



## Instructions For No. 50690/92 Memory Pyrometer

**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 **QuickStart**

**NOTE:** 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 of the tire first, the 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.

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.

**NOTE:** IF YOU PREFER TO TAKE TEMPS IN THE TRADITIONAL WAY - waiting for the temps to stabilize on the display, then record the readings - this pyrometer can be reset to operate this way. All other functions will be the same. To change hold down Memory buttons #1 & 10 together 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 use are there they must be cleared before you can take any new temps. If you wish to save them they can be stored in one of the Memories - 1 to 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 that 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 Memories. Temps on the display will stay until you Clear them, even if the unit is turned off.

**STORE 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 to 10 - at the same time. A double beep will indicate that these

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temps are stored. If there is already something in this Memory location a message will come up:

**THIS MEMORY IS FULL  
CHOOSE ANOTHER OR CLEAR**

You may choose another Memory # OR if you no longer need those temps in Memory push the "Clear Memory" and that Memory number button and hold for 2 seconds. A double beep will indicate that the Memory has been cleared.

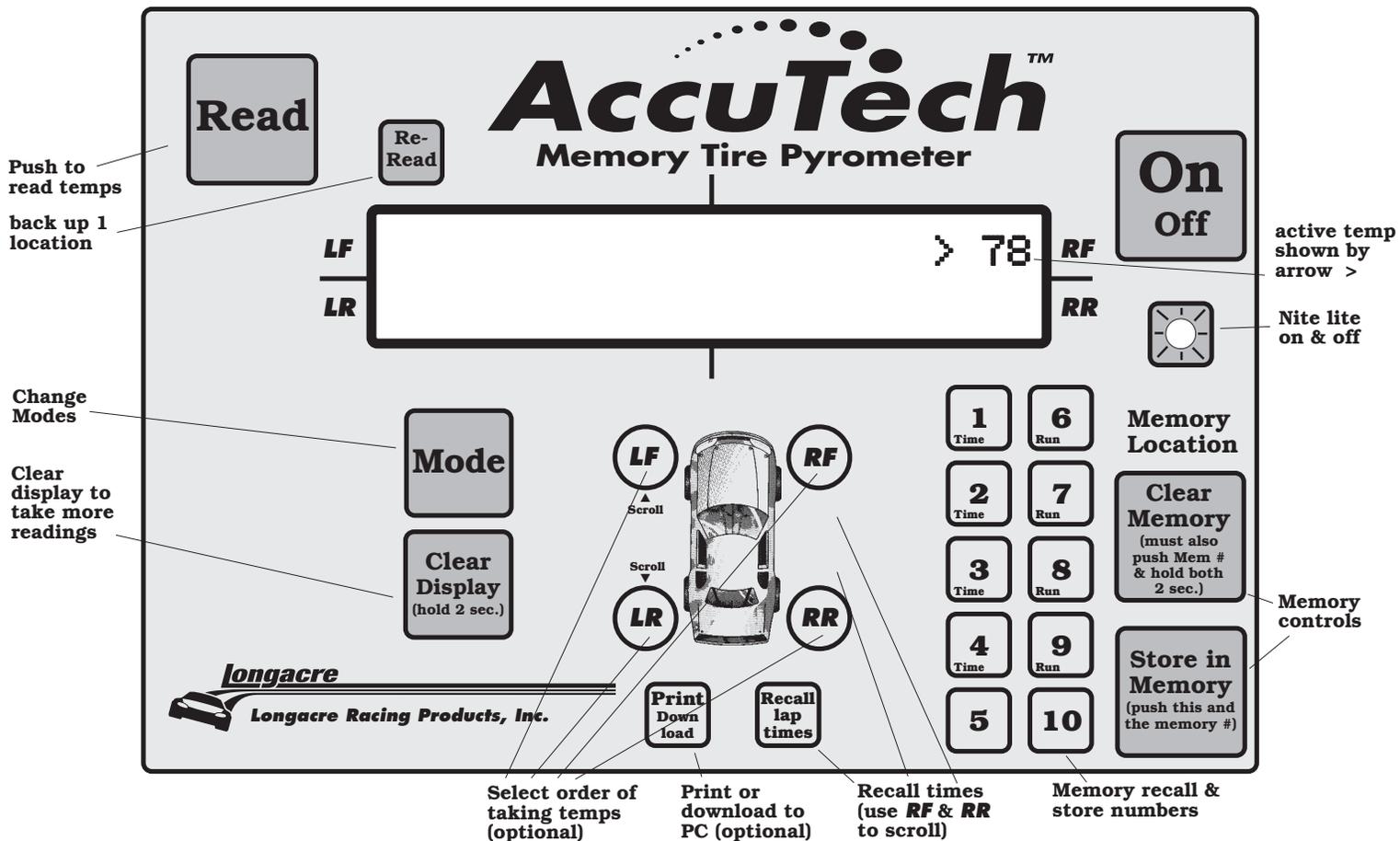
**To RECALL TEMPS:** Simply push and hold any of the Memory buttons. If you hold the Memory button more than 3 sec. the recalled temps will stay on the screen.

