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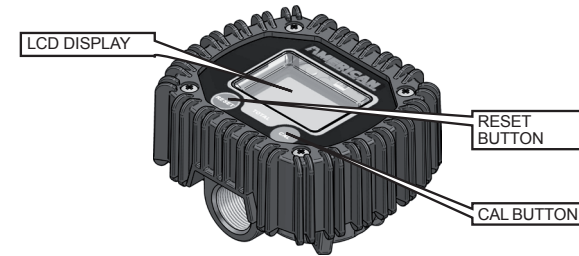
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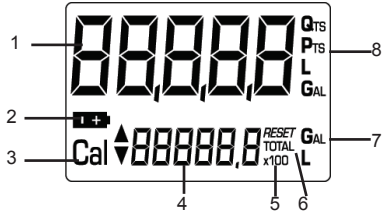
A. AMERICAN LUBRICATION TIM-615: GENERAL OVERVIEW

TIM-615 is an electronic digital oval-gear meter, designed for precise measuring of oil and other liquids that are compatible with the materials found in the meter. The TIM-615 features a non-volatile memory for storing calibration and dispensing data in the event of a complete power loss. The meter is unique in that the electronic section is completely isolated from the fluid section. This means that the electronics can be easily field replaced while the meter is still installed in-line using a replacement electronics "head".



1) LCD Display

The "LCD" of the TIM-615 features two numerical registers and various symbols that are displayed only when required.



- 1) Batch register indicates volume dispensed
- 2) Battery charge Indicator
- 3) Calibration Mode
- 4) Total register; display can show (2) different totals, one which is resettable and one that is non-resettable.
- 5) Total multiplication factor (x10 or x100)
- 6) Total type (TOTAL / RESET TOTAL)
- 7) Total unit of measurement (Gal=Gallons, L=Liters)
- 8) Batch unit of measurement (Qts=Quarts, Pts=Pints, L=Liters, Gal=Gallons)

2) User Buttons

The TIM-615 meter features two buttons (RESET and CAL) which individually perform two main functions and when pressed at the same time together perform secondary functions. The functions are:

- a) For the RESET button, resetting the batch register and the resettable totalizer.
- b) For the CAL button, entering meter calibration mode.
- c) Pressing RESET and CAL together enters the configuration mode where the desired unit of measurement can be set.

3) Fluid Chamber

The measurement chamber is located in the lower part of the meter. It features a 1/2" NPT(F) inlet and outlet. The cover on the bottom provides access to the chamber for contaminate cleaning. Inside the chamber are two oval gears that generate electrical pulses which are counted by the microprocessor. By applying a calibration factor, the microprocessor translates the pulses into units of measurement, displayed on the batch and total registers of the LCD. All TIM-615's are factory set with a calibration factor (FACTORY K FACTOR) equal to 1,000.

4) Batteries

The TIM-615 is powered by two standard AAA 1.5V Alkaline batteries. The batteries can be found under the face of the meter by removing the four top screws and the protective cover.

B. INSTALLATION

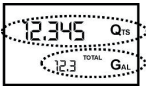
The TIM-615 features two 1/2" NPT(F) ports. It has been designed to be installed in any position, in a fixed in-line installation or as part of a control handle. The meter does not have specific direction of flow and either port can be used as inlet or an outlet. Make sure the threaded connections do not interfere with the inside of the measurement chamber. This can cause the gears to be damaged and/or seize. A filter with adequate filtering capacity should always be placed at the inlet of the meter or somewhere in the product line onto which the TIM-615 is mounted. If solid particles enter the measurement chamber, the gears could be damaged and/or seize.

C. DAILY USE

Below are the two normal display modes. One display page shows the batch and resettable total registers (temporary display mode). The other page shows the batch and non-resettable total register (standby display mode). Changeover between these two pages is automatic and tied to phases and times that are factory set and cannot be changed by the user.



Temporary Display Mode



Standby Display Mode

**NOTE: 6 digits are available for TOTALS, plus two icons x 10 / x100. The increment sequence follows: 0.0 → 99999.9 → 999999 → 100000 x 10 → 999999 x 10 → 100000 x 100 → 999999 x 100**

\*The batch register is in the top of the display and indicates the quantity dispensed since the last time the RESET button was pressed

\*The resettable total register (Reset TOTAL), positioned in the lower part of the display, indicates the quantity dispensed since the last time the resettable total was reset. The resettable total cannot be reset until the batch register has been reset. The unit of measurement of the two total registers can be the same as the batch register or a different unit of measure depending on the factory or user programming choice.

\*The non-resettable total register (TOTAL) can never be reset by the user. It continues to rise for the entire operating life of the TIM-615.

\*The register of the two totals (Reset TOTAL and TOTAL) share the same line of the display. The TIM-615 is programmed to show each of these totals at different times.

\*The non-resettable (TOTAL) page is shown in standby screen mode

\*The resettable total (Reset TOTAL) page is shown in the temporary screen mode:

- a) For a few seconds after the RESET button is pressed.
- b) During the entire dispensing stage and for five seconds after dispensing. Once this short time has expired the TIM-615 switches to standby mode and the lower register switches back to the non-resettable total (TOTAL).

1) Resetting the Batch Register

The batch register can be reset by pressing the RESET button only when the meter is in standby mode. Press the RESET button to reset the batch register. After pressing the RESET button, the LCD screen will display all the characters on the screen, and then the screen will momentarily go blank. The screen will then display the resettable total for 5 seconds, after which the display will return to the standby mode screen.

