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Maintenance Guide **Magnetic Drill**



Maintenance FE-45 Magnetic Drill

Preventive Maintenance

Operator Instructions

It is important that the operator knows the materials to be drilled, the tools and the rotation to be used.

Power supply:

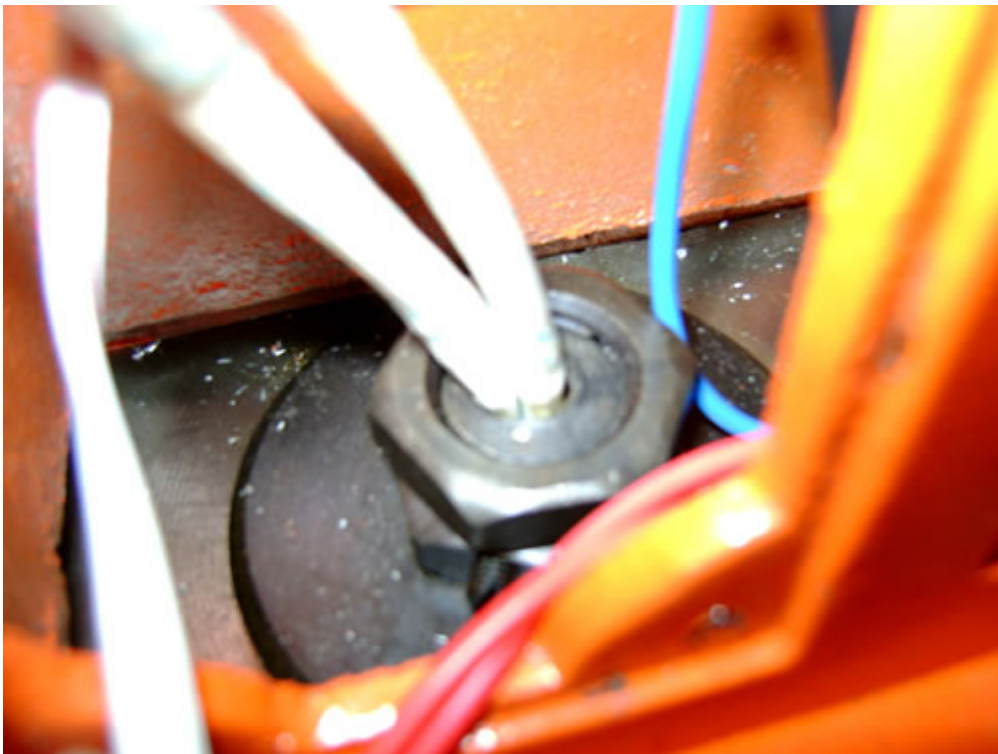
the FE-45 Magnetic Drill runs on monophasic 220V. The operator must make sure the voltage is correct. We recommend not to plug the machine in the same power supply used by other equipment and especially do not use electric welds simultaneously in the same metal piece. If you do so, the chances of damaging the magnetic base coil or the drill motor are high.

IMPORTANT: always use ground wiring.

The place where the magnetic base will be fixed must be clean and free from dust, chips, oil, grease, etc.

The operator must always use protection equipment and the safety strap of the FE-45 drill when with the fixation position is not horizontal.

Check and fasten all screws specially those of the copper plates and the magnet base.



Whenever replacing the cutters, turn off machine and do not use the rotation switch.

