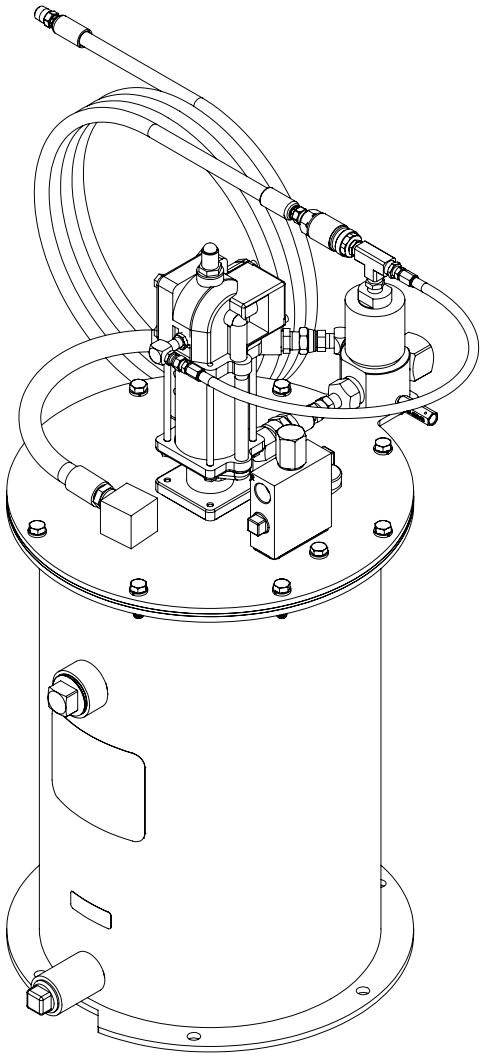
User and maintenance instructions

Centro-Matic

Models 84050, 84050MSO, 85460 and 85460MSO



85460MSO model shown

Date of issue	**October 2022**
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Contents

SKF	Declaration of Incorporation*	DOCUMENT NUMBER 403617.DoI

Manufacturer name/address:
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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: Series 20 pumps
Model number(s):
84050 and 85460
(may be followed by MSO)
Description:
Centro-Matic (seires "B")
Year of CE: 2021

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

Machinery Directive 2006/42/EC
(Article 13 partly completed machinery)

and conforms to the following harmonized standards:

EN ISO 4414: 2010
Pneumatic 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 4413: 2010
Hydraulic fluid power - General rules and safety requirements for systems and their Components

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

EN 1216:2001+A1:2009
Liquid pumps. Safety requirements. Procedure for hydrostatic testing

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 – 1.3.4 – 1.3.6 – 1.3.7 – 1.3.8 – 1.5.3 – 1.5.4 – 1.5.13 – 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:
RA403404

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.
2022/01/20

* Indicates change

U.K. Declaration of Incorporation*

DOCUMENT NUMBER
UK403617CA

Manufacturer name/address:
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2 Canada Close
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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: Series 20 pump
Model number(s):
84050 and 85460
(may be followed by MSO)
Description:
Centro-Matic (series "B")
Year of CE: 2021

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 4414: 2010
Pneumatic 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 4413: 2010
Hydraulic fluid power - General rules and safety requirements for systems and their Components

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

EN 1216:2001+A1:2009
Liquid pumps. Safety requirements. Proceedure for hydrostatic testing

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 – 1.3.4 – 1.3.6 – 1.3.7 – 1.3.8 – 1.5.3 – 1.5.4 – 1.5.13 – 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:
RA403404

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.
2022/01/20

* Indicates change

Safety*

The assembly must be installed, maintained and repaired exclusively by persons familiar with the instructions.

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

This equipment generates high 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 equipment or of the lowest rated component in your system.
- Always read and follow the 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.

* 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.

⚠ 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, non-skid 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 by equipment.

Body parts can be crushed by subassemblies during operation.

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

⚠ WARNING

Do not allow fluid to leak onto floor when operating equipment. If spill occurs, clean any fluid on floor before continuing operation.

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

⚠ WARNING
Do not use this 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:

Usage

Description

Models 84050, 84050MSO, 85460 and 85460MSO are pumping units designed to operate centralized lubrication systems with a high volume output, delivering 30 in³ (*490 cm³*)of lubricant per minute at typical Centro-Matic pressures. Pump is double acting, dispensing lubricant on both up and down strokes. Units are fully automatic when used with a controller and designed to be used with SL-1, SL-11, SL-32 and SL-33 series injectors or a combination of these.

Model 84050 does not include follower.

Model 85460 is equipped with follower and low level indicator.

Model 84050MSO is equipped with follower and mechanical shut off to prevent grease from overfilling during the refill process

Model 85460MSO is equipped with follower, low level indicator and mechanical shut off to prevent grease from overfilling during the refill process.

Appropriate use

- Pumps on these units are exclusively designed to pump and dispense lubricants using compressed air only.
- Maximum specification ratings should not be exceeded.
- Any other use not in accordance with instructions will result in loss of claims for warranty and liability.

Table 1

Specifications

Pump ratio	50:1
Output per cycle	0.35 in³ (*6 cm³*)
Output per minute	30 in³ (*492 cm³*)
Pump air supply pressure	50 to 70 psi (*3.4 to 4.8 bar*)
Operating line pressure	normal: 2 500 psi (*172 bar*) maximum: 3 500 psi (*241 bar*)
Container capacity	bulk: 60 lbs (*27 kg*)
Air consumption	4.3 ft³/min (*120 l/min*)
Operating temperature range	-10 to 140 °F (*-23 to 60 °C*)

Operation with system controller

When system controller times out, lube cycle will initiate. Air solenoid is energized to deliver air to pump and air to vent valve. Pump begins dispensing lubricant through injectors to bearings.

