Manual

Electric Torque Wrench

WED Series

American Torque Wrench Inc

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1 Important Safety Constructions

WARNING!

Do not use this tool before you have read and understood this manual. If the tool is damaged, do not try to repair it by yourself. Please contact us.

CAUTION!

Operate the tool only with single-phase alternating current. It is insulated by class II VDE 0740 and CEE 20. It is possible to plug in the tool to a power socket without protective conductor. Sparking disruption is conform to guideline EG 82/499.

CAUTION!

Before operating the tool, please check if supply voltage is conform to specified operating volt- age.

Only special trained personnel are allowed to operate, calibrate or repair the tool.
Because of rotating objects, untrained personnel may be injured.

After 20,000 bolting actions, the tool shall be maintained and the planetary gear lubricated.
This will be indicated at every restart of the tool.

2 General Information

2.1 Technical Data

Design by	:	American Torque Wrench Inc
Sale & Service	:	American Torque Wrench Inc
Series	:	WED

Equipment : O 100 setting options (1-stage)

O 200 setting options (2-stage)

O Stageless torque setting over the entire torque range

O Angle-controlled bolting function

O Testing program

3 Operating Instructions

1. The torque wrenches series WED can be operated forward and reverse with automatic torque shut-off.

2. Torque values in the torque table are based on medium hard joint. At a hard starting against the bolt, the torque increases by approx. 35%. The maximum torque of the tool may be reached.

3. Because of automatic shut-off, the tool reacts differently to soft and hard bolts. This may also occur in different bolting cases. For every bolting case the torque level has to be set to an appropriate value depending on the desired torque. Therefore it is necessary to check the torque setting from time to time.

4. From the beginning to the end of bolting process the rotation angle has to be 90° at least.

   After the torque is reached, the tool shuts-off automatically. Do not refasten a tight bolt!

5. The planetary gear is loaded to the maximum, if the tool is used for refastening.

6. With that tool tight bolts can be checked by the testing program. For this the program has to be set on the tool. The active program and the torque settings will be shown alternate on the display. To set the program, please press and hold both the Up and Down buttons for more than 3 sec. Ensuing one can choose between normal mode, to fasten normal bolts, and the testing program, to check tight bolts. The chosen mode can be confirmed with the button “M”.

7. With the checking program the torque wrench detects the angle value, which is required to turn the bolt to the desired torque. After bolting this angle will be shown on the display. In case the angle is greater than 10 degrees, the torque wrench gets locked. To unlock the tool one shall press and hold both the Up and Down buttons.

1. Movement of the reaction arm

Ensure the reaction arm and retaining ring are installed securely to hold the reaction arm in place. Make sure the reaction arm is in contact with a solid reaction point before you operate the tool. When the tool is in operation the reaction arm rotates in the opposite direction to the output square drive and must be allowed to rest squarely against a solid object or surface adjacent to the bolt to be tightened.

• Reaction arm height

Ensure the height of the socket is even with the height of the reaction arm as seen below in Figure 1.1. The height of the socket cannot be shorter or higher than the height of the reaction arm as seen below in Figure 1.2.

