D

MODELS D 10VF

**D 10VG** 

**D 13VF** 

**D 13VG** 

# HITACHI POWER TOOLS

10 mm DRILLS D 10VF

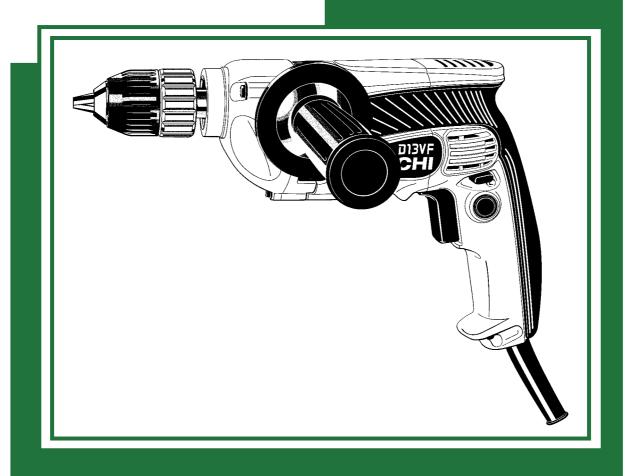
**D 10VG** 

13 mm DRILLS D 13VF

**D 13VG** 

**Except USA and Canada** 

TECHNICAL DATA AND SERVICE MANUAL



LIST Nos. 0194, 0195, 0196, 0197

Aug. 2001

## Notice for use

Specifications and parts are subject to change for improvement.

Refer to Hitachi Power Tool Technical News for further information.

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#### 1. PRODUCT NAME

Hitachi 3/8" (10 mm) Drills, Model D 10VF

Model D 10VG

Hitachi 1/2" (13 mm) Drills, Model D 13VF

Model D 13VG

#### 2. MARKETING OBJECTIVE

The new drill series Models D 10VF, D 10VG, D 13VF and D 13VG have the high torque, powerful motor and attractive ergonomic-design as its main design concept.

This drill series is divided into two groups according to the drill chuck capacities. The Models D 10VF and D 10VG have the drill chuck capacity of 3/8" (10 mm) and the Models D 13VF and D 13VG have the drill chuck capacity of 1/2" (13 mm). Each drill is provided with the function to select switch the drilling speed between HIGH and LOW, and is selectable either keyless chuck type or keyed chuck type to meet various market demands.

The outstanding features are as follows:

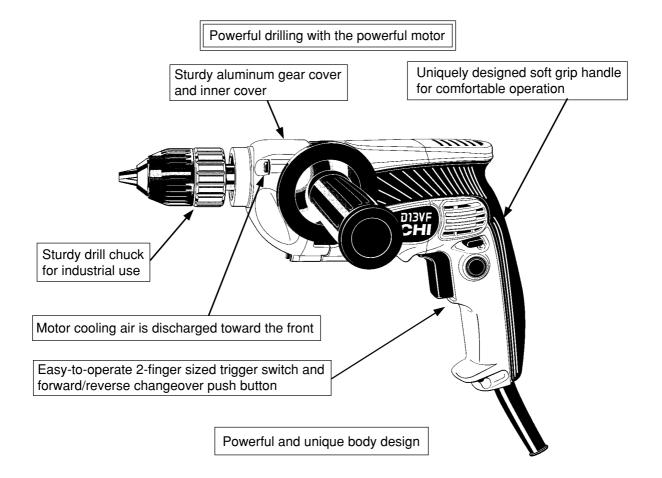
- (1) Powerful high performance motor
- (2) Uniquely designed soft grip handle
- (3) Sturdy aluminum gear cover and inner cover
- (4) Large 2-finger sized trigger switch

Hook (A) and the angle attachment ass'y (D 13VF and D 13VG only) are available as optional accessories.

#### 3. APPLICATIONS

Drilling into metal, wood and plastic

#### 4. SELLING POINTS



## 4-1. Selling Point Descriptions

### (1) Powerful drilling

The rated input of the motor is 710 W, and its maximum output is 750 W. This motor is one of the most powerful in the class and various materials can be efficiently drilled by its power.

#### (2) Uniquely designed soft grip handle

Most drills featuring a soft grip handle are covered with soft materials at the handle portion only. These models, however, are widely covered with soft materials from the handle to the housing to ensure a non-slip grip of the handle even if it is held in various ways.

#### (3) Motor cooling air is discharged toward the front

These models are so constructed that the motor cooling air is discharged toward the front using the newly designed fan guide. Operators can perform drilling work without concern for the discharged air.

## **5. SPECIFICATIONS**

## 5-1. Specifications

Capacities	Ctool			D 10VG	D 13VF	D 13VG				
		Twist bit	10 mm (3/8")	10 mm (3/8")	13 mm (1/2")	13 mm (1/2")				
		Hole saw	NA	38 mm (1-1/2")	51 mm (2")	70 mm (2-3/4")				
	Wood	Flat spade bit	25 mm (1")	32 mm (1-1/4")	40 mm (1-9/16")	40 mm (1-9/16")				
		Auger bit	NA	NA	32 mm (1-1/4")	38 mm (1-1/2")				
		Hole saw	29 mm (1-1/8")	70 mm (2-3/4")	102 mm (4")	114 mm (4-1/2")				
Drill chuck		Mount type		UNF 1/	/2" - 20					
		Capacity	0.8 mm 10 mi	m (1/32" — 3/8")	1.5 mm — 13 mi	m (1/16" 1/2")				
Type of motor	or		AC	single phase serie	es commutator mo	otor				
Enclosure			Grip cover: Glas	Housing and handle: Glassfiber reinforced polyamide resin Grip cover: Glassfiber reinforced polypropylene resin + elastomer Gear cover and inner cover: Aluminum alloy die casting						
Type of swite	ch		Variable speed control trigger switch with reversing switch							
Power source	е		AC single phase 50/60 Hz							
Rated voltag	je (by areas	)	(110, 220, 230, 240 V)							
Power input				710	<b>W</b> *1					
Power outpu	ıt	Full-load	380 W							
		Max.	750 W							
Speed		No-load	0 — 3,000/min.	0 1,200/min.	0 — 850/min.	0 — 600/min.				
		Full-load	1,840/min.	790/min.	620/min.	380/min.				
Weight	vith	Net (without cord)	1.8 kg	1.9 kg	2.1 kg	2.1 kg				
k	keyed chuck	Gross	3.4 kg	3.5 kg	3.7 kg	3.7 kg				
v	vith	Net (without cord)	1.8 kg	1.9 kg	2.0 kg	2.0 kg				
k	eyless chuck	Gross	3.4 kg	3.5 kg	3.6 kg	3.6 kg				
Packaging			Plast	ic case (in corruga	ated cardboard sle	eeve)				
Cord				2-core cabtir	e cord 2.5 m					
Standard ac	cessories		Chuck wrench···· 1*2	Side handle ··· 1	Side handle ··· 1	Side handle ··· 1				
			Plastic case ··· 1	Chuck wrench···1*2	Chuck wrench··· 1*2	Handle joint ··· 1				
				Plastic case ··· 1	Plastic case ··· 1	Chuck wrench····1*2				
						Plastic case ··· 1				

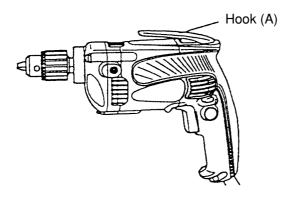
<sup>\*1</sup> Power input is subject to change by areas.

 $<sup>^{\</sup>star_2}$  Spec. only for the keyed chuck.

## 5-2. Optional Accessories

<For all models>

• Hook (A) (Code No. 317676)



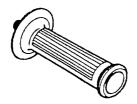
\* To attach Hook (A), it is necessary to disassemble the handle portion which covered the tool's electrical system.

For customers continued safety and electrical shock protection, installing Hook (A) on this drill should ONLY be performed by a HITACHI AUTHORIZED SERVICE CENTER.

For attaching procedure of Hook (A), refer to "7-4. Attaching Hook (A)" in this manual.

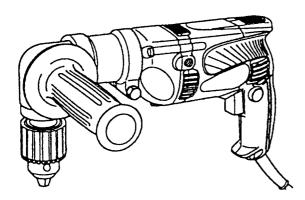
## <For D 10VF>

• Side handle (Code No.981205)



#### <For D 13VF and D 13VG>

• Angle attachment ass'y (Code No. 319528)



Used extensively for drilling between joints, studding, in tight corners or in close quarters on machinery and equipment. Provides two additional drilling speeds.

- Chuck transferred from drill to LOW spindle of angle unit, the drilling speed is decreased to about 70% and the drilling torque increased to about 150%.
- Chuck transferred to HIGH spindle of angle unit, the drilling speed is increased to about 150% and the drilling torque decreased to about 70%.

The table below shows the drilling capacities when attaching the angle attachment ass'y.

Model			D 1	3VF	D 13VG		
Speed of and	Speed of angle unit			OW (650/min.) HIGH (1350/min.)		HIGH (900/min.)	
Capacities	Steel	Twist bit	st bit 13 mm (1/2") 13 mm (1/2")		13 mm (1/2")	13 mm (1/2")	
		Hole saw	64 mm (2-1/2")	32 mm(1-1/4")	70 mm (2-3/4")	51 mm (2")	
	Wood Flat spade bit		40 mm (1-9/16")	32 mm (1-1/4")	40 mm (1-9/16")	40 mm (1-9/16")	
		Auger bit	38 mm(1-1/2")	29 mm (1-1/8")	38 mm(1-1/2")	32 mm (1-1/4")	
		Hole saw	114 mm(4-1/2")	64 mm (2-1/2")	114 mm (4-1/2")	102 mm (4")	

For attaching procedure of the angle attachment ass'y, refer to "7-5. Attaching Angle Attachment Ass'y" in this manual.

## 6. COMPARISONS WITH SIMILAR PRODUCTS

## 6-1. Specification Comparisons

## < D 10VF >

				HITA	CHI	BOSCH	MAKITA	METABO	DEWALT
				D 10	)VF	GBM10RE	6480	BE560	DW221
Capacities	Steel	Twist bit	mm (in. )	10 (3	3/8")	10	10	10	10
		Hole saw		N	R				
	Wood	Flat spade bit	mm (in.)	25	(1")	25	25	20	25
		Auger bit		NR					
		Hole saw		70 (2	2-3/4")				
Rated power	er input		W	71	0*1	450	480	560	701
No-load speed			/min.	0 - 3	000	0 - 2200	0 - 2500	0 - 2800	0 - 2500
Max. power	Max. power output			750			_	_	_
Max. torque	)		N∙m	16.	8	6.0	_	_	13.8
No-load sou	und pre	ssure level	dB	78.0			_	_	_
Gear train				Single		Single	Single	Single	Double
Material of	gear co	over		Alumi	inum	Plastic	Plastic	Plastic	Aluminum
Soft grip ha	andle					×	×	×	0
Two-finger	trigger					0	0	0	0
Side handle	е			Opt	ional	Optional	×	Optional	×
Type of dril	Type of drill chuck			Keyed	Keyless	Keyless	Keyless	Keyless	Keyless
Spindle lock					×	×	×	×	0
Overall length m		mm	263	265	279	261	<del>-</del>		
Net weight			kg	1.8	1.8	1.4	1.4	1.7	1.6

<sup>\*1</sup> Power input is subject to change by areas.
\*2 Factory test result

## < D 10VG >

				HITA	ACHI	BOSCH	MAR	(ITA	DEWALT	
				D 10	OVG	GBM10-2RE	DP3002	DP3003	DW226	
Capacities	Steel	Twist bit	mm (in. )	10 (	3/8")	10/6	10		10	
		Hole saw		38 (*	1-1/2")					
	Wood	Flat spade bit	mm (in.)	32 (1	I-1/4")	25/15	32	2	30	
		Auger bit	, ,	N	R					
		Hole saw		29 (1	-1/8")					
Rated power	Rated power input			71	0*1	500	71	0	701	
No-load spe	eed		/min.	0 - 1200		0 - 1150/0 - 2100			0 - 1200	
Max. power	output	İ	W	75	0		67	670* <sup>2</sup> —		
Max. torque	)		N∙m	38	.9	9.5/5.0	36	.0	27.1	
No-load sou	und pre	ssure level	dB	78	.0	80.4*2	78	.3*2	_	
Gear train				Do	uble	Double (2-speed)	Dou	ıble	Double	
Material of	gear co	over		Alum	inum	Plastic	Alum	inum	Aluminum	
Soft grip ha						X		)	0	
Two-finger	trigger				)	0	C	)	0	
Side handle	е					0		)	0	
Type of dril	f drill chuck			Keyed	Keyless	Keyless	Keyed	Keyless	Keyless	
Spindle lock				×	X		×	0		
Overall length		mm	276	278	309	304 296		_		
Net weight	Net weight		kg	1.9	1.9	1.8	2.0	1.8	1.9	

<sup>\*1</sup> Power input is subject to change by areas.
\*2 Factory test result

