

User Manual

J0841Q

Magnetostrictive Scaler / Polisher Combo Unit



Jorgensen Laboratories, Inc.

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Thank you for choosing Jorgensen's Magnetostrictive Scaler/Polisher Combo Unit.

Before using this equipment, please read your user manual thoroughly, as it contains important information about this equipment, including installation procedures and operation tips.

Operator Safety

Read this page thoroughly prior to installation and use of this equipment. The equipment described in this manual is designed to be used by properly-trained personnel only.

⌘ NOTE, CAUTION AND WARNING STATEMENTS:

NOTE: Indicates some helpful tips.

CAUTION: Indicates correct operating or maintenance procedures in order to avoid any damage to the equipment.

WARNING: Indicates a potential danger if proper and correct procedures or practices are not implemented.

⌘ SYMBOLS:



“BF” symbol, indicate the JorVet J0841q was manufactured according to the degree of protection against electric shock for this type of BF equipment.



Grounding Terminal



Attention: Please Read Instruction

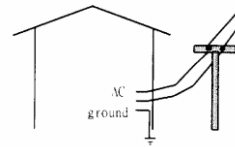
Warnings

The equipment is only to be used by a qualified veterinarian or other qualified personnel.

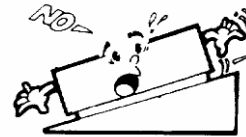
- A provider with pacemaker cannot operate this equipment, nor should this equipment be used on a patient with a pacemaker.
- A grounded AC power cord must be used with this equipment.
- The JorVet J0841q should be powered from a separate wall outlet with a grounding point.

Note before using:

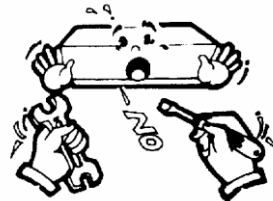
- ⌘ The electric power used must be grounded. If this requirement is not met, it could cause damage to the unit and possibly to the user.



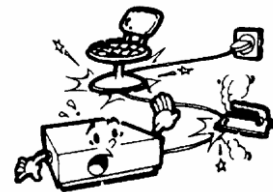
- ⌘ The machine should be placed on a level and stable platform or surface. Placing the machine on an unstable or tilted surfaces may degrade the performance and/or may accidentally cause damage to the system.



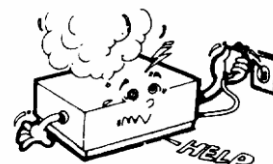
- ⌘ Do not dismantle the machine on your own or by uncertified technicians. Violation of the requirement may cause harm to the user and/or damage to the machine. This will also void the warranty.



- ⌘ For electrical safety, the power cord should not be placed under heavy objects, and should also be kept away from high temperature heat sources.



- ⌘ If you observe any unusual situations when the machine is in use, unplug the power cord as a precautionary measure.



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I. Descriptions and Functions of Components

