



EQUIPMENT Operation Manual



**Loctite® High Pressure Cartridge Dispenser
IDH Number 1046901**

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1. Please Observe the Following

1.1 Emphasized Sections



WARNING!

Refers to safety regulations and required measures that protect the operator or other persons from injury or danger to life.



Caution!

Emphasizes what must be done or avoided so that the unit or other property is not damaged.



Notice:

Gives recommendations for better handling of the unit during operation or adjustment, as well as for service activities.

1.2 Items Supplied

- 1 High Pressure Cartridge Dispenser
- 2 Cartridge Adaptor Inserts
- 1 PTFE Lined Stainless Steel Braided Feedline (2m Length)
- 1 Power Cord
- 1 XS2 Connection Cable
- 1 Low Level Sensor with Cable (1m Length) – Already Installed
- 1 Air Supply Line (2m Length)
- 1 Lubricant Oil
- 1 Operation Manual

1.3 For Your Safety

For safe and successful operation of the unit, read these instructions completely. If the instructions are not observed, the manufacturer can assume no responsibility. Be sure to retain this manual for future reference.



Damage to the power cable and electrical junction box can result in contact with live electrical circuits. Check for damage to the electrical circuit before each use. If the unit is damaged, do not operate.



Do not expose the power cable to heat, oil, or sharp edges.



Make sure the dispenser stands stable and secure.



Use only Loctite® original equipment replacement parts.



Always disconnect the power supply before servicing the unit.



Observe general safety regulations for the handling of chemicals such as Loctite® adhesives and sealants. Observe the manufacturer instructions as stated in the Material Safety Data Sheet (MSDS).



While under warranty, the unit must be repaired by an authorized Loctite® brand service representative.

1.4 Field of Application, (Intended Usage)

The Loctite® High Pressure Cartridge Dispenser is designed for dispensing high viscosity 1-component adhesives and sealants. Compatible Loctite® product chemistries include: Silicone, Polyurethane and MS polymer adhesives. The dispenser can be used as a manual dispenser or integrated with a controller and dispensing valve for automated dispensing.

1.5 Unpacking and Inspection

Carefully unpack the Loctite® High Pressure Cartridge Dispenser and examine the items contained in the carton. Inspect the unit for any damage that might have occurred in transit. If such damage has occurred, notify the carrier immediately. Claims for damage must be made by the consignee to the carrier and should be reported to the manufacturer.

2. Description

2.1 Theory of Operation

The Loctite® High Pressure Cartridge Dispenser is an integrated system for dispensing high viscosity materials packaged in 300ml cartridges.