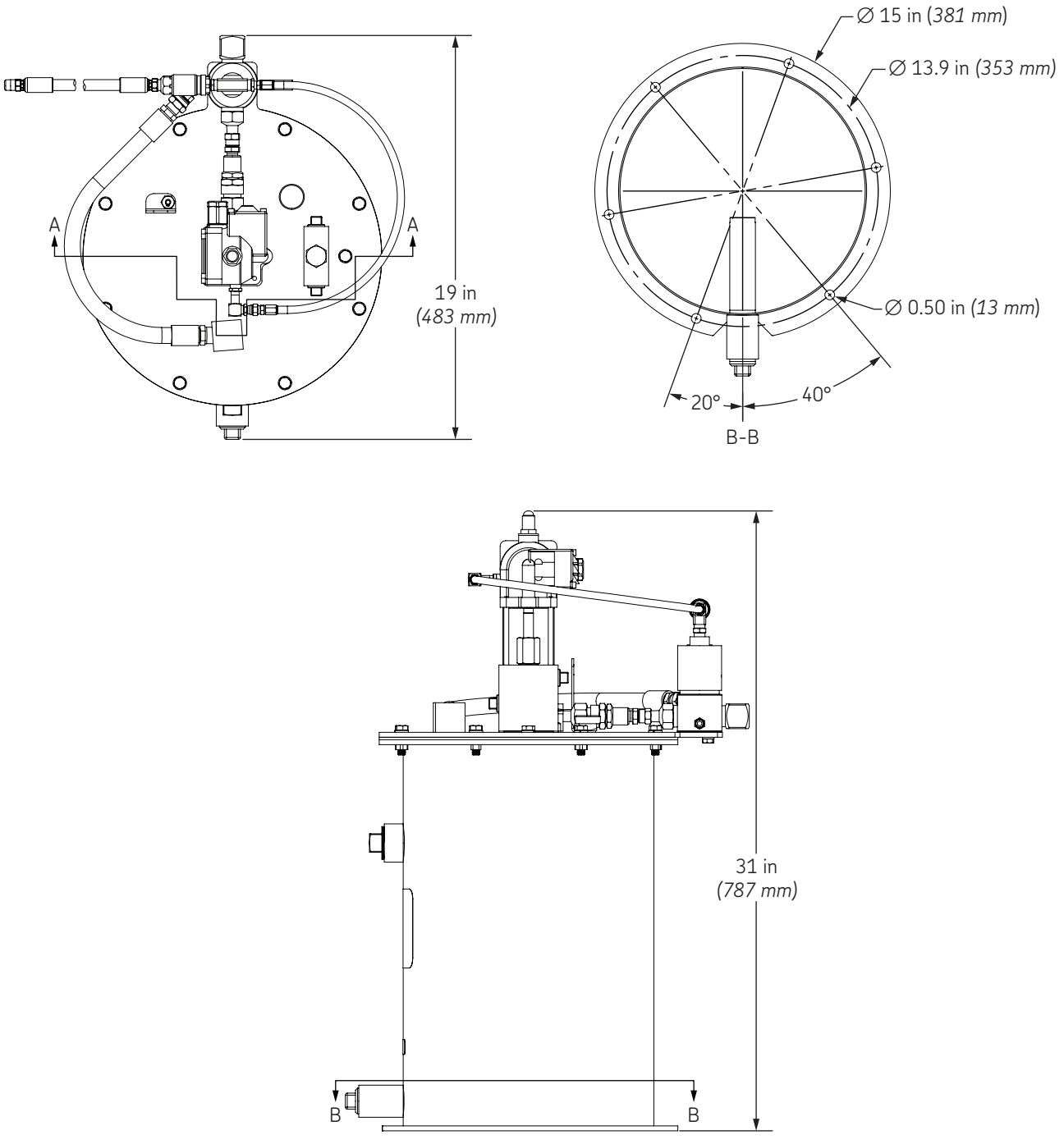
When all bearings have received lubricant, pressure rises in system to actuate pressure switch. When pressure switch actuates, control is reset to de-energize solenoid valve cutting off air to pump and vent valve. Pump stops, pressure vents and pressure switch de-actuates. Control begins timing toward next lube event.

Operation with mechanical shut-off

When attached, a mechanical shut-off system integrates with bucket pumps to prevent grease from overfilling during refill process. System is designed for bucket pumps with capacity of 60, 90, 120 and 400 lbs (*27, 41, 54 and 181 kg*). Refer to **404758** for maintenance and operating instructions if present.

Fig. 1

Dimensions, model 85460MSO shown



Installation and operation

Installation

Place unit in approximate location making sure grease and air connections are accessible.

1 Mark center locations of six holes at bottom of reservoir (→ **Fig. 1**, **page 7**).
2 Drill six 1/2 in (*13 mm*) holes. Use of 7/16 in (*10 mm*) bolts will offer some flexibility in securing reservoir to equipment.
3 Connect lubricant outlet of pump to system with suitable hose capable of 3 500 psi (*241 bar*) working pressure.
4 Air line connection should be made with at least 1/4 in (*6.35 mm*) I.D. hose capable of at least 100 psi (*6.9 bar*) operating pressure.

Low level kit

Model 249608 low level kit can be installed when higher viscosity greases or lower temperatures are encountered and external indicator of lubricant level is desired. Kit is composed of follower with wiper attached to level indicator gage located on cover of reservoir.

Operation

NOTE
Do not overfill reservoir. Extreme pressure can damage reservoir and/or pump housing.

Fill reservoir

To bulk fill reservoir:

1 Clean area around filling port.
2 Remove lower (**24**) and upper (**25**) pipe plugs from side of reservoir (→ **Fig. IPB 2**, **page 14**, **Fig. IPB 3**, **page 15**, **Fig. IPB 4**, **page 16** and **Fig. IPB 5**, **page 17**).
3 Attach appropriate bulk-filling pump to lower inlet (3/4 in NPT).
4 Fill reservoir until grease appears at the top 3/8 NPT vent high level port.
5 Remove bulk filling pump.
6 Replace both pipe plugs.

To fill reservoir using 5 gallon pail of lubricant:

1 Remove bolts that secure lid.
2 Remove entire assembly of lid, pump and vent valve.
3 Remove filler nipple extension attached inside reservoir at 3/4 in NPT inlet nipple.
4 Insert opened pail of lubricant and reattach lid and pump assembly.

Fill reservoir (MSO equipped)

Body and guide assembly (**40**), pivot arm (**41**), supply line relief, follower (**42**) and cover (**28**) work in combination with each other to prevent grease from overfilling reservoir during refill process (→ **Fig. IPB 3**, **page 15** and **Fig. IPB 5**, **page 17**).

As grease fills reservoir, follower rises and lifts pivot arm, forcing body and guide assembly closed. When body and guide assembly closes, pressure continues to rise in supply line causing pump to stall. At that point, supply line relief valve must be opened to relieve pressure from system.

Operational procedure

1 Verify relief valve is closed.
2 Turn supply pump on.
3 Supply pump stalls when gauge reaches maximum.
4 If grease level sensor or indicator option is available with system, verify reservoir is full of grease.
5 Turn off supply pump.
6 Open pressure relief valve to vent down stall pressure. Make sure relief valve is open long enough to remove pressure from system.
7 Disengage quick disconnect.
8 Cap quick disconnect ends to prevent contamination.
9 Leave relief valve open until next fill cycle.

Maintenance and repair

General maintenance

- Keep area around pump clean. Clean off filling area prior to filling reservoir. Clean area around filler after filling as lubricants will attract dirt.
- Keep lubricants clean and free of dirt and debris.
- When replacing grease pails prevent any foreign matter from entering grease pail or contaminating grease, as it adheres to pump.

System malfunction

- Refer to *Troubleshooting* (**page 20**) to determine where to look if problems occur.
- Refer to corresponding sections for replacement and repair of specific areas.
- Each part is identified with a number keyed to a matching part on illustrated views.
- General recommendations of tools required are also specified in each step.
- Pay particular attention to warning statements to prevent personal injury and possible damage to pump components.

