245 Series Dispense Valves

CUSTOMER PRODUCT MANUAL
COMPONENT MANUAL P/N: 7439854
ISSUED 08/2016

For parts and technical support, contact Global Business Support (GBS) at (800) 433-9319, or contact your local Nordson Sealant Equipment Representative.

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Nordson
SEALANT EQUIPMENT

Nordson Sealant Equipment · Wixom, Michigan · U.S.A

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Section 1
Safety

Introduction

Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson® equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of Nordson® equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include:

- Using incompatible materials
- Making unauthorized modifications
- Removing or bypassing safety guards or interlocks
- Using incompatible or damaged parts
- Using unapproved auxiliary equipment
- Operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Nordson® equipment warranties may be voided if instructions for installation, operation, and service are not followed.

All phases of equipment installation must comply with all federal, state, and local codes.

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Personal Safety

To prevent injury, follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- While operating manual dispense valves, make sure you are grounded. Wear electronically conductive gloves or a grounding strap connected to the dispense valve handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical and electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.
- Obtain and read Safety Data Sheets (SDS) for all materials used. Follow the manufacturer’s instructions regarding the safe handling and use of materials. Use recommended personal protection devices.
- Make sure the dispensing area is adequately ventilated.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

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High−Pressure Fluids

High pressure fluids, unless they are safely contained, are extremely hazardous. Always relieve fluid pressure before adjusting or servicing high pressure equipment. A jet of high−pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning. If you suffer a fluid injection injury, seek medical care immediately.



WARNING: Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- Go to an emergency room immediately.
- Tell the doctor that you suspect an injection injury.
- Inform medical staff regarding the type of material dispensed.

MEDICAL ALERT − AIRLESS SPRAY WOUNDS: NOTE TO A PHYSICIAN

Injection into the skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream. Consultation with a plastic surgeon or a reconstructive hand surgeon may be advisable. The seriousness of the wound depends on where the injury is on the body, whether the substance hit something on its way in and deflected causing more damage, and many other variables including skin micro−flora residing in the plant or gun which are blasted into the wound. If the injected material contains acrylic latex and titanium dioxide which damages the tissue's resistance to infection, bacterial growth will flourish. The treatment that doctors recommend for an injection injury to the hand includes immediate decompression of the closed vascular compartments of the hand to release the underlying tissue distended by the injection material, judicious wound debridement, and immediate antibiotic treatment.

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Fire Safety

To avoid a fire or explosion, follow these instructions:

- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your MSDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Shutoff electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson® representative for parts information and advice.

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Grounding



WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

Grounding inside and around the booth openings must comply with NFPA requirements for Class II, Division 1 or 2 Hazardous Locations. Refer to NFPA 33, NFPA 70 (NEC articles 500, 502, and 516), and NFPA 77.

- All electrically conductive objects in spray areas shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is ignition potential from a charged human body. Personnel standing on a painted surface, such as an operator platform, or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

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Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements:

Element	Symbol	Prefix
Fluorine	F	“Fluoro−”
Chlorine	Cl	“Chloro−”
Bromine	Br	“Bromo−”
Iodine	I	“Iodo−”

Check your material MSDS or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your Nordson® Sealant representative for information about compatible Nordson® Sealant Equipment components.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressure.
- Identify the reason for the malfunction and correct it before restarting the equipment.

Disposal

Dispose of equipment and material used in operation and servicing according to federal, state, and local codes.

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Section 2
Description and Operation

A Kiss ™ valve is used in a variety of applications to dispense adhesives, sealants, and other materials. The design of the valve allows higher flow rates due to a less restrictive internal design. This increase in flow rates translates into lower supply pump operating pressures, less down time, and reduced maintenance costs. The valve is a No Drip®style dispense valve which employs a quick and clean shut−off. By utilizing an air−to−open and air−to−close feature, the valve opens and snaps shut instantly. A back−up spring insures instantaneous shutoff when the valve is closed or if air pressure is lost.

The Kiss ™ valve also has an option for stroke adjustment and accepts a wide variety of optional nozzles. Flat−sided or ribbon nozzles are commonly utilized for repeatable spray patterns. A stroke adjustment screw mounted on the valve can be rotated to vary the flow of material. The valve is made of aluminum, is lightweight, and versatile. A rugged and durable design ensures that the valve will be able to stand up to the most demanding high production use.

Valves are also equipped with an elasto−plastic seal, hardened needle and carbide ball and seat to promote extended life and durability. Its compact size and mounting flexibility allows the valve to be adapted to a wide range of dispensing applications. A Kiss ™ valve can be mounted both horizontally and vertically. The presence of multiple material inlet ports also allows valves to be ganged together to a common material source to accommodate simultaneous dispensing. It also can be readily adapted to robots for high speed precision automated applications.

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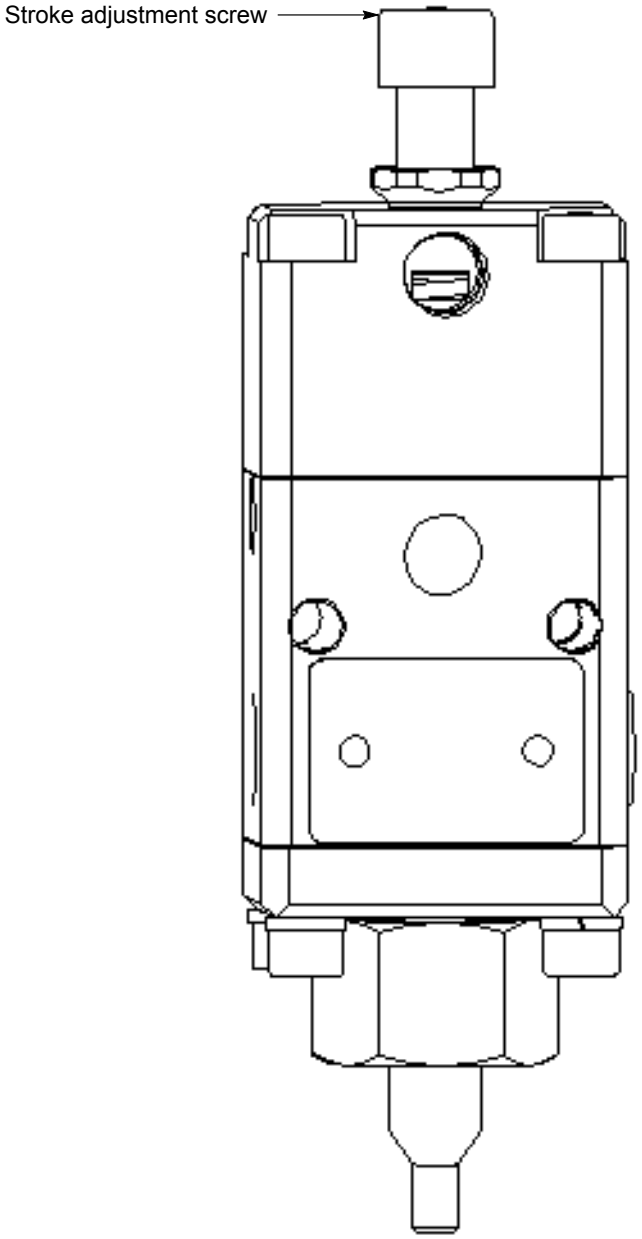


Figure 2-1 Stand Alone Kiss™ Valve With Stroke Adjustment

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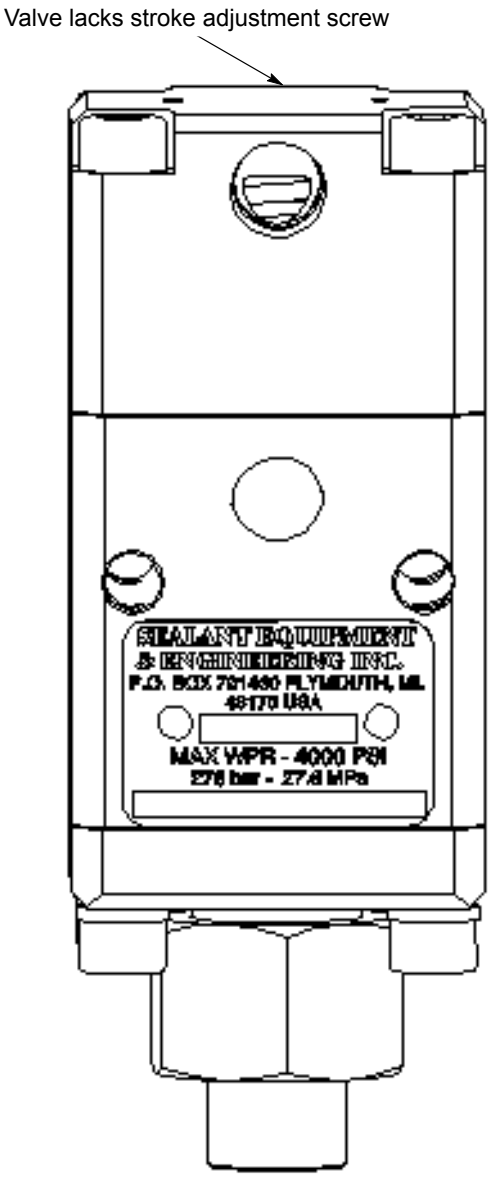
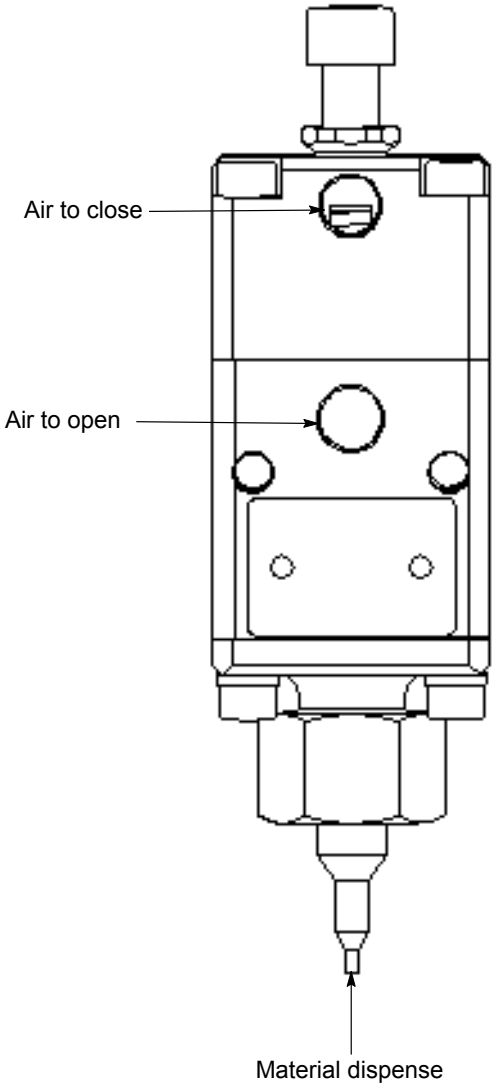