## < D 13VF >

				HITA	CHI	BOSCH	MAł	<ita< th=""><th>METABO</th><th>DEWALT</th></ita<>	METABO	DEWALT
				D 13	3VF	GBM13-2RE	DP4000	DP4001	BE532S-R+L	DW236
Capacities	Steel	Twist bit	mm (in. )	13 (	1/2")	13/8	1:	3	13	13
		Hole saw		51	(2")					
	Wood	Flat spade bit	mm (in.)	40 (1	-9/16")	32/20	3	8	30	30
		Auger bit		32 (	1-1/4")					
		Hole saw		102	(4")					
Rated power	er input		W	71	0* <sup>1</sup>	550	7!	50	520	701
No-load sp	No-load speed			0 - 8	350	0 - 1000/0 - 1900	0 -	900	0 - 1000	0 - 850
Max. power	output		W	750		_	750* <sup>2</sup>			_
Max. torque	)		N∙m	50.	0	11.5/6.0	51	.0		35.8
No-load so	und pre	ssure level	dB	78.0		81.9* <sup>2</sup>	78.9* <sup>2</sup>		78.4* <sup>2</sup>	83.5* <sup>2</sup>
Gear train				Double		Double (2-speed)	Triple		Double	Double
Material of	gear co	over		Alum	inum	Plastic	Alum	inum	Aluminum	Aluminum
Soft grip ha	andle					×			×	0
Two-finger	trigger				)	0		)	0	0
Side handle	е					0		)	0	0
Type of drill chuck				Keyed	Keyless	Keyless	Keyed	Keyless	Keyless	Keyless
Spindle loc	Spindle lock				×	×		×	×	0
Overall len	Overall length mn		mm	287	290	332	304	308	294	_
Net weight	veight kç		kg	2.1	2.0	2.0	2.2	2.0	1.7	1.9

 $<sup>^{\</sup>star 1}$  Power input is subject to change by areas.  $^{\star 2}$  Factory test result

## < D 13VG >

				HITA	CHI	BOSCH	MAI	<ita< th=""><th>METABO</th><th>DEWALT</th></ita<>	METABO	DEWALT
				D 13	3VG	GBM13HRE	DP4002	DP4003	BE622S-R+L	DW246
Capacities	Steel	Twist bit	mm (in. )	13 (	1/2")	13	1:	3	16	13
· .		Hole saw		70 (2	2-3/4")					
	Wood	Flat spade bit	mm (in.)	40 (1	-9/16")	40	3	8	40	30
		Auger bit	, ,	38 (1-1/2")						
		Hole saw		114 (4	1-1/2")					
Rated power	er input		W	71	0*1	550	7!	50	620	701
No-load spe	No-load speed			0 - 6	600	0 - 550	0 -	600	0 - 550	0 - 600
Max. power	output		W	750		_	750* <sup>2</sup>			_
Max. torque	)		N∙m	78.7		40.0	73.0			57.3
No-load sou	und pre	ssure level	dB	78.0		81.9* <sup>2</sup>	78.9* <sup>2</sup>		79.6* <sup>2</sup>	_
Gear train				Doı	uble	Triple	Tri	ole	Triple	Triple
Material of	gear co	over		Alum	inum	Plastic	Alum	inum	Aluminum	Aluminum
Soft grip ha	andle					×			×	0
Two-finger	trigger				)	0		)	0	0
Side handle	е					0		)	0	0
Type of dril	I chuck			Keyed	Keyless	Keyed	Keyed	Keyless	Keyed	Keyless
Spindle loc	k	·			×			×		0
Overall leng	Overall length n		mm	287	290	295	304	308	291	_
Net weight			kg	2.1	2.0	2.1	2.2	2.0	2.1	2.0

<sup>\*1</sup> Power input is subject to change by areas.
\*2 Factory test result

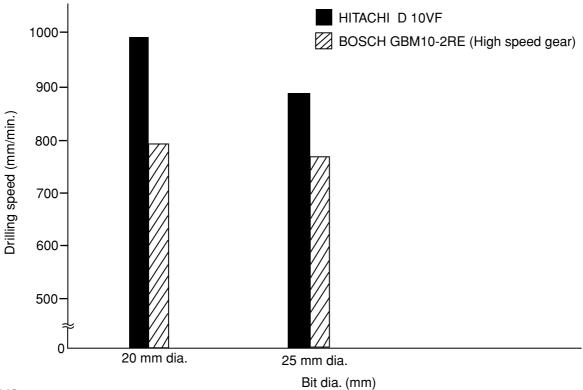
## 6-2. Drilling Speed Comparisons

Drilling speed depends on the operating conditions. The following test results are based on actual factory tests, and should be used as a reference only.

### < D 10VF>

Flat spade bit

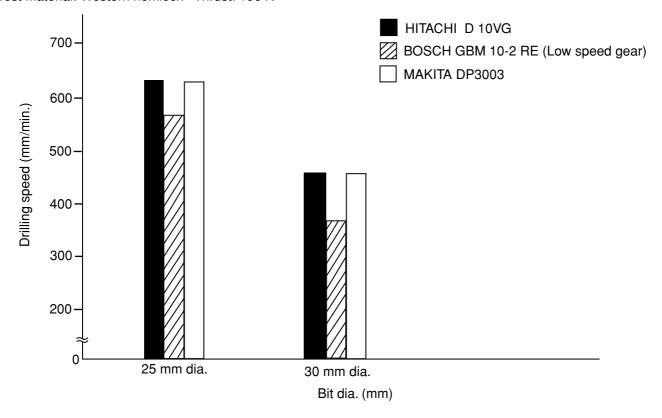
Test material: Western hemlock Thrust: 196 N



### < D 10VG>

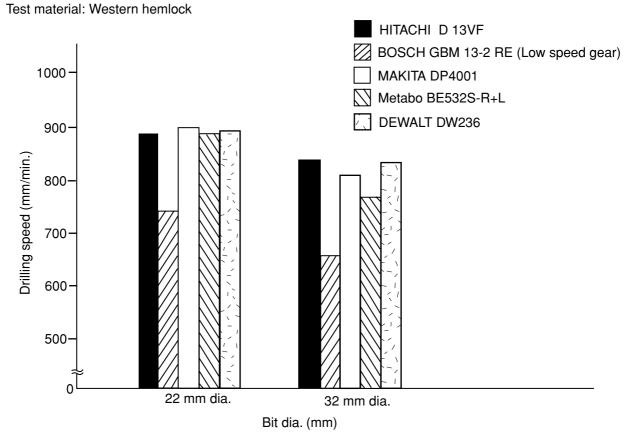
• Flat spade bit

Test material: Western hemlock Thrust: 196 N



## < D 13VF>

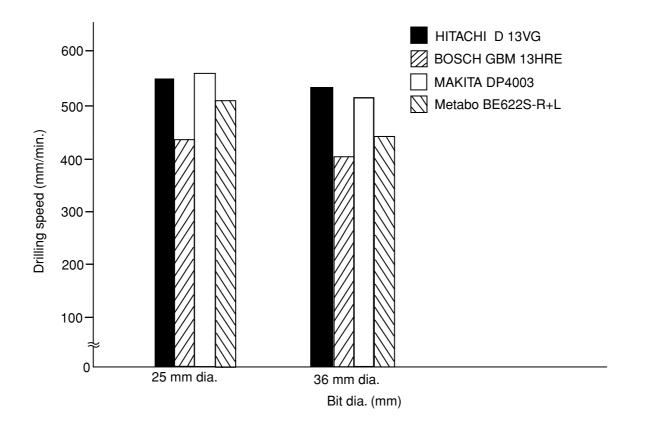
Auger bit



## < D 13VG>

· Auger bit

Test material: Western hemlock



#### 7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Models D 10VF, D 10VG, D 13VF and D 13VG Drills by all of our customers, it is very important that at the time of sales 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 attached to each tool.

#### 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 Drills are listed in the Handling Instructions to enhance the safe, 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 Plate

The following basic safety precautions are listed on the Caution Plate attached to the main body of each tool.

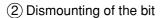
#### CAUTION

• Read thoroughly HANDLING INSTRUCTIONS before use.

These precautions are not listed on the Name Plates of the products destined for Europe.

#### 7-3. Precautions on Usage

- (1) Keyless chuck
- 1 Mounting of the bit
- Open the chuck jaws, and insert the bit into the chuck. To open the chuck jaws, hold the ring while turning the sleeve in the counterclockwise direction (viewed from the front side).
- Firmly grasp the ring and turn the sleeve in the clockwise direction. Tighten securely. (Fig. 1)



- To remove the bit, firmly grasp the ring and turn the sleeve in the counterclockwise direction. (Fig. 1)
- If it is hard to loosen the sleeve, fix the spindle using the open-end wrench, hold the sleeve firmly, and turn it in the loosening direction (counterclockwise when viewed from the front). (Fig. 2)

#### (2) Side handle

#### For D 10VG and D 13VF

A side handle is supplied with drill.

It can be installed on either side of the tool for right or left handed use.

To install the side handle, thread it into the socket on the desired side of the tool and tighten it securely. (Fig. 3)

#### For D 13VG

A side handle and a handle joint are supplied with drill. The large torque of the motor for this drill can result in considerable reaction to your arms during drilling work. Accordingly, make absolutely sure before use that the side handle and the handle joint are completely installed. (Fig. 4)

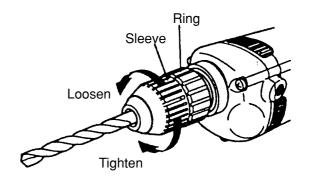


Fig. 1

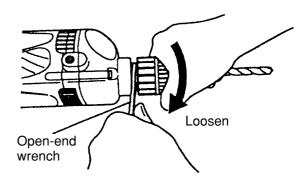


Fig. 2

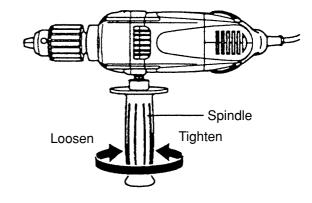


Fig. 3

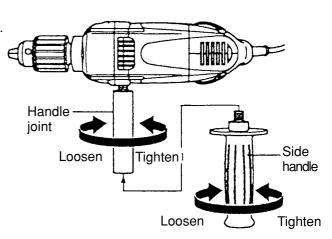


Fig. 4

#### 7-4. Attaching Hook (A)

The numbers in the descriptions below correspond to the item numbers in the Parts List and exploded assembly diagram. The **Bold** numbers are for the Model D 10VF, the **Bold** numbers for the Model D 10VG, the **[Bold]** numbers for the Model D 13VF, and the **<Bold>** numbers for the Model D 13VG.

- (1) Loosen the Screws (Plastic Tie) D4 x 25 (27) [31] [31] <31>, and remove the Grip Cover (26) [30] [30] <30>.
- (2) Loosen the Tapping Screws (W/Flange) D4 x 35 **24 28 [28] <28>**, Tapping Screw (W/Flange) D4 x 20 (Black) **25 29 [29] <29>**, and remove Handle (A) **29 33 [33] <33>**.
- (3) Insert the mounting foot of Hook (A) into the air vent of Handle (B) 23 27 [27] <27> as shown in Figs. 6 and 7.
- (4) Mount Handle (A) 29 33 [33] <33> and the Grip Cover 26 30 [30] <30>.

Refer to "8-2-3. Tightening torque" for tightening torque of each screw. Be careful not to catch the internal wires when mounting Handle (A).

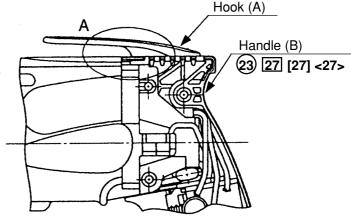


Fig. 5

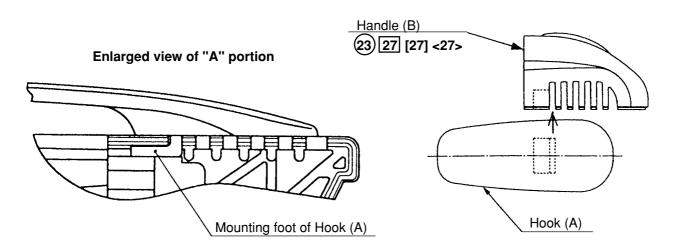


Fig. 6 Fig. 7

#### 7-5. Attaching Angle Attachment Ass'y

- (1) Removing the drill chuck from drill (Refer to section 8-1-2.)
- (2) Attaching the angle unit
- O After removing the chuck, engage the coupling to the drill spindle. Fit the joint sleeve to the gear cover, attach the angle unit to the other end of the joint sleeve, and turn the angle unit slightly in either direction so the hex. hole in the coupling engages the hex. portion of the angle unit spindle. Adjust the direction of the angle unit and tighten the joint sleeve by clamping bolts. Tighten two clamping bolts equally and gradually in turn with a torque of 6.86—7.84 N·m (extent of force which can be subjected by only a wrist with the open end wrench provided to tighten clamping bolts). (Fig. 8)
- O To operate the angle unit at low speed, attach the chuck to the angle unit spindle at the side marked "LOW" and secure the locking screw. At this setting, the drilling speed is decreased to about 70% and the drilling torque increased to about 150%. (Fig. 9)
- O To operate the angle unit at high speed, attach the chuck to the angle unit spindle at the side marked "HIGH" and secure the locking screw. At this setting, the drilling speed is increased to about 150% and the drilling torque decreased to about 70%. (Fig. 10)
- (3) Installing the side handle (Fig. 11)
  The side handle can be installed on either side of the angle unit for right or left handed use. To install the side handle, thread it into the socket on the desired side of the angle unit and tighten it securely.

