



Lubrication Systems Owner's Manual

For the following conveying systems:

Dual Strand

Enclosed Track

Free Carrier

Infloor Chain-On-Edge

**Inverted Power & Free
Monorail**

CAUTION: Before using this product, read this manual and follow all Safety Rules and Operating Instructions.

IMPORTANT SAFETY INSTRUCTIONS

In a world, and an industry, full of risks this goal can only be achieved if every single person remembers the importance of safety, accepts their personal responsibility, and knows what to do.

These simple rules provide basic guidance. We ask every individual to read them and to act upon them. The safety of everyone depends on our common commitment to the highest standards of care at all times and in all circumstances.

Read Instructions

Read all of the safety and operating instructions before operating the product.

Retain Instructions

Keep all safety and operating instructions for future reference.

Heed Warnings

Follow warnings on the product and in the operating guide.

Follow Instructions

Follow all operating and use instructions.

Accessories

Do not place product on an unstable cart, stand, tripod, bracket, or table. Product may fall, causing serious injury to an employee, and serious damage to the product. Use only accessories recommended by the manufacturer. Any mounting of product should follow manufacturer's instructions.

Transporting Product

Move product and cart combinations with care. Quick stops, excessive force, and uneven surfaces may cause product and cart combination to overturn. Make sure proper lifting procedures are followed.

Power Sources

Operate product only from type of power source indicated by manufacturer.

Overloading

Do not overload wall outlets, extension cords or integral convenience receptacles, as this can result in risk of fire or electric shock.

Servicing

Do not attempt to service this product without consulting owner's manual. Refer all servicing to qualified service personnel. Make sure to isolate any energy systems.

Mounting

Mount product to conveyor only as recommended by manufacturer. When working at heights, make sure person(s) are competent and have proper equipment to perform the work.

Replacement Parts

When replacement part(s) are required, be sure service technician has used replacement part(s) specified by manufacturer or have same characteristics as original part(s). Unauthorized substitutions may result in fire, electric shock, or other hazards. May also interfere with warranty(s).

Damage Requiring Service

Some repairs may NOT fall under the one-year/extended warranty. Refer servicing to qualified service personnel.

Introduction

Thank you for choosing LubeCon USA, LLC for your automatic lubrication equipment. We believe that you will find the quality of our state-of-the-art equipment and the expertise and professionalism of our service personnel to be unmatched in the industry.

Inspect all equipment upon receipt and notify us immediately of any shipping damage and/or missing equipment.

Please look over the complete manual before installing and/or operating your equipment. The manual is designed to provide you with the necessary information to install and program your equipment for optimal performance. If at any time you have questions concerning installation or operation of the equipment, please contact your local LubeCon account manager, or technical support at **1-800-582-3266**.

Automatic Conveyor Lubricator

The LubeCon automatic conveyor lubricator provides precise and dependable placement of lubricant to the conveyor's chain pins and/or open bearings.

The lubrication system consists of a lubricator controller, solenoid valves, detection switches, dispensing tubes and a Central System that provides the lubricant from the reservoir to the lubricator.

Also included in the installation instructions is a section on installing the centralized pumping station and it's adjustments, if applicable. Parts listings are also included.

Value Added Services

LubeCon is dedicated to providing our customers with solutions that are designed around our extensive experience in the industrial lubrication field and our own state-of-the-art equipment. We offer application specific equipment design and manufacturing, therefore, you may find that your manual has been updated or modified to cover any application specific equipment or installation procedures.

Confidential

This manual may include confidential information. It is incumbent upon the reader to treat all aspects of LubeCon equipment and/or services as confidential.

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Lubricator Features & Specifications

FEATURES

Optional field programmable electronics (*Refer to Controller Features/Specifications section*)

No air required or atomization

Monitoring indicators

Automatic stop-start

Separate off cycles for chain, trolleys, rollers, and pivot points (*four independent channels*)

Optional PLC interface contacts

Centralized pumping station with power supply/motor control (*Refer to Central Systems section*)

Lubricators lubricate: Chain pins, trolleys, chains, vertical/horizontal bearings, pivot points, guide rollers, latch mechanisms, and /or spindles.

SPECIFICATIONS

Power Source: 24 VDC supplied from reservoir power supply

Conveyor Speed: (*Specified at time of order*)

Sensors: Photo or inductive proximity switches

Valves: Solenoid, 24 VDC

Standard Ejection Tubes: .030" diameter, copper

Lubricator External Moving Parts: None

Lubricator Internal Moving Parts: Solenoid Valve Poppets

Circuitry: Solid State

Air Requirements: None

Installation

Selecting the Lubricator Locations

Choosing the proper location for your lubrication system is the first step in the installation procedure. Consider the following suggestions:

If possible, locate the lubricator on the conveyor after the conveyor has been unloaded. This practice prevents possible contamination of a production part.

If ovens or washers are present on the conveyor, then locate the lubricator on the conveyor after the conveyor exits from the oven as far from the washer as possible. The lubricant will then be applied to the conveyor for the greatest amount of time. Dry film lubricant should have enough time for the lubricant to dry before entering an oven or dryer.

The lubricator should be mounted where the conveyor chain is stable, under tension, and away from harsh operating conditions; such as water spray, or high temperatures.

If you are using a Centralized Pumping Station/Reservoir to supply multiple lubricators, place the lubricating pumping station away from a main traffic area. Protect the unit from lift truck traffic by locating it near a protective structural column or in a corner. Use manufacturer's suggested distance recommendation.

Mounting of the Lubricator

Select a straight, level section of the conveyor's track or I-beam to mount the lubricator. The section chosen must be free of obstructions, a minimal amount of vibration, and the bearings should be rolling smoothly through this section of the conveyor. The same is true if using a lubricator that is pre-mounted on a section of rail.

Preparation of the conveyor section for mounting the LubeCon lubricator may require access holes and/or slots. These access holes and slots allow access for the dispensing tubes and their protective plates. All LubeCon lubricators are supplied with mounting hardware and brackets.

CONNECTING THE ELECTRICAL POWER

The incoming control cable (24 VDC) must be connected to the controller terminal strip as shown on the controller wiring schematic.

Lubrication System Set-Up & Maintenance

Start-Up Procedure and Initial Settings

1. Fill reservoir with the proper lubricant.
2. Turn the pumping station "ON/OFF" switch to the "ON" position.
3. Once the pumping station is turned on it will now feed 24vdc to all of the controllers mounted on or near the lubricators. At this point it is time to program all of the controllers per your specifications. (Refer to programming instructions)
4. Once you have programmed your controllers the system is ready to be purged. To purge the system you will need to make sure your controller is in an "on cycle" and that the switch is detecting the correct part of the chain passing by. Now that your controller is in an "on cycle" it will send a request to the central pumping station to turn on and dispense lubricant to all of the lubricators. It may take a few minutes for the lubricant to reach each lubricator and for the air to be purged through the tubes.
5. To adjust system pressure you will need to adjust the regulator located on top the central pumping station.
6. Allow sufficient time on the initial start-up for the pump to prime and air to be flushed out the capillary lines. Dispensing tube outlets from any valve should be at the same height. This prevents the lower tubes from dripping due to a higher tube outlet venting air into the line.
7. Once all of the tubes have been purged of air and are dispensing lubricant, adjust the central pumping stations regulator to achieve desired pressure. The system pressure along with valve "on" and "off" times will help determine the type of shot that will be dispensed from the tubes.
8. Once the system is dispensing lubricant at the desired pressure and settings, make sure all of your tubes are correctly aimed at the points on the chain. Good practice is to slightly lead the chain so that any lubricant "tail" that may exist will not drop through an opening in the chain.

