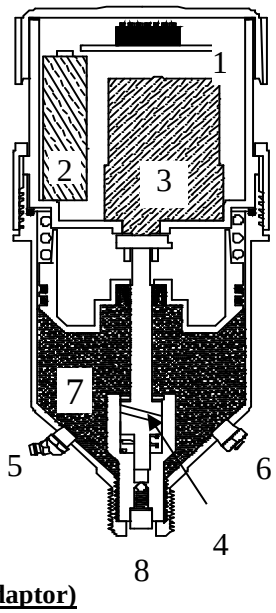
ELECTRO-LUBER™ MD
ULTIMATE LUBER ™
MODEL 60 CC
INSTALLATION INSTRUCTIONS

Working Principle

The **ELECTRO-LUBER ™ MD ULTIMATE LUBER ™** is a self-contained, microprocessor controlled, motor driven automatic lubricator. The **ULTIMATE LUBER ™** is not a pressure vessel. The operation of the **ULTIMATE LUBER ™** depends upon the use of minor internal spring pressure forcing lubricant into a temperature compensating, fixed displacement pump.
This dispenses the lubricant at pressures over 1000 psi. This pressure allows the **ULTIMATE LUBER ™** to be used with long feed-line pipework, and it can even cycle progressive distributors, allowing one **ULTIMATE LUBER™** to feed several bearings. When one or a combination of selector switches are turned on, the unit will activate at selected intervals.
(see charts on pages 3 & 4).
At each interval, approximately .625 grams of grease will be delivered to the bearing.
When the unit is empty, refilling is accomplished using a standard grease gun. For filing and refilling, please follow instructions provided.

1. Time Selector Switch, Microprocessor based circuit board, Indicator Light
2. Replaceable Battery Pack
3. DC Motor
4. Pump
5. Grease Fitting
6. Pressure Relief Valve
7. Lubricant Reservoir
8. ½" NPT Mounting Outlet

MUST USE A.T.S. BATTERY PACKS TO MAINTAIN WARRANTY AND UL LISTED STATUS



Dimensions (w/ weathercap & adaptor)
Model 60: 7-3/4" high X 3-1/2" dia.

General Information

When FILLING AN EMPTY UNIT FOR THE FIRST TIME, please refer to our "FILLING INSTRUCTIONS FOR ULTIMATE SERIES LUBERS". Be sure to pull pressure relief valve (#6 in diagram) to prevent air pockets.

If possible, install the **ULTIMATE LUBER™** directly on the bearing. All **ULTIMATE LUBER™** units have 1/2" NPT threads. The units will come with a brass adapter (1/4" or 1/8" NPT outlet) specified at time of order. Each adapter comes with an O-ring, which must be installed with the adapter to prevent leakage.

If the **ULTIMATE LUBER™** is remotely mounted, use minimum 3/8" O.D. by minimum 1/4" I.D. for tubing or pipe up to 35 feet in length.

It is important to make sure you prime all piping and lube points prior to installing the ULTIMATE LUBER™.

For optimal performance, the **ULTIMATE LUBER™** unit works best with multi-grade (synthetic) lubricants. High temperature lubricants, with an NLGI 2 or higher rating, tend to harden at low temperatures, therefore, lower NLGI ratings are recommended (NLGI 1). In low temperature applications, use low temperature lubricants with NLGI 0 or 1 rating.

The **ULTIMATE LUBER™** unit is designed to feed multiple points using progressive distribution blocks. (2, 3, 4, 6, 8 &12 distribution port kits are available from **ATS Electro-Lube**). When using a distribution block, stay within a maximum of 20 feet.

Each **ULTIMATE LUBER™** is supplied with **a clear weatherproof top cover and oring and weather cap which MUST be used in all cases** as protection against weather and moisture.

During maintenance inspections, check for movement of the orange piston and verify the LED is flashing green.

To ensure the success and reliability of your **ULTIMATE LUBER™**, do not use in temperatures below -4º F or above 131º F (-20º C to 55º C.) or in an application requiring over 1000 psi. **For cold temperature applications, must use special gearmotor, programming, lithium battery packs and Low Temp grease (EP00).**

This equipment is suitable for use in:
Class 1, Division 2, Groups A,B,C,D; Class II, Division 2, Groups F & G; Class III or non-hazardous locations only.
Maximum T-Code T6 55ºC

WARNING: Explosion Hazard – substitution of any components will impair suitability for Class I, II & III, Division 2 locations.
WARNING: Explosion Hazard – batteries must only be changed in an area known to be non-hazardous.
CAUTION: The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100º C (212º F) or dispose of in fire. Dispose of used batteries promptly in accordance with the regulations of your jurisdiction.

