Single Acting and Double Acting Bead Spray Guns for RoadLazer™ RoadPak™ Line Striping System

308612N
EN

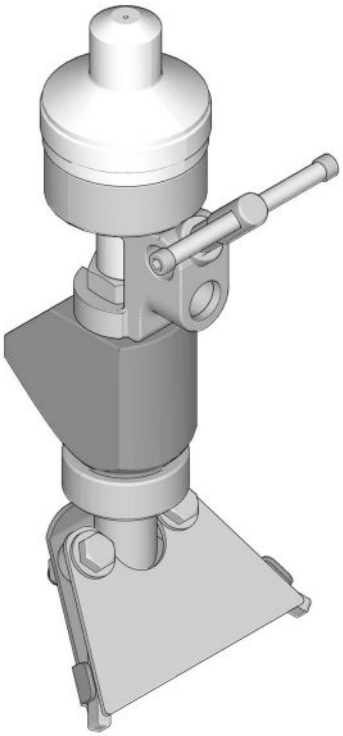
- For the application of road marking reflective materials -
- For professional use only -

Model: 238338 - Single Acting Bead Spray Gun
Model: 24G979 - Double Acting Bead Spray Gun **II 2 G EX h IIA T6 Gb**

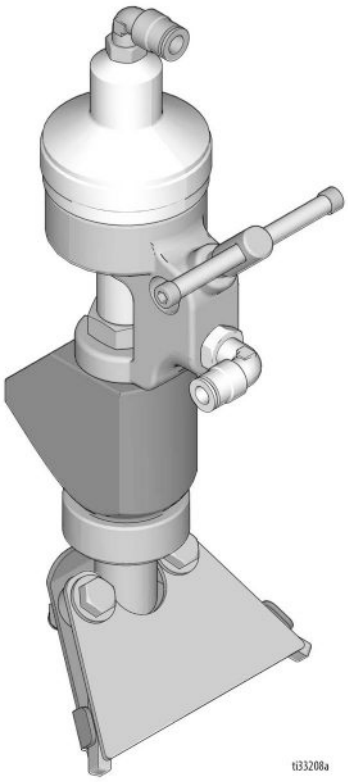
200 psi (1.38 MPa, 13.8 bar) Maximum Working Pressure

Important Safety Instructions
Read all warnings and instructions in this manual. Save these instructions.

Single Acting Bead Spray Gun



Double Acting Bead Spray Gun



Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

⚠WARNING



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure. Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



PERSONAL PROTECTIVE EQUIPMENT

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

CALIFORNIA PROPOSITION 65

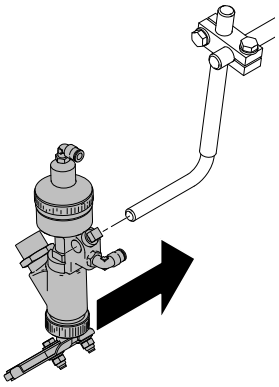
The engine exhaust from this product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Installation

Accessories are available from Graco. Be sure all accessories are properly sized to withstand the pressures in the system.

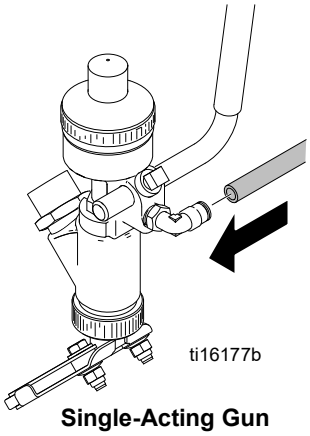
Mount Valve

Mount the valve on a 0.50 in. (12.7 mm) diameter rod on a mounting fixture or a dispensing machine. The bead gun has a clamping set screw for mounting.