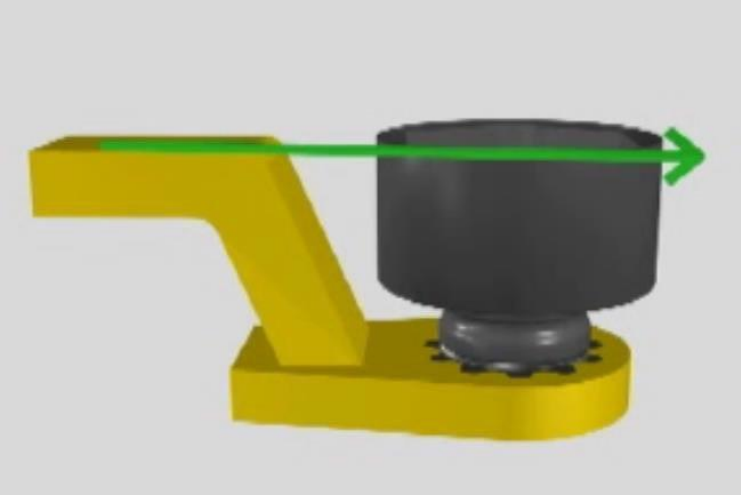

Figure 1.1 Correct height of the reaction arm

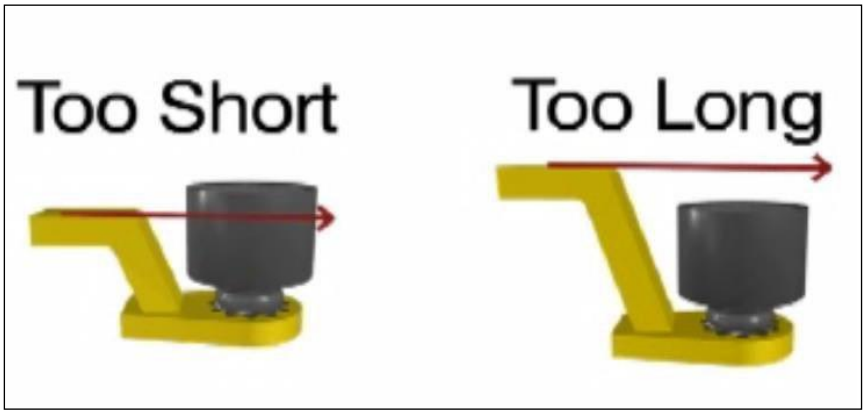

Figure 1.2 Incorrect height of the reaction

Arm Improper reaction will void warranty and can cause premature tool failure.

- ## Reaction arm foot

Ensure the foot of the reaction arm aligns with the length of the nut as seen in Figure 1.3.

The length of the foot cannot be shorter or longer than the nut as seen in Figure 1.4.

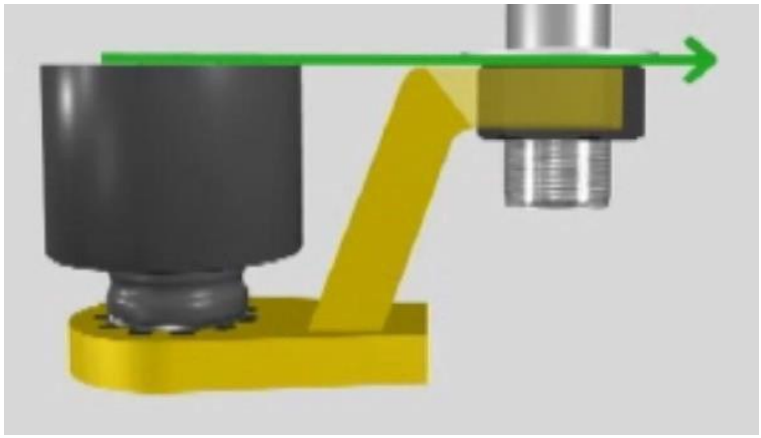

Figure 1.3 Correct length of the reaction arm

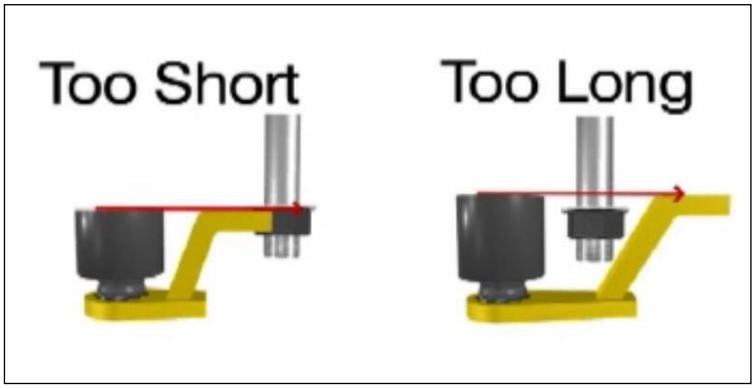

Figure 1.4 Incorrect length of the reaction arm

- **Reaction point**

Ensure the reaction arm reacts off the middle of the foot as seen in Figure 1.5. Do not react off the heel of the reaction foot as seen in Figure 1.6. This can cause premature tool failure.

