User and maintenance instructions

Air operated grease pump

Model 83668, series “F”

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Contents

* Indicates change.

SKF	Declaration of Incorporation*	DOCUMENT NUMBER 402817.DoI

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DoI

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):
83668
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.
2022/04/05

* Indicates change.

SKF	U.K. Declaration of Incorporation*	DOCUMENT NUMBER UK402817CA

Manufacturer name/address:
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2 Canada Close
Banbury, Oxfordshire, OX16 2RT, GBR

EMAIL: robert.collins@skf.com WEBSITE: www.skf.com

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):
83668
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

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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.
2022/04/05

*Indicates change.

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.

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.

⚠ 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:

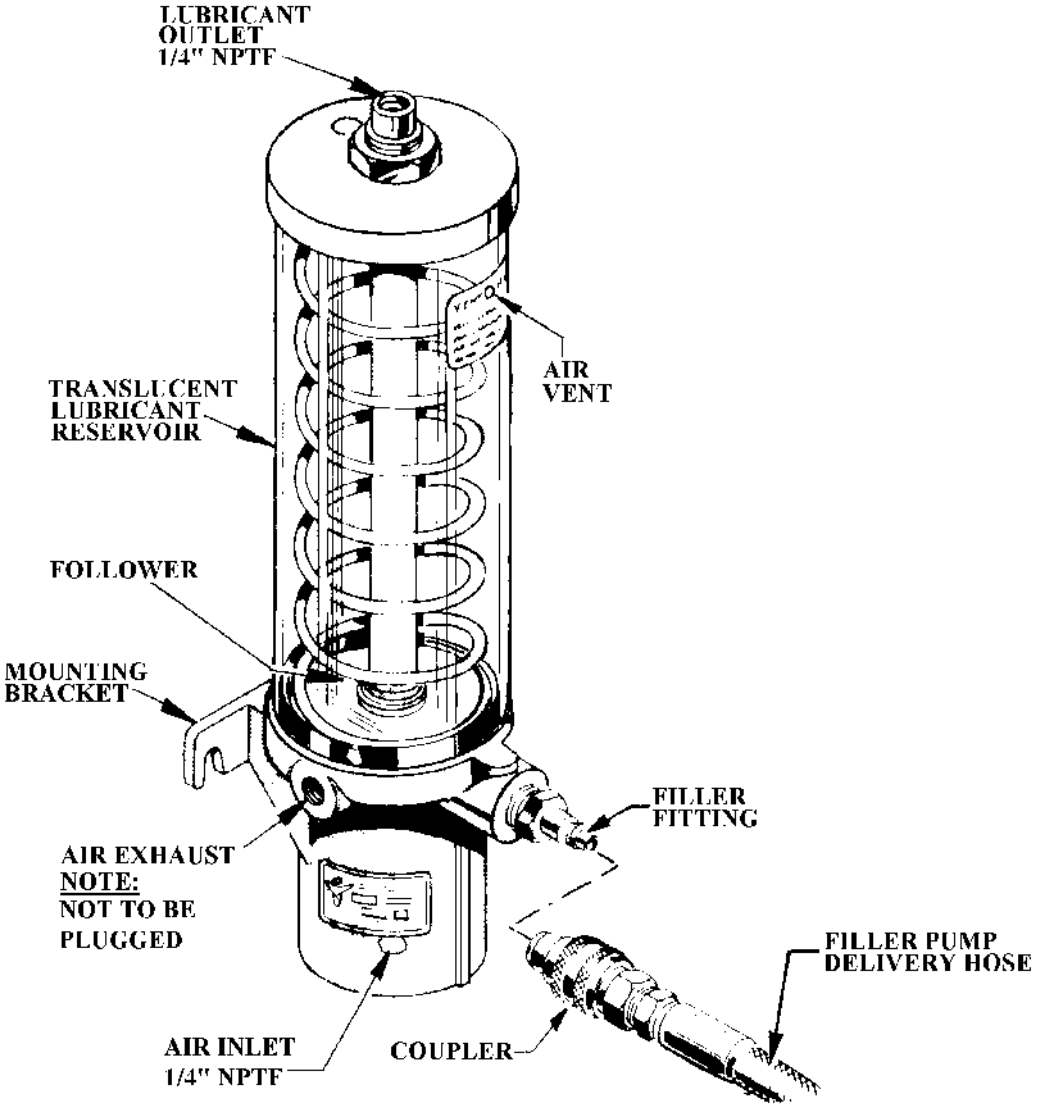
* Indicates change.

