Instructions-Parts

Z-Series Chemical Pumps

3A0019D
ENG

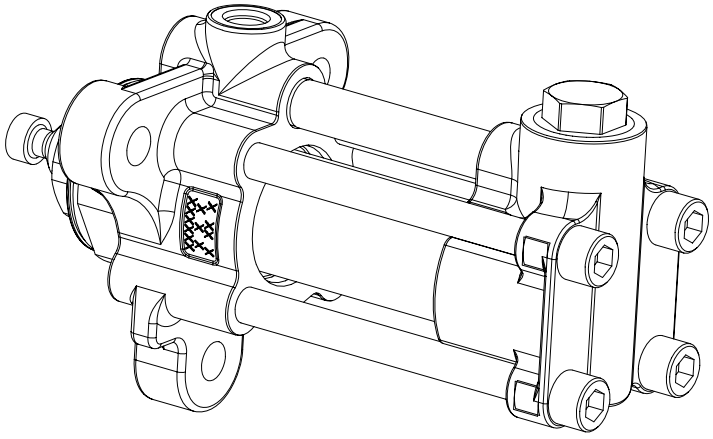
For pumping plural component materials. For professional use only.

Not for use in explosive atmospheres.

3500 psi (24 MPa, 241 bar) Maximum Working Pressure

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

See page 2 for model information.



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PROVEN QUALITY. LEADING TECHNOLOGY.

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Models

Model	Pump Size
*L005S1	5cc
L010S1	10cc
L015S1	15cc
L020S1	20cc
L025S1	25cc
L030S1	30cc
L040S1	40cc
L050S1	50cc
L060S1	60cc
L080S1	80cc
L100S1	100cc
L120S1	120cc
L160S1	160cc

* *Due to a small seal cross-section, use unfilled catalysts to achieve the best seal life results.*

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 symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Ground all equipment in the work area.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

SKIN INJECTION HAZARD

High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not point gun at anyone or at any part of the body.
- Do not put your hand over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- Follow **Pressure Relief Procedure** in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.

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.
- Do not leave the work area while equipment is energized or under pressure. Turn off all equipment and follow the **Pressure Relief Procedure** in this manual 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.

⚠ WARNING

MOVING PARTS HAZARD

Moving parts can pinch or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** in this manual. Disconnect power or air supply.

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read MSDS's to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
- Always wear impervious gloves when spraying or cleaning equipment.
- If this equipment is used with isocyanate material, see additional information on isocyanates in Isocyanate Conditions Section of this manual.

BURN HAZARD

Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:

- Do not touch hot fluid or equipment.
- Wait until equipment/fluid has cooled completely.

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, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:

- Protective eyewear
- Clothing and respirator as recommended by the fluid and solvent manufacturer
- Gloves
- Hearing protection

Isocyanate Conditions

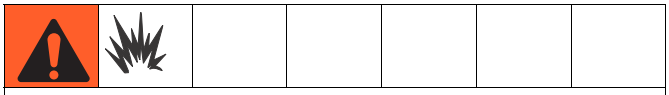
Spraying materials containing isocyanates creates potentially harmful mists, vapors, and atomized particulates.

Read material manufacturer's warnings and material MSDS to know specific hazards and precautions related to isocyanates.

Prevent inhalation of isocyanate mists, vapors, and atomized particulates by providing sufficient ventilation in the work area. If sufficient ventilation is not available, a supplied-air respirator is required for everyone in the work area.

To prevent contact with isocyanates, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons, and goggles, is also required for everyone in the work area.

Material Self-ignition



Some materials may become self-igniting if applied too thickly. Read material manufacturer's warnings and material MSDS.

Moisture Sensitivity of Isocyanates

Isocyanates (ISO) are catalysts used in two component foam and polyurea coatings. ISO will react with moisture (such as humidity) to form small, hard, abrasive crystals, which become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity. If used, this partially cured ISO will reduce performance and the life of all wetted parts.

NOTE: The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

To prevent exposing ISO to moisture:

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- Keep the ISO lube pump reservoir (if installed) filled with Graco Throat Seal Liquid (TSL), Part 206995. The lubricant creates a barrier between the ISO and the atmosphere.
- Use moisture-proof hoses specifically designed for ISO, such as those supplied with your system.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Never use solvent on one side if it has been contaminated from the other side.
- Always lubricate threaded parts with ISO pump oil or grease when reassembling.

Keep Components A and B Separate

NOTICE

To prevent cross-contamination of the equipment's wetted parts, **never** interchange component A (isocyanate) and component B (resin) parts.

Foam Resins with 245 fa Blowing Agents

Some foam blowing agents will froth at temperatures above 90°F (33°C) when not under pressure, especially if agitated. To reduce frothing, minimize preheating in a circulation system.

Changing Materials

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- Most materials use ISO on the A side, but some use ISO on the B side.
- Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side.

Component Identification

40cc pump shown

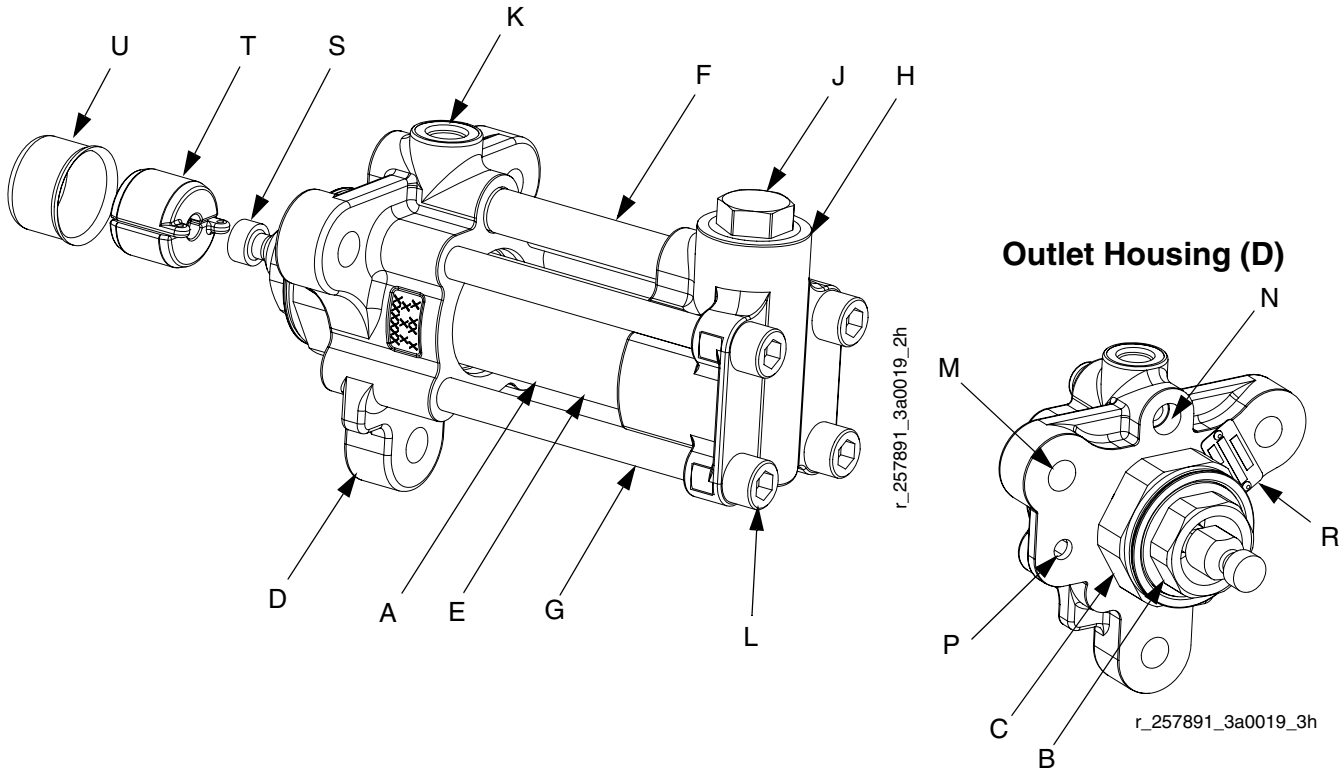
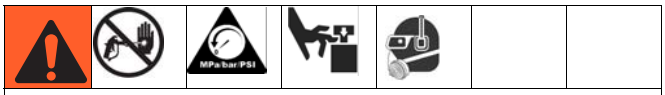