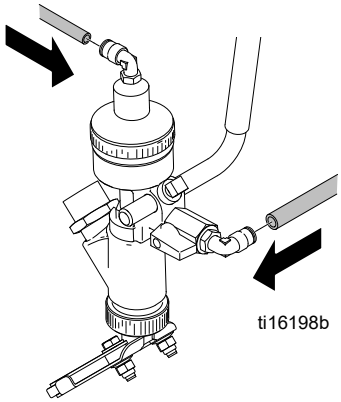
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Connect the Air Lines



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Single-Acting Gun

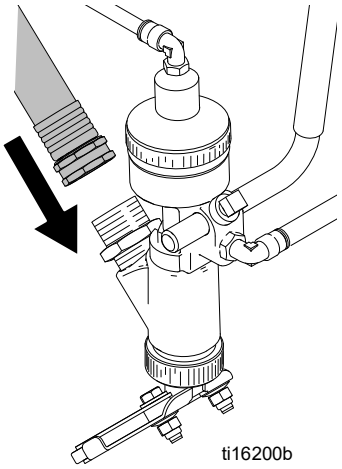


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Double-Acting Gun

Clean all lines and connections of dirt, burrs, etc. and blow them out with clean air before connecting them to the system. Install an air filter in the air supply line to remove harmful dirt and moisture from the compressed air.

Connect Material Line



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Grounding

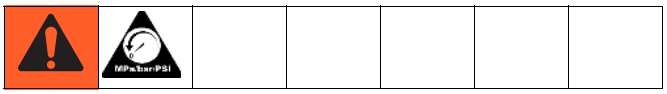
Proper grounding is essential to maintaining a safe system.

To reduce the risk of static sparking, ground the pump, bead spray gun, paint spray gun and all other system equipment.

1. **Pump:** Use a ground wire and clamp.
2. **Air compressors and hydraulic power supplies:** Follow manufacturer's recommendations.
3. **Air and fluid hoses connected to the pump:** Use only grounded hoses with a maximum of 500 feet (150 m) combined hose length to ensure grounding continuity.
4. **Dispensing valve:** Obtain grounding through connection to a properly grounded fluid hose, frame, and pump.
5. **Fluid supply container:** According to local code.
6. **All solvent pails used when flushing:** Ground according to local code. *Use only metal pails,* which are conductive. Do not place the pail on a non conductive surface, such as paper or cardboard, which interrupts the grounding continuity.

Operation

Pressure Relief Procedure



1. Shut off air supply to the bead tank. Relieve pressure from bead tank.
2. Close the master air valve (required with air-powered pumps).
3. Actuate the dispensing valve to relieve pressure.
4. Leave the drain valve(s) open until you are ready to dispense again.

If you suspect that the dispensing valve or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the hose end coupling and relieve pressure gradually, then loosen completely. Then clear the valve or hose.

Adjustments

Set the actuating air to at least 50 psi (3.5 bar) for single acting gun and 80 psi (5.5 bar) for double acting gun, then start the pump. Set the glass bead supply tank pressure between 30 psi (2.1 bar) and 75 psi (5.2 bar) for desired flow rate.

NOTE: Bead delivery will very with each application. Always test the system for actual delivery and adjust air pressure or nozzle size as needed.

Application Data

See RoadLazer System manual 3A1214.

Nozzle Size Selection

Use the Nozzle Size Selection and Bead Delivery Tables to select the size of nozzle for the travel speed and bead coverage to be used. These tables are based on a 15 mil paint application.

