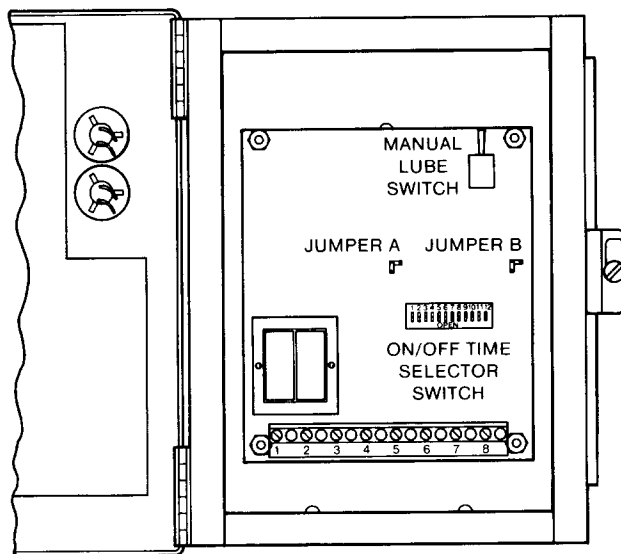


**SPECIFICATIONS**

<b>Electrical</b> .....	120/230 VAC 50/60 Hz
<b>Switch Ampacity</b> .....	5 amps, 120 VAC 1.5 amps, 230 VAC
<b>Temperature Range</b> .....	0°F to 131°F (-18°C to 55°C)
<b>Enclosure</b> .....	NEMA 1
<b>Cycle Time</b> .....	20 sec. minimum to 24 hr. maximum
<b>On Time</b> .....	10 sec. minimum to 1 min. 24 sec. maximum
<b>Prelube On Time</b> .....	40 seconds
<b>Memory Time</b> .....	3 hours



**FIGURE 1**

**OPERATION**

Model 84501 Program Timer is used to program the lubrication cycle frequency of single stroke lubricant pumps. Lube cycles will be determined by the setting on the "On/Off" Time Selector rocker switches. "On/Off" times should be

selected to meet system requirements (see Time Selection). During the "On" time the solenoid valve or load device (not part of timer) connected to terminals 7 & 8 is energized (amber L.E.D. will light).

**FEATURES**

**Memory/Prelube**

Timer has the capability of retaining memory for 3 hours during machine shut down or power failure. Timing is suspended during power interruptions. This feature eliminates over lubrication due to prelube (prelube occurs when power is applied to timer) when machine is frequently started and stopped.

Using two programmable jumper pins, four options are available with the memory and prelube feature.

**Jumper Pin A**

- Vertical Position - Memory On
- Horizontal Position - Memory Off

**Jumper Pin B**

- Vertical Position - Prelube On
- Horizontal Position - Prelube Off

**Option 1**

- Memory On - Jumper Pin A/Vertical Position.
- Prelube On - Jumper Pin B/Vertical Position.
- Prelube only occurs if power has been off longer than 3 hours.

**Option 2**

- Memory On - Jumper Pin A/Vertical Position.
- Prelube Off - Jumper Pin B/Horizontal Position.
- When timer has been off longer than three hours the next lube cycle will occur after the full amount of Off Time has timed out.

**Option 3**

- Memory Off - Jumper Pin A/Horizontal Position.
- Prelube On - Jumper Pin B/Vertical Position.
- When power is applied a prelube cycle is initiated.

**Option 4**

- Memory Off - Jumper Pin A/Horizontal Position.
- Prelube Off - Jumper Pin B/Horizontal Position.
- When power is applied the first lube cycle will occur when the full amount of Off Time has timed out.

