

KRAVITCH KEYHOLE TOOLING SYSTEM

A SAMPLING OF PIKES, OPERATORS AND ADAPTERS.

MECHANICAL PIKE SYSTEM

AIR PIKE SYSTEM

OPERATORS

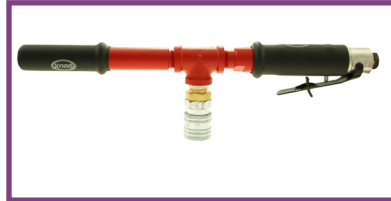
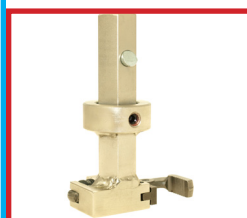
PIKE

OPERATORS

AIR
PIKE



ADAPTERS



ADAPTERS



KRAVITCH MACHINE COMPANY

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American made industrial-quality tools by skilled American workers.

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Keyhole Tooling System, a Patented **GREEN** Technology **1**

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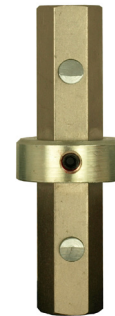
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THE MECHANICAL PIKE (patented)

The Mechanical Pike is the central piece of equipment employed in the Kravitch Keyhole Tooling System. The Pike employs a quick change system on both the Operator (top) and Adapter (bottom) ends. This quick change system facilitates the transmitting of both torsional and axial force. Mechanical Pikes can be coupled together to increase length. Various operators are available to place on the top of the Pike in order to push, place and rotate the Pike. These motions are used to operate various Tool Adapters that fit onto the bottom of the Pike. A wide assortment of Tooling Adapters are available for the bottom of the Pike. These Tooling Adapters perform different installation and repair operations on the infrastructure through the Keyhole. See the Operator and Tooling Adapter Sections to follow.

THE STANDARD MECHANICAL PIKE	
Tool Description	Tool Number
2' Lighted Pike	KHPKE24L
3' Lighted Pike	KHPKE36L
4' Lighted Pike (pictured)	KHPKE48L
5' Lighted Pike	KHPKE60L
6' Lighted Pike	KHPKE72L
7' Lighted Pike	KHPKE84L
8' Lighted Pike	KHPKE96L
Pike Coupler Joins Pikes together to extend length	KHPKECP
Pike Disconnect Tool	KHPKDT1
2' Pike (no lights)	KHPKE24
3' Pike (no lights)	KHPKE36
4' Pike (no lights)	KHPKE48
5' Pike (no lights)	KHPKE60
6' Pike (no lights)	KHPKE72
7' Pike (no lights)	KHPKE84
Mechanical Pike Connector (not pictured) (Allows Adapters which fit the Super Pike to be attached to and operated by the Mechanical Pike)	

PIKE COUPLER



PIKE DISCONNECT TOOL



OPERATORS THAT FIT ON THE TOP OF THE MECHANICAL PIKE

The Mechanical operators fit onto the top of the Mechanical Pike (patented) through a quick change connection, and are used to drive the Pike. They transmit torsional, axial, and impact force to the Pike which in turn transmits torsional, axial, and impact force to the Adapters on the bottom of the Pike.



TEE HANDLE OPERATORS Patented

The Tee Handle Operator is used to both turn and push the Mechanical Pike. It is the most versatile of the Operators.

Tool Description	Tool Number
12" Tee Handle	KHTH012
18" Tee Handle	KHTH018
24" Tee Handle	KHTH024



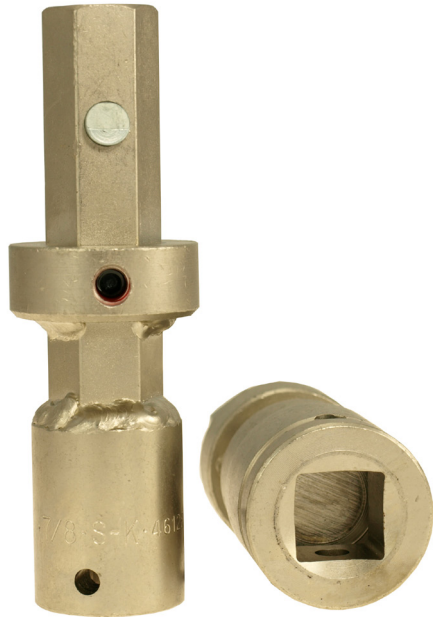
EYE OPERATORS Patented

The Eye Operator is used to both turn and push the Pike. The Eye Operator is used when working near obstructions, such as buildings, where the Tee Handle Operator cannot make a complete revolution unobstructed.

Tool Description	Tool Number
3/4" dia Eye Operator	KHEO034
3/4" dia x 24" Plain Handle	KHH3424
7/8" dia Eye Operator	KHEO078
7/8" dia x 24" Plain Handle	KHH7824
1 1/4" dia Eye Operator	KHEO114
1 1/4" dia x 24" Plain Handle	KHH1024

OPERATORS THAT FIT ON THE TOP OF THE MECHANICAL PIKE

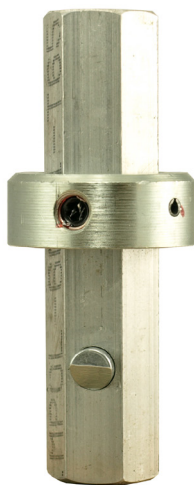
The Mechanical Operators fit onto the top of the Mechanical Pike (patented), through a quick change connection, and are used to drive the Pike. They transmit torsional, axial, and impact force to the Pike which in turn transmits torsional, axial, and impact force to the Adapters on the bottom of the Pike.



SQUARE DRIVE OPERATORS Patented

The Square Drive Female Socket Operator is used to turn and push the Pike. The Square Drive Operator is used in conjunction with ratchets, breaker bars, speed wrenches and torque wrenches.

Tool Description	Tool Number
1/2" Sq Drive Female Socket Operator	KHDO012
3/4" Sq Drive Female Socket Operator	KHDO034



POUNDING PAD OPERATOR Patented

The Aluminum Pounding Pad Operator is made of aluminum so that only **slight tapping** is done and no excessive hammering. CAUTION: Excessive pounding on the Pounding Pad may cause damage to the Pike, Valve Stem and the Valve.

Tool Description	Tool Number
Aluminum Pounding Pad Adapter	KHHHA01

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



VALVE KEY SOCKET ADAPTER Patented

The Valve Key Socket Adapter is used to operate Valves with 2" operators.

Tool Description	Tool Number
2" Plug Valve Socket Adapter	KHVS200



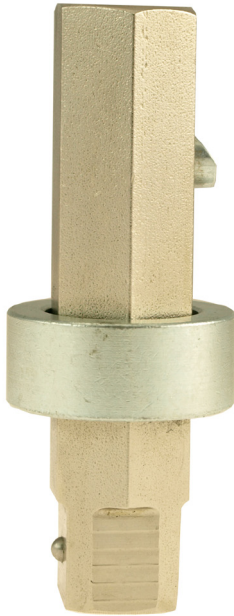
FLEXIBLE SLINKY PIKE ADAPTER Patented

The Flexible Slinky Pike Adapter is used to position other adapters to function in hard to reach places. Male end fits into Standard Mechanical Pike and female end accepts all Standard Mechanical Pike Adapters.

