

# GATE VALVE MAINTENANCE TOOLING SYSTEM

A Patented **GREEN** Technology

Repair Gate Valves **without digging** up the valve box.

The Gate Valve Maintenance Tooling System is used to perform various repairs on the Gate Valve without digging. The patent-pending tools are designed to work inside the Gate Valve Box. In a short while a trained worker will become proficient in performing various repairs on the gate valve without digging.

**GO FROM**



**TO THIS**



**WITHOUT DIGGING**  
**AND**  
**NO RESTORATION COSTS**



**KRAVITCH MACHINE COMPANY**

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# GATE VALVE MAINTENANCE TOOLING SYSTEM

Kravitch Machine Company has developed the patented Gate Valve Maintenance Tooling System. The Gate Valve Maintenance Tooling System is used to perform maintenance operations on buried valves without digging by performing these operations through the valve box.

The central piece of equipment utilized in the Gate Valve Maintenance Tooling System is the Pike. The Pike has operators attached to the top and adapters attached to the Bottom. The operators control the motion of the Pike while the adapters perform functions on the Gate Valve. Lights are placed onto the Pike to illuminate the gate valve box while performing a function. The pages to follow list many operators, adapters, and hardware that are available.

On the following Procedure Pages we have illustrated two different repair procedures which involve replacing the valve operator nut through the gate valve box. In Procedure One the valve operator hold down nut is easily removed and the valve operator is then readily replaced. In Procedure Two the valve stem hold down stud is damaged, beyond repair, while removing the valve operator hold down nut. In this case the valve stem has to be cut off, drilled and tapped so that a hold down bolt can be installed to secure the replacement valve operator nut to the valve stem. This entire procedure is performed through the gate valve box.

For more information please contact us.

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# PROCEDURE ONE



## STEP ONE

The Valve Operator Nut is eroded. The Valve Operator Hold Down Nut is in good condition and can be removed without damaging the valve stem hold down stud.



## STEP TWO

The Vertical Male Socket Drive Adapter (1/2" or 3/4" square drive), with a socket attached is used to remove the valve stem hold down nut. The 6" Left Hand Spanner Adapter or the 10" Left Hand Pipe Wrench Adapter is used in cases where the hold down nut is sufficiently eroded so a socket will not turn it. The 10" Pipe Wrench Adapter may be used to hold the valve stem in place while loosening the hold down nut.



## STEP THREE

The Valve Operator Nut is removed using the Magnet Adapter (pictured here) or the Lighted Tweezer Tong.



## STEP FOUR

The new replacement Valve Operator Nut is installed on the valve stem using either the Magnet Adapter or the Lighted Tweezer Tong.



## STEP FIVE

The new or old valve stem hold down nut is installed on the valve stem hold down stud using either 5" Lighted Curved Locking Pliers or the Lighted Tweezer Tongs.



## STEP SIX

The Valve stem hold down nut is tightened using the Vertical Male Socket Drive Adapter with a socket attached.

# PROCEDURE ONE



## STEP SEVEN

Completed change of the valve operator.



New Valve Operator Nuts are available. Please call for sizes.

# PROCEDURE TWO



## STEP ONE

The Valve Operator Nut is eroded and needs to be changed.



## STEP TWO

The Vertical Male Socket Drive Adapter (1/2" or 3/4" square drive), with a socket attached is used to remove the valve stem hold down nut. The 6" Left Hand Spanner Adapter or the 10" Left Hand Pipe Wrench Adapter is used in cases where the hold down nut is sufficiently eroded so a socket will not turn it. The 10" Right Hand Pipe Wrench Adapter may be used to hold the valve stem in place while loosening the whole down nut.



## STEP THREE

The Valve Stem hold down stud is damaged beyond repair while removing the valve operator hold down nut. NOTE: The Valve Stem hold down stud does not protrude past the valve operator nut.



## STEP FOUR

The Valve operator is removed using the Magnet Adapter (pictured above) or the Lighted Tweezer Tong.



## STEP FIVE

The air-operated Vertical Cut Off Wheel Grinder is used to clean the end of the damaged valve stem stud or to completely remove the valve stem stud, as illustrated. In some cases it may be possible to skip this step and proceed directly to step seven.



