

HOLEMAKER 40AD

Holemaker Angle Drive Portable Magnetic Drilling Machine

OPERATOR'S MANUAL

⚠ WARNING!

BEFORE USE, BE SURE EVERYONE USING THIS MACHINE READS AND UNDERSTANDS ALL SAFETY AND OPERATING INSTRUCTIONS IN THIS MANUAL.



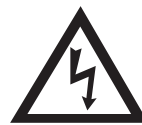
Eye PROTECTION
REQUIRED



HEARING PROTECTION
REQUIRED



NEVER PLACE
FINGERS NEAR
CUTTING AREA OR
MACHINE ARBOR



LINE VOLTAGE
PRESENT



BEWARE OF
ROTATING
MACHINE PARTS



Serial # _____

Date of Purchase _____

Holemaker Portable Magnetic Drilling Machine

Congratulations on your purchase of a Holemaker portable magnetic drilling machine. Holemaker drilling machines are designed to deliver fast, efficient hole drilling performance in portable applications.

DIMENSIONS & SPECIFICATIONS	
Height	181mm
Width	189mm
Length (inc. Handle)	327mm
Weight	11.1kg
Power	1080W
	240V / 5.1A
	400RPM
Arbor Bore	19mm
Magnetic Base Dimensions	80mm x 160mm
Magnetic Dead Lift	9500nm on 25mm Plate
Cutter Diameter (Maximum)	40mm (1 $\frac{3}{4}$ ")
Depth Of Cut (Maximum)	25mm (1")

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LIMITED WARRANTY

Industrial Tool & Machinery Sales (hereinafter referred to as ITMS) will, within twelve (12) months 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 use beyond recommended capacities and specifications. Electrical components are subject to respective manufacturers' warranties. All 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.

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

IMPORTANT SAFETY INSTRUCTIONS

WARNING!

WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE RISK OF FIRE, ELECTRIC SHOCK AND PERSONAL INJURY.

READ AND SAVE ALL INSTRUCTIONS FOR FUTURE REFERENCE.

- 1. Keep Work Area Clean**
 - Cluttered areas and benches invite injuries.
- 2. Consider Work Area Environment**
 - Do not expose power tools to rain.
 - Do not use power tools in damp or wet locations.
 - Keep work area well lit.
 - Do not use tool in presence of flammable liquids or gases.
- 3. Guard Against Electric Shock**
 - Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges and refrigerator enclosures.
- 4. Keep Children Away**
 - Do not let visitors contact tool or extension cord.
 - All visitors should be kept away from work area.
- 5. Store Idle Tools**
 - When not in use, tools should be stored in a dry, high and locked-up place, out of reach of children.
- 6. Do Not Force Tool**
 - It will do the job better and safer at the rate for which it was intended.
- 7. Use Right Tool**
 - Do not force a small tool or attachment to do the job of a heavy-duty tool.
 - Do not use tool for unintended purpose. For example: Do not use a circular saw for cutting tree limbs or logs.
- 8. Dress Properly**
 - Do not wear loose clothing or jewelry. They can be caught in moving parts.
 - Rubber gloves and non-skid footwear are recommended when working outdoors.
 - Wear protective hair covering to contain long hair.
- 9. Use Safety Glasses**
 - Also use face or dust mask if cutting operation is dusty.
- 10. Do Not Abuse Electrical Cord**
 - Never carry tool by cord or yank it to disconnect from receptacle.
 - Keep cord from heat, oil and sharp edges.
- 11. Secure Work**
 - Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
- 12. Do Not Overreach**
 - Keep proper footing and balance at all times.

IMPORTANT SAFETY INSTRUCTIONS

13. Maintain Tools With Care

- Keep tools sharp and clean for better and safer performance.
- Follow instructions for lubricating and changing accessories.
- Inspect tool cords periodically and if damaged, have repaired by authorized service facility.
- Inspect extension cords periodically and replace if damaged.
- Keep handles dry, clean, and free from oil and grease.

14. Disconnect Tools

- Unplug when not in use, before servicing, and when changing accessories, such as blades, bits and cutters.

15. Remove Adjusting Keys And Wrenches

- Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

16. Avoid Unintentional Starting

- Do not carry a plugged-in tool. Always disconnect from power source before moving.
- Be sure switches are off before connecting to a power source.

17. Outdoor Use Extension Cords

- When tool is used outdoors, use only extension cords intended for use outdoors and so marked.

18. Stay Alert

- Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- Do not use when taking medications that may cause drowsiness.

19. Check Damaged Parts

- Before further use of the tool, a guard or other part that is damaged should be repaired and performance verified prior to operation.
- Check alignment of moving parts, binding of parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center.
- Do not use this tool if switches do not turn it on and off. Have defective switches replaced by authorized service center.

GROUNDING INSTRUCTIONS

⚠️ WARNING!

Improperly connecting the grounding wire can result in the risk of electrical shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with tool. Never remove the grounding prong from the plug. If the cord or plug is damaged, have it repaired before using. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician. The Holesetter must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in Figure A. If in doubt of proper grounding, call a qualified electrician.

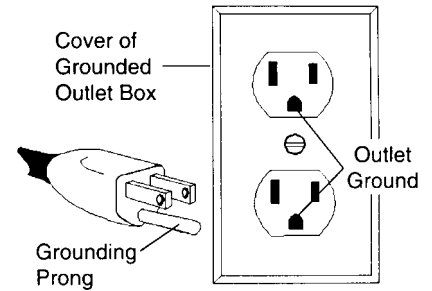


Fig. A

⚠️ WARNING!

DO NOT USE HOLESSETTER DRILLING MACHINES ON SURFACES OR MATERIALS BEING WELDED. DOING SO CAN RESULT IN PERSONAL INJURY AND/OR DAMAGE TO THE SLUGGER DRILLING MACHINE.

EXTENSION CORDS

Use only 3-wire extension cords that have 3-prong grounding-type plugs and 3-pole receptacles that accept the tool's plug. Replace or repair damaged cords. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. See table for the correct size to use depending on cord length and nameplate amperage rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

MINIMUM GAUGE FOR EXTENSION CORDS				
VOLTS	TOTAL LENGTH OF CORD IN FEET			
	120V	0-25	26-50	51-100
240V	0-50	51-100	101-200	201-300
AMPERAGE				
0-6	18	16	16	14
6-10	18	16	14	12
10-12	16	16	14	12
12-16	14	12	NOT RECOMMENDED	
RECOMMENDED WIRE GAUGE				

DRIP LOOP: To help prevent cutting fluids from traveling along power cord and contacting power source, tie a drip loop in power cord as shown in Figure C.

