



# GEAR BENDER

TA515M Series

Instruction Manual



ICHINEN **TASCO** CO.,LTD.

## Thank you for purchasing this product.

- Read this **Safety Notes and Instruction Manual** thoroughly before using the product and ensure that instructions therein are fully understood.
- This manual summarizes “**things that needs to be observed**” so that the product can be used by everybody without any concern.
- Keep this manual handy for quick reference.
- If the product were to be rented or assigned to somebody else, provide thorough instructions and deliver the product together with this manual.

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## Safety Notes (Should be observed)

Always observe these instructions as they are meant to prevent harms to the operator and other persons, as well as damages to the properties.

Notes contained in this manual are classified as  **WARNING** and  **CAUTION**. Instructions given in the  **WARNING** column summarize and refer to those that may result in a death or serious injury if they are neglected. However, instructions classified as  **CAUTION** may also lead to serious consequences depending on the circumstance if neglected. Observe all instructions without fail because they refer to important matters concerning safety.

Before using the product, it should be understood that the supplier shall not be held liable for the product failures, other problems and damages suffered by the customer or a third person, while using the product erroneously or properly, unless the liability is affirmed legally.

## Safety Notes

### 1.For Using the Product Safely

#### ● General instructions



**Do not modify the machine or use it for purposes other than those intended.**

**[If neglected]**

The machine may fail or cause an accident, resulting in an injury of the operator.



**Wear clothing suitable for the task.**

Do not wear the baggy clothes and accessories such as a necklace to prevent them from getting caught in the moving part.

Put on safety shoes, a helmet, protective eyeglasses, protective clothes, etc. in performing a task.

**[If neglected]**

The operator may suffer an injury.



**Do not touch the moving part during work.**

**[If neglected]**

The operator may suffer an injury.



**Carry out the work on a level place.**

**[If neglected]**

The operator may suffer an injury by moving the machine accidentally.



**Allow sufficient space for using the machine in consideration of length of a copper tube and its rolling.**

**[If neglected]**

It may not only damage the surroundings but also people around the machine may be hurt.



**Keep the machine in a location where children and animals would not be present.**

**[If neglected]**

Children or animals may suffer an injury by touching or moving the machine.



**Avoid using the product forcibly so that a work can be performed safely and efficiently.**

**[If neglected]**

The machine may fail or cause an accident, resulting in an injury of the operator.



**Do not sit on and shake the machine.**

**[If neglected]**

The machine may fail or cause an accident, resulting in an injury of the operator.



**CAUTION**

**Do not expose the machine to wind and rain.**

**[If neglected]**

It can be a cause of failure.



**CAUTION**

**Keep the workplace clean.**

**[If neglected]**

A workplace or a workbench that is littered can cause an accident.



