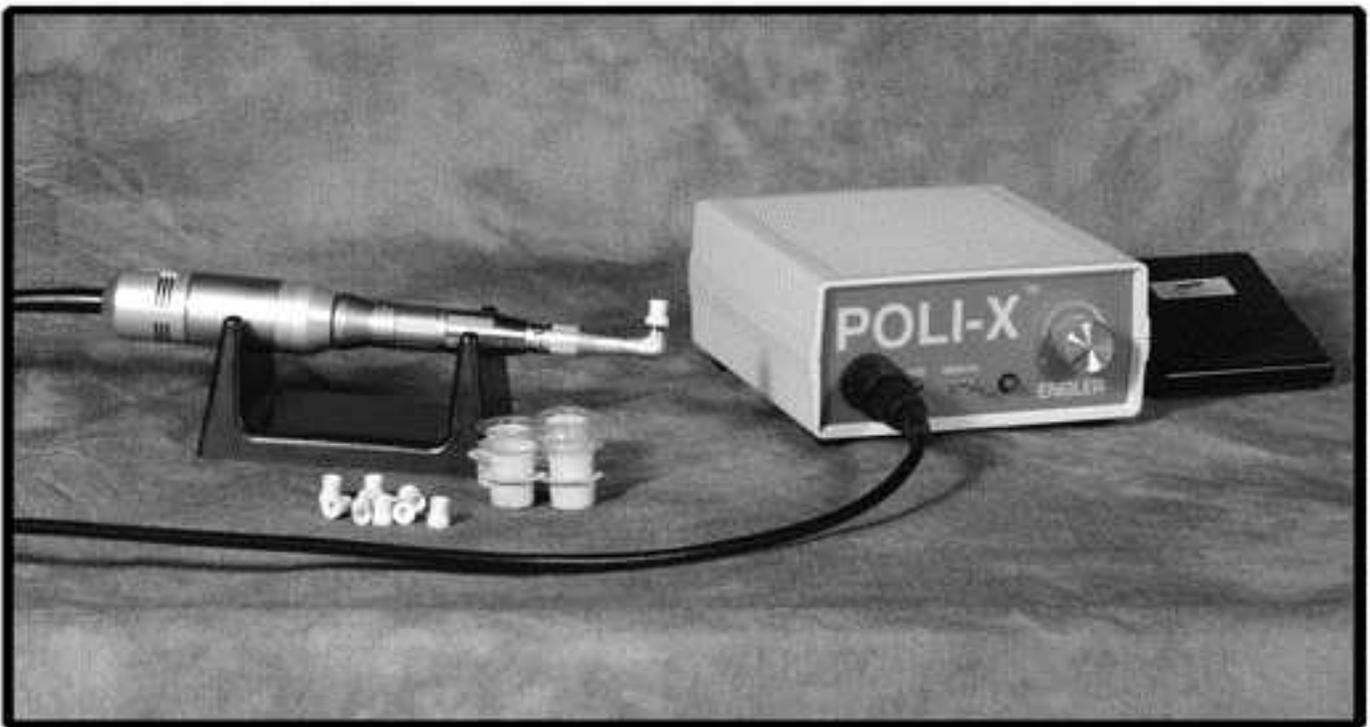




POLI – X

DENTAL POLISHER



INSTRUCTION MANUAL

REV B 10/14/2014

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COMPANY PROFILE

Engler Engineering Corporation has been in business since 1964 and occupies an 8000 square foot facility in Hialeah, Florida (USA). We manufacture ultrasonic dental scalers, polishers and combination units including electro surgery equipment and ultrasonic instruments for the veterinary market as well as a microprocessor controlled anesthesia delivery system and a respiratory monitor for veterinary use only.

We also manufacture dental equipment for the human market. Please visit our website www.englerusa.com for more detailed information or call us at the numbers shown below.

Engler Engineering Corp. acquired the exclusive manufacturing and marketing rights of **Dynax** products, including stretchers, animal restraint devices, comfort cots, heating pads, and other products. We also acquired the Alpha-Sonic, Ora-Sonic, and Pro-Sonic line of piezo scalers.