SYSTEM MAINTENANCE

Although your LubeCon lubricator is virtually maintenance free, it is advisable to routinely check to see that the lubricant being dispensed is hitting the correct spot. If not, readjust the dispensing tubes so that they will hit the desired points. Service and extended warranties are available through your LubeCon Account Manager, call **1-800-582-3266** for more information.

Clean (or replace) all lubricant filters every two years, or as required.

Check for visible damage caused by the conveyor or debris that the conveyor may have dragged through the lubricator.

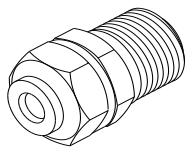
Keep the lubricant reservoir filled. Routine topping off of the reservoir prevents automatic shutdown caused by an empty tank.

Visually inspect to ensure that all dispensing tube outlets, from any one solenoid valve, are to be at the same level. This will prevent the lower tubes from dripping.

Keep the dispensing tubes as short as possible. Excessive lengths decrease the lubricant velocity as it leaves the dispensing tube ends, and may create a slight "tail".

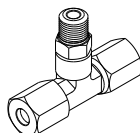
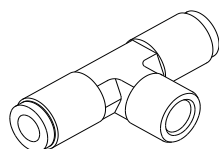
Lubricator Components

Push In Fittings Pipe Thread X PI



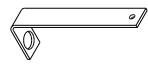
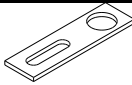
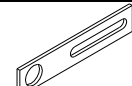
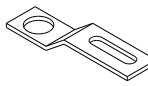
Part Number	Description	Material
L3263	1/4MPT-1/4T	Brass
L3242	1/8FPT-1/4T	Brass
L3224	1/8MPT-1/4T	Brass
L19148	1/4FPT-1/4T	Brass

Push In Fittings Continued Tees



Part Number	Description	Material
L3244	1/4T Union Tees	Brass
L13231	1/8MPT x 1/4T Run Tee	Swivel
L3254	1/4T Union Push In	Brass

Switch Brackets

Part	Part Number	Description	Size
	L17690	Bracket, Switch	1/8 x 1 x 9
	L13411	Bracket, Switch	1/8 x 1 x 3-1/2
	L13408	Bracket, Switch	1/8 x 1 x 5"
	L13407	Bracket, Switch 2 Bend	1/8 x 1 x 4"

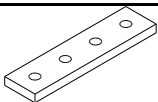
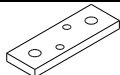
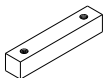
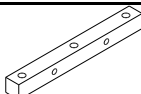
Controller Brackets



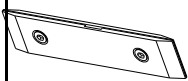
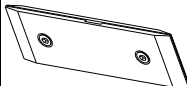
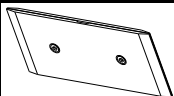
Part Number	Description
L13463	Up-right Bracket for Power Supplies & Bullzi Controllers

Lubricator Components Continued

Extrusion Brackets

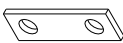
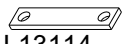
Part	Part Number	Description	Size
	L18024	Joining Bracket	4 Hole
	L17682	Corner Bracket	1/4 x 3 x 3
	L18208	Tee Bracket	5 Hole
	L4646	L Bracket	1"
	L17257	Standard Valve Bracket	1/4 x 1 x 3
	L17422	Heavy Lube Valve Bracket	1/4 x 1 x 3
	L8901	Ejection Tube Bracket	1/8 x 2 x 4-1/2
	L8900	Bracket IVP	1/2 x 1/2 x 2-3/4
	L8906	Bracket Track	1/2 x 1/2 x 4-3/4

Center Plate Assemblies

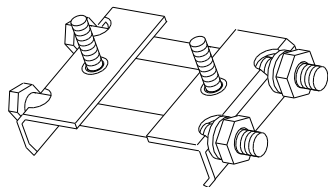
Part	Part Number	Description	Size
	L3602	Center Plate	3"
	L3603	Center Plate	4"
	L3612	Center Plate	6"

Lubricator Components Continued

Ejection Tube Clamps

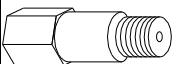
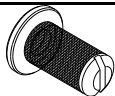
Part	Number of Tubes	Part Number	Description
 L13113	2	L13113	Base Steel Flat
		L20632	Top Steel V Style
 L13114	3	L13114	Base Steel Flat
		L20633	Top Steel V Style
	6	L13115	Base Steel Flat
		L20566	Top Steel V Style
	12	L4518	Base Steel Flat
		L20634	Top Steel V Style

I-Beam Clamp Assemblies



Part Number	Description	Size
L17691	Clamp Assy.	3"
L17692	Clamp Assy.	4"
L17693	Clamp Assy.	6"

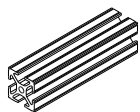
Strainer

Part	Part Number	Description	Material
	L12043	1/4MPT x 1/4FPT 50 Mesh	Brass
	L17390	24 Mesh Replacement Filter	Brass

Relief Valves

Part Number	NPT	Description
L4103	1/4MPT X 1/4FPT	For Standard Centrals
L16489	1/2FPT x 1/2FPT	For Heavy Lube Centrals

Extrusion



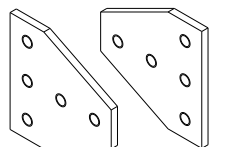
Part Number	Inches	Size
L17366-?	? = inches you need up to 60"	1" x 1"
L18565-?	? = inches you need up to 60"	1" x 2"

Lubricator Components Continued

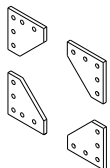
Check Valves

Part Number	NPT	Description
L17293	1/4FPT	35 PSI Brass
L16444	1/8FPT	15 PSI Brass
L17476	1/4NPT	150-350 PSI Brass
L13014	1/4FPT	25 PSI Brass
L16242	1/4MPT x 1/4FPT	10 PSI Brass
L17786	1/4FPT x 1/4FPT	10 PSI Brass

Extrusion Hardware

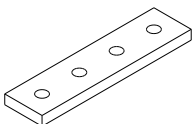


L18208



L17682

L18024



Part Number	Description
L17320	Single Tube Holder
L17322	Double Tube Holder
L17316	End Caps with Fasteners
L17324	1/4-20 Threads Center T-Nut
L18208	5-Hole Joining Plate
L17682	5-Hole Corner Bracket
L18024	4-Hole Support Bracket

Lubricator Valves

Part Number	Type	Description
L17330-6	24 VDC with 6' Cord	Valve Assy. With Bracket
L17424	24 VDC Heavy Lube	Valve Assembly
L17266	120 VAC with Bracket	Valve Assembly
L17636	24 VDC Molded Coil	Valve Assembly

