

MODELS

G 18SE3, G 18UA2, G 18SG2, G 18UB2,
G 23SC3, G 23UA2, G 23SE2, G 23UB2

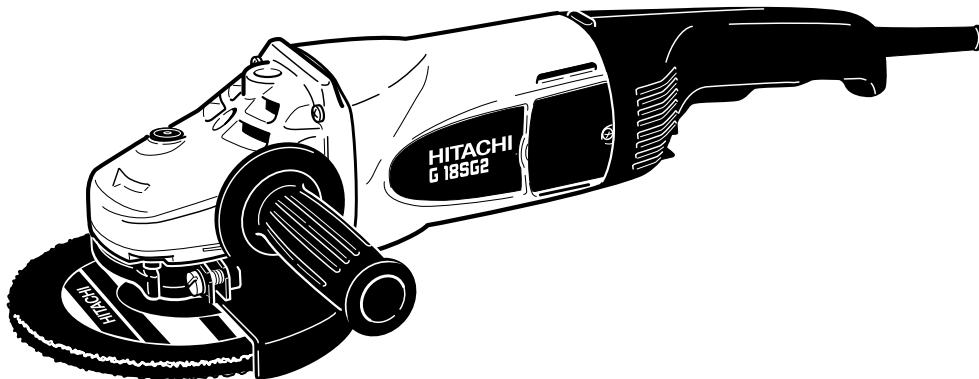
HITACHI POWER TOOLS

DISC GRINDER

G 18SE3, G 18UA2, G 18SG2, G 18UB2,
G 23SC3, G 23UA2, G 23SE2, G 23UB2

TECHNICAL DATA
AND
SERVICE MANUAL

G



LIST Nos. G 18SE3: E250, G 18UA2: E251, Nov. 2002
G 18SG2: E252, G 18UB2: E253,
G 23SC3: E254, G 23UA2: E255,
G 23SE2: E256, G 23UB2: E257

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

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:

Symbols Utilized	Competitors	
	Company Name	Model Name
C	MAKITA	9047, 9047SF, 9049, 9049SF, 9057, 9057SF, 9059, 9059SF
B	BOSCH	GWS24-180, GWS24-180JB, GWS24-230, GWS24-230JB, GWS26-180, GWS26-180JB, GWS26-230, GWS26-230JB



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Assembly Diagram for G 23UB2	

1. PRODUCT NAME

- 1) Hitachi 180 mm (7") Disc Grinder, Model G 18SE3
- 2) Hitachi 180 mm (7") Disc Grinder, Model G 18UA2 (With soft start)
- 3) Hitachi 180 mm (7") Disc Grinder, Model G 18SG2
- 4) Hitachi 180 mm (7") Disc Grinder, Model G 18UB2 (With soft start)
- 5) Hitachi 230 mm (9") Disc Grinder, Model G 23SC3
- 6) Hitachi 230 mm (9") Disc Grinder, Model G 23UA2 (With soft start)
- 7) Hitachi 230 mm (9") Disc Grinder, Model G 23SE2
- 8) Hitachi 230 mm (9") Disc Grinder, Model G 23UB2 (With soft start)

2. MARKETING OBJECTIVE

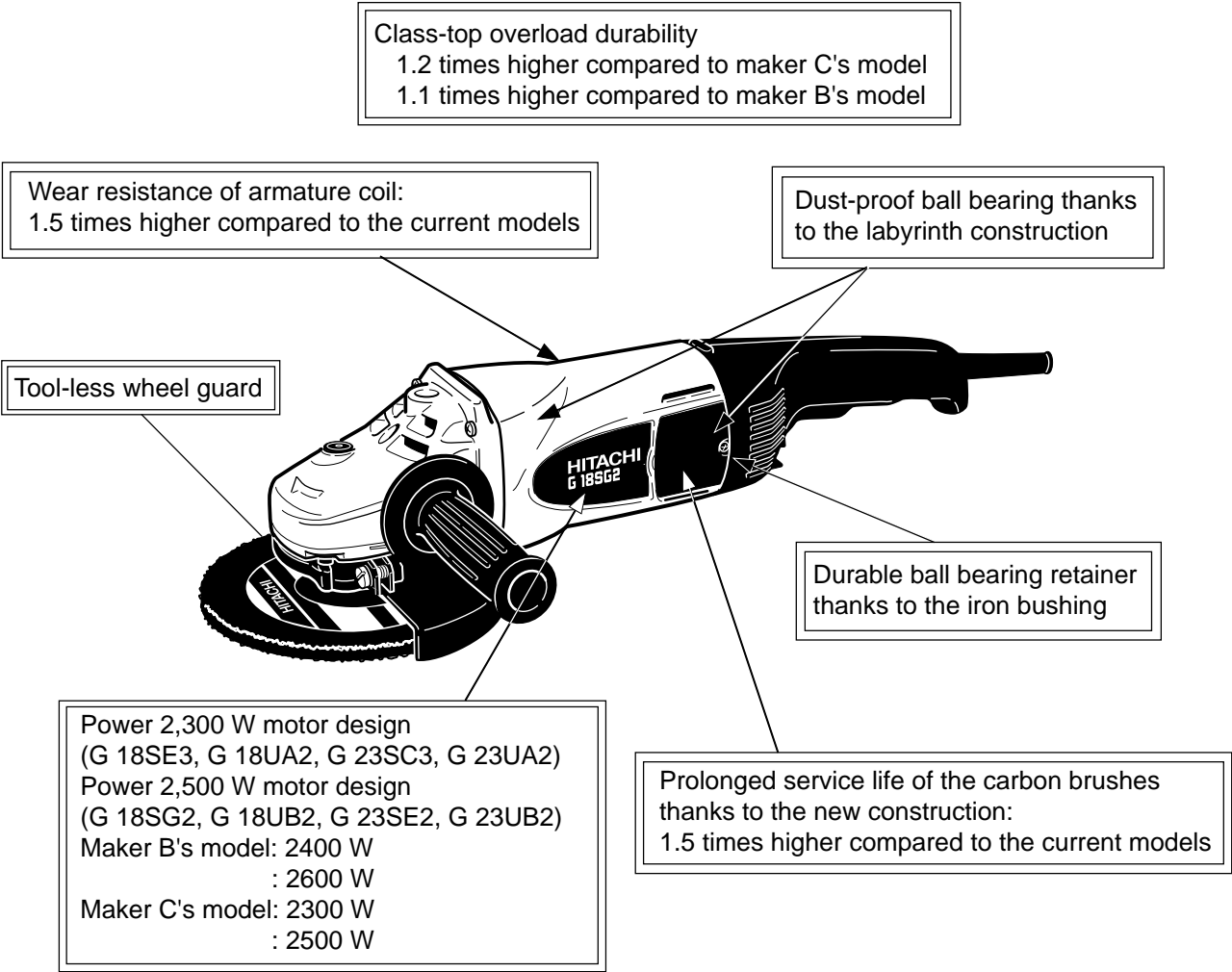
Large disc grinders are the markets where Europe is main, and HITACHI products have obtained high evaluation in power, durability and quality. However, some improvements are requested to HITACHI's current G 23SC2 series disc grinders because about ten years passed since their development, and the competitors are introducing high-power products with 2200 W or more input. To correspond to the request for improved powerful products with 2200 W or more input, the Models G 18SE3, G 18UA2, G 18SG2, G 18UB2, G 23SC3, G 23UA2, G 23SE2 and G 23UB2 have been developed to upgrade and replace the current Models G 18SE2, G 18UA, G 18SG, G 18UB, G 23SC2, G 23UA, G 23SE and G 23UB. In addition, the Models G 18UA2, G 18UB2, G 23UA2 and G 23UB2 are equipped with a soft start. The key features of the Models G 18SE3, G 18UA2, G 18SG2, G 18UB2, G 23SC3, G 23UA2, G 23SE2 and G 23UB2 in comparison with the current models are as follows:

- 1) 100 W higher input compared to the current models
- 2) Prolonged service life of the carbon brushes
- 3) Wear resistance of armature coil
- 4) Dust-proof labyrinth construction
- 5) Durable ball bearing retainer of the housing
- 6) New construction to protect grease leakage
- 7) Tool-less wheel guard

3. APPLICATIONS

- Deburring diecast products and finishing iron, bronze, aluminum and diecast products
- Finishing welds and torch-cut surfaces
- Cutting soft steel materials
- Grooving and cutting concrete and other stone materials

4. SELLING POINTS



4-1. Class-top Overload Durability

The Models G 18SE3, G 18UA2, G 23SC3, G 23UA2, G 18SG2, G 18UB2, G 23SE2 and G 23UB2 provide excellent overload durability thanks to the improved motor winding and carbon brush material in common with the current models (the service life of the carbon brushes is also prolonged). Figure 1 shows the comparison of overload durability when the stator coil temperature rise is 200°K using the Model G 23SC3 as the reference. As is evident from this, the Models G 18SE3, G 18UA2, G 23SC3, G 23UA2, G 18SG2, G 18UB2, G 23SE2 and G 23UB2 are superior to the competitors in overload durability.

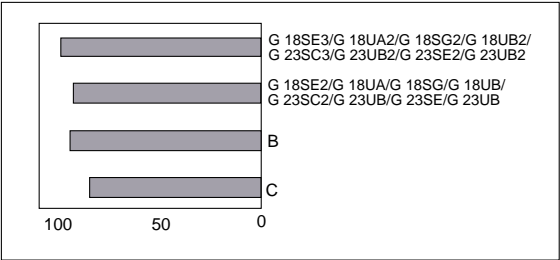


Fig. 1

4-2. Prolonged Service Life of the Carbon Brushes Thanks to the New Construction

The service life of the carbon brushes is 1.5 times longer than the current models thanks to the adoption of the new carbon brush retainer construction. The service life of the carbon brushes is equivalent to that of the competitors.

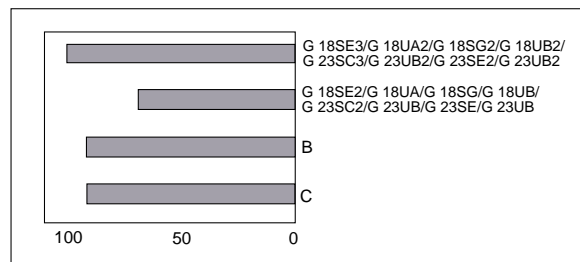
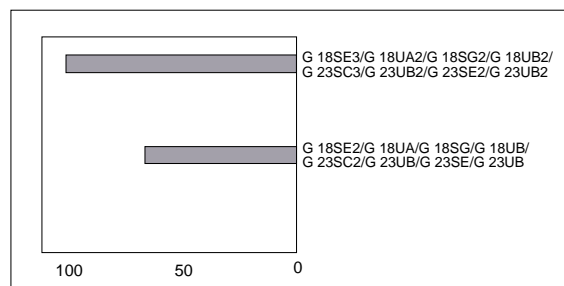
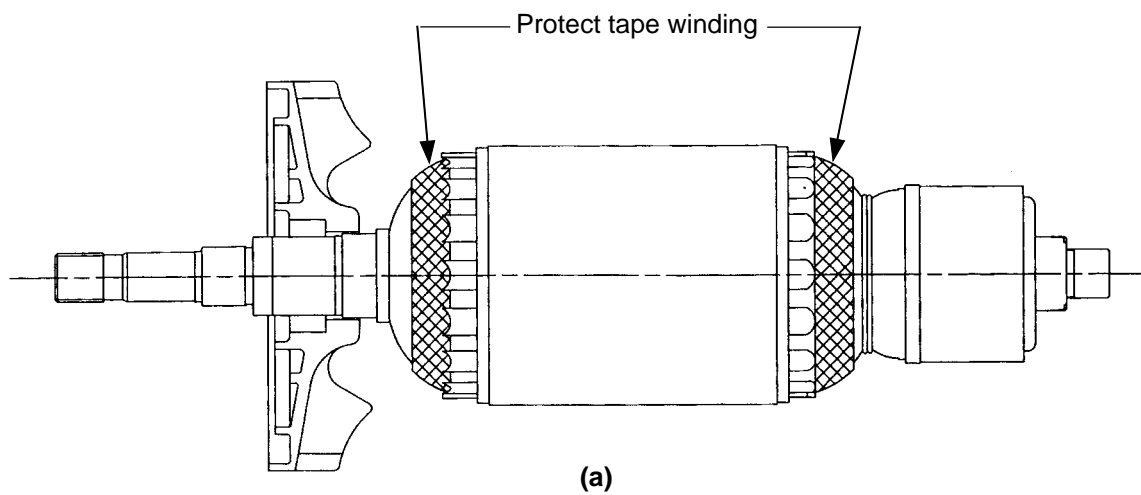


Fig. 2

4-3. Wear Resistance of Armature Coil

Both ends of the armature coil are sealed with protect tape in addition to varnish treatment to minimize wear of the armature coil caused by dust.



(b)

Fig. 3

4-4. Dust-proof Ball Bearing Thanks to the Labyrinth Construction

The ball bearing retainers at both sides of the armature have a labyrinth construction to make the ball bearings dust-proof.