Engler Engineering Corporation's brand name veterinary products proudly include:

Excelsior, high speed dental air unit with vacuum / electro-surge / ultrasonic scaler / low speed / high speed / air / water syringe,

Son - Mate II, ultrasonic scaler / polisher,

Vet II – ultrasonic scaler / polisher,

Sonus II, ultrasonic dental scaler,

Poli - X, micromotor variable speed polisher,

Drill – Aire, high speed dental air unit, high speed, air / water syringe,

Drill – Aire Plus, high speed dental air unit, high speed, low speed, air / water syringe,

Scale - Aire Mini, high speed dental air unit with ultrasonic scaler / high speed / low speed / air / water syringe,

Scale - Aire, high speed dental air unit with ultrasonic scaler / high speed / low speed / air / water syringe and compressor / tank,

Tri - Mate, ultrasonic scaler / micromotor polisher / electro-surge,

A.D.S. 2000, microprocessor controlled anesthesia delivery system / ventilator,

Sentinel V.R.M., respiratory monitor.

Engler manufactures the **Sonus V** ultrasonic dental unit for the human market

We manufacture all of the inserts and tips used in the Engler products as well as many others on the market today in the 18K, 25K, and 30K frequency range.

Our repair department has the technical knowledge to repair and maintain most dental devices manufactured by other companies including Shorline.

Engler Engineering Corporation's foreign sales are handled through a large and growing network of dental and veterinary distributors. At the present time we are represented throughout Europe, South and Central America, Canada, Asia, New Zealand, Australia, the Middle East, and most other countries.

If you have any questions or comments, please contact:

Engler Engineering Corporation

1099 East 47th Street, Hialeah, Florida 33013

800-445-8581 – 305-688-8581 – FAX 305-685-7671

Web site: www.englerusa.com Help site: www.engler411.com

INTRODUCTION

Thank you for selecting the Poli – X, Micromotor Polisher Unit. We believe you have selected the best product available for performing basic and advanced dentistry for your veterinary patients.

The compact and portable design of the Poli – X has everything needed to allow the user to perform prophylaxis procedures anytime, anywhere. The low speed handpiece is used for smoothing and polishing the tooth surface after scaling.

The optional drilling handpiece allows the operator to quickly and efficiently perform the same advanced dental techniques, drilling, shaping and cutting, to name a few, being taught in the largest teaching hospitals and clinics around the world. This combination produces a powerful and potent tool against periodontal disease.

Cutting discs and burs and other accessories are available for the straight handpiece.

PLEASE READ VERY CAREFULLY

Engler Engineering Corporation makes every effort to verify that all parts for the device along with any optional accessories ordered were shipped from our facility in Hialeah, Florida and are included in this shipment. It is imperative that you inspect the contents and if you find any pieces missing or damaged, Engler Engineering must be notified immediately. All claims submitted after fifteen days of receipt will not be valid.

All devices manufactured and / or sold by Engler Engineering Corporation are built and tested to approved standards. Any modification to the device, cables or hoses, initiated by others nullifies all warranty statements. Engler Engineering Corporation will not be held liable for any injury, death or damage of any type, due to non-authorized service and / or improper installation and / or improper use of the device.

This manual is not intended to teach dentistry. The information contained herein is intended only as a guide. Individuals not properly trained in dentistry should not use this equipment. It is intended for professional use only.

Before installing or operating your new POLI-X, please read and follow all of the instructions and suggestions. They have been written to assist you in maintaining your unit properly.

POLISHER INSTALLATION

1. Plug the Micromotor into the front of the control box. This is done by inserting the male connector at the end of the Micromotor cable, into the female receptacle on the front panel of the unit and rotating the locking collar clockwise.
2. Slide the Straight Handpiece down over the top of the Micromotor, until it snaps into place.
3. Line up the notch of the Prophy Angle with the Aligning Pin on the Straight Handpiece, and then push the shaft of the Prophy Angle into the chuck of the Straight Handpiece.
4. Rotate the Lock Ring counter-clockwise, until it clicks and locks the prophy angle in place.



5. Place a disposable rubber polishing cup on the end of the Prophy Angle by snapping it on. The Prophy Angle is now secured and ready for operation.
6. Rotate the selector knob on the front of unit to forward operation. **NOTE:** When using the polisher the RED LED indicator should be on. **NOTE:** It is suggested to use a low to mid range speed setting for polishing.

