

PLUG VALVE MAINTENANCE TOOLING SYSTEM

A Patented **GREEN** Technology

Make repairs to the Plug Valve **without digging** up the valve box.

The Plug Valve Maintenance Tooling System is used to perform various repairs including changing an old Giant Button Head Fitting on the Plug Valve without digging. The patent-pending tools are designed to work inside the Plug Valve Box. In a short while a trained worker will become proficient in performing various repairs on the plug valve without digging up the valve box.

GO FROM THIS



TO THIS



WITHOUT DIGGING
AND
NO RESTORATION COSTS

Gas Water
Tools

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Table of Contents

DESCRIPTION	PAGE NUMBER
The No Dig Plug Valve Maintenance Tooling System Explained	2
Procedure Pages demonstrating the Plug Valve Maintenance Tooling System	3-7
Mechanical Pike	8
Mechanical Pike Operators - Tee Handle Operator & Eye Operators	9
Mechanical Pike Operator - Square Drive Operators	10
Mechanical Pike Adapters - Giant Button Head Fitting & Right Angle Fitting Installation Sockets	11
Mechanical Pike Adapters - Valve Key & Flexible Slinky Pike Adapters	12
Mechanical Pike Adapters - Vertical Male Socket & 6" Spanner Wrench Adapters	13
Mechanical Pike Adapters - 10" & 18" RapidGrip® Pipe Wrench Adapters	14
Mechanical Pike Adapters - Die Head & Tap & Screw Extractor Chuck Adapters	15
Mechanical Pike Adapters - Brush Cleaner & Vertical Magnet Adapters	16
Mechanical Pike Adapters - Combustible Leak Detector Adapter	17
Camera Pike	18
Air Pike	19
Air Pike Operators - Parallel Handle & Air Tee Handle Operators	20
Air Pike Adapters - Air Drill Adapter	21
Tweezer Tong & Curved Locking Pliers	22
Plug Valve Check Valve Stem Leak Detector	23
Valve Box Cleanout Tools	24
Plug Valve Operator Restraining Tool	25
Hardware - Giant Button Head Fittings, Right Angle Giant Button Head Fittings, Brass Brush	26
Hardware - Drill Bits, Easy Out Hardware, Taps	27
Hardware - Sealant Injection Rods	28
Hardware - Plug Valve Extensions	29
Hardware - Standard Impact Sockets	30
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NO DIG PLUG VALVE MAINTENANCE TOOLING SYSTEM

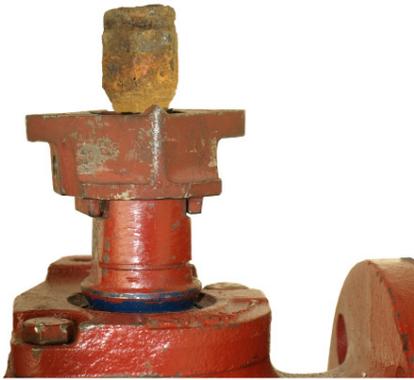
The NO DIG Plug Valve Maintenance Tooling System (Patented) enables utility workers to perform repair procedures on the plug valve through the valve box without digging up the valve box.

There are thousands of buried Plug Valves in gas utility systems. Utilities generally repair plug valves by digging them up utilizing open cut excavations. This old technology involves the use of several pieces of equipment such as backhoes, jackhammers, paving equipment etc.. Large hole excavations present more hazards to the field worker and the restoration costs is expensive.

KMC has developed a NO DIG Plug Valve Maintenance Tooling System in which utility workers are able to perform minor repair of the Buried Plug Valves, through the Valve Box, without having to dig up the Plug Valve. One of the repairs commonly performed on plug valves is the replacement of eroded giant button head fittings. This procedure is illustrated in the following pages. Plug Valves, with eroded lubrication fittings, will eventually be rendered inoperable without replacing their eroded giant button head fittings because the Plug Valve cannot be lubricated. KMC supplies tools that enable the utility worker to replace the eroded giant button head fitting through the valve box without digging up the valve box. These tools include both mechanical and power tools. These tools are very similar to the tools that the utility worker is already using and requires little additional training.

The carbon footprint is greatly reduced when there is not a large hole excavation. The elimination of digging a hole has the advantages of: not disturbing the environment, not damaging other near by utilities, safer for the utility worker because they do not have to enter a hole in the ground, and it is less costly because there are no digging and restoration costs.