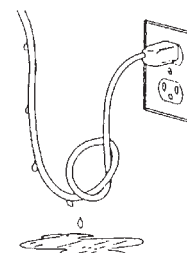


Fig. C

SPECIAL INSTRUCTIONS

1. Read and follow operator's manual thoroughly. If you cannot locate your operator's manual, contact ITMS for an additional FREE copy.
2. DO NOT touch rotating cutter or parts.
3. Always stop machine completely and unplug from power source before changing cutters, cleaning clips, refilling lubrication or performing adjustments.
4. Never wear loose clothing or gloves when working near cutting area or machine arbor.
5. Always wear eye protection. Any tool can shatter.
6. Always use safety chain or strap provided with machine.
7. Always use proper tooling. Keep cutters securely fastened.
8. DO NOT use dull or broken cutters.
9. Beware of ejected slugs at end of cut. They become HOT during the cut.
10. Keep all safety features functioning and working properly.
11. Keep bottom of magnet burr free and clear of chips and debris.
12. To reduce the risk of electrical shock, DO NOT remove or alter electrical panels or use machine in damp areas.
13. Use only authorized service centers for repairs.


OPERATING INSTRUCTIONS (BEFORE YOU BEGIN)


Remove all contents from packaging and inspect to ensure no damage was incurred during shipping. Your Holemaker package should include the following:

Description	QTY
HM40AD DRILL	1
SPOKE HANDLE	1
METAL BOX	1
HEX. WRENCH 4mm	1
HEX. WRENCH 5mm	1
COOLANT BOTTLE	1

WHAT YOU SHOULD KNOW BEFORE YOU DRILL

1. Type of material to be drilled, Brinnell or Rockwell hardness, material thickness and position should all be determined to ensure proper selection of cutting tools.
2. Remove any excessive mill scale or rust from surface to be drilled.
3. When drilling thin materials, it is recommended that you place a steel plate under the work piece and Holemaker magnet area to increase magnetic holding force.
4. Material that has been flame cut may become heat treated and therefore difficult to drill. Avoid drilling near such areas whenever possible.
5. Special cutter lubricant are available for using the Holemaker and annular cutters in the horizontal position. Consult you distributor for more information.

 **Caution:** Do not drill on material where welding is also simultaneously being performed. Drilling machine will be damaged.

 **Caution:** Powering drilling machine from generator without proper surge protection device between generator and drilling machine may cause damage to Printed Circuit Board in machine.

READY TO MAKE THE CUT

1. Fit your cutter into the drill arbor and tighten both grubs screws using the hex wrench provided onto the 2 flat sections of the cutter.
2. Fill coolant reservoir with a water-soluble coolant.
3. Position the Holemaker on the work piece with the pilot pin over the centre of the hole to be cut.
4. Lower cutter/drill to surface of material. coolant flow starts when pilot pin is depressed.
Lifting pilot pin off work surface will stop coolant flow.
5. Move the rocker switch (magnet switch) located on the panel to the ON position. The switch will illuminate to indicate DC power is going to the magnet.
6. Depress motor ON switch to start drill.
7. To start a cut, apply pressure until the cutter has established an external groove. Then apply steady pressure through the remainder of the cut (Note: Do not peck drill when using annular cutters). The tools are designed to evacuate chips when drilling.

AFTER THE CUT

1. After the cut has finished, the slug should be expelled on the down stroke. If the slug is not expelled after the cut, disconnect the machine from the power source and remove the cutter from the arbor body, then expel the slug. (Caution: The pilot should not be used to do this).
2. After the cut is finished, return the cutter back through the hole to the original position, depress motor OFF button and wait until motor fully stops. Move magnet switch to the OFF position to release the magnetic base from the material.

BASIC TROUBLESHOOTING

1. Magnetic base not holding securely

- Surface of material being drilled must be free of chips, debris, rust and mill scale.
- Does size of cutter exceed machine's rated capacity?
- Check magnet face for unevenness, nicks and burrs.
- Is welding equipment connected to material being drilled?

2. Drill motor running, arbor and spindle not turning

- Possible sheared drive train component.

3. Motor slows when drilling

- Is an extension cord being used? If so, see page 5 for recommended wire gages and cord lengths.
- Excessive downfeed pressure during drilling cycle will cause motor to slow and overheat.
- Does cutting tool need to be resharpened?

4. Coolant system not working

- Dirt or debris in coolant tank hose or fittings
- Consistency of coolant mixture too thick.
- Is correct pilot pin being used?

5. Slugs not ejecting from cutter

- Lack of coolant causing slugs to expand in cutter bore.
- Is correct pilot pin being used?
- Possible broken internal arbor parts.

6. Breaking cutters

- How is coolant being applied? Coolant must be supplied to interior of cutter.
- Excessive feed pressure being applied when cutter initially contacts work surface.
- Confirm material hardness.
- Drilling stacked materials with incorrect cutter.
- Dull cutters; dull or chipped cutting edges require excessive feed pressure, resulting in breakage.
- Excessive arbor runout – see regular maintenance on page 8.

