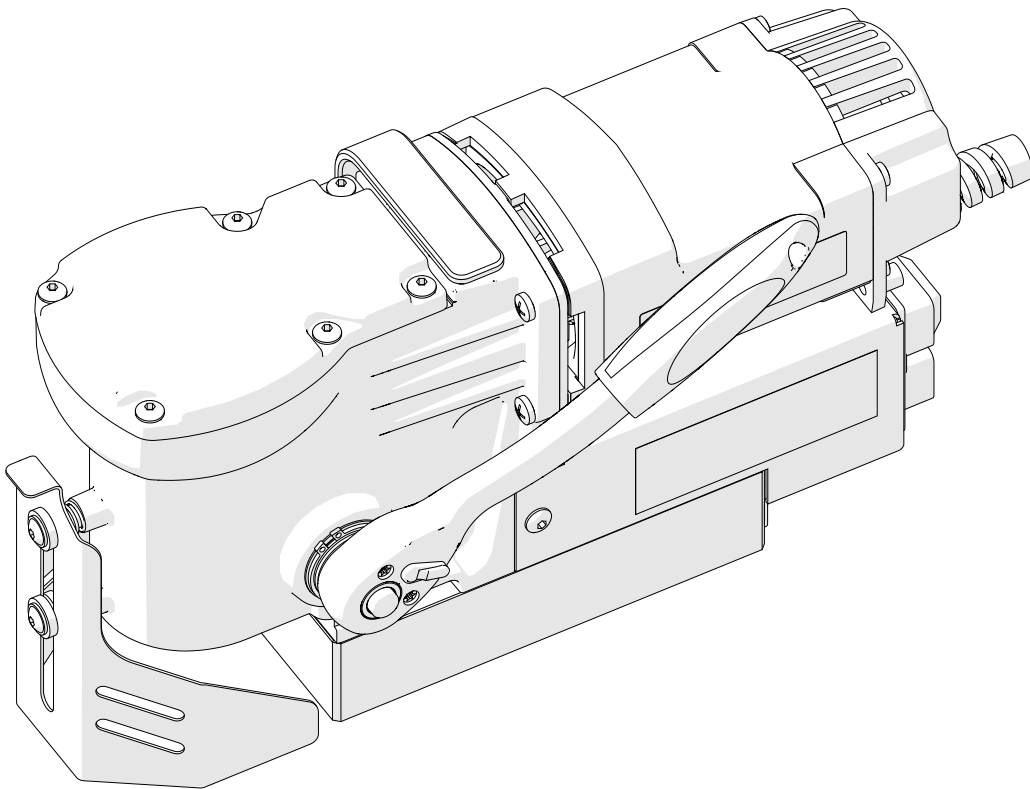


OPERATOR'S MANUAL

DRILLING MACHINE WITH ELECTROMAGNETIC BASE **PRO-40 AD**



Contents

1. GENERAL INFORMATION.....	3
1.1. Application.....	3
1.2. Technical data.....	3
1.3. Equipment included.....	4
1.4. Dimensions.....	5
1.5. Design.....	5
2. SAFETY PRECAUTIONS.....	6
3. SYMBOLS.....	8
4. STARTUP AND OPERATION.....	9
4.1. Installing the handles.....	9
4.2. Installing and removing the annular cutter.....	10
4.3. Monitoring system of the clamping force.....	11
4.4. Preparing.....	11
4.5. Drilling.....	13
4.6. Replacing the brushes.....	14
5. PARTS LIST.....	15
6. WIRING DIAGRAM.....	21

LIMITED WARRANTY

Industrial Tool & Machinery Sales (hereinafter referred to as ITMS) will, within 2 years from the original date of purchase, repair or replace any goods found to be defective in materials or workmanship. This warranty is void if the item has been damaged by accident, neglect, improper service or other causes not arising out of defects in materials or workmanship. This warranty does not apply to machines and/or components which have been altered, changed, OR modified in any way, or subjected to overloading or use beyond recommended capacities and specifications. Worn componentry due to normal wear and tear is not a warranty claim. Goods returned defective shall be returned prepaid freight to ITMS or agreed repair agent, which shall be the buyer's sole and exclusive remedy for defective goods. ITMS accepts no additional liability pursuant to this guarantee for the costs of travelling or transportation of the product or parts to and from ITMS or the service agent or dealer, such costs are not included in this warranty.

Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

THE MANUFACTURER RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE.

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1. GENERAL INFORMATION

1.1. Application

The PRO-40 AD is a drilling machine designed to drill holes of diameters of up to 40 mm (1 9/16") and of depth of up to 40 mm (1 9/16") with annular cutters. The machine can also drill holes of diameter of up to 12 mm (15/32") and of depth of up to 25 mm (1") twist drill bits with Weldon holder 19 mm (3/4").

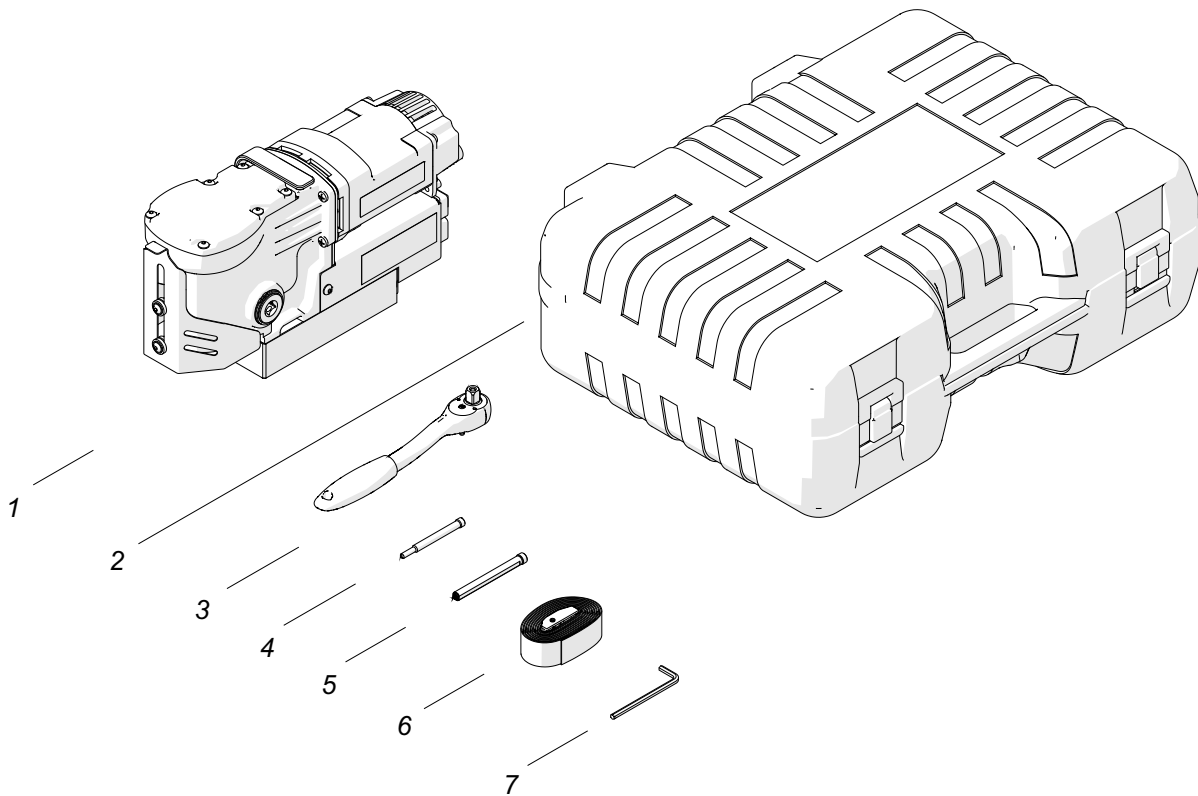
The electromagnetic base clamps the machine to ferromagnetic surfaces. This makes sure that the operator is safe and the machine works correctly. A safety strap protects the machine from falling in case of a clamping loss.