## STEP SIX

The Valve Stem after the hold down stud has been removed.



# PROCEDURE TWO



## STEP EIGHT

Next use the Air Drill to drill a tap hole in the end of the valve stem. Use discretion as to size and depth.



## STEP NINE

Next use the #2 Tap Chuck Adapter with a tap installed to thread the tap hole in the valve stem. Using the appropriate tap oil or wax is recommended. Use of the peck tapping technique is a must.



## STEP TEN

The new replacement Valve Operator Nut is installed on the valve stem using either the Magnet Adapter (pictured above) or the Lighted Tweezer Tong.



## STEP ELEVEN

The 5" Curved Locking Pliers (pictured above) or Lighted Tweezer Tong is used to install a Hold Down Bolt in the top of the valve stem.



## STEP TWELVE

The Vertical Male Socket Drive Adapter with the socket attached is used to tighten the hold down bolt.



## STEP THIRTEEN

Completed change of the valve operator.

# PROCEDURE TWO



New Valve Operator Nuts are available. Please call for sizes.

# GATE VALVE MAINTENANCE TOOLING SYSTEM

Tools for the Gate Valve Maintenance Tooling System are sold separately or in kits. Please see below for two of our standard kits and the following pages for the individual Pike, Operators, and Adapters.

## THE STANDARD MECHANICAL KIT

This kit is used to perform Procedure One.

TOOL DESCRIPTION	TOOL NO.
18" Tee Handle Operator	KHTH018
6' Pike Lighted	KHPKE72L
3/4" Vertical Drive Adapter	KHVA034
4" Magnet Adapter	KHMGV04
6" Left Hand Spanner (used to loosen)	KHSWL06S
6' Tweezer Tong Lighted	KHTWT06L

## THE STANDARD MECHANICAL AND AIR COMBINATION KIT

This kit is used to perform Procedure Two.

TOOL DESCRIPTION	TOOL NO.
18" Tee Handle Operator	KHTH018
6' Pike Lighted	KHPKE72L
3/4" Vertical Drive Adapter	KHVA034
4" Magnet Adapter	KHMGV04
6" Left Hand Spanner (used to loosen)	KHSWL06S
6' Tweezer Tong Lighted	KHTWT06L
6' 5" Curved Locking Pliers Lighted	KHLP5C6L
10" Left Hand Rapid Grip Pipe Wrench (used to loosen)	KHPWL10
1 1/2" Die Head Adapter	KHDHA02
#2 Tap Chuck (1/4 - 1/2 Tap Sizes)	KHTHC2S
6' Air Pike Lighted	KHHAP72L
Air Tee Handle	KHAPTH1
Vertical Cutoff Wheel Grinder	KHADGCWA
1/2" Air Drill	KHADAAA
Hammer Head Operator	KHHHA01
Valve Nut Extraction Tool Adapter	KHNP01

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# THE MECHANICAL PIKE (Patented)

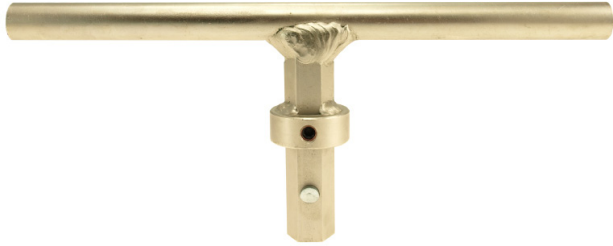
The Mechanical Pike is the central piece of equipment employed in the Gate Valve Maintenance Tooling System. The pike employs a quick change system on both the operator (top) and adapter (bottom) ends. This quick change system facilitates the transmitting of both torsional and axial force. Various operators are available to place on the top of the Pike in order to push, turn 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 valves through the Valve Box. See the Operator and Tooling Adapter Sections to follow.

THE MECHANICAL PIKE	
TOOL DESCRIPTION	TOOL NO.
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)	KHPKE96



# OPERATORS THAT FIT ON TOP OF THE MECHANICAL PIKE

The mechanical operators fit onto the top of the Mechanical Pike (patent pending), 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.