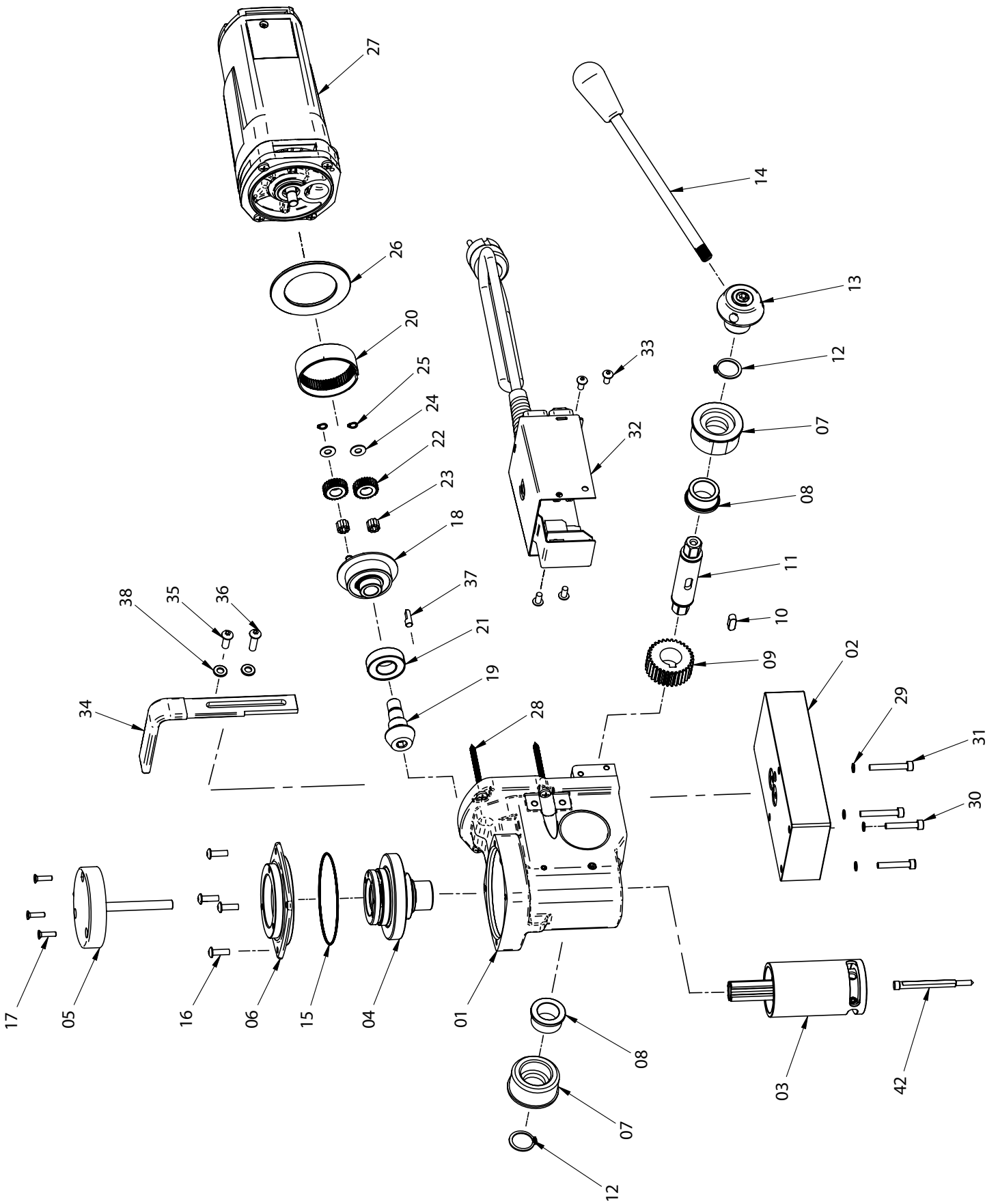
7. Oversized or rough holes

- Insufficient coolant.
- Excessive feed pressure.
- Dull cutter.

MACHINE BREAKDOWN

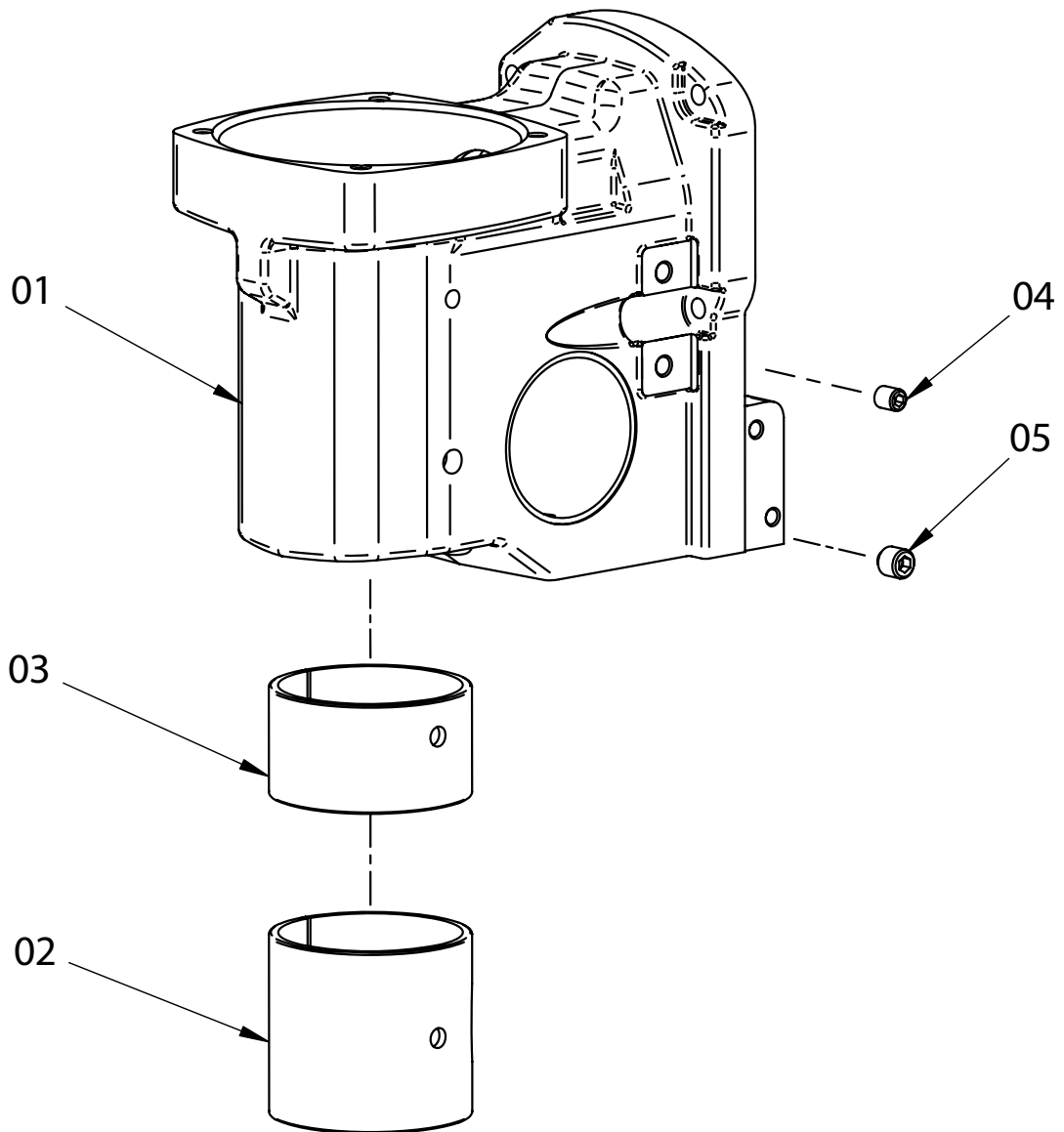
ITEM	PART NUMBER	DESCRIPTION	QTY
1	SPAD40-01	MAIN BODY ASSEMBLY	1
2	SPAD40-02	ELECTROMAGNETIC BASE ASSEMBLY	1
3	SPAD40-03	QUILL ASSEMBLY	1
4	SPAD40-04	BEVEL GEAR T=39 ASSEMBLY	1
5	SPAD40-05	GEAR BOX COVER ASSEMBLY	1
6	SPAD40-06	BEARING NUT HOLDER	1
7	SPAD40-07	FEED SHAFT HOLDER	2
8	SPAD40-08	SELF-LUBRICATING SLEEVE 32/26-20-15	2
9	SPAD40-09	GEAR Z=32	1
10	SPAD40-10	KEY 6x6x16	1
11	SPAD40-11	FEED SHAFT	1
12	SPAD40-12	EXTERNAL RETAINING RING- 20Z	2
13	SPAD40-13	HEAD ASSEMBLY	1
14	SPAD40-14	HANDLE ASSEMBLY	1
15	SPAD40-15	SEAL RING 80x1,3	1
16	SPAD40-16	SCREW M5x16	4
17	SPAD40-17	SCR, M4 x 16 FHSCS	3
18	SPAD40-18	SHAFT ASSEMBLY	1
19	SPAD40-19	GEARSHFT T=11	1
20	SPAD40-20	GEAR T=62	1
21	SPAD40-21	BEARING BALL 6003	1
22	SPAD40-22	GEAR T=27	2
23	SPAD40-23	NEEDLE, 2,5x7,8	20
24	SPAD40-24	WASHER, 14x6,1x1	2
25	SPAD40-25	EXTERNAL RETAINING RING 6Z	2
26	SPAD40-26	STOP WASHER	1
27	SPAD40-27	MOTOR ASSEMBLY /230V	1
28	SPAD40-28	SELF-TAPPING SCREW 5x60	4
29	SPAD40-29	SPRING WASHER 5.1	4
30	SPAD40-30	HEX. SOCKET BOLT M5x30	2
31	SPAD40-31	M5x.8x35 SHCS	2
32	SPAD40-32	ELECTRONIC CONTROLLER ASSEMBLY	1
33	SPAD40-33	SCREW M5x10	4
34	SPAD40-34	HOLDER	1
35	SPAD40-35	SCREW M6x16	1
36	SPAD40-36	SCREW M6x20	1
47	SPAD40-37	COOLING BOTTLE	1
37	SPAD40-38	STOP PIN	1
38	SPAD40-39	ROUND WASHER 6,4	2
41	SPAD40-40	METAL BOX	1
42	SPAD40-41	PILOT PIN L=70	1
43	SPAD40-42	HEX. WRENCH 4	1