## TIME SELECTION CHART

ON TIME	OFF TIME	CLOSE SW #	SWITCH #11	SWITCH #12	ON TIME	OFF TIME	CLOSE SW #	SWITCH #11	SWITCH #12
10 SEC	20 SEC	1	CLOSED	CLOSED	1 MIN	2 MIN	1	OPEN	CLOSED
10 SEC	40 SEC	2	CLOSED	CLOSED	1 MIN	4 MIN	2	OPEN	CLOSED
10 SEC	1 MIN 20 SEC	3	CLOSED	CLOSED	1 MIN	8 MIN	3	OPEN	CLOSED
10 SEC	2 MIN 40 SEC	4	CLOSED	CLOSED	1 MIN	16 MIN	4	OPEN	CLOSED
10 SEC	5 MIN 15 SEC	5	CLOSED	CLOSED	1 MIN	32 MIN	5	OPEN	CLOSED
10 SEC	10 MIN 30 SEC	6	CLOSED	CLOSED	1 MIN	1 HR 4 MIN	6	OPEN	CLOSED
10 SEC	21 MIN	7	CLOSED	CLOSED	1 MIN	2 HR 9 MIN	7	OPEN	CLOSED
10 SEC	42 MIN	8	CLOSED	CLOSED	1 MIN	4 HR 18 MIN	8	OPEN	CLOSED
10 SEC	1 HR 24 MIN	9	CLOSED	CLOSED	1 MIN	8 HR 35 MIN	9	OPEN	CLOSED
10 SEC	2 HR 48 MIN	10	CLOSED	CLOSED	1 MIN	17 HR 9 MIN	10	OPEN	CLOSED
34 SEC	1 MIN 8 SEC	1	CLOSED	OPEN	1 MIN 24 SEC	2 MIN 48 SEC	1	OPEN	OPEN
34 SEC	2 MIN 16 SEC	2	CLOSED	OPEN	1 MIN 24 SEC	5 MIN 36 SEC	2	OPEN	OPEN
34 SEC	4 MIN 30 SEC	3	CLOSED	OPEN	1 MIN 24 SEC	11 MIN 12 SEC	3	OPEN	OPEN
34 SEC	9 MIN	4	CLOSED	OPEN	1 MIN 24 SEC	22 MIN 30 SEC	4	OPEN	OPEN
34 SEC	18 MIN	5	CLOSED	OPEN	1 MIN 24 SEC	45 MIN	5	OPEN	OPEN
34 SEC	36 MIN	6	CLOSED	OPEN	1 MIN 24 SEC	1 HR 30 MIN	6	OPEN	OPEN
34 SEC	1 HR 12 MIN	7	CLOSED	OPEN	1 MIN 24 SEC	3 HR	7	OPEN	OPEN
34 SEC	2 HR 24 MIN	8	CLOSED	OPEN	1 MIN 24 SEC	6 HR	8	OPEN	OPEN
34 SEC	4 HR 48 MIN	9	CLOSED	OPEN	1 MIN 24 SEC	12 HR	9	OPEN	OPEN
34 SEC	9 HR 35 MIN	10	CLOSED	OPEN	1 MIN 24 SEC	24 HR	10	OPEN	OPEN

### TIME SELECTION (refer to Fig. 1)

Determine "On" time (time solenoid valve or load device is energized) and "Off" time (time between lube cycles) for system requirements. Select appropriate "On" time from Time Selection Chart and set rocker switches #11 and #12 accordingly. Select "Off" time corresponding to "On" time and close the switch from #1 to #10 indicated in chart. **Only one** switch from #1 to #10 should be closed.

### WIRE CONNECTIONS

#### Power Source - Terminals 1 & 2.

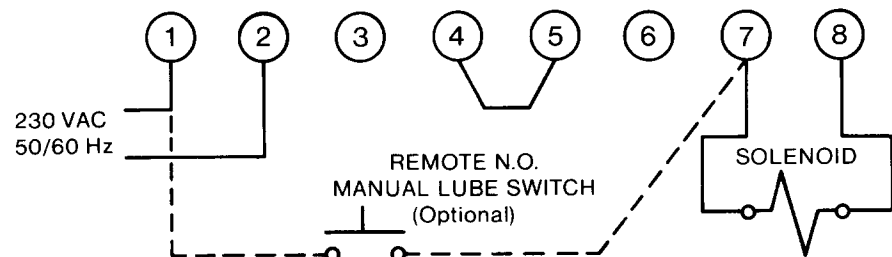
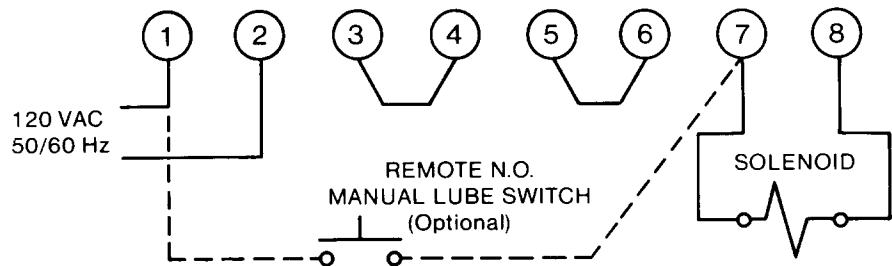
120 VAC, 50 or 60 Hz. Connect jumper wire between Terminals 3 & 4 and between Terminals 5 & 6.

