TOM THUMB RESUSCITATION UNIT (TT400 SERIES)

SERVICING MANUAL

ADJUSTABLE & PRECISION VALVES

ADJUSTABLE VALVE

PRECISION VALVE

CE 0086

INDEX

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.

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 ± 2 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 ± 2 cmH_20, dependent on customer requirements. Setting of the precision valve when carried out in accordance with the relevant procedure will ensure accuracy to ± 2 cmH_20.

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

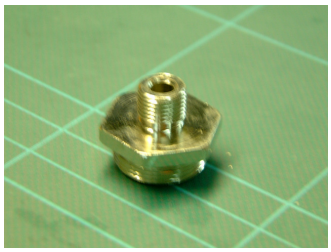
2. 0330211 Tom Thumb Adjustable Valve Servicing.

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.

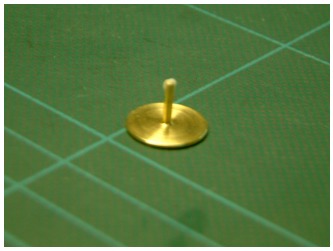
Equipment required. Small and medium flat blade screwdrivers, insertion tool, adjustable spanner (or 7/8 A/F spanner), toothbrush, isopropyl alcohol, clamping tool, oxygen-compatible grease and oxygen-compatible adhesive.

Servicing.

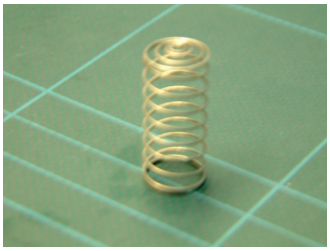
1. Unscrew the adjustable valve seating and clean seating of old adhesive.

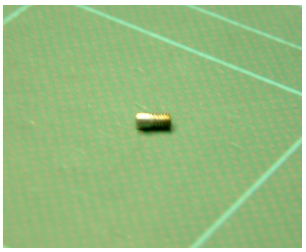

2. Remove the adjustable valve seat and clean it.



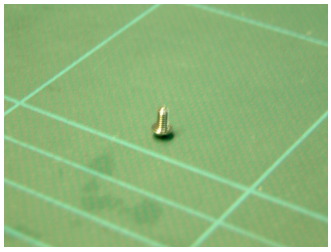

3. Remove the adjustable valve spring from the valve body and clean it.




4. Remove the centre screw from the internal stop.



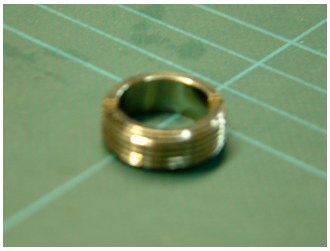

5. Unscrew the side screws from the adjustable valve body.

6. Remove the valve base & internal stop from the adjustable valve body & collar.

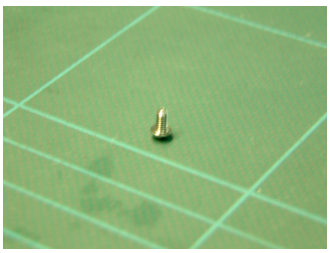

7. Unscrew the adjustable valve internal stop from the adjustable valve screw and clean it. Re-grease the thread and base of the adjustable valve screw and screw on the internal stop, ¾ down the base thread.


8. Remove adjustable valve collar and clean old adhesive from valve body. Screw in the adjustable valve collar into the threaded end of the valve body until just visible through the closest end of the slot in the body.

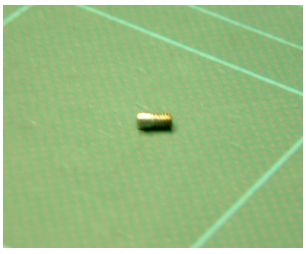



9. Insert the valve base & internal stop in the adjustable valve body & collar.

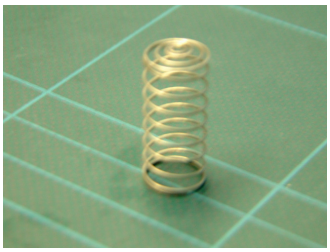
10. Screw in the side screws in to the adjustable valve body.