Outlet check service

Refer to *Troubleshooting* (**page 20**) to determine if outlet check valve (**20**) is cause of failure (→ **Fig. 2**, **page 10**; **Fig. IPB 2**, **page 14**, **Fig. IPB 3**, **page 15**, **Fig. IPB 4**, **page 16** and **Fig. IPB 5**, **page 17**).

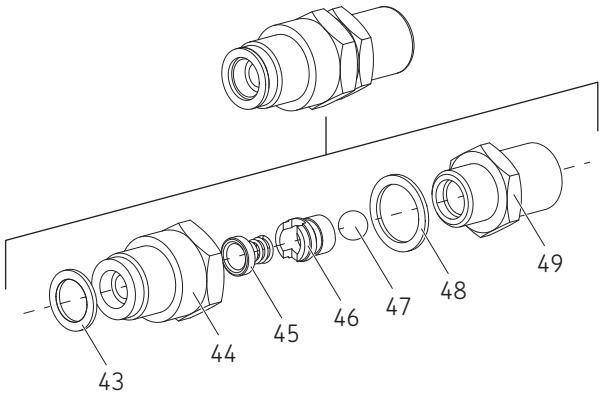
Pump will not build up sufficient lubricant pressure if outlet check (**20**) is fouled. Foreign material may lodge beneath check ball (**47**) or between check disc (**45**) and seat (**46**) of bushing assembly (**44**). Sealing surfaces of seat must form a perfect seal.

1 Turn off and disconnect air supply to pump assembly.
2 Standard tools required are a bench mounted vice, a set of open end wrenches ranging from 7/16 to 1 1/2 in (*11 to 38 mm*), a large 24 in (*609 mm*) adjustable wrench and a smaller 10 in (*254 mm*) adjustable wrench.
3 Remove lock washers (**31**) and bolts (**32**).
4 Loosen union (**19**) and set vent valve assembly to side.
5 Remove entire outlet check assembly (**20**) by loosening adapter (**21**) from bushing (**44**).
6 Remove adapter (**21**) from bushing (**44**).
7 Remove outlet connector (**49**) from bushing (**44**).
8 Remove ball check seat (**43**) from outlet connector (**46**).
9 Pull check disk assembly (**45**) out of ball check seat (**46**).
10 Remove and discard gaskets (**43** and **48**).
11 Clean and inspect all check components (**44**, **45**, **46**, and **47**) for scoring, damage or any foreign material.
12 Replace any damaged components of outlet check assembly (**20**). Replace gaskets (**43** and **48**).

Reverse above procedure to reassemble. Torque check assembly to 100 ft-lbf (*135 Nm*).

Fig. 2

Outlet check assembly (20)



Follower

If follower wiper appears to be damaged or does not wipe sides of container effectively, service may be necessary.

NOTE
Follower for Model 84050 and 85460 are different from follower for Models 84050MS0 and 85460MS0. Maintenance procedures are different.

NOTE
Do not bend housing tube during removal of pump, vent valve and drum cover.

For follower without foam (model 85460)

Refer to **Fig. IPB 3** (**page 15**) and **Fig. 3** (**page 10**) for maintenance.

1 Disconnect air supply from pump.
2 Remove bolts (**15**) and washers (**16**) that attach cover (**28**) to reservoir (**26**).
3 Lift entire pump, vent valve and cover assembly out of reservoir.
4 Unscrew low level indicator rod cable assembly (**59**) from follower plate (**66**).
5 Remove entire follower assembly from pump tube. Wipe excess grease allowing clean access to bolts that must be removed.
6 Loosen and remove eight nuts (**67**) on top of follower.
7 Remove follower weight (**66**) and wiper (**65**).
8 Replace with new wiper.

Reverse above procedure to reassemble making sure long bolts (**70**) are staggered with small ones (**71**).

For follower with foam (models 84050MS0 and 85460MS0)

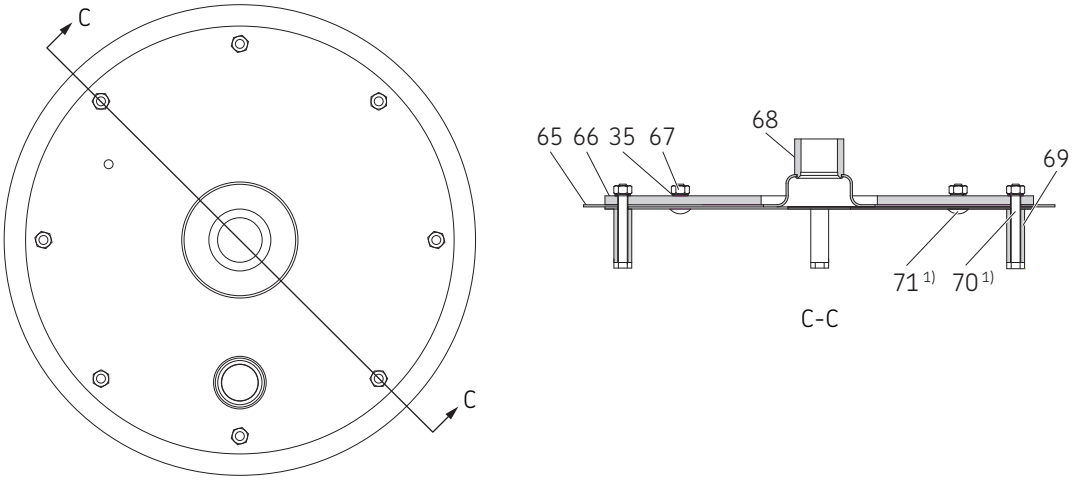
Refer to **Fig. 5** (**page 12**) and **Fig. IPB 5** (**page 17**) for maintenance.

1 Disconnect hydraulic supply from pump.
2 Remove bolts (**15**) and washers (**16**) that attach cover (**28**) to reservoir (**26**).
3 Lift pump, vent valve and drum cover out of reservoir.
4 Unscrew low level indicator rod cable assembly (**59**) from follower plate (**76**)
5 Remove follower assembly (**42**) from reservoir (**26**).
6 Wipe off excess grease from follower assembly (**42**).
7 Loosen and remove nuts (**77**) on top of follower assembly (**42**).
8 Remove follower weight (**76**) and follower foam (**78**). Replace with new foam.
9 Remove and save spacers (**79**) from inside of foam before discarding foam.

Reverse above procedure to reassemble making sure long bolts (**81**) are staggered with small ones (**80**).

