

High pressure stripped pump

Models 9911-1, 9911-J, 9911-R1, 9950-1, 9950-B1, 9950-C1, 9950-D1, 9911 series and 9950 series



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Read manual prior to installation or use of this product. Keep manual nearby for future reference.

Description

An air-operated motor that connects directly to a double-acting reciprocating pump tube are the major components of the stripped pump. The pump tube is equipped with a dynamic primer (→ fig. 2-b).

Specifications

Air motor

Table 1a			
High pressure stripped pump specifications (motor)			
Piston diameter x stroke	Air inlet	Maximum air pressure	
3 x 3 5/16 in. (7.8 x 8.4 cm)	1/4 in. NPTF (f)	150 psi (10,3 bar)	

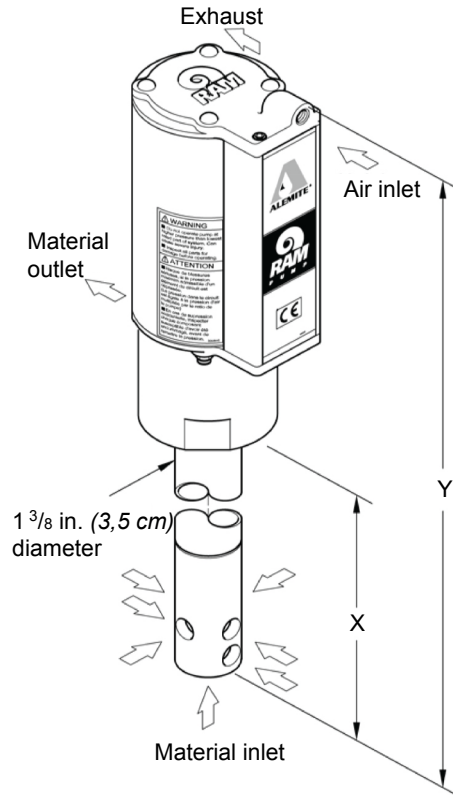
For details on the air motor, refer to Service Guide SER 339413

Pumptube

Table 1b			
High pressure stripped pump specifications (tube)			
Material outlet	Maximum material pressure	Delivery/min. (approximate) ¹⁾	Displacement per cycle
3/8 in. NPTF	7,500 psi (517 bar)	4.7 lbs. (2,1 kg)	0.76 in. ³ (12.5 cm ³)

¹⁾ For detailed information, refer to Figure 1, page 3.

Table 2	
Package models	
Stripped pumps to packaged pumps are below.	
Pump model	Package model
9911-1	9911-H1, 9911-Z1
9911-R1	9911-A1, 9911-B1
9950-1	9950-A1, -HC1, 9951-1, -S1, -T1
9950-B	9911-HA1
9950-C1	9911-HB1



Stripped pumps	Container size	X	Y
9911-1	35 lbs.	13.75 in. (34,9 cm)	23.6 in. (59,9 cm)
9911-R1	70 lbs.	17.68 in. (44,9 cm)	27.53 in. (69,9 cm)
9950-1	120 lbs. (50 kg)	27.75 in. (70,5 cm)	37.6 in. (95,4 cm)
9950-B1	12.5 kg.	15.5 in. (39,4 cm)	25,35 in. (64,3 cm)
9950-C1	20 kg.	19 in. (48,3 cm)	28.85 in. (73,2 cm)
9950-D1	400 lbs. (180 kg)	37.06 in. (94,1 cm)	46.91 in. (119 cm)
9911-J	35 lbs.	Adjustable	28.85 in. (73,2 cm)

Table 4

High pressure stripped pump preventative maintenance schedule

Daily	Weekly
Wipe exterior with clean cloth	Inspect for air and/or material leakage.

Overhaul

NOTE

Refer to **Exploded views, pages 7 and 9** for component identification on all overhaul procedures.

Prior to performing any maintenance procedure, the following safety precautions must be observed. Personal injury may occur.

⚠ WARNING

Do not use halogenated hydrocarbon solvents such as methylene chloride or 1,1,1-trichloroethane in this pump. An explosion can result when aluminum and/or zinc-plated parts in the pump come in contact with halogenated hydrocarbon solvents.

Release all pressure within the system prior to performing any overhaul procedure.

- Disconnect the air supply line from the pump motor.
- Into an appropriate container, operate the control valve to discharge remaining pressure within the system.

Never point a control valve at any portion of your body or another person. Accidental discharge of pressure and/or material can result in injury.

Read each step of the instructions carefully. Make sure a proper understanding is achieved before proceeding.

