MODELS

WH 14DMR, WH 18DMR

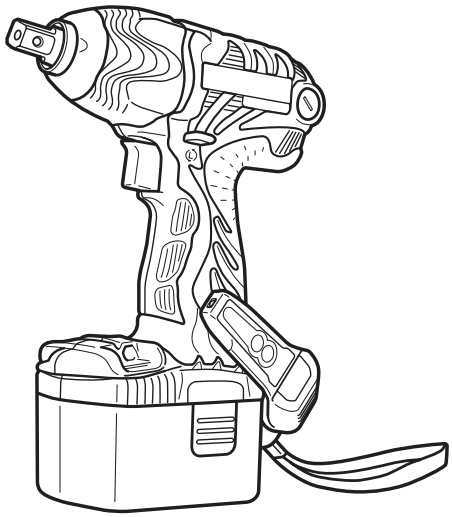
WR 14DMR, WR 18DMR

Hitachi
Power Tools

CORDLESS IMPACT DRIVER
WH 14DMR, WH 18DMR
CORDLESS IMPACT WRENCH
WR 14DMR, WR 18DMR

TECHNICAL DATA AND SERVICE MANUAL

WH 14DMR



WR 14DMR

W

LIST Nos. WH 14DMR: G829
WH 18DMR: G831
WR 14DMR: G830
WR 18DMR: G832

Jul. 2005

REMARK:

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol(s) is(are) used in the place of company name(s) and model name(s) of our competitor(s). The symbol(s) utilized here is(are) as follows:

WH 14DMR

Symbol Utilized	Competitor	
	Company Name	Model Name
P1	DEWALT	DW054

WH 18DMR

Symbol Utilized	Competitor	
	Company Name	Model Name
P2	DEWALT	DW056

WR 14DMR

Symbol Utilized	Competitor	
	Company Name	Model Name
P3	DEWALT	DW055

WR 18DMR

Symbol Utilized	Competitor	
	Company Name	Model Name
P4	DEWALT	DW057

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1. PRODUCT NAME

Hitachi Cordless Impact Driver, Model WH 14DMR, WH 18DMR

Hitachi Cordless Impact Wrench, Model WR 14DMR, WR 18DMR

2. MARKETING OBJECTIVE

The current Model WH 12DM2, developed under the concept for "more compact, powerful and convenient model", has been highly evaluated. However, the market is becoming fiercely competitive due to a price war of the 9.6-V, 12-V, 14.4-V and 18-V impact driver/wrench series. To address the severe situation, we have developed the new high-performance impact driver/wrench series Models WH 14DMR, WH 18DMR, WR 14DMR and WR 18DMR under the same concept as the current Model WH 12DM2. These new models can take on the low-price competitors.

3. APPLICATIONS

- Tightening/loosening of small screws, tapping screws, wood screws, bolts, nuts, etc.
- Drilling into wood and various other materials (with use of optional accessory drill chuck adapter).

[Applicable Markets]

- Wood-product assembly: Tightening/loosening of wood screws
- Construction industry: Assembly of scaffolding, roofing, aluminum sashes, fencing, etc.; removal of plastic cones from concrete forms, mounting/removal of form ties; drilling into the wood frames of concrete forms, etc.
- Manufacturing industry: Assembly work for automobiles, rolling stock, shipbuilding, agricultural machinery and tools, industrial machines, steel furniture, etc.
- Utility industry: Assembly and installation of electric equipment, plumbing facilities, air conditioning (duct assembly etc.), sanitary fixtures and various other facilities.
- Service industry: General repair work; installation of advertising aids, automobile repair, assembly of garages and carports storage sheds, etc.
- Various other assembly, construction or repair facilities

4. STANDARD EQUIPMENT

Models WH 14DMR/WR 14DMR

(1) 2BGK specification: Two EB 14B batteries (NiCd, capacity 2.0 Ah), UC 18YG charger and case

(2) 2BFK specification: Two EB 14B batteries (NiCd, capacity 2.0 Ah), UC 14YFA charger and case

(3) 2HFK specification: Two EB 1426H or EB 1430H batteries (NiMH, capacity 2.6 Ah or 3.0 Ah), UC14YFA charger and case

Models WH 18DMR/WR 18DMR

(1) 2BLGK specification: Two EB 1820BL batteries (NiCd, capacity 2.0 Ah), UC 18YG charger and case

(2) 2BLFK specification: Two EB 1820BL batteries (NiCd, capacity 2.0 Ah), UC 24YFA charger and case

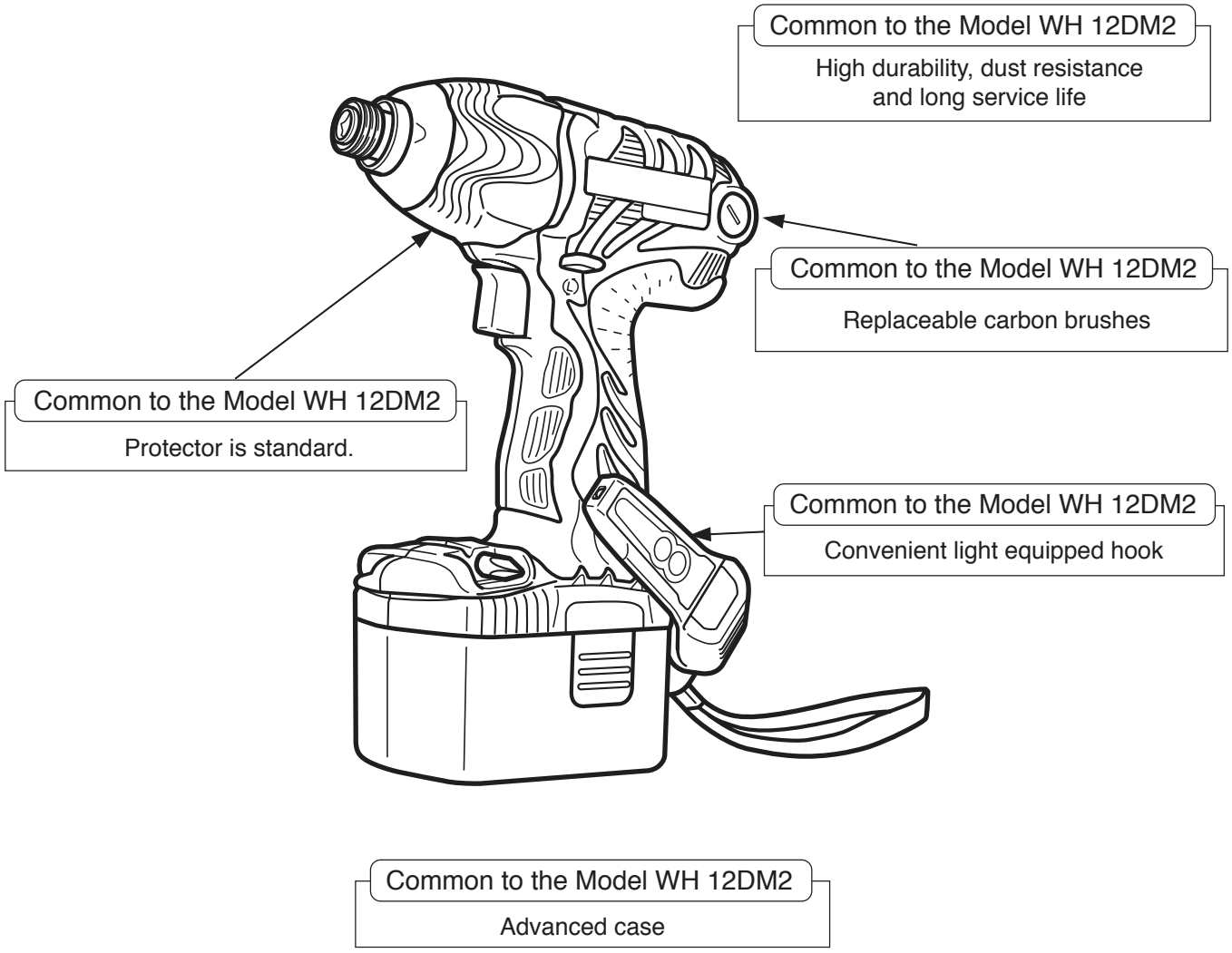
(3) 2HLFK specification: Two EB 1826HL or EB 1830HL batteries (NiMH, capacity 2.6 Ah or 3.0 Ah), UC 24YFA charger and case

5. SELLING POINTS

(1) Cordless impact driver Models WH 14DMR/WH 18DMR

Class-top tightening speed and tightening torque
[WH 14DMR: 140 N·m, WH 18DMR: 150 N·m]

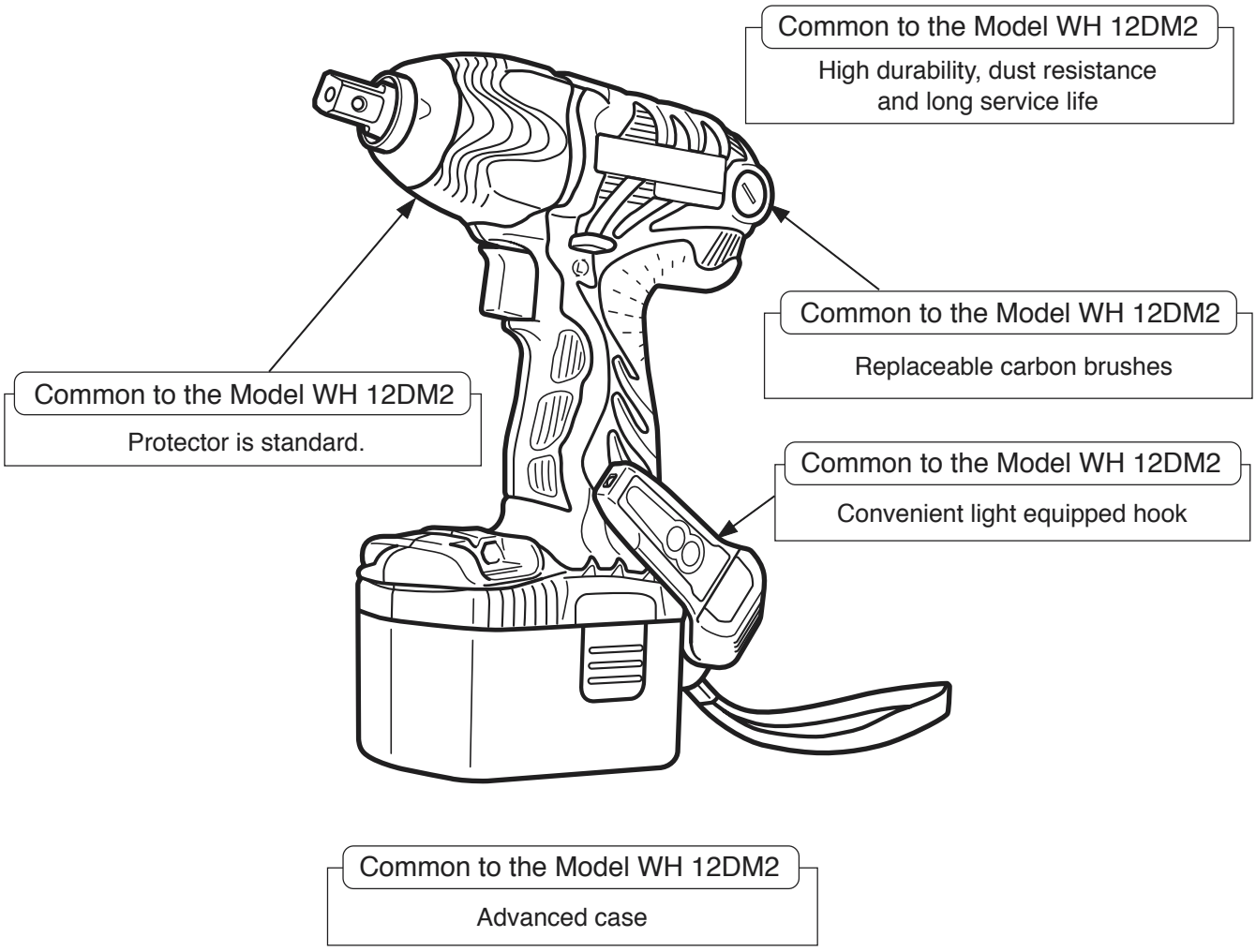
● P1: 130 N·m, P2: 132 N·m



(2) Cordless impact wrench Models WR 14DMR/WR 18DMR

Class-top tightening torque
[WR 14DMR: 200 N·m, WR 18DMR: 220 N·m]

● P3: 175 N·m, P4: 186 N·m



5-1. Selling Points Descriptions

Refer to pages 4 through 10 of Technical Data and Service Manual for the Model WH 12DM2 for common selling points.

Selling points of the Models WH 14DMR/WH 18DMR

- Class-top tightening speed and torque
  - WH 14DMR: 140 N·m (1430 kgf·cm, 1240 in-lbs.)
  - WH 18DMR: 150 N·m (1530 kgf·cm, 1330 in-lbs.)

  Both the Models WH 14DMR and WH 18DMR are equipped with a relatively inexpensive magnet and the entire length is significantly shorter than the previous models respectively. However, the performance is superior to the competitors thanks to the large hammer and the optimized impact timing. Comparison of measured data with the previous model and the competitors is shown below.

① Tightening time comparison

Figure 1 shows the time required for tightening a wood screw (5.3 mm dia. x 120 mm length) into a lauan workpiece.

- WH 14DMR: 10 % higher than P1
- WH 18DMR: 15 % higher than P2

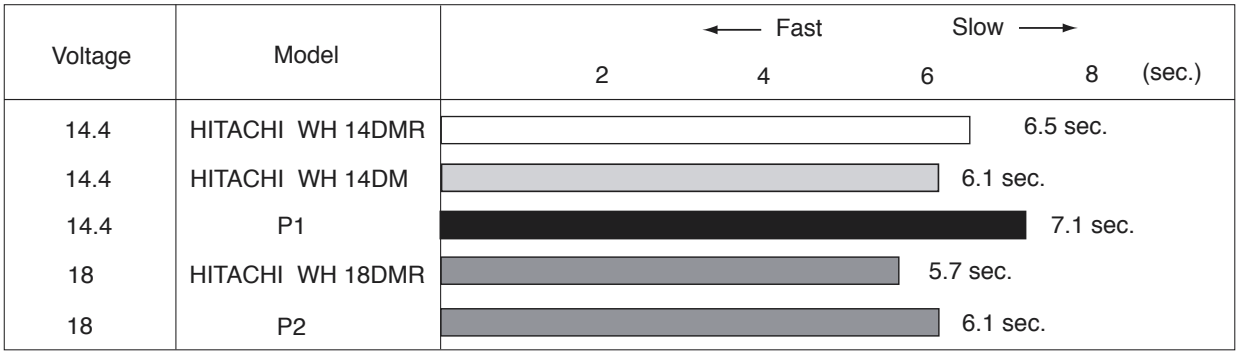


Fig. 1 Tightening time comparison

* Tightening time may vary depending on hardness of the workpiece, ambient temperature, characteristics of the battery, etc.

② Tightening torque comparison

Figure 2 shows the torque required for tightening an M14 high-strength tension bolt in 3 seconds with a hexagon socket (40 mm long).

- WH 14DMR: 10 % higher than P1
- WH 18DMR: 15 % higher than P2

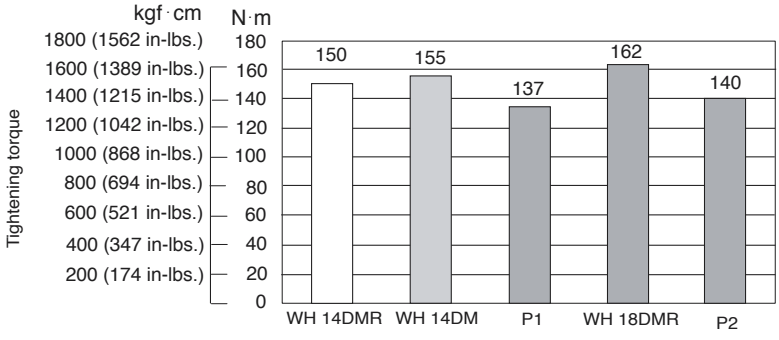


Fig. 2 Tightening torque comparison

Selling points of the Models WR 14DMR/WR 18DMR

- Powerful tightening torque
  - WR 14DMR: 200 N·m (2040 kgf·cm, 1770 in-lbs.)
  - WR 18DMR: 220 N·m (2245 kgf·cm, 1950 in-lbs.)

  Both the Models WR 14DMR and WR 18DMR are equipped with a relatively inexpensive magnet and the entire length is significantly shorter than the previous models respectively. However, the performance is superior to the competitors thanks to the large hammer and the optimized impact timing. Comparison of measured data with the previous model and the competitors is shown below.

(1) Tightening torque comparison

Figure 3 shows the torque required for tightening an M16 F10T bolt in 3 seconds with a hexagon socket (40 mm long).

- WR 14DMR: 25 % higher than P3
- WR 18DMR: 20 % higher than P4

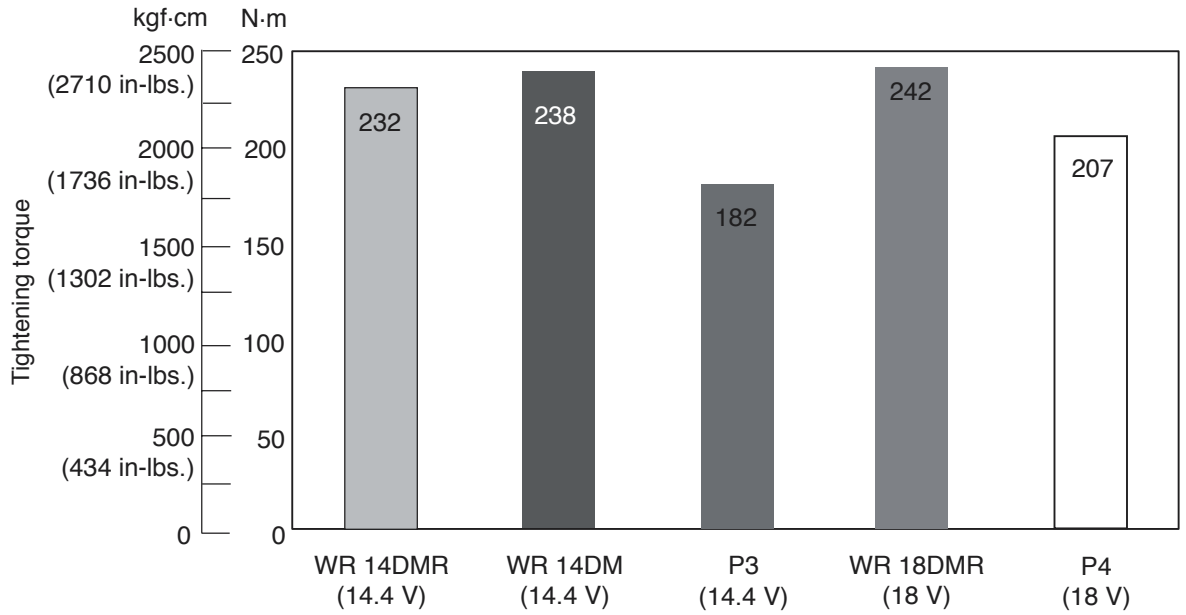


Fig. 3

* The data above are intended for reference purposes only because actual tightening torque will vary depending on tightening conditions.

