


## WARNING PIPE WRENCH

Any piece of equipment can be dangerous if not operated properly. **YOU** are responsible for the safe operation of this equipment. The operator must carefully read and follow any warnings, safety signs and instructions provided with or located on the equipment. Do not remove, defeat, deface or render inoperable any of the safety devices or warnings on this equipment. If any safety devices or warnings have been removed, defeated, defaced, or rendered inoperable, **DO NOT USE THIS EQUIPMENT!!!**

 **WARNING:** This product can expose you to chemicals including Chromium from steel products, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65warnings.ca.gov](http://www.P65warnings.ca.gov)

### Pipe Wrench Use Guide

- **Use personal protective equipment.** Always wear eye protection. Protective equipment such as non-skid safety shoes, hard hat, etc. used for appropriate conditions will reduce the risk of personal injury.
- **Do not use handle extensions (“cheaters”).** Handle extensions may damage the wrench or slip and cause serious injury.
- **Do not use with a threading machine to install or remove (make or break) fittings.** This can cause striking or crushing injuries.
- **Do not use come-a-longs, chain hoists, handle extensions, backhoes, threading machines, drill rigs or other mechanical, hydraulic, or powered devices to activate pipe wrenches to install or remove (make or break) fittings. Do not use excessive force.** Pipe wrenches are hand tools designed to be used by hand. Use of these types of devices with pipe wrenches can result in wrench and equipment damage and failure from overload and increases the risk of striking, crushing, or other serious injuries.
- **Do not use a wrench with a bent or twisted handle.** A bent handle indicates the wrench has been overloaded and is damaged. A bent handle should never be straightened. Remove bent or twisted wrenches from service.
- **Do not modify or alter a pipe wrench.** Modifying a pipe wrench may result in wrench failure and serious injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the tool in unexpected situations.
- **Do not hit a wrench with a hammer to break loose a fitting.** Impact loading may damage the wrench, chip wrench teeth, or cause serious injury.
- **Do not misuse pipe wrenches.** Misuse increases the risk of serious injury.

**Do not use as a hammer.**

**Do not apply a side load to the handle.**

**Do not use as a lever, lifting device or bender.**

**Do not use the wrench on hard, square, hexagonal or other non-round material.**

Pipe wrenches are designed to turn pipe. Improper use may result in damage or injury.

- **Do not use near flame or high heat.** Teeth on the hook or heel jaw could become soft. This may result in chipping or flattening of the teeth. This reduces its strength which may result in failure.
- **Properly support the work piece.** Failure to properly support the work piece can cause falling or shifting pipe and equipment and increases the risk of injury.
- **Stay alert, watch what you are doing and use common sense when using tools.** Do not use when you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating tools may result in serious personal injury.

• **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury in a fraction of a second.

• Pipe wrenches are general use tools that can be used in a variety of situations. We cannot provide guidance on all possible use situations. Users must evaluate the specific work scenario and apply training, good work practices and methods to reduce risk.

**NOTICE** Selection of appropriate materials and installation, joining and forming methods is the responsibility of the system designer and/or installer. Selection of improper materials and methods could cause system failure.

Stainless steel and other corrosion resistant materials can be contaminated during installation, joining, and forming. This contamination could cause corrosion and premature failure. Careful evaluation of materials and methods for the specific service conditions, including chemical and temperature, should be completed before any installation is attempted.

### **Description**

Pipe Wrenches are hand tools designed to turn pipe and tighten and loosen threaded pipe connections with round threaded fittings. Pipe wrenches are available in a variety of configurations, including ductile iron or aluminum handle versions

### **Pipe Wrench Use Guide**

#### **Inspection/Maintenance**

Daily before use, clean the wrench to aid inspection and improve control. Handles and gripping surfaces should be clean, dry, and free of oil and grease. Inspect the wrench for:

- Proper assembly and completeness.
- Wear. Clean the jaws with a wire brush. Teeth should be clean and sharp. Replace jaws if teeth are worn to reduce the risk of slippage.
- Damage such as cracks, cuts, nicks, deformation.
- Bent or twisted handles. Do not straighten handles. Wrenches with bent handles have been overloaded. Remove bent wrenches from service.
- Modification of any kind, including grinding or welding. Modification can weaken a wrench.
- Discoloration or other indications of heat damage.
- Proper operation. Hook jaw should move smoothly when the nut is turned. Springs in housing should allow hook jaw to pivot slightly. This allows for the proper gripping & ratcheting action of the wrench.
- Other issues that could affect safe use.

