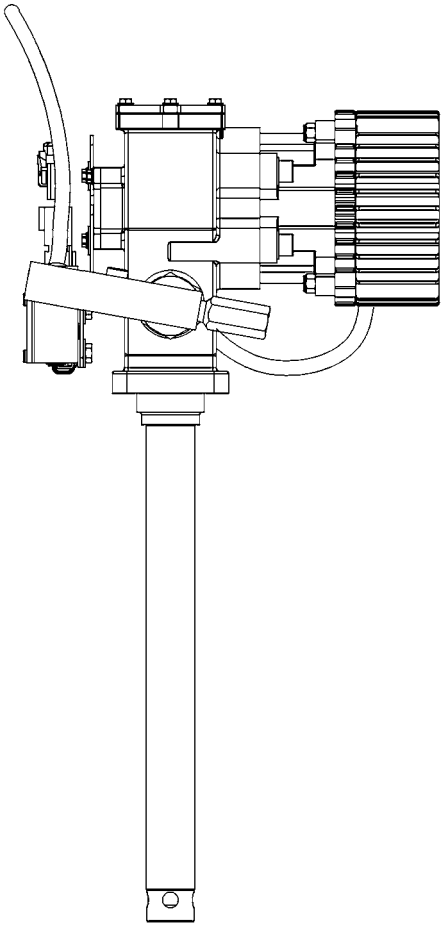
LINCOLN®

Hose reel pump assembly

Models 274874 and 276360



Version	**01**
Date of issue	**September 2012**
Form number	**404468**
Section	**A21**
Page	**8C**

SKF

Table of Contents

Safety

Read and carefully observe these operating instructions before unpacking and operating the pump! The pump must be operated, maintained and repaired exclusively by persons familiar with the operating instructions. Local safety regulations regarding installation, operation and maintenance must be followed.

Operate this pump only after safety instructions and this service manual are fully understood.

⚠ WARNING

Indicates a hazardous situation which, if not avoided will result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Safety instructions

This equipment generates very high grease pressure.

⚠ CAUTION

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 causing serious bodily injury. Adequate protection is recommended to prevent splashing of material onto the skin or into the eyes.

If any fluid appears to penetrate the skin, get emergency medical care immediately. Do not treat as a simple cut. Tell attending physical exactly what fluid was injected.

Inspection

If overpressurizing of the equipment is believed to have occurred, contact the factory authorized warranty and service center nearest you for inspection of the pump.

Specialized equipment and knowledge is required for repair of this pump. Contact the factory authorized warranty and service center nearest you for repair or adjustments other than maintenance specified in this manual.

Annual inspection by the factory authorized warranty and service center nearest you is recommended.

A list of factory authorized warranty and service centers is available upon request.

Damaged pumps

Any pump that appears to be damaged in any way, is badly worn or operates abnormally, shall be removed from use until repairs are made. Contact the factory authorized warranty and service center nearest to you for repairs.

⚠ WARNING

Do not exceed maimum rated outlet pressure for these pumps. Exceeding rated pressure may result in damage to system components and personal injury.

Description

The hose reel pump assembly is a portable 5 gallon *(19 liter)* pump intended to operate from a 12 or 24 V DC power source, depending on model, for dispensing grease or other lubricant through a hose and control valve. Model 274874 is 24 V DC and model 276360 is for 12 V DC operation. The pumps include a pressure switch in the wiring harness to turn off the pump when maximum pressure is achieved.

Model 274874 is a 24 V DC, 5 gallon *(19 liter)*, 7:1 ratio FlowMaster pump. Model 276360 is a 12 V DC, 5 gallon *(19 liter)*, 19:1 ratio, FlowMaster pump.

The pump outlet pressure is controlled by a pressure switch, 274630, mounted on the rear of the pump housing. An outlet check (**32**) is connected to the pump outlet to maintain pressure on the hose reel, minimizing leak-back through the pump. A safety unloader (**30**) prevents pressure from exceeding 7,000 psi *(483 bar)*. A manifold (**29**) is used for connections to the pump outlet. The manifold includes a pipe plug (**28**) that can be removed for installing an optional pressure gauge, 274872. These features are included on all models.

Models 274887 and 276359 consist of a pump, bucket cover assembly, follower, hose reel (which includes swivel and control valve), and a 7 ft. *(2,13 m)* connecting hose. Refer to **kits table on page 9** for appropriate models.

