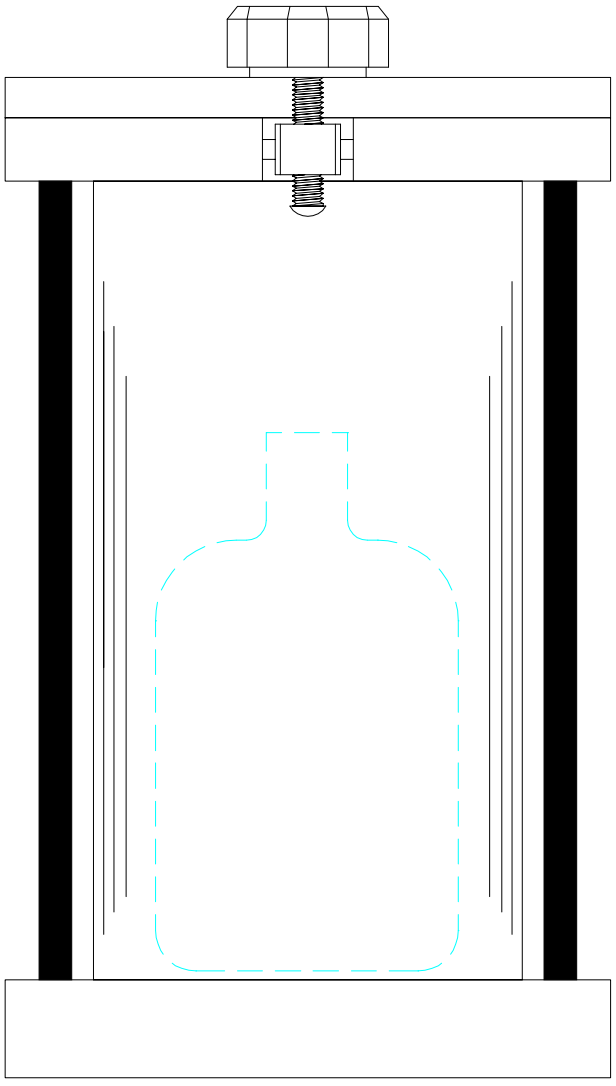
TS1251 PRESSURE DISPENSER
USER'S MANUAL



TECHCON SYSTEMS INC.

TABLE OF CONTENTS

1.0 CAUTIONS AND WARNINGS

CAUTIONS

- 30 PSI (2 BAR) MAX PRESSURE
- EYE PROTECTION REQUIRED
- DO NOT ATTEMPT TO OPEN LID UNTIL INTERNAL AIR PRESSURE IS RELEASED.
- LID KNOB MUST BE HAND TIGHTENED ONLY.

WARNINGS

READ THE MATERIAL SAFETY DATA SHEETS FOR SPECIAL PRECAUTIONS FOR THE SPECIFIC MATERIAL BEING DISPENSED. WEAR PROTECTIVE SAFETY EQUIPMENT AS SPECIFIED IN THE MATERIAL SAFETY DATA SHEETS.

CHECK WITH FACTORY IF UNSURE ABOUT DISPENSING MATERIALS OTHER THAN CYANOACRYLATE.

CYANOACRYLATE ADHESIVES ARE SEVERE EYE IRRITANTS AND SKIN BONDERS. IMMEDIATE BONDING OF EYES, SKIN OR MOUTH MAY OCCUR UPON CONTACT. THESE ADHESIVES MAY CAUSE PERMANENT EYE DAMAGE.

AVOID EYE, MOUTH AND SKIN CONTACT. USE FULL COVER SAFETY GLASSES. AVOID BREATHING ADHESIVE VAPORS. PROVIDE ADEQUATE VENTILATION.

IF EYE BECOMES BONDED, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CALL A PHYSICIAN. IF THE EYE IS STUCK SHUT, DO NOT FORCE OPEN.

IF SKIN BONDED, QUICKLY SOAK IN WARM WATER. DO NOT USE EXCESSIVE FORCE TO FREE BONDED AREA.

WHEN USING FLAMMABLE SOLVENTS, EXTINGUISH ALL SOURCES OF IGNITION IN THE IMMEDIATE WORK AREA AND OBSERVE PROPER PRECAUTIONARY MEASURES FOR HANDLING THE MATERIAL.

NOTE: IN ADDITION TO THE ABOVE WARNINGS, MORE CAUTIONARY WARNING NOTES WILL BE FOUND IN OTHER SECTIONS OF THIS MANUAL WHERE APPLICABLE.

2.0 INTRODUCTION

The TS1251 PRESSURE DISPENSER offers a convenient, easy to use system for dispensing *cyanoacrylates, as well as many solvents, lubricants and other low viscosity materials. Loosen Clamp Knob, swing Lid open, place a container of material to be dispensed, connect Dip Tube, close lid, tighten Clamp Knob, pressurize chamber and begin dispensing. The simplicity and reliability of the TS1251 PRESSURE DISPENSER'S design provides for exceptional performance, minimum maintenance, and easy repair.

SPECIFICATION:

SIZE:	6 X 6 X 10 INCHES (15.3 X 15.3 X 25.4 cm.)
WEIGHT:	9 LBS. (4.1 kg)
MAX OPERATING PRESSURE	30 psi. (2 BAR)

FEATURES:

- No Tubes through Hinged Lid.
- See through Reservoir for material monitoring (Cast acrylic Reservoir offered as standard. Glass Reservoir available).
- One hand opens and closes Fixed Lid.
- Easy to replace, disposable Dip Tube and Dispense Lines.
- Optional integrated on-off Valve assembly available.
- Optional Valve Controller available.
- Accepts standard one pound cyanoacrylate bottles.