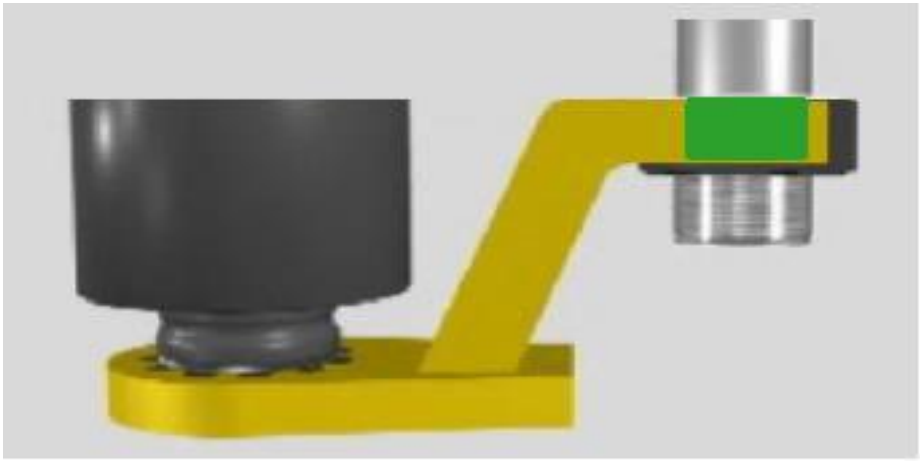

Figure 1.5 Correct reaction point

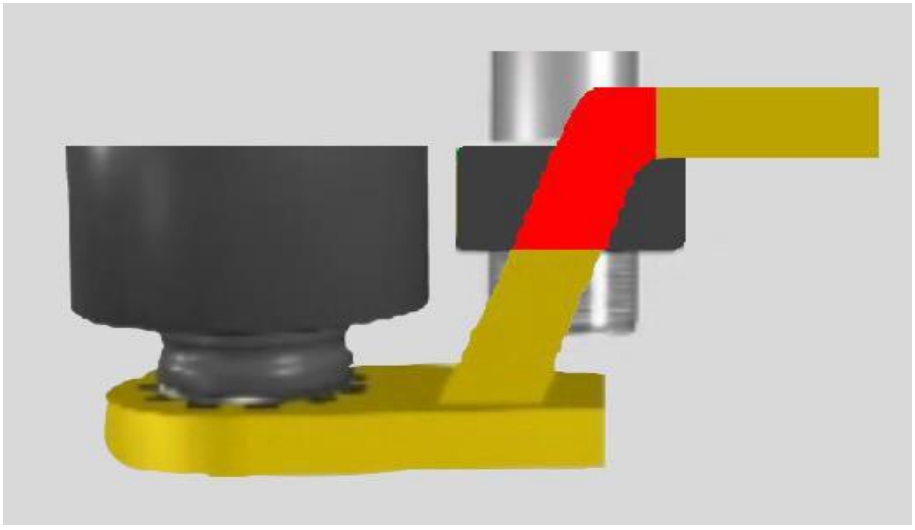

Figure 1.6 Incorrect reaction point

Always keep your hand and body parts clear of the reaction arm and barrel when the tool is in operation (see Figure 1.7)

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Figure 1.7 Incorrect handling

For customized reaction arms contact us, please.

2. Torque Setting

1. The torque can be set with the membrane key control (see Figure 1.8).

2. To select the torque push the middle button “M”.

3. With the arrow buttons one can change the torque value.

4. Push the button “M” to confirm the set torque value. Torque setting is completed now. Hereupon the angle of rotation can be set, in case this option is available.

5. The angle value is selected. Please follow steps 3 and 4 to change the angle value.

Figure 1.8 Main menu

3. Initial Operation

• Reverse

1. Connect the torque wrench to power supply.
   Consider specifications on type plate.
2. Attach and retain reaction arm to teethed carrier of the tool.
3. Attach and retain socket to square drive. Only use suitable sockets.
4. Set the tool to bolt nut or bolt head.
5. Set the switch lever leftwards.
6. Turn the reaction arm toward a fixed object.
7. Press the operating button till the bolted connection is loosen.