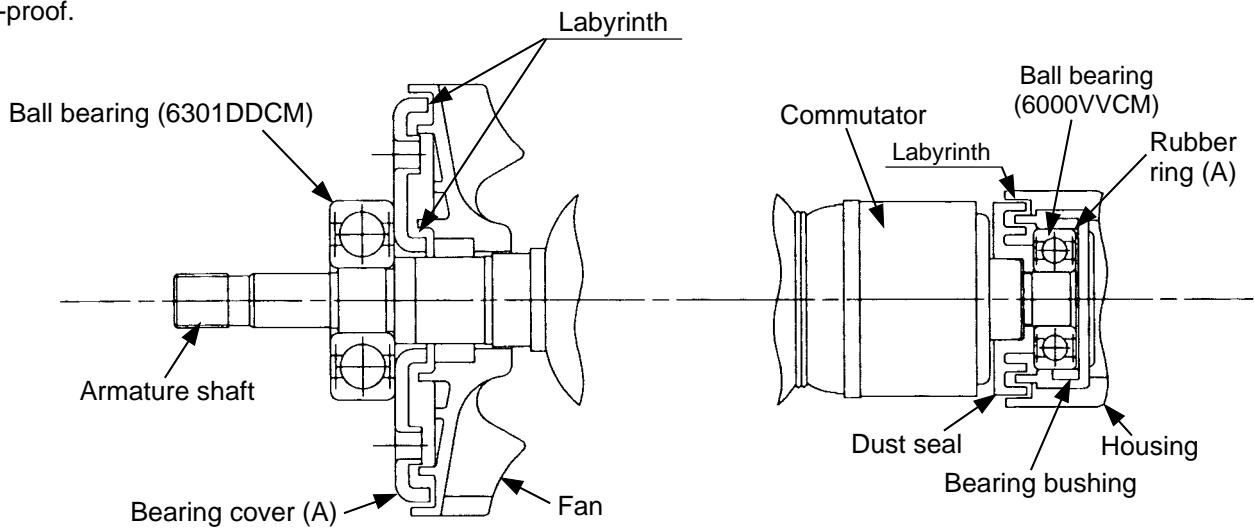


Fig. 4

4-5. Durable Ball Bearing Retainer Thanks to the Iron Bushing

The Models G 18SE3, G 18UA2, G 23SC3, G 23UA2, G 18SG2, G 18UB2, G 23SE2 and G 23UB2 are equipped with the iron bushing in the ball bearing retainer at the commutator side of the housing to improve the durability of the ball bearing retainer.

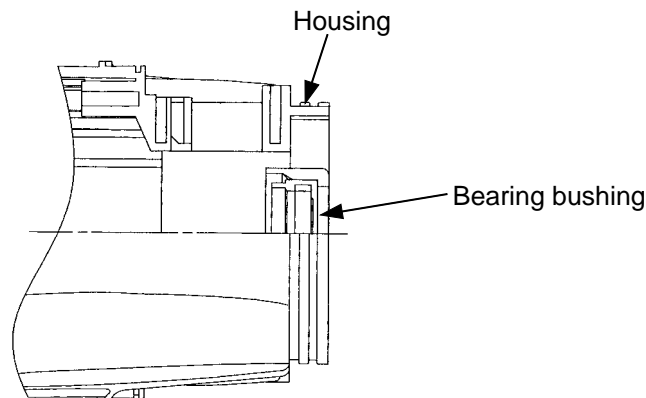


Fig. 5

4-6. New Construction to Protect Grease Leakage

- 1) A rubber ring is added to the ball bearing section of the fan side to protect grease leakage.
- 2) An O-ring is added to the spindle lock section to protect grease leakage.

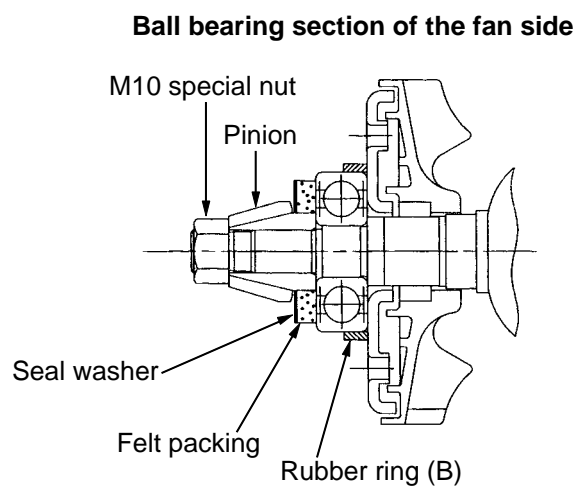


Fig. 6

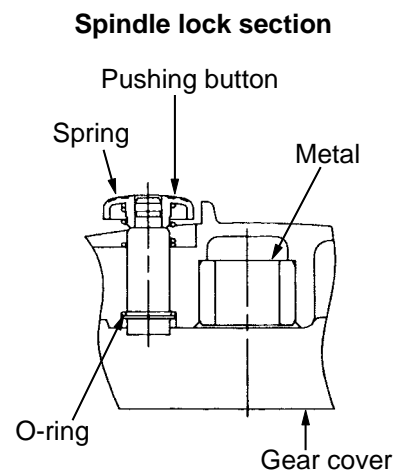


Fig. 7

4-7. Wheel Guard Angle-Adjustable without Using a Tool

By following the procedure described below once, the newly developed tool-less wheel guard can be adjusted to a desired angle without using any tool.

[Installation and adjustment of the wheel guard]

- Set the Wheel Guard Ass'y [36] <36> (36) on the Packing Gland [27] <27> (27).
- With the Lever [31] <31> (31) closed, tighten the Bolt M8 x 22 [32] <32> (32) until the wheel guard is locked in position.
- Open the Lever [31] <31> (31) for angle adjustment of the wheel guard. (If the wheel guard is difficult to turn, loosen the Bolt M8 x 22 [32] <32> (32) and readjust the wheel guard.)
- Be sure to close the Lever [31] <31> (31) after finishing adjustment before starting operation.
- When the Lever [31] <31> (31) becomes dull in motion, lubricate the sliding area between the Set Piece [34] <34> (34) and the Lever [31] <31> (31).

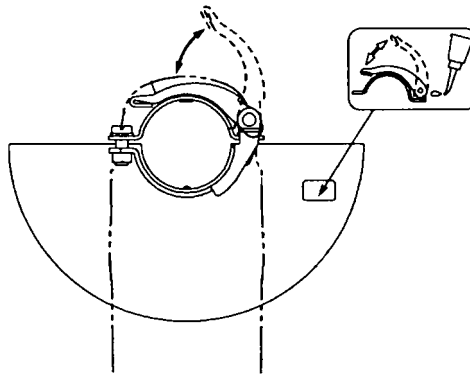


Fig. 8

5. SPECIFICATIONS

Item \ Model		G 18SE3/G 18UA2	G 23SC3/G 23UA2																		
Depressed-center wheels	Dimensions	O.D. 180 mm (7") x Thickness 6 mm (1/4") x I.D. 22.2 mm (7/8")	O.D. 230 mm (9") x Thickness 6 mm (1/4") x I.D. 22.2 mm (7/8")																		
	Max. practical peripheral speed	80 m/s (15,800 ft/min)																			
	Type	A, 24, R, B																			
	Spindle thread	*1 M14 x 2	*1 M14 x 2																		
Power source		AC single phase 50 or 60 Hz																			
Voltage and power input *2		<table><tr><th>Voltage (V)</th><th>Current (A)</th><th>Power input (W)</th></tr><tr><td>110</td><td>20.9</td><td>2,300</td></tr><tr><td>120</td><td>15</td><td>1,700</td></tr><tr><td>220</td><td>11.0</td><td>2,300</td></tr><tr><td>230</td><td>10.5</td><td>2,300</td></tr><tr><td>240</td><td>10.0</td><td>2,300</td></tr></table>		Voltage (V)	Current (A)	Power input (W)	110	20.9	2,300	120	15	1,700	220	11.0	2,300	230	10.5	2,300	240	10.0	2,300
Voltage (V)	Current (A)	Power input (W)																			
110	20.9	2,300																			
120	15	1,700																			
220	11.0	2,300																			
230	10.5	2,300																			
240	10.0	2,300																			
No-load speed		*3 8,500/min	*3 6,600/min																		
Type of motor		AC single phase commutator motor																			
Enclosure		Housing (Green) } Polyamide resin with glassfiber Handle (Black) } Gear cover, packing gland Aluminum alloy diecasting																			
Type of switch		Trigger switch																			
Weight	Net: *4 (main body)	5.0 kg (11.0 lbs.)																			
	Gross:	8.2 kg (18.1 lbs.)																			
Type of packing		Corrugated cardboard box																			
Standard accessories		Depressed-center wheel 180 mm (7") (Code No. 316824) 1 ^{*5} Side handle (Code No. 937981) 1 Wrench (Code No. 937913Z) 1	Depressed-center wheel 230 mm (9") (Code No. 316825) 1 ^{*5} Side handle (Code No. 937981) ... 1 Wrench (Code No. 937913Z) 1 Wheel nut (B) (Code No. 937917Z) 1 ^{*5}																		

*1 For U.S.A.: 5/8-11 UNC

*2 Be sure to check the nameplate on product as it is subject to change by areas.

*3 For U.S.A.: 6,000/min

*4 Net weight excludes cord, side handle, depressed-center wheel, wheel nut, wheel washer and wheel guard.

*5 Standard accessories may vary depending on market areas.

Item \ Model		G 18SG2/G 18UB2	G 23SE2/G 23UB2												
Depressed-center wheels	Dimensions	O.D. 180 mm (7") x Thickness 6 mm (1/4") x I.D. 22.2 mm (7/8")	O.D. 230 mm (9") x Thickness 6 mm (1/4") x I.D. 22.2 mm (7/8")												
	Max. practical peripheral speed	80 m/s (15,800 ft/min)													
	Type	A, 24, R, B													
	Spindle thread	M14 x 2	M14 x 2												
Power source		AC single phase 50 or 60 Hz													
Voltage and power input *1		<table><tr><td>Voltage (V)</td><td>Current (A)</td><td>Power input (W)</td></tr><tr><td>110</td><td>22.7</td><td>2,500</td></tr><tr><td>230</td><td>11.5</td><td>2,500</td></tr><tr><td>240</td><td>10.0</td><td>2,500</td></tr></table>		Voltage (V)	Current (A)	Power input (W)	110	22.7	2,500	230	11.5	2,500	240	10.0	2,500
Voltage (V)	Current (A)	Power input (W)													
110	22.7	2,500													
230	11.5	2,500													
240	10.0	2,500													
No-load speed		8,500/min	6,600/min												
Type of motor		AC single phase commutator motor													
Enclosure		Housing (Green) } Polyamide resin with glassfiber Handle (Black) } Gear cover, packing gland Aluminum alloy diecasting													
Type of switch		Trigger switch													
Weight	Net: *2 (main body)	5.0 kg (11.0 lbs.)													
	Gross:	8.2 kg (18.1 lbs.)													
Type of packing		Corrugated cardboard box													
Standard accessories		Depressed-center wheel 180 mm (7") (Code No. 316824) 1*3 Side handle (Code No. 937981) 1 Wrench (Code No. 937913Z) 1	Depressed-center wheel 230 mm (9") (Code No. 316825) 1*3 Side handle (Code No. 937981) ... 1 Wrench (Code No. 937913Z) 1 Wheel nut (B) (Code No. 937917Z) 1*3												

*1 Be sure to check the nameplate on product as it is subject to change by areas.

*2 Net weight excludes cord, side handle, depressed-center wheel, wheel nut, wheel washer and wheel guard.

*3 Standard accessories may vary depending on market areas.