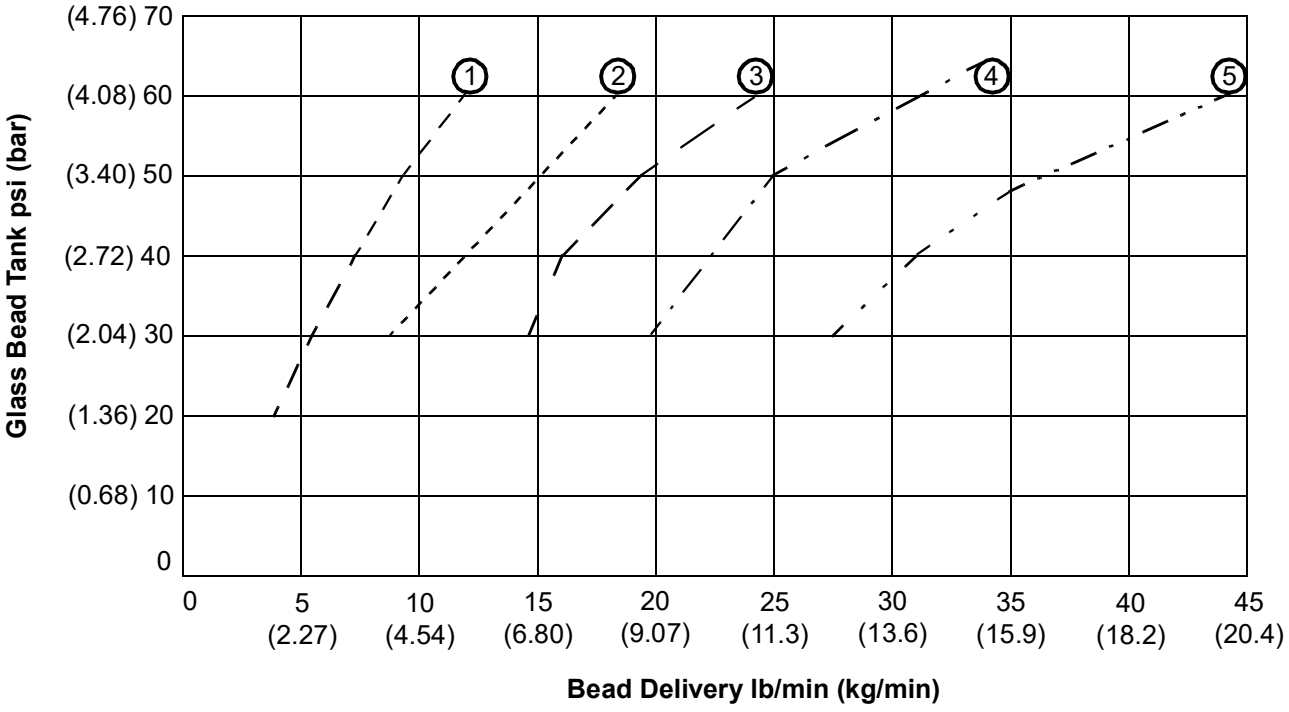
1. Go to **Bead Delivery (Lb/Min)** Table and select:
   a. Speed in **MPH** or **KPH** row.
   b. Bead coverage in **Pounds Per Gallon (kg/l)** column.
   c. Value at intersection of MPH (KPH) row and Pounds Per column is bead delivery in lb/min (kg/min).
2. Go to **Nozzle Size Selection** Table and select:
   a. **Bead Delivery lb/min (kg/min)** column determined by Bead delivery lb/min (kg/min) value.
   b. Psi value **Glass Bead Tank psi (bar)** row.
   c. Curve (1, 2, 3 or 4) at intersection of Glass Bead Tank psi row and Bead Delivery lb/min (kg/min) column is nozzle size value.
   d. Select nozzle size that allows range of adjustment for more or less flow.

NOTE: If dispensing reflective elements for double drop application, the minimum nozzle size is .280 in. If a smaller size is used, clogging of the nozzle orifice may occur.

Bead Delivery lb/min (kg/min)

