

Section: Division of Nursing  
Approval: \_\_\_\_\_  
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**PROCEDURE**  
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HACKETTSTOWN REGIONAL MEDICAL CENTER

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**OR**  
(Scope)

**TITLE: SHORTY TWO SPEED DENTAL DRILL (MIDWEST) HAND PIECE AND STRAIGHT ATTACHMENT**

**PURPOSE:** To outline the procedure to instruct the operating room RN's and ORT's with the proper operation of the Midwest Shorty Two Speed Dental Drill Hand Piece and straight attachment.

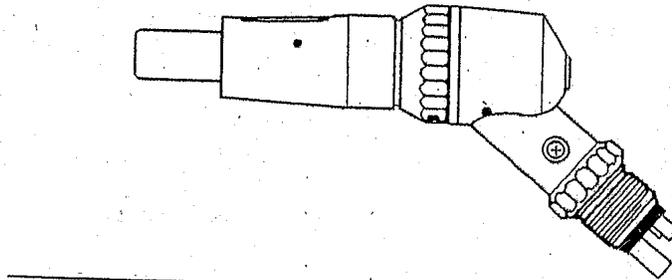
**CONTENT**

**PROCEDURE**

**KEY WORDS**

**PART A**

Shorty Two Speed Hand Piece:

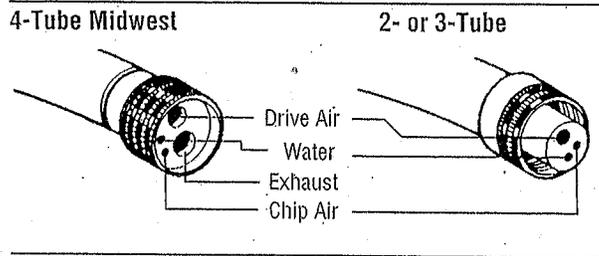


**Warning: This produce is intended for use by dental professionals only. Before operating handpiece, carefully read and follow these instructions and save them for future reference. Observe all cautions and warnings including:**

- ◆ Handpieces should be heat-sterilized between patients to prevent cross-contamination which could result in serious illness or even death from infectious organisms such as HIV (the virus that causes AIDS) or Hepatitis B.
- ◆ Do not operate handpiece unless attachment, angle or accessory is properly secured to air motor. Do not cut with handpiece unless you are sure the bur is secure. A loose or extended bur could eject from the handpiece angle or break and cause personal injury.
- ◆ Do not use angle, attachment or accessory that exhausts air within the oral cavity when a soft tissue wound is present. Air pressure may force septic materials into these tissues.

**INSTALLATION:** Checking Handpiece Hose

Make sure all tubings supplying the handpiece hose are properly connected within the dental unit. Test hose as follows:



1. Hold free end of hose over cuspidor or towel while alternating depressing drive air, chip air and water pedals on foot control. **Note:** When connecting dry version of the Shorty Air Motor, the water and chip air hose tubings can be disconnected and their supply connection plugged.
2. Check to be sure that water, drive air, and chip air are coming out of the correct tubes.

**Air Requirements:**

Midwest Shorty Air Motors deliver maximum speed and torque when operated with clean, filtered, moisture-free air at the recommended operating pressure of **40 p.s.i. (2.7 Atm)**.

**OPERATION:**

To operate the air motor: Simply depress the foot control of our dental unit. For water spray and chip air, refer to dental unit instructions.

**Caution:** Never operate air motor under the following conditions:

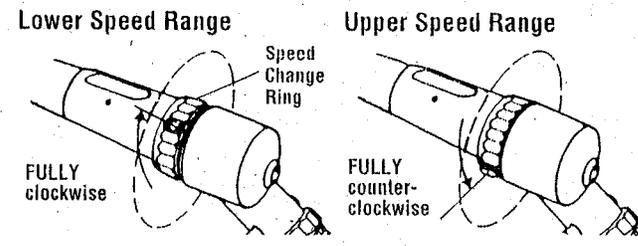
1. Using air emitting angle, attachment or accessory in the presence of a soft tissue wound.
2. At air pressure exceeding 40 p.s.i (2.7 ATM).
3. While changing direction of rotation with forward/reverse valve.
4. While changing speed range of air motor (Two Speed only).
5. Without speed change ring positioned **FULLY** counter-clockwise for **FULLY** counter-clockwise.
6. On an alternate hose without adjusting air pressure.

**Speed Range**

The Shorty Single Speed Air Motor is capable of providing high torque at speeds up to 6000 RPM. The Shorty Two Speed Air Motor provides high torque in the Upper Speed Range (up to 30,000 RPM) and Lower Speed Range (up to 6000 RPM).

**Changing Speed Ranges**

(Two Speed Motors only)



**Warning:** Do not attempt to turn speed change ring while air motor is operating. Always select speed range before depressing foot control.

