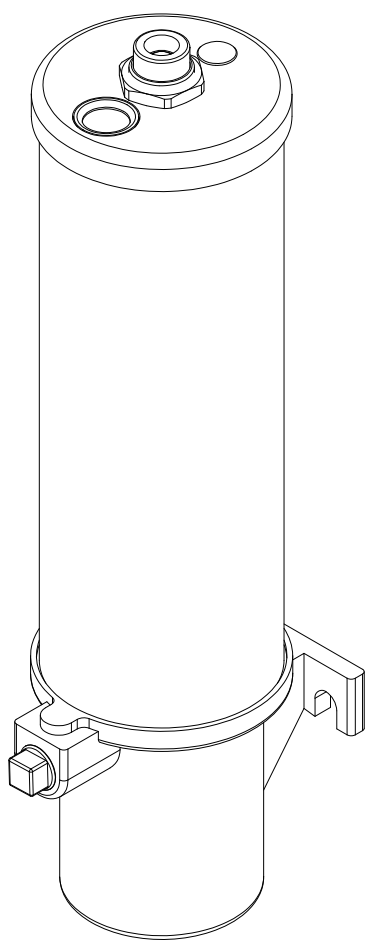


Oil RAM pump

Model 83667, series "E"



Date of issue	August 2022
Form number	402816
Version	4

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* Indicates change.



Declaration of Incorporation*

DOCUMENT NUMBER
402816.Dol

**Manufacturer name/address:
Lincoln Industrial Corporation**

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Dol

This Declaration of Incorporation is issued under sole responsibility of the manufacturer. Lincoln Industrial Corporation hereby declares that the partly completed machinery stated below:

Name: RAM pumps
Model number(s):
83667
Description:
Air operated pumps
Year of CE: 2022

in its intended use, is in conformity with the relevant union harmonization legislation:

Machinery Directive 2006/42/EC

and conforms to the following harmonized standards:

EN ISO 4413: 2010
Hydraulic fluid power - General rules and safety requirements for systems and their components

EN ISO 12100: 2010
Safety of machinery. General principles for design. Risk assessment and risk reduction

EN ISO 4414:2010
Pneumatic fluid power. General rules and safety requirements for systems and their components

EN ISO 809:1998+A1:2009
Pumps and pump units for liquids - Common safety requirements

EN 349:1993+A:2008
Safety of machinery – Minimum gaps to avoid crushing of parts of the body

The following EHSR (Essential Health and Safety Requirements) have been applied:

1.1.2a - 1.1.2b - 1.1.2c - 1.1.3 - 1.1.5 -
1.2.5 - 1.3.2 - 1.3.3 - 1.3.5 - 1.3.7 - 1.3.8
- 1.5.3 - 1.7 - 1.7.1 - 1.7.1.1 - 1.7.3 - 1.7.4

The manufacturer maintains a technical construction file containing test reports and product documentation:



Technical file summary sheet number:
RA402816-00

The partly completed machinery shown above should not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the directive, where appropriate.

I, the undersigned of Lincoln Industrial Corporation, do hereby declare that the equipment specified above, in its intended use, conforms to the requirements of the above EC Directive(s).

Robert Collins
Technical Compliance Manager
St. Louis, MO, U.S.A.
2022/06/21

* Indicates change.

	U.K. Declaration of Incorporation*	DOCUMENT NUMBER UK402816CA
<p style="text-align: center;">Manufacturer name/address: Lincoln Industrial Corporation 5148 N. Hanley Road St. Louis, MO 63134 U.S.A. TEL: +1 (314) 679-4200 FAX: +1 (314) 679-4367</p> <p style="text-align: center;">Authorized to compile the technical file: SKF (U.K.) Limited 2 Canada Close Banbury, Oxfordshire, OX16 2RT, GBR</p> <p style="text-align: center;">EMAIL: robert.collins@skf.com WEBSITE: www.skf.com</p>		

This U.K. Declaration of Incorporation is issued under sole responsibility of the manufacturer. Lincoln Industrial Corporation hereby declares that the partly completed machinery stated below:

Name: RAM pumps
Model number(s):
83667
Description:
Air operated pumps
Year of CE: 2022

in its intended use, is in conformity with the relevant union harmonization legislation:

Supply of Machinery (Safety) Regulations 2008 (S.I. 2008:1597)

along with the following Directive(s) that were also applied with the above legislation:

EN ISO 4413: 2010
Hydraulic fluid power - General rules and safety requirements for systems and their components

EN ISO 12100: 2010
Safety of machinery. General principles for design. Risk assessment and risk reduction

EN ISO 4414:2010
Pneumatic fluid power. General rules and safety requirements for systems and their components

EN ISO 809:1998+A1:2009
Pumps and pump units for liquids - Common safety requirements

EN 349:1993+A:2008
Safety of machinery – Minimum gaps to avoid crushing of parts of the body

The following EHSR (Essential Health and Safety Requirements) have been applied:

1.1.2a - 1.1.2b - 1.1.2c - 1.1.3 - 1.1.5 - 1.2.5 - 1.3.2 - 1.3.3 - 1.3.5 - 1.3.7 - 1.3.8 - 1.5.3 - 1.7 - 1.7.1 - 1.7.1.1 - 1.7.3 - 1.7.4

The manufacturer maintains a technical construction file containing test reports and product documentation:

Technical file summary sheet number:
RA402816-00

The partly completed machinery shown above should not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the directive, where appropriate.

I, the undersigned of Lincoln Industrial Corporation, hereby declare that the equipment specified above, in its intended use, conforms with the Essential Health and Safety Requirements of U.K. legislation Supply of Machinery (Safety) Regulations 2008 No. 1597 Annex I, Declaration of Incorporation by the time of placing it on the market.



Robert Collins
Technical Compliance Manager
St. Louis, MO, U.S.A.
2022/06/21

* Indicates change.

Safety*

Read and carefully observe these installation instructions before installing/operating/troubleshooting the assembly. The assembly must be installed, maintained and repaired exclusively by persons familiar with the instructions.

Install the assembly only after safety instructions and this guide have been read and are completely understood.

Adequate personal protection must be used to prevent splashing of material on the skin or in the eyes.

Always disconnect power source (electricity, air or hydraulic) from the pump when it is not being used.

This equipment generates very high grease pressure. Extreme caution should be used when operating this equipment as material leaks from loose or ruptured components can inject fluid through the skin and into the body. If any fluid appears to penetrate the skin, seek attention from a doctor immediately.

Do not treat injury as a simple cut. Tell attending doctor exactly what type of fluid was injected.

Any other use not in accordance with instructions will result in loss of claim for warranty or liability.

- Do not misuse, over-pressurize, modify parts, use incompatible chemicals, fluids, or use worn and/or damaged parts.
- Do not exceed the stated maximum working pressure of the pump or of the lowest rated component in your system.
- Always read and follow the fluid manufacturer's recommendations regarding fluid compatibility, and the use of protective clothing and equipment.
- Failure to comply may result in personal injury and/or damage to equipment.

Explanation of signal words for safety

NOTE

Emphasizes useful hints and recommendations as well as information to prevent property damage and ensure efficient trouble-free operation.

CAUTION

Indicates a dangerous situation that can lead to light personal injury if precautionary measures are ignored.

WARNING

Indicates a dangerous situation that could lead to death or serious injury if precautionary measures are ignored.

DANGER

Indicates a dangerous situation that will lead to death or serious injury if precautionary measures are ignored.

WARNING*

Do not operate equipment without reading and fully understanding safety warnings and instructions.



Failure to follow warnings and instructions may result in serious injury.

NOTE*

Do not operate equipment without wearing personal protective gear.

Wear eye protection. Protective equipment such as dust mask, nonskid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.



WARNING*



Do not allow any body part to be trapped between follower and barrel.

Body parts can be crushed by follower as follower lowers into barrel.

Failure to comply may result in death or serious physical injury.

WARNING*



Do not allow fluid to leak onto floor when removing follower from barrel. If spill occurs, clean any fluid on floor before installing a new barrel.

Failure to comply may result in personal injury.

