iON Micromotor

Instruction Manual

Table of Contents

INTRODUCTION

Trident Sales Associates thanks you and congratulates you for choosing the iON as your new Micromotor. The iON was designed and engineered by highly qualified personnel with many years of experience and expertise in micromotor manufacturing. Its construction underlines the high standards of quality that have always distinguished our products.

The iON is recognized for the type of main electric motor it utilizes, which operates according to the latest "brushless" technology used in modern industrial processes. Unlike traditional motors, this technology allows the motor to operate with direct current eliminating graphite brushes which are subject to wear and maintenance problems.

Special "unique" features of the iON include:
* High-speed, low-noise bearings
* An adjustable, easily replaceable chuck system
* An ergonomic comfort grip
* Automatic torque compensation adjustment which recovers over 80% of maximum torque, even at low speeds
* 40,000 rpm of power
* Power overload protection

This instruction manual will help familiarize you with the iON. Please read it carefully. Keep the manual in a safe place so that it can be consulted whenever necessary. Should you have any questions please contact:

Trident Sales Associates
195 Basik Drive, Suite 506
Naples, FL 34114

Tel: 561-826-9331
Fax: 561-353-0895
Email: walter@tridentsales.us

UPON RECEIVING YOUR iON

Carefully inspect the unit to insure that it has not been damaged in shipping. In the event of any damage, immediately contact the shipping company to report it.

The Ion 40K Micromotor comes with the following:
* Micromotor
* Control Box
* Foot Pedal
* Foot Pedal Connector
* Power Cord
* Micromotor Stand
* Chuck Tool with Allen Wrench
* Warranty Card
* Instruction Manual

INSTALLATION

Remove all items from the shipping box.

Place the Control Box on the bench in the area where it will be used.

Connect the Micromotor Cord to the round socket at the rear of the Control Box. Secure this connection in place using the locking ring located at the end of the Micromotor Cord.

Plug the Foot Pedal Connector into the Foot Pedal. Plug the other end of the Foot Pedal Connector into the rear of the Control Box.

Connect the Power Cord into the rear of the Control Box. Plug the other end of the Power Cord into a properly grounded 115Volt electrical outlet.

Fit a bur into the chuck of the Micromotor. Turning the front section of the Micromotor clockwise opens the chuck. Turning the front section of the Micromotor counter clockwise secures the bur in place.

The On/Off power switch is located at the rear of the Control Box. When pressed in the ON position the display on the Control Box lights up and says: HELLO.

SELECTING MICROMOTOR PARAMETERS

Upon initially turning the iON ON, the display on the front panel of the Control Box says: HELLO.

After a few seconds the display will indicate the direction of the Motor's rotation: Forward > or < Reverse.

The display will then show the rpm, as well as motor rotation: F (forward) or R (reverse).

Motor rotation can be changed anytime by pressing the direction key on the front panel.

ACTIVE KEYS

By depressing the MODE key you can select whether to run the Micromotor at a Variable Speed or at a Constant Speed. The display will show you which Mode you selected.

- Variable Speed - By pressing down on the Foot Pedal you control the speed of the motor from a minimum of 1000 rpm to a maximum speed that you select…and all points in between. (The next section will instruct you on how to select the desired

rpm).

- Constant Speed - By pressing down on the Foot Pedal the motor will start at the selected rpm and maintain it.

Selecting Speed: By depressing the Speed Keys (up or down) on the front panel you can select the exact rpm desired. (UP arrow increases rpm, DOWN arrow decreases rpm). Once you have selected the desired rpm the display shows MEMOR. Your selected rpm has been saved to memory.

In Variable mode, the rpm value set indicates the maximum permitted motor speed when depressing the Foot Pedal fully.

In Constant mode, the rpm value set indicates the motor speed when the Foot Pedal is depressed.

MENU ITEMS

By simultaneously depressing both Speed Keys you can access Menu items.
The Menu items are:

CONTRAST
LANGUAGE
BEEP
EXIT

The SPEED KEYS allow you to scroll through Menu items.
To enter a Menu item simply press the MODE KEY. To exit the menu without making changes, press the DIRECTION KEY or go to the Menu item EXIT and press MODE.

