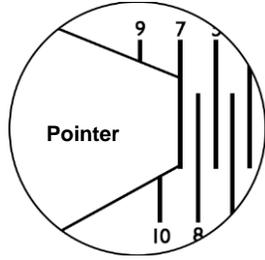
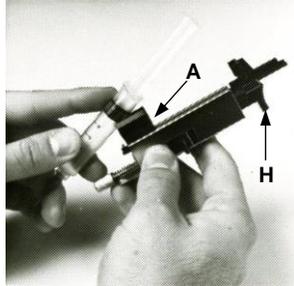


1 Set the pointer to the desired volume. The pointer should touch, but not overlap, the calibration mark.

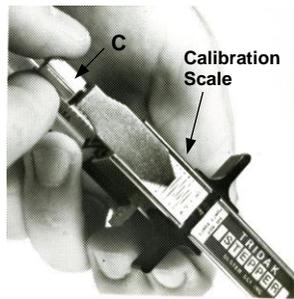
See "STEPS" specification in chart on back of instructions for volume calibration of each model.



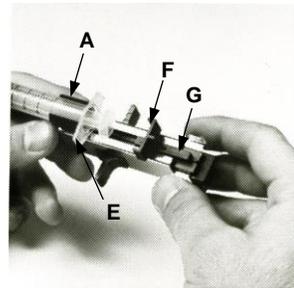
2 Snap an empty syringe into the STEPPER's syringe clip (A). Pull the syringe body down to ensure that the syringe tabs fit snugly against the syringe clip (A).



3 Confirm the volume adjustment. While holding the pusher (F) lightly against the syringe plunger, push the dispense button (H) twice. Release it slowly after the second stroke. The number of clicks should be equal to the number on the calibration scale. Use the adjustment screw (C) if the volume needs to be adjusted.



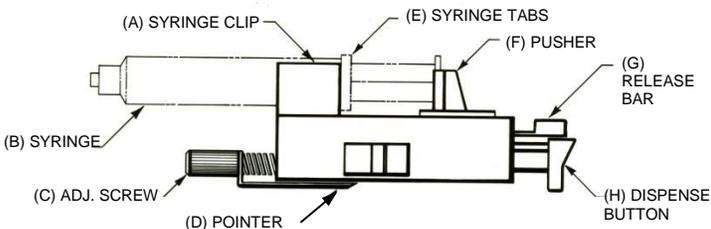
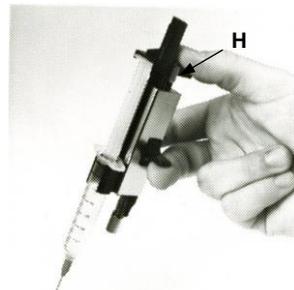
4 Push the release bar (G) and remove the syringe. Fill the syringe and then place it back inside the STEPPER with the syringe tabs (E) against the clip (A). Pull back the release bar to engage. Slide the pusher (F) so that it contacts the syringe plunger. Commence dispensing, but **do not use first shot.**



5 For accurate volumes, push the dispense button (H) firmly and touch the dispense tip to the surface to transfer drop.

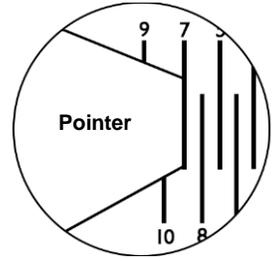
Note: Do not use first shot.

Stop dispensing before the syringe plunger reaches the bottom of the syringe barrel. If the syringe plunger reaches the bottom, a complete stroke may not be dispensed on the last shot. Refill the syringe by repeating Step 4.

