This first section explains how to install and use the TLC controller. Later sections give the details for each application.

INSTALLATION

Look through the later sections and find your application. Wire in its harness as shown.

CODING

Before you can use the TLC, you must program or *code* it for your application. You will do this by grounding or tapping an internal input a certain number of times.

1. Consult the section for your application and write down the number of such “coding” taps it requires.

2. Find a chassis grounding point near the harness's, white, nylon connector. Switch a multimeter to an amp or milliamp range. Connect its negative lead to ground. Extend the lead with jumper cables, as necessary, so that the meter's positive probe easily reaches the connector.

3. Open the TLC unit and slide out the circuit board so that the leads of the orange LED are accessible. Plug the controller into the harness. Turn on the ignition if the harness does not supply power to the controller while the ignition is off. Within a few seconds, the LED should flash twice, pause a couple seconds, and then flash twice again. This confirms the controller has power and is uncoded. If the LED outputs longer, 0.6 s flashes and the car is doing annoying things, un-code the controller by tapping the inner lead of the LED with the positive multimeter probe 15–20 times. The LED should flash as you do this. If it doesn't, check your meter connections.

4. Tap the inner lead of the LED with the positive meter probe for the number of coding taps your application requires. The LED should flash as you do this.

5. Confirm the LED flashes back the same number of times. After a brief pause, the flashing will repeat in case you miss a flash the first time around.

6. Tap the inner lead of the LED again the same number of times to confirm your application's code. The LED should now either start to blip once, once every few seconds, or start outputting longer 0.2–0.6 s flashes. If it continues to output a train of blips, the number of taps didn't match. Repeat steps 4–6 until the LED starts to blip once or flash for longer.

The controller is now ready for use.

OPERATION

Later sections explain how the controller runs its different applications. As it runs, the controller monitors how often and how rapidly the output turns on and off. Should you cycle it too often and too fast (more than roughly a dozen times over ca. 10 s or a few dozen times over a couple minutes), the controller will suppose an input is noisy and disable the output. It will reenable it once things have been quiet for about three minutes.

FLASH CODES

The controller continuously flashes its LED to show either its coding status or the status of its inputs and outputs. If its inputs or output is idle, or it has not yet been fully-coded, the controller outputs a series of 50 ms flashes every few seconds, It flashes:

1 blip	if the controller is coded or all its inputs and outputs are idle,
2 blips	if the controller is not yet coded,
4+ blips	if the controller is partly coded for the application with this number of coding taps. To finish coding and run the application, you must tap LED this same number of times. (See the CODING section above.)

Otherwise, the controller outputs a Morse-code-like string of 0.2 s dots and 0.6 s dashes that show which inputs and output are or were active:

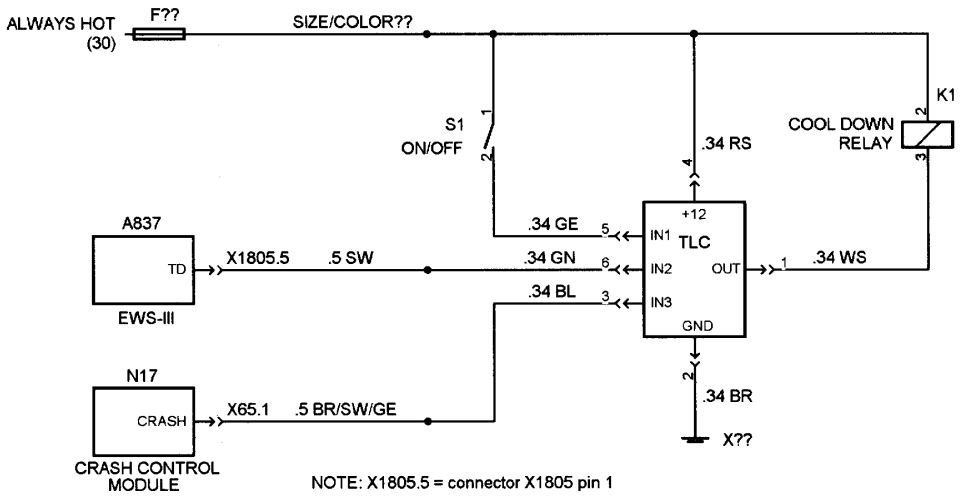
dot	if input 1 is active (at +12v),
dash	input 3 is active (grounded),
dot dot	input 2 is active (grounded),
dash dash	the output is on (grounded).