## TEE HANDLE OPERATORS (Patented)

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

TOOL DESCRIPTION	TOOL NO.
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 NO.
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 TOP OF THE MECHANICAL PIKE

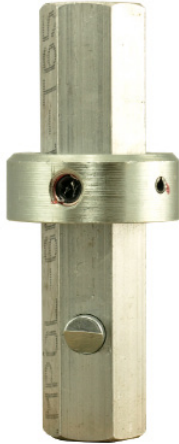
The mechanical operators fit on to the top of the Mechanical Pike (patent pending), through a quick change connection, and are used to drive the Pike. They transmit torsional, axial, and impact force to the Pike which in turn transmits torsional, axial, and impact force to the drivers on the bottom of 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 NO.
1/2" Sq Drive Female Socket Operator	KHDO012
3/4" dia x 24" Plain Handle	KHDO034



## POUNDING PAD OPERATOR (Patented)

The Aluminum Pounding Pad is used to lightly tap the Center Punch Adapter. (See Procedure Two Step Seven.) The light tap will produce a small indentation on the top of the valve stem. The Aluminum Pounding Pad Operator is made of Aluminum so that only slight tapping is done and not excessive hammering. CAUTION: Excessive pounding on the Pounding Pad may cause damage to the Pike, Valve Stem, and the Valve.

TOOL DESCRIPTION	TOOL NO.
Aluminum Pounding Pad	KHHHA01

# 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 Gate 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. Sockets are used to remove and tighten the Valve Operator Hold Down Nut.

TOOL DESCRIPTION	TOOL NO.
1/2" Vertical Male Socket Drive Adapter	KHVA012
3/4" Vertical Male Socket Drive Adapter	KHVA034



## 6" SPANNER WRENCH ADAPTERS

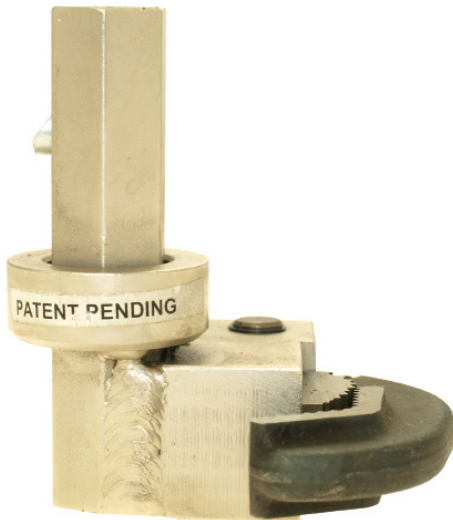
(Patented)

The 6" Spanner Wrenches are small adjustable wrenches that are used to loosen and tighten nuts that a socket cannot turn.

TOOL DESCRIPTION	TOOL NO.
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 PIKE

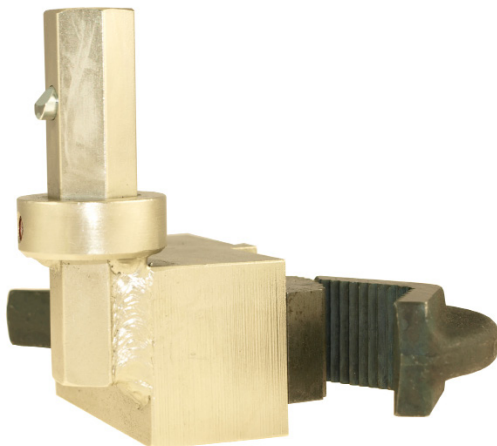
Tooling Adapters fit on the bottom of the Pike through a quick change connection. They are used to perform maintenance functions on the Gate Valve.



## 10" RAPID GRIP PIPE WRENCH ADAPTERS (Patented)

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. The Left Hand Rapid Grip Pipe Wrench Adapter is used to remove Valve Operator Hold Down Nuts that are too rounded to be removed with a socket. The Right Hand Rapid Grip Pipe Wrench Adapter may be used to hold the valve stem in place while removing the valve stem operator hold down nut. The Left Hand Rapid Grip Pipe Wrench Adapter may be used to hold the valve stem in place while drilling and tapping the end of the valve stem.