Disassembly

Separate air motor from pump tube

- 1 Clamp the pump assembly in a soft-jaw vise at body (10).
- 2 Remove cover (1a) by prying and swinging the cover sideways away from the cylinder. Refer to **ser 339413** for details.
- 3 Remove screw (1b) from the top cap.
- 4 Remove nuts (1d) that secure the body to air motor assembly (1).
- 5 Remove bolts (1c) from the top cap.
- 6 Remove keepers (11) from the body.
- 7 Remove the top cap from the cylinder.

NOTE

Remove the Cylinder with care. Damage to Quad-Ring (5) and/or O-Ring (8) can occur.

- 8 With a side-to-side motion, pull the cylinder from the body and air piston (4).
- 9 Remove o-ring (8) from the body.
- 10 Remove the bottom cap from the body.

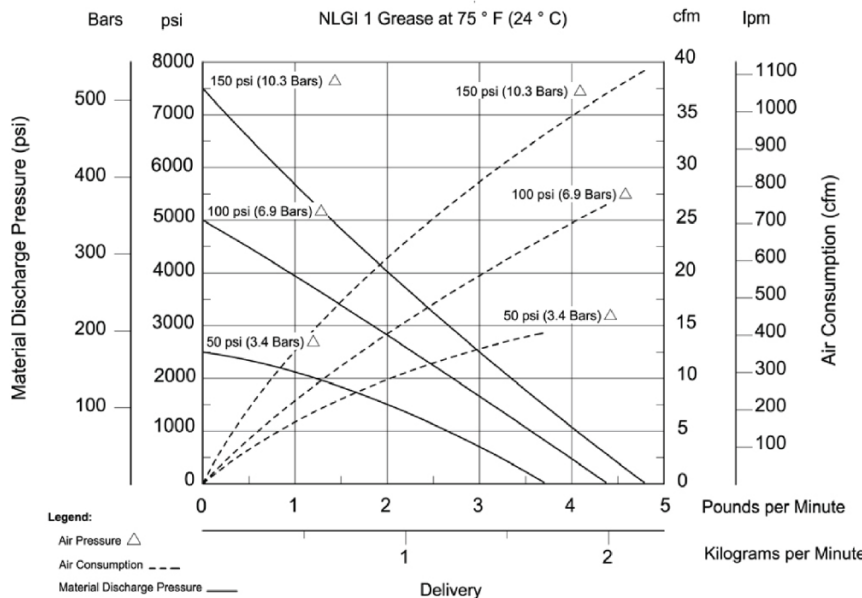
Performance curves

A pump's ability to deliver material is based on the pressure (psi/bar) and quantity (cfm/lpm) of air supplied to the motor and the amount of material discharge [back] pressure to be overcome within the system.

This chart contains curves based on three different air pressures. The curves relate delivery in pounds (kilograms) per minute (X axis) to air consumption in cubic feet (liters) per minute (right Y axis) and to material discharge pressure in psi/Bars (left Y axis).

Fig. 1

Delivery versus discharge pressure and air consumption



Pumptube assembly

Air\piston

- 1 Remove nut (2) and washer (3) that secures air piston (4) to rod (9). Place a punch or similar tool into the rod to prevent its rotation (→ fig. 2-A).
- 2 Remove the air piston from the rod.
- 3 Remove quad-ring (5) from the air piston.
- 4 Remove o-ring (6) and washer (7) from the rod.

Body assembly

- 1 Unscrew Upper Tube (18) from the Body.
- 2 Remove the Body assembly from the Rod.
- 3 From inside the Body remove:
 - Gasket (16)
 - Bearing (15)
 - Seal (14)
 - Lantern Ring (13)
 - Seal (12)

Tube assembly

- 1 Push the rod assembly downward through uppertube (18) until primer disk (35) protrudes from primer body (42).
- 2 Remove roll pin (36) that secures the primer disk to primer rod (34).
- 3 Remove the primer disk from the primer rod.
- 4 Remove the entire rod assembly from the top of the upper tube.
- 5 Remove roll pin (25) that secures the primer rod to piston (24).
- 6 Unscrew the primer rod from the piston.

Step for model 9911-1 only

- 7 Remove roll pin (25) that secures rod (9) to the piston.
- 8 Unscrew the piston from the rod.

Step for all models except 9911-1

- 9 Remove roll pin (25) that secures rod (9) to the extension.
- 10 Unscrew the extension from the rod.

- 11 From inside the piston remove: spring guide (21), spring (22), ball (23).
- 12 Unscrew the uppertube from lower tube (29). Use a strap wrench.