Starting Procedure

To start, plug battery pack in and turn on Switch #7 (purge setting 2 minutes), then turn off Switch #7. On installation, using a hand grease gun and the same type of grease, pump a few shots of lubricant into the bearing. If fittings or grease lines are used, these also should be filled with the same lubricant.

Referring to the dispensing rate chart on page 3 or 4, select the dispensing time and amount of lubricant required. Then set the appropriate switch or switches to the setting which corresponds to the period of time it takes to empty the unit. This action activates the unit and within 1 minute the first cycle will commence dispensing.

Operating Procedure

If it is desired to increase or decrease the lubricant dispensing rate during operations, simply click the switch or switches in use to OFF, then click on the new switch setting for the revised rate.

To turn **OFF** the **ULTIMATE** LUBER™ set all switches to **OFF**.
The **ULTIMATE** LUBER™ can be removed at any time without lubricant discharge.

Switch 7 is the purge switch. If your bearing requires an immediate shot of grease, turn **ON** switch 7. When the **ULTIMATE** LUBER ™unit starts operating, turn switch 7 **OFF**. The **ULTIMATE** LUBER ™unit will run for approximately 2 minutes. If you require more purging, repeat the procedure.

LED LIGHT FUNCTIONS:

LED	SIGNAL	SIGNAL TIME	MEANING
Green	1 Flash	Every 10 Seconds	Operation OK
Green	1 Flash	Every 1 Second	Currently pumping grease
Red	1 Flash	Every 10 Seconds	If Internal limit switch counter is faulty, the unit will go into an operational timed failsafe mode.
Red	2 Flashes	Every 10 Seconds	Low battery. Must be replaced shortly.
Blue	2 Flashes	Every 10 Seconds	Unit paused via remote option (if used here)
Blue	4 Flashes	Every 10 Seconds	Unit paused due to low ambient temperature. Unit will resume operation when temperature goes above 5 degrees F (-15 degrees C).

When empty, the unit can be refilled using a standard grease gun, either manual or air/electrically operated. **DO NOT OVERFILL**. If overfilled, irreparable damage to the unit can occur and is not covered under warranty. Fill only until marks on label line up with the piston o-rings. Excess grease may be expelled through the pressure relief valve,

NOTE: 1. DO NOT refill with high pressure, high volume air-electrically operated grease guns. This may damage the Ultimate unit and the warranty will be null and void.

2. DO NOT remove the lower ring. If this ring is tampered with, the unit may be damaged, and warranty will be null and void.

3. The lubricants dispensed by this equipment are to have flash points greater than 200º F.

4. It is recommended and good practice to purge the bearing on every change out.

WARNING: PRODUCT MUST BE SET UP AND USED WITHIN THE PARAMETERS STATED IN THESE INSTALLATION INSTRUCTIONS. USE OFTHE PRODUCT OUTSIDE OF THE STATED PARAMETERS CAN CAUSE THE UNIT TO BURST AND RESULT IN BODILY INJURY.

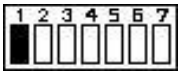
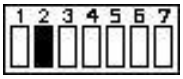
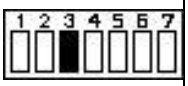
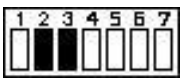
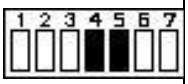
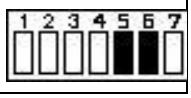
Power

The battery pack must be changed when the red LED flashes, as described above. The battery pack's life expectancy is typically longer than one full dispensing cycle. Please note that battery life is affected by temperature and operating conditions, bearing back pressure and unit setting. To change the battery pack, remove the clear cap, unplug and remove the old battery pack and then place inside and plug in the new battery pack. It is recommended that you have a spare battery pack to avoid a prolonged outage. A.T.S. battery packs must be used to maintain warranty and UL listed status.

Optional alternate power sources are available. Please consult factory or your salesperson.