For example, the controller would flash "dot dot dot dash dash" then pause 0.6 s if inputs 1 and 2 are active and the output is on. The later sections give the signal names for each flash code.

To flash out the current application's code (number of coding taps), tap the inner lead of the LED, just once following the procedure given in the CODING section.

5 COOL DOWN TIMER

WIRING HARNESS



CODING

Give 5 coding taps.

OPERATION

All times and speeds are approximate.

The controller automatically runs the auxiliary fan for 10 minutes if you switch off the engine after running it for at least 5 minutes. It does not turn on the fan after shorter runs, for example, from the garage out to the driveway. The controller gradually increases the 10 minutes of cooling time to 30 as you increase the time you run the engine to 15 minutes, and the engine gets hot.

The controller enables the on/off switch after you have run the engine for 10–15 s. Tap the on/off switch to toggle the auxiliary fan on and off. The fan will run indefinitely if the engine is running or for 30 minutes after you switch off the engine.

The controller counts the engine's run time even if it is too short to turn on the auxiliary fan, It partly credits the time toward the above times the next time your run the engine. While the engine is off, it slowly decays this time and what remains of the above cooling times until the times are gone and the engine is cold. It decays the times at one fourth the rate it counted them, so that it has completely forgotten 30 minutes of engine run time after two hours.

A crash cancels both automatic and manual cooling.

FLASH CODES

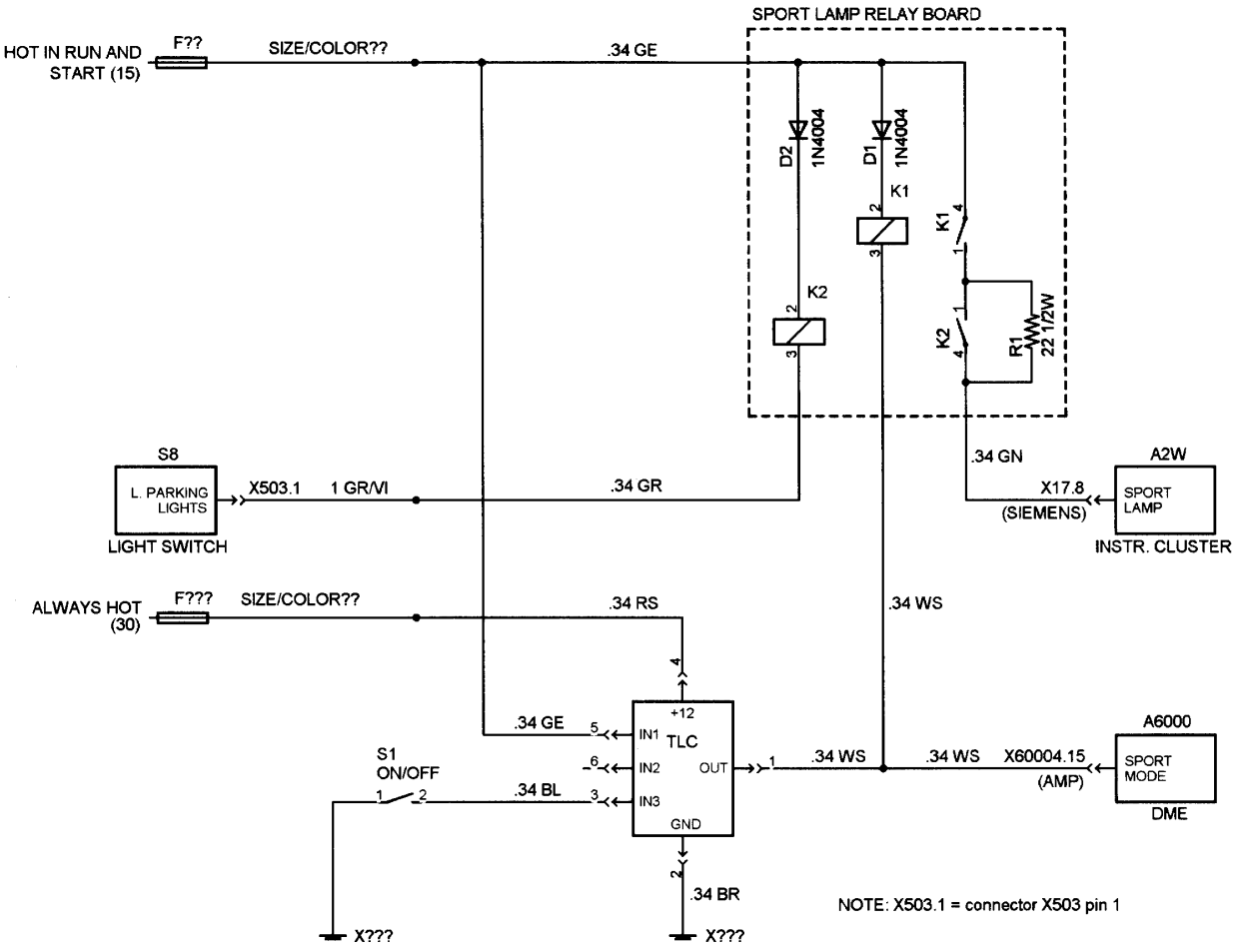
dot	the on/off switch is on or was on,
dash	the crash signal is on or was on,