Speed		Bead Coverage in Pounds Per Gallon (kg/l)					
MPH	**KPH**	**4 (.48)**	**5 (.60)**	**6 (.72)**	**7 (.84)**	**8 (.96)**	**9 (1.08)**
2	3.2	2.4 (1.09)	3.0 (1.36)	3.6 (1.63)	4.1 (1.86)	4.7 (2.13)	5.3 (2.40)
3	4.8	3.6 (1.63)	4.4 (2.0)	5.3 (2.40)	6.2 (2.81)	7.1 (3.22)	8.0 (3.62)
4	6.4	4.7 (2.13)	5.9 (2.68)	7.1 (3.22)	8.3 (3.76)	9.5 (4.31)	10.7 (4.85)
5	8.0	5.9 (2.68)	7.4 (3.36)	8.9 (4.04)	10.4 (4.72)	11.9 (5.40)	13.3 (6.03)
6	9.6	7.1 (3.22)	8.9 (4.04)	10.7 (4.85)	12.4 (5.62)	14.2 (6.44)	16.0 (7.26)
7	11.2	8.3 (3.76)	10.4 (4.72)	12.4 (5.62)	14.5 (6.58)	16.6 (7.53)	18.7 (8.48)
8	12.8	9.5 (4.31)	11.9 (5.40)	14.2 (6.44)	16.6 (7.53)	19.0 (8.62)	21.3 (9.66)
9	14.4	10.7 (4.85)	13.3 (6.03)	16.0 (7.26)	18.7 (8.48)	21.3 (9.66)	24.0 (10.9)
10	16.0	11.9 (5.40)	14.8 (6.71)	17.8 (8.07)	20.7 (9.39)	23.7 (10.8)	26.7 (12.1)
11	17.6	13.0 (5.90)	16.3 (7.39)	19.6 (8.89)	22.8 (10.3)	26.1 (11.8)	29.3 (13.3)
12	19.2	14.2 (6.44)	17.8 (8.07)	21.3 (9.66)	24.9 (11.3)	28.4 (12.9)	32.0 (14.5)

Nozzle Size Selection



Orifice Diameter:

① 0.203
② 0.234
③ 0.280
④ 0.344
⑤ 0.420

Maintenance

Clean Dispensing Valve and System Daily

Clean the outside of the valve by wiping with a soft cloth dampened with a compatible solvent.

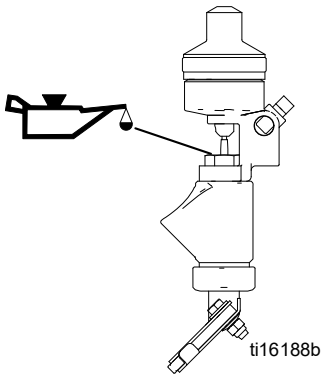
NOTICE

Never immerse the entire dispensing valve in solvent. Immersing in solvent removes lubricants and can damage packings.

To remove a hardened particle from the orifice, blow air through the orifice from the front.

Oil Dispensing Valve Daily

Before each use, lubricate with a spray of oil inside the protection tube (13) to prevent fluid buildup on these parts. Any buildup could damage the valve packings (16, 17, 18).

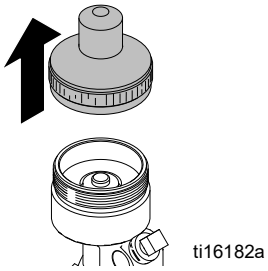


Service

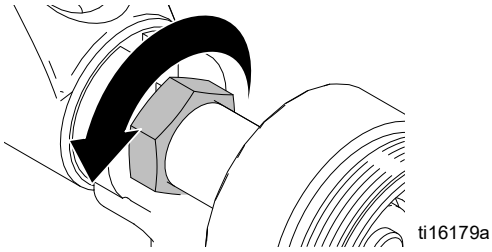
Needle, Seat and Packings

To clean or replace the needle, seat or packings, proceed as follows:

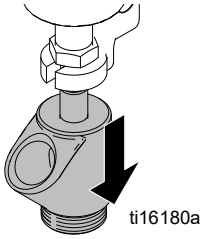
1. Follow **Pressure Relief Procedure** on page 4.
2. Remove valve housing:
   a. Remove cap and spring.



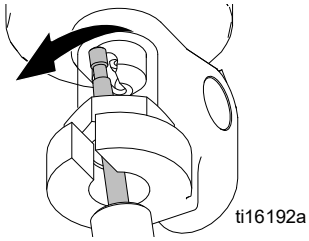
   b. Loosen nut.



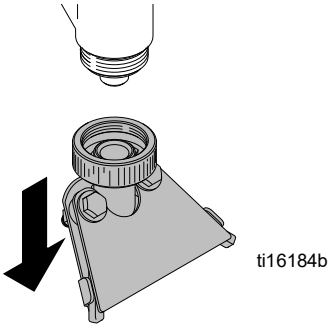
   c. Pull down housing and needle assembly to expose needle shaft.