Refer to section 8-1-4 for removal of the drill chuck from the angle unit.

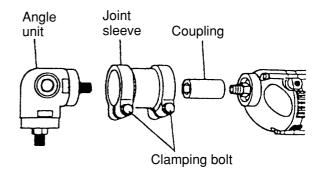


Fig. 8

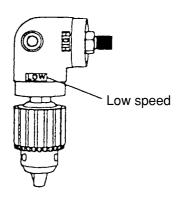


Fig. 9

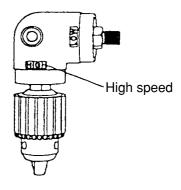


Fig. 10

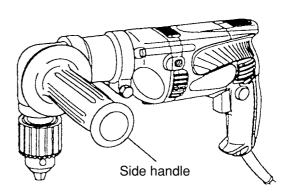


Fig. 11

#### 8. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The numbers in the descriptions below correspond to the item numbers in the Parts List and exploded assembly diagram. The **Bold** numbers are for the Model D 10VF, the **Bold** numbers for the Model D 10VG, the **[Bold]** numbers for the Model D 13VF, and the **<Bold>** numbers for the Model D 13VG.

#### 8-1. Disassembly

#### 8-1-1. Motor section disassembly

- (1) Removal of the grip cover

  Loosen the Screws (Plastic Tie) D4x25 27 31 [31] <31>, and remove the Grip Cover 26 30 [30] <30>.
- (2) Removal of the handle
  Loosen the Tapping Screws (W/Flange) D4 x 35 24 28 [28] <28> and the Tapping Screw (W/Flange)
  D4 x 20 (Black) 25 29 [29] <29>, and remove Handle (A) 29 33 [33] <33> and Handle (B) 23 27 [27] <27>.
- (3) Removal of the carbon brushes

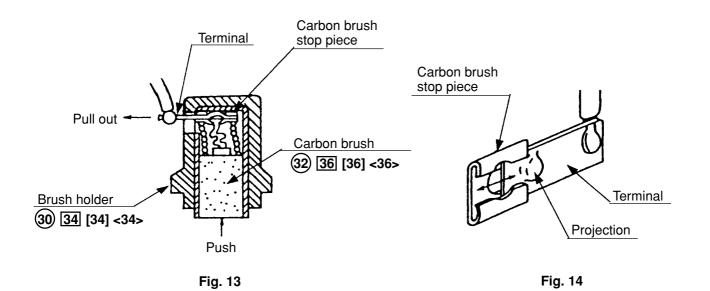
  Using a small-diameter bar, push the Brush Holders 30 34

  [34] <34> out of the hole at the lower portion of the Housing

  21 25 [25] <25>. (Fig. 12)

  Then, while pushing the Carbon Brushes 32 36 [36] <36>
  to the bottom of the Brush Holders, gently pull out and disconnect the internal wire terminals.

(See Figs. 13 and 14.)



Hole

Fig. 12

#### 8-1-2. Removal of the drill chuck

The Drill Chuck 4 4 [4] <4> is secured to the Spindle 5 5 [5] <5> with 1/2"-20UNF (Right Hand) and the Special Screw (Left Hand) M6 x 23 1 1 [1] <1>. At first, open the chuck jaw as far as possible and loosen the Special Screw by turning it clockwise.

a. Hold the drill so that only the Drill Chuck 4 4 [4] <4> rest firmly and squarely on the edge of a solid bench. Install the hex. bar wrench into the Drill Chuck. Turn the Drill Chuck until the wrench is at about a 30° angle to the bench top and strike the wrench sharply with a hammer so the drill chuck turns in the counterclockwise direction. (Fig. 15)

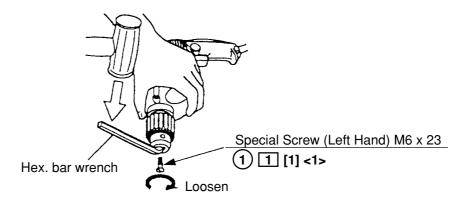


Fig. 15

If the Drill Chuck cannot be removed by striking the wrench, do not strike the wrench forcibly and try another way as follows.

b. Hold the Spindle 5 5 [5] <5> with the open-end wrench secured to the vise as shown in Fig. 16.

Mount the pipe to the hex. bar wrench. Turn the hex. bar wrench counterclockwise to loosen the drill chuck.

(Fig. 16)

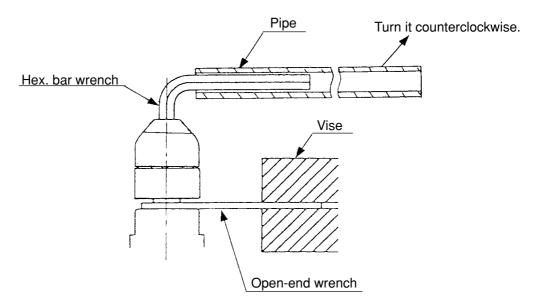


Fig. 16

## c. (For keyed chuck only)

Secure the drill chuck with a disassembly tool: Ring Ass'y and Ring (for 10 mm drill chuck: J-90, ring Code No. 970833, ring ass'y Code No. 970832) (for 13 mm drill chuck: J-78, ring Code No. 970818, ring ass'y Code No. 970817) to the drill chuck, which in proper sequence should be secured with a vise. Then fit a disassembly tool: Wrench Ass'y (J-140, Code No. 970921) to the spindle, and turn it counterclockwise to loosen the drill chuck. (Fig. 17)

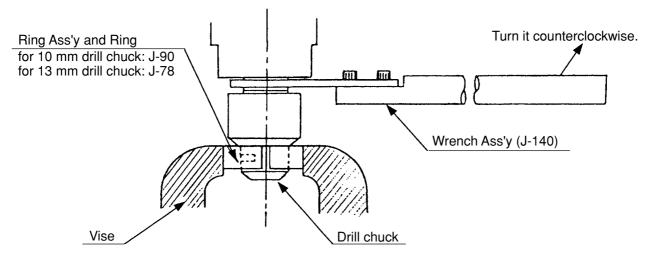


Fig. 17

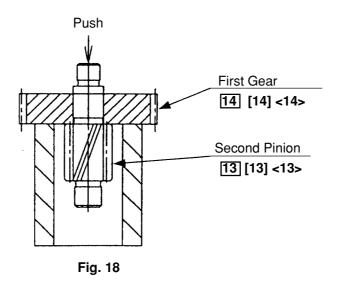
#### 8-1-3. Gear cover section disassembly

- (1) Removal of the second pinion (except the Model D 10VF)

  Second Pinion 13 [13] <13> can be removed by tapping the end of Gear Cover (A) 10 [10] <10>.
- (2) Disassembly of the second pinion

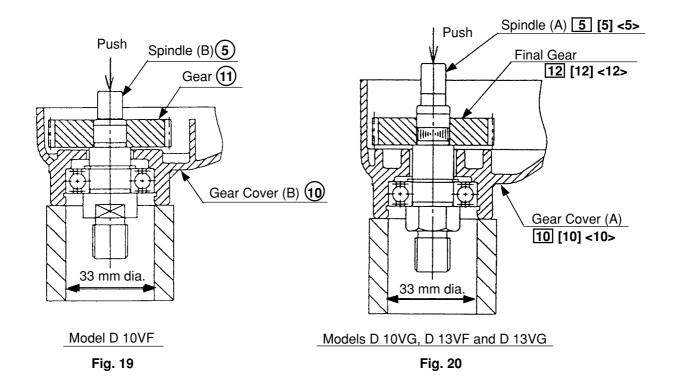
  Place the end surface of the First Gear 14 [14] <14> on a tubular jig and press down on the Second Pinion 13 [13] <13> with a hand press. (Fig. 18)

## < CAUTION > Be sure to replace both the second pinion and the first gear with new ones.



#### (3) Removal of the spindle

#### <CAUTION> Be sure to replace both the spindle and the gear or the final gear with new ones.



(4) Removal of the gear cover and the inner cover from the housing

Loosen the Tapping Screws D5 9 9 9 9 9 49>, 12 16 16 16 <16> and separate the Gear Cover 10 10 10 (10) <10>. Then, remove the Inner Cover 13 17 (17) <17> together with the Armature Ass'y 15 19 [19] <19> from the Housing 21 25 [25] <25>.

## (5) Removal of the armature ass'y from the inner cover

As illustrated in Fig. 21, support the Inner Cover (13) 17 [17] <17> with a tubular jig, and push down on the top of the pinion of the Armature Ass'y (15) 19 [19] <19>.

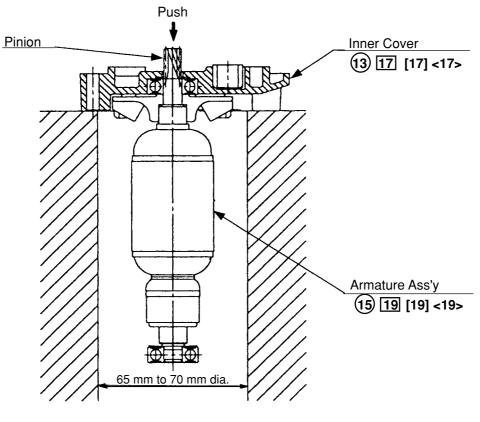


Fig. 21

### (6) Removal of the stator from the housing

First, disconnect the internal wires from the Switch 35 39 [39] <39>. To disconnect the internal wires from switch, insert a small flat-blade screwdriver into the windows near the terminals and pull out the internal wires. Remove the Hex. Hd. Tapping Screws D4 x 55 17 21 [21] <21> and tap the end surface of the Housing 21 [25] <25> slightly with a wooden hammer. Then the stator can be removed from the housing.

#### 8-1-4. Angle attachment ass'y (optional accessory) disassembly

#### (1) Removal of the drill chuck from the angle unit

The drill chuck can be removed from angle unit in the same manner it was removed from the drill; however, always remove angle unit from the drill before attempting to remove the drill chuck. This will prevent damage of drills gear. Use the Wrench [614] <614> (open-end) provided to hold the angle unit spindle before attempting to remove the drill chuck. (Fig. 22)

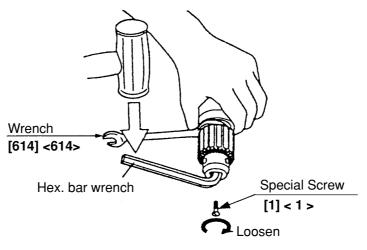


Fig. 22

If the drill chuck cannot be removed by striking the hex. bar wrench, do not strike the hex. bar wrench forcibly. Remove the drill chuck according to the procedure specified in section 8-1-2.

#### (2) Removal of gears and spindles from the angle unit

Remove the Retaining Rings [605] <605>, then tap the end of the Angle Head Ass'y [612] <612> to take out the spindle pinion ass'y and the Spindle and Gear Set [613] <613>.

To remove the Pinion [603] <603> and the Ball Bearing [604] <604> from the Spindle [607] <607>, place the end surface of the Ball Bearing [604] <604> on a tubular jig and press down on the Spindle [607] <607> with a hand press. (Fig. 23)

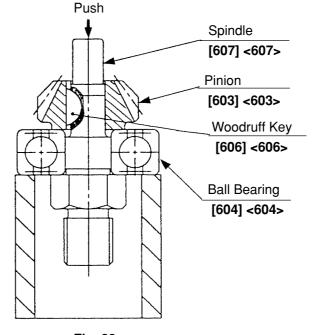


Fig. 23

#### 8-2. Reassembly

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

#### 8-2-1. Internal wire arrangement

- (1) Arrange the internal wires according to "8-4 Internal Wire Arrangement and Wiring Work".
- (2) Be careful not to catch the internal wires when mounting Handle (A).

#### 8-2-2. Lubrication

- (1) Apply SEP-3A Grease to the following portions.
  - < For Model D 10VF >
  - Teeth of the Armature Ass'y (15) (with a brush)
  - Teeth of the Gear (11)
  - Metal portion of the Inner Cover (13)
  - Inside of Gear Cover (B) (10): 5 g
  - < For Models D 10VG, D 13VF and D 13VG >
  - Teeth of the Armature Ass'y 19 [19] <19>
  - Teeth of the First Gear 14 [14] <14>
    - Second Pinion 13 [13] <13>
    - Final Gear 12 [12] <12>
  - Metal portion of the Inner Cover 17 [17] <17>
  - Inside of Gear Cover (A) 10 [10] <10>: 15 g
- (2) For the angle attachment ass'y ... Optional accessory

Apply Motor Grease No. 29 to the following portions.

