

*Owner's Guide*

**DECADE<sup>®</sup>**  
**1021 SOLO**  
**CHAIR**

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A-dec warrants its products against defects in material or workmanship for one year from time of delivery (except for handpieces which have a warranty period of six months). A-dec's sole obligation under the warranty is to provide parts for the repair, or at its option, to provide the replacement product (excluding labor). The buyer shall have no other remedy. (All special, incidental, and coincidental damages are excluded.) Written notice of breach of warranty must be given to A-dec within the warranty period. The warranty does not cover damage resulting from improper installation or maintenance, accident or misuse. The warranty does not cover damage resulting from the use of cleaning, disinfecting or sterilization chemicals and processes. The warranty also does not cover light bulbs. Failure to follow instructions provided in A-dec's Operation and Maintenance Instructions (Owner's Guide) may void the warranty.

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*Decade 1021 Solo Chair*



**Decade 1021 Solo Chair**

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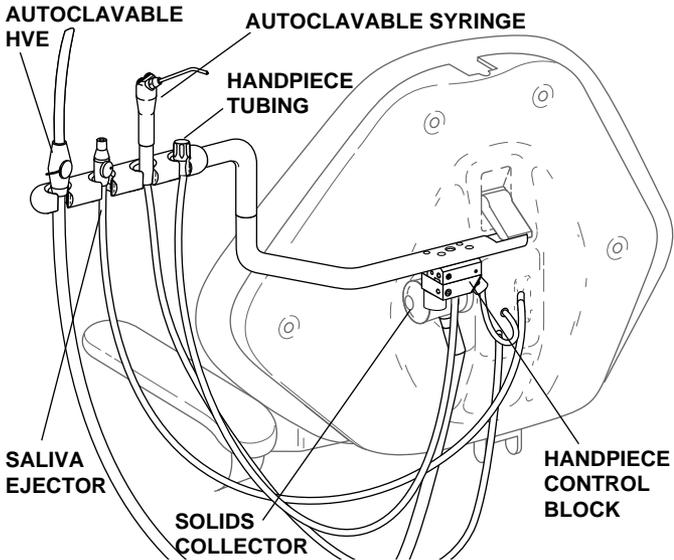
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# **OPERATION**

## **About Your Decade 1021 Solo Chair**

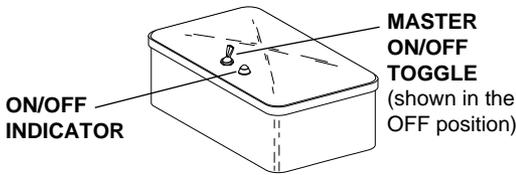
The Solo Chair is equipped with the following features: saliva ejector, A-dec's autoclavable high volume evacuator (HVE), A-dec's autoclavable syringe, handpiece tubing (four hole standard), wet/dry disc foot control, solids collector, and a floor box with Master On/Off toggle and indicator.



**Figure 1. Decade 1021 Solo Chair**

## **Master On/Off Toggle**

The Master On/Off toggle on the floor box (see *Figure 2*) turns the air and water to the Solo chair ON or OFF. When the system is left unattended or is no longer in use, the Master On/Off toggle should be in the OFF position.



**Figure 2. Master On/Off Toggle**

### **Caution**

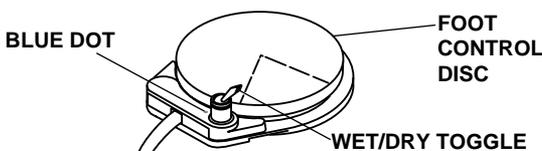
The MASTER ON/OFF TOGGLE should be in the OFF (O) position whenever the unit IS NOT in use. This will prevent the possibility of water damage should a leak occur while the unit is unattended. Making sure the unit is OFF will also prevent the possibility of self-activation and the resulting burn-out of your electrical accessories.

When the Master On/Off toggle is in the ON position, the On/Off Indicator (see Figure 2) will be red, indicating that the unit is pressurized. (This is not a lamp; the indicator is operated by air pressure.)