Tool Description	Tool Number
9" Flexible Pike Adapter	KHPKE09FA
12" Flexible Pike Adapter	KHPKE12FA
15" Flexible Pike Adapter	KHPKE15FA
18" Flexible Pike Adapter	KHPKE18FA
24" Flexible Pike Adapter	KHPKE24FA
30" Flexible Pike Adapter	KHPKE30FA
9" Flexible Pike Adapter Lighted	KHPKE09FAL
12" Flexible Pike Adapter Lighted	KHPKE12FAL
15" Flexible Pike Adapter Lighted	KHPKE15FAL
18" Flexible Pike Adapter Lighted	KHPKE18FAL
24" Flexible Pike Adapter Lighted	KHPKE24FAL
30" Flexible Pike Adapter Lighted	KHPKE30FAL

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



VERTICAL MALE SOCKET ADAPTER Patented

The Vertical Male Socket Drive Adapter accepts standard drive sockets. This adapter has an indent pin on the driver which holds the socket from falling off of the adapter. The use of impact sockets is recommended because the impact socket has a hole in which the indent pin can protrude and hold the socket from falling off of the adapter.

Tool Description	Tool Number
1/2" Vertical Male Socket Drive Adapter	KHVA012
3/4" Vertical Male Socket Drive Adapter	KHVA034



6" SPANNER WRENCH ADAPTER Patented

The 6" Spanner Wrenches are small adjustable wrenches that are used to loosen and tighten nuts that a socket cannot turn. The 6" Left Hand Spanner Wrench Adapter is used to remove eroded Giant Button Head Fittings.

Tool Description	Tool Number
6" Left Hand Spanner Wrench (pictured) (loosens in the Vertical Plane)	KHSWL06S
6" Straight Hand Spanner Wrench (loosens & tightens in the Horizontal Plane)	KHSWS06S
6" Right Hand Spanner Wrench (tightens in the Vertical Plane)	KHSWR06S

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



10" RAPIDGRIP® PIPE WRENCH ADAPTER Patented

The 10" Rapid Grip Pipe Wrench Adapters are a little larger than the 6" Spanner Wrench Adapters. The jaw is spring loaded which gives it an automatic adjustment when being attached.

Tool Description	Tool Number
10" Left Hand Pipe Wrench Adapter (Pictured) (loosens in the Vertical Plane)	KHPWL10
10" Straight Hand Pipe Wrench Adapter (loosens & tightens in the Horizontal Plane)	KHPWS10
10" Right Hand Pipe Wrench Adapter (tightens in the Vertical Plane)	KHPWR10



18" RAPIDGRIP® PIPE WRENCH ADAPTER Patented

The 18" Rapid Grip Pipe Wrench Adapter is much larger than the 10" Spanner Wrench Adapter. The jaw is spring loaded which gives it an automatic adjustment when being attached.

Tool Description	Tool Number
18" Left Hand Pipe Wrench Adapter (loosens in the Vertical Plane)	KHPWL18
18" Straight Hand Pipe Wrench Adapter (loosens & tightens in the Horizontal Plane)	KHPWS18
18" Right Hand Pipe Wrench Adapter (Pictured) (tightens in the Vertical Plane)	KHPWR18

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

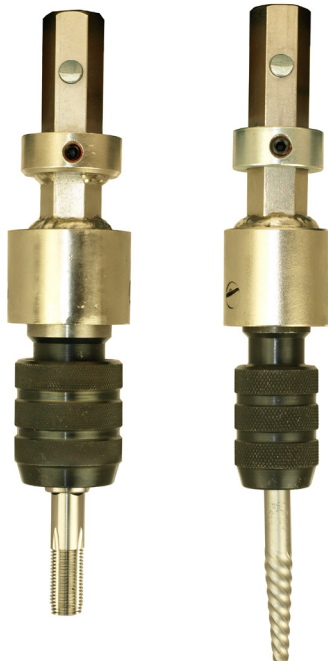
Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



DIE HEAD ADAPTER Patented

The 1 1/2" and 2" Die Head Adapter accepts all 1 1/2" and 2" dies respectively. The bolt thread range for 1 1/2" dies are from 1/4" to 3/4" and for pipe from 1/8" to 1/2". The bolt thread range for 2" dies are from 1/4" to 1" and pipe from 1/4" to 3/4".

Tool Description	Tool Number
1 1/2" Die Head Adapter	KHDHA02
2" Die Head Adapter	KHDHA03



TAP & SCREW EXTRACTOR CHUCK ADAPTER Patented

The Tap and Screw Extractor Chuck Adapters are used to hold taps and screw extractors.

Tool Description	Tool Number
Straight Tap & Extractor Size 1 (0 - 1/4" Taps)	KHTHC1S
Straight Tap & Extractor Size 2 (1/4" - 1/2" Taps)	KHTHC2S
Straight Tap & Extractor Size 3 (1/2" - 3/4" Taps)	KHTHC3S
Straight Tap & Extractor Size 4 (3/4" - 1" Taps)	KHTHC4S
Straight Tap & Extractor Size 5 (1" - 1 1/4" Taps)	KHTHC5S
Straight Tap & Extractor Size 6 (1 1/4" - 1 1/2" Taps)	KHTHC6S

Taps and Screw Extractors sold separately. See Hardware Section

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



MIRROR ADAPTER Patented

The Mirror Adapter is used to see under items in the Keyhole. Mirror head swivels to various positions.

Tool Description	Tool Number
Mirror Adapter	KHMIR01

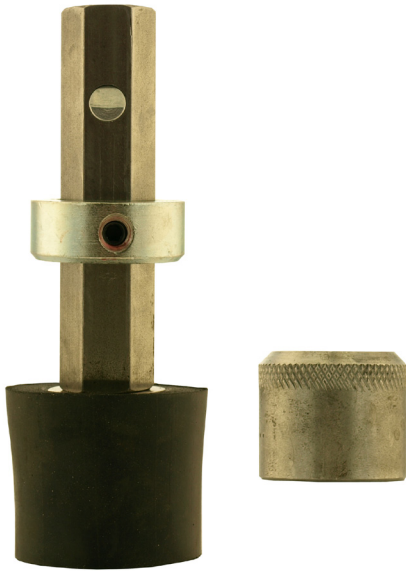


VERTICAL MAGNET ADAPTER Patented

The Vertical Magnet Adapter is used to remove steel and iron items from the valve box.

Tool Description	Tool Number
Vertical Magnet Adapter	KHMGV04

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE



STEEL PIPE CAP MAGNETIC SOCKET ADAPTERS

Patented

The Steel Pipe Cap Magnetic Socket Adapter is used to install and remove steel pipe caps. Other sizes available upon request.

Tool Description	Tool Number
3/4" Steel Pipe Cap Socket Adapters	KH34CIA
1" Steel Pipe Cap Socket Adapters	KH10CIA
1 1/4" Steel Pipe Cap Socket Adapter	KH114CIA

TAPERED PIPE PLUG MAGNETIC SOCKET ADAPTER

Patented

The Tapered Pipe Plug Magnetic Socket Adapter is used to install and remove tapered pipe plugs.

Tool Description	Tool Number
1/2" Tapered Pipe Plug Socket Adapter	KHPP012T
3/4" Tapered Pipe Plug Socket Adapter	KHPP034T
1" Tapered Pipe Plug Socket Adapter	KHPP100T
1 1/4" Tapered Pipe Plug Socket Adapter	KHPP114T
1 1/2" Tapered Pipe Plug Socket Adapter	KHPP112T
2" Tapered Pipe Plug Socket Adapter	KHPP200T
2 1/2" Tapered Pipe Plug Socket Adapter	KHPP212T



CAST IRON PIPE CAP MAGNETIC SOCKET ADAPTERS

Patented

The Cast Iron Pipe Cap Magnetic Socket Adapter is used to install and remove cast iron pipe caps.