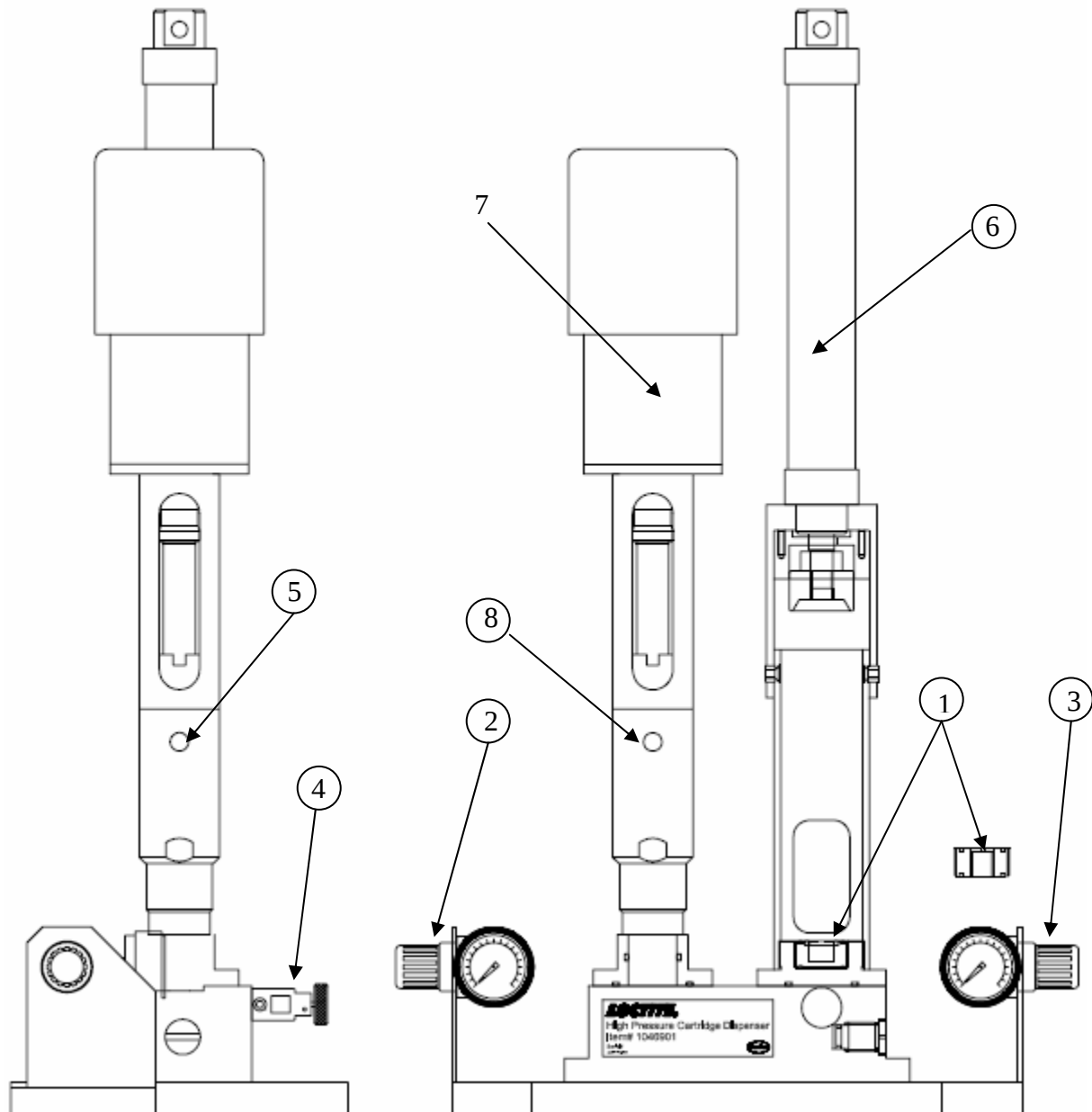
The cartridge dispenser consists of three main components: the pneumatic priming ram, adhesive reservoir block and the 10:1 pump. The pneumatic ram is used to provide a low pressure feed of adhesive to the reservoir block. The 10:1 pump draws product from the reservoir block and amplifies the pressure by a factor of 10 and feeds the product through a feedline to the valve.

The unit has two regulators to control the pressure of the pneumatic priming ram and the 10:1 pump. By increasing the pressure of either of these regulators the outlet pressure of the dispenser will be increased. The primary product regulation should be controlled using the pump regulator and the pneumatic ram regulator should be set to supply product at just enough pressure to feed the reservoir.

The 110 – 240VAC power cable plugs to the electrical junction box and supplies power to the 10:1 pump via the low level relay.

The low level sensor is mounted to the pneumatic priming ram to indicate when the adhesive cartridge is empty. When activated, the low level sensor will provide a signal to the COM port on the electrical box and turn the 10:1 pump off.