WARNING*

Do not use equipment to supply, transport, or store hazardous substances and mixtures in accordance with annex I part 2-5 of the CLP regulation (EG 1272/2008) or HCS 29 CFR 1910.1200 marked with GHS01, GHS06 and GHS08 hazard pictograms shown:



* Indicates change.

Specifications

Ratio	Output stroke	Reservoir capacity ¹⁾	Air inlet	Lubricant outlet	Lubricant operating Type of system	Lubricant operating pressure		Recommended
						Minimum	Maximum	
20:1	0.45 in. ³ (7,37 cm ³)	4 1/4 pints (2 l)	1/4 in. NPT (internal)	1/4 in. NPT (internal)	SL-32, SL-33	1,200 psi (82 bar) with 60 psi (4 bar) air	3,500 psi (241 bar) with 175 psi (12 bar) air	1,500 psi (103 bar) with 75 psi (5,2 bar) air
					SL-42, SL-43	750 psi (51 bar) with 38 psi (2,6 bar) air	1,000 psi (69 bar) with 50 psi (3,4 bar) air	850 psi (58 bar) with 43 psi (2,9 bar) air

¹⁾ Based on lubricants that are free from entrapped air. Lubricants that are aerated will reduce output of pump. The 83667 pump is used as the pumping unit for a centralized lubrication system having a single circuit of SL-32, SL-33, SL-42, or SL-43 Injectors. It is an air-operated, single-stroke, spring-return pump that discharges .450 Cu. In. Into the circuit for each pump cycle.

Total quantity of lubricant needed for lubrication cycle of system must not exceed lubricant discharged per pump stroke.

To fill reservoir

Reservoir is filled through filler cap at top of reservoir.

Lubricant strainer should be removed from filler cap and cleaned periodically.

To prime system

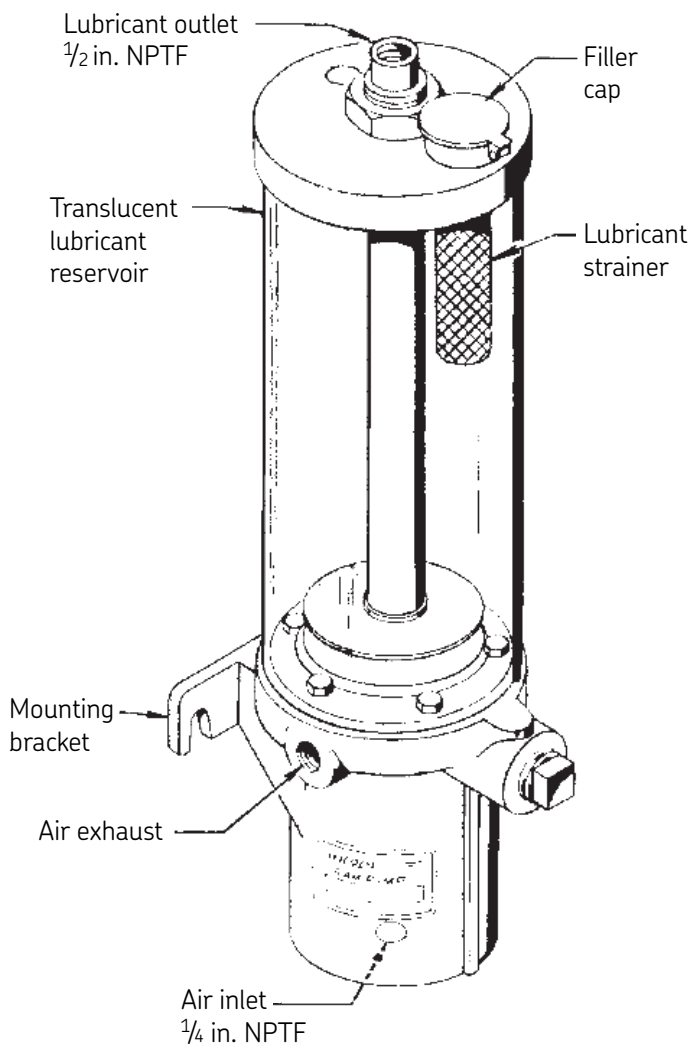
Supply lines: After pump reservoir has been filled with recommended lubricant, loosen (do not remove) all plugs in dead ends of the injector manifolds and supply lines.

