

 The EU directive 93/42/EEC was applied in the design and production of this medical device.

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Specifications are subject to change without notice.

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OPERATION MANUAL

**NSK**

 0197

Please read this Operation Manual carefully  
before use, and file for future reference.

**MADE IN JAPAN**

OM- C0442E

Contra Angle Handpiece

Ti-Max Z

Z10L / Z10  
Z15L / Z15  
Z25L / Z25  
Z85L / Z85  
Z95L / Z95



Powerful Partners®

## Intended to use

This handpiece is intended only for dental clinic/dental office use.



### CAUTION

- When operating the Handpiece always consider the safety of the patient.
- Check for vibration, noise and overheating outside the patient's oral cavity before use. If any abnormalities are found, stop using the Handpiece immediately and contact dealer.
- Should the Handpiece function abnormally, cease operation immediately and return the Handpiece to dealer for repair.
- Depressing the push-button while the handpiece is rotating will result in OVERHEATING of the handpiece head. Special caution must be exercised during use to keep cheek tissue AWAY from the push-button of the handpiece. Contact with cheek tissue may cause the push-button to depress and burn injury to the patient may occur.
- Do not attempt to disassemble the handpiece or tamper with the mechanism.
- Do not allow any impact on to the Handpiece. Do not drop the Handpiece.
- Do not connect or disconnect the Handpiece or bur until the drive motor has completely stopped.
- Do not use bent, deformed or damaged bur. If these burs are used, it bends suddenly, or it breaks during rotation. Bur may become difficult to remove because latch groove is worn or it has swollen.

- Always keep bur shanks clean. Dirt or debris in a chuck could cause poor bur concentricity or low chuck retention force.
- Do not exceed the drive motor speed recommended the bur manufacturers.
- Before use always confirm that the bur is correctly seated and locked into place.
- Always use with adequate water supply and coolant air or damage to the tooth structure may occur and overheating.
- Use eye protectors, dust mask, for safety and health during treatment.
- Perform periodical maintenance checks.
- If the handpiece has not been used for a long period, check for noise, vibration, and overheating before use.
- Do not wipe nor immerse the handpiece acidic water or acidic solutions.
- User is responsible for operation, maintenance and safety.

#### Z85,Z85L

Use short shank FG Bur for a mini head. If long bur has used, it may cause of the omission of early wear of a bearing, Bur will bend, and breakage.

#### Z95,Z95L

- Do not use long surgical burs. Do not use burs longer than 26mm.
- If a foreign material enter to the gear and inside of handpiece, it may become a cause of burn injuries.

## 1. Specification

Model	Z10L	Z10	Z15L	Z15	Z25L	Z25	Z85L	Z85	Z95L	Z95
Max. Rotation Speed	40,000min <sup>-1</sup>									
Gear Ratio	16:1		4:1		1:1		1:5			
Bur	ISO 1797-1 Type1 Ø2.35mm Contra Bur						ISO 1797-1 Type3 Short Shank FG Bur		ISO 1797-1 Type3 Ø1.60mm FG Bur	
Optic	OPTIC	NON-OPTIC	OPTIC	NON-OPTIC	OPTIC	NON-OPTIC	OPTIC	NON-OPTIC	OPTIC	NON-OPTIC
Bur applied Length	12.5mm						9.8mm		10.5mm	
Max Bur Length	22.5mm						16.5mm		25mm	
Max Bur diameter	Ø4.0mm						Ø2.0mm			

## 2. Connecting/Disconnecting handpiece and Motor

### 2-1 Connecting

- 1) Align the handpiece and motor alignment pin.
- 2) Then push the handpiece directly into the motor in alignment with the pin.

## 2-2 Disconnecting

Hold the motor and the handpiece, and pull it out.

### CAUTION

Connect ONLY E type motor (ISO3964) and do not exceed maximum motor speed such as shown on the specification.

## 3. Check before treatment

Follow the check below, before use. If any abnormalities are found, stop using the handpiece immediately and contact the authorized NSK dealer

- 1) Insert the Bur. (Do not exceed maximum rotation speed for any item.)
- 2) Check that there is no abnormal rotation, vibration, noise and overheating.
- 3) If there are no immediate apparent abnormalities, continue to rotate the handpiece for about 1 minute. Then check that there is no abnormal heating on the outer surface.
- 4) Operate it if there are not abnormalities above.

## 4. Mounting/ Removing the Bur

### 4-1 Mounting the Bur

#### 4-1-1 Mounting the Bur (Contra Bur) to Z10,Z10L,Z15,Z15L,Z25,Z25L

- 1) Connect handpiece and motor.
- 2) Insert and lightly turn the bur until it engages with the latch mechanism. (Fig. 1)
- 3) Push the bur further inwards until it clicks into place.

