TORQTECH
INSTRUCTIONS FOR USE

CA-10RC-ENDO

Geared Contra Angle Handpiece

ENDO

CE 0197 MORITA



Thank you for purchasing the TORQTECH geared contra angle handpiece.
For optimum performance, efficiency, avoiding hazards, preventing patient injury, and safety, read the instruction manual thoroughly before use, and follow all cautionary remarks and usage instructions. Keep this manual in a handy place for ready reference.

The user (e.g., healthcare facility, hospital, clinic, etc.) is responsible for supervising the use and maintenance of medical devices.

This instrument must not be used by anyone other than a dentist, doctor or other legally qualified professional.

Eligible Patients for the TORQTECH:

Children to elderly who can stay still during treatment. A person's weight, gender, and nationality are not considered.

This instrument must not be used for any purpose other than the provision of dental treatment.

The following symbols and expressions indicate the degree of danger and harm that could result from ignoring the instructions they accompany:

⚠WARNING This warns the user of the possibility of serious injury or death to the patient, damage or complete destruction of the instrument or other valuable property, and fire.

⚠CAUTION This warns the user of the possibility of slight or moderate injury to the patient.

This alerts the user of important points concerning operation of the instrument or the risk of damage to it.

Disclaimer

J. MORITA MFG. CORP. will not be responsible for the following matters, even during the warranty period.

1. Malfunction or damage resulting from repairs made by personnel not authorized by J. MORITA MFG. CORP.
2. Any unauthorized modifications to its products
3. Malfunction or damage resulting from maintenance or repairs carried out using parts or components other than those specified by J. MORITA MFG. CORP.
4. Malfunction of or damage to MORITA products caused by products made by other manufacturers unless they were supplied by J. MORITA MFG. CORP.
5. Malfunction or damage resulting from failure to observe the safety precautions or operating procedures described in these Operating Instructions
6. Malfunction or damage resulting from ambient conditions that do not conform to the operating conditions specified in these Operating Instructions, such as an improper electrical power supply or installation environment
7. Malfunction or damage resulting from a natural disaster, such as a fire, earthquake, flood or lightning

J. MORITA MFG. CORP. maintains supplies of service parts for 10 years after discontinuation of their production.

For the duration of this period, we will supply replacement parts and be able to repair the product.

* Replace parts as necessary based on the degree of wear and length of use.
* Motor usage and handling: Read all instruction materials thoroughly before use and follow all cautionary remarks and usage instructions.

In Case of Accident

If an accident occurs, this instrument must not be used until repairs have been completed by a qualified and trained technician authorized by the manufacturer.

Standards and Procedures for the Disposal of Medical Devices

If there is a possibility that a medical device is contaminated, the dentist or doctor responsible for the patient's treatment must confirm that it is uncontaminated, and must then have it disposed of by a healthcare facility or an agent licensed and qualified to handle standard industrial waste and industrial waste requiring special treatment.

Maintenance and Inspection

* This instrument should be inspected every 3 months.
* Maintenance and inspection are generally considered to be the duty and obligation of the user, but if, for some reason, the user is unable to carry out these duties, the user may rely on a qualified medical device serviceman. Contact your local dealer or J. MORITA OFFICE for details. Inspect the following items: 1. Micromotor connection. 2. Bur and file insertion. 3. Handpiece rotation. 4. Overheating. 5. Canal length meter display.
* For repairs, contact your local dealer or J. MORITA OFFICE.

Service and Contacts

The TORQTECH may be repaired and serviced by:

- The technicians of J. MORITA's subsidiaries all over the world.
- Technicians employed by authorized J. MORITA dealers and specially trained by J. MORITA.
- Independent technicians specially trained and authorized by J. MORITA.

For repairs or other types of service, contact your local dealer or J. MORITA OFFICE.

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Prohibitions

⚠PROHIBITION : This indicates when not to use the device.

- Do not use the TORQTECH on patients who have implanted pacemakers or defibrillators.
- No modification of the TORQTECH is allowed.
- Do not perform maintenance while using the TORQTECH for treatment.
- Do not use the wireless transmission devices listed below in the examination area:
  1. Cell phone terminals.
  2. Wireless transmitting devices such as ham radios, walkie-talkies, and transceivers.
  3. Personal Handy-phone System (PHS)
  4. Routers for intra-building paging systems, wireless LAN, cordless analogue telephones, and other electric wireless devices.