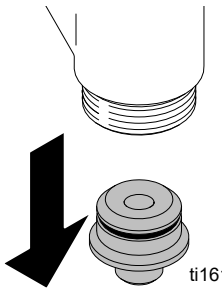
   d. Slide needle through air piston to remove.

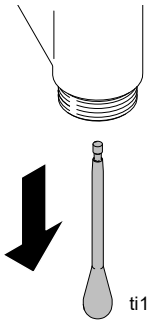


3. Remove retaining nut.

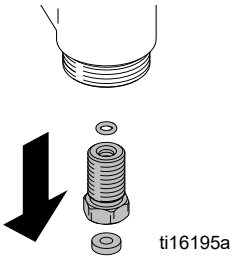


4. Remove valve seat and o-ring from valve housing and remove gun needle.


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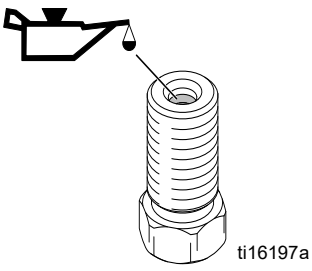
5. Remove seal nut and o-ring.


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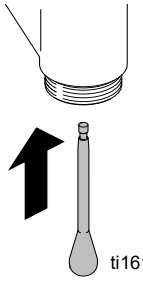
6. Clean all parts. Inspect o-rings for signs of wear, replace as necessary.

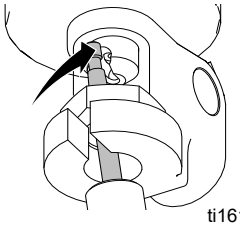

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7. Lubricate o-ring with one drop of oil. Install o-ring.

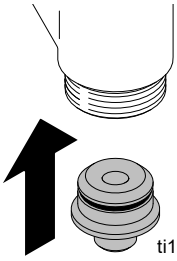

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8. Install seat nut, o-ring, and gun needle.

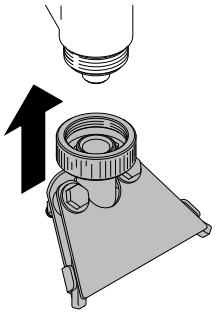

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9. Install o-ring on valve seat and insert into valve housing.


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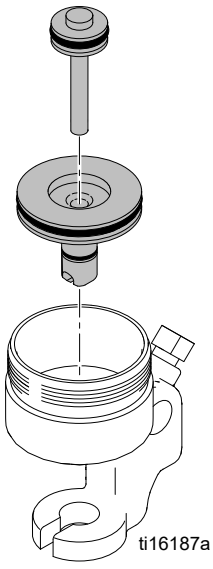
10. Install retaining nut.


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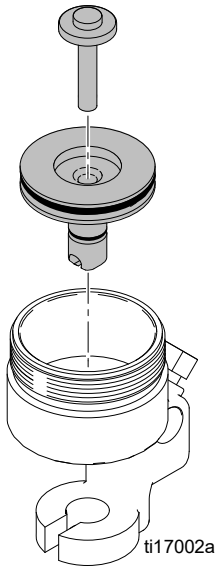
Air Piston, Spring and Seals

1. Perform **Pressure Relief Procedure,** page 4.
2. Remove valve housing (step 2, page 6).
3. Pull out piston and spring guide, then clean and inspect all parts.

Double Acting


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Single Acting


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Check the piston o-rings carefully. Lubricate all parts with a light waterproof grease and reassemble the valve using new parts as necessary.

