Dentalaire
Owner’s Manual
for all
Dental Stations
SET UP PROCEDURE FOR DENTALAIRE DENTAL STATIONS

STEP # 1 - Open crate using a large screwdriver. Please check crate for any damages and report them to Dentalaire immediately or note on paperwork while receiving a damaged unit. (800)866-6881

STEP # 2 - If you have purchased a wall mount or table mount dental station, carefully lift the compressor out of the crate. If you have purchased a mobile dental station, loosen the bolts at cross-member with a wrench as it should be carefully rolled and gently lifted out of the crate.

STEP # 3 - Please refer to the schematics and parts breakdown section on pages 12 - 18. This will show you all the parts that make up your dental station and will help you become more familiar with it.

STEP # 4 - Next using a pair of scissors, carefully cut away all the packing material that goes around the tubing for the high and low speed handpieces. Also the tubing that goes to the piezo or air scaler tubing. Please remove all other packing material.

STEP # 5 - On the side of the compressor opposite the purge valve, connect the Air Intake Filter. This is the black mushroom shaped cap, that just screws on where the red cap was. The hole that you can see and feel on the Air Intake Filter should be at 12:00, not 6:00. It you have it at 6:00 oil can leak out. This should be cleaned yearly with soapy water or alcohol, rinsed well and put back on. The Air Intake Filter keeps the compressor running quietly and also keeps foreign debris out of the motor.

STEP # 6 - Open the 22oz. bottle of synthetic compressor oil. At the top of the compressor is the oil fill hole. This is where you are to put the oil. Unscrew and start adding the oil. Go slowly and empty the bottle by about half to two thirds empty. STOP. WAIT a few minutes as the oil takes some time to go into the compressor. Slowly add some more oil and wait until you see the oil in the glass eye on the side of the compressor and stop when it gets to the mid level (the red line). In most cases you will usually use about 7/8’s of the bottle. Add oil until level in sight glass is half full while motor is not running. The oil level must be half full on the sight glass. (If you overfill the compressor and cannot see any air bubble do not run the compressor!) Please call Dentalaire and let our service department take care of you. On any mobile dental station it is easier to fill the compressor with oil, when the table is at its highest 36” level, not when it is right above the compressor. Please change the oil yearly. Make sure to raise the table before putting in the compressor oil.

STEP # 7 - Take the water bottle and fill it only with distilled water leaving about two inches of air space at the top.

STEP # 8 - Connect the power cord to 110 vac grounded receptacle and place compressor power switch in the “ON” position, which means the switch on top of compressor is turned clockwise. On units that have a scaler or a fiberoptic sys-
tem, you will also need to hit the switch underneath the table part of the mobile dental station.

STEP # 9 - Unpack both handpieces and find the Once A Day Spray Handpiece Lubricant. Each handpiece (the high speed and low speed) must be lubricated before you use. Insert the spray tip of the Once A Day Spray into the drive port at the base of the handpiece, spray once and then remove. Do this for with each handpiece.

Lubricating Handpiece  Attaching Handpiece

STEP # 10 - Attach the handpieces to the appropriate labeled tubing located on the tubing connectors.

STEP # 11 - Depress the foot control for 5 - 10 seconds to permit air to purge excess lubricant from the handpiece. Do this with each handpiece as well. (Except Air Scalers, this type of handpiece should not be lubricated). CAUTION: Do not operate any handpiece without a bur, prophy angle, contra angle or bur blank tightened securely in place. PERMANENT TURBINE / CHUCK DAMAGE WILL RESULT !!!!!

STEP # 12 - Enjoy your new dental unit. Please call us if you have any questions. We are here to help in any way we can. (800)866-6881

**SELECTION OF HANDPIECES**

Your dental station comes with a high speed and a low speed handpiece. The high speed is for drilling and sectioning of the teeth. The low speed is used mainly for polishing. It also can have an air scaler, which is used to scale (clean) the teeth.
OPERATION OF HANDPIECES

HIGH SPEED HANDPIECE operates at pressures of 38 to 40 PSI and attains a speed of 350,000 to 400,000 RPM. The water mist helps to keep the handpiece motor and bur cool, as well as the patient’s tooth cool while doing restorations, cutting or rotary prophy scaling procedures. Constant preventive maintenance is essential in caring for handpieces. If they are not properly cleaned and lubricated, abrasives such as finely ground tooth, metal will cause excessive wear and undue vibration.