**CAUTION**

**Do not use parts other than those designated by the supplier for replacement and other purposes.**

**[If neglected]**

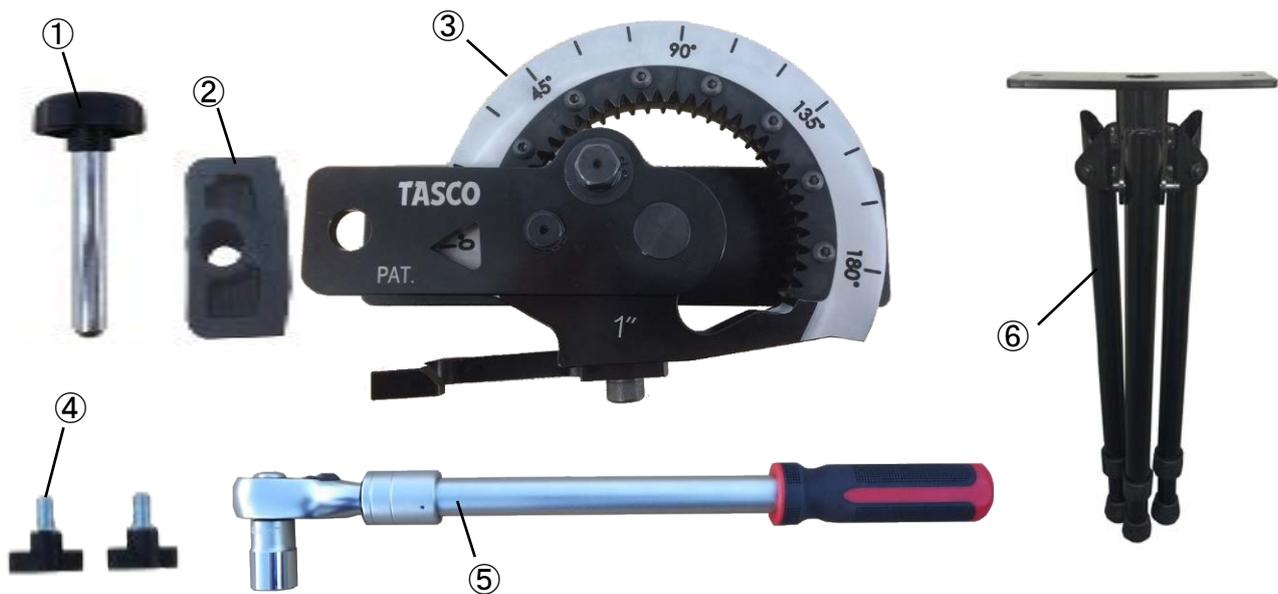
It can be a cause of failure.

## 2.Part Name and Function

### 2.1 Features

- Need no power supply.
- Gears make labor-saving, easy and simple operation.
- Tripod with adjustable and foldable legs.
- Easy to carry and operate at work sites.

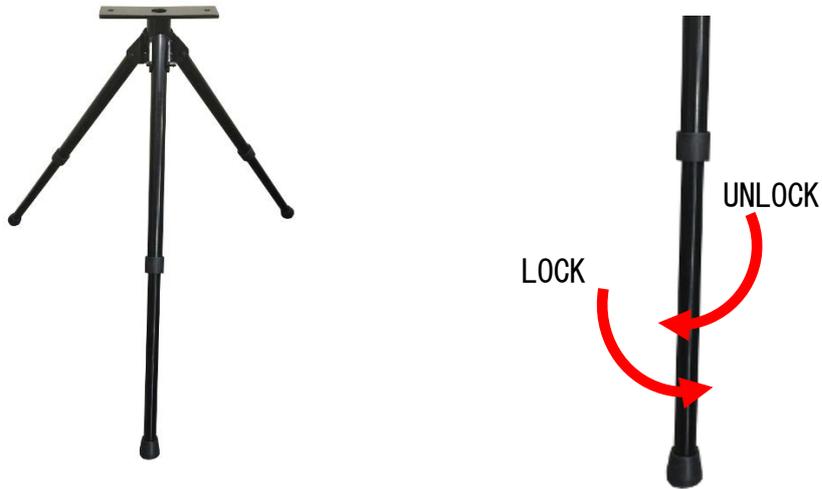
### 2.2 Parts



- ① Guide Pin
- ② Guide
- ③ Bender Former
- ④ Bolt 2 pcs (to fix the former)
- ⑤ Ratchet Wrench with 17mm Socket
- ⑥ Tripod

### 3. Preparation

1. Open up the tripod and turn left to loosen the legs.  
Pull out to a desired length and turn right to lock the legs.  
※After setting the bender former on the tripod, adjust the length so that it's horizontal.  
※Do not pull the legs out beyond the yellow line for safety purposes.