MACHINE BREAKDOWN



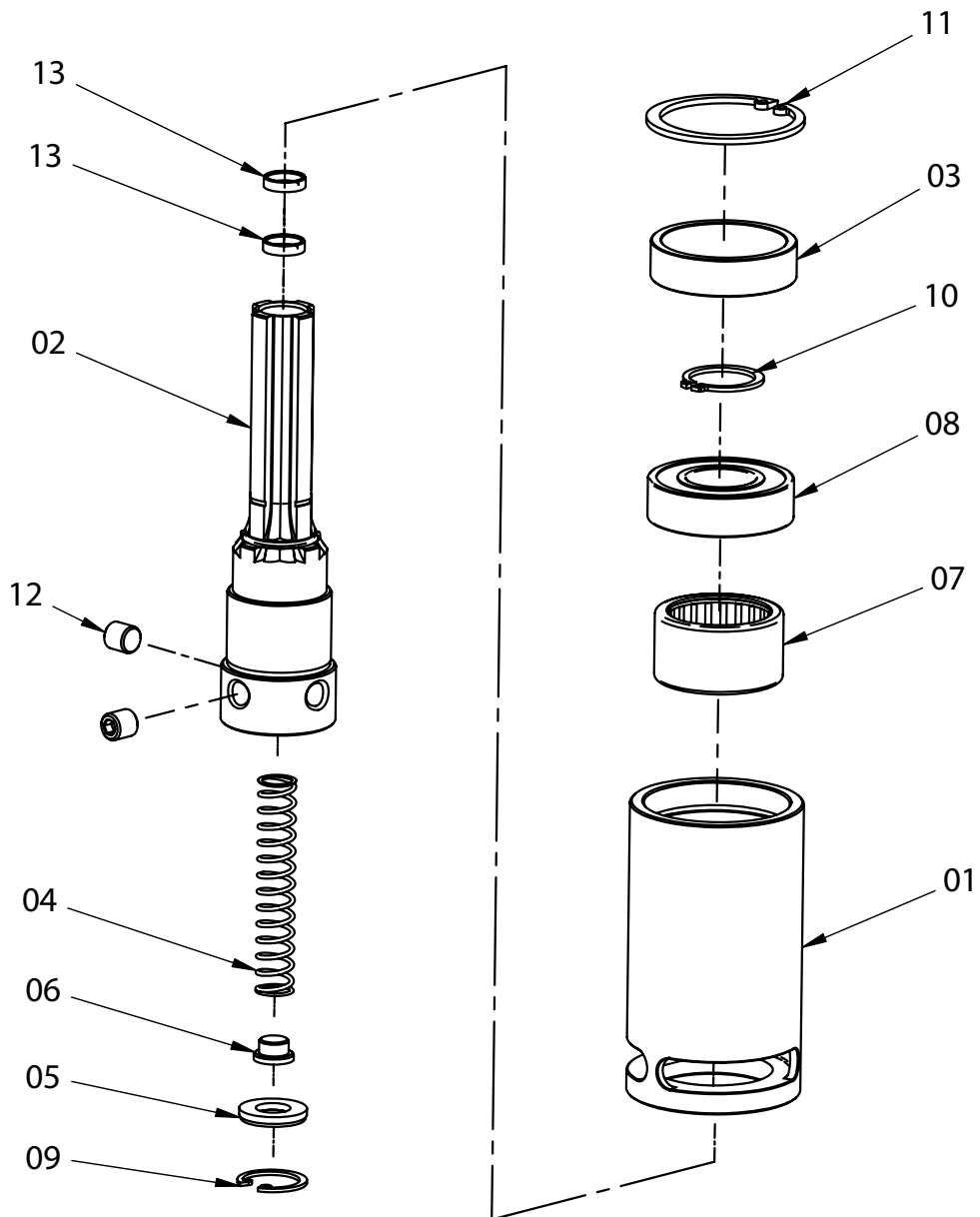
MAIN BODY ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
1.1	SPAD40-01-01	MAIN BODY	1
1.2	SPAD40-01-02	BUSHING PERMAGLIDE I	1
1.3	SPAD40-01-03	BUSHING PERMAGLIDE II	1
1.4	SPAD40-01-04	SOCKET SET SCREW M6 x 8	1
1.5	SPAD40-01-05	PRESSURE SCREW	1