Tool Description	Tool Number
1/2" Cast Iron Pipe Cap Magnetic Socket Adapter	KHPCSA12
3/4" Cast Iron Pipe Cap Magnetic Socket Adapter	KHPCSA34
1" Cast Iron Pipe Cap Magnetic Socket Adapter	KHPCSA10
1 1/4" Cast Iron Pipe Cap Magnetic Socket Adapter	KHPCSA114
1 1/2" Cast Iron Pipe Cap Magnetic Socket Adapter	KHPCSA112
2" Cast Iron Pipe Cap Magnetic Socket Adapter	KHPCSA20

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ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

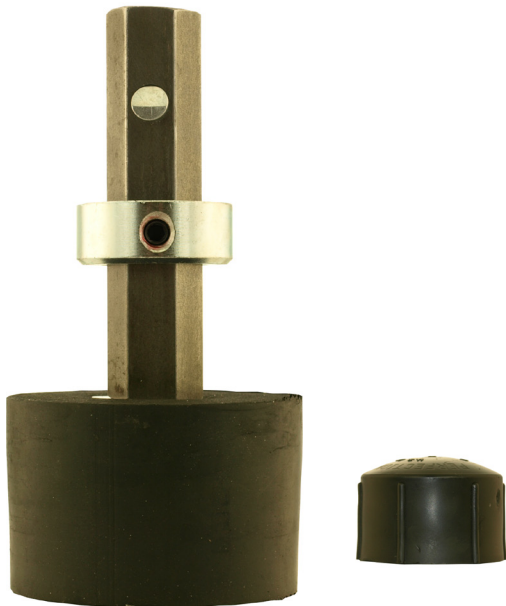
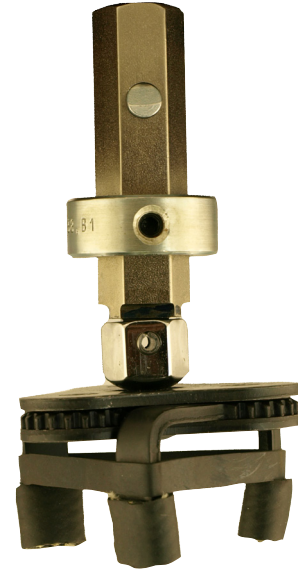
Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.

UNIVERSAL PLASTIC CAP SOCKET ADAPTER

Patented

The Universal Cap Socket Adapter can be safely used to remove and install various plastic caps. The soft jaws will not mar the plastic.

Tool Description	Tool Number
Universal Cap Socket Adapter	KHUCT01
Retaining Bands, set of 5	KHUCT01RBK
Black Replacement Prongs, set of 3	KHUCT01TIP



PLASTIC PIPE CAP SOCKET ADAPTERS

Patented

The Plastic Pipe Cap Socket Adapter is used to install and remove plastic pipe caps.

Tool Description	Tool Number
Please specify cap size.	

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



SHALLOW MAGNETIC SOCKET ADAPTER Patented

The Shallow Magnetic Socket Adapter is used to install and remove bolts. Other sizes available upon request.

Tool Description	Tool Number
7/8" Shallow Magnetic Socket Adapter	KHSW078
1 1/8" Shallow Magnetic Socket Adapter	KHSW118



DEEPWELL MAGNETIC SOCKET ADAPTER Patented

The Deepwell Magnetic Socket Adapter is used to remove nuts on bolts with long thread length.

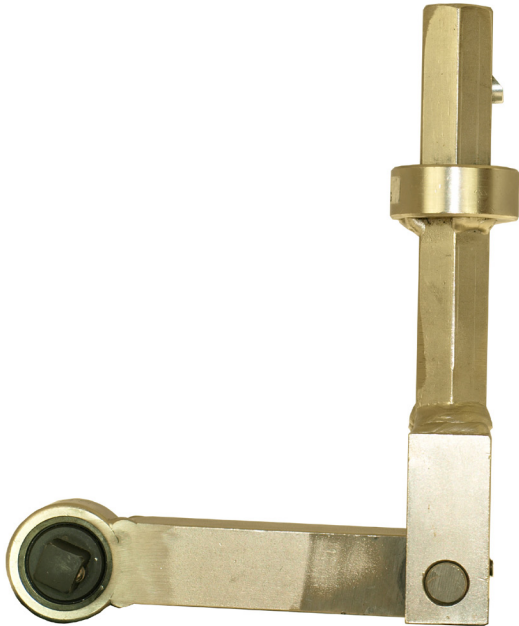
Tool Description	Tool Number
Deepwell Socket Adapter 1 1/16" x 6"	KHDW1116
Deepwell Socket Adapter 1 1/8" x 6"	KHDW1180

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ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



DRIVE RATCHET ADAPTER^{Patented}

The Drive Ratchet Adapter is used to install and remove threaded hardware that is horizontal in the Keyhole. 3/8" & 3/4" sizes available upon request.

Tool Description	Tool Number
1/2" Drive Ratchet Adapter with 2" Arm	KHRA122
1/2" Drive Ratchet Adapter with 3" Arm	KHRA123
1/2" Drive Ratchet Adapter with 4" Arm	KHRA124
1/2" Drive Ratchet Adapter with 5" Arm	KHRA125
1/2" Drive Ratchet Adapter with 6" Arm	KHRA126
1/2" Drive Ratchet Adapter with 7" Arm	KHRA127
1/2" Drive Ratchet Adapter with 8" Arm	KHRA128

PIPE THREADER ADAPTER^{Patented}

The Pipe Threader Adapter is used to thread horizontal pipes in the Keyhole. 00R Threader Adapter has range of 1/8" to 1". 12R Threader Adapter has range of 1/8" to 2" (pictured)



Tool Description	Tool Number
00R Pipe Threader Adapter with 4" Arm	KHPT00R4
00R Pipe Threader Adapter with 5" Arm	KHPT00R5
00R Pipe Threader Adapter with 6" Arm	KHPT00R6
00R Pipe Threader Adapter with 7" Arm	KHPT00R7
00R Pipe Threader Adapter with 8" Arm	KHPT00R8
12R Pipe Threader Adapter with 4" Arm	KHPT12R4
12R Pipe Threader Adapter with 5" Arm	KHPT12R5
12R Pipe Threader Adapter with 6" Arm	KHPT12R6
12R Pipe Threader Adapter with 7" Arm	KHPT12R7
12R Pipe Threader Adapter with 8" Arm	KHPT12R8

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



PIPE CUTOFF ADAPTER Patented

The Pipe Cutoff Adapter is used to cut pipe and tubing.

Tool Description	Tool Number
Pipe Cutoff Adapter, 3/4-2" PE Pipe	KHPEC3420
Pipe Cutoff Adapter, 3/4-2" Steel Pipe	KHSTC3420
Pipe Cutoff Adapter, 2 1/2-4" PE Pipe	KHPEC2124
Pipe Cutoff Adapter, 2 1/2-4" Steel Pipe	KHSTC2124



PIPE CHAMFERING ADAPTER Patented

The Pipe Chamfering Adapter is used to chamfer steel pipe from 1/2 to 2" pipe diameter.

Tool Description	Tool Number
Pipe Chamfering Adapter	KHDBA122

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

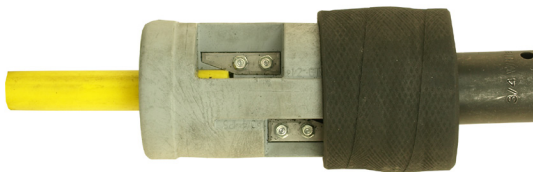
Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



TUBING CUTOFF TOOL ADAPTER Patented

The Tubing Cutoff Tool Adapter is used to cut tubing from 1/8 to 1 1/8" diameter.

