



# Pipe Hole Cutter

MODEL: JK150



## **WARNING!**

Read this Operator's Manual carefully before using this tool. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.

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## General Safety Information

WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

### Work Area Safety

- Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Tools create sparks which may ignite the dust or fumes.
- Keep bystanders, children, and visitors away while operating a power tool. Distractions can cause you to lose control.

### Electrical Safety

- Grounded tools must be plugged into an outlet, properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
- Avoid body contact with grounded surfaces. There is an increased risk of electrical shock if your body is grounded.
- Don't expose electrical tools to rain or wet conditions. Water entering a tool will increase the risk of electrical shock.
- Do not abuse cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electrical shock.
- Keep all electric connections dry and off the ground. Do not touch plugs or tool with wet hands. Reduces the risk of electrical shock.

### Personal Safety

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medications. A moment of inattention while operating power tools may result in serious personal injury.
- Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
- Avoid accidental starting. Be sure switch is OFF before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch ON invites accidents
- Remove adjusting keys or wrenches before turning the tool ON. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- Do not overreach. Keep proper footing and balance at all times. Proper footing and balance

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enables better control of the tool in unexpected situations.

- Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

### **Tool Use and Care**

- Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the workpiece by hand or against your body is unstable and may lead to loss of control.
- Do not force the tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it was designed.
- Do not use tool if switch does not turn it ON or OFF. Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store idle tools out of the reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.
- Maintain tools with care. Keep cutting tools sharp and clean. Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.
- Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
- Use only accessories that are recommended for your tool. Accessories that may be suitable for one tool may become hazardous when used on another tool.
- Keep handles dry and clean; free from oil and grease. Allows for better control of the tool.

### **Machine Safety**

- Always wear appropriate eye protection. Cutting tools can break or shatter. Cutting produces chips that can be thrown or fall into eyes.
- Do not wear gloves or loose clothing when operating machine. Keep Sleeves and jackets buttoned. Do not reach across machine. Clothing can be caught by the machine resulting in entanglement.
- Keep fingers and hands away from rotating chuck and saw. This reduces the risk of entanglement and cutting injuries.
- Properly secure the Hole Cutting Tool to the pipe. Improperly secured Hole Cutting Tools can fall and cause striking and crushing injuries.
- Do not use for hot tapping. When cutting into an existing system, the pipe must be drained and depressurized prior to cutting. This reduces the risk of electrical shock and other serious injury.
- Before using, test the Ground Fault Circuit Interrupter (GFCI) provided with the power cord to insure it is operating properly. GFCI reduces the risk of electrical shock.
- When working overhead, all personnel should wear hard hats and be clear of the area below

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the tool. This reduces the risk of serious injury should objects fall.

- Only use Hole Cutting Tools to cut holes in pipe as instructed in this manual. Do not use for other purposes or modify. Other uses or modifying this tool for other purposes may increase the risk of serious injury.
- Read and understand the instructions and warnings for all equipment being used before operating the Hole Cutting Tool. Failure to follow all instructions and warnings may result in property damage or serious personal injury.

## **Description, Specifications**

### **Description**

The JK150 pipe hole cutter is designed to cut holes up to 150mm into steel pipe. The multiple hole sizes allow the use of Mechanical fittings for branching unpressurized pipe lines.

The JK150 has a 5/8" (16mm) capacity drill chuck to accommodate all sizes of hole saws and hole saw arbors. An integral motor and gear reduction optimizes performance of large diameter hole saws. The two feed handles allows the operator to use the Hole Cutting Tool from either the left or right side.

### **Specifications**

Cutting Capacity	Up to 6" (152 mm)
Pipe Mounting Capacity	1 1/4" - 12" (30mm-300 mm)
Drill Chuck Capacity	3-16mm
Drill Chuck Speed	110 RPM (no load)
Motor Horsepower	1500W
Current Draw Rating	14 Amps @ 110V 7 Amps @ 220V
Dimensions	
Height	303mm
Length	340mm
Width	315mm

### **Pre-Operation Inspection**

Before each use, inspect your Hole Cutting Tool and correct any problems to reduce the risk of serious injury from electric shock and other causes and prevent tool damage.

1. Make sure that the Hole Cutting Tool is unplugged and the ON/OFF switch is in the OFF position.
2. Clean any oil, grease or dirt from the tool, including the handles and controls. This aids inspection and helps prevent the tool or control from slipping from your grip.
3. Inspect the Hole Cutting Tool for the following items:
  - Inspect the power cord, Ground Fault Circuit Interrupter (GFCI) and plug for damage or modification.

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- Proper assembly and completeness.
  - Broken, worn, missing, mis-aligned or binding parts. Make sure that the motor assembly moves smoothly and freely up and down the posts of the base assembly. Confirm that the chain and swivel handle move freely.
  - Any other condition which may prevent safe and normal operation. If any problems are found, do not use the hole cutting tool until the problems have been repaired.