SAFETY INFORMATION

Note: For your safety: Never turn the Bur Lock Ring while the handpiece is in operation.

OPERATIONAL SUGGESTIONS:

1. **Never reverse the direction of the Micromotor while it is in operation.** Possible damage to the unit may occur. Always let the Micromotor come to a complete stop before reversing directions.
2. **Do Not lock or run** the Micromotor / Straight Handpiece assembly without a Prophy Angle, Cutting Disk, Contra Angle, or Test Shaft installed. Doing so could damage the Straight Handpiece and / or Micromotor.
3. When installing the Prophy Angle or other accessory, make sure that the Bur Lock Ring is rotated fully in the unlocked position, otherwise the accessory can not be installed and the Straight Handpiece will not operate.
4. Do Not change the selector switch on the front of the control box between Forward and Reverse rapidly. Always allow the Micromotor to come to a complete stop before switching directions.
5. As this is a precision instrument, always return it to Engler Engineering Corporation for repair.

NOTE Dropping the handpiece can severely damage the Prophy Angle and Micromotor.

Important: When installing any accessory make sure that the marker lines on the Locking Ring line up EXACTLY. If the accessory does not fit easily into the Straight Handpiece, rotate the two halves as you may have it in the locked position.



POLISHER OPERATION

1. Dampen the rubber cup and place a small amount of polishing paste on it.
2. Rotate the POWER control to the minimum setting in the prophy range.
3. Depress the footswitch and the rubber cup will begin to rotate. The speed of rotation may be adjusted to your desired level by re-adjusting the POWER control.
4. To keep the paste from flying off the cup, maintain a low speed and bring the cup up to the tooth before depressing the footswitch.

IMPORTANT: The prophy angle is only rated to 5000 RPM - therefore, in order to prevent premature failure of the angle keep the unit set in the prophy range whenever the prophy angle is used.

5. High-speed settings will throw the polishing paste off of the rubber cup. Always start with a low speed and then adjust to a higher speed as required.
6. Place the end of the angle into the patients' mouth and apply the rubber cup to the surface of the tooth with a circular motion. Do not allow the rubber cup to remain stationary on one area for an extended period of time as friction can overheat / burn the tooth.

POLISHER MAINTENANCE: PROPHY ANGLE

The prophy angle is a precision engineered dental device. All of the gears and shaft assemblies are made of high-grade stainless steel, which if cleaned and lubricate correctly will provide long, trouble-free service.

Daily Cleaning and Lubrication:

1. Remove prophy angle from straight handpiece.
2. Discard used rubber cup.
3. Follow the cleaning instructions that were supplied with the prophy angle.
4. Place a new rubber cup onto the angle.
5. Slide the prophy angle down over the straight handpiece and lock it in place.

IMPORTANT: For a long dependable life, the prophy angle should be lubricated daily, if possible after each use. **Use mineral oil (#P-O1, supplied with the unit).** Keep hair away from prophy cup and head cap.

SUGGESTION: To keep hair from becoming tangled in the angle, we recommend using masking tape / painters tape around the lips, keeping hair in place and away from treatment area.

This unit is shipped with the Micromotor, Straight Handpiece, Prophy Angle, starter supply of Cups and Paste.



P-MM-E 35,000 RPM
Micromotor W/Cord



P-SH-A1:1 Straight
handpiece



P-A1-B Prophy
Angle (Sealed
Bearings)