6. SPECIFICATIONS

6-1. Specifications

Models WH 14DMR/WR 14DMR

Item \ Model		Cordless impact driver WH 14DMR	Cordless impact wrench WR 14DMR
Capacity		Small screw M4 — M10 (5/32" — 3/8")*1 Ordinary bolt M6 — M14 (1/4" — 9/16") High-strength bolt M6 — M12 (1/4" — 15/32")	Ordinary bolt M10 — M16 (3/8" — 5/8") High-strength bolt M8 — M14 (5/16" — 9/16")
Tightening torque		140 N·m (1430 kgf·cm, 1240 in-lbs.)*2	200 N·m (2040 kgf·cm, 1770 in-lbs.)*3
Tip condition		6.35 mm (1/4") Bit holder	12.7 mm (1/2") Square drive
Type of motor		Fan cooled rare-earth magnet motor	
Enclosure		Main body: Polyamide resin + elastomer ····· Housing Aluminum alloy die casting ····· Hammer case Elastomer ····· Protector Storage battery: Polyamide resin (black) Charger: ABS resin (black)	
Type of switch		Trigger switch with forward/reverse changeover pushing button (with brake)	
Handle configuration		T-type	
No-load rotational speed		0 — 2,600 /min	
Impact rate		0 — 3,200 /min	
Weight	Main body	1.8 kg (3.9 lbs.) (Includes battery)*4	
	Battery	0.86 kg (1.9 lbs.)	
Overall length x height		162 mm (6-3/8") x 236 mm (9-19/64")	167 mm (6-37/64") x 236 mm (9-19/64")
Center height		27 mm (1-1/16")	
Battery (Type EB 14B)		Sealed cylindrical nickel-cadmium batteries Nominal voltage: DC 14.4 V Nominal life: Charging/discharging approximately 300 cycles (in the case of the Model UC 18YG) Nominal capacity: 2.0 Ah	
Battery (Type EB 1426H/ EB 1430H)		Sealed cylindrical nickel-metal hydride batteries Nominal voltage: DC 14.4 V Nominal life: Charging/discharging approximately 500 cycles (in the case of the Model UC 14YFA) Nominal capacity: 2.6 Ah/3.0 Ah	
Charger (Model UC 14YFA)		Charger power source: single-phase AC, 50/60 Hz Voltage: Depending on the order specification Power input: 56 W Charging system: Constant current charge with feedback control Overcharge protection system: (1) Battery voltage detection (△^{2}V system) Battery temperature detection (dT/dt system) for Ni-MH battery (2) Battery surface temperature detection (thermistor) (3) 120-minute timer Output voltage: 7.2 V — 14.4 V Output current: 2.6 A Charging time: Approx. 50 minutes (for BL-type EB 14B battery at 20 ˚C) Approx. 60 minutes (for type EB 1426H battery at 20 ˚C) Approx. 70 minutes (for HL-type EB 1430H battery at 20 ˚C) Product weight: 0.6 kg Operable ambient temperature range: 0 ˚C — 40 ˚C The maximum allowable temperature of the EB 14B type battery is 55 ˚C and the EB 1426H or EB 1430H type battery is 45 ˚C.	

Charger (Model UC 18YG)	• Overcharge prevention circuit: A thermostat monitors the surface temperature of the battery and, on detecting the temperature rise which occurs on completion of charging, automatically turns off the unit to prevent the battery from overcharge. • Input capacity: 70 W • Indication method: Pilot lamp indicator of battery charging • Function : On ····· During charging Off ····· Charging completed

*1: In the case of tapping screws and wood screws, a minimum of M3 (1/8") is possible.
*2: This torque is based on tightening an M12 (9/16") bolt (strength grade: 12.9) for 3 seconds with a hexagonal socket.
*3: This torque is based on tightening an M16 (5/8") bolt (F10T) for 3 seconds with a hexagonal socket.
*4: Main body does not include accessory tools and hook (hexagonal bit etc.).

Pilot lamp indications (Model UC 14YFA)

Red pilot lamp remains lit or flashes.	Prior to charging	Blinks	0.5 sec ON, 0.5 sec OFF ■ ■ ■ ■ ■	
	During charging	Lit	Stays ON constantly ■■■■■■■■■■	
	Charging completed	Blinks	0.5 sec ON, 0.5 sec OFF ■ ■ ■ ■ ■	
	Charging not possible	Flickers	0.1 sec ON, 0.1 sec OFF ■ ■ ■ ■ ■ ■ ■	Storage battery or charger is faulty.
Green pilot lamp is lit.	High battery temperature	Lit	Stays ON constantly ■■■■■■■■■■	Charging not possible because storage battery temperature is too high.

Models WH 18DMR/WR 18DMR

Item \ Model		Cordless impact driver WH 18DMR	Cordless impact wrench WR 18DMR
Capacity		Small screw M4 — M10 (5/32" — 3/8")*1 Ordinary bolt M6 — M14 (1/4" — 9/16") High-strength bolt M6 — M12 (1/4" — 15/32")	Ordinary bolt M10 — M16 (3/8" — 5/8") High-strength bolt M8 — M14 (5/16" — 9/16")
Tightening torque		150 N·m (1530 kgf·cm, 1330 in-lbs.)*2	220 N·m (2245 kgf·cm, 1950 in-lbs.)*3
Tip condition		6.35 mm (1/4") Bit holder	12.7 mm (1/2") Square drive
Type of motor		Fan cooled rare-earth magnet motor	
Enclosure		Main body: Polyamide resin + elastomer ····· Housing Aluminum alloy die casting ····· Hammer case Elastomer ····· Protector Storage battery: Polyamide resin (black) Charger: ABS resin (black)	
Type of switch		Trigger switch with forward/reverse changeover pushing button (with brake)	
Handle configuration		T-type	
No-load rotational speed		0 — 2,600 /min	
Impact rate		0 — 3,200 /min	
Weight	Main body	2.0 kg (4.4 lbs.) (Includes battery)*4	
	Battery	1.04 kg (2.2 lbs.)	
Overall length x height		162 mm (6-3/8") x 236 mm (9-19/64")	167 mm (6-37/64") x 236 mm (9-19/64")
Center height		27 mm (1-1/16")	
Battery (Type EB 1820L)		Sealed cylindrical nickel-cadmium batteries Nominal voltage: DC 18 V Nominal life: Charging/discharging approximately 300 cycles (in the case of the Model UC 18YG) Nominal capacity: 2.0 Ah	
Battery (Type EB 1826HL/ EB 1830HL)		Sealed cylindrical nickel-metal hydride batteries Nominal voltage: DC 18 V Nominal life: Charging/discharging approximately 500 cycles (in the case of the Model UC 24YFA) Nominal capacity: 2.6 Ah/3.0 Ah	
Charger (UC 24YFA)		Overcharge protection system: (1) Battery voltage detection (△²V system) for Ni-Cd battery Mi-MH battery temperature detection (dT/dt system) for Ni-MH battery (2) Battery surface temperature detection (thermostat or thermistor) (3) 120-minute timer Power input: 90 W Charging time: Approx. 50 minutes [for type EB 1820L battery at 20˚C (68˚F)] Approx. 60 minutes [for type EB 1826HL battery at 20˚C (68˚F)] Approx. 70 minutes [for type EB 1830HL battery at 20˚C (68˚F)] Operable ambient temperature range: 0˚C — 40˚C (32˚F — 104˚F) The maximum allowable temperature of the EB 1820L battery is 60˚C (140˚F) and the type EB 1826HL or EB 1830HL battery is 45˚C (113˚F).	

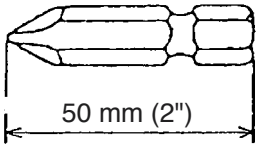
<table>
<tr><td></td><td>Indication method of battery charging function:
<table>
<tr><th colspan="4">Indications of the pilot lamp</th></tr>
<tr><td>Before charging</td><td>Blinks (RED)</td><td>Lights for 0.5 seconds. Does not light for 0.5 seconds. (off for 0.5 seconds)</td><td></td></tr>
<tr><td>While charging</td><td>Lights (RED)</td><td>Lights continuously</td><td></td></tr>
<tr><td>Charging complete</td><td>Blinks (RED)</td><td>Lights for 0.5 seconds. Does not light for 0.5 seconds. (off for 0.5 seconds)</td><td></td></tr>
<tr><td>Charging impossible</td><td>Flickers (RED)</td><td>Lights for 0.1 seconds. Does not light for 0.1 seconds. (off for 0.1 seconds)</td><td>Malfunction in the battery or the charger</td></tr>
<tr><td>Charging impossible</td><td>Lights (GREEN)</td><td>Lights continuously</td><td>The battery temperature is high, making recharging impossible.</td></tr>
</table></td></tr>
<tr><td>Charger
(Model UC 18YG)</td><td>• Overcharge prevention circuit:
A thermostat monitors the surface temperature of the battery and, on detecting the temperature rise which occurs on completion of charging, automatically turns off the unit to prevent the battery from overcharge.
• Input capacity: 70 W
• Indication method: Pilot lamp indicator of battery charging
• Function : On ····· During charging
Off ····· Charging completed</td></tr>
</table>

*1: In the case of tapping screws and wood screws, a minimum of M3 (1/8") is possible.
*2: This torque is based on tightening an M14 (9/16") bolt (strength grade: 12.9) for 3 seconds with a hexagonal socket.
*3: This torque is based on tightening an M16 (5/8") bolt (F10T) for 3 seconds with a hexagonal socket.
*4: Main body does not include accessory tools and hook (hexagonal bit etc.).

6-2. Optional Accessories

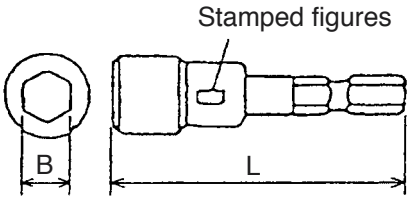
(1) Optional accessories for the Models WH 14DMR/WH 18DMR

• Plus driver bit



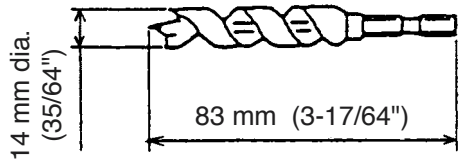
Bit No.	Code No.
No. 2	992671
No. 3	992672

• Hexagon socket



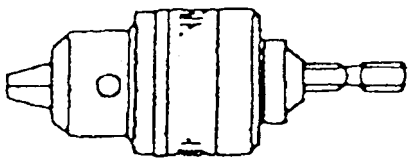
Part name	Stamped figures	L (mm)	B (mm)	Code No.
5 mm Hexagon socket	8	65 (2-9/16")	8 (5/16")	996177
6 mm Hexagon socket	10	65 (2-9/16")	10 (3/8")	985329
5/16" Hexagon socket	12	65 (2-9/16")	12 (15/32")	996178
8 mm Hexagon socket	13	65 (2-9/16")	13 (1/2")	996179
10 mm Hexagon socket (small type)	14	65 (2-9/16")	14 (9/16")	996180
10 mm Hexagon socket	16	65 (2-9/16")	16 (5/8")	996181
10 mm Hexagon socket	17	65 (2-9/16")	17 (21/32")	996182
1/2" Hexagon long socket	21	166 (6-17/32")	21 (53/64")	996197

• Woodworking drill bit (Code No. 959183)



• Drill chuck adaptor set (Code No. 996195)

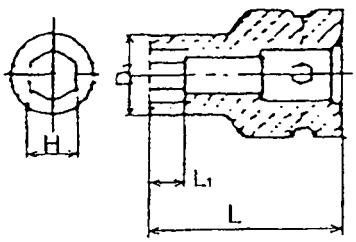
The drill chuck adaptor set permits mounting of various types of locally-available drill bits for a variety of drilling operations.



(2) Optional accessories for the Models WR 14DMR/WR 18DMR

• Each dimension and applicable bolt for each hexagon socket

Shape B



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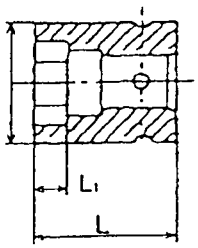
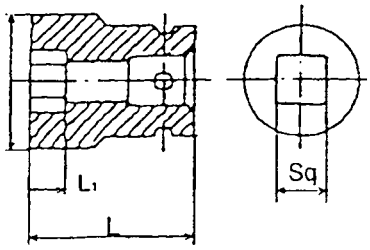


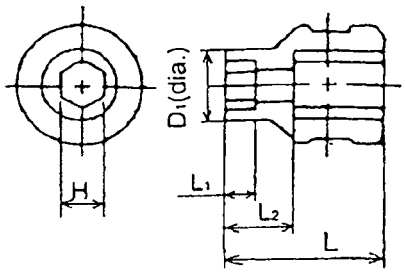
Shape D



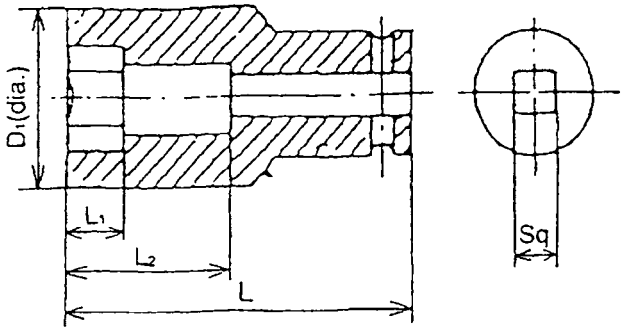
Square drive dimension Sq	Part name		Code No.	Nominal diameter of applicable bolts				Dihedral width H (mm)	Shape	Socket primary dimensions (mm)		
				ISO (High-strength)	ISO (Ordinary)	ISO (Small type)	Inch screw			L	L_1	D_1
12.7 mm (1/2")	Hexagon socket	10 mm	944291	—	M 6 (1/4")	—	—	10 (3/8")	B	40 (1-9/16")	8 (5/16")	18 (23/32")
		12 mm	873632	—	—	M 8 (5/16")	W 5/16"	12 (15/32")	B	40 (1-9/16")	8 (5/16")	20 (25/32")
		13 mm	873539	—	M 8 (5/16")	—	—	13 (1/2")	B	40 (1-9/16")	9 (11/32")	25 (1")
		14 mm	873540	—	—	M 10 (3/8")	—	14 (9/16")	B	40 (1-9/16")	9 (11/32")	25 (1")
		17 mm	873536	—	M 10 (3/8")	M 12 (15/32")	W 3/8"	17 (21/32")	C	32 (1-1/4")	8 (5/16")	28 (1-3/32")
		19 mm	873624	—	M 12 (15/32")	M 14 (9/16")	W 7/16"	19 (23/32")	C	34 (1-11/32")	9 (11/32")	28 (1-3/32")
		21 mm	873626	—	—	—	W 1/2"	21(53/64")	D	36 (1-13/32")	10 (3/8")	32 (1-1/4")
		22 mm	873627	M 12 (15/32")	M 14 (9/16")	M 16 (5/8")	—	22 (7/8")	D	40 (1-9/16")	14 (9/16")	35 (1-3/8")
		24 mm	873629		M 16 (5/8")	M 18 (23/32")		24 (15/16")	D	40 (1-9/16")	15 (9/16")	38 (1-1/2")
		26 mm	873630				W 5/8"	26 (1")	D	40 (1-9/16")	15 (9/16")	38 (1-1/2")
		27 mm	985195	M 16 (5/8")	M 18 (23/32")	M 20		27 (1-1/16")	D	40 (1-9/16")	16 (5/8")	42 (1-21/32")

• Each dimension and applicable bolt for each long socket

Shape B

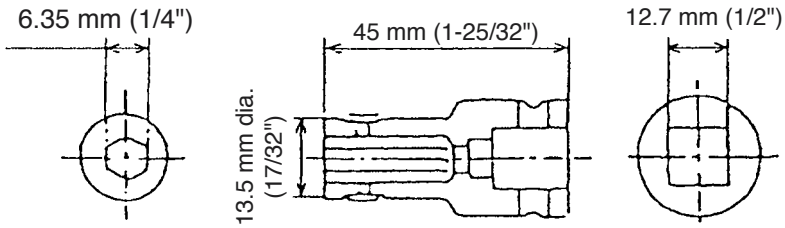


Shape D



Square drive dimension Sq	Part name		Code No.	Nominal diameter of applicable bolts				Dihedral width H (mm)	Shape	Socket primary dimensions (mm)			
				ISO (High-strength)	ISO (Ordinary)	ISO (Small type)	Inch screw			L	L_1	L_2	D_1
12.7 mm (1/2")	Long socket	12 mm	955138	—	—	M 8 (5/16")	W 5/16"	12 (15/32")	B	52 (2-3/64")	20 (25/32")	34(1-11/32")	20 (25/32")
		13 mm	955139	—	M 8 (5/16")	—	—	13 (1/2")	B	52 (2-3/64")	20 (25/32")	34(1-11/32")	21.5 (53/64")
		14 mm	955140	—	—	M 10 (3/8")	—	14 (9/16")	B	52 (2-3/64")	20 (25/32")	34(1-11/32")	22 (7/8")
		17 mm	955141	—	M 10 (3/8")	M 12 (15/32")	W 3/8"	17 (21/32")	B	52 (2-3/64")	24 (15/16")	34(1-11/32")	25 (1")
		17 mm	955149	—	M 10 (3/8")	M 12 (15/32")	W 3/8"	17 (21/32")	B	75 (2-15/16")	24 (15/16")	57(2-1/4")	25 (1")
		19 mm	955142	—	M 12 (15/32")	M 14 (9/16")	W 7/16"	19 (23/32")	B	52 (2-3/64")	24 (15/16")	34(1-11/32")	28 (1-3/32")
		19 mm	955150	—	M 12 (15/32")	M 14 (9/16")	W 7/16"	19 (23/32")	B	75 (2-15/16")	24 (15/16")	57(2-1/4")	28 (1-3/32")
		21 mm	955143	—	—	—	W 1/2"	21 (53/64")	D	52 (2-3/64")	24 (15/16")	34(1-11/32")	31 (1-7/32")
		21 mm	955151	—	—	—	W 1/2"	21 (53/64")	D	75 (2-15/16")	24 (15/16")	57(2-1/4")	31 (1-7/32")
		21 mm	991480	—	—	—	W 1/2"	21 (53/64")	D	125 (4-47/51")	24 (15/16")	107 (4-7/32")	31 (1-7/32")
		22 mm	955144	M 12 (15/32")	M 14 (9/16")	M 16 (5/8")	—	22 (7/8")	D	52 (2-3/64")	24 (15/16")	34(1-11/32")	32.5 (1-9/32")
		24 mm	955146	—	M 16 (5/8")	M 18 (23/32")		24 (15/16")	D	52 (2-3/64")	25 (63/64")	34(1-11/32")	34 (1-11/32")
		26 mm	955147				W 5/8"	26 (1")	D	75 (2-15/16")	25 (63/64")	57 (2-1/4")	38 (1-1/2")

• Bit adaptor (Code No. 991476)



Part name	Overall length (mm)	Code No.
Plus hd. driver bit No.2	45 (1-25/32")	955229
	70 (2-3/4")	955654
Plus hd. driver bit No.3	45 (1-25/32")	955230
	70 (2-3/4")	955655

• Extension bar [Overall length 100 mm (3-15/16")] (Code No. 873633)
• Universal joint (Code No. 992610)
• Socket ass'y for duct

Dihedral width of applicable bolts	Code No.
12 (15/32")	993658
13 (1/2")	992613
14 (9/16")	992615

• EW-14R corner attachment (Code No. 9329-9001)

7. COMPARISONS WITH SIMILAR PRODUCTS

7-1. Specification Comparisons (Cordless Impact Driver)

Item \ Maker / Model				HITACHI WH 14DMR	HITACHI WH 14DM	P1	HITACHI WH 18DMR	P2
Catalog specifications	Capacity	Small screw		M 4 – M 10 (5/32" – 3/8")*1	M 4 – M 10 (5/32" – 3/8")*1	—	M 4 – M 10 (5/32" – 3/8")*1	—
		Ordinary bolt		M 6 – M 14 (1/4" – 9/16")	M 6 – M 14 (1/4" – 9/16")	—	M 6 – M 14 (1/4" – 9/16")	—
		High-strength bolt		M 6 – M 12 (1/4" – 15/32")	M 6 – M 12 (1/4" – 15/32")	—	M 6 – M 12 (1/4" – 15/32")	—
	Max. tightening torque		N·m	140 (1430 kgf·cm, 1240 in-lbs.)	145 (1480 kgf·cm, 1280 in-lbs.)	130 (1330 kgf·cm, 1150 in-lbs.)	150 (1530 kgf• cm, 1330 in-lbs.)	132 (1350 kgf·cm, 1170 in-lbs.)
	No-load rotation speed		min^{-1}	0 – 2,600	0 – 2,600	0 – 2,400	0 – 2,600	0 – 2,400
	Impact rate		min^{-1}	0 – 3,200	0 – 3,200	0 – 3,000	0 – 3,200	0 – 3,000
	Main body weight *3		kg	1.8 (3.9 lbs.)	1.8 (3.9 lbs.)	1.9 (4.1 lbs.)	2.0 (4.4 lbs.)	2.2 (4.7 lbs.)
Measured figures	Max. tightening torque *2		N·m	150 (1531 kgf·cm, 1329 in-lbs.)	155 (1582 kgf·cm, 1373 in-lbs.)	137 (1408 kgf·cm, 1222 in-lbs.)	162 (1653 kgf·cm, 1435 in-lbs.)	140 (1429 kgf·cm, 1240 in-lbs.)
	No-load rotation speed		min^{-1}	0 – 2,610	0 – 2,650	0 – 2,470	0 – 2,600	0 – 2,490
	Impact rate		min^{-1}	0 – 3,190	0 – 3,210	0 – 2,800	0 – 3,170	0 – 2,840
	Overall length x height		mm	162 x 236 (6-3/8" x 9-19/64")	179 x 236 (7-3/64" x 9-19/64")	167 x 232 (6-37/64" x 9-9/64")	162 x 236 (6-3/8" x 9-19/64")	167 x 234 (6-37/64" x 9-7/32")
	Center height		mm	27 (1-1/16")	27 (1-1/16")	28.5 (1-1/8")	27 (1-1/16")	28.5 (1-1/8")
	Main body weight*3		kg	1.87 (4.1 lbs.)	1.89 (4.1 lbs.)	1.85 (4.1 lbs.)	2.09 (4.5 lbs.)	2.19 (4.7 lbs.)
	No-load sound pressure level		dB(A)	72	71	76	72	76
Tool tip mounting system				Driver chuck	Driver chuck	Driver chuck	Driver chuck	Driver chuck
Type of switch				Variable speed switch with forward/reverse changeover lever	Variable speed switch with forward/reverse changeover lever	Variable speed switch with forward/reverse changeover lever	Variable speed switch with forward/reverse changeover lever	Variable speed switch with forward/reverse changeover lever
Type of motor				DC magnet	DC magnet	DC magnet	DC magnet	DC magnet
Voltage			V	14.4	14.4	14.4	18	18
Current			A	32	30	28	26	24
Battery	Type			EB 14B, EB 1426H or EB1430H	EB 14B or EB1430H	DW9091	EB 1820L, EB 1830HL or EB1826HL	DW9096
	Nominal capacity		Ah	EB 14B: 2.0 EB1426H: 2.6 EB 1430H: 3.0	EB 14B: 2.0 EB 1430H: 3.0	1.7	EB 1820L: 2.0 EB 1826HL: 2.6 EB 1830HL: 3.0	2.4
	Nominal voltage		V	14.4	14.4	14.4	18	18
	Ambient temperature		˚C	0 – 40	0 – 40	—	0 – 40	—
Charger	Model			UC 14YFA or UC 18YG	UC 14YF2 or UC 14YFA	DW9107	UC 24YFA or UC 18YG	DW9116
	Power input capacity		VA	UC 14YFA: 56 UC 18YG: 70	UC 14YF2: 44 UC 14YFA: 56	—	UC 24YFA: 90 UC 18YG: 70	—
	Recharging voltage		V	UC 14YFA: 7.2 – 14.4 UC 18YG: 7.2 – 18	7.2 – 14.4	7.2 – 14.4	UC 24YFA: 7.2 – 24 UC 18YG: 7.2 – 18	7.2 – 18
Standard accessories				• Plastic tool case • Charger (UC 14YFA or UC 18YG)	• Plastic tool case • Charger (UC 14YF2 or UC 14YFA)	• Plastic tool case • Charger (DW9107)	• Plastic tool case • Charger (UC 24YFA or UC 18YG)	• Plastic tool case • Charger (DW9116)

*1: In the case of tapping screws and wood screws, a minimum of M3 (1/8") is possible.