The machine is designed for professional use only.

1.2. Technical data

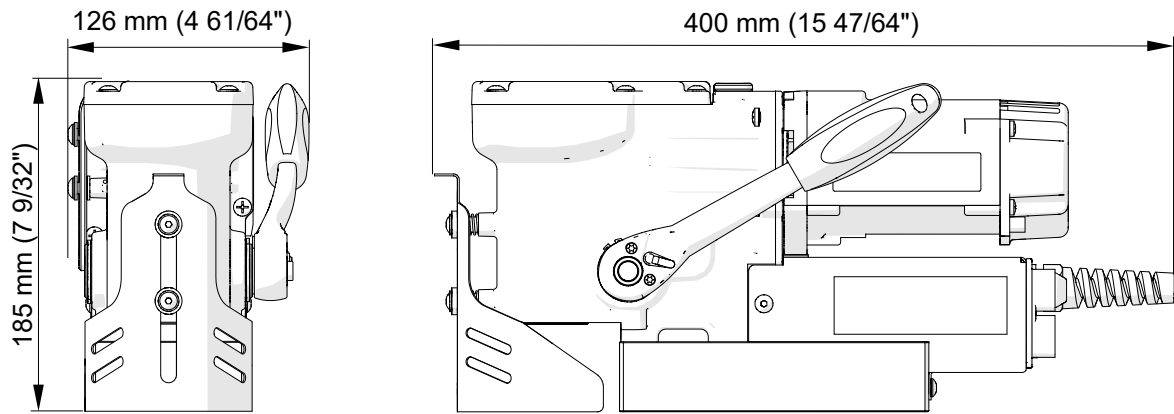
Voltage	1~ 220–240 V, 240v 50hz
Power	1100 W
Tool holder	19 mm (3/4") Weldon
Maximum drilling diameter with annular cutter	40 mm (1 9/16")
Maximum drilling diameter with a twist drill bit	12 mm (15/32")
Maximum drilling depth with annular cutter	40 mm (1 9/16")
Clamping force (surface with the thickness of 25 mm and roughness $R_a = 1.25$)	9900 N
Electromagnetic base dimensions	84 × 168 × 48.5 mm 3 9/16" × 6 39/64" × 1 29/32"
Stroke	45 mm (1 49/64")
Rotational speed with no load	580 rpm
Rotational speed with load	370 rpm
Minimum workpiece thickness	6 mm (15/64")
Protection class	I
Protection level	IP 20
Noise level	More than 85 dB
Required ambient temperature	0-40°C (32-104°F)
Weight	10 kg (22 lbs)

1.3. Equipment included

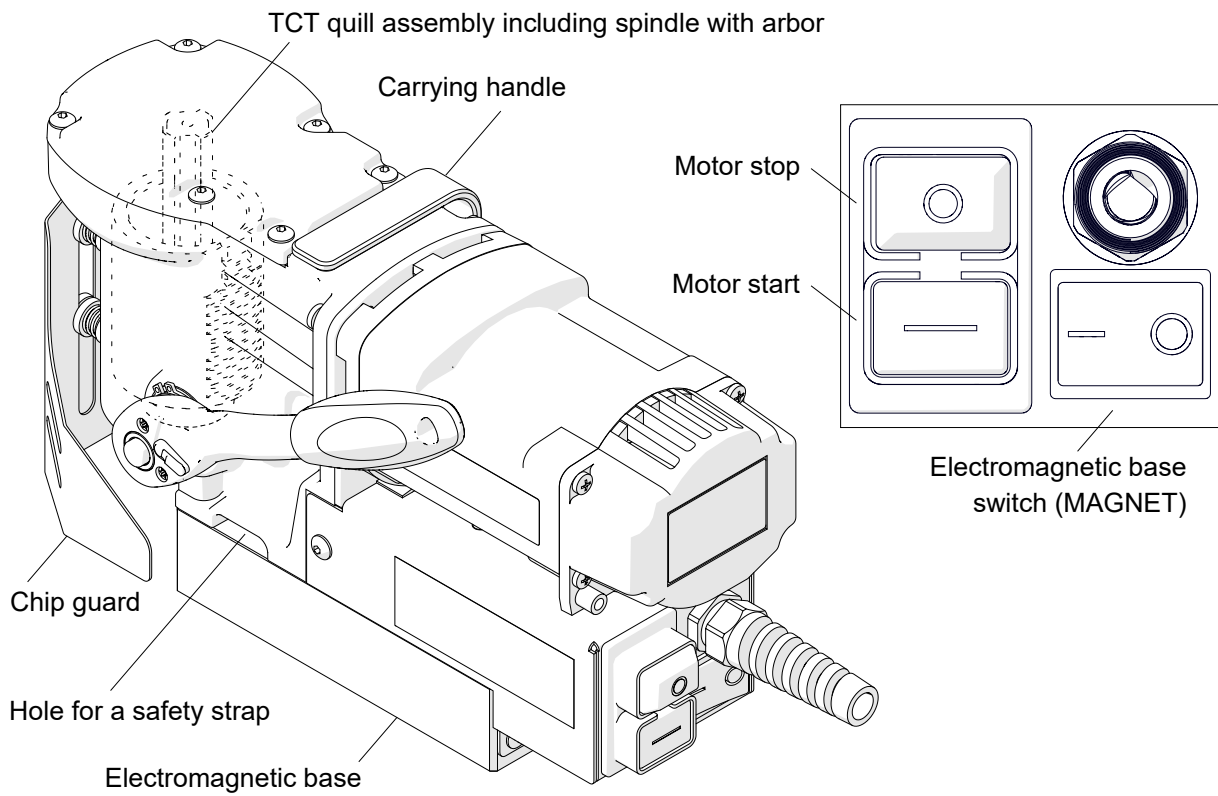


1	Drilling machine	1 unit
2	Plastic box	1 unit
3	Handle	1 unit
4	Pilot pin 6.34x102 for HSS cutters	1 unit
5	Pilot pin 7.98x103 for TCT cutters	1 unit
6	Safety strap	1 unit
7	Hex wrench 4 mm	1 unit
-	Operator's Manual	1 unit