• Inside of the Angle Head Ass'y [612] <612>: 15 g

#### 8-2-3. Tightening torque

(1) Special Screw (Left Hand) M6 (1) [1] [1] <1> 3.92 to 5.88 N·m
(2) Tapping Screw D4 <b>24 25 36 [28] [29] [40]</b>
[28] [29] [40] <28> <29> <40> ······ 1.47 to 2.45 N·m
(3) Screw (Plastic Tie) D4 27 31 [31] <31> 1.47 to 2.45 N·m
(4) Tapping Screw D5 9 12 9 16 [9] [16] <9> <16> ······ 2.45 to 3.43 N·m
(5) Drill Chuck 4 4 4 <4> 29.4 to 39.2 N·m
(6) Machine Screw M3 (Switch 35 39 [39] <39>) · · · · · · · · 0.39 to 0.78 N·m
(7) Bolt M8 <b>[610] &lt;610&gt;</b> 6.86 to 7.84 N·m
(For the Angle Attachment Ass'y Optional accessory)

## 8-3. Wiring Diagram

## Models D 10VF, D 10VG, D 13VF and D 13VG

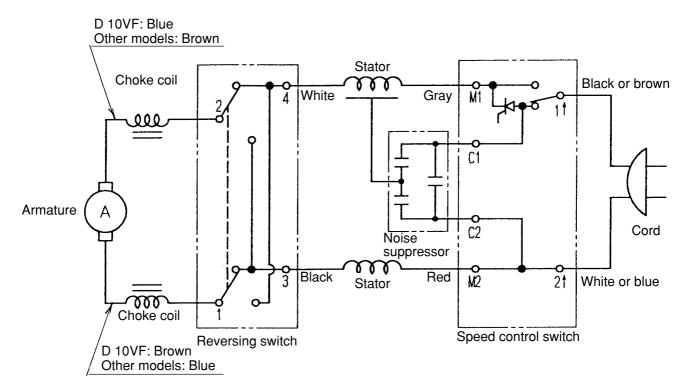


Fig. 24

### 8-4. Internal Wire Arrangement and Wiring Work

### A. Internal wire arrangement

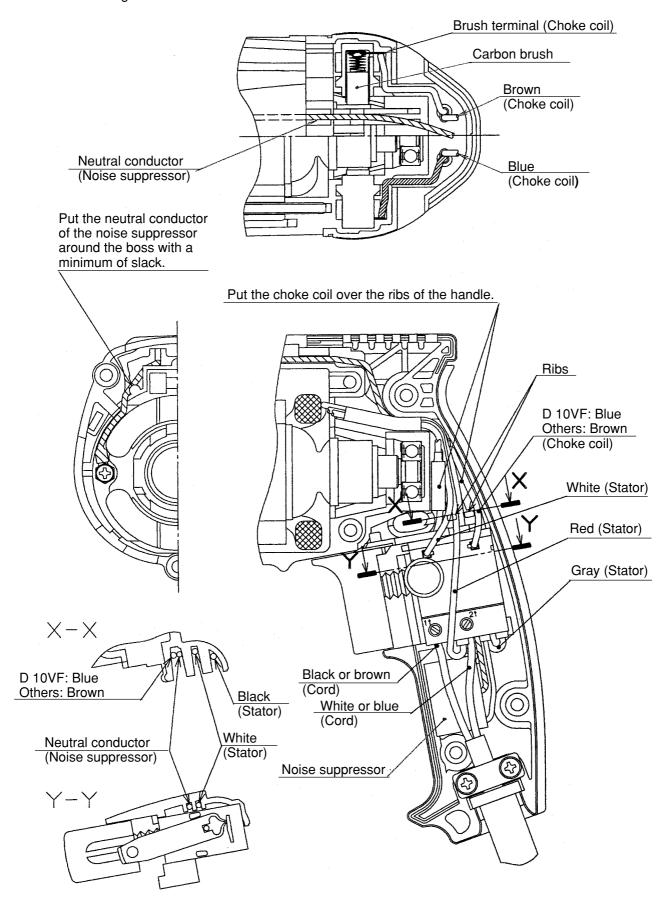


Fig. 25

### B. Switch connection

## (1) Wiring of reversing switch

<D 10VF>

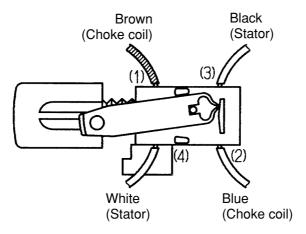


Fig. 26

## <D 10VG, D 13VF, D 13VG>

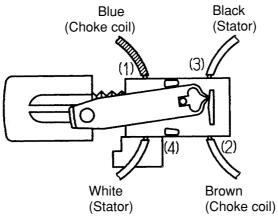


Fig. 27

## (2) Wiring of speed control switch

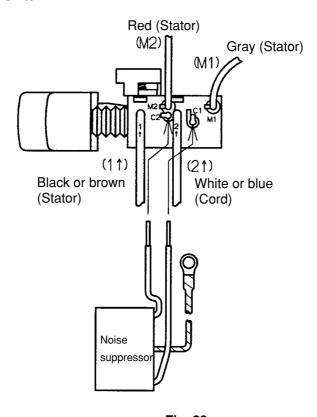


Fig. 28

#### 8-5. Insulation Tests

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

Insulation resistance: 7  $\mbox{M}\Omega$  or more with DC 500 V Megohm Tester

Dielectric strength: AC 4,000 V/1 minute, with no abnormalities 220 V - 240 V (and 110 V for U.K. products)

AC 2,500 V/1 minute, with no abnormalities 110 V - 127 V (except U.K. products)

### 8-6. No-Load Current Value

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

Voltage (V)	110	220	230	240
Current (A) Max.	3.0	2.0	2.0	2.0

# 9. STANDARD REPAIR TIME (UNIT) SCHEDULES

For Model D 10VF

MODEL	Variable Fixed	10	20	30	40	50	60 min.
MODEL  D 10VF		Handle (A) Handle (B) Switch Cord Pushing Button Carbon Brush x 2 pcs.		Housing Stator	40	50	60 min.

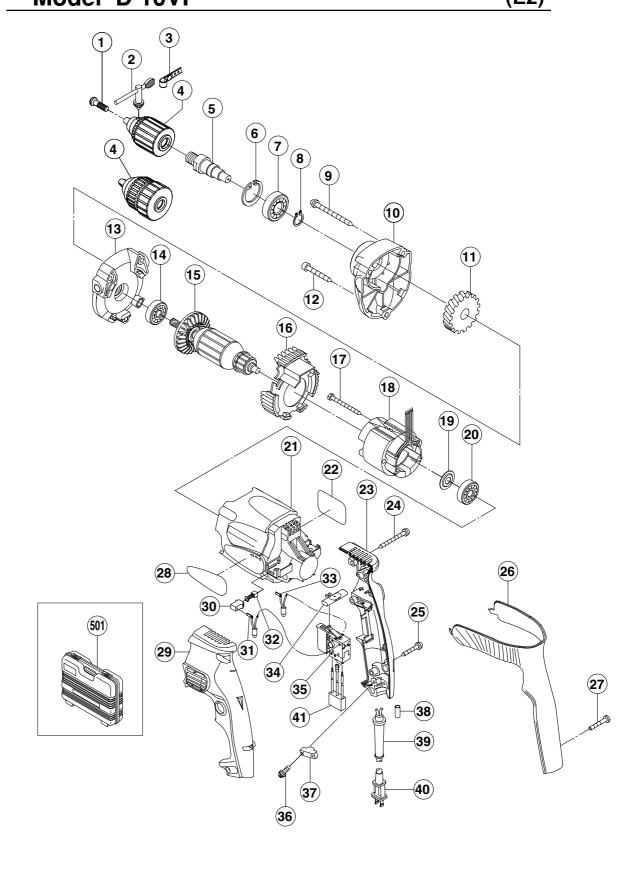
For Models D 10VG, D 13VF and D 13VG

MODEL	Variable Fixed	10	20	30	40	50	60 min.
MODEL  D 10VG  D 13VF  D 13VG		Handle (A) Handle (B) Switch Cord Pushing Button Carbon Brush x 2 pcs.	Armature Ass'y Ball Bearing (608VV) Ball Bearing (608DD) Inner Cover  Second Pinion First Gear Ball Bearing (627VV) Ball Bearing (606ZZ)  Gear Cover (A) Final Gear Spindle (A) Ball Bearing (6002VV)	Housing Stator	40	50	60 min.

