

JEI DRILLING AND CUTTING **SOLUTIONS**

SAFETY INSTRUCTIONS AND OPERATORS MANUAL FOR DRILLING MACHINE

MAGBEAST®

DRILL HM40EX



JEI Drilling & Cutting Solutions Ltd

Unit 21 Empire Business Park, Enterprise Way, Burnley, Lancashire
England BB12 6LT U.K.

Tel. +44 (0)1706 229490 Fax. +44 (0)1706 507347

www.jeiuuk.com e-mail: sales@jeisolutions.co.uk

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE USING THE EQUIPMENT

PLEASE READ BEFORE OPERATING THE MACHINE

Remove the unit from its case along with the accessories included:

The box should contain, where appropriate: -

- HM40 Drilling Machine
- Oil Bottle
- Operating Instructions

Accessory pack containing: -

- Safety Chain
- Allen key and jib strip adjustment
- Allen key for Arbor
- Chuck & Key (Optional extra JEI PART # JEICA-13MM/19)



ELECTRICAL CONNECTION

Before starting the machine, please check the correspondence between voltage and frequency against the data mentioned on the identification plate. Voltage differences of + 6% and – 10% are allowed. The portable magnetic drilling machine HM50 is made in protection class II. Only use extension cables with a sufficient cross section. A cross section which is too small could cause a considerable drop in performance and an overheating of machine and cable.

Recommended minimum cross sections and maximum cable lengths

Mains voltage	Cross Section in sq. mm	
	1.5	2.5
110v	20 m	40 m
220v	50 m	80 m

**WARNING –
THIS MACHINE MUST BE EARTHED
SAFETY INSTRUCTIONS**

Please follow these simple instructions for your own protection:

1. Check cable and plug for any damage
2. Never use blunt cutters (send your cutters back to JEI for re-sharpening)
3. Always wear safety goggles and gloves
4. Secure the unit with the safety chain when working overhead or vertical.
5. Always disconnect from the power source before changing cutters or working on machines itself.
6. Remove rings, watches, ties etc that could tangle in the moving machine parts
7. Keep the unit and the workplace as clear of dirt and swarf as possible – check out JEI Magbrushes for quick and effective collection of swarf.
8. Do not attempt to change speed or reverse while the drill is operating and running.
9. Regular maintenance is essential, check nuts, screws and bolts for tightness.
10. Always use the safety guard where appropriate

IMPORTANT: THESE INSTRUCTIONS ARE FOR YOUR OWN SAFETY.

IMPORTANT SAFETY INFORMATION: SAFETY RULES FOR POWER TOOLS

WARNING:

When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.

READ ALL INSTRUCTIONS

1. **KEEP WORK AREA CLEAN:** Cluttered areas and benches invite injuries
2. **CONSIDER WORK AREA ENVIRONMENT:**
 - Don't expose power tools to rain
 - Don't use power tools in damp or wet locations
 - Keep work area well lit
 - Don't use tool in presence of flammable liquids or gases
 - Power tools produce sparks during operation. They also spark when switching ON/OFF.
 - Never use power tools in dangerous sites containing lacquer, paint, benzene, thinner, gasoline, and gases, adhesive materials which are combustible or explosive.
3. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces.
For example: pipes, radiators, ranges, 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 dry and high or locked up place out of reach of children.
6. **DONT FORCE TOOL:** It will do the job better and safer at the rate for which it was intended.
7. **USE RIGHT TOOL:** Don't force small tool or attachment to do the job of a heavy duty tool.
Don't use tool for purposes not intended

- 8. DRESS PROPERLY:** Do not use wear loose clothing. 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 GLASES:** All persons in the area where power tools are being operated should also wear safety eye protectors and face or dust masks.
- 10. DONT ABUSE 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 vice to hold work. It's safer that using your hand and it frees both hands to operate tool.
- 12. DON'T OVEREACH:** Keep proper footing and balance at all times
- 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 authorised service facility.
Keep handles dry, clean, and free from oil and grease.
- 14. DISCONNECT TOOLS:** 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:** Don't carry plugged in hand tool with finger on switch.
Be sure switch is off when plugging in.
- 17. OUTDOOR USE EXTENSION CORDS:** When tool is used outdoors, use only extension cords intended for outdoors and so marked.
- 18. STAY ALERT:** Watch what you are doing, use common sense. Do not operate tool when you are tired.
- 19. CHECK DAMAGED PARTS:** Before further use of tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breaking 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 authorised service centre unless otherwise indicated elsewhere in this instruction manual.
Have defective switches replaced by authorised service centre.
Do not use tool if switch does not turn it on and off.
- 20. AVOID USING A POWERTOOL FOR APPLICATIONS OTHER THAN THOSE SPECIFIED.**
Never use a power tool for applications other than those specified in the instruction manual.
- 21. ENSURE SAFE OPERATION THROUGH CORRECT HANDLING.** Secure safe operation through correct handling by observing the instruction herein.
Do not employ accessories other than those specified herein; otherwise a hazardous condition may be created.
Never allow a power tool to be used by persons not familiar with correct handling (such as children) or those who cannot handle the tool correctly.

