

# ELECTRO-LUBER MD™ 2000

## ULTIMATE LUBER™

### INSTALLATION INSTRUCTIONS

#### Working Principle

The **Electro-Luber MD™ 2000 Ultimate** is a self-contained, microprocessor controlled, motor driven automatic lubricator. The **MD ULTIMATE** unit is not a pressure vessel. The operation of the **MD ULTIMATE** lubricator 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 **MD ULTIMATE** to be used with long feed line pipework, and it can even cycle progressive distributors, allowing one **MD ULTIMATE** 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 1.25grams 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 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™ ULTIMATE** directly on the bearing. All **MD ULTIMATE** 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™ ULTIMATE** 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 ELECTRO-LUBER MD™ ULTIMATE.**

For optimal performance, the **MD ULTIMATE** 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 Lowtemp lubricants with NLGI 0 or 1 rating.

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

Each **ELECTRO-LUBER MD™ ULTIMATE** 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 ensure the success and reliability of your **ELECTRO-LUBER MD™ ULTIMATE**, do not use in temperatures below -4° F or above 131° F (-20° C to 55° 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 55°C

In Conformity to European Norms  
Ex nL IIC T3 II 3 G



**WARNING:** Explosion Hazard – substitution of any components may impair suitability for Class I, II & III, Division 2 locations.

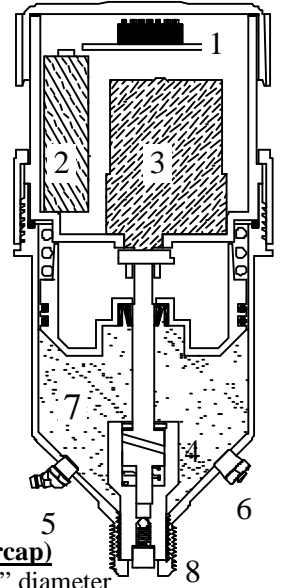
**WARNING:** Explosion Hazard – batteries must only be changed in an area known to be non-hazardous.

**CAUTION:** The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100° C (212° F) or dispose of in fire. Dispose of used battery promptly.

#### 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.

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



**1 year  
replacement warranty**

#### Dimensions (without weathercap)

Model 125: 7 ¼" high X 3 1/8" diameter

Model 250: 7 ¼" high X 4 1/16" diameter

Model 500: 8 ½" high X 4 ¾" diameter

## 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™ ULTIMATE** set all switches to **OFF**. The **ELECTRO-LUBER MD™ ULTIMATE** 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 ULTIMATE** unit starts operating, turn switch 7 **OFF**. The **MD ULTIMATE** 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 20 Seconds | Operation OK  |
| Green | 1 Flash   | Every 1 Second   | Currently pumping grease  |
| Red   | 1 Flash   | Every 20 Seconds | If Internal limit switch counter is faulty, the unit will go into an operational timed failsafe mode.                           |
| Red   | 2 Flashes | Every 20 Seconds | Low battery. Must be replaced shortly.  |
| Blue  | 2 Flashes | Every 20 Seconds | Unit paused via remote control option (if used here)  |
| Blue  | 4 Flashes | Every 20 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, possible damage to the unit can occur. Fill only until marks on label line up with the piston o-rings. Excess grease may be expelled through the pressure relief valve.

- NOTE:**
- 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.
  - 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 lubricants dispensed by this equipment are to have flash points greater than 200°F.
  - It is recommended and good practice to purge the bearing on every change out.

## Power

The battery packs must be changed when the red LED flashes, as described above. The batteries life expectancy is 4 empties for the **MD125** and **MD250**, and 2 empties for the **MD500**. Please note that battery life is affected by temperature, bearing backpressure and unit setting. Life expectancy is based on standard installation. To change the battery pack, remove the top ring, unplug and remove the old battery and then install and plug in the new battery pack. It is recommended that you have a spare battery pack to avoid a prolonged outage. The battery packs, complete with connectors, may be purchased directly from the factory.

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

## Comparison Chart

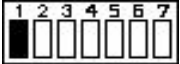
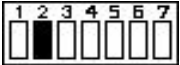
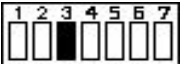
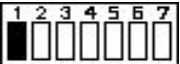

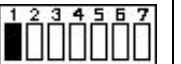
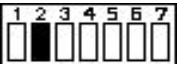















This chart compares the lubricant output rate of the **ELECTRO-LUBER MD™ ULTIMATE** with several common manual lubrication schedules. The **ELECTRO-LUBER MD™ ULTIMATE** switch settings indicated will provide comparable lubrication to that of the manual practice shown. **Do not over-lubricate bearing**. 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 | Model 125 Setting |   | Model 250 Setting |  | 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 ULTIMATE 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 ULTIMATE 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 Cl'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 ULTIMATE 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 Cl'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 check our website for your nearest Distributor

Patents: AU# 2005240682; EP# 1756467; CH# 1756467; DE# 602005011280.4; FR, IT, GB# 1756467; US & CA Pending



For more information, please visit our website at [www.atselectrolube.com](http://www.atselectrolube.com)

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| <b>BS EN ISO 9001:2008</b><br><i>FM 66860</i> |
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| Not responsible for damage or consequential damage beyond replacement or refund of amount paid.<br>En cas de dommage, la responsabilité d'A.T.S. se limite au remplacement ou au remboursement de l'appareil |
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