LIST NO. 0194

# ELECTRIC TOOL PARTS LIST

**■ DRILL** 2001 · 8 · 21 **Model D 10VF** (E2)



PARTS D 10VF

ITEM   CODE NO.   DESCRIPTION   DESCRIPTIO	г		113				
2 319-529 CHUCK WRENCH 10VLR-J 1 1 1 1 39-528 VINYL BAND 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		I	CODE NO.	DESCTIPTION	1	REMARKS	
3   950-288		1	311-959	SPECIAL SCREW (LEFT HAND) M6X23	1		
4   319-342   DRILL CHUCK 10VLR-J   1   INCLUD.2		2	319-529	CHUCK WRENCH 10VLR-J	1		
# 4 319-343		3	950-288	VINYL BAND	1		
5 319-335 SPINDLE (B) 1 6 948-001 RETAINING RING FOR D32 HOLE 1 7 600-2V B ALL BEARING BO02VYCMPS2L 1 8 939-544 RETAINING RING FOR D15 SHAFT (10 PCS.) 1 9 317-449 TAPPING SCREW (W;FLANGE) D5X50 2 10 319-334 GEAR	*	4	319-342	DRILL CHUCK 10VLR-J	1	INCLUD.2	
6 948-001 RETAINING RING FOR D32 HOLE 1 7 600-2VV BALL BEARING G002VVCMPS2L 1 8 939-548 RETAINING RING FOR D15 SHAPT (10 PCS). 1 9 317-449 TAPPING SCREW (W/FLANGE) D5X50 2 10 319-334 GEAR COVER (B) 1 11 319-336 GEAR TAPPING SCREW D5X40 (BLACK) 1 13 319-333 INNER COVER 1 14 608-DDM BALL BEARING 608DDC2PS2L 1 15 360-542U ARMATURE ASSI'Y 110V-120V 1 INCLUD.14,19,20 ARMATURE 220V-230V 1 16 319-329 FAN GUIDE 1 17 981-421 HEX. HD. TAPPING SCREW D4X55 2 18 340-486C STATOR 120V 1 1 18 340-486C STATOR 120V 1 1 19 982-631 WASHER (A) 1 20 608-VVM BALL BEARING 608VVC2PS2L 1 1 21 319-328 HOUSING 1 1 22 NAME PLATE 1 1 23 319-331 HANDLE (B) 1 1 24 303-664 TAPPING SCREW (W/FLANGE) D4X35 2 25 301-653 TAPPING SCREW (W/FLANGE) D4X35 2 25 310-653 TAPPING SCREW (W/FLANGE) D4X35 2 26 319-332 GRIP COVER 1 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITCH LABEL 1 1 29 319-330 HANDLE (B) 1 1 29 319-331 HANDLE (B) 1 1 20 608-VVM BALL BEARING SCREW (W/FLANGE) D4X35 2 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITCH LABEL 1 1 29 319-337 CREW (PLASTIC TIE) D4X25 2 28 HITCH LABEL 1 1 29 319-330 HANDLE (A) 1 1 30 955-203 BRUSH HOLDER 2 2 31 319-331 HANDLE (B) 1 1 FOR USA,CAN 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	*	4	319-343	DRILL CHUCK 10VLRD-N (W/O CHUCK WRENCH)	1		
7   600-2VV   BALL BEARING 6002VVCMPS2L   1		5	319-335	SPINDLE (B)	1		
8 939-544 RETAINING RING FOR D15 SHAFT (10 PCS.) 1 9 317-449 TAPPING SCREW (W:FLANGE) D5X50 2 10 319-334 GEAR COVER (B) 1 11 319-335 GEAR 1 12 316-458 TAPPING SCREW D5X40 (BLACK) 1 13 319-333 INNER COVER 1 14 608-DDM BALL BEARING 608DDC2PS2L 1 15 360-542U ARMATURE ASS'Y 110V-120V 1 16 319-329 FAN GUIDE 1 17 981-421 HEX. HD. TAPPING SCREW D4X55 2 18 340-486C STATOR 120V 1 18 340-486D STATOR 120V 1 18 340-486D STATOR 120V 1 19 992-631 WASHER (A) 1 20 608-VVM BALL BEARING 608VVC2PS2L 1 21 319-328 HOUSING 1 22 NAME PLATE 1 23 319-331 HANDLE (B) 1 24 303-694 TAPPING SCREW (W:FLANGE) D4X35 2 25 301-653 TAPPING SCREW (W:FLANGE) D4X25 2 26 319-337 SCREW (PLASTIC TIE) D4X25 2 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HTACH LABEL 1 29 319-330 HANDLE (A) 1 31 320-204 CHOKE COIL (BLUE) 120V 1 51 FOR GBR (110V) 1 53 320-195 SWITCH (1P SCREW TYPE) W:LOCK 1 54 FOR NZALE POPEN SCREW (W:FLANGE) D4X30 1 55 320-195 SWITCH (1P SCREW TYPE) W:LOCK 1 56 FOR NZALE POPEN SCREW (W:FLANGE) D4X30 1 57 FOR NZALE POPEN SCREW (W:FLANGE) D4X25 1 58 319-331 HANDLE (A) 1 59 999-041 CARBON BRUSH (P BAIR) 2 50 999-041 C		6	948-001	RETAINING RING FOR D32 HOLE	1		
9 317-449 TAPPING SCREW (W/FLANGE) D5X50 2 10 319-334 GEAR COVER (B) 1 11 319-336 GEAR 1 12 316-458 TAPPING SCREW D5X40 (BLACK) 1 13 319-333 INNER COVER 1 14 608-DDM BALL BEARING 608DDC2PS2L 1 15 360-542U ARMATURE ASS'Y 110V-120V 1 INCLUD.14,19,20 16 319-329 FAN GUIDE 1 17 981-421 HEX. HD. TAPPING SCREW D4X55 2 18 340-486C STATOR 120V 1 1 18 340-486C STATOR 120V 1 1 18 340-486C STATOR 120V 1 1 19 982-631 WASHER (A) 1 1 20 608-VVM BALL BEARING 608VVC2PS2L 1 1 21 319-328 HOUSING 1 1 22 WASHER (A) 1 1 21 319-328 HOUSING 1 1 22 HANDLE (B) 1 1 23 319-331 HANDLE (B) 1 1 24 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 25 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 26 319-332 GRIP COVER 1 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITACH LABEL 1 1 29 319-330 GRIP COVER 1 1 31 320-204 CHOKE COIL (BLUE) 120V 1 1 FOR GBR (110V) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		7	600-2VV	BALL BEARING 6002VVCMPS2L	1		
10   319-334   GEAR COVER (B)   1   1   319-336   GEAR   1   1   319-336   GEAR   1   1   1   319-336   GEAR   1   1   1   319-338   INNER COVER   1   1   1   1   1   1   1   1   1		8	939-544	RETAINING RING FOR D15 SHAFT (10 PCS.)	1		
11   319-336   GEAR		9	317-449	TAPPING SCREW (W/FLANGE) D5X50	2		
12   318-358   TAPPING SCREW D5X40 (BLACK)   1   1   1   1   1   1   1   1   1		10	319-334	GEAR COVER (B)	1		
13   319-333   INNER COVER	L	11	319-336	GEAR	1		
14   608-DDM		12	316-458	TAPPING SCREW D5X40 (BLACK)	1		
15    360-542U   ARMATURE ASS'Y 110V-120V   1    INCLUD.14,19,20   1    15    360-542E   ARMATURE 220V-230V   1    16    319-329   FAN GUIDE   1    1    1    1    1    1    1		13	319-333	INNER COVER	1		
* 15 360-542E ARMATURE 220V-230V		14	608-DDM	BALL BEARING 608DDC2PS2L	1		
16	*	15	360-542U	ARMATURE ASS'Y 110V-120V	1	INCLUD.14,19,20	
17   981-421	*	15	360-542E	ARMATURE 220V-230V	1		
* 18 340-486C STATOR 120V		16	319-329	FAN GUIDE	1		
* 18 340-486D STATOR 120V 1 1  * 18 340-504E STATOR 230V-240V 1 1  19 982-631 WASHER (A) 1 1  20 608-VVM BALL BEARING 608VVC2PS2L 1 1  21 319-328 HOUSING 1 1  22 NAME PLATE 1 1  23 319-331 HANDLE (B) 1 1  24 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 2  25 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 1  26 319-332 GRIP COVER 1 1  27 319-337 SCREW (PLASTIC TIE) D4X25 2 2  BHITACHI LABEL 1 1  29 319-330 HANDLE (A) 1 1  30 995-203 BRUSH HOLDER 2 2  31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN 1 1 FOR USA,CAN,CBR (110V) 1 FOR NZL,EUROPE 1 1 FOR USA,CAN,CBR (110V) 1 FOR NZL,EUROPE 1 FOR NZL EUROPE 1 FOR NZL EUROPE 1 FOR NZL EUROPE 1 FOR		17	981-421	HEX. HD. TAPPING SCREW D4X55	2		
* 18 340-504E STATOR 230V-240V	*	18	340-486C	STATOR 120V	1		
19   982-631   WASHER (A)   1	*	18	340-486D	STATOR 110V	1		
20 608-VVM BALL BEARING 608VVC2PS2L 1 1 21 319-328 HOUSING 1 1 22 NAME PLATE 1 1 23 319-331 HANDLE (B) 1 24 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 2 25 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 26 319-332 GRIP COVER 1 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 2 319-337 SCREW (PLASTIC TIE) D4X25 2 2 319-330 HANDLE (A) 1 1 29 319-330 HANDLE (A) 1 1 29 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN 2 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR WAL,EUROPE 2 31 319-638 INTERNAL WIRE (BLUE) 110V 1 FOR GBR (110V) 2 32 999-041 CARBON BRUSH (1 PAIR) 2 2 4 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN 33 320-196 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) 33 320-196 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE 34 316-166 PUSHING BUTTON 1 FOR NZL,EUROPE 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE 36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2 39 953-327 CORD CIP 1 (CORD ARMOR D8.8) FOR USA,CAN 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN 5 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	18	340-504E	STATOR 230V-240V	1		
21 319-328 HOUSING 1 22 NAME PLATE 1 23 319-331 HANDLE (B) 1 24 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 25 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 26 319-332 GRIP COVER 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITACHI LABEL 1 29 319-330 HANDLE (A) 1 30 955-203 BRUSH HOLDER 2 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V) 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE 32 999-041 CARBON BRUSH (1 PAIR) 2 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) 33 320-196 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE 34 316-166 PUSHING BUTTON 1 FOR NZL,EUROPE 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE 36 37 937-631 CORD 1 FOR NZL,EUROPE 37 937-631 CORD CLIP 1 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1 (CORD ARMOR D8.8) FOR NZL		19	982-631	WASHER (A)	1		
22		20	608-VVM	BALL BEARING 608VVC2PS2L	1		
23 319-331 HANDLE (B) 1 24 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 25 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 26 319-332 GRIP COVER 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITACHI LABEL 1 29 319-330 HANDLE (A) 1 30 955-203 BRUSH HOLDER 2 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V) 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE 32 999-041 CARBON BRUSH (1 PAIR) 2 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) 4 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE 34 316-166 PUSHING BUTTON 1 5 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE 36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2 37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 FOR NZL		21	319-328	HOUSING	1		
24 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 25 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 26 319-332 GRIP COVER 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITACHI LABEL 1 29 319-330 HANDLE (A) 1 30 955-203 BRUSH HOLDER 2 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V) 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE 32 999-041 CARBON BRUSH (1 PAIR) 2 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE 34 316-166 PUSHING BUTTON 1 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE 36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2 37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1 (CORD ARMOR D8.8) FOR USA,CAN 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		22		NAME PLATE	1		
25 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 26 319-332 GRIP COVER 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITACHI LABEL 1 29 319-330 HANDLE (A) 1 30 955-203 BRUSH HOLDER 2 * 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN * 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V) * 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE 32 999-041 CARBON BRUSH (1 PAIR) 2 * 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (1110V) * 33 320-196 CHOKE COIL (BROWN) 20V-240V 1 FOR NZL,EUROPE 34 316-166 PUSHING BUTTON 1 FOR NZL,EUROPE 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE 36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2 37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1 (CORD ARMOR D8.8) FOR USA,CAN * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR NZL		23	319-331	HANDLE (B)	1		
26 319-332 GRIP COVER 1 1 27 319-337 SCREW (PLASTIC TIE) D4X25 2 2 8 HITACHI LABEL 1 1 29 319-330 HANDLE (A) 1 30 955-203 BRUSH HOLDER 2 1 FOR USA,CAN 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V) 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE 32 999-041 CARBON BRUSH (1 PAIR) 2 1 FOR USA,CAN 1 FOR SBR (110V) 1 FOR USA,CAN 1 FOR NZL,EUROPE 1 SUBJECT OF USA,CAN 1 FOR USA,CAN,CAN 1 FOR NZL,EUROPE 1 SUBJECT OF USA,CAN,CAN,CAN 1 FOR USA,CAN,CAN,CAN,CAN 1 FOR USA,CAN,CAN,CAN,CAN,CAN,CAN,CAN,CAN,CAN,CA		24	303-694	TAPPING SCREW (W/FLANGE) D4X35	2		
27 319-337 SCREW (PLASTIC TIE) D4X25 2 28 HITACHI LABEL 1 29 319-330 HANDLE (A) 1 30 955-203 BRUSH HOLDER 2 * 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN * 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V) * 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE 32 999-041 CARBON BRUSH (1 PAIR) 2 * 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE 34 316-166 PUSHING BUTTON 1 * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE 36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2 37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1 * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR NZL		25	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	1		
28		26	319-332	GRIP COVER	1		
29 319-330 HANDLE (A) 1 30 955-203 BRUSH HOLDER 2 * 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN * 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V) * 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE  32 999-041 CARBON BRUSH (1 PAIR) 2 * 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1 * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V) * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2 37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1 * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN		27	319-337	SCREW (PLASTIC TIE) D4X25	2		
* 30 955-203 BRUSH HOLDER 2  * 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN  * 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V)  * 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE  32 999-041 CARBON BRUSH (1 PAIR) 2  * 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN  * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V)  * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		28		HITACHI LABEL	1		
* 31 319-638 INTERNAL WIRE (BLUE) 72L 1 FOR USA,CAN  * 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V)  * 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE  32 999-041 CARBON BRUSH (1 PAIR) 2  * 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN  * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V)  * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN		29	319-330	HANDLE (A)	1		
* 31 320-204 CHOKE COIL (BLUE) 110V 1 FOR GBR (110V)  * 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE  32 999-041 CARBON BRUSH (1 PAIR) 2  * 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN  * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V)  * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		30	955-203	BRUSH HOLDER	2		
* 31 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR NZL,EUROPE  32 999-041 CARBON BRUSH (1 PAIR) 2  * 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN  * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V)  * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	31	319-638	INTERNAL WIRE (BLUE) 72L	1	FOR USA,CAN	
32 999-041 CARBON BRUSH (1 PAIR) 2 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V)  * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	31	320-204	CHOKE COIL (BLUE) 110V	1	FOR GBR (110V)	
* 33 319-637 INTERNAL WIRE (BROWN) 72L 1 FOR USA,CAN * 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V) * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1 * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V) * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1 * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	31	320-197	CHOKE COIL (BLUE) 220V-240V	1	FOR NZL,EUROPE	
* 33 320-203 CHOKE COIL (BROWN) 110V 1 FOR GBR (110V)  * 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE  34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		32	999-041	CARBON BRUSH (1 PAIR)	2		
* 33 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR NZL,EUROPE 34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	33	319-637	INTERNAL WIRE (BROWN) 72L	1	FOR USA,CAN	
34 316-166 PUSHING BUTTON 1  * 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	33	320-203	CHOKE COIL (BROWN) 110V	1	FOR GBR (110V)	
* 35 319-339 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN,GBR (110V)  * 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE  36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	33	320-196	CHOKE COIL (BROWN) 220V-240V	1	FOR NZL,EUROPE	
* 35 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR NZL,EUROPE 36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2 37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		34	316-166	PUSHING BUTTON	1		
36 984-750 TAPPING SCREW (W/FLANGE) D4X16 2  37 937-631 CORD CLIP 1  38 981-373 TUBE (D) 2  39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	35	319-339	SWITCH (1P SCREW TYPE) W/LOCK	1	FOR USA,CAN,GBR (110V)	
37 937-631 CORD CLIP 1 38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL	*	35	320-195	SWITCH (1P SCREW TYPE) W/LOCK	1	FOR NZL,EUROPE	
38 981-373 TUBE (D) 2 39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		36	984-750	TAPPING SCREW (W/FLANGE) D4X16	2		
39 953-327 CORD ARMOR D8.8 1  * 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		37	937-631	CORD CLIP	1		
* 40 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN * 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		38	981-373	TUBE (D)	2		
* 40 500-439Z CORD 1 (CORD ARMOR D8.8) FOR NZL		39	953-327	CORD ARMOR D8.8	1		
	*	40	500-240Z	CORD	1	(CORD ARMOR D8.8) FOR USA,CAN	
* 40 500-461Z CORD 1 (CORD ARMOR D8.8) FOR GBR (110V)	*	40	500-439Z	CORD	1	(CORD ARMOR D8.8) FOR NZL	
	* [	40	500-461Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (110V)	

PARTS D 10VF

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
40	500-435Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (230V)	
40	500-247Z	CORD	1	(CORD ARMOR D8.8) FOR NOR, DEN, SWE, FIN	
40	500-409Z	CORD	1	(CORD ARMOR D8.8) FOR EUROPE	
41	320-198	NOISE SUPPRESSOR	1	EXCEPT USA,CAN	

# STANDARD ACCESSORIES

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
501	319-543	CASE	1		

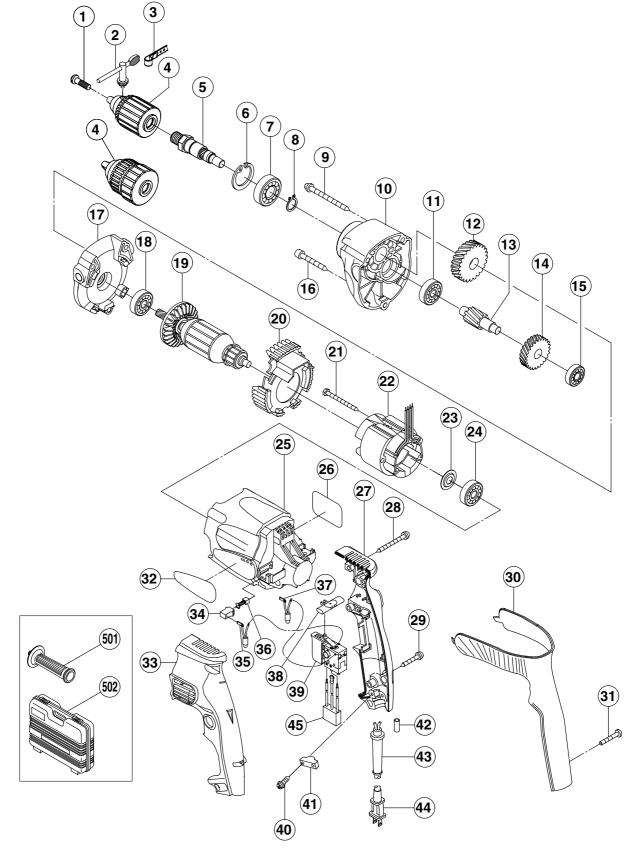
## **OPTIONAL ACCESSORIES**

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
601	981-205	SIDE HANDLE FOR M10	1		
602	317-676	HOOK (A)	1		
			1		
			1		
			1		
			1		
			1		
					<u> </u>