Fig. 3

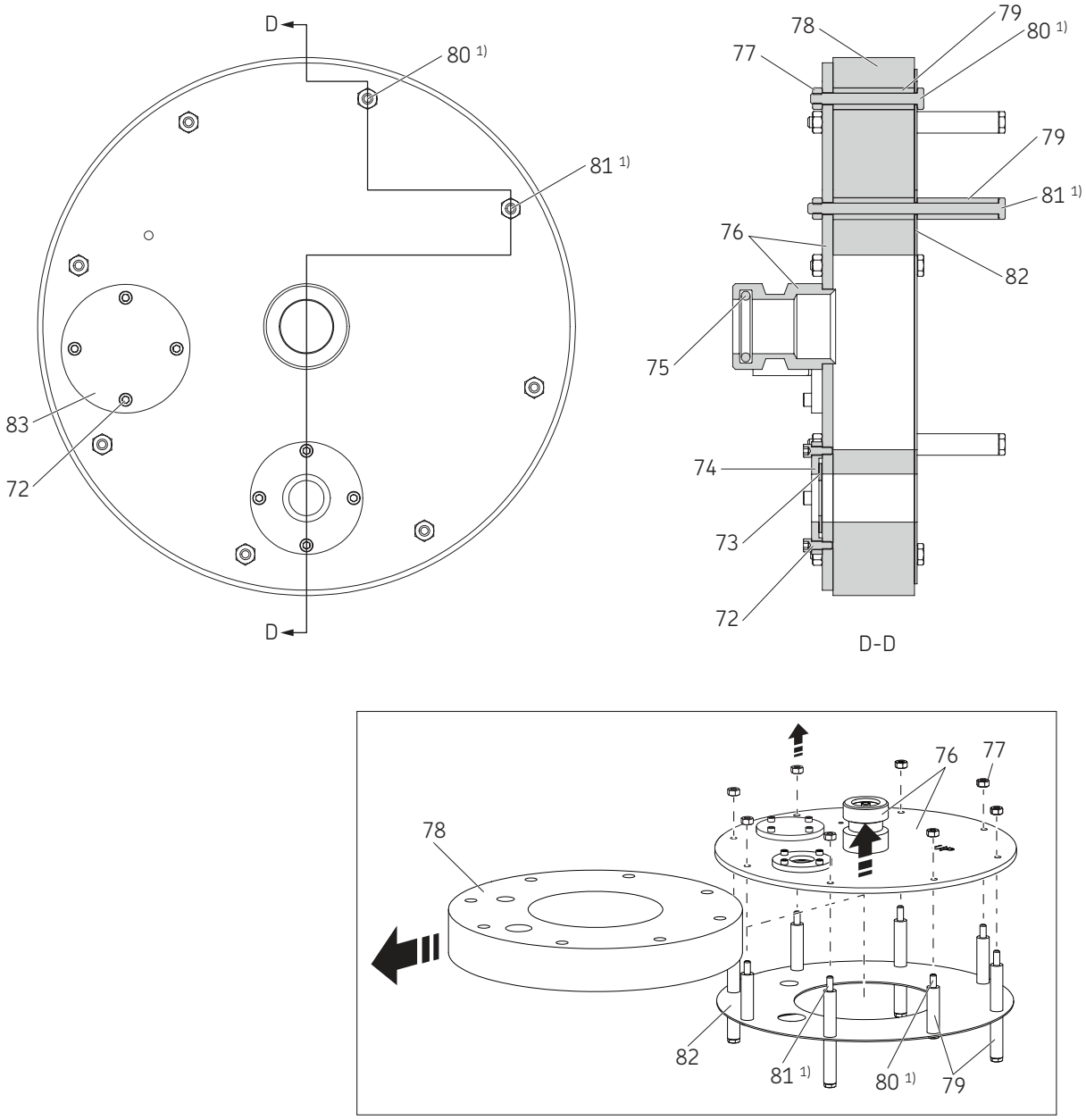
Follower assembly (on model 85460)



1) Stagger long bolts and small bolts on follower plate.

Fig. 4

Follower assembly (on models 84050MSO and 85460MSO)



1) Stagger long bolts and small bolts on follower plate.

Vent valve service

Refer to *Troubleshooting* (**page 20**) to determine if vent valve is cause of failure (→ **Fig. 5**, **page 12**; **Fig. IPB 1**, **page 13**; **Fig. IPB 2**, **page 14**, **Fig. IPB 3**, **page 15**, **Fig. IPB 4**, **page 16** and **Fig. IPB 5**, **page 17**).

1 Turn off and disconnect air supply to pump assembly.
2 Standard tools required are a bench mounted vice, a set of open end wrenches ranging from 7/16 to 1 1/2 in (*11 to 38 mm*), a large 24 in (*609 mm*) adjustable wrench and a smaller 10 in (*254 mm*) adjustable wrench.
3 Remove vent hose (**2**).
4 Remove air hose (**13**).
5 Remove bolts (**32**) and lock washers (**31**).
6 Loosen union (**19**) and remove vent valve (**30**).
7 Hold base of vent valve in vice to remove nipple (**18**) and elbow (**12**).
8 Turn vent valve (**30**) in vice so that vice jaws are gripping flats machined on base of vent valve.
9 Remove air cylinder (**50**).
10 Remove piston (**51**) and packing (**52**) from air cylinder. If air leakage is evident from side of air cylinder, replace packing.
11 Remove packing assembly (**54**). If grease leakage is evident from side of air cylinder, replace packing assembly.
12 Inspect needle (**53**) and valve seat (**55**). If foreign matter is lodged and keeping needle from sealing in valve seat, clean and inspect for damage. If seat appears damaged by nicks, grooves or scouring it should be replaced.
13 Remove valve seat (**55**) from valve body (**57**) by placing 3/4 in (*19 mm*) open end wrench onto flats and loosening seat. Using adjustable wrench over open end wrench may be necessary due to accessibility of seat.
14 Replace valve seat (**55**) if damaged.
15 Remove and replace gasket (**56**) below seat.

Reverse above procedure to reassemble.
1 Needle (**53**) and air cylinder (**50**) inside diameter should be coated with oil or grease to assist in assembly.
2 Upon reassembly tighten valve seat (**55**) into body (**57**) using 25 ft-lbf (*33.9 Nm*).
3 Tighten air cylinder (**56**) onto valve body (**57**) using 100 ft-lbf (*135 Nm*).

Low level indicator

If indicator pin appears to drop prematurely or water is noticeable on top of follower then o-ring (**60**) may be damaged (→ **Fig. 6**, **page 12**; **Fig. IPB 1**, **page 13**; **Fig. IPB 4**, **page 16** and **Fig. IPB 5**, **page 17**).

1 Remove bolts (**15**) and washers (**16**) that attach cover (**28**) to reservoir (**26**).
2 Inspect gasket (**27**) for damage. Replace if damage is apparent.
3 Remove entire pump, vent valve and follower assembly from reservoir.
4 Remove retaining ring (**59**) from cable assembly (**62**).
5 Hold indicator plug (**64**) with wrench while removing indicator nut (**60**).
6 Remove and replace o-ring (**61**).
Reverse above procedure to reassemble.
Torque indicator nut (**60**) to 20 ft-lbf (*27 Nm*).