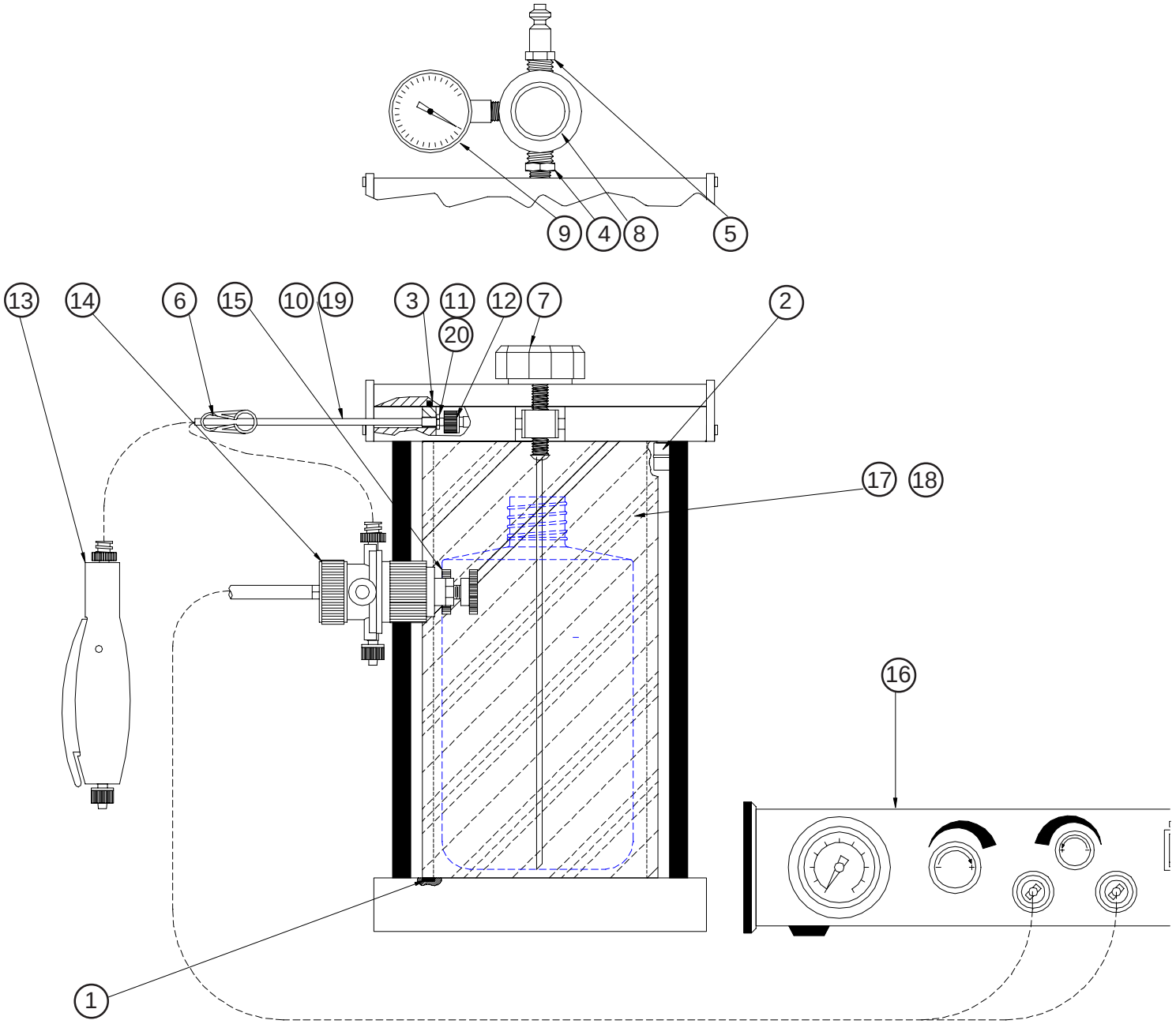
3.0 DESCRIPTION

The TS1251 PRESSURE DISPENSER enables dispensing of low viscosity materials directly from one-pound bottles. Air pressure forces the material from the bottle in the dispensers see through pressure chamber and through a disposable supply line into an optional TS1201 Dispensing Pen or TS1212 Micro Shot Valve assembly. The material is dispensed through disposable polyethylene fittings/lines to the Dispensing Needle. The material flow rate is controlled by an Air Pressure Regulator on the Dispenser Base. The quantity is controlled by the Pinch Valve in the optional Pen or On-Off Valve assembly.

Warning

*** Cyanoacrylate Adhesives are severe eye irritants and skin bonders. Immediate bonding of eyes, skin or mouth may occur upon contact. These Adhesives may cause permanent eye damage.**

Read the material safety data sheets for special precautions for the specific material being dispensed. Wear Protective safety equipment as specified in the material safety data sheets.



PARTS LIST

No.	Part Number	Description	Qty.	No.	Part Number	Description	Qty.
1	TSD601-2	Gasket	4	11[1]	TSD931-23	Luer Fitting (.07 ID)	*
2	TSD209-17	Relief Valve	1	12[1]	1251-000-011	Dip Tube (.07 ID)	*
3[1]	TSD1400-243A	O-Ring	1	13	TS1201	Dispense Pen	•
4	TSD915-1	Reducer Nipple	1	14	TS1212	Valve Assembly	•
5	TSD356-8	Air Coupling	1	15	1251-000-010	Clamp Assembly	•
6[1]	TSD1102-19	Tube Clamp	1	16	TS9701	Varimeter	•
7	1251-000-009	Knob Assembly	1	17	1251-000-004	Reservoir (Acrylic)	1
8	TSD500-33	Regulator	1	18	1251-000-014	Reservoir (Glass)	•
9	TSD600-28	Gauge	1	19[1]	TSD126-124	Dispense Tube (.10 ID)	1
10[1]	TSD125-124	Dispense Tube (.07 ID)	*	20[1]	TSD931-24	Luer Fitting (.10 ID)	1
				21[1]	1251-000-020	Dip Tube (.10 ID)	2

• Optional

[1] Recommended Replacement Parts

Note: Recommended replacement parts are the only parts offered for sale

4.0 SET UP AND INSTALLATION

1. Remove pressure dispenser from shipping container and inspect for damage. Refer to Users Manual Section 7.0 for Warranty Data. Install pre-assembled Regulator (8) on Rear Base.

   CAUTION: Plant air supply should provide dried, filtered air with pressure not to exceed 100 psi. If plant air is not dry and filtered, a Techcon Systems 5 Micron Air Filter (TSD800-6) is available as a recommended accessory.

2. Insure Pressure Regulator (8) is off (set at zero), turn Regulator Knob clockwise until it stops.

3. Attach Air Hose from filtered source (see Caution above) to Male Quick Connect Air Inlet Fitting (5) on Regulator at Base of Dispenser.