Warnings and Cautions

⚠WARNING

- To prevent the spread of infections, be sure to perform the reprocessing procedures after use with each patient.
- Be careful to avoid cross infection when performing reprocessing.
- Always wear personal protective equipment (PPE) such as safety glasses, gloves, a mask, etc. when performing the reprocessing procedures.
- The maximum input rotation for the CA-10RC-ENDO (speed reduction model for endodontics) is 20,000 rpm (2,000 rpm as file rotation). Do not input more than 20,000 rpm. Otherwise, this may result in overheating the head or the handpiece could be damaged.
- The head heats up if it runs at 2,000 rpm. Do not use it for more than 3 minutes at 2,000 rpm.
- Do not force the handpiece inside the oral cavity if the mouth is not open wide enough. It could contact the opposing tooth, and inadvertently press the push button. Running the handpiece with the push button held down could cause the push button to overheat and damage the opposing tooth. It could also burn the patient or the dentist and the bur or file could come out.
- After maintenance, do not cover the handpiece with gauze when operating it to remove excess oil. If the push button is inadvertently held down, the head could overheat or the handpiece could break down.
- In cases of tooth extractions, split teeth, endodontic treatment etc. or incision or open wounds in soft tissue, the tip air must be turned off to avoid causing a subcutaneous emphysema due to emitted air from the handpiece.
- The CA-10RC-ENDO must not be connected to or used in combination with any other apparatus or system. It must not be used as an integral component of any other apparatus or system.

File Usage
(Nickel-Titanium files are easily broken. Keep the following points in mind to minimize file breakage.)

- Never use excessive force to insert the file.
- Never use excessive force to advance the file down the canal. (Using excessive force could break a Ni-Ti file.)
- All files eventually break due to metal fatigue. Replace old files in a timely manner.
- Never use stretched, deformed or bent files.
- Do not get chemical solutions such as FC or hypo-chlorite on the head or contrary electrode. These could cause inflammation.

Using the Endodontic Contra Angles with Units and Micromotors that Have Canal Measurement Capability

- Before use, read all relevant instructions that come with the dental treatment unit thoroughly.
- Before use, touch the file in the CA-10RC-ENDO with the contrary electrode on the probe cord connected to the dental treatment unit, and make sure all the bars in the meter for the measurement display on the chair light up. If they do not, do not use the handpiece. Something is probably wrong with the display.
- Some files do not work with the built-in electrode inside the CA-10RC-ENDO. Be sure to test the handpiece as described above.
- The built-in electrode will work for only some types of files.
  It will not work if there is no conductivity between the file and shank or if the shank does not conduct electricity. Do not use these types of files.
- If a file will not work with the built-in electrode inside the CA-10RC-ENDO, you can install a separate external file electrode that will work.
- Canal measurement cannot be performed with contra angles and micromotors that do not have this capability. For canal measurement, make sure the dental treatment unit, micromotor and CA-10RC-ENDO all have this capability.
- Accurate measurement cannot be performed if the built-in or external file electrode is worn out. Replace the electrode with a new one.
- If the dental treatment unit's canal length indicator measurement readings are unstable, stop using the handpiece immediately and replace the built-in electrode or external file electrode.
- When using canal measurement functions, do not operate this handpiece faster than 1,200 rpm. The meter may be somewhat erratic.
- If a chemical solution such as sodium hypochlorite gets on the head, wash it off immediately. Otherwise, metal contacts could be corroded and prevent accurate measurement of the canal.
- Always use a rubber dam for preparing root canals.

⚠CAUTION

- Run the handpiece outside the oral cavity before using it and make sure the bur or file does not wobble and that it runs at the correct speed and in the right direction.
- If a bur or file comes out during use, stop using the handpiece immediately and have the handpiece repaired.
- Do not press the push button until the handpiece comes to a complete stop. Otherwise, the inside of the button could wear out and make it hard to insert and remove burs or files.
- If the handpiece makes abnormal noise, vibrates too much, or overheats, take out the bur and replace it with a new one. If the same problem persists, have the handpiece repaired.
- Follow all recommendations of the bur manufacturer concerning bur rotation speed and direction.

- ! Wait for the handpiece to come to a complete stop before inserting or removing burs or files.
- ! Wait for the bur or file to stop rotating before taking it out of the oral cavity.
- ! Remove burs and files before returning the handpiece to its holder in the dental treatment unit; otherwise there is a risk of injury or damage.

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Specifications

[Specifications may be changed without prior notice due to improvements.]

Geared Contra Angle Handpiece Attachment	
Type	CA-10RC-ENDO
Indications for Use	The TORQTECH transmits rotation of the motor to dental burs or reamers which cut or grind teeth or dentures with the same or transformed rotation.
Rotation Speed Ratio	10 : 1 (reduction)
Maximum Motor Speed [rpm]	20,000
Length [mm]	Approx. 94
Weight [g]	Approx. 55
Usable Burs *1	Shank Type 1 (CA)
Chuck Type	Push Button
Connectable Micromotors	TR-SII-R-O, TR-S3-R-O*2
Usable Shank Length for Burs and Files [mm]	Minimum 12
Usable Bur Diameter [mm]	2.334 to 2.350

*1 Use burs that conform to ISO 1797-1

*2 To use canal measurement function with the CA-10RC-ENDO, make sure that both the treatment unit and micromotor have canal measurement capability of the CA-10RC-ENDO.

