

## LC-1 Accessories:

- LMA-3: Auxiliary Input #3 (AuxBox- RPM, Temp, Duty Cycle, Acceleration, Boost/MAP): #3742
- DL-32 (32 Channel Vehicle Mounted Data-Logging System) #3782
- XD-16 (Air/Fuel Digital Gauge) #3780
- Exhaust Clamp: #3728
- Stainless Steel Bung w/ Steel Plug" #3736
- HBX-1: Heat-sinking Bung Extender: #3729

## Replacement Parts:

- Terminator Plug: #3750
- MTS 2.5mm to 2.5mm serial cable: #3760
- Bung/Plug set: #3735
- Sensor (Bosch LSU4.2): #3737
- Serial Programming Cable: #3746

Order parts, get support, find FAQ answers, and read case studies at [www.tuneyouengine.com](http://www.tuneyouengine.com)



1) The Oxygen Sensor used with this device gets very hot in operation. Do not touch the hot sensor. Do not let a hot sensor touch a combustible surface. Do not use the sensor with or near flammable liquids or gases. Failure to heed these warnings may result in severe burns, explosions or fires. 2) When installed in the exhaust, the oxygen sensor **MUST** be connected and operating with the LC-1 whenever the car is running. An un-powered oxygen sensor will be quickly damaged when exposed to hot exhaust gases.



## LC-1 (Lambda Cable) QUICK START GUIDE

*The complete instruction manual is on the CD*

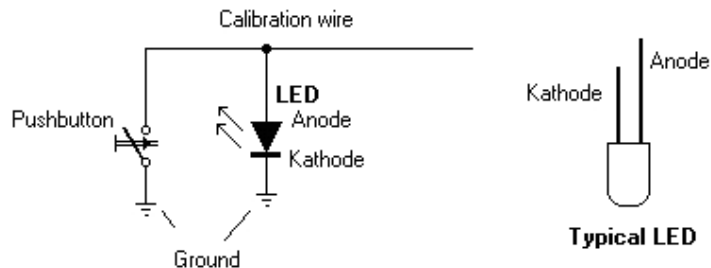


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# LC-1 (Lambda Cable) QUICK START GUIDE

1. The LC-1 has 6 stripped wires. The **RED** wire should be connected to a switched 12V power source, make sure the connection is fused with a minimum fuse size of 5A. The **BLUE** and **WHITE** wires should all be grounded to the same ground source. Optimally, these will be soldered to the same lug, and connected to a single point. When this isn't possible, connect each one to a separate lug, and attach in close proximity. Multiple lugs on the same bolt is not optimal, and can result in unwanted signal "noise." When possible, soldering is always better than crimping.
2. *Optionally*, the **YELLOW** (Analog out 1) and/or **BROWN** (Analog out 2) can be connected to the analog inputs of other devices such as data loggers, gauges, etc.
3. Connect the LED and momentary pushbutton between the LC-1's **BLACK** calibration wire and ground. Connect the red wire (Anode) of the included LED AND one side of the push button to the calibration wire (black) of the LC-1. Connect the black wire (Cathode) of the LED AND the other side of the push button to ground (preferably to the same ground point as the blue and white wires.) Refer to the schematic below.

Note: The LED will fit a 5/32" (0.155" - 0.158") hole size and a panel thickness of 28-16gauge (0.031" - 0.062").



## Sensor Calibration

4. Do not connect the O2 sensor to the LC-1 or in to the exhaust yet.
5. Switch 12V supply to the LC-1 ON and wait for 20 seconds. The LED will flash a two blink sequence during this time.
6. Switch the 12V supply OFF after 20 seconds.
7. Connect the sensor to the LC-1's sensor interface connector but do not put the sensor in the exhaust. **The sensor must be exposed to free air for the first time calibration.**
8. Switch the 12V supply to the LC-1 ON. The LED will first blink slowly and steadily indicating that the sensor is warming up. The LED will then start a faster blinking sequence indicating a Heater calibration.
9. Once the LED is lit steadily, press and hold the push button for 30 seconds. During this period the LED will go off. Once the button is released the LED light will come back on. The LC-1 will now calibrate itself by using air as a reference gas with known oxygen content.

After the free air calibration is finished the LED should light up steady and continuously, indicating correct operation of the LC-1.

10. Install the O2 sensor in the exhaust. The system is ready for use.

## Programming analog outputs

1. Connect the terminator plug (2.5mm male plug with no cable) into the Serial IN connection of the LC-1.
2. Connect the 2.5mm stereo to DB-9 cable to the serial OUT port of the LC-1.
3. Launch *LM Programmer*



The default analog outputs are as follows: Analog output one (yellow) is 1.1V = 14 AFR and .1V = 15 AFR. This is a simulated narrowband signal. Analog output two (brown) is setup as 0V = 7.35 AFR and 5V = 22.39 AFR.



**To gain access to the complete LC-1 manual please install the software provided on the CD which was included as part of your kit.**