Figure 2-2 Stand Alone Kiss™ Valve Without Stroke Adjustment

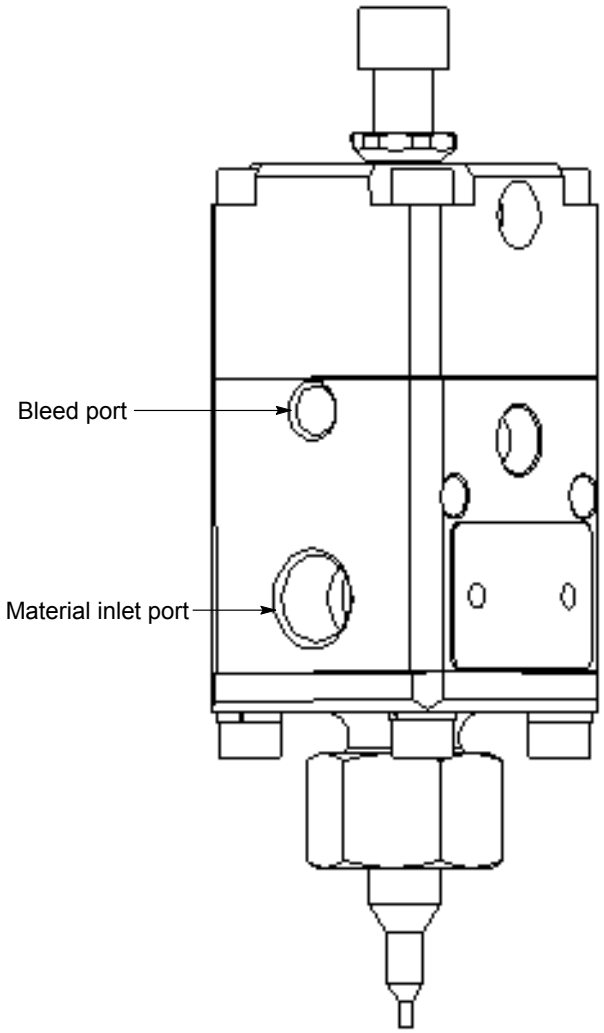
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*Nozzle not shown. Various valve nozzles are available. Contact your Nordson® Sealant Representative for additional information.

Figure 2-3 Kiss™ Valve Air And Material Flow (1 of 3)

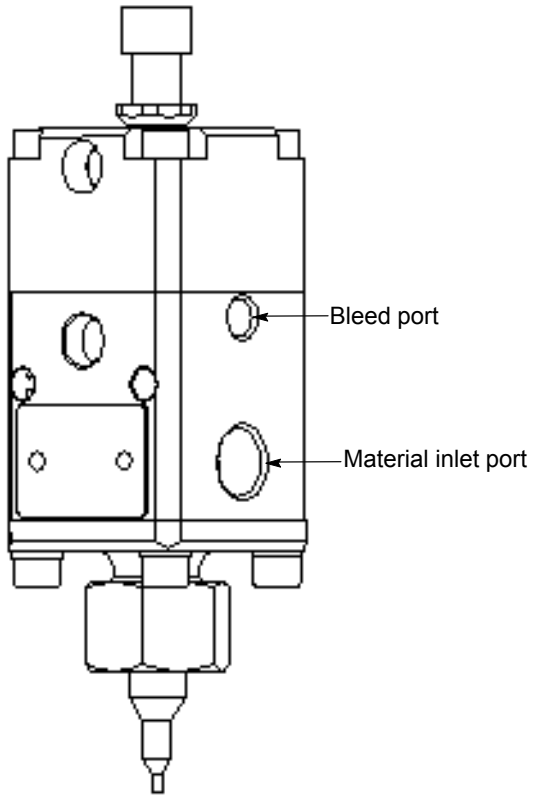
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*A flush plug may be optionally inserted in place of the material inlet port.

Figure 2-4 Kiss™ Valve Air And Material Flow (2 of 3)

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*A flush plug may be optionally inserted in place of the material inlet port.

Figure 2-5 Kiss™ Valve Air And Material Flow (3 of 3)

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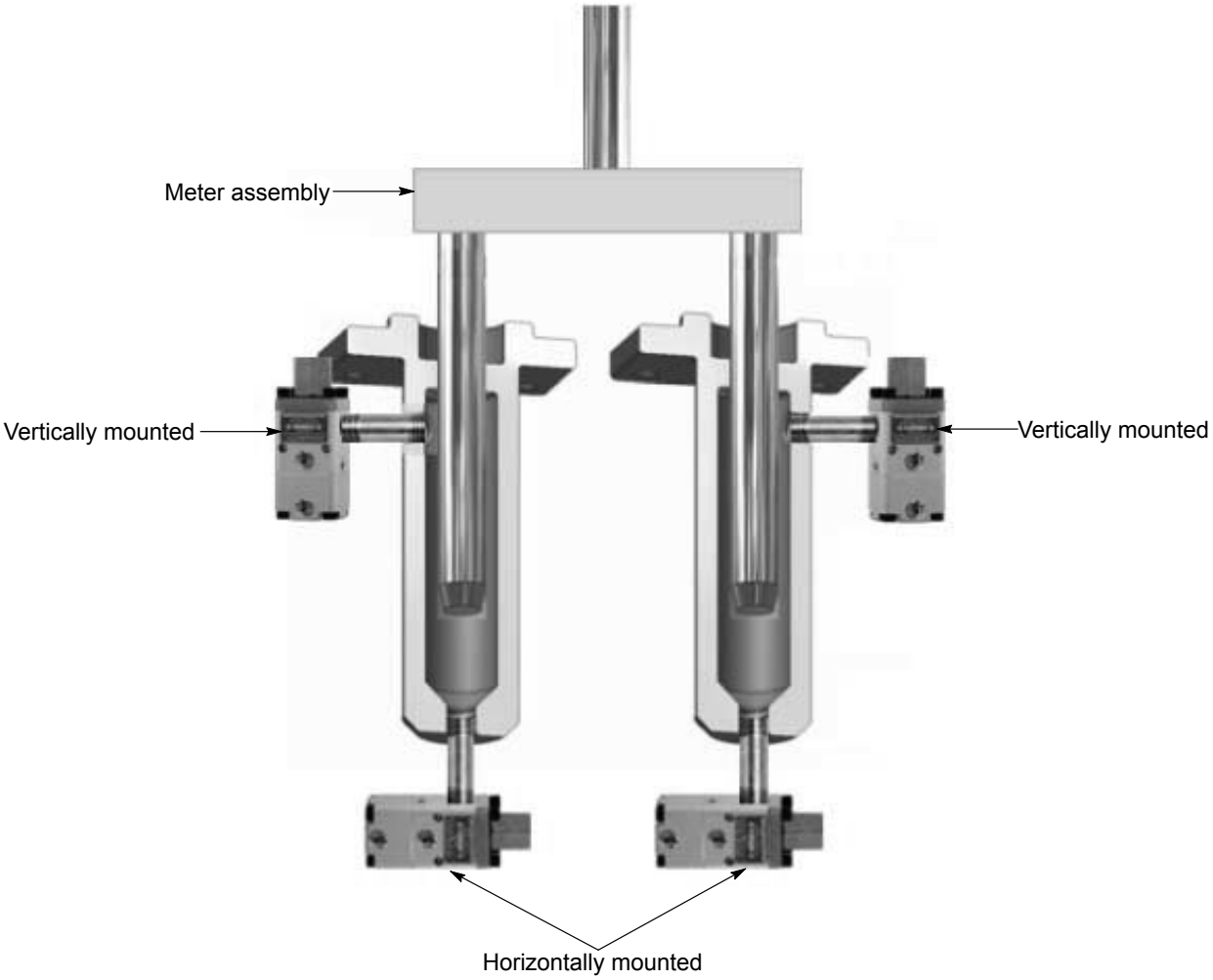
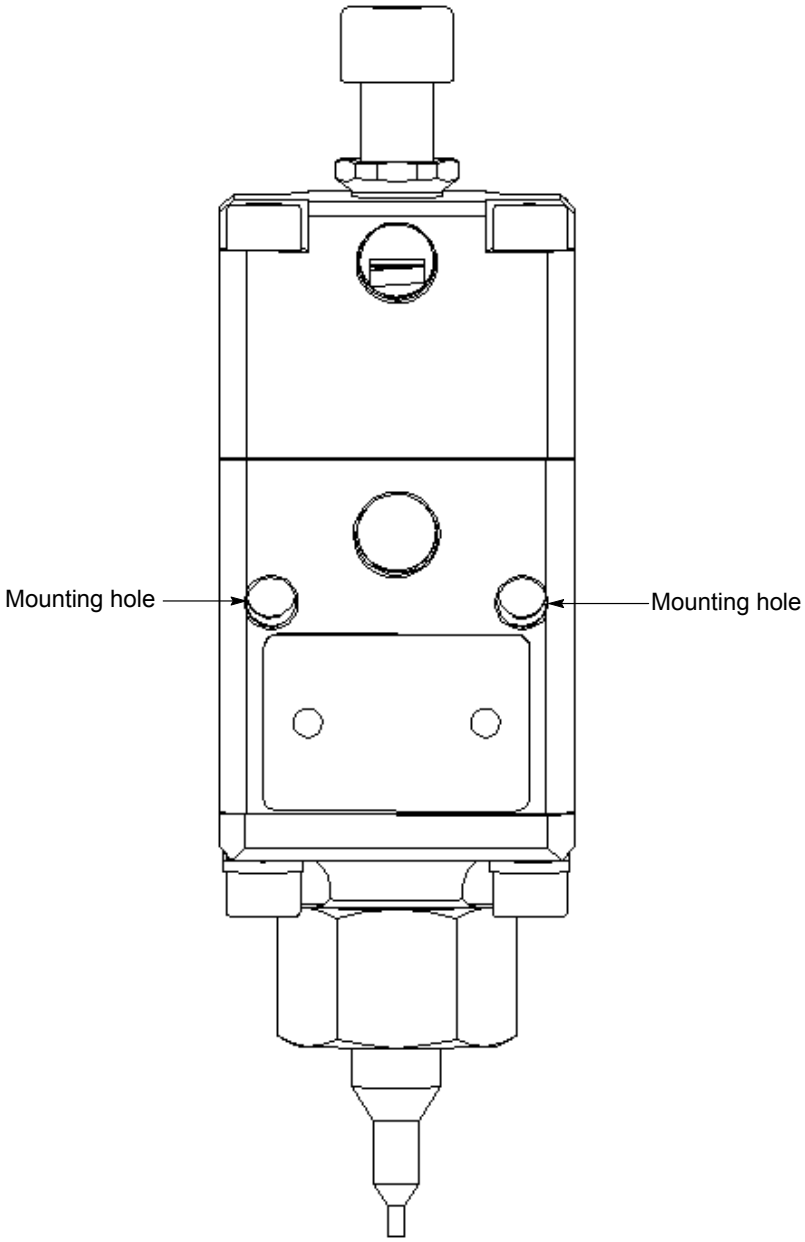