## **Foot Control**

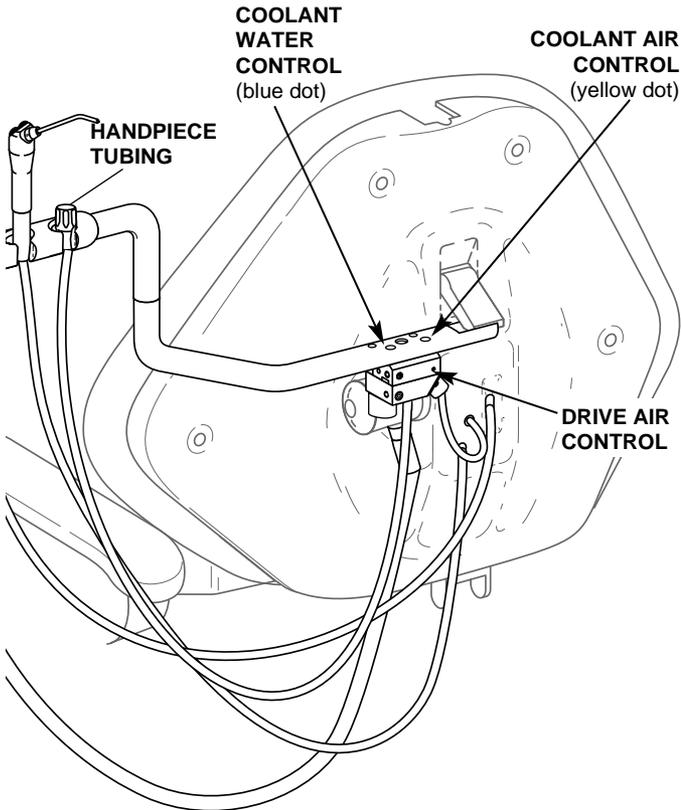
The foot control (see Figure 3) modulates drive air and coolant air to the handpiece and provides an air signal that turns on coolant water flow. The foot control is operated by light foot pressure applied to any part of the foot control disc.

**Wet/Dry Toggle.** Allows you to shut off the coolant water to the handpiece without moving your hands from the oral cavity. Using your foot, move the toggle away from the blue dot to turn the coolant water OFF. Move the toggle toward the blue dot to turn the coolant water ON.



**Figure 3. Foot Control**

## Handpiece Controls and Adjustments



**Figure 4. Handpiece Controls and Adjustments**

### Coolant Air Flow

The coolant air flow control adjusts the coolant air flow to the handpiece. When turned fully clockwise, air flow is turned off.

#### *To adjust the coolant air flow:*

1. Locate the coolant air flow control (see Figure 4) and the wet/dry toggle on the foot control (see Figure 3 on page 3). Move the wet/dry toggle to the OFF position, away from the blue dot.

2. Install a bur in the handpiece. Connect the handpiece to the handpiece tubing.
3. Insert a control key, or a 1/8" hex key, into the coolant air control. Slightly depress the foot control, run the handpiece at medium speed and adjust the coolant air control. A strong flow of air is recommended. Turn the control clockwise to decrease the flow or counterclockwise to increase the flow.

***If you are unable to obtain proper coolant air adjustment contact your authorized A-dec dealer for assistance.***

### ***Coolant Water Flow***

The coolant water flow control adjusts the coolant water flow to the handpiece. When turned fully clockwise, water flow is turned off.

#### ***To adjust the coolant water flow:***

1. Locate the coolant water flow control (see Figure 4) and the wet/dry toggle on the foot control (see Figure 3 on page 3). Move the wet/dry toggle to the ON position, toward the blue dot.
2. Install a bur in the handpiece. Connect the handpiece to the handpiece tubing.
3. Insert an control key, or a 1/8" hex key, into the coolant water control. Slightly depress the foot control, run the handpiece at medium speed and adjust the coolant water control until a fine mist is visible around the bur. Turn the control clockwise to decrease the flow or counterclockwise to increase the flow.

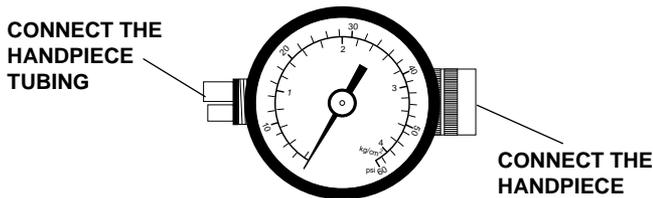
***If you are unable to obtain proper coolant water adjustment contact your authorized A-dec dealer for assistance.***

## **Drive Air Pressure**

The drive air pressure control adjusts the drive air pressure to the handpiece. The maximum dynamic drive air pressure must be adjusted to meet the handpiece manufacturer's specifications.

### **To adjust the drive air pressure:**

1. Attach the handpiece pressure test gauge, found in the Solo chair shipwith (see Figure 5), to the handpiece tubing. Install a bur in the handpiece, then connect the handpiece to the other end of the pressure test gauge.