Lubricator Components Continued

Relays

Part Number	Description	Purpose
L20095	General Purpose Relay	For 6D Lube Request
L20096	General Purpose Relay	For Advanced Systems Controller Lube Request
L1116	12V Solid State Relay	See Tech Memo 121
L12420	Reversing Relay	For Power Brushes
L12401	8-Pin On Delay Relay	For Power Brushes
L8186	8-Pin Base Relay	Goes with L12401
L17735	30 Amp Contactor	For Power Brushes
L19229	Relay for L19910	For 5 Amp Power Supply

Tubing

Part Number	Size	Material
L4425	1/4" OD—300 PSI	Clear Nylon
L7349	1/4" OD—2000 PSI	Clear Nylon
L19168	3/8" OD—1000 PSI	Clear Nylon
L7350	3/8" OD—2000 PSI	Clear Nylon
L7346	1/4" OD x .020 Wall	Bundy

Wire

Part Number	Size	Description
L4626	2 Conductor 18 Gauge	Shielded
L4625	3 Conductor 18 Gauge	Shielded
L16420	4 Conductor 18 Gauge	Shielded
L4627	6 Conductor 18 Gauge	Shielded
L20123	10 Conductor 18 Gauge	Shielded
L4628	10 Conductor 22 Gauge	Shielded



Advanced System Controller Owner's Manual

CAUTION: Before using this product, read this manual and follow all Safety Rules and Operating Instructions.

Controller Features & Specifications

Features Advanced System Controllers

Oil resistant key pad input

Two line digital display with digital read out of each channel's status.

Programming security through a four digit security code password.

Four independent channels that may be programmed for machine operating time or count input, and timed steady or pulsed output. Includes a programmable delay functions. Four output faults per channel. Choice between shutdown or override.

Delay function

Automatic pump start on lubricator request

Automatic pump start and stop, after 3 minutes

Specifications Advanced System Controllers

Power Source is 24 VDC supplied from reservoir power supply

Output power: 24 VDC

(EEProm) Programmable Microprocessor (*Does not need battery backup*).

Surrounding ambient temperature cannot exceed 150 F for control units.

Circuitry: Solid State

PLC Interface capabilities

Four independent programmable channels. Maximum four inputs, four outputs per channel with four channels available.

Functions: Cycling, pump activation, manual override for testing, programmable, digital viewing, delay function, power failure memory, fault monitoring, security entry, and timed or pulsed output

Supplying Power

Advanced System Controller

Advanced Systems Head Controllers must have an external power source in order to function such as an Advanced Systems Bullzi Controller or a Power Supply, which will feed the head controller 24VDC. Advanced Systems Controllers are capable of controlling 4 independent channels and are normally mounted on, or near the lubricator it is controlling.

Basic Controller Operation

Advanced Systems Controllers

These controllers are designed so that they may be programmed to lubricate per your settings. Once the settings are established, all functions become automatic and require very little attention.

In general, the lubricator will count individual chain links, trolley bearings, or rollers to determine a complete cycle of the conveyor. The lubricator will remain off until the number of “off cycles” (or non-lubrication cycles) has been obtained and then lubricate for one complete conveyor cycle. It will then go back and start over on the preset number of “off cycles”.

When a controller is in an “off cycle”, the dispenser (valve) will not be operating, however the detection switch will still be operating. When a controller lubrication cycle begins, the Central System will start and supply lubricant to the lubricator. Throughout the lubrication cycle the Central System will continue to supply lubricant to the lubricator. Each time a detection switch is activated, the ejection tube will dispense lubricant onto the desired points. After the lubrication cycle is completed, the ejection tube will stop dispensing lubricant and the Central System will automatically shut off until its next request for lubricant. The Central System also has an automatic “shut-off” should the lubricant tank become empty or should the conveyor stop for over three minutes during the lubrication cycle (Bullzi units only). When the conveyor restarts, the lubrication cycle will also resume where it had left off.

The Central System should be wired to a power source that always remains “on”. Frequent power interruptions do not permit the lubricator to function properly in an automatic position

Advanced Systems Controller: lubrication and fault lights (Mounted on lubricator)

Yellow Indicator lights: - These lights are located on the side of the controller and each light represents an independent channel. During a lubrication cycle channel 1, 2, 3 or 4 lights will blink for the duration that lubricant is being dispensed

Red Indicator light: - This light is located on the side of the controller and represents when the controller has received a fault.

Advanced System Controllers Programming

Advanced Systems Controller Key Functions

Fault: This button is used when the LCD window indicates there is an abnormal condition that was detected by the controller. It is also used to verify there are no abnormalities.

Ten-Number Keypad: Like a calculator keypad, the ten number buttons (0 – 9) and the decimal button are used to enter numeric digits.

Number 0: This button has a second function as a cycle button to restart a channel and should only be used by an authorized LubeCon Service Representative in this way.

Number 7: This button has a second function as a test button that shows a 5-minute simulation of a particular channel's program. Qualified service personnel should perform this test.

Enter: This button is used to conclude a step in programming to store data into memory. Allows the user to go to the next stage of programming.

Program: This button is used to enter the programming mode. A menu of step-by-step instructions aids the programmer in entering information for each channel.

View: This button allows the programmer to review all the program settings that have been entered for a particular channel.

Cursor Buttons: This button allows you to navigate left and right, which makes it possible to scroll through settings, commands and options.

Clear: This button is used to cancel or erase data, information or programming operations.



Advanced System Controllers Programming Continued

LCD (Liquid Crystal Display) Window:

This window provides important information including channel selection, function selection, programming steps, fault detections and channel status. Once the unit has power, it will continually scroll through channels, displaying each channel's status at the time ("real time"). If user scrolls to a particular channel, the display will show that channel's real time activity for 30 seconds. It will then continue scrolling through all channels.

The LCD Window features backlighting, making it easy to view when ambient light is low.

CHANNEL # 1   ZZ !
"Channel status"

Channel Number:

This area identifies the channel number that is being viewed or programmed.

Symbols:

 : Indicates a lubrication cycle is in progress.

ZZ: Indicates the controller does not have an input/machine run contact. (Timer mode only)

 : Indicates the controller is not in a lubrication cycle. Controller is in an off-cycle counting or timing down until next lubrication cycle.

LL: Channel is in a low-lube fault

MC: Channel is in a monitor fault

! : Channel is faulted, incorrectly programmed or otherwise not working

Channel Status:

This area indicates the status of a particular channel at any given time. This area continually scrolls...

Restarting Channels Manually: (Turning ON or OFF Lubrication Cycle's)

Note: All ASC controllers have 4 independent outputs.

1. Determine which output to manually activate into a lubrication cycle
2. Press "0" on keypad; display will read **"Restart Channel" 1,2,3,4**
3. Cursor to the selected channel of choice (1 2 3 4 Exit) then press Enter

Note: To activate all outputs – Repeat steps 2 and 3 for each output

4. All outputs that are manually activated will continue to lubricate until pre-programmed cycle ends.
5. To stop an output during a lubrication cycle – Repeat steps 2 and 3.

Note: Step 5 will only stop the lubrication cycle for the pre-programmed off cycles and then return to a lubrication cycle.