Figure 2-6 Kiss™ Valve Mounting Options

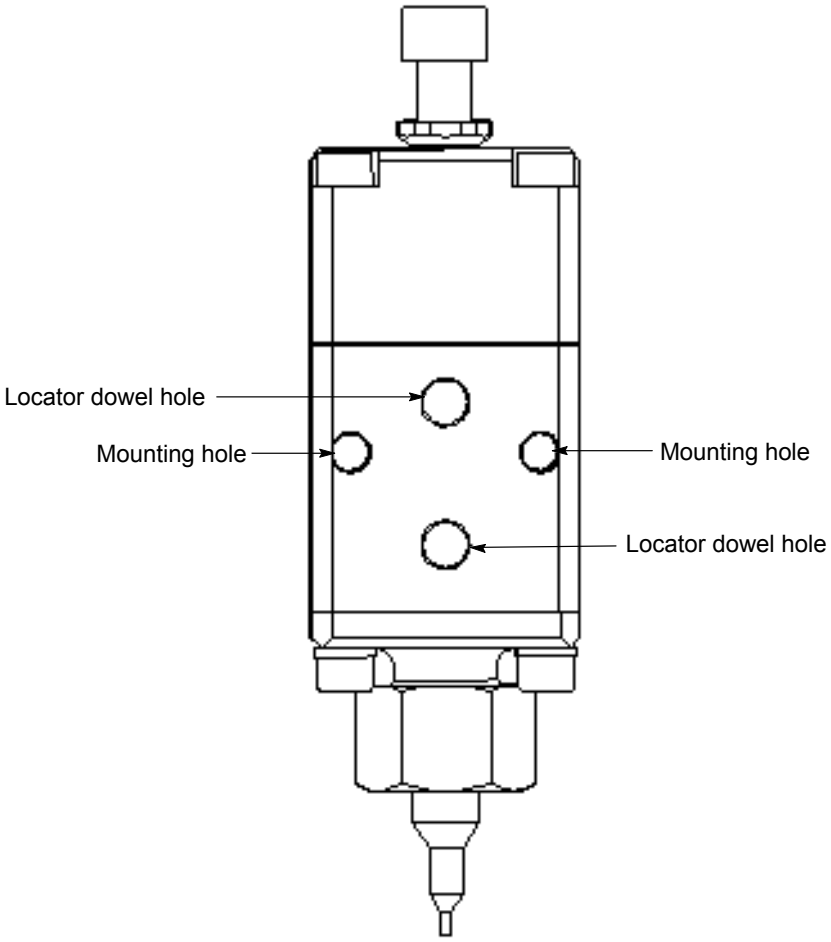
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*Mounting hole diameter may vary. Contact your Nordson®Sealant Representative for specific application information.

Figure 2-7 Typical Stand Alone Kiss™ Valve Mounting Holes (Front View)

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*Mounting and locator dowel hole diameter may vary. Contact your Nordson®Sealant Representative for specific application information.

Figure 2-8 Typical Stand Alone Kiss™ Valve Mounting Holes (Rear View)

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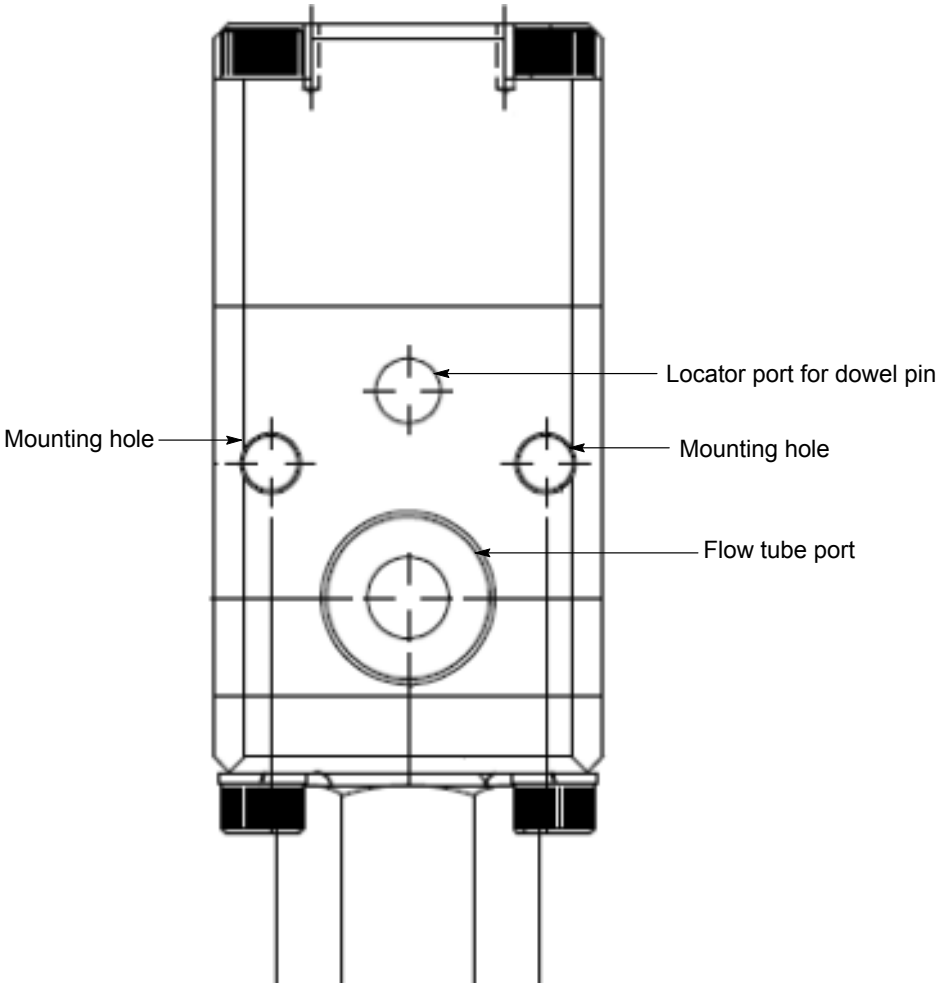
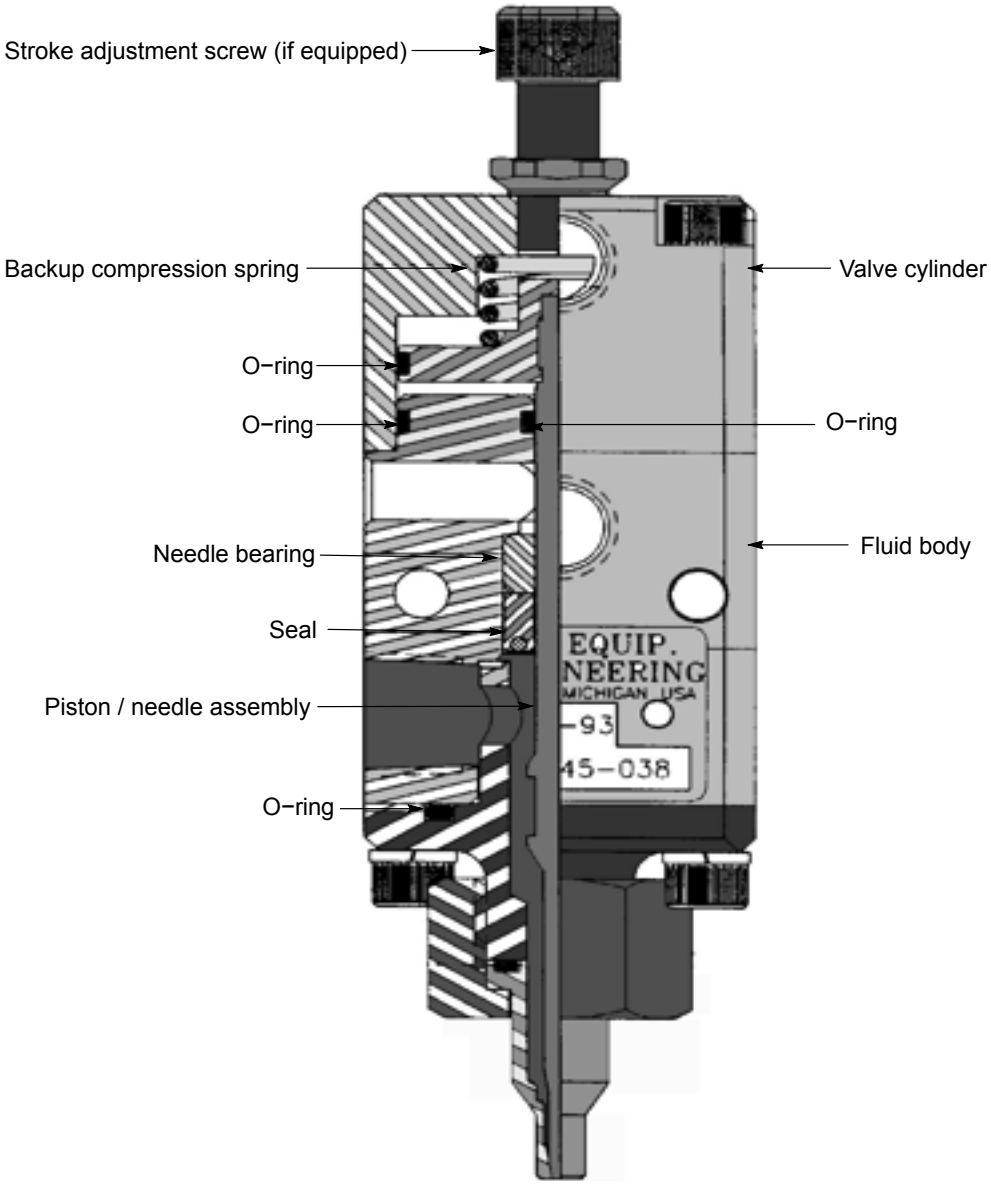