6. COMPARISONS WITH SIMILAR PRODUCTS

6-1. Specification Comparisons

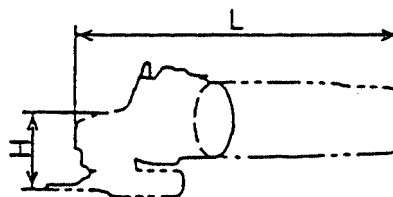
Maker	HITACHI		B
Model name	G 18SE3	G 18SE2	
	G 18UA2	G 18UA	
Capacity:	180	180	180
Depressed-center wheel dia. (mm)	(7")	(7")	(7")
Power input *1 (W)	2300	2200	2400
Power output *1 (W)	1500	1450	1500
Max. power output *1 (W)	4600	4000	4100
No-load speed (/min)	8500	8500	8500
No-load sound pressure level (dB (A))	88	86	89
Service life of carbon brushes *2 (hr)	175	120	160
Weight *3 (kg)	5.0 (11.0 lbs.)	5.0 (11.0 lbs.)	5.1 (11.2 lbs.)
(Actual weight) (kg)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)
Dimensions L mm (inch)	478 (18-13/16)	481 (18-15/16)	470 (18-1/2)
	H mm (inch)	83 (3-9/32)	92 (3-10/16)

Maker	HITACHI		B
Model name	G 23SC3	G 23SC2	
	G 23UA2	G 23UA	
Capacity:	230	230	230
Depressed-center wheel dia. (mm)	(9")	(9")	(9")
Power input *1 (W)	2300	2200	2400
Power output *1 (W)	1500	1450	1500
Max. power output *1 (W)	4600	4000	4100
No-load speed (/min)	6600	6600	6600
No-load sound pressure level (dB (A))	88	86	89
Service life of carbon brushes *2 (hr)	175	120	160
Weight *3 (kg)	5.0 (11.0 lbs.)	5.0 (11.0 lbs.)	5.1 (11.2 lbs.)
(Actual weight) (kg)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)
Dimensions L mm (inch)	478 (18-13/16)	481 (18-15/16)	470 (18-1/2)
	H mm (inch)	83 (3-9/32)	85 (3-11/32)

*1 Depends on market

*2 Service life of carbon brushes in the continuous rated load test

*3 Weight without cord, side handle, depressed-center wheel, wheel nut, wheel washer and wheel guard



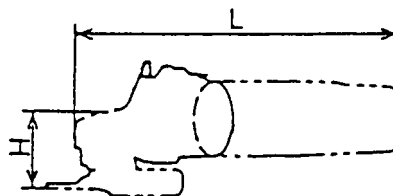
Maker	HITACHI		B
Model name	G 18SG2	G 18SG	
	G 18UB2	G 18UB	
Capacity:	180	180	180
Depressed-center wheel dia. (mm)	(7")	(7")	(7")
Power input *1 (W)	2500	2400	2600
Power output *1 (W)	1680	1530	1600
Max. power output *1 (W)	4600	4000	4200
No-load speed (/min)	8500	8500	8500
No-load sound pressure level (dB (A))	88	86	89
Service life of carbon brushes *2 (hr)	165	110	150
Weight *3 (kg)	5.0 (11.0 lbs.)	5.0 (11.0 lbs.)	5.1 (11.2 lbs.)
(Actual weight) (kg)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)
Dimensions L mm (inch)	478 (18-13/16)	481 (18-15/16)	470 (18-1/2)
	H mm (inch)	83 (3-9/32)	85 (3-11/32)

Maker	HITACHI		B
Model name	G 23SE2	G 23SE	
	G 23UB2	G 23UB	
Capacity:	230	230	230
Depressed-center wheel dia. (mm)	(9")	(9")	(9")
Power input *1 (W)	2500	2400	2600
Power output *1 (W)	1680	1530	1600
Max. power output *1 (W)	4600	4000	4200
No-load speed (/min)	6600	6600	6500
No-load sound pressure level (dB (A))	88	86	89
Service life of carbon brushes *2 (hr)	165	110	150
Weight *3 (kg)	5.0 (11.0 lbs.)	5.0 (11.0 lbs.)	5.1 (11.2 lbs.)
(Actual weight) (kg)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)	5.2 (11.5 lbs.)
Dimensions L mm (inch)	478 (18-13/16)	481 (18-15/16)	470 (18-1/2)
	H mm (inch)	83 (3-9/32)	85 (3-11/32)

*1 Depends on market

*2 Service life of carbon brushes in the continuous rated load test

*3 Weight without cord, side handle, depressed-center wheel, wheel nut, wheel washer and wheel guard



6-2. Practical Test Data

Comparison of temperature rise of stator coil section:

The graph below shows the relationship between load and temperature rise of the stator coil. The temperature rise of the Models G 23SC3 is the lowest among the competitive models. This means that the resistance to overload usage of the Model G 23SC3 is superior to other maker's models.

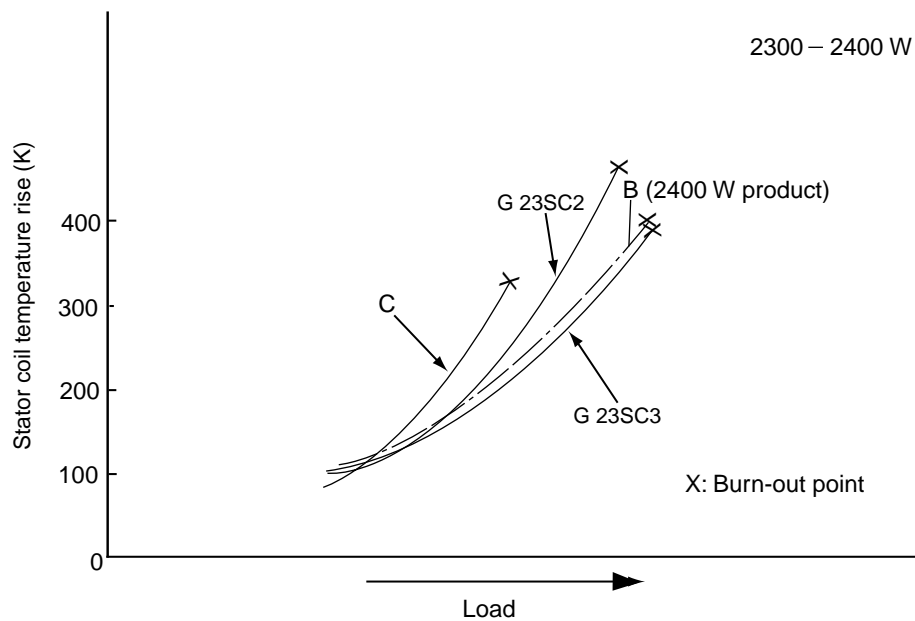


Fig. 9

The temperature rise of Model G 23SE2 is lower than the Model G 23SE.
(B is the lowest.)

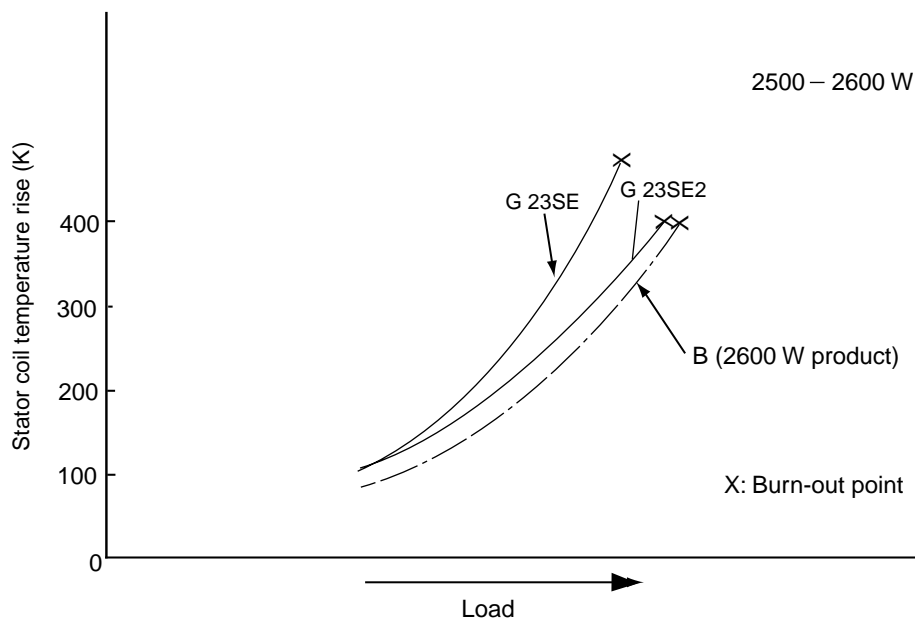


Fig. 10

7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Models G 18SE3, G 18UA2, G 18SG2, G 18UB2, G 23SC3, G 23UA2, G 23SE2 and G 23UB2 Disc Grinders by all of 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 Name Plate.

7-1. Handling Instructions

Although every effort is made in each step of design, manufacture and inspection to provide protection against safety hazards, the dangers inherent in the use of any electric power tool cannot be completely eliminated. Accordingly, general precautions and suggestions for the use of electric power tools, and specific precautions and suggestions for the use of the disc grinders are listed in the Handling Instructions to enhance the safe and efficient use of the tool by the customer. Salespersons must be thoroughly familiar with the contents of the Handling Instructions to be able to offer appropriate guidance to the customer during sales promotion.

7-2. Caution on Name Plate

Each tool is provided with a Name Plate which contains the following basic safety precautions in the use of the tool.

(1) For U.K., Germany, Belgium, France, Netherlands, Austria, Spain, Italy, Finland, Norway and Switzerland



(2) For Australia and New Zealand

CAUTION

Read thoroughly HANDLING INSTRUCTIONS before use.

(3) For U.S.A. and Canada

WARNING

To reduce the risk of injury, user must read and understand instruction manual.

Always use proper guards when grinding and wear eye protection.

Use only accessories rated at least *____/min.

AVERTISSEMENT

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

Utilisez toujours un outil muni d'un protecteur adéquat et portez des lunettes ou une visière.

N'utilisez que des accessoires prévus pour au moins *____/min.

* G 23SC3 For U.S.A.: 6,600
For CAN: 6,600

* G 18SE3 For U.S.A.: 6,600
For CAN: 8,500

(4) For China

注意：使用前请仔细阅读使用说明书

(5) For Taiwan

使用前請詳讀使用說明書
禁止在雨中使用

7-3. Precautions on Usage

Never press the pushing button while the depressed-center wheel is rotating.

If the pushing button is pressed while the depressed-center wheel is rotating, the spindle will stop immediately.

In such a case, there is a danger that the wheel nut may be loosened so that the depressed-center wheel flies off unexpectedly to cause possible serious injury.

8. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The **[Bold]** numbers in the descriptions below correspond to the numbers in the Parts List and the exploded assembly diagram for the Models G 23SC3, G 23SE2, G 18SE3 and G 18SG2, and the **<Bold>** numbers to those in the Parts List and the exploded assembly diagram for the Models G 23UA2, G 18UA2, and G 18UB2, and the **(Bold)** numbers to those in the Parts List and the exploded assembly diagram for the Model G 23UB2.

8-1. Disassembly

(1) Removal of the Armature **[13] <13> (13)**

1. Open the Lever **[31] <31> (31)** and loosen the Bolt M8 x 22 **[32] <32> (32)**, and remove the Wheel Guard Ass'y **[36] <36> (36)**.
2. Loosen the Tapping Screw (W/Flange) D4 x 16 (Black) **[49] <48> (49)**, and remove the Brush Cover **[48] <47> (48)**.
3. Remove the two Carbon Brushes **[50] <49> (50)** from the Brush Holders **[53] <52> (53)**.
4. Remove the four Tapping Screws (W/Flange) D5 x 35 **[2] <2> (2)**. The Armature **[13] <13> (13)** can then be taken out simultaneously with the Gear Cover Ass'y **[5] <5> (5)**, Packing Gland **[27] <27> (27)** and related parts.
5. Remove the four Hex. Socket Hd. Bolts (W/Flange) M5 x 16 **[28] <28> (28)**.
6. After removing the two Seal Lock Screws (W/Sp. Washer) M5 x 14 (Black) **[1] <1> (1)**, the Armature **[13] <13> (13)** can be extracted together with the Bearing Cover (A) **[12] <12> (12)** and related parts.
7. Carefully wrap the Armature **[13] <13> (13)** with a soft, clean rag to protect it from being damaged, and clamp it securely in a vise. Then, remove the Special Nut M10 **[6] <6> (6)**, and extract the Pinion **[7] <7> (7)**.
8. For the models indicated under Fig. 11, the Ball Bearing 6301DDCMPS2L **[10] <10> (10)** can be removed from the Armature **[13] <13> (13)** by utilizing a J-204 Bearing Puller (special repair tool, Code No. 970982) as illustrated. After the ball bearing has been removed, Bearing Cover (A) **[12] <12> (12)** can be easily taken off.

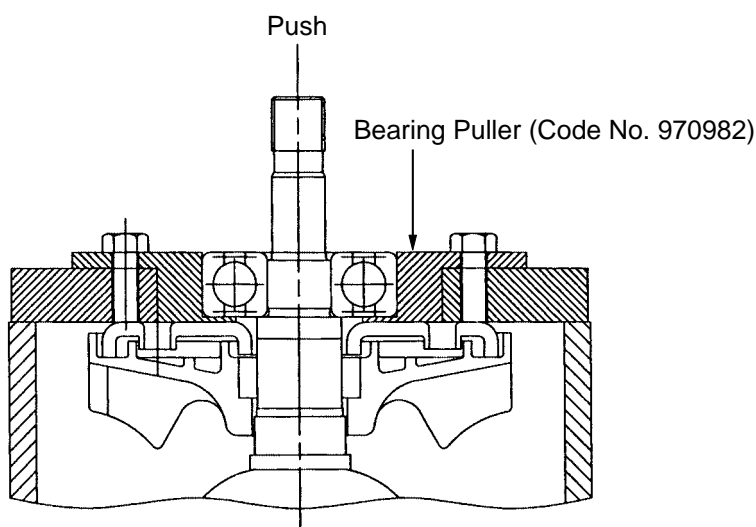


Fig. 11

(2) Removal of the Dust Seal [43] <42> (43)

1. Insert the hooks of the J-204 bearing puller between the commutator and the Dust Seal [43] <42> (43) from both sides, and fix the hooks with the wing bolts.
2. Place the J-204 bearing puller on a supporting jig and push down on the armature shaft with a hand press to remove the Dust Seal [43] <42> (43) together with the Ball Bearing 6000VVCMP2L [44] <43> (44).
Replace the Dust Seal [43] <42> (43) with new one because it is damaged by the removal of the Ball Bearing 6000VVCMP2L [44] <43> (44).