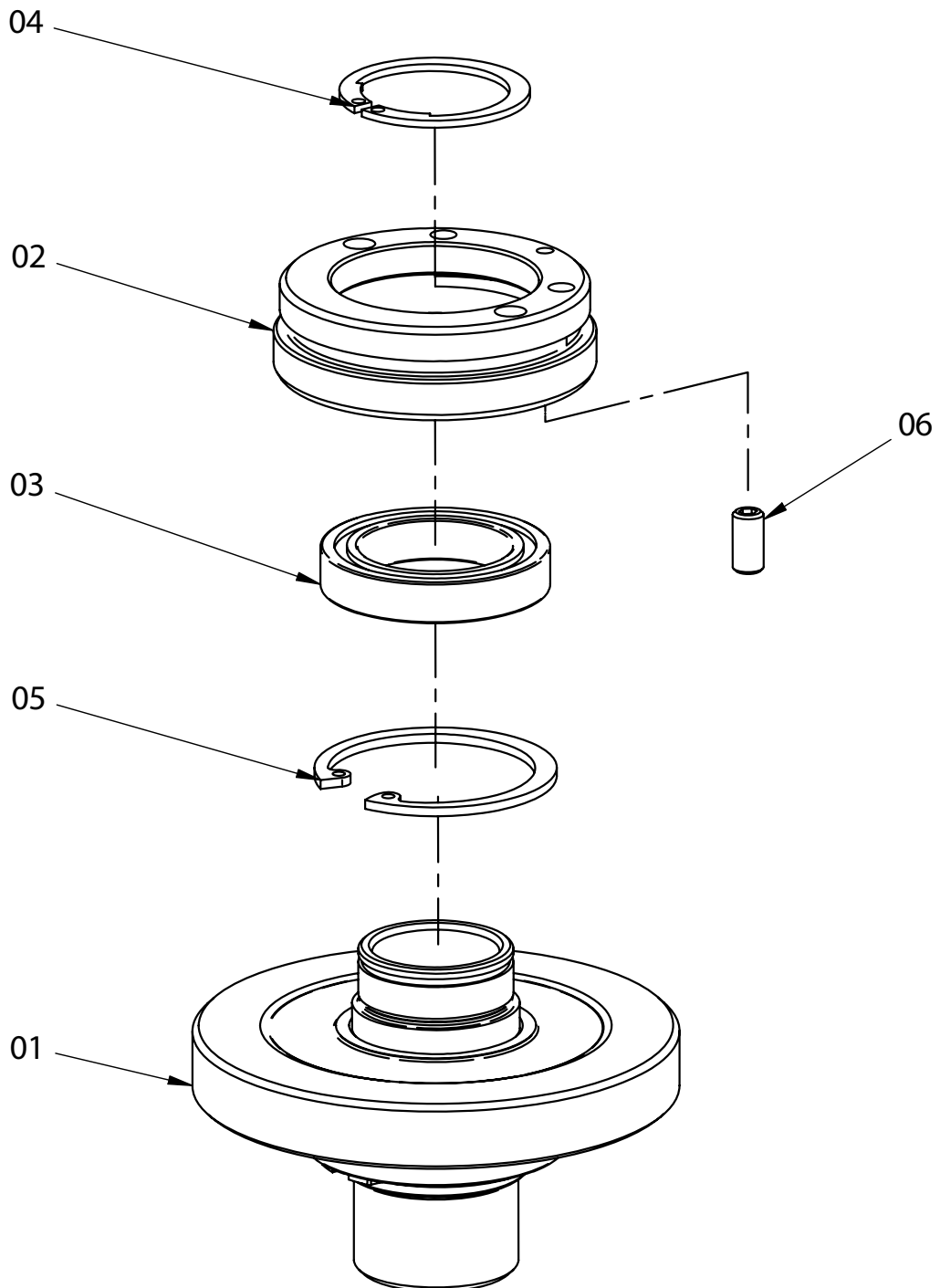
QUILL ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
3.1	SPAD40-03-01	QUILL CARRIER	1
3.2	SPAD40-03-02	SPINDLE	1
3.3	SPAD40-03-03	DISTANCE SLEEVE	1
3.4	SPAD40-03-04	SPRING	1
3.5	SPAD40-03-05	SEAL	1
3.6	SPAD40-03-06	PLUNGER	1
3.7	SPAD40-03-07	NEEDLE BEARING RHNA303720	1
3.8	SPAD40-03-08	BEARING BALL 6004 2RS	1
3.9	SPAD40-03-09	INTERNAL RETAINING RING 19W	1
3.10	SPAD40-03-10	EXTERNAL RETAINING RING - 20Z	1
3.11	SPAD40-03-11	INTERNAL RETAINING RING - 42W	1
3.12	SPAD40-03-12	HEX SET SCREW M8x10	2
3.13	SPAD40-03-13	SEAL RING TRK000080	2