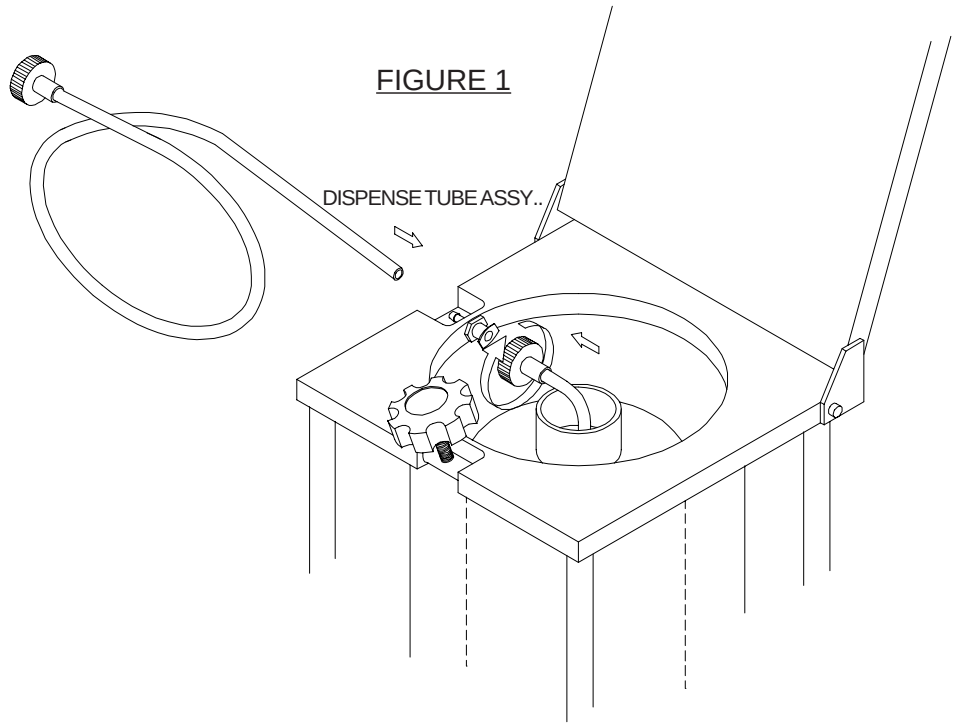
4. Connect Dispense tube (10) onto Barbed end of Luer Fitting (11) on top side of Dispenser. (Refer to figure 1). Insure Tube (10) is covering fitting.

   CAUTION: Never pour Adhesives or other materials directly into Dispenser. Use Adhesive Bottle or similar containment vessel.

5. Remove Cap and Dip Tube supplied with new Adhesive Bottle. Discard Tube, Cap may be saved for future resealing of bottle (See Section 6.0 Cleaning).

6. Using Dip Tube (12) supplied with dispenser, insert Tube into Bottle and place Bottle into Reservoir of Dispenser, attach Luer Lock fitting (Refer to Fig. 1). When tightening Luer Fitting (12), support Tube to allow for twisting to be absorbed in fingers and not allow Tube to flail out of Bottle.