Figure 2-9 Typical Manifold Style Kiss™ Valve Mounting Holes (Rear View)

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*Various valve nozzles lengths are available. Contact your Nordson®Sealant Representative for additional Information.

Figure 2-10 Kiss™ Valve Cutaway

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Section 3
Specifications

Table 3−1 System Specifications

Kiss™ valve − cylinder bore diameter	1.25 inch (31.75 mm)
Kiss™ valve maximum working pressure	5,000 psi (34.47 MPa, 344.73 bar)
Kiss™ valve minimum air pressure to open	60 psi (0.41 MPa, 4.13 bar)
Kiss™ valve piston stroke	0.098 inch (2.49 mm)
Kiss™ valve power factor	33:1 ratio
Kiss™ valve weight	0.88 lbs (0.40 kg)

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Section 4
Maintenance

It is imperative to follow the safety instructions outlined in this manual. Refer to *Safety* for additional information. Contact a Nordson®Sealant Equipment representative regarding these procedures (if necessary).



WARNING:

- Safety glasses are to be worn at all times while installing, servicing, operating, or observing equipment. The sudden release of air or fluid can cause damage to eyes.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.
- Lock out air and material supply before disconnecting hoses or servicing Kiss™ valve.
- Shut off and lock out equipment associated with Kiss™ valve.



WARNING: Any material injected into flesh can cause severe injury or death. Keep body parts away from material discharge ports. If injection occurs, seek medical attention immediately.



WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.



CAUTION:

- Relieve air and material pressure when equipment is not in use for prolonged periods of time. Do not allow pressure to remain static when equipment is idle as this may cause material to pack and harden.

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NOTE:

- The frequencies listed in Table 4−1 are only guidelines. It may be necessary to adjust frequencies due to the facility environment, process parameters, material being applied, or experience. Always perform preventative maintenance procedures according to your facility maintenance schedule.
- All scheduled maintenance should be visually inspected weekly as applications may be customized.
- Schedule will vary depending on what material is being used in a particular application.
- Always listen for air leaks, keep work area clean of material, and check with material supplier for specific cleaning procedures for the material being used in an application.

Table 4−1 Preventative Maintenance Schedule

Item	Task	Completion Time	Frequency			
			Weekly	Monthly	Yearly	Cycles
Air fittings and tubing	Check for air leaks.	5 Min.	•			
Material fittings and hoses	Check for material leaks.	5 Min.	•			
Material manifold valves	Approximately every 180 days, the seals will need to be replaced.	Inspect 5 Min Replace: 30 Min.	Replace seals every 180 days			

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Section 5
Consumable Items

It is imperative to follow the safety instructions outlined in this manual. Refer to *Safety* for additional information. Contact a Nordson®Sealant Equipment representative regarding these procedures (if necessary).



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Table 5-1 Consumable Items

Item	Part	Application
Chevron®Petrolatum Snow	7428656	Applied to Kiss™ valve wearable parts such as O−rings and Parbak rings.
Loctite®242	N/A	Apply when assembly drawing requires. Used for locking fasteners.
Permabond®LH150	7437105	Used as thread sealant on flush plugs.

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Section 6
Troubleshooting

It is imperative to follow the safety instructions outlined in this manual. Refer to *Safety* for additional information. Contact a Nordson®Sealant Equipment representative regarding these procedures (if necessary).



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- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.
- Lock out air and material supply before disconnecting hoses or servicing Kiss™ valve.
- Shut off and lock out equipment associated with Kiss™ valve.



WARNING: Any material injected into flesh can cause severe injury or death. Keep body parts away from material discharge ports. If injection occurs, seek medical attention immediately.



WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.



CAUTION:

- Relieve air and material pressure when equipment is not in use for prolonged periods of time. Do not allow pressure to remain static when equipment is idle as this may cause material to pack and harden.

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No.	Problem	Page
1.	Kiss™ valve inoperable	6-2
2.	Kiss™ valve leakage	6-3

Problem	Possible Cause	Corrective Action
1. Kiss™ valve inoperable	Blocked material path	Ensure material is passing through all hoses.
	Supply equipment not cycling	Ensure there is sufficient air pressure.
	Kiss™ valve not opening	Ensure air is on. Inspect Kiss™ valve piston for binding. Inspect Kiss™ valve piston and O-ring for wear or damage. Ensure there is sufficient air pressure. Refer to *Removal and Information* for additional information.
	Material pack out around seal	Material can collect around Kiss™ valve seals. Ensure the valve seal is clean and has been correctly lubricated. Refer to *Consumable Items* for valve lubrication information.
	Kiss™ valve not opening	Ensure air is on. Inspect Kiss™ valve piston for binding. Inspect Kiss™ valve piston and O-ring for wear or damage. Ensure there is sufficient air pressure.
	Kiss™ valve needle/piston socket head cap screw loose	Tighten valve needle/piston nut to specification. Refer to *Removal and Installation* for Kiss™ valve needle/piston socket head cap screw tightening specification. Be sure Loctite®242 has been applied to threads of needle/piston socket head cap screw.

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Problem	Possible Cause	Corrective Action
2. Kiss™ valve leakage	Material manifold assembly failure	Ensure all fittings and gauges are properly tightened. Inspect valve seat. Replace material manifold assembly (if necessary).
	Manifold seat damage	Replace material manifold assembly. Inspect manifold seats for cracks, scratches, dents, and nicks.
	Kiss™ valve seal failure	Replace seal(s). Replace or repair scored or damaged needle (if necessary). Replace or repair scored or damaged sealing face (if necessary). Refer to *Removal and Installation* for additional information.
	Kiss™ valve needle/piston socket head cap screw loose	Tighten valve needle/piston nut to specification. Refer to *Removal and Installation* for Kiss™ valve needle/piston socket head cap screw tightening specification. Be sure Loctite®242 has been applied to threads of needle/piston socket head cap screw.

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Section 7
Removal and Installation

It is imperative to follow the safety instructions outlined in this manual. Refer to *Safety* for additional information. Contact a Nordson®Sealant Equipment representative regarding these procedures (if necessary).



WARNING:

- Safety glasses are to be worn at all times while installing, servicing, operating, or observing equipment. The sudden release of air or fluid can cause damage to eyes.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.
- Lock out air and material supply before disconnecting hoses or servicing Kiss™ valve.
- Shut off and lock out equipment associated with Kiss™ valve.



WARNING: Any material injected into flesh can cause severe injury or death. Keep body parts away from material discharge ports. If injection occurs, seek medical attention immediately.



WARNING: Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.



CAUTION:

- Relieve air and material pressure when equipment is not in use for prolonged periods of time. Do not allow pressure to remain static when equipment is idle as this may cause material to pack and harden.

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Compression Spring (if equipped)

See Figure 7-11

Removal

WARNING:

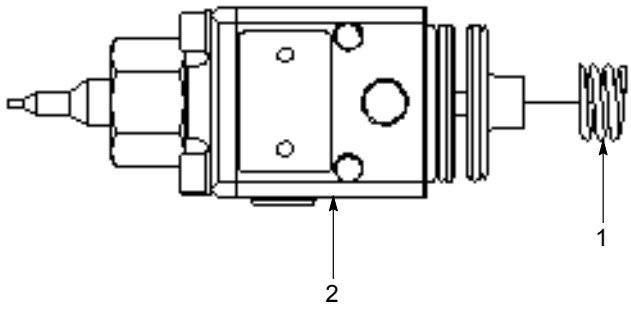
- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove valve cylinder. Refer to *Removal and Installation, Valve Cylinder* for valve cylinder removal procedure.
2. Remove compression spring (1) from piston/needle assembly (2).

Installation

Installation of compression spring (1) is in the reverse order of removal.

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2200−245−042

Figure 7-11 Compression Spring Removal

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Fluid Body

See Figures 7-12, 7-13, 7-14, 7-15, and 7-16

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove seat housing. Refer to *Removal and Installation, Seat Housing* for seat housing removal procedure.
2. Remove valve cylinder. Refer to *Removal and Installation, Valve Cylinder* for valve cylinder removal procedure.
3. Remove piston/needle assembly from fluid body, if necessary. Refer to *Removal and Installation, Piston/Needle Assembly* for piston/needle assembly removal procedure.
4. Remove fluid body air cap O−ring (1) from fluid body (2), if necessary. See Figure 7-12.
5. Utilize a small pick, or equivalent tool, to remove fluid body needle O−ring from fluid body, if necessary. See Figure 7-13.

CAUTION: Be careful not to damage seals, O−rings, bearings, or sealing surfaces with sharp or pointed tools.