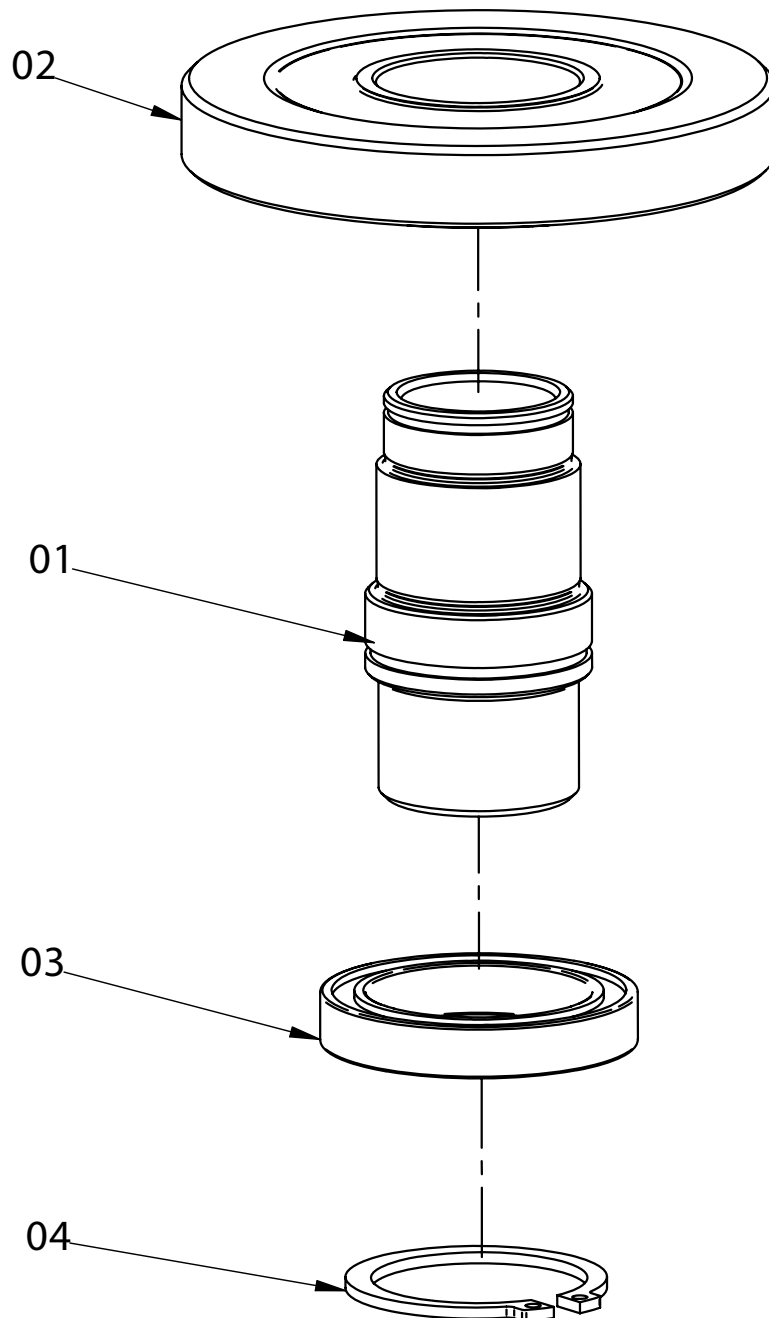
BEVEL GEAR ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
4.1	SPAD40-04-01	BEVEL GEAR T=39 ASSY / INCL. SLEEVE	1
4.2	SPAD40-04-02	BEARING NUT	1
4.3	SPAD40-04-03	BEARING BALL 61805 2RS	1
4.4	SPAD40-04-04	EXTERNAL RETAINING RING 25Z TYPE A	1
4.5	SPAD40-04-05	INTERNAL RETAINING RING 37W	1
4.6	SPAD40-04-06	HEX SET SCREW M5x10	1



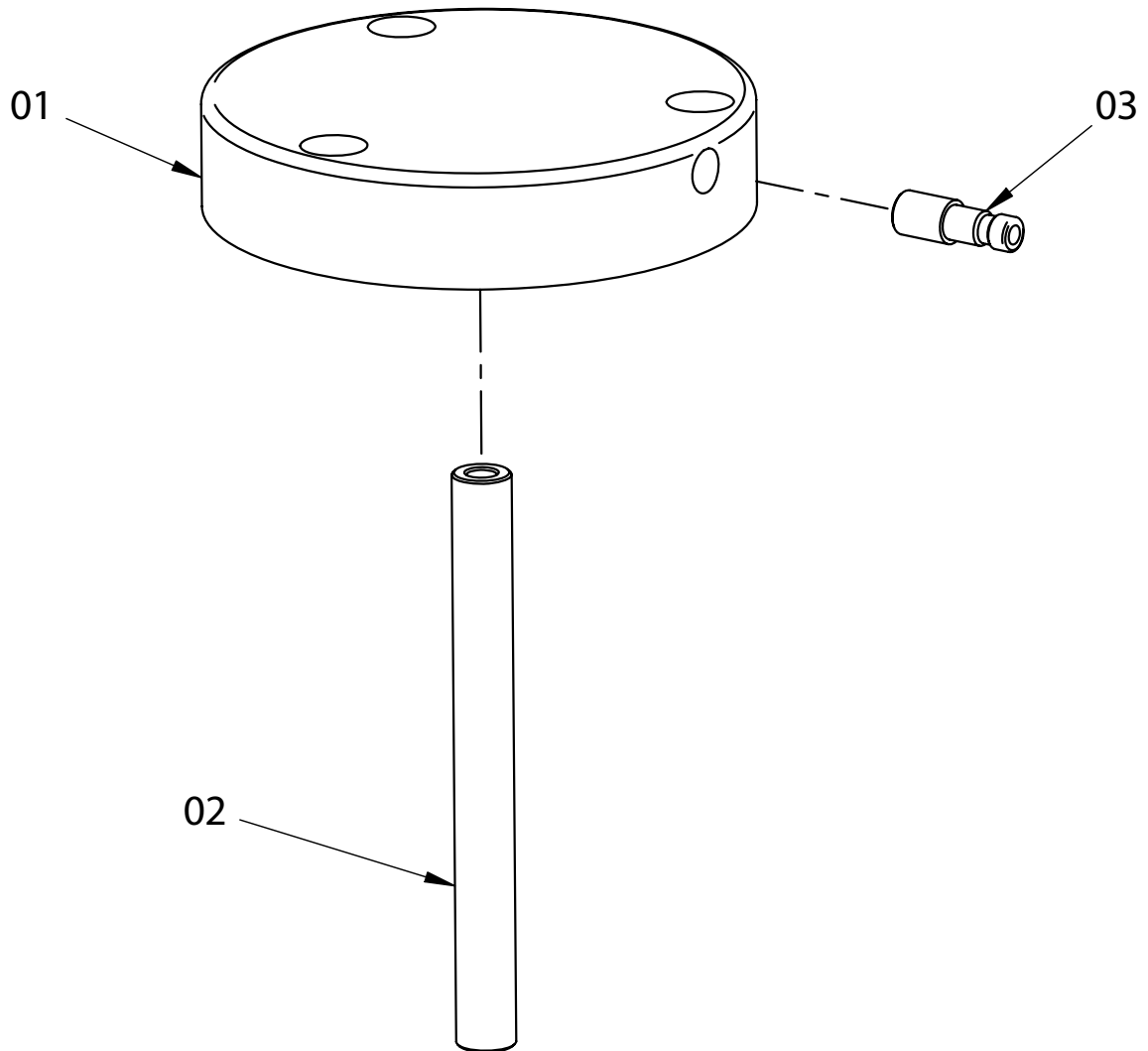
BEVEL GEAR SLEEVE ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
4.1	SPAD40-04-01	BEVEL GEAR T=39 ASSY / INCL. SLEEVE	1
4.2	SPAD40-04-02	BEARING NUT	1
4.3	SPAD40-04-03	BEARING BALL 61805 2RS	1
4.4	SPAD40-04-04	EXTERNAL RETAINING RING 25Z TYPE A	1
4.5	SPAD40-04-05	INTERNAL RETAINING RING 37W	1
4.6	SPAD40-04-06	HEX SET SCREW M5x10	1