1.4. Dimensions



1.5. Design



2. SAFETY PRECAUTIONS

1. Before use, read this operator's manual and complete a training in occupational safety and health.
2. Use only in applications specified in this Operator's Manual.
3. Make sure that the machine has all parts and they are genuine and not damaged.
4. Make sure that the specifications of the power source are the same as those specified on the rating plate.
5. Connect the machine to a correctly grounded power source. Protect the power source with a 16 A fuse for 230 V. If you are going to work on building sites, supply the machine through an isolation transformer with class II protection only.
6. Set the MAGNET switch to 'O' before you move the machine. Use carrying handle to move the machine.
7. Do not carry the machine by the power cord and do not pull the cord. This can cause damage and electric shock.
8. Keep untrained persons away from the machine.
9. Before each use, ensure the correct condition of the machine, power source, power cord, plug, control panel, and tools.
10. Before each use, make sure that no part is cracked or loose. Make sure to maintain correct conditions that can have an effect on the operation of the machine.
11. Keep the machine dry. Do not expose the machine to rain, snow, or frost.
12. Do not stay below the machine that is put at heights.
13. Keep the work area well-lit, clean, and free of obstacles.
14. Make sure that the tool is correctly attached. Remove wrenches from the work area before you connect the machine to the power source.
15. Do not use tools that are dull or damaged.
16. Do not make holes whose diameter or depth differ from those specified in the technical data.
17. Unplug the power cord before you install and remove tools. Install and remove tools by using protective gloves.
18. Use annular cutters without the pilot pin only when you drill incomplete through holes.
19. Do not use near flammable materials or in explosive environments.

20. Do not use on surfaces that are rough, not flat, not rigid, or have rust, paint, chips, or dirt.
21. Use the safety strap to attach the machine to a stable structure. Put the strap through the hole in the machine body. Do not put the strap into the buckle from the front.
22. Use eye and ear protection and protective clothing. The clothing must not be loose.
23. Each time before you put the machine on the workpiece, rub the workpiece with coarse-grained sandpaper. Make sure that the full bottom of the base touches the surface.
24. Do not touch chips or moving parts. Do not let anything to be caught in moving parts.
25. After each use, clean the machine and the tool. Do not remove chips with bare hands.
26. Unplug the power cord before you do maintenance or install/remove parts.
27. Repair only in a service center appointed by the seller.
28. If the machine falls, is wet, or has any damage, stop the work and immediately send the machine to the service center for check and repair.
29. Do not leave the machine when it operates.
30. If you are not going to use the machine, remove the tool from the holder. Then, remove the machine from the work area and keep it in a safe and dry place.
31. If you are not going to use the machine for an extended period, put anti-corrosion material on the steel parts.

3. SYMBOLS

Before using the machine, familiarize yourself with the following symbols:



Use eyes protection



Use hearing protection



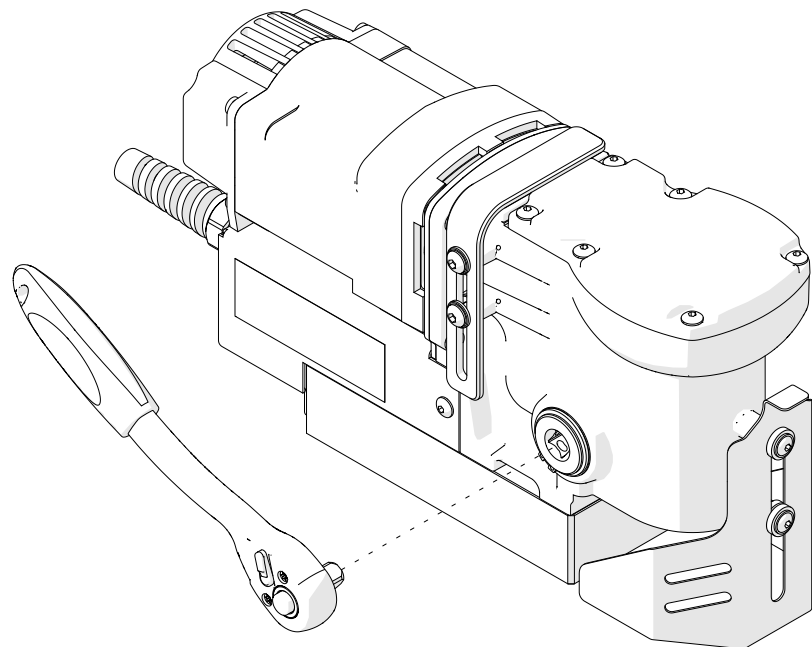
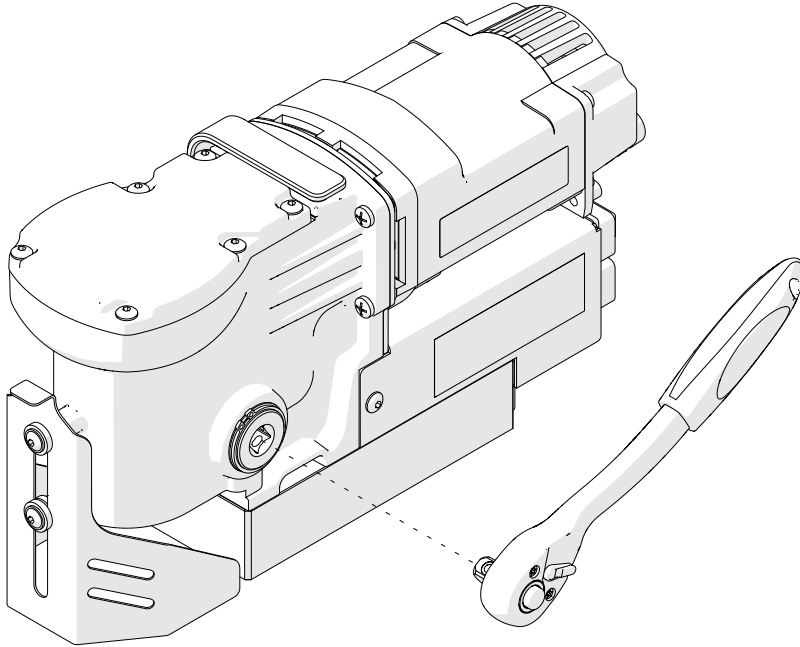
Read the Operator's Manual