*2: Max. tightening torque is based on tightening an M14 (9/16") bolt (strength grade: 12.9) for 3 seconds with a hexagon socket.

*3: Main body weight does not include accessory tools and hook (hexagon bit etc.).

7-2. Specification Comparisons (Cordless Impact Wrench)

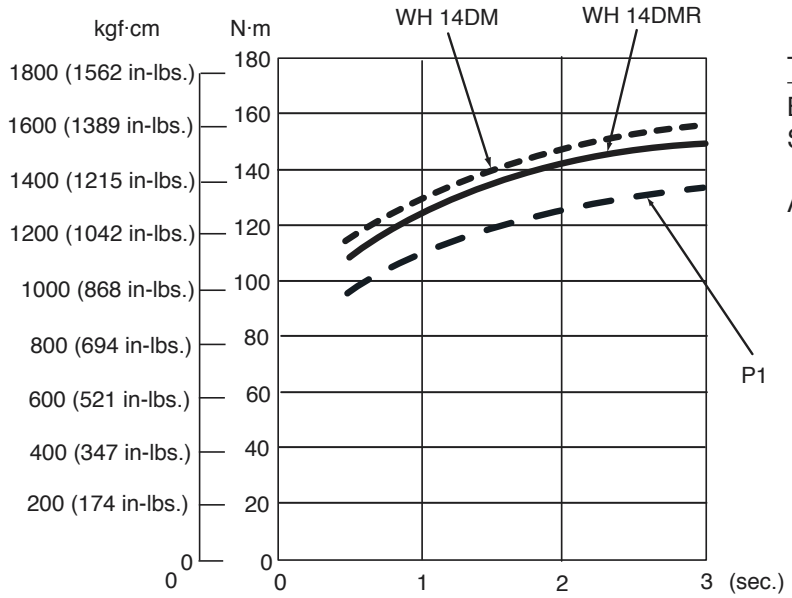
Item \ Maker / Model				HITACHI WR 14DMR	HITACHI WR 14DM	P3	HITACHI WR 18DMR	P4
Catalog specifications	Capacity	Ordinary bolt		M 10 – M 16 (3/8" – 5/8")	M 10 – M 16 (3/8" – 5/8")	—	M 10 – M 16 (3/8" – 5/8")	—
		High-strength bolt		M 8 – M 14 (5/16" – 9/16")	M 8 – M 14 (5/16" – 9/16")	—	M 8 – M 14 (5/16" – 9/16")	—
	Max. tightening torque		N·m	200 *1 (2040 kgf·cm, 1770 in-lbs.)	200 *1 (2040 kgf·cm, 1770 in-lbs.)	175 (1780 kgf·cm, 1545 in-lbs.)	220 *1 (2245 kgf·cm, 1950 in-lbs.)	186 (1900 kgf·cm, 1650 in-lbs.)
	No-load rotation speed		min^{-1}	0 – 2,600	0 – 2,300	0 – 2,400	0 – 2,600	0 – 2,400
	Impact rate		min^{-1}	0 – 3,200	0 – 3,000	0 – 3,000	0 – 3,200	0 – 3,000
	Main body weight *3		kg	1.8 (3.9 lbs.)	1.8 (3.9 lbs.)	1.9 (4.2 lbs.)	2.0 (4.4 lbs.)	2.2 (4.7 lbs.)
Measured figures	Max. tightening torque		N·m	232 (2366 kgf·cm, 2054 in-lbs.)	238 (2429 kgf·cm, 2108 in-lbs.)	182 (1857 kgf·cm, 1580 in-lbs.)	242 (2469 kgf·cm, 2100 in-lbs.)	207 (2112 kgf·cm, 1797 in-lbs.)
	No-load rotation speed		min^{-1}	0 – 2,610	0 – 2,350	2,470	0 – 2,600	0 – 2,490
	Impact rate		min^{-1}	0 – 3,290	0 – 3,210	0 – 3,010	0 – 3,270	0 – 3,050
	Overall length x height		mm	167 x 236 (6-37/64" x 9-19/64")	184 x 236 (7-1/4" x 9-19/64")	168 x 232 (6-39/64" x 9-9/64")	167 x 236 (6-37/64" x 19/64")	168 x 234 (6-39/64" x 9-7/32")
	Center height		mm	27 (1-1/16")	27 (1-1/16")	28.5 (1-1/8")	27 (1-1/16")	28.5 (1-1/8")
	Main body weight *3		kg	1.88 (4.1 lbs.)	1.89 (4.1 lbs.)	1.87 (4.1 lbs.)	2.09 (4.5 lbs.)	2.18 (4.7 lbs.)
	No-load sound pressure level		dB(A)	72	70	76	72	76
Tool tip mounting system				12.7 mm (1/2" square drive) Plunger type	12.7 mm (1/2" square drive) Plunger type	12.7 mm (1/2" square drive) Plunger type	12.7 mm (1/2" square drive) Plunger type	12.7 mm (1/2" square drive) Plunger type
Type of switch				Trigger switch with forward/reverse changeover pushing button with brake and variable	Trigger switch with forward/reverse changeover pushing button with brake and variable	Trigger switch with forward/reverse changeover pushing button with brake and variable	Trigger switch with forward/reverse changeover pushing button with brake and variable	Trigger switch with forward/reverse changeover pushing button with brake and variable
Type of motor				DC magnet	DC magnet	DC magnet	DC magnet	DC magnet
Voltage			V	14.4	14.4	14.4	18	18
Current			A	27	26	26	23	22
Battery	Type			EB 14B, EB 1430H or EB1426H	EB 14B or EB1430H	DW9091	EB 1820L, EB 1230HL or EB1826HL	DW9096
	Nominal capacity		Ah	EB 14B: 2.0 EB1426H: 2.6 EB 1430H: 3.0	EB 14B: 2.0 EB 1430H: 3.0	1.7	EB 1820BL: 2.0 EB 1826HL: 2.6 EB 1830HL: 3.0	2.4
	Nominal voltage		V	14.4	14.4	14.4	18	18
	Ambient temperature		˚C	0 – 40	0 – 40	—	0 – 40	—
Charger	Model			UC 14YFA or UC 18YG	UC 14YF2	DW9107	UC 24YFA or UC 18YG	DW9116
	Power input capacity		VA	UC 14YFA: 56 UC 18YG: 70	UC 14YF2: 44 UC 14YFA: 56	—	UC 24YFA: 90 UC 18YG: 70	—
	Recharging voltage		V	UC 14YFA: 7.2 – 14.4 UC 18YG: 7.2 – 18	7.2 – 14.4	7.2 – 14.4	UC 24YFA: 7.2 – 24 UC 18YG: 7.2 – 18	7.2 – 18
Standard accessories				• Plastic tool case • Charger (UC 14YFA or UC 18YG)	• Plastic tool case • Charger (UC 14YF2 or UC 14YFA)	• Plastic tool case • Charger (DW9107)	• Plastic tool case • Charger (UC 24YFA or UC 18YG)	• Plastic tool case • Charger (DW9116)

*1: Max. tightening torque is based on tightening an M 16 (5/8") bolt (F10T) for 3 seconds with a hexagon socket.
*3: Main body weight does not include accessory tools and hook (hexagon bit etc.).

7-3. Tightening Torque

7-3-1. Tightening torque characteristic comparisons

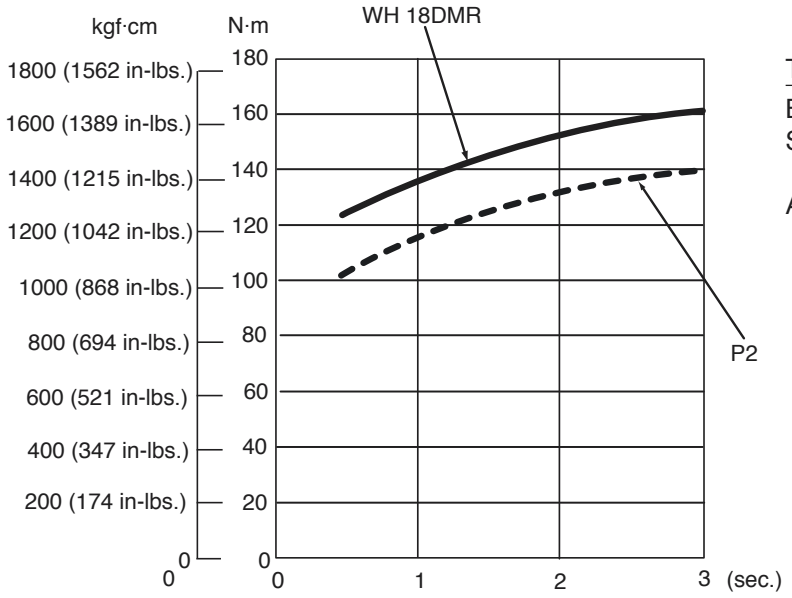
(1) Impact driver (14.4 V)



Test conditions

Bolt: M14 x 50 mm, high-strength bolt
Steel plate: SS34P
Thickness 25 mm
Accessory tool: Hexagon socket
(length: 40 mm,
width across flat: 19 mm)

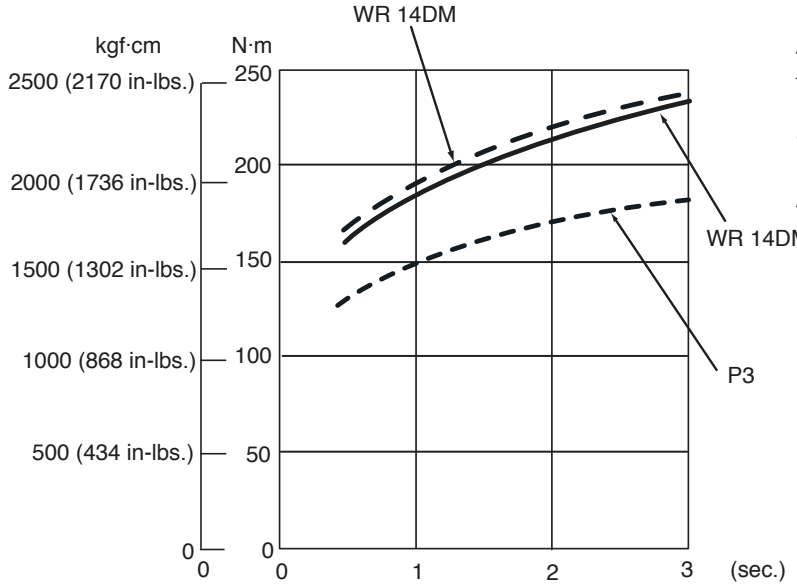
(2) Impact driver (18 V)



Test conditions

Bolt: M14 x 50 mm, high-strength bolt
Steel plate: SS34P
Thickness 25 mm
Accessory tool: Hexagon socket
(length: 40 mm,
width across flat: 19 mm)

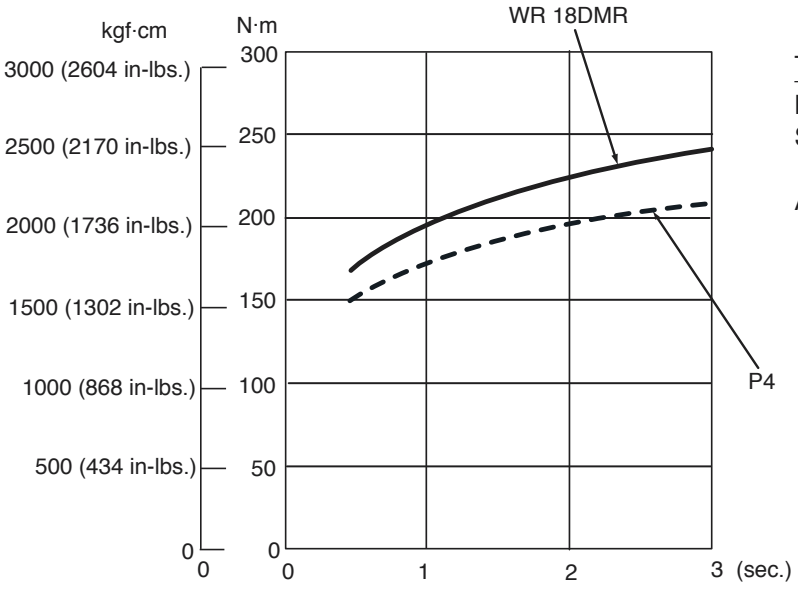
(3) Impact wrench (14.4 V)



Test conditions

Bolt: M16 x 55 mm (5/8" x 2-5/32") (F10T)
Steel plate: Mild steel
Thickness 25 mm
Accessory tool: Hexagon socket ass'y

(4) Impact wrench (18 V)



Test conditions

Bolt: M16 x 55 mm (5/8" x 2-5/32") (F10T)
Steel plate: Mild steel
Thickness 25 mm
Accessory tool: Hexagon socket ass'y

7-3-2. Screw diameter and appropriate tightening torque

Generally speaking, the appropriate tightening torque for a screw can be determined by the strength grade of the screw and the material tightened. Tables 1 and 2, and Fig. 4 below list data relative to the strength grade of various screws and the appropriate tightening torque. For further reference, appropriate tightening torque is calculated with the following formula. Study and use this formula for accurate selection of tightening torque.

$T=k \cdot d \cdot p$

T: Appropriate tightening torque (kgf·cm)

d: Nominal diameter for the screw (mm)

p: Recommended axial tightening force to be applied to the screw (kgf)

p=rated axial stress (kgf/cm^2) x 0.8 x effective sectional area of the thread (mm^2)

k: Torque coefficient (0.17)

• Strength grade and rated axial stress of threads

Table 1

Strength grade	4.8	6.8	8.8	12.9
Rated axial stress (kgf/mm^2)	29.1	43.7	58.2	95
Material	Mild steel		Alloy steel including Ni, Mn, Cr, etc.	
Heat treatment	None		Processed-hard material	

• Diameter and effective sectional areas of threads

Table 2

Kind of thread (x pitch)	M5 x 0.8 mm (3/16")	M6 x 1 mm (1/4")	M8 x 1.25 mm (5/16")	M10 x 1.5 mm (3/18")	M12 x 1.75 mm (15/32")	M14 x 2 mm (9/16")	M16 x 2 mm (5/8")
Effective sectional area of thread (mm^2)	14.2	20.1	36.6	58.0	84.3	115	157

• Thread diameter and appropriate tightening torque

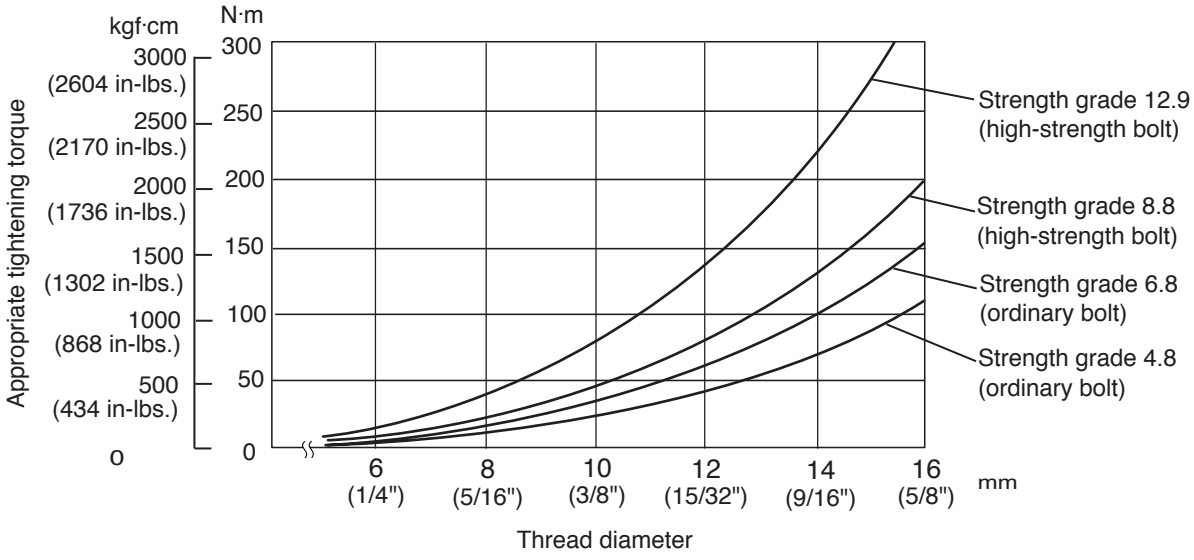


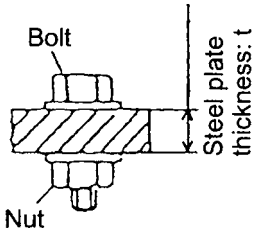
Fig. 4

7-3-3. Bolt tightening torque characteristics

Figures 5-1 and 5-2 show relationships between time and tightening torque for individual bolt types and sizes. While the data are useful for handy reference, actual tightening torque will vary depending on tightening conditions and other variables. For details, please refer to Para. 8-3, "Tightening Torque Variation".

(Note)

- The term "tightening time" indicates the impact time after the lower surface of the bolt has come in contact with the material into which it is being tightened.
- In the tightening conditions shown in Figs. 5-1 to 5-4, the screws are being tightened directly into a steel plate; accordingly, the torque goes up very abruptly in comparison with ordinary bolt tightening conditions.



