DELUXE MEMORY TIRE PYROMETER
INSTRUCTIONS
52-50690, 52-50691

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DELUXE MEMORY PYROMETER
INSTRUCTIONS

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QUICK START INSTRUCTIONS
See full instructions for details and further information.
Pyrometer will always begin in Mode 1 when powered on.

Memory Pyrometer – Mode 1

Plug in probe: Note wide and narrow spades on plug. Do not force it.

Turn on & clear display: Any temps must be cleared to take new readings. Save old temps in Memory if needed. Push CLEAR DISPLAY button and hold for 2 seconds.

Order of temps: Take temps in the following order: RF, RR, LR, LF. Take outside first, center, then inside. Active temp is indicated by an arrow. You can also take temps in any order by pushing the small buttons by the wheel on the car icon.

Taking temps: Stick probe into tire and push READ button. Leave the probe in the tire until the display moves. Pyrometer will read the correct temp, freeze it on the display and move to the next location. The pyrometer uses "Anticipation circuitry" to compute the final temp so you don't have to wait for it to stabilize. RE-READ button backs up 1 location.

Store in memory: Push STORE IN MEMORY button & Memory # at the same time.

Recall memory: Simply push and hold any Memory #.

Clear memory: Push CLEAR MEMORY & Memory # at the same time and hold for 2 seconds.

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Temperature Averaging – Mode 2

To get into Average or AVG Mode 2 push MODE once: Any temps that were on the display will stay. Push the MODE button 3 times to cycle back to taking temps in Mode 1. You must display all 12 temps to Average.

To display Average temps use the Memory buttons:
#1 – Average of the 3 recorded temps for all 4 tires.
#2 – Front and rear averages and difference.
#3 – Right and left averages and difference.
#4 – Diagonal averages – RF/LR and LF/RR – and differences.
#5 – Recalls the actual temps you are averaging.

To recall temps to Average: Push the Memory button where the temps are stored and hold it for 3 seconds. Those temps will come up onto the display. Then you can display the Averages as above. These will stay until cleared.

To enter temps to Average: CLEAR DISPLAY first – hold button for 2 seconds. Use the Memory buttons 1-10 to enter the temps. After each temp is entered push the READ button to record the temp and move to the next. You must enter temps in the same order you would actually take them. All 12 must be entered to Average. Display Averages as above.

Memory Stopwatch – Mode 3

To get into Stopwatch Mode 3 push MODE twice: Stopwatch Mode will time up to 4 different cars with 70 lap memory. Push the MODE button twice again to cycle back to taking temps in Mode 1. Mode 2 is temp averaging, Mode 4 is interval timing.

Use Memory buttons #1 to 4 to start timing: They are marked TIME and correspond to #1 to 4 on the display to time up to 4 different cars.

To start timing push #1 button (or 2, 3 or 4): The display will show the time running. At the end of lap 1, push the same Memory button. The time for lap 1 will stay on the display. Press the Memory button again at the end of lap 2. The last timed lap will stay on the display. Lap counter is automatic.

Watch lap times run: Push the Memory button to the right of the timing button you are using to see the current running time - #6 for #1, #7 for #2, etc. They are marked RUN.

Stop timing & reset: Push the timing button #1 to 4 and hold 2 seconds to reset only that one. Push CLEAR DISPLAY to reset all 4.

Automatic shut off after 10 minutes of no timing: To save battery. Times running are lost but not Memory. Powers back up in Mode 1.

Recall times from memory: Push RECALL LAP TIMES. Use RF (or LF) and RR (or LR) to scroll up & down. Push again to return to timing. Recall Memory is indicated by an M appearing after the lap # for car 1 – as in - #1 17.63 L2M.

To clear memory: In Stopwatch Mode, push CLEAR MEMORY and hold for 2 seconds. All times will be erased so you can start fresh. No tire temps will be erased as long as you are in Stopwatch Mode.

Interval Timing – Mode 4

To get into Interval Timing Mode 4 push MODE 3 times: Any temps that were on the display will stay. Push the MODE button once again to cycle back to taking temps in Mode 1.

To time intervals use the Memory buttons as follows:
#1 – Times like a normal watch – every lap plus lap count.
#2 – Times a single event only – part of a lap, then resets.
#3 – Same as #2.
#4 – Same as #2.