• Forward

1. Connect the torque wrench to power supply.
   Consider specifications on type plate.
2. Attach and retain reaction arm to teethed carrier of the tool.
3. Attach and retain socket to square drive. Only use suitable sockets.
4. Set the tool to bolt nut or bolt head.
5. Set the switch lever rightwards.
6. Set the desired torque and bolting mode.
7. Turn the reaction arm toward a fixed object.
8. Press the operating button till the tool shuts-off automatically.

4. Error Indication

In case of a device error or a note for the operator, various messages will be shown on the display. These messages can be deleted with the button “M”. If there are many device errors, please contact us.

Error	Note	Solution
Upcoming maintenance	20,000 bolting actions are carried out. The tool is due for next maintenance.	After noticing, the error can be confirmed by pressing the button “M”. The tool is ready for operating. The bolt counter will be reset during the maintenance at M-PT and the error indication will appear after the next 20,000 bolting actions.
Speed error	The speed sensor is dam- aged.	Please contact us
Voltage error	The voltage does not correspond with the tool require- ments.	Please check the line voltage, where the tool is connected.
Setting values are red colored after a bolting process.	The last bolting process was not completed correctly.	Loosen the bolt and repeat the bolting process. Push the trigger till the torque wrench shuts-off automatically.
Writing „reverse“is red col- ored.	Loosening procedure does not work.	The bolted connection is too tight. To avoid a damaged gear, the tool shuts-off auto- matically.

5. Operating Menu

Press and hold the button “M” for 3 sec. to open the operating menu. There you can choose with the arrow buttons and select with the button “M”.

4 Pre-setting

In this menu four torque values and/or angle values can be selected or saved. By pushing the button “M” the submenu opens. With the arrow buttons one can select pre-saved settings or save the current setting. The selection can be confirmed with the button “M”.

5 Maintenance counter

There one can see the amount of boltings after the last maintenance and determine the next maintenance.

6 Total bolting counter

Indicates the total amount of boltings after the tool delivery.

7 Information

Indicates the tool information. a fault diagnostics with us, this information is very important.

8 Password

With a password one can get to the submenu. There are following functions:

8.1 Reset the maintenance counter

Change the language (German or English)

8.2 Change the unit for torque setting (Nm or ft. lbs)

Login details and further information you get on request from M-PT.

9 Backwards

With this function one gets back to the main menu or rather one step back in menu navigation.

6. Advices For Tools Handling

1. Bolting case:

Lubricated and non-lubricated bolts can be used.
If lubricated bolts are used, the starting torque has to be determined to reach desired pre-tension. Please follow directions of your designer. The torque table of the electric torque wrench is related to non-lubricated bolts. Torque deviance are not covered.

2. Fine thread:

Torque tables are generated for bolts with standard metric thread. If you have bolts with fine thread, please contact us.

3. Pre-fastened bolts:

Please pre-fasten bolts only up to 20% of desired torque. For automatic shut-off the rotation angle of electric torque wrenches has to be 90 degree. Pre-fastening with impact wrenches is carried-out undefined. Usage of electric torque wrench afterwards could cause failures. After the tool shuts-off automatically, please do not refasten. An excessive starting torque could cause a broken bolt.

4. Reaction arm:

The reaction arm has to rest at a pitch level with the bolt. With a short socket you need a short reaction arm. With a long socket you need a long reaction arm. Variation could cause inaccuracy of pretension, higher deterioration of sockets, overload of square drive and de-formation of the reaction arm. To avoid load peaks, please rest reaction arm with the side surface against to a resistant item. Do not rest the reaction arm with its edges against an item. Always keep you hand away from the reaction arm. Be aware of the danger of acci- dent!

5. Determine the torque:

The electronics works differently at a soft or hard joint. The reached torque shall be checked and adjusted if necessary. Standard adjustment ex works is based on middle hard bolting case.