6. Remove fluid body flush plug (1) from fluid body (2), if necessary. See Figure 7-14.
7. Utilize a small pick to remove the fluid body seal from the fluid body. See Figure 7-15.

CAUTION: Be careful not to damage seals, O−rings, bearings, or sealing surfaces with sharp or pointed tools.

8. Remove fluid body bushing from fluid body. See Figure 7-16.
9. Remove fluid body flow tube (if equipped). Refer to *Removal and Installation, Fluid Body Flow Tube* for fluid body flow tube removal procedure.

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Installation

Installation of fluid body is in the reverse order of removal. Note the following:

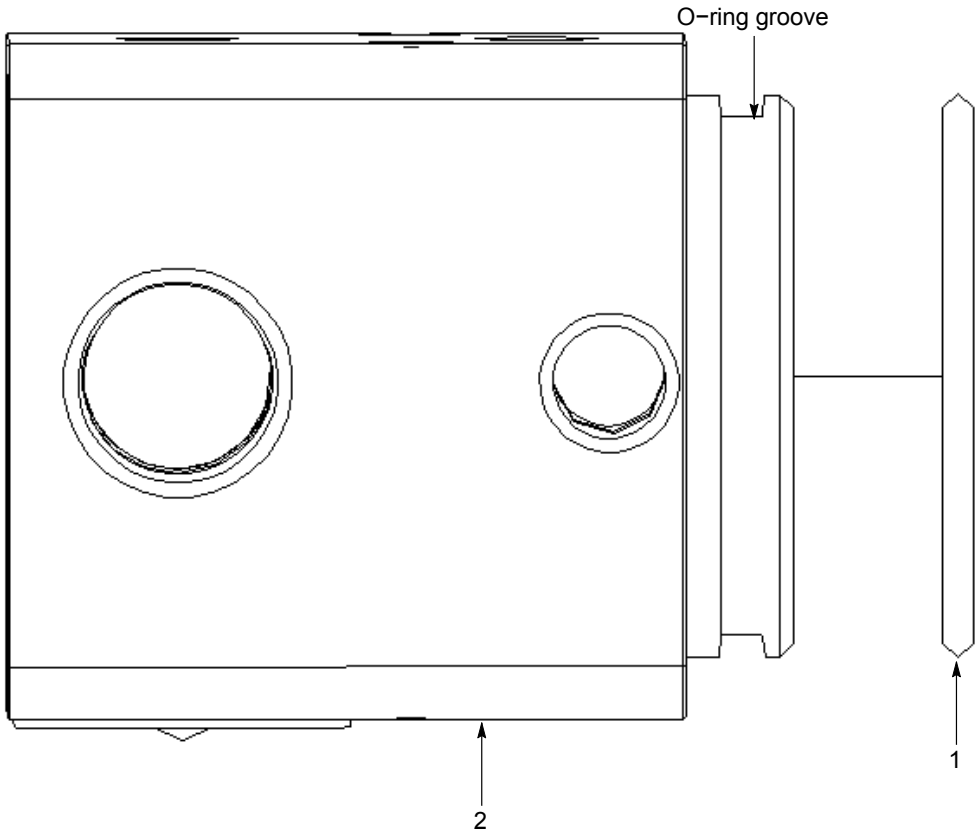
- Apply Permabond®LH150 to flush plug threads.
- Hand tighten fluid body flush plug until it is snug.
- Apply Chevron®Petrolatum Snow™ to fluid body air cap O−ring (1). See Figure 7-12.
- Apply Chevron®Petrolatum Snow™ to fluid body needle O−ring. See Figure 7-13.
- Utilize a blunt object to install fluid body bushing into fluid body.

NOTE: Fluid body bushing should snap into place.

CAUTION:

- Inspect fluid body air cap O−ring (1) for damage. Do not reuse a damaged fluid body air cap O−ring (1). See Figure 7-12.
- Inspect fluid body needle O−ring for damage. Do not reuse a damaged fluid body needle O−ring. See Figure 7-13.
- Install fluid body seal with O−ring facing up.

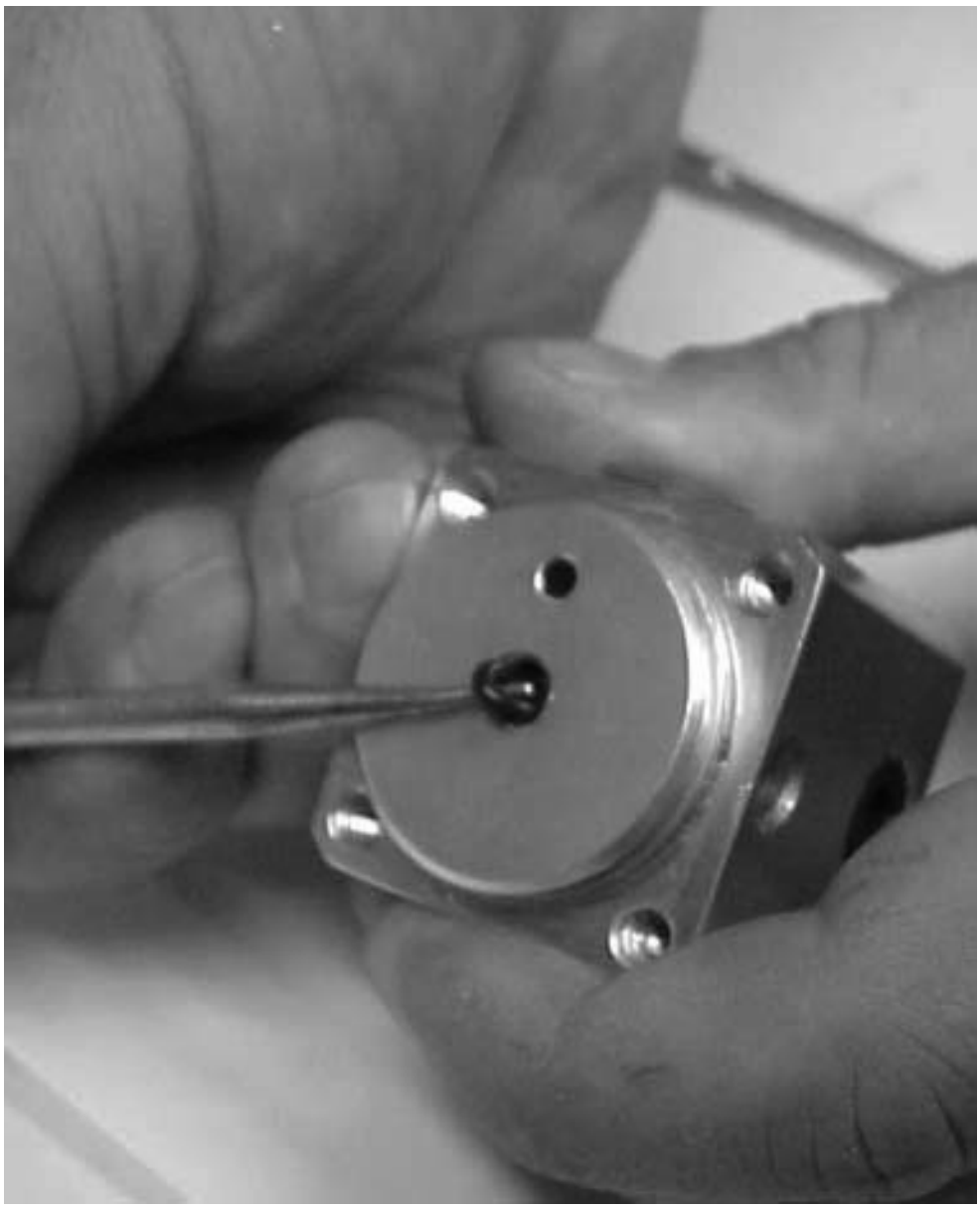
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Figure 7-12 Fluid Body Air Cap O−Ring Removal

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Figure 7-13 Needle O−ring Removal From Fluid Body

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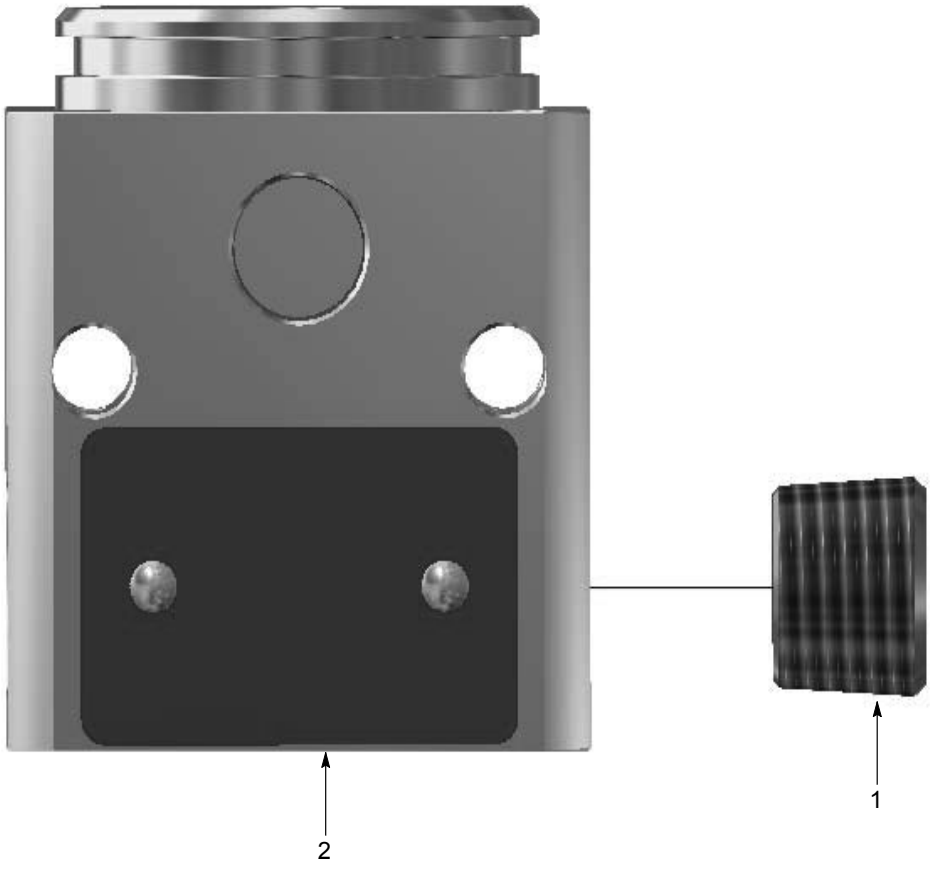