* The following bolts were utilized:
Ordinary bolt; strength grade 4.8
High-strength bolt; strength grade 12.9

Strength grade is read as follows:

4.8
- Yield point or durable force: (45,500 psi)
- Tensile strength of the bolt: (56,900 psi)

- Model WH 14DMR

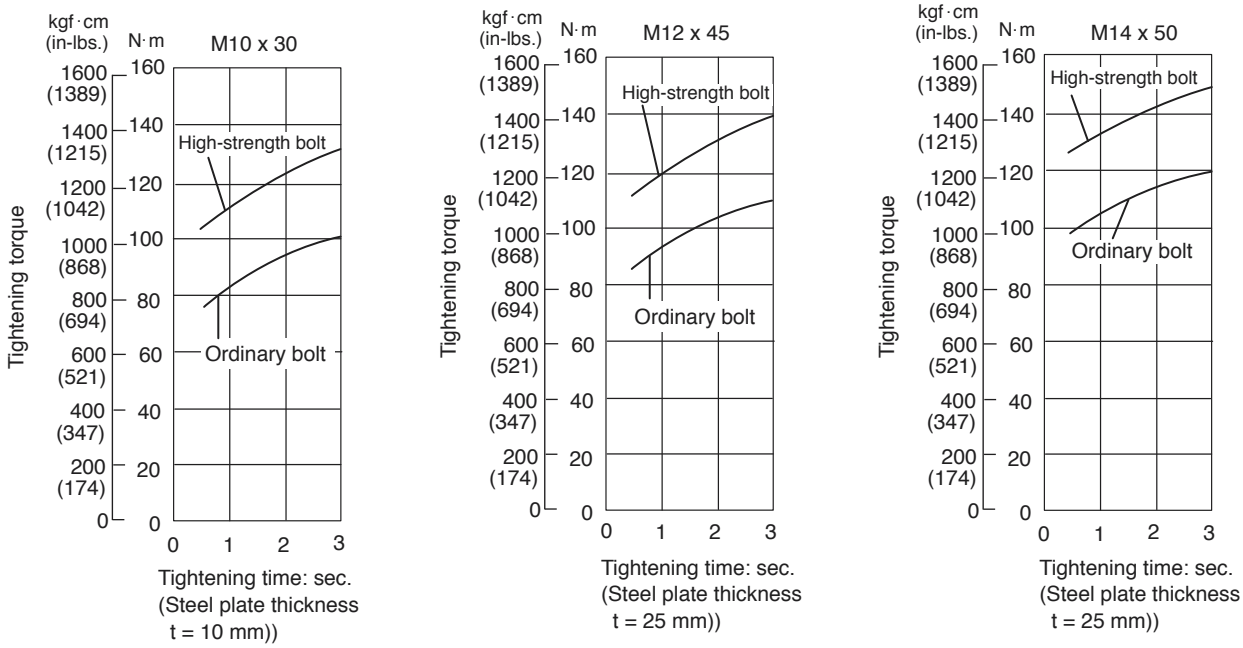


Fig. 5-1

• Model WH 18DMR

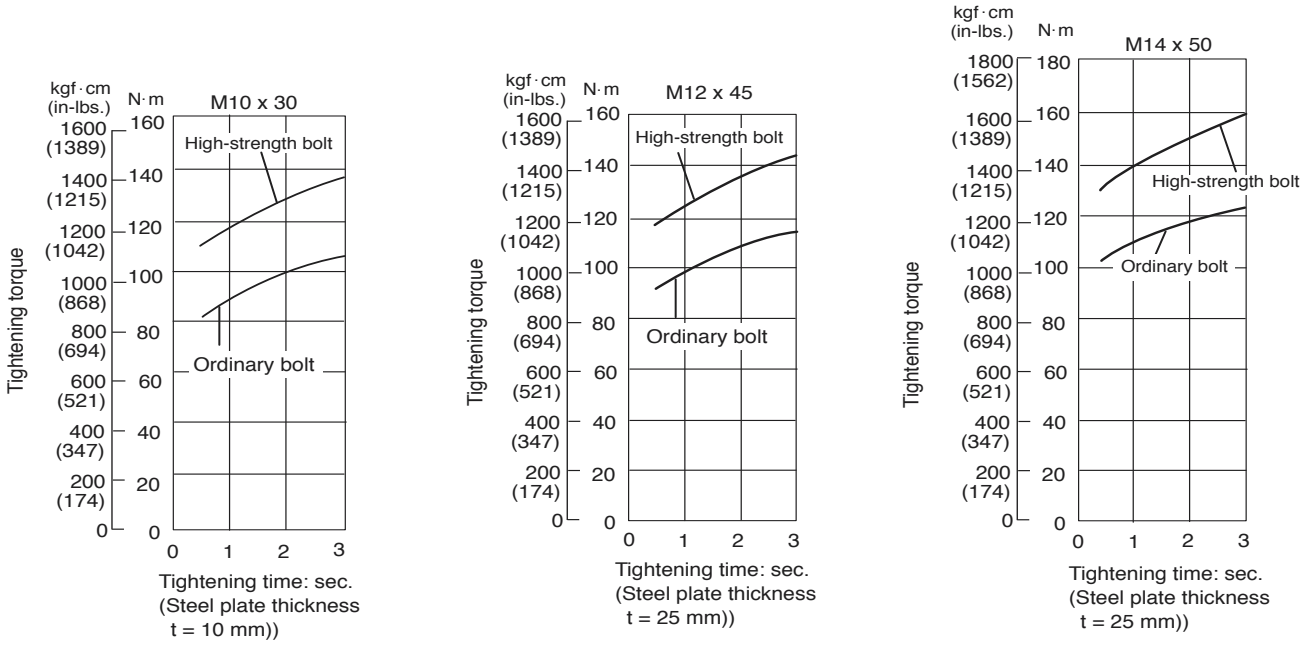


Fig. 5-2

• Model WR 14DMR

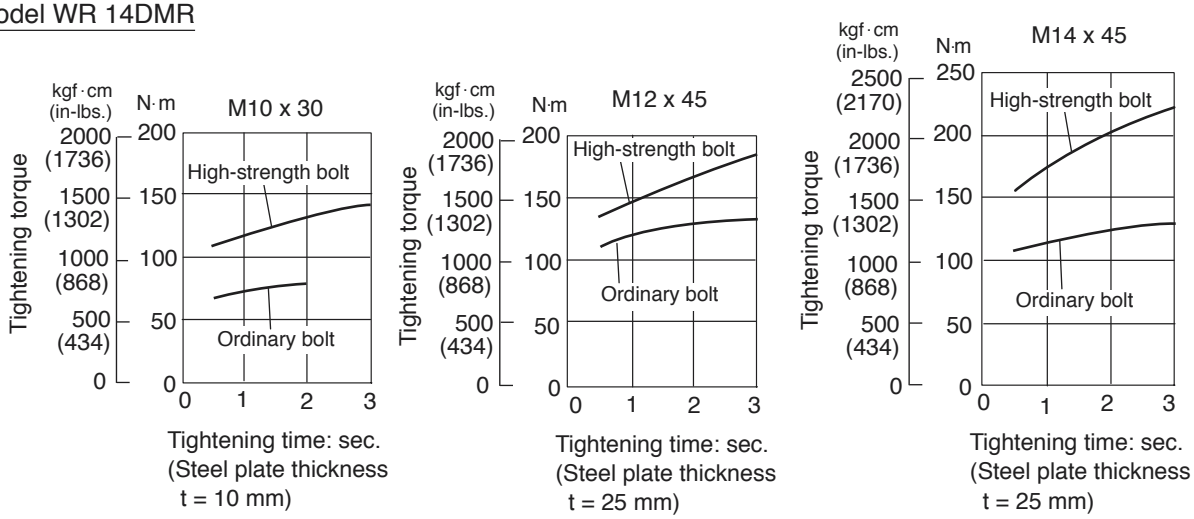


Fig. 5-3

• Model WR 18DMR

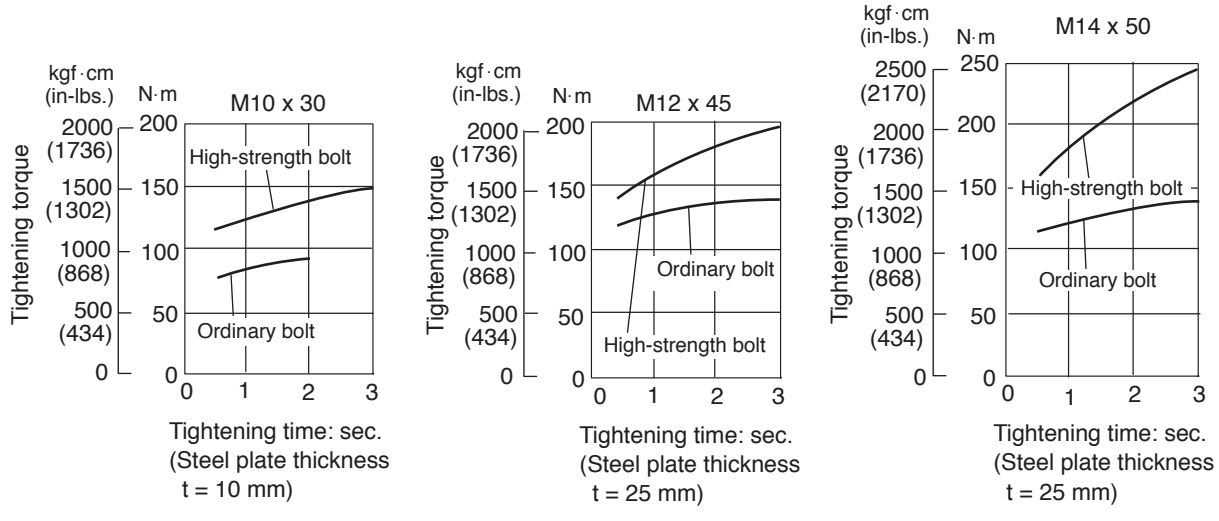


Fig. 5-4

7-4. Tightening Time

The performance of the Models WH 14DMR, WH 18DMR, WR 14DMR and WR 18DMR is superior to the competitors thanks to the large hammer and the optimized impact timing. Tightening time comparison is shown below. The data below are intended for reference purposes only because actual tightening time will vary depending on hardness of the workpiece, ambient temperature, characteristics of the battery, etc.

① Wood screw 5.3 mm dia. x 120 mm length, lauan

Voltage	Model	← Fast Slow → 2 4 6 8 10 sec.
14.4	HITACHI WH 14DMR	6.5 sec.
14.4	HITACHI WH 14DM	6.1 sec.
14.4	P1	7.1 sec.
18	HITACHI WH 18DMR	5.7 sec.
18	P2	6.1 sec.

② Wood screw 4.5 mm dia. x 90 mm length, hemlock spruce

Voltage	Model	← Fast Slow → 1 2 3 4 5 sec.
14.4	HITACHI WH 14DMR	2.4 sec.
14.4	HITACHI WH 14DM	2.3 sec.
14.4	P1	2.4 sec.
18	HITACHI WH 18DMR	2.0 sec.
18	P2	2.1 sec.

③ Wood screw 4.2 mm dia. x 75 mm length, hemlock spruce

Voltage	Model	← Fast Slow → 1 2 3 4 5 sec.
14.4	HITACHI WH 14DMR	1.5 sec.
14.4	HITACHI WH 14DM	1.5 sec.
14.4	P1	1.5 sec.
18	HITACHI WH 18DMR	1.4 sec.
18	P2	1.4 sec.

7-5. Number of Screws or Bolts Driven

7-5-1. Per-charge working capacity comparisons

Test data on the number of screws or bolts which can be driven per battery charge by the new models vs. the previous models are shown in the table below. Please note that the data below are intended for general reference only as the number of screws which can be tightened per charge will vary slightly depending on screw tightening conditions, screw sizes, ambient temperatures and the charging capacity of the battery.

Number of screws or bolts driven (Cordless impact driver)

Model / Tightening condition	HITACHI WH 14DMR	HITACHI WH 14DM	P1	HITACHI WH 18DMR	P2
Battery	EB 14B (Nominal capacity: 2.0 Ah)	EB 14B (Nominal capacity: 2.0 Ah)	DW9091 (Nominal capacity: 1.7 Ah)	(Nominal capacity: 2.6 Ah)	DW9096 (Nominal capacity: 2.4 Ah)
Wood screw 4.0 mm dia. x 50 mm (soft wood)	640	640	680	1165	1200
Wood screw 4.2 mm dia. x 90 mm (hard wood)	150	150	140	275	275
Wood screw 5.3 mm dia. x 120 mm (hard wood)	55	55	40	95	90
Machine screw (M8 x 16 mm)	1,270	1,270	1,350	2,300	2,375

8. PRECAUTIONS IN SALES PROMOTION

8-1. Safety Instructions

In the interest of promoting the safest and most efficient use of these tools by all our customers, it is very important that at the time of sale the salesperson carefully ensures that the buyer seriously recognizes the importance of the contents of the Handling Instructions, and fully understands the meaning of the precautions listed on the Caution Plate and Name Plate attached to each tool.

A. Handling Instructions

Salespersons must be thoroughly familiar with the contents of the Handling Instructions in order to give pertinent advice to the customer. In particular, they must have a thorough understanding of the precautions in the use of the cordless (battery charger type) electric power tools which are different from those of ordinary electric power tools.

(1) Before use, ensure that the unit is fully charged.
New units are not fully charged. Even if the units were fully charged at the factory, long periods without use, such as during shipping, cause the storage battery to lose its charge. Customers must be instructed to fully charge the unit prior to use.

(2) When charging storage batteries, use only the exclusive Model UC 14YFA, UC 24YFA or UC 18YG Charger provided with the tool. Because of the designed rapid-charging feature, use of other battery chargers is hazardous.

(3) Follow prescribed steps in using the charger.
First connect the Storage Battery to the Charger, then plug the charger into an AC outlet (ensuring that the voltage matches that indicated on the unit). If this order is reversed, the charger may not function properly.

(4) Ensure the power source voltage is the same as that indicated on the Name Plate of the charger. Use of any other power source (DC outlet, fuel powered generator, etc.) will cause the charger to overheat and burn out.

(5) Do not use any voltage increasing equipment (transformer etc.) between the power source and the charger.
If the charger is used with voltage over and above that indicated on the unit, it will not function properly.

(6) Conduct battery charging at an ambient temperature range of 0 ˚C — 40 ˚C (32 ˚F — 104 ˚F).
Special temperature sensitive devices are employed in the charger to permit rapid charging. Ensure that customers are instructed to use the charger at the indicated ambient temperature range. At temperatures under 0 ˚C (32 ˚F), the thermostat will not function properly, and the storage battery may be over-charged. At temperatures over 40 ˚C (104 ˚F), the storage battery cannot be sufficiently charged. The optimum temperature range is 20 ˚C — 25 ˚C (68 ˚F — 77 ˚F).

(7) The battery charger should not be used continuously.
At high ambient temperatures, if over three storage batteries are charged in succession, the temperature of the coils on the transformer will rise and there is a chance that the temperature fuse inserted in the interior of the transformer will inadvertently melt. After charging one battery, please charge the next battery after about a fifteen-minute interval.

(8) The charger case is equipped with air vents to protect the internal electronic components from overheating.
Caution the customer not to allow foreign materials, such as metallic or flammable objects, to be dropped or inserted into the air vents. This could cause electric shock, fire or other serious hazards.

(9) Do not attempt to disassemble the storage battery or the charger.

Special devices, such as a thermostat, are built into the storage battery and charger to permit rapid charging. Incorrect parts replacement and/or wiring will cause malfunctions which could result in fire or other hazards. Instruct the customer to bring these units to an authorized service center in the event repair or replacement is necessary.

(10) Disposal of the storage batteries

Ensure that all customers understand that the Storage Batteries should be returned to the Hitachi power tool sales outlet or authorized service center when they are no longer capable of being recharged or repaired. If thrown into a fire, the batteries may explode, or if discarded indiscriminately, leakage of the cadmium compound contained in the battery may cause environmental pollution.

B. Caution Plates

(1) The following precautions are listed on the Name Plate or Caution Plate attached to the main body of each tool.

For the U.S.A. (excludes French) or Canada

WARNING
- **To reduce the risk of injury, user must read and understand Instruction Manual.**

AVERTISSEMENT
- **Afin de réduire le risque de blessures, l'utilisateur doit lire et bien comprendre le mode d'emploi.**

For Oceania

CAUTION
- **Read thoroughly HANDLING INSTRUCTIONS before use.**

(2) The following cautions are listed on the Name Plate attached to each storage battery.

For Europe

CAUTION **before use.**
- **Read thoroughly HANDLING INSTRUCTIONS**
- **Do not disassemble nor throw into fire.**

For the U.S.A. and Canada

CAUTION
- **For safe operation, see Instruction Manual.**
- **Use HITACHI charger recommended in instruction manual for recharging.**

(3) The following caution is listed on the Name Plate attached to the Model UC 14YFA Charger.

For the U.S.A.

CAUTION
- **For safe operation, see Instruction Manual.**
- **Charge HITACHI rechargeable batteries Type EB 7, EB 9, EB 12 and EB 14 series. Other types of batteries may burst causing personal injury and damage.**
- **Charge between 32 and 104 °F.**
- **Indoor use only.**
- **Replace defective cord immediately.**

(4) The following caution is listed on the Name Plate attached to the Model UC 18YG Charger.

For the U.S.A.

CAUTION

- **For safe operation, see Instruction Manual.**
- **Charge HITACHI rechargeable batteries Type EB 7, EB 9, EB 12, EB 14 and EB 18 series. Other types of batteries may burst causing personal injury and damage.**
- **Charge between 32 and 104 °F.**
- **Indoor use only.**
- **Replace defective cord immediately.**

(5) The following caution is listed on the Name Plate attached to the Model UC 24YFA Charger.

For the U.S.A.

CAUTION

- **For safe operation, see Instruction Manual.**
- **Charge HITACHI rechargeable batteries Type EB 7, EB 9, EB 12, EB 14, EB 18 series, and EB 24B. Other types of batteries may burst causing personal injury and damage.**
- **Charge between 32 and 104 °F.**
- **Indoor use only.**
- **Replace defective cord immediately.**

8-2. Tightening Torque Inspection Prior to Operation

As described and shown in Para.7-3-3, the output tightening torque of which the Models WH 14DMR, WH 18DMR, WR 14DMR and WR 18DMR are capable in excess of the rated tightening torque of certain bolts and screws. Accordingly, if the tightening time is prolonged for such bolts and screws, it could cause damage to their threads or, in the worst case, cause them to be sheared off. (This phenomenon is common to all existing impact drivers.) Particularly when tightening M6 (1/4") or smaller screws, tightening time must be kept extremely short: 0.5 seconds or less. The customer should be advised to carry out several screw tightening operations and adjust the tightening time as necessary by measuring the tightening torque with an appropriate torque wrench or driver before commencing continuous operation.

8-3. Tightening Torque Variation

The tightening torque of the cordless impact driver or wrench may vary slightly in accordance with the factors described below. Salespersons are requested to advise the customer to confirm that appropriate tightening torque is obtained by measuring the torque with an appropriate torque wrench or torque driver at the beginning of the tightening operations, and as necessary during the tightening operations. In addition, the torque values shown in Para. 7-3-2 above are useful as a handy reference, and may be utilized as tentative standards.

(1) Voltage of battery

Tightening torque is affected by the voltage output of the battery. For example, the relationship between tightening torque and the number of M16 x 55 mm (5/8" x 2-5/32") F10T bolts tightened is shown in Fig. 6 below. As can be seen in the graph, tightening torque decreases as the number of bolts tightened increases. This phenomenon is caused by the decline in voltage output of the battery due to the increasing number of bolts tightened. In particular, the tightening torque decreases rapidly just before the battery is fully discharged (range "a" in the graph). As this phenomenon is an inherent drawback in any cordless impact driver, salespersons are requested to ensure that the customer is fully aware of and understands this characteristic.

Model WR 14DMR

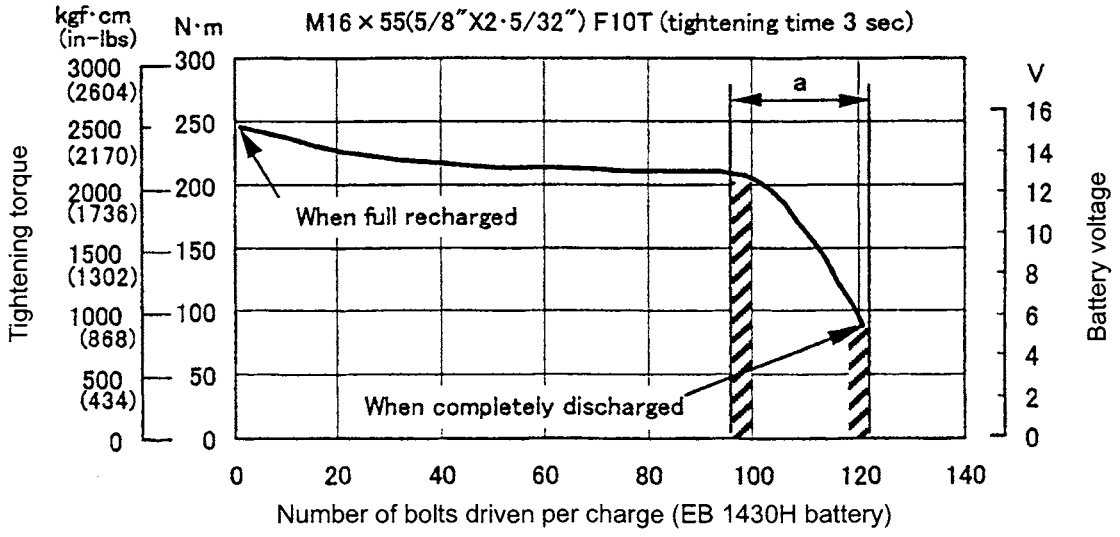


Fig. 6

(2) Effects of low ambient temperatures

The tightening torque required may be reduced at low ambient temperatures or under the influence of grease and different torque coefficients (dependent on manufacturing and finishing processes, and specified by bolt manufacturers).