Warning against electric voltage

4. STARTUP AND OPERATION

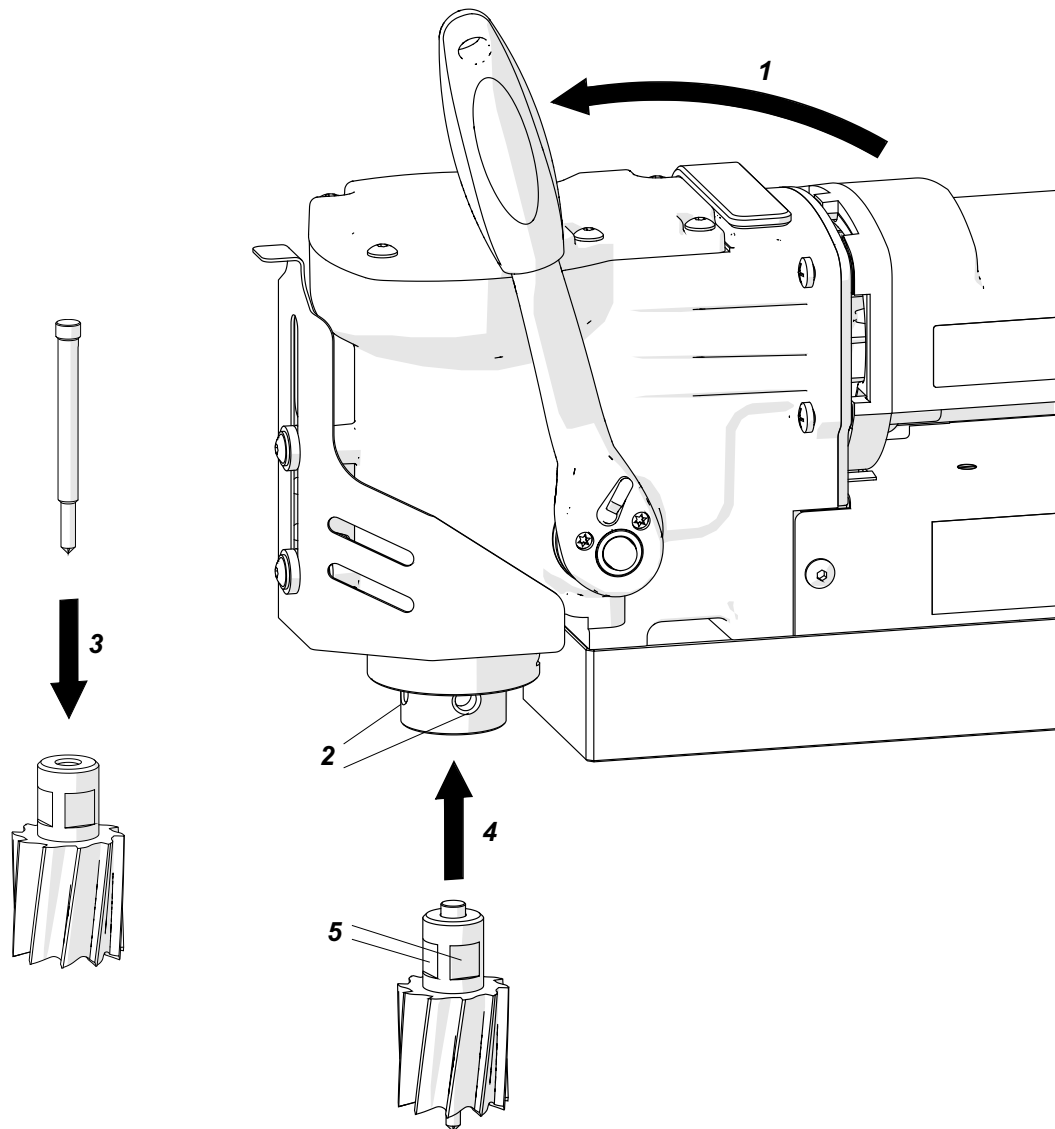
4.1. Installing the handles



4.2. Installing and removing the annular cutter

Unplug the power cord and lift the chip guard. Turn the handle to the left (1) to get access to the screws (2). Use gloves to put the correct pilot pin into the annular cutter (3). Use a dry cloth to clean the arbor and cutter. Put the cutter into the arbor (4) to align the flat surfaces (5) with the screws (2). Use the 4 mm hex wrench to tighten the screws.

To remove the cutter, loosen the screws (2) with the 4 mm hex wrench.



4.3. Monitoring system of the clamping force

The drilling machine has a system that monitors the clamping force of the electromagnetic base. The force will be lower if there is rust, paint, chips, or dirt. The force will be lower also if the surface is thin, rough, not flat, not rigid, the voltage is lower than required, or the bottom of the base is worn.

If the clamping force is too low, the system will not allow the machine to operate. Then, after you release the green MOTOR button, the motor stops. This happens on a surface thinner than 6 mm (15/64"). The clamping force is then only about 25% of the force that you can get on a flat plate that is 25 mm (1") thick. Then, to drill on thin plates, press and hold the green MOTOR button.

4.4. Preparing

Before use, clean steel parts, including the spindle, from anti-corrosion material used to preserve the machine for storage and transport.

Install the handle as described before.

