

## INJECTION UNIT SET-UP:

Attach the Air Line.

- Select an appropriate air fitting coupler and adapter to attach to the end of the 1/4" air hose.
- Use the hose clamps provided to securely tighten both ends of the hose to the air-fitting hardware.

Set Air Pressure to 75psi.

- Depress the activation switch on the front of the unit to the full down position. As the piston drive moves down, set the unit's air pressure to 75psi by turning the black PSI Fine-Adjustment air pressure knob on the back of the unit.

**NOTE:** The setting must be made while the piston drive is in motion.

- Once the air pressure has been set, lock the PSI Fine Adjustment knob and depress the top half of the activation switch to the full up position to retract the piston drive.

Select and Position the Flask Adapter in the Base of the Unit.

- The Flask Adapter is designed with a 1-1/4" thick metal base and an angled side plate to help position and seat the Injection Flask in the unit. Place it in the base of the unit, fitting the two metal positioning pins into the corresponding wells in the base of the unit.

## DIRECTIONS FOR USE:

**NOTE:** A 3-Part Investing Technique is incorporated into these instructions.

**NOTE:** Injection Flask halves are numbered to identify them as specific mated pairs. For best results, always match top and bottom halves of each Injection Flask via their matching numbers.

Embed the Lower Half of the Injection Flask.

- Apply a generous layer of release agent (petrolatum) to the inside of the Injection Flask.
- Position the pin half of the black Space Maintainer into the injection cavity, at the back of the flask, pins facing up.
- Position the metal Leveler with the side labeled "1" facing up.
- Place the Injection Flask on the Leveler to ensure an even dispersion of investment in the Injection Flask.
- Cover the deflasking hole in the center of the Injection Flask with two pieces of moist paper towel, or plug it with wax.
- Mix investment as directed and embed the cast and wax-up in the Injection Flask (pour #1).  
Place the cast as far as possible toward the back of the Injection Flask, close to the black Space Maintainer.
- IMPORTANT: REMOVE ALL EXCESS INVESTMENT FROM THE FLAT AREA OF THE INJECTION FLASK.**
- Place the remaining half of the black Space Maintainer on top of the bottom half, aligning the pin holes with the protruding metal pins.

Position the Injection Sprues.

- Eliminate undercuts on the investment.
- Use Success Sprue Wax Sticks (#904584) to build the injection sprues. If Success Sprue Wax Sticks are not used, build sprues no larger than 7mm diameter.  
**NOTE:** On upper dentures, attach the sprue to the posterior border of the denture. For lower full dentures, two injection sprues are needed - one to each lingual extension.

