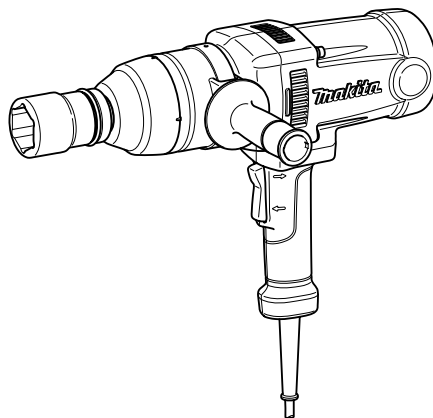


INSTRUCTION MANUAL



# Impact Wrench

TW1000



006015



DOUBLE INSULATION

**⚠ WARNING:**

For your personal safety, READ and UNDERSTAND before using.  
SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

## ENGLISH

# SPECIFICATIONS

Model		TW1000
Capacities	Bolt size	M24 - M30 (1" - 1-3/16")
	High tensile bolt	M22 - M24 (7/8" - 1")
Square drive		25.4 mm (1")
No load speed (RPM)		1,400/min.
Impacts per minute		1,500
Max. fastening torque		1000 N.m (738 ft.lbs)
Overall length		382 mm (15")
Net weight		8.4 kg (18.5 lbs)

- Due to our continuing programme of research and development, the specifications herein are subject to change without notice.
- Note: Specifications may differ from country to country.

## GENERAL SAFETY RULES

USA002-2

### (For All Tools)

#### **WARNING:**

#### **Read and understand all instructions.**


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

## SAVE THESE INSTRUCTIONS

### Work Area

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

### Electrical Safety

4. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other.) This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation  eliminates the need for the three wire

grounded power cord and grounded power supply system.

5. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
6. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
7. **Do not abuse the 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 electric shock.
8. **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W".** These cords are rated for outdoor use and reduce the risk of electric shock.

### Personal Safety

9. **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 medication.** A moment of inattention while operating power tools may result in serious personal injury.
10. **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.
11. **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.

12. **Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
13. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
14. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions. Ordinary eye or sun glasses are NOT eye protection.

### Tool Use and Care

15. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
16. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
17. **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.
18. **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.
19. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.

20. **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.
21. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
22. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

### SERVICE

23. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
24. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of electric shock or injury.

**USE PROPER EXTENSION CORD:** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

**Table 1: Minimum gage for cord**

Ampere Rating		Volts	Total length of cord in feet				
		120 V	25 ft.	50 ft.	100 ft.	150 ft.	
More Than	Not More Than	AWG					
0	6		18	16	16	14	
6	10		18	16	14	12	
10	12		16	16	14	12	
12	16		14	12	Not Recommended		

### SPECIFIC SAFETY RULES

USB003-2

**DO NOT let comfort or familiarity with product (gained from repeated use) replace strict adherence to impact wrench safety rules. If you use this tool unsafely or incorrectly, you can suffer serious personal injury.**

1. **Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will make exposed metal parts of tool "live" and shock the operator.
2. **Wear ear protectors.**
3. **Check the socket carefully for wear, cracks or damage before installation.**
4. **Hold the tool firmly.**

5. Always be sure you have a firm footing. Be sure no one is below when using the tool in high locations.
6. The proper fastening torque may differ depending upon the kind or size of the bolt. Check the torque with a torque wrench.




## SAVE THESE INSTRUCTIONS

**⚠ WARNING:**  
**MISUSE or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.**

## SYMBOLS

USD202-2

The followings show the symbols used for tool.

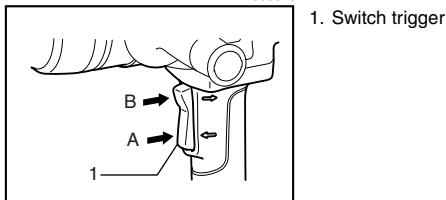
- V.....volts  
 A.....amperes  
 Hz.....hertz  
 .....alternating current  
 n.....no load speed  
 .....Class II Construction  
 .../min.....revolutions or reciprocation per minute  
 .....number of blow

## FUNCTIONAL DESCRIPTION

- ⚠ CAUTION:**
- Always be sure that the tool is switched off and unplugged before adjusting or checking function on the tool.

### Switch action

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- ⚠ CAUTION:**
- Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.
  - Change the direction of rotation only when the tool comes to a complete stop. Changing it before the tool stops may damage the tool.

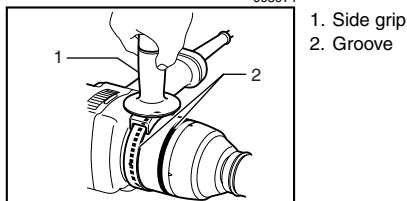
The switch is reversible, providing either clockwise or counterclockwise rotation. To start the tool, simply pull the lower part (A) of the switch trigger for clockwise or the upper part (B) for counterclockwise. Release the switch trigger to stop.