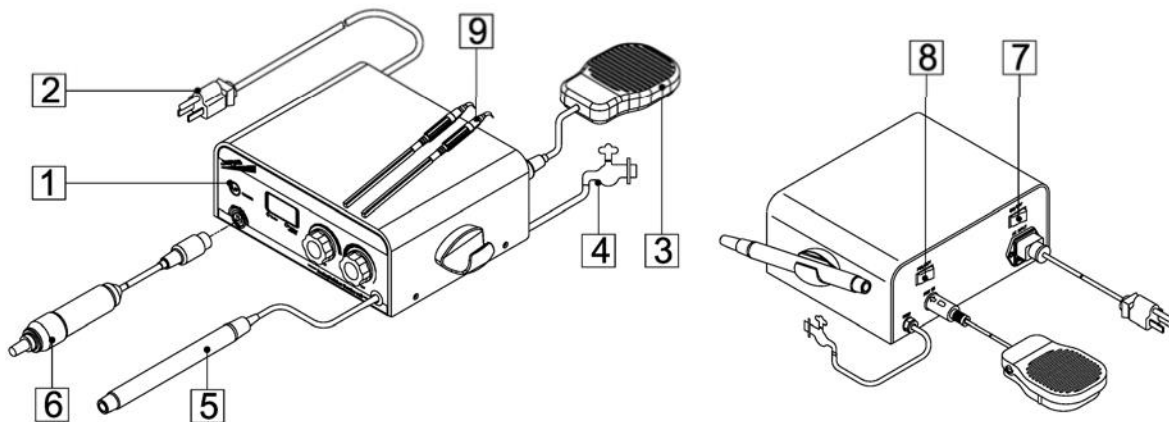


Figure 1. JorVet J0841q Outlook Diagram

1. Main Unit

This is the power center of the unit. The main unit generates the needed 25KHz operation signal and passes it onto the scaler handpiece, which then produces the power to vibrate the insert inside the handpiece. Due to pressure variations, a signal from the handpiece will be fed back to the main unit so that the main unit can track the variation of the loading, and adjust the intensity of the controlling signal automatically.

2. AC Power cord

3. Foot Switch

The user-friendly foot switch helps operator stop/start the unit easily, leaving hands free for procedural functions.

4. Water Line Connections

This unit comes with a male quick-connect and an 8-foot water line. The dental scaler is set up to easily connect to a portable water tank. (J0452D4). You can also order an optional saddle valve with a female quick-release (J0452D14) to connect line to the existing plumbing.

NOTE: In-line Water Filter

This unit comes with an in-line water filter. The filter screen should be cleaned at least once weekly. This will extend the life of your dental scaler and inserts.

5. Scaler Handpiece

The handpiece consists of two coils (the main coil and the feedback coil) and an insert tip.

6. Micromotor

This is a DC Micromotor. Micromotor speed will be controlled with the power dial. Please see “Operation Procedure”.

7. Main Power Switch

Indicates main power switch.



Before turning the unit on, be sure the foot switch is in the “OFF” position and there is no weight on the pedal.

8. Forward / Reverse Switch

This controls the direction of the micromotor revolution. Reverse is useful for removing tangled hair from the end of prophylaxis angle.

CAUTION: Be sure the revolution of the micromotor has come to a complete stop before reversing direction to prevent damage to the micromotor.

9. Magnetostrictive Scaler Insert

The insert tip can be divided into two parts: a nickel metal stack and stainless steel insert tip. To operate, the nickel stack needs to be "inserted" into the handpiece. These nickel stacks then pick up force from the main coil of the handpiece via the electromagnetic effect. The stainless scaler tip then moves back and forth at a high frequency for calculus removal and tooth cleaning.

⌘ Description of Control Panel

The function of each button or knob on the control panel is detailed below.