Figure 7-14 Flush Plug Removal From Fluid Body

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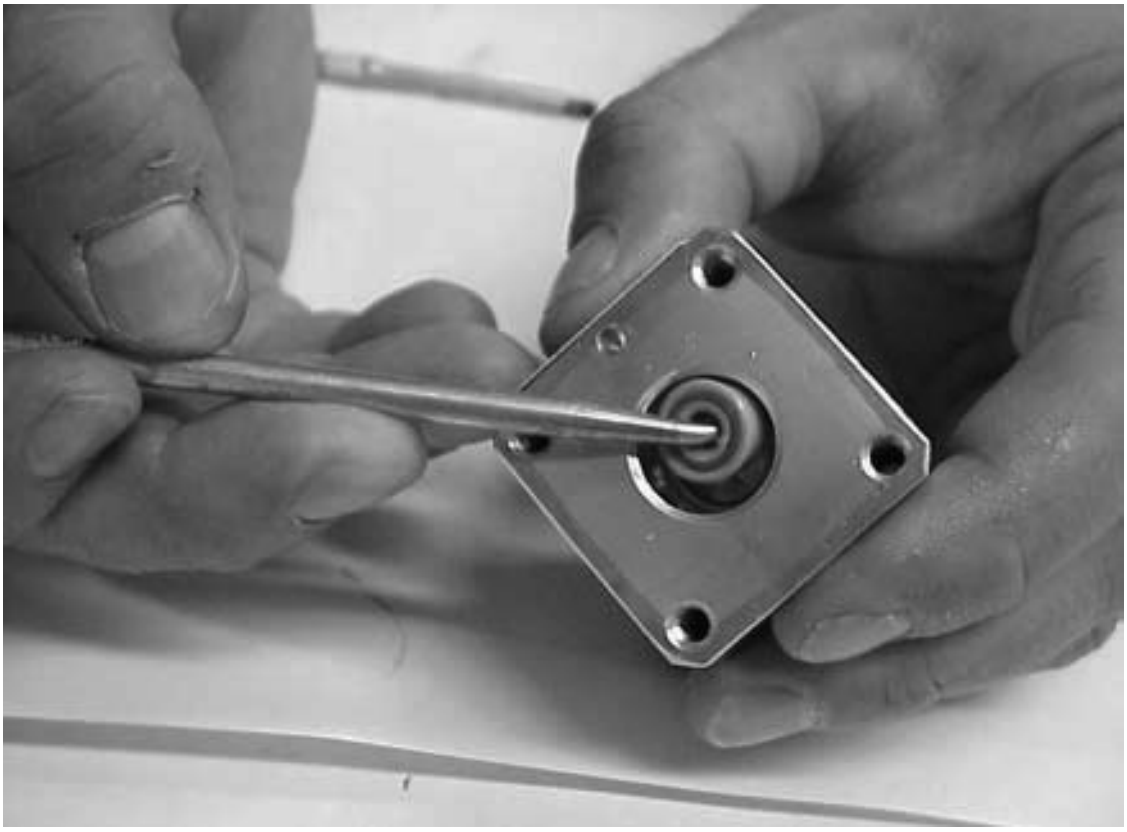


Figure 7-15 Fluid Body Seal Removal

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Figure 7-16 Fluid Body Bushing Removal

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Fluid Body Flow Tube (if equipped)

See Figures 7-17 and 7-18

A fluid body flow tube is installed in manifold style Kiss™ valves. Manifold style Kiss™ valves are recognizable by the presence of two mounting holes and a dowel locator located above the flow tube. See Figure 2−9.

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove Kiss™ valve from material manifold assembly.
2. Remove fluid body flow tube from fluid body. See Figure 7-17.
3. Remove flow tube O−rings (1) from fluid body flow tube, if necessary. See Figure 7-18.
4. Remove flow tube Parbak rings (2) from fluid body flow tube, if necessary. See Figure 7-18.

NOTE: Flow tube O−rings (1) and flow tube Parbak rings (2) are located on each end of the fluid body flow tube. See Figure 7-18.

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Installation

Installation of fluid body flow tube is in the reverse order of removal. Note the following:

- Apply Chevron®Petrolatum Snow™ to flow tube O−rings (1). See Figure 7-18.
- Apply Chevron®Petrolatum Snow™ to flow tube Parbak rings (2). See Figure 7-18.

CAUTION:

- Inspect flow tube O−rings (1) for damage. Do not reuse damaged flow tube O−rings. See Figure 7-18.
- Inspect flow tube Parbak rings (2) for damage. Do not reuse damaged flow tube Parbak rings. See Figure 7-18.
- On models equipped with stroke adjustment, operate valve to see if desired dispense pattern is achieved. Adjust stroke (if necessary) until the desired dispense pattern is observed. Refer to *Removal and Installation, Stroke Adjustment Screw (if equipped)* for stroke adjustment calibration procedure.

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Figure 7-17 Fluid Body Flow Tube Removal From Fluid Body

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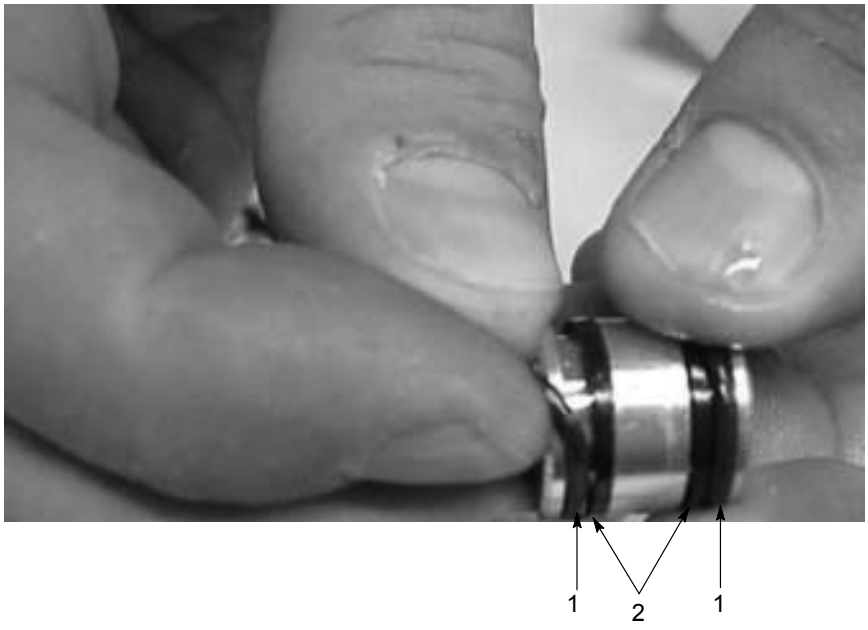


Figure 7-18 O−ring And Parbak Ring Positioning On Fluid Body Flow Tube

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Piston/Needle Assembly

See Figures 7-19, 7-20, 7-21, and 7-22

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove seat housing. Refer to *Removal and Installation, Seat Housing* for seat housing removal procedure.
2. Remove compression spring. Refer to *Removal and Installation, Compression Spring* for compression spring removal and procedure.
3. Remove socket head cap screw (1) from piston/needle assembly (2). See Figure 7-19.

NOTE: Hold the flat (3) of the needle while loosening the socket head cap screw (1). See Figure 7-19.

4. Separate piston (1) from needle (2). See Figure 7-20.
5. Remove piston O−ring (1) from piston (2), if necessary. See Figure 7-21.

CAUTION: Inspect piston O−ring (1) for damage. Do not reuse a damaged piston O−ring. See Figure 7-21.

6. Pull needle (2) from fluid body (1). See Figure 7-22.

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Installation

Installation of piston needle assembly is in the reverse order of removal. Note the following:

- Apply Chevron® Petrolatum Snow™ to piston O−ring (1). See Figure 7-21.

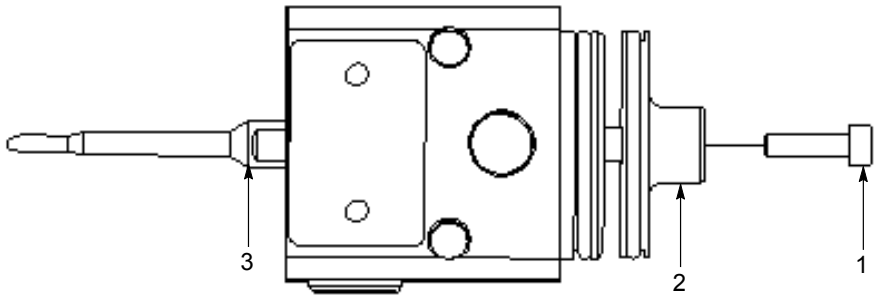
CAUTION: Inspect piston O−ring (1) for damage. Do not reuse a damaged piston O−ring. See Figure 7-21.

- Tighten piston/needle assembly socket head cap screw (1) to 4.5 N•m (40 in.−lb). See Figure 7-19.

CAUTION: Apply Loctite® 242, or equivalent removable thread locker, to piston/needle assembly socket head cap screw (1). See Figure 7-19.

NOTE: Hold the flat (3) of the needle while tightening the piston/needle assembly socket head cap screw (1). See Figure 7-19.