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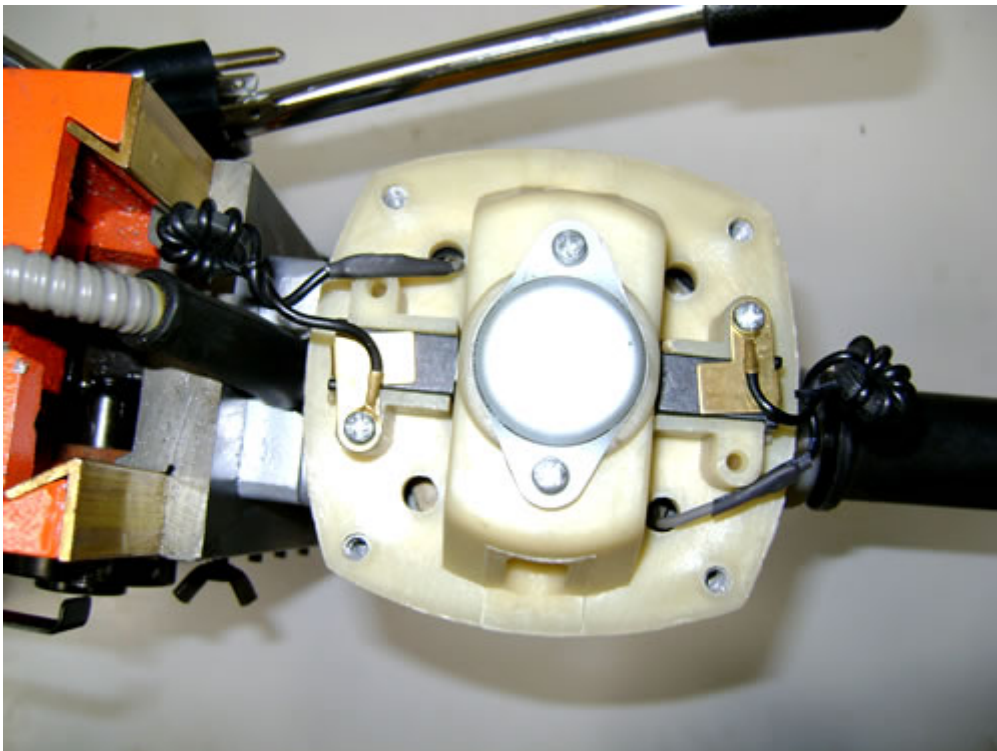
When using annular cutters the operator must be cautious, for these tools are more fragile. There's no need to force the penetration of the cutter. The multiple teeth and the smaller cutting area makes the operator's force unnecessary. As a matter fact, excessive force by the operator, regardless type of cutter, may cause the burnout of the coils of the magnetic base, provoked by the unproportional increase in the electric current (A) used in the attempt to maintain fixation.

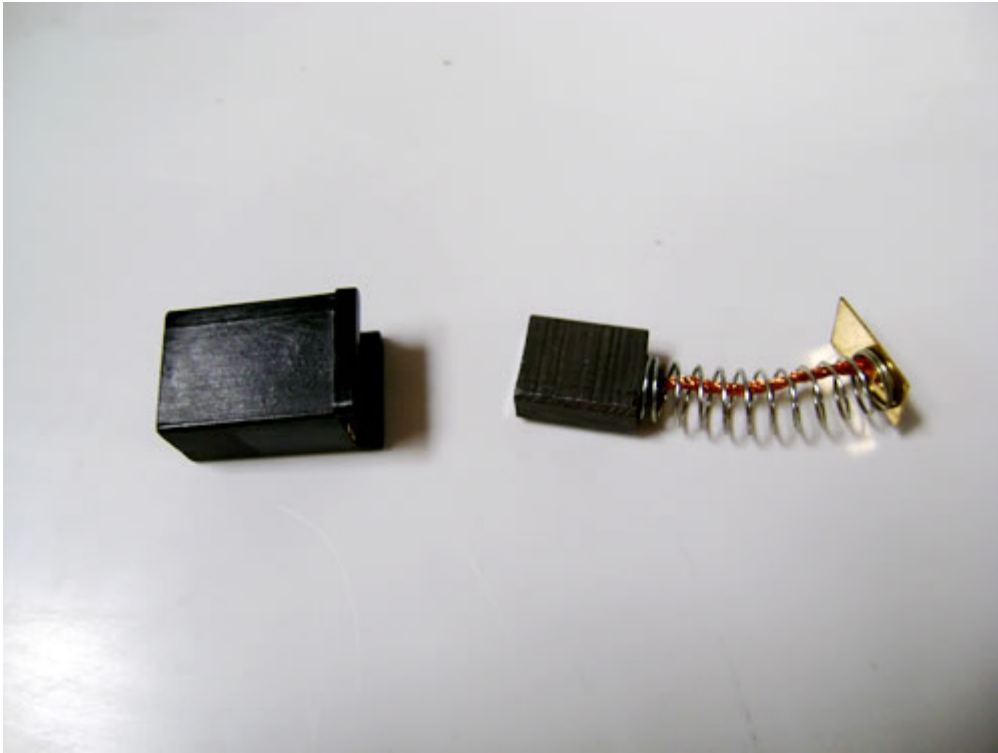
Annular cutters are not recommended for cutting "Sandwich" plates.