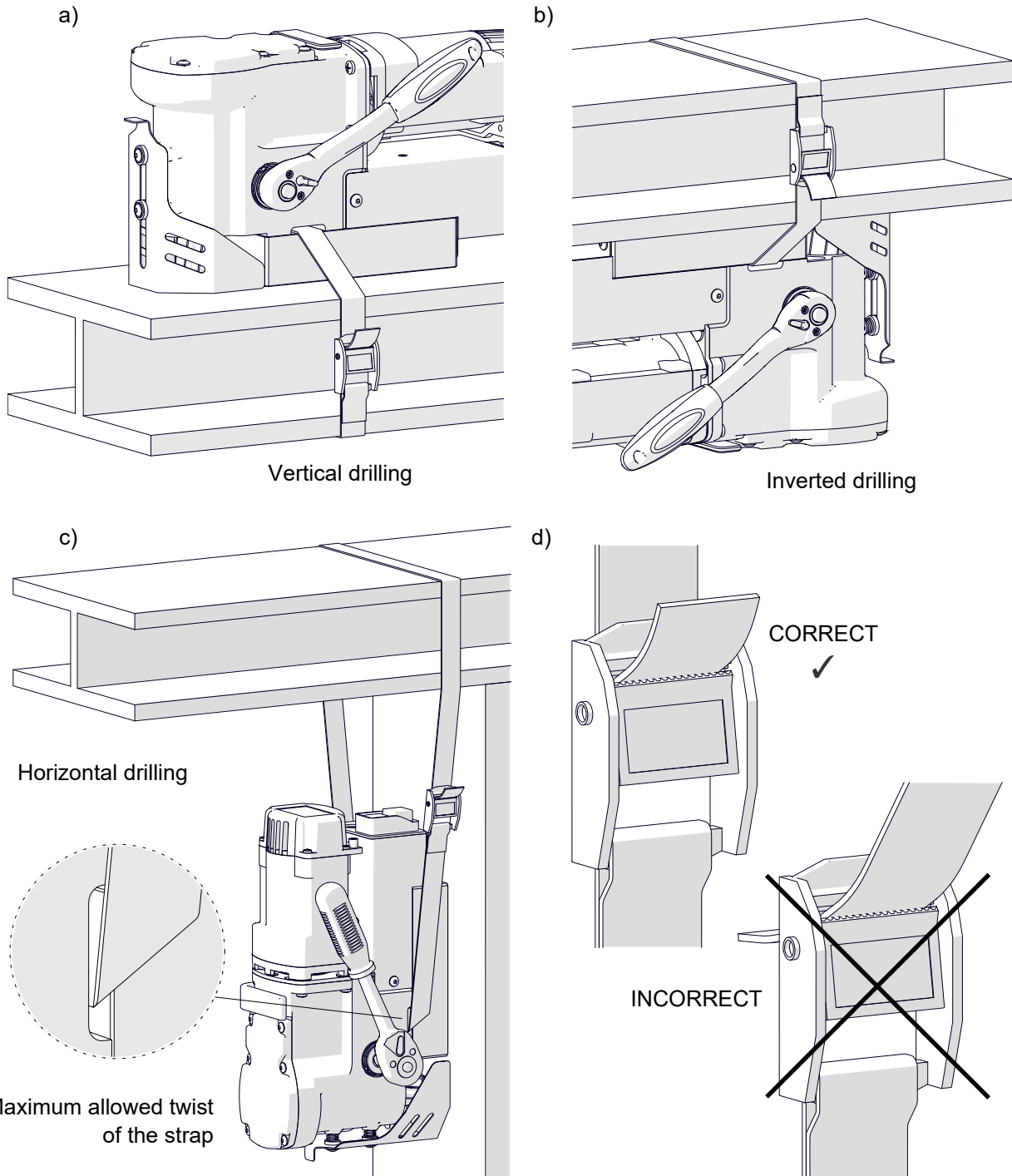
Select the annular cutter or drill bit that matches the required hole diameter. Use a dry cloth to clean the spindle and the cutter (drill bit). Then, install the cutter (drill bit) as described before.

Put the machine on a flat ferromagnetic workpiece with the thickness of at least 6 mm (1/4"). Make sure that there is no rust, paint, chips, or dirt. They decrease the clamping force. The force will be lower also if the surface is thin, rough, not flat, not rigid, the voltage is lower than required, or the bottom of the base is worn.

Connect the machine to the power source. Set the MAGNET switch to '1' to turn on the clamping.

Some types of steel (non-ferromagnetic) do not conduct magnetic flux so the machine cannot clamp onto them.

Use the safety strap to prevent fall and injury if the machine loses the clamping. Attach the machine to a stable structure by putting the strap through the hole in the machine body. Make sure that the strap is tight and not twisted (except horizontal drilling; the maximum allowed twist is shown in the figure "c"). If the machine comes loose from the workpiece and hangs on the strap, replace the strap. Do not put the strap into the buckle from the front (d).



Turn the handle to the left to put the cutter (drill bit) above the workpiece.

Fill the coolant bottle (not included) with coolant. Do not use only water as the coolant. But you can mix water and drilling oil. Then, make sure that the cooling system works correctly.

In the vertical position (a), apply the coolant manually into the drilling area. In the inverted or horizontal position (b, c), use coolants under pressure or in the form of spray or paste.

4.5. Drilling

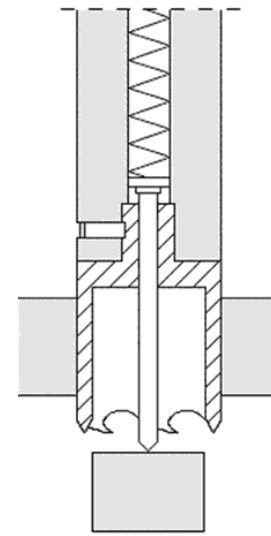
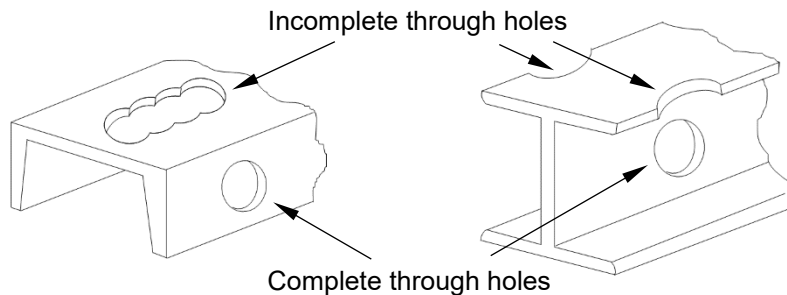
Press the green MOTOR button to start the motor. Turn the handle to the left to put the tool into the workpiece.

Keep the machine in the same position until the hole is made.



When the annular cutter goes through the workpiece, the slug core is pushed out with a large force.

When you use an annular cutter, drill only through holes. For incomplete through holes do not use the pilot pin.



When you use a drill bit, drill holes with diameters of 8–12 mm (5/16" – 1/2") in two steps. First, use the drill bit with the 70% diameter of the desired diameter to drill a hole. Then, keep the machine in the same position, and drill again with the drill bit that matches the desired diameter.

After the hole is made, remove the tool from the workpiece and press the red MOTOR button to turn off the motor. Before you move the machine, set the MAGNET switch to 'O' to turn off the base.