Models 274886 and 276358 consist of a pump, bucket cover assembly, and follower. Refer to **kits table on page 9** for appropriate models.

Appropriate use

The reel and flow kit is intended for use in mobile applications where there are grease points that require the use of a grease fitting due to abusive environments or an inability to reach the lube point with a grease hose. An example of this situation is the bucket lubrication points on an earth mover or backhoe. The reel and flow kit can also serve well in applications where a lower cost option to a full automated lubrication system is desired.

Pump installation

Notice

A separate fuse should be wired between the pump and power supply on the positive leg of the circuit.

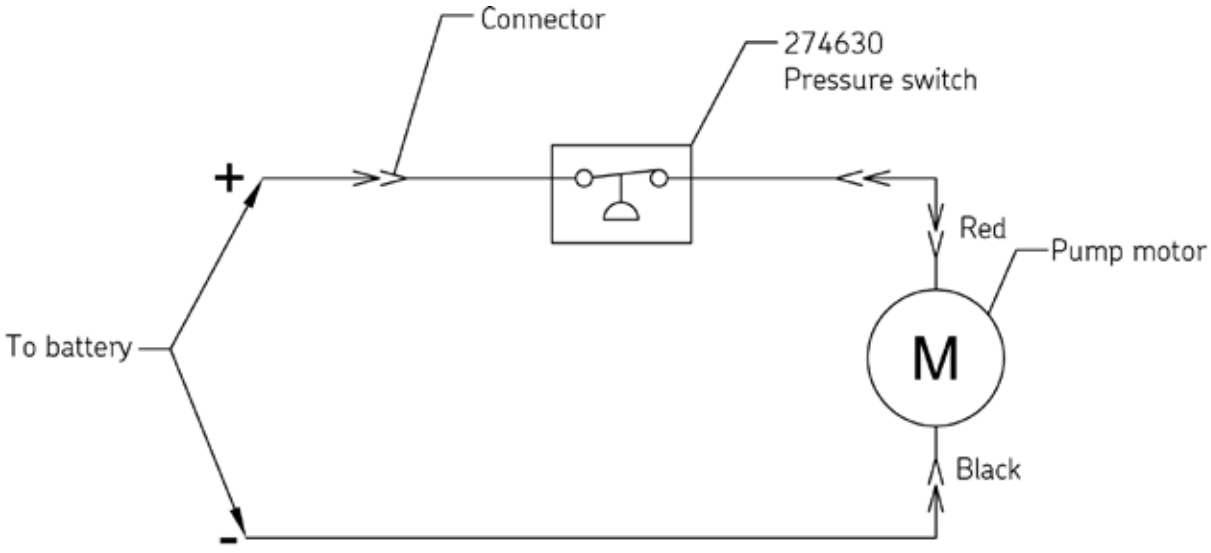
Pump motor is polarity sensitive and will not run if connected incorrectly.

1 Mount the hose reel and pump in the desired location.
2 Connect the pump outlet from the manifold to the hose reel inlet using the supplied hose and fittings. If the optional pressure gage is used, install it in the manifold by removing the plug and screwing the gage into the manifold port.
3 Apply a teflon based pipe dope on fitting threads to ensure proper sealing.

Product specifications

Operating temperature	–20 to 140 °F *(–29 to 60 °C)*
Operating voltage	
Model 274874	24 V DC (18 *to* 32 V DC)
Model 276360	12 V DC (9 *to* 16 V DC)
Motor	
Model 274874	0.33 HP (0.25 kw)
Model 276360	0.25 HP (0.19 kw)
Output/pump cycle	0.07 cu. in. *(1,15 cu. cm)*
Pump output	
Model 274874	18.0 cu. in./min. (295 cu. cm/min.) at 0 psi *(0 bar)* backpressure 15.0 cu. in./min. *(246 cu. cm/min.)* at 6000 psi *(414 bar)* backpressure
Model 276360	7.0 cu. in./min. *(115 cu. cm/min.)* at 0 psi *(0 bar)* backpressure 4.9 cu. in./min. *(80 cu. cm/min.)* at 5000 psi *(345 bar)* backpressure
Weight	35 lbs *(16 kg)*