- 22. CONFIRM THAT NO ITEMS SUCH AS AN ELECTRIC CABLE OR CONDUIT ARE BURIED INSIDE:** In places where live wiring may be hidden behind a wall, floor, ceiling, etc. Do not hold or contact any metal parts of the tool. In such cases metal parts could become electrically live and present a serious shock hazard.
- 23. KEEP THE RIGHT PARTS IN THE RIGHT POSITIONS:** Do not remove covers and screws which have been factory mounted. They perform important retrospective roles. Keep them in the right positions.
- 24. SHOULD THE PLASTIC HOUSING OR HANDLE OF A POWER TOOL BE CRACKED OR DEFORMED. DO NOT USE IT:** Since cracked or deformed parts may lead to an operator receiving an electric shock, do not use such a power tool. Immediately have it repaired.
- 25. SECURELY MOUNT ACCESSORIES AND BLADES TO THE TOOL MAIN BODY:** Extra care must be taken when using tools on elevated locations (such as a roof, ladder, scaffold or such like) to prevent injury to someone on a lower level in the event of the tool and or accessory should drop.
- 26. ALWAYS KEEP THE MOTOR AIR VENT FULLY OPENED:** A constantly open motor vent is necessary to allow air to come in and out for cooling the motor. Do not allow it to become clogged up, even if the dust is blown through it.
- 27. OPERATE POWERTOOLS AT THE RATED VOLTAGE:** Operate power tools at voltages specified on their nameplates.
- 28. NEVER TOUCH THE MOVING PARTS:** Never touch the moving parts such as blades, bits, cutters and others.
- 29. STOP OPERATION IMMEDIATELY IF ANY ABNORMALITY IS DETECTED:** Should a power tool be detected as out of order or should other abnormalities be observed during operation, stop using the tool immediately.
- 30. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF:** Don't leave tool until it comes to a complete stop.
- 31. CAREFULLY HANDLE POWERTOOLS:** Should a power tool be dropped or struck hard against hard materials inadvertently it may be deformed, cracked or damaged.
- 32. DO NOT WIPE PLASTIC PARTS WITH SOLVENT:** Solvents such as gasoline, thinner, benzene, carbon tetrachloride, and alcohol may damage and crack plastic parts. Do not wipe them with solvents. Wipe plastic parts with a soft cloth lightly dampened with soapy water.
- 33. WHEN REPLACING A COMPONENT PART, ADOPT THE SAME TYPE:** When replacing a component part with a new one, adopt the same type of new part. Also never attempt to repair a power tool yourself.

ENVIROMENTAL PROTECTION

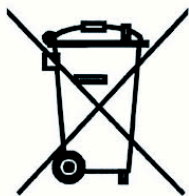


Raw material recycling instead of waste disposal

In order to avoid damages on transportation, the power tool has to be delivered in sturdy packaging. The packaging as well as the tool and its accessories are made of recyclable materials and can be disposed accordingly.

The tools plastic components are marked accordingly to their material, which makes it possible to remove environmental friendly and differentiated because of available collection facilities.

ONLY FOR EU COUNTRIES



Do not dispose of household tools together with household waste material, In observance of European directive 2012/19/EU on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

NOISE EMISSION / VIBRATION

The indication of noise emission is measured according to DIN 45 635, part 21. Level of acoustic pressure on the work place could exceed 85 dB (A) in this case protection measures must be taken.



WEAR EAR PROTECTORS!

The typical hand arm vibration is now below 2.5m/s^2
Measured values determined according to EN 60 745

The declared vibration emission level represents the main applications of the tool. However, if the tool is used for different applications with different accessories or poorly maintained the vibration emission may differ. This may significantly increase the exposure level over the total working period.

An estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period. Identify additional safety measures to protect the operator from the effects of vibration such as: maintain the tool and the accessories, keep the hands warm, organisation of work patterns.

DUST PROTECTION

Dust from material such as paint containing lead, some wood species, minerals and metal may be harmful. Contact with or inhalation of the dust may cause allergic reactions and/or respiratory diseases to the operator or bystanders.

Certain kinds of dust are classified as carcinogenic such as oak and beech dust especially in conjunction with additives for wood conditioning (chromate, wood preservative). Material containing asbestos must only be treated by specialists.

OPERATING THE MACHINE

- a) Fitting the cutter or drills, always unplug the power source to the machine before fitting or removing cutters or drills into the arbour. To fit cutters, loosen both screws to permit the cutter shank to fit fully into the arbour ensuring the flats of the cutter are in line with set screws, then tighten the set screws until the cutter is safely locked in to the arbour.

With a gloved hand or a brush clean any dirt or swarf from the base of the magnet and the work piece and place unit in correct place for drilling.

Attach safety chain by looping it through the handle of the machine and around the work piece or other suitable anchor point. Take up any slack on the chain and clip the hook through a convenient link in the chain.

Plug the power cable in to a suitable power supply (using extension lead of the correct rating if necessary) The use of an RCD is also highly recommended.

- b) Drilling – Broaching, Energise the magnet by switching on the magnet switch
Check the magnet is holding to the work piece. Using the oil bottle add oil to the work piece. If cutting in inverted position it is recommended a aerosol foam coolant or cutting paste is used.

Start Motor

Please note that the motor will not run unless the magnet is energised.

If for any reason the power is interrupted the relay makes it necessary to restart the motor again before cutting can continue.

Advance the cutter to the work piece using light and controlled pressure until the cutter has broken the surface, then increase pressure until the motor is loaded. Maintain even pressure right through the cut.

Too much pressure will NOT speed up the cut, it will reduce the life of the cutter and may cause damage to the motor.

If the turnings become blue add more oil. At the end of the cut the slug will be ejected, check before commencing next hole.

Stop motor, switch off magnet.

WARNING: Under no circumstances try to remove turnings or swarf from the cutter when machine is in operation. **NEVER** introduce and body parts to moving parts of the machine when it is switched on.

This document is issued for general information and instruction and as such does not constitute a specification of the equipment.

Only use faultless and sharp drilling tools and avoid that the machine stops due to overload.

MOUNTING THE TOOL



DISCONNECT THE PLUG FROM THE MAINS BEFORE EVERY TOOL CHANGE!

Twist Drills:

Twist Drills can be inserted into this machine with the use of a ½" Chuck and Adaptor.
Supplied separately

Annular Cutter:

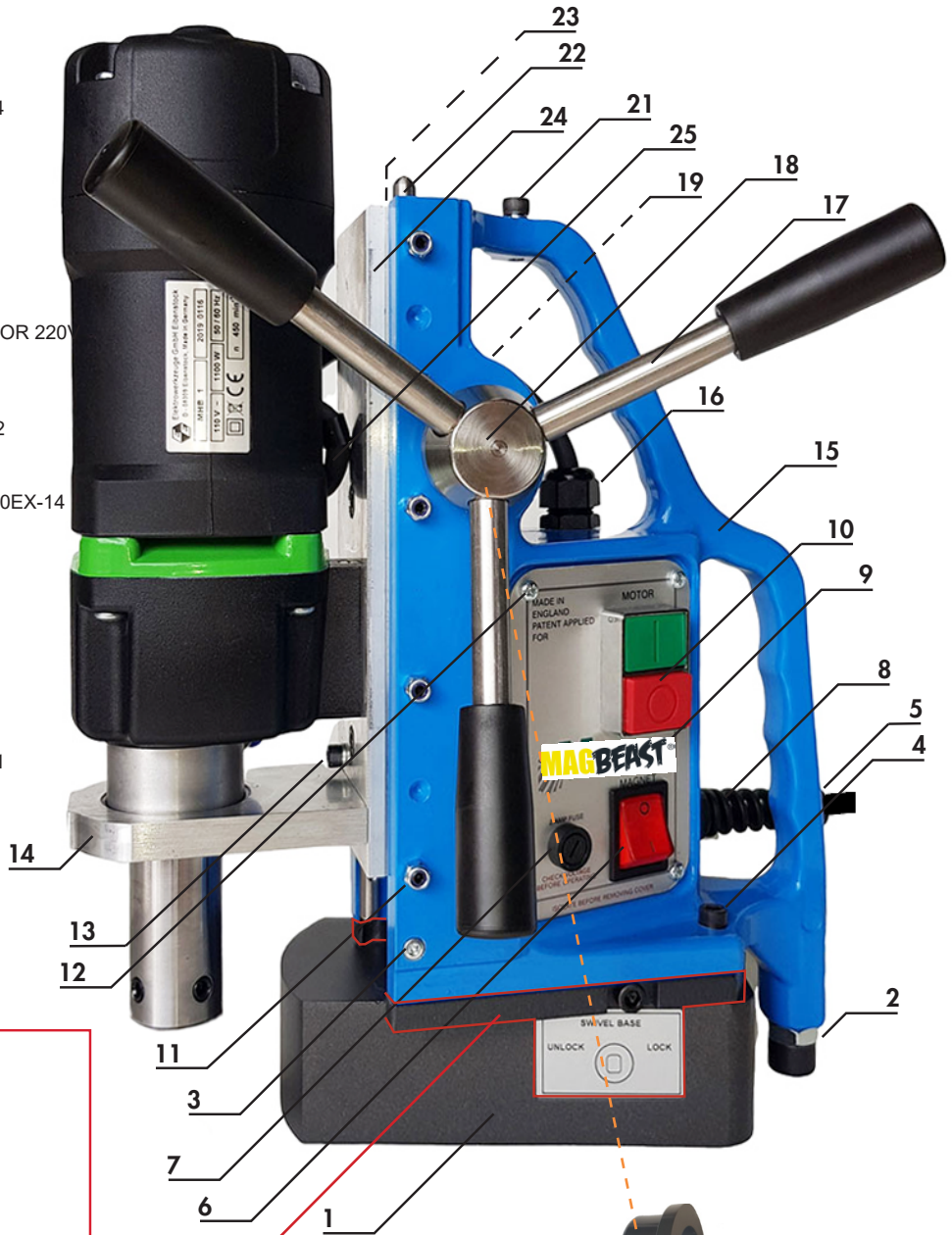
Fit the ejector pin of suitable length in the cutter.
Place the core drill in the Weldon mount so that the two Allen screws hit the two surfaces of the shaft. Tighten the Allen screws equally.

REMOVING THE TOOL

Put the drill drift in the opening of the gearbox collar.
If you cannot insert the drill drift through the work spindle, turn the work spindle slightly.
Remove the tool from the work spindle by a slight impact on the drill drift.

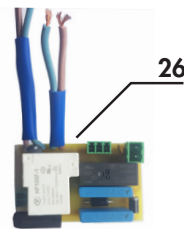
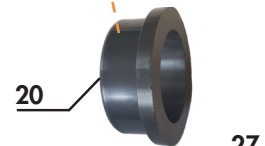
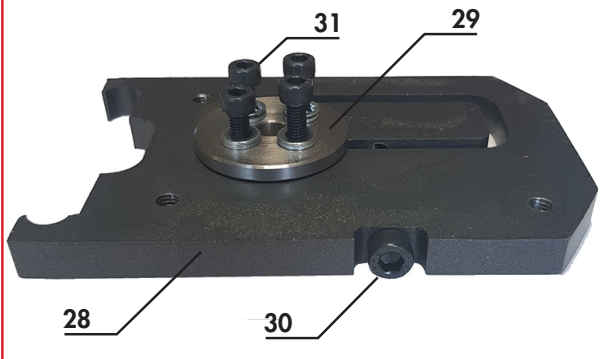
Magbeast HM40 Spare Parts List

1	MAGNET BASE - HM40EX-01
2	STABILIZER BOLT - HM50-02
3	M4 RAIL FIXING BOLT - HM50-03A
4	M6 CASTING/MAGNET FIXING BOLT - HM50-04
5	MAINS CABLE - 0012180
6	MAGNET/POWER SWITCH - 35708
7	FUSE HOLDER - HM50-07
8	CABLE GLAND FOR MAINS CABLE
9	SWITCH PLATE - HM50SP
10	MOTOR STOP/START SWITCH - 22709.3-110V OR 220V
11	M5 RAIL ADJUSTMENT SCREWS/ LOCK NUTS - HM50-11
12	SWITCH PLATE FIXING SCREWS (4) - HM50-12
13	M5 SLIDE STOP BOLT - HM50-13
14	GEAR BOX SUPPORT/FIXING BRACKET - HM40EX-14
15	MAIN BODY CASTING - HM50-03
16	CABLE GLAND FOR MOTOR CABLE - HM50-26
17	HANDLE COMPLETE WITH KNOB - HM50-17
18	PINION GEAR - HM50-18
19	PINION END CAP ASSEMBLY - H100/50PC
20	PINION BUSH x 2 - HM50-20
21	M6 COOLANT BOTTLE FIXING BOLT - HM50-21
22	8 MM DIA SLIDE RAIL - HM50-22
23	RACK (HIDDEN) - HM50-23
24	SLIDE - HM40EX-MS
25	MOTOR CABLE - HM50-25
26	PCB CONTROL - LP35P-BR
27	BACK PLATE/WARNING - HM50-BP