2) Resetting the Resettable Total (Reset TOTAL)

- a) Wait for the display to enter standby mode
- b) Press the RESET button quickly. This will reset the batch register.
- c) After pressing the RESET button, the LCD screen will display all the characters on the screen, and then the screen will momentarily go blank. The screen will then display the resettable total for 5 seconds. Hold down the Reset button for at least one second.
- d) The LCD screen will again display all the characters on the screen, and then the screen will momentarily go blank. The screen will then display the resettable total (which now should read 0.0) for 5 seconds

D. CALIBRATION

1. Definitions

a) Calibration factor or "K Factor" - this is the multiplication factor applied by the system to the electrical pulses received, to transform these into measured fluid units.

b) Factory K Factor: Factory-set default factor. It is equal to 1,000.

**The Factory K Factor is based on the following operating conditions:**

Fluid: 10W30 motor oil  
Temperature: 68° F  
Flow rate: 1.3 - 6.6 gallons/min.

c) User K Factor: Customized calibration factor, meaning the K Factor obtained from calibrating the meter.

2. Reasons to Calibrate

The TIM-615 is supplied with a factory calibration that ensures precise measuring in most operating conditions. Meter accuracy might be compromised when dispensing fluids like low-viscosity automatic transmission fluid or high-viscosity gear oils. The meters' accuracy also might be compromised when operating at flow rates that are close to the minimum or maximum.

When the meter's accuracy is less than ideal, user calibration can be performed to better suit the actual conditions in which the TIM-615 is required to operate.

3. Calibration Procedure

Two procedures are available for changing the Calibration Factor:

- a) Dispensing Calibration, performed by means of a dispensing operation.
- b) Direct Calibration, performed by directly changing the calibration factor inside the meter.

The calibration phases can be entered (by keeping the CAL button pressed for a few seconds) to:

- a) Display the current user calibration factor
- b) Return to factory calibration (Factory K Factor) after a previous calibration by the user
- c) Change the calibration factor using one of the two previously indicated procedures.

During calibration, the batch and total dispensed quantities indicated on the display screen take on different meanings according to the calibration procedure phase. In calibration mode, the TIM-615 cannot be used for normal dispensing operations. During the calibration process, the totals are not increased.

**NOTE: The TIM-615 features a non-volatile memory for storing calibration and dispensing data. There is no need to re-calibrate the meter in the event of power loss.**

4. Displaying the K Factor & Restoring the Factory K Factor

By pressing the CAL button while the meter is in standby mode, one of two display pages will appear showing the current calibration factor.

The following display page will appear if calibration has been performed or the meter has been restored to factory calibration. The word "FACT" (abbreviation for "factory") indicates that the factory calibration factor is being used.



This display page will appear if a calibration has been made by the user. It shows the current used calibration factor (in the example 0.998) and the word "USER" (indicating that the user calibration factor is being used)

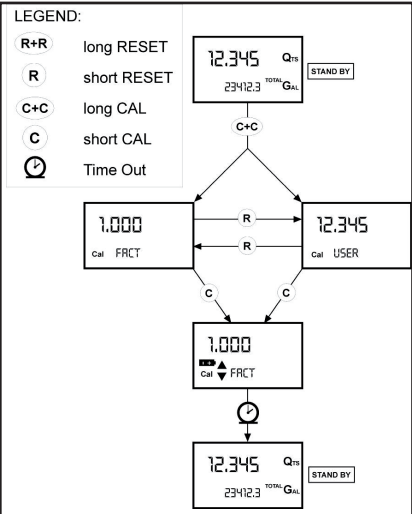


The flow chart shows the switch-over logic from one display page to another

In this condition, the Reset button permits switching from the User factor to the Factory factor.

To confirm the choice of the calibration factor, quickly press the CAL button while "USER" or "FACT" are displayed.

After the restart cycle, the TIM-615 uses the calibration factor that had just been confirmed



**NOTE: When the Factory Factor is chosen, the old user factor is deleted from the memory**

5. In-Field Calibration

This procedure requires the fluid to be dispensed into a certified graduated container. For best accuracy, perform this procedure when the meter is installed in the system it is going to be used on.

**NOTE: Important steps for accurate meter calibration:**

- 1) Completely eliminate all of the air from the system before calibrating.
- 2) Use a certified graduated container with a minimum capacity of 5 Qts. Do not use metal or plastic oil containers typically found in automotive shops. These are typically not accurate enough.

5. In-Field Calibration (continued)



**NOTE: Important steps for accurate meter calibration: (continued)**

- 3) Try to keep the flow rate constant when filling the container. Do not trickle the flow to reach the desired level (the correct method during the final stage is to make short top-offs at the normal operating flow rate).
- 4) When oil is dispensed into a container, air gets trapped inside the oil, making the level in the container appear higher than it really is. After dispensing, wait a few minutes to make sure all air bubbles are eliminated from the fluid inside the calibration container.

