

Torque Control Impacttools

IR Torque Control Impacttools are designed for applications requiring fastener tightening control. The tools shut off automatically when preset torque levels are reached. Depending upon the model, built-in or detachable torsion bars sense torque levels, and signal a mechanical shut-off device to prevent over-torquing. These tools combine a ball and cam impact mechanism with a heavy-walled aluminum hammer case for maximum strength, minimum weight.



Torque Range: 6-90 ft.-lb., 8-122 Nm

Torque Control Impacttools



● 5020TAL1



★ 5040TDQ

Equipment at Extra Price Series 5020T and Model 5020TDQ

- Torque setting clamp No. 5020T-951 (for Series 5020T only)
- Horizontal hanger:
 - One horizontal hanger No. 5020-366 – includes spacers & screws
 - Two horizontal hanger spacers No. 504-140
 - Two horizontal hanger cap screws No. 504-376A
- Vertical hanger No. 5020-365

Series 5040T and Model 5040TDQ

- Vise-type torque setting jig No. 5040T-A951 (for Series 5040T only)
- Horizontal hanger:
 - One horizontal hanger No. 5040-366. Includes the following; Two horizontal hanger spacers No. 504-140 and two horizontal hanger cap screws No. 504-376A
- Vertical hanger No. 5040-365



▲ 5040TAL1

Model	Drive Description	Torque Range		Type Torsion Bar	Free Speed rpm	Impacts per minute	Weight		Length		Side to Center Distance		CFM
		ft.-lb.	Nm				lb.	kg	in.	mm	in.	mm	
● 5020TAL1	3/8" square	6-17	8-23	AB	1400	2100	4	1.81	9	229	1 1/16	27	10
5020TAH1	3/8" square	10-30	13-40	AB	1400	2100	4	1.81	9	229	1 1/16	27	10
5020TDQ	7/16" hex Q.C.	10-30	13-40	NAD	1400	2100	4 3/16	1.9	11	279	1 1/16	27	10
▲ 5040TAL1	1/2" square	20-45	27-61	AB	1500	2150	6 1/4	2.84	10 1/2	267	1 3/8	35	15
5040TAM1	1/2" square	40-65	54-88	AB	1500	2150	6 1/4	2.84	10 1/2	267	1 3/8	35	15
5040TAH1	1/2" square	60-90	81-122	AB	1500	2150	6 1/4	2.84	10 1/2	267	1 3/8	35	15
★ 5040TDQ	7/16" hex Q.C.	20-90	27-122	NAD	1500	2150	6 7/8	3.12	13 3/4	349	1 3/8	35	15

All of the above square drive Impacttools are furnished with pin-type retainer.

Series 5020 and 5040 Impacttools have 1/4" NPT air inlet: 1/4" (6 mm) size hose is recommended.

Performance figures are at 90 psi (620 kPa) air pressure.

AB = Adjustable, Built-in torsion bar. NAD = Non-adjustable, Detachable torsion bar.

Weights shown are with torsion bar, less socket. Weights of models with detachable torsion bars are with heaviest torsion bars. Lengths shown are with torsion bar, less socket.

Models ending in L1 are equipped with light torsion bar.

Models ending in M1 are equipped with medium torsion bar.

Models ending in H1 are equipped with heavy torsion bar.

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Non-adjustable Detachable Torsion Bars and Kits for Models 5020TDQ and 5040TDQ

• No. 5040TDQ–KP637 torsion bar kit (consists of one each non-adjustable torsion bar with pin-type retainer and No. 5040TDQ–637 torsion bar case)

• No. 5040TDQ–KB637 torsion bar kit (consists of one each non-adjustable torsion bar with ball-type retainer and No. 5040TDQ–637 torsion bar case)

Torsion Bar Number		Model 5020TDQ		Model 5040TDQ		Color Code
With 1/2" Square Drive Pin-Type Retainer	With 1/2" Square Drive Ball-Type Retainer	Torque Range ft.-lb.	Torque Range Nm	Torque Range ft.-lb.	Torque Range Nm	
5040TDQ–P535–1	5040TDQ–B535–1	6-10	8.14-13.6	20-25	27.1-33.9	Red
5040TDQ–P535–2	5040TDQ–B535–2	8-12	10.8-16.3	22-30	29.8-40.7	Orange
5040TDQ–P535–3	5040TDQ–B535–3	10-14	13.6-19	25-35	33.9-47.5	Yellow
5040TDQ–P535–4	5040TDQ–B535–4	12-16	16.3-21.7	30-40	40.7-54.2	Green
5040TDQ–P535–5	5040TDQ–B535–5	14-18	19-24.4	35-45	47.5-61.0	Blue
5040TDQ–P535–6	5040TDQ–B535–6	16-20	16.3-27.1	40-50	54.2-67.8	Violet
5040TDQ–P535–7	5040TDQ–B535–7	18-22	24.4-29.8	45-55	61.0-74.6	Red
5040TDQ–P535–8	5040TDQ–B535–8	20-24	27.1-32.5	50-60	67.8-81.4	Orange
5040TDQ–P535–9	5040TDQ–B535–9	22-26	29.8-35.2	55-65	74.6-88.1	Yellow
5040TDQ–P535–10	5040TDQ–B535–10	24-28	32.5-38	60-75	81.3-101	Green
5040TDQ–P535–11	5040TDQ–B535–11	26-29	35.2-39.3	70-85	94.9-115	Violet
5040TDQ–P535–12	5040TDQ–B535–12	27-30	36.6-40.7	75-90	102-122	Blue

Torque Control Impactool Operation

The Torque Control Impactool converts the torque of the air motor into powerful rotary impacts when a certain resistance to turning is met. The Ingersoll-Rand principle of compressing a sturdy hammer spring and suddenly releasing this energy to strike a powerful rotary blow makes it possible to quickly and efficiently run fasteners.

The Torque Control Impactool also incorporates a torsion bar and an automatic shut-off valve. Torque control is obtained by preloading the torsion bar to the torque desired. When the resistance of the fastener being run becomes equal to the torque preloaded in the torsion bar, the extra clearance in the flutes of the locking collar allows the torsion bar to flex a few degrees beyond its original setting.

Acting like a spring, the torsion bar snaps back, supplying additional impetus to the hammer, causing the hammer to rebound higher and trip the automatic shut-off valve, instantly stopping the tool. By varying the setting of the torsion bar, using different torsion bars and/or different size tools, torques from 6 to 90 ft.-lbs. (8.14 to 122 Nm) can be accurately obtained time after time.

Ball and cam mechanism converts air motor torque into powerful rotary impacts.

Tough steel anvil transfers blows from impact hammer to the fastener.

Adjustable torsion bar signals shutoff device when preset torque is reached.