Specifications

Ratio	Output/stroke	Reservoir capacity	Air inlet	Lubricant outlet	Lubricant operating pressure Type of system	Minimum	Maximum	Recommended
20:1	0.450 in^3 *(7.37 cm^3)* [1]	4 1/4 pints 123 in^3 *(2.011 l)*	1/4 in NPT (i)	1/4 in NPT (i)	SL-32 SL-33	1 200 psi *(82.7 bar)* with 60 psi *(4.1 bar)*	3 500 psi *(241 bar)* with 175 psi *(12 bar)*	1 500 psi *(103 bar)* with 75 psi *(5.2 bar)*

[1] Based on lubricants that are free from entrapped air. Lubricants that are aerated will reduce output of pump. The 83668 Pump is used as the pumping unit for a Centralized Lubrication System having a single circuit of SL-32 or SL-33 Injectors. It is an air-operated, single-stroke, spring-return pump that discharges .450 cu. in. into the circuit for each pump cycle.

Fig. 1

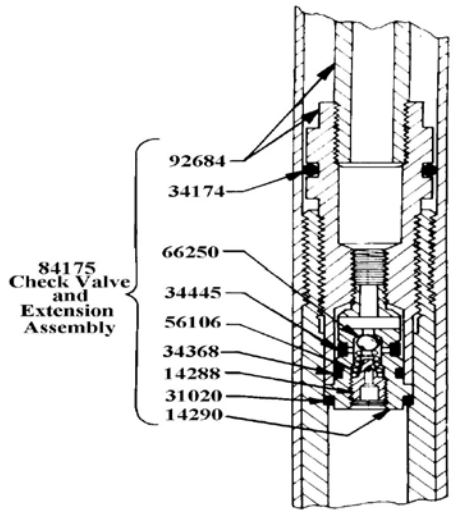


To fill reservoir

Use manual filler pump 81834 to fill reservoir through the filler fitting in the pump body. Attach coupler on delivery hose to filler fitting. Stroke filler pump handle until lubricant weepage is noted at air vent hole in the reservoir (lower portion of follower must rise beyond air vent hole to expel entrapped air from lubricant).

NOTE
When filling the reservoir, caution should be used as extreme pressure can cause damage to reservoir and follower assembly.

Fig. 2



To prime system

Supply lines

After pump reservoir has been filled with recommended lubricant, remove all plugs in dead ends of the injector manifolds and supply lines. Operate pump until lubricant flows from any plug opening. Close opening with plug. Continue operating pump until lubricant flows from another plug opening. Repeat this procedure until all supply lines are primed.

Feeder lines

Fill each feed line with lubricant before connecting tines to outlet of injectors and bearings. This will prevent having to cycle each injector for every inch of feeder line between injector and bearing.

Injectors

Check each individual injector for proper operation.

NOTE
Pump must be installed in a vertical position.

Operation of the pump

Lubricant in the 247210 translucent reservoir flows into the cavity in the 247484 bushing and plunger assembly.

Compressed air entering the bottom of the 247476 air cylinder (1/4" N.P.T. female) moves the 247478 piston upward. As the piston moves upward, the plunger is also moved upward into the bushing. As the plunger moves upward, it moves the charge of lubricant from the bushing cavity through the 84175 outlet check to the outlet of the pump.

When the air pressure to the 247476 air cylinder is relieved, the 247481 piston spring moves the piston and plunger downward. In its extreme down position, the plunger has retracted below the bushing port, permitting lubricant to flow into the 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 66250 Ball Check or the 34445 Packing in the 84175 Check and Vent Assembly. 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.