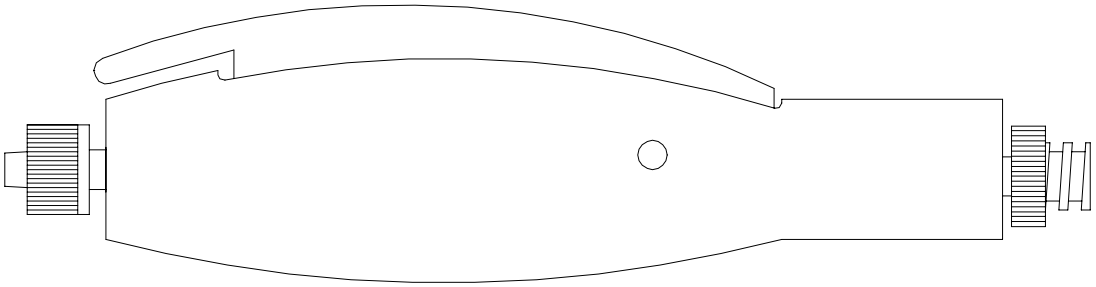
FIGURE 1



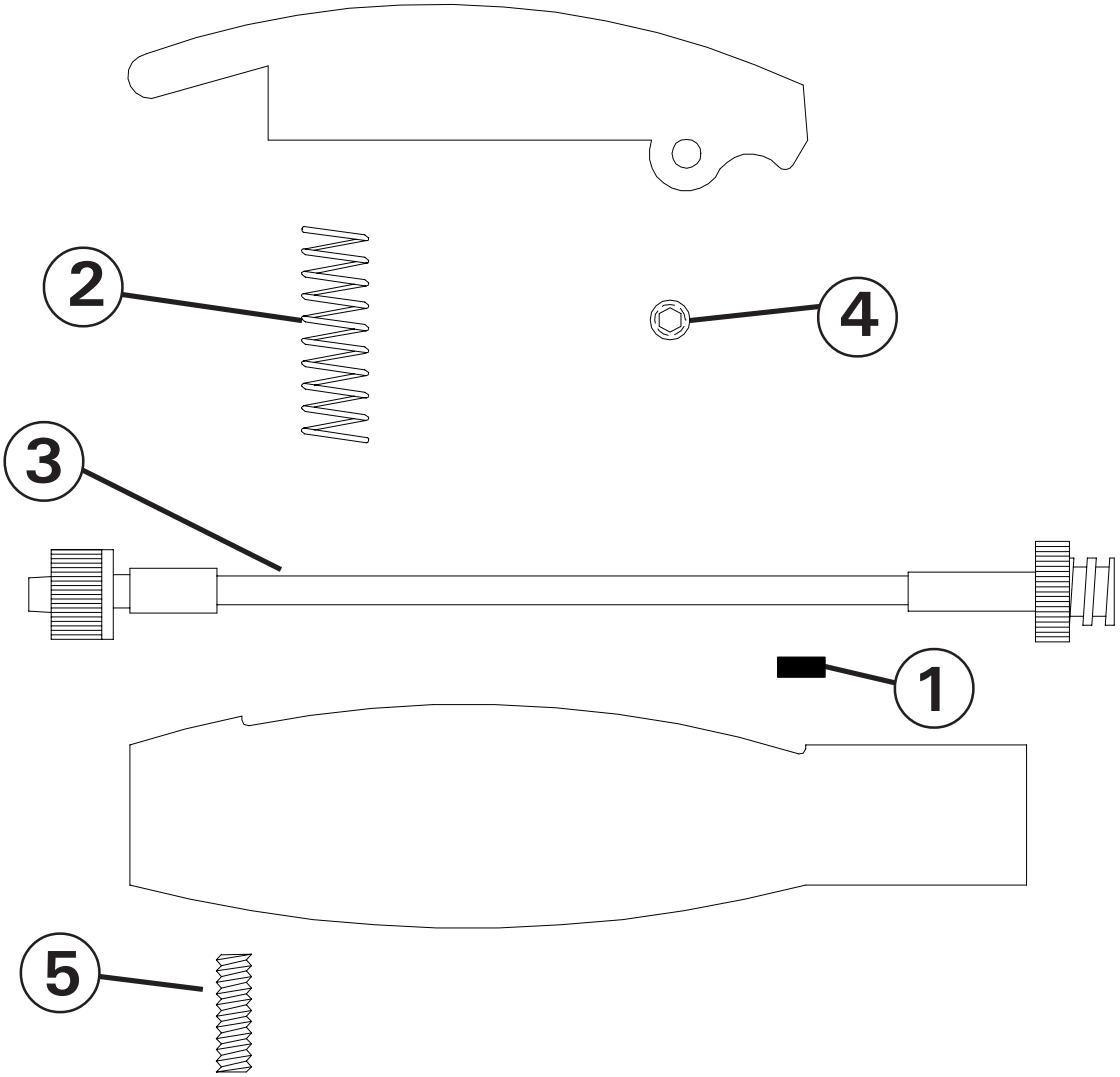
7. Close Lid, swing Knob Assembly (7) up to vertical position and hand tighten Knob firmly.

   NOTE: Dispense Tube must be attached to dispensing option (i.e. Pen or Micro Shot Valve) before pressure is applied to Dispenser.

TS1201 DISPENSING PEN



PARTS BREAKDOWN



3	1201-000-004	PINCH TUBE ASSY.	1					
2	TSD1150-7	SPRING	1		5	6-32 X 1/2" LG	FLOW ADJUST SCREW	1
1	1212-000-005	PINCH CUSHION	1		4	1201-000-003	PIN	1
NO.	PART NUMBER	DESCRIPTION	QTY.		NO.	PART NUMBER	DESCRIPTION	QTY.

4.1 DESCRIPTION- TS1201 DISPENSING PEN OPTION

The TS1201 Pen option is a basic Pinch Tube type valve. It has several unique features that provide very broad areas of application.

1. The replaceable Pinch Tube Assy. (3) has inlet and outlet fittings molded onto a Polyethylene Tube. The assembly is capable of shutting off fluid flow with input pressures up to 50 psi of the supply source.

2. The Valving or ON/OFF lever actuator provides precision control, capable of making small micro dots or continuous beads.

3. A Stroke Adjustment (5) for the lever is built into the Pen body. This adjustment provides a positive stop point for the lever when dispensing. This adjustment makes possible the dispensing of small dots with a high degree of repeatable control.

4. A wide range of interchangeable fittings can be used to adapt supply hoses from the pressurized supply reservoir. The standard supply hose provided with the Pen is a duplicate form of the Pinch Tube Assy. and quickly connects the Pen to the supply reservoir.

The TS1201 Pen option is supplied as a pre-assembled applicator (Refer to page 7). In addition to spare pinch tube assemblies and dispensing needle tips, * a supply hose and ¼ NPT adapter is included. **(*Not required for use with Pressure Dispenser).**

4.2 INSTALLATION- TS1201 DISPENSING PEN OPTION

1. Connect the Luer Lock Fitting at the end of the dispense tube onto the inlet side of (3) Pinch Tube on the TS1201 Pen with twisting action (Refer to figure 2).

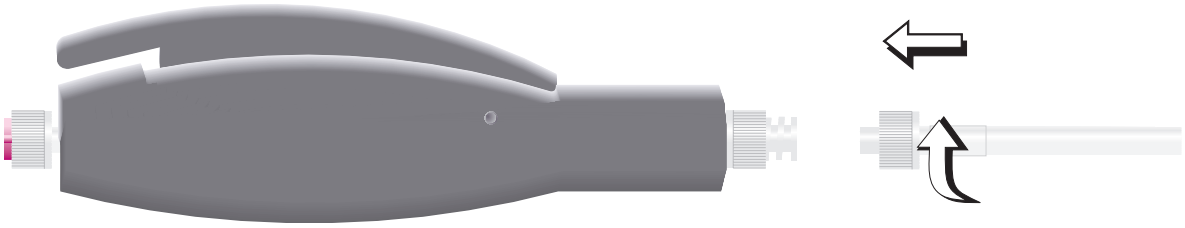


FIGURE 2

2. Install dispensing needle into Luer Lock Fitting on exit side of (3) Pinch Tube on the Pen with twisting action (Refer to figure 3).

NOTE: Small-bore needles provide better flow control of thin materials.

3. Open Air Pressure Regulator Knob and very slowly turn Knob clockwise to adjust Air Pressure to 3 psi.

CAUTION: Air must be purged completely from Dispensing Pen or Pen will not instantly shut off material flow.

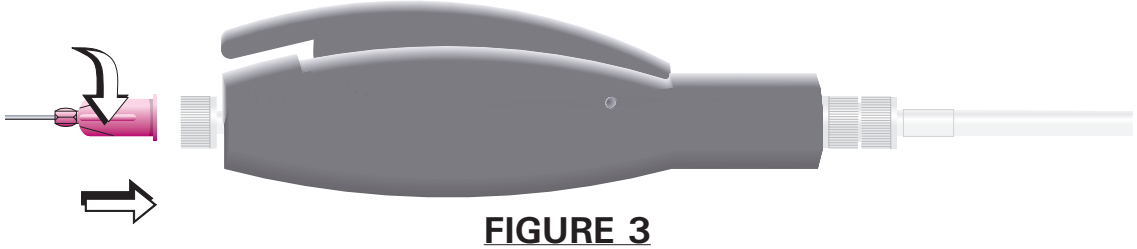


FIGURE 3

4. Hold the Pen in your hand as if you were writing. To purge air from the Dispense Line, Pen, hold the Pen over a disposable container, point tip up at approximately a 30° angle. (Refer to figure 4). Depress the ON/OFF lever, dispense adhesive for 15 to 20 seconds or until air is purged from the line, release the ON/OFF lever to stop flow.

