Filzer

Big Bike torque wrench - TR-2

Instructions (READ FULL INSTRUCTIONS BEFORE USING TORQUE WRENCH)

Warning ⚠

1. This is an accurate torque wrench for torques ranging from 15 to 80 ft-lbs (20.3 to 108.5 Nm). If the torque you need to apply to a part is lower than 15 ft-lbs or more than 80 ft-lbs, this torque wrench will not work for your application. Do NOT apply torques over 80 ft-lbs to the wrench as this will damage the wrench beyond repair. If you apply a torque over the recommend value of a part it will be damaged.

2. Do NOT over tighten the part you are installing as it may damage the part and cause serious injury.

3. Stop tightening parts upon hearing the "click" sound of the torque wrench. Continuing to exert force after the "click" has sounded will affect calibration of the wrench and will damage the wrench beyond repair.

4. Do NOT use the torque wrench to loosen bolts or parts as this may damage the torque wrench.

Important notes

1. Store the torque wrench at its lowest torque setting, i.e. 15 ft-lbs

2. When you first use the torque wrench, or after it has been stored for a while, put the torque setting to its highest value (i.e. 80 ft-lbs) and apply torque until the wrench makes a CLICK (Do NOT over tighten). Repeat this 10 times so the internal parts are fully lubricated. This will ensure the torque wrench works properly. Hint, use a vise and large bolt (use M14 or 1/2" or larger bolt).

3. The torque wrench is calibrated at the factory and cannot be calibrated by the user. We cannot re-calibrate the unit for you.

4. Do not oil the torque wrench.

5. Do not get the torque wrench wet or soak in any type of liquid.

How to determine torque value

Refer to the manufacture instruction of the part or component you are installing for correct torque value specifications.

The torque wrench units are in ft-lbs and Nm. You must convert the required torque value provided by the manufacture of the art/component to Nm. Refer to formulas and tables below for torque conversion. For easy setting of the torque wrench it is best to convert the torque value to ft-lbs.

How to convert to Ft-lbs:

1) Nm to ft-lbs   → X Nm / 1.3556 = Y ft-lbs
2) ft-lbs to Nm   → X ft-lbs x 1.3556 = Y Nm
3) in-lbs to ft-lbs → X in-lbs / 12 = Y ft-lbs
4) ft-lbs to in-lbs → X ft-lbs x 12 = Y in-lbs
5) Nm to in-lbs   → X Nm x 8.8507 = Y in-lbs
6) in-lbs to Nm   → X in-lbs / 8.8507 = Y Nm

Table 1

From:	To: Nm	To: in-lb	To: ft-lb
Nm	N/A	x 8.8507	/ 1.3556
in-lb	/ 8.8507	N/A	/ 12
ft-lb	x 1.3556	x 12	N/A

Table 2

Nm	in-lbs	ft-lbs	Nm	in-lbs	ft-lbs	Nm	in-lbs	ft-lbs
20	177.01	14.75	51	451.39	37.62	82	725.76	60.49
21	185.86	15.49	52	460.24	38.36	83	734.61	61.23
22	194.72	16.23	53	469.09	39.10	84	743.46	61.97
23	203.57	16.97	54	477.94	39.83	85	752.31	62.70
24	212.42	17.70	55	486.79	40.57	86	761.16	63.44
25	221.27	18.44	56	495.64	41.31	87	770.01	64.18
26	230.12	19.18	57	504.49	42.05	88	778.86	64.92
27	238.97	19.92	58	513.34	42.79	89	787.71	65.65
28	247.82	20.66	59	522.19	43.52	90	796.56	66.39
29	256.67	21.39	60	531.04	44.26	91	805.41	67.13
30	265.52	22.13	61	539.89	45.00	92	814.26	67.87
31	274.37	22.87	62	548.74	45.74	93	823.12	68.60
32	283.22	23.61	63	557.59	46.47	94	831.97	69.34
33	292.07	24.34	64	566.44	47.21	95	840.82	70.08
34	300.92	25.08	65	575.30	47.95	96	849.67	70.82
35	309.77	25.82	66	584.15	48.69	97	858.52	71.56
36	318.63	26.56	67	593.00	49.42	98	867.37	72.29
37	327.48	27.29	68	601.85	50.16	99	876.22	73.03
38	336.33	28.03	69	610.70	50.90	100	885.07	73.77
39	345.18	28.77	70	619.55	51.64	101	893.92	74.51
40	354.03	29.51	71	628.40	52.38	102	902.77	75.24
41	362.88	30.24	72	637.25	53.11	103	911.62	75.98
42	371.73	30.98	73	646.10	53.85	104	920.47	76.72
43	380.58	31.72	74	654.95	54.59	105	929.32	77.46
44	389.43	32.46	75	663.80	55.33	106	938.17	78.19
45	398.28	33.20	76	672.65	56.06	107	947.02	78.93
46	407.13	33.93	77	681.50	56.80	108	955.88	79.67
47	415.98	34.67	78	690.35	57.54	109	964.73	80.41
48	424.83	35.41	79	699.21	58.28			
49	433.68	36.15	80	708.06	59.01			
50	442.54	36.88	81	716.91	59.75			

