Date: 24-Aug-15.

Revision date: 11-Sep-15

Tom Thumb resuscitation unit valve servicing manual

Adjustable valve

Precision valve

CE 0086

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This manual is intended to provide information to help qualified maintenance personnel service and repair the Tom Thumb Infant resuscitation units – adjustable and precision valves. Basic engineering knowledge and the ability to follow technical instructions are assumed, as are knowledge of oxygen flow rates and the characteristics of operational pressures.

The equipment needed to service the Tom Thumb valves are laid down in this service manual. In addition a calibrated manometer will be required for test and calibration of the units. Diagrammatic representations of disassembly and re-assembly are shown in this service manual.

Servicing personnel must be aware of the potential clinical implications of incorrectly serviced equipment.

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1) Introduction

Service of the Tom Thumb resuscitation unit – adjustable and precision valves.

The Tom Thumb has been designed to require minimal service with very few replaceable items. The accuracy of the pressure gauge, adjustable valve and precision valve should be checked at least every 12 months or when the gauge at zero pressure reads outside the black band.

It is recommended that all O-rings should be replaced every year.

The adjustable valve has no user replaceable parts or parts that should suffer from wear. Adjustment by the user is not recommended as specialist tools are required to dismantle and reset. Should the user require in-house servicing of the adjustable valve, then full service kits are available from Viamed.

Setting of the adjustable valve pressure when carried out in accordance with the relevant procedure will ensure accuracy to ±1 cmH_20.

The precision valve is factory pre-set and sealed. Adjustment by the user is not recommended as specialist tools are required to dismantle and reset. Should the user require in-house servicing of the precision valve, then full service kits are available from Viamed.

The precision valve pressure may have been set at manufacture to 20, 30, 40 & 50 cmH_20 to a tolerance of ±1 cmH_20, dependent on customer requirements. Setting of the precision valve, when carried out in accordance with the relevant procedure, will ensure accuracy to ±1 cmH_20

If the setting of either the adjustable valve or the precision valve is proven to be outside the required tolerance then Tom Thumb should be returned to Viamed for servicing. Both valves require specialist tooling to dismantle and reset.

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2) Servicing: Adjustable valve

Important: Use only oxygen-compatible grease and adhesive during assembly of Tom Thumb adjustable valves. Do not use or allow organic greases to enter the Tom Thumb or accessories. Ensure all parts are clean before assembly.

Tools required.	7/8 A/F spanner 20-35mm pin spanner Ring insertion tool 3.0*0.5mm flat blade screw driver Pick

1) Unscrew the adjustable valve seating and remove any residual adhesive.

2) Remove the valve seat and spring from the valve body. Clean the seat and spring.

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3) Remove the centre screw from the internal stop.

4) Unscrew the three side screws from the adjustable valve body.

5) Remove the valve adjuster, with the internal stop, from the valve body.

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6) Unscrew the adjustable valve internal stop from the adjustable valve screw and clean it. Re-grease the thread of the adjustable valve screw. Screw on the internal stop to ¾ of the way down the adjuster thread.

7) Remove adjustable valve collar and remove any residual adhesive.

8) Screw in the adjustable valve collar into the threaded end of the valve body, until visible through the slot in the body.

9) Insert the valve adjuster and internal stop in to the adjustable valve body.

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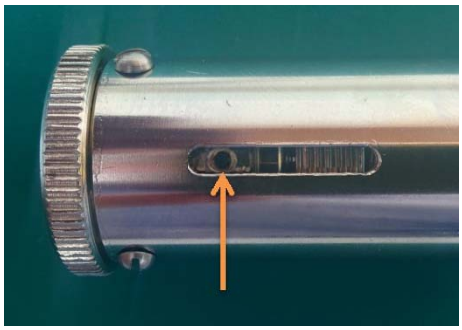
10) Screw the side screws into the adjustable valve body.

11) Turn the adjuster until the threaded hole, in the internal stop, is visable throught the slot in the valve body.



12) Screw in the centre screw, until flush with the valve body.

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13) Insert the valve spring into the body and over the adjustable valve screw.

14) Lightly grease the spindle of the valve seat and insert through the spring. Ensure that the spindle engages with the hole in the adjustable valve screw

15) Screw on the adjustable valve seating.

16) Ensure the unit is clean prior to assembly with the Tom Thumb.

Set up the adjustable valve: See the appropriate Tom Thumb service manual for setting up the adjustable valve.

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3) Servicing: Precision valve

Tools required.	7/8 A/F spanner 20-35mm pin spanner Flat blade screw driver

Important: Use only oxygen-compatible grease and adhesive during assembly of Tom Thumb adjustable valves. Do not use or allow organic greases to enter the Tom Thumb or accessories. Ensure all parts are clean before assembly.

1) Unscrew the valve seating from the precision valve body and remove any residual adhesive.

2) Remove the valve seat.

3) Remove the spring and any residual adhesive from the precision valve body.

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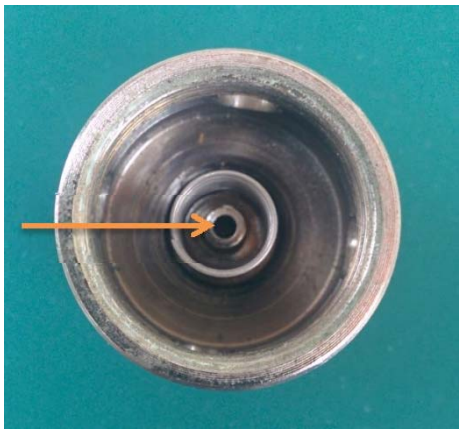
4) Remove valve adjustable screw and any residual adhesive.

5) Screw in the adjustable screw

6) Lightly grease the spindle of the valve seat and replace the spring.

7) Place the valve seat on top of the spring. The spindle will need to go through the hole at the bottom.



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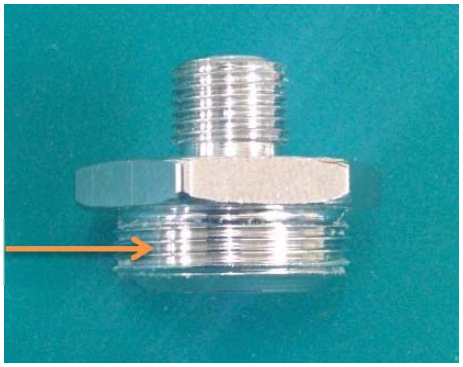
8) The valve seat should sit on top of the spring with the spindle in the hole at the bottom.

9) Apply oxygen compatible adhesive to the thread of the valve seating.



10) Screw on the valve seating on the precision valve body. Ensure the unit is clean prior to assembly with the Tom Thumb.

Set up the precision valve: See the appropriate Tom Thumb service manual for setting up the precision valve.