**Figure 5. Handpiece Pressure Test Gauge**

2. Locate the drive air pressure control on the handpiece control block (see Figure 4 on page 4) and the wet/dry toggle on the foot control (see Figure 3 on page 3). Move the wet/dry toggle to the OFF position, away from the blue dot.
3. Insert a 3/32" hex key in the drive air adjustment control. Fully depress the foot control disc and turn the drive air adjustment screw until the handpiece runs at the specified maximum pressure. Turn the screw clockwise to decrease pressure, counterclockwise to increase pressure.
4. When the drive air pressure has been achieved, remove the handpiece pressure test gauge from the tubing and the handpiece. Connect the handpiece to the handpiece tubing.

***If you are unable to obtain proper drive air pressure contact your authorized A-dec dealer for assistance.***

## Handpiece Tubing Flush

Your Solo handpiece control system is equipped with a handpiece tubing flush system that allows more water through the handpiece tubing in less time than is normally possible. *The handpiece should not be connected when flushing the tubing.*

### How Often Should the Handpiece Tubing be Flushed?

#### **After Each Patient:**

Flush the tubing for about 20-30 seconds.

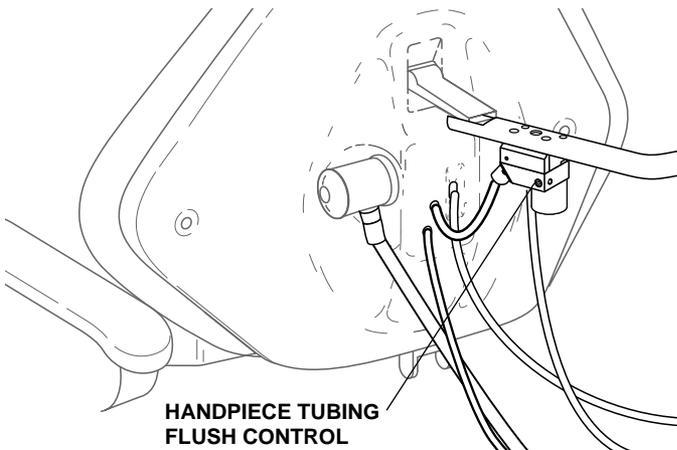
#### **At the Beginning of Each Day:**

Flush the tubing for 2-3 minutes.

### Flushing the Handpiece Tubings

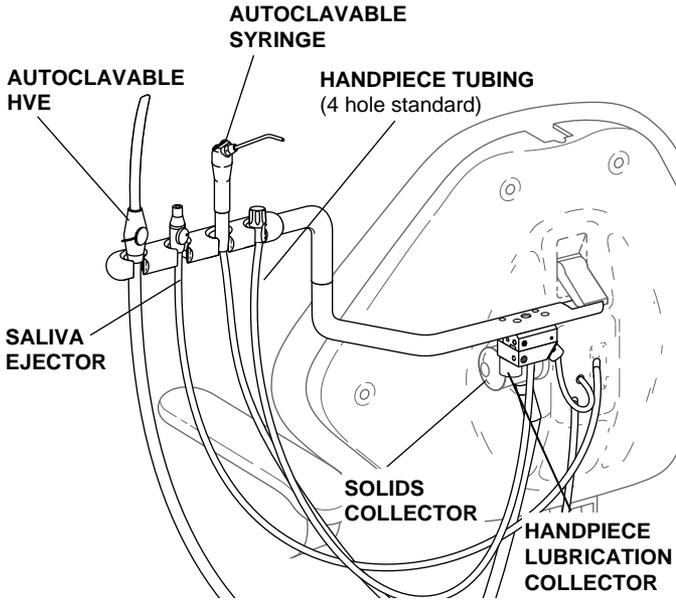
Hold the handpiece tubing over a sink, cuspidor bowl or basin. Be sure you hold the tubing so that the water will be directed away from you and into the receptacle.

Press the handpiece tubing flush control on the side of the control block (see Figure 6) for the appropriate time required, either for flushing between patients or flushing at the beginning of each day, depending on the situation.



**Figure 6. Handpiece Tubing Flush**

## Instruments



**Figure 7. Assistant's Instrumentation**

**Handpiece Tubing.** The Solo Chair is equipped with one handpiece tubing (four hole standard) (see Figure 7). The handpiece tubing allows the installation of either a high-speed or low-speed handpiece.