   NOTE: If lever can not instantly shut off flow, air is not completely purged from line.

5. It may be necessary to fine tune the flow control or dot size desired. Use the included Allen Wrench to adjust the stroke of the ON/OFF lever. This adjustment (5) is on the underside of the Pen body, opposite the lever. With repeated use, a closely controlled application can be achieved by adjusting the following:

   A. Pressure on the supply reservoir.
   B. Needle tip size.
   C. Stroke adjustment on the ON/OFF lever.

   NOTE: Normally , the Pinch Tube Assy. (3) will provide 100,000 to 200,000 plus On/Off actions before requiring replacement. When this is necessary, refer to detailed instructions "1201 Pinch Tube Assembly Replacement" (Refer to page 15).

6. The TS1251 Pressure Dispenser with optional TS1201 Dispensing Pen is now ready for use.

   WARNING: Cyanoacrylate Adhesives are severe eye irritants and skin bonders. Immediate bonding of eyes, skin or mouth may occur upon contact. These Adhesives may cause permanent eye damage.

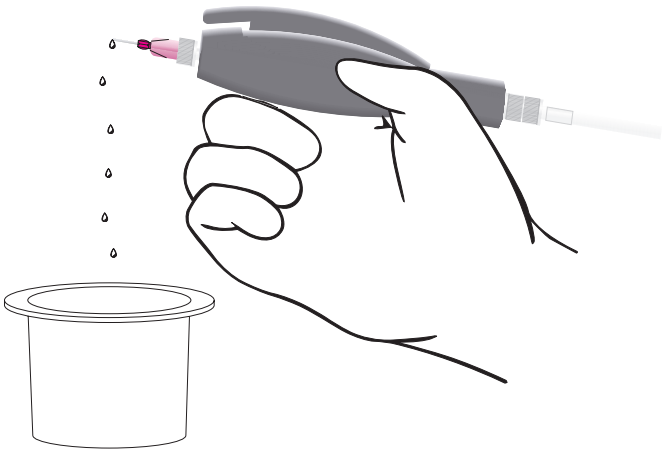


FIGURE 4
AVOID SPILLING THESE MATERIALS ON SKIN. INSTANT BONDING WILL OCCUR. DO NOT POINT PEN IN DIRECTION OF YOURSELF OR OTHERS.

4.3 DESCRIPTION- TS1212 MICRO SHOT VALVE OPTION

The TS1212 Micro Shot Valve option referred to page 10 provides an infinite degree of control for continuous or micro shot applications of low to semi-viscous fluids. The only part of the valve making contact with the fluid being dispensed is a disposable tube assembly (7).

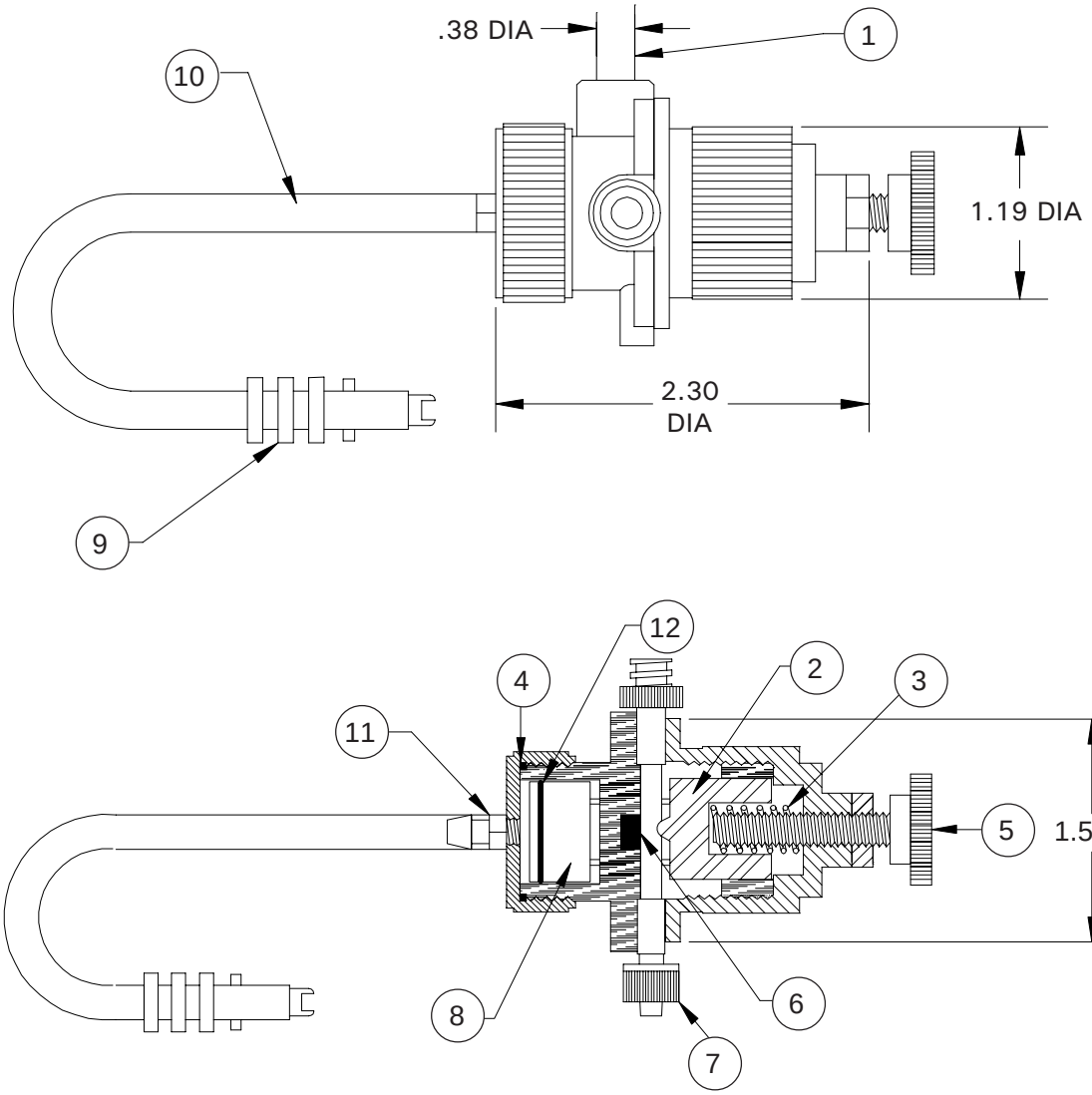
1. The replaceable Pinch Tube Assy. (7) has inlet and outlet fittings molded onto a polyethylene tube. The assembly is capable of shutting off fluid flow with input pressures up to 50 psi of the supply source.