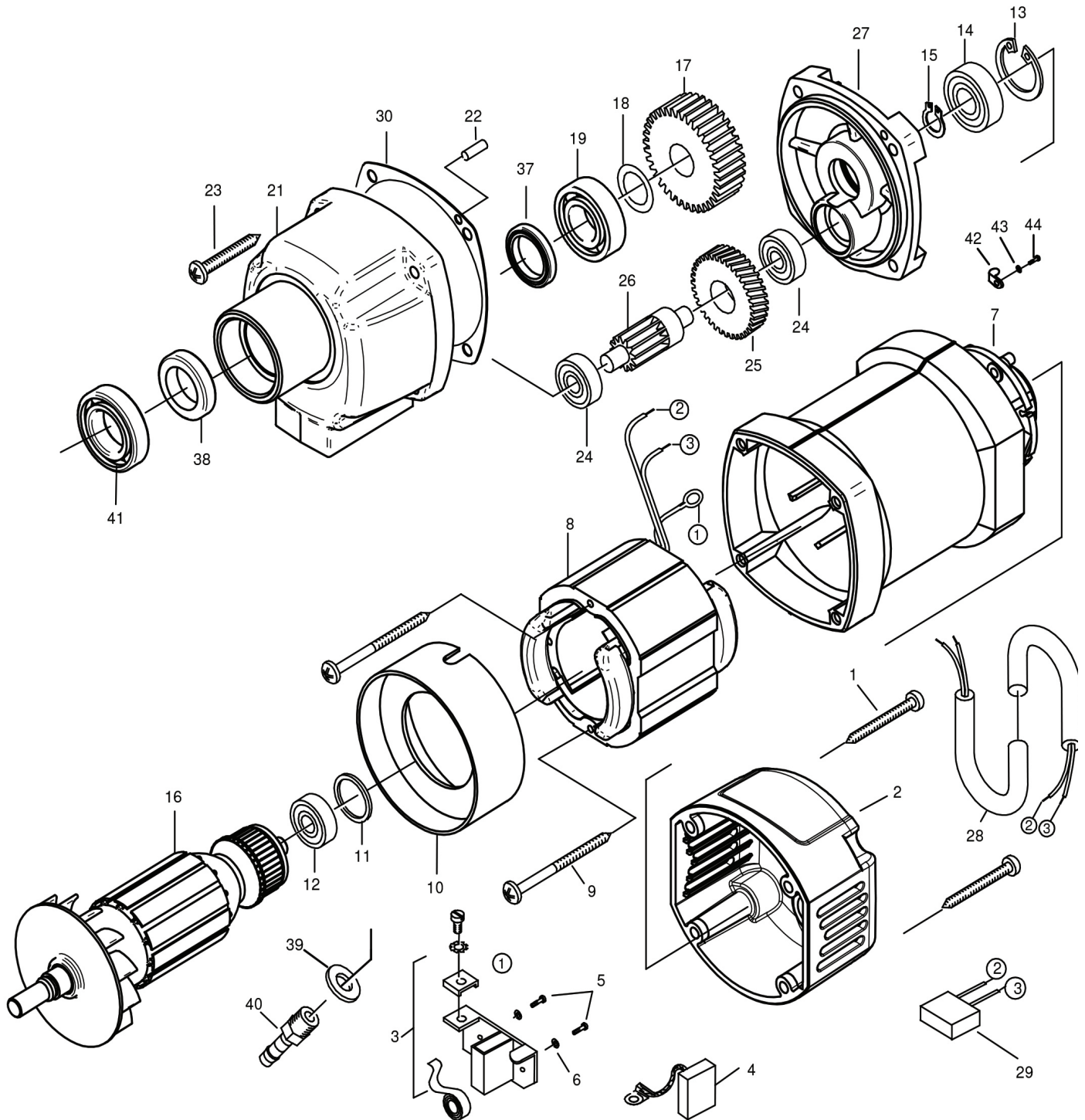


HM40EX SWIVEL BASE ONLY

28	SWIVEL PLATE
29	SWIVEL SPIGOT
30	SWIVEL LOCKING BOLT
31	4 X M5 SPIGOT FIXING BOLTS



MOTOR DIAGRAM.