FIG. 1: Component Identification

Key:

A Displacement Rod (inside main cylinder)
B Throat Retainer
C Throat Cartridge
D Outlet Housing
E Main Cylinder
F Crossover Tube
G Tie Bolt
H Inlet Housing
J Inlet Cap
K Fluid Outlet
L Fluid Inlet (bottom of inlet housing)
M Pump Mounting Holes
N Pressure Transducer Port
P Linear Transducer Mounting Hole
R Identification Tag
S Rod Adapter (not on all models)
T Pump Coupler
U Coupler Cover

Pressure Relief Procedure



Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing or moving parts.

1. Select **Park** on Pump Control Switch if available, or turn off.
2. Turn off feed pumps.
3. Trigger gun to relieve pressure.
4. Close gun inlet valves.
5. Close fluid supply inlet valves.
6. Open all fluid drain valves in the system, having a waste container ready to catch drainage. Leave drain valve(s) open until you are ready to spray again.
7. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction.

Flushing

Flush equipment only in a well-ventilated area. Do not spray flammable fluids. Do not turn on heaters while flushing with flammable solvents.

- Flush with a fluid that is compatible with the fluid being dispensed and the equipment wetted parts.
- Flush out old fluid with new fluid, or flush out old fluid with a compatible solvent before introducing new fluid.
- Use lowest possible pressure when flushing.

Repair

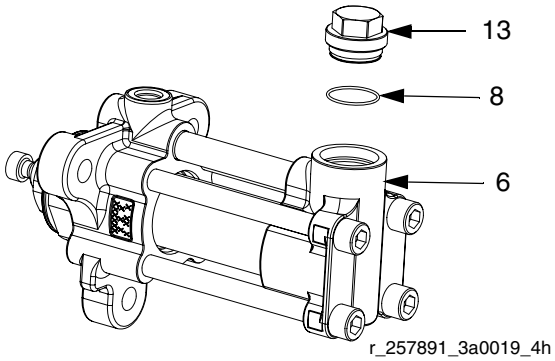
Required Tools

- Large vise
- Set of adjustable wrenches
- O-ring pick
- 1/2 in. bit socket
- Rubber mallet
- Torque wrench
- 2 in. and 3 in. sockets
- Anti-seize lubricant
- Removable strength thread locker

Inlet Housing Disassembly

1. Relieve pressure and flush system. See **Pressure Relief Procedure** and **Flushing**, page 7.

2. Remove inlet hose and drain inlet housing (7).

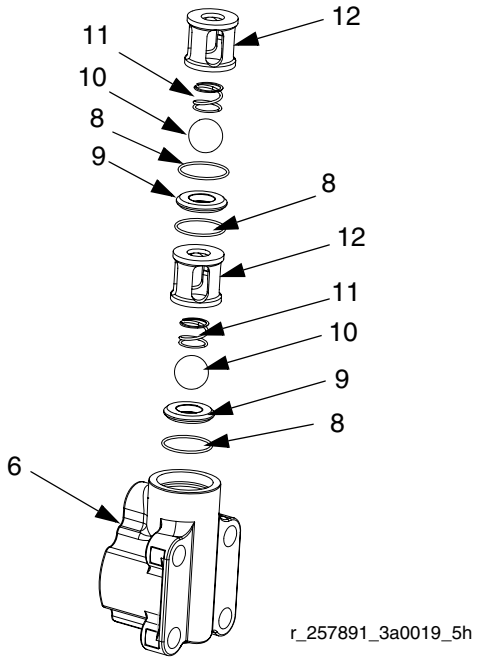


3. Remove inlet cap (13) from inlet housing (6), and remove o-ring (8).

a. Remove upper ball cage (12), spring (11), ball (10), o-ring (8) and seat (9).

b. Press lower ball (10) off seat (9) from fluid inlet and drain the inlet housing (7).

c. Remove o-ring (8), lower ball cage (12), spring (11), ball (10), seat (9), and o-ring (8).



d. Clean all parts in a compatible solvent. Lay them in order for easier reassembly. Inspect each ball and seat for nicks or scratches; replace as required.

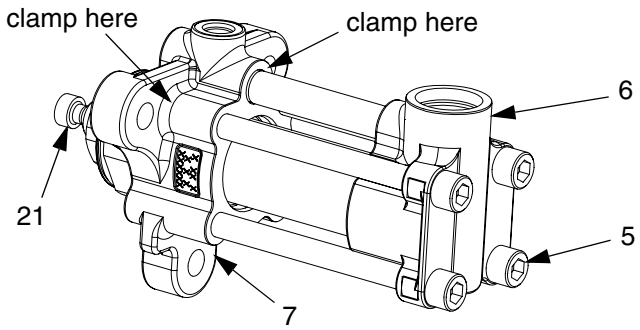
Inlet Housing Assembly

1. Install inlet housing components in inlet housing (6).

2. Install o-ring (8) on inlet cap (13) and apply anti-seize lubricant to inlet cap (13) threads. Fully tighten inlet cap (13) with a wrench.

Pump Disassembly

1. Relieve pressure and flush system. See **Pressure Relief Procedure** and **Flushing**, page 7.
2. Remove inlet hose and drain inlet housing (7).
3. Horizontally clamp pump on outlet housing (7) in vise, use 1/2 in. hex bit socket to loosen all four tie bolts (5) from inlet housing (6).



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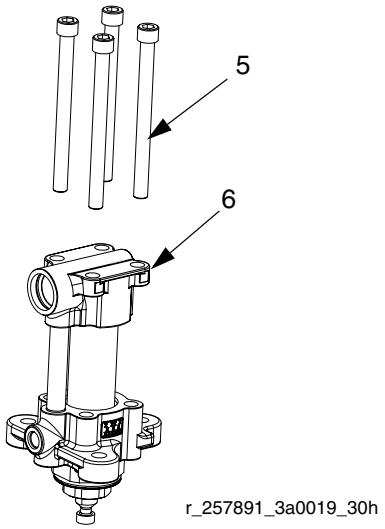
4. *For 40cc and 50cc pumps only*: Use wrench to remove rod adapter (21).
5. Remove pump assembly from vise and lay on a flat surface with towels or in catch pan.
6. Fully unthread and remove tie bolts (5).



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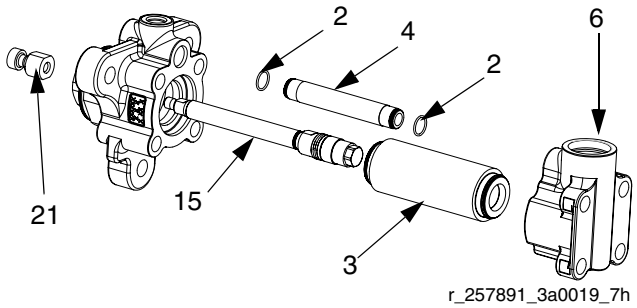
7. Remove inlet housing (6) from main cylinder (3). Remove crossover tube (4) and o-rings (2).