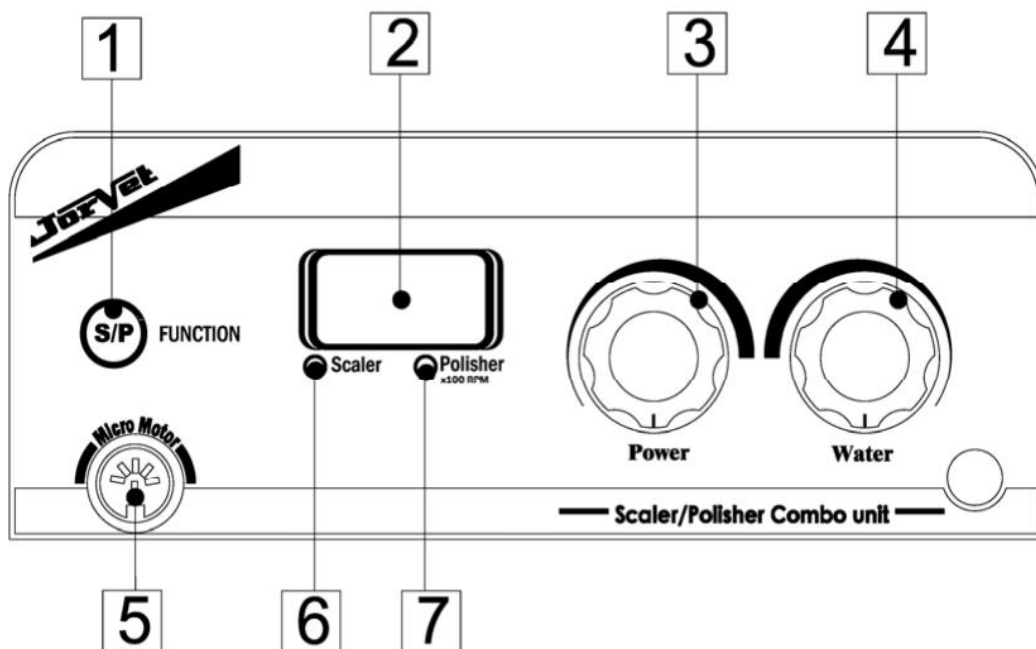


Figure 2. Jorvet J0841q Polisher/Scaler Front Panel

1. FUNCTION BUTTON

This is the scaling/polishing mode-change switch. Press the button for “Scaling” mode and (LED 6) will light up. Press it again to turn on the “Polishing” mode, and the indicator (LED 7) will light up.

2. DIGITAL DISPLAY

Display shows the scaling output power level or rotational speed of Micromotor (in x100 RPM)

3. POWER

Scaling mode

Control knob for adjusting output power level. The power level indicates the strength of impact of the tip of the scaler. Turn the knob clockwise for increased output power. Turn knob counter-clockwise to decrease the power intensity.

Polishing mode

Control knob for adjusting rotational speed of the micromotor. Turn knob clockwise for increased speed. Turn knob counter-clockwise to decrease the speed.

NOTE: Speed (x 100 RPM) is on digital display.

4. WATER

Control knob for adjusting the water volume through the scaler handpiece.

Warning: Do not operate scaler without water, as this will damage the scaler handpiece and insert.

Warning: Do not adjust control knob in a counter-clockwise direction more than three revolutions.

Warning: Turn water flow rate up in small increments when adjusting water control knob.

5. MICROMOTOR SOCKET CONNECTION

Connect Micromotor plug connector into this socket.

6. SCALING LED

Indicate Scaling mode.

7. POLISHING LED

Indicates Polishing mode.

II. Installation Guide

II.1. Unpacking

When unpacking your new dental equipment, check the unit for any damage. If any damage is found, please contact Jorgensen Laboratories immediately. Enter the unit serial number and purchase invoice/information on your warranty card and mail it to Jorgensen Laboratories within 10 days of purchase.

HINT: Keep a copy of your purchase invoice in this manual for future reference.

II.2. Storage

A. Environment:

The unit should be stored in a clean, dry environment. The following environmental limitations apply to both storage and shipping:

Temperature: 32° F to 80° F

Humidity: 10% ~ 90%

B. Labels:

The meaning of labels printed on the outside of the package box is listed below:



FRAGILE



KEEP AWAY FROM WATER



DON'T HOOK



THIS SIDE UP

II.3. Safety Instructions

Grounding:

Before operation of this unit, the power cord must be inserted only into a wall outlet with a protective ground.

NOTE: The unit should be positioned so that the plug is accessible at all times.

Main voltage range and fuse:

Before inserting the main plug into the wall outlet, make sure that the unit is compatible with the voltage supply used.

WARNING: The equipment must be disconnected from all voltage sources when replacing the fuse.

The main (line) fuse holder is located on the rear panel below power input socket. When the main (line) fuse needs replacing, proceed as follows:

- 1) Disconnect the unit power cord from the power supply /receptacle.
- 2) Remove the cover of the fuse holder by means of a small screwdriver.
- 3) Replace a new fuse with the correct rating and put back the fuse holder cover. The fuse will be 2A/250V-delay action type.

II.4. Setting Up

Unpack the JorVet Scaler/Polisher Combo Unit and connect the components as shown in the figure below.