ACTION	DISPLAY
1 Make sure the meter is in standby mode. If you are unsure, press the REST button and wait 10 seconds.	12.345 Q <sub>TS</sub> TOTAL 12.5 G <sub>AL</sub>
2 Hold down the CAL button until the display reads "CAL". The TIM-615 enters calibration mode, shows <<CAL>> and displays the calibration factor in use. The words "FACT" and "USER" indicate which of the two factors (factory or user) is currently in use.	1.000 Q <sub>TS</sub> Cal FRCT G <sub>AL</sub>
3 Hold down the RESET button until the display reads "FIELD". The TIM-615 shows "CAL" and the batch register set to zero. The TIM-615 is ready to perform in-field dispensing calibration.	0.000 Q <sub>TS</sub> Cal FIELD
4 Dispensing into a calibrated container. Without pressing any buttons, start dispensing into the graduated container. Dispensing can be stopped and started again at will. Continue dispensing until the level of the fluid in the sample container has reached the graduated area. Make sure dispensing is correctly finished before performing the next step.	9.800 Q <sub>TS</sub> Cal FIELD Batch Display: 9.800 Q <sub>TS</sub> Cal 0.0000 G <sub>AL</sub> Actual Value: 9.86
5 Press the RESET button, and quickly release. This tells the meter that the dispensing is finished. To finish calibrating the meter, the value on the meter's batch display (example 9.800) must be adjusted to equal the actual amount in the calibrated container. In the bottom left part of the display an arrow appears (pointing upwards or downwards), that shows the direction (increase or decrease) that the value on the batch display will be changed when performing step 7.	9.800 Q <sub>TS</sub> Cal ▲ FIELD
6 Changing the Arrows direction in the display Quickly pressing the RESET button changes the arrows direction in the display. This operation can be repeated to alternate the direction of the arrow.	9.800 Q <sub>TS</sub> Cal ▼ FIELD
7 Adjusting the Batch Display Value (The indicated value changes in the direction indicated by the arrow) 1) The amount on the display changes one unit each time the CAL button is pressed quickly. 2) The amount on the display changes continuously if the CAL button is kept pressed. The speed of change increases the longer the button is held. If you accidentally program the wrong value, repeat the operation starting from step number 6	9.860 Q <sub>TS</sub> Cal ▲ FIELD
8 Saving the New Calibration Factor Before performing this operation, double-check to make sure the display value on the meter is the same value that is in the calibrated container. Press the RESET button for at least one second. The TIM-615 calculates the new USER K FACTOR. This calculation could require a few seconds to compute. At the end of the calculation, the new USER K FACTOR is shown for a few seconds.	1.015 Q <sub>TS</sub> Cal END
9 Finishing The meter will re-start and enter into the standby mode. The meter is now programmed with the new calibration factor and is ready to use. Note: The calibrated USER K FACTOR is now the factor used in the TIM-615. This will be the factor the meter will use even after battery failure and battery replacement.	0.000 Q <sub>TS</sub> Cal 1234.5 TOTAL G <sub>AL</sub>



PRO SERIES  
DIGITAL OVAL GEAR METER



TIM-615

This meter is built exclusively for American Lubrication Equipment Corporation incorporating numerous design ideas provided by their design team.

Bulletin M0169 EN rev.1

Features

Fluid Isolated from the Electronics

Field-Replaceable Electronic Head

Reliable Oval Gear Design

New AAA Battery Lasts Longer

6 Bolt Construction

Programmable to Pts, Qts, Lts & Gals

Molded-in Shock Guard



Baltimore, Md. Los Angeles, Ca.

410-252-9300

americanlube.com

Bulletin M0169 EN rev.1



D. CALIBRATION (continued)

**6. Direct Calibration of the K Factor**  
This procedure is useful if the meter is over-dispensing or under-dispensing fluid by a known percentage. Using this method, the correction of the USER K FACTOR must be calculated by the operator using the following formula:

$$\text{New Cal. Factor} = \text{Old Cal Factor} * \left( \frac{100 - E\%}{100} \right)$$

**Example:**  
Error percentage found (E%) - 0.3 %  
CURRENT calibration factor 1.000  
New USER K FACTOR  $1.000 * [(100 - (-0.3))/100]$   
 $= 1.000 * [(100 + 0.9)/100]$   
 $= 1.003$

If the TIM-615 is under-dispensing (negative error), the new calibration factor must be higher than the old one as shown in the example. The opposite applies if the TIM-615 is over-dispensing (positive error).

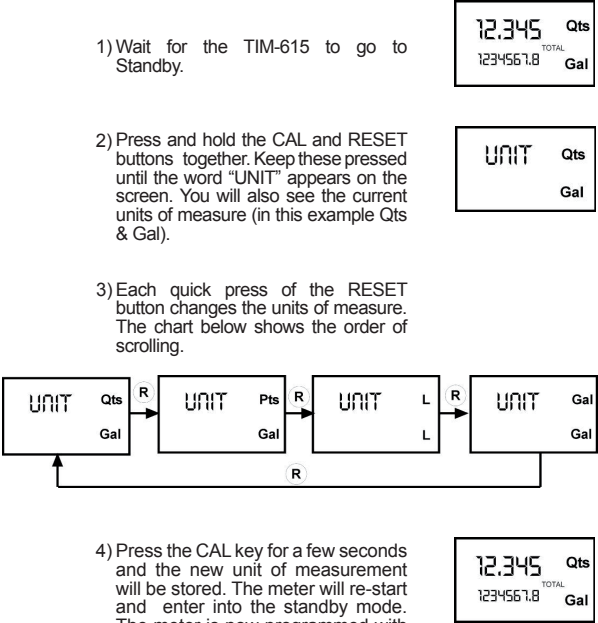
ACTION	DISPLAY CONFIGURATION
<b>1</b> Make sure the meter is in standby mode. If you are unsure, press the REST button and wait 10 seconds.	
<b>2</b> Hold down the CAL button until the display reads "CAL". The TIM-615 enters calibration mode, shows <<CAL>> and displays the calibration factor in use. The words "FACT" and "USER" indicate which of the two factors (factory or user) is currently in use.	
<b>3</b> Hold down the RESET button until the display reads "FIELD". The TIM-615 shows "CAL" and the batch register set to zero. The TIM-615 is ready to perform in-field dispensing calibration.	
<b>4</b> Hold down the RESET button until the display reads "DIRECT". In the bottom left part of the display an arrow appears (pointing upwards or downwards), that shows the direction (increase or decrease) that the value on the batch display will be changed when performing step 6.	
<b>5</b> Changing the Arrows direction in the display Quickly pressing the RESET button changes the arrows direction in the display. This operation can be repeated to alternate the direction of the arrow.	
<b>6</b> Adjusting the Batch Display Value (The batch display value changes in the direction indicated by the arrow) 1) The amount on the display changes one unit each time the CAL button is pressed quickly. 2) The amount on the display changes continuously if the CAL button is kept pressed. The speed of change increases the longer the button is held. If you accidentally program the wrong value, repeat the operation starting from step number 5.	
<b>7</b> Saving the New Calibration Factor Before performing this operation, double-check to make sure the display value on the meter is equal to the value you obtained using the calibration formula. Press the RESET button for at least one second. The TIM-615 calculates the new USER K FACTOR. This calculation could require a few seconds to compute. At the end of the calculation, the new USER K FACTOR is shown for a few seconds.	
<b>8</b> Finishing The meter will re-start and enter into the standby mode. The meter is now programmed with the new calibration factor and is ready to use. Note: The calibrated USER K FACTOR is now the factor used in the TIM-615. This will be the factor the meter will use even after battery failure and battery replacement.	