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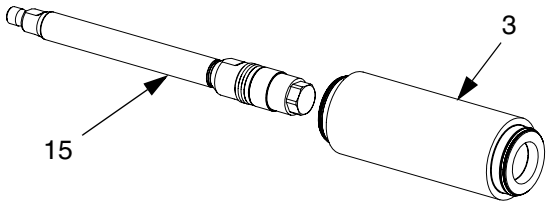
8. Pull main cylinder (3) and displacement rod (15) away from outlet housing (7).

NOTICE

Be careful not to scratch the displacement rod (15); place it on a smooth working surface. Damage to the displacement rod will shorten pump life.

9. Remove displacement rod (15) from cylinder (3).



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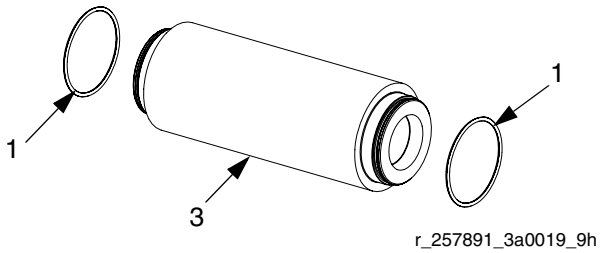
10. Remove two o-rings (1) from main cylinder (3).



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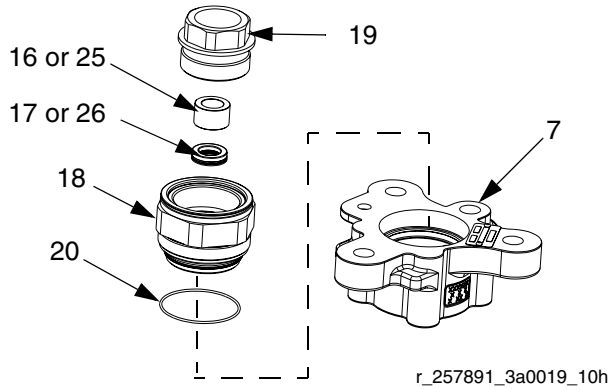
11. Place outlet housing (7) in vise so throat cartridge (18) is facing up.

12. Remove throat retainer (19).



13. Use screwdriver and carefully press bearing (16 or 25) and u-cup (17 or 26) out of outlet housing (7).

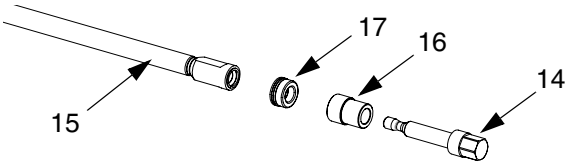
NOTICE

To prevent damage to seals, carefully press seals with a screwdriver.

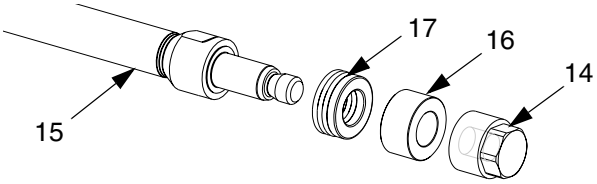
14. If o-ring (20) is leaking, remove throat cartridge (18) and o-ring (20).

15. Clamp flats on seal end of displacement rod (15) in vise. Remove piston retainer (14), bearing (16), and u-cup (17).

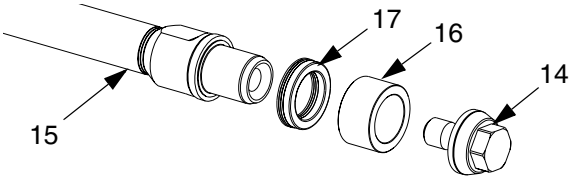
For 5cc, 10cc, and 15cc pumps



For 20cc-50cc pumps



For 60cc-160cc pumps



16. Thoroughly clean all metal parts in a compatible solvent.

Pump Assembly

NOTICE

To prevent cross-contamination of the equipment's wetted parts, never interchange component A (isocyanate) and component B (resin) parts.

NOTICE

To prevent damage to seals always use piston assembly tool (PT) and rod installation tool (RT) from repair kit when assembling the piston seals and displacement rod.

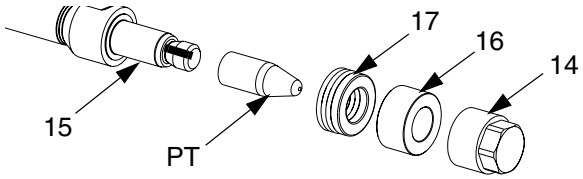
NOTE: Piston assembly tool is NOT needed for 10cc-15cc pump sizes.

1. Install piston seal installation tool (PT) from pump repair kit on displacement rod (15). Hand tighten.

2. Apply grease to seal and bearing surface of displacement rod (15).

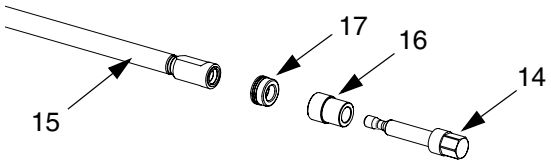
3. Install u-cup (17) and bearing (16). Ensure u-cup springs face displacement rod. Remove piston seal installation tool (PT).

4. *For 20cc-50cc pumps:* Apply one stripe of removable strength thread locker to displacement rod (15) male threads and install piston retainer (14).

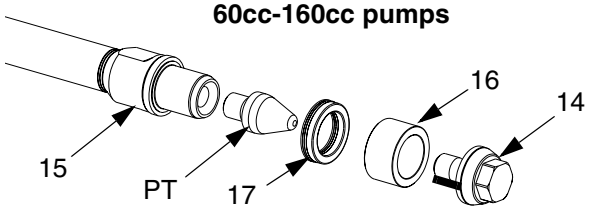


5. *For 5cc, 10cc, 15cc, and 60cc-160cc pumps:* Apply one stripe of removable strength thread locker to piston retainer (14) threads and assemble.

5cc, 10cc, and 15cc pumps



60cc-160cc pumps



NOTICE

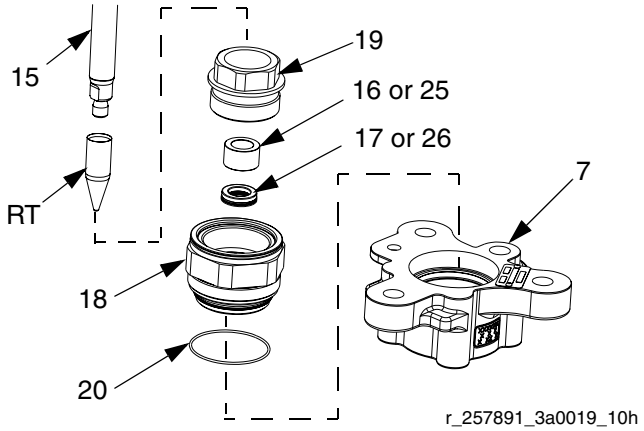
To prevent displacement rod damage, do not clamp directly onto displacement rod surface.

6. Clamp flats on seal end of displacement rod (15) in vise. See Torque Specification table for piston retainer (14) torque according to pump size.