If output fails to start, verify that switch is clean and sending a signal to controller.
(Indicator light on switch and controller will blink when activated).

Advanced System Controller Programming Continued

PROGRAMMING MODE FOR "COUNTER" (This mode is used for conveyors only)

Close panel door on the controller and press "Program" button.

The display will show: **Password needed to edit:**

Press "1 2 3 4" on keypad then press "enter"

The display will show: **Program Channel:
1 2 3 4 Exit**

Cursor to "1 2 3 4 or Exit" then press "enter". *Use the left/right arrow keys to cursor. (Example, if you select 1, you are programming channel 1)*

NOTE: (If you choose to exit, you may return to programming mode within 30 seconds without reentering a security code. If no activity for 30 seconds, controller will automatically exit programming mode.)

The display will show: **Chan 1 run mode
Timer/Counter**

The display shows Chan 1 because we have selected channel 1 during the select Program Channel function above. If you were to select another channel, the screen will then show Chan 2, 3, or 4.

Cursor to "Counter" and press "enter"

The display will show: **Chan 1 on counts
##**

Use the keypad to "enter" enter number of on counts (1 - 64999) then press

The display will show: **Ch #1 off cycles
#**

Use the keypad to enter number of off cycles (1 - 64999) then press "enter"

The display will show: **Chan 1 on time
##.##.###**

Use back arrow to display Hours, Minutes and Seconds

The display will show: **Chan 1 on time
HH:MM:SS**

Use the arrow keys to enter Hours, Minutes or Seconds, then hit "enter"

Advanced System Controller Programming Continued

PROGRAMMING MODE FOR "COUNTER" CONTINUED

The display will show:

Ch #1 lube delay
##.###

Lube delay option should be adjusted and set by a LubeCon representative to precisely make lube shot/target adjustments.

Use the keypad to enter the "lube delay" (##.###) then press "enter"

NOTE: 0 = No dispense time, .001 = 1 millisecond, .01.000 = 1 second, 01.00.000 = minutes, 01.04.00 max

The display will show:

Inter-count del.
##.###

Normally set at zero. See Representative for setting.

Use the keypad to enter the "internal count delay" (##.###) then press "enter"

The display will show:

Low Lube Shutoff
Enable/Override

Normally set on override.

Cursor to "Enable/

Override" then press "enter"

The display will show:

Shutoff
Enable/Override

Normally set on override.

Cursor to "Enable/

Override" then press "enter"

If changes are made, display will show:

Confirm changes?
Yes/No

If no changes are made, display will

show:

Restart channel?
Yes/No

Cursor to "Yes/No" then press "enter"

The display will show:

Cursor to "1 2 3 4 Ex-

select the next chan-

Program channel:
1 2 3 4 Exit

it" then press "enter". *Here is where you would then
nel you want to program*

The display will show:

CHANNEL # 1  **ZZ !**
"Channel status"

NOTE: The display
er channel you have
example screen.

shown above would actually show whatever
selected. Channel #1 is shown as just an

Repeat steps to program other channels or exit.

Advanced System Controller Programming Continued

PROGRAMMING MODE FOR "TIMER"

Close panel door on the controller and press "Program" button.

The display will show: **Password needed to edit:**

Press "1 2 3 4" on keypad then press "enter"

The display will show: **Program Channel:
1 2 3 4 Exit**

Cursor to "1 2 3 4 or Exit" then press "enter". *Use the left/right arrow keys to cursor. (Example, if you select 1, you are programming channel 1)*

NOTE: (If you choose to exit, you may return to programming mode within 30 seconds without reentering a security code. If no activity for 30 seconds, controller will automatically exit programming mode.)

The display will show: **Chan 1 run mode
Timer/Counter**

The display shows Chan 1 because we have selected channel 1 during the select Program Channel function above. If you were to select another channel, the screen will then show Chan 2, 3, or 4.

Cursor to "Timer" and press "enter"

The display will show: **Chan 1 on mode
Time/Counts**

Cursor to "Time" then press "enter"

The display will show: **Chan 1 on time
###.##.##.###**

Use the keypad to enter number of "on time" (##.##.####) then press "enter"

NOTE: Use back arrow to display Hours, Minutes and Seconds

The display will show: **Chan 1 off mode
Time/Counts**

Advanced System Controller Programming Continued

PROGRAMMING MODE FOR "TIMER" CONTINUED

Cursor to "Time" then press "enter"

The display will show: **Chan 1 off time**
###.##.###

Use the keypad to enter number of "off time" (##.##.###) then press "enter"
NOTE: Use back arrow to display Hours, Minutes and Seconds

The display will show: **Chan 1 pulse opt**
Pulse/Cont.

Cursor to "Pulse" or "Cont." then press "enter"
NOTE: If 'Cont.' has been selected, skip to "Chan 1 off pulse" step below

The display will show for pulse: **Chan 1 on pulse**
##.###

Use the keypad to enter "on pulse" time (##.##.###) then press "enter"
NOTE: Use back arrow to display Hours, Minutes and Seconds

The display will show: **Chan 1 off pulse**
##.###

Use the keypad to enter "off pulse" time (##.##.###) then press "enter"
NOTE: Use back arrow to display Hours, Minutes and Seconds

The display will show: **Chan 1 mon count**
#

Use the keypad to enter number of "mon counts (1 - 64999)

The display will show: Use "Enable" if programming for greaser

Cursor to "Enable/" **Mon—fail shutoff**
Enable/Override Override" and then press "enter"

The display will show: Use "Override" always

Low-lube shutoff
Enable/Override

Advanced System Controller Programming Continued

PROGRAMMING MODE FOR "TIMER" CONTINUED

Cursor to "Enable/Override" then press "enter"

The display will show:

**Press shutoff
Enable/Override**

Use "Override" always

Cursor to "Enable/Override" then press "enter"

If changes are made, display will show:

**Confirm changes?
Yes/No**

If no changes are made, display will show:

**Restart channel?
Yes/No**

Cursor to "Yes/No" and then press "enter"

The display will show:

**Program channel:
1 2 3 4 Exit**

Cursor to "1 2 3 4 Exit" then press "enter". *Here is where you would then select the next channel you want to program*

The display will show:

**CHANNEL # 1   ZZ !
"Channel status"**

NOTE: The display
er channel you have
example screen.

shown above would actually show whatever
selected. Channel #1 is shown as just an

After selecting next channel repeat steps.

Advanced System Controller Clearing Faults

If a fault condition occurs, the LCD screen and fault light will indicate that a fault has occurred. The LCD screen will also display the fault type for the channel at fault. Below are a list of the fault types and descriptions (see the Troubleshooting Guide for help in solving faults):

Lubricator System - Faults

Low Lube - Low reservoir fluid. This fault automatically resets upon ample fluid level.

Pressure Fault - High or low pressure in lubrication line or system.

Monitor - This fault is normally caused by a cycle monitoring device (e.g. cycle switch) that did not complete a preset number of cycles before going into an off cycle.