(3) Removal of the Stator [16] <16> (16)

1. After removing the Armature [13] <13> (13), disconnect the internal wires connected to the Brush Holders [53] <52> (53) and the Switch [55] <55> (56) .
2. Loosen the two Hex. Hd. Tapping Screws D5 x 75 [15] <15> (15) and remove the Stator [16] <16> (16) from the Housing Ass'y [46] <45> (46). If the Stator [16] <16> (16) cannot be easily removed from the Housing Ass'y [46] <45> (46), disassembly can be facilitated by heating the Housing Ass'y [46] <45> (46) to a temperature of approximately 60°C (140°F) with an appropriate heating device.

(4) Removal of the Gear [20] <20> (20)

1. Loosen the four Hex. Socket Hd. Bolts (W/Flange) M5 x 16 [28] <28> (28), and remove the Packing Gland [27] <27> (27) together with the Spindle [25] <25> (25) and Gear [20] <20> (20) from the Gear Cover Ass'y [5] <5> (5) in a single body.
2. Remove the Retaining Ring for D12 Shaft [19] <19> (19) from the Spindle [25] <25> (25).
3. When it is necessary to remove the Gear [20] <20> (20) from the Spindle [25] <25> (25), it is highly recommended that the special repair tools described below are utilized.

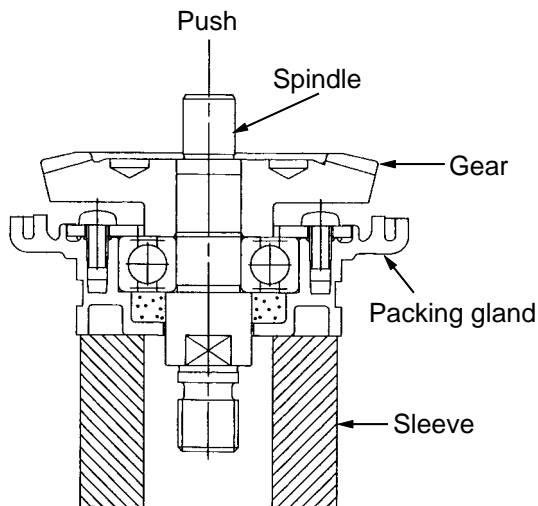


Fig. 12

Place the assembly on a sleeve that matches the dimension of the Packing Gland [27] <27> (27) and push down on the top of the Spindle [25] <25> (25) with a hand press to remove the Gear [20] <20> (20) as shown in Fig. 12.

8-2. Reassembly

Put the parts together in the reverse order of disassembly, with the precautions given below.

(1) Generously lubricate the teeth of Gear [20] <20> (20) and Pinion [7] <7> (7) with grease. Rub grease onto the teeth with your fingers so that the grease reaches each tooth bottom. Note that under-lubricated Gear [20] <20> (20) and Pinion [7] <7> (7) may wear at a faster rate.

(2) When replacing the Armature [13] <13> (13) and the Ball Bearing 6000VVCMP2L [44] <43> (44) on the commutator side, press inward on the Dust Seal [43] <42> (43) while taking care of its direction until the end face of the Dust Seal [43] <42> (43) hits against the butting surface of the Armature [13] <13> (13) and make sure that the Dust Seal [43] <42> (43) cannot turn freely. (See Fig. 13.)

The Dust Seal [43] <42> (43) is an important element for improved dust protection of the Ball Bearing 6000VVCMP2L [44] <43> (44). Be sure to use a new one at every disassembly work of the Ball Bearing 6000VVCMP2L [44] <43> (44).

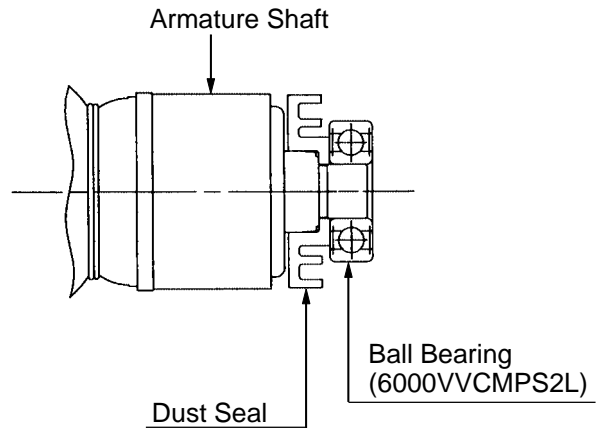


Fig. 13

(3) Apply Three Bond TB 1406 Screw Locking Agent to the following screws.

- Two Seal Lock Screws (W/Sp. Washer) M5 x 14 (Black) [1] <1> (1) which fix Bearing Cover (A) [12] <12> (12) in place.
- Four Hex. Socket Hd. Bolt (W/Flange) M5 x 16 [28] <28> (28) which fix Packing Gland [27] <27> (27) in place.

(4) Check that the spring end does not hold the terminal when mounting the carbon brush. Do not catch the terminal in the brush cover when mounting the brush cover.

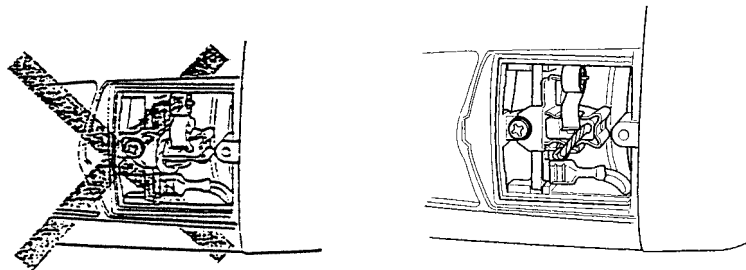
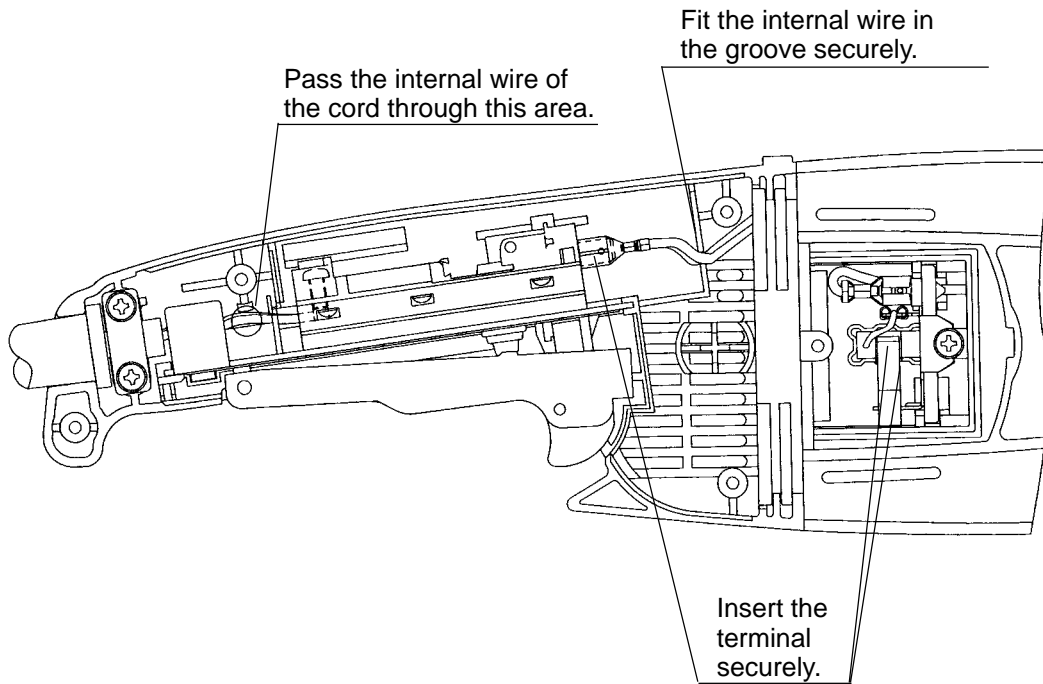
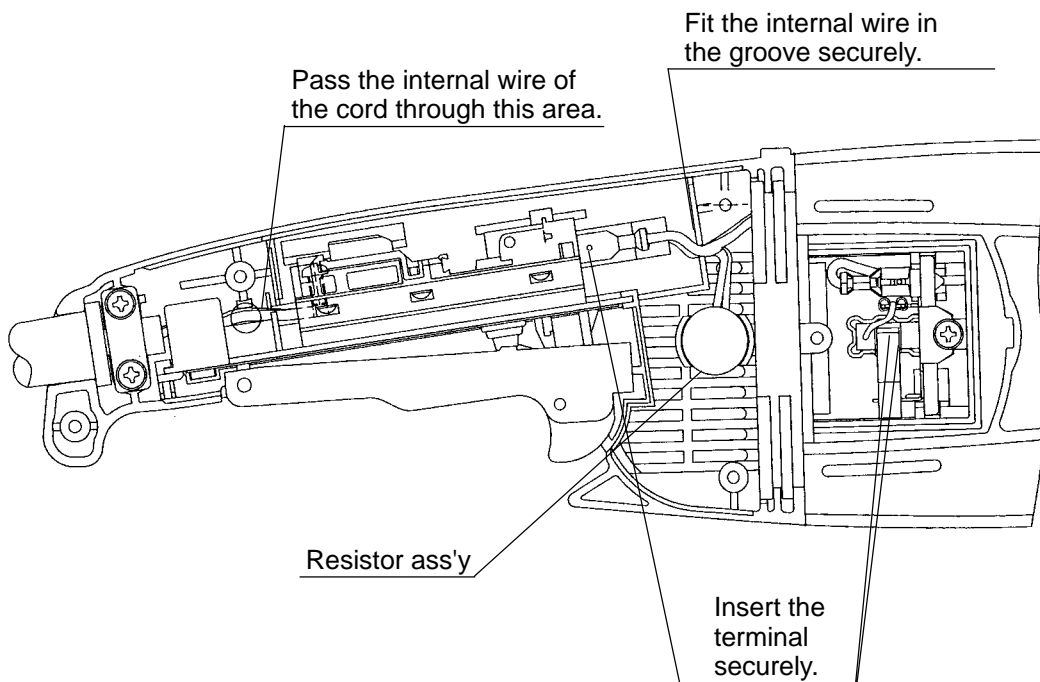


Fig. 14

- (5) Arrange the internal wires as shown in Figs. 15 and 16 being careful not to connect in wrong direction or position and not to get the internal wires caught in parts.



(a) G 18SE3/G 23SC3/G 18SG2/G 23SE2



(b) G 18UA2/G 23UA2/G 18UB2/G 23UB2

Fig. 15

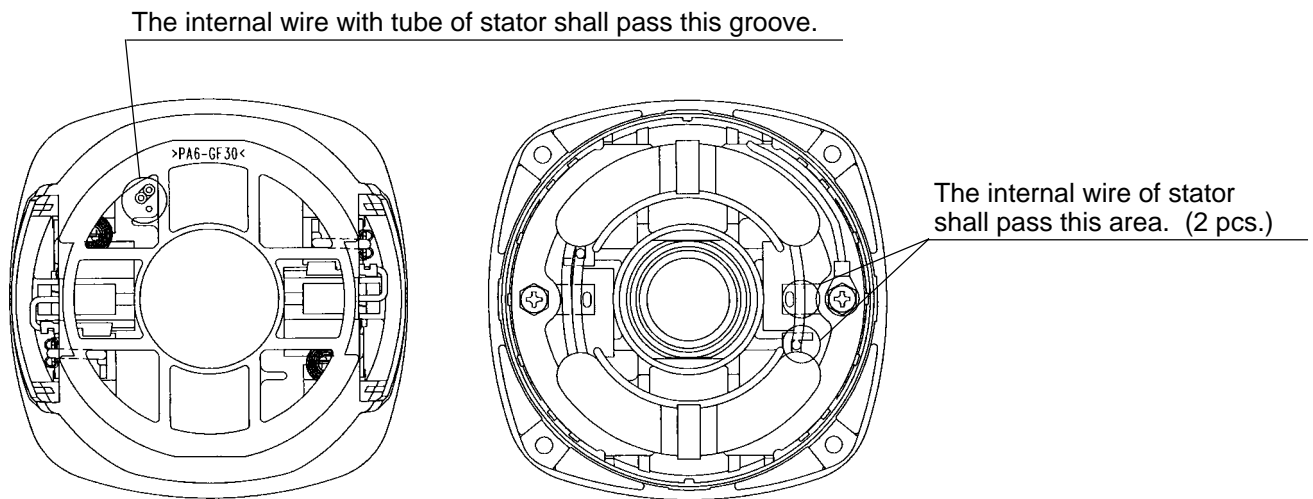


Fig. 16

(6) Mount the cord clip as shown in Fig. 17 being careful of the direction.