Snap on rubber cups



Polishing
paste

STRAIGHT HANDPIECE MAINTENANCE

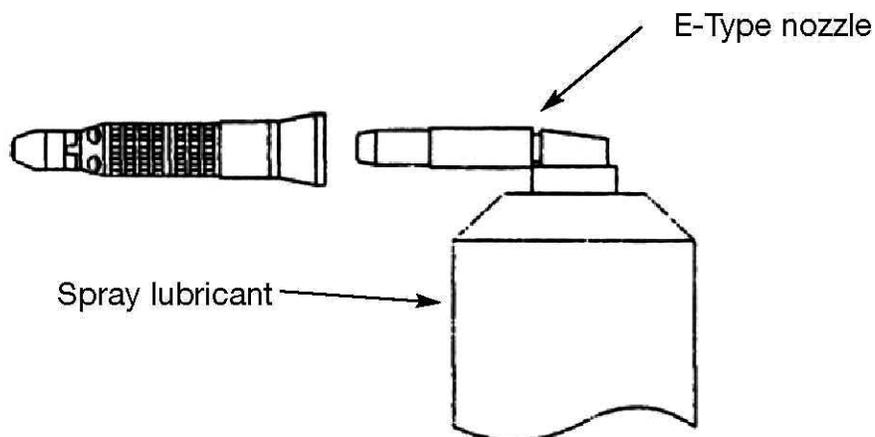
The spray nozzle oiling method is optional but highly recommended. It cleans as well as lubricates. Pressure of the spray forces dirt out.

The alternate method is to place 1 drop of approved oil (mineral oil # P-O1) in the chuck hole. Do not lubricate the handpiece while it is on the Micromotor. Lubrication of the Straight Handpiece is required at least once a week.

Lubrication by spray lubricant:

1. Make sure that the Straight Handpiece is unlocked prior to lubricating.
2. Install the E-Type nozzle by pushing it onto the top of the spray can. To lubricate and expel debris, insert the E-Type nozzle into the bottom of the straight handpiece. Holding the two together tightly, with can in the upright position, push spray button for 2 to 3 seconds.

NOTE: If spray time is too short oil may not be propelled into all areas of the handpiece.



CLEANING:

1. Wipe the handpiece with an alcohol-soaked soft tissue.
2. Never clean the handpiece with boiling water, chemical solutions, ultrasonic cleaner, or wire brushes.

STERILIZATION:

1. Autoclaving is recommended for the Engler straight handpiece.
2. Clean the handpiece as described above.
3. Lubricate the handpiece as described above .
4. Place the in an autoclaving pouch and seal it in accordance with the instructions on the pouch.
5. Autoclave the handpiece for 20 minutes at 121 C (250 F), or 15 min. at 132 C (270 F).

Keep the straight handpiece away from water vapor or mist that may settle and cause premature damage to the bearings.

IMPORTANT: DO NOT, attempt to repair, disassemble or unscrew the straight handpiece. Doing so may shift the internal springs, causing permanent damage to the unit and will void warranty. If you experience problems during operation, call our repair department

Due to Federal regulations, spray lubricant cannot be shipped by air. Engler spray lubricant can be shipped together with orders delivered by ground, otherwise it will be shipped separately. Engler P-02 Lubricating spray is optional but highly recommended.

MICROMOTOR MAINTENANCE

The Micromotor is capable of speeds up to 35,000 RPM for use in cutting, sectioning and drilling. It contains sealed bearings and does not require any lubrication. The Micromotor has cooling vents at the back of the unit, Do not allow water, oil, or any other substance to enter these vents. Failure to keep debris out of the micromotor will shorten the life of the unit and cause permanent damage.

IMPORTANT:

1. NEVER change the direction of the Micromotor while it is in operation. ALWAYS wait until it has come to a full stop.
2. NEVER allow oil or any liquid to get into the Micromotor.



MICROMOTOR / POLISHER TROUBLESHOOTING

NO POWER: “ON” LED indicator does not light up:

1. Verify that unit is switched ON, the ON / OFF switch is located on the right side of the unit.
2. The unit is not plugged in to a power outlet: verify that the unit is plugged in.
3. Power outlet not active: try another outlet.
4. Contact Engler Engineering Corporation.

“ON” LED indicator lights up, Micromotor not functioning:

1. Switch unit to Polisher mode.
2. Micromotor not plugged in: plug Micromotor in.
3. Short circuit in Micromotor or its cable: Contact Engler Engineering Corporation for instructions.

STRAIGHT HANDPIECE GETS HOT:

1. Straight Handpiece not lubricated properly: Lubricate as shown on page 8.
2. Bearings in Straight Handpiece are becoming worn, causing drag. Contact Engler Engineering Corporation.

MICROMOTOR GETS HOT :

1. Straight Handpiece causing drag, lubricate Straight Handpiece correctly or replace Straight Handpiece.
2. Worn brushes in Micromotor, Contact Engler Engineering Corporation.
3. Oil got inside Micromotor, return to Engler Engineering Corporation.