⚠WARNING

- Never use the following types of burs and files; they could come out and injure the patient or be swallowed: Those which do not conform to ISO standards. Those with scratched or bent heads or shanks. Those which are rusty, chipped or broken. Those which have been modified or altered such as those having shortened shanks.

⚠CAUTION

- Even new burs and files are sometimes poorly balanced; if a bur or file makes a loud, metallic noise during rotation, stop using it.
- Spray and tip air are not emitted.

Always use burs and files with clean shanks.

Always carefully remove all cleaning fluids before inserting a bur into the chuck; some cleaning fluids are corrosive and can ruin the chuck.

* If a dirty bur or file or ones with cleaning fluid have been inserted by mistake, contact your local dealer or J. MORITA OFFICE. to have the handpiece inspected.

Operating, Transport and Storage Environments

Operating Temperature: +10°C to +35°C (+50°F to +95°F); Humidity: 30% to 80% (without condensation); Atmospheric Pressure: 70 kPa to 106 kPa

Transport and Storage Temperature: -10°C to +70°C (+14°F to +158°F); Humidity: 10% to 85% (without condensation); Atmospheric pressure: 70 kPa to 106 kPa

* Do not expose the handpiece to direct sunlight for an extended period of time.
* If the handpiece will not be used for an extended period of time, store it in a clean, dry place after autoclaving it.
* The useful life of the TORQTECH is 7 years (based on self-certification) from the date of shipment provided it is regularly and properly inspected and maintained.

Symbols

[Some symbols may not be used.]

CE 0197 — CE(0197) marking. Conforms with the European Directive, 93/42/EEC. CE marking. Conforms with the European Directive, 2011/65/EU.

SN — Serial number

UDI — Unique device identifier

MD — Medical device

Type BF applied part

135°C — Autoclavable up to +135°C (+275°F)

Supports high-temperature cleaning and disinfection

GS1 DataMatrix

EC REP — EU authorized representative under the European Directive 93/42/EEC

CH REP — Authorized representative in Switzerland

Refer to instructions for use

Temperature limitation

Humidity limitation

Atmospheric pressure limitation

Fragile

Keep away from rain

This way up

Manufacturer

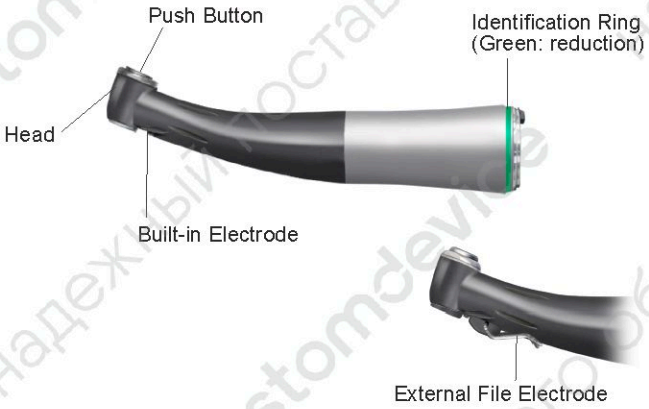
Date of manufacture

Non-Sterile — Sterilize components before use

Rx Only — Caution: Federal law restricts this device to sale by or on the order of a dentist. (for U.S.A.)

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Parts Identification



Accessories

* For parts that wear out and need periodic replacement, see "Maintenance and Inspection" and "5. Replacement Parts" sections whenever necessary.

Spray Nozzle
Code No. 5071343



Guide Bar
Code No. 8491763



* Use the guide bar when replacing the built-in electrode or external file electrode.

External File Electrode (with cap)
Code No. 5071377



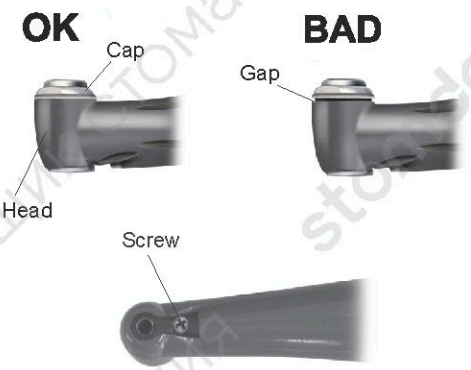
Sold separately

MORITA MULTI SPRAY
Code No.7914113
or 5010201



1. Before Use

*The TORQTECH is not autoclaved before shipping. Be sure to autoclave it before using it for the first time. Follow the instructions below.



Make sure the cap and screw are not loose and that the cap fits flush up against the head. Make sure there are no cracks, misalignment or other defects.

Make sure the chuck opening is rust-free and clean. Make sure the joint is clean and not damaged.

Connect the handpiece to the micromotor and step on the foot pedal to operate it. Make sure it runs smoothly without any abnormal noise or vibration.