**E. UNIT OF MEASURE SETUP**  
The user can select the batch measurement unit. The choices are: Quarts (Qts), Pints (Pts), Liters (Lit), and Gallons (Gal). The total register unit of measurement is automatically determined based on what is chosen for the batch measurement unit (see chart below).

Combination no.	Unit of Measurement Partial Register	Unit of Measurement Totals Register
1	Liters (L)	Liters (L)
2	Gallons (Gal)	Gallons (Gal)
3	Quarts (Qts)	Gallons (Gal)
4	Pints (Pts)	Gallons (Gal)

E. UNIT OF MEASURE SETUP (continued)

To choose between the 4 available combinations:



**NOTE:** The Reset Total and Total will be automatically converted to the new unit of measurement. No new calibration is required when changing the unit of measurement.

**F. METER MAINTENANCE**  
The TIM-615 was designed to require minimal maintenance. The only maintenance required is battery replacement and cleaning the measuring chamber.

**1) Battery Replacement**  
The TIM-615 is supplied with two SIZE AAA, 1.5 Volt Alkaline batteries. The meter features two low-battery alarm warnings:

- a) When the battery charge falls below the first level, the fixed battery symbol appears on the LCD. In this condition, the meter continues to operate correctly, but the fixed battery icon warns the user that it is time to change the batteries.
- b) If you continue to use the meter without changing the batteries the second battery alarm level will eventually be reached, preventing meter operation. In this condition the battery icon will flash and will be the only item visible on the LCD. You must change the batteries once the meter has reached this mode. All dispensing data from this point forward will not be displayed or stored in the meter.

**NOTE:** Refer to your local regulations before disposing the old batteries.

c) To change the batteries, refer to the spare parts list in the next column while completing the following steps:

- 1) Press reset to update all the totals.  
2) Remove the 4 screws on the cover (item 5).  
3) Remove the cover (item 8).  
4) Replace the two dead batteries (item 9).  
5) Put the cover on and re-tighten the 4 cover screws, making sure that it has been positioned correctly.  
6) The meter will switch on automatically and enter into the standby mode. It is now ready to resume normal operation.

d) After changing the batteries, the meter will display the same reset total, the same non-resettable total and the same batch total as it did before the batteries were changed. The meter will also use the same calibration factor as it did before the power outage/battery replacement.

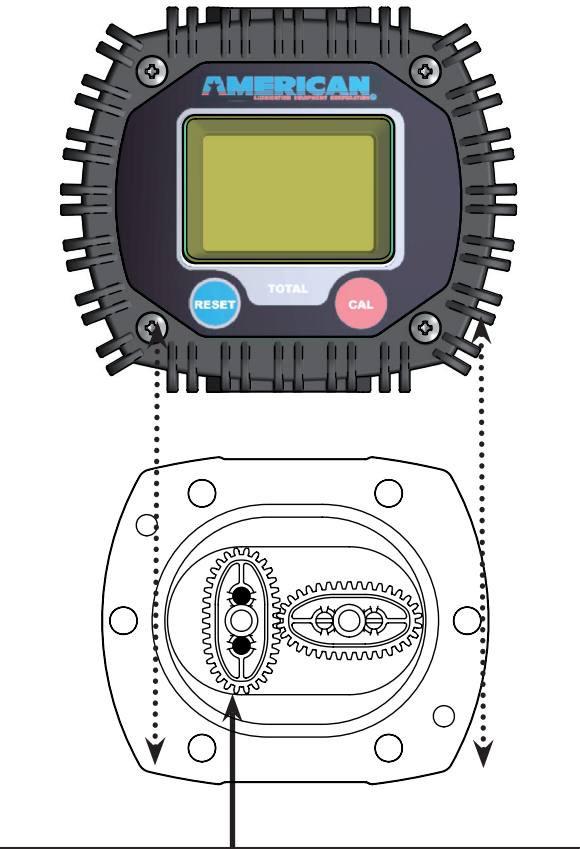
**2) Cleaning**  
The measuring chamber of the TIM-615 can be cleaned without removing the unit from the dispensing nozzle or the line on which it is installed.