Fig. 3

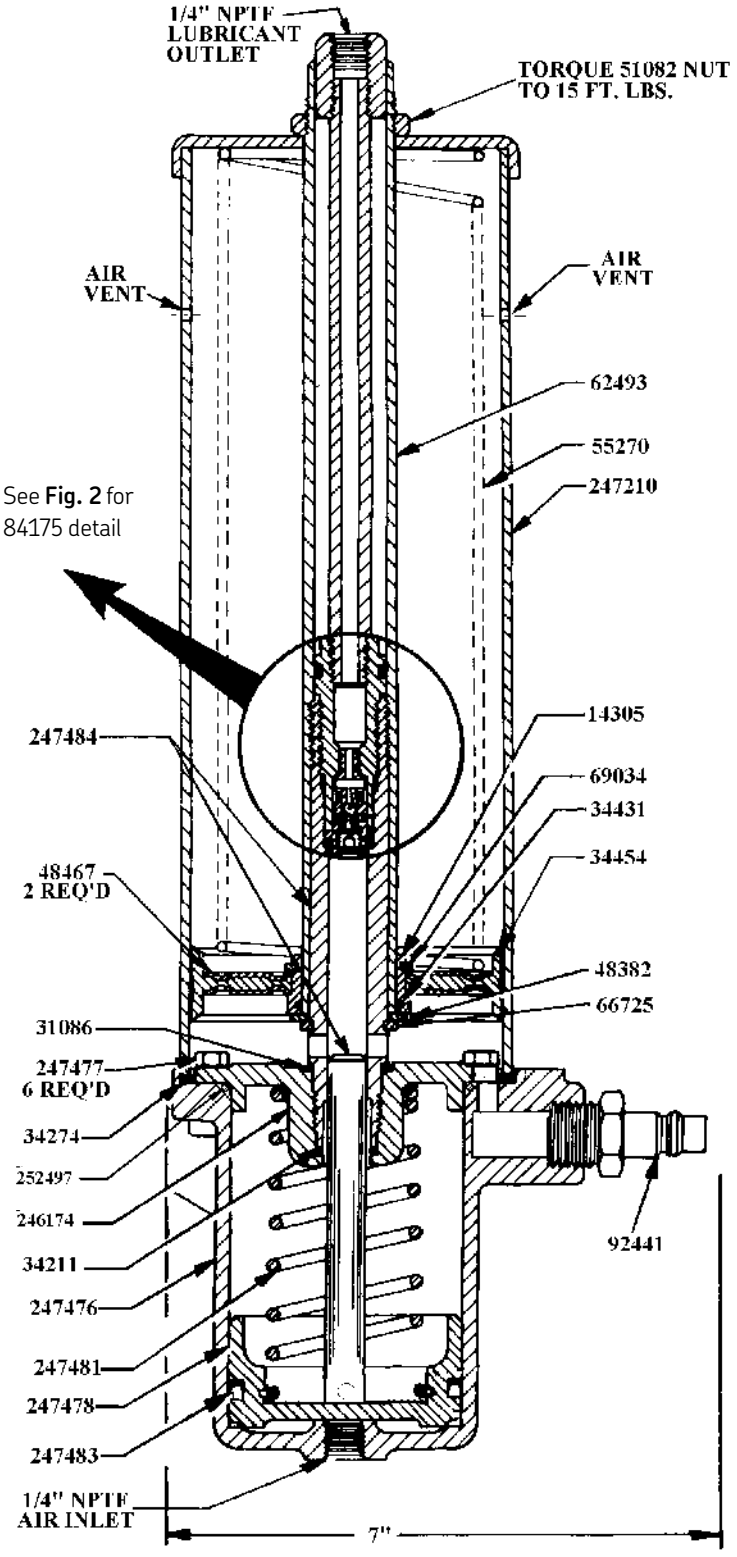
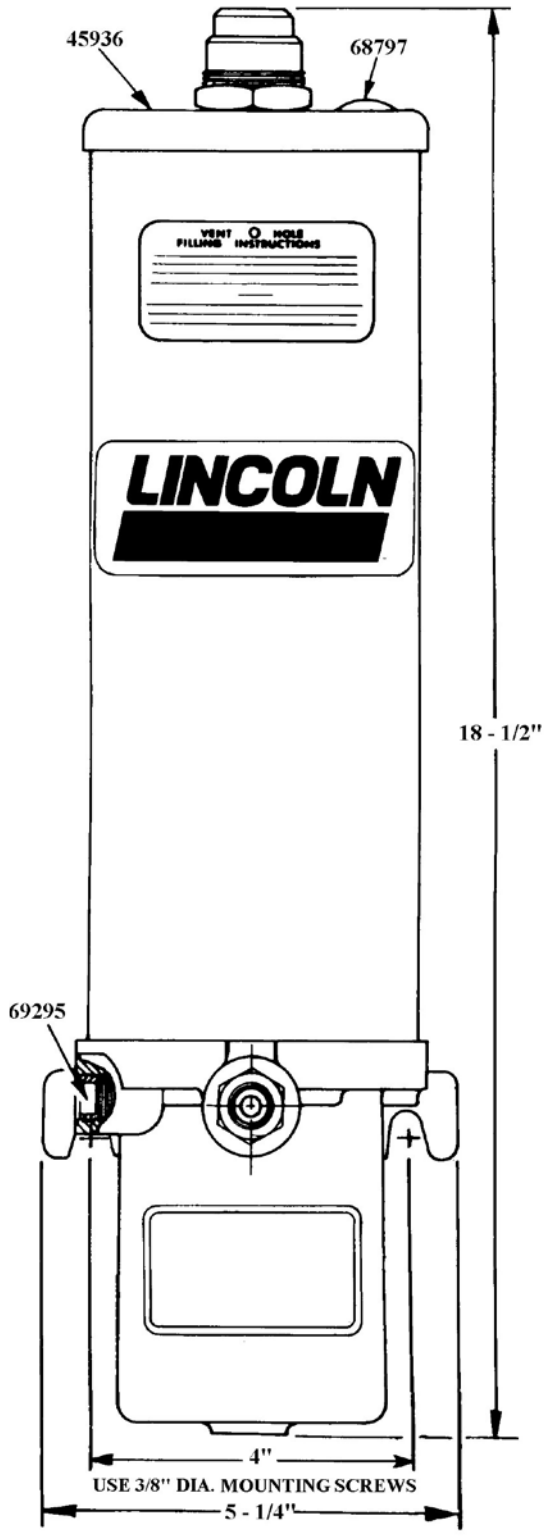