Wiring diagram



Pressure switch adjustment procedure

The pressure switch is factory set at 5,800 psi *(400 bar)*. Since setting the pump shutoff pressure lower results in increased pump life, the shutoff pressure should be set no higher than the application requires. The shutoff pressure can be adjusted by the following procedure:

1 Loosen adjustment stem locknut (**12**) (**→ fig. 1**).
2 Using a 5/16 hex head Wrench, turn the adjustment spring cap (**11**) clockwise to increase (or counterclockwise to decrease) the pump shut-off pressure. Turn the stem 1/8 of a turn at a time, checking the setting by releasing the pressure and allowing it to build again. If the optional pressure gage is not used, install a temporary gage in the provided manifold port until the switch is reset. Do not exceed a shutoff pressure of 6,000 psi *(414 bar)*.
3 While holding the adjustment stem with the 5/16 in. hex head wrench, retighten the locknut.
4 Check the setting once more to ensure the adjustment stem did not move when the locknut was retightened.

Maintenance and repair

Pressure switch

While the pressure switch will provide years of service, in time, components will wear out. It is possible to replace the switch element and all of the soft parts to overhaul the pressure switch. To disassemble this assembly, (**→ fig. 1**):

1 Remove the pressure switch from the pump by removing the two 1/4-20 screws holding the unit to the suport bracket and unscrewing the adaptor fitting (**1**) from the manifold. Next, unplug the electrical connector to free the switch from the assembly.
2 Remove the four cover screws (**24**) along with the cover (**23**) and cover gasket (**22**).
3 Remove the switch connector by the following procedure:
  3.1 Pull back the boot (**15**) from the connector body and slide it back down the wire about 1 in. *(25 mm)*.
  3.2 Pull out locking wedge (**13**) using a needle nose pliers.
  3.3 Wire terminals (**16**) can be freed from the connector body (**14**) by pushing back a locking tab inside the connector body (**14**) while pulling on the individual wire. A small screwdriver is needed to depress this tab.
  3.4 With the connector body removed, pull the boot (**15**) off of the wire.
4 Loosen and remove the cap and rubber plug from cord grip connector (**17**).
5 Remove the cord grip connector body (**17**) from the switch body (**16**).
6 Remove the two screws (**19**) and pull out the switch and wire assembly (**18**).
7 Remove the ball (**20**).
8 Remove the adaptor fitting from the switch body (**1**).
9 Loosen the jam nut (**12**) and remove the spring cap (**11**) using a 5/16 in. hex head wrench. Jam nut (**12**) and thread seal (**10**) can remain in place on spring cap (**11**).
10 Loosen the spool stop (**9**) using a 1 in. open end wrench and remove from body (**6**).
11 Remove the spring (**25**).
12 Using a small rod or stiff wire .093 in. *(2,4 mm)* or smaller, push the spool assembly (**7**) up from the bottom to remove it from the larger opening in the body. The rod must contact the 1/8 in. *(3,1 mm)* dia. plunger rod on the underside of the spool assembly (**7**) to push the plunger rod through the cup seal (**4**).
13 The cup seal (**4**) and the backup washer (**5**) are held in place by a push-in retainer (**3**). The retainer (**3**) grips the smooth bore in the switch body (**6**) and must be broken to remove. Using a small flat bladed screwdriver, wedge the retainer on its outside diameter and push it toward the center of the bore. This will bend or break the retainer. Repeat this operation in two or three evenly spaced locations on the outside diameter of the retainer until it falls out.
14 Pull out the cup seal (**4**) and backup washer (**5**) using a stiff wire with a hook bent into it.

Inspection and repair

Inspect the steel plunger (**7**) to ensure there are no gouges or scratches that would prevent proper sealing. Inspect the switch body (**6**) for signs of mechanical damage that would prevent proper function. Also inspect the spring (**25**) to ensure it is serviceable. If these parts are usable, it is recommended that the following seals be replaced:

- Gasket (**22**)
- Backup washer (**5**)
- Cup seal (**4**)
- Retainer clip (**3**)
- O-ring (**8**)
- O-ring (**2**)
- Thread seal (**10**)

In addition, it would be advisable to also replace the switch element (**18**). The switch contacts can be inspected by **carefully** and evenly prying the cover from the plastic switch body. These contacts can be cleaned if they are not pitted, but it is advisable to replace the entire switch element (**18**) if the seals need to be replaced or if the unit fails to operate for an unknown reason.

