

MultiPort II Lubricator

Mobile, PDI, Grease

Farval®

GENERAL

The MultiPort II Lubricator is an electrically driven multiple outlet lubrication unit designed primarily for use with positive displacement injector(PDI) systems. The pump has two combined pumping elements at the left and center positions, along with a DC controlled vent valve for relieving system pressure. These lubricators are available with 12 & 24 VDC motors which make them ideal for use in mobile applications. An integral controller is available, or the pump can be controlled by an external controller (such as SMDC) or by the customer's PLC/DCS/etc.

OPERATION

Power supplied to a motor with gear box drives a precision eccentric cam which engages with the spring loaded piston elements. This action creates a suction and pressure stroke of the element(s), thereby displacing a fixed volume of lubricant through an outlet check valve. Lubricant is discharged through main line tubing to a series of positive displacement injectors and on to multiple lubrication points. The lubricator also includes a solenoid operated vent valve which relieves mainline pressure when the pump motor stops, allowing injectors to reset for the next cycle.

FEATURES

- + Compact rugged design
- + Minimal maintenance required
- + High and low pressure capabilities
- + Certified IP69K rated
- + Rotating mixing arm in reservoir assures grease delivery to inlet of pump element

TECHNICAL DATA

Lubricator

Reservoir Capacity	3 liter (7 lb) or 7 liter (15 lb)	
Grease ¹	24VDC	NLGI grade 000-2
	12VDC	NLGI grade 000-0
Maximum Working Pressure	24VDC 200 bar (2900 psi) / 12VDC 40 bar (580 psi)	
Output/ min.	6.0 cc (0.36 cu. in.)	
Discharge Element Output Port	1/4" NPT(F) or 1/4"BSPP(F)	
Operating Temperature Range¹	-4° F to 122° F (-20° C to 50° C)	
Operating Voltage	12 or 24 VDC	
Motor²	24VDC (2 amp) / 12VDC (4 amp)	
Controller Fuse	24VDC 5 amp / 12VDC 8 amp	
Enclosure Rating	IP69K	
Low Level Switch	Capacitive Prox Switch, DC NPN, 10-36DC, Normally Closed (N.C.)	
Fill Connection	Quick disconnect or Zerk	
Lubricator Weight with Reservoir	3L 25 lbs / 7L 28 lbs (3L 11.3 Kg / 7L 12.7 Kg)	

¹ Lubricant must be pumpable at the operating temperature. Contact lubricant manufacturer with specific questions.

² Operates at 40 rpm @ 68° F, 1000 psi back pressure



MultiPort II PDI
3 Liter - 24VDC



Refer to the following datasheets:

- + Datasheet #46911: SMDC Controller
- + Catalog #414: ExactoServe Systems
- + Datasheet #35482: CXL2 Injectors
- + Datasheet #35584: VXLO Injectors
- + Catalog #35544: Mobile Accy Catalog
- + Datasheet #35744: Manual Fill Pumps

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HOW TO ORDER

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24VDC

55656-

Controller

C — Controller
X — No Controller

Reservoir Capacity

3 — 3 Liter Grease Reservoir with Mixing Arm
7 — 7 Liter Grease Reservoir with Mixing Arm

Level Switch

X — No Low Level Switch
L — Low Level Switch

BSPP Option

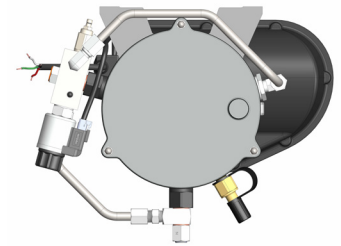
(Leave Blank for 1/4"NPT Outlets)
B — 1/4"BSPP Outlet thread

Fill Connector

U — Universal Fill connector (ISO7241-1B)
Z — Zerk Fitting (Grease Nipple, HP Version Only)

Operating Pressure

H — High-Pressure 200 bar (2900 psi)
V — Low-Pressure 40 bar (580 psi)



Top View:
MultiPort II PDI

12VDC

55657-

Controller

C — Controller
X — No Controller

Reservoir Capacity

3 — 3 Liter Grease Reservoir with Mixing Arm
7 — 7 Liter Grease Reservoir with Mixing Arm