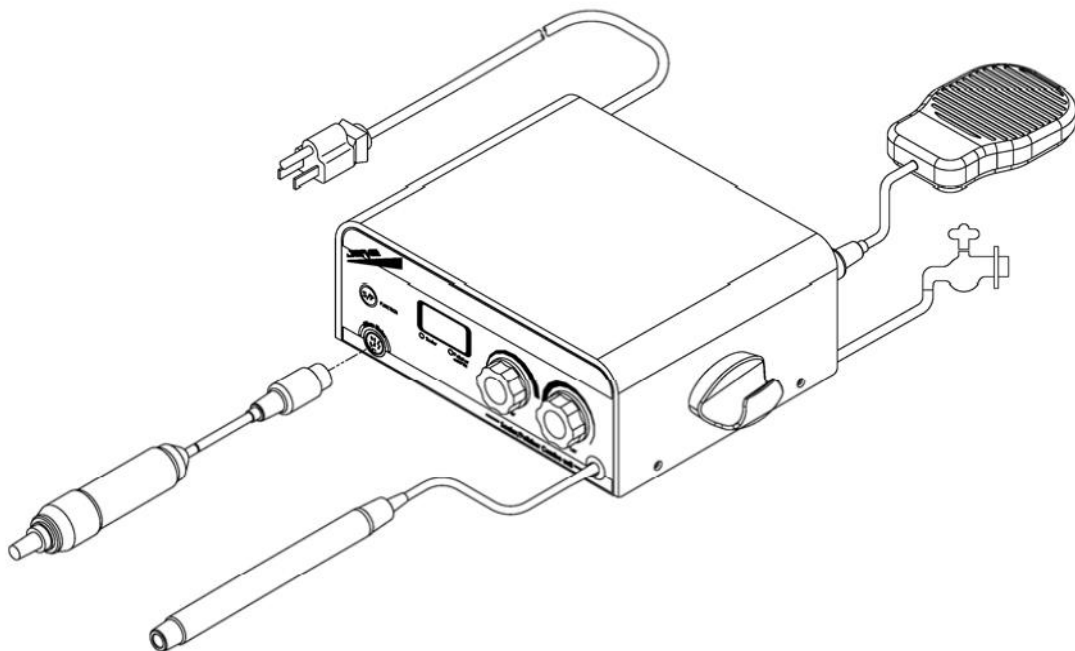


Figure 3. J0841q Set Up Diagram

1. Plug the unit into a grounded AC power outlet.
2. Check the machine and make sure that both LED indicators and DIGITAL display are off when the switch is off.
3. Make sure the water line is properly connected to the water source.
4. Select the Scaler Mode, set the water control knob on low setting, depress the footswitch to allow water to fill the scaler handpiece.
5. Choose the correct Scaler INSERT for desired procedure, and insert it into the handpiece. As the insert seats into the handpiece, twist the handpiece clockwise slightly. Make sure the insert seats completely into the handpiece.

Caution: Make sure that new scaler insert is fully seated.

Caution: If the insert does not readily slide into the handpiece, lubricate the rubber O-ring with water and slide it with a twisting motion into handpiece. DO NOT FORCE into place.

6. Connect the micromotor to the power unit.
7. Slide the polisher Straight Handpiece onto the shaft of the Micromotor and snap into place.
8. Unlock the chuck on the Straight Handpiece, remove the ‘dummy’ shipping shaft. Slip the Propy Angle into the Straight Handpiece chuck, aligning the notch in the Propy Angle with the raised slot on the Straight Handpiece. Fully lock the handpiece chuck.

NOTE: This “Dummy Shaft” can be useful in troubleshooting. Please store with your unit’s accessories.

Several installation suggestions are listed below.

- ⌘ Because patients may experience some tissue trauma during the treatment, it is suggested that the operator use purified or distilled water. This will significantly reduce the possibility of irritation or infection.
- ⌘ After installation, the extra length of the power cord should be neatly arranged to avoid any accidents.
- ⌘ The footswitch should be firmly placed at position where the users/doctors can easily access it. Any extra cord to the foot switch should also be neatly arranged to avoid any accidents.
- ⌘ When pushing the insert into the handpiece, depress the foot switch to turn on the scaler, and let water fill the handpiece. Then push the insert all the way into the handpiece. The above procedure will get rid of air inside the handpiece so that the handpiece will not generate heat and possibly shorten the lifespan of the handpiece.

III. Operation Procedures

⌘ When preparing to treat a patient:

1. Push the POWER SWITCH to light the ON indicator (LED).
2. Check the water source. Pressurize tank or turn on valve to water source.
3. Press the selector switch to select scaler operation. Select the needed scaler INSERT. With the control on low setting, depress the footswitch to allow a little water to fill the scaler handpiece. Wet the O-ring, then place the INSERT into the handpiece with a slight clockwise motion until it is fully seated.
4. Set the POWER KNOB to the suitable level for the insert.
5. Hold the HANDPIECE with the insert end pointing up over a suitable drain. Step on the foot switch and allow water to run from the handpiece for a few seconds until it flows without spurting. This clears any air from the handpiece.