**NOTE:** Always make sure the liquid has been drained from the meter before cleaning.

To clean debris from the measuring chamber, refer to the spare parts list on the right while completing the following steps:

- 1) Loosen the six retention screws (item 7) on the body (item 1).  
2) Remove the cover (item 2) and the seal (item 10)  
3) Remove the two oval gears (item 13).  
4) Clean where necessary. For this operation, use a brush or pointed object such as a small screwdriver. Be careful not to damage the body or the gears.  
5) To reassemble the unit, carry out these steps in the reverse order. Please pay close attention to the note below before re-assembling the meter!

**NOTE:** Only one of the two gears has magnets. These gears must be inserted into the body of the meter, and placed perpendicular to each other. To position the gears correctly, refer to the diagram below, making sure that the position of the gear with respect to the magnets is observed. If the gears are not installed correctly, the meter will not work. Check that the gears are rotating freely before closing the cover.

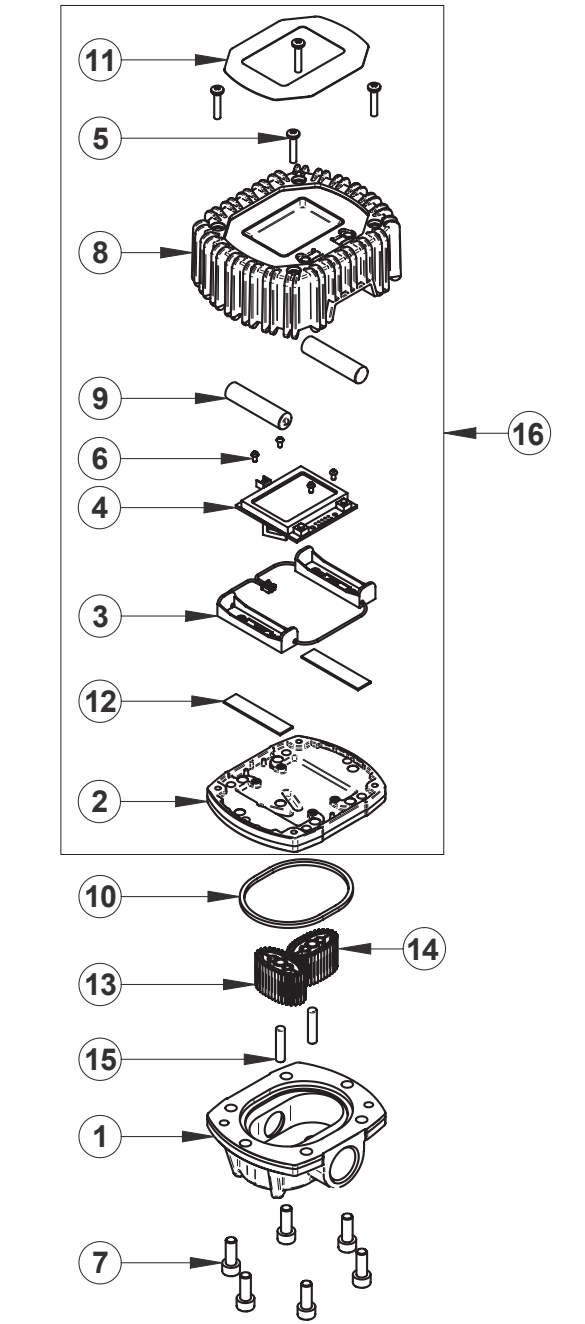


**NOTE:** The gear with the magnet (TIM-615-13) must be placed so that it is on the left side of the meter when assembled

G. TROUBLESHOOTING GUIDE

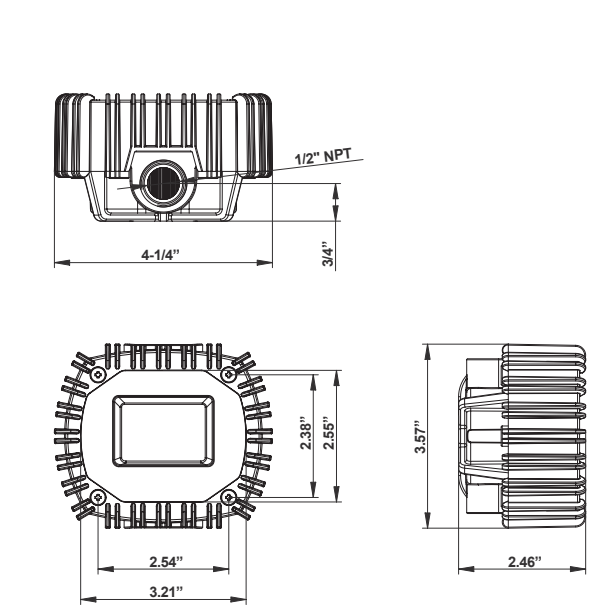
Problem	Possible cause	Remedial Action
Dull LCD	Low Battery	Replace the batteries (see section F.)
Inaccurate Dispensing	Wrong K FACTOR	Re-calibrate (see section D.)
Reduced or Zero Flow Rate	Gears blocked	Clean the measurement chamber (see section F.)
The meter does not count, but the flow rate is correct	Incorrect installation of gears after cleaning	Repeat the reassembly procedure (see section F.)
	Possible circuit board problem	Contact your local American Lubrication Equipment dealer