Fig. 5

Vent valve assembly (30)

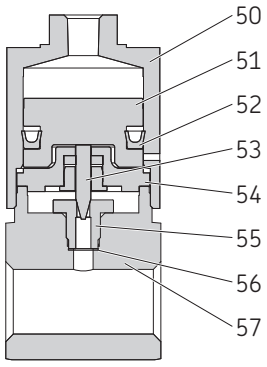
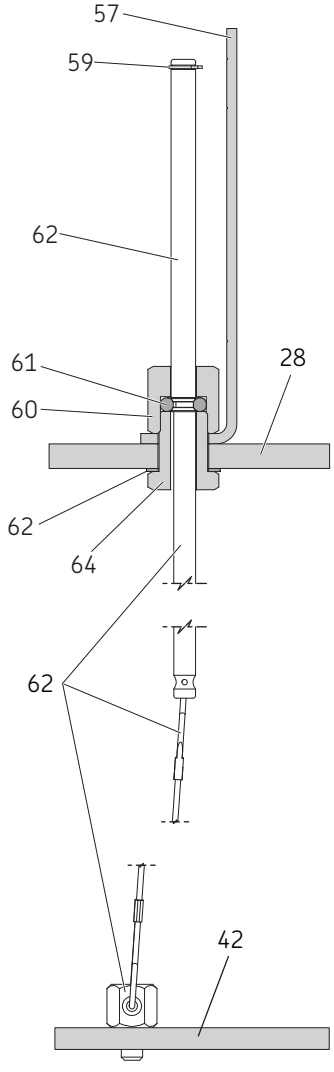


Fig. 6

Low level indicator



Safety unloader valve

Safety unloader (**14**) (→ **Fig. IPB 1**, **page 13**) is set to open at 3 750 to 4 250 psi (*258 to 293 bar*) lubricant pressure. If pressure switch fails to operate and shut off air supply to pump, safety unloader will open at approximately 4 000 psi (*275 bar*) to relieve lubricant supply line pressure.

Safety unloader valve is not serviceable and should be replaced if malfunction is apparent. Upon re-assembly, tighten to 10 ft-lbf (*13 Nm*).

Automatic mechanical shut-off

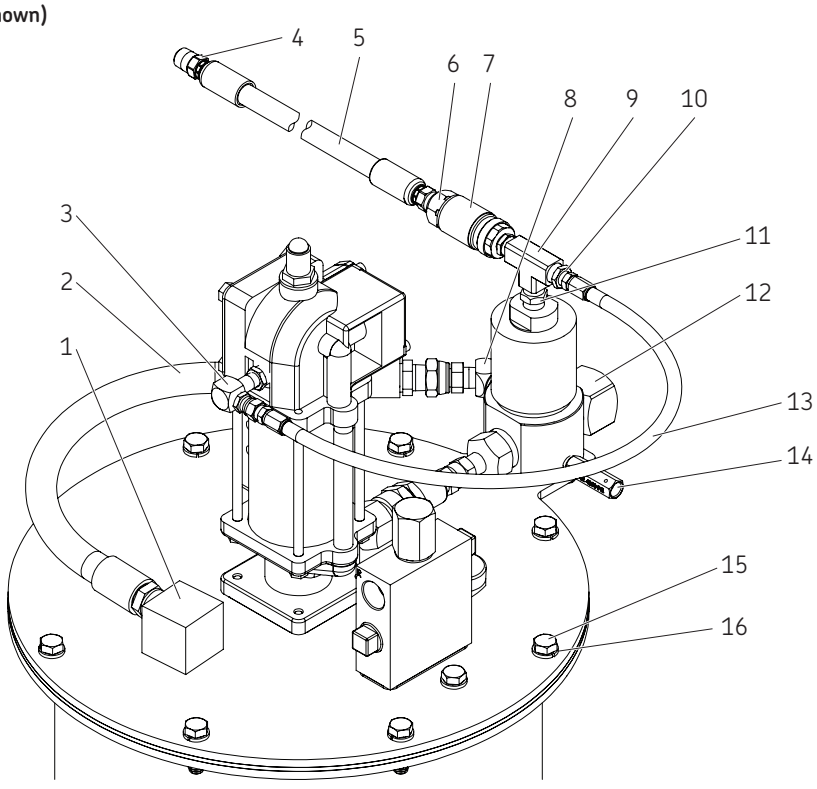
Refer to manual **404758** for automatic mechanical shut-off.

Bare pump assembly

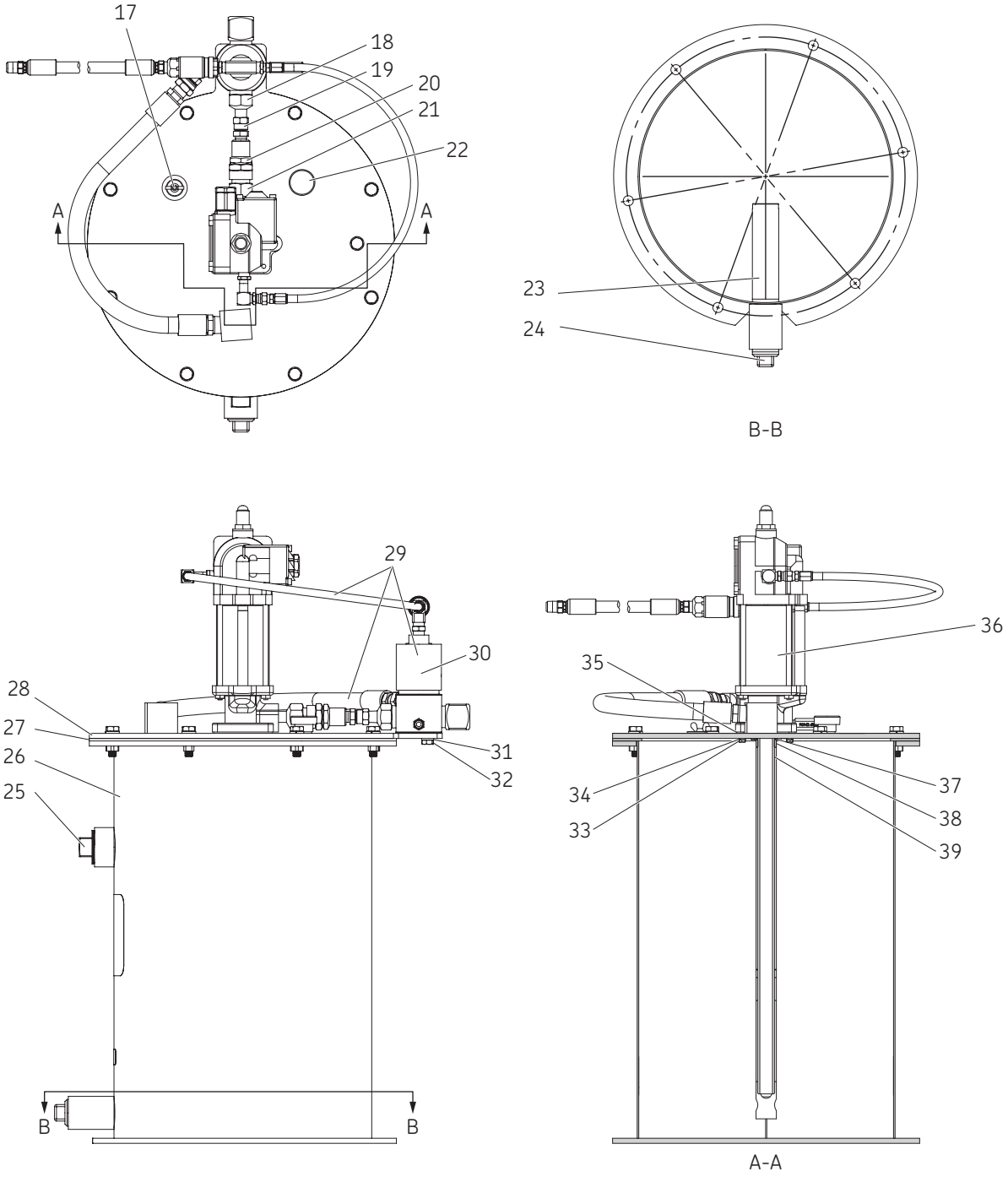
Refer to manual **403513** for bare pump assembly (**36**) (→ **Fig. IPB 2**, **page 14**, **Fig. IPB 3**, **page 15**, **Fig. IPB 4**, **page 16** and **Fig. IPB 5**, **page 17**).