LIST NO. 0195

# ELECTRIC TOOL PARTS LIST

■ DRILL 2001 · 8 · 21 Model D 10VG (E2)



PARTS D 10VG

	ГАІ	110				
	NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
Ì	1	311-959	SPECIAL SCREW (LEFT HAND) M6X23	1		
Ì	2	319-529	CHUCK WRENCH 10VLR-J	1		
Ì	3	950-288	VINYL BAND	1		
*	4	319-342	DRILL CHUCK 10VLR-J	1	INCLUD.2	
*	4	319-343	DRILL CHUCK 10VLRD-N (W/O CHUCK WRENCH)	1		
Ì	5	319-346	SPINDLE (A)	1		
Ì	6	948-001	RETAINING RING FOR D32 HOLE	1		
Ì	7	600-2VV	BALL BEARING 6002VVCMPS2L	1		
Ì	8	939-544	RETAINING RING FOR D15 SHAFT (10 PCS.)	1		
İ	9	305-701	TAPPING SCREW (W/FLANGE) D5X60	2		
Ì	10	319-345	GEAR COVER (A)	1		
İ	11	627-VVM	BALL BEARING 627VVC2PS2L	1		
İ	12	319-347	FINAL GEAR (A)	1		
Ì	13	319-545	SECOND PINION (A)	1		
Ì	14	319-544	FIRST GEAR	1		
ŀ	15	606-ZZM	BALL BEARING 606ZZC2PS2L	1		
Ì	16	316-458	TAPPING SCREW D5X40 (BLACK)	1		
Ì	17	319-344	INNER COVER	1		
Ì	18	608-DDM	BALL BEARING 608DDC2PS2L	1		
*	19	360-543U	ARMATURE ASS'Y 110V-120V	1	INCLUD.18,23,24	
*	19	360-543E	ARMATURE 220V-230V	1	110000.10,23,24	
ł	20	319-329	FAN GUIDE	1		
ŀ	21	981-421		2		
*	22		HEX. HD. TAPPING SCREW D4X55			
*		340-486C	STATOR 120V	1		
*	22	340-486D	STATOR 220V 240V	1		
	22	340-504E	STATOR 230V-240V	1		
ł	23	982-631	WASHER (A)	1		
ł	24	608-VVM	BALL BEARING 608VVC2PS2L	1		
ł	25	319-328	HOUSING	1		
ł	26	040 004	NAME PLATE	1		
ł	27	319-331	HANDLE (B)	1		
ł	28	303-694	TAPPING SCREW (W/FLANGE) D4X35	2		
ŀ	29	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	1		
ŀ	30	319-332	GRIP COVER	1		
ł	31	319-337	SCREW (PLASTIC TIE) D4X25	2		
ŀ	32	210 220	HANDLE (A)	1		
ł	33	319-330	HANDLE (A)	1		
*	34 35	955-203 319-341	BRUSH HOLDER	2	FOR USA,CAN	
*	35 35	319-341	INTERNAL WIRE (BLUE) 86L CHOKE COIL (BLUE) 110V	1	FOR GBR (110V)	
*	35 35	320-204	CHOKE COIL (BLUE) 220V-240V	1	FOR EUROPE	
ŀ	36	999-041	CARBON BRUSH (1 PAIR)	2	I ON EUNOPE	
*	37	319-340	INTERNAL WIRE (BROWN) 86L	1	FOR USA,CAN	
*	37	320-203	CHOKE COIL (BROWN) 110V	1	FOR GBR (110V)	
*	37	320-203	CHOKE COIL (BROWN) 110V	1	FOR EUROPE	
ł	38	316-166	PUSHING BUTTON	1	. C.I LOIIOI L	<del></del>
*	39	319-339	SWITCH (1P SCREW TYPE) W/LOCK	1	FOR USA,CAN,GBR (110V)	
*	39	320-195	SWITCH (1P SCREW TYPE) W/LOCK	1	FOR EUROPE	
ł	40	984-750	TAPPING SCREW (W/FLANGE) D4X16	2		
ł	41	937-631	CORD CLIP	1		
ł	42	981-373	TUBE (D)	2		
L	74	JU1-U/J	1001			

PARTS D 10VG

NO. CODE NO. DESCRIPTION USED REMARKS  43 953-327 CORD ARMOR D8.8 1  44 500-240Z CORD 1 (CORD ARMOR D8.8) FOR USA,CAN  44 500-461Z CORD 1 (CORD ARMOR D8.8) FOR GBR (110V)  44 500-435Z CORD 1 (CORD ARMOR D8.8) FOR GBR (230V)  44 500-247Z CORD 1 (CORD ARMOR D8.8) FOR NOR,DEN,SWE,FIN  44 500-409Z CORD 1 (CORD ARMOR D8.8) FOR EUROPE		FAI					
43       953-327       CORD ARMOR D8.8       1         44       500-240Z       CORD       1       (CORD ARMOR D8.8) FOR USA,CAN         4       500-461Z       CORD       1       (CORD ARMOR D8.8) FOR GBR (110V)         4       500-435Z       CORD       1       (CORD ARMOR D8.8) FOR GBR (230V)         4       500-247Z       CORD       1       (CORD ARMOR D8.8) FOR NOR,DEN,SWE,FIN         4       500-409Z       CORD       1       (CORD ARMOR D8.8) FOR EUROPE		ITEM	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
44       500-240Z       CORD       1       (CORD ARMOR D8.8) FOR USA,CAN         44       500-461Z       CORD       1       (CORD ARMOR D8.8) FOR GBR (110V)         44       500-435Z       CORD       1       (CORD ARMOR D8.8) FOR GBR (230V)         44       500-247Z       CORD       1       (CORD ARMOR D8.8) FOR NOR,DEN,SWE,FIN         44       500-409Z       CORD       1       (CORD ARMOR D8.8) FOR EUROPE	İ		953-327	CORD ARMOR D8.8			
44     500-461Z     CORD     1     (CORD ARMOR D8.8) FOR GBR (110V)       44     500-435Z     CORD     1     (CORD ARMOR D8.8) FOR GBR (230V)       44     500-247Z     CORD     1     (CORD ARMOR D8.8) FOR NOR, DEN, SWE, FIN       44     500-409Z     CORD     1     (CORD ARMOR D8.8) FOR EUROPE	*					(CORD ARMOR D8.8) FOR USA.CAN	
44     500-435Z     CORD     1 (CORD ARMOR D8.8) FOR GBR (230V)       44     500-247Z     CORD     1 (CORD ARMOR D8.8) FOR NOR,DEN,SWE,FIN       44     500-409Z     CORD     1 (CORD ARMOR D8.8) FOR EUROPE	*						
44 500-247Z CORD 1 (CORD ARMOR D8.8) FOR NOR,DEN,SWE,FIN 1 (CORD ARMOR D8.8) FOR EUROPE 1	*						
44 500-409Z CORD 1 (CORD ARMOR D8.8) FOR EUROPE	*						
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### STANDARD ACCESSORIES

**D 10VG** 

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
501	981-205	SIDE HANDLE FOR M10	1		
502	319-543	CASE	1		

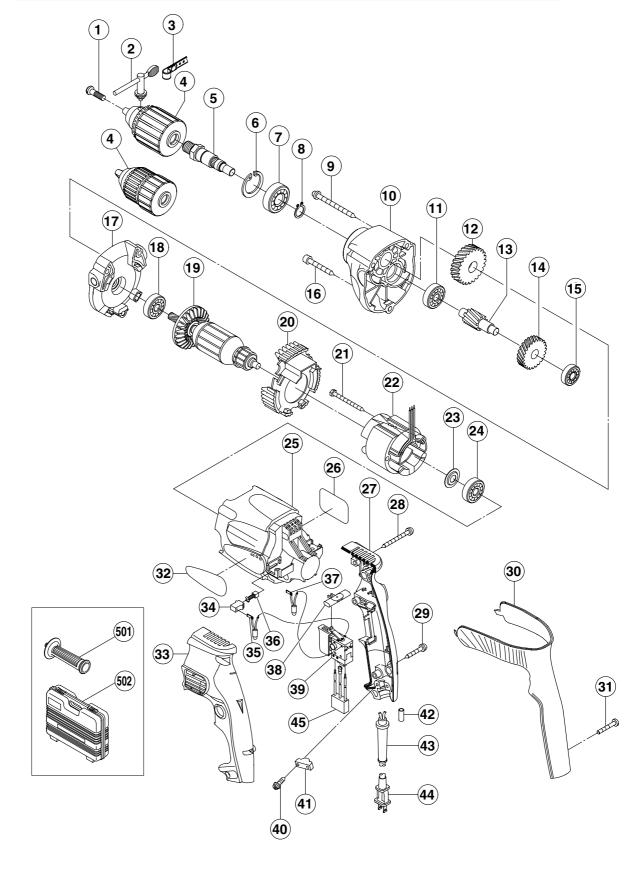
## **OPTIONAL ACCESSORIES**

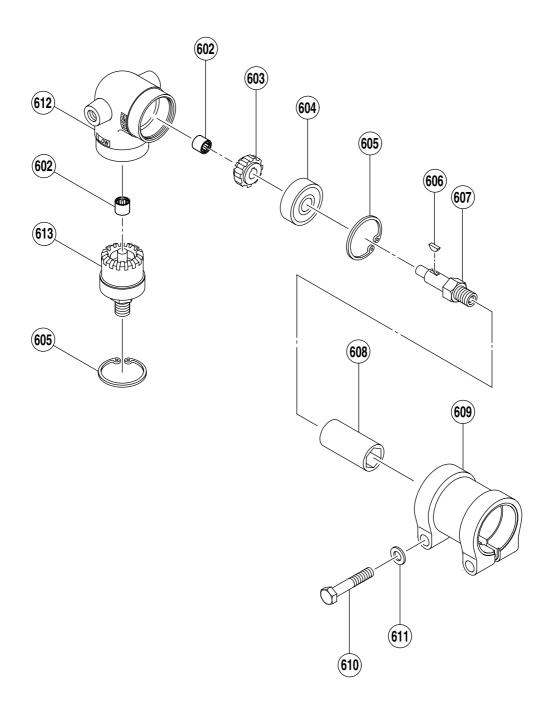
ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
601	317-676	HOOK (A)	1		
		ALTERNATIVE			

LIST NO. 0196

# ELECTRIC TOOL PARTS LIST

■ DRILL 2001 · 8 · 21 Model D 13VF (E2)





PARTS D 13VF

	י הי	าเอ				D 134E
	ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
t	1	311-959	SPECIAL SCREW (LEFT HAND) M6X23	1		
t	2	319-527	CHUCK WRENCH 13VLR-J	1		
t	3	950-288	VINYL BAND	1		
*	4	319-303	DRILL CHUCK 13VLR-J	1	INCLUD.2	
*	4	319-304	DRILL CHUCK 13VLRD-N (W/O CHUCK WRENCH)	1		
f	5	319-346	SPINDLE (A)	1		
f	6	948-001	RETAINING RING FOR D32 HOLE	1		
İ	7	600-2VV	BALL BEARING 6002VVCMPS2L	1		
Ī	8	939-544	RETAINING RING FOR D15 SHAFT (10 PCS.)	1		
İ	9	305-701	TAPPING SCREW (W/FLANGE) D5X60	2		
Ī	10	319-345	GEAR COVER (A)	1		
t	11	627-VVM	BALL BEARING 627VVC2PS2L	1		
Ī	12	319-299	FINAL GEAR	1		
İ	13	319-547	SECOND PINION (B)	1		
f	14	319-544	FIRST GEAR	1		
ı	15	606-ZZM	BALL BEARING 606ZZC2PS2L	1		
t	16	316-458	TAPPING SCREW D5X40 (BLACK)	1		
f	17	319-344	INNER COVER	1		
ı	18	608-DDM	BALL BEARING 608DDC2PS2L	1		
*	19	360-543U	ARMATURE ASS'Y 110V-120V	1	INCLUD.18,23,24	
*	19	360-543E	ARMATURE 220V-230V	1		
*	19	360-543F	ARMATURE 240V	1		
ŀ	20	319-329	FAN GUIDE	1		
f	21	981-421	HEX. HD. TAPPING SCREW D4X55	2		
*	22	340-494C	STATOR 120V	1		
*	22	340-486D	STATOR 110V	1		
*	22	340-504E	STATOR 230V-240V	1		
ŀ	23	982-631	WASHER (A)	1		
f	24	608-VVM	BALL BEARING 608VVC2PS2L	1		
f	25	319-328	HOUSING	1		
ŀ	26	010 020	NAME PLATE	1		
ł	27	319-331	HANDLE (B)	1		
ŀ	28	303-694	TAPPING SCREW (W/FLANGE) D4X35	2		
ŀ	29	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	1		
l	30	319-332	GRIP COVER	1		
ŀ	31	319-337	SCREW (PLASTIC TIE) D4X25	2		
-	32	2.0001	HITACHI LABEL	1		
-	33	319-330	HANDLE (A)	1	1	
-	34	955-203	BRUSH HOLDER	2		
*	35	319-341	INTERNAL WIRE (BLUE) 86L	1	FOR USA,CAN	
*	35	320-204	CHOKE COIL (BLUE) 110V	1	FOR GBR (110V)	
*	35	320-204	CHOKE COIL (BLUE) 220V-240V	1	FOR AUS,NZL,EUROPE	
- }	36	999-041	CARBON BRUSH (1 PAIR)	2	. C. ACO, NEL, LONG L	
*	37	319-340	INTERNAL WIRE (BROWN) 86L	1	FOR USA,CAN	
*	37	320-203	CHOKE COIL (BROWN) 110V	1	FOR GBR (110V)	
*	37		CHOKE COIL (BROWN) 220V-240V		, ,	
1		320-196	PUSHING BUTTON	1	FOR AUS,NZL,EUROPE	
*	38	316-166			EOD HSA CAN	
*	39	319-302	SWITCH (1P SCREW TYPE) W/LOCK	1	FOR USA,CAN	
*	39 39	319-339 320-195	SWITCH (1P SCREW TYPE) W/LOCK SWITCH (1P SCREW TYPE) W/LOCK	1	FOR GBR (110V) FOR AUS,NZL,EUROPE	
}	40	984-750	TAPPING SCREW (W/FLANGE) D4X16	2	I ON AUG,NZL,EUNOPE	
L	40	J04-73U	TAPPING SCHEW (W/FLANGE) D4X10		_	