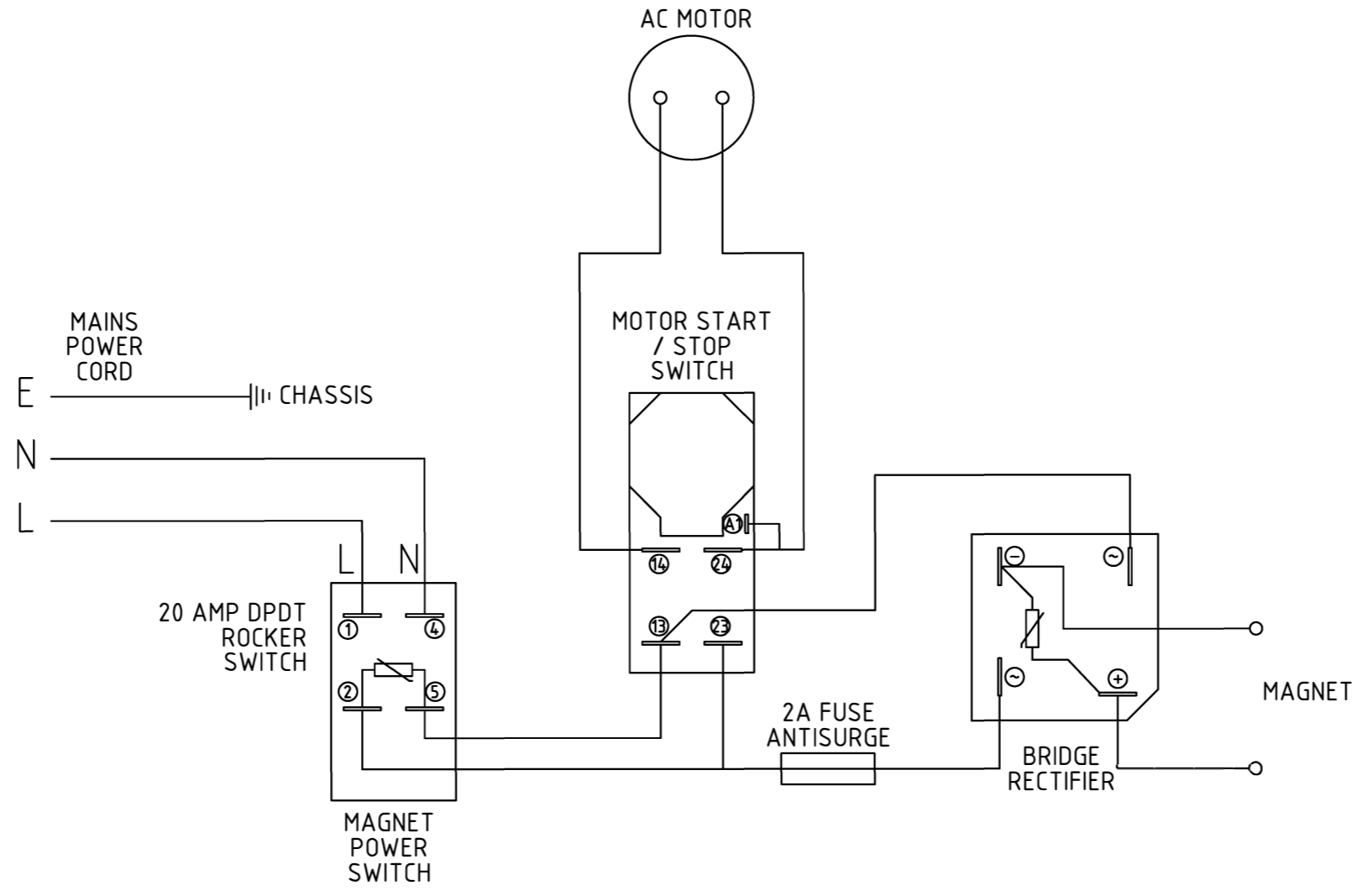


MOTOR DIAGRAM PARTS LIST.