2.2 Dispenser components



1. Cartridge Insert (JPN and Fischbach Cartridge)
2. Pump Pressure Regulator
3. Cartridge Pusher Pressure Regulator
4. Priming Valve
5. Fluid Outlet
6. Cartridge Pusher
7. Pump Tower
8. Secondary Priming Outlet

3. Technical Data

Size	Width: 355mm (14") Depth: 210mm (8.3") Height: 687mm (27")
Weight	5.0kg (11lb)
Input Voltage	110 – 240 VAC 50/60 Hz Voltage fluctuation not to exceed 10% of nominal voltage
Rated Power	20W
Air Supply	6bar (85psi) maximum
Dispensing Pressure	50bar (725psi) maximum
Operating Temperature	-20°C to +50°C (-4°F to +120°F)
Air Consumption	0.7 CFM (80 Liter/min) maximum
Pump Cycle Rate	200 cycles/minute maximum
Adhesive Viscosity	10,000 – 1,000,000cPs

4. Installation

4.1 Connecting the unit air and power supply

1. Ensure that the pneumatic priming ram switch is in the “up” position.
2. Connect 5-7bar (70-100 psi) dry, filtered air supply to air inlet fitting. Make sure the air inlet pressure is at least 5bar (70 psi).
3. Adjust both pump and pneumatic ram regulators to 0 bar.
4. Connect the power supply cable to the electrical junction box and turn the power switch to the “on” (illuminated) position.

4.2 Connecting a dispense controller

1. Connect the controller 97101 per the controller installation procedure.
2. Connect the controller “reservoir” air outlet to the pneumatic fitting on cartridge dispenser electrical junction box using the supplied air line.
3. Connect the low level sensor cable to connect between the electric junction box COM port and the 97101 low level sensor input.

4. Installation (continued)

4.3 Setting the low level sensor

1. Insert an empty cartridge into the cartridge holder and screw firmly into the cartridge insert to enable a positive seal.
2. Assemble the pneumatic ram onto the cartridge holder.
3. Increase the pneumatic ram regulator to 0.5bar (7psi) and move the pneumatic ram switch to the “down” position.
4. The pneumatic ram should move down the cartridge and activate the low level sensor. If the low level sensor does not activate, it means that the plunger of the pneumatic ram needs to be adjusted.
5. Once the low level sensor is activated, unscrew the low level sensor from the side of the pneumatic ram and move it down until it deactivates. From this position, move it back in 1-2mm increments until the sensor activates.
6. Tighten the low level sensor screw to maintain this position.

4.4 Installation of cartridge insert

1. Select the cartridge insert that matches the threaded connection of the 300ml adhesive cartridge being used.
2. Remove the pneumatic ram and then unscrew the cartridge holder from the reservoir block assembly. This can be accomplished by turning the cartridge holder in an counter-clockwise direction.
3. Install the cartridge insert into the reservoir block ensuring that the o-ring on the cartridge insert is facing down (towards the reservoir block). Tighten with the suitable tool.
4. Replace the cartridge holder.



The pneumatic ram can cause injury when removed from the cartridge holder. While disassembled, ensure that the air supply is disconnected or the pneumatic ram regulator is set to a low pressure to ensure slow movement of the ram.

4.5 Connecting the feedline and valve

1. Connect the supplied stainless steel braided feedline to the pump unit outlet valve located at the front of the pump.
2. Connect the valve to the other end of the feed line.
3. The recommended adhesive dispensing valve for the High Pressure Cartridge Dispenser is a Loctite[®] 50bar/5mm Dispense Valve (IDH#1049138), which is high-pressure, suck-back type dispense valve.
4. The opening and closing function of the valve is controlled by connecting the airlines to the valve controller (e.g. 97101).

4.5 Pump lubrication

1. The pump seal pack is lubricated via an oil reservoir located at the top of the pump (this can be seen by looking at the bottom of the pump shaft).
2. Fill the reservoir with the supplied paraffin oil until it is approximately $\frac{3}{4}$ full.

5. Operating the Unit

5.1 Installing the adhesive cartridge

1. Place the pneumatic ram switch in the “up” position.
2. Remove the pneumatic ram from the cartridge holder.
3. Cut the end of the adhesive cartridge to expose product.
4. Insert the cartridge into the cartridge holder and screw it into the cartridge insert firmly to ensure a positive seal.
5. Replace the pneumatic ram.