Operate pump until lubricant flows from around threads of any loosened plug.

Tighten this plug and continue to operate pump until lubricant flows from around threads of another loosened plug. Repeat this procedure until all supply lines are primed and all plugs are securely tightened.

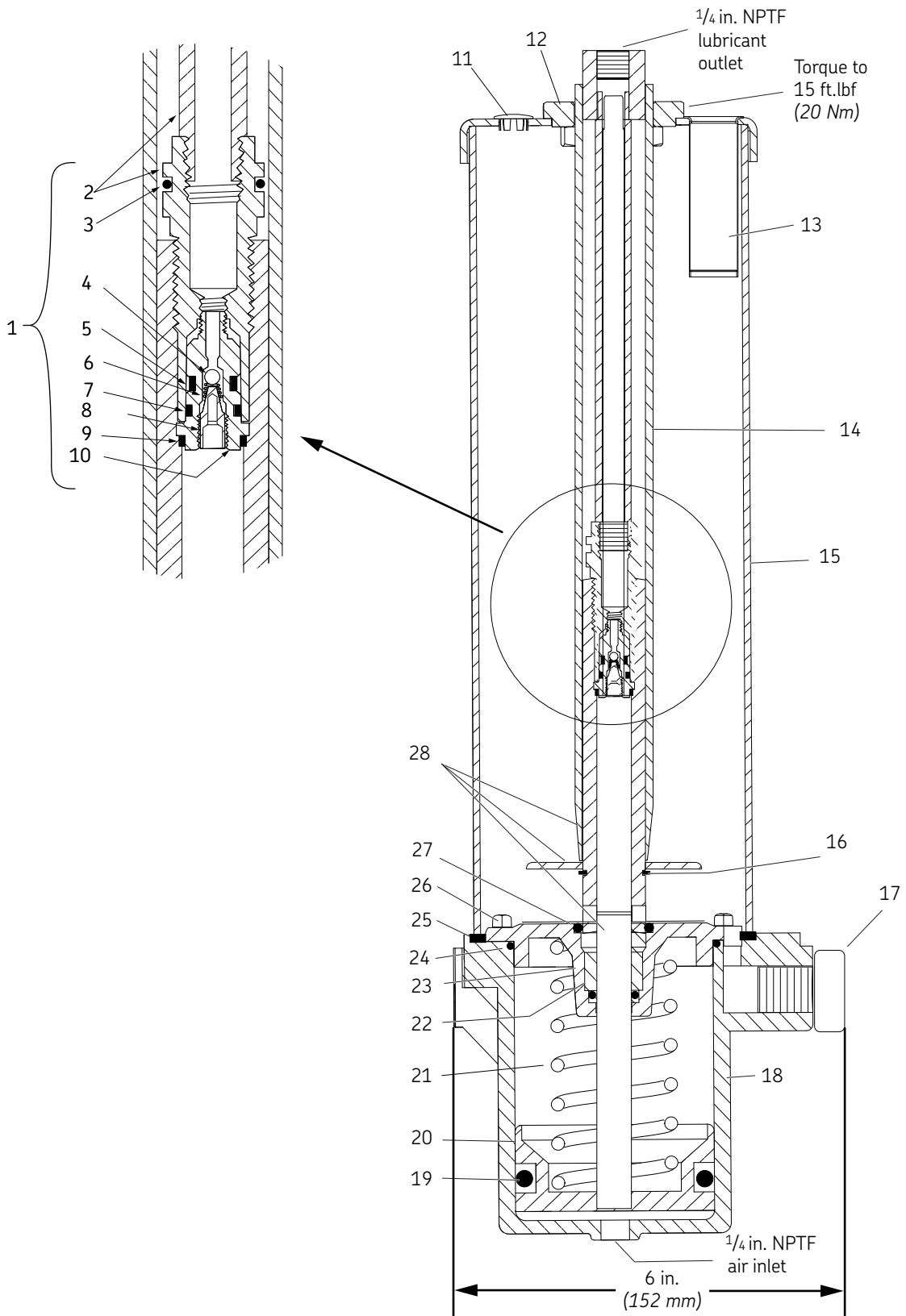
Feeder lines: Fill each feed line with lubricant before connecting lines to outlet of injectors and bearings.