(3) Different bolt diameter

Differences in bolt diameter will cause variation of the required levels of tightening torque. Generally speaking, tightening torque is higher for large bolts.

(4) Different materials being tightened

When a bolt is tightened into a soft material such as aluminum, plastic, wood, etc., the tightening torque is considerably less than when the bolt is tightened into a hard material such as steel.

(5) Different tightening conditions

The tightening torque may vary in accordance with bolt torque coefficient (dependent on manufacturing process, and specified by bolt manufacturers), bolt grade and bolt length, even though the dimensions of the bolts are the same. Tightening torque may also vary depending on the surface finishing state of tightening materials (steel, aluminum, etc.), and materials to be tightened. In addition, if there is seal packing, clearance, etc. between tightening materials, the tightening torque is decreased.

(6) Wear and looseness of the socket

With extended use, the hexagonal portion of the socket which is fitted to the head of the bolt or drill bit, and/or hexagonal portion of the driver chuck which is fitted onto the anvil in the main body will become worn and loose. Wear and looseness will cause a proportionate loss of tightening torque.

In addition, use of an incorrect size socket (slightly larger than the bolt being tightened) will also result in decreased torque.

(7) Bolt and nut rotate together

Tightening torque that can be achieved will be considerably decreased if the bolt and nut rotate together during the tightening operation. The customer should be advised to carefully observe the operation and ensure this does not occur.

8-4. Suggestions and Precautions for the Efficient Use of the Charger

(1) Batteries may not be rechargeable immediately after use

If the storage batteries are exposed to direct sunshine for an extended period, or if the temperature of the batteries is 40 ˚C (104 ˚F) or higher immediately after they have been used in the tool, the pilot lamp may not light up when the batteries are connected to the Model UC 14YFA, UC 24YFA or UC 18YG Charger. This is because the built-in thermostat functions to stop the charging when the temperature of the storage batteries reach 40 ˚C (104 ˚F) or more. In such a case, the customer should be advised to place the batteries in a shaded area with a good airflow, and allow sufficient cooling before recharging.

This phenomenon is common to all existing batteries which employ temperature sensitive overcharge devices. The cooling time required before charging can be accomplished varies from a few minutes to about 30 minutes, depending on the load, duration of use, and ambient temperature.

9. OTHER PRECAUTIONS

(1) Check for cracks or other damage on the socket

Cracks or any other faults on the socket are very hazardous. In addition, cracks or other damage to accessories will cause loss of tightening torque efficiency. Advise the customer to inspect accessories often, and ensure there are no abnormalities.

(2) Socket dimensions

Without fail, utilize an appropriate socket which matches the bolt and/or nut dimensions. If the socket dimensions are larger than the bolts or nuts, it will not only cause insufficient tightening torque, but could also easily cause damage to the socket. Please refer to the tables in Para. 6-2 for appropriate socket dimensions.

(3) Hammering section lubrication

Grease (Molub-Alloy 777-1) is utilized in the hammering section. Frequent or continuous use of the tool will cause excessive temperature rise of the hammering section, resulting in depletion of the grease and subsequent increased wear of components which will, in turn, cause loss of tightening efficiency. Accordingly, it is necessary to periodically replenish the grease in the hammering section to ensure proper lubrication of moving and sliding components.

10. REPAIR GUIDE

WARNING: Without fail, remove the battery from the main body before starting repair or maintenance work. Because the tool is cordless, if the battery is left in and the switch is activated inadvertently, the motor will start rotating unexpectedly, which could cause serious injury.

10-1. Precautions in Disassembly and Reassembly

The **[bold]** and **<bold>** numbers correspond to the item numbers in the Parts List and the exploded assembly diagram. (**[ ]**: WH 14DMR, WH 18DMR, **< >**: WR 14DMR, WR 18DMR)

10-1-1. Disassembly

(1) Removal of Guide Sleeve (D) **[4]** (Models WH 14DMR/WH 18DMR only)

Remove the Retaining Ring **[1]**, Washer (D) **[2]**, Guide Spring (A) **[3]** and Guide Sleeve (D) **[4]** in order by following the procedure shown in Figs. 7-1 to 7-4. Be sure not to lose the two Steel Balls D3.5 **[9]** in Anvil (B) **[10]**.

1

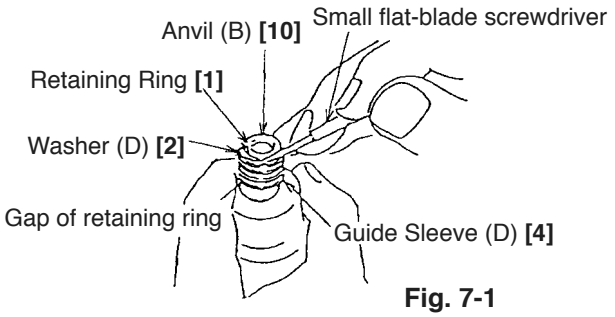


Fig. 7-1

Hold the body and adjust the gap of the retaining ring to the groove of anvil (B), then insert a small flat-blade screwdriver into the groove at an angle.

2

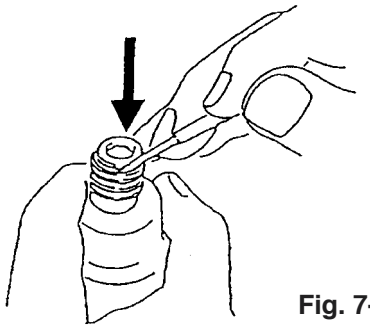


Fig. 7-2

Press down washer (D) with the small flat-blade screwdriver.

3

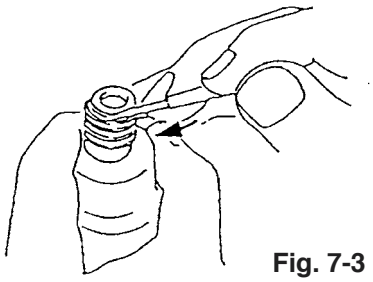


Fig. 7-3

Slide the small flat-blade screwdriver under one side of the gap of the retaining ring.

4

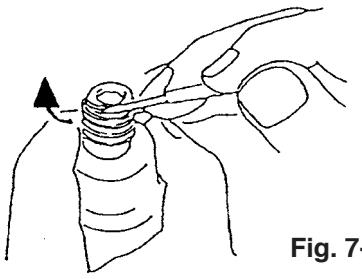


Fig. 7-4

Slowly raise the retaining ring using the end face of guide sleeve (D) as a fulcrum.

Then slowly raise the other side of the retainer ring with the small flat-blade screwdriver until it is free. Avoid quickly raising the retainer ring or it may fly out forcefully.

(2) Removal of Front Cap (C) **[5] <1>** and Protector (D) **[6] <2>**

Insert a small flat-blade screwdriver between Front Cap (C) **[5] <1>** and Protector (D) **[6] <2>** and remove them from the Hammer Case **[8] <4>**.

(3) Removal of the Hammer Case **[8] <4>** and the hammer assembly

Remove the four Tapping Screws (W/Sp. Washer) D4 x 30 (Black) **[7] <3>** that connect the Hammer Case **[8] <4>** with Housing (A). (B) Set **[35] <32>** and remove the Hammer Case **[8] <4>** and the hammer assembly from Housing (A).(B) Set **[35] <32>**.

(4) Disassembly of the hammer assembly

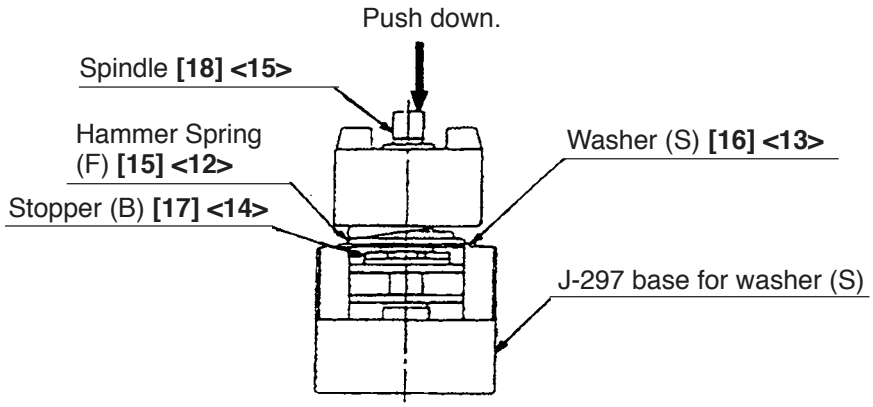


Fig. 8

Mount the hammer assembly onto the J-297 base for washer (S). With a hand press, push down the top of the Spindle **[18] <15>** to compress Hammer Spring (F) **[15] <12>**. In this position, remove Stopper (B) **[17] <14>** with a small flat-blade screwdriver, then release the hand press. (See Fig. 8.)

Remove the hammer assembly from the J-297 base for washer (S) and support the end surface of Spindle **[18] <15>**. With a hand press, push down either of the raised faces of the Hammer **[12] <9>** to compress Hammer Spring (F) **[15] <12>**. In this position, extract the two Steel Balls D5.556 **[11] <8>** from the cam grooves of the Spindle **[18] <15>** and Hammer **[12] <9>** with a small flat-blade screwdriver. Then, slowly release the hand press and lift the Hammer **[12] <9>** and Washer (S) **[16] <13>** together to extract them from Spindle **[18] <15>**. Hammer Spring (F) **[15] <12>** can then be removed.

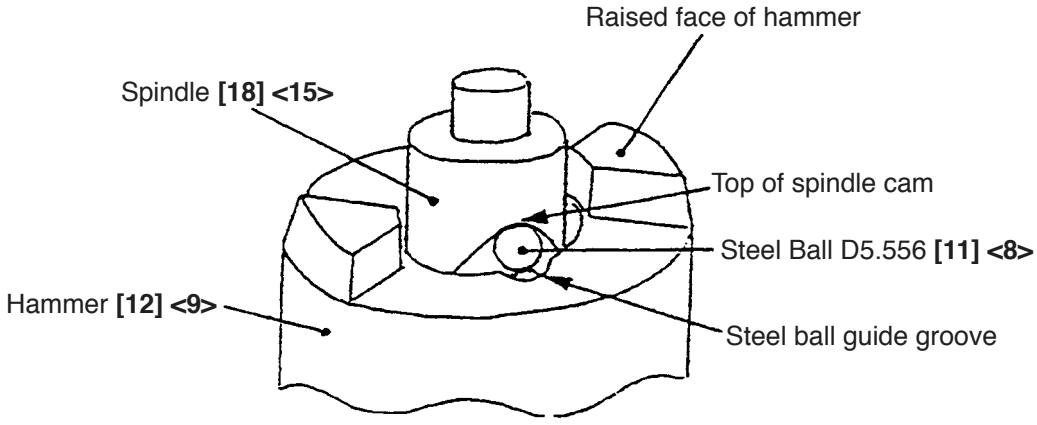


Fig. 9

(5) Removal of the Hook Ass'y **[40] <37>**

Remove the Special Screw M5 **[46] <43>** with a flat-blade screwdriver or a coin and remove the Hook Ass'y **[40] <37>** and the Hook Spring **[45] <42>**.

(6) Removal of the Carbon Brushes 5 x 6 x 11.5 **[31] <28>**

Remove the two Brush Caps **[32] <29>**. Catch the flanges of the Carbon Brushes 5 x 6 x 11.5 **[31] <28>** with a small flat-blade screwdriver and remove the Carbon Brushes 5 x 6 x 11.5 **[31] <28>** at both sides.

(7) Removal of housing (B)

Remove the seven Tapping Screws (W/Flange) D4 x 20 (Black) **[33] <30>** from the main body. The Strap (Black) **[43] <40>** can be removed by removing the Tapping Screw (W/Flange) D4 x 20 (Black) **[33] <30>**. Before removing housing (B), be sure to remove the Brush Caps **[32] <29>** because housing (B) cannot be removed if the Brush Caps **[32] <29>** are mounted.

(8) Removal of the switch

The FET of the DC-Speed Control Switch **[38] <35>** is firmly inserted in the housing. Insert a small flat-blade screwdriver between the FET and housing (B) to raise and remove the FET. Then, Inner Cover (B) **[25] <22>**, Armature and Pinion Set **[26] <23>**, Magnet (F) Ass'y **[28] <25>**, Brush Block **[30] <27>** and DC-Speed Control Switch **[38] <35>** can be removed in a piece. Pushing Button (B) **[39] <36>** can also be removed.

NOTE: Be careful not to break the three legs coming from the FET to avoid malfunction of the switch.

(9) Removal of the switch assembly

Remove the two Machine Screws (W/Sp. Washer) M3 x 5 **[37] <34>** that secure the flag terminal and then disconnect the internal wires (red and black) of the Brush Block **[30] <27>** from the DC-Speed Control Switch **[38] <35>**.

NOTE: Do not disconnect the three FET internal wires soldered to the DC-Speed Control Switch [38] <35>.

(10) Removal of Magnet (F) Ass'y **[28] <25>**, Dust Guard Fin (B) **[29] <26>** and Side Yoke (A) **[27] <24>**

Remove Magnet (F) Ass'y **[28] <25>** in the "B" direction (see Fig. 10) holding Inner Cover (B) **[25] <22>** securely because Magnet (F) Ass'y **[28] <25>** has a strong magnetism. Dust Guard Fin (B) **[29] <26>** and Side Yoke (A) **[27] <24>** can be easily removed from Magnet (F) Ass'y **[28] <25>** by holding Magnet (F) Ass'y **[28] <25>** securely and pulling them in the direction of diameter because they are mounted to Magnet (F) Ass'y **[28] <25>** magnetically.

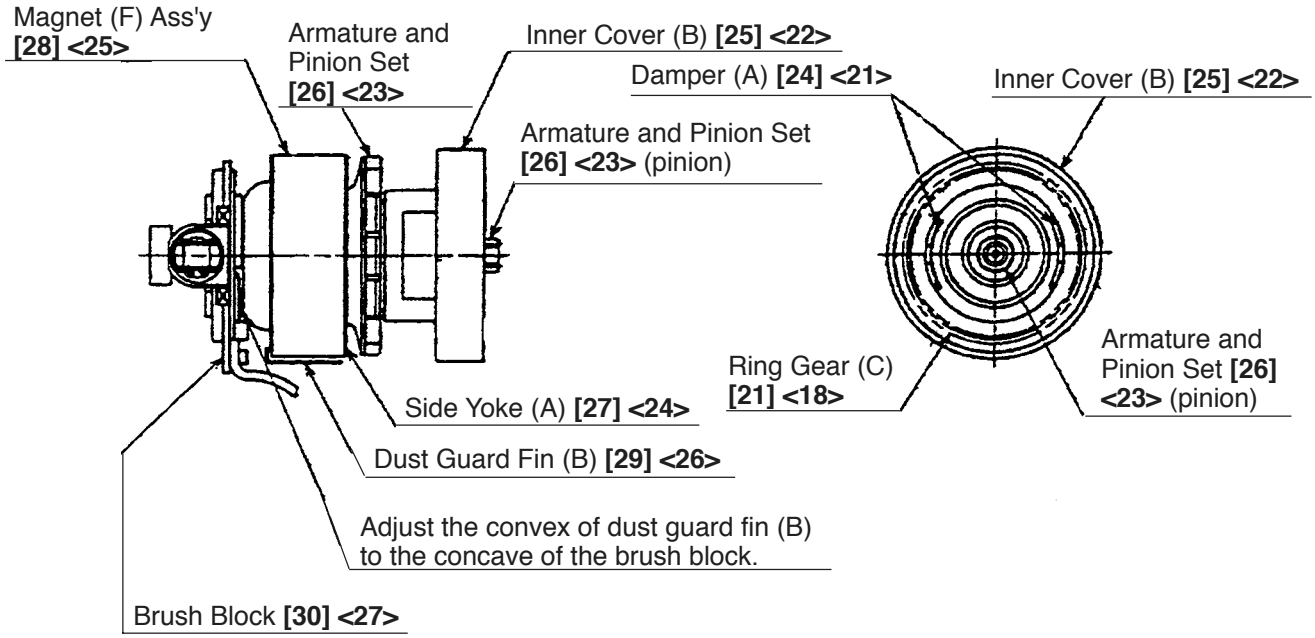


Fig. 10

(11) Removal of the Armature and Pinion Set **[26] <23>**

Support Inner Cover (B) **[25] <22>** so that it does not contact the fan of the Armature and Pinion Set **[26] <23>**. With a hand press, push down the tip portion of the Armature and Pinion Set **[26] <23>** (pinion) to remove it.

(12) Removal of Ring Gear (C) **[21] <18>** and Damper (A) **[24] <21>**

Remove Ring Gear (C) **[21] <18>** from Inner Cover (B) **[25] <22>** and remove Damper (A) **[24] <21>** with a small flat-blade screwdriver. Ring Gear (C) **[21] <18>** is firmly inserted in Inner Cover (B) **[25] <22>**. Insert a small flat-blade screwdriver between Ring Gear (C) **[21] <18>** and Inner Cover (B) **[25] <22>** to remove Ring Gear (C) **[21] <18>**. Remove Damper (A) **[24] <21>** with a small flat-blade screwdriver.

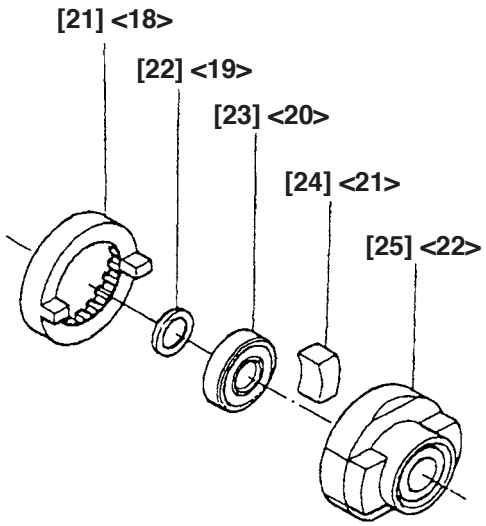


Fig. 11

10-1-2. Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

(1) Reassembly of the housing assembly

(a) Be sure to follow the wiring diagram (Fig. 12) for proper wiring.

(b) When connecting the internal wires of the Brush Block **[30] <27>** to the DC-Speed Control Switch **[38] <35>**, fasten them with the Machine Screw (W/Sp. Washer) M3 x 5 **[37] <34>** paying attention to the direction of the flag terminal (Fig. 12).

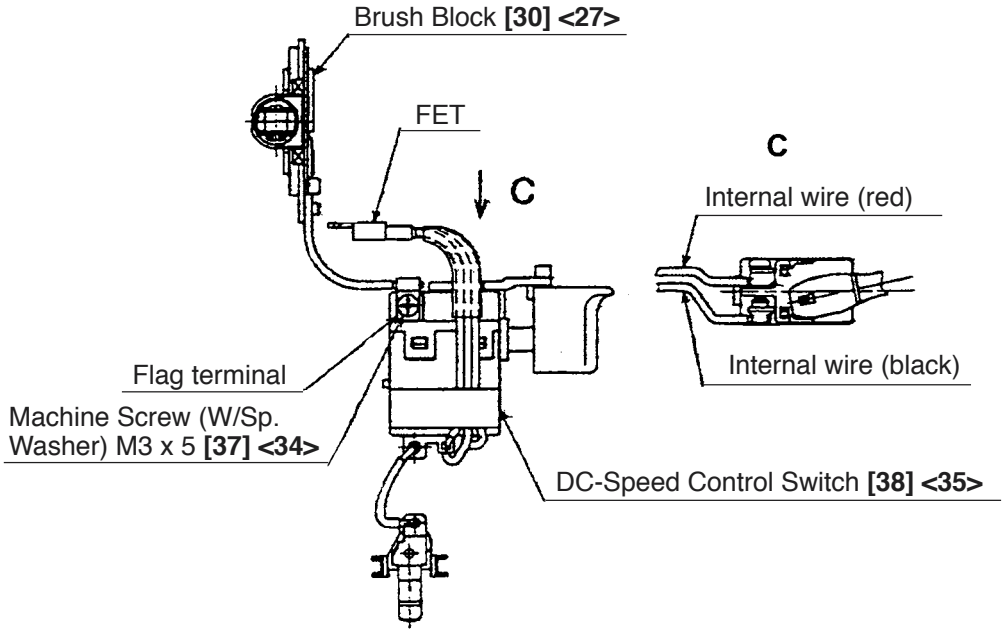


Fig. 12

(c) Before mounting the parts to housing (A), apply silicone rubber (ThreeBond 1211) to the area illustrated in Fig. 13.