Tool Description	Tool Number
Tubing Cutoff Tool Adapter	KHPTCA118



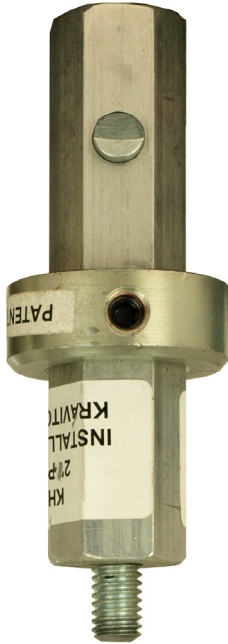
TUBING CHAMFERING TOOL ADAPTER Patented

Requires the Drive Ratchet Adapter or Air Ratchet Adapter to operate. Please specify 3/8" or 1/2" drive size.

Tool Description	Tool Number
Tubing Chamfering Tool Adapter	KHTCA01

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



THREADED INSTALLATION TOOL ADAPTER

Patented

The Threaded Installation Tool Adapter is used to install devices in the Keyhole. This Adapter facilitates detaching the Pike from the installed device.

Tool Description	Tool Number
Threaded Installation Tool Adapter-10-24 Male Thread	KHAPCM10
Threaded Installation Tool Adapter-1/4-20 Male Thread	KHAPCM14
Threaded Installation Tool Adapter-5/16-18 Male Thread	KHAPCM56
Threaded Installation Tool Adapter -3/8-16 Male Thread	KHAPCM38
Threaded Installation Tool Adapter-7/16-14 Male Thread	KHAPCM76
Threaded Installation Tool Adapter-1/2-13 Male Thread	KHAPCM12
Threaded Installation Tool Adapter-5/8-11 Male Thread	KHAPCM58



J HOOK ADAPTER

Patented

The J Hook is used to hook items in the Keyhole.

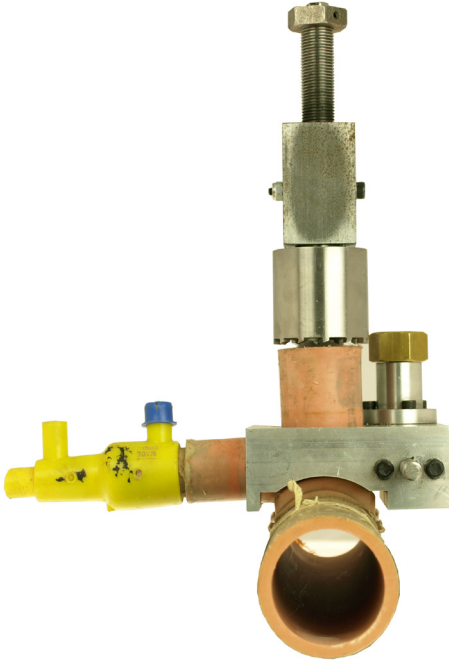
Tool Description	Tool Number
J Hook Adapter, 1/2" Diameter x 6"	KHJH1206

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ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE

Tooling Adapters fit onto the bottom of the Pike through a quick change connection. They are used to perform installation and repair functions through the Keyhole.



ALDYL A® TEE SCRAPER ADAPTER^{Patented}

The Aldyl A® Tee Scraper Adapter is used to resize Aldyl A® Tee chimneys so that a fusion fitting can be installed in order to seal the chimney of the Tee.

Tool Description	Tool Number
Aldyl A® Tee Scraper	KHALSC01

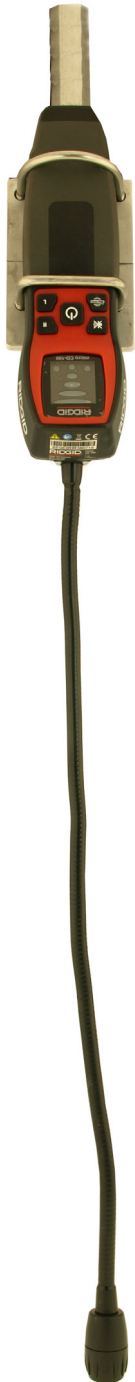


PE PIPE SCRAPER ADAPTER^{Patented}

The PE Pipe Scraper Adapter is used to scrape the outside of a 2" PE pipe prior to installing a Fusion Tee. Other sizes available upon request.

Tool Description	Tool Number
2" PE Scraper	KHPESC200
PE Scraper Driver	KHPESCDR

ADAPTERS THAT FIT ON THE BOTTOM OF THE MECHANICAL PIKE



COMBUSTIBLE LEAK DETECTOR Patented

The Combustible Leak Detector Adapter is used to detect the presence of combustible gas in the keyhole. It must be used prior to placing any spark producing tools in areas where combustible gas may be present. The Combustible Leak Detector is simple to use and inexpensive to operate. Manual included with every purchase. (Uses AAA batteries which are included.)

Tool Description	Tool Number
Combustible Leak Detector	KHGLD1

CAMERA PIKE

CAMERA PIKE Patented

The Camera Pike is used to visually observe work as well as document work being done in a keyhole. Please note: The Camera Pike is not currently rated as a Class 1 Div 1 Tool. Please check the area for combustibles before use. (Please see our Combustible Gas Detector Adapter on the opposite page.) The Camera Pike allows users to record digital photographs as well as video with audio recordings. These images and audio can be stored on an SD Card or transferred to a computer via a USB port. The user can add text and audio to the digital photographs and video. A 90 degree view can be achieved with a mirror which attaches to the end of the Camera Pike. (See Camera Pike Accessories.)



Tool Description	Tool Number
6' Camera Pike	KHCAMPKE06
9' Camera Pike	KHCAMPKE09
12' Camera Pike	KHCAMPKE12
Camera Pike Accessories	
Camera Pike Extension, includes 3' of Camera Cable (Not Pictured)	KHCAMPEXT03
Universal Cable Extension, 3'	KHCAMUCE3
Camera Pike Stabilizer	KHCAMPKESB
Used to hold Camera Pike steady while viewing through a keyhole	
Mirror Attachment	KHCAMMIR01
Enables a 90 degree view.	
Replacement Camera Head (includes 3' of Camera Cable)	KHCAMR01
Audio Memo Recorder	KHCAMAMR01
Micro Explorer Digital Inspection Camera, includes 3' Camera (Pike not included).	KHCAM01



**3' UNIVERSAL CABLE
EXTENSION**



STABILIZER



MIRROR

THE AIR PIKE (patented)

The Air Pike facilitates the use of Air Tools through the Keyhole. The Air Pike employs a quick change coupling on both the Operator (top) and Adapter (bottom) ends. Air Pikes can be coupled together to increase length. NOTE: the quick change coupling does not permit relative rotation between the Operator and the Pike and the Adapter and the Pike. These motions are used to operate various Tool Adapters that fit onto the bottom of the Air Pike. A wide assortment of Tooling Adapters are available for the bottom of the Air Pike. These Tooling Adapters perform different installation and repair operations on the infrastructure through the Keyhole. See the Operator and Tooling Adapter Sections to follow.

THE AIR PIKE Patented	
Tool Description	Tool Number
2' Lighted Air Pike	KHHAP24L
3' Lighted Air Pike	KHHAP36L
4' Lighted Air Pike (pictured)	KHHAP48L
5' Lighted Air Pike	KHHAP60L
6' Lighted Air Pike	KHHAP72L
7' Lighted Air Pike	KHHAP84L
8' Lighted Air Pike	KHHAP96L
2' Air Pike (no lights)	KHHAP24
3' Air Pike (no lights)	KHHAP36
4' Air Pike (no lights)	KHHAP48
5' Air Pike (no lights)	KHHAP60
6' Air Pike (no lights)	KHHAP72
7' Air Pike (no lights)	KHHAP84
8' Air Pike (no lights)	KHHAP96



OPERATORS THAT FIT ON THE TOP OF THE AIR PIKE

The Air Power Operators fit onto the top of the Air Pike through a quick change coupling. The Air Power Operators control the air supply to the Air Tool Adapters. The Air Power Operators also control the location and management of the Air Tool Adapters. Both the Air Tee Handle and The Air Parallel Handle are easily changed through the quick change connection. NOTE: The quick change adapter does not permit relative rotation between the Handle and Air Pike.