CAUTION: The above procedures should be repeated each time when insert is placed into the handpiece. It should also be repeated every 10-15 minutes during use. Air build up within the handpiece will increase heat and decrease water flow.

CAUTION: Make sure that the water spray is at the desired temperature and is reaching the working edge of the tip.

⌘ Controlling the handpiece with the foot switch.

The foot switch is designed to control the functions of the handpiece in two ways:

1. By depressing the foot switch, the handpiece is activated and water flows from the handpiece .
2. Releasing the foot switch, both handpiece and water flow are shut off.

⌘ Water and Temperature control

The water knob controls the volume of water flowing from the handpiece by turning the water knob clockwise or counter clockwise until the desired rate of flow is obtained.

CAUTION: A continuous flow of water is required to keep the handpiece cool.

NOTE: The greater the water flow, the cooler the temperature.

Daily Start-up

To turn on the unit at the beginning of the day:

- *Fill Portable Water Tank or Turn on the water supply.
- *Press the MAIN POWER SWITCH to turn ON the digital display.

NOTE: If no water comes out, please check the water supply. Do not operate the Scaler without water flow.

NOTE: If digital display does not appear, please contact Jorgensen Laboratories.

Daily shut-off

To turn off the unit at the end of the day:

- * Press the POWER SWITCH to turn the unit OFF.
- * Bleed off pressure in Portable Water Tank or turn off the water supply shut-off valve. Disconnect water line from water source to release water pressure from the unit.

The following suggestions are also useful in extending the product life of the unit.

- ⌘ Place the Main Unit where air can flow freely around it.
- ⌘ If you need to move the Main Unit, handle with care.
- ⌘ Make sure the AC power is turned off and the water source is turned off when not in use.
- ⌘ After six months or if you find the output power of the handpiece is not enough to perform treatment, it is very possible that the insert is worn out. If the insert is worn out, replace it with a new insert.

IV. Cleaning and Sterilization

It is important to follow these procedures before using the equipment to reduce the possibility of infection to patients and/or personnel.

1. Scaler Handpiece

Before cleaning, remove the insert from the handpiece. Let the handpiece run for a couple of seconds allow the water to flush any possible contamination left inside the handpiece. The outer surface of the handpiece should be cleaned with an antiseptic solution. Rinse off with water and wipe or spray with a chemical disinfectant that is compatible with the handpiece material. A sterile insert is then re-attached to the handpiece in preparation for the next patient.

Warning: Do not put the handpiece and the cable directly into the disinfectant. Fluid inside the machine will interfere with the normal operation of the system.

At the end of the day with the insert removed, the handpiece and cable should be scrubbed with an antiseptic solution and rinsed off with water. Handpiece should then be scrubbed a second time with an antiseptic soap or solution and rinsed off with water. Allow to dry.

Warning: The chemical disinfectant should not be allowed to remain on the surface longer than the recommended time or material damage may result.

Note: Cleaning of the handpiece is suggested after each patient use.

2. Scaler Insert

After each use, clean saliva, blood and other debris from the insert tip. This can be done manually by scrubbing the insert with a brush or by use of an ultrasonic cleaner with a solution of detergent and water. After scrubbing the insert, it should be rinsed thoroughly with water and dried. Place the insert into a sterilization bag or wrap and autoclave for 270° F for 12 minutes or as recommended by the manufacturer of your autoclave unit.

Warning: Carry out sterilization using only a steam autoclave.

Warning: High room temperature conditions, improper dilutions, or excessive immersion time in a chemical sterilant can result in damage to the plastic and electrometric materials of the handpiece.

Caution: The use of a dry heat oven, incompatible chemical vapor type sterilizers or quaternary ammonium compounds must be avoided as damage can result to the plastic and electrometric materials.

Warning: Do not try to change the shape of the tip; this will reduce the power output.

Note: Replace the insert with a new insert if you find that the insert is damaged, worn or experience weak power.