Lower tube

- 1 Remove gasket (28), bearing (26), seal (27), and additional bearing (26) from the lowertube.

Primer body

- 1 Unscrew primer body (37) from the lowertube.
- 2 From inside the lowertube remove: gasket (28), seat (33), additional gasket (28), foot valve (32) [with seal (31)], stop (30).
- 3 Remove the seal from the foot valve.

Clean and inspect

- 1 Clean all metal parts in cleaning solvent. The solvent should be environmentally safe.
- 2 Inspect all parts for wear and/or damage.
- 3 Replace as necessary.
- 4 Inspect air piston (4) for fatigue cracks.
- 5 Replace as necessary.
- 6 Inspect rod (9), piston (24), and primer rod (34) closely. Use a magnifying glass to detect any score marks.
- 7 Replace as necessary.
- 8 Closely inspect the mating surfaces of all check valve components for any imperfections. Ensure a smooth and clean contact is obtained when assembled.

EXAMPLE

Place Ball (23) into Piston (24). Fill the Piston with solvent. Make sure no leakage occurs.

Assembly

NOTE

Prior to assembly, certain components require lubrication. Refer to table 3 for details. Refer to fig. 4 for a section view of the pump tube assembly.

Table 3

Lubricated components

Item	Description
	Clean oil
5	Quad-ring, 2 5/8 in. ID x 3 in. OD
6	O-ring, 3/8 in. ID x 1/2 in. OD
8	O-ring, 2 3/4 in. ID x 3 in. OD
12	Seal, 1/2 in. ID x 3/4 in. OD
14	Seal, 1/2 in. ID x 7/8 in. OD
17	O-ring, 2 9/16 in. ID x 2 3/4 in. OD
27	Seal, 5/8 in. ID x 1 in. OD
31	Seal, 0.282 in. ID x 0.532 in. OD

Magnalube®-G PTFE grease¹⁾
Coat bore of air motor assembly
¹⁾ Part number 393590 is a 0.75 Ounce (21.8 Gm) tube of Magnalube®-G PTFE grease.

Pump tube assembly

Lower tube

- 1 Install an D seat seal (12) [heel end first] into the bottom of the body.
- 2 Install and seat lantern ring (13) [small diameter end first] into the body.
- 3 Install and seat seal (14) [heel end first] into the body.
- 4 Install and seat bearing (15) [small diameter end first] into the body.
- 5 Install and seat gasket (16) into the body.

Step for all models except 9911-1

- 6 Screw rod (9) into extension (19) until the pinholes align.
- 7 Secure the extension to the rod with roll pin (20).
- 8 Install ball (23), spring (22), and spring guide (21) [pointed end first] into piston (24).

Step for model 9911-1 only

- 9 Screw the piston assembly onto the rod until the pinholes align.

- 10 Secure the piston to the rod with roll pin (20).

Step for all models except 9911-1

- 9 Screw the piston assembly onto the extension until the pin holes align.
 10 Secure the piston to the extension with roll pin (20).
 11 Screw primer rod (34) into the piston assembly until the pin holes align.
 12 Secure the piston assembly to the primer rod with roll pin (25).
 13 Install and seat bearing (26), seal (27) [heel end first], and additional bearing (26) into the externally threaded end of lower tube (29).
 14 Install and seat gasket (28) into the internally threaded end of upper tube (18).
 15 Screw the lowertube [with Loctite 222] into the uppertube. Follow the thread sealant manufacturer's recommendations. Do not tighten at this time.