AIR PARALLEL HANDLE Patented

The Air Parallel Handle fits on the top of the Air Pike. It is interchangeable with the Air Tee Handle.

Tool Description	Tool Number
Air Tee Handle	KHAPTH1



AIR TEE HANDLE Patented

The Air Tee Handle fits on top of Air Pike. It is interchangeable with the Air Parallel Handle.

Tool Description	Tool Number
Air Tee Handle	KHAPPH1

ADAPTERS THAT FIT ON THE BOTTOM OF THE AIR PIKE

Air Tool Adapters fit onto the bottom of the Air Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



1/2" AIR DRILL ADAPTER Patented

Tool Description	Tool Number
1/2" Air Drill Adapter	KHADAAA
1 hp Air Motor	
1/2" diameter Drill capacity	
Brass Brush & Drill Bit sold separately.	



AIR RATCHET ADAPTER Patented

The Air Ratchet Adapter is used as a right angle power ratchet to loosen or tighten bolts that are parallel to the ground.

Tool Description	Tool Number
3/8" Air Ratchet Adapter	KHRAR38
1/2" Air Ratchet Adapter	KHRAR12

ADAPTERS THAT FIT ON THE BOTTOM OF THE AIR PIKE

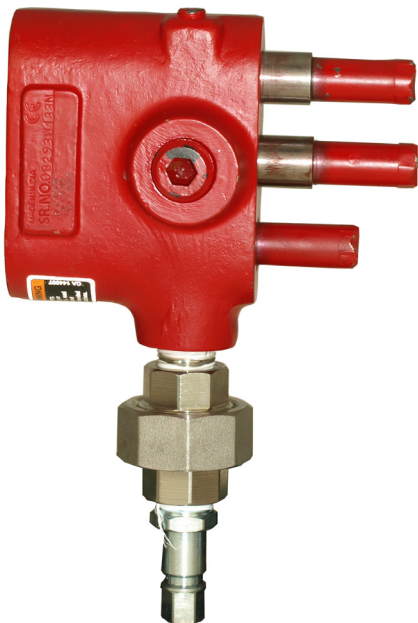
Air Tool Adapters fit onto the bottom of the Air Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



SCALER ADAPTER Patented

The Air Scaler is used to clean off buried items such as pipes, valves, etc. The Scaler End comes off and a chisel can be inserted. Chisel sold separately.

Tool Description	Tool Number
Air Scaler Adapter	KHASCAA



SCABLER ADAPTER Patented

The Scabler Adapter is used to clean off buried items such as pipes, valves, etc.

Tool Description	Tool Number
Air Scabler Adapter- 3 Prong (pictured)	KHASBAA
Air Scabler Adapter - 1 Prong	KHASBA1

ADAPTERS THAT FIT ON THE BOTTOM OF THE AIR PIKE

Air Tool Adapters fit onto the bottom of the Air Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



FACE GRINDER ADAPTER Patented

The Face Grinder Adapter is used to clean pipe before Cad Weld®.

Tool Description	Tool Number
Face Grinder Adapter	KHAFGAA



RIGHT ANGLE GRINDER ADAPTER Patented

The Right Angle Grinder Adapter is used to clean pipe before Cad Weld®.

Tool Description	Tool Number
Right Angle Grinder Adapter	KHARGAA

ADAPTERS THAT FIT ON THE BOTTOM OF THE AIR PIKE

Air Tool Adapters fit onto the bottom of the Air Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



RIGHT ANGLE DIE GRINDER ADAPTER Patented

Shown with PE Pipe Cutoff Wheel (sold separately)

Tool Description	Tool Number
Right Angle Die Grinder Adapter	KHARDAA



DIE GRINDER WITH CUTOFF WHEEL ADAPTER Patented

Patented

The Die Grinder is used to cut off bolts and other items in Keyhole.

Tool Description	Tool Number
Die Grinder with Cutoff Wheel Adapter	KHDGCWA

ADAPTERS THAT FIT ON THE BOTTOM OF THE AIR PIKE

Air Tool Adapters fit onto the bottom of the Air Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



HEAVY DUTY SAW ADAPTER Patented

The Heavy Duty Saw Adapter is used to make cuts in the Keyhole.

Tool Description	Tool Number
Heavy Duty Air Saw Adapter	KHASAAA



FEIN SAW ADAPTER Patented

The Fein Saw Adapter is used to cut up to 24" diameter pipe.

Tool Description	Tool Number
Fein Saw Adapter	KHFSA1

ADAPTERS THAT FIT ON THE BOTTOM OF THE AIR PIKE

Air Tool Adapters fit onto the bottom of the Air Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



FEIN PULSATING SAW ADAPTER Patented

The Fein Pulsating Saw Adapter is used to cut and scrape soft materials.

Tool Description	Tool Number
Fein Saw Adapter	KHFSA2

SUPER PIKE (Patented)

The Super Pike is used for very severe applications. The Super Pike comes in two configurations: female coupling each end (pictured) or Long Eye Operator on top and female socket on the bottom. Operators and Adapters similar to those pictured above for the Standard Mechanical Pike are also available for the Super Pike.

SUPER PIKE Patented

Used for Extra Heavy Duty Service in the Keyhole. Super Pikes can be coupled together to increase length.

Long Eye Super Pike is also available. (The Long Eye is permanently attached and not removable unlike the removable Long Eye Operator.)

Tool Description	Tool Number
2' Super Pike	KHSPK24
3' Super Pike	KHSPK36
4' Super Pike	KHSPK48
5' Super Pike	KHSPK60
6' Super Pike	KHSPK72
7' Super Pike	KHSPK84
8' Super Pike	KHSPK96
2' Super Pike with Lights	KHSPK24L
3' Super Pike with Lights	KHSPK36L
4' Super Pike with Lights	KHSPK48L
5' Super Pike with Lights	KHSPK60L
6' Super Pike with Lights	KHSPK72L
7' Super Pike with Lights	KHSPK84L
8' Super Pike with Lights	KHSPK96L
Super Pike Connector (Allows Adapters which fit the Mechanical Pike to be attached to and operated by the Super Pike)	



OPERATORS THAT FIT ON THE TOP OF THE SUPER PIKE

The Super Pike Operators fit onto the top of the Super Pike (patented), through a quick change connection, and are used to drive the Super Pike. They transmit torsional, axial, and impact force to the Super Pike which in turn transmits torsional, axial, and impact force to the Adapters on the bottom of the Pike.



LONG EYE OPERATOR Patented

The Long Eye Operator is used to both turn and push the Pike.

Tool Description	Tool Number
Long Eye Operator	KHLEOSP



BREAKER BAR Patented

The Breaker Bar is used to both turn and push the Pike.

Tool Description	Tool Number
1" Breaker Bar operates Super Pike	KHBBSP

OPERATORS THAT FIT ON THE TOP OF THE SUPER PIKE

The Super Pike Operators fit onto the top of the Super Pike (patented), through a quick change connection, and are used to drive the Super Pike. They transmit torsional, axial, and impact force to the Super Pike which in turn transmits torsional, axial, and impact force to the Adapters on the bottom of the Pike.



TEE HANDLE FOR SUPER PIKE^{Patented}

The Tee Handle Operator is used to both turn and push the Mechanical Pike. It is the most versatile of the Operators.