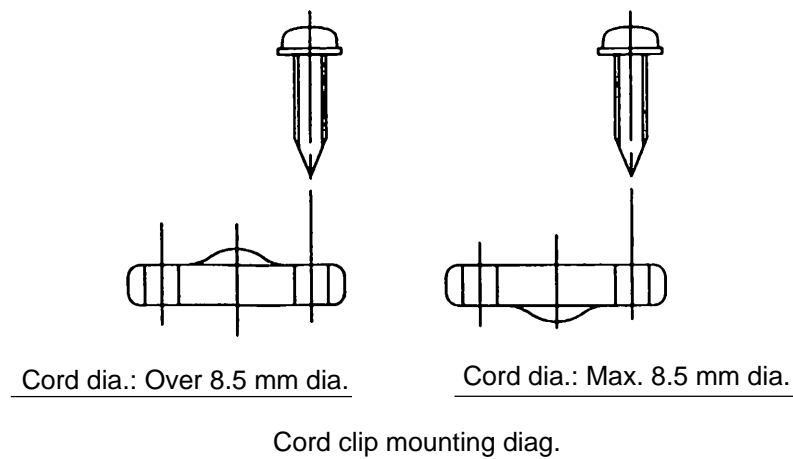


Fig. 17

8-3. Lubrication Points and Types of Lubricant

Pinion chamber of Gear Cover Ass'y [5] <5> (5) ALVANIA grease EP (LF) O 35 g

Generously rub grease onto the gear and pinion
and inner circumference of metal.

8-4. Tightening Torque

Tapping Screws (W/Flange) D4 x 16

[49] <48> (49) [57] <57> (58) $2.0 \pm 0.5 \text{ N}\cdot\text{m}$ ($20 \pm 5 \text{ kgf}\cdot\text{cm}$, $1.5 \pm 0.4 \text{ ft}\cdot\text{lbs.}$)

Seal Lock Screws (W/Sp. Washer) M5 x 14 [1] <1> (1) $2.9 \pm 0.5 \text{ N}\cdot\text{m}$ ($30 \pm 5 \text{ kgf}\cdot\text{cm}$, $2.2 \pm 0.4 \text{ ft}\cdot\text{lbs.}$)

Tapping Screw (W/Flange) D5 x 35 [2] <2> (2) $3.4 \pm 0.7 \text{ N}\cdot\text{m}$ ($35 \pm 7 \text{ kgf}\cdot\text{cm}$, $2.5 \pm 0.5 \text{ ft}\cdot\text{lbs.}$)

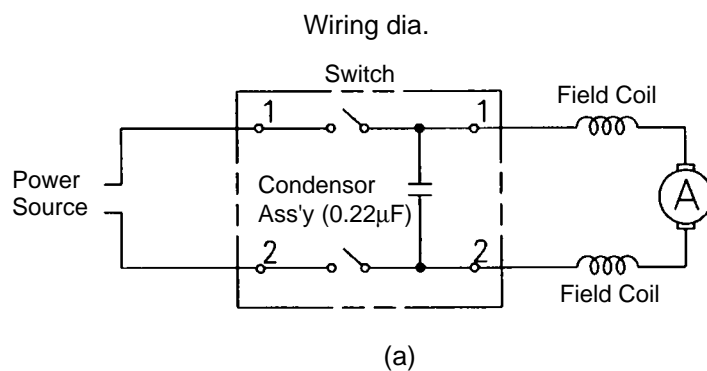
Hex. Socket Hd. Bolt (W/Flange) M5 x 16 [28] <28> (28) $7.8 \pm 1.5 \text{ N}\cdot\text{m}$ ($80 \pm 15 \text{ kgf}\cdot\text{cm}$, $5.8 \pm 1.1 \text{ ft}\cdot\text{lbs.}$)

Special Nut M10 [6] <6> (6) $15.3 \pm 3.1 \text{ N}\cdot\text{m}$ ($150 \pm 30 \text{ kgf}\cdot\text{cm}$, $10.8 \pm 2.2 \text{ ft}\cdot\text{lbs.}$)

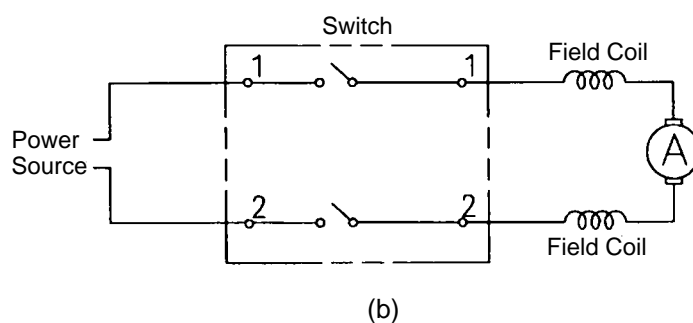
Machine Screw M5 x 10 [21] <21> (21) $5.9 \pm 1.5 \text{ N}\cdot\text{m}$ ($60 \pm 15 \text{ kgf}\cdot\text{cm}$, $4.3 \pm 1.1 \text{ ft}\cdot\text{lbs.}$)

8-5. Wiring Diagram

- (1) G 18SE3/G 23SC3
G 18SG2/G 23SE2



<For U.S.A.>



- (2) G 18UA2/G 23UA2
G 18UB2/G 23UB2

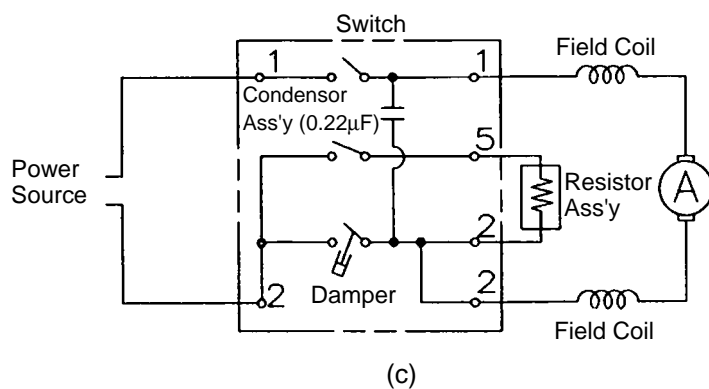


Fig. 18

8-6. Insulation Tests

On completion of disassembly and repair, measure the insulation resistance, and conduct the dielectric strength test.

Insulation resistance: 7 M Ω or more with DC 500 V Megohm Tester

Dielectric strength test: AC 4,000 V/1 minute, with no abnormalities 220 V — 240 V products

AC 2,500 V/1 minute, with no abnormalities 110 V — 127 V products

8-7. No-load Current Value

After no-load operation for 30 minutes, the no-load current value should be as follows.

Voltage (V)	110	120	220	230	240
Current (A) max.	6.3	6.8	3.6	3.8	3.7

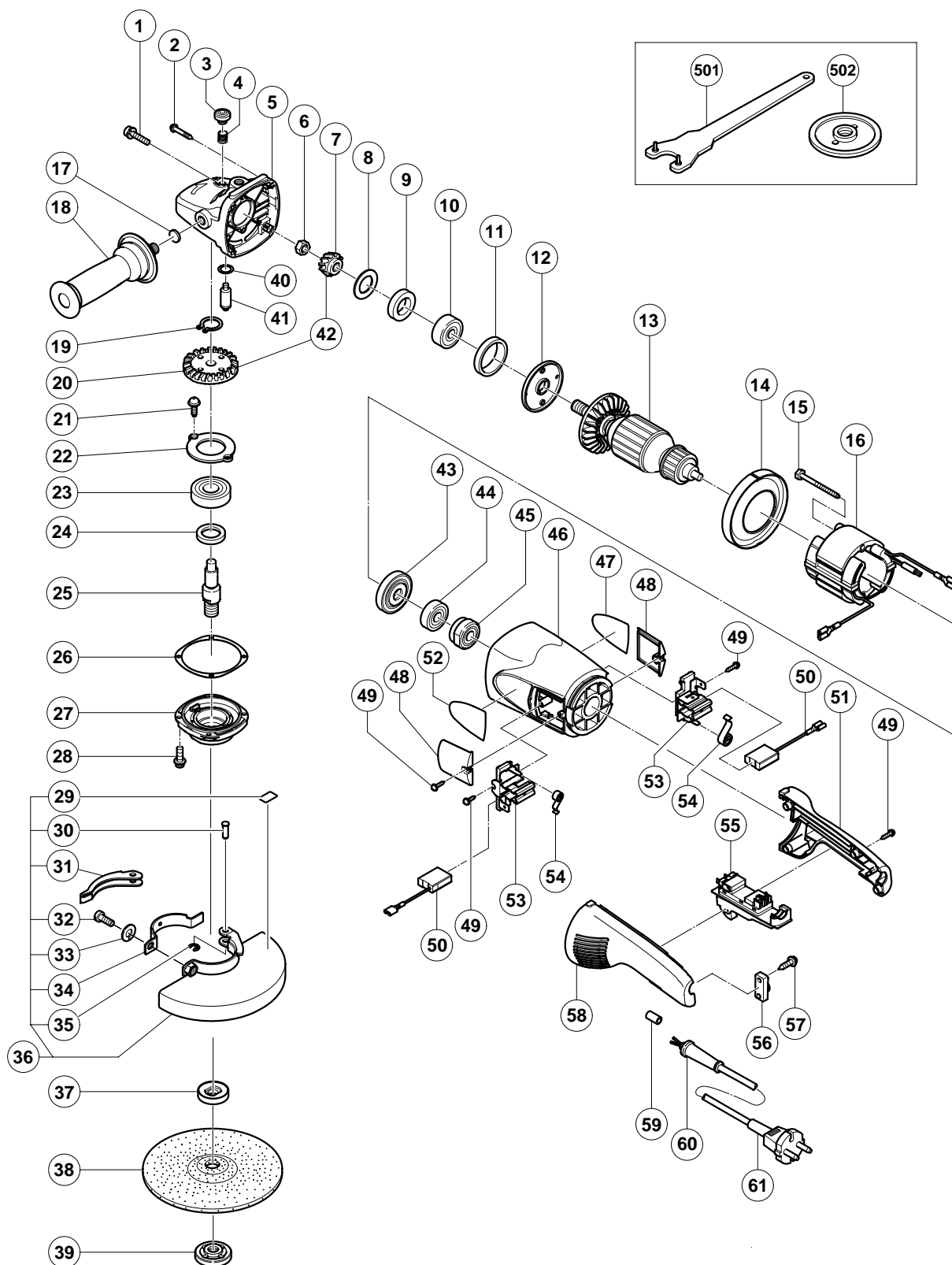
9. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Fixed	Variable	10	20	30	40	50	60 min.
			Work Flow					
G 18SE3								
G 18SG2								
G 23SC3			Wheel Guard Ass'y					
G 23SE2								
G 18UA2								
G 18UB2	General Assembly					Housing Ass'y Stator		
G 23UA2				Gear Cover Ass'y Rubber Ring (B)	Pinion Armature Ball Bearing (6301DD) Ball Bearing (6200VV) Seal Washer Felt Packing Bearing Cover (A) Dust Seal Bearing Bushing			
G 23UB2								
				Seal Plate	Gear	Bearing Cover (B) Ball Bearing (6302DD) Felt Packing (B) Packing Gland Spindle		
			Handle (B)	Handle (A) Switch Cord				

ELECTRIC TOOL PARTS LIST

■ DISC GRINDER
Model G 18SE3

2002・11・30
(E1)



PARTS

G 18SE3

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD.3,4,17,40,41	
6	320-226	SPECIAL NUT M10	1		
* 7	320-243	PINION	1		
* 7	320-225	PINION	1	FOR USA	
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
* 13	360-594U	ARMATURE ASS'Y 110V-120V	1	INCLUD.9,10,43,44	
* 13	360-594E	ARMATURE 220V-230V	1		
* 13	360-594F	ARMATURE 240V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
* 16	340-546C	STATOR 110V-120V	1		
* 16	340-546E	STATOR 220V-230V	1		
* 16	340-546F	STATOR 240V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
* 20	320-242	GEAR	1		
* 20	320-224	GEAR	1	FOR USA	
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
* 25	320-234	SPINDLE	1		
* 25	321-541	SPINDLE	1	FOR USA,CAN	
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-543	WHEEL GUARD ASS'Y	1	INCLUD.29-35	
* 37	937-907Z	WHEEL WASHER (A)	1		
* 37	937-922P	WHEEL WASHER (B) FOR D5/8" HOLE	1	FOR USA,CAN	
* 37	937-908Z	WHEEL WASHER (B)	1	FOR AUS	
* 38	316-824	D. C. WHEELS 180MM A24R (25 PCS.)	1	EXCEPT FOR GBR, HOL, ESP, FRG, AUT, USA	
* 39	937-909Z	WHEEL NUT M14X2	1		
* 39	937-923P	WHEEL NUT 5/8"-11UNC	1	FOR USA,CAN	
40	320-218	O-RING	1		
41	306-890	LOCK PIN	1		