Upon receiving a fault, first verify the origin of the fault (see Troubleshooting Guide section for ideas) and correct. To clear a fault, follow the steps below:

1. Press the keypad button labeled "1" or "Fault"
2. Scroll to the channel that has the fault using the arrow left or right keys.
3. Press the "Enter" key to check/verify/clear any channel faults.
4. If a fault exists, a notice will display listing the type of fault. To clear the fault, scroll to "Yes" and press the "Enter" key.
5. If you return to the "check faults" menu after pressing "Enter", then the fault was successfully cleared and you may exit the menu.
6. If you receive a message "Fault input is still asserted", then the fault has not been corrected and a problem still exists. Fix the problem, then repeat the steps above.

Basic Controller Assembly & Wiring

ITEM	PART #	COMPONENT DESCRIPTION	QTY	UOM
1	26040	ENCLOSURE 8X10 STL ASC	1	EA
2	21108	CIRCUIT BD 8MM LED 5 LIGHT	1	EA
3	21179	HLDR LED FOR 8MM USED W/ L21108 & L21109	5	EA
4	12000	BLANK SNAP-IN METAL 1/2" STD	3	EA
5	26196	OVERLAY W/GASKET 16 KEYPAD 3M ADH BIK	1	EA
6	17537	SPCR NYL#6 1/4" OD .11" ID LENGTH	4	EA
7	24255	NUT 6-32 NYLK GRADE 2 STL	4	EA
8	18913	CIRCUIT BD ASC DISPLAY CPU DOOR	1	EA
9	18911	RIBBON CBL SMARTLUBE CRCT BD	1	EA
10	19815	MNT WIRE TIE STICKY BACK	1	EA
11	26063	DECAL SHT ASC PNL ASSY MATTE LAM WHITE*	1	EA
13	26078	PNL ASSY ASC STL ENCLOSURE NO IFC	1	EA
15	4312	CONN CORD 1/2" NPT STRAIGHT	3	EA
16	4624	NUT 1/2" LK	3	EA
17	1023	CORD PWIR 16 GA WPLUG 3 COND BLK 8 FT *	1	EA
18	26055	DECAL ASC STL ENC FAULTCHNL 350 ADHV	1	EA
19	25725	DECAL ASC CNTRLR MATTE LAMINATED VINYL*	1	EA
20	17520	CONN COND 3/8 90 DEG NON-METALLIC	2	EA
	12611	TIES WIRE 4 33/64"	1	EA
	19895	TRIMNL FEW 22-18 AWG DISCONN PUSH ON INS	1	EA
	12605	TRIMNL SPADE TONGUE 22-18AWG RED #6 STUD	3	EA

CARE PACKAGE

1	20071	HARDWARE PACKAGE SMARTLUBE
1	19119-ET	CUSTOMER WIRING SCHEMATIC
1	18119-2DA	CUSTOMER WIRING SCHEMATIC

WIRING SCHEMATICS

19119-ET	IN-HOUSE WIRING SCHEMATIC

NOTE(S):

- INSERT POWER CORD THROUGH CORD GRIP FURTHEST BACK LEFT (A) AND ATTACH WIRE FORKS TO POWER CORD.
- DISCARD REMAINING DECALS (D3,D5,D6,D7) ON ITEM 11.
- ATTACH RING TERMINALS FROM PANEL ASSEMBLY WIRE HARNESS TO ENCLOSURE AND DOOR GROUND STUDS USING HEX NUTS PROVIDED WITH STEEL ENCLOSURE.

REVISIONS	
DATE	Revision Description
4/18/22	CHANGED OVERLAY 17233 TO 26196
1/10/22	REMOVED 12000. ADD 17520
11/5/21	ADD 12000 HOLE PLUG TO AUX HOLE
9/24/20	REMOVE 1024, 17538 - BRKT MNT ENCLSR
9/17/20	REMOVED 18852, 18851, 15300 - MTD BRKT ENCL
10/15/19	STEEL ENCLOSURE UPDATE

Phone: 1-800-582-3265

REVISION:

REV. BY: SAJ

REV. DATE: 4/18/22

DRAWN BY: TEH

TOLERANCE:

XX ± .02

XXX ± .005

XX ± .132

UNLESS OTHERWISE SPECIFIED

DATE:

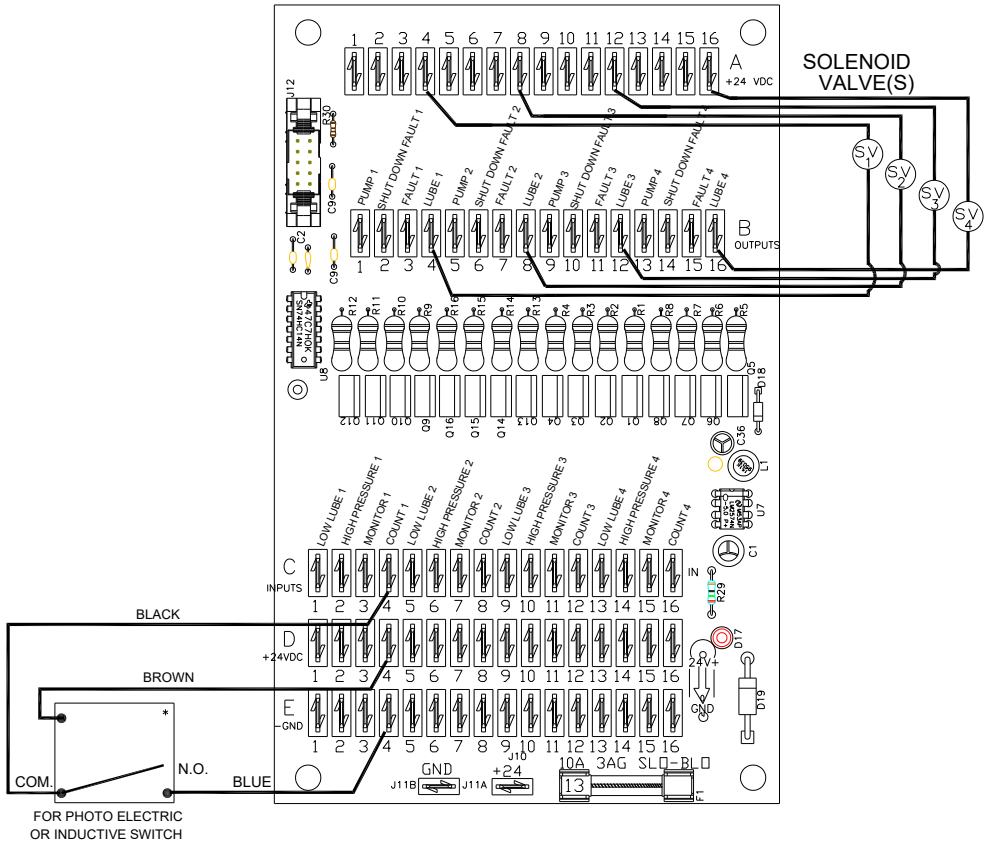
1/10/00

CONTRLR, ASC 6.5AMP

DRAWING #: 19119

Basic Controller Assembly & Wiring Continued

ADVANCED SYSTEM CONTROLLER CIRCUIT BOARD



SWITCH WILL BE WIRED TO COUNT 1 FOR VALVE #1
SWITCH WILL BE WIRED TO COUNT 2 FOR VALVE #2
SWITCH WILL BE WIRED TO COUNT 3 FOR VALVE #3
SWITCH WILL BE WIRED TO COUNT 4 FOR VALVE #4