TOOL DESCRIPTION	TOOL NO.
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



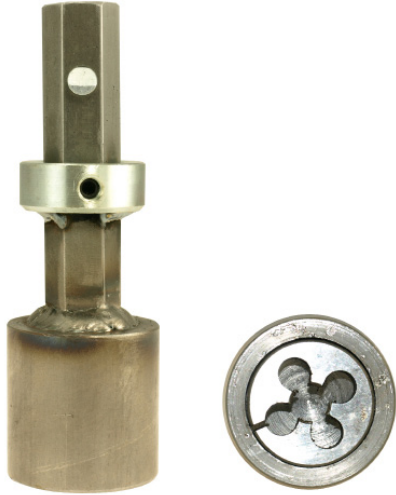
## 18" RAPID GRIP PIPE WRENCH ADAPTERS (Patented)

18" Pipe Wrench Adapters are much larger than the 10" Rapid Grip Pipe Wrench Adapters. It can only be used in larger valve boxes. The jaw is spring loaded which gives it an automatic adjustment when being attached. The Left Hand Rapid Grip Pipe Wrench Adapter is used to remove Valve Operator Hold Down Nuts that are too rounded to be removed with a socket. The Right Hand Rapid Grip Pipe Wrench Adapter may be used to hold the valve stem in place while removing the valve stem operator hold down nut. The Left Hand Rapid Grip Pipe Wrench Adapter may be used to hold the valve stem in place while drilling and tapping

TOOL DESCRIPTION	TOOL NO.
18" Left Hand Pipe Wrench Adapter (pictured) (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 (tightens in the Vertical Plane)	KHPWR18

# 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 Gate Valve.



## **DIE HEAD ADAPTERS** (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" and 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". The Die Head Adapters are used to restore damaged threads on the valve stem stud.

TOOL DESCRIPTION	TOOL NO.
1 1/2" Die Head Adapter (pictured)	KHDHA02
2" Die Head Adapter	KHDHA03



## **TAP & SCREW EXTRACTOR CHUCK ADAPTERS**

(Patented)

Tap and Screw Extractor Chuck Adapters are used to tap the top of the valve stem for a bolt that will replace the valve operator hold down nut.

TOOL DESCRIPTION	TOOL NO.
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



# 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 Gate Valve.



## **CENTER PUNCH ADAPTER** (Patented)

The Center Punch Adapter is used to put a small indentation on the top of the valve stem. This indentation is used to locate the tap drill in the center of the top of the valve stem.

TOOL DESCRIPTION	TOOL NO.
Center Punch Adapter	KHCPA01

## **VALVE NUT EXTRACTION TOOL ADAPTER**(Patented)

The Valve Nut Extraction Tool Adapter is used to remove the corroded valve nut from the valve stem.

TOOL DESCRIPTION	TOOL NO.
Valve Nut Extraction Tool Adapter	KHNP01



# 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 Gate Valve.



## 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



## VERTICAL MAGNET ADAPTERS (Patented)

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

TOOL DESCRIPTION	TOOL NO.
4" Vertical Magnet Adapter	KHMGV04

# 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 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**

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# TWEEZER TONG & CURVED LOCKING PLIERS

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

**Curved  
Locking Pliers**



## 5" CURVED LOCKING PLIERS

TOOL DESCRIPTION	TOOL NO.
1' Curved Locking Pliers, 5"	KHLPF5WR12
2' Curved Locking Pliers, 5"	KHLPF5WR24
3' Curved Locking Pliers, 5"	KHLPF5WR36
4' Curved Locking Pliers, 5"	KHLPF5WR48
5' Curved Locking Pliers, 5"	KHLPF5WR60
6' Curved Locking Pliers, 5"	KHLPF5WR72
7' Curved Locking Pliers, 5"	KHLPF5WR84
8' Curved Locking Pliers, 5"	KHLPF5WR96

## TWEEZER TONG

TOOL DESCRIPTION	TOOL NO.
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

**Tweezer  
Tong**



# THE AIR PIKE (Patented)

The Air Pike facilitates the use of Air Tools inside of the Gate Valve Box. The Air Pike employs a quick change coupling on both the operator (top) and adapter (bottom) ends. NOTE: The quick change coupling does not permit relative rotation between the Operator and the Pike and the Adapter and the Pike. Various operators are available to place on the top of the Air Pike in order to push and turn the Air 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.