NOTE

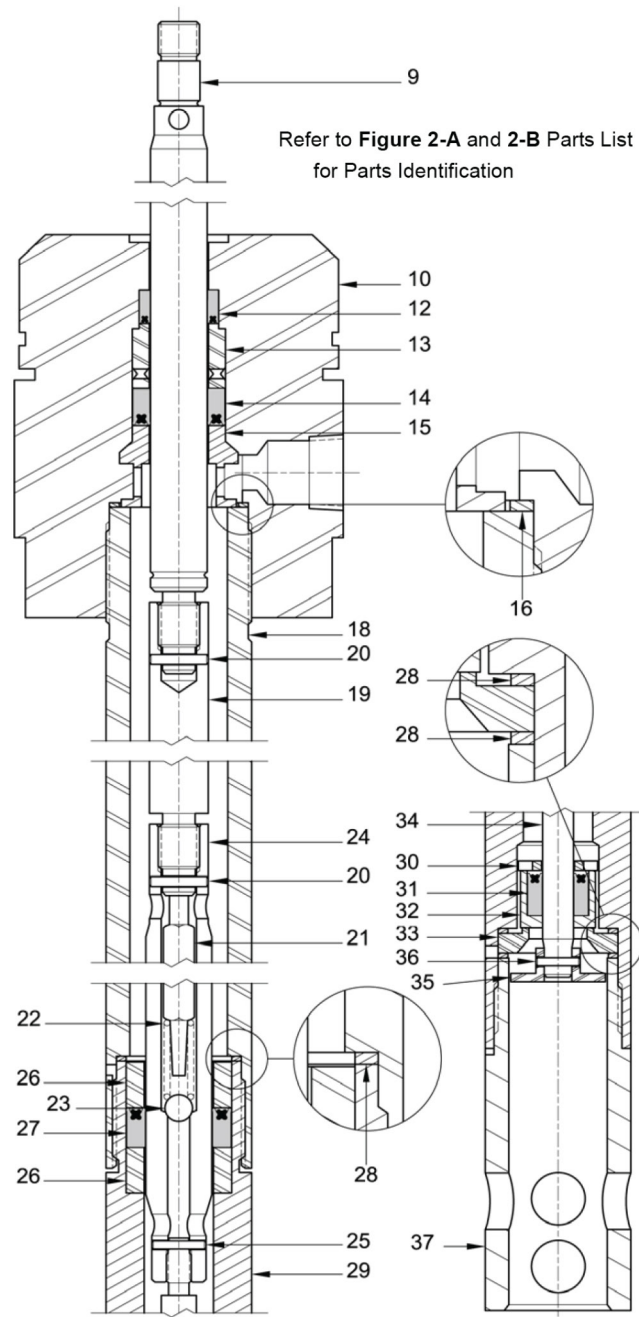
If a primer is used with Loctite 222, the curing time is greatly reduced.

- 16 Install the rod assembly into the upper tube until it protrudes from the lower tube.
 17 Use care not to damage the seal.
 18 Install seal (31) [heel end first] into foot valve (32).
 19 Install stop (30), the foot valve assembly [seal end first], gasket (28), seat (33) [small diameter end first], and additional gasket (28) over the primer rod and into the lowertube.
 20 Install primer disk (35) onto the primer rod.
 21 Make sure the hole align.
 22 Install roll pin (36) that secures the primer disk to primer rod.
 23 Screw primer body (37) [with loctite 222] into the lower tube. Follow the thread sealant manufacturer's recommendations. Do not tighten at this time.

CAUTION

Install the rod and tube assembly into the body with a twisting motion. Use care not to damage the seals

Pump tube assembly - section view



- 24 Install the rod and tube assembly into the body and at the same time screw the uppertube [with Loctite 222] into the body.
 25 Follow the thread sealant manufacturer's recommendations.
 26 Tighten all the threaded pump tube components into one another.

- 27 Place a bar or other suitable tool in the holes of the primer body for leverage.
- 28 Tighten sufficiently to properly crush all gaskets.

⚠ CAUTION

Use care not to switch Washers (3 and 7). Component damage can occur.

- 29 Install washer (7) [brass color] and o-ring (6) onto the rod.
- 30 Install quad-ring (5) onto air piston (4).
- 31 Place the air piston (observe this side up) on top of the rod.
- 32 Install washer (3) [silver color] and nut (2) that secures the air piston to the rod. Tighten the nut securely.

NOTE

Place an appropriate size punch or other suitable tool into the hole of the rod (→ fig. 2-A).

Attach air motor to pump tube

- 1 Clamp the pump at the flats of body (10) securely in a soft jaw vise.
- 2 Install the bottom cap onto the body.
- 3 Install o-ring (8) onto the upper groove of the body.

⚠ CAUTION

Install the cylinder with care. Damage to quad-ring (5) and/or O-ring (8) can occur.

NOTE

Angle the cylinder onto the quad-ring.

- 4 Install the cylinder over the body's o-ring and seat it properly onto the bottom cap.
- 5 Install the top cap onto the cylinder. Use care passing the o-ring.
- 6 Install keeper (11) into the groove of the body. Make sure the hole aligns with carriage bolt (1c).
- 7 Install one carriage bolt through the air motor and through the keeper.
- 8 Install flange nut (1d). Do not tighten the flange nut at this time.
- 9 Repeat procedural steps 7 and 8 for the additional keepers and carriage bolts.

⚠ CAUTION

Do not overtighten flange nuts (1d). Component damage can occur.

