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## General Tech Bulletin 08-2019

### GEN3 / FE2 ECU Code Light

This bulletin is intended to clear up confusion about the operation of the ECU Code Light.

FE2: Code light is RED and is an incandescent bulb and not polarity dependent.

GEN3: Code light is BLUE and is an LED. It must be wired in correct polarity. The red 12V+ wire must be connected to the switched post of the ignition switch. The black wire is connected to the black wire with a female barrel connector in the dash harness. That wire is connected to ECU Pin M-25 (larger ECU connector).

When the ignition switch is "on", both the FE2 and GEN3 are ready, the ECU opens a ground for the light to display a "CODE". If the ECU has experienced a sensor out of range (high or low), it records the event and cycles a ground on Pin M-25, which turns the light on and off resulting in a "CODE".

FE2/GEN3 ECU Code Light function the same way.

- 2 second flash on start up
- "on" for an internal error
- rapid flash for TPS Auto Cal Mode

#### Codes

21	Injector over current
22	Coil over current
23	Digital over current
12	AT out of range
13	CT out of range
14	TPS out of range
15	MAP out of range (FE2 BARO)



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## Diagnosing Light problems

**FE2 Test:** Located near the ECU, you will find the 2-way grey DTM connector with a red light connected. With the ignition switch on, one pin is battery voltage, and the other pin should have continuity with ECU Pin M-25 (located in the larger of the two ECU connectors).

**GEN3 Test:** inspect the wiring, then turn on the IGN Switch, disconnect and ground the black wire to a chassis ground. The light should turn on when grounded.

To test the wiring between the code light and the ECU, disconnect the larger ECU connector, and the barrel connector on the black wire from the light. Using an OHM meter, there “should be” continuity between the barrel connector and ECU pin M-25. There “should not” be continuity to a 12 volt or chassis ground source. If there is, a wire could be crossed in the 6-pin dash harness connector, or there could be a short somewhere. I have seen a short to ground in the body of the LED light.

**FE2/GEN3 Testing Code Light with PE Monitor software:** This will test the ECU function, condition of the light and wiring. Establish a connection to the ECU with your PC, **only with the SCCA Kit supplied COMM Cable**. You will need either version V37 or V50 of the PE Monitor software installed.

- Select Diagnostic menu at the top of the screen
- Select Output
- Digital Outputs are listed to the right of the new window. Digital Output #9 is the ECU Code Light. You can click the #9 box to flash the light or, check the turn on continuously box and the light will stay on until you uncheck the box.
- When done testing, uncheck the “turn on continuously” box and disconnect the PC
- **NOTE: When using the PE Monitor V37 or V50, never attempt to connect to an ECU with the wrong version of PE Monitor. You should get a warning “Wrong Version of Monitor”. There have been occurrences when a tuning file has been corrupted when these steps were not followed. If this occurs your ECU will need to be reprogrammed by SCCA Enterprises or a CSR.**

**FE2/GEN3 Code Verifying and Clearing:** Establish a connection to the ECU with your PC, **only with the SCCA Kit supplied COMM Cable**. You will need either version V37 or V50 of the PE Monitor software installed.

- Select Diagnostic menu at the top of the screen
- Select System Status
- System Status will display. Item or items that have experienced an out of range condition will be highlighted in yellow with the number of errors.



- You can “reset error counter” in the upper left-hand side of the display.

Tips: If an error accrues a couple of times in a season, most likely it’s not a problem. The limits to flag an error are very close to average values in regular operation.

If you have errors every event, further diagnosing will be needed.

### **ECU code light on all the time**

You need to check the condition of the light and wiring between the light and ECU for possible problems. Be sure to check that the light is not grounded to the dash through the light housing itself. If everything checks out satisfactory, there are a couple of possibilities. More than likely the ECU will need to be set back PE.

### **ECU code light rapid flashing**

A rapid flashing ECU Code Light means the ECU is in TPS Auto Cal mode.

The only way to cancel this code is to complete the TPS Auto Cal.

You need to check that there is a little slack or free play in the throttle cable. The throttle plate needs to return positively closed every time it’s opened.

Turn on the ignition switch, pause 2 seconds, hold the throttle still at wide open for 2 seconds, release and pause for 2 seconds, hold the throttle still at wide open for 2 seconds, release and pause for 2 seconds, then turn the ignition switch off.

Turn the ignition switch back on to verify the ECU completed the calibration and the rapid flash has stopped.