2. The "ON/OFF" control is achieved by automatically opening and pinching the molded polyethylene tube assembly (7). The adjustable degree of opening or releasing the pinch closing on the tube assembly determines the shot size or flow rate. The valve will operate in any position, providing the supply source is pressurized.

3. The valve requires a minimum of 30 psi to properly operate the opening Piston (8). The shut-off function is achieved by an internal Spring (3). The Air Line to the Valve (10) can be attached to a *three-way air supply valve (manual or automatic) or to the optional TS9701 Varimeter. Actuating this valve will open the micro shot valve. The open time determines the shot size. (*PARTS NOT INCLUDED WITH VALVE).

4. A ¼-20 threaded mounting hole in the side of the valve body accepts a 3/8" diameter, 6.0" long Rod (1) [included with the valve]. This Rod with valve attached can be mounted on a Production Master Stand or by using the optional 1251-000-010 Clamp Assy. (not supplied with Valve) can be mounted directly on the Pressure Dispenser (See page 5).

TS1212 MICRO SHOT VALVE



PARTS LIST

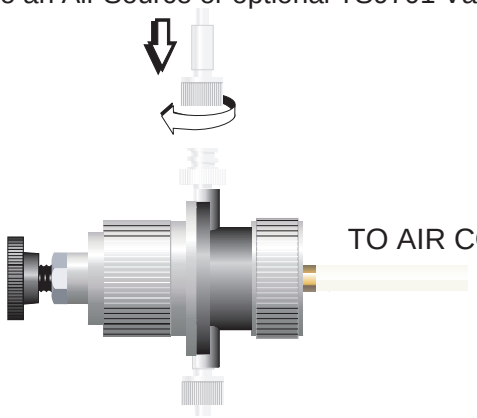
6	1212-000-005	PINCH CUSHION	1	12	TSD1399-1	U CUP SEAL	1
5	1212-002-000	ADJ. KNOB	1	11	TSD922-19	HOSE BARB	1
4	1212-000-007	GASKET	1	10	TSD1099-5	TUBING	3'
3	TSD1150-5	SPRING	1	9	533	CONNECTOR	1
2	1212-000-004	SHUT-OFF PISTON	1	8	1212-003-000	PISTON	1
1	1212-000-008	ROD MOUNT	1	7	1212-004-000	DISPENSE TUBE	1
NO.	PART NUMBER	DESCRIPTION	QTY.	NO.	PART NUMBER	DESCRIPTION	QTY.

4.4 INSTALLATION- TS1212 MICRO SHOT VALVE OPTION

1. With Valve mounted as referred to in Section 4.3 Number 4, connect the Luer Lock Fitting at the end of the Dispense Tube onto the inlet side of (7) Pinch Tube on the TS1212 Valve with twisting action (Refer to figure 5).

2. Install the Air Line (10) from the valve to an Air Source or optional TS9701 Varimeter as referred to in Section 4.3 Number 3 (Refer to figure 5).

FIGURE 5



3. Install Dispensing Needle into Luer Lock Fitting on exit side of (7) Pinch Tube on Valve with twisting action. (Refer to figure 6)

Note: Small-bore needles provide better flow control of thin materials.

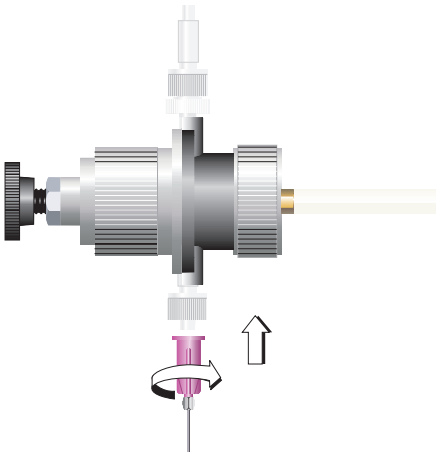


FIGURE 6

4. Open Air Pressure Regulator Knob and very slowly turn Knob clockwise to adjust air pressure to 3 psi.

CAUTION: Air must be purged completely from Dispensing Valve or Valve will not instantly shut off material flow.

5. To purge air from the supply line, place a disposable container under the needle (Refer to figure 7). Activate Valve with 30 psi min. air pressure from air source or optional TS9701 Varimeter, dispense adhesive for 15 to 20 seconds or until air is purged from the line. Deactivate Valve (Release air pressure). If Valve does not instantly shut off flow, air is not completely purged from the line.

6. It may be necessary to fine tune the flow control or dot size desired. Adjustment of the Knob (5) controls the travel of the “SHUT-OFF” Piston (2) by limiting its reverse movement. The “SHUT-OFF” Piston is moved by the Push Rods of the Air Piston (8). The travel of the “SHUT-OFF” Piston (2) determines the amount of opening for the Pump Tube (7), when coupled with a *time control, determines the shot size. (Refer to Section 4.3 number 3). With repeated use, a closely controlled application can be achieved by adjusting the following:

   A. Pressure on the supply reservoir.
   B. Needle tip size
   C. Stroke adjustment on the shut-off Piston Knob (5).

NOTE: Normally, the Pinch Tube Assy. (7) will provide 100,000 to 200,000 plus On/Off actions before requiring replacement. When this is necessary, refer to detailed instructions "1212 Pinch Tube Assembly Replacement". (Refer to page 16)

The TS1251 Pressure Dispenser with optional TS1212 Dispensing Valve is now ready for use.