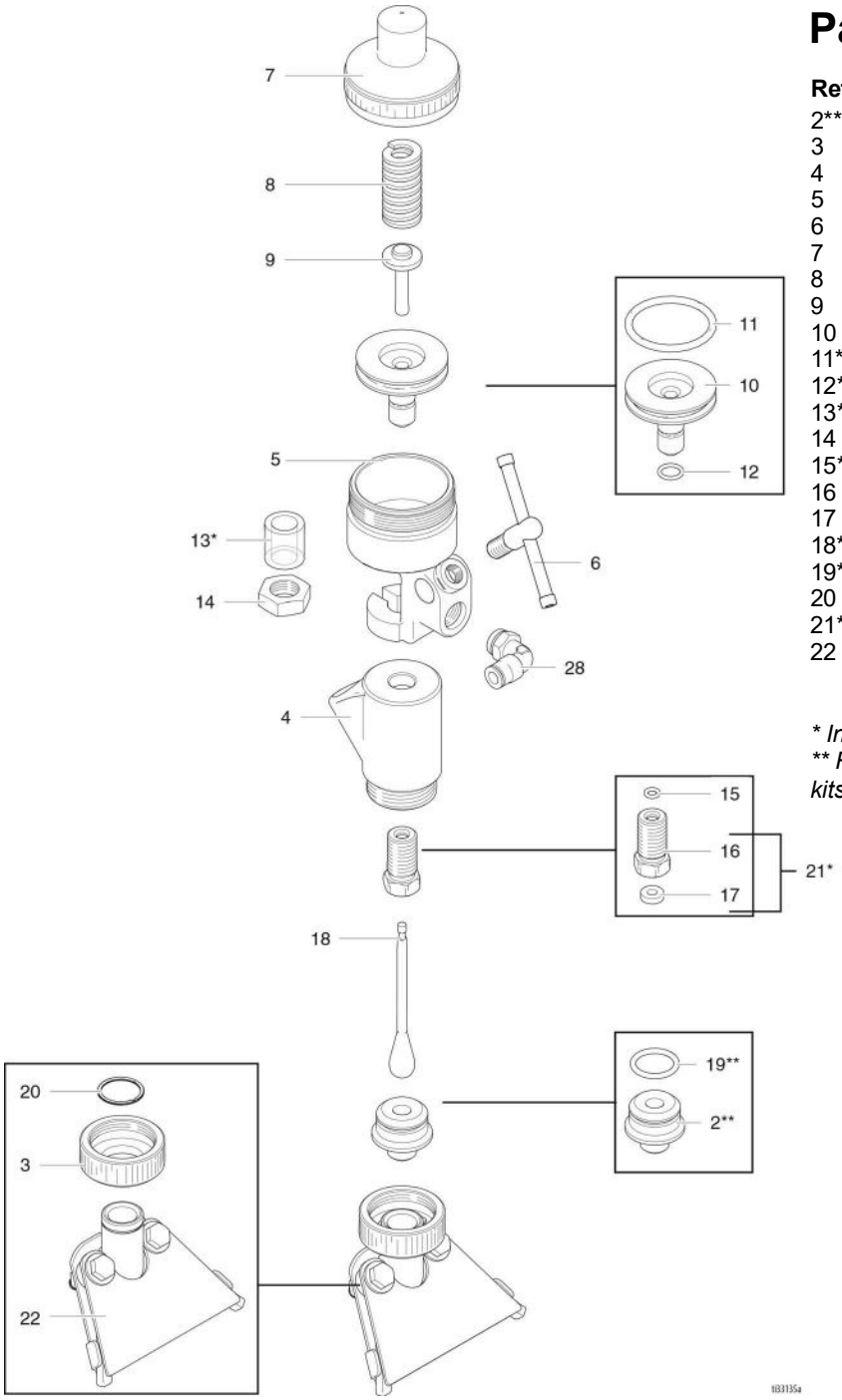
Troubleshooting

NOTE: Check all possible solutions before disassembling the pump.