For Canal Measurement

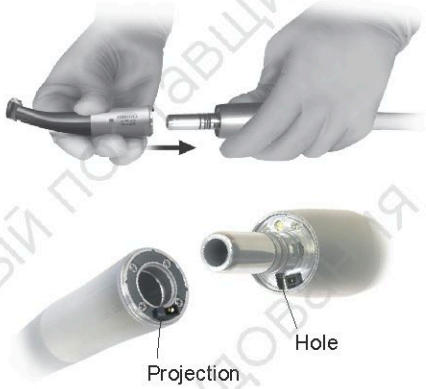
Touch the file with the contrary electrode that is connected to the dental treatment unit and make sure all the bars on the canal measurement display light up clearly without exception.

⚠WARNING

- Do not use the CA-10RC-ENDO if the cap or set screw is loose. These could come off and be swallowed by the patient. Accurate canal measurement may not be performed.

Be sure to perform reprocessing on the respective parts before using them for the first time. ☞"4. Reprocessing"

2. Motor Connection



* Make sure the O-rings on the micromotor connection are properly installed.
* To make a canal measurement, connect the TR-SII-R-O or TR-S3-R-O.

Slide the handpiece straight onto the micromotor's connection cylinder. Line up the hole in the motor connections with the projection in handpiece and fit the two together until there is an audible click.

⚠CAUTION

- Make sure the micromotor's connection cylinder is free of dust, dirt, and debris.
- Handle the handpiece carefully. Do not drop it or let it swing and bang against the dental treatment unit. Otherwise, it may result in poor rotation.

To use canal measurement function with the CA-10RC-ENDO, make sure that both the dental treatment unit and micromotor have canal measurement capability.

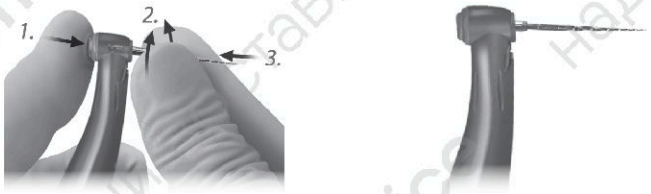
Give the handpiece a light tug before using it to make sure it is securely connected.

Wait for the micromotor to come to a complete stop before connecting or disconnecting the handpiece.

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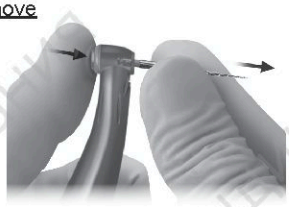
3. Insert and Remove Burs and Files

Insert



Hold down the push button and rotate the file or bur until it lines up with the notch inside the chuck and goes all the way in. Then release the button.

Remove



Hold down the push button and pull the bur or file straight out.

⚠WARNING

- Make sure files go all the way into the chuck. Give them a light tug to make sure they are securely installed.
- Never use stretched or damaged files.

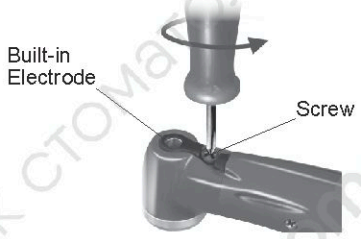
⚠CAUTION

- Take care not to injure your fingers when inserting and removing burs and files.
- Be sure to push the push button when inserting and removing burs and files. Otherwise, it could damage the chuck and fail to hold burs and files.

ⓘ Use specified Ni-Ti or stainless steel files.

If there is no conductivity between the file shank and cutting part, install the external file electrode.

1.



Take out the screw and then the built-in electrode.

2.



Install the external file electrode.
*For details, see 2 to 5 of “5. Replacement Parts” section.

3.



Put file in (see “3. Insert and Remove Burs and Files” section).
Swing the file electrode up and clip it on the file.



Replace the external file electrode if it is damaged or worn out, as shown in the illustration to the left.

⚠WARNING

- Make sure the screw for the file electrode is tightened up properly. If it comes out, it could be swallowed by the patient or accurate measurements may not be made.

⚠CAUTION

- The file electrode may work for some types of files.
- The file electrode cannot be used with files that have a shank diameter greater than 1.2 mm, shanks that are not circular, large cutting heads such as Largo Burs, and Gadsden reamers.

ⓘ Do not fit the electrode onto the cutting surface of the file. The file electrode will wear out very quickly.

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4. Reprocessing

There are two ways to perform reprocessing depending on the items.

- Parts to be Sterilized
- Parts to be Disinfected

⚠WARNING

- To prevent the spread of infections, be sure to perform the reprocessing procedures after use with each patient.
- Be careful to avoid cross infection when performing reprocessing.
- Always wear personal protective equipment (PPE) such as safety glasses, gloves, a mask, etc. when performing the reprocessing procedures.

⚠CAUTION

- When performing reprocessing procedures, always turn off the dental treatment unit and make sure that the device will not operate.
- Be careful when clipping and unclipping files to avoid injury to fingers.

❗After use, perform reprocessing promptly. If the parts are left contaminated with blood, it will be difficult to remove.

❗Be sure to remove the bur or file from the handpiece before reprocessing.