WARNING: Cyanoacrylate Adhesives are severe eye irritants and skin bonders. Immediate bonding of eyes, skin or mouth may occur upon contact. These adhesives may cause permanent eye damage.

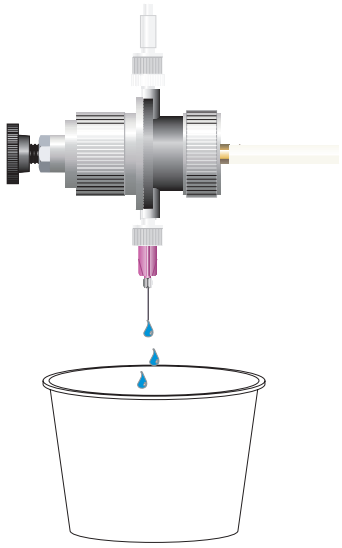


FIGURE 7
AVOID SPILLING THESE MATERIALS ON SKIN. INSTANT BONDING WILL OCCUR. DO NOT POINT NEEDLE IN DIRECTION OF YOU OR OTHERS

5.0 ADHESIVE SUPPLY REPLACEMENT

WARNING: AVOID SPILLING THESE MATERIALS ON SKIN. INSTANT BONDING WILL OCCUR. EYE PROTECTION REQUIRED.

NOTE: Adhesive may be stored in unused adhesive dispenser for up 72 hours. If unused for more than 72 hours, dispenser should be cleaned and adhesive removed.

1. Close Air Pressure Regulator Knob (8), turn counter clockwise and lower air pressure to zero.

   WARNING: Do not open lid until air pressure is at zero.

2. Disconnect air supply line if necessary, do not open Lid until pressure is zero.
3. Hold dispensing device (i.e. TS 1201 Pen or TS1212 Shot Valve) higher than pressure reservoir, activate device [for Pen (13) Press Trigger handle, or for Valve (14) apply air pressure to Piston]. Adhesive must drain back into adhesive bottle.
4. Loosen Lid Knob (7) slowly. If excessive effort is required, make sure air pressure is zero.
5. Open Lid slowly.
6. To remove old Dip Tube (Refer to figure 1).
   a. Remove Dip Tube (12) form Luer Fitting (11) inside pressure reservoir. When loosening Dip Tube Fitting support tube to allow for twisting to be absorbed in fingers and not allow Tube to flail out of Bottle.
   b. Drop used Dip Tube into empty adhesive bottle.
   c. Remove empty adhesive bottle from pressure reservoir and discard properly.
7. Install new Dip Tube. Refer to Section 4.0 Set Up and Installation Notes 5 & 6 (See figure 1).

   CAUTION: Never pour adhesives directly into pressure pot.

6.0 CLEANING INSTRUCTIONS-DISPENSER

WARNING: Read the material safety data sheets for special precautions for the specific material being dispensed. Wear protective safety equipment in the material safety data sheets.

NOTE: When using solvents, it is essential that precautionary measurers for handling such materials be observed. Eye protection is required during this operation.

NOTE:
- Use de-greaser/cleaner (such as "Westley's Clear Magic") to clean plastic or glass reservoir.
- Soap or other cleaners may react with CA vapor and cause clouding on reservoir walls.
- Uncured adhesive on other surfaces may be cleaned up with Acetone, Methyl Ethyl Ketone or Nitromethane. Remove cured adhesive with Nitromethane. Acetone or Methyl Ethyl Ketone works slowly on Cured Adhesive. Do not use on plastic reservoir.
- Adhesive may be stored in unused adhesive dispenser for 72 hours. If unused for 72 hours or more, dispenser must be cleaned and adhesive removed.
- Before cleaning dispenser all adhesive in dispense tube and dispensing device must be drained back into the adhesive bottle.

1. Remove Needle from dispensing device. Follow Instructions Notes 1 through 5, as referred to in Section 5.0 Adhesive Supply Replacement.

2. To remove and recap adhesive bottle:

    a. Carefully loosen Dip Tube from inside Pressure Reservoir.
    b. Carefully remove Bottle from Pressure Dispenser. Discard Dip Tube and empty properly. Replace Bottle Cap to save usable adhesive.

WARNING: When using flammable solvents, extinguish all sources of ignition in the immediate work area and observe proper precautionary measures for handling the material.

CAUTION: Never pour solvents directly into reservoir.

3. To clean dispenser:

WARNING: Eye protection required for this operation.

    a. Pour a suitable cyanoacrylate cleaner into a polyethylene or metal container and place in pressure reservoir.

    b. Install Dip Tube and close Dispenser Lid.

    c. Hand tighten Lid Knob.

    d. Hold dispense device: (optional Pen or Valve) over disposable container.

WARNING: When using solvents, it is essential that precautionary measures for handling such materials be observed. Always use low air pressure when using solvent in the unit. Do not direct pen in direction of yourself or others. Do not allow solvent to contact printed matter on the dispenser.

e. Activate dispense option (i.e. Press Trigger on Pen, or apply air to Valve), slowly turn Air Press Knob clockwise. Dispense all adhesive into container. Dispense solvent into container for 5 to 10 seconds after adhesive is dispensed. Dispose of properly.

4. Purge all remaining cleaner with air.

5. Turn air pressure regulator counter clockwise and lower air pressure to zero.

6. Store adhesive dispenser with Lid open.

6.1 CLEANING/REPAIR- TS1201 PEN

1. To remove Pen from supply line:

   a. Turn Air Pressure Regulator counter clockwise and lower air pressure to zero.

   b. Remove needle and hold dispense Pen higher than pressure Reservoir.

   c. Press Dispense Pen Trigger and drain adhesive into adhesive Bottle. If cured adhesive plugs Pinch Tube, adhesive will not drain into adhesive Bottle. Refer to in Section 6.0, Note 3, Instructions d & e.

   d. Remove supply line Tube from Dispense Pen.

