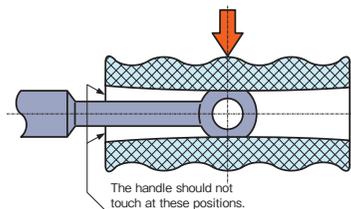


# How to apply force

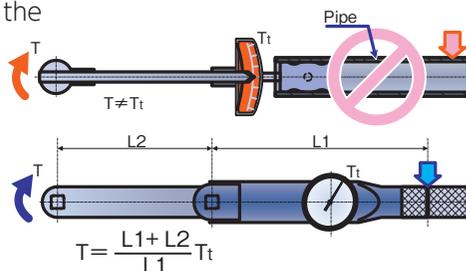
## ■ Torque is affected by the position where force is applied.

1. Beam type (F type) ... Apply force to the center of the handle (pin).
2. Dial type (DB, T type) ... The influence of the position for applying force is not so crucial.
3. Click type (QL, SP type) ... The torque will be affected by the position where the force is applied. Grasp the center of the effective length line on the handle.



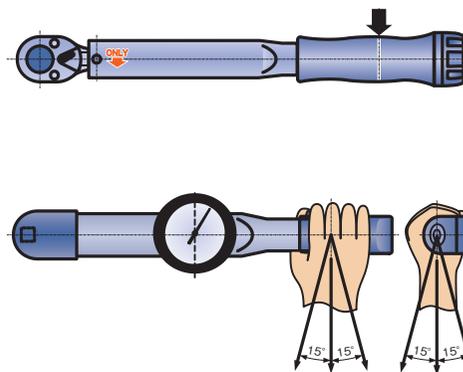
## ■ Using torque wrenches with extensions

1. Do not add extensions to the handle (There is a danger that the scale will not indicate the correct torque.).
2. Extension to the head is possible; however, it will require recalculation of the torque.



## ■ Direction of force

1. The click types (QL, SP) are designed only to be used in the **ONLY** direction indicated on each wrench, while BQSP and BCSP can be used in both directions.
2. The direction of the force should be at right angles to the torque wrench. (The angle tolerance should be within  $\pm 15^\circ$ ).



## ■ Method of applying force

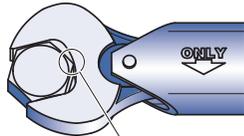
1. Apply force steadily, so as not to create momentum.
2. Stop at once when you feel the "click" using the click types (QL, SP, etc).

## ■ Torque wrenches and loosening operations

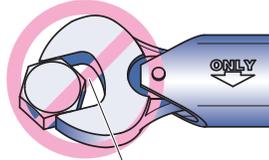
When you loosen bolts with torque wrenches, take care not to damage the wrench. It is easy to apply over-torque because torque wrenches are longer than spanners. Particularly if you change the direction of the ratchet, check the proper running of ratchet before use. It may be dangerous if the ratchet is not seated correctly.

## ■ Cautions for SP types

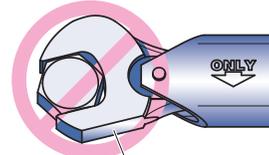
Insert the nut to the full depth



Insert the nut to the full depth of SP.



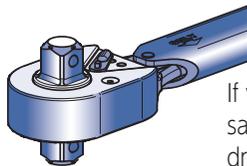
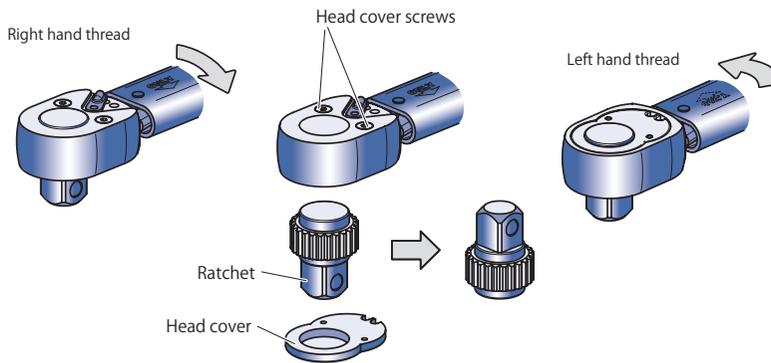
In case that you do not insert the nut to the full depth of SP, accurate tightening torque is not applied due to change the effective length and it causes damage of spanner.



Do not shave parts from the spanner part. Contact Tohnichi about special shapes.

## ■ Tightening of left hand threads

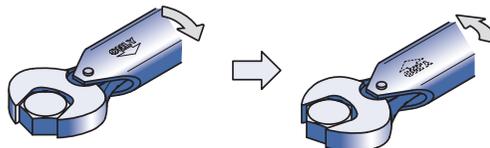
Ratchet type Take out the head cover screws and head cover, and then turn over the ratchet and assemble.



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If you have to use both clockwise and counterclockwise tightening in the same application, there is no need to use two wrenches. By using a dual drive ratchet you can have both turns in one wrench (DQL/DQLE2).

Spanner type



Use by turning over the torque wrench