INTERMITTENT OPERATION Unit polishes and then stops:

1. Damaged Micromotor cable: contact Engler Engineering Corporation.
2. Damaged Footswitch: contact Engler Engineering Corporation.

MISCELLANEOUS:

1. Micromotor speed not adjustable (runs at one speed): Return the complete Poli - X with micromotor and accessories to Engler Engineering Corporation.
2. Prophy cup unscrews during procedure, (“flies off”) the Prophy Angle: Micromotor is rotating in the wrong direction, change direction by rotating the selector on the front of the unit to the opposite direction.

STRAIGHT HANDPIECE ROTATES ON THE MICROMOTOR:

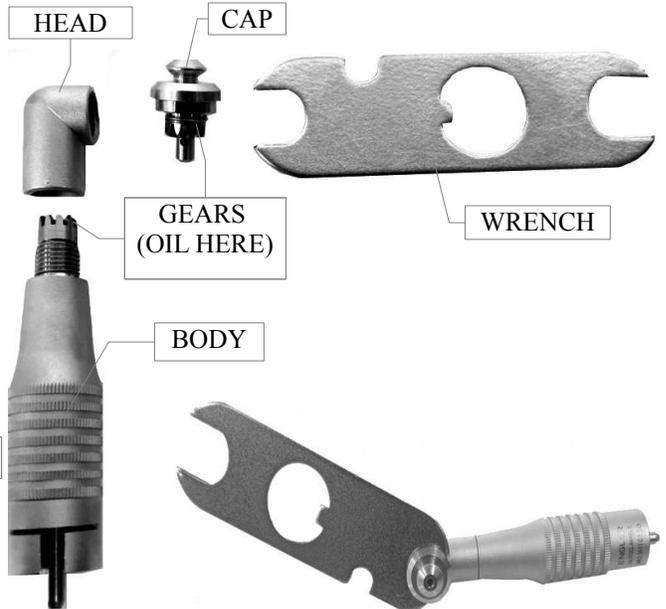
1. Accessory in Straight Handpiece not locked in. Tighten Locking Ring on Straight Handpiece.
2. Prophy Angle gears worn.
3. Hair may be enmeshed in the gears of the Prophy Angle, clean Prophy Angle according to PROPHY ANGLE CLEANING AND MAINTENANCE INSTRUCTIONS (next page).
4. Straight Handpiece or Prophy Angle not properly lubricated.

PROPHY ANGLE CLEANING AND MAINTENANCE INSTRUCTIONS

The prophy angle is a precision engineered dental device. all gear and shaft assemblies are made of high grade stainless steel which must be kept free of debris. If cleaned and lubricated correctly will provide long, trouble-free service. The manufacturer recommends replacing prophy angles at least every 3 to 4 months depending on use.

Prophy angles may vary. Use the following instructions accordingly.

DAILY CLEANING AND LUBRICATION:

 <ol style="list-style-type: none"> 1.) Remove prophy angle from low speed handpiece. 2.) Discard used rubber cup. 	<ol style="list-style-type: none"> 1.) Remove prophy angle from low speed handpiece. 2.) Discard used rubber cup. 
 <ol style="list-style-type: none"> 3.) Remove head cap by turning counterclockwise to unscrew the knurled nut with the wrench provided. 4.) Wash the cap and head cavity thoroughly with a toothbrush in a bowl of warm soapy water. 5.) Rinse thoroughly with running water and shake off excess water. 6.) DO NOT attempt to dry this part with paper or cotton towels / swabs or gauze. Any particles left on the gears will keep them from turning properly. Use only alcohol to speed the drying process and / or a blow dryer to thoroughly dry the angle. 7.) Lubricate by placing one drop of mineral oil on the gears of the head cap and a drop inside the gear cavity. 8.) Being careful not to cross-thread, reassemble the prophy angle and wipe off all excess oil. Place a new rubber cup onto the head cap and confirm that the gears are meshing properly by rotating the cap – it should turn easily. If not, remove and try again. DO NOT use the wrench, only finger tighten. 9.) Slide the prophy angle onto the handpiece and lock the handpiece. 	<ol style="list-style-type: none"> 3.) Use the wrench to remove the cap from the head. 4.) Turn clockwise to unscrew the head (top portion) from the body (bottom portion). 5.) Place the cap, head and body into a bowl of hot soapy water. 6.) Wash thoroughly with a toothbrush. 7.) Rinse well with running water and shake off. DO NOT attempt to dry these parts with paper or cotton towels / swabs or gauze. Any particles left on the gears will keep them from turning properly. Use only alcohol to speed the drying process and / or a blow drier to thoroughly dry the angle. 8.) Lubricate by placing one drop of mineral oil on each gear (see diagram). 9.) Being careful not to cross-thread, reassemble the prophy angle and wipe off all excess oil. Place a new rubber cup on the onto the cap and confirm that the gears are meshing properly by rotating the cap – it should turn easily. If not, remove the cap and try again. 10.) Slide the prophy angle onto the handpiece and lock the handpiece.

