

# ATD AUTOMATIC CROWN & BRIDGE REMOVER

## INFORMATION FOR USE

- 24-3126961B (with E-type connector)
- 24-3126961BSTAR (with Star Titan® connector)
- 24-3126961BMID (with Midwest Shorty® Two-Speed connector)

Thank you for purchasing the ATD Automatic Crown and Bridge Remover! For optimum safety and performance, read this booklet thoroughly before using the device.

Attention: This product is for use by dentists. Use only as described in this instruction booklet.

### Product Facts

**The ATD Automatic Crown and Bridge Remover** attaches to electric or slow speed air driven handpiece motors with speeds between 5,000 rpm and 25,000 rpm. The ATD device comes standard with a variety of site specific hooks and wires to dislodge cemented single crowns and multiple unit bridges. When activated, the device delivers intermittent strokes at regular intervals producing a vibration that resonates through the cemented crown or bridge. This action breaks down the integrity of the cement to dislodge the prosthesis. The ATD is available with connectors for three types of handpieces: E-type standard (Norme ISO 3694); Star Titan®, or Midwest Shorty® Two-Speed. NOTE: All handpiece motor speeds must operate between 5,000 and 25,000 rpm.

Titan is a registered trademark of StarDental. Midwest Shorty is a registered trademark of Midwest Dental Products Corp.

### Product Features

The ATD Automatic Crown and Bridge Remover

- Is fully automatic and simple to use.
- Is fully autoclavable.
- Can be operated with one hand, allowing the other hand free to guide the position of the wire or hook.
- Delivers consistent and predictable strokes to break down the integrity of the cement seal.
- Allows the operator control of the intensity and frequency of impact strokes.
- Is safer, more precise, and less traumatic for the patient than traditional crown and bridge removers.

### Parts ID

Use this photograph to identify all 14 items included in your ATD Automatic Crown and Bridge Remover kit.

- ATD handpiece
- Replacement wires
- Flat wrench
- Wire attachment (multiple loops)
- Wire attachment (single loop) 50mm wire
- Adapter for wire attachments
- Flat end screwdriver
- Wire attachment (single loop) 60mm wire
- Long angled hook
- 90° bridge hook
- Short angled hook
- Assembly tool

- Flat hook with grooves
- Replacement retaining screw

HELPFUL OPTION: The assembly tool can be inserted into the hole on the shank of the hooks and on the wire adapter to assist with handling the parts or tightening the connections.

### **Safety & Maintenance**

#### **Important Safeguards**

1. The ATD must be disinfected and sterilized before the first, and after each, use.
2. Observe guidelines for lubrication and sterilization to avoid cross-contamination and preserve the integrity of the device.
3. Check that wires and hooks are correctly fastened and positioned before use.

#### **Lubrication**

To maintain optimum function of the ATD handpiece lubricate it either after each use or before each sterilization. Using a standard handpiece lubricant, position the spray nozzle at each end of the handpiece, and spray for one second to clean and lubricate the handpiece mechanism. Wipe clean with a mild surface cleanser and proceed with sterilization.

#### **Sterilization**

1. The ATD handpiece can be autoclaved at temperatures up to 275°F (135°C). Do not immerse the handpiece in chemical solutions. Dry heat sterilization is not recommended.
2. The AD wires and attachments can be sterilized by: autoclaving at temperatures up to 275°F (135°C); dry heat method at temperatures up to 400°F (204°C), or chemical sterilization according to manufacturers' recommendations for hand instruments.

### **Choosing Attachments**

#### **Hook Attachments**

There are three types of hook attachments for crown removal, and one hook attachment for bridge removal.

#### **Wire attachments**

There are two types of wire attachments: one for creating a single loop through a bridge and one for creating multiple loops through a 3 or 4 unit bridge.

#### **Hook attachments for crown removal**

- **Flat** (anterior)
- **Short angled** (anterior)
- **Long angled** (posterior)

#### **Hook attachment for bridge removal**

- **90° bridge hook**

#### **Wire attachments for bridge removal**

- **50mm wire** (anterior bridges) single loop
- **60mm wire** (posterior bridges) single loop
- **95mm and 150mm wires** (3 or 4 unit bridges) multiple loops only

### **Assembling the Attachments**

#### **1. Hook**

Place the hook into the working end of the ATD handpiece and screw it into place.

#### **2. Wire**

The wire attachments are connected to the ATD handpiece via the adapter for wire attachments provided in your kit.

- A. Screw the adapter for the wire attachment into the working end of the ATD handpiece.
- B. Lock-in the wire attachment by pushing and turning it into the groove on the adapter.

**Replacing the Wire in the Wire Attachment**

1. Locate the small retaining screw on the underside of the wire attachment.
2. Use the flat end screwdriver to loosen the retaining screw. Carefully remove the small screw and the old wire.
3. Place the new wire by inserting the short blunt end into the groove, and secure it with the retaining screw.

**Operating the ATD**

**Activate the handpiece**

1. When assembly of the appropriate hooks or wires is secure, activate the handpiece beginning at a speed of 5,000 rpm and gradually increasing, as needed, to a maximum of 25,000 rpm.
2. To test the strokes for crown and bridge removal, pull the shaft of the working end away from the handpiece. When in use intraorally, this opposing force initiates the intermittent impact strokes when the handpiece rheostat is activated.
3. Before operating the ATD handpiece, see pages 11-17 for details on positioning hook and wire attachments.