**Syringe.** The syringe on your Solo Chair is A-dec's autoclavable air and water syringe (see Figure 7). (For syringe flow adjustments, refer to *Syringe Air and Water Pressure Adjustment* on page 10.)

**Saliva Ejector.** The saliva ejector is equipped with a rotary on/off control and removable rubber tip (see Figure 7).

**Autoclavable HVE.** Your Solo Chair comes with A-dec's autoclavable HVE (see Figure 7).

## Care Instructions

**Handpiece Lubrication Collector.** The lubrication collector, located on the bottom of the Solo handpiece control block (see Figure 7), collects residual handpiece lubrication. The replaceable 2x2 gauze pad filter is easily replaced (see *Handpiece Lubrication Collector Filter Replacement* on page 11).

**Solids Collector.** The solids collector, located on the chair back prevents solids from entering the central vacuum system (see Figure 7).

For further operating, cleaning, and maintenance instructions, refer to **Assistant's Instrumentation** (Publication No. 85-2610-00) in the **Assistant's Instrumentation** section of your **Owner's Guide** and **Autoclavable Syringe** (A-dec Publication No. 85-0680-00) in the **Components** section of your **Owner's Guide**.

For cleaning instructions to the optional A-dec Self-contained Water System, refer to **Self-contained Water System** (Publication No. 85-0675-00) in your **Owner's Guide**.

For further asepsis instructions, refer to **Equipment Asepsis** (A-dec Publication No. 85-0696-00) in the **Asepsis** section of your **Owner's Guide**.

## System Air and Water Pressure

For system air and water adjustments, refer to **Floor Boxes** (Publication No. 85-2611-00) in the **Utilities** section of your **Owner's Guide**.

If system water is provided through the optional A-dec Self-contained Water System, refer to **Self-contained Water System** (Publication No. 85-0675-00) in your **Owner's Guide**.

# MAINTENANCE

## Arm Adjustment

If the instrument holder arm on your chair starts to droop when all the instruments are in place, or if the arm swings too freely, an adjustment is necessary.

**To adjust the horizontal angle of the arm**, lift the arm up and evenly tighten the two (2) break-away mechanism screws (see Figure 8) using a 5/32-inch hex key. Adjust arm to the desired position.

**To adjust the tension at the joints of the arm** (see Figure 8), use a 3/32-inch hex key and turn the arm joint adjustment screws clockwise to increase the tension, counterclockwise to reduce the tension.

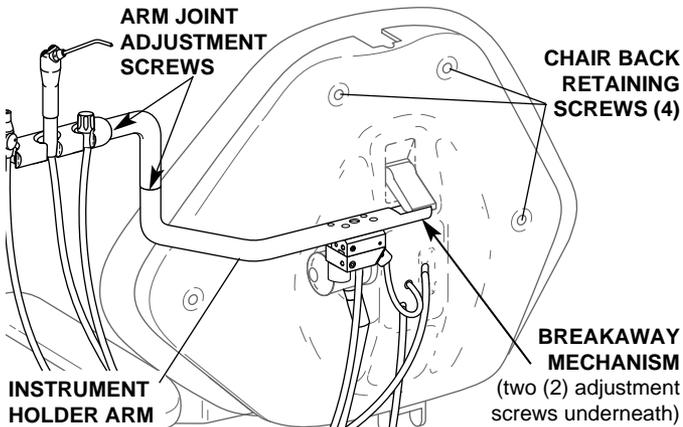
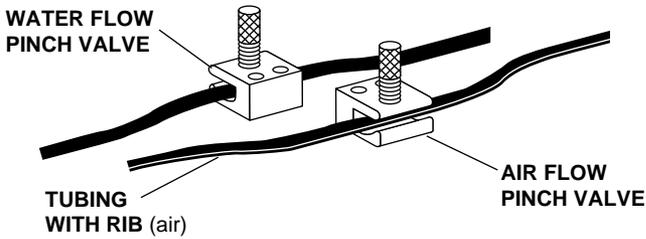


Figure 8. Arm Adjustment

## Syringe Air and Water Pressure Adjustment

Syringe air and water flow are controlled by two pinch valves in the chair back (see Figure 9). Remove the four chair back cover screws, then remove the chair back cover to access the pinch valves (see Figure 8).