Procedure to replace Giant Button Head Fitting **WITHOUT DIGGING** up the Valve Box.



Eroded Giant Button Head Fitting

It is not possible to lubricate valves with eroded button head fittings. Without proper lubrication the Plug Valve will not operate properly and may leak.



Restrain PV Operator during repair.

The Plug Valve Operator Restraining Tool is used to restrain the Plug Valve operator while repairing the Plug Valve. This ensures that the Plug Valve is not opened or closed during repair. The Plug Valve Operator Restraining Socket is first inserted over the Plug Valve Operator. The Plug Valve Operator Restraining Tool Handle is slid over the shank until it is at ground level. The tee set screw is tightened. Finally the utility worker holds everything securely by placing their foot on the handle to make sure the Plug Valve Stem does not move.



Cleaning the top of the Giant Button Head Fitting.

The Brush Adapter. The check valve in the Plug Valve Stem may be leaking. The Giant Button Head Fitting needs to be cleaned so that the Plug Valve Stem Leak Detector can be installed to check for leaking gas. The Brush Adapter (pictured on left) is used on 1/4", 3/8" and 1/2" Giant Button Head Fittings. The Brush Adapter is used on the standard Mechanical Pike. The Brass Brush (pictured on right) is used on 1/4", 3/8", 1/2", and 3/4" Giant Button Head Fittings. The 3/4" dia Brass Brush is used on the Air Drill and can also be used with the Tap and Extractor Adapter on the Standard Mechanical Pike.



Test for leaking gas.

Install the Plug Valve Check Valve Stem Leak Detector on the Giant Button Head Fitting. Squeeze the lever on top to engage the detent on the top of the GBH Fitting. If there is a leak the pressure gauge will indicate a pressure. Use gauge appropriate to pressure in the gas line. If the Leak Detector, which was properly installed does not indicate any pressure then it is safe to continue with the replacement of the GBH Fitting.

Procedure to replace Giant Button Head Fitting **WITHOUT DIGGING** up the Valve Box.



Removing worn Giant Button Head Fitting.

There are six possible procedures to remove the eroded Giant Button Head Fitting depending upon the severity of deterioration of the Giant Button Head Fittings.

Socket Adapter. The easiest way is to use a Socket Adapter (pictured on the left). The eroded Giant Button Head Fitting can be removed using the proper Socket Adapter on the Standard Mechanical Pike. Socket Size 1 fits 1/4", 3/8" and 1/2" Giant Button Head Fittings. Socket Size 2 fits 3/4" Giant Button Head Fittings.

6" Left Hand Spanner Wrench. This wrench (pictured on the right) can be used when a socket adapter is unable to engage the GBH Fitting because of severe erosion to the GBH Fitting. This wrench is used with the Standard Mechanical Pike and can function in Plug Valve Boxes as small as 4 inches in diameter.



Removing worn Giant Button Head Fitting.

10" Left Hand Rapid Grip Pipe Wrench Adapter (pictured above left and right). This wrench is used when the Giant Button Head Fitting is eroded to the point that the Socket Adapter will not work. The 10" Left Hand Rapid Grip Pipe Wrench Adapter fits onto the Standard Mechanical Pike and operates like a standard 10" Rapid Grip Pipe Wrench. The 10" Left Hand Rapid Grip Wrench Adapter is used in larger Plug Valve Boxes.

18" Left Hand Rapid Grip Pipe Wrench Adapter (not pictured). This wrench is used when the Giant Button Head Fitting is eroded to the point that the Socket Adapter will not work. The 18" Left Hand Rapid Grip Pipe Wrench Adapter fits onto the Standard Mechanical Pike and operates like a standard 18" Rapid Grip Pipe Wrench. The 10" Left Hand Rapid Grip Wrench Adapter is used in larger Plug Valve Boxes.

Procedure to replace Giant Button Head Fitting **WITHOUT DIGGING** up the Valve Box.



Removing broken Giant Button Head Fitting.

Tap and Screw Extractor Chuck Adapter. In some cases the end or head of the Giant Button Head Fitting breaks or twists off. This usually exposes a hole in the Giant Button Head Fitting shank. The Tap and Screw Extractor Chuck Adapter can be used to remove the broken fitting. The Tap and Screw Extractor Chuck Adapter is used with the Standard Mechanical Pike.



Removing broken Giant Button Head Fitting.