H. PARTS BREAKDOWN & SPECIFICATIONS

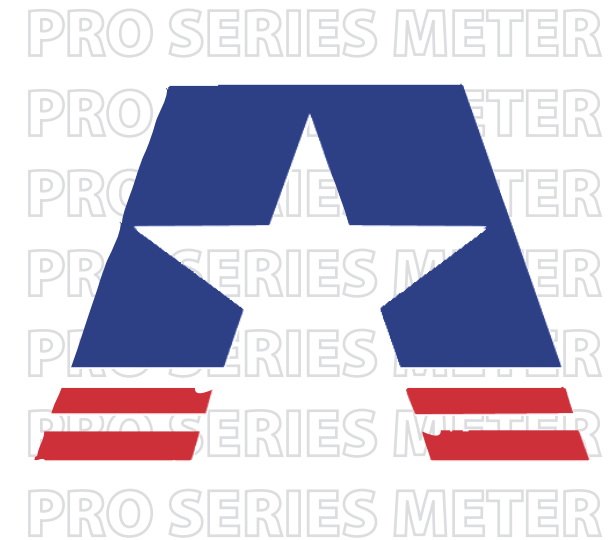


Item	Part Number	Description	Qty
1	TIM-615-1	Fluid Chamber Body	1
2	TIM-615-2	Isolation Plate	1
3	TIM-615-3	Battery Support Tray	1
4	TIM-615-4	Circuit Board	1
5	TIM-615-5	Cover Screw	4
6	TIM-615-6	Circuit Board Screw	4
7	TIM-615-7	Fluid Body Screw	6
8	TIM-615-8	Protective Cover	1
9	TIM-615-9	AAA Battery	2
10	TIM-615-10	Gasket	1
11	TIM-615-11	Cover label	1
12	TIM-615-12	Adhesive Strip	2
13	TIM-615-13	Magnetic Gear	1
14	TIM-615-14	Non-Magnetic Gear	1
15	TIM-615-15	Gear Post	2
16	TIM-615-HEAD	Replacement Meter Head includes items 2, 3, 4, 5, 6, 8, 9, 11 & 12	1

H. PARTS BREAKDOWN & SPECIFICATIONS (continued)








Measurement system		Oval Gear
Resolution	(nominal)	0.005 (Quarts/Pulse)
Flow Rate	(Range)	1-26 (Quarts/Minute)
Operating pressure	(Max)	1000 (PSI)
Bursting pressure	(Min)	2000 (PSI)
Storage temperature	(Range)	-5 to 158 (°F)
Storage humidity	(Max)	95 (% RH)
Operating temperature	(Max)	140 (°F)
Flow resistance	(at 16 quarts/min with SAE 10W motor oil at 68°F)	19 (PSI)
Viscosity	(Range)	5-5000 (mPas)
Precision	(1 and 26 quarts/min)	±1 of value indicated after calibration (%)
Repeatability	(Typical)	±0.3 (%)
Screen	Liquid crystals LCD Featuring: - 5-figure partial - 6-figure Reset Total plus x10 / x100 - 6-figure non reset Total plus x10 / x100	
Power supply	(2) 1.5 V alkaline batteries size AAA	
Battery life	14,000 - 100,000 hours	
Weight	.83 lbs. (including batteries)	



## In Field Calibration Procedures for the TIM-600 Series Digital Meter

Note: Due to various grades of oil and temperatures, every meter should be individually calibrated when installed.

	<ul style="list-style-type: none"> <li>• Purge the system of air by dispensing fluid until the flow is full and steady. Use an accurate measuring container not less than 5 quarts. A glass beaker will give the most accurate reading.</li> <li>• During calibration dispense at the same flow used in normal dispensing.</li> <li>• Do not “choke” or “trickle” the flow to reach the exact volume. The correct technique is to stop and start at full flow as many times as needed to reach the exact value in the container.</li> </ul>
	<ul style="list-style-type: none"> <li>• Firmly press and release the blue RESET Button. Wait about 10 seconds. The word “reset” will disappear. This will zero out the reading.</li> <li>• Press and hold the red CAL button.</li> <li>• If this is the first time for calibration it will read CAL-FACT.</li> <li>• If calibration has been done before it will read CAL-USER.</li> </ul>
	<ul style="list-style-type: none"> <li>• Press and hold the RESET button until the display changes to “0.000” and the letters CAL FIELD appear.</li> <li>• Dispense 4 quarts of oil into your container. Start and stop the flow as needed to reach the appropriate level in the container.</li> </ul>
	<ul style="list-style-type: none"> <li>• Press and hold the RESET button until an arrow appears in the lower left hand corner of the display. It will read CAL Direct with an arrow pointing up. If the total is under 4 quarts use this setting.</li> <li>• If the total is over 4 quarts press and release the RESET button to get the arrow to point down.</li> <li>• The CAL button will move it in the direction you’ve chosen.</li> <li>• Press and hold the CAL button until the display reads “4.000” then release the button.</li> </ul>
	<ul style="list-style-type: none"> <li>• Press and hold the RESET button until CAL END appears. It will then show the new CAL setting which will be stored in the memory. After a few seconds the meter will change back to normal operation mode. The calibration process is now complete and the meter is ready to dispense product.</li> </ul>

## Unit of Measure

The TIM-615 meter features a menu which allows the user to change the unit of measure: quarts (Qts), pints (Pts), liters (L) and gallons (Gal). Please note that the gallons ‘odometer’, in the lower right hand corner, is not resettable.

1. Push and hold both the Reset and the Cal. Buttons.
2. Meter should display: “UNIT”

3. Using the reset button, choose the desired unit (quarts/pints/liters/gallons)
4. Push and hold the Cal. Button to activate the selected unit of measure.