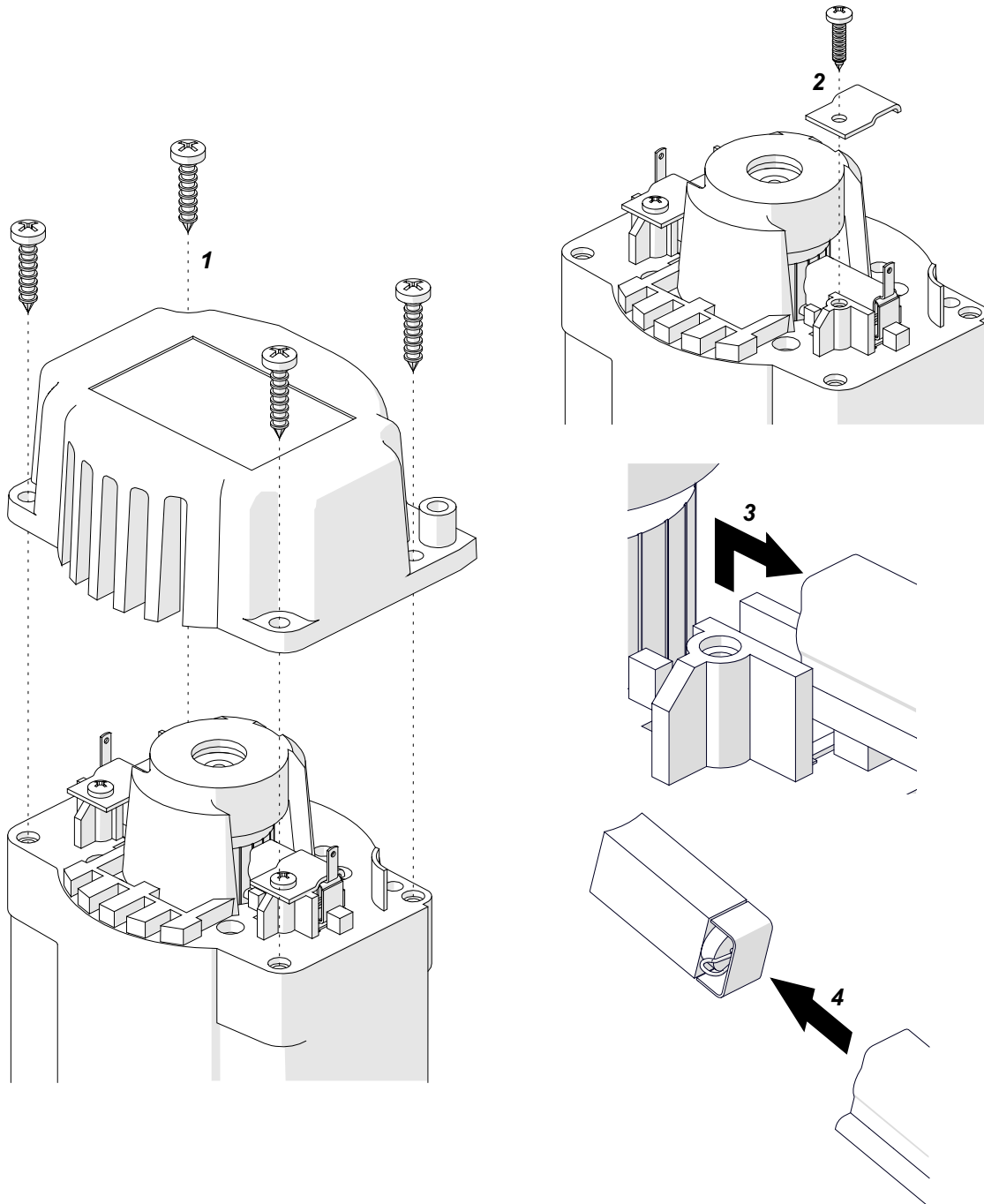
After the work is finished, turn off the motor and the base and unplug the power cord. Clean the machine and the tool, and then remove the machine from the work area.

Before you put the machine into the box, remove the handle, and use gloves to remove the tool from the holder.

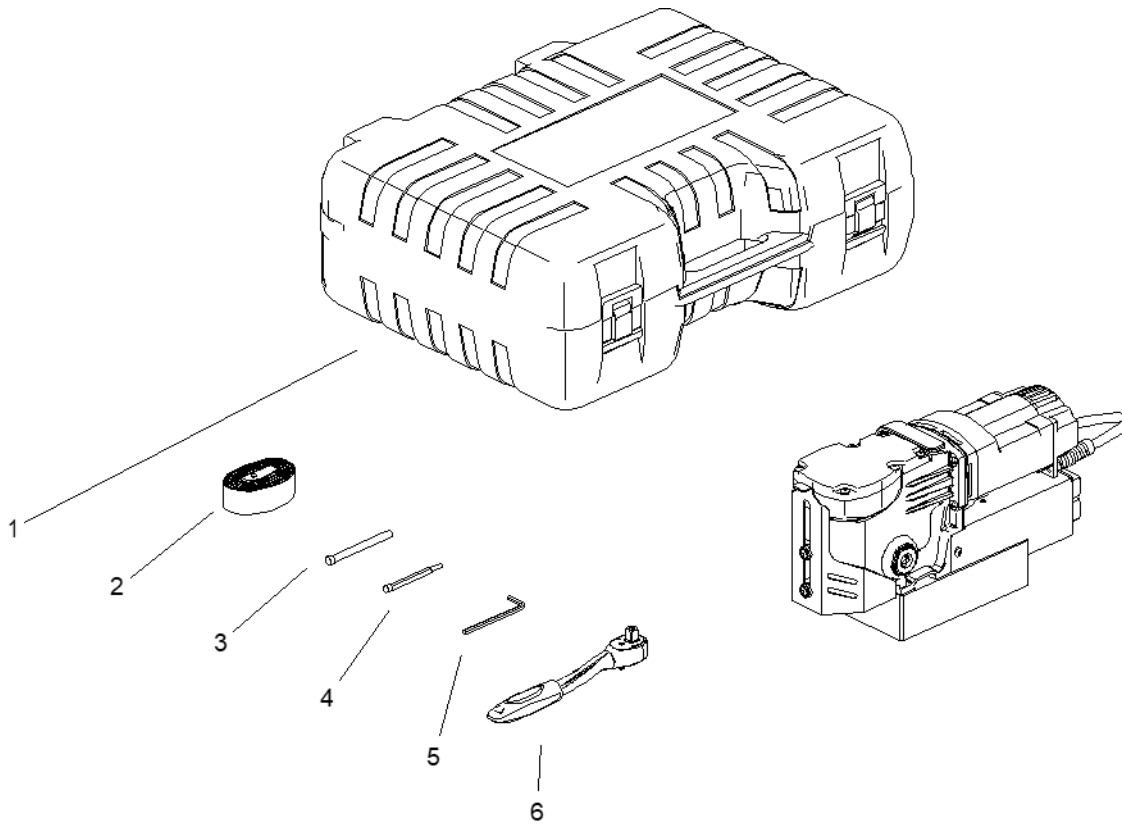
4.6. Replacing the brushes

Every 100 work hours, check the condition of the brushes. To do this, unplug the power cord and remove the cover (1). Remove the pressing plate (2), and then remove the brush holder (3) and the brush (4). If the brush is shorter than 5 mm (3/16"), replace both brushes with new ones.