Reassembly

1. Place backup washer (**5**) and cup seal (**4**) in the body (**6**). Be sure parts are seated against the bottom of the bore. It is very important to place the backup washer in **first**, and then the cup seal. Be sure that the cup lips point outwards, away from the backup washer.
2. With the concaved surface out, push the retainer clip (**3**) into the seal bore so that it lightly touches or not quite touches the cup seal. (**See fig. 2**).
3. Replace all parts in the reverse order of disassembly. Lightly coat the rubbing surfaces of the spool (**7**) and the ball (**20**) as well as both o-ring seals with a good quality NLGI grease to ease reassembly.
4. Torque all threaded joints to the torque specified in Table 1.

Table 1

Torque specifications

Spool stop (**9**)	18 to 22 ft.lbf. *(24 to 30 Nm)*
Jam nut (**12**)	12 to 15 ft.lbf. *(16 to 20 Nm)*
Adapter (**1**)	12 to 15 ft.lbf. *(16 to 20 Nm)*
Cover screws (**24**)	Torque until the gasket measures 0.015 to 0.020 in. *(0,38 to 0,5 mm)*
Switch screws (**19**)	Snug up. Do not deform switch housing

5. Re-install the pressure switch on the pump and reset to the desired setting per the previously described procedure. Do not set above 6,000 psi *(414 bar)*.

Pump

Please refer to the FlowMaster pump service sheet for information on the pump (**→ table on page 9**).