- 10 Torque each flange nut in an alternate pattern from 60 to 70 in.lbf. (6.8 to 7.9 Nm).
- 11 Install screw (1b) into the top cap. Tighten the screw to 50 in.lbf (5.6 Nm).
- 12 "Snap" cover (1a) onto the cylinder.

Bench test and operation

- 1 Slowly supply air pressure [recommended minimum of 25 psi (1.7 bars)] to the pump's motor. The pump assembly should cycle. If the pump assembly does not cycle, refer to the troubleshooting chart for details.)

With air pressure at zero:

- 2 Connect a product hose to the pump's material outlet. Direct the hose into an appropriate collection container.
- 3 Place the pump in grease.
- 4 Slowly supply air pressure to the pump's motor.

⚠ WARNING

Should leakage occur anywhere within the system, disconnect air to the motor. Personal injury can occur.

- 5 Allow the pump to cycle slowly until the grease is free of air. If the pump assembly does not prime, refer to the troubleshooting chart for details).

With air pressure at zero:

- 6 Attach a control valve to the outlet hose of the pump. Make sure the nozzle on the control valve is open.
- 7 Slowly supply air pressure to the pump's motor.
- 8 Allow the pump to cycle slowly until the grease is once again free of air.
- 9 Set the air pressure to the normal operating pressure.
- 10 Operate the control valve into a container.
- 11 Shut off the control valve.

- 12 Visually inspect the pump for external leaks. The pump should not cycle more than once or twice in one hour. If the pump does not stall, refer to the troubleshooting chart for details.
- 13 Check the motor for air leakage. If the motor leaks, refer to the air motor service guide for details.