3. Main Unit

Since the Main Unit does not have direct contact with the patients, the cleaning is simple. Carefully wipe the main unit with alcohol, and keep away from dust. If other disinfectant is used, choose one that has no chemical effects on the surface of the plastic case of the unit. (Please try it only on a small area first if not certain.)

4. Micromotor

Before cleaning, please remove the attached parts from the micromotor. The outer surface of the micro-motor should be wiped cleaned with an antiseptic solution. **Use caution that no moisture gets inside the micromotor. NEVER LUBRICATE the MICROMOTOR.** For further care instructions, please request a Micromotor Maintenance Bulletin from Jorgensen.

5. Straight Handpiece

The straight handpiece should be lubricated at the end of each day of use. Drop 2-3 drops of mineral oil into the top and allow it to flow down through the handpiece. For further care instructions, please request a Straight Handpiece Maintenance Bulletin from Jorgensen.

6. Prophy Angle

The prophy angle should be cleaned of hair and debris after each patient. At the end of the day it should be cleaned and lubricated as explained on the following page. When necessary to remove the knurled knob from the prophy angle, be aware that this knob is reverse threaded. Turn to the right to loosen, turn left to tighten. For further care instructions, please request a Prophy Angle Maintenance Bulletin from Jorgensen.

V. Care and Maintenance of Polisher



Propy Angle

Straight Hand Piece

Micro-motor



Knurled Knob



Chuck Lock

1. The straight handpiece is pushed onto the shaft of the micromotor. It will snap into place.
2. The prophy angle is next; attach to the top of the straight handpiece.
 - A) Unlock the chuck on the straight handpiece by turning to the open position. Do this by turning the chuck lock to the right (clockwise) until fully open.
 - B) The prophy angle is placed on the straight handpiece with the cut out notch on the collar placed over the raised bubble or slot on the straight handpiece.
 - C) The chuck is then turned to the left (counter-clockwise) so that the markings on the handpiece line up. If the chuck is not fully locked, the prophy angle will not spin correctly, and damage can occur to the straight handpiece.
 - D) Snap a rubber prophy cup onto the end of the knurled knob.
 - E) To remove the prophy angle, simply reverse the above procedure.

The Propy Angle needs lubrication and cleaning on a regular basis.

Propy Angle Maintenance

1. Remove the rubber prophy cup.
2. Remove the knurled knob by turning the knurled knob with pliers: protect the knurled knob with a soft cloth. The knurled knob is reverse threaded: turn right to loosen, not left. Wash out debris from inside with clipper spray; then then apply lubricant to the gears (white lithium grease or Vaseline Jelly).
3. Make sure all hair is removed from the knurled knob of the prophy angle.
4. Replace the knurled knob.

To polish the teeth, place a rubber cup on the prophy angle and place a little prophy paste in the cup. Press the selector switch for micromotor switch so that the LED is lit. Adjust the power control to a low speed of about 2,000 rpm. Depress the foot switch and begin polishing each tooth surface. Prophy pastes contain abrasive polishing agents so very little pressure on the tooth is required. Add prophy paste as needed.

⌘ Troubleshooting

1. If no water is flowing from the handpiece, check the water source. Clean or change the water filter. Check the setting of the water control.
2. The handpiece will overheat if there is not enough water flow. Increase water flow by turning water up. Also use the procedure to clear air from the handpiece on a regular basis.
3. An insert that is starting to wear out will also cause low water. Replace insert.
4. If you have no power to the unit, check & change the fuse.
5. If the micromotor straight handpiece is spinning, clean and lubricate the prophy angle. If issue does not remedy, replace the prophy angle (the prophy angle gears are worn out.)
6. If the prophy angle knurled knob is not spinning, remove hair and debris, then lubricate.
7. The straight handpiece may lose some power if not properly cleaned and lubricated.

Note: Product requiring any repair should be returned to Jorgensen Laboratories. Call for proper procedure to return unit. JorVet will repair or replace any product under warranty at no charge provided the repair meets the limited terms and conditions of the warranty.

