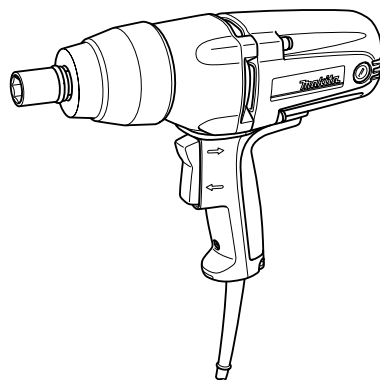


INSTRUCTION MANUAL

# Impact Wrench

TW0350



004005

 DOUBLE INSULATION

**IMPORTANT:** Read Before Using.

## ENGLISH (Original instructions)

# SPECIFICATIONS

Model		TW0350
Capacities	Standard bolt	M12 - M22
	High tensile bolt	M12 - M16
Square drive		12.7 mm
No load speed (min <sup>-1</sup> )		2,000
Impacts per minute		2,000
Max. fastening torque		350 N·m
Overall length		283 mm
Net weight		3.0 kg
Safety class		□/II

- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Specifications may differ from country to country.
- Weight according to EPTA-Procedure 01/2003

END201-5

ENG905-1

## Symbols

The following show the symbols used for the equipment. Be sure that you understand their meaning before use.



- Read instruction manual.



- DOUBLE INSULATION



- Only for EU countries  
Do not dispose of electric equipment together with household waste material! In observance of European Directive 2002/96/EC on waste electric and electronic equipment and its implementation in accordance with national law, electric equipment that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

ENE036-1

## Intended use

The tool is intended for fastening bolts and nuts.

ENF002-2

## Power supply

The tool should be connected only to a power supply of the same voltage as indicated on the nameplate, and can only be operated on single-phase AC supply. They are double-insulated and can, therefore, also be used from sockets without earth wire.

## Noise

The typical A-weighted noise level determined according to EN60745:

Sound pressure level ( $L_{pA}$ ): 93 dB (A)

Sound power level ( $L_{WA}$ ): 104 dB (A)

Uncertainty (K): 3 dB (A)

## Wear ear protection

ENG900-1

## Vibration

The vibration total value (tri-axial vector sum) determined according to EN60745:

Work mode : impact tightening of fasteners of the maximum capacity of the tool

Vibration emission ( $a_h$ ): 11.5 m/s<sup>2</sup>

Uncertainty (K): 1.5 m/s<sup>2</sup>

ENG901-1

- The declared vibration emission value has been measured in accordance with the standard test method and may be used for comparing one tool with another.
- The declared vibration emission value may also be used in a preliminary assessment of exposure.

## ⚠WARNING:

- The vibration emission during actual use of the power tool can differ from the declared emission value depending on the ways in which the tool is used.
- Be sure to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

**For European countries only****EC Declaration of Conformity****Makita declares that the following Machine(s):**

Designation of Machine:

Impact Wrench

Model No./ Type: TW0350

**Conforms to the following European Directives:**

2006/42/EC

They are manufactured in accordance with the following standard or standardized documents:

EN60745

The technical file in accordance with 2006/42/EC is available from:

Makita, Jan-Baptist Vinkstraat 2, 3070, Belgium

31.12.2013



000331

Yasushi Fukaya

Director

Makita, Jan-Baptist Vinkstraat 2, 3070, Belgium

GEA005-3

## General Power Tool Safety Warnings

**⚠ WARNING** Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

### Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

#### Work area safety

1. **Keep work area clean and well lit.** Cluttered or 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 children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

#### Electrical safety

4. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

5. **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or 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 for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
8. **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
9. **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.
10. **Use of power supply via a RCD with a rated residual current of 30mA or less is always recommended.**

#### Personal safety

11. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
12. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
13. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
14. **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
15. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
16. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
17. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

### Power tool use and care

18. **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
19. **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
20. **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
21. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
22. **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
23. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
24. **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

### Service

25. **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
26. **Follow instruction for lubricating and changing accessories.**
27. **Keep handles dry, clean and free from oil and grease.**

GEB009-6

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:

**DO NOT** let comfort or familiarity with product (gained from repeated use) replace strict adherence to safety rules for the subject product. **MISUSE** or failure to follow the safety rules stated in this instruction manual may cause serious personal injury.