Problem	Cause	Solution
Uneven spray pattern	Bead pressure too low	Increase pressure to bead tank, or adjust bead pressure regulator
Spray gun will not stop spraying	Gun needle binding	Clean, repair
	Obstructed or worn needle seat	Clean or replace
Spray gun will not spray	Bead line clogged	Clear
	Bead valve closed	Open
	Clogged orifice or needle seat	Clean
	No trigger or actuator air pressure	Check, clean air lines
	Wet beads	Drain beads from tank and replace with dry beads

Replacement Parts and Kits (Single Acting Gun)

Model 238338



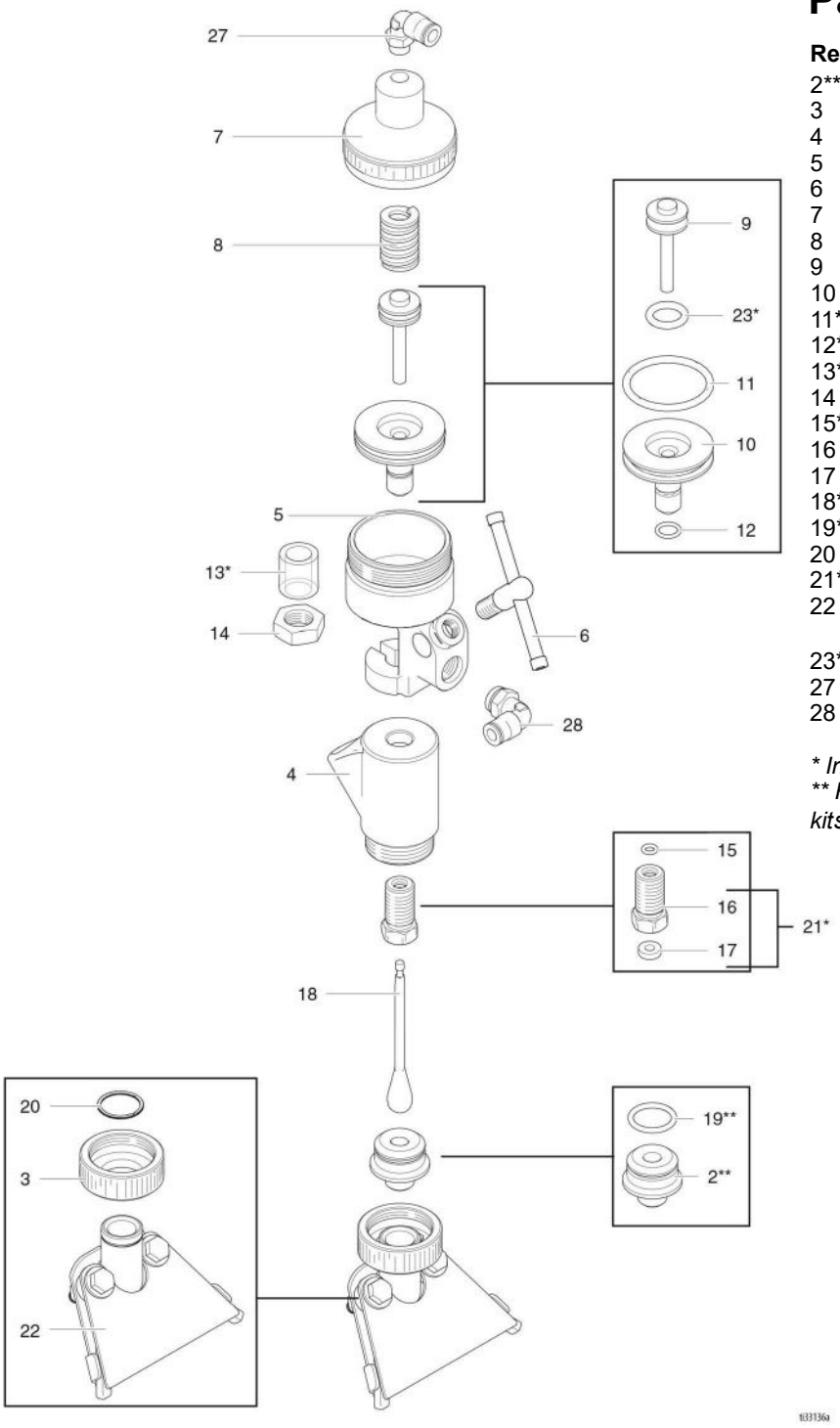
Parts List

Ref.	Part	Description	Qty.
2**	191201	SEAT, valve, .234	1
3	191196	NUT, retaining	1
4	191206	HOUSING, valve	1
5	166847	HOUSING, valve	1
6	25D347	TOOLESS, handle, gun	1
7	191197	CAP, air cylinder	1
8	164739	SPRING	1
9	164740	GUIDE, spring	1
10	164741	PISTON, air	1
11*	156593	O-RING, nitrile rubber	1
12*	155685	PACKING, o-ring	1
13*	191195	TUBE, protection	1
14	102300	NUT, jam, 7/8 inc. hex	1
15*	158486	PACKING, o-ring	1
16		NUT, packing	1
17		SEAL, needle	1
18*	191192	NEEDLE, gun	1
19**	155463	O-RING	1
20	127285	RING, retaining, external	1
21*	238341	NUT, seal (includes 16, 17)	1
22	24J173	BEAD DEFLECTOR, adjustable (includes 3, 20)	1

** Included in Repair Kit 238340. Order separately.*
*** RoadLazer ships with 3 Valve Seat and O-Ring kits listed in the following table.*

Replacement Parts and Kits (Double Acting Gun)

Model 24G979



Parts List

Ref.	Part	Description	Qty.
2**	191201	SEAT, valve	1
3	191196	NUT, retaining	1
4	191206	HOUSING, valve	1
5	166847	HOUSING, valve	1
6	25D347	TOOLESS, handle, gun	1
7	16G708	CAP, cylinder	1
8	16G763	SPRING, compression	1
9	16G169	GUIDE, spring	1
10	164741	PISTON, air	1
11*	156593	O-RING, nitrile rubber	1
12*	155685	PACKING, o-ring	1
13*	191195	TUBE, protection	1
14	102300	NUT, jam, 7/8 inc. hex	1
15*	158486	PACKING, o-ring	1
16		NUT, packing	1
17		SEAL, needle	1
18*	191192	NEEDLE, gun	1