1/4" NPTF LUBRICANT OUTLET
TORQUE 51082 NUT TO 15 FT. LBS.
AIR VENT
AIR VENT
62493
55270
247210
See Fig. 2 for 84175 detail
247484
14305
69034
34431
34454
48467 2 REQ'D
48382
66725
31086
247477 6 REQ'D
34274
252497
246174
34211
247476
247481
247478
247483
92441
1/4" NPTF AIR INLET
7"

Fig. 4


45936
68797
LINCOLN
18 - 1/2"
69295
4"
USE 3/8" DIA. MOUNTING SCREWS
5 - 1/4"

NOTE

In reassembling the 84175 Check and Extension Assembly, the vent pressure must be reset. Vent pressure can be varied by the Adjusting Screw, 14288. The recommended pressure setting is 25 P.S.I.G. minimum to 75 P.S.I.G. maximum. An improper setting will affect the pump efficiency. Assemble 14288 with non-hardening Loctite or stake threads after adjusting vent pressure.

Low level cut-off kit no. 83671 May be used as an alarm or signal device when lubricant drops below an acceptable level.

Manual control

Opening three-way valve for a minimum of 10 seconds permits air to flow to pump forcing air piston forward and lubricant through supply line to injectors. When valve is closed, air exhausts back through valve, and spring in pump returns air piston, completing lubrication cycle.

Service parts

Part	Description	Quantity
14288	Ball stop	1
14290	Check body	1
14305	Bushing	1
31020 [1)]	Gasket	1
31086 [1)]	Gasket	1
34174 [1)]	O-ring (Nitrile)	1
34211 [1)]	O-ring (Nitrile)	1
34274 [1)]	Gasket	1
34368 [1)]	O-ring (Nitrile)	1
34431 [1)]	O-ring (Nitrile)	1
34445 [1)]	Gasket	1
34454 [1)]	Follower packing	1
45936	Cover cap	1
48382	Washer	1
48467	Washer	2
51082	Nut	1
55270	Follower spring	1
56106 [1)]	Spring	1
62493	Extension tube	1
66250 [1)]	Ball	1
66725	Retaining ring	1
68797	Plug button	1
69034	Retaining ring	1
69295 [1)]	Filter	1
84175	Check assembly	1
92441	Filter fitting	1
92684	Outlet bushing extension assembly	1
246174	Cylinder end	1
247210	Reservoir (acrylic)	1
247476	Air cylinder	1
247477	Machine screw	6
247478	Piston	1
247481	Spring	1
247483 [1)]	U-cup (nitrile)	1
247484	Bushing and plunger assembly	1
252497 [1)]	O-ring (nitrile)	1

[1)] These components available in 247623 repair kit.

Types of installations

Frequency of lubrication cycle can be controlled mechanically, electrically or manually.