Injectors: Check each injector for proper operation. Injector stem moves when injector discharges lubricant to bearing. This may require cycling system several times. After checking injectors for operation, adjust injectors for the volume required for each bearing.



NOTE

Do not plug air exhaust. Pump must be installed in a vertical position.



Operation of the pump

Lubricant in reservoir (15) flows into cavity in bushing and plunger assembly (28).

Compressed air entering the bottom of the air cylinder (18) (1/4 in. N.P.T.) moves the piston (20) upward. As the piston moves upward, the plunger is also moved upward into the bushing. As plunger moves upward, it moves lubricant from the bushing cavity through the check (1) to the outlet of the pump.

When air pressure to air cylinder (18) is relieved, spring (21) moves piston and plunger downward. In its extreme down position, plunger has retracted below bushing port, permitting lubricant to flow into bushing cavity.

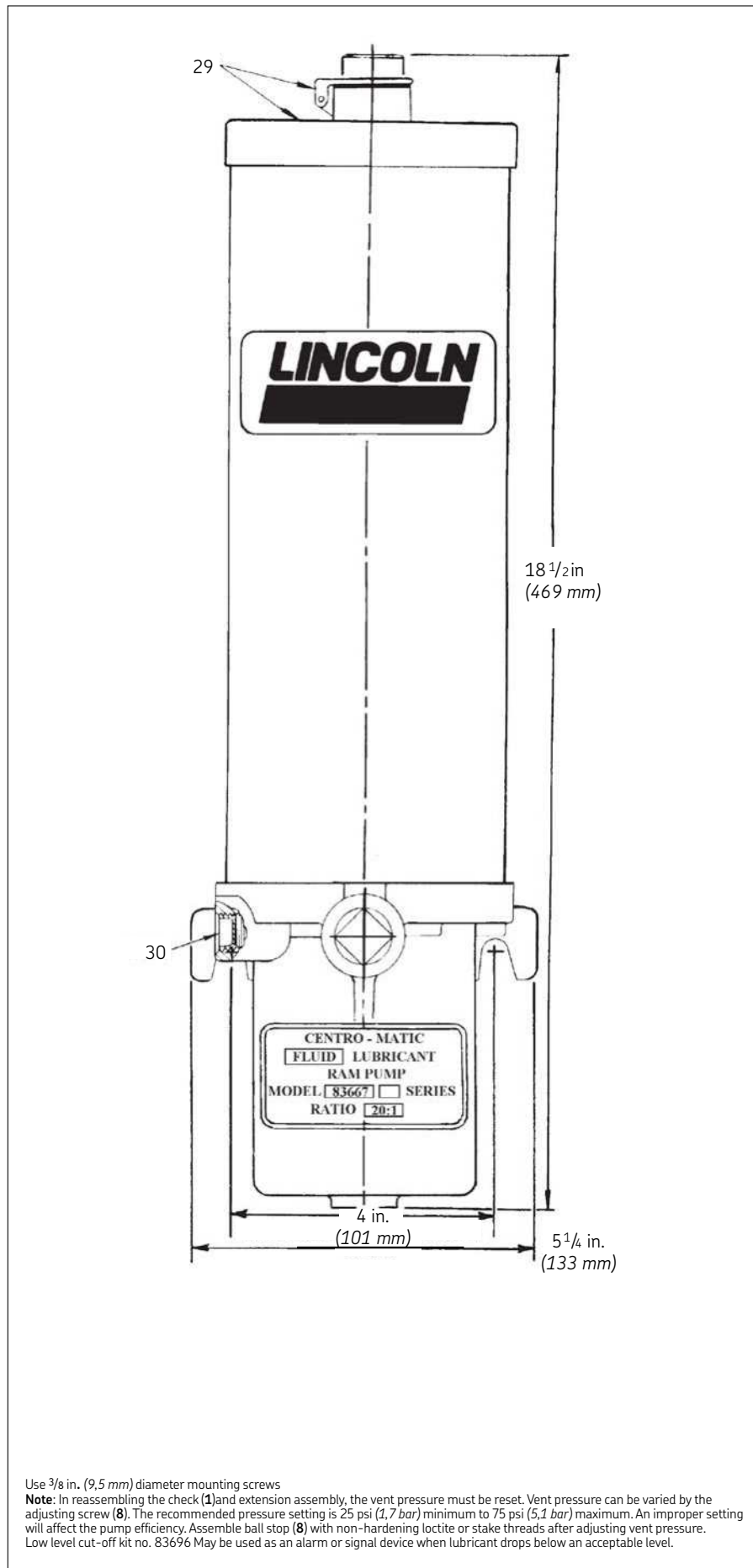
What to do if:

Pump loses prime.

- Check lubricant supply.
- System fails to cycle and calculated system planning has been followed.
- Lubricant may be leaking by the ball check (4) or the gasket (5) in the check and vent assembly (1). Remove these parts and examine for presence of foreign particles. Clean, or replace parts if worn or damaged.

Pump fails to operate.

- Check air supply.
- Failure of Injectors to cycle can be caused by a leak in the supply line.



Service parts

Item	Description	Part number	Qty.
1	Check assembly	84175	1
2	Outlet bushing extension assembly	92684	
3	O-ring (nitrile)	34174 ¹⁾	1
4	Ball	66250 ¹⁾	1
5	Gasket	34445 ¹⁾	1
6	Spring	56106 ¹⁾	1
7	O-ring (nitrile)	34368 ¹⁾	1
8	Ball stop	14288	1
9	Gasket	31020 ¹⁾	1
10	Check body	14290	1
11	Plug button	68797	1
12	Nut	51082	1
13	Strainer	69128	1
14	Extension tube	62493	1
15	Reservoir (acrylic)	247208	1
16	Retaining ring	66725	1
17	Pipe plug	67117	1
18	Air cylinder	247476	1
19	U-cup (nitrile)	247483 ¹⁾	1
20	Piston	247478	1
21	Spring	247481	1
22	O-ring (nitrile)	34211 ¹⁾	1
23	Cylinder end	246174	1
24	O-ring (nitrile)	252497 ¹⁾	1
25	Gasket	34274 ¹⁾	1
26	Machine screw	247477	6
27	Gasket	31086 ¹⁾	1
28	Bushing and plunger assembly	247480	1
29	Cover assembly	92180	1
30	Filter	69295 ¹⁾	1

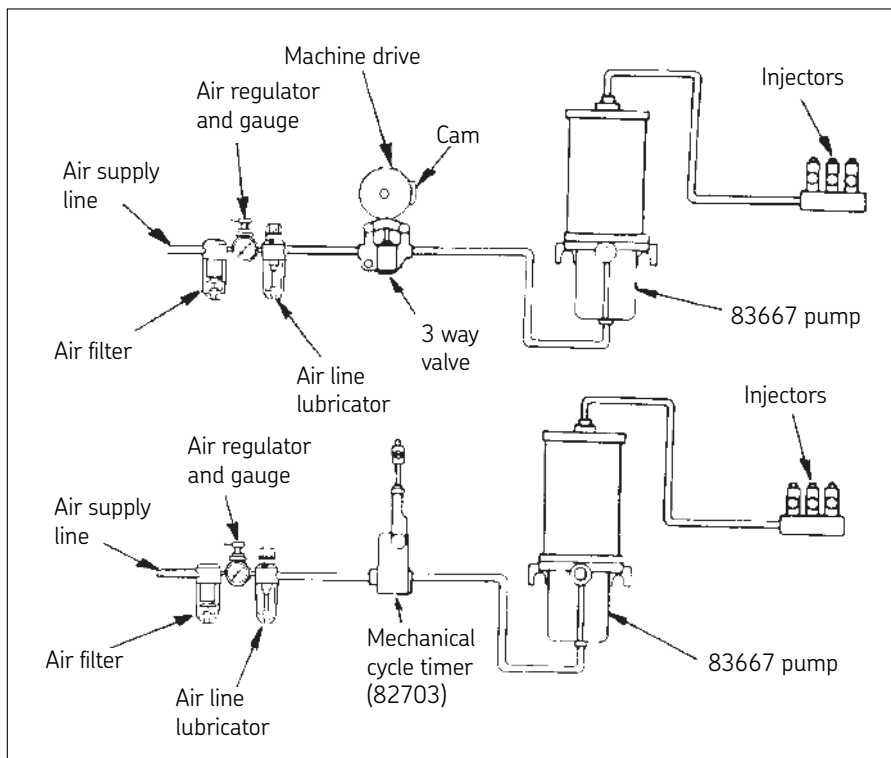
¹⁾ Components are available in 252714 repair kit.