19**	155463	O-RING	1
20	127285	RING, retaining, external	1
21*	238341	NUT, seal (includes 16, 17)	1
22	24J173	BEAD DEFLECTOR, adjustable (includes 3, 20)	1
23*	C20179	O-RING	1
27	112698	1/8 in. npt male swivel elbow	1
28	114109	1/4 in. npt male swivel elbow	1

** Included in Repair Kit 238340. Order separately.*
*** RoadLazer ships with 3 Valve Seat and O-Ring kits listed in the following table*

Valve Seat and O-Ring Kits

Valve Seat Nozzle Size	Kit (Includes O-Ring)
0.170	17V103
0.203	238663
0.234	238666
0.281	238664
0.344	238665
0.420 †	243668
† Nozzle size 0.420 is optional; order separately	

Accessories

Adjustable Bead Deflector Kit - 24J173
Allows application of 12 in. wide beaded lines.

Technical Data

	Single Acting Bead Spray Gun 238338	Double Acting Bead Spray Gun 24G979
Maximum working pressure	200 psi (12 bar)	
Operating pressure of air actuated trigger (Single Acting Bead Gun): Minimum Maximum	 50 psi (3 bar) 200 psi (12 bar)	 80 psi (5.5 bar) 200 psi (12 bat)
Air connection	1/4 npt(f) air inlet	
Bead connection	3/4 npt(f) bead inlet	
Glass bead output	2-40 lb/min (0.9-18 kg/min)	
Air consumption	1-2 cfm	
Spray width	2-12 in. (50-304mm)	
Operating temperature	32° - 120° F (0° - 49° C)	
Sound pressure level	<80 dB	
Sound power level	<80 dB	
*Measurements at 120 psi Air Cylinder, 60 psi Air Bead		

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

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Graco Information

For the latest information about Graco products, visit www.graco.com.

TO PLACE AN ORDER, contact your Graco distributor or call 1-800-690-2894 to identify the nearest distributor.

All written and visual data contained in this document reflects the latest product information available at the time of publication.
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Original instructions. This manual contains English. MM 308612

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