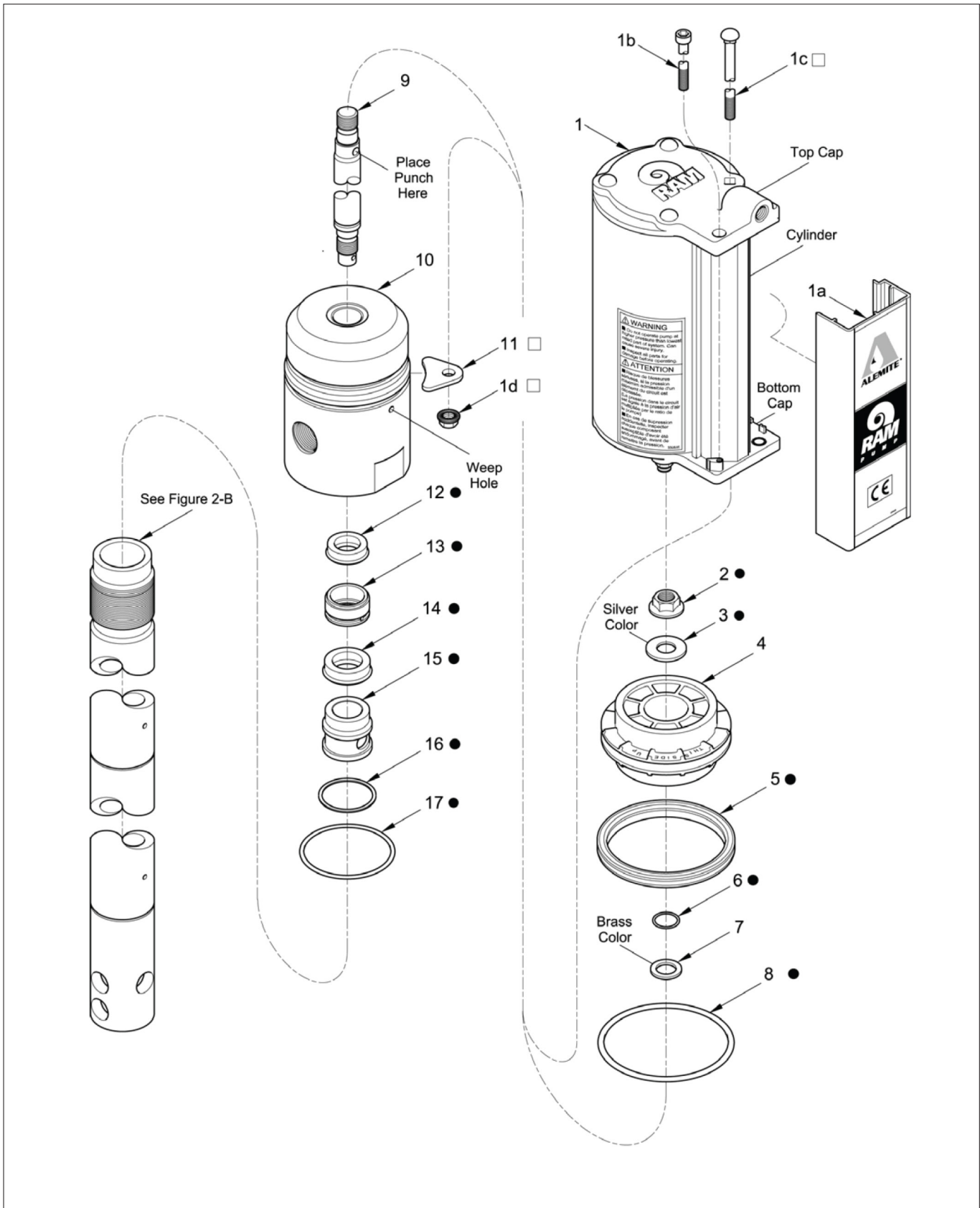
Installation

Additional items that should be incorporated into the air piping systems are listed in table 5, below.

Table 5

Air line components

Part number	Description
5604-2	Moisture separator
7604-B	Regulator and gauge



Parts list

Item number	Description	Part number	Qty.	Notes
1	Motor assembly, air	339413 ¹⁾	1	See SER 339413
1a	Cover (w/o decals)	340053	1	Included w/ Motor Assembly
1b	Screw, cap, 1/4 in.-20 x 6 1/2 in.	340027 ¹⁾	1	Included w/ Motor Assembly
1c	Bolt, carriage, 1/4 in.-20 x 7 1/2 in.	339425 ¹⁾²⁾	4	Included w/ Motor Assembly
1d	Nut, serrated flange, 1/4 in.-20	339375 ¹⁾²⁾	4	
2	Nut, flange, 3/8 in.-24	339513 ³⁾	1	
3	Washer, 3/8 in. ID x 7/8 in. OD	14536 ¹⁾³⁾	1	
4	Piston, air	339429	1	Pack of Ten(10)
5	Quad-ring, 2 5/8 in. ID x 3 in. OD	X171008-37 ³⁾	1	Pack of Ten(10)
6	O-ring, 3/8 in. ID x 1/2 in. OD	X171000-7 ³⁾	1	
7	Washer, 3/8 in. ID x 3/4 in. OD	338109	1	Pack of Ten(10)
8	O-ring, 2 3/4 in. ID x 3 in. OD	X171003-10 ³⁾	1	
9	Rod	338509	1	
10	Body	338083 ¹⁾	1	
11	Keeper	339412 ²⁾	4	
12	Seal, 1/2 in. ID x 3/4 in. OD	172190-24 ¹⁾³⁾	1	
13	Ring, lantern (brass)	338072 ¹⁾³⁾	1	
14	Seal, 1/2 in. ID x 7/8 in. OD	172190-26 ¹⁾³⁾	1	
15	Bearing (brass)	338073 ¹⁾³⁾	1	
16	Gasket (aluminum)	338074 ¹⁾³⁾	1	
17	O-ring, 2 9/16 in. ID x 2 3/4 in. OD	X171009-45 ³⁾	1	Pack of Ten (10) Model 9930

