



## SAFETY AND OPERATING MANUAL

### Torque Wrench

### CTW12/38

#### 1. Instructions for use.

**1.1.** Hold the wrench firmly with the graduations on the handle clearly visible. Unlock the lock nut at the bottom of the handle by turning it anti-clockwise.

**1.2.** Set the amount of torque required by turning the handle until the exact amount is indicated by the graduations.

**1.3.** Example. Setting 95 ft. lbs.

**1.3.1.** Turn the handle until the zero graduation on the edge of the handle is lined up with the vertical mark on the shaft, and is even with the 90ft.lbs. graduation.

**1.3.2.** Turn the handle slowly clockwise until the 5 graduation on the handle is aligned with the vertical mark on the shaft.

**1.3.3.** Lock the handle securely by turning the lock nut clockwise. The Torque wrench is now ready to use.  
Note. When setting for metric use the same procedure on the reverse side of the shaft.

**1.4.** Attach the correct socket or attachment to the square drive for the required job. Apply to nut or bolt, select the direction of rotation using the clip on the head, and pull handle until feel and/or hear the wrench click. Release pull and the wrench will automatically reset for next operation.

DO NOT CONTINUE TO PULL AFTER WRENCH RELEASES. USE SPECIAL CARE AT LOW TORQUE SETTINGS THE PULL STOPS WHEN WRENCH CLICKS. THIS CAN DAMAGE YOUR WRENCH OR THE APPLICATION.

#### 1.5. Caution

**1.5.1.** If the wrench has been in storage for some time or not seen much use, operate it several times at a low torque setting. This allows a special internal lubricant to recoat internal working parts.

**1.5.2.** When not in use keep it set to the lowest torque setting.

**1.5.3.** Do not select below the lowest graduated torque setting.

**1.5.4.** Do not continue pulling on the wrench after pre-set torque has been reached and the wrench has released. Continuing to apply pressure after the wrench has released, will result in damage to the part being torqued by applying more than the specified amount of torque.

**1.5.5.** The wrench is hard wearing and designed for shop use, but it also a precision measuring instrument and should be treated as such.

**1.5.6.** The wrench may be cleaned by wiping, do not immerse in any cleaner this may affect special high pressure lube that the wrench is packed with at the factory.

**1.5.7.** This torque wrench was calibrated and tested before leaving the factory, it is calibrated to +4%.

THIS IS A PRECISION MEASURING INSTRUMENT, CALIBRATIONS AND SERVICING MUST BE DONE REGULARLY AND IT IS THE OWNERS RESPONSIBILITY.

Example setting Torque to 95 ft. lbs.



# TORQUE CONVERSION TABLES

Ft lbs Foot Pounds	M.Kgs or M.Kps Meters Kilo Grams	Nm Newton Meters
5	0.69	6.78
10	1.38	13.56
15	2.07	20.34
20	2.76	27.12
25	3.46	33.90
30	4.15	40.68
35	4.84	47.46
40	5.53	54.24
45	6.22	61.02
50	6.91	67.80
55	7.60	74.58
60	8.29	81.36
65	8.98	88.14
70	9.67	94.92
75	10.37	101.70
80	11.06	108.48
85	11.75	115.26
90	12.44	122.04
95	13.13	128.82
100	13.82	135.60
105	14.51	142.38
110	15.20	149.16
115	15.89	155.94
120	16.58	162.72
125	17.28	169.50
130	17.97	176.28
135	18.66	183.06
140	19.35	189.84
145	20.04	196.62
150	20.73	203.40
155	21.42	210.18
160	22.11	216.96
165	22.80	223.74
170	23.49	230.52
175	24.19	237.70
180	24.88	244.08
185	25.57	250.86
190	26.26	257.64
195	26.95	264.42
200	27.64	271.20
205	28.33	277.98
210	29.02	284.76
215	29.71	291.54
220	30.40	298.32
225	31.09	305.10
230	31.78	311.88
235	32.47	318.66
240	33.16	325.44
245	33.85	332.22
250	34.54	339.00
260	35.88	352.56
270	37.26	366.12
280	38.64	379.68
290	40.02	393.24
300	41.40	406.80

Nm Newton Meters	Ft lbs Foot Pounds	M.Kgs or M.Kps Meters Kilo Grams
10	7.38	1.02
20	14.75	2.04
30	22.13	3.06
40	29.50	4.08
50	36.88	5.10
60	44.26	6.12
70	51.63	7.14
80	59.01	8.16
90	66.38	9.18
100	73.76	10.20
110	81.14	11.22
120	88.51	12.24
130	98.89	13.26
140	103.26	14.28
150	110.64	15.30
160	118.02	16.32
170	125.39	17.34
180	132.77	18.36
190	140.14	19.38
200	147.52	20.40
210	154.90	21.42
220	162.27	22.44
230	169.65	23.46
240	177.02	24.48
250	184.40	25.50
260	191.78	26.52
270	199.15	27.54
280	206.53	28.56
290	213.91	29.58
300	221.29	30.60
310	228.67	31.62
320	236.05	32.64
330	243.43	33.66
340	250.81	34.68
350	258.30	35.70
360	265.68	36.72
370	273.06	37.74
380	280.44	38.74
390	287.82	39.78
400	295.20	40.80
410	302.58	41.82

M.Kgs or M.Kps Meters Kilo Grams	Nm Newton Meters	Ft lbs Foot Pounds
1	9.81	7.23
2	19.61	14.47
3	29.42	21.70
4	39.23	28.93
5	49.04	36.17
6	58.84	43.40
7	68.65	50.63
8	78.46	57.87
9	88.26	65.10
10	98.07	72.33
11	107.88	79.57
12	117.68	86.80
13	127.49	94.03
14	137.30	101.27
15	147.11	108.50
16	156.91	115.74
17	166.72	122.97
18	176.53	130.20
19	186.33	137.43
20	196.14	144.67
21	205.95	151.90
22	215.75	159.13
23	225.37	166.37
24	235.37	173.60
25	245.18	180.84
26	254.98	188.08
27	264.79	195.30
28	274.60	202.54
29	284.41	209.77
30	294.22	217.00
31	304.03	224.23
32	313.84	231.46
33	323.65	238.69
34	333.46	245.92
35	343.35	253.05
36	353.16	260.28
37	362.97	267.51
38	372.78	274.74
39	382.59	281.97
40	392.40	289.20
41	402.21	296.43

## CONVERSION FORMULAE

$$1 \text{ Cm-Kg} = 13.887 \text{ in-oz}$$

$$1 \text{ Cm-Kg} = 0.8677 \text{ in-lb}$$

$$1 \text{ M.Kg} = 7.233 \text{ ft-lb}$$

$$1 \text{ Kp-Cm} = 1 \text{ Cm-Kg}$$

$$1 \text{ Cm-Kg} = 0.098 \text{ Nm}$$

$$1 \text{ dNm} = 14.161 \text{ in-oz}$$

$$1 \text{ Nm} = 8.8507 \text{ in-oz}$$

$$1 \text{ Nm} = 0.73756 \text{ ft-lb}$$

$$1 \text{ M.Kp} = 1 \text{ M.Kg}$$

$$1 \text{ Mkg} = 9.80665 \text{ Nm}$$

$$1 \text{ ft-lb} = 12 \text{ in-lb}$$