Fig. 1

274630 Pressure switch

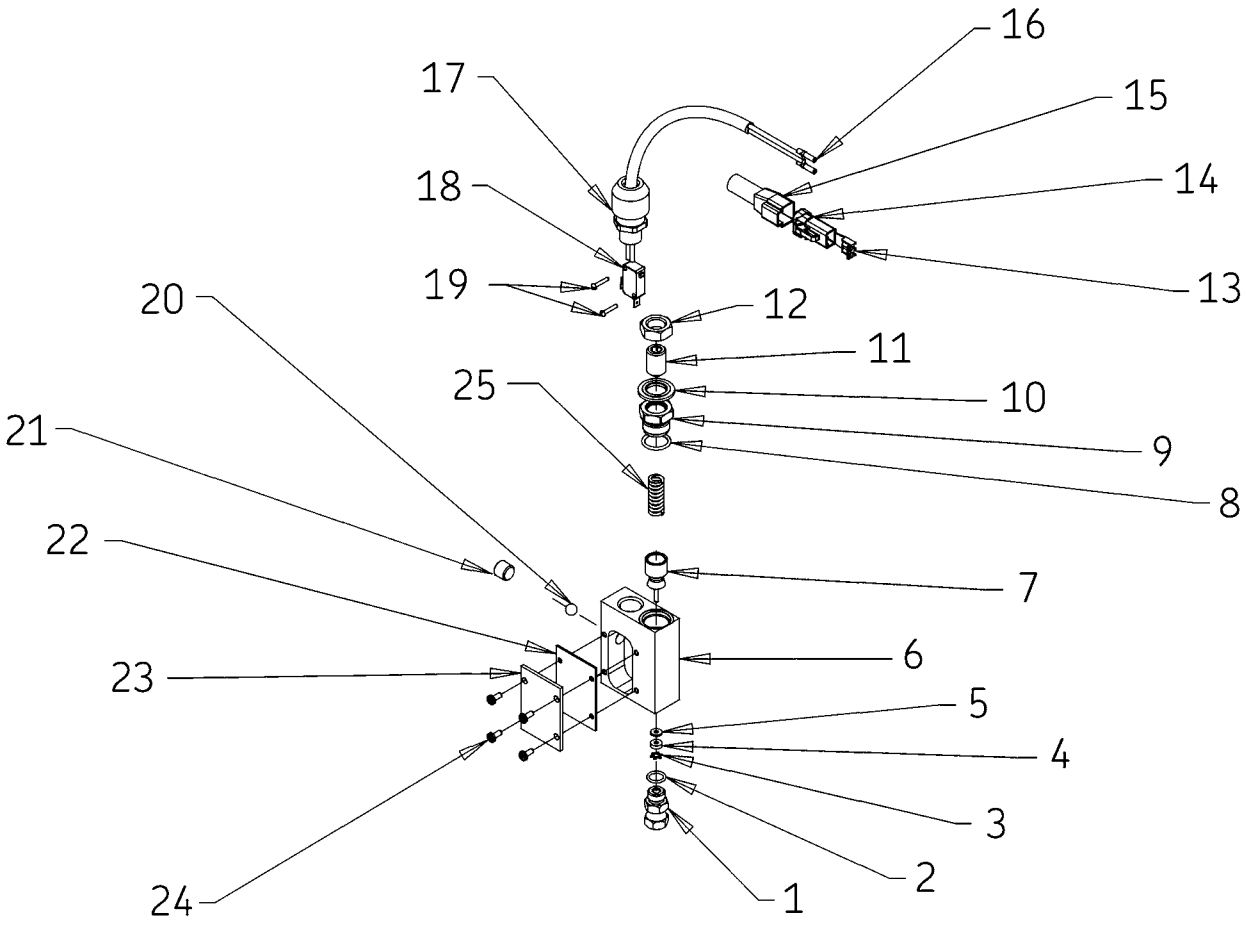
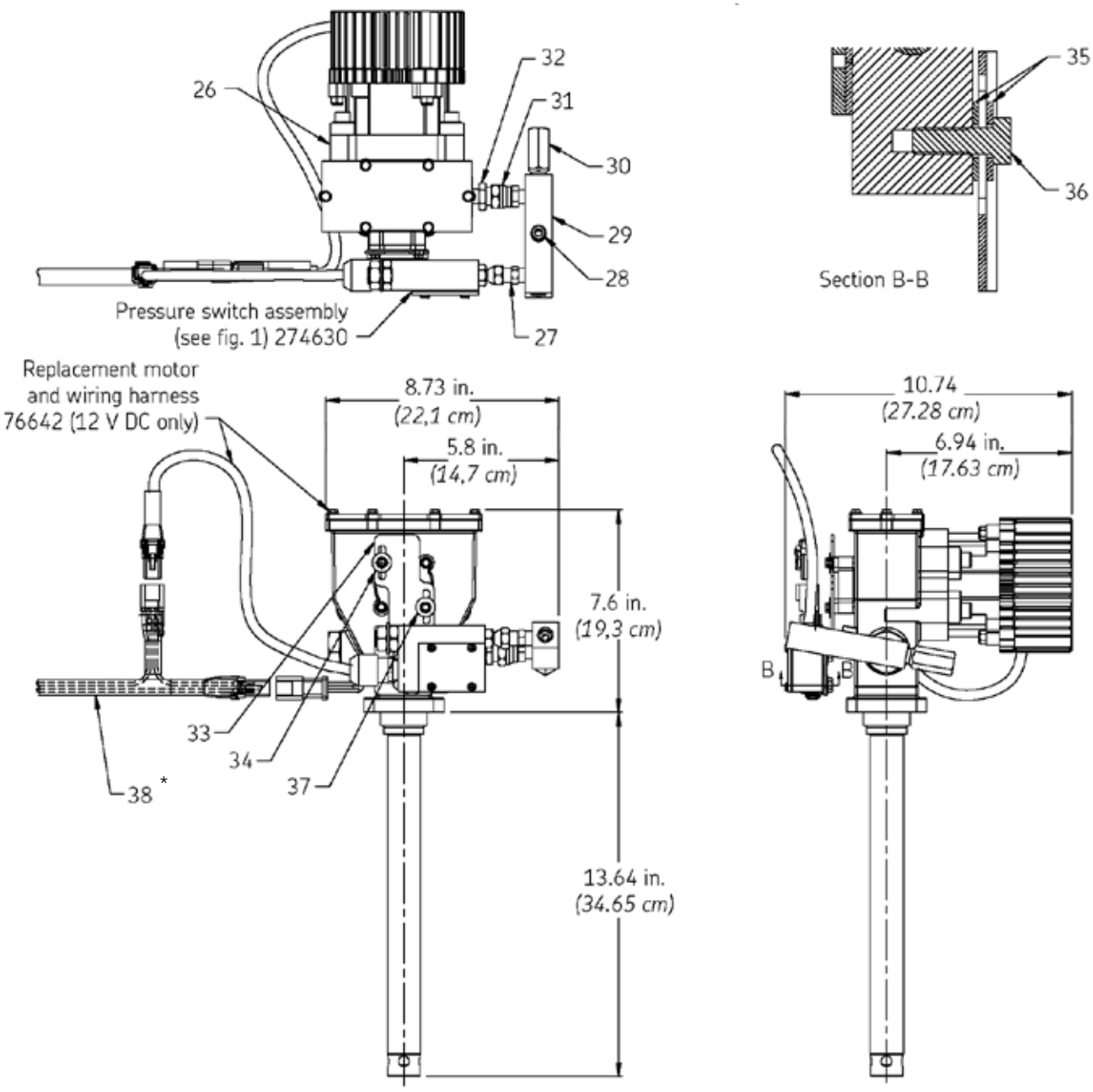