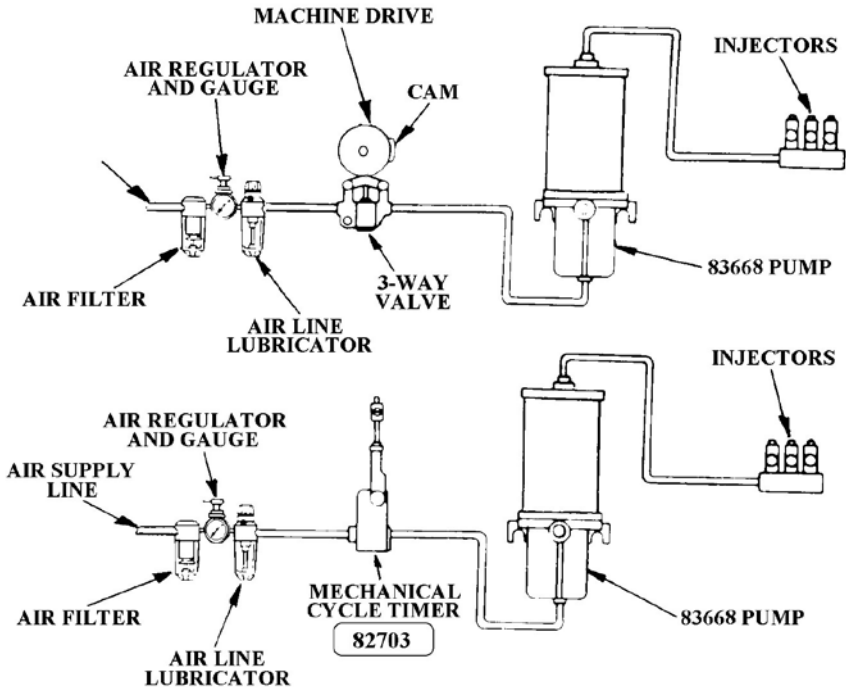
Mechanical control

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. When the valve is disengaged, air exhausts back through valve, and spring in pump returns air piston, completing lubrication cycle. 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.

Fig. 5

Mechanical control

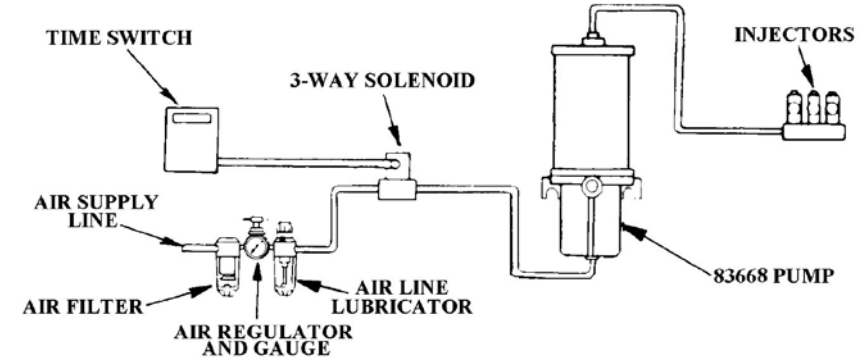


Electrical control

Electrical time switch opens three-way solenoid salve, permitting air to flow to pump forcing air piston forward and lubricant through supply line to injectors. When valve closes, air exhausts back through valve, and spring in pump returns air piston, completing lubrication cycle. Frequency of cycle can be set as desired.

Fig. 6

Electrical control

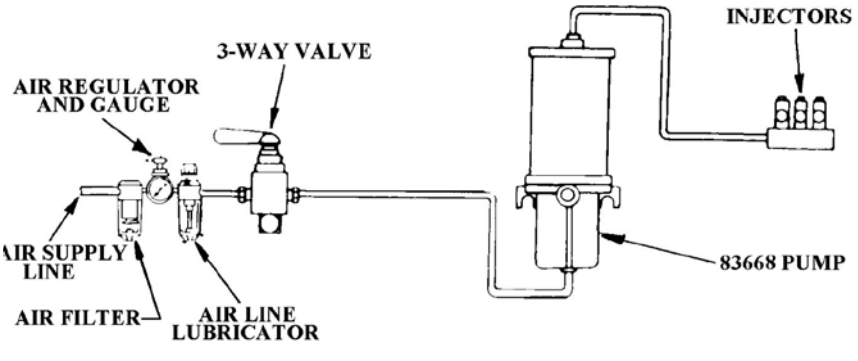


Manual control

Opening three-way valve for a minimum of 10 seconds permits air to flow to pump forcing air piston forward and lubricant through supply line to injectors. When valve is closed, air exhausts back through valve, and spring in pump returns air piston, completing lubrication cycle.

Fig. 7

Electrical control



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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.

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