PARTS D 13VF

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
41	937-631	CORD CLIP	1		
42	981-373	TUBE (D)		FOR CORD	
43	953-327	CORD ARMOR D8.8	1	FOR CORD	
44	500-240Z	CORD ARMOR Do.5	<del>                                     </del>	(CORD ARMOR D8.8) FOR USA,CAN	
44	500-240Z 500-439Z	CORD		(CORD ARMOR D8.8) FOR AUS,NZL	
	500-439Z 500-461Z	CORD	_	(CORD ARMOR D8.8) FOR GBR (110V)	
44				(CORD ARMOR D8.8) FOR GBR (230V)	
44	500-435Z	CORD			
44	500-247Z			(CORD ARMOR DS 8) FOR NOR, DEN, SWE, FIN	
44	500-409Z	CORD		(CORD ARMOR D8.8) FOR EUROPE	
45	320-198	NOISE SUPPRESSOR	1	EXCEPT USA,CAN	
			-		
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		1	1		

#### STANDARD ACCESSORIES

**D 13VF** 

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
501	981-205	SIDE HANDLE FOR M10	1		
502	319-543	CASE	1		

### **OPTIONAL ACCESSORIES**

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
601	319-528	ANGLE ATTACHMENT ASS'Y	1	INCLUD.603-614	
602	670-714	NEEDLE BEARING (HK0810)	2		
603	986-149	PINION	1		
604	630-1VV	BALL BEARING 6301VVCMPS2L	1		
605	986-147	RETAINING RING FOR D37 HOLE	2		
606	932-819	WOODRUFF KEY 3X10	1		
607	986-146	SPINDLE	1		
608	986-143	COUPLING	1		
609	986-142	JOINT SLEEVE	1		
610	949-632	BOLT M8X45 (10 PCS.)	2		
611	949-426	WASHER M8 (10 PCS.)	2		
612	986-144	ANGLE HEAD ASS'Y	1	INCLUD.602	
613	986-156	SPINDLE AND GEAR SET	1		
614	949-168	WRENCH 13/17MM	1		
615	317-676	HOOK (A)	1		

ITEM NO.	CODE NO.	DESCTIPTION	NO.	REMARKS	
NO.		5200111 11011	USED		

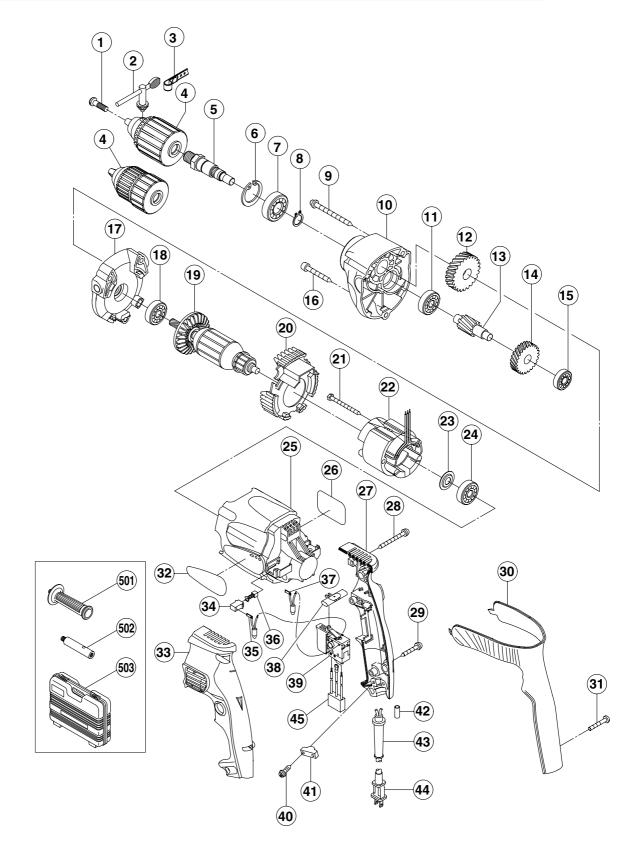
LIST NO. 0197

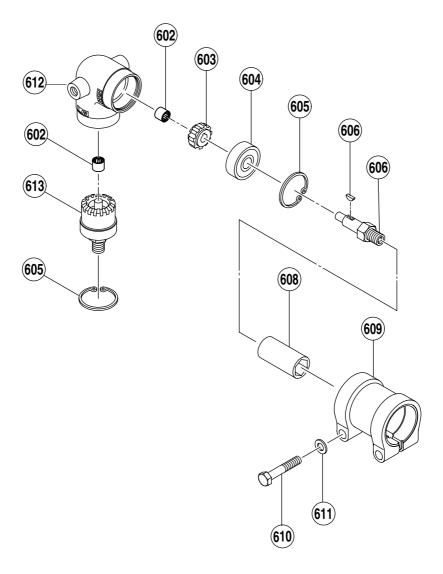
# ELECTRIC TOOL PARTS LIST

■ DRILL Model D 13VG

2001 · 8 · 21

(E2)