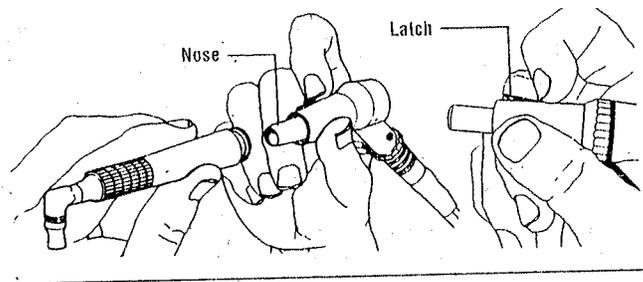
**Important:** When operating your Shorty Two Speed Air Motor in the Upper Speed Range (0-30,000RPM), use only Ball Bearing contra angles and straight attachments which are recommended for use in the Upper Speed Range. Four Midwest Modular Angle System attachments are designed for this purpose:

1. Contra Angle Sheath REF# 710074
2. Push Button Friction Grip Head REF# 720475
3. Push Button Latch Type Head REF# 720485
4. Straight Attachment REF# 72005

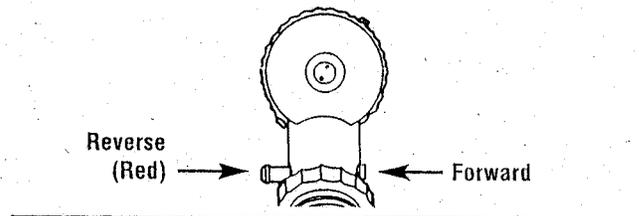
#### Mounting Attachments

To mount attachment: Slide the attachment onto nose of air motor until it clicks into place.

To remove attachment: Press flush mounted latch and slide attachment off air motor.



#### Forward/Reverse Valve



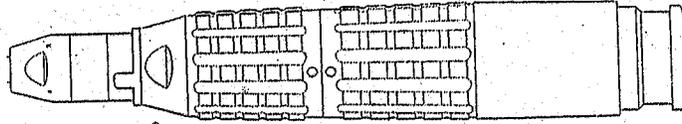
**Warning** Always allow air motor to stop before changing direction of rotation.

To operate air motor in forward direction: Push in forward side of valve (completely to left as in illustration),

To operate air motor in reverse direction: Push in **red** side of valve. Remember – **red** for reverse.

**Note:** If loss of RPM is detected during operation, check to be sure that the forward/reverse valve is in correct position and completely depressed.

**Part B** Straight Attachment



**For Professional Use Only**

**Warning:** This product is intended for use by dental professionals only. Before operating handpiece, carefully read and follow these instructions and save them for future reference. Observe all cautions and warnings including:

- ◆ Handpieces should be heat-sterilized between patients to prevent cross-contamination which could result in serious illness or even death from infectious organisms such as HIV (the virus that causes AIDS) or hepatitis B.
- ◆ Do not operate unless handpiece attachment/angle is properly secured. Do not cut or grind with the handpiece unless you are sure the bur/disc is secure. A loose bur or disc could eject from the handpiece or break and cause personal injury.
- ◆ Do not use bent, off-centered, deformed, damaged, nor non-ISO standard burs.
- ◆ Do not use this straight attachment or any accessory for air-water spray within the oral cavity when a soft tissue wound is present. Air pressure may force septic materials into these tissues.
- ◆ Do not run the bur lock ring while the handpiece is rotating.
- ◆ Do not run the attachment when the lock ring is at its OPEN position, or a bur is not mounted in the chuck.
- ◆ Use clean burs. Dirt on the shank may lodge in the chuck and could cause poor concentricity of the bur or poor chucking.
- ◆ Always mount a bur or bur blank in the chuck.

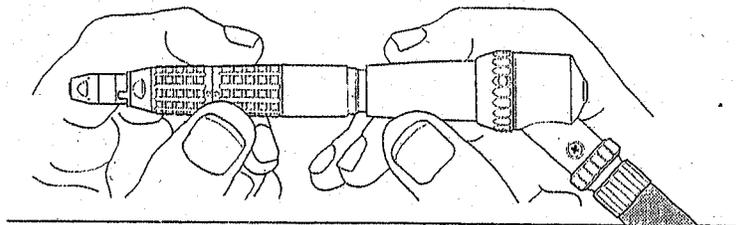
**Caution: Never operate the handpiece under the following conditions:**

1. In the presence of a soft tissue wound.
2. With a bur extended out from the handpiece attachment.
3. Under "no load" conditions for extended periods of time.

**Mounting Straight Attachment**

To Mount straight attachment on air motor: Slide attachment onto nose of air motor until it clicks into place.

**Shorty**

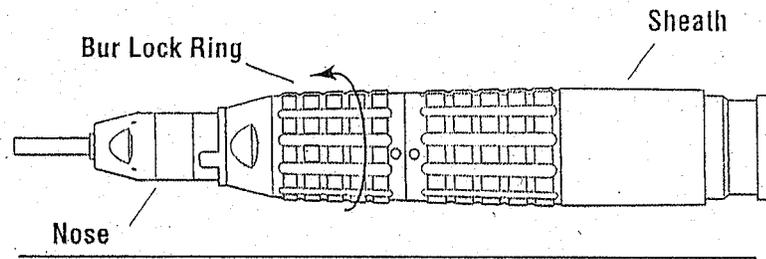


To remove straight attachment: Depress flush mounted latch (Shorty) or black latch ring on red indicator (Rhino XCP) as shown; then slide attachment off air motor.

### Installing Burs or Grinding Discs

The Midwest straight attachment accepts ISO straight handpiece (HP) burs and grinding disc shanks (2.35 mm).

### Opening and Closing Chuck



### Mounting Burs

**To open Chuck:** Turn the bur lock ring all the way in the direction of the arrow to open the chuck.

Insert a bur fully into the chuck

**To close check:** Return the bur lock ring to the original position until a click sound is heard. The two dots will line up.

**Caution: Do not turn the bur lock ring while handpiece is running. Do not operate straight attachment without a bur, disc or angle in place.**

**Never use bent, off-centered or damaged burs. Excessive loads generated by defective burs rotating at 40,000 rpm will quickly damage ball bearings.**

**Always insert a bur all the way into chuck. This will prevent "bur walk-out" and/or damage to the ball bearings.**

**Never operate the Midwest Straight Attachment without a bur or bur blank securely in place, or with the bur lock ring at different positions.**