Fig. IPB 1

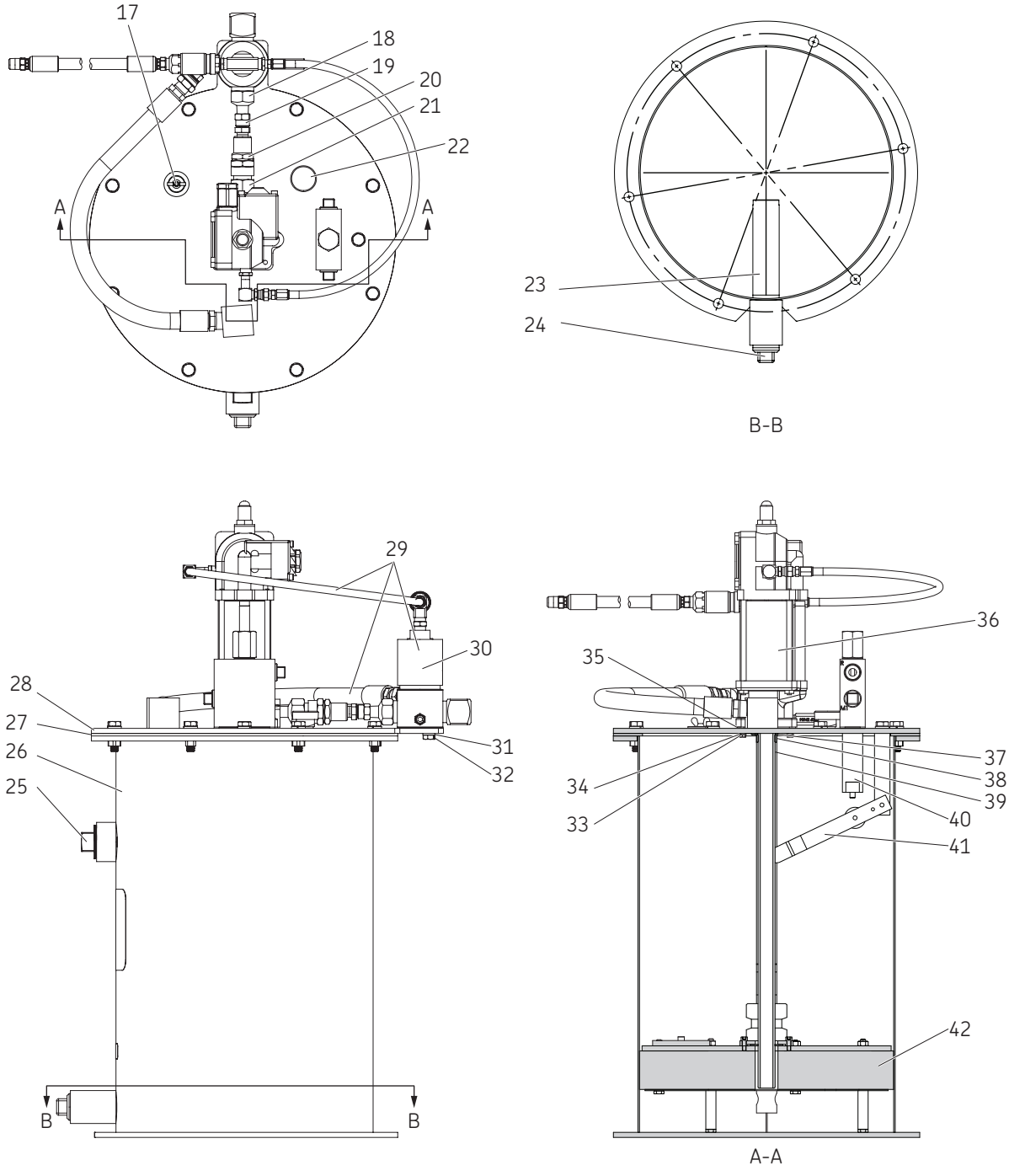
Service parts (85460MSO shown)