Level Switch

X — No Low Level Switch
L — Low Level Switch

BSPP Option

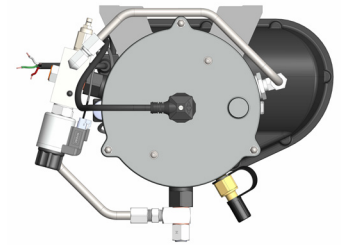
(Leave Blank for 1/4"NPT Outlets)
B — 1/4"BSPP Outlet thread

Fill Connector

U — Universal Fill connector (ISO7241-1B)

Operating Pressure

V — Low-Pressure 40 bar (580 psi)



Top View:
MultiPort II PDI with
Low Level Switch








All MultiPort II versions are
CE approved.



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Description		Part Number	
Low Level Switch Kit	3 Liter	55536-1FB	
	7 Liter	55536-3FB	
Pressure Gauge (Dual scale 0-2000 psi/0-140 bar, 1/8" NPT, LM)		U902J	
Pressure Gauge (Dual scale 0-5000 psi/0-350 bar, 1/4" NPT, LM)		U902F	
Field-Wireable DIN Plug with Gasket 55659		55892	
DIN Blank Plug (to cover unused terminals)		55625	
Pumping Mounting Plate		55389	
Mating Fill Connector for Universal Fill Plug 1/4" NPT(F)		UX43521	
Mating Fill Connector for Universal Fill Plug 1/4" BSPP(F)		734142583*	
Manual Fill Pump	35 lb. pail	37304	
	120 lb. keg	37303	
Pressure Switch with DIN	Low Pressure 600 pdi / 41 bar	35859-1	
	High Pressure 2000 psi / 137 bar	35859	

*Use with Copper Seal 35010

When installing a level switch kit onto a pump that did not previously have a level switch, you also need to order:

Cable P/N 55865-3
(for pump with external control) *or*
Cable P/N 35732-1
(for pump with integral control).

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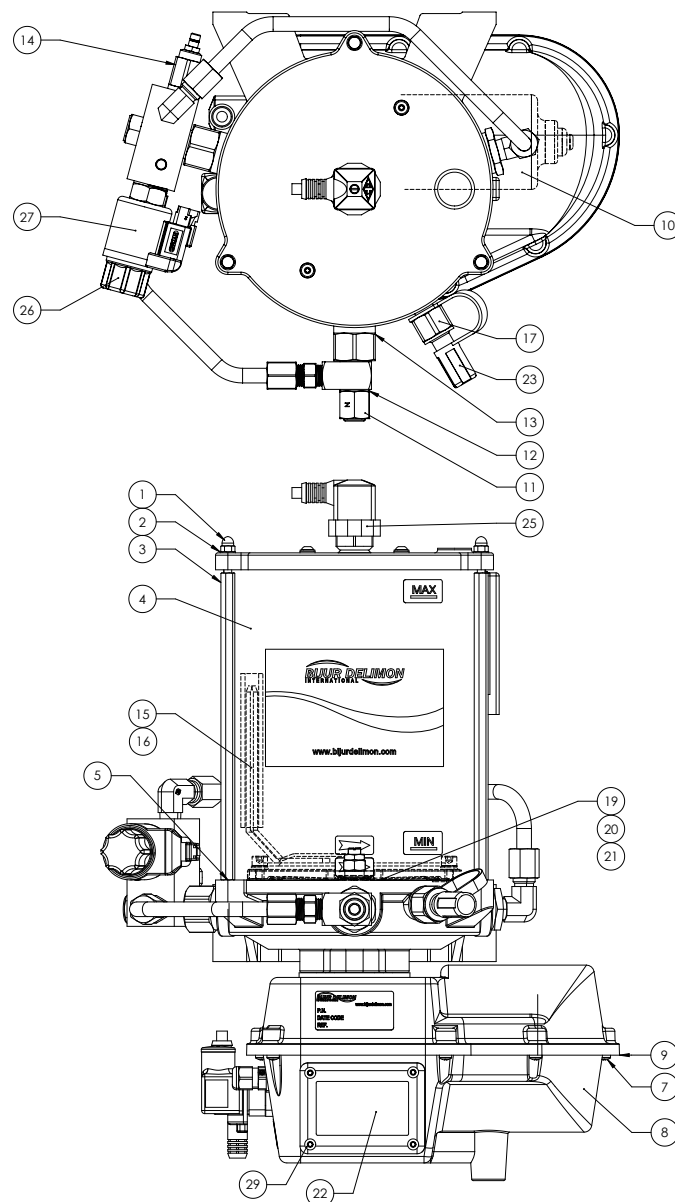
SERVICE PARTS