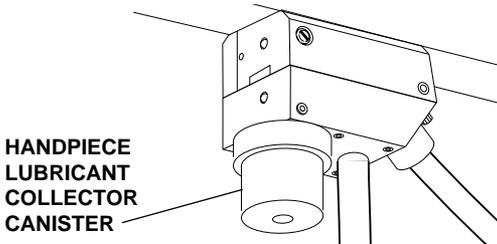
**Figure 9. Syringe Pinch Valves**

Move the Master On/Off toggle to the ON position and make sure there is air and water pressure to the syringe. To adjust the water flow, press the left syringe button and turn the water pinch valve clockwise to decrease flow or counterclockwise to increase flow. A strong water flow is recommended.

Push both syringe buttons (the spray position) and adjust the air flow pinch valve to achieve the desired spray.

## ***Handpiece Lubrication Collector Filter Replacement***

Remove the handpiece lubrication collector canister from the bottom of the handpiece control block by turning the canister counterclockwise. Discard the filter and clean the collector. Fold a standard 2x2 gauze pad in quarters and insert into the canister. Replace the filter every 2 weeks, or as required.



**Figure 10. Handpiece Lubrication Collector**

## **Troubleshooting**

Given proper care, your Decade 1021 Solo Chair will provide years of reliable service. In the event that something does go wrong with the unit, this troubleshooting guide will tell you what to do before calling to have it serviced.

This guide is not intended to isolate every problem that could arise. Rather it is designed so you can quickly identify the problems that can be repaired without special training or equipment.

If the following procedures do not identify and correct the problem, then you should call your authorized A-dec dealer. Any time you call your dealer, be prepared to provide them with this information:

1. Model number\*
2. Serial number\*
3. Symptoms of the problem
4. What action you have taken toward correcting the problem

\*The Solo chair model and serial number tag is located under the seat/toeboard, beside the spring. In all cases, the first four digits on the tag are the model number, the rest of the digits are the serial number.

### **Water Leaks From The Water Cartridge Vent Hole**

1. Has the water cartridge failed?

Yes: Replace the water cartridge with a known good cartridge and retest the unit. Replace the cartridge if necessary.

*If the preceding step failed to correct the problem, contact your authorized A-dec dealer for further recommendations.*

### **Water Leaks From Around The Coolant Water Stem**

1. Is water leaking from around the coolant water flow control stem?

Yes: Replace the flow control and retest the unit.

*If the preceding step failed to correct the problem, contact your authorized A-dec dealer for further recommendations.*

### **Water Leaks From Around The Flush Control**

1. Is water leaking from around the coolant water flow control stem?

Yes: Replace the flush control. Retest the unit.

*If the preceding step failed to correct the problem, contact your authorized A-dec dealer for further recommendations.*

### **Water Drips From The Handpiece When The Foot Control Is Not Activated**

1. Has the water cartridge failed?

Yes: Replace the water cartridge with a known good cartridge and retest the unit. Replace the cartridge if necessary.

No: Go to Step 2.

2. Has the flush control failed?

Yes: Replace the flush control. Retest the unit.

*If the preceding steps failed to correct the problem, contact your authorized A-dec dealer for further recommendations.*

**No Coolant Water From The Handpiece**

1. Is the wet/dry toggle on the foot control in the ON position (towards the blue dot)?  
Yes: Go to Step 2.  
No: Move the toggle to the ON position and retest the unit.
2. Is water reaching the block? Press the flush button on the control block.  
Yes: Go to Step 3.  
No: If the unit is equipped with self-contained water, check the water level in the water bottle. If the unit is plumbed to the municipal water system, check for a plugged water filter in the utility center.
3. Is the coolant water control properly adjusted?  
Yes: Go to Step 4.  
No: Adjust the water coolant control for proper flow and retest the unit. Refer to page 4.
4. Is there coolant water signal air coming from the foot control? Remove the green short dashed tubing from the control block and depress the foot control.  
Yes: Go to Step 5.  
No: Trace the coolant water signal air tubing to the foot control and check for crimped tubing or a defective foot control relay.
5. Has the water cartridge failed?  
Yes: Replace the water cartridge. Retest the unit.  
No: Go to Step 6.
6. Has the water cartridge diaphragm failed?  
Yes: Replace the water cartridge diaphragm and retest the unit.  
No: Remove the control block cap and large diaphragm. Check for plugged passages.

