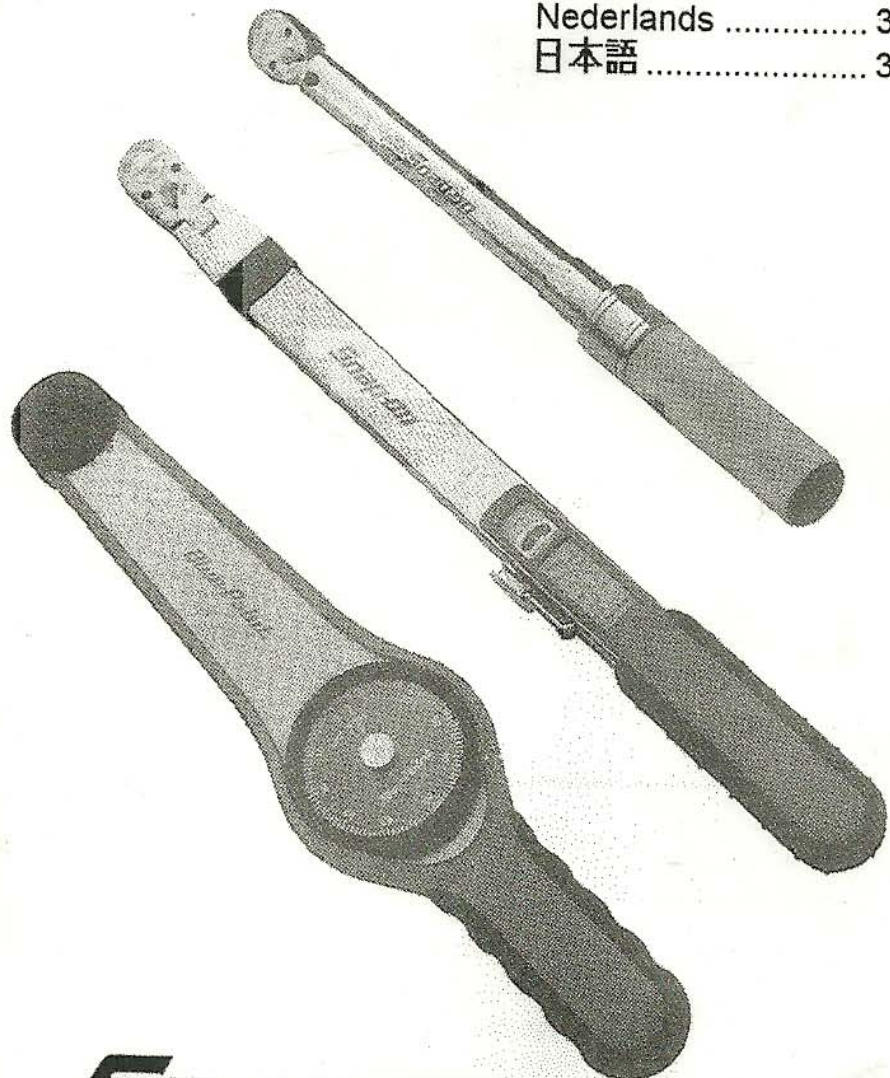


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Snap-on[®]
QD/TQ Series
Click-Type
Blue-Point[®]
TE Series Dial-Type
Torque Wrenches

SAFETY MESSAGES



WARNING – TORQUE WRENCH

- Overtorquing can cause breakage.
- Wear safety goggles. (Users and bystanders)**
Do not exceed rated torque.
Do not use a torque wrench to break fasteners loose.
Do not force head of flex head torque wrenches against stops.
Periodic recalibration is necessary to maintain accuracy.
Read and follow instructions.
Broken tools can cause injury



WARNING – RATCHET HEAD



- Ratchet mechanism can slip or break if dirty. Mismatched or partially worn parts can cause ratchet to slip or break.
- Do not immerse sealed ratchet in fluids.**
Do not replace worn parts individually, use entire contents of the service kit.
Ratchets that slip or break can cause injury

GENERAL NOTES

1. Obtain torque values from equipment manufacturer.
2. Unless otherwise specified, threads and washer surfaces should be clean and lubricated.
3. Store torque wrench in protective case at its lowest scale setting. **Do not force handle beyond lowest setting.**

MAINTENANCE | SERVICE

1. The torque wrench's internal torque mechanism is permanently lubricated during assembly. Do not attempt to lubricate the internal torque mechanism.
2. Clean torque wrench by wiping. Do not immerse.
3. Torque wrench service, repair, calibration and adjustments are to be done by Snap-on Service Centers only. Contact your Snap-on Tools Company representative.