Table 3

ft-lbs	in-lbs	Nm	ft-lbs	in-lbs	Nm
15	180	20.33	48	576	65.07
16	192	21.69	49	588	66.42
17	204	23.05	50	600	67.78
18	216	24.40	51	612	69.14
19	228	25.76	52	624	70.49
20	240	27.11	53	636	71.85
21	252	28.47	54	648	73.20
22	264	29.82	55	660	74.56
23	276	31.18	56	672	75.91
24	288	32.53	57	684	77.27
25	300	33.89	58	696	78.62
26	312	35.25	59	708	79.98
27	324	36.60	60	720	81.34
28	336	37.96	61	732	82.69
29	348	39.31	62	744	84.05
30	360	40.67	63	756	85.40
31	372	42.02	64	768	86.76
32	384	43.38	65	780	88.11
33	396	44.73	66	792	89.47
34	408	46.09	67	804	90.83
35	420	47.45	68	816	92.18
36	432	48.80	69	828	93.54
37	444	50.16	70	840	94.89
38	456	51.51	71	852	96.25
39	468	52.87	72	864	97.60
40	480	54.22	73	876	98.96
41	492	55.58	74	888	100.31
42	504	56.94	75	900	101.67
43	516	58.29	76	912	103.03
44	528	59.65	77	924	104.38
45	540	61.00	78	936	105.74
46	552	62.36	79	948	107.09
47	564	63.71	80	960	108.45

How to set torque wrench with correct torque value

There is a two step process to set the torque wrench to a specific torque value in ft-lbs or Nm.
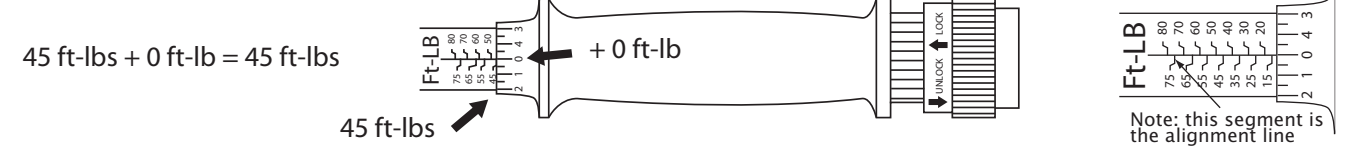
STEP 1: Pull the silver lock ring on the end of the handle to the 'Unlocked' position and turn the handle clockwise to increase the torque value or counter-clockwise to decrease the torque value. The torque setting value is in ft-lbs on one side of the torque wrench and Nm on the other side, ensure you are using the correct units for torque. The torque value setting is the value shown just above the handle.

LOCK

UNLOCK

+ fine-tuning torque value
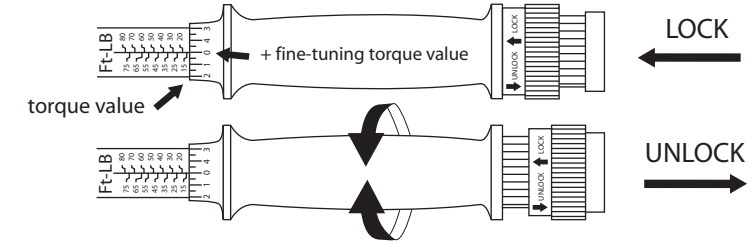
torque value

STEP 2: On the end of the handle there is a secondary fine-tuning torque scale ranging from 0 to 4 around the circumference of the handle. The value of this scale is added to the value shown just above the handle give the total torque value in ft-lbs or Nm. Turn the handle to the desired torque value. Make sure the lock ring is in the locked position when you finish setting the torque value.

Example:

a) To set the torque wrench to 45 ft-lbs turn the handle so the scale just above the handle reads 45 ft-lbs and the value on the handle circumference is set to 0 (note, each value on the circumference of the handle is 1ft-lb).

$$45 \text{ ft-lbs} + 0 \text{ ft-lb} = 45 \text{ ft-lbs}$$

45 ft-lbs   + 0 ft-lb

Note: this segment is the alignment line

b) To set the torque wrench to 53 ft-lbs turn the handle so the scale just above the handle reads 50 ft-lbs and the value on the handle circumference is set to 3 ft-lbs.