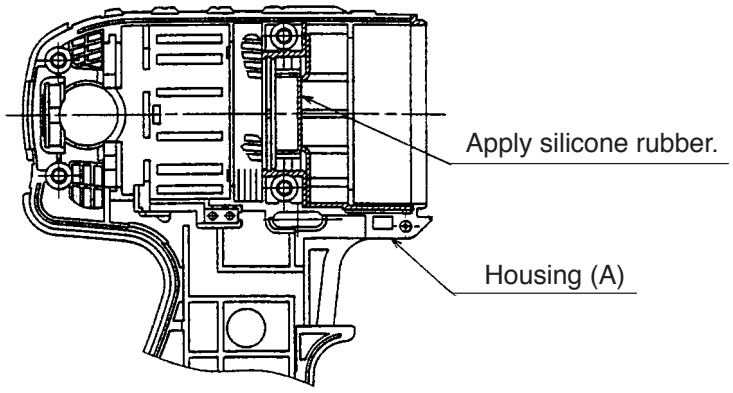


Fig. 13

(d) Mount a unit of Inner Cover (B) **[25] <22>** (including the Armature and Pinion Set **[26] <23>**), Magnet (F) Ass'y **[28] <25>** (including Dust Guard Fin (B) **[29] <26>** and Side Yoke (A) **[27] <24>**) and Brush Block **[30] <27>** into housing (A) (see Fig. 16). Pay attention to the following items.

- Adjust the protrusions of Dust Guard Fin (B) **[29] <26>** to the concave portions of Magnet (F) Ass'y **[28] <25>** and also adjust the outside diameter of Dust Guard Fin (B) **[29] <26>** to the outside diameter of Magnet (F) Ass'y **[28] <25>** when mounting Dust Guard Fin (B) **[29] <26>** to Magnet (F) Ass'y **[28] <25>** (See Fig. 14).
- Mount Side Yoke (A) **[27] <24>** to Magnet (F) Ass'y **[28] <25>** facing the flange of Side Yoke (A) **[27] <24>** to the outside (see Fig. 15).
- Insert two Dampers (A) **[24] <21>** so that they fit into Inner Cover (B) **[25] <22>**. Fit the locking rib of Ring Gear (C) **[21] <18>** to the concave portion of Damper (A) **[24] <21>**. Press-fit the Armature and Pinion Set **[26] <23>** into Inner Cover (B) **[25] <22>**.
- Adjust the convex portion of Dust Guard Fin (B) **[29] <26>** to the concave portion of the Brush Block **[30] <27>** (see Fig. 14).
- Adjust the concave portions (for locking) of Magnet (F) Ass'y **[28] <25>** to the protrusions of housing (A) (see Figs. 14 and 16).

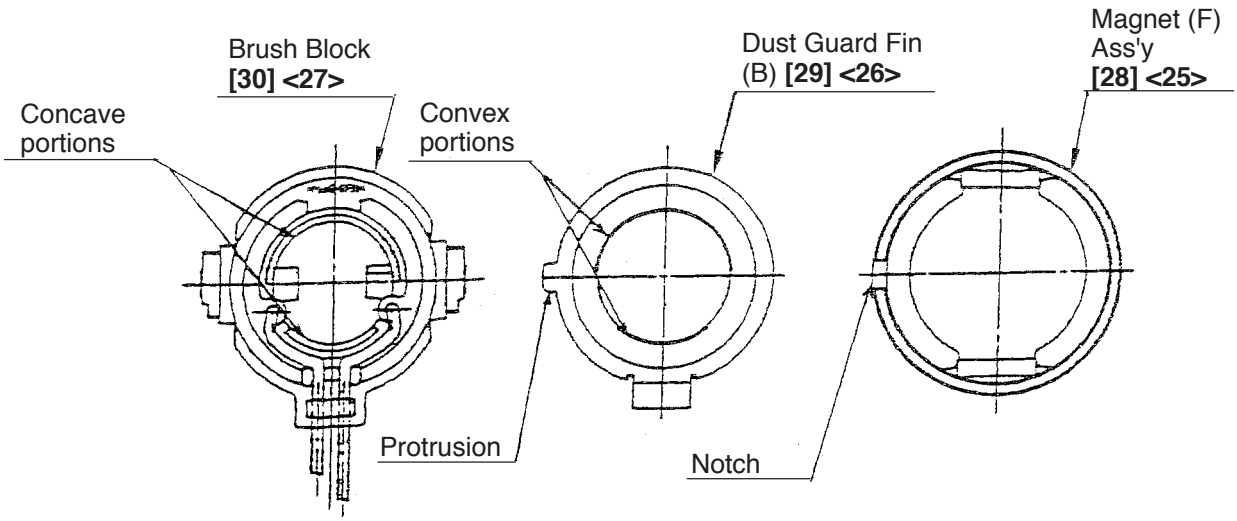


Fig. 14

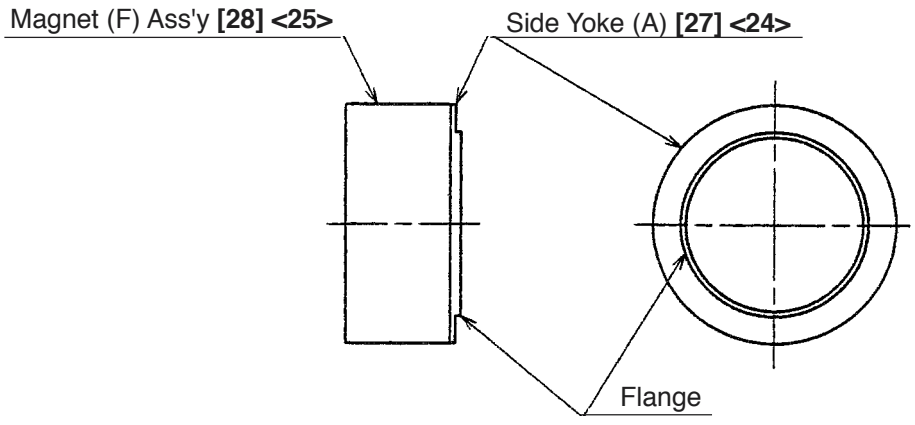


Fig. 15

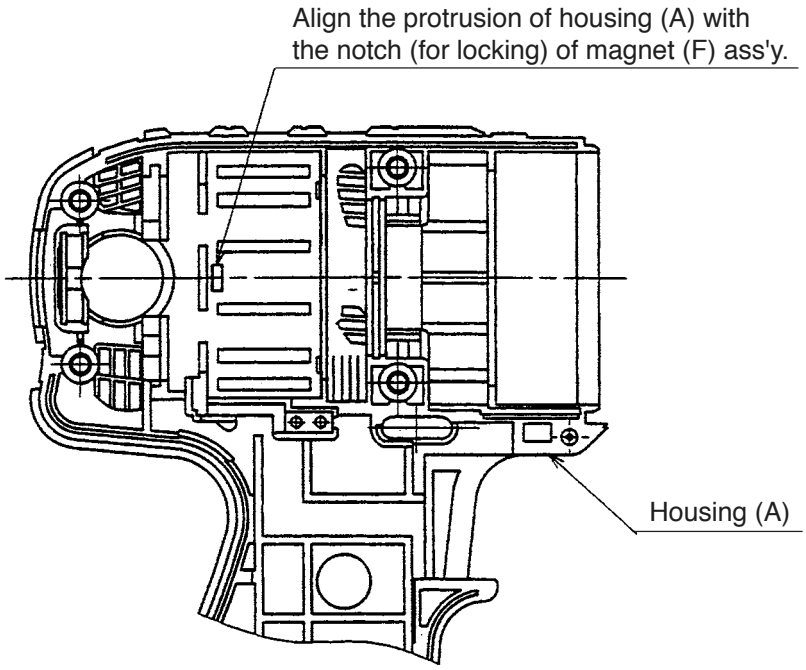

Align the protrusion of housing (A) with
the notch (for locking) of magnet (F) ass'y.
Housing (A)

Fig. 16

(e) Mount the DC-Speed Control Switch **[38] <35>** to housing (A) so that the protrusion of the forward/reverse lever at the top of the switch is inserted into the hole of Pushing Button (B) **[39] <36>**. Apply silicone grease (KS609, Shin-Etsu Chemical Co., Ltd.) to the contacting surfaces of the FET of the DC-Speed Control Switch **[38] <35>** and Dust Guard Fin (B) **[29] <26>** then mount them to housing (A).

NOTE: (1) The temperature of the FET may be high if the silicone grease is not applied. Make sure that the three internal wires from the FET are passed above the DC-Speed Control Switch [38] <35> (see Fig. 17).

(2) If there is no plating and a black oxide is formed on the terminal support where the battery contacts, replace the terminal support with new one (Code No. 323710). Otherwise, heat is generated due to contact failure and the battery or the main body may be faulty.

(f) Apply silicone rubber (ThreeBond 1211) to housing (A) and Inner Cover (B) **[25] <22>** as illustrated in Fig. 17. Attach the strap to the boss as shown in Fig. 17, then mount housing (B) and tighten the eight Tapping Screws (W/Flange) D4 x 20 **[33] <30>**. Wipe off silicone rubber protruded from the housing with a cloth.

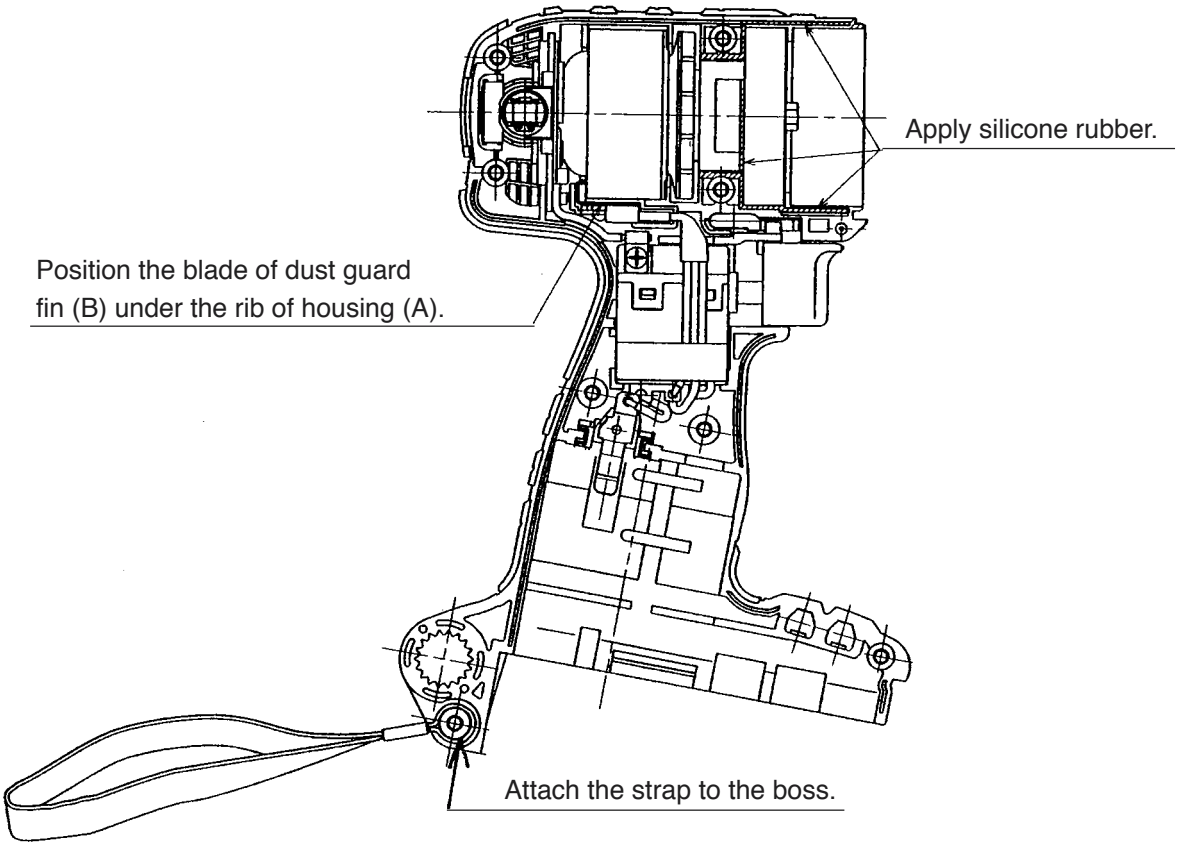


Fig. 17

(3) Mounting the mechanical parts

(a) Mount the Hammer **[12] <9>** containing the twenty-eight Steel Balls D3.175 **[13] <10>**, Washer (J) **[14] <11>** and Hammer Spring (F) **[15] <12>** to Spindle **[18] <15>**.

(b) Align the top of the cam groove on the Spindle **[18] <15>** with the steel ball guide groove on the Hammer **[12] <9>** as illustrated in Fig. 3. Press down either of the raised faces of the Hammer **[12] <9>** with a hand press to compress Hammer Spring (F) **[15] <12>** until the end surface of the Hammer **[12] <9>** contacts the Spindle **[18] <15>**.

(c) Insert the two Steel Balls D5.556 **[11] <8>** into the steel ball guide groove. Check that the steel balls are properly inserted in the cam groove. Then release the hand press.

(d) Mount the hammer assembly onto the J297 base for washer (S). With a hand press, push down the top of the Spindle **[18] <15>** to compress Hammer Spring (F) **[15] <12>**. On this condition, mount Stopper (B) **[17] <14>** onto the spindle shaft and then release the hand press.

(4) Mounting the hammer assembly to the housing

Raise the housing assembled in step (2) and mount the hammer assembly to the housing being careful of proper engagement between the Idle Gear Set **[19] <16>** of the hammer assembly (check that Washer (E) **[22] <19>** is mounted on the Spindle **[18] <15>**) and Ring Gear (C) **[21] <18>**. After mounting, check that the hammer assembly turns. If the hammer assembly does not turn, the gears engage improperly.

(5) Mounting the hammer case

Put the Anvil **[10]** or Anvil (A) Ass'y **<7>** on the Spindle **[18] <15>**. Cover it with the Hammer Case **[8] <4>** and secure with the four Tapping Screws (W/Sp. Washer) D4 x 30 (Black) **[7] <3>**.

(6) Mounting Guide Sleeve (D) **[4]** (Models WH 14DMR/WH 18DMR only)

Insert the two Steel Balls D3.5 **[9]** into the hole of the Anvil **[10]**. Mount Guide Sleeve (D) **[4]**, Guide Spring (A) **[3]** and Washer (D) **[2]** in sequence. Mount the Retaining Ring **[1]** into the groove of anvil using the J295 jigs (A) and (B) for retaining ring as illustrated in Fig. 18.

NOTE: Be sure to replace the Retaining Ring [1] with new one because the Retaining Ring [1] may be deformed and Guide Sleeve (D) [4] may come off if the deformed Retaining Ring [1] is used again.

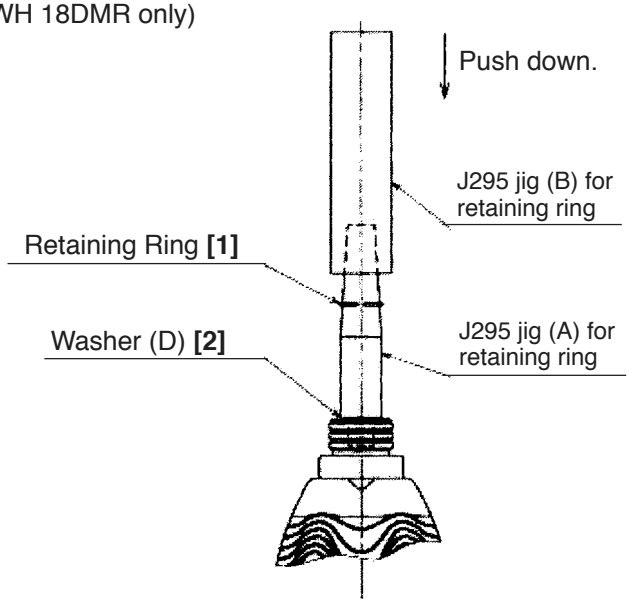


Fig. 18

(7) Reassembly of the hook

Check that the V-Lock Nut M5 **[42] <39>** is mounted into the Hook Ass'y **[40] <37>**. Mount the Hook Spring **[45] <42>** and secure it with the Special Screw (A) M5 **[46] <43>**. (Make sure to mount the Hook Spring **[45] <42>** with its larger diameter side pointing inward the housing.)

(8) Checking the direction of rotation

Check whether the direction of rotation of the Anvil **[10]** or Anvil (A) Ass'y **<7>** coincides with the directional markings on the push-on side of Pushing Button (B) **[39] <36>**. When Pushing Button (B) **[39] <36>** is turned to (R) side, the direction of rotation of the Anvil **[10]** or Anvil (A) Ass'y **<7>** should be clockwise, as viewed from behind.

(9) Lubrication

(a) ATTOLUB MS No. 2

- Oil groove and claw of Hammer **[12] <9>**
- 8 mm dia. hole of the Anvil **[10]** or Anvil (A) Ass'y **<7>**, sliding section between the Anvil **[10]** or Anvil (A) Ass'y **<7>** and the metal, and upper surface of the claw
- Two Steel Balls D5.556 **[11] <8>**
- Pinion tooth flanks of the Armature and Pinion Set **[26] <23>**, tooth flanks of Ring Gear (C) **[21] <18>**, tooth flanks of the Idle Gear Set **[19] <16>**
- Metal oil groove of the Hammer Case **[8] <4>**

(b) HITACHI MOTOR GREASE No. 29 (Models WH 14DMR/WH 18DMR only)

- Two Steel Balls D3.5 **[9]**
- Sliding section between Anvil **[10]** and Guide Sleeve (D) **[4]**

(c) MOLUB-ALLOY 777-1

- Cam groove and oil groove of Hammer **[12] <9>**
- Cam groove and sliding section of Spindle **[18] <15>**
- 5 mm diameter hole of Idle Gear Set **[19] <16>**
- All around the Needle Roller (A) **[20] <17>**
- Twenty-eight Steel Balls D3.175 **[13] <10>**

(10) Screw tightening torque

- Tapping Screw (W/Sp. Washer) D4 x 30 (Black) **[7] <3>** ··· 2.45 ± 0.49 N·m (25 ± 5 kgf·cm, 21.3 ± 4.3 in-lbs.)
- Tapping Screw (W/Flange) D4 x 20 (Black) **[33] <30>** ····· 1.96 ± 0.49 N·m (20 ± 5 kgf·cm, 17.4 ± 4.3 in-lbs.)
- Machine Screw (W/Sp. Washer) M3 x 5 **[37] <34>**····· 0.29 to 0.39 N·m (3 to 4 kgf·cm, 2.6 to 3.5 in-lbs.)
- Special Screw (A) M5 **[46] <43>** ····· 1.96 ± 0.49 N·m (20 ± 5 kgf·cm, 17.4 ± 4.3 in-lbs.)
- Brush cap **[32] <29>** ····· 0.78 ± 0.10 N·m (8 ± 1 kgf·cm, 6.9 ± 0.9 in-lbs.)

10-2. Precautions in Disassembly and Reassembly of Battery Charger

Refer to the Technical Data and Service Manual for precautions in disassembly and reassembly of the Model UC 14YFA, UC 18YG or UC 24YFA Battery Charger.

11. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable / Fixed	10	20	30	40	50	60 min.
WH 14DMR WH 18DMR	General Assembly	Work Flow Hook Ass'y Guide Sleeve (D)	DC-Speed Control Switch Inner Cover (B) Armature and Pinion Set Magnet (F) Brush Block Hammer Case Anvil (C) Ring Gear (D)	Housing (A).(B) Set Hammer Steel Ball Hammer Spring (F) Spindle Idle Gear (B) Set Needle Roller (A) Ball Bearing (6901VV)			

MODEL	Variable / Fixed	10	20	30	40	50	60 min.
WR 14DMR WR 18DMR	General Assembly	Work Flow Hook Ass'y	DC-Speed Control Switch Inner Cover (B) Armature and Pinion Set Magnet (F) Brush Block Hammer Case Ass'y Anvil (A) Ass'y Ring Gear (D)	Housing (A).(B) Set Hammer (D) Steel Ball Hammer Spring (F) Spindle Idle Gear (B) Set Needle Roller (A) Ball Bearing (6901VV)			

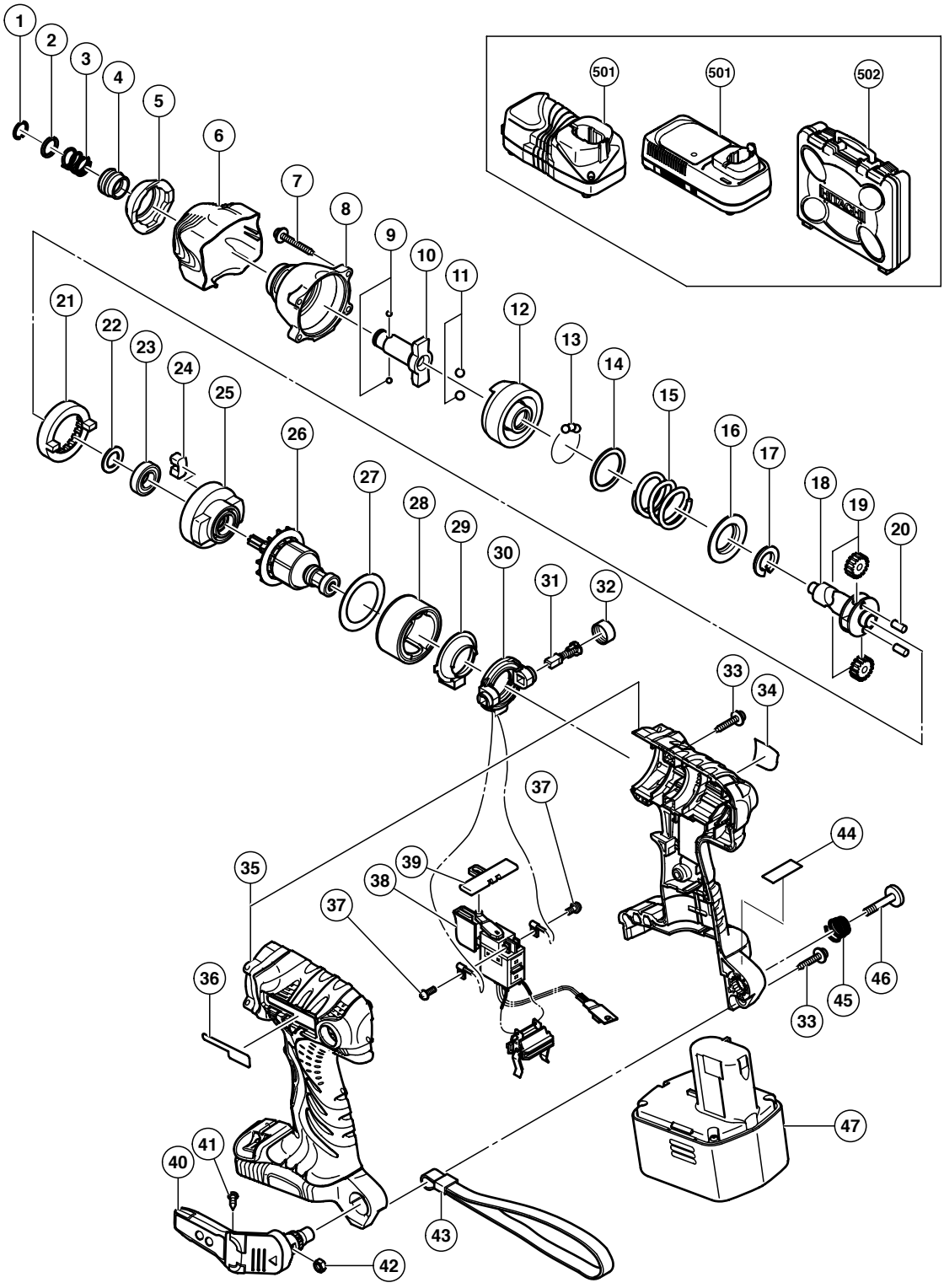
Hitachi Power Tools

LIST NO. G829

ELECTRIC TOOL PARTS LIST

■ CORDLESS IMPACT DRIVER 2005 · 7 · 8

Model WH 14DMR (E1)



	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	1	315-984	RETAINING RING	1		
	2	315-983	WASHER (D)	1		
	3	321-657	GUIDE SPRING (A)	1		
	4	322-717	GUIDE SLEEVE (D)	1		
	5	324-238	FRONT CAP (C)	1		
	6	324-239	PROTECTOR (D)	1		
	7	307-851	TAPPING SCREW (W/SP. WASHER) D4X30 (BLACK)	4		
	8	324-216	HAMMER CASE	1		
	9	319-535	STEEL BALL D3.5 (10 PCS.)	2		
*	10	324-236	ANVIL	1		
*	10	324-602	ANVIL (B)	1	FOR KOR	
	11	959-154	STEEL BALL D5.556 (10 PCS.)	2		
	12	324-218	HAMMER	1		
	13	959-148	STEEL BALL D3.175 (10 PCS.)	28		
	14	315-978	WASHER (J)	1		
	15	324-224	HAMMER SPRING (F)	1		
	16	316-172	WASHER (S)	1		
	17	324-222	STOPPER (B)	1		
	18	324-232	SPINDLE	1		
	19	321-667	IDLE GEAR SET (2 PCS.)	2		
	20	324-234	NEEDLE ROLLER (A)	2		
	21	320-877	RING GEAR (C)	1		
	22	319-911	WASHER (E)	1		
	23	690-1VV	BALL BEARING 6901VVCMPS2L	1		
	24	324-230	DAMPER (A)	2		
	25	324-229	INNER COVER (B)	1		
	26	360-712	ARMATURE AND PINION SET	1		
	27	324-607	SIDE YOKE (A)	1		
	28	324-235	MAGNET (F) ASS'Y	1	INCLUD. 27	
	29	324-228	DUST GUARD FIN (B)	1		
	30	324-226	BRUSH BLOCK	1		
	31	999-054	CARBON BRUSH 5X6X11.5 (1 PAIR)	2		
	32	319-918	BRUSH CAP	2		
	33	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	8		
	34		NAME PLATE	1		
	35	324-237	HOUSING (A).(B) SET	1		
	36	324-513	HITACHI PLATE	1		
	37	994-532	MACHINE SCREW (W/SP. WASHER) M3X5	2		
	38	324-227	DC-SPEED CONTROL SWITCH	1		
	39	324-225	PUSHING BUTTON (B)	1		
	40	321-918	HOOK ASS'Y (W/LIGHT)	1	INCLUD. 41, 42	
	41	321-672	TAPPING SCREW D2X6	2		
	42	320-288	V-LOCK NUT M5	1		
	43	306-952	STRAP (BLACK)	1		
*	44		CAUTION PLATE (B)	1	FOR USA, CAN	
	45	319-926	HOOK SPRING	1		
	46	320-881	SPECIAL SCREW (A) M5	1		
*	47	322-883	BATTERY EB 1426H (W/ENGLISH N.P.)	2		
*	47	315-129	BATTERY EB 14B (W/ENGLISH N.P.)	2		
*	47	315-130	BATTERY EB 14B (W/ENGLISH N.P.)	2	FOR NZL, AUS, KOR	
*	47	318-372	BATTERY EB 1430H (W/ENGLISH N.P.)	2		

STANDARD ACCESSORIES

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	501		CHARGER (MODEL UC 14YFA)	1		
*	501		CHARGER (MODEL UC 18YG)	1		
	502	323-230	CASE	1		

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
601	321-823	DRILL CHUCK AND ADAPTER SET	1	INCLUD. 616, 618	
602	309-922	GREASE FOR IMPACT DRIVER (500G)	1		
603	992-671	+ DRIVER BIT (B) NO. 2 50L	1		
604	992-672	+ DRIVER BIT (B) NO. 3 50L	1		
605	996-177	NON-MAGNETIC HEX. SOCKET 8MM 65L	1		
606	985-329	NON-MAGNETIC HEX. SOCKET 10MM 65L	1		
607	996-178	NON-MAGNETIC HEX. SOCKET 12MM 65L	1		
608	996-179	NON-MAGNETIC HEX. SOCKET 13MM 65L	1		
609	996-180	NON-MAGNETIC HEX. SOCKET 14MM 65L	1		
610	996-185	NON-MAGNETIC HEX. SOCKET 15MM 65L	1		
611	996-181	NON-MAGNETIC HEX. SOCKET 16MM 65L	1		
612	996-182	NON-MAGNETIC HEX. SOCKET 17MM 65L	1		
613	996-186	NON-MAGNETIC HEX. SOCKET 19MM 65L	1		
614	996-197	HEX. SOCKET (LONG) 21MMX166L	1		
615	996-184	BIT PIECE	1		
616	987-575	CHUCK WRENCH FOR 10VLB-D, 10VLR-D	1		
617	930-119	CHUCK WRENCH 6.5G	1		
618	307-543	CHUCK ADAPTER	1		

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	

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(050708N)

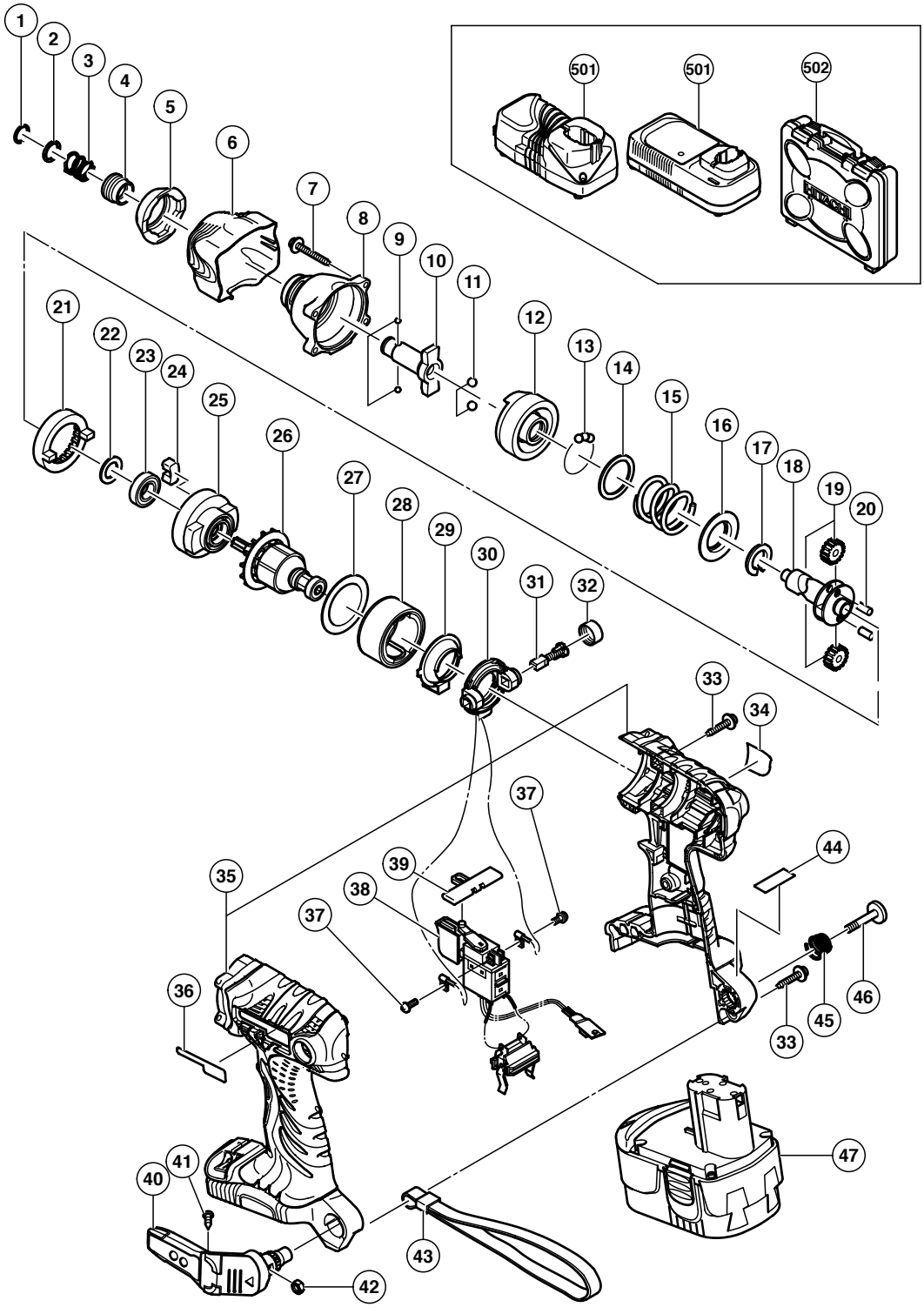
Hitachi Power Tools

LIST NO. G831

ELECTRIC TOOL PARTS LIST

■ CORDLESS IMPACT DRIVER 2005 · 7 · 8

Model WH 18DMR (E1)



	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	1	315-984	RETAINING RING	1		
	2	315-983	WASHER (D)	1		
	3	321-657	GUIDE SPRING (A)	1		
	4	322-717	GUIDE SLEEVE (D)	1		
	5	324-238	FRONT CAP (C)	1		
	6	324-239	PROTECTOR (D)	1		
	7	307-851	TAPPING SCREW (W/SP. WASHER) D4X30 (BLACK)	4		
	8	324-216	HAMMER CASE	1		
	9	319-535	STEEL BALL D3.5 (10 PCS.)	2		
*	10	324-236	ANVIL	1		
*	10	324-602	ANVIL (B)	1	FOR KOR	
	11	959-154	STEEL BALL D5.556 (10 PCS.)	2		
	12	324-218	HAMMER	1		
	13	959-148	STEEL BALL D3.175 (10 PCS.)	28		
	14	315-978	WASHER (J)	1		
	15	324-224	HAMMER SPRING (F)	1		
	16	316-172	WASHER (S)	1		
	17	324-222	STOPPER (B)	1		
	18	324-232	SPINDLE	1		
	19	321-667	IDLE GEAR SET (2 PCS.)	2		
	20	324-234	NEEDLE ROLLER (A)	2		
	21	320-877	RING GEAR (C)	1		
	22	319-911	WASHER (E)	1		
	23	690-1VV	BALL BEARING 6901VVCMPS2L	1		
	24	324-230	DAMPER (A)	2		
	25	324-229	INNER COVER (B)	1		
	26	360-713	ARMATURE AND PINION SET	1		
	27	324-607	SIDE YOKE (A)	1		
	28	324-235	MAGNET (F) ASS'Y	1	INCLUD. 27	
	29	324-228	DUST GUARD FIN (B)	1		
	30	324-226	BRUSH BLOCK	1		
	31	999-054	CARBON BRUSH 5X6X11.5 (1 PAIR)	2		
	32	319-918	BRUSH CAP	2		
	33	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	8		
	34		NAME PLATE	1		
	35	324-240	HOUSING (A).(B) SET	1		
	36	324-514	HITACHI PLATE	1		
	37	994-532	MACHINE SCREW (W/SP. WASHER) M3X5	2		
	38	324-227	DC-SPEED CONTROL SWITCH	1		
	39	324-225	PUSHING BUTTON (B)	1		
	40	321-918	HOOK ASS'Y (W/LIGHT)	1	INCLUD. 41, 42	
	41	321-672	TAPPING SCREW D2X6	2		
	42	320-288	V-LOCK NUT M5	1		
	43	306-952	STRAP (BLACK)	1		
*	44		CAUTION PLATE (B)	1	FOR USA, CAN	
	45	319-926	HOOK SPRING	1		
	46	320-881	SPECIAL SCREW (A) M5	1		
*	47	322-878	BATTERY EB 1826HL (W/ENGLISH N.P.)	2		
*	47	323-564	BATTERY EB 1830HL (W/ENGLISH N.P.)	2		
*	47	322-876	BATTERY EB 1830HL (W/ENGLISH N.P.)	2	FOR NZL, AUS	
*	47	322-880	BATTERY EB 1820L (W/ENGLISH N.P.)	2		

STANDARD ACCESSORIES

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	501		CHARGER (MODEL UC 24YFA)	1		
*	501		CHARGER (MODEL UC 18YG)	1		
	502	323-230	CASE	1		

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
601	321-823	DRILL CHUCK AND ADAPTER SET	1	INCLUD. 616, 618	
602	309-922	GREASE FOR IMPACT DRIVER (500G)	1		
603	992-671	+ DRIVER BIT (B) NO. 2 50L	1		
604	992-672	+ DRIVER BIT (B) NO. 3 50L	1		
605	996-177	NON-MAGNETIC HEX. SOCKET 8MM 65L	1		
606	985-329	NON-MAGNETIC HEX. SOCKET 10MM 65L	1		
607	996-178	NON-MAGNETIC HEX. SOCKET 12MM 65L	1		
608	996-179	NON-MAGNETIC HEX. SOCKET 13MM 65L	1		
609	996-180	NON-MAGNETIC HEX. SOCKET 14MM 65L	1		
610	996-185	NON-MAGNETIC HEX. SOCKET 15MM 65L	1		
611	996-181	NON-MAGNETIC HEX. SOCKET 16MM 65L	1		
612	996-182	NON-MAGNETIC HEX. SOCKET 17MM 65L	1		
613	996-186	NON-MAGNETIC HEX. SOCKET 19MM 65L	1		
614	996-197	HEX. SOCKET (LONG) 21MMX166L	1		
615	996-184	BIT PIECE	1		
616	987-575	CHUCK WRENCH FOR 10VLB-D, 10VLR-D	1		
617	930-119	CHUCK WRENCH 6.5G	1		
618	307-543	CHUCK ADAPTER	1		

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	

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(050708N)

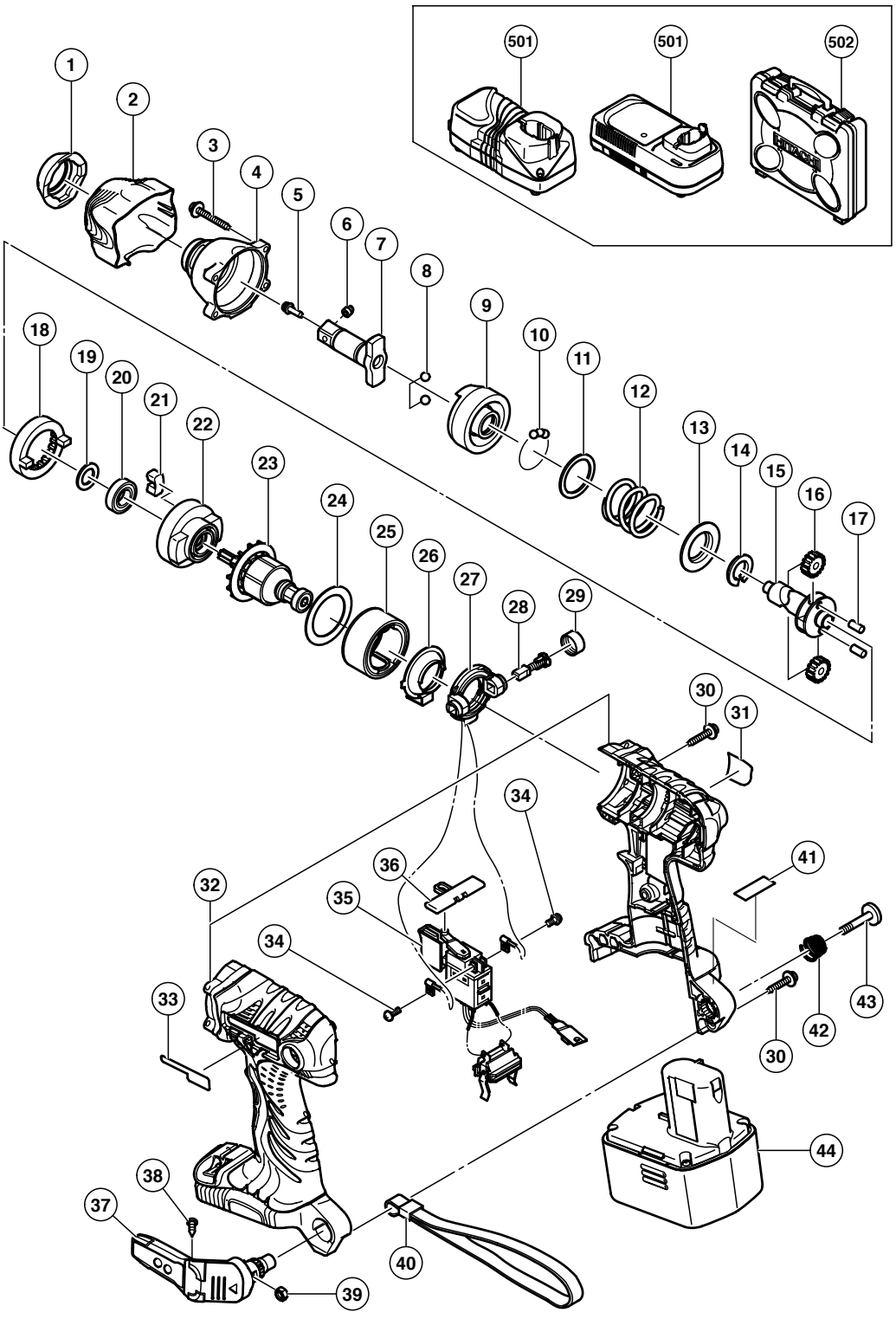
Hitachi Power Tools

LIST NO. G830

ELECTRIC TOOL PARTS LIST

■ CORDLESS IMPACT WRENCH 2005 · 7 · 8

Model WR 14DMR (E1)