CERTIFICATION

This torque wrench, as calibrated at the factory, is certified to meet the accuracy specified in Federal specification ASME B107.14M-1994 and was calibrated on a torque standard traceable to the National Institute of Standards Technology (N.I.S.T).

PROPER USE OF QD SERIES TORQUE WRENCHES

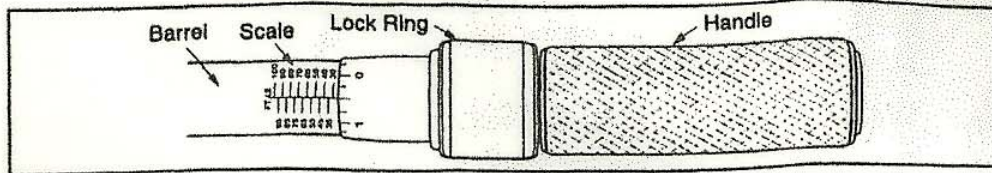


Fig. 1 - QD Series Torque Wrench

1. Preload click-type torque wrenches prior to use or when direction is changed. To preload, set the wrench at 50% of full scale and exercise the wrench at least three times in both directions on a fastener/fixture capable of *safely* withstanding the preload torque. For preset model torque wrenches, proceed to step 5.
2. To unlock, push the lock ring toward the scale.
3. While holding lock ring in the unlocked position, set torque wrench to desired torque value by rotating handle or barrel as shown in Figures 2 and 3 below.

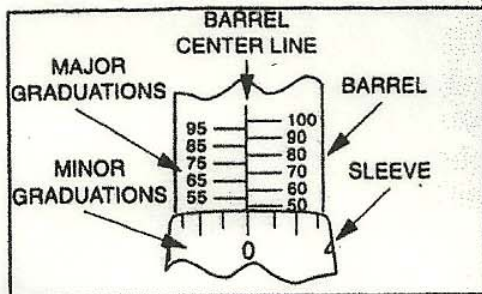


Fig. 2 - Torque setting 50.

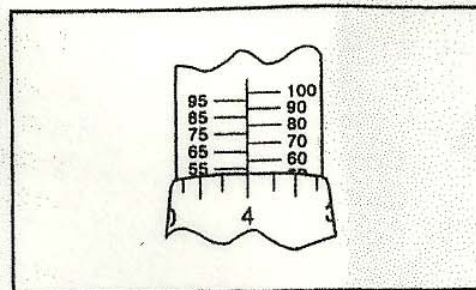


Fig. 3 - Torque setting 54.

4. To lock handle, release the lock ring. It is locked when the ring clicks into position and the handle does not turn.
5. To torque fastener, keep hand centered on the handle, apply a slow steady force in the desired direction (clockwise or counterclockwise) until a click/impulse is heard or felt. Stop pulling and allow the wrench to reset.

PROPER USE OF TQ SERIES TORQUE WRENCHES

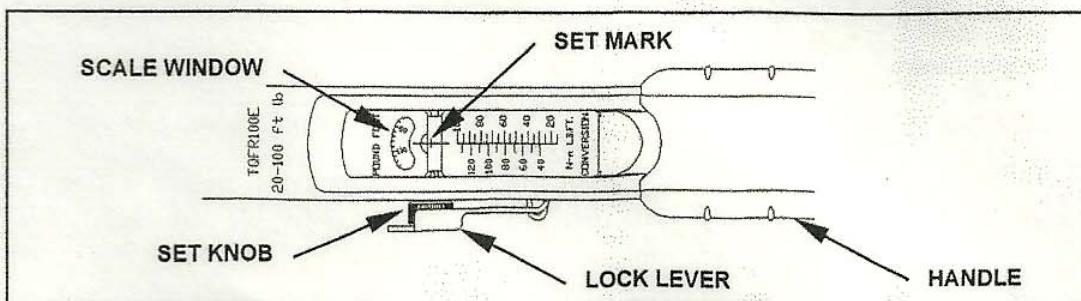


Fig. 4 - TQ Series Torque Wrench

1. Pull back on the lock lever to unlock the set knob.
2. With the set knob turned to the lowest value, turn the knob clockwise to the desired value indicated at the set mark.
If the value is exceeded, back off and approach the proper setting from the low side.
3. Close the lock lever to lock the set knob at the torque setting.
4. See step 5 above (Clockwise only).