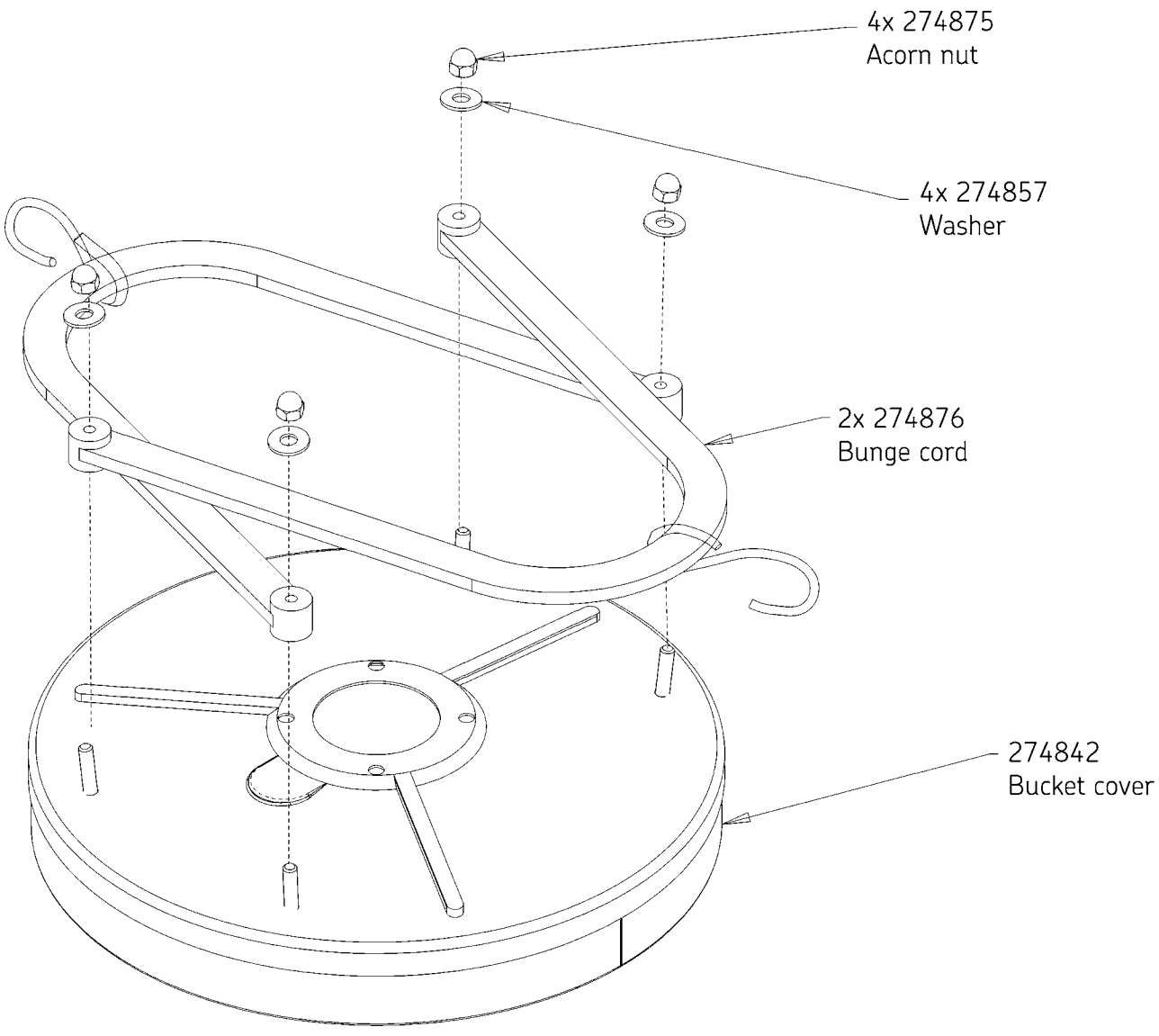
Fig. 2



* Indicates change

Fig. 3

Bucket cover assembly 274878
Exploded view



Parts not shown:
33152 Pump mounting gasket, 1 required
50169 1/4-20 x 3/4 in. hex bold, 4 required.

