

# ELECTRO-LUBER™ MD 2000

## INSTALLATION INSTRUCTIONS

### Working Principle

The **Electro-Luber MD™ 2000** is a self-contained, microprocessor controlled, motor driven automatic lubricator. The **MD 2000** unit is not a pressure vessel. The **MD 2000** does not operate by producing gas, instead, operation of the lubricator depends upon the use of minor internal pressure forcing lubricant into the threads of a unique rotating auger pump. This mixes and dispenses the lubricant at pressures up to 200psi. This pressure allows the **MD 2000** to be used with long feed line pipework, and it can even cycle progressive distributors, allowing one **MD 2000** 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 1.25cc of grease will be delivered to the bearing. The grease output is not affected by temperature or altitude. When the unit is empty, refilling is accomplished using a standard grease gun.

### General Information

On first 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.

If possible, install the **ELECTRO-LUBER MD™** directly on the bearing. All **ELECTRO-LUBER MD™** units have ½" 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. (steel adapters can be substituted for brass; stainless steel adapters available at a nominal extra charge.)

If the **ELECTRO-LUBER MD™** is remotely mounted, the following applies:

- For tubing or pipe 3 feet or less in length, use minimum 1/4" I.D.
- For tubing or pipe from 3 to 20 feet in length, use minimum 3/8" I.D.
- Oil filled units, use minimum 1/4" I.D. tubing for up to 100 feet

**It is important to make sure you prime all piping and lube points prior to installing the ELECTRO-LUBER MD™.**

For optimal performance, the **MD** unit works best with multi-grade lubricants. (a recommended list is available from **ATS Electro-Lube**) High temperature lubricants, with an NLGI 2 or higher rating, tend to harden at low temperatures, therefore, lower NLGI ratings are recommended. In low temperature applications use Lowtemp lubricants with NLGI 0 or 1 rating.

Each **ELECTRO-LUBER MD™** is supplied with a **weather proof switch cap with O-Ring** which **MUST** be used in all cases as protection against weather and moisture.

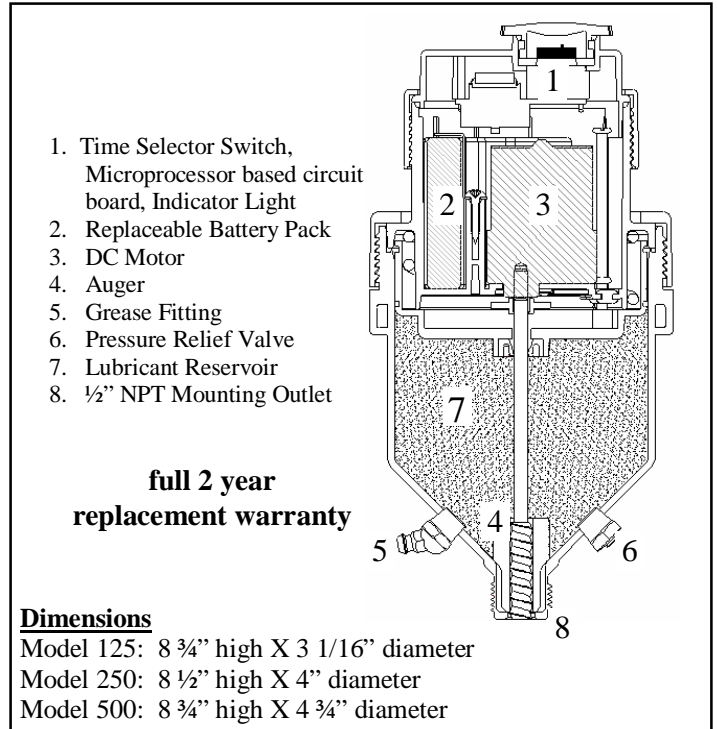
To insure the success and reliability of your **ELECTRO-LUBER MD™** installation, do not use in temperatures below 14 deg. F. (-10 deg. C.) or above 170 deg. Fahrenheit (76 deg. C.), or in an application requiring more than 200 psi. The Alkaline battery packs can be used up to 131°F (55°C), the Lithium battery packs can be used up to 170°F (76°C). The **MD** unit is designed to feed multiple points using progressive distribution blocks. (4, 6, & 8 port blocks available from **ATS Electro-Lube**).

The **ELECTRO-LUBER MD™** is completely waterproof provided the switch cap is installed properly. It can be used underwater to depths of 60 feet (20 metres).