CONTRAST

Using the SPEED KEYS you can adjust the contrast of the display. The value of contrast displayed is in the range of 00 to 50. It can be increased or decreased in 5 unit increments
50 is minimum contrast.
00 is maximum contrast

To confirm and save the value of the contrast selected press the MODE KEY

Please note that contrast is already preset at the factory for optimum visibility.

LANGUAGE

There is a choice of 4 languages that can be selected:
ENG = English
FRA = French
DEU = German
ITA = Italian

To confirm and save the language selected press MODE.

BEEP

With the SPEED KEYS you can enable (ON) or disable (OFF) the beep. To confirm and save your selection press MODE.

EXIT

To exit Menu items simply press MODE.

ERROR MESSAGES

OVERLOAD - If the Micromotor surpasses or exceeds its maximum safety threshold this message will appear on the display. Too much force on the Micromotor may be the cause. Try easing the pressure being applied.

ERROR!!! - This message will appear if the OVERLOAD message is on the display and extreme force is still being applied. A safety sensor will signal the ERROR!!! Message and automatically reduce the power supplied to the Micromotor.

BLOCKED - This message will appear when the motor has been obstructed or prevented from turning for a prolonged period of time try releasing the Foot Pedal and depressing it again.

MAINTENANCE

The iON is equipped with high-speed, pre-lubricated bearings. **DO NOT LUBRICATE THESE BEARINGS.**

Periodically check the air ducts at the rear of the Micromotor. Air should always exit from them. Remove any material that may be obstructing these ducts.

Periodically remove the dust protection cap from the front of the Micromotor and clean it with compressed air. A soft brush may be used to clean the area around the shaft.

If the iON is not being used for a long period of time, it should be stored in a dry area and covered to protect it from dust and humidity.