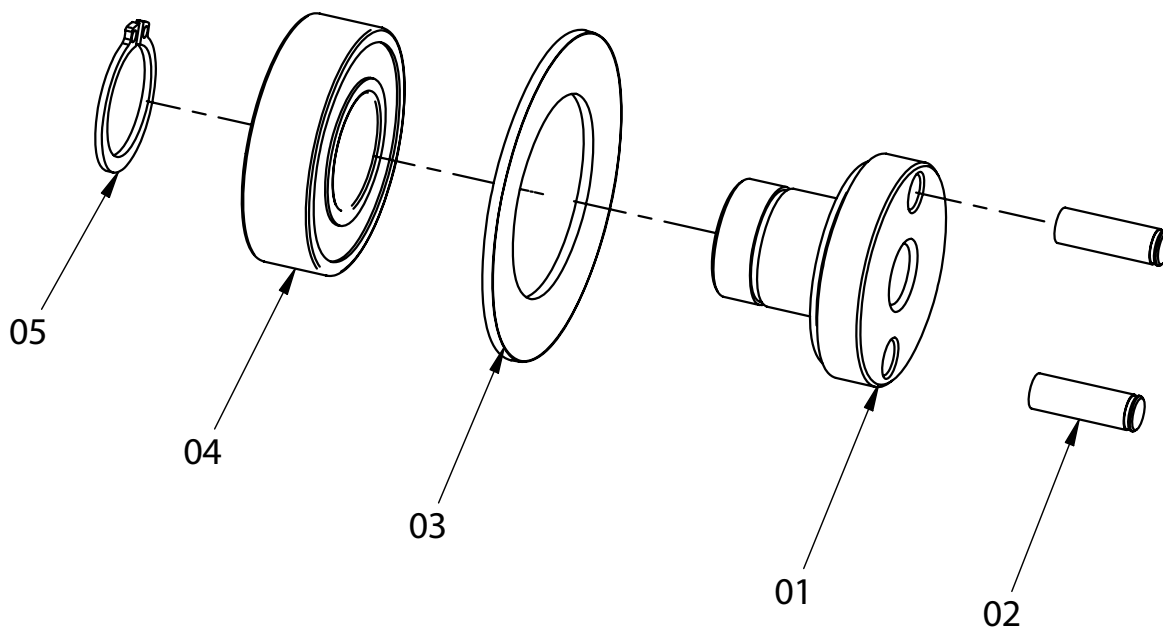
GEARBOX COVER ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
5.1	SPAD40-05-01	GEAR BOX COVER	1
5.2	SPAD40-05-02	JUMPER	1
5.3	SPAD40-05-03	TIP	1



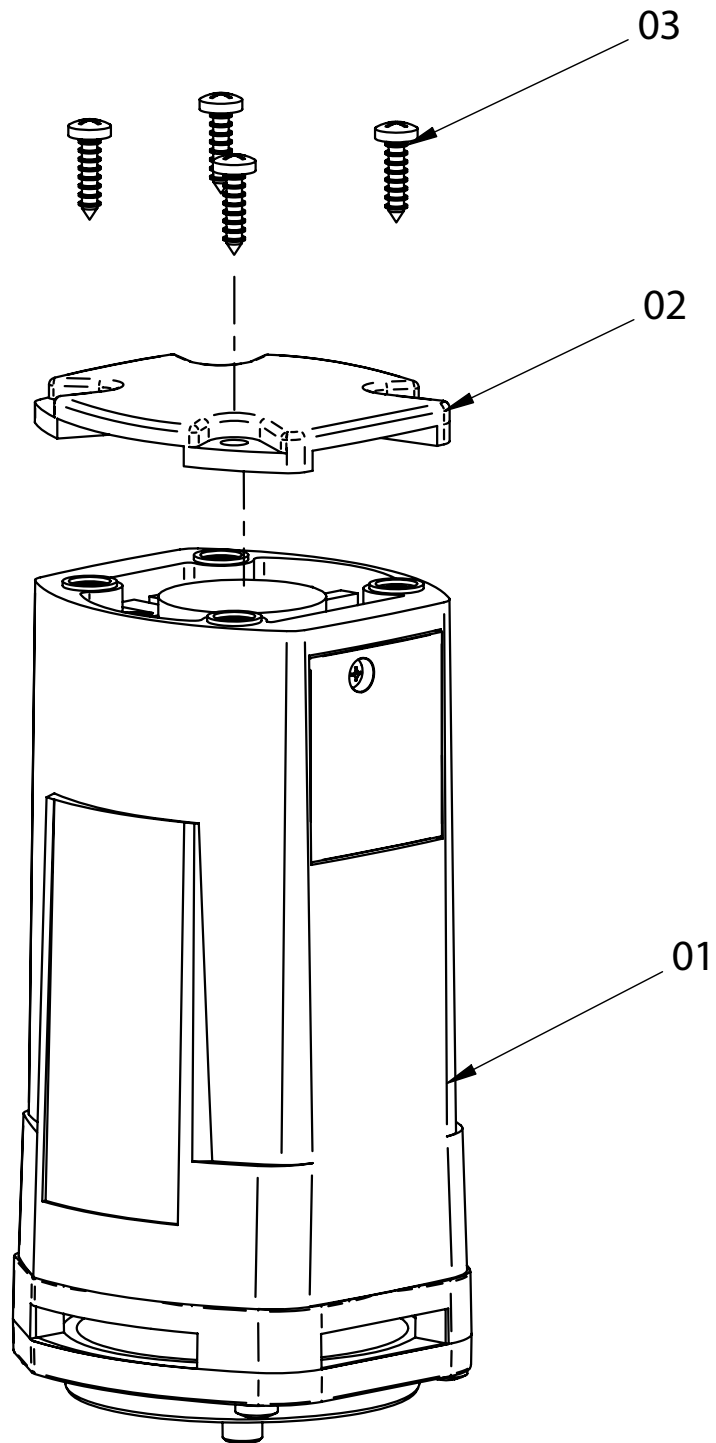
SHAFT ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
4.1	SPAD40-04-01	BEVEL GEAR T=39 ASSY / INCL. SLEEVE	1
4.2	SPAD40-04-02	BEARING NUT	1
4.3	SPAD40-04-03	BEARING BALL 61805 2RS	1
4.4	SPAD40-04-04	EXTERNAL RETAINING RING 25Z TYPE A	1
4.5	SPAD40-04-05	INTERNAL RETAINING RING 37W	1
4.6	SPAD40-04-06	HEX SET SCREW M5x10	1