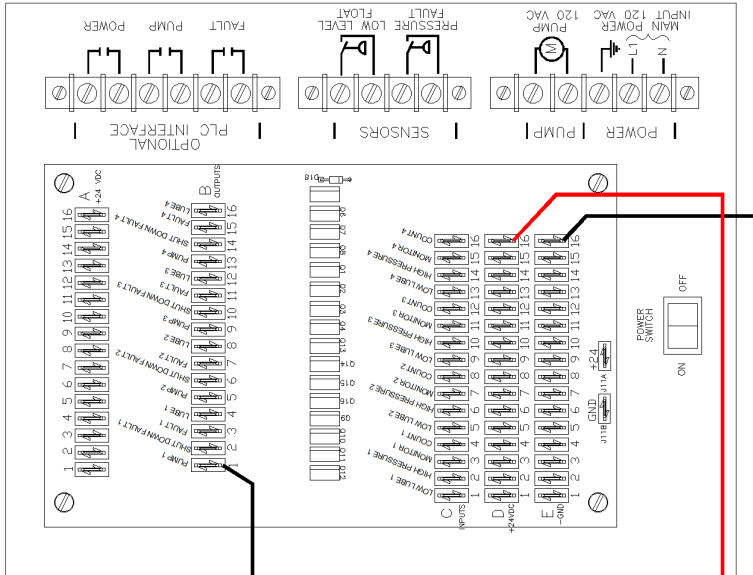
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REVISION:	TOLERANCE:		CUSTOMER WIRING
REV. BY :	.XX ± .02		
REV. DATE:	.XXX ± .005		
	X/X ± 1/32		
DRAWN BY : SAJ	DATE: 10/19/23	UNLESS OTHERWISE SPECIFIED	Phone: 1-800-582-3266
			DRAWING #: 19119-E44

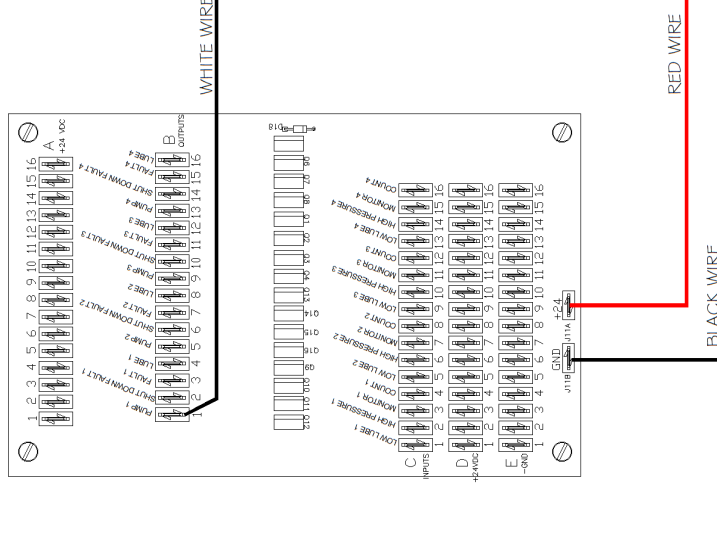
Basic Controller Assembly & Wiring Continued

TYPICAL WIRING BETWEEN ASC BULLZI CONTROLLER AND ASC HEAD CONTROLLER

ADVANCED SYSTEM BULLZI CONTROLLER



ADVANCED SYSTEM HEAD CONTROLLER



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REV. DATE: X/X ± 132

REVISIONS

DATE: 3/17/06

SAJ

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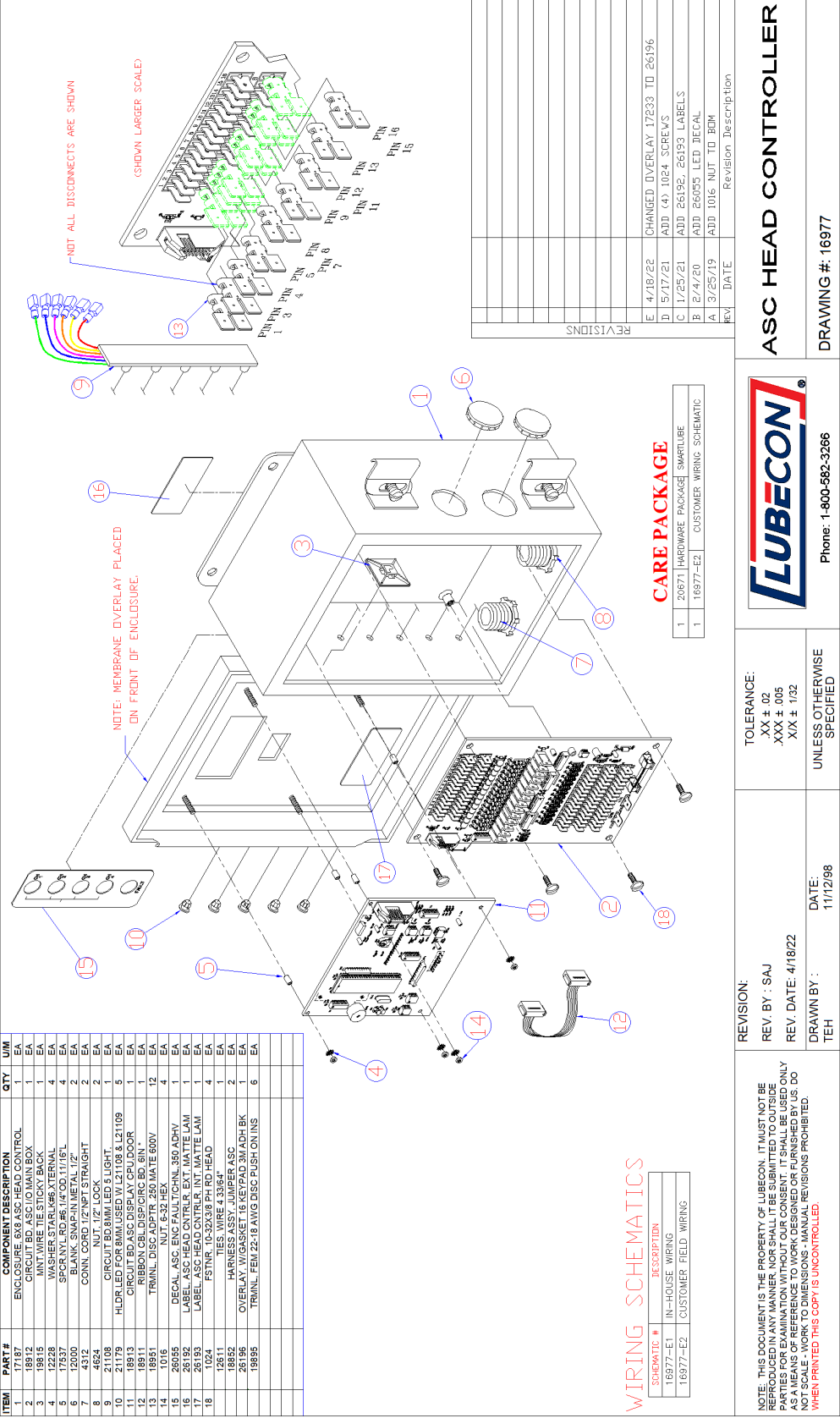
Phone: 1-800-562-3266