Install in reverse sequence. Then, let the motor operate with no load for 20 minutes.

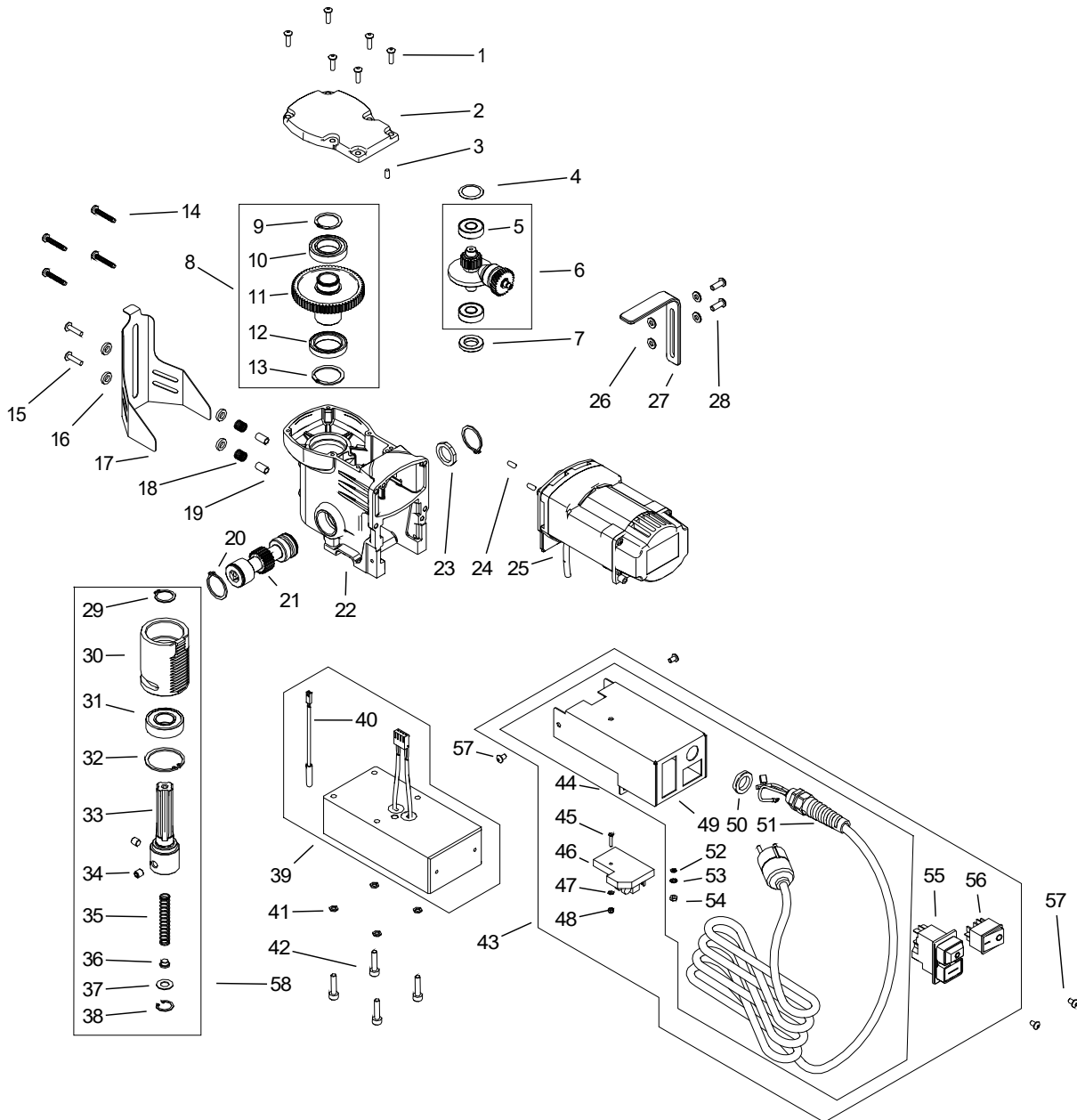


5. PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	SKR-000012	PLASTIC BOX	1
2	PAS-000007	SAFETY STRAP 250	1
3	PLT-000010	PILOT PIN	1
4	PLT-000101	PILOT PIN	1
5	KLC-000007	HEX WRENCH 4 MM	1
6	KLC-000088	RATCHET WRENCH 3-8	1

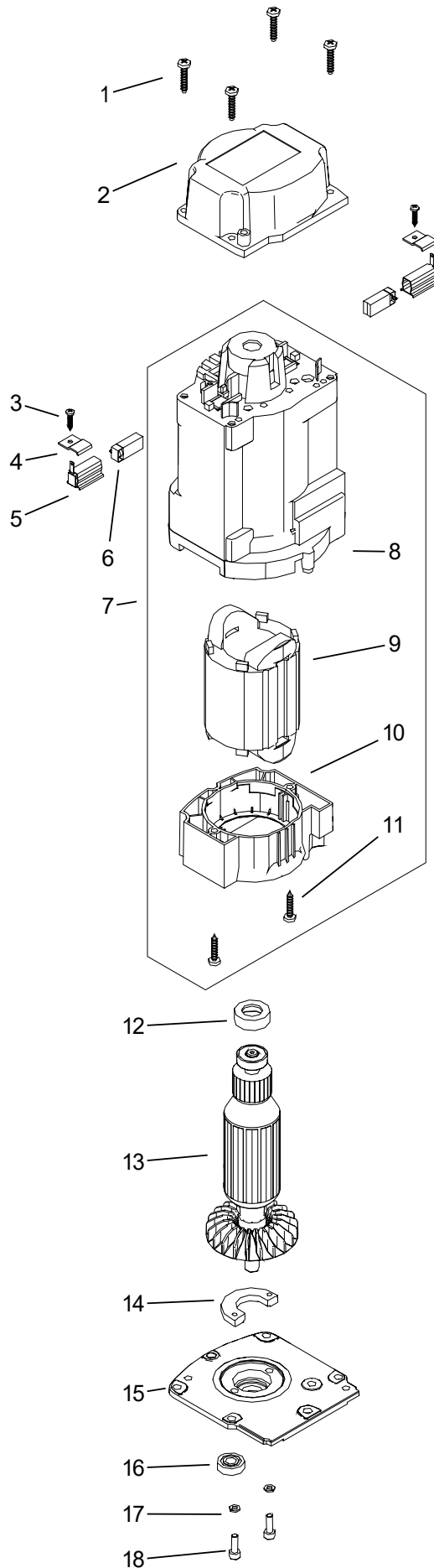
*not shown in the drawing



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	WKR-000098	HEX SOCKET BUTTON HEAD SCREW M5x16	6
2	PKR-0836-01-00-00-0	GEARBOX COVER	1
3	KLK-000044	DOWEL PIN 5n6x10	1
4	SPR-000063	DISC SPRING fi27.99xfi21.74x0.3	1
5	LOZ-000038	BALL BEARING 12x28x8	2
6	PKL-0521-17-00-00-0	BEVEL GEARBOX ASSY	1
7	PDK-0521-13-00-00-0	SETTING WASHER	1
8	KOL-0521-08-00-00-0	GEAR	1
9	PRS-000223	EXTERNAL RETAINING RING 25z TYPE A	1