**NOTE: DO NOT RUN THE ELECTRO-LUBER MD™ 2000 WITHOUT GREASE. THIS MAY DAMAGE THE UNIT AND THE WARRANTY WILL BE NULL AND VOID.**

### Starting Procedure

Referring to the proper model's 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 **ELECTRO-LUBER MD™** set all switches to **OFF**.

The **ELECTRO-LUBER MD™** 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 **MD** unit starts operating, turn switch 7 **OFF**. The MD unit will run for approximately 1 minute. If you require more purging, repeat the procedure.

While the unit is operational, the LED light will flash green once every 20 seconds, indicating the electronics are functioning properly.

During the pump cycle, the LED will flash green approximately once per second, indicating that the auger pump is turning and pumping grease.

The LED light will flash red every 20 seconds, indicating a problem as follows:

- 1 red flash indicates the battery is low and must be replaced
- 3 red flashes indicates the unit is empty
- 4 red flashes indicates the unit is shutdown due to a low ambient temperature. When the temperature goes above 15 degrees F. (-10 degrees C.), the unit will resume operation and the light will return to flashing green.

When empty, the unit can be refilled using a standard grease gun, either manual or air/electrically operated. If overfilled, excess grease will be expelled through the pressure relief valve.

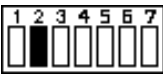














**NOTE: 1. DO NOT refill with high pressure, high volume air/electrically operated grease guns. This may damage the MD unit and the warranty will be null and void.**

**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.**

The battery packs for the **MD125** and **MD250** must be changed after 2 empties, while the battery packs for the **MD500** must be changed after each empty. To change the battery pack, remove the top ring using the tool supplied in the carton, unplug and remove the old battery, and then install and plug in the new battery pack. The battery packs, complete with connectors, may be purchased directly from the factory. (the **Model 125** uses a 6 cell battery pack, the **Model 250** and **Model 500** use an 8 cell battery pack)

## Comparison Chart

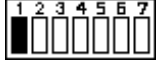
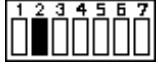

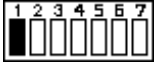

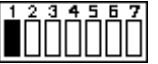
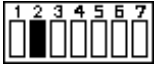

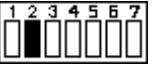


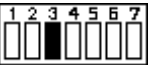


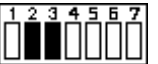







This chart compares the lubricant output rate of the **ELECTRO-LUBER MD™** with several common manual lubrication schedules. The **ELECTRO-LUBER MD™** switch settings indicated will provide comparable lubrication to that of the manual practice shown. **Do not over-lubricate bearing.** Some typical settings follow, see the charts on the next pages for all settings.

Manual Lubrication Schedule	MD Model 125 Setting		MD Model 250 Setting		MD Model 500 Setting	
	Unit Life	Switch Setting	Unit Life	Switch Setting	Unit Life	Switch Setting
Daily lubrication 3 – 4 strokes	1 month (30 days)		2 months (60 days)		4 months (120 days)	
2–3 day lubrication 3 – 4 strokes	2 months (60 days)		4 months (120 days)		8 months (240 days)	
Weekly lubrication 8 – 10 strokes	3 months (90 days)		6 months (180 days)		12 months (360 days)	
Bi-weekly lubrication 8 – 10 strokes	6 months (180 days)		12 months (360 days)		24 months (720 days)	
Monthly lubrication 8 – 10 strokes	12 months (360 days)		24 months (720 days)			
Bi-monthly 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 125 Setting		MD Model 250 Setting		MD Model 500 Setting	
	Days to Empty	Switch Setting	Days to Empty	Switch Setting	Days to Empty	Switch Setting
12" to 14 3/4"					15	
10 3/4" to 12"					30	
8 1/2" to 10 3/4"					60	
6 1/2" to 8 1/2"			15		90	
4 3/4" to 6 1/2"	15		30		120	
4" to 4 3/4"	30		60		120	
3 1/4" to 4"	60		120		240	
2 3/4" to 3 1/4"	90		180		360	
2 1/4" to 2 3/4"	180		360		720	
1 3/4" to 2 1/4"	360		720			