Kits and Accessories

The hose reel pump assembly 274773 is intended to be used in kits that include all parts necessary to mount and dispense grease to grease points that are not serviced by an automated lubrication system. The table below lists the kits and accessories available.

Kits

Model	Description	Voltage	Pump, manifold and pressure switch	Lid	Follower	Reel, control valve and swivel	Connecting hose
274886	Pump w/bucket lid and follower	24 V DC	274874	274878	274888	NA	NA
276358	Pump w/bucket lid and follower	12 V DC	276360	274878	274888	NA	NA
274887	As above with reel, 50 ft. hose, control valve swivel and connecting hose	24 V DC	274874	274878	274888	94553H	276366
276359	As above with reel, 50 ft. hose, control valve swivel and connecting hose	12 V DC	276360	274878	274888	94553H	276366
Service page			**Sec A21**, **pg 8** series	**Sec A21**, **pg 8** series	**Sec A21**, **pg 8** series	**Sec. E35**, **pg 73** series[1)]	NA

[1)] See service page sec. F3, pg. 2 series for service information on model 3050 control valve. See service page sec. F1, pg. 3 series for service information on model 81729 swivel.

Accessories

Part no.	Description
274872	10,000 psi *(689 bar)* pressure gauge
274934	35 lbs./5 gallon *(16 kg/19 liters)* container mount

Repair parts for pump and pressure switch

Item no.	Qty.	Description	Part no.
1	1	Adaptor	274620
2	1	O-ring (included with **item 1**)	1)
3	1	Retainer	274613
4	1	Seal	274617
5	1	Backup washer	274616
6	1	Pressure switch body	274621
7	1	Spool assembly	274614
8	1	O-ring	274619
9	1	Spool stop	274618
10	1	Thread seal	274841
11	1	Adjustment screw	274612
12	1	Jam nut	274852
13	1	Wedge	274628
14	1	Connector body	274627
15	1	Boot	274871
16	2	Connector pins	274629
17	1	Cord grip	273169
18	1	Switch and wire assembly	274637
19	2	Screw	50094
20	1	Ball	66001
21	1	Pipe plug	67359
22	1	Gasket	274626
23	1	Cover	274625
24	4	Screws	274898
25	1	Spring	55362
26	1	Pump	**→ table below**
27	1	Pipe nipple	10462
28	1	1/4 NPT pipe plug	67359
29	1	Manifold	274638
30	1	Unloader assembly	274833
31	1	Adaptor	274853
32	1	Check valve assembly	274825
33	1	Support Bracket	274772
34	2	#10-32 screw	274851
35	4	1/4 in. *(6 mm)* washer	274857
36	2	1/4 - 20 screw	50169
37	2	#10 flat washer	48218
38*	1	Wiring harness	274858

1) Parker 3-906 nitrile 90 durometer

Pump assembly, item 26

Model	Voltage	Bare pump	Service page section
274874	24 V DC	274873	**Section C8**, **page 298** series
276360	12 V DC	276041	**Section C8**, **page 323** series

* Indicates change

Lincoln industrial standard warranty

Standard limited warranty

Lincoln warrants the equipment manufactured and supplied by Lincoln to be free from defects in material and workmanship for a period of one (1) year following the date of purchase, excluding there from any special, extended, or limited warranty published by Lincoln. If equipment is determined to be defective during this warranty period, it will be repaired or replaced, within Lincoln's sole discretion, without charge.

This warranty is conditioned upon the determination of a Lincoln authorized representative that the equipment is defective. To obtain repair or replacement, you must ship the equipment, transportation charges prepaid, with proof of purchase to a Lincoln Authorized Warranty and Service Center within the warranty period.