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Item	Description	Part Number	Qty.
1	Nut	37915	3
2	Washer	22076-5S	3
3	Tie rod: for 3 liter (7 lb.)	44460-4	3
	Tie rod: for 7 liter (15 lb.)	44460-6	3
4	Reservoir: 3 liter (7 lb.)	55535-1FB	1
	Reservoir: 7 liter (15 lb.)	55535-3FB	1
5	O-ring	45831-1	1
6	DIN Cable (not shown) ²	35732-1	2
7	Motor cover screw	22081-17S	8
8	Motor cover non-control	55558-3	1
	Motor cover w/controller 24VDC	55558-7	1
	Motor cover w/controller 12VDC	55558-8	1
9	Motor cover gasket	66245	1
10	Motor (24 VDC) & worm gear	31703-1	1
	Motor (12 VDC) & worm gear	31703-2	1
11	Standard pump element without relief valve	55480	1
12	Copper seal	25589-5	1
13	Copper seal	25589-7	1
14	Relief Valve LP 40 bar (580 psi)	55660-V	1
	Relief Valve HP 200 bar (2900 psi)	55660-H	1
15	Wiper	22468	1
16	Wiper Arm	22469-2	1
17	Grease fill fitting ¹	52043	1
18	Controller Fuse 5 amp (24VDC) (not shown)	31076-2	1
	Controller Fuse 8 amp (12VDC) (not shown)	31076-4	1
19	Bearing	25101-2	1
20	Shaft seal	22178-6	1
21	Shaft key	25104-6	1
22	Window Kit	85201	1
23	Cap	53160	1
24	LLS DIN Cable (not shown) ³	55865-3	1
25	Low Level Switch Kit	3 Liter 55536-1FB	1
		7 Liter 55536-3FB	1
26	Cartridge Valve	37637	1
27	Coil	12VDC 37635	1
		24VDC 37636	1
28	Coil DIN /Deutsch Cable (not shown)	55811	1
29	Thumb screw ⁴	85174 (x4 Included with item 22)	4

¹ Mating connector is UX43521. ³ Only supplied with low level switch models.

² Quantity 1pc for units without controller & low level switch. ⁴ Torque Spec 0.3Nm (2.7 IN-LBS)