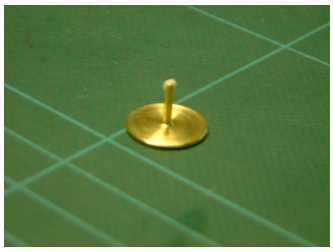

11. Gradually turn the adjustable valve screw until the threaded hole in the internal stop is visible through the slot in the body. Fix in place with a centre screw, fully flush with the body.

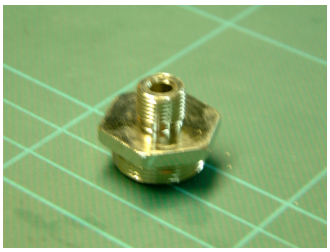

12. Insert the valve spring into the body, over the adjustable valve screw.




13. Lightly re-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.




14. Screw on the adjustable valve seating.




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

Set up the adjustable valve:

See appropriate Tom Thumb service manual for setting of adjustable valve.

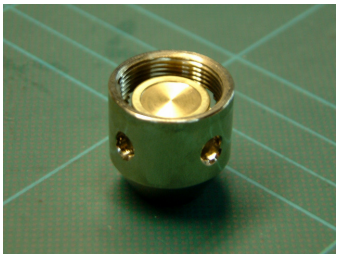
3. 0330210 Tom Thumb Precision Valve Servicing.

Important: Use only "O_2 Compatible" grease and adhesive during assembly of Tom Thumb Precision Valves. Do not use or allow organic greases to enter the Tom Thumb or accessories. Ensure all parts are clean before assembly.

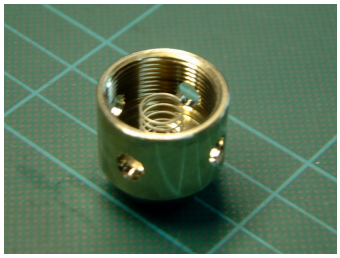
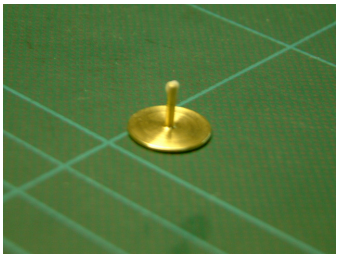
Equipment required. Small flat blade screwdriver, 6mm flat blade screwdriver, adjustable spanner (or 7/8 A/F spanner), toothbrush, isopropyl alcohol, clamping tool, oxygen-compatible grease and oxygen-compatible adhesive.

Servicing.

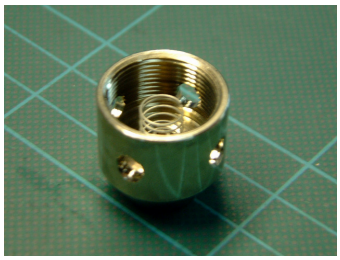
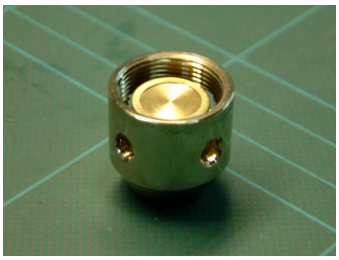
1. Unscrew the valve seating from the precision valve body and clean seating of old adhesive.

2. Remove the valve seat, clean and lightly re-grease the valve seat spindle. Remove spring and clean old adhesive from precision valve body. Remove valve adjustable screw and clean off old adhesive.

3. Replace valve adjustable screw and insert spring and valve seat spindle through the spring and into the precision valve adjustable screw.

4. Apply oxygen compatible adhesive and screw on the valve seating on the precision valve body.


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

Set up the precision valve:

See appropriate Tom Thumb service manual for setting of precision valve.