## Directions For System Usage

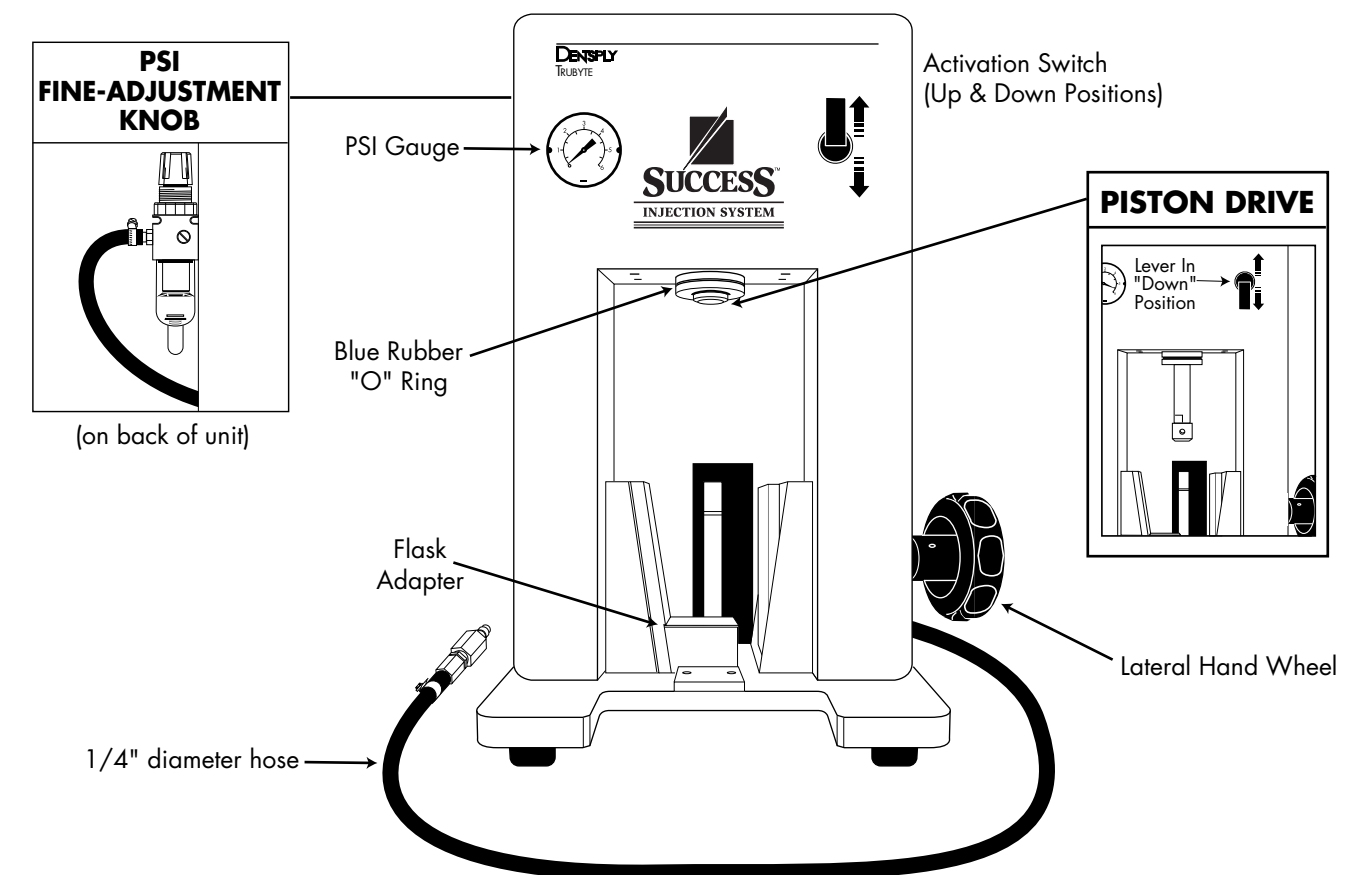


using Lucitone 199® Denture Base Resin

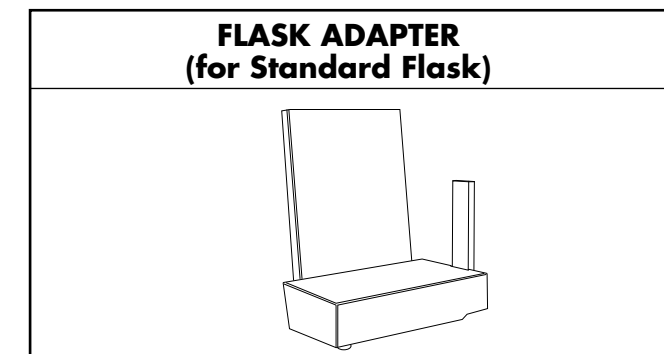
**GENERAL DESCRIPTION:** The Success™ Injection System by DENTSPLY Trubyte is designed for fabrication of dentures and other removable prostheses using Lucitone 199®, Hy-Pro Lucitone®, Characterized Lucitone® Denture Base Resin, and Lucitone® Clear Dental Resin.