Types of installations

Mechanical control

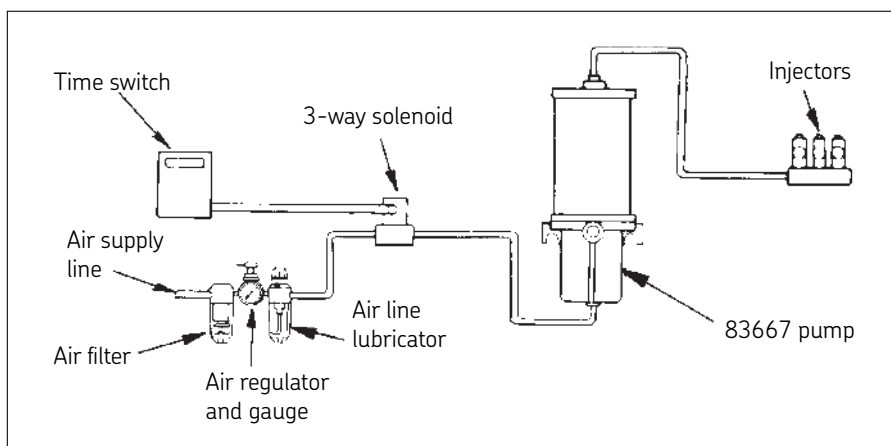
When using mechanical motion of machine to control lubrication frequency, three-way valve is engaged by cam, permitting air to pass through valve to pump, forcing air piston forward and lubricant through supply line to injectors. Cam dwell on three-way valve must be arranged for a minimum of 10 seconds.

When mechanical motion of machine is too rapid to be used as a source of control for frequency of lubrication cycle, a cycle timer with adjustable settings may be used. See separate instructions for cycle timer 82703.



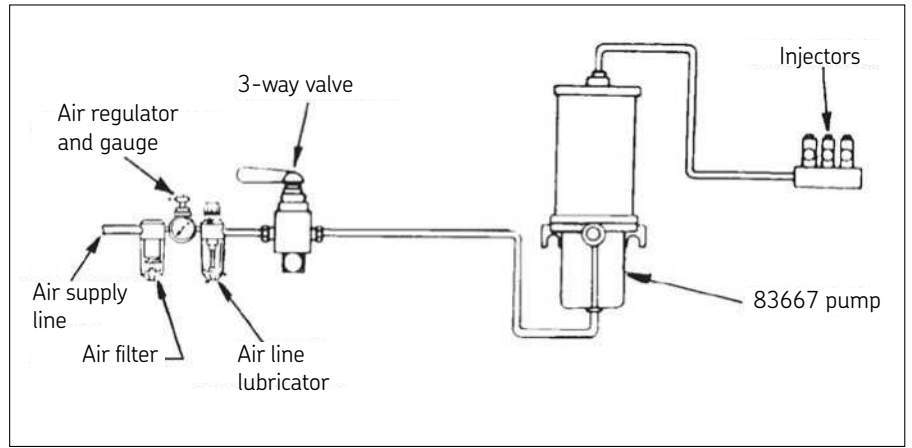
Electrical control

Electrical time switch opens three-way solenoid valve, permitting air to flow to pump forcing air piston forward and lubricant through supply line to injectors.



Manual control

Opening three-way valve for a minimum of ten seconds permits air to flow to pump forcing air piston forward and lubricant through supply line to injectors.



Warranty

The instructions do not contain any information on the warranty.
This can be found in the General Conditions of Sales, available at:
www.lincolnindustrial.com/technicalservice or www.skf.com/lubrication.

skf.com | lincolnindustrial.com

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