	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	1	324-238	FRONT CAP (C)	1		
	2	324-239	PROTECTOR (D)	1		
	3	307-851	TAPPING SCREW (W/SP. WASHER) D4X30 (BLACK)	4		
	4	324-250	HAMMER CASE	1		
	5	324-257	PIN RETAINER (B)	1		
	6	324-256	PLUNGER (B)	1		
	7	324-255	ANVIL (A) ASS'Y	1	INCLUD. 5, 6	
	8	959-154	STEEL BALL D5.556 (10 PCS.)	2		
	9	324-218	HAMMER	1		
	10	959-148	STEEL BALL D3.175 (10 PCS.)	28		
	11	315-978	WASHER (J)	1		
	12	324-224	HAMMER SPRING (F)	1		
	13	316-172	WASHER (S)	1		
	14	324-222	STOPPER (B)	1		
	15	324-232	SPINDLE	1		
	16	321-667	IDLE GEAR SET (2 PCS.)	2		
	17	324-234	NEEDLE ROLLER (A)	2		
	18	320-877	RING GEAR (C)	1		
	19	319-911	WASHER (E)	1		
	20	690-1VV	BALL BEARING 6901VVCMPS2L	1		
	21	324-230	DAMPER (A)	2		
	22	324-229	INNER COVER (B)	1		
	23	360-712	ARMATURE AND PINION SET	1		
	24	324-607	SIDE YOKE (A)	1		
	25	324-235	MAGNET (F) ASS'Y	1	INCLUD. 24	
	26	324-228	DUST GUARD FIN (B)	1		
	27	324-226	BRUSH BLOCK	1		
	28	999-054	CARBON BRUSH 5X6X11.5 (1 PAIR)	2		
	29	319-918	BRUSH CAP	2		
	30	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	8		
	31	324-686	HITACHI PLATE	1		
	32	324-237	HOUSING (A).(B) SET	1		
	33	324-686	HITACHI PLATE	1		
	34	994-532	MACHINE SCREW (W/SP. WASHER) M3X5	2		
	35	324-227	DC-SPEED CONTROL SWITCH	1		
	36	324-225	PUSHING BUTTON (B)	1		
	37	321-918	HOOK ASS'Y (W/LIGHT)	1	INCLUD. 38, 39	
	38	321-672	TAPPING SCREW D2X6	2		
	39	320-288	V-LOCK NUT M5	1		
	40	306-952	STRAP (BLACK)	1		
*	41		CAUTION PLATE (A)	1	FOR USA, CAN	
	42	319-926	HOOK SPRING	1		
	43	320-881	SPECIAL SCREW (A) M5	1		
*	44	315-129	BATTERY EB 14B (W/ENGLISH N.P.)	2		
*	44	315-130	BATTERY EB 14B (W/ENGLISH N.P.)	2	FOR NZL	
*	44	322-883	BATTERY EB 1426H (W/ENGLISH N.P.)	2		
*	44	318-372	BATTERY EB 1430H (W/ENGLISH N.P.)	2		

STANDARD ACCESSORIES

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	501		CHARGER (UC 14YFA)	1		
*	501		CHARGER (UC 18YG)	1		
	502	323-230	CASE	1		

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
601		CORNER ATTACHMENT ASS'Y EW-14R	1	INCLUD. 602-618	
602	955-300	HOUSING	1		
603	955-301	METAL	3		
604	955-302	SPINDLE	1		
605		HITACHI LABEL	1		
606	955-303	BEARING RACE	2		
607	955-304	NEEDLE THRUST BEARING (NTA-1413)	2		
608	955-305	COVER	1		
609	955-306	NEEDLE BEARING (NTN BK1012)	1		
610	948-227	RETAINING RING FOR D47 HOLE	1		
611	955-307	PINION	1		
612	955-308	SLEEVE	1		
613	955-309	WASHER	1		
614	955-310	SOCKET COVER	1		
615	955-311	SOCKET	1		
616	303-247	SEAL LOCK HEX. SOCKET HD. BOLT M5X25	6		
617	873-537	SOCKET PIN	1		
618	873-187	O-RING (J1SW1516)	1		
619	991-481	FORM TIE SOCKET ASS'Y 11.3MMX95L	1	INCLUD. 617, 618	
620	992-610	UNIVERSAL JOINT ASS'Y	1	INCLUD. 617, 618	
621	955-153	UNIVERSAL JOINT PIN	1		
622	991-476	BIT ADAPTER ASS'Y	1	INCLUD. 617, 618	
623	991-480	HEX. SOCKET ASS'Y (LONG) 21MMX125L	1	INCLUD. 617, 618	
624	944-291	HEX. SOCKET ASS'Y 10MMX40L	1	INCLUD. 617, 618	
625	873-632	HEX. SOCKET ASS'Y 12MMX40L	1	INCLUD. 617, 618	
626	873-539	HEX. SOCKET ASS'Y 13MMX40L	1	INCLUD. 617, 618	
627	873-540	HEX. SOCKET ASS'Y 14MMX40L	1	INCLUD. 617, 618	
628	873-536	HEX. SOCKET ASS'Y 17MMX32L	1	INCLUD. 617, 618	
629	873-624	HEX. SOCKET ASS'Y 19MMX34L	1	INCLUD. 617, 618	
630	873-626	HEX. SOCKET ASS'Y 21MMX36L	1	INCLUD. 617, 618	
631	873-627	HEX. SOCKET ASS'Y 22MMX40L	1	INCLUD. 617, 618	
632	986-058	HEX. SOCKET FOR PLASTIC CONE 12MMX70L	1	INCLUD. 617, 618	
633	873-633	EXTENSION BAR ASS'Y (SQUARE) 12.7MMX100L	1	INCLUD. 617, 618	
634	955-151	HEX. SOCKET ASS'Y (LONG) 21MMX75L	1	INCLUD. 617, 618	
635	955-138	HEX. SOCKET ASS'Y (LONG) 12MMX52L	1	INCLUD. 617, 618	
636	955-139	HEX. SOCKET ASS'Y (LONG) 13MMX52L	1	INCLUD. 617, 618	
637	955-140	HEX. SOCKET ASS'Y (LONG) 14MMX52L	1	INCLUD. 617, 618	
638	955-141	HEX. SOCKET ASS'Y (LONG) 17MMX52L	1	INCLUD. 617, 618	
639	955-142	HEX. SOCKET ASS'Y (LONG) 19MMX52L	1	INCLUD. 617, 618	
640	955-149	HEX. SOCKET ASS'Y (LONG) 17MMX75L	1	INCLUD. 617, 618	
641	955-150	HEX. SOCKET ASS'Y (LONG) 19MMX75L	1	INCLUD. 617, 618	

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
642	955-143	HEX. SOCKET ASS'Y (LONG) 21MMX52L	1	INCLUD. 617, 618	
643	955-144	HEX. SOCKET ASS'Y (LONG) 22MMX52L	1	INCLUD. 617, 618	
644	992-613	SOCKET ASS'Y FOR DUCT 13MMX95L	1	INCLUD. 617, 618, 645	
645	992-614	SOCKET FOR DUCT 13MMX52L	1		
646	992-615	SOCKET ASS'Y FOR DUCT 14MMX95L	1	INCLUD. 617, 618, 647	
647	992-616	SOCKET FOR DUCT 14MMX52L	1		
648	993-658	SOCKET ASS'Y FOR DUCT 12MMX95L	1	INCLUD. 617, 618, 649	
649	993-659	SOCKET FOR DUCT 12MMX52L	1		
650	309-922	GREASE FOR IMPACT DRIVER (500G)	1		

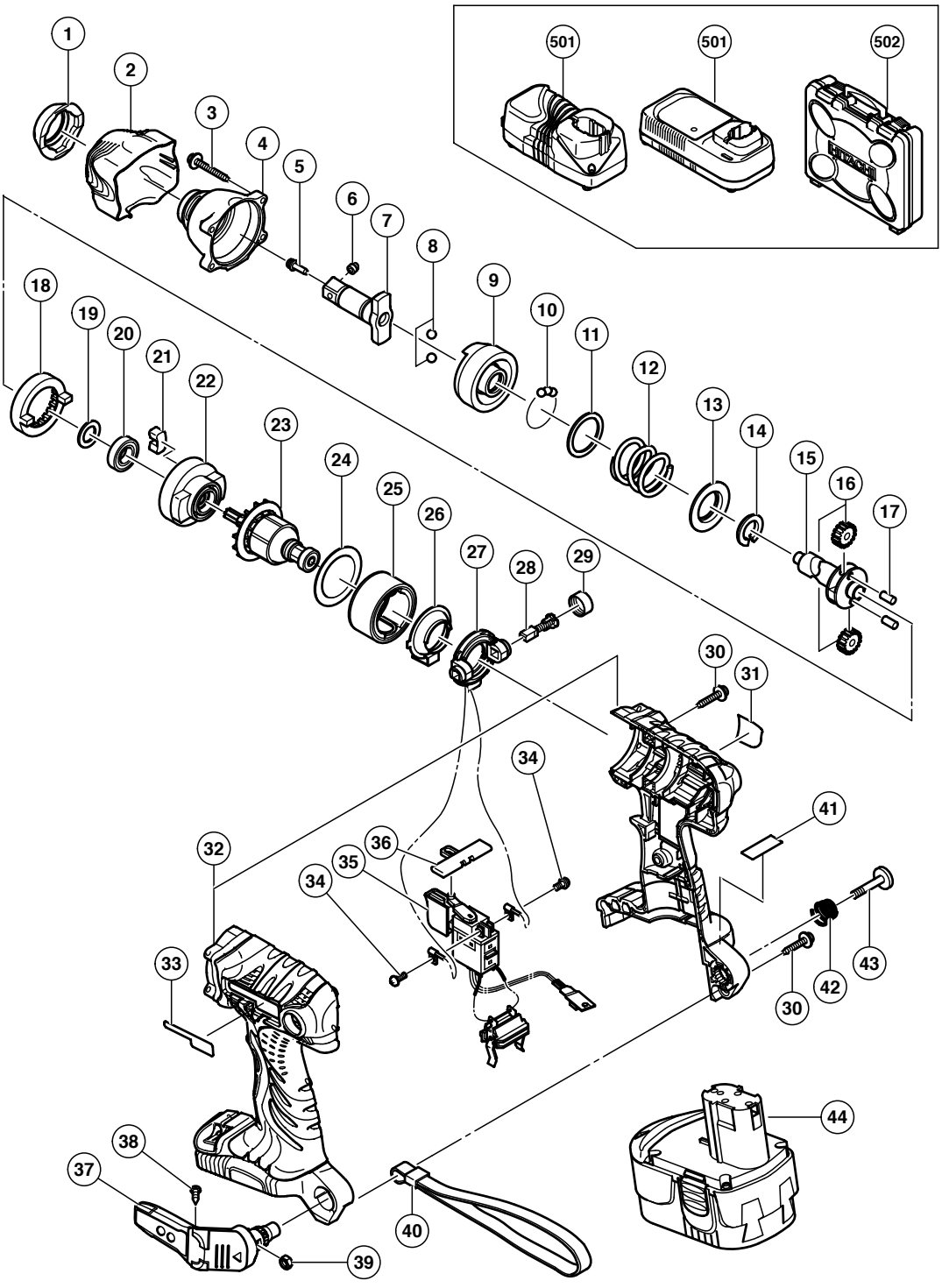
Hitachi Power Tools

LIST NO. G832

ELECTRIC TOOL PARTS LIST

■ CORDLESS IMPACT WRENCH 2005 · 7 · 8

Model WR 18DMR (E1)



	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	1	324-238	FRONT CAP (C)	1		
	2	324-239	PROTECTOR (D)	1		
	3	307-851	TAPPING SCREW (W/SP. WASHER) D4X30 (BLACK)	4		
	4	324-250	HAMMER CASE	1		
	5	324-257	PIN RETAINER (B)	1		
	6	324-256	PLUNGER (B)	1		
	7	324-255	ANVIL (A) ASS'Y	1	INCLUD. 5, 6	
	8	959-154	STEEL BALL D5.556 (10 PCS.)	2		
	9	324-218	HAMMER	1		
	10	959-148	STEEL BALL D3.175 (10 PCS.)	28		
	11	315-978	WASHER (J)	1		
	12	324-224	HAMMER SPRING (F)	1		
	13	316-172	WASHER (S)	1		
	14	324-222	STOPPER (B)	1		
	15	324-232	SPINDLE	1		
	16	321-667	IDLE GEAR SET (2 PCS.)	2		
	17	324-234	NEEDLE ROLLER (A)	2		
	18	320-877	RING GEAR (C)	1		
	19	319-911	WASHER (E)	1		
	20	690-1VV	BALL BEARING 6901VVCMPS2L	1		
	21	324-230	DAMPER (A)	2		
	22	324-229	INNER COVER (B)	1		
	23	360-713	ARMATURE AND PINION SET	1		
	24	324-607	SIDE YOKE (A)	1		
	25	324-235	MAGNET (F) ASS'Y	1	INCLUD. 24	
	26	324-228	DUST GUARD FIN (B)	1		
	27	324-226	BRUSH BLOCK	1		
	28	999-054	CARBON BRUSH 5X6X11.5 (1 PAIR)	2		
	29	319-918	BRUSH CAP	2		
	30	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	8		
	31		NAME PLATE	1		
	32	324-240	HOUSING (A).(B) SET	1		
	33	324-687	HITACHI PLATE	1		
	34	994-532	MACHINE SCREW (W/SP. WASHER) M3X5	2		
	35	324-227	DC-SPEED CONTROL SWITCH	1		
	36	324-225	PUSHING BUTTON (B)	1		
	37	321-918	HOOK ASS'Y (W/LIGHT)	1	INCLUD. 38, 39	
	38	321-672	TAPPING SCREW D2X6	2		
	39	320-288	V-LOCK NUT M5	1		
	40	306-952	STRAP (BLACK)	1		
*	41		CAUTION PLATE (A)	1	FOR USA, CAN	
	42	319-926	HOOK SPRING	1		
	43	320-881	SPECIAL SCREW (A) M5	1		
*	44	322-880	BATTERY EB 1820L (W/ENGLISH N.P.)	2		
*	44	322-877	BATTERY EB 1830HL (W/ENGLISH N.P.)	2		
*	44	322-876	BATTERY EB 1830HL (W/ENGLISH N.P.)	2	FOR AUS, NZL	
*	44	322-878	BATTERY EB 1826HL (W/ENGLISH N.P.)	2		

STANDARD ACCESSORIES

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	501		CHARGER (MODEL UC 24YFA)	1		
*	501		CHARGER (MODEL UC 18YG)	1		
	502	323-230	CASE	1		

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
601		CORNER ATTACHMENT ASS'Y EW-14R	1	INCLUD. 602-618	
602	955-300	HOUSING	1		
603	955-301	METAL	3		
604	955-302	SPINDLE	1		
605		HITACHI LABEL	1		
606	955-303	BEARING RACE	2		
607	955-304	NEEDLE THRUST BEARING (NTA-1413)	2		
608	955-305	COVER	1		
609	955-306	NEEDLE BEARING (NTN BK1012)	1		
610	948-227	RETAINING RING FOR D47 HOLE	1		
611	955-307	PINION	1		
612	955-308	SLEEVE	1		
613	955-309	WASHER	1		
614	955-310	SOCKET COVER	1		
615	955-311	SOCKET	1		
616	303-247	SEAL LOCK HEX. SOCKET HD. BOLT M5X25	6		
617	873-537	SOCKET PIN	1		
618	873-187	O-RING (J1SW1516)	1		
619	991-481	FORM TIE SOCKET ASS'Y 11.3MMX95L	1	INCLUD. 617, 618	
620	992-610	UNIVERSAL JOINT ASS'Y	1	INCLUD. 617, 618	
621	955-153	UNIVERSAL JOINT PIN	1		
622	991-476	BIT ADAPTER ASS'Y	1	INCLUD. 617, 618	
623	991-480	HEX. SOCKET ASS'Y (LONG) 21MMX125L	1	INCLUD. 617, 618	
624	944-291	HEX. SOCKET ASS'Y 10MMX40L	1	INCLUD. 617, 618	
625	873-632	HEX. SOCKET ASS'Y 12MMX40L	1	INCLUD. 617, 618	
626	873-539	HEX. SOCKET ASS'Y 13MMX40L	1	INCLUD. 617, 618	
627	873-540	HEX. SOCKET ASS'Y 14MMX40L	1	INCLUD. 617, 618	
628	873-536	HEX. SOCKET ASS'Y 17MMX32L	1	INCLUD. 617, 618	
629	873-624	HEX. SOCKET ASS'Y 19MMX34L	1	INCLUD. 617, 618	
630	873-626	HEX. SOCKET ASS'Y 21MMX36L	1	INCLUD. 617, 618	
631	873-627	HEX. SOCKET ASS'Y 22MMX40L	1	INCLUD. 617, 618	
632	986-058	HEX. SOCKET FOR PLASTIC CONE 12MMX70L	1	INCLUD. 617, 618	
633	873-633	EXTENSION BAR ASS'Y (SQUARE) 12.7MMX100L	1	INCLUD. 617, 618	
634	955-151	HEX. SOCKET ASS'Y (LONG) 21MMX75L	1	INCLUD. 617, 618	
635	955-138	HEX. SOCKET ASS'Y (LONG) 12MMX52L	1	INCLUD. 617, 618	
636	955-139	HEX. SOCKET ASS'Y (LONG) 13MMX52L	1	INCLUD. 617, 618	
637	955-140	HEX. SOCKET ASS'Y (LONG) 14MMX52L	1	INCLUD. 617, 618	
638	955-141	HEX. SOCKET ASS'Y (LONG) 17MMX52L	1	INCLUD. 617, 618	
639	955-142	HEX. SOCKET ASS'Y (LONG) 19MMX52L	1	INCLUD. 617, 618	
640	955-149	HEX. SOCKET ASS'Y (LONG) 17MMX75L	1	INCLUD. 617, 618	
641	955-150	HEX. SOCKET ASS'Y (LONG) 19MMX75L	1	INCLUD. 617, 618	

OPTIONAL ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
642	955-143	HEX. SOCKET ASS'Y (LONG) 21MMX52L	1	INCLUD. 617, 618	
643	955-144	HEX. SOCKET ASS'Y (LONG) 22MMX52L	1	INCLUD. 617, 618	
644	992-613	SOCKET ASS'Y FOR DUCT 13MMX95L	1	INCLUD. 617, 618, 645	
645	992-614	SOCKET FOR DUCT 13MMX52L	1		
646	992-615	SOCKET ASS'Y FOR DUCT 14MMX95L	1	INCLUD. 617, 618, 647	
647	992-616	SOCKET FOR DUCT 14MMX52L	1		
648	993-658	SOCKET ASS'Y FOR DUCT 12MMX95L	1	INCLUD. 617, 618, 649	
649	993-659	SOCKET FOR DUCT 12MMX52L	1		
650	309-922	GREASE FOR IMPACT DRIVER (500G)	1		

Hitachi Koki Co., Ltd.
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