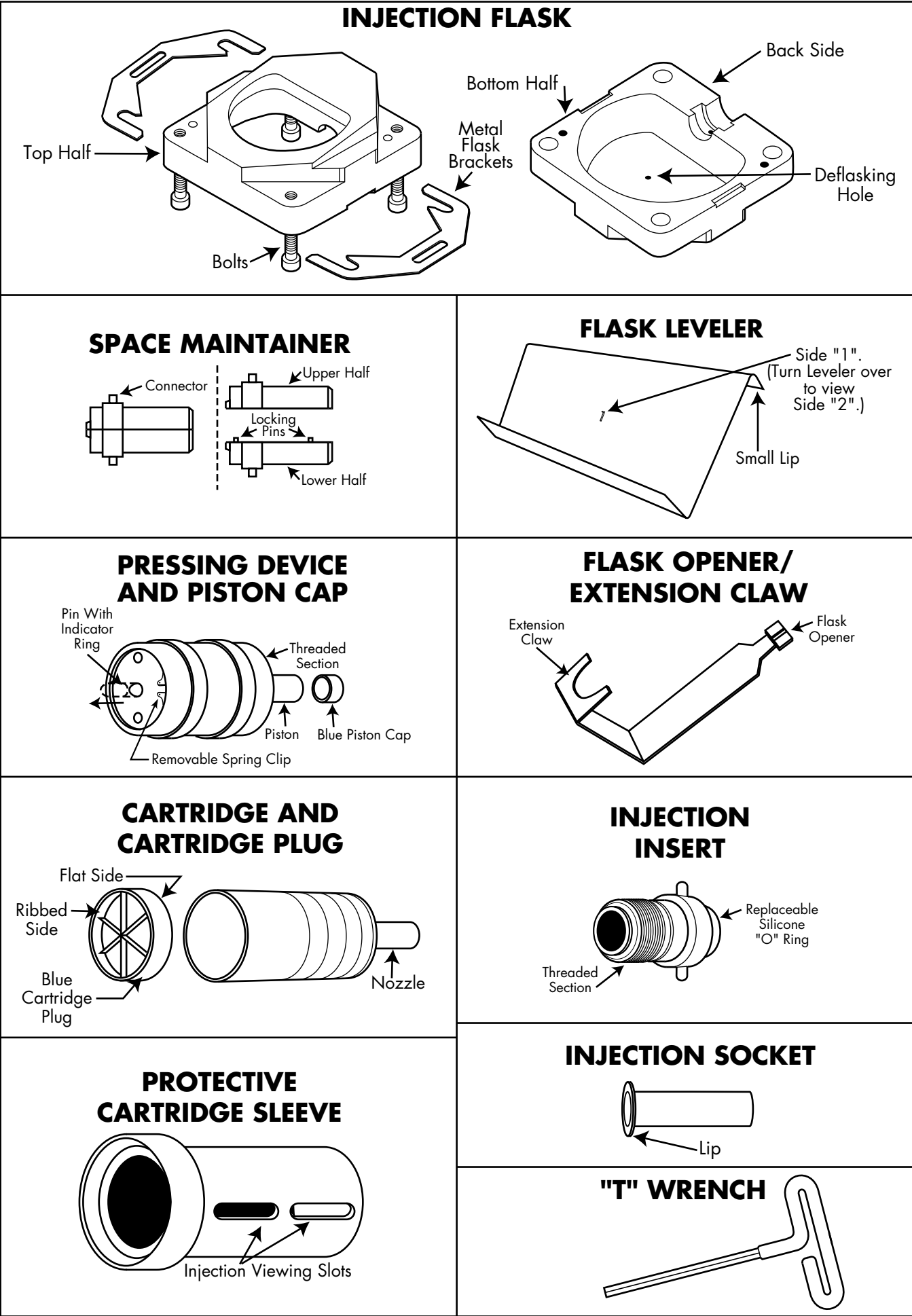
The Success Injection System consists of the Injection Unit, Injection Flasks, and the accessory components shown in the following illustrations.

### INJECTION UNIT



### FLASK ADAPTER (for Standard Flask)





- Embed the Upper Half of the Injection Flask.
- Apply separator to the investment.
  - Position the top half of the Injection Flask on the bottom half.
  - Ensure complete closure, with intimate metal contact between each half of the Injection Flask. Position the metal Flask Brackets and tighten the bolts with the "T" wrench using moderate pressure. Do not overtighten.
  - Position the metal Leveler with the side labeled "2" facing up.
  - Place the closed Injection Flask on the Leveler.
  - Mix investment and pour it in the Injection Flask, up to the occlusal surface of the teeth (pour #2).
  - Allow pour #2 to set-up. Apply a separator such as sodium silicate (or another alginate) or petrolatum separator over pour #2. (A separator plate may be used as an alternative.)
  - Pour additional investment on top of the separator to fill the Injection Flask (pour #3).  
**NOTE:** Before the final pour sets, remove all excess investment with a plaster knife or spatula. Level the investment surface to match the wedge shape of the Injection Flask to ensure proper fit into the injection machine. Allow the investment to set completely before boil out, using investment instructions as a guideline.
- Boil out
- Loosen the bolts on the Injection Flask and remove the Metal Flask Brackets.
  - Place the Injection Flask in boiling water for 4 - 6 minutes to soften the wax.
  - IMPORTANT: OPEN THE INJECTION FLASK AND REMOVE THE BLACK SPACE MAINTAINER FROM THE INJECTION FLASK.**
  - Complete the boil out procedure by removing and discarding all wax. Flush and clean thoroughly.
  - Bevel the stone around the mouth of the sprue with a lab knife to facilitate the flow of the acrylic from the injection port.
  - Check the Injection Flask margin and cavities.
  - To insure a tight fit, remove any residual stone to make sure that surfaces on both sides of the Injection Flask make intimate contact