Air Drill & Tap and Screw Extractor Chuck Adapter (pictured above) There may be cases when the previous methods do not work, however the broken Giant Button Head Fitting may still be removed by first drilling a hole in the top of the fitting using the Air Drill and proper drill bit. The proper screw extractor held in the Tap and Screw Extractor Chuck Adapter can then be used to remove the eroded fitting.

Thread Restoration to Valve Stem

If the threads in the Plug Valve Stem become damaged and a new fitting can not be installed, a forming tap and not a cutting tap is used to restore the damaged threads. A vacuum should be used to remove any waste that is generated by the tap before installing a new GBH Fitting. This procedure is rarely needed.

Procedure to replace Giant Button Head Fitting **WITHOUT DIGGING** up the Valve Box.



Installing New Giant Button Head Fitting

A new Giant Button Head Fitting can be placed on top of the Plug Valve Stem in its original orientation as pictured above. This procedure is done using the Standard Mechanical Pike and a Giant Button Head Fitting Socket Adapter.



Installing New Right Angle Giant Button Head Fitting

Also available is the new Right Angle Giant Button Head Fitting (patent pending) which places the Giant Button Head Fitting at 90 deg to the Valve Stem. This has the advantage that it will be much easier to lubricate the Plug Valve. Using the Right Angle Giant Button Head Fitting will also better ensure that the Plug Valve is lubricated.

Plug Valve Extension

A Plug Valve Extension can be installed which will raise both the Giant Button Head Fitting and the Plug Valve Operator. This also will make lubricating the Plug Valve with the Sealant Gun easier.

Procedure to replace Giant Button Head Fitting **WITHOUT DIGGING** up the Valve Box.



Lubricating Plug Valve

A new Giant Button Head Fitting has been installed into the Plug Valve Stem. A standard Sealant Injection Rod is slid horizontally across the top of the GBH Fitting in order to lubricate the Plug Valve. It is sometimes very difficult to ensure that the sealant is going into the Plug Valve Stem and not into the Plug Valve Box. See Right Angle BH Fitting.



Lubricating Plug Valve with a Right Angle GBH Fitting

Right Angle Button Head Fitting. A new Right Angle Giant Button Head Fitting has been installed into the Plug Valve Stem. In this case the Sealant Injection Rod is pushed vertically down onto the Giant Button Head Fitting and locked into place as demonstrated above. Using this fitting and procedure it is very easy to ensure that the sealant is going into the Plug Valve and not into the Plug Valve Box.



Lubricating Plug Valve Extension

Coupler on New Plug Valve Extension. The Plug Valve can be lubricated by placing the GBH Fitting Coupler on the end of the sealant gun directly onto the GBH Fitting on the top of the Plug Valve Extension. In this case it is very easy to ensure that the sealant is going into the Plug Valve and not into the Plug Valve Box.

THE MECHANICAL PIKE (patented)

The Mechanical Pike is the central piece of equipment employed in the Plug Valve Maintenance 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 get additional lengths. 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 repair operations on plug valves through Plug Valve Box. 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	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
8' Pike (no lights)	KHPKE096

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 drives 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 on to 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 drivers 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

ADAPTERS THAT FIT ON THE BOTTOM OF THE PIKE

Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Plug Valve.



GIANT BUTTON HEAD FITTING INSTALLATION SOCKETS Patented

Used to remove and install Giant Button Head Fittings

Tool Description	Tool Number
Straight Socket Adapter for 1/4", 3/8", and 1/2" Giant Button Head Fittings	KHGBH1S
Straight Socket Adapter for 3/4" Giant Button Head Fittings	KHGBH2S



RIGHT ANGLE FITTING INSTALLATION SOCKET ADAPTERS Patent Pending

Used to install Right Angle Giant Button Head Fittings

Tool Description	Tool Number
1/4" and 3/8" Right Angle Giant Button Head Fitting Installation Adapter	RAGBF1S
1/2" and 3/4" Right Angle Giant Button Head Fitting Installation Adapter	RAGBF2S

ADAPTERS THAT FIT ON THE BOTTOM OF THE PIKE

Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Plug Valve.