#### 4-1-2 Mounting the Bur (FG Bur) to Z85,Z85L,Z95,Z95L

- 1) Connect handpiece and motor.
- 2) Depressing the push button and insert the bur into the chuck. (Fig. 2)

### CAUTION

- After the Bur is locked in place, lightly pull out the Bur to make sure the Bur is locked.
- If the Bur is not correctly secured it may release during operation and can cause injury.

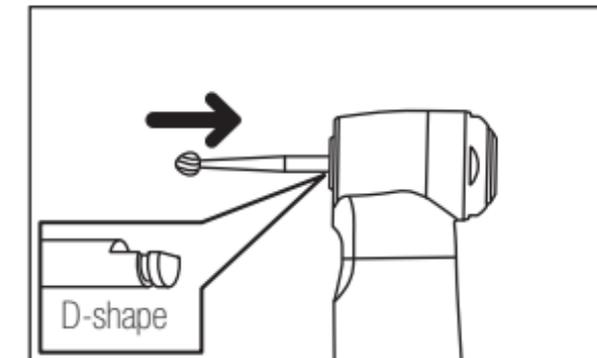


Fig. 1

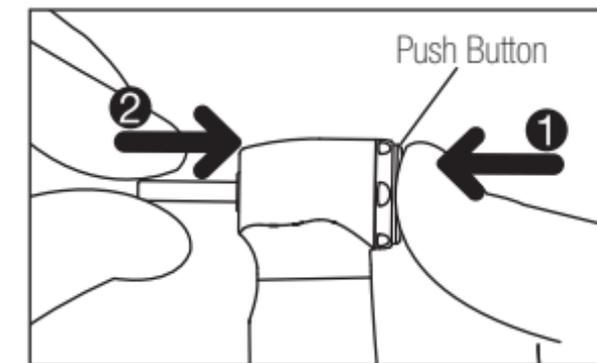


Fig. 2

#### 4-2 Removing the Bur (Fig.3)

- 1) Push the push button with a thumb. (1)
- 2) Pull out the bur. (2)

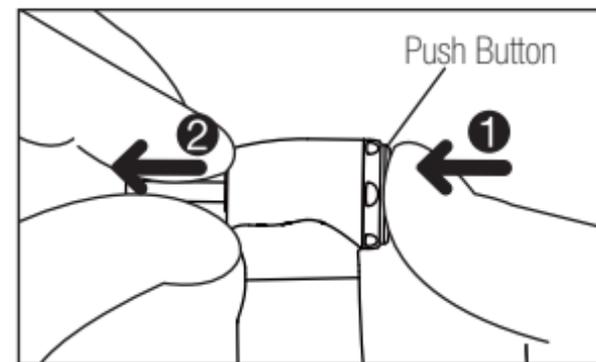


Fig. 3

## 5. Maintenance

After the treatment, be sure to perform the maintenance below.

#### 5-1 Cleaning(Handpiece)

- ☒ This handpiece can be washed via Thermo Disinfector.  
Scrub dirt and debris from the handpiece, and wipe clean with alcohol-immersed cotton swab or cloth. Do not use a wire brush.

\*Refer the manual of Thermo-Disinfector for performing it.

#### 5-2 Cleaning(Z10L,Z15L,Z25L,Z85L,Z95L)

Wipe clean the Cellular Glass Optic Rod entry point and exit point with an alcohol-immersed cotton swab. Remove all debris and oil.(Fig.4)

### ⚠ CAUTION

Do not use a pointed tool or sharp edged to clean the Cellular Glass Optic Rod. They may damage the mirror finish and reduce the light transmission efficiency. If Cellular Glass Optic Rod end has become damaged, return it to dealer for repair.

#### 5-3 Lubirication and Sterilization

Refer to the Maintenance Guide **OM-Z0135E**.

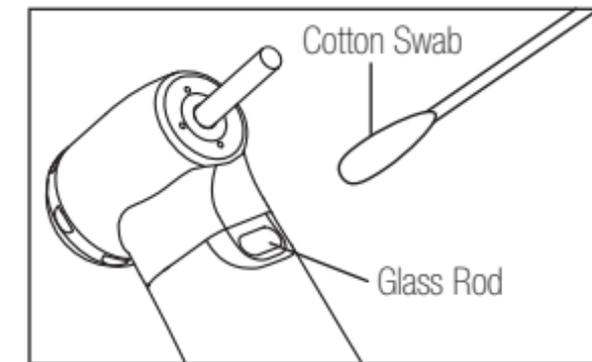


Fig. 4

## 6. Warranty

NSK warrants the handpiece against production errors and material defects. NSK reserves the right to analyze and determine the cause of any problem. Warranty is voided should the handpiece be not used correctly. Replacement parts are available for seven years beyond discontinuation of the model.