**BACK LITE:** Push button below "ON". To save battery power lite shuts off automatically after 2 min. if no buttons are pushed.

**See additional pages for Modes 2, 3 & 4.**

**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 in 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 approx. 1 hour after the Low Battery indicator comes on.
- Temp 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, 2 beeps indicate that the pyrometer has done something - Cleared Display for example, and 3 beeps indicates an error of some sort.
- Several pre-programed messages may appear to inform you of options. They will be self explanatory.
- For consistant 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 be 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 sunlite for an extended time.





## Instructions for Stopwatch Mode on Pyrometer #50690

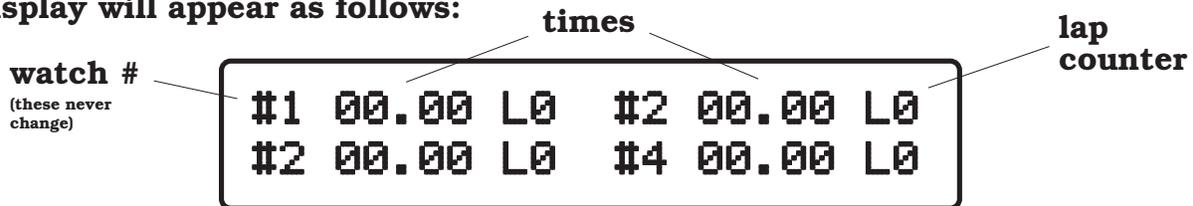
See full instructions for normal pyrometer operation.

### Mode 3:

Push the Mode button twice if you are in Mode 1 - normal pyrometer (only once if you are in Averaging 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:



### 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** (or 2, 3, or 4 if desired - they are 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 time. Push #1 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.

- **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 timing button - #1 to 4 - as usual.

- **To stop timing and reset push the timing button & hold for 2 sec.**

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 2 sec.

- **To Recall times from memory push Recall Lap Times button and use RF (or LF) and RR (or LR) to scroll up and down.**

The first 70 lap times are automatically stored. To erase all times in Memory push Clear Memory button and hold 2 sec. When in Timing Mode only times will be erased - not 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 previous ones - up to 70 max.

**There is an automatic shutoff to save battery life.**

After 10 minutes (2 min. 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.

### Typical displays in Timing Mode:

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

#1 <sup>1</sup>21.74 L4    #2 <sup>2</sup>20.95 L2  
#2 <sup>1</sup>20.48 32    #4 <sup>3</sup>21.77 L4

minutes displayed in 1/2 height numbers



## Instructions for Tire Temp Averaging

Model No. 50690 - See full instructions for normal pyrometer operation.

### Mode 2: (You must have all 12 temps on the display to Average)

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. The pyrometer will automatically compute and display the averages.

- #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 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 display first. Use the Memory Location numbers to enter the temps. The unit is programed to enter temps in the same order as they are taken - RF outside first, etc. Once you have you have entered the first temp press the "Read" button, just the same as if temps were being taken. 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.

### Automatic shutoff:

To conserve battery life this pyrometer has an automatic shutoff - after 5 minutes of no use in Normal mode and 10 minutes in Average mode. When it shuts off no temps are lost. Simply turn back on (and back into Average mode if needed).

#1 - average of the 3 recorded temps for all 4 tires

|             |        |
|-------------|--------|
| AUG: LF 146 | 175 RF |
| LR 174      | 206 RR |

#4 - diagonal averages - RF/LR and LF/RR - and diff.

|                   |        |
|-------------------|--------|
| CROSS AVG LR & RF | 174    |
| CROSS AVG RR & LF | 176 +2 |

#2 - front and rear averages and difference

|           |         |
|-----------|---------|
| FRONT AVG | 160     |
| REAR AVG  | 190 +30 |

#5 - recalls the actual temps you are averaging

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

#3 - right and left averages and difference

|           |         |
|-----------|---------|
| LEFT AVG  | 160     |
| RIGHT AVG | 190 +30 |