5.2 Priming the reservoir block

1. Unscrew the valve on the front of the reservoir block until the incorporated bleed hole is partially visible.
2. Move the pneumatic ram switch to the “down” position and slowly increase the regulator to 1bar (15psi) pressure.
3. The ram will move down into the cartridge and start to push the adhesive into the reservoir block.
4. Observe the reservoir block bleed valve.
5. As soon as product is observed at the bleed valve, move the pneumatic ram switch back to the “up” position.
6. Close the bleed valve and wipe away any excess adhesive.
7. The reservoir is now primed.

5.3 Priming the pump

1. Close the adhesive feedline valve.
2. Open the pump priming valve located on the right hand side of the pump.
3. Connect the included piece of clear tubing to the valve to easily observe product being primed.
4. Move the pneumatic ram switch to the “down” position and slowly increase the regulator to 1bar (15psi) pressure.
5. Ensuring that the unit is turned on, increase the pump regulator pressure to 15psi
6. The pump should move rapidly until adhesive is drawn into the intake. If the pump stalls, continue to increase the pressure until the pump is moving at a smooth controlled pace.
7. Observe the pump bleed valve.
8. As soon as the product is observed approaching the end of the bleed tubing, close the pump bleed valve. The pump should stall.
9. The pump is now primed.



Priming the reservoir block, pump and feedline will consume approximately 200ml of adhesive.

5. Operating the Unit (continued)

5.4 Priming the feedline and dispensing

1. Connect the valve to a controller and open the valve by pressing the purge button on the controller (alternatively if you don't want to hold the purge button down for a period of time, connect air to the valve to continuously hold open).
2. Open the main feedline valve on the pump.
3. The pump should start to operate.
4. Increase the pressure until the pump is operating smoothly.



The viscosity of the dispensed adhesive will determine the pump pressure setting and purge time.

5. After a short period of time, product should start to be dispensed from the valve (if no product is observed after some time and the pump is operating, increase the pump pressure to move the product through the feedline faster).
6. Continue to dispense approximately 50ml of product until no air bubbles are observed.
7. Release the valve purge button on the controller.
8. The system is now primed and ready to operate.

5.5 Adjusting dispense rate

1. Increase or decrease the pump regulator pressure to achieve the desired flow rate through the valve.
2. Valve needle size will affect dispense rate. A smaller needle will require higher pump pressures to dispense at the same rate.

6. Care and Maintenance



Caution!

Ensure that the pump oil reservoir is maintained with oil. If the oil reservoir is empty for extended periods, the actuator seal pack can wear prematurely and start to leak product, eventually seizing the pump.



Notice:

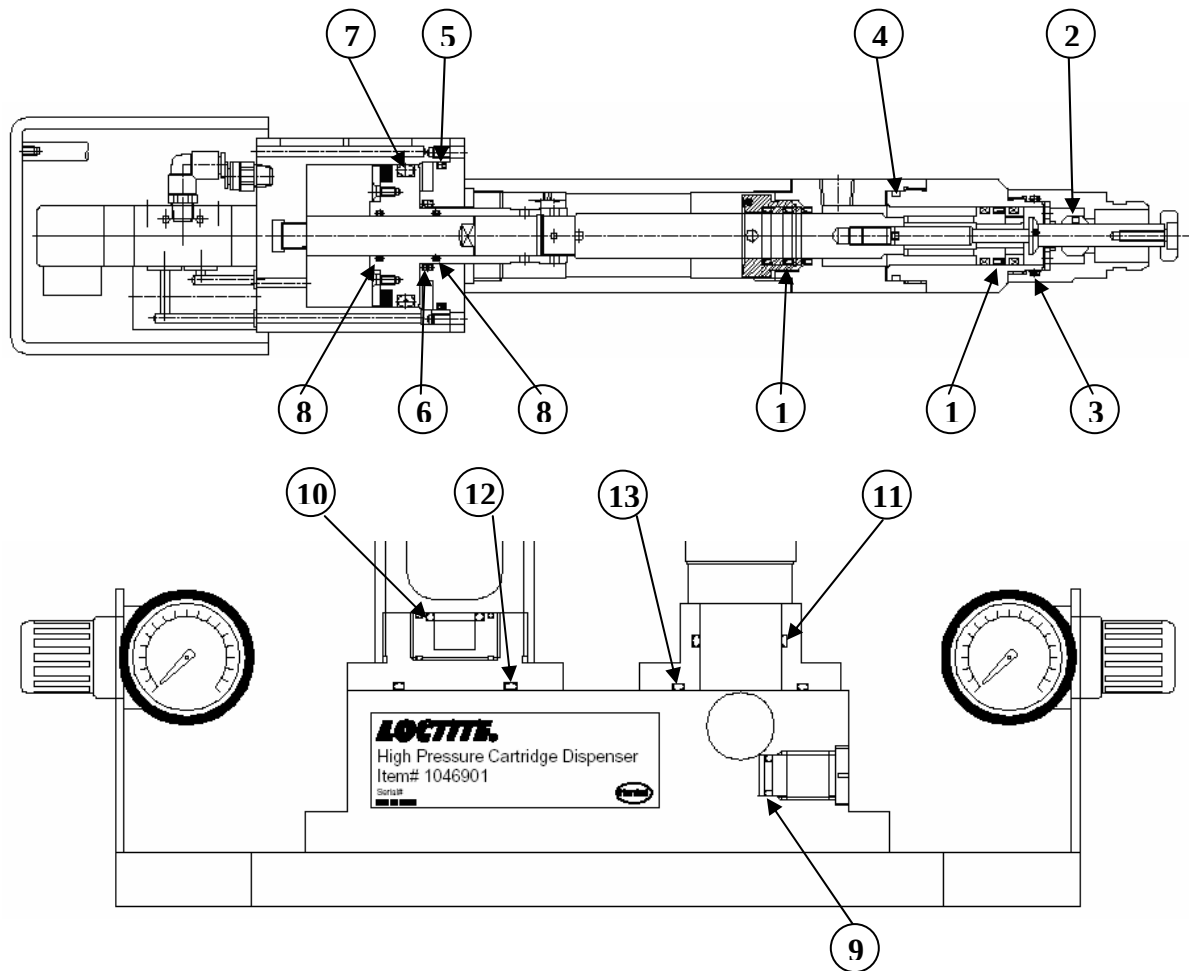
Moisture curing adhesives are typically difficult to clean from surfaces once cured. Wipe any excess adhesive from surfaces as soon as possible.



Notice:

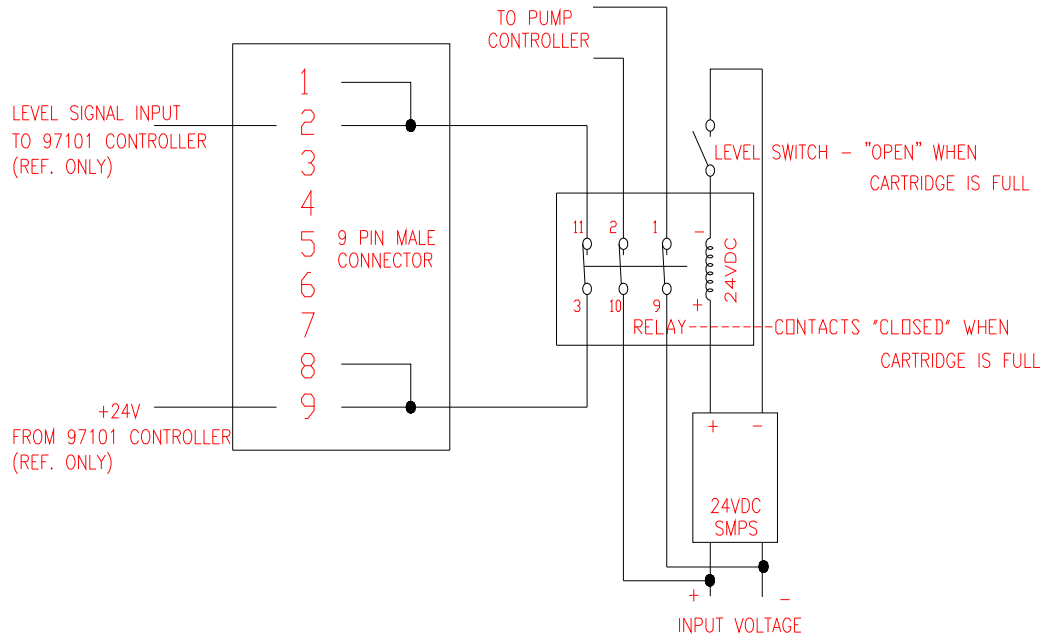
To prevent curing of moisture curing adhesives (e.g. valve nozzle), dip or pour paraffin oil onto the adhesive to prevent contact with moisture/humidity. Paraffin oil can also be used to purge silicone adhesives from the dispenser.