Pump Size	Torque
5cc	38 in-lbs (3.2 ft-lbs) (4.3 N•m)
10cc	5.5 ft-lbs (7.4 N•m)
15cc	5.5 ft-lbs (7.4 N•m)
20cc	30 ft-lbs (40.6 N•m)
25cc	30 ft-lbs (40.6 N•m)
30cc	30 ft-lbs (40.6 N•m)
40cc	50 ft-lbs (67.5 N•m)
50cc	50 ft-lbs (67.5 N•m)
60cc	80 ft-lbs (108 N•m)
80cc	80 ft-lbs (108 N•m)
100cc	160 ft-lbs (216 N•m)
120cc	160 ft-lbs (216 N•m)
160cc	160 ft-lbs (216 N•m)

7. If the throat cartridge (18) was removed, install o-ring (20) on throat cartridge (18) and lubricate with grease. Apply anti-seize lubricant to throat cartridge (18) threads and install in outlet housing (7). Fully tighten throat cartridge (18) with a wrench.

8. Apply grease to u-cup (17 or 26) and set in throat cartridge (18); ensure u-cup springs face throat cartridge. Set bearing (16 or 25) on top of u-cup (17 or 26).



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9. Apply anti-seize lubricant to throat retainer (19) threads and place on throat cartridge (18) above bearing (16 or 25).

NOTE: Do not thread retainer(19) into throat cartridge (18).

10. Install rod installation tool (RT) on displacement rod (15). Insert the displacement rod (15) through the throat retainer (19), bearing (16 or 25), and u-cup (17 or 26).

NOTE: The displacement rod (15) guides the bearing (16 or 25) and u-cup (17 or 26) into the throat cartridge bore (18).

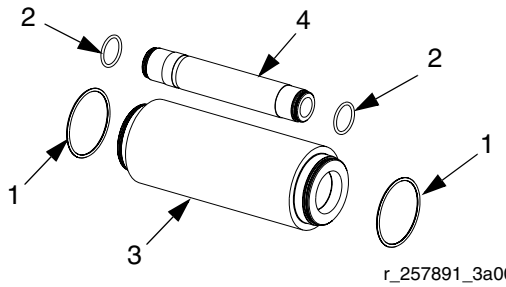
11. By hand, thread throat retainer (19) into throat cartridge (18) to gradually press bearing (16 or 25) and u-cup (17 or 26) into bore.

12. When fully engaged, torque throat retainer (19) to 50 ft-lbs (67.5 N•m).

13. Remove displacement rod (15).

14. Clamp throat cartridge (18) in vise with outlet housing (7) facing up.

15. Install o-rings (1) on main cylinder (3) and o-rings (2) on crossover tube (4). Lubricate o-rings (1, 2) with grease.



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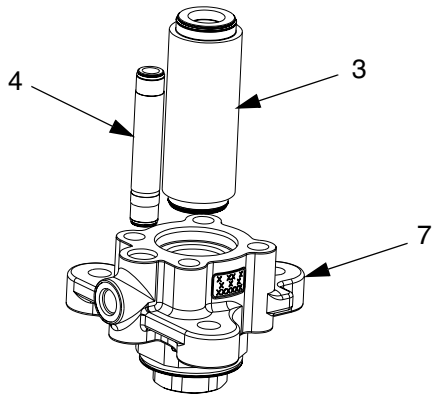
16. Install main cylinder (3) and crossover tube (4) in outlet housing (7) with a rubber mallet.



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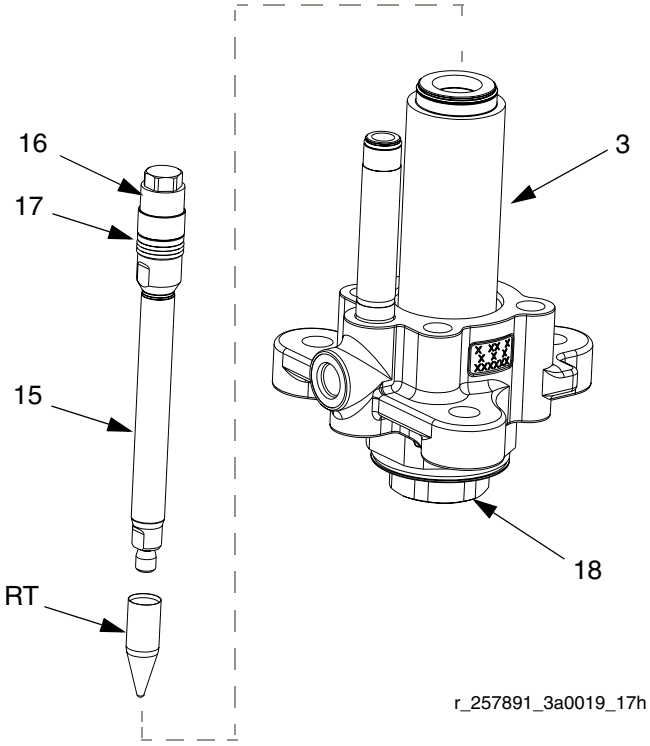
17. Lubricate piston u-cup seal (17), and bearing (16) with grease.

18. *For 60cc-160cc pumps:* Apply grease to coupler end of displacement rod (15) before installing the rod installation tool (RT).

NOTE: The grease will hold the rod installation tool (RT) in place while assembling the displacement rod into the cylinder.

19. Install rod installation tool (RT) on displacement rod (15).

20. Install displacement rod (15) in main cylinder (3) and throat cartridge (18). Gently tap displacement rod with a rubber mallet until piston is flush or below the surface of the main cylinder.



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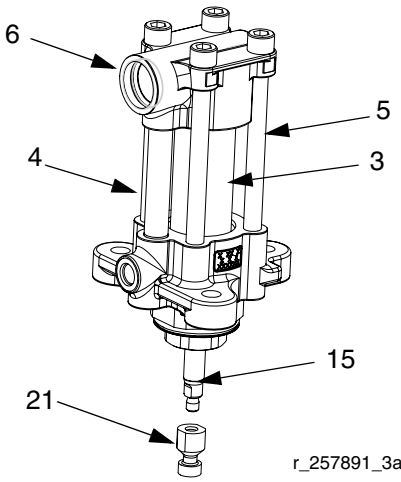
21. Remove rod installation tool (RT).

22. Gently place inlet housing (6) on main cylinder (3) and crossover tube (4).

NOTICE
To prevent damage to o-rings, do not press inlet housing down on main cylinder and crossover tube.



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23. Lubricate tie bolt (5) threads and install. Tighten tie bolts evenly in a star pattern until they are flush with the inlet housing (6).