Tool Description	Tool Number
24" Super Pike Tee Handle	KHTH024SP
30" Super Pike Tee Handle	KHTH030SP
36" Super Pike Tee Handle	KHTH036SP

ADAPTERS THAT FIT ON THE BOTTOM OF THE SUPER PIKE

Super Pike Adapters fit onto the bottom of the Super Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



VALVE KEY SOCKET ADAPTER Patented

The Valve Key Socket Adapter is used to operate valves with 2" operators.

Tool Description	Tool Number
2" Plug Valve Socket Adapter	KHVS200SP

Photo

Unavailable

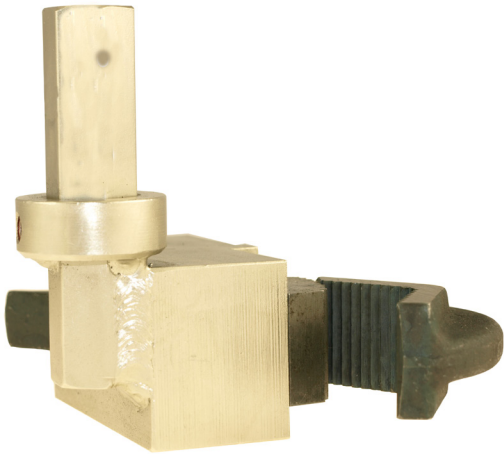
VERTICAL MALE SOCKET ADAPTERS Patented

The Vertical Male Socket Drive Adapter accepts standard drive sockets. This adapter has an indent pin on the driver which holds the socket from falling off of the Adapter. The use of impact sockets is recommended because the impact socket has a hole in which the indent pin can protrude and hold the socket from falling off of the adapter.

Tool Description	Tool Number
3/4" Vertical Male Socket Drive Adapter	KHVA034SP
1" Vertical Male Socket Drive Adapter	KHVA100SP
1 1/2" Vertical Male Socket Drive Adapter	KHVA112SP

ADAPTERS THAT FIT ON THE BOTTOM OF THE SUPER PIKE

Super Pike Adapters fit onto the bottom of the Super Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



18" RAPID GRIP PIPE WRENCH ADAPTER Patented

The 18" Rapid Grip Pipe Wrench Adapter jaw is spring loaded which gives it an automatic adjustment when being attached.

Tool Description	Tool Number
18" Left Hand Pipe Wrench Adapter (pictured) (loosens in the Vertical Plane)	KHPWL18SP
18" Straight Hand Pipe Wrench Adapter (loosens & tightens in the Horizontal Plane)	KHPWS18SP
18" Right Hand Pipe Wrench Adapter (tightens in the Vertical Plane)	KHPWR18SP



TAP & SCREW EXTRACTOR CHUCK ADAPTER Patented

The Tap and Screw Extractor Chuck Adapters are used to hold taps and screw extractors.

Tool Description	Tool Number
Straight Tap & Extractor Size 5 (1" - 1 1/4" Taps)	KHTHC5SSP
Straight Tap & Extractor Size 6 (1 1/4" - 1 1/2" Taps)	KHTHC6SSP
Taps and Screw Extractors sold separately. See Hardware Section	

ADAPTERS THAT FIT ON THE BOTTOM OF THE SUPER PIKE

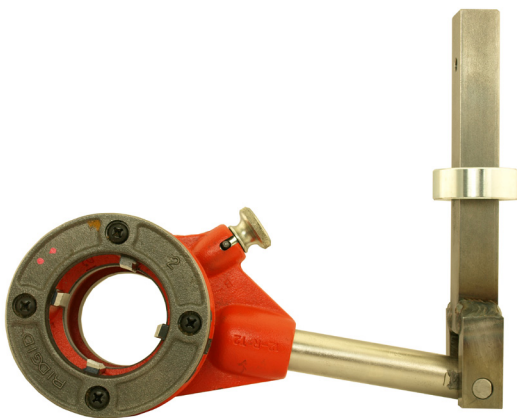
Super Pike Adapters fit onto the bottom of the Super Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



TAPERED PIPE PLUG MAGNETIC SOCKET ADAPTER- Patented

The Tapered Pipe Plug Magnetic Socket Adapter is used to install and remove tapered pipe plugs.

Tool Description	Tool Number
1 1/4" Tapered Pipe Plug Socket Adapter	KHPP114TSP
1 1/2" Tapered Pipe Plug Socket Adapter	KHPP112TSP
2" Tapered Pipe Plug Socket Adapter	KHPP200TSP
2 1/2" Tapered Pipe Plug Socket Adapter	KHPP212TSP



PIPE THREADER ADAPTER Patented

The Pipe Threader Adapter is used to thread horizontal pipes in keyhole. 12R Threader Adapter has a range of 1/8" to 2".

Tool Description	Tool Number
12R Pipe Threader Adapter with 4" Arm	KHPT12R4SP
12R Pipe Threader Adapter with 5" Arm	KHPT12R5SP
12R Pipe Threader Adapter with 6" Arm	KHPT12R6SP
12R Pipe Threader Adapter with 7" Arm	KHPT12R7SP
12R Pipe Threader Adapter with 8" Arm	KHPT12R8SP

ADAPTERS THAT FIT ON THE BOTTOM OF THE SUPER PIKE

Super Pike Adapters fit onto the bottom of the Super Pike through a quick change coupling. They are used to perform installation and repair functions through the Keyhole.



BOTTLE SOCKET ADAPTER Patented

The Bottle Socket is used to remove service tees.

Tool Description	Tool Number
Bottle Socket for 1 1/4" Service Tee	KHBS114
Bottle Socket for 1 1/2" Service Tee	KHBS112
Bottle Socket for 2" Service Tee	KHBS200
Bottle Socket for 2 1/2" Service Tee	KHBS212



U SOCKET ADAPTER Patented

The U Socket Adapter is used to remove service tees.

Tool Description	Tool Number
U Socket fits several size Service Tees	KHUS001

THE RIGHT ANGLE DRIVE



The patented Right Angle Drive is used to remove bolts and nuts that are out of position. The Right Angle Drive accepts any 1/2" Square drive socket attachments such as sockets, screw drivers etc.. Patent No.: 7,347,124 B1

THE RIGHT ANGLE DRIVE	
Tool Description	Tool Number
4' Right Angle Drive	KHLRD04
5' Right Angle Drive	KHLRD05
6' Right Angle Drive	KHLRD06
7' Right Angle Drive	KHLRD07
8' Right Angle Drive	KHLRD08
9' Right Angle Drive	KHLRD09
10' Right Angle Drive	KHLRD10

CATHODIC PROTECTION



CADWELD® IGNITER ADAPTER Patented

KMC employs the Erico® Cadweld® Plus System to install exothermically welded connections through the keyhole.

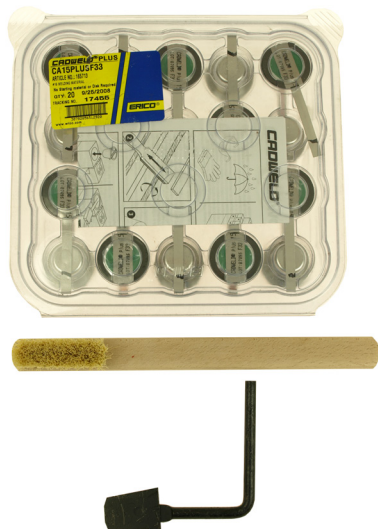
Tool Description	Tool Number
Igniter with 6' Cord (uses 5' Standard Mechanical Pike)	KHIG072
Igniter with 15' Cord (uses up to 14' of Standard Mechanical Pike)	KHIG180



CADWELD® MOLD ADAPTER Patented

KMC employs the Erico® Cadweld® Plus System to install exothermically welded connections through the keyhole. Other Molds available for other Material such as Cast Iron.