50 ft-lbs

$$50 \text{ ft-lbs} + 3 \text{ ft-lbs} = 53 \text{ ft-lbs}$$
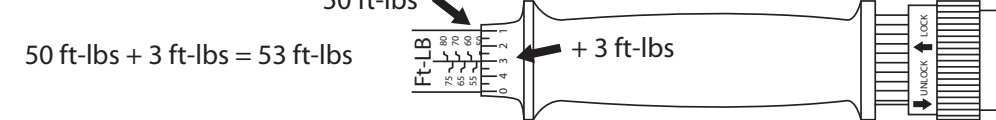
+ 3 ft-lbs

c) To set the torque wrench to 55.0 Nm turn the handle so the scale just above the handle reads 54.2 Nm and the value on the handle circumference is set to 0.59 ft-lbs. **(Note, the value on the circumference scale on the handle is ALWAYS in ft-lbs)**. 55.0 Nm - 54.2 Nm = 0.8 Nm. And 0.8 Nm/1.3556 = 0.59 ft-lbs - see conversion chart.

$$54.2 \text{ Nm} + 0.8 \text{ Nm} = 55.0 \text{ Nm}$$

+ 0.59 ft-lb = 0.8 Nm

50.2 ft-lb
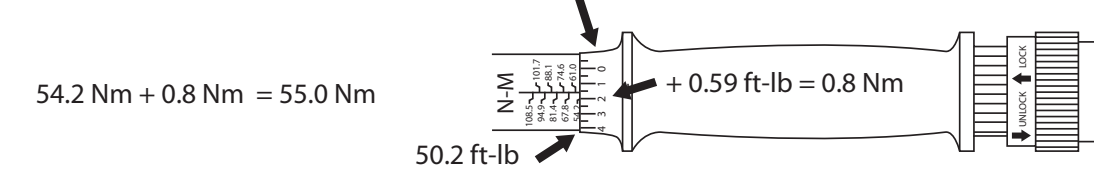
d) Note it is easier to convert the torque value from Nm to Ft-lbs then adjust the torque wrench. 60 Nm / 1.3556 = 44.26 Ft-lbs.

40 ft-lbs

$$40 \text{ ft-lbs} + 4.26 \text{ ft-lbs} = 44.26 \text{ ft-lbs}$$

+ 4.26 ft-lbs
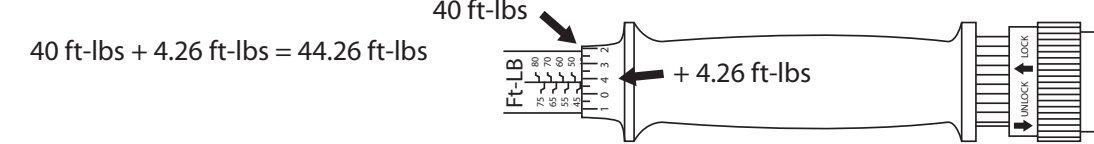
How to set direction of torque wrench (clockwise or counter-clockwise)

To set the direction of the torque wrench in clockwise mode or counter-clockwise mode, press the 3/8" socket holder in the appropriate position as shown below - you can check which orientation the torque wrench is in by manually turning the 3/8" socket holder. Put the required socket on the torque wrench. Ensure that the wrench is set to the correct torque value. Put the lockring in the LOCK position. Put the wrench on the bolt to be tightened.
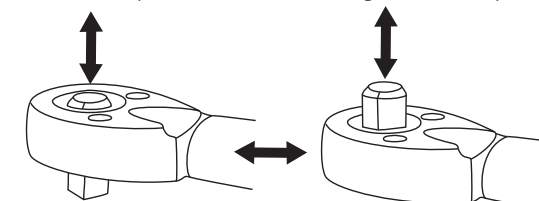
How to properly tighten part

It is important to apply a slow smooth (not jerking) force to the torque wrench when you are tightening a part. If you apply a fast, jerking force you may over tighten the part and damage the part and the torque wrench.

Apply force on the handle of the torque wrench and then STOP applying force IMMEDIATELY after you hear a CLICK sound from the torque wrench.

Once you hear the CLICK, stop applying the force; the part is now set to the desired torque.

Do NOT over tighten the torque wrench. If you keep on tightening the torque wrench after you hear a CLICK you may damage the wrench and it cannot be repaired.