VALVE KEY SOCKET ADAPTER Patented	
Used to operate Plug Valve	
Tool Description	Tool Number
2" Plug Valve Socket Adapter	KHVS200



FLEXIBLE SLINKY PIKE ADAPTER Patented	
Used for hard to reach places.	
Tool Description	Tool Number
9" Flexible Pike Adapter	KHPKE09FAL
12" Flexible Pike Adapter	KHPKE12FAL
15" Flexible Pike Adapter	KHPKE15FAL
18" Flexible Pike Adapter	KHPKE18FAL
24" Flexible Pike Adapter	KHPKE24FAL
30" Flexible Pike Adapter	KHPKE30FAL

ADAPTERS THAT FIT ON THE BOTTOM OF THE PIKE

Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Plug Valve.



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



6" SPANNER WRENCH ADAPTERS 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)	KHSQL06
6" Straight Hand Spanner Wrench (loosens & tightens in the Horizontal Plane)	KHSWS06
6" Right Hand Spanner Wrench (tightens in the Vertical Plane)	KHSWR06

ADAPTERS THAT FIT ON THE BOTTOM OF THE PIKE

Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Plug Valve.



10" RAPIDGRIP® PIPE WRENCH ADAPTERS Patented

10" RapidGrip® 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)	KHHPL10
10" Straight Hand Pipe Wrench Adapter (loosens & tightens in the Horizontal Plane)	KHHPS10
10" Right Hand Pipe Wrench Adapter (tightens in the Vertical Plane)	KHHPR10



18" RAPIDGRIP® PIPE WRENCH ADAPTERS Patented

18" RapidGrip® Pipe Wrench Adapters are much larger than the 10" Spanner Wrench Adapters. They can only be used in larger valve boxes. 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)	KHHPL18
18" Straight Hand Pipe Wrench Adapter (loosens & tightens in the Horizontal Plane)	KHHPS18
18" Right Hand Pipe Wrench Adapter (pictured) (tightens in the Vertical Plane)	KHHPR18

ADAPTERS THAT FIT ON THE BOTTOM OF THE PIKE

Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Plug Valve.



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 ADAPTERS Patented

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 PIKE

Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Plug Valve.



BRUSH CLEANER ADAPTER Patented

Used to clean the top of 1/4", 3/8", and 1/2" Giant Button Head Fitting.

Tool Description	Tool Number
Brush Cleaner Adapter for 1/4" x 3/8" & 1/2" Giant Button Head Fittings	KHBRUA01
Brush Cleaner End only, replaceable	KHBRUS1S



VERTICAL MAGNET ADAPTERS Patented

The Vertical Magnet Adapter is used to remove steel and iron items from the valve box. These items include the Giant Button Head Fittings and tools that may be dropped into the valve box.

Tool Description	Tool Number
Vertical Magnet Adapter	KHMGV04

ADAPTERS THAT FIT ON THE BOTTOM OF THE PIKE

Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Plug Valve.



COMBUSTIBLE LEAK DETECTOR ADAPTER Patented

The Combustible Leak Detector Adapter is used to detect the presence of combustible gas in the valve box. 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 Valve Box. 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 previous 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 inside of the Plug Valve Box. The Air Pike employs a quick change coupling on both the operator (top) and adapter (bottom) ends. Air Pikes can be coupled together to get additional lengths. 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 Pike. These Tooling Adapters perform different repair operations on valves through the Valve Box. See the Operator and Tooling Adapter Sections to follow.

THE AIR PIKE	
Tool Description	Tool Number
2' Lighted Air Pike	KHAP024L
3' Lighted Air Pike	KHAP036L
4' Lighted Air Pike	KHAP048L
5' Lighted Air Pike	KHAP060L
6' Lighted Air Pike	KHAP072L
7' Lighted Air Pike	KHAP084L
8' Lighted Air Pike	KHAP096L
2' Air Pike (no lights)	KHAP024
3' Air Pike (no lights)	KHAP036
4' Air Pike (no lights)	KHAP048
5' Air Pike (no lights)	KHAP060
6' Air Pike (no lights)	KHAP072
7' Air Pike (no lights)	KHAP084
8' Air Pike (no lights)	KHAP096



OPERATORS THAT FIT ON THE TOP OF THE AIR PIKE

The Air Power Operators fit on 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 adapter. Both the Tee Handle and The Parallel handles are easily changed through the quick change connection. NOTE: The quick change adapter does not permit relative rotation between the handle and Air Pike.



PARALLEL HANDLE Patented

Fits on top of Air Pike. Interchangeable with Air Tee Handle

Tool Description	Tool Number
Parallel Handle	KHAPPH1

AIR TEE HANDLE Patented

Fits on top of Air Pike. Interchangeable with Air Parallel Handle.