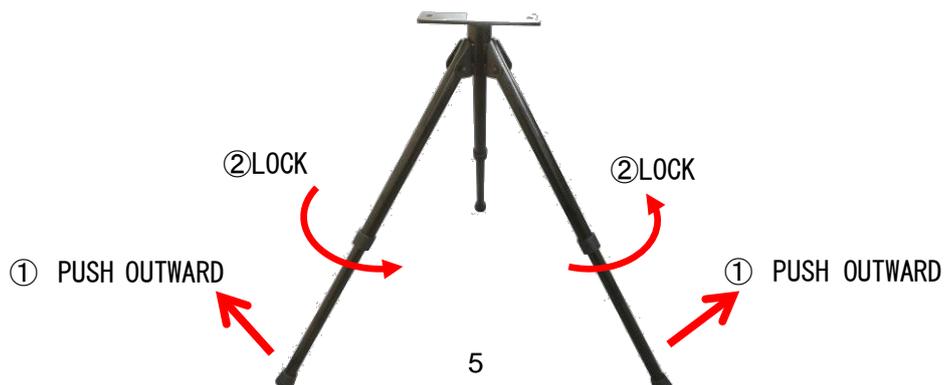
※In case the legs doesn't lock:

(1) By pulling out to the end and turning right, the leg should lock.



(2) After confirming that the leg can be locked, make sure to shorten the length of the leg so that the yellow line is covered.

Then, turn the leg to the right to lock and push the legs a bit outward.

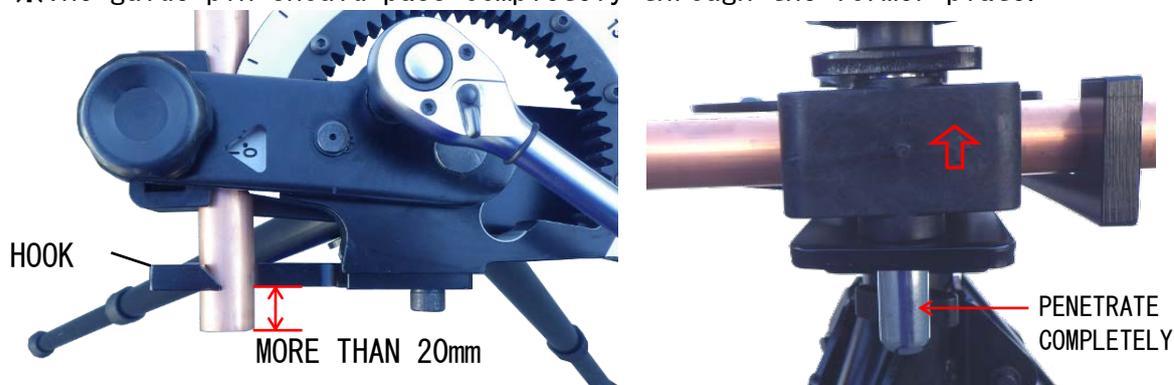


2. Attach the bender former to the tripod with the fixing bolts.

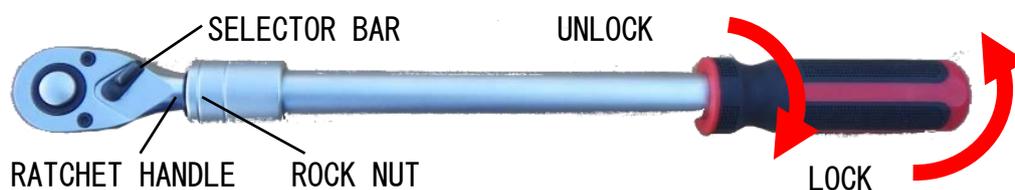


#### 4. Usage

1. Set the copper tube to the former and fasten the hook. Then put the guide pin through the former and the guide (arrow mark on the guide should be pointing upwards) completely.
  - ※The copper tube end should stick out of the hook at least 20mm or more.
  - ※The guide pin should pass completely through the former plate.

