

**Midwest Shorty® Low-Speed Handpiece (Project 05-14) (9/06)**



The Midwest Shorty® is an autoclavable, low-speed handpiece that has been available for over 20 years. The air-driven motor is available as a Shorty® Single Speed (0-6,000 RPM), or as the Shorty® Two Speed (0-6,000 RPM and 0-30,000 RPM). The Shorty® Two Speed has a speed change ring on the shaft of the motor that adjusts the clutch within the handpiece's transmission. Both motors can be run in a forward or reverse direction. Multiple attachments are available for use, which include a Contra Angle Sheath, a 23:1 Reduction Contra Angle Sheath, and a Straight Attachment that all connect directly to the motor. For operative/restorative procedures, a Push Button Latch Type Head or a Push Button Friction Grip Head can be attached to either Contra Angle Sheath. There are also numerous attachments for prophy procedures using either disposable prophy cups or disposable prophy angles. The Shorty® allows a 360° swivel between the contra angle and the motor providing attachment rotation to adjust to difficult areas of the mouth. All Shorty® components require cleaning and lubrication using either the Midwest Plus™ Maintenance Kit or the Midwest Plus™ Aerosol Kit. Maintenance procedures are required between each use of the handpiece before autoclaving. Additional maintenance procedures are required weekly for the Shorty® motors and the push-button attachments. The push-button attachments may require maintenance more frequently if conditions warrant. The Shorty® motors have a one-year warranty and all attachments are covered by a 90-day warranty.



**Manufacturer:**

Dentsply Professional  
 901 West Oakton Street  
 Des Plaines, IL 60018-1884  
 (800) 800-2888  
 (847) 640-6165 FAX  
[www.prevent.dentsply.com](http://www.prevent.dentsply.com)

**Suggested Retail Price:**

Description	Item Number	Price
Shorty® Single Speed Motor	710027D	\$1,016.95
Shorty® Two Speed Motor	710024D	\$1,096.95
Straight Attachment	720005	\$324.20
Right Angle Sheath	710078	\$167.50
Contra Angle Sheath	710074	\$194.40
Reduction Angle Sheath	710075	\$458.30
Contra Angle Sheath U-Style	710072	\$138.50
Push Button Latch Type Head	720485	\$250.40
Push Button Friction Grip Head	720475	\$250.40
Prophy Contra Angle Head	720446	\$113.30
Prophy Right Angle Head	720445	\$165.85

**Government Price:**

Shorty® Single Speed Motor	710027D	\$562.10
Shorty® Two Speed Motor	710024D	\$606.32
Straight Attachment	720005	\$179.19
Right Angle Sheath	710078	\$92.56
Contra Angle Sheath	710074	\$107.43
Reduction Angle Sheath	710075	\$253.31
Contra Angle Sheath U-Style	710072	\$76.53
Push Button Latch Type Head	720485	\$138.39
Push Button Friction Grip Head	720475	\$138.39
Prophy Contra Angle Head	720446	\$62.61
Prophy Right Angle Head	720445	\$91.66

**ADVANTAGES:**

- + Excellent longevity of Shorty® motor
- + Power improved during course of evaluation
- + Excellent concentricity
- + Two motor speed settings (6,000 RPM; 30,000 RPM)
- + High torque over a broad speed range on low-range setting (0 - 6,000 RPM)
- + Design allows good intra-oral visibility
- + Numerous attachments to perform a variety of procedures

**DISADVANTAGES:**

- Requires complex maintenance procedures for optimum performance
- High failure rate of Push Button Latch Type Head attachment

**SUMMARY AND CONCLUSIONS:**

The CDC Guidelines for Infection Control in Dental Health-Care Settings - 2003 and Air Force dental infection control policy now requires the sterilization of all handpieces, including the low-speed motor between each patient.<sup>1,2</sup> The Midwest Shorty® handpiece is the most frequently used low speed handpiece in the Air Force Dental Service inventory and was selected for a simulated clinical use/sterilization evaluation following these updated infection control requirements.<sup>3</sup> The Shorty® Two Speed motor displayed increased power from baseline to 1000 testing cycles. The noise level at the low-range setting (0-6,000) was below 65 decibels which is in the range observed of most high-speed handpieces tested at DECS. Concentricity was well below ISO standards when the head attachment was functioning properly. However, increased eccentricity was a predictable sign of a failing latch-head attachment. All initial Push Button Latch Type Head attachments evaluated had to be replaced during testing due to mechanical failure of the bearings and/or the bur chuck assembly. The buildup of congealed lubricant/debris on the operating surfaces of the latch-head attachment contributed to the high failure rate. The increased frequency of "Other Maintenance" procedures than initially scheduled in the evaluation protocol increased the longevity of the latch-head attachments. Most importantly, maintenance procedures as outlined by the manufacturer must be stringently adhered to for maximum longevity of the motor and attachments of the low-speed handpiece. A system to accurately track handpiece usage and maintenance is highly encouraged. The **Shorty® handpiece** is rated **Acceptable** for use in US Air Force dental facilities.

**References**

1. CDC. Guidelines for Infection Control in Dental Health-Care Settings. MMWR 2003;52(RR-17):1-61.
2. Harte JA. USAF Guidelines for Infection Control in Dentistry.
3. 2005 DECS Equipment Survey (Project 05-16).