## 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 2000 Model 125 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	8.33	0.51	ON	OFF	OFF	OFF	OFF	OFF	OFF
30	7.2	4.17	0.25	OFF	ON	OFF	OFF	OFF	OFF	OFF
45	10.8	2.78	0.17	ON	ON	OFF	OFF	OFF	OFF	OFF
60	14.4	2.08	0.13	OFF	OFF	ON	OFF	OFF	OFF	OFF
90	21.6	1.39	0.08	OFF	ON	ON	OFF	OFF	OFF	OFF
120	28.8	1.04	0.06	OFF	OFF	OFF	ON	OFF	OFF	OFF
150	36.0	0.83	0.05	OFF	ON	OFF	ON	OFF	OFF	OFF
180	43.2	0.69	0.04	OFF	OFF	ON	ON	OFF	OFF	OFF
240	57.6	0.52	0.03	OFF	OFF	OFF	OFF	ON	OFF	OFF
300	72.0	0.42	0.03	OFF	OFF	ON	OFF	ON	OFF	OFF
360	86.4	0.35	0.02	OFF	OFF	OFF	ON	ON	OFF	OFF
480	115.2	0.26	0.02	OFF	OFF	OFF	OFF	OFF	ON	OFF
600	144.0	0.21	0.01	OFF	OFF	OFF	ON	OFF	ON	OFF
720	172.8	0.17	0.01	OFF	OFF	OFF	OFF	ON	ON	OFF

## Electro-Luber MD 2000 Model 250 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	1.8	16.67	1.02	ON	OFF	OFF	OFF	OFF	OFF	OFF
30	3.6	8.33	0.51	OFF	ON	OFF	OFF	OFF	OFF	OFF
45	5.4	5.56	0.34	ON	ON	OFF	OFF	OFF	OFF	OFF
60	7.2	4.17	0.25	OFF	OFF	ON	OFF	OFF	OFF	OFF
90	10.8	2.78	0.17	OFF	ON	ON	OFF	OFF	OFF	OFF
120	14.4	2.08	0.13	OFF	OFF	OFF	ON	OFF	OFF	OFF
150	18.0	1.67	0.10	OFF	ON	OFF	ON	OFF	OFF	OFF
180	21.6	1.39	0.08	OFF	OFF	ON	ON	OFF	OFF	OFF
240	28.8	1.04	0.06	OFF	OFF	OFF	OFF	ON	OFF	OFF
300	36.0	0.83	0.05	OFF	OFF	ON	OFF	ON	OFF	OFF
360	43.2	0.69	0.04	OFF	OFF	OFF	ON	ON	OFF	OFF
480	57.6	0.52	0.03	OFF	OFF	OFF	OFF	OFF	ON	OFF
600	72.0	0.42	0.03	OFF	OFF	OFF	ON	OFF	ON	OFF
720	86.4	0.35	0.02	OFF	OFF	OFF	OFF	ON	ON	OFF

## Electro-Luber MD 2000 Model 500 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	0.9	33.33	2.03	ON	OFF	OFF	OFF	OFF	OFF	OFF
30	1.8	16.67	1.02	OFF	ON	OFF	OFF	OFF	OFF	OFF
45	2.7	11.11	0.68	ON	ON	OFF	OFF	OFF	OFF	OFF
60	3.6	8.33	0.51	OFF	OFF	ON	OFF	OFF	OFF	OFF
90	5.4	5.56	0.34	OFF	ON	ON	OFF	OFF	OFF	OFF
120	7.2	4.17	0.25	OFF	OFF	OFF	ON	OFF	OFF	OFF
150	9.0	3.33	0.20	OFF	ON	OFF	ON	OFF	OFF	OFF
180	10.8	2.78	0.17	OFF	OFF	ON	ON	OFF	OFF	OFF
240	14.4	2.08	0.13	OFF	OFF	OFF	OFF	ON	OFF	OFF
300	18.0	1.67	0.10	OFF	OFF	ON	OFF	ON	OFF	OFF
360	21.6	1.39	0.08	OFF	OFF	OFF	ON	ON	OFF	OFF
480	28.8	1.04	0.06	OFF	OFF	OFF	OFF	OFF	ON	OFF
600	36.0	0.83	0.05	OFF	OFF	OFF	ON	OFF	ON	OFF
720	43.2	0.69	0.04	OFF	OFF	OFF	OFF	ON	ON	OFF

For other settings or special applications, please consult the factory  
or your Electro-Lube Sales Representative

**Patents: US # 5732794, Australian # 681312, European and other patents pending**

**NOTE: Not responsible for consequential damage beyond replacement of ELECTRO-LUBER™ or refund of amount paid.**

### Factory Direct

Phone: 800-663-8141 Fax: 800 663-8140

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E.&O.E. rev. 08/00

Not responsible for damage or consequential damage beyond replacement or refund of amount paid.  
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