6. Care and Maintenance (continued)



Number		Description
1	Actuator Seal Kit – 1049136	Mupu Seal – 40S
2	Actuator Seal Kit – 1049136	Check Seal – Acetal
3	Actuator Seal Kit – 1049136	O-Ring – Viton – G30
4	Actuator Seal Kit – 1049136	O-Ring – Viton – G35
5	Motor Seal Kit – 1049137	O-Ring – NBR – G60
6	Motor Seal Kit – 1049137	O-Ring – NBR – P25
7	Motor Seal Kit – 1049137	O-Ring – NBR – P50A
8	Motor Seal Kit – 1049137	O-Ring – Urethane – P18
9	O-Ring Kit – 1049135	O-Ring – Viton – P11
10	O-Ring Kit – 1049135	O-Ring – Viton – P22
11	O-Ring Kit – 1049135	O-Ring – Viton – G30
12	O-Ring Kit – 1049135	O-Ring – Viton – G40
13	O-Ring Kit – 1049135	O-Ring – NBR – G45

7. Electrical Wiring Diagram



8. Troubleshooting

MALFUNCTION	POSSIBLE CAUSE	CORRECTIVE ACTION
Product is leaking onto pump shaft	Actuator seal pack is worn	Remove pump motor, bracket and oil reservoir and replace seal pack.
	Oil seal reservoir is not tight	Remove pump motor and bracket and tighten the oil reservoir.
Product is leaking from cartridge insert	Cartridge insert loose	Remove cartridge holder and tighten insert with supplied tool.
	Threads of cartridge or cartridge insert are damaged	Replace cartridge or cartridge insert.
	Cartridge insert o-ring is damaged	Replace cartridge insert o-ring.
Pump does not operate	Low level sensor activated	Replace empty adhesive cartridge.
	Pressurized supply line	Check that feedline valve and dispensing valve are open.
	Blocked supply line	Ensure that feedline and valve are not blocked.
	No power	Check that power is connected to the unit and the power is switched on.
	No air pressure	Check pump regulator pressure and air supply to pump motor.
	No power to pump motor	Remove electrical junction box cover and check relay and electrical contacts.