- Apply Separator.
- While still hot, apply two layers of alginate separator, such as Trubyte Al-Cote® Separator, to all gypsum surfaces. Allow Injection Flask to cool to room temperature.
- Position Injection Insert
- In the space previously held by the black Space Maintainer, place the metal Injection Insert into the back of the Injection Flask. Slide the plastic Injection Socket into the metal Injection Insert as far as possible. The lip of the plastic Injection Socket should rest flush against the rim of the metal Injection Insert.
  - Close the Injection Flask, position the metal Flask Brackets and tighten the bolts with the "T" wrench. Avoid excessive pressure.
- Mix the Acrylic.
- Shake the Lucitone 199 denture resin with a rocking motion to ensure good dispersion of all particles and pigments.
  - Use the powder / liquid vials to measure sufficient resin and liquid for the case.  
Refer to the following powder / liquid ratio chart:
- | CASE               | L199 POW DER | LUCITONE LIQ UID |
|--------------------|--------------|------------------|
| Average Full Upper | 23g (35cc)   | 11 ml            |
| Extra Large Case   | 28g (42cc)   | 13 ml            |
| Small Full Upper   | 17g (26cc)   | 8 ml             |
| Partial            | 12g (19cc)   | 6 ml             |
- NOTE:** The maximum powder / liquid that the injection cartridge can hold is 38g (56cc) powder: 17.5ml liquid.
- Stir L199 powder / liquid approximately 15 seconds to assure sufficient wetting of all powder particles. Do not overmix.
  - Cover mixing jar and allow material to reach "soft pack" stage, approximately 6 minutes at room temperature of 73F° ± 2°F (23°C ± 1°C).  
**NOTE:** For success during injection, do not allow material to reach the "snap" stage.
  - IMPORTANT:** Please refer to the Lucitone 199 Denture Resin in-package directions for complete product specifications, storage information, cautions, and MSDS information.

### Load the Injection Cartridge.

- Load the Lucitone 199 into the plastic Injection Cartridge. Filled to capacity, the Injection Cartridge will hold enough denture resin to inject two average-sized maxillary dentures.
- Insert the blue plastic Cartridge Plug into the large open end of the cartridge. The flat side of the plug will touch the denture material (the ribbed side of the plug will fit against the piston in the Injection Unit).
- Eliminate air by manually pushing the blue Cartridge Plug in as far as possible, compressing the material.

### Place the Injection Cartridge into the Injection Flask.

- Insert the nozzle of the filled plastic Injection Cartridge into the plastic Injection Socket until it seats on the lip of the Injection Socket.
- Place the metal Protective Cartridge Sleeve over the Injection Cartridge. The Injection Flask is now ready to be placed in the Injection Unit.

### Position Injection Flask in Unit for Injection.

- Place the Injection Flask into the Injection Unit, ensuring that the bolts and Flask Brackets face toward the Lateral Hand Wheel.
- Position the open slots on the Protective Cartridge Sleeve facing out toward the front of the unit.
- Push the Protective Cartridge Sleeve up as far as possible toward the cross head at the top of the unit.
- Seat the Protective Cartridge Sleeve around the blue rubber "O" ring to hold in place for injection; the Injection Flask is now centered properly.
- Lightly turn the hand wheel until the right lateral support is just touching the Injection Flask; any tightening of hand wheel can result in misalignment.

### Inject the Resin.

- Initiate the injection process by depressing the activation switch on the Injection Unit.
- The Injection Piston will push against the blue Cartridge Plug to inject the denture resin into the Injection Flask.

- To ensure that the mold is completely filled, continue to inject until the blue Cartridge Plug stops moving, visible through the open viewing slots in the Injection Cartridge sleeve. NOTE: Injection of Lucitone 199 Denture Base Resin may take from 1 to 3 minutes.
- When injection is complete, retract the Injection Piston by flipping up the unit's activation switch to achieve a full up position.
- Loosen the Lateral Hand Wheel and remove the Injection Flask from the machine.
- Remove the Protective Cartridge Sleeve and pull the Injection Cartridge out of the Injection Flask with a slight twisting motion.  
IMPORTANT: The plastic Injection Socket must remain in the metal Injection Insert. If it slides out as you remove the cartridge, simply reposition it in the metal Injection Insert.