If these troubleshooting measures do not remedy the issue, please **call Jorgensen Technical Support at 800-525-5614**

VI. Product codes for accessories and replacement parts.

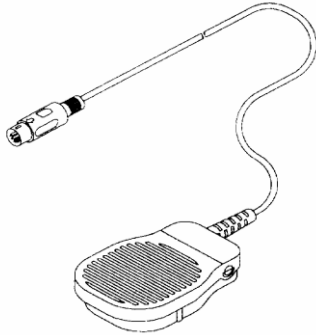
Straight Handpiece	J0452d10	Prophy Angle	J0452d3
Micromotor	J0453d1	Prophy Cups	J0452d6 (opt)
		Polishing Paste	J0452d5(opt)
Universal insert	J0452d1	Spatula Insert	J0452d2
Periodontal insert	J0452d1p (opt)		
Portable water tank	J0452d4 (opt)	In-line Filter	J0452d13m
Contra Angle FG	J0452d9 (opt)		

A full line of Diamond Burs and Cutting Disks, and Carbide Burs are available from Jorgensen.

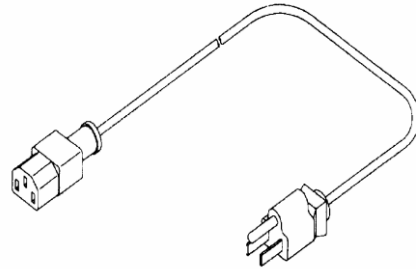
Other Parts are available but not listed.

VII. Accessories

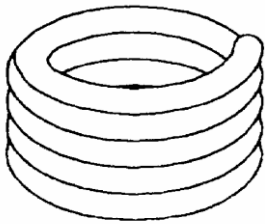
(1) Foot Switch J0452d18



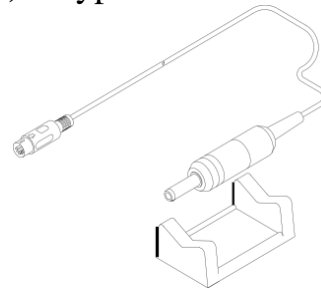
(2) AC Power Cord J0452pc



(3) Waterline J0452d23



(4) E-type Micromotor J4053d1



(5) **Inserts:** 1x Universal Internal Flow Plastic Handle Insert J0452d1
1x Wide Spatula Internal Flow Plastic Handle Insert J0452d2

(6) **In-Line Water Filter:** J0453D13m

Note: This unit's water line comes with a male quick-connect to attach to the female quick-connect on the portable water tank (J0452d4).

VIII. Warranty Terms:

Main unit (PC Board)	6 years
Scaler Handpiece	1 year
Micromotor	90 days
Straight Handpiece	90 days
Prophy Angle	No Warranty
Scaler Inserts	90 days

IX. Specifications

JorVet J0841q unit is designed and manufactured to meet the most demanding environment. Its specifications are listed below:

⌘ Specifications:

Power supply:	115V \pm 5% \sim 50/60Hz	160VA
	230V \pm 5% \sim 50/60Hz	160VA

Scaler Working frequency:	24.5KHz \pm 5% (for 25KHz Insert)
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Polisher speed:	2000 \sim 30000 R.P.M
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Dimension Weight:	6" L x 8" W x 3.5"H
Handpiece Cable Weight:	6.5 lbs. (including handpiece)
Footswitch Cable Length:	8' 3"

Operating environment	
Temperature:	32° F \sim 80° F
Relative Humidity:	10% \sim 90% (non-condensing)

Transport and storage conditions	
Temperature:	Same as above
Relative Humidity:	10% \sim 90% (non-condensing)



Attention!
Avoid use of this machine around pacemakers.

It has been shown that electronic appliances including razors, hair dryers, microwave ovens, TV receptors, and some electronic medical equipment may interfere with the normal operations of pacemakers. It is suggested that providers/patients who have pacemakers avoid treatment with this unit. For further readings on the subject, please refer to:

- "Advances in Cardiac Pacemaker", The New York Academy of Sciences, Vol. 167, Article 2, pp. 515-1075
- "Electromagnetic Radiation Interference with Cardiac Pacemaker", U. S. Department of Health, Education and Welfare
- "The Individual with a Pacemaker in the Dental Environment", Journal of the American Dental Association, Vol. 91, No. 6, pp. 1224-1229

Pocket for copy of Purchase Invoice

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