This warranty is extended to the original retail purchaser only. This warranty does not apply to equipment damaged from accident, overload, abuse, misuse, negligence, faulty installation or abrasive or corrosive material, equipment that has been altered, or equipment repaired by anyone not authorized by Lincoln. This warranty applies only to equipment installed, operated and maintained in strict accordance with the written specifications and recommendations provided by Lincoln or its authorized field personnel.

This warranty is exclusive and is in lieu of any other warranties, express or implied, including, but not limited to, the warranty of merchantability or warranty of fitness for a particular purpose. Warranty on items sold by Lincoln, but not manufactured by Lincoln are subject to the warranty consideration, if any, of their manufacturer (such as hoses, hydraulic and electric motors, electrical controllers, etc.) Assistance in making such warranty claims can be offered as required.

In no event shall Lincoln be liable for incidental or consequential damages. Lincoln's liability for any claim for loss or damages arising out of the sale, resale or use of any Lincoln equipment shall in no event exceed the purchase price. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, therefore the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights. You may also have other rights that vary by jurisdiction.

Customers not located in the Western Hemisphere or East Asia: Please contact Lincoln GmbH and Co. Kg, Walldorf, Germany, for your warranty rights.

Special limited warranties

Special limited 2 year warranty sl-v series, single injectors-85772, 85782, and replacement injectors-85771, 85781

Lincoln warrants the SL-V Injector series to be free from defects in material and workmanship for two (2) years following the date of purchase. If an injector model (single or replacement) is determined to be defective by Lincoln, in its sole discretion, during this warranty period, it will be repaired or replaced, at Lincoln's discretion, without charge.

Special limited 5 year warranty series 20, 25, 40 bare pumps, pmv bare pumps, heavy duty and 94000 series bare reels

Lincoln warrants series 20, 25, 40 bare pumps, PMV bare pumps, heavy duty (82206), mini bench (81133, 81323), and all 94000 LFR series (single arm and dual arm) bare reels to be free from defects in material and workmanship for five (5) years following the date of purchase. If equipment is determined by Lincoln, in its sole discretion, to be defective during the first year of the warranty period, it will be repaired or replaced at Lincoln's discretion, without charge. In years two (2) and three (3), the warranty on this equipment is limited to repair with Lincoln paying parts and labor only. In years four (4) and five (5), the warranty on this equipment is limited to repair with Lincoln paying for parts only.

Special limited 5 year warranty-limited oil meters, limited fluid control valves, aod (air-operated diaphragm pumps)

Lincoln warrants the 712 series control valves, 912 series lube meters, electronic lube meters (980. 981, 982 series), our nniversal inline digital meters (812/813 series), and our AOD pump offering to be free from defects in material and workmanship for five (5) years following the date of purchase. If either is determined to be defective by Lincoln, in its sole discretion, during the warranty period, they will be repaired or replaced, at Lincoln's discretion, without charge.

Special DEF (diesel exhaust fluid) limited warranty

DEF products are warranted to be free from defects in material and workmanship for a period of one (1) year following the date of purchase. The following exceptions to the standard warranty period are in effect:

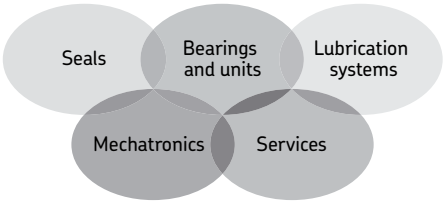
- **85700-30/85700-50 DEF hose reels (bare reel only),**
  277251/277252 AC DEF pumps, and 277256 and 277257 DEF meters are warranted for two (2) years from date of purchase.

- **85623 DEF AOD (air operated diaphragm) pumps**
  are covered under the standard five (5) year AOD pump warranty.

If either is determined to be defective by Lincoln, in its sole discretion, during the warranty period, they will be repaired or replaced, at Lincoln's discretion, without charge.

Lincoln Industrial contact information

To find Lincoln Industrial's nearest service center call one of the following number;
customer service 314-679-4200
or you may also use our website
www.lincolnindustrial.com



The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems. A global presence provides SKF customers uniform quality standards and worldwide product availability.

® SKF is a registered trademark of the SKF Group.

® Lincoln is a registered trademark of Lincoln Industrial Corp.

© SKF Group 2012
The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless prior written permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein.

SKF **PUB LS/I1 13184 EN.US** · September 2012 · **Form 404468**

Printed in USA on environmentally friendly paper.

LINCOLN®

SKF