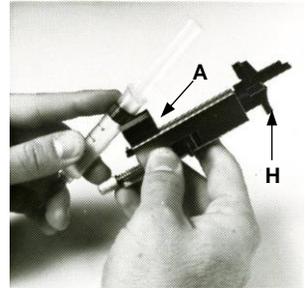


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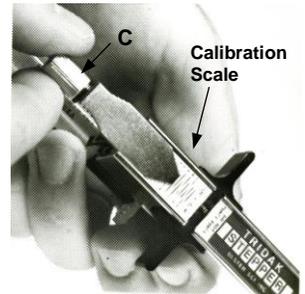
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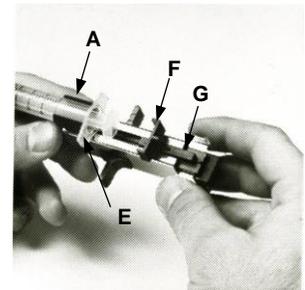
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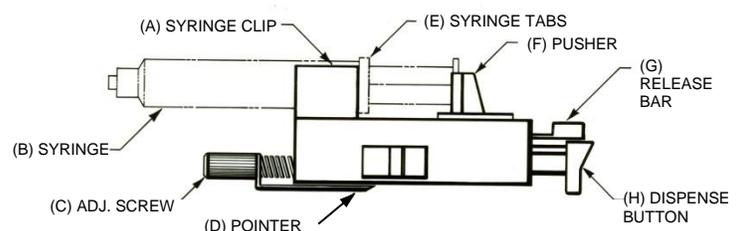
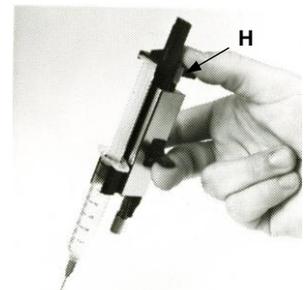
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STEPPER™ Repetitive Pipette

PART NUMBER	SYRINGE	NEEDLE GAUGE	SHOT RANGE	STEPS	ACCURACY	REPEATABILITY
T15469	1 mL	21	0.01 - 0.10 mL	0.01 mL	± 5%	± 2.5%
T15471	3 mL	21	0.05 - 0.25 mL	0.05 mL	± 2%	± 2%

Notes:

1. Accuracy based on use of Becton Dickinson and Co. Plastipak Syringes.
2. Accuracy measured at smallest volume setting (using distilled water). Accuracy is more precise at larger volume settings.
3. The *STEPPER* repetitive pipette may be set only at specific volumes. For example, T15470 may be set to dispense 0.025, 0.05, 0.75, or 0.10 mL. It cannot be set at other volumes.
4. Repeatability – Flow coefficient (C_v) at smallest volume setting with distilled water.
5. For laboratory use only.

Troubleshooting

Problem: Syringe will not snap into the syringe clip (A).

Solution: Push release bar (G) in to free pusher (F). Manually move pusher (F) out of the way.

Problem: The pusher (F) does not move when the dispense button (H) is pushed.

Solution: Pull the release bar (G) out to engage the dispense button (H).

Problem: *STEPPER* occasionally dispenses one increment too much.

Solution: Test adjustment (see Step 1 for instructions).

Problem: Accuracy does not meet specification.

Solution: Press dispense button (H) firmly to stop. Touch syringe tip to surface to transfer complete drop. Syringes become less accurate with repeated use. For maximum accuracy use the syringe once and discard it. A syringe is most repeatable when all shots are dispensed in one operation. Discard the first shot if the syringe is allowed to set for one minute or more.

Problem: Pusher (F) sticks or moves with difficulty.

Solution: Push release bar (G) in to unlock pusher (F). Remove cotter pin on end of pusher (F) and pull pusher (F) from *STEPPER*. Clean with any lab solvent. Replace pusher and install cotter pin.

Pusher (F) must be replaced if bent or damaged in any way.

General Safety Considerations

All users of Dymax fluid dispensing equipment should read and understand these instructions before assembling and using the equipment.

To learn about the safe handling and use of dispensing fluids, obtain and read the MSDS for each fluid before using the fluid. Dymax includes an MSDS with each adhesive sold. MSDS for Dymax products can also be requested through the Dymax website.

Personal Protective Equipment

Operators are recommended to wear any personal protective equipment specified by their company's safety policy for the materials used during dispensing. Personal protective equipment should be in place and used at all times when handling any potentially hazardous materials.



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