## ASSEMBLY

- ⚠ CAUTION:**
- Always be sure that the tool is switched off and unplugged before carrying out any work on the tool.

### Installing side grip (auxiliary handle)

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Fit the side grip into the groove on the hammer case and fasten securely.

The grooves for the side grip installation are located in two positions. Install it at the proper position according to your work.

### Selecting correct socket

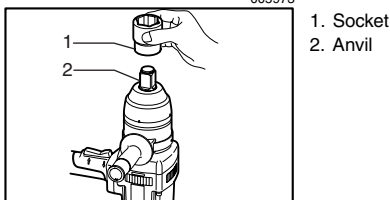
Always use the correct size socket for bolts and nuts. An incorrect size socket will result in inaccurate and inconsistent fastening torque and/or damage to the bolt or nut.

### Installing or removing socket

- ⚠ CAUTION:**
- Always be sure that the tool is switched off and unplugged before installing or removing the socket.

### For socket without O-ring and pin

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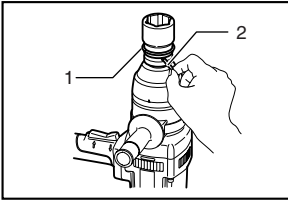


To install the socket, push it onto the anvil of the tool until it locks into place.

To remove the socket, simply pull it off.

**For socket with O-ring and pin**

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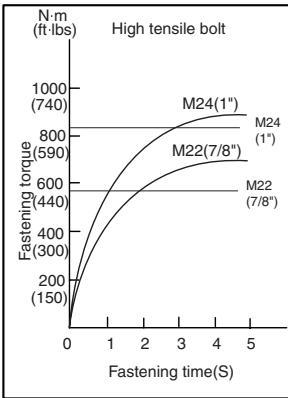
- 1. O-ring
- 2. Pin

Move the O-ring out of the groove in the socket and remove the pin from the socket. Fit the socket onto the anvil of the tool so that the hole in the socket is aligned with the hole in the anvil. Insert the pin through the hole in the socket and anvil. Then return the O-ring to the original position in the socket groove to retain the pin. To remove the socket, follow the installation procedures in reverse.

**OPERATION**

The proper fastening torque may differ depending upon the kind or size of the bolt, the material of the workpiece to be fastened, etc. The relation between fastening torque and fastening time is shown in the figure.

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Hold the tool firmly and place the socket over the bolt or nut. Turn the tool on and fasten for the proper fastening time.

**NOTE:**

- Hold the tool pointed straight at the bolt or nut.
- Excessive fastening torque may damage the bolt/nut or socket. Before starting your job, always

perform a test operation to determine the proper fastening time for your bolt or nut.

The fastening torque is affected by a wide variety of factors including the following. After fastening, always check the torque with a torque wrench.

1. Voltage
  - Voltage drop will cause a reduction in the fastening torque.
2. Socket
  - Failure to use the correct size socket will cause a reduction in the fastening torque.
  - A worn socket (wear on the hex end or square end) will cause a reduction in the fastening torque.
3. Bolt
  - Even though the torque coefficient and the class of bolt are the same, the proper fastening torque will differ according to the diameter of bolt.
  - Even though the diameters of bolts are the same, the proper fastening torque will differ according to the torque coefficient, the class of bolt and the bolt length.
4. The use of the universal joint or the extension bar somewhat reduces the fastening force of the impact wrench. Compensate by fastening for a longer period of time.
5. The manner of holding the tool or the material of driving position to be fastened will affect the torque.

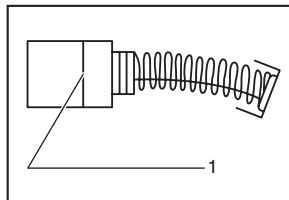
**MAINTENANCE**

**CAUTION:**

- Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

**Replacing carbon brushes**

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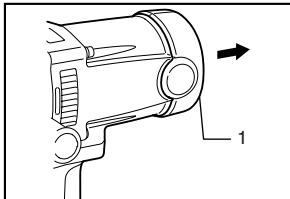


- 1. Limit mark

Remove and check the carbon brushes regularly. Replace when they wear down to the limit mark. Keep the carbon brushes clean and free to slip in the holders. Both carbon brushes should be replaced at the same time. Use only identical carbon brushes.

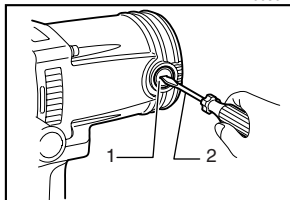
Remove the protector. Use a screwdriver to remove the brush holder caps. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.

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1. Protector

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1. Brush holder cap  
2. Screwdriver

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized Service Centers, always using Makita replacement parts.

## ACCESSORIES

### CAUTION:

- These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. Only use accessory or attachment for its stated purpose.

If you need any assistance for more details regarding these accessories, ask your local Makita service center.

- Extension bar
- Side grip
- Socket
- Plastic carrying case

< USA only >

# WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.