boart Longyear in the course of Boart Longyear's review of any warranty claim. If requested by Purchaser, Boart Longyear will promptly repair or replace at Boart Longyear's expense. Goods that are non-conforming according to Boart Longyear's warranty as set forth herein. All removal and installation of goods shall be at Purchaser's expense. Boart Longyear reserves the right to reimburse Purchaser for an amount equal to the purchase price of any defective goods in lieu of providing repaired or replacement goods. Anything contained herein to the contrary notwithstanding, in no event shall Boart Longyear be liable for breach of warranty or otherwise in any manner whatsoever for: (i) normal wear and tear; (ii) corrosion, abrasion or erosion; (iii) any goods, components, parts, software or services which, following delivery or performance by Boart Longyear, has been subjected to accident, abuse, misapplication, modification, improper repair, alteration, improper installation or maintenance, neglect, or excessive operating conditions; (iv) defects resulting from Purchaser's specifications or designs or those of its contractors or subcontractors other than Boart Longyear; (v) defects associated with consumable parts or materials, the lifetime of which is shorter than the warranty period set forth in this Section; (vi) defects associated with Purchaser's specifications or designs or those of its contractors or subcontractors other than Boart Longyear; (vii) defects resulting from the manufacture, distribution, promotion or sale of Purchaser's own products; or (viii) accessories of any kind used by the Purchaser which are not manufactured by or approved by Boart Longyear.
- (d) Sourced Goods. If the defective parts or components are not manufactured by Boart Longyear, the guarantee of the manufacturer of those defective parts or components is accepted by the Purchaser and is the only guarantee given to the Purchaser in respect of the defective parts or components. Boart Longyear agrees to assign to the Purchaser on request made by the Purchaser the benefit of any warranty or entitlement to the defective parts or components that the manufacturer has granted to Boart Longyear under any contract or by implication or operation of law to the extent that the benefit of any warranty or entitlement is assignable.
- (e) Limitation on Liability. Except as provided for herein, in no event will Boart Longyear be liable for any indirect, incidental, special, consequential, punitive or similar damages including, but not limited to, lost profits, loss of data or business interruption losses. In no event will the total, aggregate liability of Boart Longyear under the Contract exceed the value of the Contract under which liability is claimed. The liability limitations shall apply even if Boart Longyear has been notified of the possibility or likelihood of such damages occurring and regardless of the form of action, whether in contract, negligence, strict liability, tort, products liability or otherwise. The parties agree that these limits of liability shall survive and continue in full force and effect despite any termination or expiration of any Contract. Any action by Purchaser against Boart Longyear must be commenced within one year after the cause of action has accrued. No employee or agent of Boart Longyear is authorized to make any warranty other than that which is specifically set forth herein. The provisions in any specification, brochure or chart issued by Boart Longyear are descriptive only and are not warranties.

IN-HOLE TOOLS

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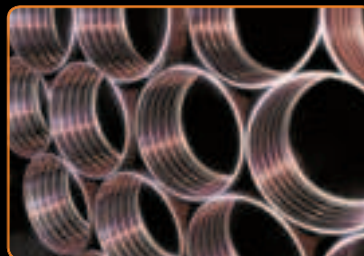
MINING AND EXPLORATION DRILLING PRODUCTS



DIAMOND PRODUCTS



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