No	DESCRIPTION	PART NUMBER	PIECES
1	Cap Screws HC 4, 8x50	HM40.EX-01	4
2	Motor Top Cap	HM40.EX-02	1
3	Brushholder Assembly	HM56	2
4	Carbon Brush 6,3,10x18	HM57	2
5	Brushholder Mount Screw ZM4x12	HM111	4
6	Washer	HM109	4
7	Motor Housing	HM40.EX-07	1
8	Field Coil	HM40.EX08 (220V) / HM40.EX08/1 (110V)	1
9	Screw	HM543	2
10	Fan Ring	E55611	1
11	O-Ring 22x2.5	HM512	1
12	Bearing 608 2Z	HM40.EX-12	1
13	Circli/Locking Ring 28/1.2	HM121	1
14	Bearing 6001 2Z	HM40.EX-14	1
15	Circlip	E55633EX	1
16	Armature	HM40.EX16 (220V) / HM40.EX16/1 (110V)	1
17	Spindle Gear	HM40.EX-17	1
18	Shim Washer	HM40.EX-18	1
19	Bearing 6003 2RS	HM40.EX-19	1
20	Spindle: Weldon 19mm	HM40.EX-20	1
21	Gearbox Housing	HM40.EX-21	1
22	Dowel Pin 4x12	HM511	1
23	Screw HC 4.8x38	HM541T	4
24	Bearing 608	HM40.EX-24	2
25	Gear	HM40.EX-25	1
26	Gear Shaft	HM40.EX-26	1
27	Gear Case Cover	HM40.EX-27	1
28	Cable Flex	HM40.EX-28	1
29	Surpressor	HM113	1
30	Gasket	HM40.EX-30	1
31	Spring 1x9x107	HM40.EX-31	1
32	Piston	HM40.EX-32	1
33	Circlip/ Gearbox Gasket	HM40.EX-33	1
34	O-Ring	HM40.EX-34	1
35	Washer	HM40.EX-35	1
36	Secure Screw	HM40.EX-36	3
37	Seal D20/28/4	HM40.EX-37	1
38	Seal D20/30/7	HM40.EX-38	1
39	Washer 1/8"	HM40.EX-39	1
40	Hose Tail 1/8"	HM40.EX-40	1
41	Bearing 6904 2RS	HM40.EX-41	1