230 VAC, 50 or 60 Hz. Connect jumper wire between Terminals 4 & 5.

Solenoid Valve or Load Device - Terminals 7 & 8. Max. Load 120/240 VAC at 360 Volt-amperes.

Remote Manual Lube Pushbutton Switch (Momentary N.O.) - Terminals 1 & 7.

### WIRING DIAGRAMS



### MANUAL LUBE (refer to Fig. 1)

Push the manual lube switch (inside enclosure) or optional remote manual lube switch and hold to initiate a lube cycle. Solenoid will remain energized as long as manual lube switch is actuated.

### LED STATUS

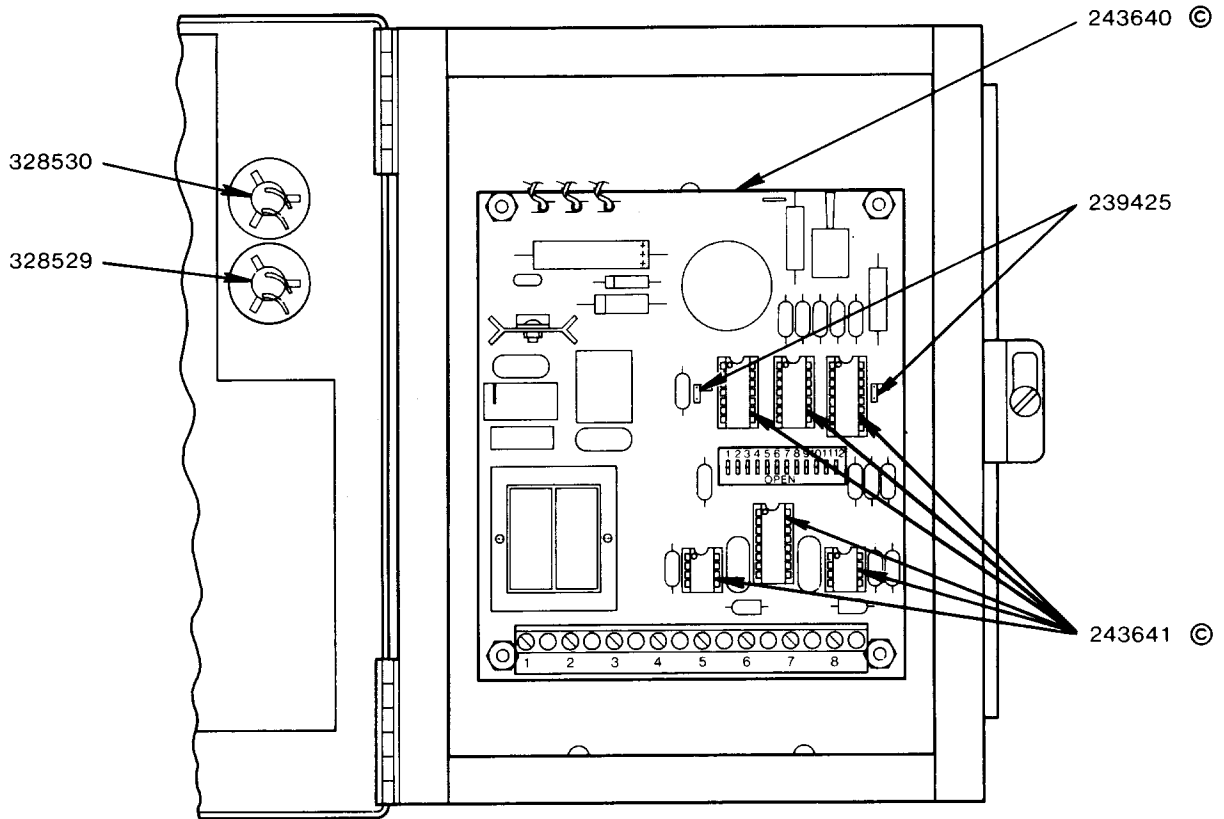
Green L.E.D. indicates Power On.  
Amber L.E.D. indicates Pump On.