Always use cooling fluid during cutting.

Any cutting tool annular cutters are not guaranteed against breakdown.

Check periodically the conditions of carbon brushes set. If necessary, replace the set.





Get the machine clean and free from oil and grease.

Corrective maintenance: Electric motor

Sparking:

Check and replace the carbon brushes set.

Excessive noise and vibration:

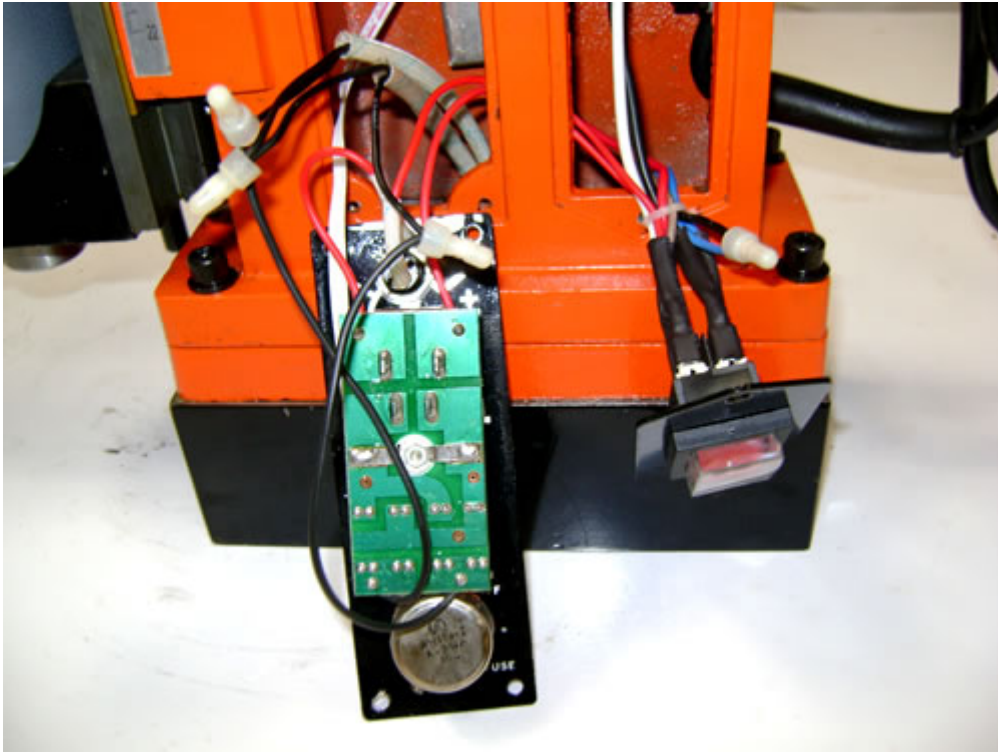
Turn off the machine. Check and replace bearings, bushings and worn or broken parts of the drill.

Motor stop:

Check power supply, On/off switch, rotation control switch, electric cord, carbon brushes set, motor burnout, and potentiometer burn-out.

If defects are found, replace for original parts.