Parts to be Disinfected



Guide Bar

* Be sure to perform the handpiece reprocessing procedures promptly after use with each patient by following procedures ❶ through ❷.

❶ Pre-treatment

(This must be performed after use with each patient.)



Wipe the parts with a piece of gauze or microfiber cloth (e.g., Toraysee for CE - Medical Equipment and Instruments Maintenance Cloth) that has been dampened with tap water to remove visible contaminants.

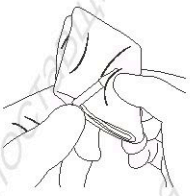
Then wipe off moisture completely with a soft cloth.

❗Do not use any chemicals that may coagulate proteins before cleaning.

❗If a medical or adhesive agent being used for the treatment has adhered to the part, immediately remove it with a piece of gauze or microfiber cloth (e.g., Toraysee for CE - Medical Equipment and Instrument Maintenance Cloth) that has been dampened with tap water.

❗Do not clean the parts with an ultra sonic cleaning device.

❷ Cleaning & Disinfection



Wipe the part's surface with disinfectants approved by J. MORITA MFG. CORP.

Disinfectants Approved by J. MORITA MFG. CORP.

Disifectant	Country
Ethanol (70 vol% to 80 vol%)	U.S.A.
Opti-Cide3 (wipes)	
FD366 sensitive (wipes)	Other than U.S.A.

❗Make sure that there is no visible moisture and contamination when wiping the parts.

❗Do not use disinfectants other than those designated by J. MORITA MFG. CORP.

❗For details on handling disinfectants, refer to the accompanying user manual for each disinfectant.

❗Do not immerse the parts in or wipe them with any of the following: functional water (acidic electrolyzed water, strong alkaline solution, and ozone water), medical agents (glutaral, etc.), or any other special types of water or commercial cleaning liquids. Such liquids may result in adhesion of the residual medical agent to the parts.

❗Do not clean or immerse the parts with chemicals such as formalin cresol (FC) and sodium hypochlorite. These will damage the plastic parts. Immediately wipe away any chemicals that are accidentally spilled on the parts.

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Parts to be Sterilized



Handpiece



External File Electrode (with cap)

* Be sure to perform the handpiece reprocessing procedures promptly after use with each patient by following procedures ❶ through ❺.

! Do not autoclave any parts other than the handpiece and external file electrode (with cap).



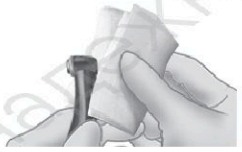
■ Preparation

Take out the bur or file and detach the handpiece from the micromotor.

! Be sure to remove the bur or file from the handpiece after use. If the bur or file is left in the handpiece, it may get stuck.

❶ Pre-treatment

(This must be performed after use with each patient.)



Wipe the parts with a piece of gauze or microfiber cloth (e.g., Toraysee for CE - Medical Equipment and Instruments Maintenance Cloth) that has been dampened with tap water to remove visible contaminants.



Alternatively, clean the parts in running water with a soft brush to remove visible contaminants.

! Do not use any chemicals that may coagulate proteins before cleaning.

! If a medical agent being used for the treatment has adhered to the part, wash it off under tap water.

! Do not clean the parts with an ultra sonic cleaning device.

! If dust or other impurities enter the handpiece, they may cause poor rotation or poor spray delivery.

❷ Cleaning & Disinfection

Recommended Conditions for Washer-Disinfectors

Unit Name	Miele G7881
Mode	Vario TD
Detergent (concentration)	neodisher MediClean (0.3% to 0.5%)
Rinse (concentration)	neodisher MediKlar (0.03% to 0.05%)

* After cleaning there may be streaks or white spots on the parts. Use a neutralizer only if there are streaks or white spots.

Put parts in the parts washing basket. For the handpiece, set it in a handpiece holder.
Select the washer-disinfector's mode as shown in the chart and start the process.
After completing the cleaning process, make sure the parts are thoroughly clean.
Expel remaining moisture on the surface or inside the parts with compressed air.

⚠WARNING

- If any moisture is left inside the parts after cleaning, it could cause corrosion or poor sterilization. Also, the remaining water may come out during use. After cleaning, use a syringe or compressed air to expel remaining moisture.

! Be sure to remove visible contaminants before this step.

! Be sure to use washer-disinfectors that conform to ISO 15883-1 (must be capable of achieving disinfection values of not less than $A_0 = 3000$).

! If your region is susceptible to hard water scale buildup, use deionized water (ion-exchanged water).

! For details on handling detergents and neutralizers, concentration, water quality as well as parts washing baskets, refer to the accompanying user manual for the washer-disinfector.

! Inappropriate cleaning methods and solutions may damage the parts.

! Do not use strong acidic or alkaline chemicals that could cause the metal to corrode.

! Do not start drying when the handpiece is filled with water. Otherwise, this could cause corrosion due to condensation of the rinsing solution.

