

The NSK logo is displayed in a bold, blue, italicized sans-serif font.

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

Contra Angled Handpiece

Ti-Max X

X10L	X10
X12L	X12
X15L	X15
X20L	X20
X25L	X25
X85L	X85
X95L	X95

MADE IN JAPAN

OM-C0353E 004



Powerful Partners®

Intended to use

The handpiece is designed only for clinical dental treatment use by qualified personnel.



CAUTION

- 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 your authorized dealer.
- Do not attempt to disassemble the handpiece or tamper with the mechanism.
- Do not connect or disconnect the bur and/or handpiece until the motor has completely stopped.
- Do not use bent, damaged or sub-standard burs. This may cause shank bend or brake even within the recommended speed.
- Always keep bur shanks clean. Dirt or debris in a chuck could cause poor bur concentricity or low chuck retention force.
- Do not use the bur other than NSK recommended and do not exceed the drive motor speed recommended the bur manufacturers.
- Always operate with water spray. Failure to do so may result in OVERHEATING.
- Perform periodical maintenance check.
- Do not overpressure to the handpiece and treatment area.

X10L/X10,X12L/X12,X15L/X15,X20L/X20,X25L/X25

Never perform PMTC (operation to give heavy torque by a low speed rotation) which it used rubber cap or brush. It may reason for the malfunction or stop rotation by less torque. Special Reduction Contra Angle Handpiece is required for the PMTC. However, if the micromotor has a function for the root canal explanation, you can perform it.

X85L/X85,X95L/X95

- Do not use long surgical burs. Do not use burs longer than 26mm.
- Entering foreign object into gear or inside of handpiece head may cause burn injury.
- Wear protection glass and dust mask for your health and safety.
- 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.
- Even if it does irrigation during operation, bearing is worn and it may overheat or noise. Ask repair for your dealer.

1. Mounting/Removing the Handpiece and Motor

1-1 Mounting

Align the handpiece to the Motor and push together. For X10L,X12L,X15L,X25L,X85L,X95L, Locate the handpiece and alignment pin straight into positioning of the motor.

1-2 Removing

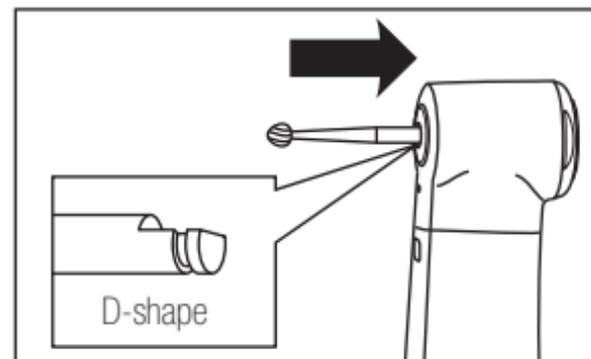
Hold the motor and the handpiece, and pull off carefully, in a straight line.

2. Connecting/ Disconnecting the Bur

2-1 Connecting

a) X10L/X10,X12L/X12,X15L/X15,X25L/X25,X85L/X85,X95L/X95 (Contra Angled Bur)

- 1) Insert the bur into the head and turn it slightly. (If bur and head in right position, bur is all the way seated in the head)
- 2) Insert the bur into the head until it click. (Fig.1)



* X15L

Fig. 1

b) X20L/X20 (FG bur)

- 1) Mount handpiece and Micromotor.
- 2) Depressing the pushbutton and insert the bur into the chuck. (Fig.2, ←1, →2)
- 3) Make sure it inserted firmly till the end of the head. Do not push the Push Button. (Fig.2, ←3→)



CAUTION

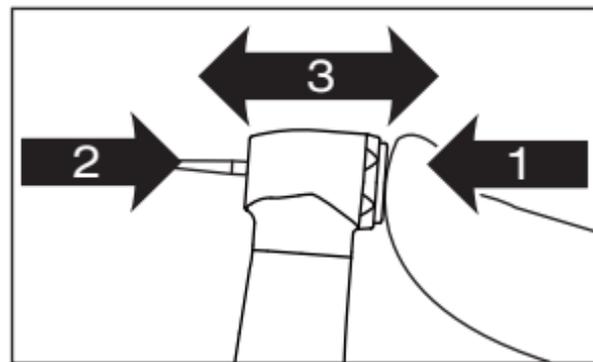
If the bur turn and it can not match the D-shape area, connect the motor then connect it again. (Fig.1)

2-2 Removing

Press the button and pull the bur from the head.(Fig.3)