NOTE: If leakage occurred in Dispense Pen, soak entire Pen in Methylene Chloride for disassembly. Clean up uncured adhesive with Methyl Ethyl Ketone or Nitromethane. Remove cured adhesive with Nitromethane. Acetone or Methyl Ethyl Ketone works slowly on cured adhesive.

2. Soak parts of dissembled Pen in Cyanoacrylate cleaner (Refer to page 5).

3. To replace Pinch Tube (Refer to figure 8).

6.2 CLEANING/REPAIR- TS1212 VALVE

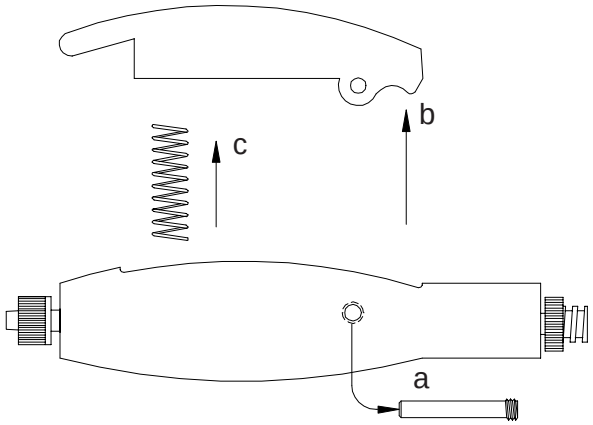
1. To clean Valve follow Instruction in Section 6.1 Numbers 1 & 2.

2. To replace Pinch Tube (Refer to figure 9).

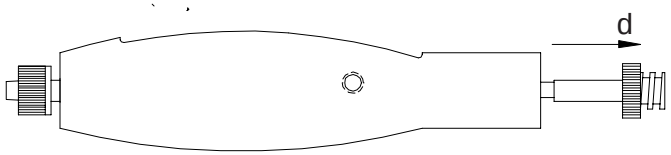
TS1201 PINCH TUBE ASSEMBLY REPLACEMENT

TO REPLACE PINCH TUBE ASSY.

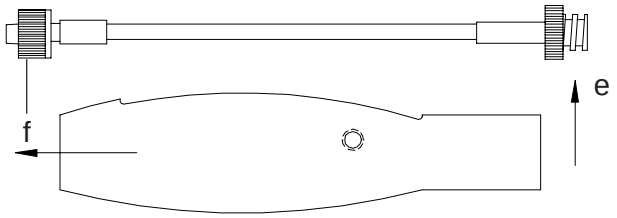
1. Unscrew pivot Pin (a), remove Trigger (b), and Spring (c).



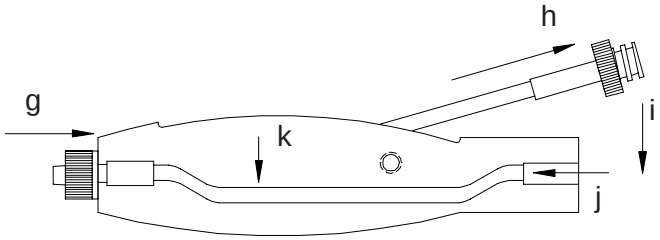
2. Pull one end of Pinch Tube Assy. out (d), stretching it until fitting clears body.



3. Now pull stretched end of Pinch Tube Assy. up (e). Then pull out the opposite end (f) to remove.



4. To replace new Pinch Tube Assy., insert fitting of Pinch Tube Assy. in one end of the body (g). Stretch the opposite end over the body until fitting clears (h).



5. Now pull Pinch Tube Assy. down (i) and insert end into the body (j). Finally, secure by pushing Pinch Tube Assy. to the bottom inside of body (k) and re-assemble.

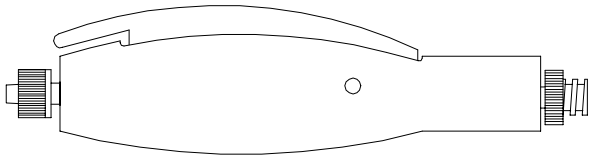
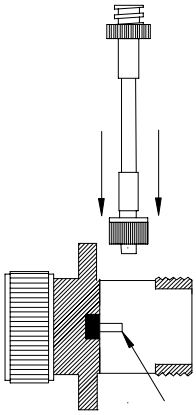


FIGURE 8

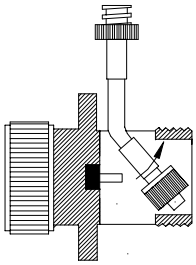
NOTE: After installing new Pinch Tube Assy. it may be necessary to purge air from line. Refer to section 4.2, Number 4. If Pen Trigger can not instantly shut off adhesive flow, air is not completely purged from dispense pen material line.

TS1212 PINCH TUBE ASSEMBLY REPLACEMENT



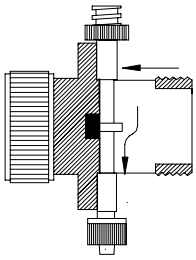
PUSH RODS

1. Remove Flange Cap, Spring and Shut-Off Piston.
2. Insert male end of pinch tube assembly through side hole of Valve Body.

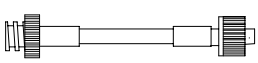


3. Tilt the molded male end enough to pass by the Push Rods.

4. Push Tube into place as shown, making sure shoulders are snapped into Grooves.



5. Insert Piston, Spring and thread Flange Cap completely onto Valve Body, making sure Pinch Tube Assy. is securely locked into Grooves of body.



Pinch Tube Assy.

1212-004-000 .07 ID Standard

1212-004-002 .10 ID Optional

FIGURE 9

NOTE: After installing new Pinch Tube Assy. It may be necessary to purge air from line. Refer to section 4.4 Note 5. If Valve can not instantly shut off adhesive flow, air is not completely purged from dispense valve material line.

Part Number	Description
TSD1400-243A	O-Ring
TSD1102-19	Tube Clamp
TSD125-124	Dispense Tube (.07 ID)
TSD931-23	Luer Fitting (.07 ID)
1251-000-011	Dip Tube (.07 ID)
TSD126-124	Dispense Tube (.10 ID)
TSD931-24	Luer Fitting (.10 ID)
1251-000-020	Dip Tube (.10 ID)