Bush Button Bur  Bur Tool Changing

When inserting and removing burs from handpieces, use the bur tool by holding it between the thumb and forefinger. Slide the bur tool over the head of the handpiece. Pull the wrench knob away from the head, then push the knob back to engage the chuck. The square tip of the wrench must fit into the square hole inside of the handpiece head (this is the chuck). To remove the bur, rotate the wrench one full turn COUNTERCLOCKWISE until the bur is free. To tighten, rotate the wrench one full turn CLOCKWISE until the bur is secure. Never overtighten the bur, as serious damage can result to the chuck and bur tool.

On units that have a push button bur changer, to insert the bur simply push your thumb on the back cap of the high speed handpiece to engage the chuck. You will feel a click, and then you insert the bur all the way as far as you can. To take out repeat the above step and then pull out the bur. If you do not put the bur in all the way it will damage the chuck. You will then need to purchase a new turbine for your high speed handpiece.

SLOW SPEED HANDPIECE operates at pressures of 30 to 32 PSI and generates speeds from a crawl to 5500 RPM depending on the pressure applied to the foot control. The slow speed should be placed on the right side of the delivery system (dry side), as no coolant is needed for the slow speed procedures. As with the high speed handpiece, always read and follow manufacturer’s instructions for operation, lubrication, cleaning, and sterilization for the slow speed motor and attachments.
NOSE PORTION SWIVELS 360° TO REDUCE HAND FATIGUE

Slow Speed Handpiece

CHUCK ACCEPTS STANDARD SHANK DIAMETER PROPHY ANGLE, SIMPLE PUSH PULL CHUCK SYSTEM

Slow Speed Handpiece w/ Prophy Angle

To attach prophy angles, contra angles, cutting wheels or handpiece burs to the handpiece, simply push onto handpiece making sure to line up the notch with the set pin.

CAUTION: Do not run slow speed unless an angle or bur is installed as serious chuck damage will result.
CLEANING OF HIGH and LOW SPEED HANDPIECES

Before cleaning procedures the bur must be removed from the handpiece. The handpiece must be cleaned with a brush or wiped with alcohol after each patient.

STERILIZATION OF HIGH and LOW SPEED HANDPIECES

1.) The handpiece must be sterilized by autoclave for 15 minutes at 135 degreesC (275 fahrenheit).
2.) Only use non chlorine products, and no chemical solutions.
3.) Do not sterilize the handpiece with the bur inserted.

REPAIR AND REPLACING THE HIGH SPEED CARTRIDGE

ONLY USE THE ORIGINAL REPLACEMENT TURBINES, for total assurance of quality control and product life. The cartridge is a fragile instrument. Please call our service department if you have questions or need help in replacing this part.

DA400RC - Standard Screw Type Turbine
DA400RCA - Push Button Turbine

OPERATION OF AIR SCALER HANDPIECE

Air Scaler handpieces produce oval strokes up to 6400 Hz. to efficiently remove tough calculus. The air scaler is attached to the “wet side” of the delivery system so that the water coolant can be directed on to the surface being cleaned. The water spray continuously flushes and cools the work area. The scaler tips screw into the end of the scaler and should be tightened using the finger wrench provided with the scaler. The pressure for the air scaler should be at 50 to 52 PSI.

CAUTION: Do not tighten tip excessively, as the stack that the tip screws into can be damaged, which results in structural damage and loss of vibration.

NOTE: The air scaler handpiece uses a higher air flow (CFM) than either the high speed or slow speed handpiece. For this reason, there is a probability when the air scaler is run continuously that it could cause the compressor to overheat and possibly shut off due to excess cycle time. **It is recommended that if long periods of air scaler operation is desired, that a one HP air com-**
PRESSOR BE USED. CYCLE TIME = ON CYCLE SHOULD BE EQUAL IT'S OFF CYCLE (during the period of operation the air compressor should be off at least as often as it is on).

IMPORTANT:
This air scaler is fully autoclavable. Recommended temperature is 250 - 275 degrees (135 degrees C ) for 10 to 15 minutes. Before autoclaving, the scaler should be cleaned of all blood, saliva, and other debris. To insure sterilization of the scaler, it should be autoclaved in a proper autoclavable bag and kept in the bag until ready to use.

*** PLEASE DO NOT LUBRICATE THE AIR SCALER HANDPIECE ***

WATER COOLANT

ADDING WATER TO DENTAL SYSTEM

Slowly remove water bottle from pressure manifold assembly and add DIStilled WATER only. Leave approximately two inches of air space at the top. Replace bottle, tighten until secure. Mobile cart, wall mount and table mount systems hold 1500ml. of water. Countertop units hold 1000ml. of water.

AIR / WATER SYRINGE

All of our dental stations come with an air / water syringe installed and ready to use. Depress the left button for water only. Depress the right button for air only. Depress both buttons to get a mist spray.