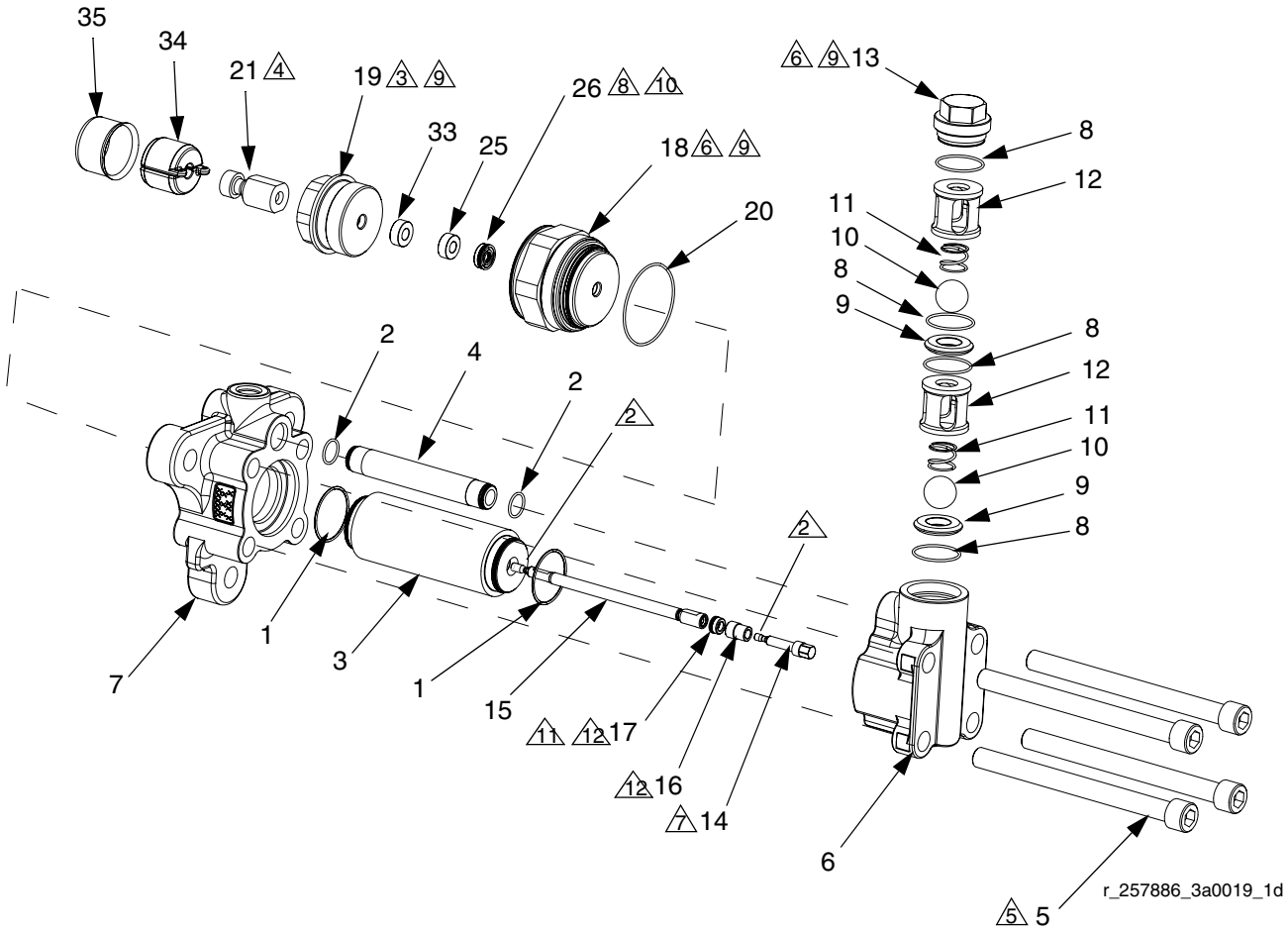
24. Tighten tie bolts (5) evenly in a star pattern to the outlet housing (7). Ensure the inlet housing is evenly seated onto the main cylinder (3) and crossover tube (4). Torque tie bolts (5) evenly to 50-200 ft-lbs (60-270 N•m), all to the same torque value.

25. *For 10cc-50cc pumps only*: Clean rod adapter (21) threads with a wire brush and apply removable strength thread locker to displacement rod (15) threads. Install rod adapter (21) on displacement rod (15). See Torque Specification table for rod adapter (21) torque according to pump size.

Pump Size	Torque
5cc	38 in-lbs (3.2 ft-lbs) (4.3 N•m)
10cc	8.5 ft-lbs (11.5 N•m)
15cc	8.5 ft-lbs (11.5 N•m)
20cc	30 ft-lbs (40.6 N•m)
25cc	30 ft-lbs (40.6 N•m)
30cc	30 ft-lbs (40.6 N•m)
40cc	45 ft-lbs (60.75 N•m)
50cc	45 ft-lbs (60.75 N•m)

Parts

5cc, 10cc, and 15cc Pumps



1. Lubricate seals, o-rings, lead-in's and moving parts with grease.

2 Apply one stripe of removable strength anaerobic sealant on threads.

3 Torque to 50-ft-lbs (67.5 N•m).

4 Assemble and torque after displacement rod (15) is assembled through throat retainer (19). See table on page 13 for torque specification.

5 Torque evenly to 50-200 ft-lbs (60-270 N•m), all to the same torque value.

6 Fully tighten with a wrench.

7 See table on page 11 for torque specification.

8 Must be pressed straight into housing.

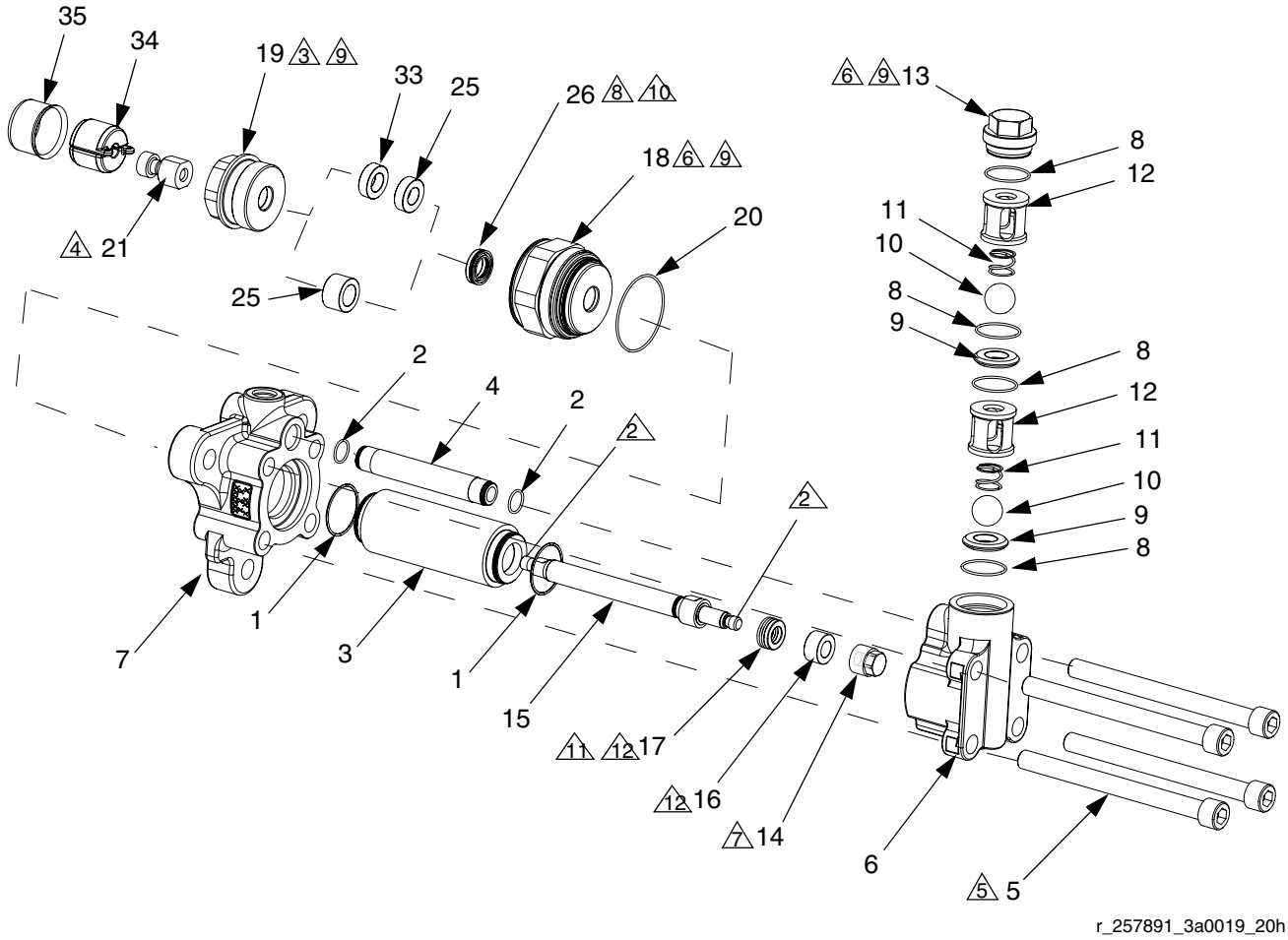
9 Apply anti-seize lubricant to threads.