! After completing the cleaning process, expel remaining moisture inside the parts with compressed air.

! Do not leave the parts in the washer-disinfector. This may cause corrosion or malfunction of the parts.

! Always use a handpiece holder when washing the contra angle, making sure to rinse the inside of the contra angle thoroughly.

! Always lubricate the contra angle after washing.

❸ Lubrication (Only the handpiece needs to be lubricated.)

* Before autoclaving, the handpiece must be lubricated with the MORITA MULTI SPRAY.



1 Put the spray nozzle on the spray can.



2 Insert the spray nozzle into the connection end of the handpiece, hold it firmly and then spray for about 2 seconds.



3 Using an air blow gun, blow the handpiece connection for 20 to 30 seconds to get rid of any moisture left inside the handpiece. Wipe the excess oil from the handpiece with a gauze.



4 You can use MORITA's threeway syringe instead of an air blow gun. (In this case, attach the air nozzle to the tip of the threeway syringe. The air nozzle comes with a micromotor or its optional accessory.)

Lubrication and excess oil removal can be performed by J. MORITA's dental handpiece maintenance device.



⚠WARNING

- Always cover the handpiece with gauze before spraying. If spray accidentally gets into your eyes, wash them out with plenty of water and see a doctor. Use soap and water to wash off any spray on your skin.
- Do not use the spray in an enclosed area which is not properly ventilated. Do not point the spray nozzle at anyone and do not use the spray near an open flame.

⚠CAUTION

- The handpiece will fail if it is not lubricated and cleaned with the spray regularly.
- Spraying for more than 5 seconds can cause extreme cooling and freezing.
- After handpiece lubrication, be sure to remove the excess oil. If any oil seeps inside the micromotor, it could result in a malfunction. Also, excess oil could cause the handpiece to overheat.

! Do not use any lubricant except the MORITA MULTI SPRAY.

! Always use the spray bottle in a vertical position. Always use the special spray nozzle provided.

❹ Packing



Place the parts individually in a sterilization pouch.

Use only FDA-cleared pouches. (for U.S.A.)

! Use sterilization pouches that conform to ISO 11607.

! Do not use any sterilization pouches that contain hydrosoluble adhesive ingredients such as PVA (polyvinyl alcohol).
Note that even ISO 11607 conformable sterilization pouches may contain PVA.

❺ Sterilization

135℃ Recommended Autoclave Settings

Country : U.S.A.

Sterilizer type	Temperature	Time	Drying time after sterilization
Gravity	+132°C (+269.6°F)	15 minutes	15 minutes
	+121°C (+249.8°F)	30 minutes	

Country : Other than U.S.A.

Sterilizer type	Temperature	Time	Drying time after sterilization
Dynamic Air Removal	+134°C (+273.2°F)	3 minutes	10 minutes
	+134°C (+273.2°F)	5 minutes	
Gravity	+134°C (+273.2°F)	min. 6 minutes	min. 10 minutes
	+121°C (+249.8°F)	min. 60 minutes	

Autoclave the autoclavable parts.
After autoclaving, store the parts in a clean and dry environment.

⚠WARNING

- To prevent the spread of infections, the handpiece must be autoclaved after each patient's treatment has been completed.

⚠CAUTION

- Components are extremely hot after autoclaving; wait for them to cool off before touching.

! Do not sterilize the parts by any method other than autoclaving.

! Remove a bur or file from the handpiece before autoclaving.

! If chemical solutions or foreign debris are not removed, autoclaving could damage or discolor the part. Thoroughly clean and disinfect the parts before autoclaving.

! The setting temperature for sterilization and drying process must be +135°C (+275°F) or lower. If the temperature is set at beyond +135°C (+275°F), it may cause a malfunction or stain on the parts.

! Do not let the handpiece come into contact with the heat source or chamber wall inside of the autoclave to avoid damage of the O-rings or other parts due to the high temperature.

! When autoclaving the handpiece in an upright position, make sure that it is placed in the autoclave with its head at the top.

! Follow the manufacturer's recommendations for autoclaving files.

! After completing the autoclaving process, do not leave the parts in the autoclave.

! Do not fail to lubricate the handpiece with the spray before autoclaving it.

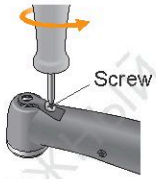
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5. Replacement Parts

* If all the canal length indicator bars on the canal measurement display do not light up or if they flicker when the file touches the contrary electrode connected to the dental treatment unit, the built-in electrode or external file electrode is worn out. Replace it with a new one.

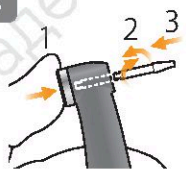
Replace Built-in Electrode

1



Loosen the screw and remove the built-in electrode.

2

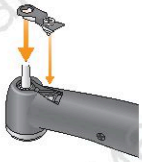


Hold down the push button, insert the guide bar and turn it back and forth until it fits into the latch groove. Then release the push button to secure the guide bar.