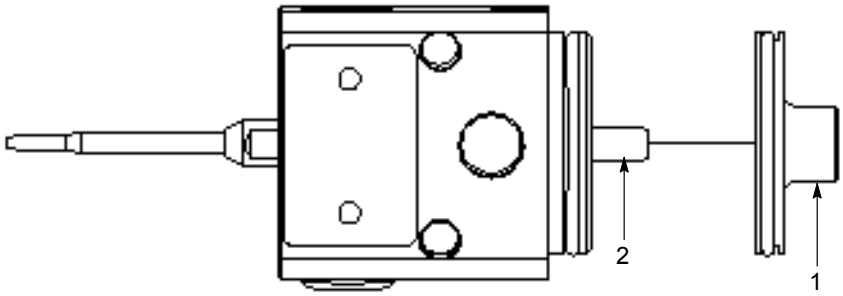
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Figure 7-19 Socket Head Cap Screw Removal From Piston/Needle Assembly

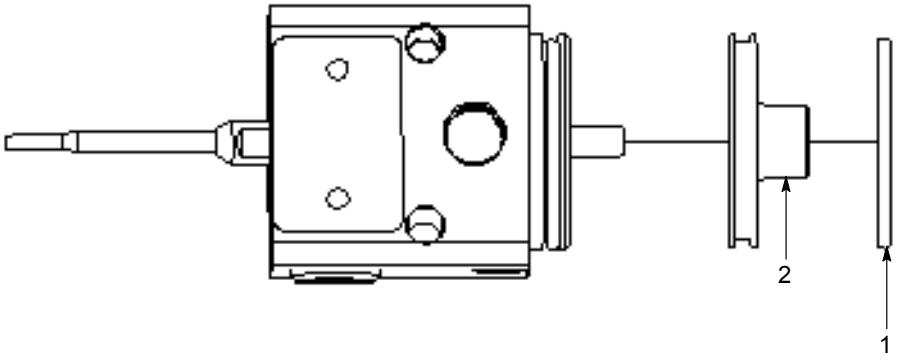
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Figure 7-20 Piston Separation From Needle

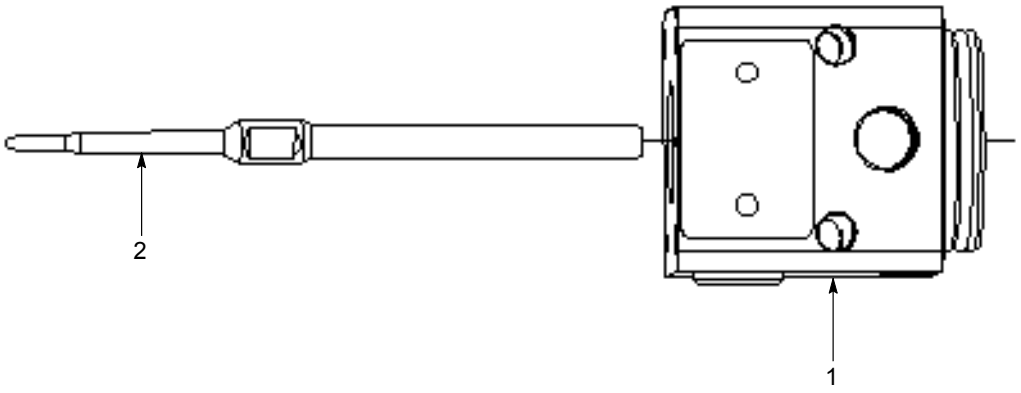
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Figure 7-21 O−ring Removal From Piston

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Figure 7-22 Needle Removal From Fluid Body

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Seat Housing

See Figures 7-23 and 7-25

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove seat housing socket head cap screw (1) and seat housing lock washer (5) from seat housing (2). See Figure 7-23.
2. Separate seat housing (2) from fluid body (4). See Figure 7-23.
3. Remove seat housing O−ring (3). See Figure 7-23.

CAUTION:

- Inspect seat housing O−ring (3) for damage. Do not reuse a damaged seat housing O−ring (3). See Figure 7-23.

4. Remove seat housing retaining nut (1) from seat housing (4), if necessary. Refer to *Removal and Installation, Seat Housing Retaining Nut* for seat housing retaining nut removal procedure. See Figure 7-25.

CAUTION:

- Do not lose seat housing nozzle (2) and seat housing nozzle O−ring (3) once seat housing retaining nut (1) has been removed from seat housing (4). See Figure 7-25.
- Do not reuse damaged seat housing nozzle O−ring (3). See Figure 7-25.

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Installation

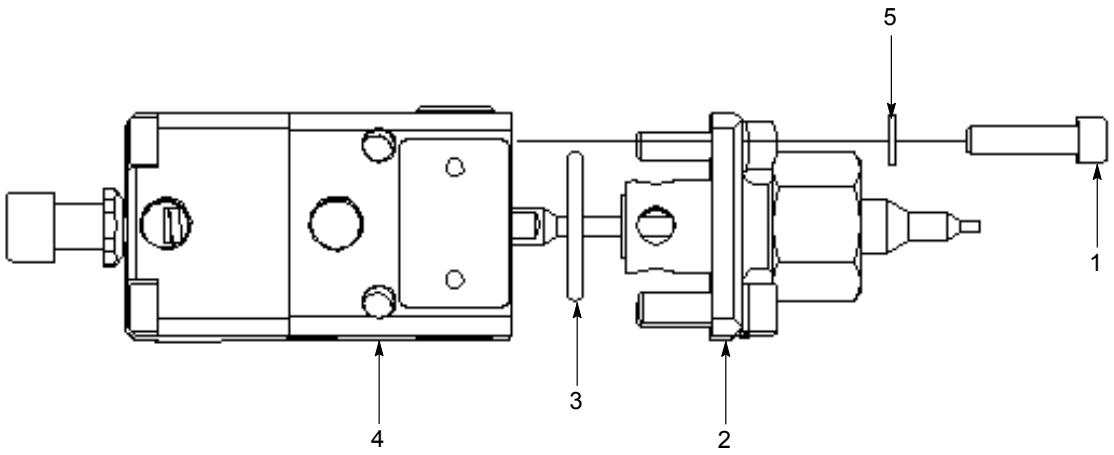
Installation of seat housing is in the reverse order of removal. Note the following:

- Tighten seat housing socket head cap screws (1) to 4.5 N•m (40 in.−lb). See Figure 7-23.
- Apply Chevron®Petrolatum Snow™ to seat housing O−ring (3). See Figure 7-23.
- Apply Chevron®Petrolatum Snow™ to seat housing nozzle O−ring [(3) (if removed)]. See Figure 7-25.

CAUTION:

- Inspect seat housing O−ring (3) for damage. Do not reuse a damaged seat housing O−ring. See Figure 7-23.
- Inspect seat housing nozzle O−ring (3) for damage. Do not reuse a damaged seat housing O−ring (3). See Figure 7-25.
- On models equipped with stroke adjustment, operate valve to see if desired dispense pattern is achieved. Adjust stroke (if necessary) until the desired dispense pattern is observed. Refer to *Removal and Installation, Stroke Adjustment Screw (if equipped)* for stroke adjustment calibration procedure.

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Figure 7-23 Seat Housing Removal

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Seat Housing Nozzle

See Figures 7-24

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove seat housing retaining nut. Refer to *Removal and Installation, Seat Housing Retaining Nut* for seat housing retaining nut removal procedure.
2. Remove seat housing nozzle (1).
3. Remove seat housing nozzle O−ring (2) from seat housing nozzle (1), if necessary.

CAUTION: Inspect seat housing nozzle O−ring (2) for damage. Do not reuse a damaged seat housing nozzle O−ring (2).

Installation

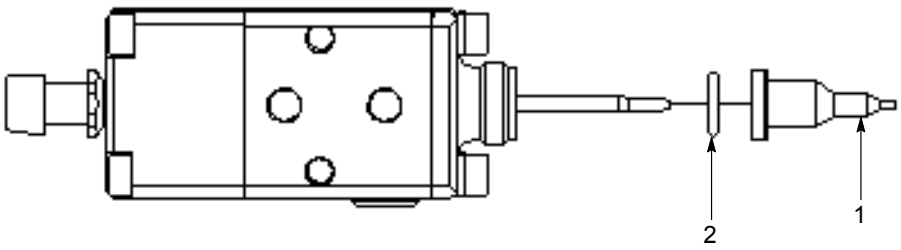
Installation of seat housing nozzle is in the reverse order of removal. Note the following:

- Apply Chevron®Petrolatum Snow™ to seat housing nozzle O−ring (2).

CAUTION:

- Inspect seat housing nozzle O−ring (2) for damage. Do not reuse a damaged seat housing nozzle O−ring (2).
- On models equipped with stroke adjustment, operate valve to see if desired dispense pattern is achieved. Adjust stroke (if necessary) until the desired dispense pattern is observed. Refer to *Removal and Installation, Stroke Adjustment Screw (if equipped)* for stroke adjustment calibration procedure.

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Figure 7-24 Seat Housing Nozzle

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Seat Housing Retaining Nut

See Figure 7-25

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Unscrew seat housing retaining nut (1) from seat housing (4).
2. Remove seat housing retaining nut gasket (if equipped).

CAUTION: Inspect seat housing retaining nut gasket. Do not reuse damaged seat housing retaining nut gasket.

3. Remove seat housing nozzle (2), if necessary. Refer to *Removal and Installation, Seat Housing Nozzle* for seat housing nozzle removal procedure.

CAUTION:

- Do not lose or damage seat housing nozzle O−ring (3).
- Do not reuse damaged seat housing nozzle O−ring (3).

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Installation

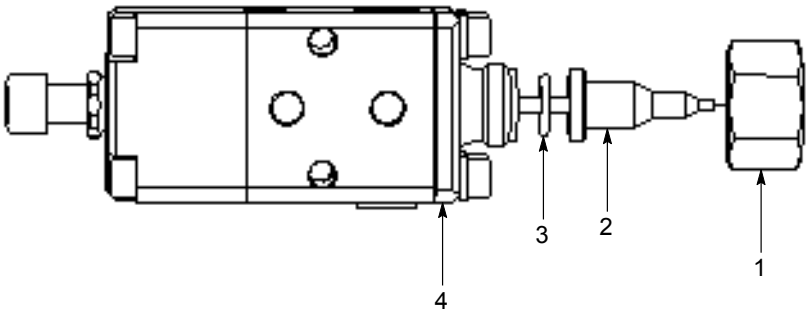
Installation of seat housing retaining nut is in the reverse order of removal. Note the following:

- Hand tighten seat housing retaining nut (1) until it is snug. See Figure 7-25.