To time less than a full lap: To start push Memory #2, 3 or 4. This starts the timing. At the end of the interval, push #2 (or 3 or 4) again. The time will be displayed and stop. *You can time 3 different intervals (segments) of each lap. #1 can also be used to get overall lap times.*

Recall from memory: Lap times and interval times will be automatically stored in memory. Recall by pushing RECALL LAP TIMES and use arrows ▲ (RF or LF) and ▲ (RR or LR) to scroll up and down.

DELUXE MEMORY PYROMETER OPERATING INSTRUCTIONS

Introduction
This pyrometer has 4 different MODES of operation.
Mode 1: Take temps, store in Memory, recall from Memory
Mode 2: Compute tire temp Averages, taken or entered
Mode 3: 4 car Stopwatch function
Mode 4: Interval stopwatch – See Quick Start on pg. 4

Order of Temps Recorded
This pyrometer is programmed to automatically record 12 tire temps in a specified order. Take the temperatures in this same order. Start with the RF, then RR, LR, and LF. Do the outside first, then center, then the inside.

If you wish to take temps in a different order: Push one of the small buttons marked RF, LR, etc. by the car icon. The pyrometer will then take that temp. Start at the outside of the tire as above.

Anticipation Mode
This pyrometer has special circuitry that will actually determine the final temp more quickly and accurately than ordinary pyrometers. Simply stick the probe into the tire and push the READ button. **No need to wait for the reading to stabilize – the microprocessor will do this for you.** This is called "Anticipation Circuitry" because it electronically anticipates – computes – the final stabilized temp based on the rate of temp change of the probe. Almost instantly the pyrometer will double beep and move on to the next temperature location. **WAIT UNTIL THE DISPLAY CHANGES TO MOVE THE PROBE.** This system gives you more accurate and consistent readings and helps minimize the variations caused by different people's style of taking tire temps.

If you prefer to take temps in the traditional way – waiting for the temps to stabilize on the display and then record the readings – this pyrometer can be reset to operate this way. All other functions will be the same. To change to traditional mode, hold down Memory buttons #1 & 10 at the same time for 2 seconds. The operating system will change so that when the READ button is pushed the actual temperature at that time will be recorded. No "Anticipation" of the final temp will take place. The unit will stay in this mode even if shut off. To change back to anticipation mode, repeat the above procedure.

MODE 1 – Take Temperatures

If any temps from your last session are on the display, they must first be cleared before you can take any new temps. If you wish to save them they can be stored in one of the Memory locations 1 – 10. See below.

To clear display: Push CLEAR DISPLAY button and hold for 2 seconds. The following message will appear:

CLEARING DISPLAY
DID YOU WANT TO SAVE?

If you do want to save these in Memory QUICKLY RELEASE the CLEAR DISPLAY button. Once the display is cleared those temps are lost. See below to save in Memory.

Begin: The display should now be blank except for the upper right temp location (Right Front outside). An arrow (>) indicates the active temp. Stick the probe into the outside edge of the tire and push the READ button. LEAVE THE PROBE IN THE TIRE UNTIL THE DISPLAY MOVES TO THE NEXT LOCATION. This happens very quickly. You don't need to wait for the temps to stabilize. The pyrometer will double beep, freeze the temp on the display and move to the next location. Move the probe to the center of the tire and repeat. Take the remaining temps in the same way. After you have finished the last one (Left Front inside) all temps on the display will be frozen.

Mistakes: If you make a mistake and don't feel that the last temp is correct you can "back up" one or more locations. Push the RE-READ button as many times as needed. Any temps in location(s) will be erased.

More temps: To take more temps, it will be necessary to clear the display. You may want to save these temps in one of the Memory locations. Temps on the display will stay until you clear them, even if the unit is powered off.

Storing temps in memory: When you have taken a full set of temps (or even a partial set), you can store them for recall later. Simply push STORE IN MEMORY and any Memory button – 1 – 10 at the same time. A double beep will indicate that these temps are stored. If there is already something in this Memory location, a message will display:

THIS MEMORY IS FULL
CHOOSE ANOTHER OR CLEAR

You may choose another Memory # OR if you no longer need those temps in Memory, push CLEAR MEMORY and that Memory number button at the same time and hold for 2 seconds. A double beep will indicate that the Memory location has been cleared.

To recall temps: Simply push and hold any of the Memory buttons. If you hold the Memory button for more than 3 seconds, the recalled temps will stay on the screen.

Back lite: Push the button below ON OFF. To save battery power, the light shuts off automatically after 2 minutes if no buttons are pushed.