Window Replacement Kit P.N. 85201

+ Includes 4 Thumb screws, window, window frame and window gasket

+ Will work on all MultiPort II Pumps

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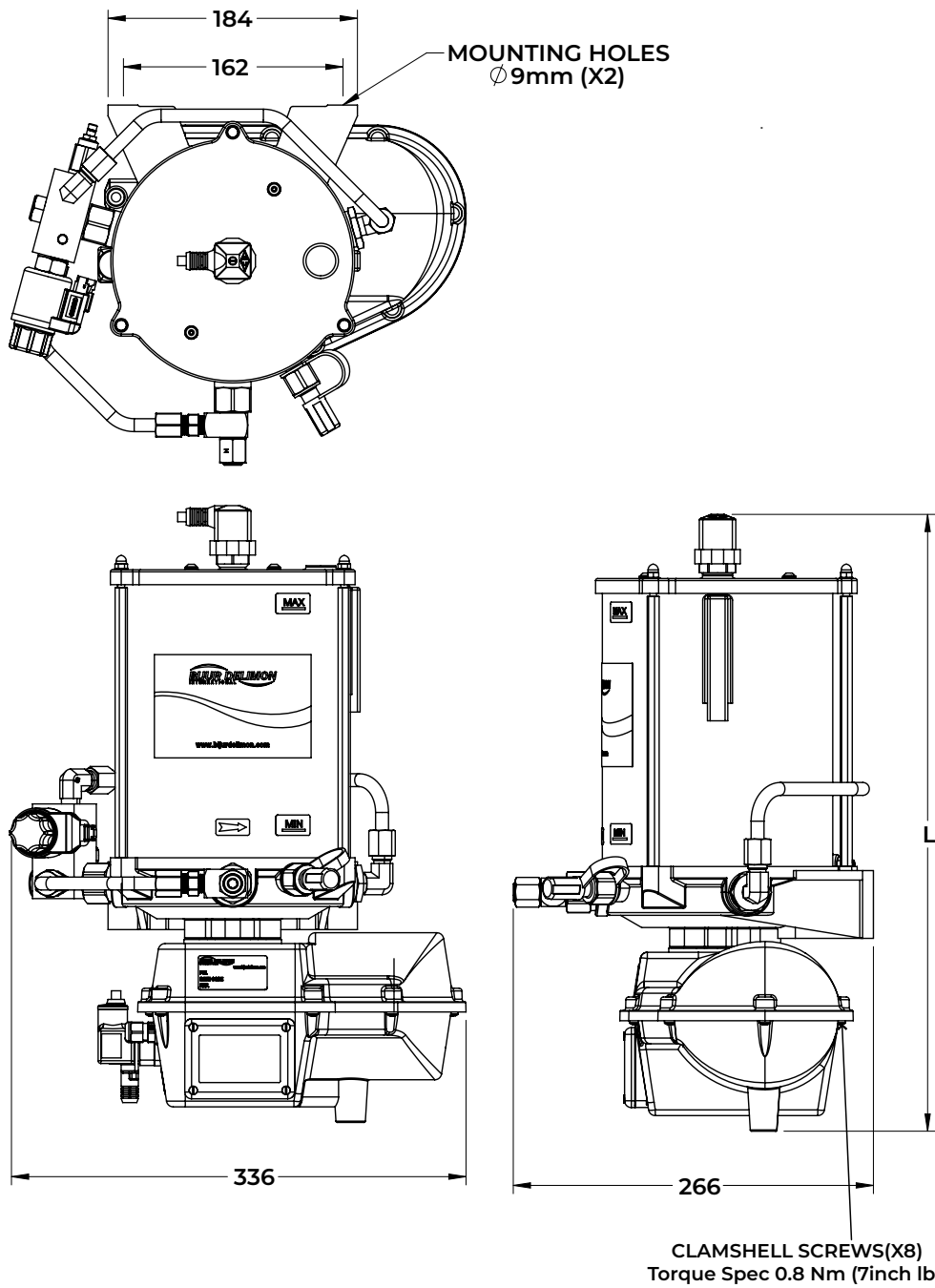
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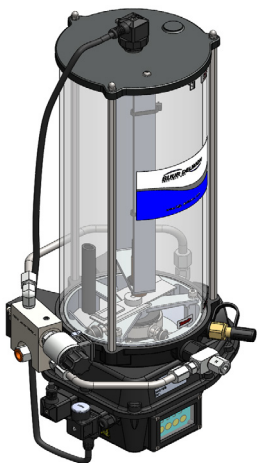
DIMENSIONAL SCHEMATICS

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Measurements shown
in millimeters.



MultiPort II PDI 3 Liter
with Controller and
Low Level Switch



MultiPort II PDI 7 Liter
with Controller and
Low Level Switch

'L' DIMENSIONS

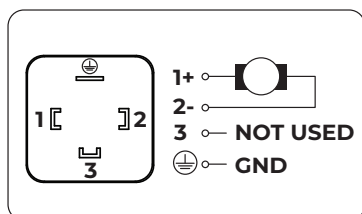
Description		"L"
With Low Level Switch	3 Liter (7 lb.)	456
	7 Liter (15 lb.)	656
Without Low Level Switch	3 Liter (7 lb.)	419
	7 Liter (15 lb.)	619