4. Inspect the arbor, hole saw and drills to be used with the Hole Cutting Tool for wear, deformation, breakage or other issues. Do not use dull or damaged cutting tools. Dull or damaged cutting tools increase the amount of force required, produce poor quality cuts and increase the risk of injury.

5. With dry hands, plug the cord in. Test the GFCI in the electrical cord to insure that it is operating correctly.

When the test button is pushed in, the reset button should pop out. Reactivate by pushing the reset button. If the GFCI is not functioning properly, unplug the cord and do not use the hole cutting tool until the GFCI has been repaired.

6. With the Hole Cutting Tool on a stable surface check the Hole Cutting Tool for proper operation. Keep clear of the chuck. Move the ON/OFF switch to the ON position. The motor should start and the chuck turn counter clockwise viewed from the chuck end. Inspect the tool for misalignment, binding, odd noises or other unusual conditions. Move the ON/OFF switch to the OFF position. If any issues are found, do not use the tool until it has been repaired.

7. After the inspection is complete, with dry hands unplug the tool.

## Machine And Work Area Set-Up

Warning: objects falling and electrical shock



**Set up the Hole Cutting Tool and work area according to these procedures to reduce the risk of injury from electrical shock, entanglement, crushing and other causes and prevent tool damage.**

**Properly secure the Hole Cutting Tool to the pipe. Improperly secured Hole Cutting Tools can slip and fall and cause striking and crushing injuries. Do not use for hot tapping. When cutting into an existing system, the pipe must be drained and depressurized prior to cutting. This reduces the risk of electrical shock and other serious injuries. When working overhead, all personnel should wear hard hats and be clear of the area below. This reduces the risk of serious injury should equipment or other objects fall.**

1. Check work area for:

- Adequate lighting.
- Flammable liquids, vapors or dust that may ignite. If present, do not work in area until sources have been identified and corrected. The hole cutter is not explosion proof and can

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cause sparks.

- Clear, level, stable, dry location for all of the equipment and operator.
- Properly grounded electrical outlet of the correct voltage. A three prong or GFCI outlet may not be properly grounded. If in doubt, have outlet inspected by a licensed electrician.
- Clear path to electrical outlet that does not contain any potential sources of damage for the power cord.

2. Inspect the work to be done. Determine the pipe type and size, and clearance around the pipe. Determine the size and location of the hole to be cut. Clearly mark the cut location. If installing a fitting, follow the fitting manufacturer's instructions. Determine the correct equipment for the job. See the Description and Specification sections for tool information. Make sure that the pipe to be cut is well supported and stable. The pipe must be able to handle the weight of the Hole Cutting Tool and the forces applied during cutting without moving. If working on an existing system, make sure that the system has been depressurized and drained. The Hole Cutting Tools are not designed for hot tapping purposes. Cutting into pressurized or systems with fluids in them can cause spills, electrical shock and other serious injury. Know the contents of the pipe and any specific hazards associated with the contents.

3. Confirm that the equipment to be used has been properly inspected,

4. Select an appropriate hole saw for the work to be performed. Make sure that the hole saw is properly assembled per its instructions and is in good working order.

5. With the Hole Cutting Tool on a stable surface, install the hole saw into the chuck. Always make sure that the ON/OFF switch is in the OFF position and the Hole Cutting Tool is unplugged before installing or changing the hole saw or drill.

- Open the chuck wide enough for the shank of the hole saw. If needed, the chuck key can be used to open the chuck. Make sure that the shank and the chuck jaws are clean.

- Fully insert the shank into the chuck. Make sure that the hole saw is centered in the chuck and firmly tighten the chuck by hand.
- Use the chuck key in all three chuck holes to securely tighten the chuck onto the shank. Make sure to remove the chuck key from the chuck before turning the tool ON.

## **Mounting The Hole Cutting Tool On The Pipe**

Use good lifting technique when placing on the pipe, do not overreach, and keep good balance and footing at all times. Depending on the circumstances, two people may be necessary to mount the Hole Cutting Tool onto the pipe. Hole Cutting Tools can be used at any angle or orientation. If cutting a hole on the side or bottom of a pipe, it may be easier to place the Hole Cutting Tool on the top of the pipe to fasten the chain around the pipe and then move the Hole Cutting Tool into final position.

1. Make sure the chain is hanging freely and the swivel handle is fully loosened.

2. Carefully lift the JK150 Hole Cutting Tool and place with the V-shaped guides squarely on the pipe near the location of the cut. Make sure the chain is not between the pipe and tool base.

3. Always keep at least one hand on the Hole Cutting Tool to stabilize and guide it. Grasp the

end of the chain and pull it snugly around the pipe. Hook the closest chain pin on the wear plate and firmly tighten the swivel handle to hold the Hole Cutting Tool to the pipe.