Tool Description	Tool Number
Air Tee Handle	KHAPTH1



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. Air Tool Adapters are used to perform maintenance operations on the plug valve.



1/2" AIR DRILL ADAPTER Patented	
Tool Description	Tool Number
1/2" Air Drill Adapter	KHADAD
1 hp Air Motor	
1/2" diameter Drill capacity	
Brass Brush & Drill Bit sold separately.	

TWEEZER TONG & CURVED LOCKING PLIERS

The Tweezer Tong and Curved Locking Pliers are used to remove and install hardware on the Plug Valve.

CURVED LOCKING PLIERS



5" CURVED LOCKING PLIERS	
Tool Description	Tool Number
1' Curved Locking Pliers, 5"	KHLP5CJ01
2' Curved Locking Pliers, 5"	KHLP5CJ02
3' Curved Locking Pliers, 5"	KHLP5CJ03
4' Curved Locking Pliers, 5"	KHLP5CJ04
5' Curved Locking Pliers, 5"	KHLP5CJ05
6' Curved Locking Pliers, 5"	KHLP5CJ06
7' Curved Locking Pliers, 5"	KHLP5CJ07
8' Curved Locking Pliers, 5"	KHLP5CJ08

TWEEZER TONG



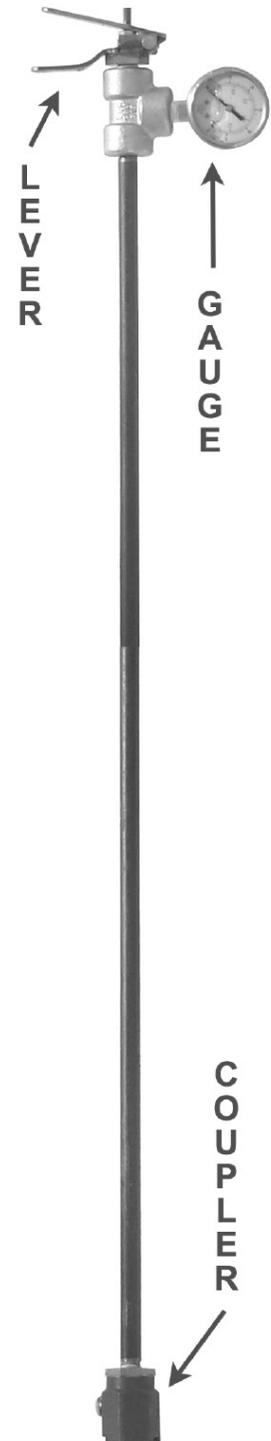
TWEEZER TONG	
Tool Description	Tool Number
5' Lighted Tweezer Tong	CT10560L
6' Lighted Tweezer Tong	CT10572L
7' Lighted Tweezer Tong	CT10584L
8' Lighted Tweezer Tong	CT10596L
5' Tweezer Tong (no lights)	CT10560
6' Tweezer Tong (no lights)	CT10572
7' Tweezer Tong (no lights)	CT10584
8' Tweezer Tong (no lights)	CT10596

PLUG VALVE CHECK VALVE STEM LEAK DETECTOR

The Plug Valve Check Valve Stem Leak Detector

Check Valves in valve stems have a potential to leak. Removal of the Giant Button Head in this case will cause gas to leak out of the system. The Plug Valve Check Valve Stem Leak Detector is used to determine if the check valve in the valve stem is leaking prior to the removal and replacement of the Giant Button Head Fitting. The Plug Valve Check Valve Stem Leak Detector is attached to the Giant Button Head Fitting via the coupler on the bottom. Once it is securely attached, a lever at the top is pressed in order to depress the ball seal at the top of the Giant Button Head Fitting. This will let any gas that is in the valve stem leak into the Plug Valve Check Valve Stem Leak Detector tube. This leaking gas pressure will be indicated on the gauge. If there is no gas leaking there will be no pressure indicated on the gauge. If the Leak Detector, which was properly installed does not indicate any pressure then it is safe to continue with the replacement of the GBH Fitting.

Does not include gauge. Gauges to be added by end user unless ordered separately.