G 18SE3

11 - 02

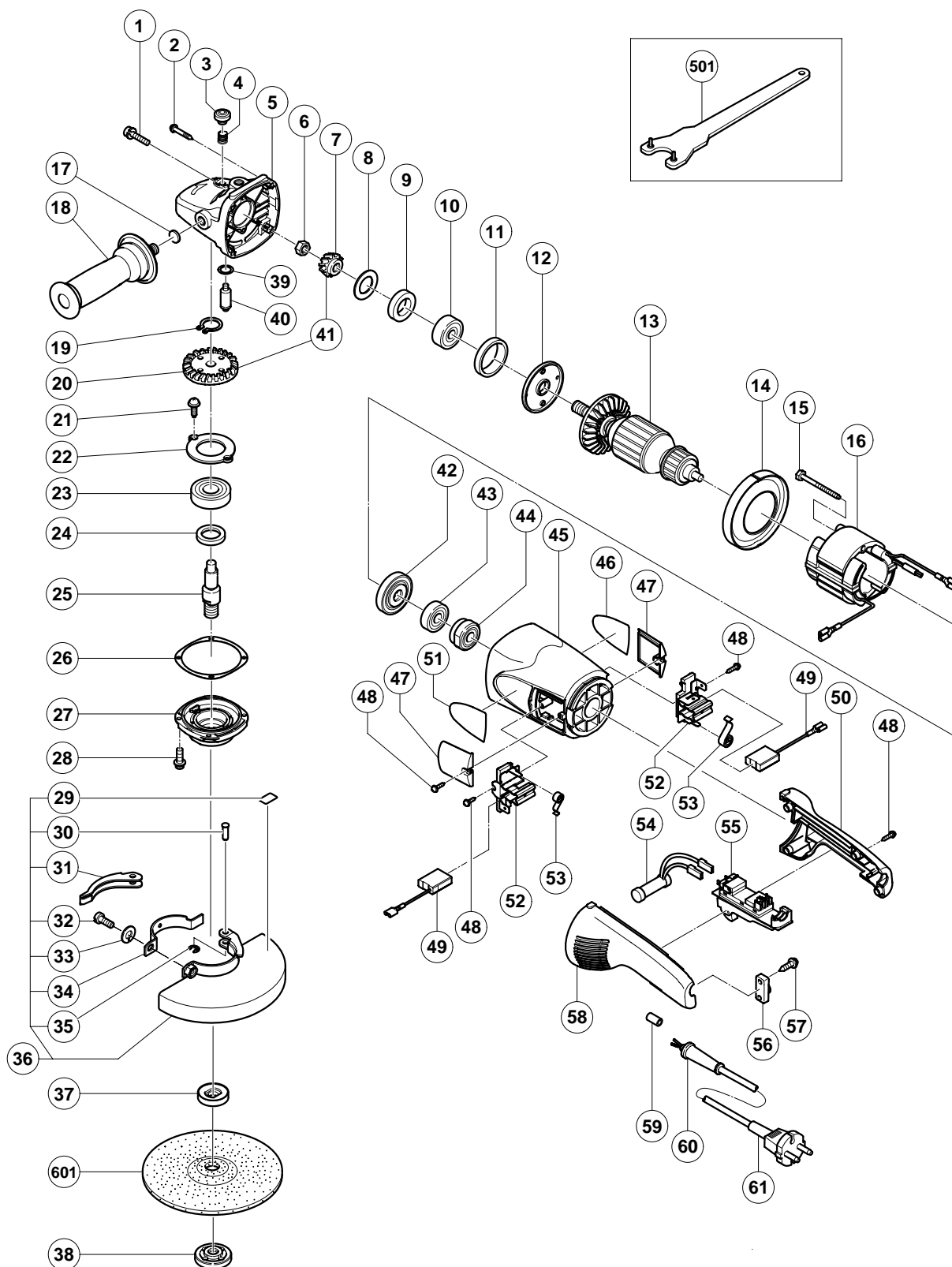
G 18SE3

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ELECTRIC TOOL PARTS LIST

DISC GRINDER Model G 18UA2

2002・11・30
(E1)



PARTS

G 18UA2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD. 3, 4, 17, 39, 40	
6	320-226	SPECIAL NUT M10	1		
7	320-243	PINION	1		
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
13	360-594E	ARMATURE 220V-230V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
16	340-546E	STATOR 220V-230V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
20	320-242	GEAR	1		
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
25	320-234	SPINDLE	1		
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-543	WHEEL GUARD ASS'Y	1	INCLUD. 29-35	
37	937-907Z	WHEEL WASHER (A)	1		
38	937-909Z	WHEEL NUT M14X2	1		
39	320-218	O-RING	1		
40	306-890	LOCK PIN	1		
41	320-241	GEAR ASS'Y	1	INCLUD. 7, 20	
42	320-216	DUST SEAL	1		
43	600-0VV	BALL BEARING 6000VVCMP2L	1		
44	321-536	BEARING BUSHING	1		
45	321-535	HOUSING ASS'Y	1	INCLUD. 44	
46		NAME PLATE	1		
47	320-232	BRUSH COVER	2		
48	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	8		
* 49	999-061	CARBON BRUSH 7X17X22.5 (1 PAIR)	1		
* 49	999-089	CARBON BRUSH (AUTO STOP TYPE) (1 PAIR)	1		
50	320-231	HANDLE (B)	1		

PARTS

G 18UA2

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STANDARD ACCESSORIES

G 18UA2

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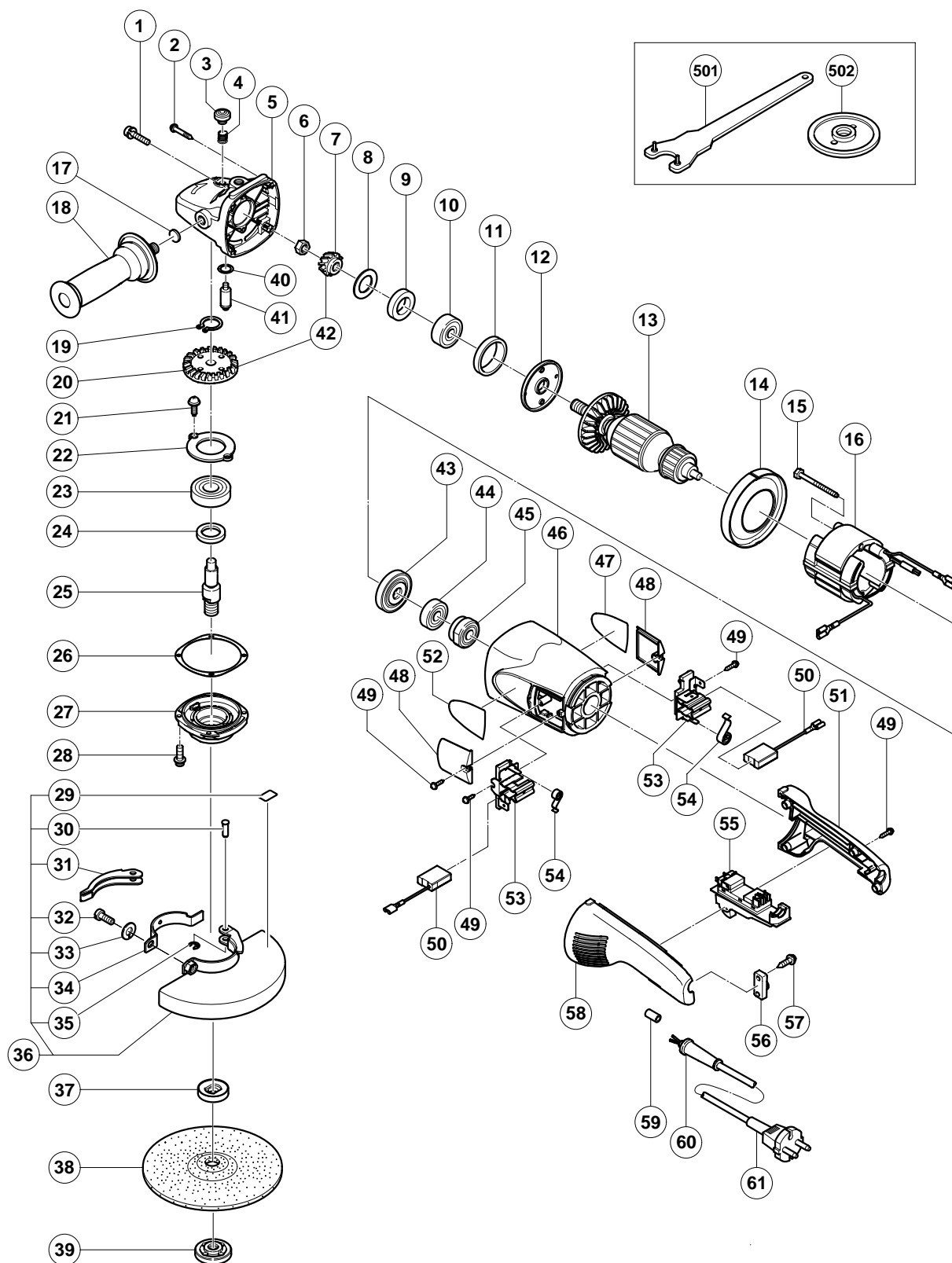
OPTIONAL ACCESSORIES

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ELECTRIC TOOL PARTS LIST

■ DISC GRINDER
Model G 18SG2

2002・11・30
(E1)



PARTS

G 18SG2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD. 3, 4, 17, 40, 41	
6	320-226	SPECIAL NUT M10	1		
7	320-243	PINION	1		
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
13	360-594E	ARMATURE 220V-230V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
16	340-546E	STATOR 220V-230V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
20	320-242	GEAR	1		
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
25	320-234	SPINDLE	1		
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-543	WHEEL GUARD ASS'Y	1	INCLUD. 29-35	
* 37	937-907Z	WHEEL WASHER (A)	1		
* 37	937-908Z	WHEEL WASHER (B)	1	FOR NZL	
* 38	316-824	D. C. WHEELS 180MM A24R (25 PCS.)	1	FOR NZL	
39	937-909Z	WHEEL NUT M14X2	1		
40	320-218	O-RING	1		
41	306-890	LOCK PIN	1		
42	320-241	GEAR ASS'Y	1	INCLUD. 7, 20	
43	320-216	DUST SEAL	1		
44	600-0VV	BALL BEARING 6000VVCMP2L	1		
45	321-536	BEARING BUSHING	1		
46	321-535	HOUSING ASS'Y	1	INCLUD. 45	
47		NAME PLATE	1		
48	320-232	BRUSH COVER	2		
49	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	8		
* 50	999-061	CARBON BRUSH 7X17X22.5 (1 PAIR)	1		

PARTS

G 18SG2

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G 18SG2

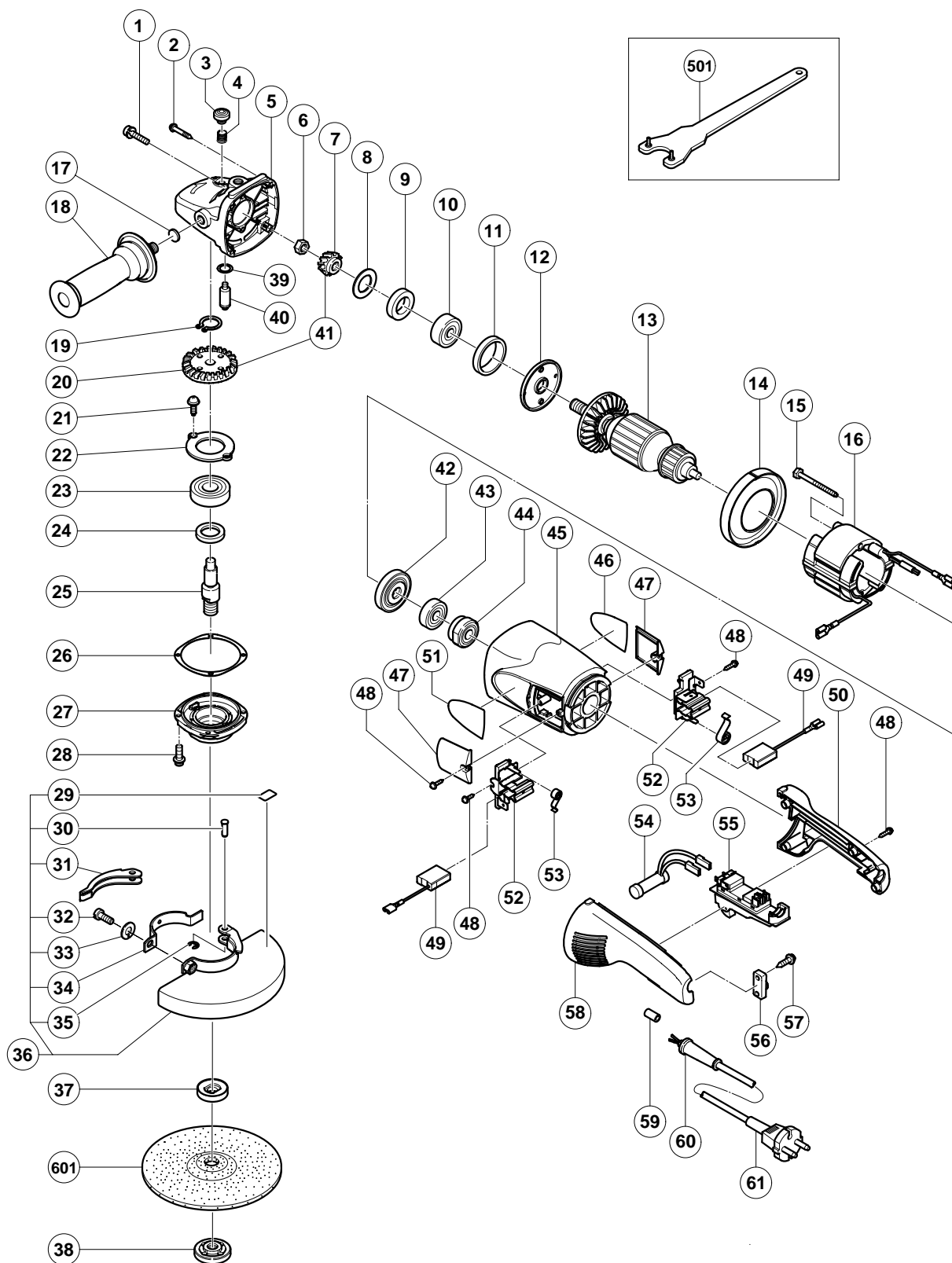
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ELECTRIC TOOL PARTS LIST