### **Replacing a Metered Control Handle.**

1. Shut off the air supply to the oil pump at the bulk oil storage tank.
2. Go to the control handle that needs to be replaced. Take a bucket with you.
3. Open the manual non-drip tip (if supplied with one) on the control handle. Squeeze the control handle trigger and drain the oil from the hose into the bucket. This removes pressure from the product hose.
4. Remove the control handle from the hose, using two crescent wrenches.
5. Drain the oil from the hose and the control handle into the bucket.
6. Remove any residual tape or sealant from the hose threads. Put two wraps of Teflon tape on the hose threads.
7. Install and tighten the replacement control handle on the threads of the hose using two crescent wrenches.
8. DO NOT over tighten the control handle to the hose or you could damage the swivel.
9. Leave the bucket at the control handle. Return to the oil pump. Sair to the pump.
10. You will hear the pump cycle for a short time as it replaces the oil that you drained from the hose.
11. Return to the control handle and pull the trigger to purge any air from your hose into the bucket.
12. When you have a steady flow of oil coming out, stop dispensing and close the non-drip tip on the control handle.
13. Dispose of the oil in the bucket into your waste drain.

### **Trouble Shooting Control Handles**

There is a display problem?

- Have you changed the batteries?

The meter is dispensing oil but not metering anything?

- Have you changed the batteries?

Meter not dispensing any product?

- Is the non-drip tip open?

Meter leaking out of the tip on to the floor?

- If it is an automatic tip, change to a manual non-drip tip.
- If it is a manual tip, are the techs wiping the tip with a rag and closing the tip after each use.

Product is being dispensed slowly?

- If it is a manual tip make sure the non-drip tip is fully open.
- Check air regulator setting: Should be at least 50 PSI for a 5:1 pump and 75 PSI for a 3:1 pump.

Not metering accurately?

- Check air regulator setting: reduce to 50 PSI for a 5:1 pump and 75 PSI for a 3:1 pump.
- If the air pressure is set too high you will over pressurize the lines and the meter may not read accurately.

Have you changed the calibration setting?

- Recalibrate the meter.

Meter leaking at the swivel?

- Replace the control handle

Oil leaking around the meter?

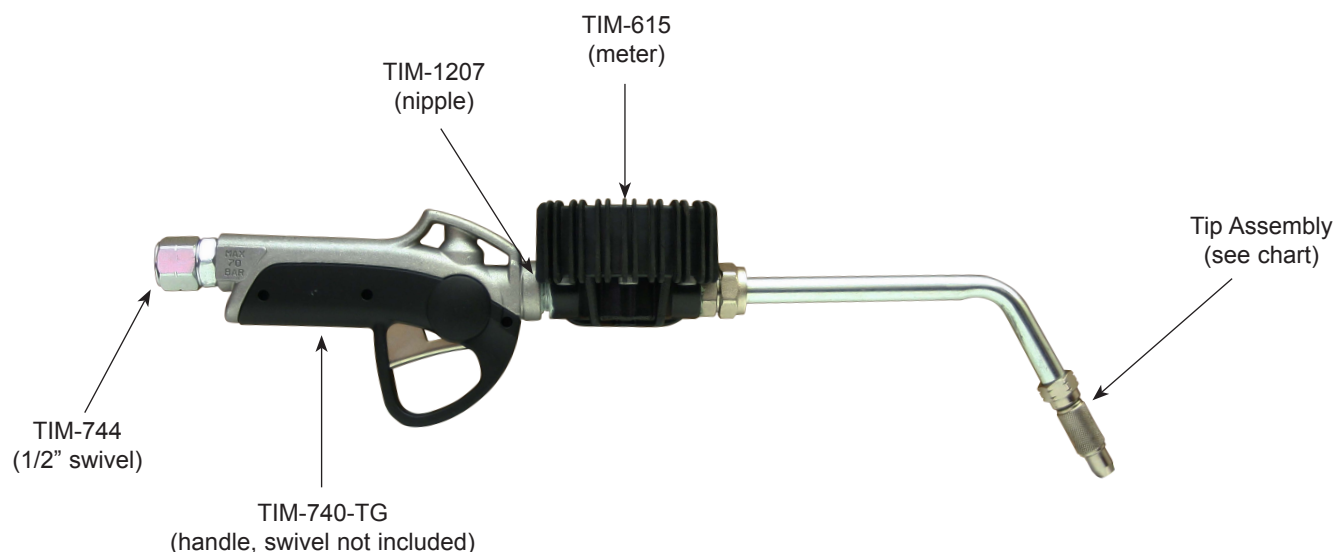
- Replace the control handle

Meter leaking oil out of the handle?

- Replace the control handle

Note: TIM-615 meters can be reversed. The meters are non-directional.
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# TIM-600 Pro Series Digital Control Handle Parts Breakdown Chart



Model Number	Tip Style	Description	Tip Assembly
TIM-600-FA	3*	Flex Automatic	TIM-747
TIM-600-FM	1	Flex Manual	TIM-743
TIM-600-RMGO	5	Swivel 90° Rigid Manual	TIM-742
TIM-600-FMHF	7	Flex Manual Hi-Flow	TIM-743-1
TIM-600-RA	4*	Rigid Automatic	TIM-746
TIM-600-RM	2*	Rigid Manual	TIM-753
TIM-600-RMHF	6*	Rigid Manual Hi-Flow	TIM-752

\*These tip assemblies have had their compression nuts "Loctited" at the factory during the assembly process. We recommend placing a few drops of Loctite® 680 Retaining Compound on the threads of the compression nut when replacing these tip assemblies. This will assure that the compression nuts do not come loose during normal use. **Do not, under any circumstances, place Loctite® on the threads that are used to fasten the tip assembly to the meter body.**