LUBECON

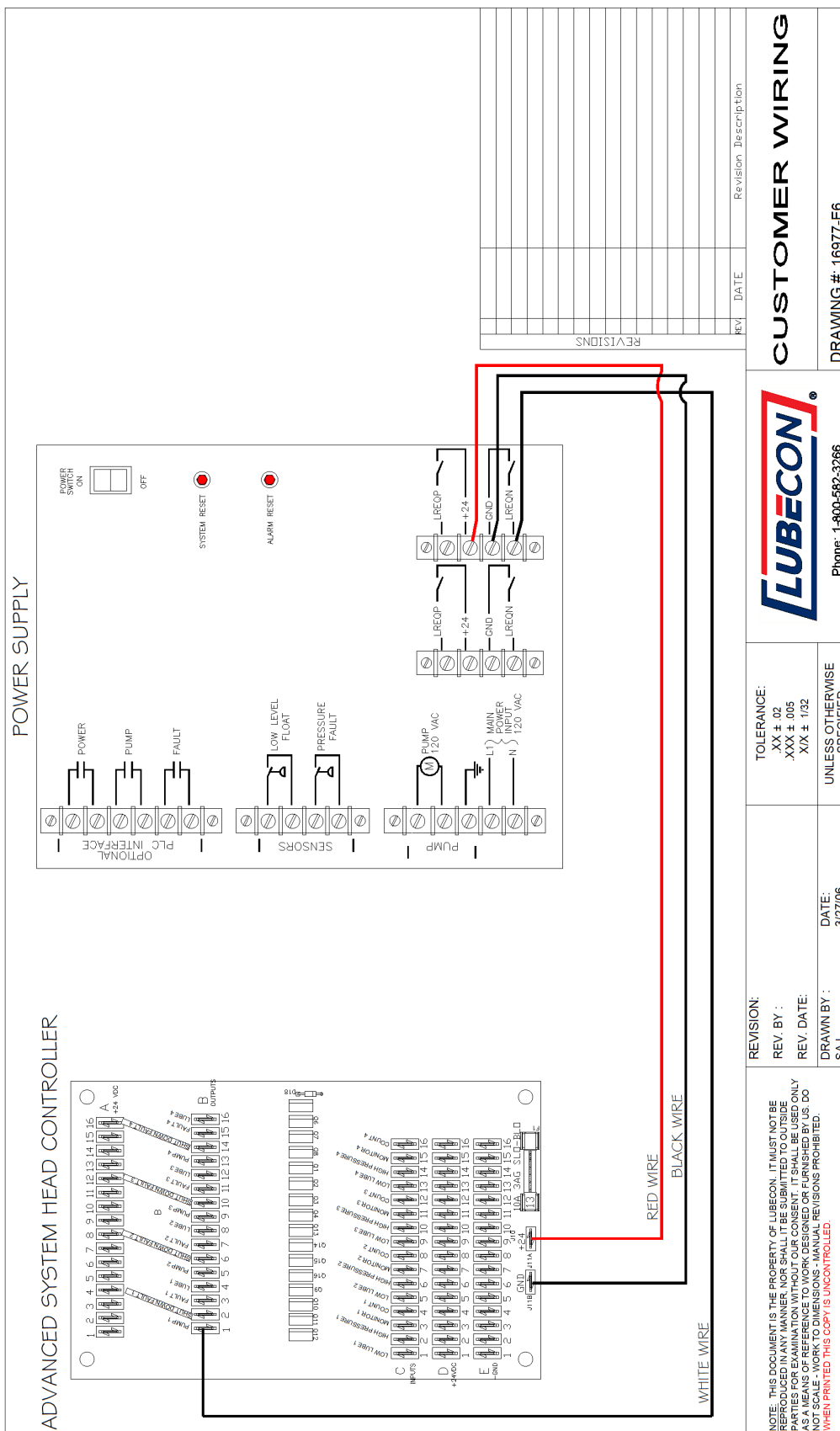
CUSTOMER WIRING

DRAWING #: 19119-E13

Basic Controller Assembly & Wiring Continued



Basic Controller Assembly & Wiring Continued



Troubleshooting Guide

Advanced System Controller

Symptom	Possible Cause	Corrective Action
Blank or No Display	No 24VDC power being supplied to controller (Head controller only)	Check for incoming 24 VDC from power supply
	Power switch is turned off (Bullzi controller only)	Turn power switch on
	Display intensity is turned down	Adjust display intensity pot on back of circuit board
	Bad LCD display	Replace circuit board #L18913
	Bad controller circuit board	Replace circuit board #L18912
Lubricator valve will not fire	Is output LED on side of controller working?	If yes, check valve wiring and valve
	Controller not programming properly	Check programming instructions
	Bad or misaligned photo switch	Check photo switch operation
	Bad controller circuit board	Replaced controller circuit board #L18912
Controller will not turn pump motor on	Controller has a fault condition	Clear all fault conditions or override in programming
	Controller not in lube cycle	Check to be sure controller is in a lube cycle
	Pump output not wired properly	Check wiring (check for jumpers between channels)
	Pump motor relay is bad (Bullzi only)	Replace pump motor relay #L18825
Cannot clear a fault condition	Sensor is maintained in fault condition	Be sure sensor is clear (example, check low level sensor)
	Sensor is wired incorrectly	Check sensor wiring
	Bad controller circuit board	Replace controller circuit board
Pump motor will not shut off	Controller is in a lube cycle	Check controller display for lube cycle status
	Controller pump output is faulty	Replace controller circuit board
	Pump motor relay is faulty (Bullzi only)	Replace pump motor relay #L18825
Display and pump motor pulse on & off during power up	Power supply is under rated. (Too many valves)	Review system for power requirements
	Faulty valve or switch (shorted out)	Replace faulty component
	Shorted wire	Check wiring for shorts
Advanced System Controller will not accept a program	Keypad is faulty	Replace keypad #L17233
	Advanced System Controller CPU chip is faulty	Replace controller CPU chip #L19744
	Advanced System Controller circuit board is faulty	Replace controller circuit board #L18913

Before replacing any parts, make sure to check with manufacturer for confirmation on corrective action



Central Systems Owner's Manual

CAUTION: Before using this product, read this manual and follow all Safety Rules and Operating Instructions.

Reservoir Features & Specifications

Features for Central Systems, and Single Line Unit (SLU)

All electronic - No air

On-off power switch

Monitor indicators

Automatic stop & start

Filtered & vented reservoir fill cap

Heavy duty steel reservoirs

Level gauge

In-line check valve and filter

Pressure regulator

Optional PLC interface contacts

Low lube level indicator and signal

Specifications for Central Systems (excluding SLU units)

120 VAC, 60 hz, minimum 15 amp circuit

Lubricant Viscosity Range: 30 to 100 SUS at 100°F for all reservoirs. Heavy lube systems will accommodate 30 to 1200 SUS at 100°F.