⚠CAUTION

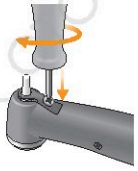
- Always use the guide bar and make sure it will not come out. If the guide bar cannot be properly fixed in place, the internal contact could be bent, and then the instrument might not be able to make accurate measurements or else it might malfunction.
- Do not run the micromotor with the guide bar inserted. This could damage the handpiece.

3



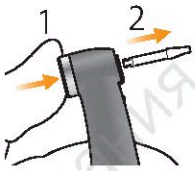
Slide the new built-in electrode onto the guide bar and line up the screw holes.

4



Slowly turn the screw and make sure the built-in electrode goes into the head properly.

5



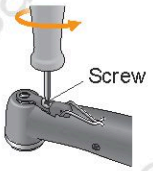
Tighten the screw and then hold down the push button and pull out the guide bar.

⚠WARNING

- Make sure the screw is tightened properly. Otherwise, it might come out and be swallowed. Also, canal measurements might not be accurate.

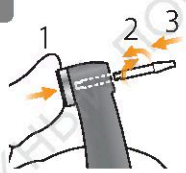
Replace External File Electrode

1



Loosen the screw and remove the external file electrode.

2

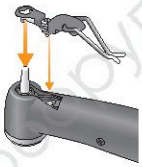


Hold down the push button, insert the guide bar and turn it back and forth until it fits into the latch groove. Then release the push button to secure the guide bar.

⚠CAUTION

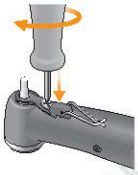
- Always use the guide bar and make sure it will not come out. If the guide bar cannot be properly fixed in place, the internal contact could be bent, and then the instrument might not be able to make accurate measurements or else it might malfunction.
- Do not run the micromotor with the guide bar inserted. This could damage the handpiece.

3



Slide the new external file electrode onto the guide bar and line up the screw holes.

4



Slowly turn the screw and make sure the external file electrode goes into the head properly.

5



Tighten the screw and then hold down the push button and pull out the guide bar.

⚠WARNING

- Make sure the screw is tightened properly. Otherwise, it might come out and be swallowed. Also, canal measurements might not be accurate.

After Replacement

Make sure the cap is properly placed.



6. Troubleshooting

Before inspection and adjustment, make sure the dental treatment unit power is on.
If the apparatus does not work properly after being inspected and adjusted, contact your local dealer or J. MORITA OFFICE.

◆ Bur or File does not go into chuck.

- Lubricate the handpiece, and then use a new bur or file to check if the problem has been resolved. If this does not resolve the problem, have the handpiece repaired.

◆ Bur does not rotate.

- Make sure the micromotor is properly connected to its tube. Remove the handpiece from the micromotor and step on the foot control. Does the micromotor run?

  If micromotor runs:

  Make sure the handpiece is connected to the micromotor correctly, then step on the foot control to see the bur runs. If the bur does not run, have the handpiece repaired.

  If micromotor does not run:

  Refer to the accompany user manual for the micromotor.

◆ Cannot make a canal measurement.

- Touch the file and the contrary electrode together. Do all the meter bars light up without flickering?

  If all the meter bars light up:

  The handpiece is normal.

  If some bars do not light up or they flicker:

  Replace the built-in electrode or external file electrode. If this does not resolve the problem, have the handpiece repaired.

- Make sure the fixing screw for the built-in electrode or external file electrode is not loose. If it is not, tighten the screw properly.

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Root Canals Not Suitable for Electric Apex Location

Accurate apex location cannot be obtained with the root canal conditions shown below.



Root Canal with a large apical foramen

Tooth with incomplete root canal (e.g., root resorbed tooth and primary tooth).

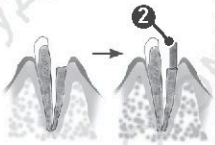


Root canal with blood overflowing from the opening

If blood overflows from the opening of the root canal and contacts the gums, this will result in electrical leakage and an accurate apex location cannot be obtained. Wait for bleeding to stop completely. Clean the inside and opening of the canal (1) throughly to get rid of all blood, and then check the apex location again.

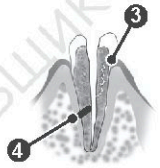
Root canal with a chemical solution overflowing from the opening

An accurate apex location cannot be obtained if a chemical solution is overflowing from the canal opening. In this case, clean the canal and its opening, and the perform apex location. It is important to remove any solution overflowing the opening.



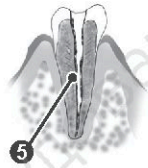
Broken crown

If the crown is broken and a section of the gingival tissue is contacting caries surrounding the canal opening, the CA-10RC-ENDO may malfunction due to electrical leakage between the gingival tissue and the root canal. In this case, build up the tooth with a suitable material such as cement (2), to insulate the gingival tissue.