### Place the Pressing Device into the Injection Flask.

- Fit the small blue plastic Piston Cap onto the end of the Pressing Device Piston.
- Place the Piston of the Pressing Device into the plastic Injection Socket at the back of the Injection Flask.
- Screw the Pressing Device onto the metal Injection Insert only until the etched groove on the pin becomes visible at the top of the Pressing Device. The Pressing Device applies continuous pressure to the material feeding into the Injection Flask during cure. Tightening the Pressing Device beyond the etched groove may cause premature spring tension fatigue.

### Bench Set

- To ensure a good bond of the denture base to the teeth, bench set the Injection Flask for 30 minutes prior to curing in the hot water tank.

### Heat Cure.

- Submerge the closed Injection Flask in water at  $163^{\circ}\text{F} \pm 2^{\circ}\text{F}$  ( $73^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ) for 1-1/2 hrs.
- Follow with an additional 30-minute boil.  
NOTE: A periodic check of water bath temperature with an accurate thermometer is recommended.
- An alternate long-cure: 9 hours in a water bath of  $163^{\circ}\text{F} \pm 2^{\circ}\text{F}$  ( $73^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ). No boil necessary.

### Cool.

- Remove the Injection Flask from the cure tank and allow to air cool for approximately 30 minutes.
- Place the Injection Flask in a lukewarm water bath to cool completely.

### Divest the Denture.

- Unscrew the Pressing Device.
- Loosen the bolts on the Injection Flask with the "T" Wrench and remove the metal Flask Brackets.
- Remove the investment from the bottom half of the Injection Flask by shooting compressed air through the stone deflasking hole.  
CAUTION: The investment may pop easily out of the Injection Flask. Use caution.  
NOTE: The Flask Opener Tool may also be used to separate the top half of the Injection Flask from the bottom.
- Remove the investment from the upper half of the Injection Flask.  
NOTE: Use of an air chisel to remove gypsum from the flask cavity is not recommended, as it could damage the surface of the flask cavity.
- Divest the denture and cast from the bulk of the stone.
- Remove the metal Injection Insert and extract the plastic Injection Socket.  
NOTE: Do not completely depress the Pressing Device spring in an attempt to expel the sprue from the socket. Discard the plastic Injection Socket and clean the metal Injection Insert for the next use.

### Finishing and Polishing.

- Cut off the injection sprue.
- Finish and polish the denture in a conventional manner.

### TROUBLESHOOTING:

#### PISTON MAINTENANCE:

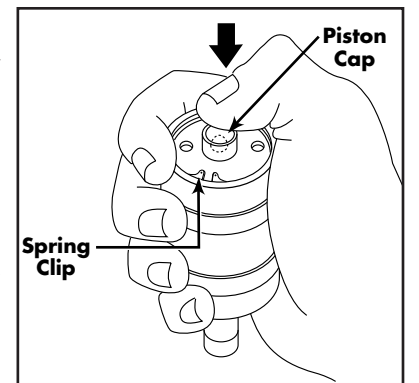
When the system is not in operation, maintain the piston in the UP position. If the Piston requires cleaning, dry-wipe only. Use of solvents is not recommended.

#### REPLACING THE AIR HOSE TUBING:

The pneumatic system within the Success Injection Unit is installed with "Quick Star" (quick disconnect) fittings. If the need arises to replace an air hose tube, first turn off the air line. Next, push the tube and blue ring in firmly, then pull back to remove the tube from its fitting. Installing the replacement air hose tube is a straight forward process of firmly pushing the tube and blue ring into the fitting.

#### REPLACING THE COIL SPRING IN THE PRESSING DEVICE:

With Pressing Device in one hand (spring clip and lid piece facing up), place small, blue plastic piston cap over rounded end of pressing piston. Push piston cap and lid piece down about 1/16" with thumb against coil spring tension. With other hand, remove spring clip with spring clip key wrench available at most hardware stores. Carefully allow lid piece, which is under spring pressure, to slide up and out. Remove coil spring. Use this same thumb/cap method to replace coil spring, lid piece and spring clip.



FOR ADDITIONAL TROUBLESHOOTING HELP  
OR EQUIPMENT REPAIR SERVICE, PLEASE CALL:

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DENTSPLY International Inc.  
York, PA 17405-0872

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