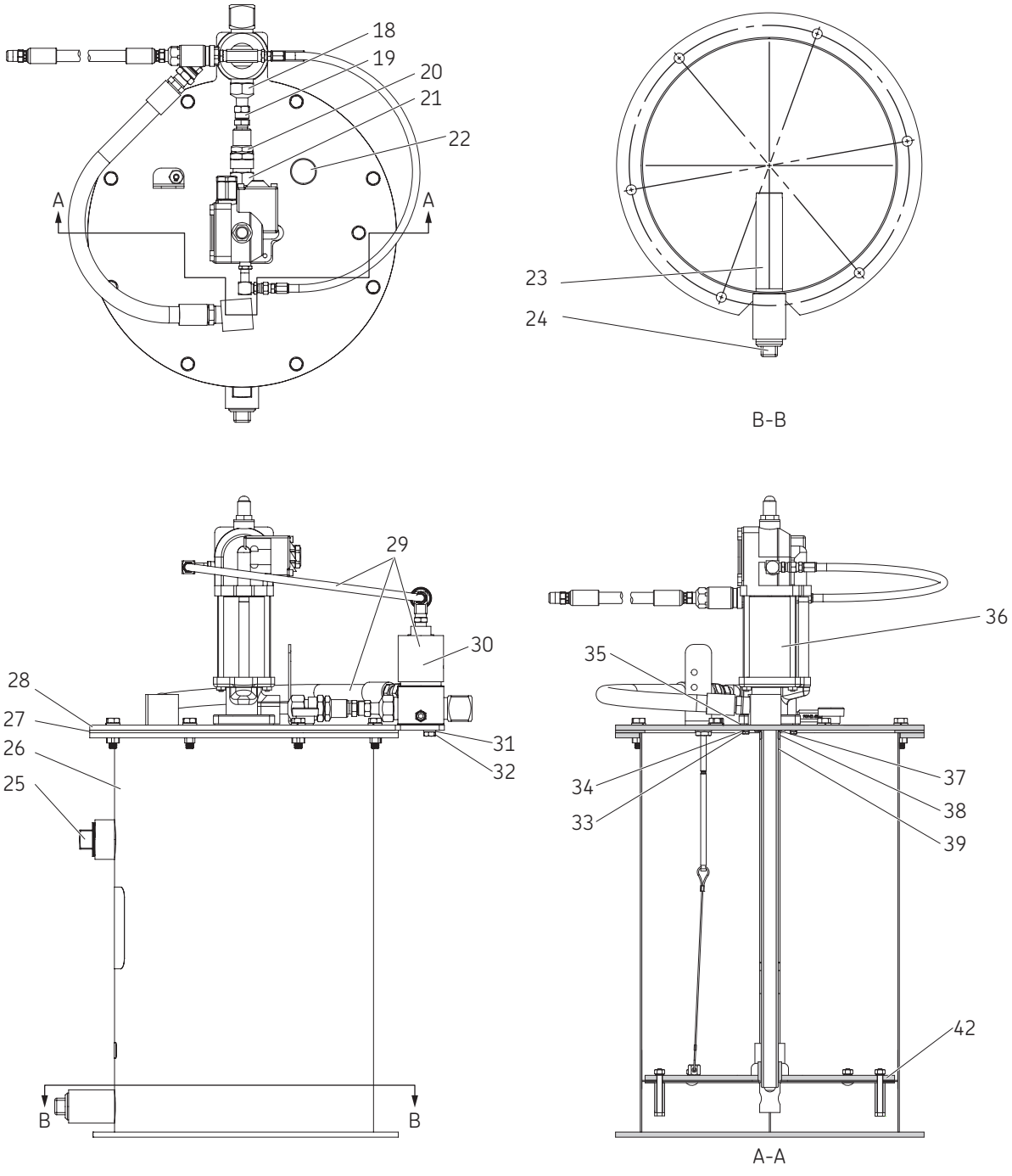
Service parts (model 84050)



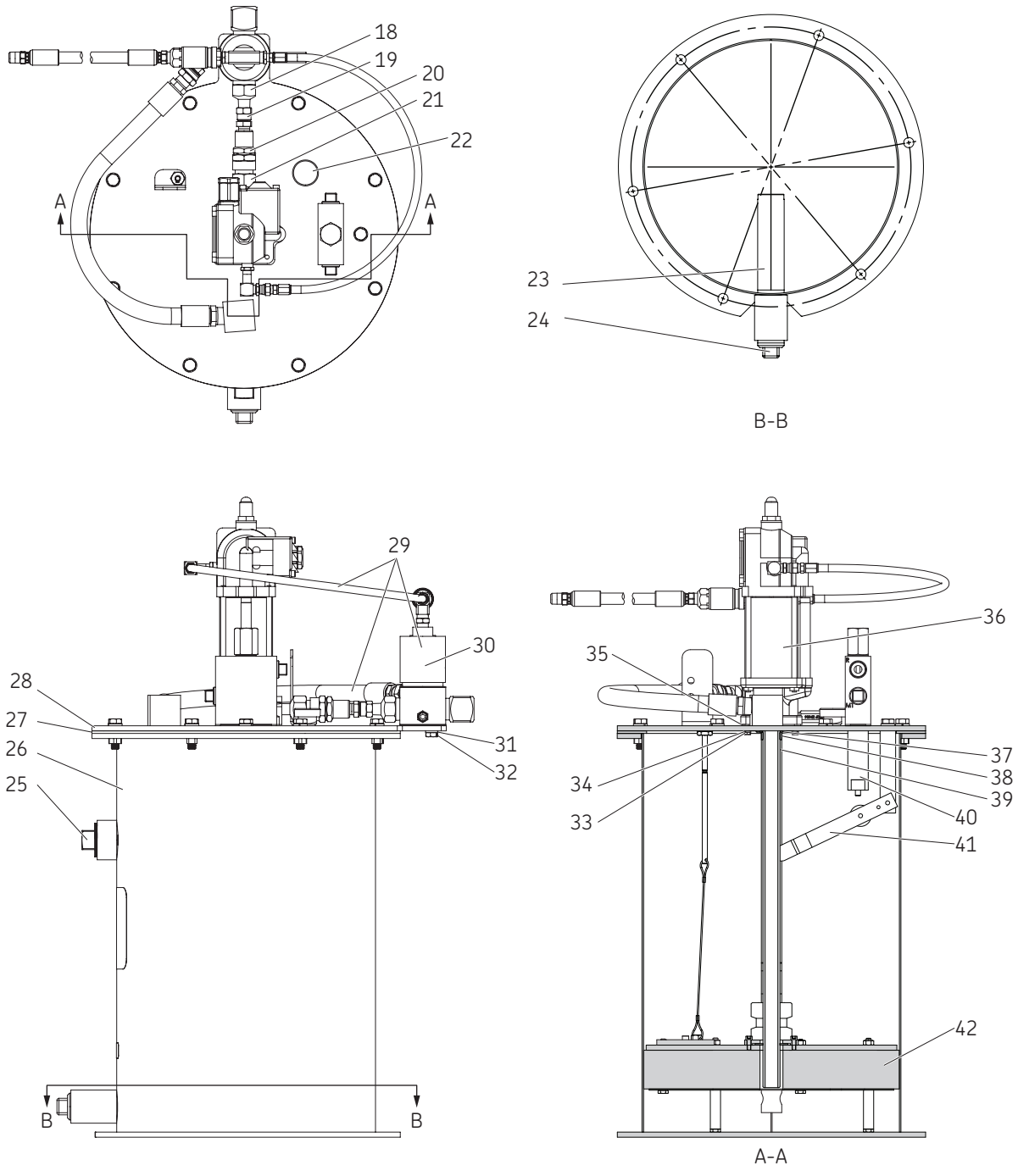
Service parts (model 84050MS0)



Service parts (model 85460)



Service parts (model 85460MS0)