ELECTRIC DIAGRAM OF ON/OFF SWITCH

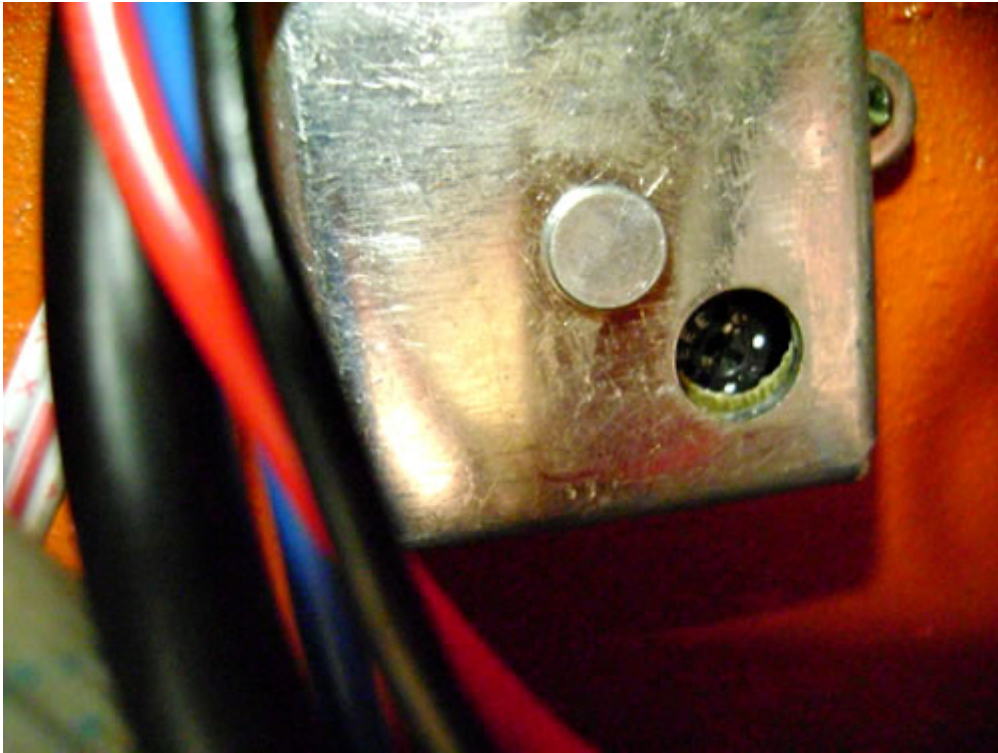


Rotation variation:

Among all possible causes, the highest occurrence is the variation in the electric current. Example: drill is working and another machine plugged in the same network provokes fall in current, causing a decrease or complete stop of rotation, possibly jamming or breaking the cutter. Another cause may be damage or malfunctioning of the rotation potentiometer. Test power supply and, if necessary, replace set, as follows:

Rotation not in accordance with control switch:

With a screwdriver, adjust the rotation with the regulation screw in the potentiometer installed inside the assembly. The regulation must be made with the control switch at the minimum rotation position.



Note: the potentiometer screw is very sensitive to regulation. If you turn it clockwise, rotation will increase.

Magnet base

Will no energize:

Request a professional from the electrical area to check the magnet control panel and both magnet base coils.

Tip:

Most of times the front coin burns due to excessive force by the operator when using the drill. Check if material where the magnet base will be fixed is energizable.

Drill mount: to fasten screws, the drill must be separate from the machine block. For this procedure, the 3 (three) screws need to be removed from the plastic cap (36). Remove the lock ring from the metal strap (25). Remove the bushing screw from the metal strap (25) to move gear (31) from the gear bar (67), freeing the mount plate (68). Remove the mount plate (68) pulling it up with all the drill assembly. After that, you will have access to the set of screws (60) in order to fasten or replace them, in case of need.

→Use only original spare parts and always contact a Merax Authorized Assistance. Check list in our website: www.merax.com.br