***If the preceding steps failed to correct the problem, contact your authorized A-dec dealer for further recommendations.***

## **The Handpiece Will Not Run or Has Inadequate Speed**

1. Is the drive air flow adjusted properly?  
Yes: Go to Step 2.  
No: Adjust the drive air for proper flow and retest the handpiece. Refer to page 6.
2. Is the control block cap leaking?  
Yes: Tighten the control block cap screws and retest the unit. If leaks still occur, remove the cap and inspect the large control block diaphragm. Replace if necessary.  
No: Go to Step 3 on page 15.
3. Is there adequate air supply to the unit? Verify that instrument air is minimum: 1.5 CFM @ 35 PSI, for high-speed handpiece; and 3.0 CFM @ 40 PSI for a slow-speed handpiece.  
Yes: Go to Step 4.  
No: Adjust the air supply to the recommended minimum PSI of your handpiece.
4. Is the drive air (orange with black dashes) tubing kinked? Trace the drive air tubing from the control block to the foot control.  
Yes: Fix any kinked or pinched tubing and retest the unit.  
No: Go to Step 5.
5. Has the foot control failed?  
Yes: Repair or replace the foot control. Be sure to turn off air supply to the unit before removing the foot control cover. If the air supply is not turned off, serious injury could occur.  
No: Go to Step 6 on page 16.

**The Handpiece Will Not Run or Has Inadequate Speed** *(continued from page 15)*

6. Has the air regulator or pre-regulator failed or require adjustment?  
Yes: Replace or adjust the regulator or pre-regulator and retest the unit.  
No: Go to Step 7.
7. Is the air filter in the utility center plugged?  
Yes: Replace the filter and retest the unit.  
No: Call your A-dec authorized service technician for assistance.

***If the preceding steps failed to correct the problem, contact your authorized A-dec dealer for further recommendations.***

**No Coolant Air At The Handpiece**

1. Is the coolant air flow adjusted properly?  
Yes: The handpiece may be plugged on the handpiece tubing may be kinked, pinched, or damaged. Inspect the handpiece and handpiece tubing. Replace if necessary.  
No: Adjust the coolant air for proper flow and retest the unit.

***If the preceding step failed to correct the problem, contact your authorized A-dec dealer for further recommendations.***

**No Air from the Syringe**

1. Is the Master On/Off toggle in the ON position?  
Yes: Proceed with Step 2.  
No: Move the toggle to the ON position and retest the unit.
2. Is the compressor on and operating properly?  
Yes: Go to Step 3 on page 17.  
No: Correct any problems in the compressor, then retest the unit.

**No Air from the Syringe** *(continued from page 16)*

3. Is the manual air shutoff valve in the floor box fully OPEN (turned fully counterclockwise)?

Yes: Go to Step 4.

No: Turn the valve fully counterclockwise, then retest the unit.

4. Is the syringe air flow pinch valve closed?

Yes: Turn the air flow adjustment counterclockwise to the desired flow. Retest the unit.

No: Look for pinched or crimped tubing between the floor box and the syringe.

***If the preceding steps failed to correct the problem, contact your authorized A-dec dealer for further recommendations.***

**No Water from the Syringe**

1. Does the Indicator on the floor box turn red when the Master On/Off toggle is in the ON position?

Yes: Go to Step 2.

No: Make sure signal air is reaching the air-actuated water shutoff valve. Look for pinched or crimped signal air tubing.

2. If the unit has a self-contained water supply, is the bottle empty?

Yes: Fill the water bottle.

No: Go to Step 3.

3. Is the manual water shutoff valve in the floor box fully OPEN (turned fully counterclockwise)?

Yes: Go to Step 4 on page 18.

No: Turn the valve fully counterclockwise, then retest the syringe.

**No Water from the Syringe** *(continued from page 17)*

4. Is the screen clogged? Turn off the water at the manual water shutoff valve in the floor box. Remove the screen from the outlet of the manual water shutoff valve and inspect the screen.  
Yes: Clean the screen and retest the syringe.  
No: Look for pinched or crimped tubing between the floor box and the syringe.
5. Is the syringe water flow pinch valve closed?  
Yes: Turn the water flow adjustment screw counter-clockwise to the desired flow, then retest the unit.  
No: Look for pinched or crimped tubing between the floor box and the syringe.

***If the preceding steps failed to correct the problem, contact your authorized A-dec dealer for further recommendations.***

**Inadequate or No Vacuum**

1. Is the central vacuum turned on?  
Yes: Go to Step 2.  
No: Turn on the central vacuum and retest.
2. Remove and inspect the solids collector screen *(refer to page 8)*. Is the screen clogged with debris?  
Yes: Clean the screen and retest.  
No: The vacuum supply to the Decade 1021 Solo Chair is clogged. Contact your authorized A-dec dealer for assistance.

***If the preceding steps failed to correct the problem, contact your authorized A-dec dealer for further recommendations.***



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