**Adjusting the Intensity of the Strokes**

Locate the grooved ring on the head of the ATD handpiece. Turn the head of the ATD handpiece above the ring to the left to increase the stroke intensity and to the right to decrease the stroke intensity as indicated by the arrows on the handpiece. Adjusting the stroke intensity allows for flexibility when moving from removal of fragile abutment (minimum intensity) to those that offer more resistance (maximum intensity).

**Adjusting the Frequency of the Strokes (strokes per minute)**

Increasing the handpiece speed will increase the frequency of the strokes. Decreasing the handpiece speed will decrease the frequency of the strokes.

The speed of the ATD handpiece determines the strokes per minute

rpm	5000	10,000	12,000	15,000	20,000	25,000
Strokes per minute	200	400	500	600	800	1,200

\* Frequency of strokes is controlled by rheostat

**Positioning the Wires for Bridge Removal**

Before activation of the ATD, advise the patient that he/she will experience a vibration from the mechanical strokes of the device. Position all wires intraorally before connecting the wires to the ATD handpiece.

**Removal of all ceramic bridge, ceramic-metal bridge, or temporary fixed Bridge**

1. To remove a 3 or 4 unit bridge select the wire attachment with multiple loops. (Part # 24-321022) (A)
2. Thread the pointed end of the wire through the interdental space from facial to lingual.(B)
3. Pass the wire through the hole in the wire attachment. (C)
4. Thread the wire through the next interdental space of the bridge in the same facial to lingual direction. CAUTION: Follow the facial to lingual bath of insertion to keep the wires parallel. Do not cross the wires. (D)
5. Close the loop by pulling the pointed wire tip into the grove on the wire attachment.(E)
6. Connect the wire attachment to the adapter on the ATD handpiece. Activate the device, pulling the ATD away from the bridge. Adjust the number and frequency of strokes as needed. (F)

NOTE: If a longer wire is needed for 3 or 4 unit bridge, change the assembled 95mm wire to the 150mm wire. (See "Replacing the Wire in the Wire Attachment.")

### Removal of posterior and long span bridges

1. Select the wire attachment – for single loops. (part#24-3120212) (A)
2. Select the 50mm wire for anterior areas and the 60 mm wire for posterior areas.
3. Thread the pointed end of the metal wire through the interdental space as close as possible to the abutment tooth, either from the palatal or labial side. (B)
4. Close the loop by pulling the pointed wire tip into the groove on the wire attachment.(C)
5. Position and fasten several wires along the span of the bridge. Connect the ATD handpiece to the most anterior wire. Activate the device pulling the ATD away from the crowns.(D)
6. Reconnect the ATD from one wire to the next wire, proceeding from anterior to posterior to deliver impact strokes along the bridge. Always thread wires next to or as close as possible to abutment teeth.(D)

### Positioning the Hooks for Crown & Bridge Removal

There are four hook attachments: (1) for bridge removal and (3) for crown removal.

- o Flat: crown removal
- o Long angled: crown removal
- o Short angled: crown removal
- o 90° bridge: bridge removal

### Using hooks for bridge removal

1. Connect the 90° bridge hook to the ATD handpiece and screw it into place.
2. Position the 90° bridge hook between the abutment tooth and pontic. Using one hand, to hold the ATD handpiece, and a finger on the other hand to guide the position of the hook during activation.
3. Activate the ATD handpiece and adjust frequency and number of strokes as needed.
4. Move along the bridge (anterior to posterior) activating the ATD device next to or as close to abutment teeth as possible.

### Using hooks for crown removal

There are (3) hooks suitable for crown removal:

- (1) Short angled hook for anterior crowns,
- (1) Long angled hook for posterior crowns and lingual of anterior crowns,
- (1) Flat hook for alternative labial or lingual positioning on crowns.

1. Select the appropriate hook attachment and connect it to the ATD handpiece.
2. Position the hook at the labial margin of the crown using one hand to hold the ATD handpiece and the other hand to stabilize the hook during activation of the ATD.
3. Reposition the hook on the lingual aspect and activate the ATD device. Repeat this sequence until the crown is removed.

### Ordering Information

**Contact your local dealer or call 1-888-JMORITA (1-888-566-7482)**

#### Kits

24-3126961B ATD Automatic Crown and Bridge Remover Kit with E-type connector.

**Kit contents:** ATD handpiece, (4) hooks, (3)wire attachments, adapter for wire attachments, replacement wires, retaining screws for replacement wires, assembly tool, flat wrench, flat end screwdriver.

24-3126961BSTAR ATD Automatic Crown and Bridge Remover Kit with Star Titan<sup>®</sup> connector\* (kit contains same as above).

24-3126961BMID ATD Automatic Crown and Bridge Remover Kit with Midwest Shorty<sup>®</sup> Two-Speed connector\*.

**Note:** All handpiece motor speeds must operate between 5,000 and 25,000 rpm.

#### **Hook Attachments**

243121429 Flat hook with grooves  
24-3121425 90° bridge hook  
24-3121427 Short angled hook for anteriors  
24-3121428 Long angled hook for posteriors

#### **Wire Attachments and Wires**

24-312012 Wire attachment – for single loops: includes (1) each 50mm & 60mm wire.  
24-312022 Wire attachment – for multiple loops: 3 or 4 unit bridges; includes (1) each 95mm and 150mm wire.

#### **Replacement Wires**

24-312014 Short wires: (2) each of 50mm and 60mm  
24-312014 Long wires: (2) each of 95mm and 150mm  
24-312024 Long wires: (2) each of 95mm and 150mm

#### **Other Items**

24-312082 Replacement retaining screw  
24-312080 Flat-end screw driver  
24-3126949 Wire Adapter  
24-312087 Assembly Tool  
24-312190 Flat Wrench

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