### SURGE SUPPRESSOR/ SHIELDED WIRE

If "Electrical Noise" problems are encountered when controlling an inductive device, it is recommended that a surge suppressor be installed across that device.

It is recommended that shielded wire be used on input/output lines to reduce problems with electrical noise.

**NOTE:** Numbers in circles represent corresponding numbers on terminal strip inside timer enclosure.



© Indicates Change

### SERVICE PARTS

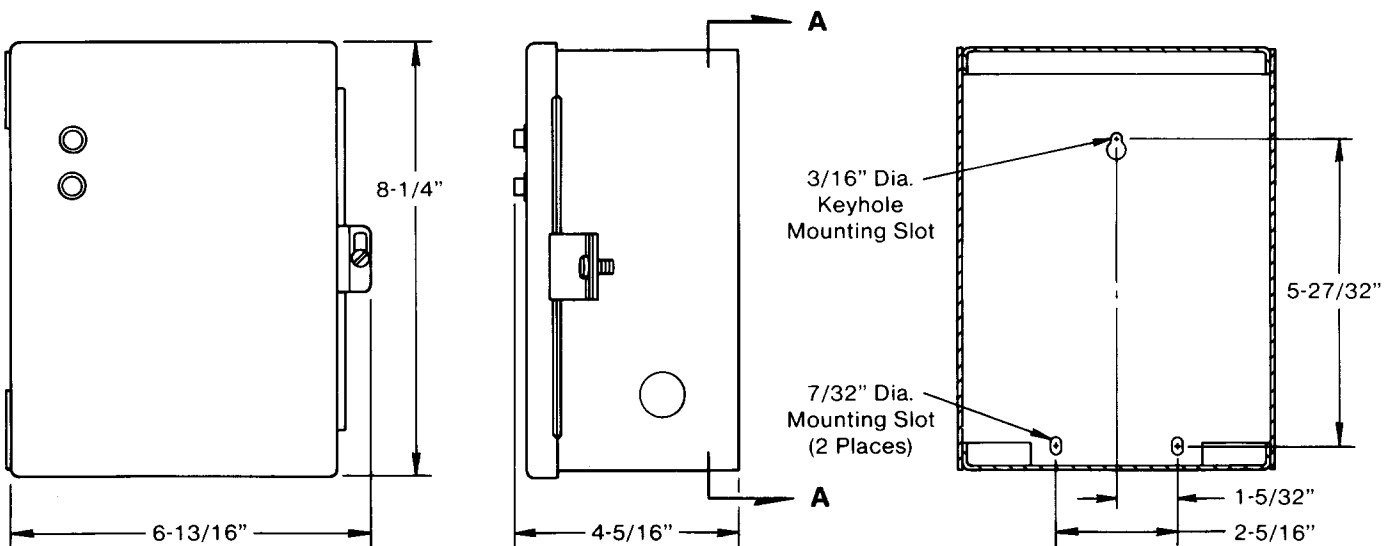
Part	Description
239425	Jumper shunt (strip of ten)
243640	Circuit board (includes all integrated circuits)
243641	Integrated circuits (one set of I.C.'s for circuit board)
243642	I.C. tools (includes insertion and extraction tool)
328529	Amber L.E.D. with fastener
328530	Green L.E.D. with fastener

### IMPORTANT:

Servicing of this unit should be done only by a qualified electronics technician or engineer trained in handling solid state equipment.

Use proper tools when removing or replacing integrated circuits on the 243640 Circuit Board.

### DIMENSIONS



### SECTION A - A