11212A McCormick Road  
Hunt Valley, MD 21031

Date: Feb 2017  
Version: 1.02



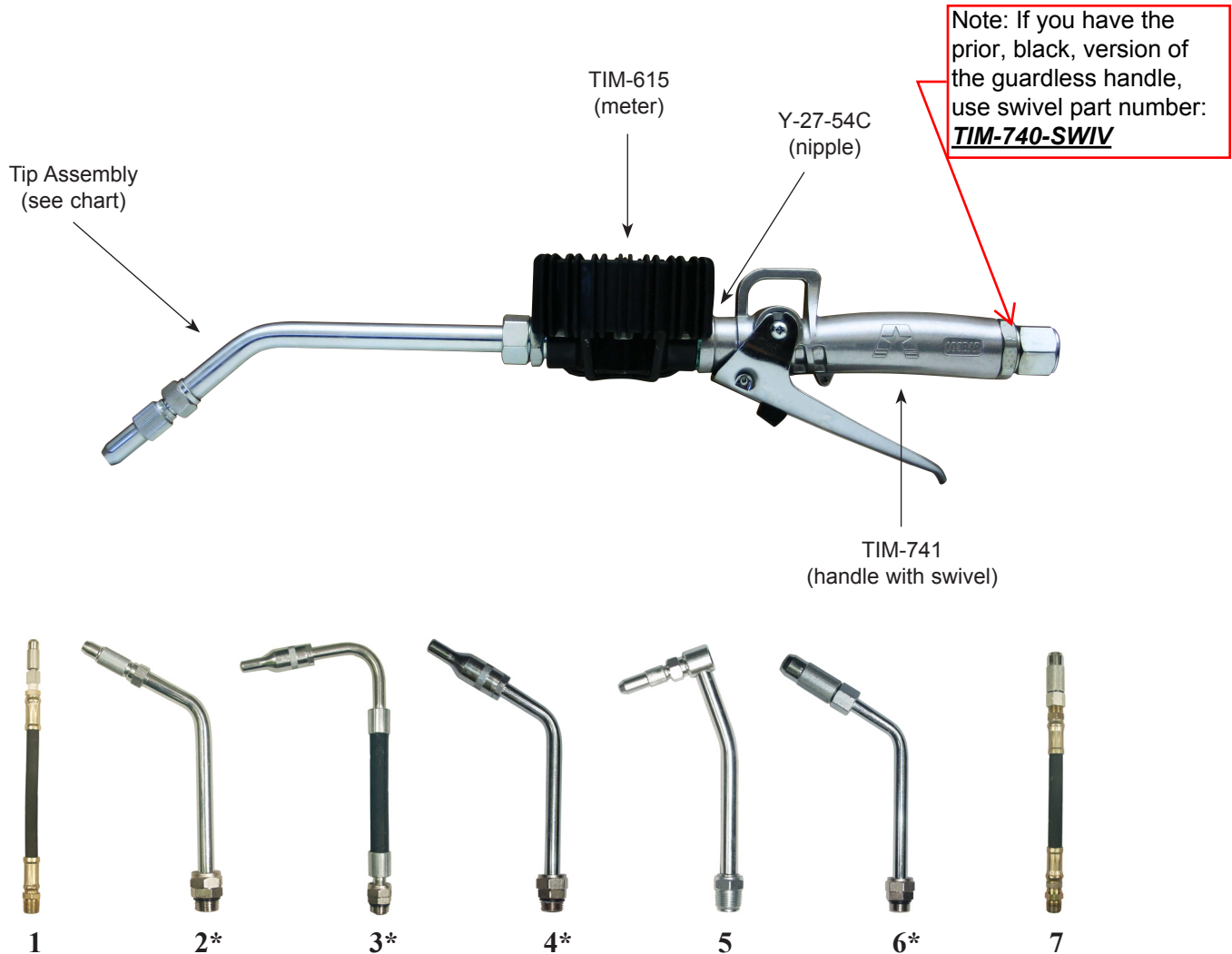
1251 North Patt Street  
Anaheim, CA 92801

Phone: (410) 252-9300  
www.americanlube.com

Form: TIM-600-PART



# TIM-601 Pro Series Digital Control Handle Parts Breakdown Chart



Model Number	Tip Style	Description	Tip Assembly
TIM-601-FA	3*	Flex Automatic	TIM-747
TIM-601-FM	1	Flex Manual	TIM-743
TIM-601-RMGO	5	Swivel 90° Rigid Manual	TIM-742
TIM-601-FMHF	7	Flex Manual Hi-Flow	TIM-743-1
TIM-601-RA	4*	Rigid Automatic	TIM-746
TIM-601-RM	2*	Rigid Manual	TIM-753
TIM-601-RMHF	6*	Rigid Manual Hi-Flow	TIM-752

\*These tip assemblies have had their compression nuts "Loctited" at the factory during the assembly process. We recommend placing a few drops of Loctite® 680 Retaining Compound on the threads of the compression nut when replacing these tip assemblies. This will assure that the compression nuts do not come loose during normal use. **Do not, under any circumstances, place Loctite® on the threads that are used to fasten the tip assembly to the meter body.**

\*Filter cleaning procedure: (1) remove swivel, (2) remove/clean/reinstall filter, (3) reinstall swivel



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Anaheim, CA 92801

Form: TIM-601-PART

The picture below is of a TIM-715 which is obsolete. The TIM-715 uses alkaline, type N batteries [Dia. 0.44" by 1.17" or 1-3/16"]. If the meter won't count or you get "ERR-1," the meter is not repairable.

The TIM-715 meter can be replaced with a new TIM-615 meter. You can reuse your old extension/nozzle and old control handle with the TIM-615.

Please call 410-252-9300 and press 3 for pricing and availability.



The upper numbers reset to zero after a battery replacement and should count up as oil is pumped through the meter. The number in the lower right corner is **not** resettable.