10 Ensure u-cup (26) springs face throat cartridge (18).

11 Ensure u-cup (17) springs face displacement rod (15).

12 Fully assemble seal (17) and bearing (16) onto displacement rod (15) before tightening piston retainer (14).

20cc, 25cc, 30cc, 40cc, and 50cc Pumps



1. Lubricate seals, o-rings, lead-in's and moving parts with grease.

2 Apply one stripe of removable strength anaerobic sealant on threads.

3 Torque to 50-ft-lbs (67.5 N•m).

4 Assemble and torque after displacement rod (15) is assembled through throat retainer (19). See table on page 13 for torque specification.

5 Torque evenly to 50-200 ft-lbs (60-270 N•m), all to the same torque value.

6 Fully tighten with a wrench.

7 See table on page 11 for torque specification.

8 Must be pressed straight into housing.

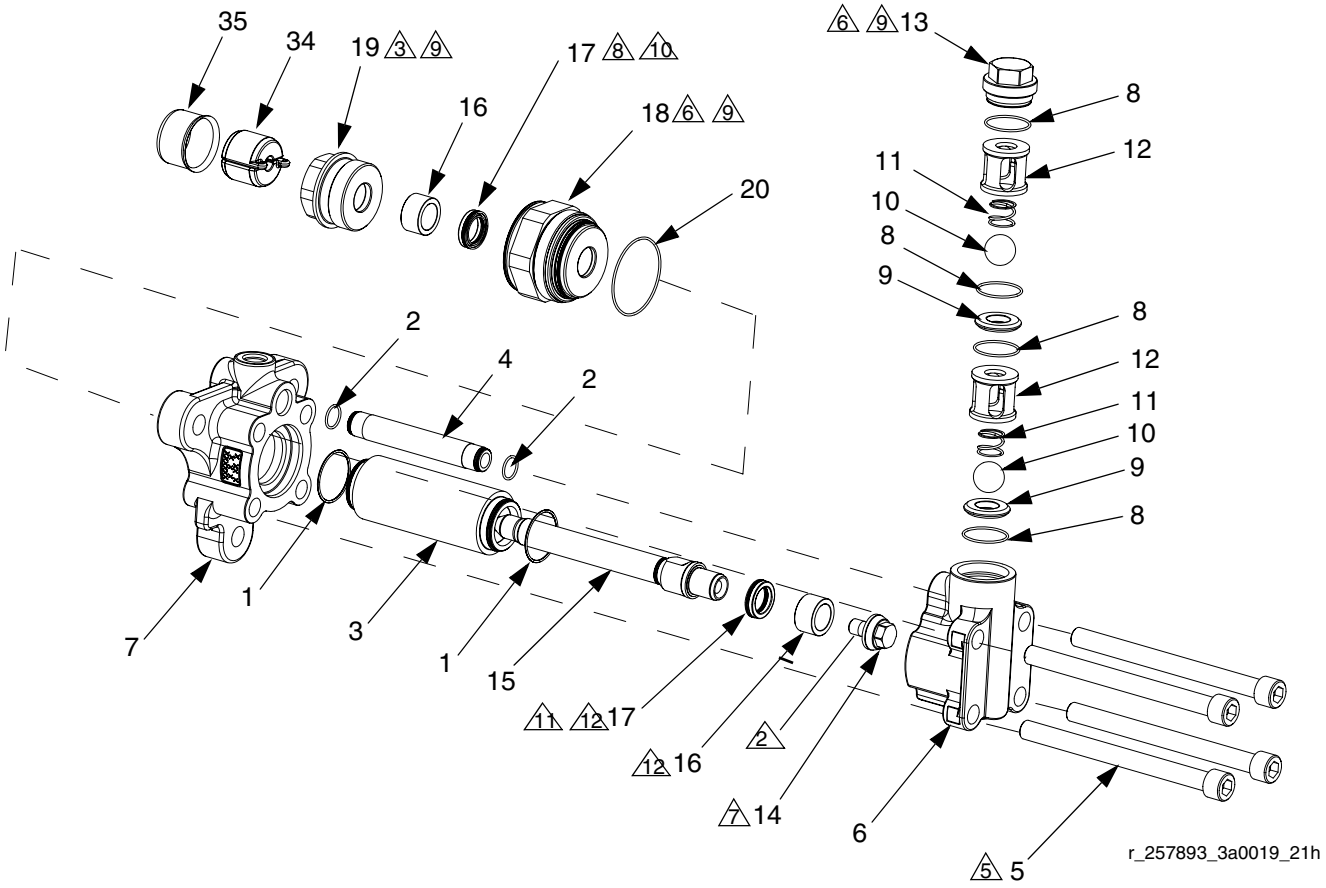
9 Apply anti-seize lubricant to threads.

10 Ensure u-cup (26) springs face throat cartridge (18).

11 Ensure u-cup (17) springs face displacement rod (15).

12 Fully assemble seal (17) and bearing (16) onto displacement rod (15) before tightening piston retainer (14).

60cc, 80cc, 100cc, 120cc, and 160cc Pumps



1. Lubricate seals, o-rings, lead-in's and moving parts with grease.

2 Apply one stripe of removable strength anaerobic sealant on threads.

3 Torque to 50-ft-lbs (67.5 N•m).

5 Torque evenly to 50-200 ft-lbs (60-270 N•m), all to the same torque value.

6 Fully tighten with a wrench.

7 See table on page 11 for torque specification.

8 Must be pressed straight into housing.

9 Apply anti-seize lubricant to threads.

10 Ensure u-cup (17) springs face throat cartridge (18).

11 Ensure u-cup (17) springs face displacement rod (15).

12 Fully assemble seal (17) and bearing (16) onto displacement rod (15) before tightening piston retainer (14).

Pump Parts

Ref.	Part	Description	Qty.
1✓✿✠◆❄		O-RING, cylinder	2
2✓✿✠◆❄		O-RING, crossover tube	2
3✿		CYLINDER, pump	1
4✠		TUBE, crossover, pump	1
5	258790	BOLT, tie	4
6	258792	HOUSING, inlet	1
7	258791	HOUSING, outlet	1
8◆†		O-RING, inlet	4
	258775	KIT, package of 4	-
	258776	KIT, package of 16	-
9†		SEAT, carbide	2
10†		BALL, sst	2
11	258784	SPRING, ball check	2
12	258785	HOUSING, ball cage	2
13	258787	CAP, inlet valve	1
14*❄		RETAINER, piston	1
15❄		ROD, displacement	1
16◆❄		BEARING, piston	1(2)
17◆❄		SEAL, piston	1(2)
18★		CARTRIDGE, throat	1
19✖		RETAINER, throat	1
20★◆❄	117286	O-RING, throat cartridge	1
21❄	258786	ADAPTER, rod; 40cc and 50cc	1
	258966	ADAPTER, rod; 10cc and 15cc	1
	258967	ADAPTER, rod; 20cc-30cc	1
25◆❄		BEARING, throat	1
26◆❄		SEAL, throat	1
28		PLATE, identification	1
29		SCREW, drive	2
33		SPACER, throat; 10cc-30cc only	1
34❖	247167	COUPLER, pump; 10cc-80cc	1
	244819	COUPLER, pump; 100cc-160cc	1
35	197340	COVER, coupler	1