## IMPACT WRENCH SAFETY WARNINGS

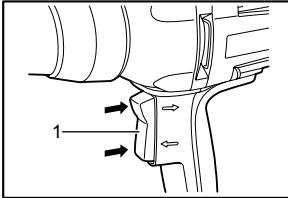
1. **Hold power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring or its own cord.** Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
2. **Wear ear protectors.**

# FUNCTIONAL DESCRIPTION

**⚠ CAUTION:**

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

**Switch action**



1. Switch trigger

004006

**⚠ 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 of the switch trigger for clockwise or the upper part 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.

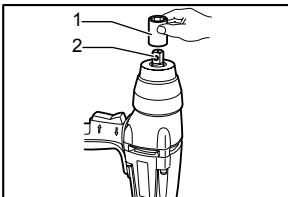
**Selecting correct socket**

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.



1. Socket  
2. Anvil

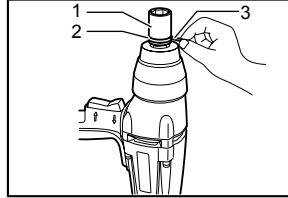
004007

**For socket without O-ring and pin**

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**



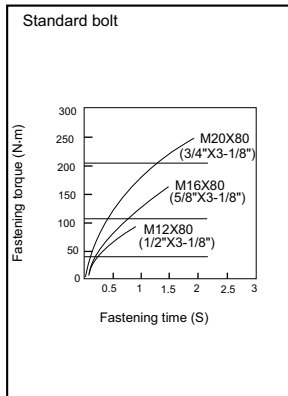
1. Socket  
2. O-ring  
3. Pin

004008

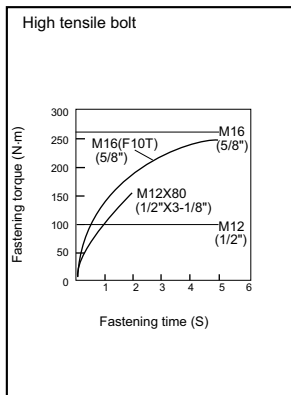
Move the O-ring out of the groove in the socket and remove the pin from the socket. Fit the socket onto the anvil of the tool so that the hole in the socket is aligned with the hole in the anvil. Insert the pin through the hole in the socket and anvil. Then return the O-ring to the original position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



004009



004010

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:**

- When fastening screw M12 or smaller, carefully adjust pressure on the switch so that the screw is not damaged.
- Hold the tool pointed straight at the bolt or nut without applying excessive pressure on the tool.
- If you fasten the bolt for a time longer than shown in the figures, the bolt or the socket may be overstressed, damaged, etc. Before starting your job, always perform a test operation to determine the proper fastening time for your bolt. Especially for the bolt over than M12, perform the above test operation to prevent the trouble on socket or bolt, etc.

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.

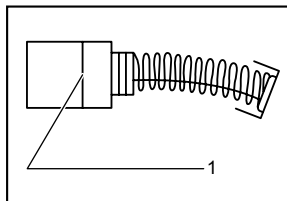
4. The use of the universal joint or the extension bar somewhat reduces the fastening force of the impact wrench. Compensate by fastening for a longer period of time.
5. The manner of holding the tool or the material of driving position to be fastened will affect the torque.

**MAINTENANCE**

**⚠CAUTION:**

- Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.
- Never use gasoline, benzine, thinner, alcohol or the like. Discoloration, deformation or cracks may result.

**Replacing carbon brushes**

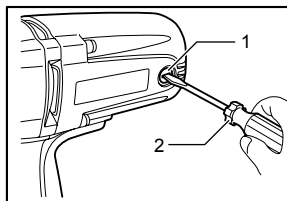


1. Limit mark

001145

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.

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.



1. Brush holder cap  
2. Screwdriver

004011

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.

---

## OPTIONAL 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.

- Sockets
- Extension bar
- Universal joint

### NOTE:

- Some items in the list may be included in the tool package as standard accessories. They may differ from country to country.

**Makita** Jan-Baptist Vinkstraat 2, 3070, Belgium  
**Makita Corporation** Anjo, Aichi, Japan