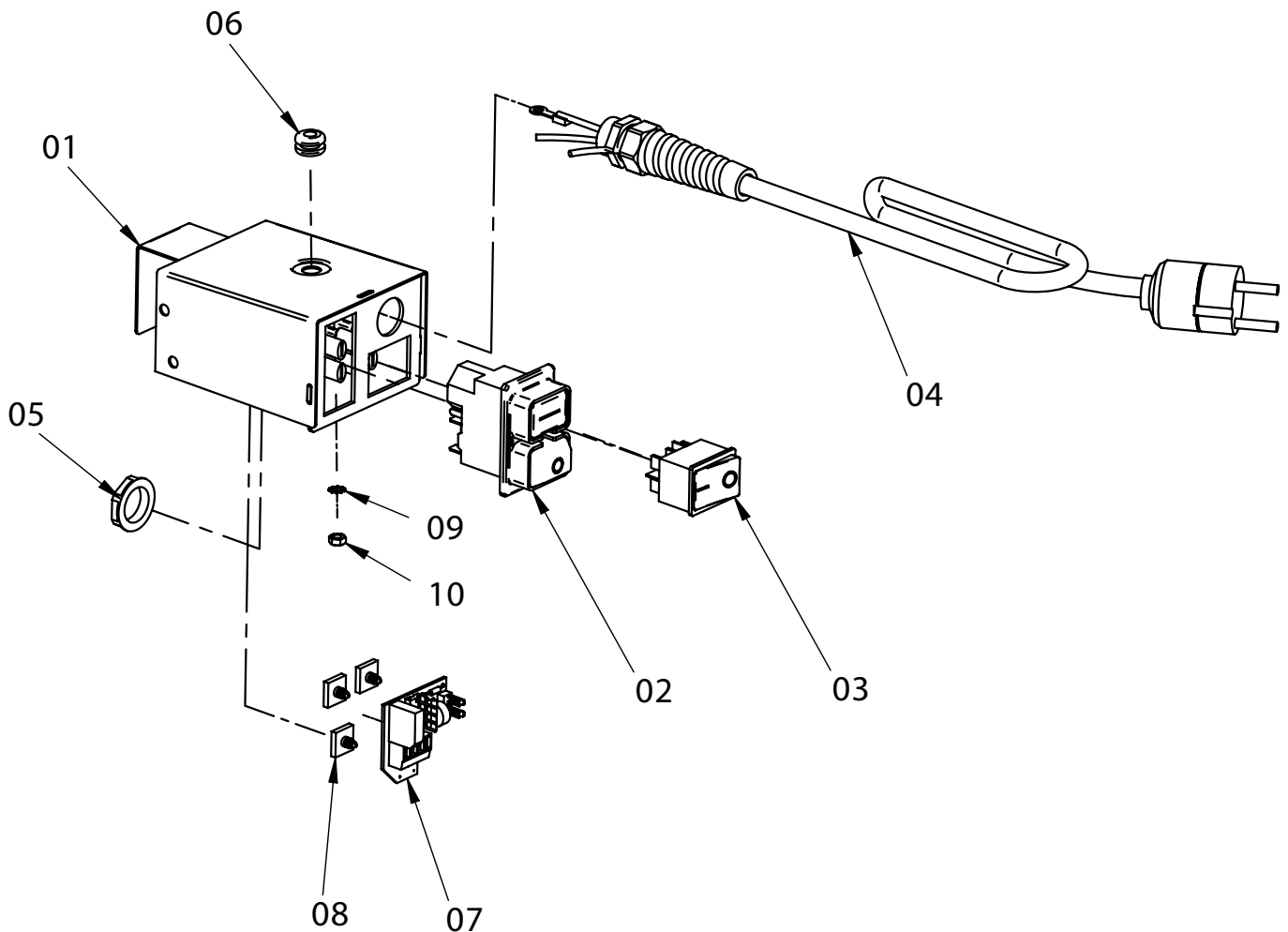
MOTOR ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
27.1	SPAD40-27-01	MOTOR /230V	1
27.2	SPAD40-27-02	MOTOR COVER	1
27.3	SPAD40-27-03	SELF-TAPPING SCREW 5x20	4



ELECTRONIC CONTROLLER ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
32.1	SPAD40-32-01	ELECTRONIC CONTROLLER FRAME	1
32.2	SPAD40-32-02	START-STOP SWITCH	1
32.3	SPAD40-32-03	SWITCH, MAGNET HOLEMAKER	1
32.4	SPAD40-32-04	POWER CORD /230V	1
32.5	SPAD40-32-05	STRAIN RELIEF NUT	1
32.6	SPAD40-32-06	SNAP BUSHING LA6	1
32.7	SPAD40-32-07	ELECTRONIC CONTROLLER SW-30 / 230V	1
32.8	SPAD40-32-08	LOCKING PILLAR	3
32.9	SPAD40-32-09	SPRING WASHER-4.3	1
32.10	SPAD40-32-10	HEX NUT M4	1



WIRING DIAGRAM