Misc. Notes:
- The probe tip must be small to give rapid response. There is no other way to do it. This makes it somewhat delicate and easily damaged! Please treat the probe with care and don't allow it to get bent. Use the yellow probe protector. **A DAMAGED OR BENT PROBE TIP CANNOT BE REPAIRED AND WILL NOT BE WARRANTIED**.

- This unit shuts off automatically if not used. Temps are NOT lost. Simply turn the unit back on and continue.

- A low battery indicator comes on the display. When needed, replace with a good quality Alkaline 9 volt battery. The door is on the bottom side. In normal use the battery should last 2 months or more. The back lite shortens battery life considerably. You have approximately 1 hour after the Low Battery indicator comes on.

- Temperature limit of the probe is 300° F. A model reading in °C is available. Contact the factory or your dealer.

- For reference: One beep indicates that you have pushed a button, two beeps indicate that the pyrometer has done something – Cleared Display for example, and three beeps indicates an error of some sort.

- Several pre-programmed messages may appear to inform you of options.

- For consistent readings, always measure the tires the same distance from the edges and push the probe into the tire to the same depth each time.

- The probe plug has a wide and a narrow spade. Do not plug the probe in backwards. If you do the pyrometer will read reversed – the hotter the probe gets, the lower the temps will read.

- Keep this unit out of extreme heat or cold. If the pyrometer is very cold, the display response time may slow. This does not affect its ability to accurately measure temps. The electronics are fully temperature compensated. Take readings in the normal way. In extreme heat, the display may not be visible. Allow it to cool off and recheck. Do not leave in direct sunlight for an extended time.

MODE 2 – Temperature Averaging

You must have all 12 temps on the display to Average.

Press the MODE button once to enter Averaging mode. A message AVERAGE MODE will appear briefly. Any temps on the display will stay unless you have recalled temps from Memory (if you have Clear them from the display first). To get the various averages, simply use the Memory location buttons #1 to 5.

#1 – Average of the 3 recorded temps for all 4 tires
#2 – Front and rear averages and difference
#3 – Right and left averages and difference
#4 – Diagonal averages – RF/LR and LF/RR – and differences
#5 – Recalls the actual temps you are averaging

Recall temps from memory to average: If you have taken temps and saved them in Memory you can now recall them to average. Simply push the Memory # you want and hold it for 3 seconds. The temps will be recalled to the display. Then proceed as above. Recalled temps will stay until cleared.

NOTE: If there are temps already on the display the pyrometer will ask you if you want to save them – ?? SAVE TEMPS ?? – message. If you do want to save them, IMMEDIATELY release the Memory button. Then save by pushing the Memory # and STORE IN MEMORY button at the same time. If you don't save them they will be erased when you recall temps.

You can even enter temps you have already taken: In Average Mode, clear the display first. Use the Memory location numbers to enter the temps. The unit is programmed to enter temps in the same order as they are taken – RF outside first, etc. Once you have entered the first temp push the READ button, just the same as if temps were being taken with the probe. The pyrometer will record the temp and advance to the next location. You must enter all 12 temps to average them. When done proceed as above to compute averages. SAVE IN MEMORY IF NEEDED.

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AUTOMATIC SHUTOFF: To conserve battery life, the pyrometer has an automatic shutoff – after 5 minutes of no use in Normal mode (MODE 1) and 10 minutes in Average mode (MODE 2). When it shuts off, no temps are lost. Simply turn it back on (and push MODE to return to Average mode if needed).

#1 – Average of the 3 recorded temps for all 4 tires

```
AVG: LF 146      175 RF
     LR 174      206 RR
```

#2 – Front and rear averages and difference

```
FRONT  AVG  160
REAR   AVG  190  +30
```

#3 – Right and left averages and difference

```
LEFT    AVG  160
RIGHT   AVG  190  +30
```

#4 – Diagonal averages – RF/LR and LF/RR – and differences

```
CROSS  AVG  LR  &  RF  174
CROSS  AVG  RR  &  LF  176  +2
```

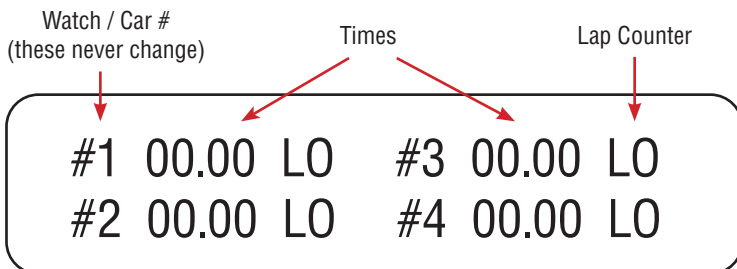#5 – Recalls the actual temps you are averaging

```
143  138  132     175  172  166
164  162  168     188  194  198
```

MODE 3 – Stopwatch

Push the MODE button twice to enter Stopwatch mode from Normal mode.
(Press MODE once from Averaging mode or three times from Interval Timing mode.)
A message STOPWATCH MODE will appear briefly.