MAINTENANCE OF THE DENTALAIRe DENTAL SYSTEMS

COMPRESSOR

Please change the oil in the compressor once a year. HOW TO CHANGE THE OIL: To change the oil, you want to start by taking the white cover off of the compressor by removing the six bolts at the bottom. Now tilt the compressor away from you and unscrew the site glass indicator. Tip the compressor forward and pour the oil into a small bucket or coffee can. Next screw the site glass back on. Put the white cover back over the compressor and screw in the six bolts. Please refer to our Compressor Maintenance Guide Chart on the following page to help you keep the compressor running in top form.
COMPRESSOR MAINTENANCE GUIDE CHART

<table>
<thead>
<tr>
<th>MAINTENANCE PROCEDURE</th>
<th>DAILY</th>
<th>WEEKLY</th>
<th>MONTHLY</th>
<th>ANNUALLY</th>
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</thead>
<tbody>
<tr>
<td>1. Purge Drain</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Vent Moisture Trap</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>3. Check Oil Level</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>4. Clean Air Filter Intake</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>5. Change Oil</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>6. Complete check of System</td>
<td></td>
<td></td>
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</table>

SERVICE AND MAINTENANCE LOG

<table>
<thead>
<tr>
<th>SERVICE PERFORMED</th>
<th>DATE</th>
<th>SERVICED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. INITIAL INSTALLATION</td>
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</tbody>
</table>

AIR / WATER SYRINGE

Air or water leakage from the syringe is due to either worn or defective valve cores in the syringe head. To rebuild syringe first remove the pin on the side of the housing, and then simply pull out the buttons straight out of the syringe head. Now remove the valve cores using the valve core tool. Install new valve cores. Do not overtighten. Remove all water deposits off buttons. Lubricate the buttons with the Once A Day Spray. Reinstall the Air/Water buttons. Re-insert the pin through housing. Syringe Rebuild Kit Item # A 113-019.

ORAL ILLUMINATION

This refers to any of our high speed handpieces that have a fiberoptic system. Mostly in our Ultimate Dental Station. This unit will periodically require a change in the Halogen Light Bulb. Here’s how to change the bulb:

1. Please make sure you are wearing gloves (before) handling the new bulb. The oils from your body will ruin the new halogen bulb.
2. Slide both sleeves back from the connector nut exposing bulb on side of housing.
3. Remove old bulb.
4. Install new bulb.
5. Place bulb back into housing.
6. Slide sleeve over housing.
7. Reinstall high speed handpiece.

**DA400FOB - Fiberoptic Halogen Replacement Bulb**

**TROUBLE SHOOTING GUIDE**

**I. NO COOLANT WATER**
1. Water bottle empty.
2. Flow control knob is closed.
3. On / Off toggle is off.
4. High speed handpiece is in the low speed position.
5. Faulty water relay valve.
6. Plugged coolant port in handpiece.

**II. COOLANT WATER DOES NOT SHUT OFF**
1. Faulty water relay valve.
2. Water On / Off toggle left on

**III. COOLANT WATER LEAKING FROM HANDPIECE**
1. Missing or damaged handpiece connector gasket.
2. Faulty water relay valve.
3. Slow speed handpiece is in the high speed position.

**IV. MORE THAN ONE HANDPIECE RUNS AT THE SAME TIME**
1. Handpieces are not positioned all the way down in the holders.
2. Faulty auto block diaphragm.
V. AIR / WATER SYRINGE PROBLEMS
1. Water drips from tip.
   A.) Faulty valve core
2. Button blow out.
   A.) Tip is plugged at the end.
   B.) Tip is not installed all the way into the quick change adapter.
      (Loosen nut, press tip further into connector and tighten nut while
       holding the tip in)
   C.) Faulty o-ring in tip adapter.
3. Air or water leaks from buttons when in use.
   A.) Faulty buttons.
4. Low air or water flow cont:
   A.) Improper regulator adjustment
   B.) Empty water bottle
   C.) Kinked supply tubing.
   D.) Plugged tubing.
   E.) Plugged syringe head

VI. FOOT CONTROL HISSES
1. Faulty foot control popped valve.
2. Foot control tubing connected backwards.

VII. HANDPIECE TUBING BLOWS OFF
1. Handpiece has been over pressurized.

VIII. COMPRESSOR WON’T TURN ON
1. Check power source.
2. Check tank pressure (compressor will not turn on if tank is fully
   pressurized).
3. Faulty starting capacitor (replace).
4. Compressor is over-heated and the thermal safety switch is off. (Let unit
   cool and it will come on automatically, usually in 20 - 30 minutes).