DISC GRINDER Model G 18UB2

2002・11・30

(E1)



PARTS

G 18UB2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD. 3, 4, 17, 39, 40	
6	320-226	SPECIAL NUT M10	1		
7	320-243	PINION	1		
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
13	360-594E	ARMATURE 220V-230V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
16	340-546E	STATOR 220V-230V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
20	320-242	GEAR	1		
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
25	320-234	SPINDLE	1		
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-543	WHEEL GUARD ASS'Y	1	INCLUD. 29-35	
37	937-907Z	WHEEL WASHER (A)	1		
38	937-909Z	WHEEL NUT M14X2	1		
39	320-218	O-RING	1		
40	306-890	LOCK PIN	1		
41	320-241	GEAR ASS'Y	1	INCLUD. 7, 20	
42	320-216	DUST SEAL	1		
43	600-0VV	BALL BEARING 6000VVCMP2L	1		
44	321-536	BEARING BUSHING	1		
45	321-535	HOUSING ASS'Y	1	INCLUD. 44	
46		NAME PLATE	1		
47	320-232	BRUSH COVER	2		
48	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	8		
* 49	999-061	CARBON BRUSH 7X17X22.5 (1 PAIR)	1		
* 49	999-089	CARBON BRUSH (AUTO STOP TYPE) (1 PAIR)	1		
* 49	999-061	CARBON BRUSH 7X17X22.5 (1 PAIR)	2	FOR NOR	

PARTS

G 18UB2

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STANDARD ACCESSORIES

G 18UB2

[illegible]

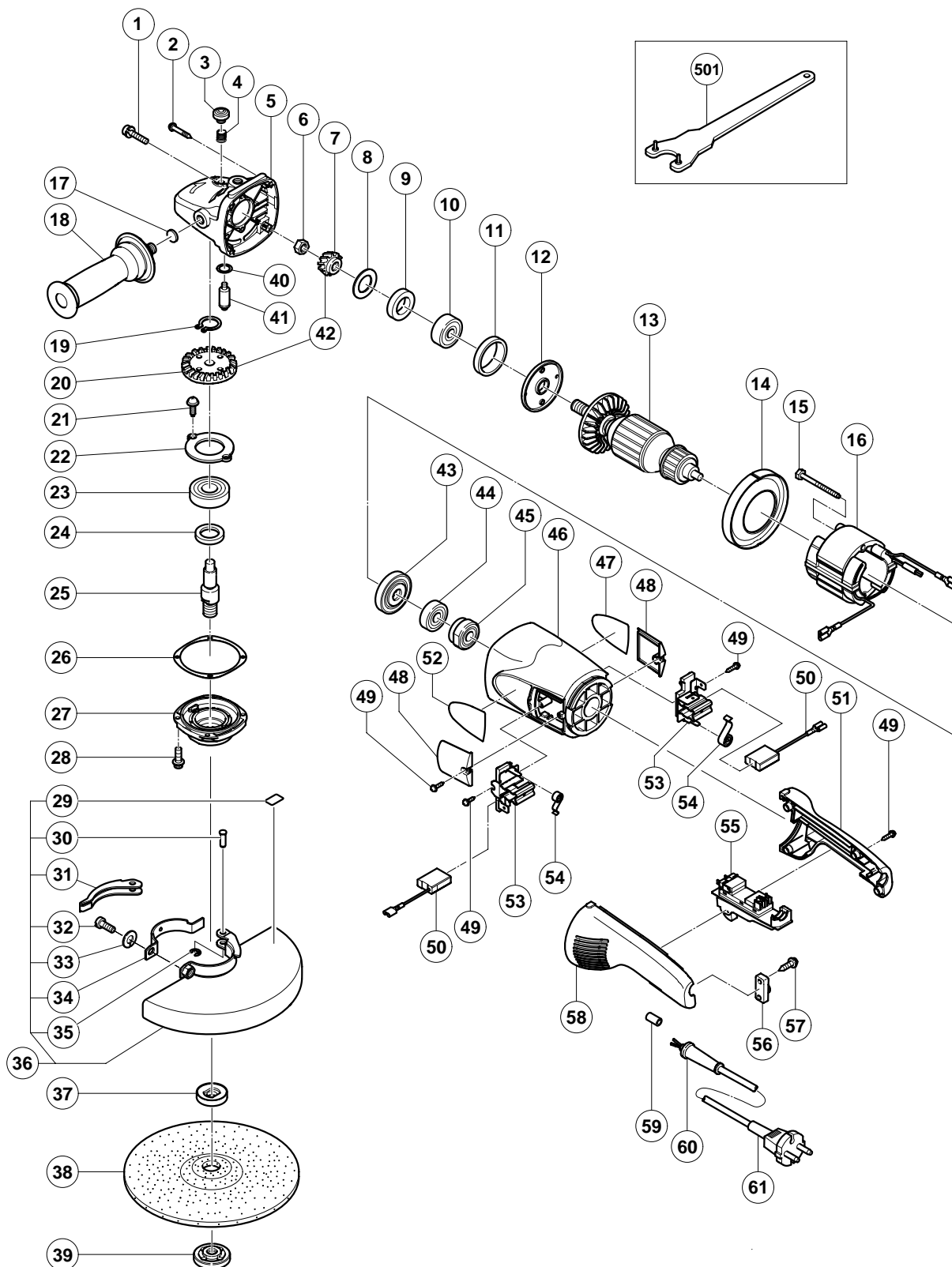
OPTIONAL ACCESSORIES

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ELECTRIC TOOL PARTS LIST

DISC GRINDER Model G 23SC3

2002・11・30
(E1)



PARTS

G 23SC3

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD. 3, 4, 17, 40, 41	
6	320-226	SPECIAL NUT M10	1		
7	320-225	PINION	1		
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
* 13	360-594U	ARMATURE ASS'Y 110V-120V	1	INCLUD. 9, 10, 43, 44	
* 13	360-594E	ARMATURE 220V-230V	1		
* 13	360-594F	ARMATURE 240V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
* 16	340-546C	STATOR 110V-120V	1		
* 16	340-546E	STATOR 220V-230V	1		
* 16	340-546F	STATOR 240V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
20	320-224	GEAR	1		
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
25	320-234	SPINDLE	1		
* 25	321-541	SPINDLE	1	FOR USA, CAN	
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-547	WHEEL GUARD ASS'Y	1	INCLUD. 29-35	
* 37	937-907Z	WHEEL WASHER (A)	1		
* 37	937-922P	WHEEL WASHER (B) FOR D5/8" HOLE	1	FOR USA, CAN	
* 38	316-825	D. C. WHEELS 230MM A24R (25 PCS.)	1	EXCEPT FOR GBR, EUROPE, USA	
* 39	937-909Z	WHEEL NUT M14X 2	1		
* 39	937-923P	WHEEL NUT 5/8"-11UNC	1	FOR USA, CAN	
40	320-218	O-RING	1		
41	306-890	LOCK PIN	1		
42	320-223	GEAR AND PINION ASS'Y	1	INCLUD. 7, 20	
43	320-216	DUST SEAL	1		
44	600-0VV	BALL BEARING 6000VVCMP2L	1		

G 23SC3

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G 23SC3

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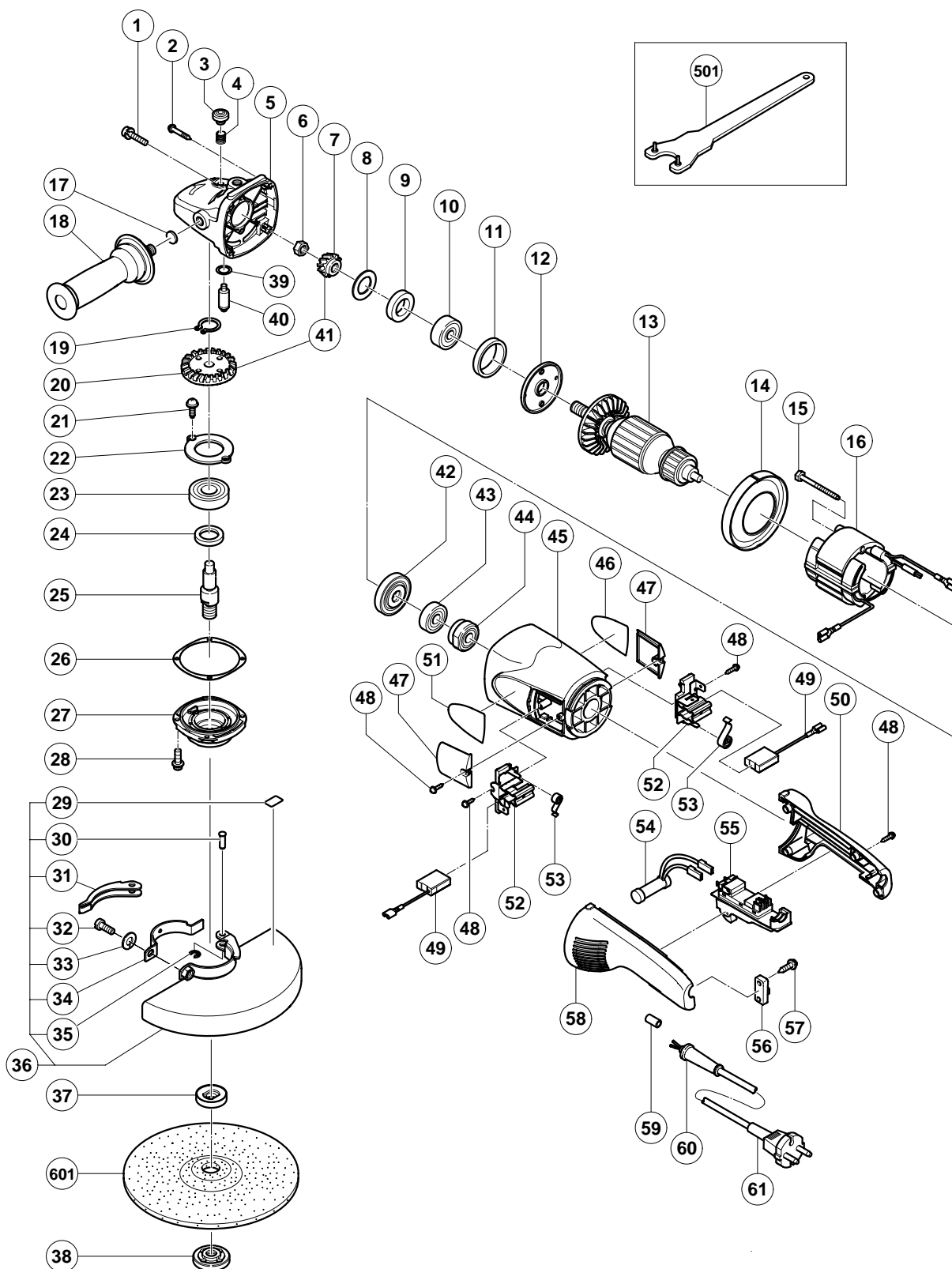
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ELECTRIC TOOL PARTS LIST

■ DISC GRINDER
Model G 23UA2

2002・11・30
(E1)



PARTS

G 23UA2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD. 3, 4, 17, 39, 40	
6	320-226	SPECIAL NUT M10	1		
7	320-225	PINION	1		
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
13	360-594E	ARMATURE 220V-230V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
16	340-546E	STATOR 220V-230V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
20	320-224	GEAR	1		
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
25	320-234	SPINDLE	1		
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-547	WHEEL GUARD ASS'Y	1	INCLUD. 29-35	
37	937-907Z	WHEEL WASHER (A)	1		
38	937-909Z	WHEEL NUT M14X2	1		
39	320-218	O-RING	1		
40	306-890	LOCK PIN	1		
41	320-223	GEAR AND PINION ASS'Y	1	INCLUD. 7, 20	
42	320-216	DUST SEAL	1		
43	600-0VV	BALL BEARING 6000VVCMP2L	1		
44	321-536	BEARING BUSHING	1		
45	321-535	HOUSING ASS'Y	1	INCLUD. 44	
*	46	NAME PLATE	1		
	47	320-232	BRUSH COVER	2	
	48	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	8	
*	49	999-061	CARBON BRUSH 7X17X22.5 (1 PAIR)	1	
*	49	999-089	CARBON BRUSH (AUTO STOP TYPE) (1 PAIR)	1	
*	49	999-061	CARBON BRUSH 7X17X22.5 (1 PAIR)	2	FOR SUI