This Stopwatch Mode is like having 4 separate watches to time 4 different cars every lap – at the same time.

The display will appear as follows:

Watch / Car #
(these never change)   Times   Lap Counter

```
#1  00.00  LO     #3  00.00  LO
#2  00.00  LO     #4  00.00  LO
```

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TO USE THE STOPWATCH FUNCTION: Use buttons #1 to 4 (pyrometer Memory) for timing. These correspond to #1 to #4 on the display.

- **At the start of the first lap push Memory button #1** (marked TIME). If you started with 00.00 the display will run at this point.

- **At the end of the first lap push #1 again.** The first lap time will be displayed and the watch will begin to internally time the second lap. The display holds the last lap time. Push the #1 button only once at this point.

- **At the end of the second lap push #1 again.** Now the time of the second lap will be displayed. You can continue this as long as needed. Follow the same process to time additional cars using the corresponding Memory buttons #2, 3 or 4.

- **The lap counter will count the laps timed for you automatically.**

- **You can also watch the time run if you want.** To release the last lap time and see the current time running push the Memory button just to the right of the timing button you are using - #6 for #1, #7 for #2, etc. (they are marked RUN). The running time will now be displayed. At the end of that lap push the TIME button #1 – 4 as usual.

- **To stop timing and reset push the corresponding TIME button & hold for 2 seconds.** This will reset the timing to 00.00 and the lap counter to L0. It will only affect the one watch #. The others will continue to run. To reset all 4 push the CLEAR DISPLAY button and hold for 2 seconds.

- **To Recall times from memory push RECALL LAP TIMES button and use arrows ▲ (RF or LF) and ▼ (RR or LR) to scroll up and down.** A letter M will appear after the lap # for car #1 to show that you are in Recall mode. The first 70 lap times are automatically stored. To erase all times in Memory, push the CLEAR MEMORY button and hold for 2 seconds. When in Timing mode, only times will be erased – not the tire temps. When going into Timing mode, a message comes up reminding you that there are times stored in Memory. You can erase them to start fresh. If not, any new times will be stored after the previous ones – up to 70 max. Timing continues while you are in Recall mode. Push RECALL LAP TIMES again to exit Recall mode.

- **There is an automatic shutoff to save battery life.** After 10 minutes (2 minutes in Pyrometer mode) of no use – no buttons pushed – the system will shut itself off. Any times running will be lost. The system will come up in Normal Pyrometer mode when turned back on.

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TYPICAL DISPLAYS IN TIMING MODE:

```
#1  19.76  L1      #3  19.53  L7
#2  19.89  L2      #4  20.17  24
```