IX. HANDPIECE LACKS POWER
1. Inadequate tank pressure.
2. Improper regulator pressure (reset regulator).
3. Improper individual handpiece pressure adjustment.
4. Faulty foot control.
5. Handpiece connector gasket is missing.
6. Directional selector ring is not rotated all the way into forward or reverse.
   (Slow speed handpiece only)
7. Faulty handpiece tubing.

X. COMPRESSOR RUNS, BUT WON’T PRESSURIZE FULLY
1. Plug is on the air inlet. Replace with air filter.
2. Compressor tank drain valve is leaking air.
3. Faulty check valve between compressor and filter tank.

XI. COMPRESSOR OVERHEATS
1. Air inlet is plugged.
2. Handpiece pressure is set too high.
3. Handpiece has been run for too long a time and the 50% duty cycle has been exceeded.

XII. UNIT IS PRESSURIZED BUT HANDPIECE DOES NOT RUN
1. Regulator pressure is low or off.
2. Supply tubing from regulator to control head is kinked.
3. Faulty foot control.
4. Handpiece holder is turned off with lock lever (automatic units only).
5. Handpiece holder valve is not exhausting.
6. Handpiece directional ring is between forward and reverse (slow speed handpiece only).
7. Faulty handpiece turbine.

TROUBLE SHOOTING GUIDE FOR BUILT IN AMDENT PIEZO SCALER

I. THE SCALER WON’T RUN
1. Check main power, main fuse, On / Off Switch.

II. WEAK OR NO TIP VIBRATION
1. Increase the power control setting.
2. Check to see if tip is tightened properly.
3. The tip is worn out, replace with new tip.
4. Change to a new handpiece.
5. Faulty air switch.
6. Change back to the old handpiece and then replace the electronic part.
7. Replace both the handpiece and electronic part.

III. INSUFFICIENT WATER SPRAY
1. Turn the knob to full open position.
2. Check / replace water filter.
3. Check all water connections. Be sure there is no leakage or kinked tubing.
4. Remove the tip, if the water is dripping from the handpiece, replace the tip.
5. Check the delivery unit’s control block that activates the water out to the scaler handpiece is working properly.

FOOT CONTROL TO ULTRASONIC “PIEZO” SCALER

This is for Dentalaire Model number’s 00509 (Ultimate Dental Station) and 00504, which is a countertop unit. This foot pedal has two buttons, one large and one small. The large button is for operating the high and low speed handpieces. The small button is for operating the piezo scaler only.
<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART DESCRIPTION</th>
<th>PART NUMBER</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ring</td>
<td>126 002</td>
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<tr>
<td>2</td>
<td>Cover</td>
<td>126 001</td>
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<tr>
<td>3</td>
<td>Spring</td>
<td>008 005</td>
<td>1</td>
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<tr>
<td>4</td>
<td>O Ring, 012</td>
<td>017 012</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Stem</td>
<td>126 005</td>
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<tr>
<td>6</td>
<td>Body</td>
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<td>Poppet</td>
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<td>8</td>
<td>Spring</td>
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<tr>
<td>9</td>
<td>O Ring, 013</td>
<td>017 013</td>
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<td>10</td>
<td>Baseplate</td>
<td>126 005</td>
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<tr>
<td>11</td>
<td>Screw, 4 40 x 1/8&quot;</td>
<td>001 005</td>
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<tr>
<td>12</td>
<td>Rubber Pad</td>
<td>126 007</td>
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<tr>
<td>13</td>
<td>Screw, 6 32 x 1/8&quot;</td>
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**FOOT CONTROL**

126-000
<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
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<tbody>
<tr>
<td>P010</td>
<td>Capacitor 230V 55uF 660V T1234</td>
</tr>
<tr>
<td>P011</td>
<td>Overload Relay 230V T1234</td>
</tr>
<tr>
<td>P012</td>
<td>Switch Pressure 4-1/2&quot;</td>
</tr>
<tr>
<td>P013</td>
<td>Switch Pressure 5-1/2&quot;</td>
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<td>P014</td>
<td>Switch Pressure 6-1/2&quot;</td>
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<td>Switch Pressure 29-1/2&quot;</td>
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<tr>
<td>P038</td>
<td>Switch Pressure 30-1/2&quot;</td>
</tr>
</tbody>
</table>

**Legend:**
- **P010:** Capacitor 230V 55uF 660V T1234
- **P011:** Overload Relay 230V T1234
- **P012:** Switch Pressure 4-1/2"...20-1/2"

**Notes:**
- All parts are listed in alphabetical order.
- The table includes various components related to dental stations, such as capacitors, overload relays, and switch pressures.