PROPER USE OF TE SERIES TORQUE WRENCHES

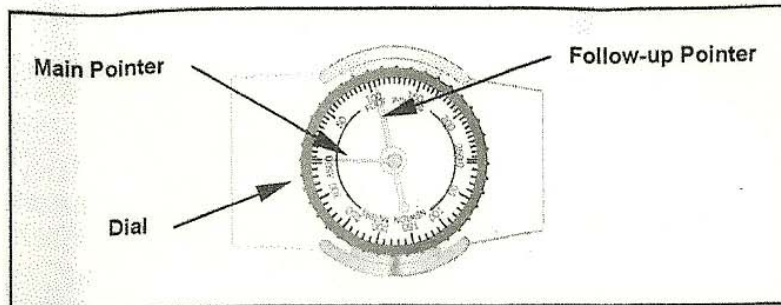


Fig. 5 - TE Series Torque Wrench

Follow-up Needle Model

1. Turn the dial until the main pointer is on zero. Then set the follow-up pointer on zero.
2. To torque fastener, keep hand centered on the handle, apply a slow steady force in the desired direction (clockwise or counterclockwise).
3. When pressure is released, the main pointer will return to zero and the follow-up pointer will remain at the torqued value
4. Each time the wrench is used, be sure that the dial and main pointer are set correctly.

Signal Model

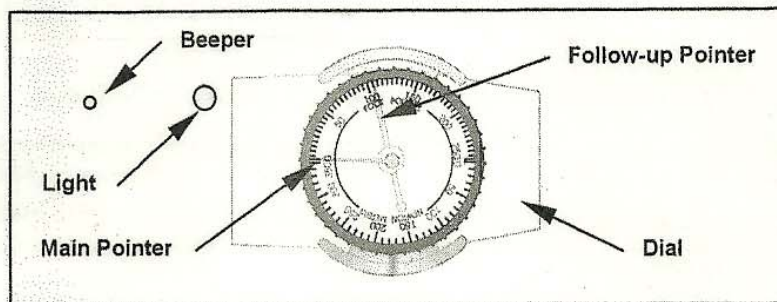


Fig. 6 - TE Series Torque Wrench - Signal Model

1. Turn the dial until the pointer is on desired torque setting.
2. Torque fastener (see step 2 above).
3. When torque setting is achieved, light and beep will turn on. Stop pulling.

CONVERSION TABLE

To Convert From	To	Multiply By	To Convert From	To	Multiply By
lb. in.	oz. in.	16	oz. in.	lb. in.	.0625
lb. in.	lb. ft.	.08333	lb. ft.	lb. in.	12
lb. in.	kg.cm.	1.1519	kg.cm.	lb. in.	.8681
lb. in.	kg.m.	.011519	kg.m.	lb. in.	86.81
lb. in.	N.m.	.113	N.m.	lb. in.	8.85
lb. in.	dN.m.	1.13	dN.m.	lb. in.	.885
lb. ft.	kg.m.	.1382	kg.m.	lb. ft.	7.236
lb. ft.	N.m.	1.356	N.m.	lb. ft.	.7376
N.m.	dN.m.	10	dN.m.	N.m.	.10
N.m.	kg.cm.	10.2	kg.cm.	N.m.	.09807
N.m.	kg.m.	.102	kg.m.	N.m.	9.807

USE OF ADAPTORS, EXTENSIONS AND UNIVERSALS

Torque is force applied at a distance.

The torque wrench's micrometer scale setting is always torque wrench square drive torque (fig 4).