AIR PIKE	
TOOL DESCRIPTION	TOOL NO.
2' Lighted Air Pike	KHAP24L
3' Lighted Air Pike	KHAP36L
4' Lighted Air Pike	KHAP48L
5' Lighted Air Pike	KHAP60L
6' Lighted Air Pike	KHAP72L
7' Lighted Air Pike	KHAP84L
8' Lighted Air Pike	KHAP96L
2' Air Pike (no lights)	KHAP24
3' Air Pike (no lights)	KHAP36
4' Air Pike (no lights)	KHAP48
5' Air Pike (no lights)	KHAP60
6' Air Pike (no lights)	KHAP72
7' Air Pike (no lights)	KHAP84
8' Air Pike (no lights)	KHAP96



# OPERATORS THAT FIT ON 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 Handle are easily changed through the quick change connection. NOTE: The quick change adapter does not permit relative rotation between the handle and the Air Pike.



## PARALLEL HANDLE (Patented)

The Parallel Handle controls the air flow and is used to position the Air Tool Adapter.

TOOL DESCRIPTION	TOOL NO.
Parallel Handle	KHAPPH1



## AIR TEE HANDLE (Patented)

The Air Tee Handle controls the Air Pike and is used to locate and move the Air Tool Adapter. The Tee Handle has better control of the rotation tool adapters such as the Air Drill.

TOOL DESCRIPTION	TOOL NO.
Air Tee Handle	KHAPTH1



# AIR TOOL ADAPTERS THAT FIT ON 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 valve.



## CUT OFF WHEEL GRINDER (Patented)

The Cut Off Wheel Grinder is used to dress up or remove the damaged valve stem stud.

TOOL DESCRIPTION	TOOL NO.
Cut Off Wheel Grinder 1 hp Air Motor	KHDGCWA

## RIGHT ANGLE DIE CUTOFF GRINDER (Patented)

The Right Angle Die Cutoff Grinder aids the removal of the corroded valve nut.

TOOL DESCRIPTION	TOOL NO.
Cut Off Wheel Grinder 1 hp Air Motor	KHARDAA



## 1/2" AIR DRILL ADAPTER (Patented)

The Air Drill is used to drill a tap drill hole in the end of the valve stem.

TOOL DESCRIPTION	TOOL NO.
1/2" Air Drill Adapter	KHADAAA
1 hp Air Motor	
1/2" diameter Drill capacity	

# VALVE OPERATOR NUTS & TAP DRILL GUIDE BUSHING ADAPTERS



2" VALVE OPERATOR REPLACEMENT NUTS Size determined by core size.	
DESCRIPTION	TOOL NO.
2" Valve Operator Nut with 3/4" core size	VALNUT15
2" Valve Operator Nut with 7/8" core size	VALNUT12
2" Valve Operator Nut with 1" core size	VALNUT13
2" Valve Operator Nut with 1 1/4" core size	VALNUT16



3/8" TAP DRILL GUIDE BUSHING IN 2" OPERATOR NUT Size determined by core size.	
DESCRIPTION	TOOL NO.
2" Valve Operator Nut Guide Bushing with 3/4" core size	KHDBQ15
2" Valve Operator Nut Guide Bushing with 7/8" core size	KHDBQ12
2" Valve Operator Nut Guide Bushing with 1" core size	KHDBQ13
2" Valve Operator Nut Guide Bushing with 1 1/4" core size	KHDBQ16

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# MECHANICAL AND AIR ADAPTER TOOLING



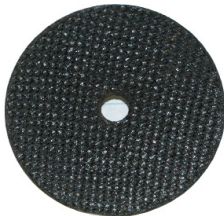
## STANDARD IMPACT SOCKET KITS

DESCRIPTION	SIZE	TOOL NO.
Socket set for 5/16" and 3/8" bolts; 1/2", 5/8", 3/4" Heavy & Standard Nuts	1/2" Drive Sockets	ISK112
	3/4" Drive Sockets	ISK134