Service parts

Item	Description	Qty	84050	84050MSO	85460	85460MSO
1	Elbow	1	249533	249533	249533	249533
2	Volume hose	1	273233	273233	273233	273233
3	Elbow	1	13129	13129	13129	13129
4	Bushing	1	20011	20011	20011	20011
5	Air hose	1	273174	273174	273174	273174
6	Air coupler	1	815	815	815	815
7	External fitting	1	11659	11659	11659	11659
8	1/4 Elbow	1	20038	20038	20038	20038
9	Tee 1/4 in	1	67102	67102	67102	67102
10	Bushing	2	10461	10461	10461	10461
11	Nipple	1	10462	10462	10462	10462
12	Elbow	1	10160	10160	10160	10160
13	Air hose	1	237318	237318	237318	237318
14	Safety unloader assembly	1	90942 [1)]	90942 [1)]	90942 [1)]	90942 [1)]
15	Bolt	8	50015	50015	50015	50015
16	Lock washer	8	66220	66220	66220	66220
17	Oil tight hole seal	1	69383	69383	N/A	N/A
18	Nipple	1	14727	14727	14727	14727
19	Union	1	66645	66645	66645	66645
20	Outlet check assembly	1	81938	81938	81938	81938
21	Adapter	1	12213	12213	12213	12213
22	Vent fitting	1	249354	249354	249354	249354
23	Extension tube	1	249356	276853	249356	276853
24	Pipe plug (lower)	1	67224	67346	67224	67346
25	Pipe plug (upper)	1	67117	278009	67117	278009
26	Container assembly	1	271202	277702	271202	277702
27	Gasket	1	249355 [1)]	249355 [1)]	249355 [1)]	249355 [1)]
28	Cover	1	241085	279943	241085	279943
29	Vent assembly	1	249536	249536	249536	249536
30	Vent valve assembly	1	83948	83948	83948	83948
31	Bolt	2	50016	50016	50016	50016
32	Lock washer	2	66246	66246	66246	66246
33	Screw	4	50169	50169	50169	50169
34	Lock washer	12	66186	66186	66186	66186
35	Gasket	1	33152	33152	33152	33152
36	Bare pump assembly	1	83513	83513	83513	83513
37	Gasket	1	31010 [1)]	31010 [1)]	31010 [1)]	31010 [1)]
38	Nut	1	12538	12538	12538	12538
39	Vent pie	1	67420	67420	67420	67420
40	Body and guide assembly	1	N/A	278768 [2)]	N/A	278768 [2)]
41	Pivot arm assembly	1	N/A	279197 [2)]	N/A	279197 [2)]
42	Follower assembly	1	N/A	85690	271203	85690
43	Gasket	1	31029 [1)]	31029 [1)]	31029 [1)]	31029 [1)]
44	Outlet check bushing	1	90204 [1) 3)]	90204 [1) 3)]	90204 [1) 3)]	90204 [1) 3)]
45	Pump check disc assembly	1	80206 [1) 3)]	80206 [1) 3)]	80206 [1) 3)]	80206 [1) 3)]
46	Ball check seat	1	10313 [1)]	10313 [1)]	10313 [1)]	10313 [1)]
47	Steel ball 3/8 in diameter	1	66001 [1)]	66001 [1)]	66001 [1)]	66001 [1)]
48	Gasket	1	31001 [1)]	31001 [1)]	31001 [1)]	31001 [1)]
49	Outlet connector	1	90860	90860	90860	90860
50	Air cylinder	1	14720	14720	14720	14720
51	Piston	1	14721	14721	14721	14721
52	Packing Nitrile	1	34225	34225	34225	34225
53	Needle	1	14722 [1)]	14722 [1)]	14722 [1)]	14722 [1)]
54	Packing assembly	1	239330 [1) 3)]	239330 [1) 3)]	239330 [1) 3)]	239330 [1) 3)]

Service parts

Item	Description	Qty	84050	84050MSO	85460	85460MSO
55	Valve seat	1	14723 [1]	14723 [1]	14723 [1]	14723 [1]
56	Check seat gasket	1	31047 [1]	31047 [1]	31047 [1]	31047 [1]
57	Valve body	1	239336	239336	239336	239336
58	Indicator bracket	1	N/A	N/A	361020	361020MSO
59	Retaining ring	1	N/A	N/A	68888 [1]	68888 [1]
60	Indicator nut	1	N/A	N/A	16352	16352
61	O-ring	1	N/A	N/A	249532 [1]	249532 [1]
62	Cable assembly	1	N/A	N/A	249762	276852
63	Washer	1	N/A	N/A	48548	48548
64	Indicator plug	1	N/A	N/A	249357	249357
65	Wiper Nitrile	1	N/A	N/A	249331	N/A
66	Follower weight	1	N/A	N/A	249334	N/A
67	Nut	8	N/A	N/A	51304	N/A
68	Follower guide plate	1	N/A	N/A	249333	N/A
69	Spacer	7	N/A	N/A	249833	N/A
70	Bolt -long	4	N/A	N/A	50084	N/A
71	Carriage bolt - short	4	N/A	N/A	249332	N/A
72	Socket head screw, 10-24 × 1/2	8	N/A	50762	N/A	50762
73	Wiper, fluorocarbon	1	N/A	274321	N/A	274321
74	Wiper cover	1	N/A	274318	N/A	274318
75	O-ring, nitrile	1	N/A	276893	N/A	276893
76	Weighted follower plate	1	N/A	276891	N/A	276891
77	Locknut, 1/4-20	8	N/A	51304	N/A	51304
78	Follower foam	1	N/A	276894	N/A	276894
79	Spacer	12	N/A	241101	N/A	241101
80	Hex head screw, 1/4-20 × 2 1/2	4	N/A	50062	N/A	50062
81	Hex head screw, 1/4-20 × 4 1/2	4	N/A	241102	N/A	241102
82	Follower plate	1	N/A	276888	N/A	276888
83	Cover	1	N/A	276892	N/A	276892

1) Suggested service replacement components.
2) See manual **403513** for pump details.
3) MSO models only. See manual **404758** for service and troubleshooting.
4) Sold as an assembly. Individual parts not available.

Troubleshooting

Condition	Possible cause	Corrective action
Pump does not operate.	No air to pump.	Turn on or connect air supply to pump.
	Air motor or pump tube malfunction.	Refer to pump manual **403513**.
Air seepage from air exhaust while pump is not operating.	Air motor malfunction.	Refer to pump manual **403513**.
Pump runs excessively.	Pump tube malfunction.	Refer to pump manual **403513**.
	Outlet check damage or contamination.	Repair check or remove contamination.
	Vent valve damage or contamination.	Repair vent valve or remove contamination.
	System component leaking.	Repair leaks.
	Injector bypassing.	Repair injectors.
Lubricant leaking from weep hole of pump outlet casting.	Pump tube malfunction.	Refer to pump manual **403513**.
Lubricant leaking from safety unloader valve.	Pressure of system set too high.	Adjust pressure switch setting.
	Safety unloader damaged or contaminated.	Replace safety unloader.
Air leaking from weep hole in vent valve.	Vent valve air seal damaged.	Replace air seal.
Lubricant leaking from weep hole in vent valve.	Vent valve lubricant seal damaged.	Replace lubricant seal.

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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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