PARTS D 13VG

TITEM   CODE NO.   DESCTIPTION   NO.   NSED   NSE	D 13VG
1   311-959   SPECIAL SCREW (LEFT HAND) M6X23   1   2   319-527   CHUCK WRENCH 13VLR-J   1   1   1   1   1   1   1   1   1	ARKS
3 950-288 VINYL BAND 1 1 INCLUD.2  4 319-303 DRILL CHUCK 13VLR-J 1 INCLUD.2  4 319-304 DRILL CHUCK 13VLR-J 1 INCLUD.2  5 319-346 SPINDLE (A) 1 1 6 948-001 RETAINING RING FOR D32 HOLE 1 1 7 600-2VV BALL BEARING 6002VVCMPS2L 1 1 8 939-544 RETAINING RING FOR D15 SHAFT (10 PCS.) 1 9 305-701 TAPPING SCREW (W:FLANGE) D5X60 2 1 1 1 627-VVM BALL BEARING 602VVC2PS2L 1 1 1 627-VVM BALL BEARING 627VVC2PS2L 1 1 1 1 627-VVM BALL BEARING 627VVC2PS2L 1 1 1 1 3 319-345 GEAR COVER (A) 1 1 1 1 627-VVM BALL BEARING 627VVC2PS2L 1 1 1 1 3 319-544 FIRST GEAR (C) 1 1 1 1 3 319-548 SECOND PINION (C) 1 1 1 1 3 319-544 FIRST GEAR 1 1 1 1 6 606-ZZM BALL BEARING 606ZZC2PS2L 1 1 1 1 1 6 606-ZZM BALL BEARING 606ZZC2PS2L 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
* 4 319-303 DRILL CHUCK 13VLR-J 1 INCLUD.2  * 4 319-304 DRILL CHUCK 13VLR-N (W/O CHUCK WRENCH) 1  5 319-346 SPINDLE (A) 1  6 948-001 RETAINING RING FOR D32 HOLE 1  7 600-2VV BALL BEARING 6002VVCMPS2L 1  8 939-544 RETAINING RING FOR D15 SHAFT (10 PCS.) 1  9 305-701 TAPPING SCREW (W/FLANGE) D5X60 2  10 319-345 GEAR COVER (A) 1 11 627-VVM BALL BEARING 627VVC2PS2L 1  12 319-305 FINAL GEAR (C) 1 13 319-544 FIRST GEAR 1 15 606-2ZM BALL BEARING 606ZZC2PS2L 1  16 316-458 TAPPING SCREW D5X40 (BLACK) 1 17 319-344 INNER COVER 1 18 608-DDM BALL BEARING 606ZZC2PS2L 1  18 608-DDM BALL BEARING 608DDC2PS2L 1  19 360-5432 ARMATURE 250V-230V 1  19 360-5432 ARMATURE 220V-230V 1  19 360-5435 ARMATURE 240V 1  20 319-329 FAN GUIDE 1  21 981-421 HEX. HD. TAPPING SCREW D4X55 2  22 340-494C STATOR 120V 1  23 992-631 WASHER (A) 1  24 608-VVM BALL BEARING 608VVC2PS2L 1  25 319-331 HANDLE (B) 1  26 NAME PLATE 1  27 319-331 HANDLE (B) 1  28 303-694 TAPPING SCREW (W/FLANGE) D4X35 2  29 301-653 TAPPING SCREW (W/FLANGE) D4X25 2  31 319-337 SCREW (PLASTIC TIE) D4X25 2  31 319-337 SCREW (PLASTIC TIE) D4X25 2  33 319-331 HANDLE (B) 1  34 955-203 BRUSH HOLDER 2  35 319-341 INTERNAL WIRE (BLUE) 86L 1 FOR USA,CAN 1  36 99-041 CARBON BRUSH (1 PAIR) 2  37 319-340 INTERNAL WIRE (BLUE) 86L 1 FOR USA,CAN 1  37 320-197 CHOKE COIL (BROWN) 220V-240V 1 FOR AUS,NZL,EUR 3  39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW	
* 4 319-304 DRILL CHUCK 13VLRD-N (WIO CHUCK WRENCH) 1 5 319-346 SPINDLE (A) 1 6 948-001 RETAINING RING FOR D32 HOLE 1 7 600-2VV BALL BEARING 6002VVCMPS2L 1 8 939-544 RETAINING RING FOR D15 SHAFT (10 PCS.) 1 9 305-701 TAPPING SCREW (W/FLANGE) D5X60 2 10 319-345 GEAR COVER (A) 1 11 627-VVM BALL BEARING 602ZVVC2PS2L 1 12 319-305 FINAL GEAR (C) 1 13 319-548 SECOND PINION (C) 1 14 319-544 FIRST GEAR 1 15 606-ZZM BALL BEARING 606ZZC2PS2L 1 16 316-458 TAPPING SCREW D5X40 (BLACK) 1 17 319-344 INNER COVER 1 18 608-DDM BALL BEARING 608DDC2PS2L 1 19 360-543U ARMATURE 220V-230V 1 19 360-5432 ARMATURE 220V-230V 1 19 360-5435 ARMATURE 220V-230V 1 20 319-329 FAN GUIDE 1 21 981-421 HEX. HD. TAPPING SCREW D4X55 2 22 340-504E STATOR 120V 1 23 992-631 WASHER (A) 1 24 608-VVM BALL BEARING 608VVC2PS2L 1 25 319-328 HOUSING 1 26 NAME PLATE 1 27 319-331 HANDLE (B) 1 28 303-694 TAPPING SCREW (W/FLANGE) D4X25 2 29 301-653 TAPPING SCREW (W/FLANGE) D4X25 2 29 319-329 FAN GUIDE 1 30 319-332 GRIP COVER 1 31 319-337 SCREW (PLASTIC TIE) D4X25 2 39 31-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 31 319-337 SCREW (LASTIC TIE) D4X25 2 39 319-331 HANDLE (B) 1 30 319-332 GRIP COVER 1 31 319-331 HANDLE (B) 1 33 319-331 HANDLE (B) 1 34 955-203 BRUSH HOLDER 2 35 319-341 INTERNAL WIRE (BLUE) 86L 1 FOR USA,CAN 37 320-196 CHOKE COIL (BLUE) 220V-240V 1 FOR AUS,NZL,EUR 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X66 1 FOR AUS,NZL,EUR 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X66 1 FOR AUS,NZL,EUR 39 310-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X66 1 FOR AUS,NZL,EUR 39 312-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X66 2	
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6 948-001 RETAINING RING FOR D32 HOLE 7 600-2VV BALL BEARING 6002VVCMPS2L 1 9 305-544 RETAINING RING FOR D15 SHAFT (10 PCS.) 1 1 319-345 GEAR COVER (A) 1 1 627-VVM BALL BEARING 627VVC2PS2L 1 1 319-305 FINAL GEAR (C) 1 1 319-345 GEAR COVER (A) 1 1 627-VVM BALL BEARING 627VVC2PS2L 1 1 319-305 FINAL GEAR (C) 1 1 319-548 SECOND PINION (C) 1 1 319-548 FIRST GEAR 1 1 606-ZZM BALL BEARING 606ZZC2PS2L 1 1 1 1 606-ZZM BALL BEARING 606ZZC2PS2L 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
8   939-544   RETAINING RING FOR D15 SHAFT (10 PCS.)   1   1   319-345   GEAR COVER (A)   1   1   627-VVM   BALL BEARING 627VVC2PS2L   1   1   1   627-VVM   BALL BEARING 627VVC2PS2L   1   1   1   1   1   1   1   1   1	
9 305-701 TAPPING SCREW (W/FLANGE) D5X60 2 10 319-345 GEAR COVER (A) 1 11 627-VVM BALL BEARING 627VVC2PS2L 1 12 319-305 FINAL GEAR (C) 1 13 319-545 FINAL GEAR (C) 1 14 319-548 SECOND PINION (C) 1 15 606-ZZM BALL BEARING 606ZZC2PS2L 1 16 316-458 TAPPING SCREW D5X40 (BLACK) 1 17 319-344 INNER COVER 1 18 608-DDM BALL BEARING 608DDC2PS2L 1 18 608-DDM BALL BEARING 608DDC2PS2L 1 19 360-543U ARMATURE ASS'Y 110V-120V 1 INCLUD.18,23,24 19 360-543E ARMATURE 20V-230V 1 20 319-332 FAN GUIDE 1 21 981-421 HEX. HD. TAPPING SCREW D4X55 2 22 340-494C STATOR 120V 1 23 982-631 WASHER (A) 1 24 608-VVM BALL BEARING 608VVC2PS2L 1 25 319-328 HOUSING 1 26 NAME PLATE 1 27 319-331 HANDLE (B) 1 28 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 29 301-653 TAPPING SCREW (W/FLANGE) D4X35 2 29 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 31 319-337 SCREW (PLASTIC TIE) D4X25 2 32 HITACHI LABEL 1 33 319-330 HANDLE (A) 1 34 955-203 BRUSH HOLDER 2 35 319-341 INTERNAL WIRE (BLUE) 86L 1 FOR AUS,NZL,EUR 36 999-041 CARBON BRUSH (1 PAIR) 2 37 319-340 INTERNAL WIRE (BROWN) 86L 1 FOR AUS,NZL,EUR 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
9 305-701 TAPPING SCREW (W/FLANGE) D5X60 2 10 319-345 GEAR COVER (A) 1 11 627-VVM BALL BEARING 627VVC2PS2L 1 12 319-305 FINAL GEAR (C) 1 13 319-545 FINAL GEAR (C) 1 14 319-548 SECOND PINION (C) 1 15 606-ZZM BALL BEARING 606ZZC2PS2L 1 16 316-458 TAPPING SCREW D5X40 (BLACK) 1 17 319-344 INNER COVER 1 18 608-DDM BALL BEARING 608DDC2PS2L 1 18 608-DDM BALL BEARING 608DDC2PS2L 1 19 360-543U ARMATURE ASS'Y 110V-120V 1 INCLUD.18,23,24 19 360-543E ARMATURE 20V-230V 1 20 319-332 FAN GUIDE 1 21 981-421 HEX. HD. TAPPING SCREW D4X55 2 22 340-494C STATOR 120V 1 23 982-631 WASHER (A) 1 24 608-VVM BALL BEARING 608VVC2PS2L 1 25 319-328 HOUSING 1 26 NAME PLATE 1 27 319-331 HANDLE (B) 1 28 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 29 301-653 TAPPING SCREW (W/FLANGE) D4X35 2 29 301-653 TAPPING SCREW (W/FLANGE) D4X20 (BLACK) 1 31 319-337 SCREW (PLASTIC TIE) D4X25 2 32 HITACHI LABEL 1 33 319-330 HANDLE (A) 1 34 955-203 BRUSH HOLDER 2 35 319-341 INTERNAL WIRE (BLUE) 86L 1 FOR AUS,NZL,EUR 36 999-041 CARBON BRUSH (1 PAIR) 2 37 319-340 INTERNAL WIRE (BROWN) 86L 1 FOR AUS,NZL,EUR 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
11   627-VVM   BALL BEARING 627VVC2PS2L   1   12   319-305   FINAL GEAR (C)   1   1   3   319-548   SECOND PINION (C)   1   1   1   1   1   1   1   1   1	
11   627-VVM   BALL BEARING 627VVC2PS2L   1   12   319-305   FINAL GEAR (C)   1   1   3   319-548   SECOND PINION (C)   1   1   1   1   1   1   1   1   1	
13   319-548   SECOND PINION (C)   1	
13   319-548   SECOND PINION (C)   1   1   1   1   1   1   1   1   1	
14   319-544   FIRST GEAR	
15	
17   319-344   INNER COVER	
17   319-344   INNER COVER	
18       608-DDM       BALL BEARING 608DDC2PS2L       1         * 19       360-543U       ARMATURE ASS'Y 110V-120V       1         * 19       360-543E       ARMATURE 220V-230V       1         * 19       360-543F       ARMATURE 240V       1         * 20       319-329       FAN GUIDE       1         21       981-421       HEX. HD. TAPPING SCREW D4X55       2         * 22       340-494C       STATOR 120V       1         * 22       340-504E       STATOR 230V-240V       1         * 23       982-631       WASHER (A)       1         24       608-VVM       BALL BEARING 608VVC2PS2L       1         25       319-328       HOUSING       1         26       NAME PLATE       1         27       319-331       HANDLE (B)       1         28       303-694       TAPPING SCREW (W/FLANGE) D4X35       2         29       301-653       TAPPING SCREW (W/FLANGE) D4X20 (BLACK)       1         30       319-332       GRIP COVER       1         31       319-337       SCREW (PLASTIC TIE) D4X25       2         32       HITACHI LABEL       1         33       319-330       HANDLE	
* 19 360-543E ARMATURE 220V-230V 1 * 19 360-543F ARMATURE 240V 1 20 319-329 FAN GUIDE 1 21 981-421 HEX. HD. TAPPING SCREW D4X55 2 * 22 340-494C STATOR 120V 1 * 22 340-504E STATOR 230V-240V 1 23 982-631 WASHER (A) 1 24 608-VVM BALL BEARING 608VVC2PS2L 1 25 319-328 HOUSING 1 26 NAME PLATE 1 27 319-331 HANDLE (B) 1 28 303-694 TAPPING SCREW (W/FLANGE) D4X35 2 29 301-653 TAPPING SCREW (W/FLANGE) D4X25 2 29 301-653 TAPPING SCREW (W/FLANGE) D4X25 2 31 319-332 GRIP COVER 1 31 319-337 SCREW (PLASTIC TIE) D4X25 2 32 HITACHI LABEL 1 33 319-330 HANDLE (A) 1 34 955-203 BRUSH HOLDER 2 * 35 319-341 INTERNAL WIRE (BLUE) 86L 1 FOR AUS,NZL,EUR 36 999-041 CARBON BRUSH (1 PAIR) 2 * 37 319-340 INTERNAL WIRE (BROWN) 86L 1 FOR AUS,NZL,EUR 38 316-166 PUSHING BUTTON 1 * 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
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33 319-330 HANDLE (A) 1 34 955-203 BRUSH HOLDER 2 * 35 319-341 INTERNAL WIRE (BLUE) 86L 1 FOR USA,CAN * 35 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR AUS,NZL,EUR 36 999-041 CARBON BRUSH (1 PAIR) 2 * 37 319-340 INTERNAL WIRE (BROWN) 86L 1 FOR USA,CAN * 37 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR AUS,NZL,EUR 38 316-166 PUSHING BUTTON 1 * 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN * 39 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
34       955-203       BRUSH HOLDER       2         * 35       319-341       INTERNAL WIRE (BLUE) 86L       1 FOR USA,CAN         * 35       320-197       CHOKE COIL (BLUE) 220V-240V       1 FOR AUS,NZL,EUR         36       999-041       CARBON BRUSH (1 PAIR)       2         * 37       319-340       INTERNAL WIRE (BROWN) 86L       1 FOR USA,CAN         * 37       320-196       CHOKE COIL (BROWN) 220V-240V       1 FOR AUS,NZL,EUR         38       316-166       PUSHING BUTTON       1         * 39       319-302       SWITCH (1P SCREW TYPE) W/LOCK       1 FOR USA,CAN         * 39       320-195       SWITCH (1P SCREW TYPE) W/LOCK       1 FOR AUS,NZL,EUR         40       984-750       TAPPING SCREW (W/FLANGE) D4X16       2	
* 35 319-341 INTERNAL WIRE (BLUE) 86L 1 FOR USA,CAN  * 35 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR AUS,NZL,EUR  36 999-041 CARBON BRUSH (1 PAIR) 2  * 37 319-340 INTERNAL WIRE (BROWN) 86L 1 FOR USA,CAN  * 37 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR AUS,NZL,EUR  38 316-166 PUSHING BUTTON 1  * 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN  * 39 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR  40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
* 35 320-197 CHOKE COIL (BLUE) 220V-240V 1 FOR AUS,NZL,EUR 36 999-041 CARBON BRUSH (1 PAIR) 2  * 37 319-340 INTERNAL WIRE (BROWN) 86L 1 FOR USA,CAN  * 37 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR AUS,NZL,EUR 38 316-166 PUSHING BUTTON 1  * 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN  * 39 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
36       999-041       CARBON BRUSH (1 PAIR)       2         *       37       319-340       INTERNAL WIRE (BROWN) 86L       1       FOR USA,CAN         *       37       320-196       CHOKE COIL (BROWN) 220V-240V       1       FOR AUS,NZL,EUR         38       316-166       PUSHING BUTTON       1         *       39       319-302       SWITCH (1P SCREW TYPE) W/LOCK       1       FOR USA,CAN         *       39       320-195       SWITCH (1P SCREW TYPE) W/LOCK       1       FOR AUS,NZL,EUR         40       984-750       TAPPING SCREW (W/FLANGE) D4X16       2	OPE
* 37 319-340 INTERNAL WIRE (BROWN) 86L 1 FOR USA,CAN  * 37 320-196 CHOKE COIL (BROWN) 220V-240V 1 FOR AUS,NZL,EUR  38 316-166 PUSHING BUTTON 1  * 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN  * 39 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR  40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
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38       316-166       PUSHING BUTTON       1         *       39       319-302       SWITCH (1P SCREW TYPE) W/LOCK       1       FOR USA,CAN         *       39       320-195       SWITCH (1P SCREW TYPE) W/LOCK       1       FOR AUS,NZL,EUR         40       984-750       TAPPING SCREW (W/FLANGE) D4X16       2	OPE
* 39 319-302 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR USA,CAN  * 39 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR  40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
* 39 320-195 SWITCH (1P SCREW TYPE) W/LOCK 1 FOR AUS,NZL,EUR 40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	
40 984-750 TAPPING SCREW (W/FLANGE) D4X16 2	OPE
42 981-373 TUBE (D) 2 FOR CORD	
43 953-327 CORD ARMOR D8.8 1 FOR CORD	
* 44 500-240Z CORD 1 (CORD ARMOR D8.	8) FOR USA.CAN

PARTS D 13VG

	ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
*	44	500-439Z	CORD	1		
* [	44	500-247Z	CORD	1	(CORD ARMOR D8.8) FOR NOR, DEN, SWE, FIN	
*	44	500-409Z	CORD	1	(CORD ARMOR D8.8) FOR EUROPE	
١	45	320-198	NOISE SUPPRESSOR	1	EXCEPT USA,CAN	
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#### STANDARD ACCESSORIES

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
501	981-205	SIDE HANDLE FOR M10	1		
502	319-550	HANDLE JOINT	1		
503	319-543	CASE	1		
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### **OPTIONAL ACCESSORIES**

ITEM NO.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
601	319-528	ANGLE ATTACHMENT ASS'Y	1	INCLUD.603-614	
602	670-714	NEEDLE BEARING (HK0810)	2		
603	986-149	PINION	1		
604	630-1VV	BALL BEARING 6301VVCMPS2L	1		
605	986-147	RETAINING RING FOR D37 HOLE	2		
606	932-819	WOODRUFF KEY 3X10	1		
607	986-146	SPINDLE	1		
608	986-143	COUPLING	1		
609	986-142	JOINT SLEEVE	1		
610	949-632	BOLT M8X45 (10 PCS.)	2		
611	949-426	WASHER M8 (10 PCS.)	2		
612	986-144	ANGLE HEAD ASS'Y	1	INCLUD.602	
613	986-156	SPINDLE AND GEAR SET	1		
614	949-168	WRENCH 13/17MM	1		
615	317-676	HOOK (A)	1		

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EM O.	CODE NO.	DESCTIPTION	NO. USED	REMARKS	
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