ITEM	PART NUMBER	DESCRIPTION	Q-TY
10	LOZ-000169	BALL BEARING 25x42x9	1
11	KOL-0521-08-01-00-0	GEAR	1
12	LOZ-000100	BALL BEARING 30x42x7	1
13	PRS-000443	RETAINING RING	1
14	WKR-000302	SELF-TAPPING SCREW 5x30	4
15	WKR-000395	HEX SOCKET ROUND HEAD SCREW WITH FLANGE M5x20	2
16	PDK-000151	NYLON WASHER 8.1x14x3	4
17	OSL-0836-03-00-00-0	CHIP GUARD	1
18	SPR-000030	SPRING 1x10x17.5	2
19	TLJ-0399-06-00-00-0	BOTTOM SLEEVE	2
20	PRS-000019	EXTERNAL RETAINING RING 28z	2
21	WLK-0521-10-00-00-0	PINION SHAFT	1
22	KRP-0748-01-00-00-0	MAIN BODY	1
23	PRS-0440-11-02-00-0	BRAKE RING 20x28x3.9	1
24	KLK-000044	DOWEL PIN 5n6x10	2
25	SLN-0748-03-00-00-0	MOTOR - 115V	1
25	SLN-0748-03-00-00-1	MOTOR - 230V	1
26	PDK-000021	ROUND WASHER 6.4	4
27	UCW-0748-04-00-00-0	HANDLE	1
28	WKR-000101	HEX SOCKET BUTTON HEAD SCREW M6x16	2
29	PRS-000011	EXTERNAL RETAINING RING 20z	1
30	TLJ-0836-02-01-00-0	QUILL CARRIER	1
31	LOZ-000045	BALL BEARING 20x42x12	1
32	PRS-000026	INTERNAL RETAINING RING 42w	1
33	WRZ-0521-30-02-00-0	SPINDLE	1
34	WKR-000063	HEX SOCKET SET SCREW WITH FLAT POINT M8x8	2
35	SPR-0378-03-04-00-0	SPRING	1
36	WYP-0378-03-05-00-0	PLUNGER	1
37	PDK-0139-00-04-00-0	WASHER 18.8x10x1	1
38	PRS-000009	INTERNAL RETAINING RING 19w	1
39	PDS-0593-11-00-00-0	ELECTROMAGNETIC BASE	1
40	WZK-0242-04-00-00-0	REED RELAY HARNESS ASSY.	1
41	PDK-000046	SPRING WASHER 6.1	4
42	SRB-000117	HEX SOCKET HEAD CAP SCREW M6x25	4
43	STR-0836-04-00-00-0	COVER WITH CONTROLLER ASSY 115V	1
43	STR-0836-04-00-00-1	COVER WITH CONTROLLER ASSY 230V	1
44	OBD-0836-04-01-00-0	COVER WITH HOSE – 115V AWG	1
44	OBD-0836-04-01-00-1	COVER WITH HOSE – 230V CEE	1

ITEM	PART NUMBER	DESCRIPTION	Q-TY
44	OBD-0836-04-01-00-2	COVER WITH HOSE – 230V Australia	1
44	OBD-0836-04-01-00-3	COVER WITH HOSE – 230V Indie	1
44	OBD-0836-04-01-00-4	COVER WITH HOSE – 230V typ G	1
44	OBD-0836-04-01-00-5	COVER WITH HOSE – 230V AWG	1
45	WKR-000158	COUNTERSUNK HEAD SCREW M3x16	1
46	STR-0836-04-02-00-0	CONTROLLER SET ASSY - 115V	1
46	STR-0836-04-02-00-1	CONTROLLER SET ASSY - 230V	1
47	PDK-000013	ROUND WASHER 3.2	1
48	NKR-000234	HEX NUT M3	1
49	KRP-0836-04-01-01-0	COVER	1
50	NKR-000040	STRAIN RELIEF NUT PG11	1
51	SZN-0212-10-02-00-2	POWER CORD 230V 3x1.5 WITH STRAIN RELIEF ASSY (EU)	1
52	PDK-000043	SPRING WASHER 4.1	1
53	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	1
54	NKR-000013	HEX NUT M4	1
55	WLC-000008	START-STOP SWITCH	1
56	PNK-000013	SWITCH	1
57	WKR-000289	HEX SOCKET BUTTON HEAD SCREW M5x8	4
58	ZSP-0836-02-00-00-0	QUILL ASSY.	1
59*	SMR-000009	GREASE	0,15kg



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	WKR-000241	SELF-TAPPING SCREW 4x20	4
2	PKR-0440-03-02-00-0	MOTOR COVER	1
3	WKR-000359	SCREW 3x13	2
4	PLY-0271-03-07-00-0	BRUSH HOLDER PRESSURE PLATE	2
5	SCT-0271-03-06-00-0	BRUSH HOLDER	2
6	SCZ-000008	MOTOR BRUSH 6x9x17	2
7	OBD-0272-03-01-00-1	STATOR HOUSING ASSY - 115V	1
8	OBD-0272-03-01-01-3	STATOR HOUSING	1
9	STN-000002	STATOR – 120V	1
9	STN-000004	STATOR – 220V	1
10	OSL-0271-03-01-02-1	FAN COVER	1
11	WKR-000241	SCREW FOR PLASTIC 4x20	2
12	WKL-000001	BEARING INSERT 19x7.5	1
13	WRN-0440-99-02-00-0	ROTOR – 120V	1
13	WRN-0440-99-02-00-1	ROTOR – 230V	1
14	PRS-0271-03-02-02-1	GEARBOX COVER RING	1
15	PKR-0748-03-01-00-0	MOTOR COVER	1
16	LOZ-000061	BALL BEARING 7x17x5	1

6. WIRING DIAGRAM