dot dot	the engine tach signal is active (the engine is running) or was active,
dash dash	the controller is running the auxiliary fan or was.

N.B.: The controller flashes **dot dot** whenever the engine speed is 100 rpm or greater. It doesn't start adding to the cooling times, however, until the engine reaches 400 rpm.

7/8 SPORT MODE

WIRING HARNESS



CODING

Give 7 coding taps – to start with sport mode on.
Give 8 coding taps – to start with sport mode off.

OPERATION

All times are approximate.

You can toggle sport mode whenever the ignition is on and at RUN (at position 2).

Tap the sport mode switch to toggle sport mode on and off. The SPORT light will go on or briefly flash and go out.

Press and hold the sport mode switch for 5 seconds to lockout or reenable sport mode. The SPORT light will go on or briefly flash and go out.

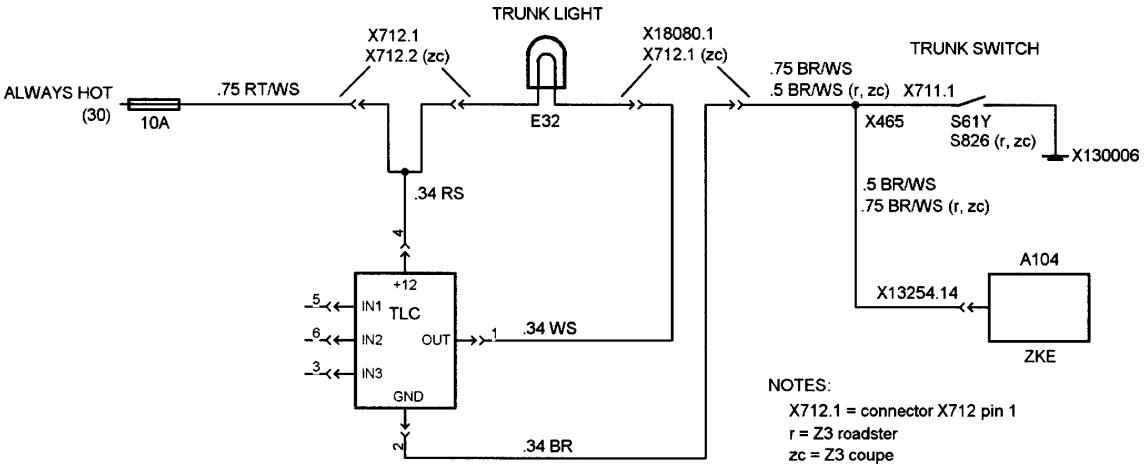
PLEASE NOTE: sport mode *will be locked out* if the battery is disconnected or there is a power interruption. If sport mode doesn't seem to work, try pressing and holding the switch for 5 seconds.

FLASH CODES

dot	the ignition is on (key is at RUN/START, Terminal 15 is on) or was on,
dash	the on/off switch is on or was on,
dash dash	the controller is lighting the SPORT light or has pulsed the DME sport mode input.

9 TRUNK LIGHT

WIRING HARNESS



CODING

Give 9 coding taps.

OPERATION

All times are approximate.

Opening the trunk softly turns on the trunk light. After 15 minutes, it softly goes out.

FLASH CODES

dot dot	the trunk switch is off or went off – this is an abnormal code and may signal a wiring or controller problem –
dash dash	the controller is lighting the trunk light or was.