Minutes displayed
in ½ height numbers.

```
#1 ¹21.74  L4      #3 ²20.95  L2
#2 ¹20.48  32      #4 ³21.77  L4
```
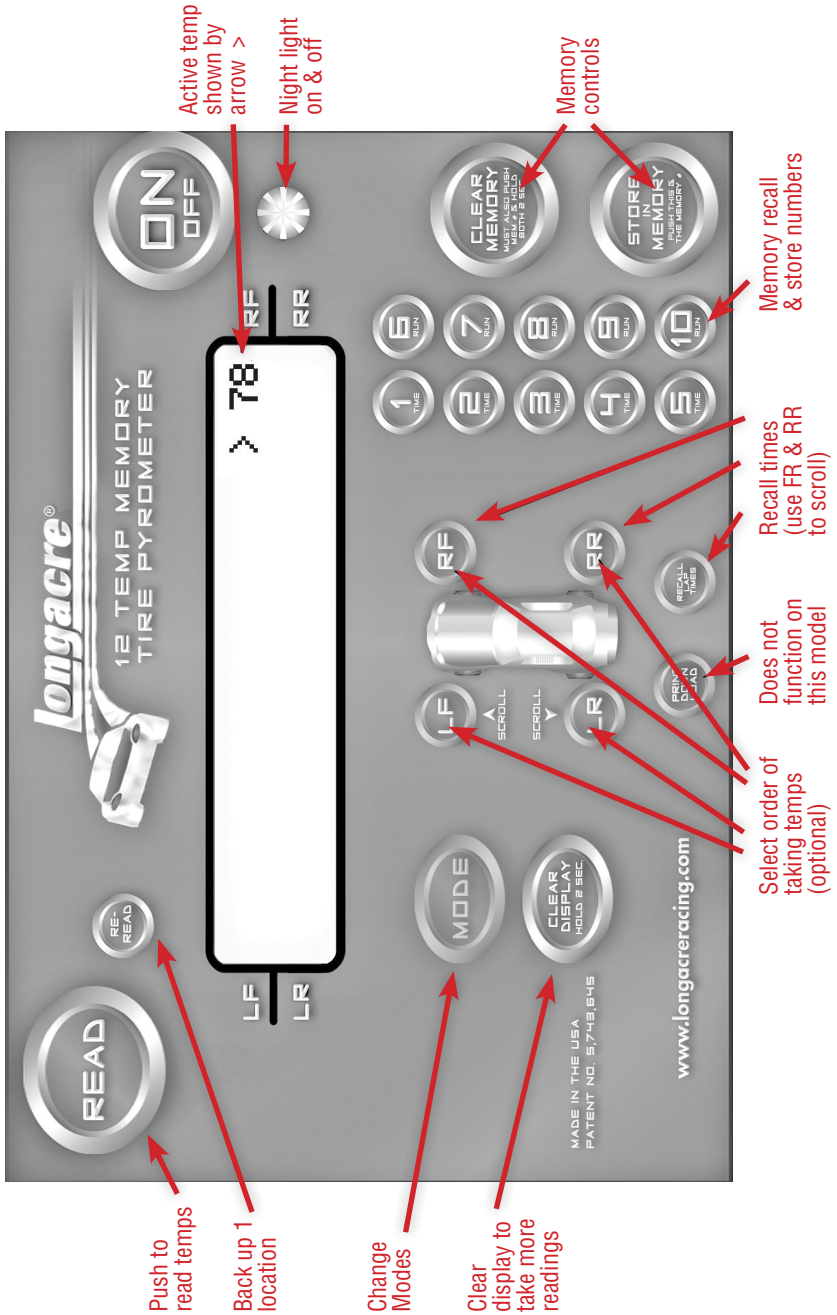
Letter M shows you are in
Recall Mode.

```
#1  17.63  L2M    #3  17.89  L2
#2  17.44  L2      #4  18.10  L2
```
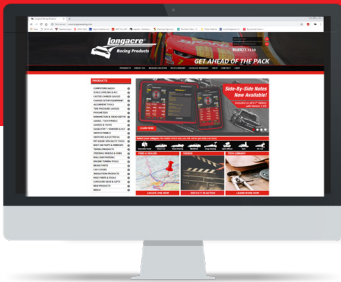
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Active temp shown by arrow >

Night light on & off

Memory controls

Memory recall & store numbers

Recall times (use FR & RR to scroll)

Does not function on this model

Select order of taking temps (optional)

Change Modes

Clear display to take more readings

Back up 1 location

Push to read temps

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12 TEMP MEMORY TIRE PYROMETER

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ON OFF

CLEAR MEMORY
MUST ALSO PUSH
MEM • & HOLD
BOTH 2 SEC

STORE IN MEMORY
PUSH TIRE &
UPDATE
THE MEMORY •

6 RUN 7 RUN 8 RUN 9 RUN 10 RUN

1 TIME 2 TIME 3 TIME 4 TIME 5 TIME

RF

RR

RECALL LAP TIMES

PRINT DOWN LOAD

LF SCROLL ▲

LR SCROLL ▶

MODE

CLEAR DISPLAY
HOLD 2 SEC.

RE-READ

READ

RF

RR

> 78

LF

LR
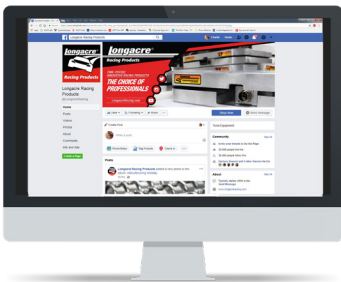
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