OPTIONAL POLI – X ACCESSORIES



P-MF

P-MF Maintenance Free Propy Angle



P-106

P-106 Screw On Rubber Cups 144 / pkt

CARE FOR YOUR MAINTENANCE-FREE ANGLE STERILIZATION PROCEDURES:

AFTER EACH PROPHY:

1. Discard used rubber cup.
2. Rinse abrasive paste from head area with water.
3. Thoroughly clean the outside of angle with disinfectant.
4. Autoclave angle - not more than 275 °F (135 °C) over 20 minutes.
5. After sterilization cycle is complete, install a new Disposable Rubber Cup and attach angle to handpiece. You are now ready for your next prophy.

CAUTIONS AND WARNINGS:

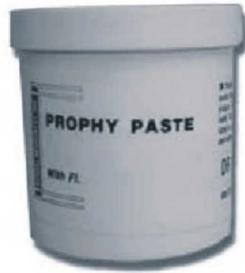
1. Do not attempt to disassemble.
2. DO NOT SUBMERGE IN LIQUIDS, INCLUDING ULTRASONIC SOLUTIONS.
3. Do not heat over 275 °F (135 °C).
4. Use only Engler Care Free Propy Rubber Cups. Other brands will not properly seal the angle, causing premature wear and voiding the warranty.
5. Replace as necessary.

YOUR CARE-FREE ANGLE IS WARRANTED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR 6 MONTHS. A COPY OF OUR INVOICE OR PICKING TICKET WILL BE REQUIRED AS PROOF OF PURCHASE.

WARRANTY IS VOID IF:

1. Engler Care-Free rubber cups are not used exclusively.
2. Sterilization procedure is not followed properly.
3. The angle has been submerged in any liquid.
4. The angle has been damaged or abused.
5. Damaged due to use at high speed.

Optional Accessories, cont.



P112 Polishing paste (8 oz. jar)



P-105 Snap on rubber cups 144/pkt
P-110 polishing paste (200 cups)



Optional Oiling Accessory
Spray lubricant with E-type nozzle
for all Engler polisher straight handpieces
NET WT. 8.8OZ (249.48 GRAMS)



If you have any questions or concerns, please contact us.
ENGLER ENGINEERING CORP
800-445-8581
FAX 305-685-7671

To contact us by INTERNET please use:
info@englerusa.com

For warranty information, to troubleshoot problems,
download manuals and review our brochures,
please visit us at:
www.engler411.com

TECHNICAL INFORMATION

Poli – X Input Voltage: 120 – 240 VAC Variable Voltage Type
Frequency : 50 / 60 Hz.
Voltage Output : 3 – 30 VDC 5 Amperes Max.

Micromotor : 300 – 3500 RPM Max.
Style : Sealed Bearing, Fully Replaceable Brushes

Straight Handpiece : 3000 RPM Max.
Style : Sealed Bearing, Twist Lock Collet

Prophy Angle : 5000 RPM Max.

Chassis Dimensions : L 5 1/4" X W 5" X H 2 1/2"

Net Weight : 2 1/2 LBS.

Shipping Weight : 4 1/2 LBS

If you have any questions or comments, please contact:

Engler Engineering Corporation
1099 East 47th Street, Hialeah, Florida 33013
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Web site: www.englerusa.com Help site: www.engler411.com