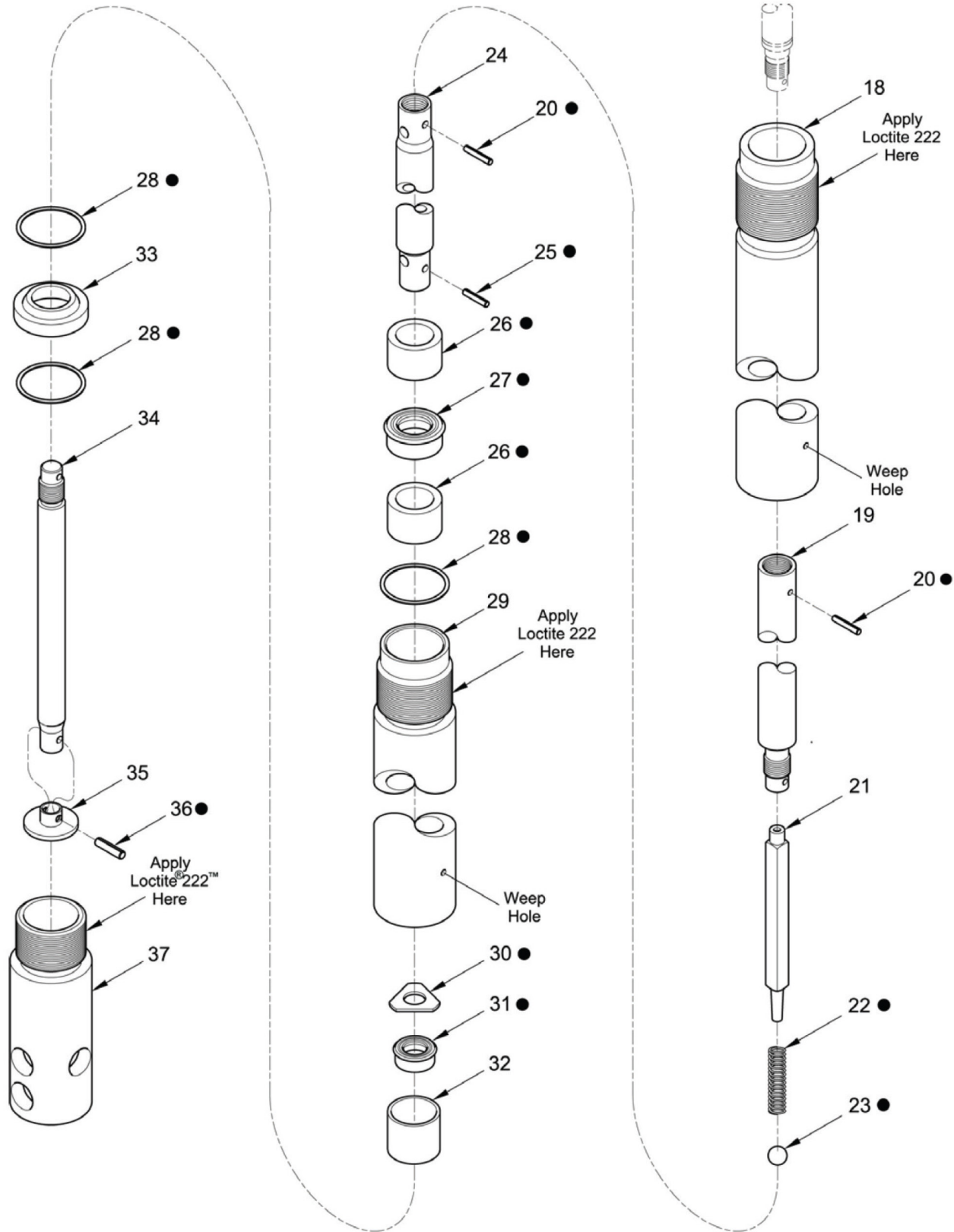
⁽¹⁾ not available to purchase separately

⁽²⁾ included in Air Motor Keeper Repair Kit (393708)

⁽³⁾ included in Major Repair Kit, includes tube of 393590 PTFE Grease (393709)

Repair kits

Part number	Description
393709	Major Repair Kit (includes tube of 393590 PTFE Grease)
393708	Air Motor Keeper Repair Kit
393530-24	Seal Kit (includes five (5) of seal number 172190-24)
393530-26	Seal Kit (includes five (5) of seal number 172190-26)



Part list

Item number	Description	Part number	Qty.	Notes
18	Tube, upper, 5.78 in. long	338508-3	1	9911-1
	Tube, upper, 19.78 in. long	338508-1	1	9950-1
	Tube, upper, 7.53 in. long	338508-7	1	9950-B1
	Tube, upper, 11.03 in. long	338508-5	1	9950-C1
	Tube, upper, 29.09 in. long	338508-9	1	9950-D1
	Tube, upper, 9.71 in. long	338508-4	1	9911-R1
19	Extension, 14.62 in. long	338055-1	1	9950-1
	Extension, 2.37 in. long	338055-6	1	9950-B1
	Extension, 5.87 in. long	338055-4	1	9950-C1
	Extension, 23.93 in. long	338055-8	1	9950-D1
	Extension, 4.55 in. ong	338055-3	1	9911-R1
20	Pin, roll, 3/32 in. dia. X 5/8 in. long	171032-6(2)	2	Except 9911 -1 9911-1 Only
	Pin, roll, 3/32 in. dia. X 5/8 in. long	171032-6(2)	1	
21	Guide, spring	338080(2)	1	
22	Spring	338079(1)(2)	1	
23	Ball	171700-18(1)(2)	1	
24	Piston	338084	1	
25	Pin, roll, 5/64 in. dia. X 1/2 in. long	171031-5(1)(2)	1	
26	Bearing (brass)	338081(1)(2)	2	
27	Seal, 5/8 in. ID x 1 in. OD	172190-25(1)(2)	1	
28	Gasket (aluminum)	338077(1)(2)	2	
29	Tube, lower	338085	1	
30	Stop	338056(1)(2)	1	
31	Seal, 0.282 in. ID x 0.532 in. OD	172190-10(1)(2)	1	
32	Valve, foot	338071	1	
33	Seat	338070	1	
34	Rod, primer	338075	1	
35	Disk, primer	338078(2)	1	
36	Pin, roll, 3/32 in. dia. X 3/8 in. long	171032-3(1)(2)	1	
37	Body, primer	338069	1	