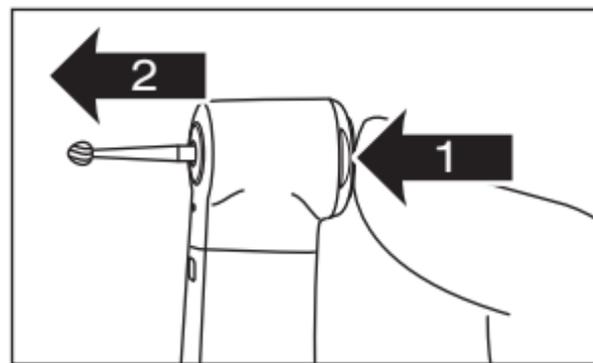
3. Check before treatment

Check that the Head Cap is firmly tightened. Also check for handpiece vibration, noise and overheating. If any abnormalities are found do not use the handpiece and contact your Authorised NSK Dealer.



* X20L

Fig. 2



* X15L

Fig. 3

4. Maintenance

Refer to the Maintenance Guide OM-Z0135E.



This handpiece can be cleaned and disinfected with a Thermo-Disinfector.



This handpiece can be autoclavable up to Max.135°C.

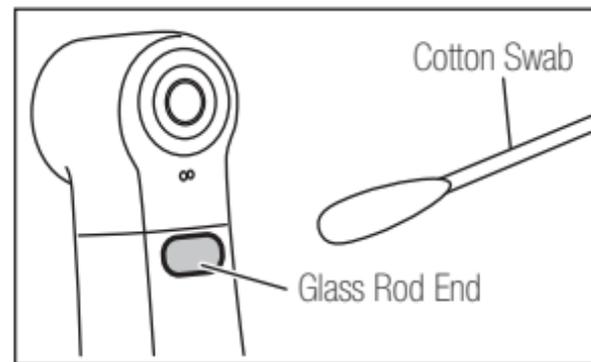
5. Cleaning the Cellular Glass Optic Rod (X10L,X12L,X15L,X20L,X25L,X85L,X95L)

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 sharp tool to clean the Cellular Glass Optic Rod. It could damage the glass and reduce the light transmission. If illumination becomes dim contact your dealer.



* X15L

Fig. 4

6. Servicing

Exclusive part is necessary for cartridge exchange. If you need service for those handpieces, contact your dealer.

Specification

Model	X10L	X10	X12L	X12	X15L	X15	X20L	X20	X25L	X25	X85L	X85	X95L	X95
Gear Ratio	16:1 Reduction		10:1 Reduction		4:1 Reduction		1:1				1:5 Increasing			
Max. Rotation Speed (Motor)	40,000min ⁻¹													
Max. Rotation Speed (Bur)	2,500min ⁻¹		4,000min ⁻¹		10,000min ⁻¹		40,000min ⁻¹				200,000min ⁻¹			
Spray	Single Spray												Quadruple Spray	
Glass Rod Optic	○		○		○		○		○		○		○	
Bur Type	Ø2.35 Latch Bur						Ø1.6 FG Bur		Ø2.35 Latch Bur		Ø1.59 - 1.60mm Short Shank Bur		Ø1.59 - 1.60mm Standard Bur	

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

NAKANISHI INC. 

www.nsk-inc.com

700 Shimohinata Kanuma-shi
Tochigi 322-8666,
Japan

NSK Europe GmbH 

www.nsk-europe.de

Elly-Beinhorn-Strasse 8
65760 Eschborn,
Germany

NSK United Kingdom Ltd

www.nsk-uk.com

Office 5, Gateway1000,
Arlington Business Park, Whittle Way,
Stevenage, SG1 2FP, UK

NSK Dental LLC

www.nskdental.com

1800 Global Parkway,
Hoffman Estates,
IL 60192-1578, USA

NSK France SAS

www.nsk.fr

32 rue de Lisbonne
75008 Paris,
France

NSK Dental Spain SA

www.nsk-spain.es

C/ Módena, 43 El Soho-Európolis
28232 Las Rozas, Madrid,
Spain

NSK Oceania Pty Ltd

www.nsk-inc.com

Unit 22, 198-222 Young St.
Waterloo, Sydney,
NSW 2017, Australia

NSK Middle East

www.nsk-inc.com

Room 6EA-701, 7th Floor, East Wing No.6
Dubai Airport Free Zone,
PO Box 54316 Dubai, UAE

NSK Asia

www.nsk-inc.com

1 Maritime Square,
#09-33 HarbourFront Centre,
Singapore 099253

Specifications are subject to change without notice.

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