## STANDARD IMPACT SOCKETS - INDIVIDUAL

Impact Sockets are used to take off 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"	IS12036	
7/16"	IS12076	
1/2"	IS12012	IS634012
9/16"	IS12096	IS634096
5/8"	IS12058	IS634058
11/16"	IS12016	IS634016
3/4"	IS12034	IS634034
13/16"	IS12036	IS634036
7/8"	IS12078	IS634078
15/16"	IS12056	IS634056
1"	IS12100	IS634100
1 1/16"	IS12116	IS634116
1 1/8"	IS12118	IS634118
1 3/16"	IS12136	IS634136
1 1/4"	IS12114	IS634114
1 5/16"	IS12156	IS634156
1 3/8"	IS12138	IS634138
1 7/16"	IS12176	IS634176
1 1/2"	IS12112	IS634112
1 5/8"		IS634158



## CUTOFF WHEELS

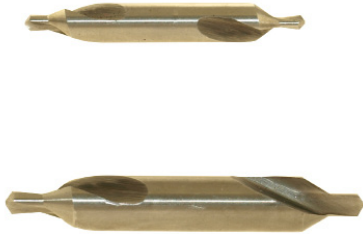
Cutoff Wheels are used to clean and/or cut off valve stem hold down studs.

SIZE	TOOL NO.
2" dia x .035 Cutoff Wheel	KHCOW2032
2" dia x .0625 Cutoff Wheel	KHCOW2062
2" dia x .125 Cutoff Wheel	KHCOW2012
2 1/2" dia x .0625 Cutoff Wheel	KHCOW2262
3" dia x .0325 Cutoff Wheel	KHCOW3032
3" dia x .0625 Cutoff Wheel	KHCOW062
3" dia x .125 Cutoff Wheel	KHCOW3012

**GATE VALVE MAINTENANCE TOOLING SYSTEM**, a Patented **GREEN** Technology.

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# MECHANICAL AND AIR ADAPTER TOOLING



## CENTER DRILL

The Center Drill is used to start the tap drill hole.

SIZE	TOOL NO.
#2 Center Drill	KHCD002
#3 Center Drill	KHCD003
#4 Center Drill	KHCD004
#5 Center Drill	KHCD005
#6 Center Drill	KHCD006



## DRILL AND TAP KITS

Drill & Tap Kits are used to put female threads into the end of the valve stem for the hold down bolts.

SIZE	TOOL NO.
1/4" Coarse Thread Drill & Tap Kit	KH14CDT
5/16" Coarse Thread Drill & Tap Kit	KH56CDT
3/8" Coarse Thread Drill & Tap Kit	KH38CDT
1/2" Coarse Thread Drill & Tap Kit	KH12CDT



## DIES

Dies are used to restore valve stem hold down stud threads.

SIZE	TOOL NO.
1/2" Course Thread Die (1 1/2" dia)	KH0112CD112
5/8" Course Thread Die (1 1/2" dia)	KH058CD112
3/4" Course Thread Die (1 1/2" dia)	KH034CD112

# HARDWARE



## VALVE OPERATOR HOLD DOWN BOLTS WITH FENDER WASHERS ATTACHED STAINLESS STEEL - COURSE THREAD

SIZE	TOOL NO.	SIZE	TOOL NO.
5/16" x 3/4"	BWSSC56034	3/8" x 3/4"	BWSSC38034
5/16" x 1"	BWSSC56100	3/8" x 1"	BWSSC38100
5/16" x 1 1/4"	BWSSC56114	3/8" x 1 1/4"	BWSSC38114

## VALVE OPERATOR HOLD DOWN NUTS STAINLESS STEEL - COURSE THREAD

SIZE	TOOL NO.	SIZE	TOOL NO.
1/2"	NUTSSHC12	7/8"	NUTSSHC78
5/8"	NUTSSHC58	1"	NUTSSHC10
3/4"	NUTSSHC34		

## VALVE OPERATOR HOLD DOWN NUTS BRASS - COURSE THREAD

SIZE	TOOL NO.	SIZE	TOOL NO.
1/2"	NUTBSHC12	7/8"	NUTBSHC78
5/8"	NUTBSHC58	1"	NUTBSHC10
3/4"	NUTBSHC34		