(1) Not available to purchase separately

(2) Included in Major Repair Kit, includes tube of 393590 PTFE Grease (393709)

Repair kits

Part number	Description
393709	Major Repair Kit (includes tube of 393590 PTFE Grease)
393530-10	Seal Kit (includes five (5) of seal number 172190-10)
393530-25	Seal Kit (includes five (5) of seal number 172190-25)

Table 3

High pressure stripped pump accessory component

Part number	Description
326750-F1	Bung Adapter, 2 in. NPTF (m)

Troubleshooting

Pump indications	Possible problem	Solutions
Pump does not cycle.	Air motor not operating properly.	Inspect air motor and rebuild or replace as necessary.
	Pump tube jammed and/or contains loose components.	Rebuild pump tube.
	Insufficient air pressure.	Increase air pressure.
Pump will not prime.	Excessive cycling speed.	Reduce air pressure.
	Pump leaking internally.	See internal leaks.
Pump cycles rapidly.	Product source empty.	Replenish product.
Pump will not stall (cycles more than once or twice/hour).	Pump requires break-in period.	Operate the pump against moderate fluid pressure for up to one hour.
	Pump leaking internally.	See internal leaks, below.
	Pump leaking externally.	See external leaks, below.
	Distribution system leaking.	Correct leak.
External leaks		
Product leakage visible at weep hole in body (10).	Damaged seal (14).	Replace seal (14).
	Damaged rod (9)	Inspect rod (9) and replace as necessary
Product leakage visible at bottom of body (10).	Upper tube (18) not sufficiently tight.	Tighten upper tube (18) into body (10).
	Damaged gasket (16).	Replace gasket (16).
Air leakage at weep hole in body (10).	Damaged seal (12).	Replace seal (12).
	Damaged rod (9).	Inspect rod (9).
Product leakage visible at weep hole in upper tube (18).	Lowertube (29) not sufficiently tight.	Tighten lower tube (29) into upper tube (18).
	Damaged gasket (28).	Replace gasket (28).
Product leakage visible at weep hole in lower tube (29).	Primer body (37) not sufficiently tight.	Tighten primer body (37) into lower tube (29).
	Damaged gasket(s) (28).	Replace gasket(s) (28).
Internal leaks		
Pump does not prime or cycles continuously, or slowly (once or twice/hour).	<ol style="list-style-type: none"> 1. Foreign material between ball (23) and piston (24) 2. Foreign material between foot valve (32) and seat (33) 3. Worn or damaged ball (23) 4. Worn or damaged piston (24) 5. Worn or damaged foot valve (32) 6. Worn or damaged seat (33) 7. Worn or damaged seal (27) 8. Worn or damaged seal (31) 9. Worn or damaged primer rod (34). 	Locate and eliminate source of foreign material. Disassemble pump tube, clean, inspect, and replace worn or damaged components.

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Declaration of Conformity

(following machinery directive 2006/42/EC, annex II Part 1 A)

The Manufacturer

Alemite LLC, 167 Roweland Drive, Johnson City, TN 37601

hereby declares under sole responsibility that the products:

Designation: Compressed air driven grease pump for supplying lubricants
Part numbers: 9911-1 / 9950-1
Year of construction: See type identification plates

consisting of the following combination of incomplete machines

Air motor: Part no.: 339413
Pump tube: Part no.: 338086-A1, 338086-B1

comply with all basic requirements of the following directives at the time when first being launched in the market.

Directive

Machinery directive: 2006/42/EU
RoHS directive: 2011/65/EU

Applied and harmonized standards

DIN EN ISO 12100: 2011-03
DIN EN 809-1: 2011
DIN EN 50581: 2013-02

In the case of modifications or alterations of the above mentioned machine not authorized by the manufacturer validity of this EC declaration of conformity will cease. The person empowered to assemble the technical documentation on behalf of the manufacturer is the subscriber: see manufacturer's address.



Bob Hoefler
Director Product Development and
Product Engineering
Alemite LLC

Johnson City, Tennessee
2016-11-11



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