✓ *Refer to Table 1: Cylinder O-ring Kits for kit number.*

✿ *Refer to Table 2: Cylinder Kits for kit number.*

✠ *Refer to Table 3: Crossover Tube Kits for kit number.*

★ *Refer to Table 4: Throat Cartridge Kits for kit number.*

✖ *Refer to Table 5: Throat Retainer Kits for kit number.*

* *Refer to Table 6: Piston Retainer Kits for kit number.*

◆ *Refer to Table 7: Seal Kits for kit number.*

❄ *Refer to Table 8: Displacement Rod Kits for kit number.*

† *Included in Kit 258783.*

❖ *Clip coupler cable before installing on to proportioner pumpline.*

Table 1: Cylinder O-ring Kits

Pump Size	Cylinder O-ring Kit
5cc	258774
10cc	
15cc	
20cc	
25cc	
30cc	
40cc	
50cc	
60cc	
80cc	
100cc	258773
120cc	
160cc	

Table 2: Cylinder Kits

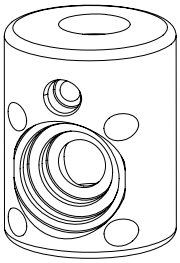
Pump Size	Cylinder Kit
5cc	262557
10cc	258925
15cc	258931
20cc	258937
25cc	258943
30cc	258949
40cc	258795
50cc	258801
60cc	258807
80cc	258813
100cc	258819
120cc	258825
160cc	258831

Table 3: Crossover Tube Kits

Pump Size	Bar Stock Inlet*	Cast inlet*
5cc	258789	24E557
10cc		
15cc		
20cc		
25cc		
30cc		
40cc		
50cc		
60cc		
80cc		
100cc	258788	24E556
120cc		
160cc		

*See figure below for inlet types

Bar Stock Inlet



Cast Inlet

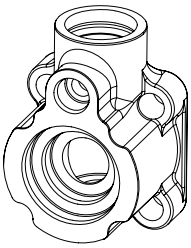


Table 4: Throat Cartridge Kits

Pump Size	Throat Cartridge Kit
5cc	262558
10cc	258928
15cc	258934
20cc	258940
25cc	258946
30cc	258952
40cc	258798
50cc	258804
60cc	258810
80cc	258816
100cc	258822
120cc	258828
160cc	258834

Table 5: Throat Retainer Kits

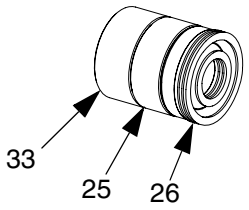
Pump Size	Throat Retainer Kit
5cc	262559
10cc	258927
15cc	258933
20cc	258939
25cc	258945
30cc	258951
40cc	258797
50cc	258803
60cc	258809
80cc	258815
100cc	258821
120cc	258827
160cc	258833

Table 6: Piston Retainer Kits

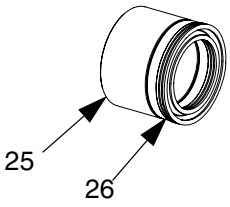
Pump Size	Piston Retainer Kit
5cc	262560
10cc	258926
15cc	258932
20cc	258938
25cc	258944
30cc	258950
40cc	258796
50cc	258802
60cc	258808
80cc	258814
100cc	258820
120cc	258826
160cc	258832

Seal Kits

5cc-30cc Throat Seals



40cc-160cc Throat Seals



Piston Seals

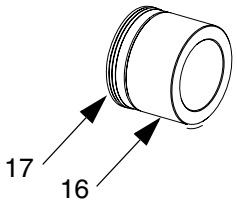


Table 7: Seal Kits

	Reference Number and Quantity Included in Kit								
Pump Size	**Seal Kit**	**1**	**2**	**8**	**16**	**17**	**20**	**25**	**26**
5cc	262561	2	2	4	1	1	1	1	1
10cc	258923	2	2	4	1	1	1	1	1
15cc	258929	2	2	4	1	1	1	1	1
20cc	258935	2	2	4	1	1	1	1	1
25cc	258941	2	2	4	1	1	1	1	1
30cc	258947	2	2	4	1	1	1	1	1
40cc	258793	2	2	4	1	1	1	1	1
50cc	258799	2	2	4	1	1	1	1	1
60cc	258805	2	2	4	2	2	1		
80cc	258811	2	2	4	2	2	1		
100cc	258817	2	2	4	2	2	1		
120cc	258823	2	2	4	2	2	1		
160cc	258829	2	2	4	2	2	1		