Anytime an adaptor, extension or universal is used with a torque wrench in such a way that the fastener torque distance is different than the torque wrench square drive distance, an adjustment to set torque is required to get proper fastener torque. Note that units of distance and force must be consistent throughout an adjustment calculation (figs. 4 - 9),

Fig. 4

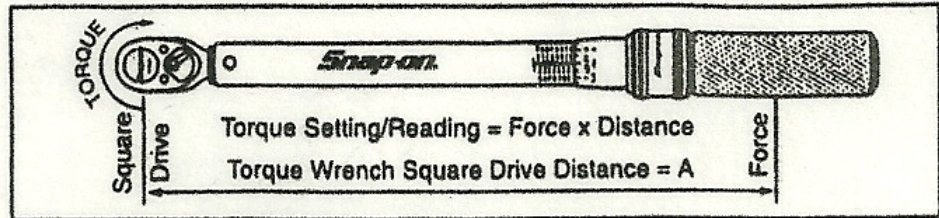


Fig. 5 - Fastener torque equals torque wrench square drive torque.

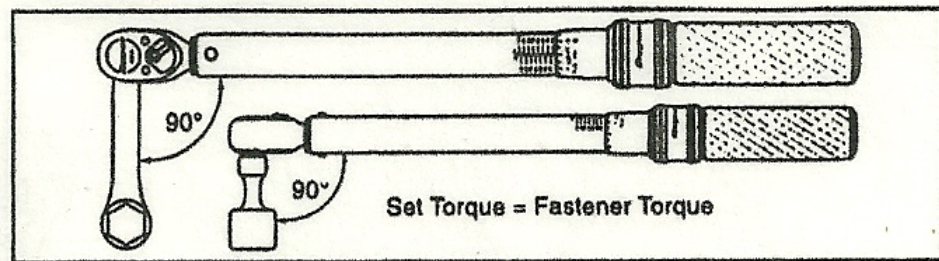


Fig. 6 - Using wobble extensions/universals with torque wrenches.

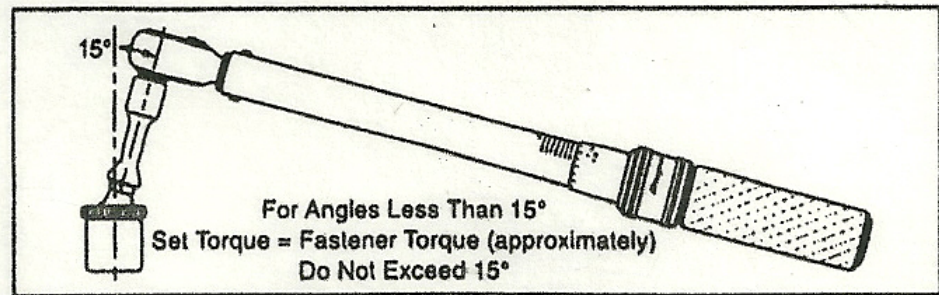


Fig. 7 - Fastener torque is greater than torque wrench square drive torque.

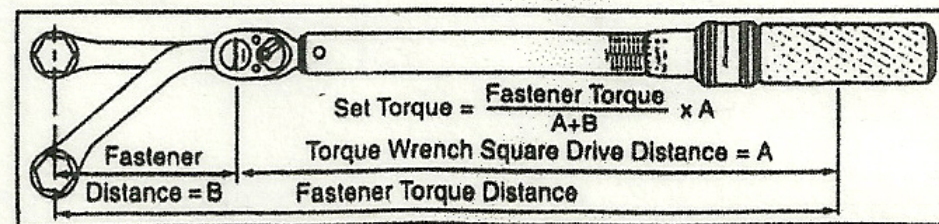


Fig. 8 - Fastener torque is greater than torque wrench square drive torque.

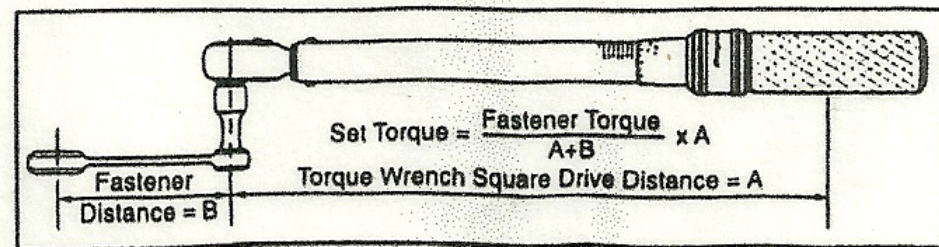


Fig. 9 - Fastener torque is less than torque wrench square drive torque.