4. The base of the JK150 Hole Cutting Tool includes a level vial that can be used to align a series of holes. (as photo above)

5. With one hand on the Hole Cutting Tool to stabilize and guide it, slightly loosen the swivel handle to allow final positioning of the tool. Align the pilot drill with the desired cut location, and firmly tighten the swivel handle. Do not remove your hands from the Hole Cutting Tool until you have confirmed that it is securely attached to the pipe. The Hole Cutting Tool must be securely and squarely attached to the pipe to help reduce the risk of hole saw jamming.



Swivel handle

## Operating Instructions

Warning: eye protection, cutting injury and entanglement danger



**Always wear appropriate eye protection. Cutting tools can break or shatter. Cutting produces chips that can be thrown or fall into eyes. Do not use for hot tapping. When cutting into an existing system, the pipe must be drained and depressurized prior to cutting. This reduces the risk of electrical shock and other serious injury. Do not wear gloves or loose clothing when operating machine. Keep Sleeves and jackets buttoned.**

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**Do not reach across machine. Clothing can be caught by the machine resulting in entanglement. Keep fingers and hands away from rotating chuck and saw. This reduces the risk of entanglement and cutting injuries. Follow operating instructions to reduce the risk of injury from electrical shock entanglement, crushing and other causes and prevent Hole Cutter damage.**

1. Confirm that the Hole Cutting Tool and work area are properly set up and that the work area is free of bystanders and other distractions.
2. Assume a proper operating position that will allow:
  - Control of the Hole Cutting Tool, including the ON/- OFF switch and the feed handle. Do not turn the tool ON yet.
  - Good balance. Be sure that you do not have to over reach.
3. Move the ON/OFF switch to the ON position. Observe the rotation of the hole saw and pilot drill, making sure it is running straight and true. If they wobble, or any other issues are noted, move the switch to OFF and unplug tool, fix any issues prior to using. Keep fingers, hands and clothes away from the turning chuck to help reduce the risk of entanglement.
4. Place both hands on the hand wheel and advance the pilot drill into contact with the pipe. Apply firm pressure, and start drilling the pilot hole. Do not force the pilot drill/hole saw. This can overload the hole saw and the tool motor and cause premature failure.



Cutting in process

Once the hole saw is in contact with the pipe, continue to apply firm pressure. Depending on the size and wall thickness of the pipe and the size of the hole being cut, the hole saw may need to be retracted slightly at times for chip removal. If needed, the Hole Cutting Tool can be shut off and a small amount of appropriate cutting lubricant applied to the work piece. Do not apply lubricant while the tool is running, this increases the risk of entanglement. Take appropriate steps to prevent the lubricant from dripping or being thrown during use. As the hole saw moves through the pipe and as the cut is completed, there will be an interrupted cut at times. Decrease pressure as this occurs to help prevent jamming of the hole saw.

5. Once the hole is complete, retract the hole saw from the pipe and switch OFF.
6. Reverse the mounting procedure to remove the Hole Cutting Tool from the pipe. Make sure you have secure grip on the Hole Cutting Tool prior to loosening the chain.
7. If the pipe slug needs to be removed from the hole saw, always make sure that the



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ON/OFF switch is in the OFF position and the Hole Cutting Tool is unplugged before removing. Remove the slug with care, the slug may be hot and edges can be sharp.

## Maintenance Instructions

**Warning: Make sure that the ON/OFF switch is in the OFF position and the tool is unplugged before performing any maintenance or making any adjustments. Maintain tool according to these procedures to reduce the risk of injury from electrical shock, entanglement and other causes.**

### Cleaning

After each use, wipe any chips or oil off with a soft, clean, damp cloth, especially areas of relative motion such as the posts. Clean any dust and debris from the motor vents.

### Lubrication

The Hole Cutting Tools gearboxes are designed as sealed systems, and should not require any additional grease unless significant leakage has occurred. In those cases, the tools should be returned to a service center. Do not lubricate the bearings that ride on the posts. The bearings are not designed to be used with lubricants, and lubricants will hold dirt and debris that could damage the bearings. As needed, the chain and screw assemblies can be lubricated with a light lubricating oil. Wipe any excess oil from exposed surfaces.

### Changing Brushes

Check motor brushes every six months and replace when worn to less than 1/2".

1. Remove two screws holding carbon brush cover, remove cover.
2. Take out the brush holder, replace carbon brushes.
3. Inspect the armature for wear. If excessively worn, have tool serviced.
4. Install the brush holder into motor housing, re-install the cover.



Cutting in process

### Machine Storage

The Hole Cutting Tool must be kept indoors or well covered in rainy weather. Store the machine in a locked area that is out of reach of children and people unfamiliar with hole cutting tool. This machine can cause serious injury in the hands of untrained users.

**HANGZHOU HONGLI PIPE MACHINERY CO., LTD**

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