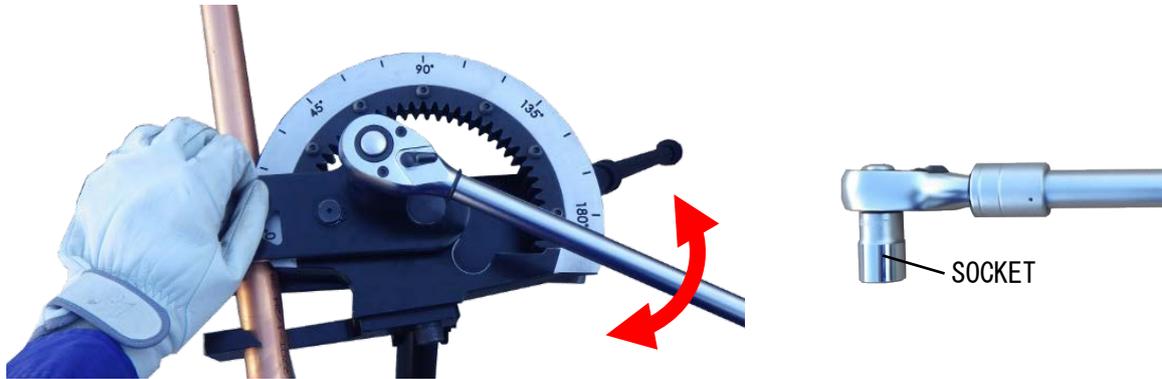


2. Set the ratchet wrench to the former and shift the selector bar as per the picture below.
  - ※Can adjust the length of ratchet handle by turning the grip.
  - ※Do not pull out the handle over the limit line.  
(The limit line is shown by the dent on the ratchet tube.)



3. Move the ratchet handle forward and backward **widely** so that the former rotates. In order to apply the ratchet function, hold the socket of the ratchet wrench and move the handle forward and backward. Once there is resistance, replace the left hand on the guide pin as shown in the picture below.

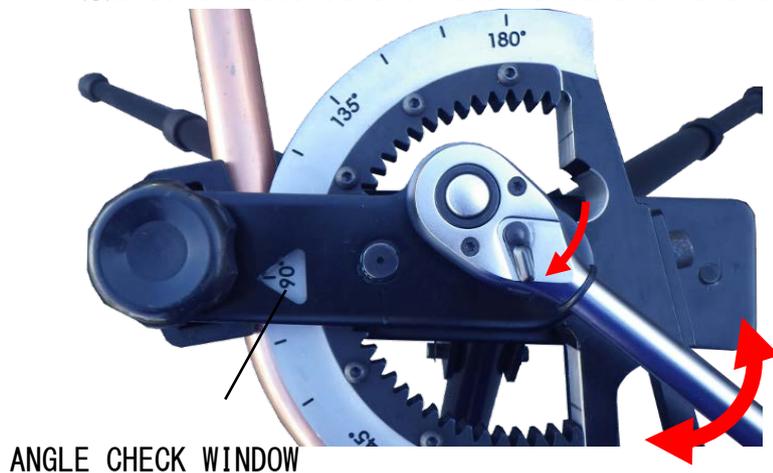
※Do not touch the moving part during operation .



4. Check the angle by the check window and when it reaches the target angle, stop the operation and shift the selector bar of the ratchet wrench. Then, move the ratchet handle forward and backward so that the former rotates in the opposite direction.

※Bending angle is only a guide. Depending on the copper tube, the spring back (the force to go backwards) will occur.

※Note to take care of the rebound of the copper tube.



5. After the copper tube is released from the fixing, remove the guide pin from the guide and remove the copper tube from the former.

**⚠ WARNING**

- ⊘ Do not bend the copper tube other than the appropriate size.
- ⊘ The machine is only for 1/2 hard copper tube. Do not bend a hard copper tube.
- ❗ Make sure to attach the guide pin.

**【If neglected】**

The machine may fail or cause an accident, resulting in an injury of the operator.

**⚠ CAUTION**

- ⚠ Make sure to support the copper tube during work.

**【If neglected】**

The end of the copper tube which is not fixed by the gear bender shall be weighted down with one's own weight. If it's not supported during work, the copper tube may deform and the machine may also fail.

Therefore, we strongly recommend you to support the copper tube regardless of the tube length.