8. Troubleshooting (continued)

MALFUNCTION	POSSIBLE CAUSE	CORRECTIVE ACTION
Pump is pumping erratically	Actuator seals are worn	Remove pump motor and bracket and remove pump body. Replace actuator seals.
	Pump is blocked	Remove pump motor and bracket and remove pump body. Clean pump and replace actuator seals.
	Reservoir contains air pocket	Purge pump using the pump purge valve.
Pneumatic ram does not operate	No air pressure	Check regulator pressure and pneumatic circuit.
Cannot prime reservoir block. No product flowing from reservoir purge valve.	Blocked reservoir	Check that there is no cured product blocking the reservoir or bleed valve.
	No/low pneumatic ram pressure	Increase pneumatic ram pressure and ensure that pneumatic ram switch is "down".
Cannot prime pump – no product flowing from purge valve	Blocked reservoir / pump bleed valve	Check that there is no cured product blocking the reservoir or bleed valve.
	Pump does not operate	See corrective action above.
Dispense valve does not open	Cured adhesive inside valve	Disassemble valve and clean adhesive.
	No pressure to valve	Check pressure to valve body.
	Valve mechanism jammed	Try to manually open valve by pushing the shaft in the direction of the valve outlet.
Product flows from pump purge valve but not dispense valve	Pressurized supply line	Check that feedline valve and dispensing valve are open.
	Blocked supply line	Ensure that feedline and valve are not blocked
Low level sensor not signaling controller	Low level sensor position not correct	Follow procedure "4.3 Setting the low level sensor".
	Electrical circuit broken	Remove electrical junction box cover and check relay and electrical contacts.
	Low level sensor cable not connected	Check connections between dispenser and controller.

9. Accessories and Spare Parts

Loctite Item Number	Description
Accessories	
1049138	Loctite® 50bar/5mm Dispense Valve
1070269	Mounting Bracket for Dispense Valve 1049138
97101	Loctite® Digital Dispense Controller
Spare Parts	
97201	Loctite® Foot Switch
1241821	Teflon Lined Stainless Steel Braided Feedline 13mm x 1m
1241780	Teflon Lined Stainless Steel Braided Feedline 6mm x 2m
1049135	O-Ring Kit
1049136	Actuator Seal Kit
1049137	Motor Seal Kit
989165	Secondary Pressure Regulator w/Isolator & Gauge
1118939	JPN Cartridge Insert
1118940	Fischbach Cartridge Insert
1118971	Low Level Sensor with Cable

EQUIPMENT WARRANTY

For Loctite® High Pressure Cartridge Dispenser

Henkel expressly warrants that all products referred to in this Instruction Loctite® High Pressure Cartridge Dispenser 1046901 (hereafter called "Products") shall be free from defects in materials and workmanship. Liability for Henkel shall be limited, at its option, to replacing those Products which are shown to be defective either in materials or workmanship or to credit to the purchaser the amount of the purchase price thereof (plus freight and insurance charges paid therefore by the user). The purchaser's sole and exclusive remedy for breach of warranty shall be such replacement or credit.

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No Products shall be returned to Henkel for any reason without prior written approval from Henkel. Products shall be returned freight prepaid, in accordance with instructions from Henkel.

NO WARRANTY IS EXTENDED TO ANY EQUIPMENT WHICH HAS BEEN ALTERED, MISUSED, NEGLECTED, OR DAMAGED BY ACCIDENT, OR IF THE SYSTEM USED TO DISPENSE ANY LIQUID MATERIAL OTHER THAN LOCTITE® PRODUCTS.

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Henkel Corporation
One Henkel Way
Rocky Hill, CT 06067-3910
USA

Henkel Canada Corporation
2225 Meadowpine Boulevard
Mississauga, Ontario L5N 7P2
CANADA

Henkel Corporation
Automotive/ Metals H.Q.
32100 Stephenson Hwy,
Madison Heights 48071
USA

Henkel Capital, S.A. de C.V.
Calzada de la Viga s/n Fracc. Los
Laureles
Loc. Tulpetlac, C.P. 55090
Ecatepec de Morelos, MEXICO

Henkel Singapore Pte Ltd
401, Commonwealth Drive
#03-01/02 Haw Par Technocentre
SINGAPORE 149598

Henkel (China) Company Ltd.
No. 928 Zhang Heng Road,
Zhangjiang, Hi-Tech Park, Pudong,
Shanghai, China 201203

Henkel Loctite Korea
8F, Mapo Tower, 418,
Mapo-dong, Mapo-gu,
Seoul, 121-734, KOREA

Henkel Japan Ltd.
27-7 Shin Isogo-cho, Isogo-ku
Yokohama, 235-0017
JAPAN

www.equipment.loctite.com

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