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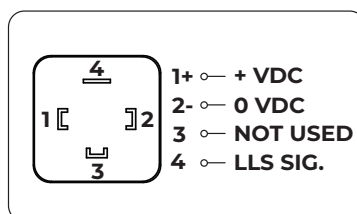
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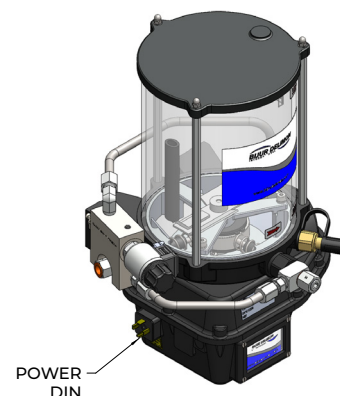
MultiPort II - No Controller



12/24VDC DIN Connector - Power In

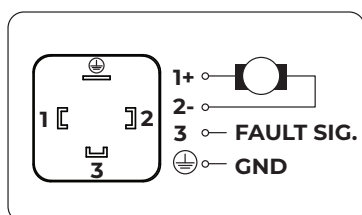


Level Switch DIN Connector

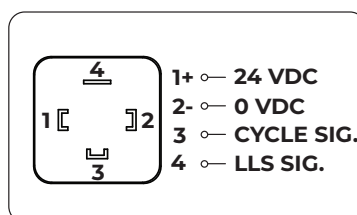


MultiPort II DIN Without Controller

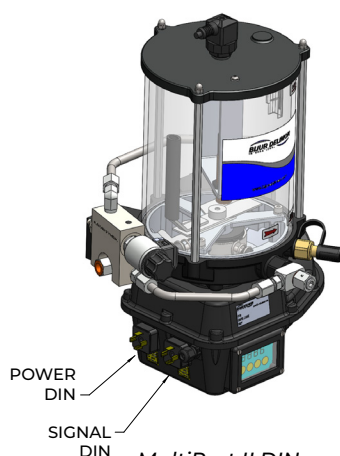
MultiPort II - With Controller



12/24VDC DIN Connector - Power In Fault Out - Dash Light

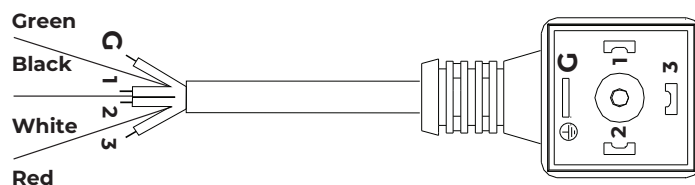


DIN Signal Connector
NPN Pressure Switch In
NPN Low Level Switch In



MultiPort II DIN With Controller & LLS

MultiPort II - Color Codes - Cable Assembly 35732-1



Black-Positive / White-Negative / Green-Ground / Red-Alarm Signal Out

Note:

MultiPort II includes diodes on the DIN connectors to prevent reverse motor rotation and controller damage, so if you wire it incorrectly, nothing happens.

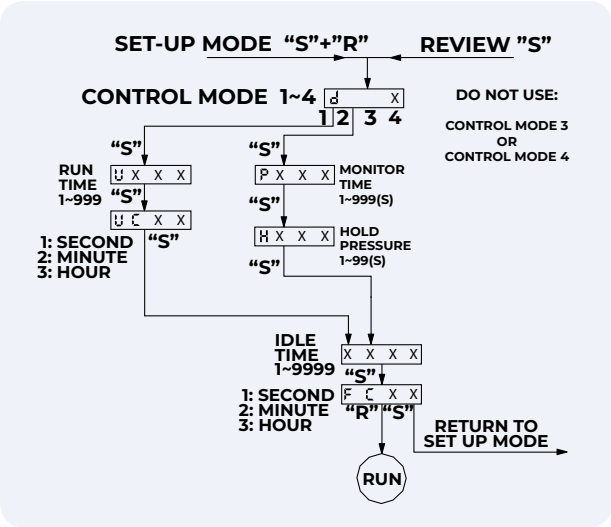


MultiPort II DIN With Low Level Without Controller

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OPERATION MODE

TIMER CONTROL MODE (d 1)

Recommended for Systems without a Pressure Switch or Cycle Switch

*Low level alarm function enabled**

In this mode, the lubricating system runs according to the preset run time and idle time.