PLUG VALVE CHECK VALVE STEM LEAK DETECTOR	
Tool Description	Tool Number
2' PVCHS Leak Detector	KHVLH02
3' PVCHS Leak Detector	KHVLH03
4' PVCHS Leak Detector	KHVLH04
5' PVCHS Leak Detector	KHVLH05
6' PVCHS Leak Detector	KHVLH06
7' PVCHS Leak Detector	KHVLH07
8' PVCHS Leak Detector	KHVLH08

VALVE BOX CLEANOUT TOOLS

VALVE BOX CLEANOUT TOOLS

The Duckbill Cleanout Tool is used to clean out debris around the valve.

The Small Clamshell Cleanout Tool is used to clean debris off of the top of valves in small valve boxes (4”).

The Large Clamshell Cleanout Tool is used to clean debris off of the top of valves in larger valve boxes (5 1/4” +).



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

PLUG VALVE OPERATOR RESTRAINING TOOL

PLUG VALVE OPERATOR RESTRAINING TOOL

The **Plug Valve Operator Restraining Tool** is used to restrain the Plug Valve operator while repairing the Plug Valve. This ensures that the Plug Valve is not opened or closed during repair. The Plug Valve Operator Restraining Socket is first inserted over the Plug Valve Operator. The Plug Valve Operator Restraining Tool Handle is slid over the shank until it is at ground level. The tee set screw is tightened. Finally the utility worker holds everything securely by placing their foot on the handle to make sure the Plug Valve Stem does not move.



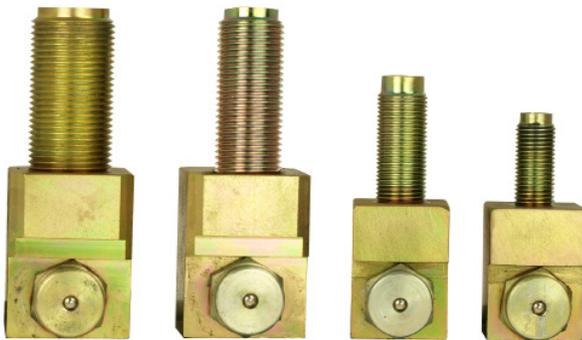
PLUG VALVE OPERATOR RESTRAINING TOOL	
Tool Description	Tool Number
4' PVO Restraining Tool	PVRT344
5' PVO Restraining Tool	PVRT345
6' PVO Restraining Tool	PVRT346
7' PVO Restraining Tool	PVRT347
8' PVO Restraining Tool	PVRT348
Plug Valve Restraining Tool Handle	PVRT34H

HARDWARE



GIANT BUTTON HEAD FITTINGS

Tool Description	Tool Number
1/4" Giant Button Head Fitting	GBDFITCB14
3/8" Giant Button Head Fitting	GBDFITCB38
1/2" Giant Button Head Fitting	GBDFITCB12
3/4" Giant Button Head Fitting	GBDFITCB34



RIGHT ANGLE GIANT BUTTON HEAD FITTINGS

Tool Description	Tool Number
1/4" Right Angle Giant Button Head Fitting	RAGBF14
3/8" Right Angle Giant Button Head Fitting	RAGBF38
1/2" Right Angle Giant Button Head Fitting	RAGBF12
3/4" Right Angle Giant Button Head Fitting	RAGBF34



BRASS BRUSH

Tool Description	Tool Number
1/2" Diameter Brass Brush	KHBRU12
3/4" Diameter Brass Brush	KHBRU34
1" Diameter Brass Brush	KHBRU10

HARDWARE



DRILL BITS	
Tool Description	Tool Number
Screw Extractor Drill for 1/4" Giant Button Head Fitting	DR00014
Screw Extractor Drill for 3/8" Giant Button Head Fitting	DR00038
Screw EXtractor Drill for 1/2" Giant Button Head Fitting	DR00012
Screw EXtractor Drill for 3/4" Giant Button Head Fitting	DR00034



EASY OUT HARDWARE	
Tool Description	Tool Number
1/4" Giant Button Head Fitting Screw Extractor	EZ00014
3/8" Giant Button Head Fitting Screw Extractor	EZ00038
1/2" Giant Button Head Fitting Screw Extractor	EZ00012
3/4" Giant Button Head Fitting Screw Extractor	EZ00034