WARRANTY

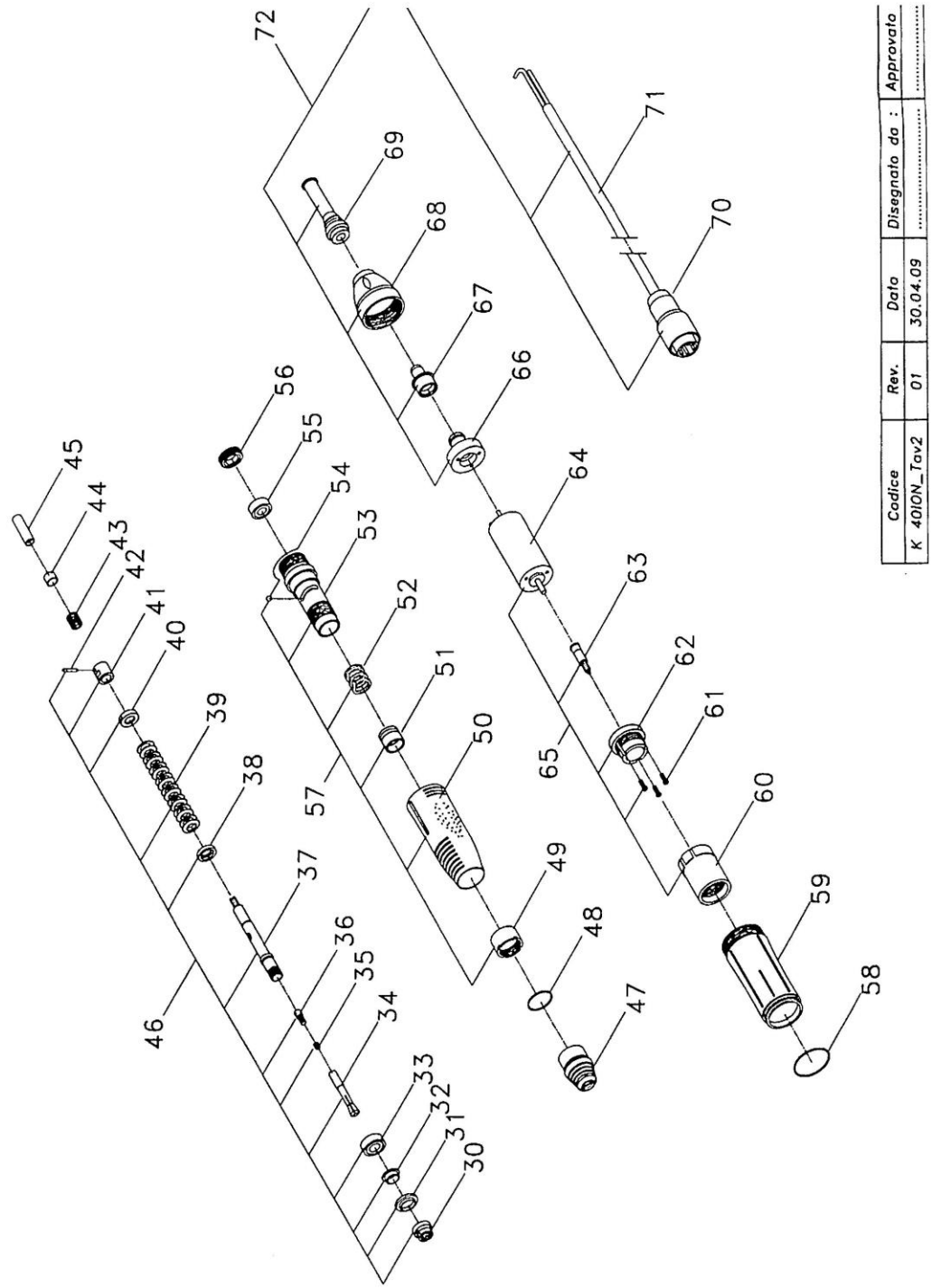
The iON is warranted for a full year from date of purchase. If the serial number label is removed, the warranty becomes null and void.

TECHNICAL INFORMATION

Voltage - 115 Volt (available in 220 Volt upon request)
Fuse - 1.25 Amp
Minimum Speed - 1000 rpm
Maximum Speed - 40,000 rpm
Chuck - 2.35 mm.

PRECAUTION

Never attempt to stop micromotor rotation with any foreign body, or even worse, with your hands. This will both hazardous and dangerous to you and the micromotor.

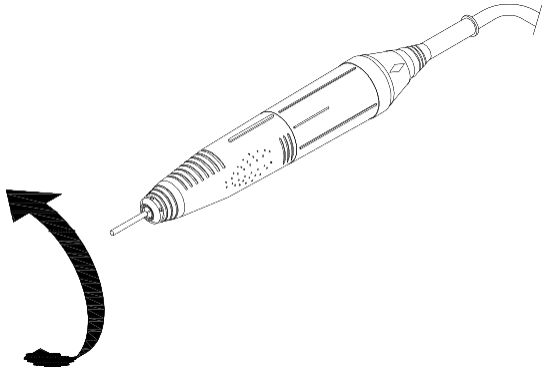


Codice	Rev.	Data	Disegnato da :	Approvato
K 40ION_Tav2	01	30.04.09	.....	.....

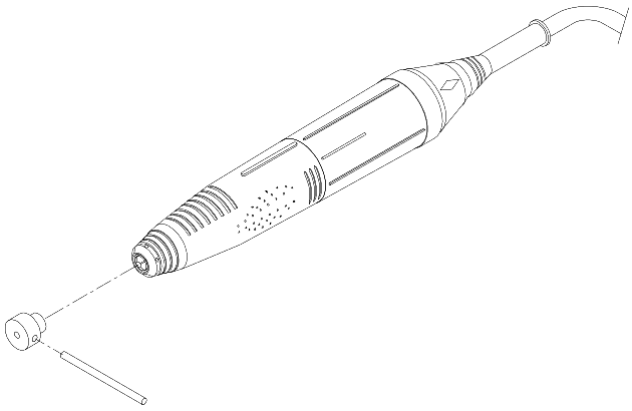
CHUCK ADJUSTMENT/REPLACEMENT

If the chuck does not hold the bur properly during use, it can be adjusted or replaced as follows:

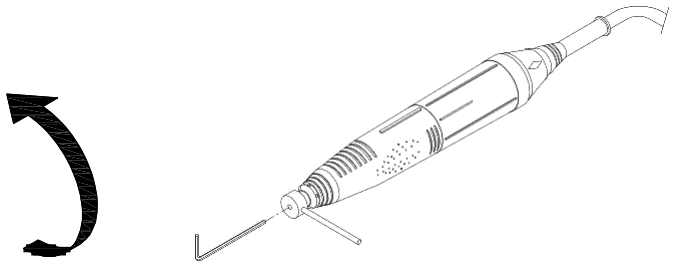
- Turn the front end of the micromotor in a counter-clockwise direction;



- Insert the chuck tool into the chuck itself. Insert the pin in the side hole of the chuck tool to act as a lever. Please note: The pin used as a lever in this step is the pin that was in the micromotor's chuck assembly when you received and unpacked your iON;



- Insert the 1.5 mm hexagon key wrench through the hole located on top of the chuck tool. Insert the key wrench as far as it will go into the chuck. The key wrench will come in contact with the micro adjustment screw at the very bottom of the chuck. Keep the chuck tool still and turn the wrench counter-clockwise;



- At this point, the chuck is released and can be removed by turning the key wrench counter-clockwise. Having removed the chuck with the hexagon key wrench, loosen the micro adjustment screw even more to have a greater field of adjustment;

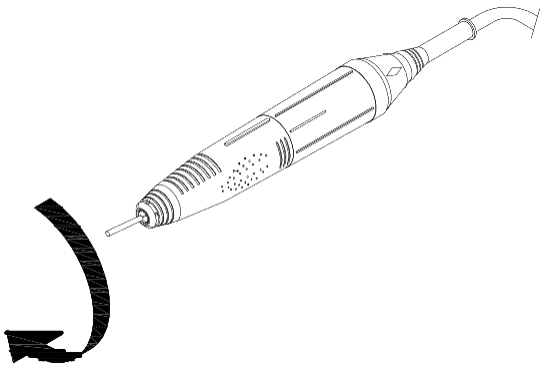
- If simply adjusting the chuck, place the chuck back into the front end housing of the micromotor after having cleaned it with a cloth. If replacing the chuck, use the new chuck.

- To adjust the chuck properly, it is necessary to use a bur with a shaft that is in good condition;

- After having placed the chuck back into the front end housing of the micromotor, place the chuck tool over the chuck. Insert the bur into the chuck through the hole located at the top of chuck tool. Secure the chuck and bur into place by turning the chuck tool clock-wise, making sure that the bur is held firmly in place. This is the position of maximum adjustment;

- At this point, turn the chuck counter-clockwise by a half turn to create a margin of clearance. Remove the bur and chuck tool;

- Turn the front end of the micromotor counter clock-wise. Reinsert the bur into the chuck. Turn the front end of the micromotor clock-wise to lock the bur in place;



- Check the concentricity of rotation of the bur by operating the micromotor. Assess whether the bur is rotating concentrically. There should not be any vibration;

- If the micromotor shows any signs of vibration, the position of the chuck must be adjusted. Use the chuck tool to turn the bur and chuck a few degrees in a counter-clockwise direction, (as outlined in the above instructions). In order to find the ideal position, it may be necessary to repeat this operation several times, taking care however not to loosen the chuck too much;

- Once the ideal position has been found, the chuck must be locked in place by using the triangular key wrench to tighten the internal micro adjustment screw. Secure the chuck using the chuck tool. Insert the triangular wrench key into the chuck and turn the micro adjustment screw clock-wise. Make sure that the chuck remains in the correct position.