Tool Description	Tool Number
Steel Pipe Mold 3/4" - 3 1/2" Diameter Pipe	KHMOL01
Steel Pipe Mold 4"+ Diameter Pipe	KHMOL02

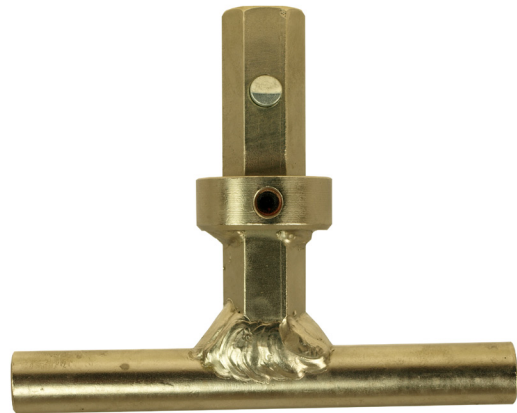
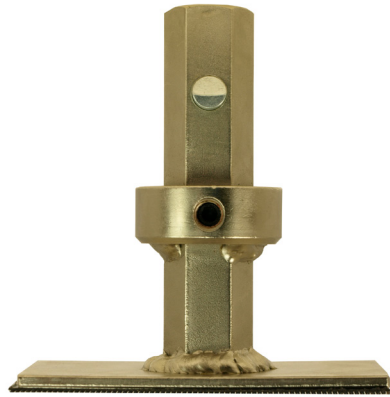
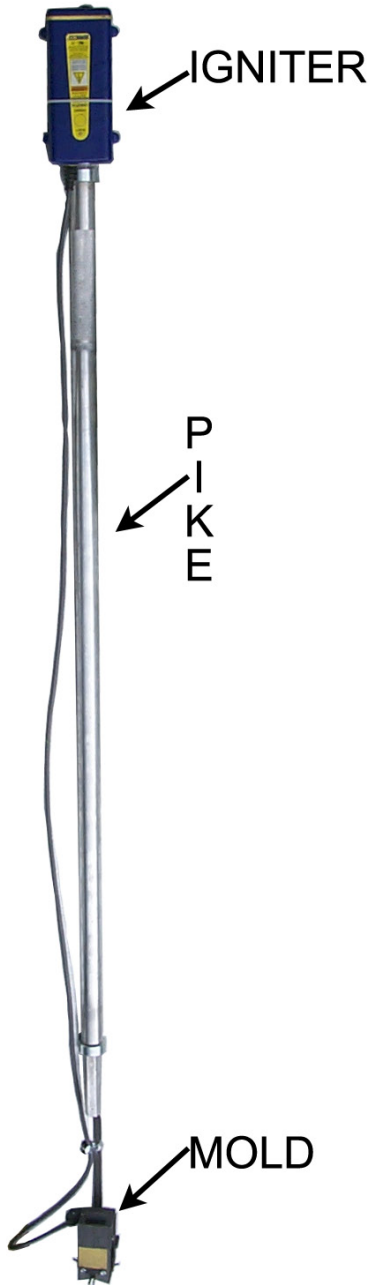


CADWELD® ACCESSORIES

Charges for steel pipe. Other Charges available for pipe materials such as cast iron .

Tool Description	Tool Number
20-Pack Charges CA15PLUS33	KHCWP15
Mold Cleaner Brush	KHMOLB1
Mold Cleaner Scraper	KHMOLS1

CATHODIC PROTECTION



PATCH PAD INSTALLATION AND FINISHING ADAPTERS

Patented

Tool Description	Tool Number
Trenton Patch Pad Installation Adapter (Shown)	KHPPA01
Handi Cap Patch Pad Installation Adapter (not shown)	KHPPA02
Patch Pad Finishing Tool Adapter (Shown)	KHPFT01

EXTENDED LENGTH LOCKING PLIERS

The Standard Locking Plier is comprised of a shank onto which a single plier jaw end is permanently attached. It accommodates only one wrench model. (Pictured is the Straight Jaw). Add the jaw end tool number to the shank tool number to complete the tool when ordering.

STANDARD LOCKING PLIER MODEL



STANDARD LOCKING PLIER SHANK TABLE

Please select the appropriate jaw end to be permanently attached to the Standard Locking Plier. The jaw end tool number from the table below should be attached in place of the xxxx listed here.

Tool Description	Tool Number without Lights	Tool Number with Lights
1' Standard Locking Plier	KHLPF12+xxxx	KHLPF12L+xxxx
2' Standard Locking Plier	KHLPF24+xxxx	KHLPF24L+xxxx
3' Standard Locking Plier	KHLPF36+xxxx	KHLPF36L+xxxx
4' Standard Locking Plier	KHLPF48+xxxx	KHLPF48L+xxxx
5' Standard Locking Plier	KHLPF60+xxxx	KHLPF60L+xxxx
6' Standard Locking Plier	KHLPF72+xxxx	KHLPF72L+xxxx
7' Standard Locking Plier	KHLPF84+xxxx	KHLPF84L+xxxx
8' Standard Locking Plier	KHLPF96+xxxx	KHLPF96L+xxxx

STANDARD LOCKING PLIER JAW END TABLE Patent Pending

Please select the appropriate jaw end tool number below and place it at the end of the shank tool number above to complete the tool when ordering.

DESCRIPTION	TOOL NUMBER	DESCRIPTION	TOOL NUMBER
Bent Long Nose	6BN	PIPE GRIPPING JAW ENDS	
Curved Jaw, 7"	7CR	Used to hold plastic pipe. Pictured with only one size but available with multiple sizes. See list below. Other sizes available upon request.	
Curved Jaw, 10"	10CR		
Curved Jaw w/ Wire Cutter, 4"	4WR		
Curved Jaw w/ Wire Cutter, 5"	5WR	1/2" CTS	12C
Curved Jaw w/ Wire Cutter, 7"	7WR	3/4" CTS	34C
Curved Jaw w/ Wire Cutter, 10"	10WR	1" CTS	100C
Large Jaw, 6"	6LC	1" IPS	100I
Large Jaw, 12"	12LC	1 1/4" IPS	114I
Locking Jaw, 4"	4LW	2" IPS	200I
Locking Jaw, 7"	7LW	1/2" IPS + 3/4" IPS	1/2I34I
Locking Jaw, 10"	10LW	1/2" IPS + 1" IPS	12I100I
Long Nose, 4"	4LN	3/4" IPS + 1" IPS	34I100I
Long Nose, 6"	6LN	1/2" CTS + 3/4" IPS	12C34I
Long Nose, 9"	9LN	1/2" CTS + 1" CTS	12C100I
Straight Jaw, 7"	7R	1/2" CTS + 3/4" CTS + 1" CTS	12C34C100C
Straight Jaw, 10" (pictured)	10R		
Locking C Clamp, 6"	CG		
Locking C Clamp, 11"	C11		

EXTENDED LENGTH LOCKING PLIERS

The Interchangeable Locking Plier is comprised of a shank onto which different jaw ends can be interchanged. To place an order for an Interchangeable Locking Plier, first select the shank with or without lights, then select the desired length. Select the appropriate jaw end(s) from the Interchangeable Locking Plier Jaw End Table below.

INTERCHANGEABLE LOCKING PLIER SHANK TABLE

Patent Pending

Please select the appropriate length below. The Interchangeable jaw ends are sold separately. Please see table below.