Displacement Rod Kits

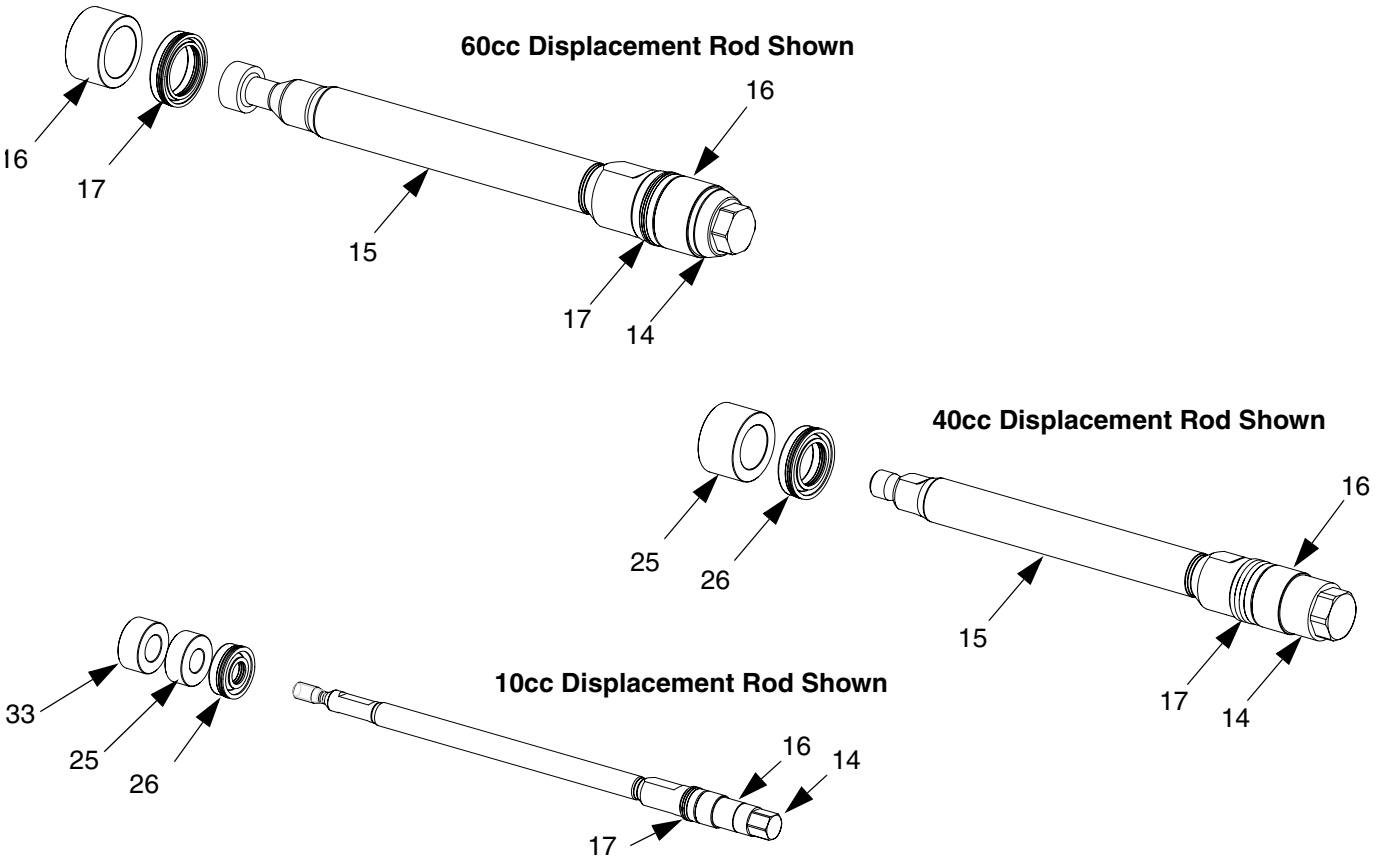
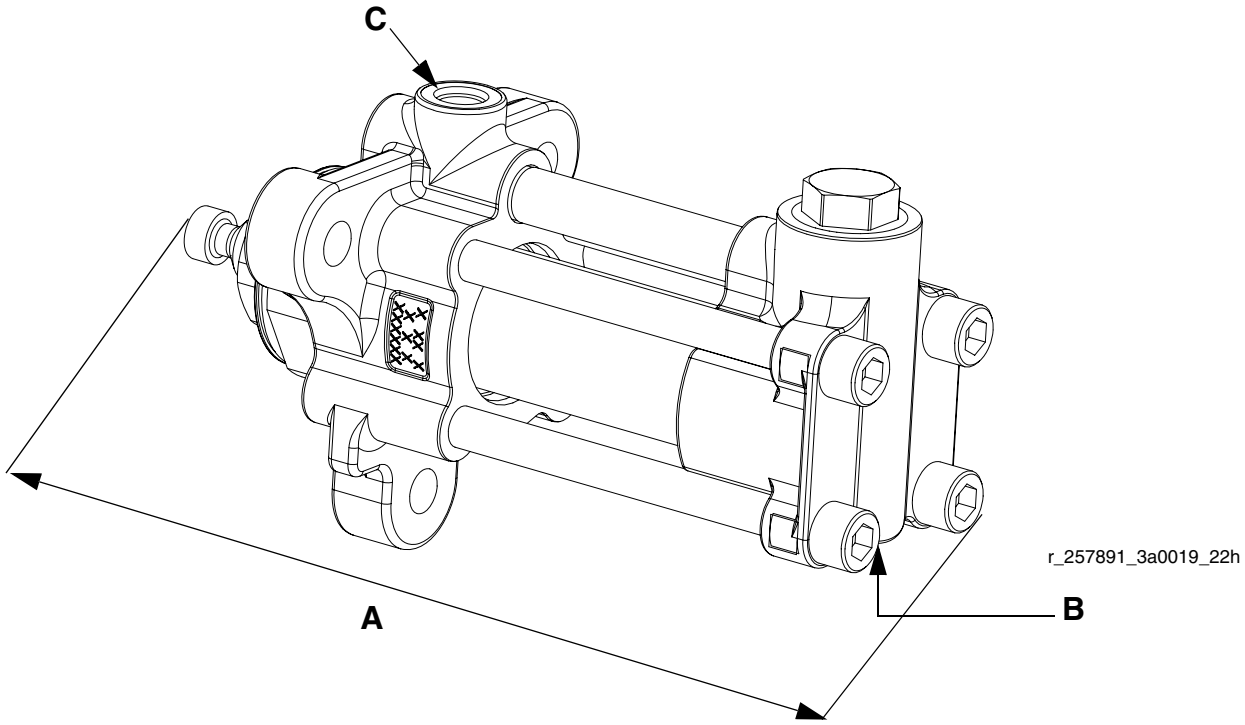


Table 8: Displacement Rod Kits

	Reference Number and Quantity Included in Kit										
Pump Size	**Displacement Rod Kit**	**1**	**2**	**14**	**15**	**16**	**17**	**20**	**21**	**25**	**26**
5cc	262562	2	2	1	1	1	1	1	1	1	1
10cc	258924	2	2	1	1	1	1	1	1	1	1
15cc	258930	2	2	1	1	1	1	1	1	1	1
20cc	258936	2	2	1	1	1	1	1	1	1	1
25cc	258942	2	2	1	1	1	1	1	1	1	1
30cc	258948	2	2	1	1	1	1	1	1	1	1
40cc	258794	2	2	1	1	1	1	1	1	1	1
50cc	258800	2	2	1	1	1	1	1	1	1	1
60cc	258806	2	2	1	1	2	2	1			
80cc	258812	2	2	1	1	2	2	1			
100cc	258818	2	2	1	1	2	2	1			
120cc	258824	2	2	1	1	2	2	1			
160cc	258830	2	2	1	1	2	2	1			

Dimensions

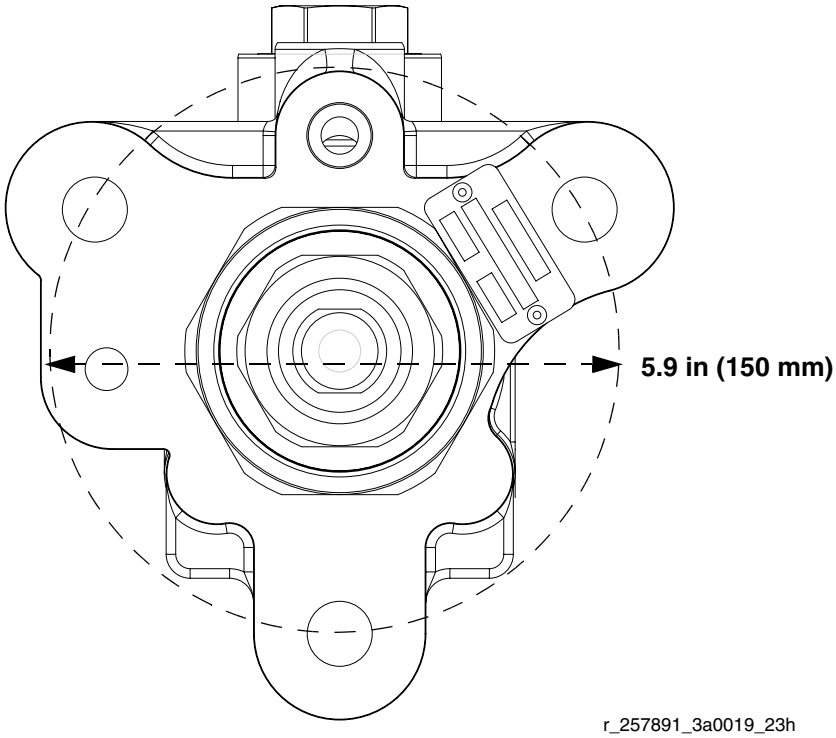
All pump sizes have the same dimensions.



A (Length) in. (mm)	B (Inlet) in. npt (f)	C (Outlet) SAE (f)
13.36 (339.34)	3/4-14	3/4-16

Outlet Housing Mounting Hole Layout

All pumps have the same outlet housing mounting hole layout.



Technical Data

Maximum working pressure	3500 psi (24MPa, 241 bar)
Maximum operating temperature	180° F (82° C)
Maximum cycle rate	65 cycles per minute
Minimum feed pressure at inlet	50 psi (0.35 MPa, 3.5 bar)
Weight	30 lbs (13.6 kg)
Wetted parts	SST, tungsten carbide, acetal, PTFE, UHMWPE

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Original instructions. This manual contains English. MM 3A0019

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