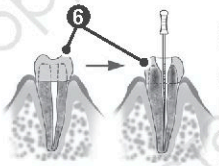
Fractured tooth
Leakage through a branch canal

A fractured tooth (3) will cause electrical leakage and accurate apex location cannot be obtained. A branch canal (4) will also cause electrical leakage and accurate apex location cannot be obtained.



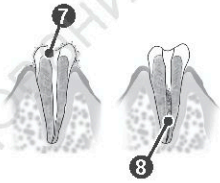
Re-treatment of a root filled with gutta-percha

The gutta-percha must be completely removed to eliminate its insulating effect. After removing the gutta-percha (5), pass a small file all the way through the apical foramen, and then put a little saline in the canal, but do not let it overflow the canal opening.



Crown or metal prosthesis touching gingival tissue

The CA-10RC-ENDO will malfunction if the file or reamer touches a metal prosthesis that is touching gingival tissue. In this case, widen the opening at the top of the crown (6) so that the file or reamer will not touch the metal prosthesis before performing the apex location.



Cutting debris on tooth
Pulp inside canal

Thoroughly remove all cutting debris (7) from the tooth.

Thoroughly remove all the pulp (8) inside the canal. Otherwise accurate apex location cannot be obtained.



Caries touching the gums

In this case, electrical leakage through the caries infected area to the gums (9) will make it impossible to obtain an accurate apex location.



Blocked canal

The meter will not move if the canal is blocked (10). In this case, open the canal all the way (penetration) to the apical constriction.



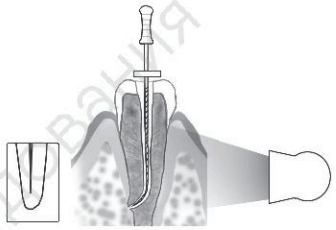
Extremely dry canal

If the canal is too dry, the meter may not move until the file is near the apex.

In this case, try moistening the canal with oxydol or saline.

Electrical Meter Reading and Radiography

Sometimes the canal meter reading and the X-ray image will not correspond. This does not mean that the meter is not working properly or that the X-ray exposure is a failure. An X-ray image might not show the apex correctly depending on the angle of the X-ray beam, and the location of the apex might seem to be other than it really is.



In the illustration to the above, the actual apex for the canal is not the same as that for the anatomical apex. There are frequently cases where the apical foramen is located up towards the crown.
In these cases, an X-ray might indicate that the file has not reached the apex even though it has actually reached the apical foramen.

TERMS AND CONDITIONS

J. MORITA MFG. CORP. warrants the Product as follows:

1. **Warranty Term.**
   J. MORITA MFG. CORP. warrants that the Product will be free from defects in materials and workmanship for 12 months.
2. **Items Not Covered by Warranty.**
   This Warranty will not cover parts of the Product or consumables which normally need to be replaced such as glass or rubber components, file electrode and the like. Further, this warranty will not cover defects or damage caused by:
   a. Failure to operate or use the Product in accordance with the Operation Instructions or warning/cautionary labels.
   b. Modifications of the Product, connecting the Product to other products, or using components or replacement parts not specified or approved by J. MORITA MFG. CORP.
   c. Repairs performed by parties not designated by J. MORITA MFG. CORP.
   d. Accidents or forces outside of J. MORITA MFG. CORP.'s control, such as dropping the Product or collision of the Product with other objects, fire, flood, natural disaster, etc.
   e. Use or operation of the Product in settings or under conditions not specified by J. MORITA MFG. CORP. or set forth in the Operation Instructions including, without limitation, unauthorized changes in equipment settings, connection to unauthorized devices.
3. **Remedies of Customer.**
   Customer must present this Warranty when claiming coverage or application thereof, and either ship or deliver the Product to an authorized location of J. MORITA MFG. CORP. or its subsidiaries or authorized dealers. Upon receipt and verification of this Warranty, inspection of the Product, and determination of coverage by this Warranty, J. MORITA MFG. CORP. will, at its sole option, supply the parts or components either replaced or repaired free of charge to the Customer. Delivery and shipping charges are the responsibility of the Customer.
4. **LIMITATIONS AND EXCLUSIONS FROM WARRANTY.**
   The remedy set forth in paragraph 3 is the sole and exclusive remedy of Customer. J. MORITA MFG. CORP. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES AND SPECIFICALLY EXCLUDES ALL OTHER WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL J. MORITA MFG. CORP. BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL, DIRECT OR INDIRECT, OR SPECIAL DAMAGES OF ANY KIND INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF REVENUE, LOSS OF BUSINESS OR BUSINESS OPPORTUNITY, OR OTHER SIMILAR FINANCIAL LOSS ARISING OUT OF THE PERFORMANCE, USE OR INTERRUPTED USE OF THE PRODUCT.
5. **Repairs Not Covered by Warranty.**
   With respect to repairs not within the period of this Warranty or otherwise not covered by this Warranty, J. MORITA MFG. CORP. will perform the same, timely, efficiently, and for an appropriate cost.

12 Months

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