**OPTION**

**Adapter for Impact Driver 【TA515M-D】**

- Applicable for electric drivers with 45Nm or above.
- Attached with 17mm socket for electric driver.
- Easier to operate than with a ratchet wrench.



**Pipe Supporting Stand for Bending Machine 【TA515PY】**

- Height: 860~1200mm ● for  $\phi 9 \sim 100$ mm copper tube



## 5. Primary Specification

### FORMER

|                                   |                                 |                |                     |                       |                      |
|-----------------------------------|---------------------------------|----------------|---------------------|-----------------------|----------------------|
| <b>I T E M N O .</b>              | TA515M-7                        | TA515M-8       | TA515M-9            | TA515M-10             | TA515M-12            |
| <b>APPLICABLE COPPER MATERIAL</b> | 1 / 2 H COPPER TUBE             |                |                     |                       |                      |
| <b>COPPER TUBE SIZE</b>           | 7/8"<br>(22.23mm)               | 1"<br>(25.4mm) | 1-1/8"<br>(28.58mm) | 1-1/4" ※<br>(31.75mm) | 1-1/2" ※<br>(38.1mm) |
| <b>BENDING RADIUS</b>             | R=4D (4 TIMES OF TUBE DIAMETER) |                |                     |                       |                      |
|                                   | 89mm                            | 102mm          | 114mm               | 127mm                 | 152mm                |
| <b>MAXIMUM BENDING ANGLE</b>      | 180°                            |                |                     |                       |                      |
| <b>W E I G H T</b>                | 4.5kg                           | 5.0kg          | 5.4kg               | 6.9kg                 | 9.0kg                |
| <b>ACCESSORIES</b>                | GUIDE、GUIDE PIN、FIXING BOLT     |                |                     |                       |                      |

※Depending on the hardness of the copper tube, the spring back function occurs (the force to return to its original form), which may cause the ratchet action to have no effect. When this happens, do not use the ratchet action (back and forth), but rotate the handle 360 degrees by hand in order to make the former move and bend the tube.

### TRIPOD

|                      |           |
|----------------------|-----------|
| <b>I T E M N O .</b> | TA515M-T  |
| <b>H E I G H T</b>   | 550~790mm |
| <b>W E I G H T</b>   | 6.9kg     |

### 1/2" RATCHET WRENCH

|                      |  |
|----------------------|--|
| <b>I T E M N O .</b> | TA515M-W   |
| <b>L E N G T H</b>   | 420~660mm  |
| <b>W E I G H T</b>   | 1.3kg  |
| <b>S O C K E T</b>   | INSERTING ANGLE : 1/2" (12.7mm)      SIZE : 17mm |

### STORAGE BAG

|                      |                      |
|----------------------|----------------------|
| <b>I T E M N O .</b> | TA515M-B             |
| <b>S I Z E</b>       | W670 × D330 × H300mm |
| <b>W E I G H T</b>   | 3.0kg                |

No. \_\_\_\_\_

# Warranty

## Terms of Warranty

1. This product is to be repaired free of charge if a failure occurs despite proper use during the period of warranty.
2. This warranty is valid for 1 year starting from the date of purchase.
3. In any of the following cases, this product is to be excluded from free-of-charge repair.
  - 1) Failures incurred by improper use.
  - 2) Failures due to handling and storage beyond its specifications.
  - 3) Failures due to modifications or repairs not done by the manufacturer or its entrusted technicians.
  - 4) Failures due to consumable components.
  - 5) Other failures not deemed to be the manufacturer's responsibilities.

|  |
|--|
| Product Name: <b>GEAR BENDER</b>   |
| Model: <b>TA515M series</b>  |
| Date of purchase: M:     /D:     /Y:                                     |
| Period of warranty: For 1 year starting from M:     /D:     /Y:          |
| Customer<br>Name: _____<br><br>Address: _____<br><br>Phone number: _____ |
| Dealer<br>Address and name: _____  |

\* To the dealer: Kindly take a few minutes and fill out the above form.



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