PARTS

G 23UA2

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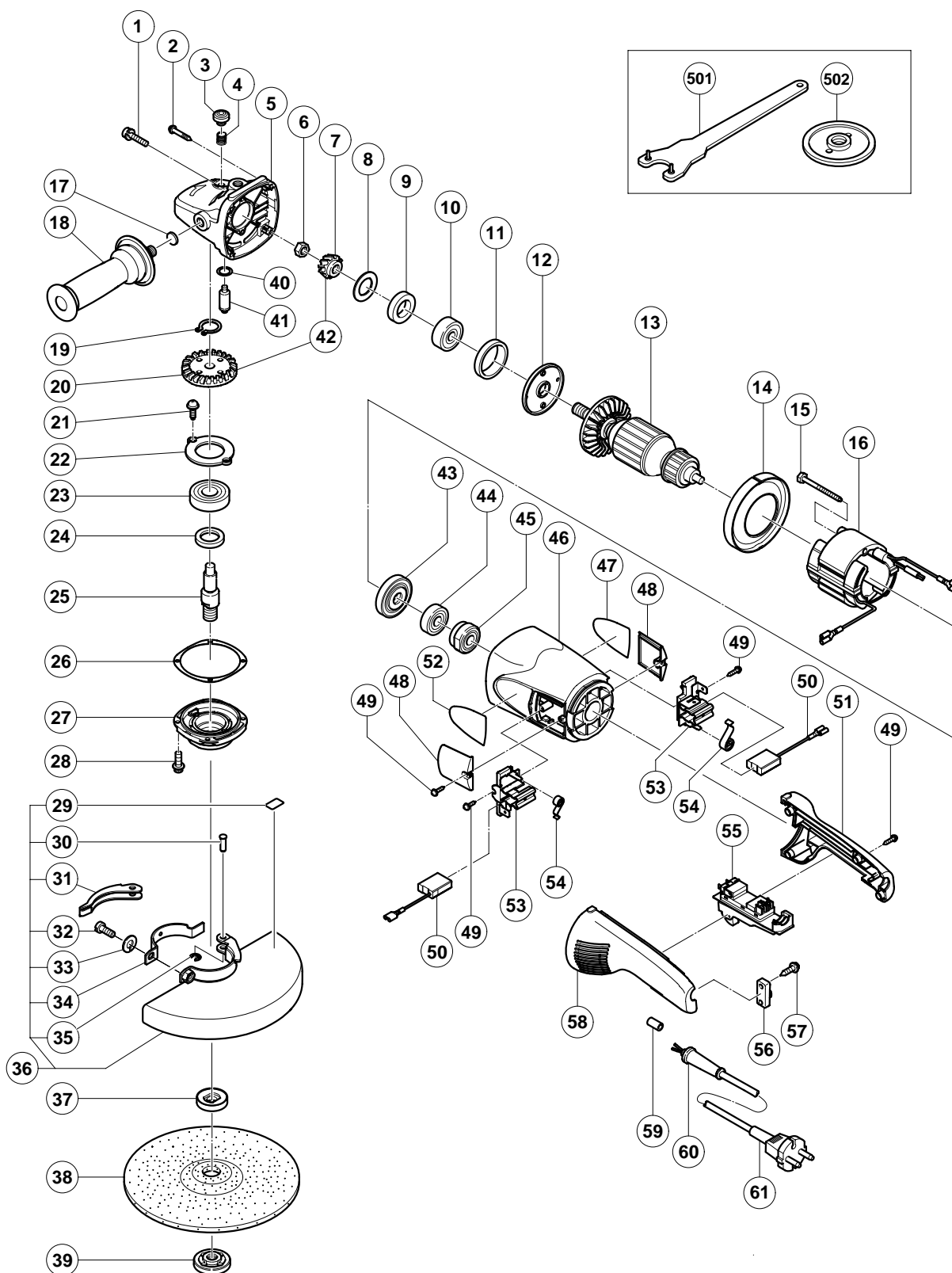
G 23UA2

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ELECTRIC TOOL PARTS LIST

■ DISC GRINDER
Model G 23SE2

2002・11・30
(E1)



PARTS

G 23SE2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD. 3, 4, 17, 40, 41	
6	320-226	SPECIAL NUT M10	1		
7	320-225	PINION	1		
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
* 13	360-594E	ARMATURE 220V-230V	1		
* 13	360-594F	ARMATURE 240V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
* 16	340-546E	STATOR 220V-230V	1		
* 16	340-546F	STATOR 240V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
20	320-224	GEAR	1		
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
25	320-234	SPINDLE	1		
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-547	WHEEL GUARD ASS'Y	1	INCLUD. 29-35	
* 37	937-907Z	WHEEL WASHER (A)	1		
* 37	937-908Z	WHEEL WASHER (B)	1	FOR NZL, AUS	
* 38	316-825	D. C. WHEELS 230MM A24R (25 PCS.)	1	FOR NZL, AUS, SAF	
39	937-909Z	WHEEL NUT M14X2	1		
40	320-218	O-RING	1		
41	306-890	LOCK PIN	1		
42	320-223	GEAR AND PINION ASS'Y	1	INCLUD. 7, 20	
43	320-216	DUST SEAL	1		
44	600-0VV	BALL BEARING 6000VVCMP2L	1		
45	321-536	BEARING BUSHING	1		
46	321-535	HOUSING ASS'Y	1	INCLUD.45	
* 47		NAME PLATE	1		
48	320-232	BRUSH COVER	2		

PARTS

G 23SE2

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STANDARD ACCESSORIES

G 23SE2

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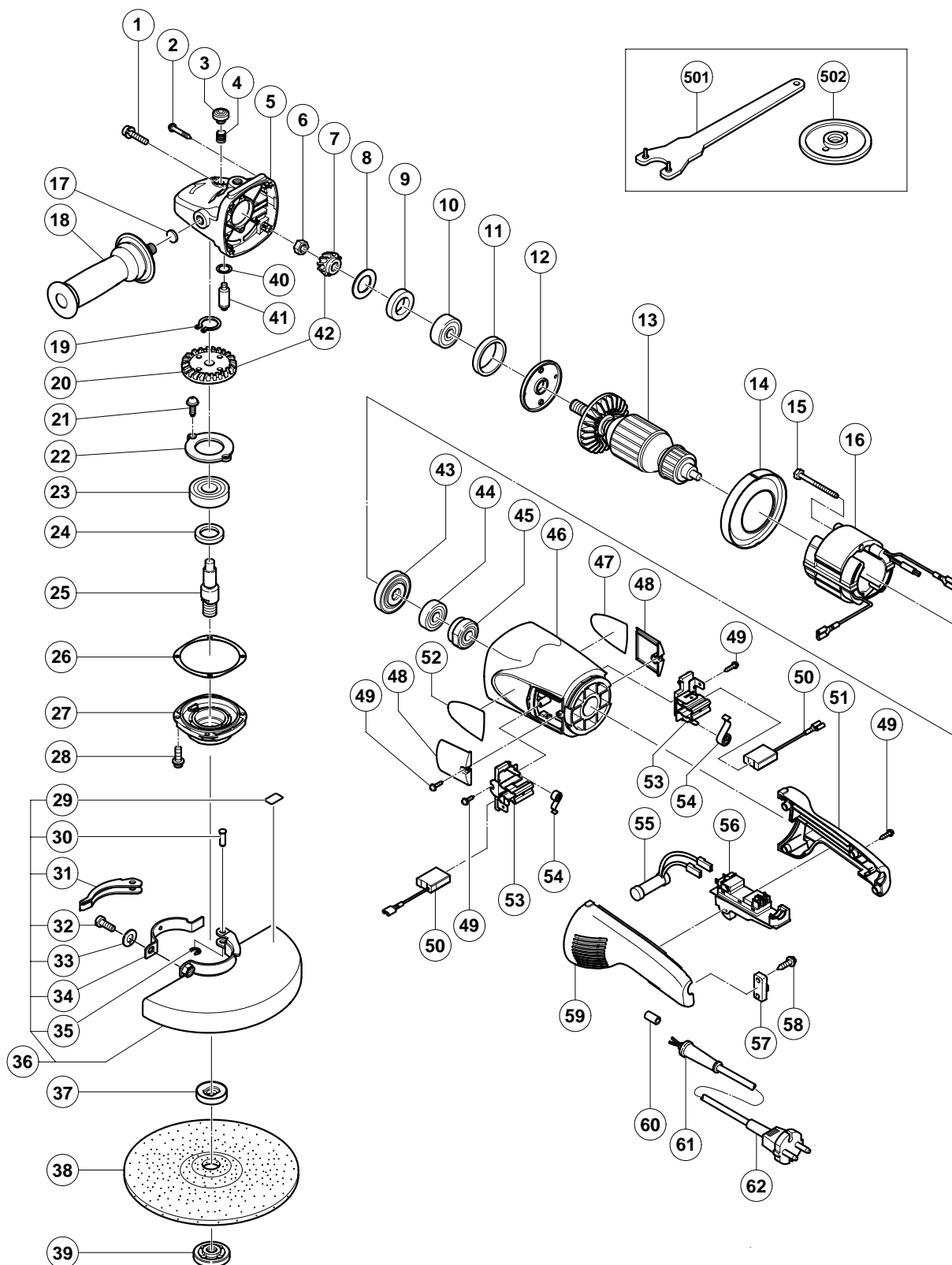
OPTIONAL ACCESSORIES

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ELECTRIC TOOL PARTS LIST

DISC GRINDER Model G 23UB2

2002 • 11 • 30
(E1)



PARTS

G 23UB2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
1	315-636	SEAL LOCK SCREW (W/SP.WASHER) M5X14 (BLACK)	2		
2	301-654	TAPPING SCREW (W/FLANGE) D5X35	4		
3	306-888	PUSHING BUTTON	1		
4	320-219	SPRING	1		
5	320-217	GEAR COVER ASS'Y	1	INCLUD. 3, 4, 17, 40, 41	
6	320-226	SPECIAL NUT M10	1		
7	320-225	PINION	1		
8	320-221	SEAL WASHER	1		
9	320-222	FELT PACKING	1		
10	630-1DD	BALL BEARING 6301DDCMPS2L	1		
11	994-208	RUBBER RING (B)	1		
12	320-220	BEARING COVER (A)	1		
* 13	360-594U	ARMATURE ASS'Y 110V-120V	1	INCLUD. 9, 10, 43, 44	
* 13	360-594E	ARMATURE 220V-230V	1		
* 13	360-594F	ARMATURE 240V	1		
14	320-215	FAN GUIDE	1		
15	984-271	HEX. HD. TAPPING SCREW D5X75	2		
* 16	340-546C	STATOR 110V-120V	1		
* 16	340-546E	STATOR 220V-230V	1		
* 16	340-546F	STATOR 240V	1		
17	937-033	FELT WASHER	1		
18	321-542	SIDE HANDLE	1		
19	939-542	RETAINING RING FOR D12 SHAFT (10 PCS.)	1		
20	320-224	GEAR	1		
21	949-236	MACHINE SCREW M5X10 (10 PCS.)	2		
22	320-229	BEARING COVER (B)	1		
23	630-2DD	BALL BEARING 6302DDCMPS2L	1		
24	990-852	FELT PACKING (B)	1		
25	320-234	SPINDLE	1		
26	320-228	SEAL PLATE	1		
27	320-227	PACKING GLAND	1		
28	994-192	HEX. SOCKET HD. BOLT (W/FLANGE) M5X16	4		
29	311-492	LABEL	1		
30	321-546	SET PIN	1		
31	321-545	LEVER	1		
32	306-887	BOLT M8X22	1		
33	949-457	SPRING WASHER M8 (10 PCS.)	1		
34	321-544	SET PIECE	1		
35	673-489	RETAINING RING (E-TYPE) FOR D5 SHAFT	1		
36	321-547	WHEEL GUARD ASS'Y	1	INCLUD. 29-35	
* 37	937-907Z	WHEEL WASHER (A)	1		
* 37	937-908Z	WHEEL WASHER (B)	1	FOR AUS	
* 38	316-825	D. C. WHEELS 230MM A24R (25 PCS.)	1	FOR AUS	
39	937-909Z	WHEEL NUT M14X2	1		
40	320-218	O-RING	1		
41	306-890	LOCK PIN	1		
42	320-223	GEAR AND PINION ASS'Y	1	INCLUD. 7, 20	
43	320-216	DUST SEAL	1		
44	600-0VV	BALL BEARING 6000VVCMP2L	1		
45	321-536	BEARING BUSHING	1		
46	321-535	HOUSING ASS'Y	1	INCLUD. 45	

PARTS

G 23UB2

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G 23UB2

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