6. Determine the tool:

The optimal tool is only used up to 80% of maximum torque. Some reserves are necessary to loosen a tight connection.

7. Tool examination:

We advise a periodical maintenance of your tool at American Torque Wrench Inc. This way we can ensure a constant accuracy of your tool. Regular inspection interval is once a year. Please ask American Torque Wrench Inc.
The customer should regularly check housing, cables and safety rotary handle.

8. Power supply:

230V/115V AC single phase, class II VDE 0740 and CEE20. Because of the electronics designed with high reserves, the electric torque wrench operates without problems at construction site generators. The power output of the generator should be at least four times the power match of the wrench. Voltage drops to 215V/100V usually have no noticeable effect on the torque. Only appropriate and authorized extensions of sufficient diameter (at least 1.5 mm²). This is especially true for working outdoors. Apparatus not by the cord or cable to secure the crash. Note: When switching from nuts and/or supporting the electric torque wrench, disconnect from the mains!

9. External influences:

At high ambient temperatures (e.g. at work in engine rooms) and in continuous operation with high starting torque, the torque wrench should be between screwing it idling. Thus the forced cooling is not interrupted by the blower and avoid a heat accumulation in the device. When working outdoors during wet weather, we recommend using a rain cap.

10. Design of workplace:

Ensure sufficient lighting during operating the torque wrench. For work with crash risk necessarily life-line for the assembly and the screwing-use independently. Never run underneath the mounting location.

11. Further recommendation:

After work please set the torque level to "00". This way you can avoid an over tightening of bolts after forgotten torque setting. This is very essential, if more than one employee work with the same tool. Do not remove the manual from the storage case.

7. Warranty Conditions

1 All parts are free repair after reasonable discretion of the seller or to provide new, which is within 12 months (multi-shift within 3 months) from purchase or delivery date arising before the transfer of risk circumstance in particular because of faulty design, poor materials or lack of execution as useless or impair the usefulness of prominence to irrelevant. Such de- fects must be reported to the seller in writing immediately. Replaced parts become property of the seller. Delayed delivery, installation or commissioning through no fault of the seller, shall cease no later than 12 months after the transfer of risk. For essential outside the seller's liability is limited to the transfer of the liability, which he may invoke against the sup- plier of the third party.

2 The right of the buyer to make claims for defects shall lapse in all cases from the date of a timely claim within 6 months, but not before the expiration of the warranty period.

3 We assume no responsibility for damage caused by the following reasons: Unsuitable or improper use and application, if ignored, the supplied operating instructions, improper instal- lation or operation by buyer or third parties, natural wear, faulty or negligent treatment, im- proper equipment, replacement materials, chemical, electrical or other influences, provided these are not the fault of the seller. No responsibility is taken for transfer of equipment to third parties (loan or rent).

4 To perform all the seller in its reasonable discretion deem necessary repairs and replace- ment deliveries, the buyer has to be in agreement with the seller that the necessary time and opportunity, otherwise the seller is exempt from liability. Only in urgent cases of danger to operational safety and to prevent excessive damage, and the seller must be informed immediately, or if the seller is with the elimination of the defect in default, the buyer has the right to the defect itself or through third parties have it removed and to require the seller any necessary costs.

5 Of the costs incurred by the repair or replacement costs directly borne by the seller as far as the complaint is found within the warranty period to be justified, the cost of replacement (or replacement), including shipping (most cost effective shipping method), and the reasonable costs of education and building, this can also be expected in the case, the costs of providing his technicians and support staff. Moreover the buyer bears the costs.

6 For the replacement and repairs, the warranty period is three months, but at least until the expiry of the original warranty for the product. The deadline for the warranty of fitness of the goods will be extended by the duration of the improvement work interruption.

7 By improperly by the buyer or third parties without prior authorization of the seller alteration or repair work, the liability for the consequences is repealed.

8 Further claims of the buyer, especially a claim for damages not object to the delivery itself were, are, as far as legally permissible.

9 Specialties i.e., not with the catalog piece work, in particular those due to customer requirements (including use conditions), accessories manufactured or modified standard parts are excluded from any liability.

8. Contact

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