Tool Description	Tool Number without Lights	Tool Number with Lights
1' Interchangeable Locking Plier	KHLPI12+xxxx	KHLPI12L+xxxx
2' Interchangeable Locking Plier	KHLPI24+xxxx	KHLPI24L+xxxx
3' Interchangeable Locking Plier	KHLPI36+xxxx	KHLPI36L+xxxx
4' Interchangeable Locking Plier	KHLPI48+xxxx	KHLPI48L+xxxx
5' Interchangeable Locking Plier	KHLPI60+xxxx	KHLPI60L+xxxx
6' Interchangeable Locking Plier	KHLPI72+xxxx	KHLPI72L+xxxx
7' Interchangeable Locking Plier	KHLPI84+xxxx	KHLPI84L+xxxx
8' Interchangeable Locking Plier	KHLPI96+xxxx	KHLPI96+xxxx

INTERCHANGEABLE LOCKING PLIER MODEL



INTERCHANGEABLE LOCKING PLIER JAW END TABLE

Patent Pending

The Interchangeable Jaw Ends fit into the Interchangeable Locking Plier Shank listed above. Select as many jaw ends as needed.

DESCRIPTION	TOOL NUMBER	DESCRIPTION	TOOL NUMBER
Bent Long Nose	KHLPA06BN	PIPE GRIPPING JAW ENDS Used to hold plastic pipe. Pictured with only one size but available with multiple sizes. See list below. Other sizes available upon request.	
Curved Jaw, 7"	KHLPA07CR		
Curved Jaw, 10"	KHLPA10CR		
Curved Jaw w/ Wire Cutter, 4"	KHLPA04WR		
Curved Jaw w/ Wire Cutter, 5"	KHLPA05WR	1/2" CTS	KHAVJ12C
Curved Jaw w/ Wire Cutter, 7"	KHLPA07WR	3/4" CTS	KHAVJ34C
Curved Jaw w/ Wire Cutter, 10"	KHLPA10WR	1" CTS	KHAVJ10C
Large Jaw, 6"	KHLPA06LC	1/2" IPS	KHAVJ12I
Large Jaw, 12"	KHLPA12LC	3/4" IPS	KHAVJ34I
Locking Jaw, 4"	KHLPA04LW	1" IPS	KHAVJ10I
Locking Jaw, 7"	KHLPA07LW	1 1/4" IPS	KHAVJ14I
Locking Jaw, 10"	KHLPA10LW	2" IPS	KHAVJ20I
Long Nose, 4"	KHLPA04LN	1/2" IPS + 3/4" IPS	KHAVJ12I34I
Long Nose, 6"	KHLPA06LN	1/2" IPS + 1" IPS	KHAVJ12I10I
Long Nose, 9"	KHLPA09LN	3/4" IPS + 1" IPS	KHAVJ34I10I
Straight Jaw, 7"	KHLPA007R	1/2" CTS + 3/4" CTS + 1" CTS	KHAVJ12C34C10C
Straight Jaw, 10" (pictured)	KHLPA010R		
Locking C Clamp, 6"	KHLPA00CG		
Locking C Clamp, 11"	KHLPA0C11		

STRAIGHT JAW END

PIPE GRIPPING JAWS



KEYHOLE CLEANOUT TOOLS

KEYHOLE CLEANOUT TOOLS

The Duckbill, Small Clamshell and Large Clamshell Cleanout Tools are used to clean out debris around buried infrastructure.

VALVE BOX CLEANOUT TOOLS

Tool Description	Tool Number
4' Duckbill Cleanout Tool	CT10648
5' Duckbill Cleanout Tool	CT10660
6' Duckbill Cleanout Tool	CT10672
7' Duckbill Cleanout Tool	CT10684
8' Duckbill Cleanout Tool	CT10696
4' Small Clamshell Cleanout Tool	CT11048
5' Small Clamshell Cleanout Tool	CT11060
6' Small Clamshell Cleanout Tool	CT11072
7' Small Clamshell Cleanout Tool	CT11084
8' Small Clamshell Cleanout Tool	CT11096
4' Large Clamshell Cleanout Tool	CT10948
5' Large Clamshell Cleanout Tool	CT10960
6' Large Clamshell Cleanout Tool	CT10972
7' Large Clamshell Cleanout Tool	CT10984
8' Large Clamshell Cleanout Tool	CT10996



TWEEZER TONG

TWEEZER TONG

TWEEZER TONG	
Tool Description	Tool Number
4' Tweezer Tong	CT10548
5' Tweezer Tong	CT10560
6' Tweezer Tong	CT10572
7' Tweezer Tong	CT10584
8' Tweezer Tong	CT10596
4' Tweezer Tong Lighted	CT10548L
5' Tweezer Tong Lighted	CT10560L
6' Tweezer Tong Lighted	CT10572L
7' Tweezer Tong Lighted	CT10584L
8' Tweezer Tong Lighted	CT10596L



HARDWARE



DRILL BITS

Most sizes available. Call for price and availability.



EASY OUT HARDWARE

Tool Description	Tool Number
Screw Extractor #3	SC0003
Screw Extractor #4	SC0004
Screw Extractor #5	SC0005
Screw Extractor #6	SC0006
Screw Extractor# 7	SC0007
Screw Extractor# 8	SC0008
Screw Extractor# 9	SC0009
Screw Extractor#10	SC0010
Screw Extractor#11	SC0011
Screw Extractor#12	SC0012



GRIND AND CUTOFF WHEELS

Tool Description	Tool Number
3M® Grindind Wheel	KHARGW2
3M® Grinding Wheel Backup	KHARGB2
Wire Wheel	KHARWW01
Cut off Wheel	Specify

42 Keyhole Tooling System, a Patented **GREEN** Technology

Phone: 1-800-437-5801

Kravitch Machine Co.

sales@gaswatertools.com

HARDWARE



STANDARD IMPACT SOCKETS

Impact Sockets are used to remove and install valve operator hold down nuts and bolts.

SIZE	1/2" DRIVE 6 POINT TOOL NO.	3/4" DRIVE 6 POINT TOOL NO.
3/8"	IS612038	
7/16"	IS612076	
1/2"	IS612012	IS634012
9/16"	IS612096	IS634096
5/8"	IS612058	IS634058
11/16"	IS612016	IS634016
3/4"	IS612034	IS634034
13/16"	IS612036	IS634036
7/8"	IS612078	IS634078
15/16"	IS612056	IS634056
1"	IS612100	IS634100
1 1/16"	IS612116	IS634106
1 1/8"	IS612118	IS634118
1 3/16"	IS612136	IS634103
1 1/4"	IS612114	IS634114
1 5/16"	IS612156	IS634156
1 3/8"	IS612138	IS634138
1 7/16"	IS612176	IS634176
1 1/2"	IS612112	IS634112

KRAVITCH NO-BLOWING-GAS TOOLS

We have **NO-BLOWING-GAS** Tool Kits for the following classes of Abandonment & Renewal Service Tees.

PUNCH SERVICE TEE



WELD ON SERVICE TEE



HOME MADE SERVICE TEE



PLASTIC SERVICE TEE



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Kravitch's patented NO-BLOWING-GAS Tools are available in kits that can be customized for your company-specific procedures.

All Kravitch tooling systems are robust and are pressure tested.

Kravitch's NO-BLOWING-GAS Tooling Systems are available for both Conventional-cut and Keyhole applications.

Contact us for your Service Tee Abandonment & Renewal Tooling needs.

44 Keyhole Tooling System, a Patented **GREEN** Technology

Phone: 1-800-437-5801 Kravitch Machine Co. sales@gaswatertools.com

KEYHOLE TOOL KITS

COMPANY-SPECIFIC KITS - Customer defines items in kit.

CORROSION PROTECTION KIT

GATE VALVE MAINTENANCE KIT - Catalog Available upon request.

METER REPLACEMENT KIT

PLUG VALVE MAINTENANCE KIT - Catalog Available upon request.

REPAIR KITS

SERVICE TEE ABANDONMENT KITS

SERVICE TEE INSTALLATION KITS

SERVICE TEE RENEWAL KITS

RAPIDGRIP® is a registered trademark of Ridge Tool Company.