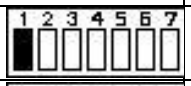
Comparison Chart

This chart compares the lubricant output rate of the **ULTIMATE LUBER ™** with several common manual lubrication schedules. The **ULTIMATE LUBER ™** switch settings indicated will provide comparable lubrication to that of the manual practice shown. **Do not over-lubricate bearing.** Some typical settings follow. See the charts following for settings and dispensing rates.

Manual Lubrication Schedule	MD Model 60 Setting	
	Unit Life	Switch Setting
Daily Lubrication 3 – 4 strokes	½ month (15 days)	
2-3 day Lubrication 3 – 4 strokes	1 month (30 days)	
Weekly Lubrication 8 –10 strokes	2 months (60 days)	
Bi-Weekly Lubrication 8 – 10 strokes	3 months (90 days)	
Monthly Lubrication 8 – 10 strokes	6 months (180 days)	
Bi-Monthly Lubrication 8 - 10 strokes	12 months (360 days)	
Quarterly Lubrication 8-10 strokes	24 months (720 days)	

A “Rule of Thumb” for Switch Setting

This chart offers a “Rule for Thumb” for selecting appropriate switch settings and lubricant output rate for some basic applications. Many variables must be considered when determining the best setting for your operating environment. Areas of high contamination and heavy water washout generally require a slight increase in lubricant flow rate. Because of the wide number of variables found in actual operating environments, this chart should only be considered as a guide in making the selection of the proper switch setting.
ALWAYS AVOID OVER-LUBRICATING.

Bearing Shaft Size	MD Model 60 Setting		
	Days to Empty	Switch Setting	
4” to 4 ¾”	15		
3 ¼” to 4”	30		
2 ¾” to 3 ¼”	45		
2 ¼” to 2 ¾”	90		
1 ¾” to 2 ¼”	180		
1” to 2”	360		

Selection of Switch Settings

One stroke from a typical grease gun is equal to approximately one cubic centimetre (cc). To select the switch setting appropriate for your application look down the column for the desired output of lubricant, remembering that 1 cc is equal to approximately one stroke from a grease gun. The switch setting for your selection is shown in the right most columns labelled Switch1 to Switch7.

ELECTRO-LUBER™ MD - ULTIMATE LUBER™ Model 60 Dispensing Rate Chart

Days to Empty	Cycle Time (hrs)	Approx. Daily Output		Switch 1 (15 day)	Switch 2 (30 day)	Switch 3 (60 day)	Switch 4 (120 day)	Switch 5 (240 day)	Switch 6 (480 day)	Switch 7 (purge)
		in CC's	in CI's							
15	3.6	4.0	0.24	**ON**	OFF	OFF	OFF	OFF	OFF	OFF
30	7.2	2.0	0.12	OFF	**ON**	OFF	OFF	OFF	OFF	OFF
45	10.8	1.33	0.08	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF
60	14.4	1.0	0.06	OFF	OFF	**ON**	OFF	OFF	OFF	OFF
90	21.6	0.67	0.04	OFF	**ON**	**ON**	OFF	OFF	OFF	OFF
120	28.8	0.50	0.03	OFF	OFF	OFF	**ON**	OFF	OFF	OFF
150	36.0	0.4	0.02	OFF	**ON**	OFF	**ON**	OFF	OFF	OFF
180	43.2	0.33	0.02	OFF	OFF	**ON**	**ON**	OFF	OFF	OFF
240	57.6	0.25	0.02	OFF	OFF	OFF	OFF	**ON**	OFF	OFF
300	72.0	0.20	0.012	OFF	OFF	**ON**	OFF	**ON**	OFF	OFF
360	86.4	0.17	0.010	OFF	OFF	OFF	**ON**	**ON**	OFF	OFF
480	115.2	0.13	0.008	OFF	OFF	OFF	OFF	OFF	**ON**	OFF
600	144.0	0.10	0.006	OFF	OFF	OFF	**ON**	OFF	**ON**	OFF
720	172.8	0.08	0.005	OFF	OFF	OFF	OFF	**ON**	**ON**	OFF
945	226.8	0.06	0.004	**ON**	**ON**	**ON**	**ON**	**ON**	**ON**	OFF

Note: Maximum setting is 945 days which unit can run for 2-1/2 years. If longer settings are required, programming is available.