Primary filtration: 50 mesh

Pump unit: Pre-mounted on reservoir

Pump motor: 1/3 HP TEFC for standard and heavy viscosity units

Pump: Gear, 1/2 GPM, 0-200psi standard units and 1/2 GPM, 0-1000psi heavy lube units

Power supply/motor controller: 120 VAC input, 24 VDC output (*other primary voltages available*)

Reservoir capacity: 12, or 55 gallons

Pressure gauge: Stainless steel, liquid filled

Reservoir material: 11 ga. steel with fork lift legs

Lubricant level: Electronic sensor for “low level” alarm, automatic shutdown and level gauge or indicator

Installation

Installing of a Centralized Pumping Station

After placing the Central System at the desired location, only the lubricant supply line and a low voltage control cable needs to be connected to the Central System. The Central Systems have been pre-wired and tested, so that no internal connections are required except for those indicated.

Attach the lubricant supply line by pushing the tubing firmly into the quick connect fitting located next to the pump motor. Push the tubing in as far as possible. Then, attempt to pull the tubing out; this operation will seal the connection. The fitting is a reusable, self-locking fitting. Should the tubing have to be removed at anytime, push in on the fitting's collar while pulling out on the tubing.

A lubricant supply line and a low voltage control cable must be installed to connect the Central System to the lubricators. When several lubricators are being supplied from the same Central System, only one lubricant supply line is required to connect the Central System to all the lubricators. This method of attaching lubricators is referred to as multi-drop. You may think of multi-drop as one long supply line where lubricators may be attached at any point along the line.

The lubricant supply line is usually a flexible nylon line with a diameter of 1/4 inch. Steel or copper tubing should be used if high temperatures exist. The control cable supply line is usually fastened overhead, among the structural components of the building. Wire tie-wraps and beam clamps are common methods employed to fasten the supply line; sharp bends could prevent flow of lubricant and prevent proper operation of the system.

When installing the lubricant supply lines, tape the ends of the tubing closed to prevent contamination. Leave an additional two feet of lubricant supply line and cable at each end until the final connections are made.

The central System will not operate if the lubricant reservoir is empty. A flashing red light on the pump controller will indicate this fault condition. Fill reservoir with the proper lubricant recommended by manufacturer. Make sure to check with manufacturer when considering changing lubricants to make sure you do not void any equipment warranty(s).

CONNECTING THE ELECTRICAL POWER

The Central System should also be connected to a 120VAC, 15 amp power source. This connection is made through the central systems controller which is built with a 3 prong standard outlet plug. (Standard systems only)

IMPORTANT

Incoming power sources to the Central System should be clean, continuous and without interruptions.

Lubrication System Set-Up & Maintenance

Start-Up Procedure and Initial Settings

1. Fill reservoir with the proper lubricant.
2. Turn the Central System "ON/OFF" switch to the "ON" position.
3. Once the Central System is turned on it will now feed 24vdc to all of the controllers mounted on or near the lubricators. At this point it is time to program all of the controllers per your specifications. (Refer to programming instructions)
4. Once you have programmed your controllers the system is ready to be purged. To purge the system you will need to make sure your controller is in an "on cycle" and that the switch is detecting the correct part of the chain passing by. Now that your controller is in an "on cycle" it will send a request to the central pumping station to turn on and dispense lubricant to all of the lubricators. It may take a few minutes for the lubricant to reach each lubricator and for the air to be purged through the tubes.
5. To adjust system pressure you will need to adjust the regulator located on top the central pumping station.
6. Allow sufficient time on the initial start-up for the pump to prime and air to be flushed out the capillary lines. Ejection tube outlets from any valve should be at the same height. This prevents the lower tubes from dripping due to a higher tube outlet venting air into the line.
7. Once all of the tubes have been purged of air and are dispensing lubricant, adjust the Central System regulator to achieve desired pressure. The system pressure along with valve "on" and "off" times will help determine the type of shot that will be dispensed from the Ejection tubes.
8. Once the system is dispensing lubricant at the desired pressure and settings, make sure all of your Ejection tubes are correctly aimed at the points on the chain. Good practice is to slightly lead the chain so that any lubricant "tail" that may exist will not drop through an opening in the chain.

SYSTEM MAINTENANCE

Although your LubeCon lubricator is virtually maintenance free, it is advisable to routinely check to see that the lubricant being dispensed is hitting the correct spot. If not, readjust the dispensing tubes so that they will hit the desired points. Service and extended warranties are available through your LubeCon Account Manager, call **1-800-582-3266** for more information.

Clean (or replace) all lubricant filters every two years, or as required.

Check for visible damage caused by the conveyor or debris that the conveyor may have dragged through the lubricator.

Keep the lubricant reservoir filled. Routine topping off of the reservoir prevents automatic shutdown caused by an empty tank.

Visually inspect to ensure that all dispensing tube outlets, from any one solenoid valve, are to be at the same level. This will prevent the lower tubes from dripping.

Keep the dispensing tubes as short as possible. Excessive lengths decrease the lubricant velocity as it leaves the dispensing tube ends, and may create a slight "tail".



LubeCon USA, LLC Warranty

LubeCon USA, LLC warrants its equipment for a period of one-year (parts and service) from date of sale against defects in material or workmanship, providing the appropriate LubeCon lubricant or an equivalent lubricant is used. If LubeCon is given prompt written notice of a breach of this warranty within the one-year period, LubeCon shall, at its sole option and as your sole remedy, repair or replace the equipment or refund your purchase price. If LubeCon determines that any claimed breach is not, in fact, covered by this warranty, you shall pay LubeCon the then customary charges for repair or replacement made by LubeCon. This warranty is conditioned on you (a) maintaining, storing and using the equipment in accordance with LubeCon's instructions, (b) not making any unauthorized repairs or alterations to the equipment, and (c) not being in default of any payment obligations to LubeCon. THE WARRANTY SET FORTH IN THIS SECTION IS LUBECON'S SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO THE EQUIPMENT. LUBECON MAKES NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, TO ANY PARTY, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE WITH RESPECT TO THE EQUIPMENT. NOTWITHSTANDING ANYTHING ELSE TO THE CONTRARY, LUBECON SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR OTHER INDIRECT DAMAGES, AND LUBECON'S TOTAL LIABILITY ARISING AT ANY TIME FROM THE SALE OR USE OF THE EQUIPMENT SHALL NOT EXCEED THE PURCHASE PRICE PAID FOR THE EQUIPMENT. THESE LIMITATIONS APPLY WHETHER THE LIABILITY IS BASED ON CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY.

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Please call the LubeCon office
at (231) 689-0002.

1-800-LUBECON to request a formal quotation,
or if additional information is required.

Also, LubeCon USA, LLC offers extended warranty programs to keep your equipment running smoothly at a cost effective price. Please contact your local account manager for details.

LubeCon USA, LLC
201 N. Webster
White Cloud, MI 49349
1-800-582-3266 or 231-689-0002