If any problems are found, do not use until corrected. Remove worn, bent or otherwise damaged wrenches from service.

Lubricate all moving parts/joints as needed with light lubricating oil. Wipe off excess oil. Keep non painted parts well lubricated with oil and store in a dry place.

#### **Set-Up**

Inspect the material to be worked with. Pipe wrenches are designed for use on round pipe and threaded fittings, or soft round stock. Do not use on hard (325 BHN maximum), square, hexagonal or other non-round material. The jaw teeth penetrate the stock to properly grip. Wrench may slip on hardened material or the teeth may chip when used on hex or square stock.

Pipe wrenches can apply high forces to pipe that can crush or oval the pipe, especially thinner wall pipe. Pipe wrench jaw teeth grip by digging into the material of the pipe. This will mar the surface finish of the pipe and could create sharp edges and cut hazards.

Choose a proper size and type of pipe wrench for the job. Do not use on pipe larger than the pipe wrench is rated for.

*(See Chart 1)*

Pipe Wrench Size	Suggested Pipe Size Range	Maximum Pipe Size
6"	1/8" - 1/2"	3/4"
8"	1/4" - 3/4"	1"
10"	1/4" - 1"	1 1/2"
12"	1/2" - 1 1/4"	2"
14"	1/2" - 1 1/2"	2"
18"	1" - 2"	2 1/2"
24"	1 1/2" - 2 1/2"	3"
36"	2" - 3 1/2"	5"
48"	3" - 5"	6"
60"	3" - 6"	8"

Chart 1 - Suggested Pipe Size Range

Make sure the work piece is stable and well supported to prevent tipping and falling during use. When using a pipe wrench of any size, **a gap must be maintained between the shank of the hook jaw and the work piece.** (Figure 3) This permits the two gripping points (heel jaw teeth and hook jaw teeth) to produce the gripping action of the wrench. Allowing the shank of the hook jaw to contact the work piece greatly reduces the gripping action and can cause slippage. It may also result in the failure of the hook jaw. (Figure 4)



Figure 3 – Maintain Gap Between Hook Shank and Work Piece

Adjust the hook position by rotating the nut as needed. Wrench should be square to the pipe. Do not use with the wrench at an angle to the pipe.



Figure 4 – Wrench Too Small for Work Piece, Hook Shank Touching Work Piece.

## Operation

Once the pipe wrench is securely on the work piece, assume a proper operating position. Do not overreach. Keep proper footing and balance at all times. Do not hang on the pipe wrench. A proper operating position enables better control of the tool in unexpected situations. When working at height (on ladders, scaffolding, etc.) use appropriate work methods and equipment to ensure stability and safety. When working on horizontal pipe such as in a pipe vise at waist height, it is often most effective to use your body weight to tighten and loosen fittings (Figure 7). Do not lift your feet off the ground. Keep your feet firmly on the ground to maintain control of the wrench. Pulling a wrench typically allows better control in unexpected circumstances than pushing the wrench. Only apply force in the direction of rotation. Excessive side loading of the wrench can cause the wrench to slip or be damaged. Do not hang wrench on pipe – always keep a hand on the wrench. Uncontrolled tools can fall and cause injury. Fittings can come loose, wrenches can slip – be prepared. If greater torque is required, do not use handle extensions or other mechanical, hydraulic, or powered devices with the pipe wrench. Use a larger wrench or a compound leverage wrench. Other methods may be needed to break connections loose, such as heat or hammering on the joint (do not pound on the wrench). In some cases, it may be possible to disassemble the system at the next connection and break the connection loose at vise or bench.



Figure 7 – A Proper Operating Position

If the person receiving this handout will not be the user of the equipment, forward these instructions to the operator. If there is any doubt as to the operation or safety of the equipment,  
**DO NOT USE!!! CALL A TOOL SHED IMMEDIATELY!!! FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN INJURY OR DEATH**