CAUTION:

- Do not reuse damaged seat housing nozzle O−ring (3).
- Do not reuse damaged seat housing retaining nut gasket (if equipped).

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Figure 7-25 Seat Housing Retaining Nut And Seat Nozzle

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Stroke Adjustment Screw (if equipped)

See Figures 7-26 and 7-27

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove Kiss™ valve from material manifold assembly (if necessary).
2. Loosen stoke adjustment lock nut (2). See Figure 7-26.

NOTE: Utilize an adjustable wrench, or equivalent, to loosen stroke adjustment lock nut (2) while holding stroke adjustment socket head cap screw (1) with a ¼ inch hex key. See Figure 7-26.

3. Remove stroke adjustment socket head cap screw (1) and stroke adjustment lock nut (2) from valve cylinder (3). See Figure 7-26.
4. Remove stroke adjustment lock nut (2) from stroke adjustment socket head cap screw (1), if necessary. See Figure 7-26.

CAUTION:

- Inspect stroke adjustment lock nut nylon seal for damage.
- Do not reuse stroke adjustment lock nut (2) which has a damaged nylon seal. See Figure 7-26.

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Installation

1. Install stroke adjustment lock nut (2) onto stroke adjustment socket head cap screw [(1) (if removed)]. See Figure 7-26.

CAUTION:

- Inspect stroke adjustment lock nut nylon seal for damage.
- Do not reuse stroke adjustment lock nut (2) which has a damaged nylon seal. See Figure 7-26.

2. Position stroke adjustment lock nut (2) towards the top of the stoke adjustment socket head cap screw (1). See Figure 7-27.

NOTE:

- Utilize an adjustable wrench, or equivalent, to loosen stroke adjustment lock nut while holding stroke adjustment socket head cap screw with a ¼ inch hex key.

3. Screw a few threads of stroke adjustment socket head cap screw (1) into valve cylinder (3). See Figure 7-26.
4. Calibrate Kiss™ valve. Refer to *Removal and Installation, Stroke Adjustment Screw (if equipped), Calibration* for stroke adjustment calibration procedure.

Calibration

1. Screw stroke adjustment socket head cap screw (1) into valve cylinder (3) until it stops. See Figure 7-26.

CAUTION: Ensure there is no air or material pressure.

NOTE:

- When air pressure is not applied, valve spring pressure will keep valve piston in a closed position.
- Stroke adjustment socket head cap screw will reach stop point when it has contacted valve piston.

2. Restore air and material pressure.
3. Tighten stroke adjustment lock nut (2) until it contacts valve cylinder (3). See Figure 7-26.

NOTE: Utilize an adjustable wrench, or equivalent, to tighten stroke adjustment lock nut while holding stroke adjustment socket head cap screw with a ¼ inch hex key.

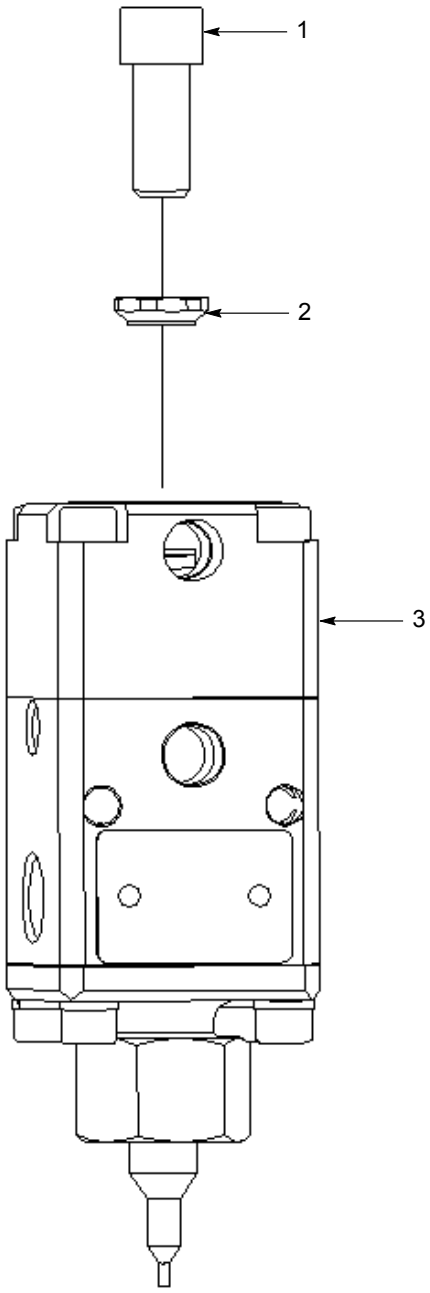
4. Operate the valve to see if the desired dispense pattern is achieved.
5. Continue to make fine adjustments with the stroke adjustment socket head cap screw until the desired dispense pattern is observed.

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WARNING:

- To prevent personal injury or damage to equipment, do not loosen stroke adjustment socket head cap screw more than 3 ¾ turns from its contact position with the valve piston.
- Loosening the stroke adjustment socket head cap screw more than 3 ¾ turns will cause it to completely separate from the valve cylinder.

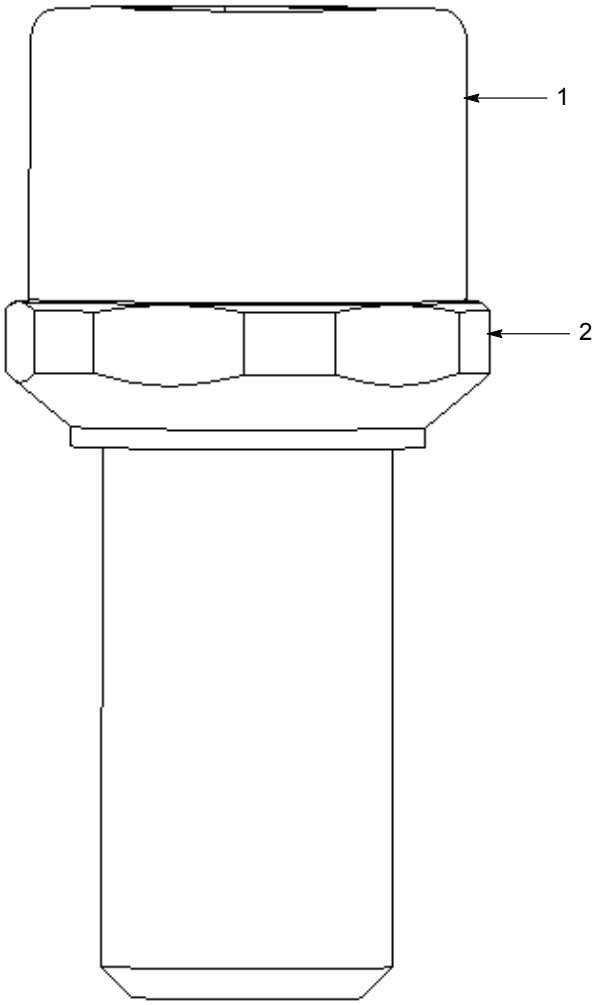
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Figure 7-26 Stroke Adjustment Socket Head Cap Screw Removal

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Figure 7-27 Stroke Adjustment Lock Nut Positioned Upwards

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Valve Cylinder

See Figure 7-28

Removal

WARNING:

- Depressurize the dispense system before making any repairs. Failure to observe this warning may result in serious personal injury.
- Follow and apply lockout and tag out procedures while servicing this equipment to avoid serious personal injury.
- Relieve system air pressure.
- Relieve material pressure.
- Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

1. Remove valve cylinder socket head cap screws (1).
2. Remove valve cylinder (2) from fluid body (3).

CAUTION: Do not lose or damage compression spring. Do not reuse a damaged compression spring.

3. Remove stroke adjustment socket head cap screw from valve cylinder (if necessary). Refer to *Removal and Installation, Stroke Adjustment Screw* for stroke adjustment screw removal procedure.

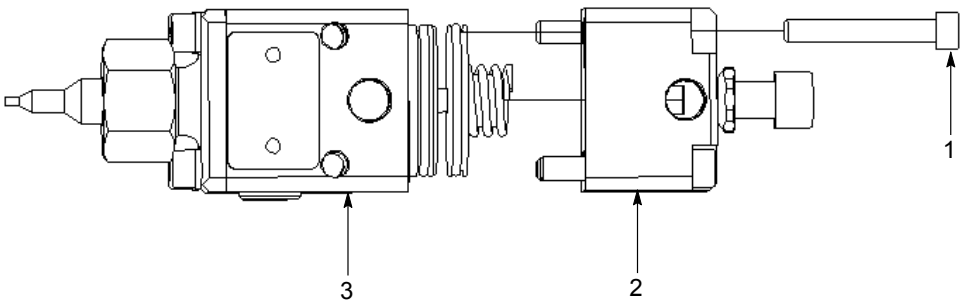
Installation

Installation of valve cylinder is in the reverse order of removal. Note the following:

- Tighten valve cylinder socket head cap screws (1) to 4.5 N•m (40 in.−lb).
- On models equipped with stroke adjustment, operate valve to see if desired dispense pattern is achieved. Adjust stroke (if necessary) until the desired dispense pattern is observed. Refer to *Removal and Installation, Stroke Adjustment Screw (if equipped)* for stroke adjustment calibration procedure.

CAUTION: Do not lose or damage compression spring. Do not reuse a damaged compression spring.

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Figure 7-28 Valve Cylinder Removal

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SEALANT EQUIPMENT

CE

ISO 9001:2008 CERTIFICATION

DECLARATION OF INCORPORATION

Manufacturer	:	Sealant Equipment and Engineering
Address	:	28775 Beck Rd • Wixom, Michigan • 48393 • USA
Phone	:	1 (248) 412-7920
Web Address	:	www.nordson.com/en/divisions/sealant-equipment/
Product	:	245 1K Dispense Valves
Model(s)	:	2200-245 Series
Directives	:	2006/42/EC - Machinery Directive
Test Standards	:	EN ISO 12100:2010, EN 12266-1:2012 EN 12266-2:2012
Date of Issue	:	Feb 19, 2019
Signature	:	
Name & Title	:	*David Groat ~ Senior Design Engineer*

Declaration # EC-1812-000