RevNo	Revision note	Date	Signature	Checked

110v 110V

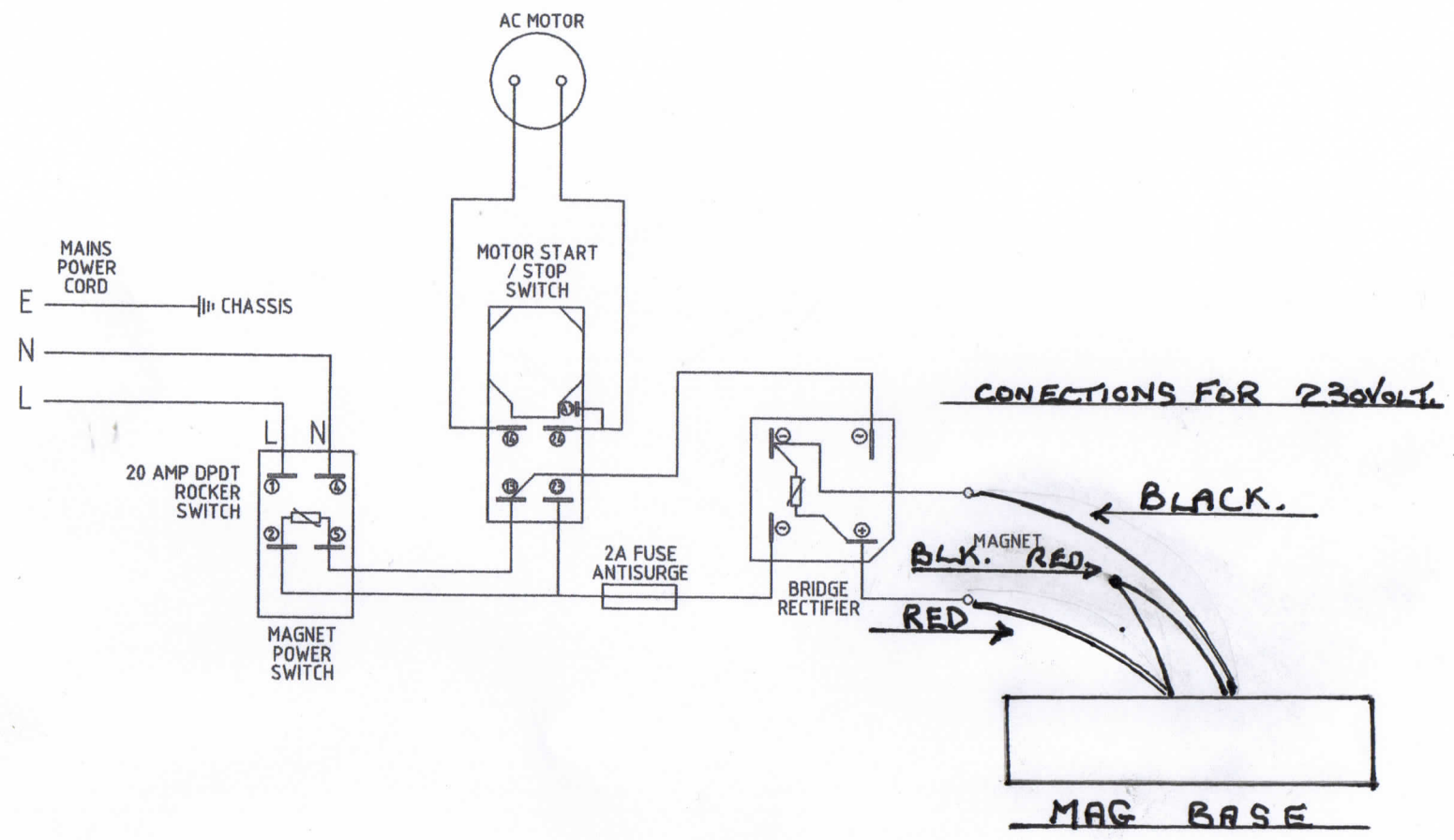


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CHECK				
APPR.				
ISSUED	30/08/2018			
REV	0		DWG NO	
CONTRACT NO			NV40	

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RevNo	Revision note	Date	Signature	Checked

220V



FILE NAME	1640-40	FSCM NO	SHEET	SCALE
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REV	0		DWG NO	
CONTRACT NO			NV40	

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EC Declaration of Conformity

We

***JEI Drilling & Cutting Solutions Ltd
Unit 21, Empire Business Park,
Enterprise Way,
Burnley, Lancashire, UK, BB12 6LT***

Declare with full responsibility that product:

MAGBEAST HM40EX DRILLING MACHINE WITH ELECTROMAGNETIC BASE

which the declaration applies to is in accordance with the following standards:

EN 62841-1:2015, EN 55014-1:2017, EN ISO 12100:2010,

and satisfies safety regulations of guidelines:

2014/30/EU, 2014/35/EU, 2006/42/EC, 2011/65/EU, 2012/19/EU

Burnley, 31/12/2022

A handwritten signature in black ink, appearing to read 'McFadden', is written over a horizontal line.

David McFadden
Managing Director

JEI Twelve (12) month limited warranty

JEI warrants the HM40EX Drilling machine to be free of defects in material and workmanship under normal use for a period of twelve months from date of purchase. **This warranty does not cover damage or wear which arise from misuse, accident, tampering or any other causes not related to defects in workmanship or materials.** This warranty is conditioned upon the prepaid return of the HM50 Machine to JEI Group Ltd, Unit 21, Empire Business Park, Empire Way, Burnley, Lancs. Or our International representative for our international customers for examination and verification of the claimed defects. If defect is verified, JEI Group Ltd will replace, free of charge, any defective parts. If inspection of the machine does not disclose any defect in workmanship or materials, the original purchaser will be notified by JEI Group Ltd, or its representative, of the costs of necessary repairs. If repairs are authorized, repairs will be made and the costs of repair and return transportation will be billed through the customer's distributor.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES (EXPRESSED OR IMPLIED) INCLUDING WARRANTY OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SPECIAL AND CONSEQUENTIAL ARE EXPRESSLY EXCLUDED AND DENIED.



MANUFACTURED BY:
JEI GROUP LTD
UNIT 21, EMPIRE BUSINESS PARK
ENTERPRISE WAY, BURNLEY
LANCASHIRE
BB12 6LT
TEL: 01706 229490 FAX: 01706 830496

EMAIL: service@jeisolutions.co.uk Website: www.jeiuk.com