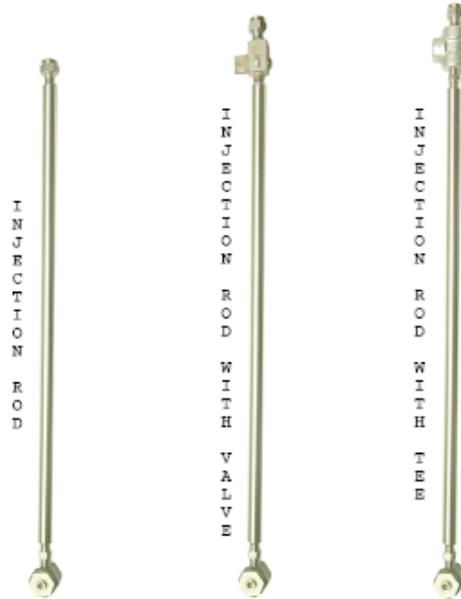


TAPS	
Tool Description	Tool Number
Forming Tap for 1/4" Giant Button Head Fitting	PIPTP14F
Forming Tap for 3/8" Giant Button Head Fitting	PIPTP38F
Forming Tap for 1/2" Giant Button Head Fitting	PIPTP12F
Forming Tap for 3/4" Giant Button Head Fitting	PIPTP34F

HARDWARE

SEALANT INJECTION RODS

Sealant Injection Rods are used to lubricate buried Plug Valves. Kravitch Machine Company offers three styles of Sealant Injection Rods. They are available in two different materials and several lengths. Kravitch Machine Company utilizes heavy walled tubing which is able to withstand the high pressures generated by Sealant Guns.



SEALANT INJECTION RODS			
Other lengths available upon request.			
Length	Stainless Steel Injection Rod	Stainless Steel Injection Rod with Valve	Stainless Steel Injection Rod with Tee
3'	SIRSS03	SIRSSV3	SIRSST3
4'	SIRSS04	SIRSSV4	SIRSST4
5'	SIRSS05	SIRSSV5	SIRSST5
6'	SIRSS06	SIRSSV6	SIRSST6
7'	SIRSS07	SIRSSV7	SIRSST7
8'	SIRSS08	SIRSSV8	SIRSST8

HARDWARE

PLUG VALVE EXTENSIONS

Plug Valve Extensions are used to raise the height of the lubrication fitting and the valve operator up to ground level so that the Plug Valve can be lubricated with a Sealant Gun without the need for a Injection Rod.



PLUG VALVE EXTENSIONS				
Other lengths available upon request.				
Plug Valve Extension with Tar Painted Housing and Stainless Steel Core				
Length	1/4"	3/8"	1/2"	3/4"
18"	PEU1418	PEU3818	PEU1218	PEU3418
2'	PEU1424	PEU3824	PEU1224	PEU3424
3'	PEU1436	PEU3836	PEU1236	PEU3436
4'	PEU1448	PEU3848	PEU1248	PEU3448
5'	PEU1460	PEU3860	PEU1260	PEU3460
6'	PEU1472	PEU3872	PEU1272	PEU3472
7'	PEU1484	PEU3884	PEU1284	PEU3484
8'	PEU1496	PEU3896	PEU1296	PEU3496
Plug Valve Extensions with Zinc Paint Housing and Stainless Steel Core				
	1/4"	3/8"	1/2"	3/4"
18"	PEU1418Z	PEU3818Z	PEU1218Z	PEU3418Z
2'	PEU1424Z	PEU3824Z	PEU1224Z	PEU3424Z
3'	PEU1436Z	PEU3836Z	PEU1236Z	PEU3436Z
4'	PEU1448Z	PEU3848Z	PEU1248Z	PEU3448Z
5'	PEU1460Z	PEU3860Z	PEU1260Z	PEU3460Z
6'	PEU1472Z	PEU3872Z	PEU1272Z	PEU3472Z
7'	PEU1484Z	PEU3884Z	PEU1284Z	PEU3484Z
8'	PEU1496Z	PEU3896Z	PEU1296Z	PEU3496Z

HARDWARE



STANDARD IMPACT SOCKETS

Impact Sockets are used to take off and install bolts and nuts.

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	IS341105
1 3/8"	IS612138	IS634138
1 7/16"	IS612176	IS634176
1 1/2"	IS612112	IS634112

RAPIDGRIP® is a registered trademark of Ridge Tool Company.

30 Plug Valve Maintenance Tooling System, a Patented **GREEN** Technology
 Phone: 1-800-437-5801 Kravitch Machine Co. sales@gaswatertools.com