*For lubricators fitted with low level switch

PRESSURE CONTROL MODE (d 2)

Recommended for Injector Systems

*Pressure switch function enabled/ Low level alarm function enabled**

A pressure switch installed downstream from the pump functions as the key monitoring device for the entire system. Normally the system will build up sufficient pressure required to activate the pressure switch (normally open) in a predetermined period of time (called monitor time) once the pump starts. The user can adjust the monitor time to a setting greater than the time required to satisfy the pressure switch (normally 1.5 times greater). If the system fails to reach sufficient pressure during that time period an alarm signal will be displayed (EEPP appears on the digital readout). Possible causes for this type of alarm could be pump malfunction, broken supply line or crushed supply line prior to pressure switch. Lubrication intervals are adjustable from 1 to 9999 (seconds/minutes/hours). An adjustable run delay (1-99 seconds) following a pressure switch closure assures adequate pressure downstream from the pump.

CYCLE CONTROL MODE (d 3) – DO NOT USE

Do not use Control Mode 3 with MultiPort II PDI Mobile Systems.

CONTROL MODE (d 4) – DO NOT USE

Do not use Control Mode 4 with MultiPort II PDI Mobile Systems.

CONTROLLER STATUS LEDS

Red Steady	Lubrication cycle
Yellow Steady	Low Level
Green Steady	Power supply on
None Lit	No input power to controller

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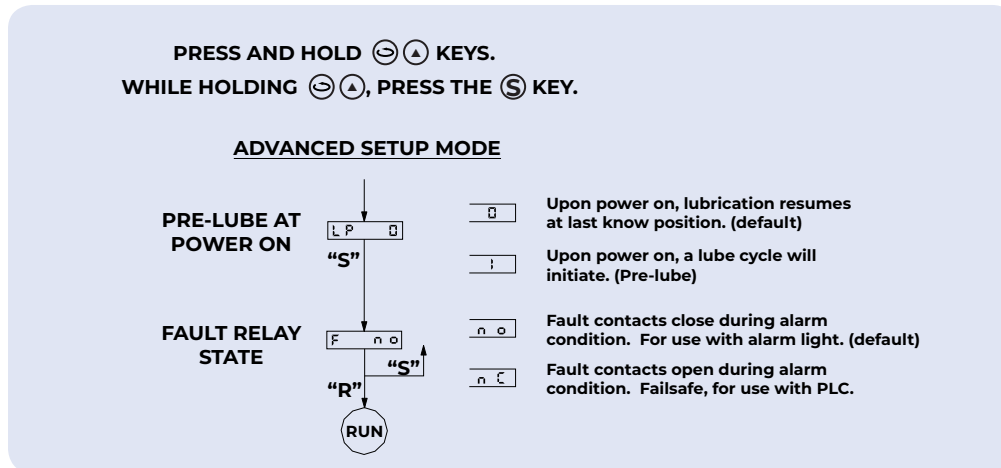
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ADVANCED SETUP MODE

In Advanced Setup Mode, additional features may be set to suit special application requirements.

To enter Advance Setup Mode:



FAULT CONDITIONS:

- **"EEPP" - MONITOR TIME-OUT**
(Mode d2 - Injectors)
Pressure switch did not activate within monitor time.
- **"EEHP" - PRESSURE SWITCH FAILURE**
(Mode d2 - Injectors)
Pressure switch was activate at the beginning of a lube cycle. Once customer fixes pressure switch - alarm will clear automatically.
- **"EEcY" - MONITOR TIME-OUT**
(Mode d3 - Progressive)
Cycle switch did not activate within monitor time.
- **"EE" - INTERNAL MEMORY FAILURE**
(Checked at power up)
No recovery. Turn off power and try again.
If problem persists, replace control.
- **"EELL" - "YELLOW LED" - LOW LEVEL**
(Steady Yellow)
Low lubricant level has been detected.
- **"LLPP" - "GREEN LED" - LOW VOLTAGE**
Check and apply correct voltage

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