

ZEEMS TROUBLE CODES

ZEEMS • Zenith Electronic Engine Management System • (Zenith Fuel Systems LLC)

When the engine check light (Fig.1) is on continuous there will be trouble codes stored on the ECU

To Retrieve Codes:

1. With the engine off, turn the key to the ON position.
2. The engine check light will flash once pause and flash twice to indicate a code 12. Code 12 indicates the fault system is functioning. Code 12 will be flashed 3 times with a double pause between each set.
3. The next trouble code will be displayed in the order of occurrence. It will also be flashed three times with a double pause between each set.
4. After all trouble codes have been flashed three times, the codes will repeat starting with code 12.

To Clear the Codes:

1. After all of the codes have been retrieved and conditions repaired, start the engine. With the engine running, momentarily ground the pin # 8 "orange/black" (self-learn wire) with red connector (Fig. 2)
*You will hear the engine hesitate as the ground is made and the engine check light turns off.



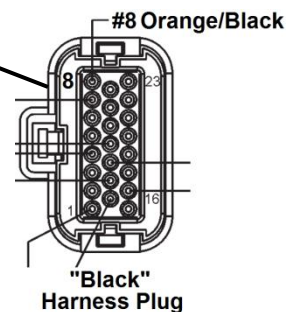
Fig. 1

Engine Check Light
(Malfunction Indicator)



Fig. 2

(Self-learn Wire)
Connector



Diagnostic Trouble Codes List Header Description – Following Page:

Condition: Event that caused the Engine Check Lamp to come ON.

Sequence: Multiple like events initiating sequential actions.

Result: What the ECU will do when it detects a fault condition.

Trouble Code: The code that will be displayed by the Engine Check Light.

Trouble Flag: Code that will be displayed on a laptop using the Zenith monitoring software while the engine is running.

Code/Flag retained in ECU memory with key off? Which flags and codes that will be retained for retrieval when the key is turned OFF.



This bulletin is provided for technical reference and service related updates. If you have any questions, comments or do not wish to receive these e-mails, please reply to this e-mail or call the Service Technical Support Group 800 478-1244.

	Condition	Sequence	Result	Trouble Code	Trouble Flag	Code/Flag Retained in memory with key off?
1	Engine oil pressure switch indicates low oil pressure		Oil pressure switch indicates oil pressure is low for 1 complete second – engine shutdown occurs		2	NO
2	Engine overheating detected (coolant >= 239F)	1	RPM limited to 950 maximum for 60 seconds		3	NO
		2	Once 60 second time limit is exceeded – engine shutdown occurs		3	NO
3	Transmission oil temperature switch indicates over temp	1	RPM limited to 950 maximum for 60 seconds		4	NO
		2	Once 60 second time limit is exceeded – engine shutdown occurs		4	NO
4	Beginning of diagnostic routine		No fault condition exists – signifies beginning of flash codes	12		Yes – Always present
5	Engine coolant sensor indicates short circuit or extreme overheating of engine (coolant temp >=266F)	1	Trouble code is stored in memory	14	3	Code retained in memory
		2	RPM limited to 950 maximum for 60 seconds	14	3	Flag clears when ignition is OFF
		3	Once 60 second time limit is exceeded – engine shutdown occurs	14	3	Flag clears when ignition is OFF
6	Engine coolant sensor indicates open circuit		Trouble code is stored in memory	15		Code retained in memory
7	Pedal position sensor over voltage (over 4.5 volts)		Trouble code is stored in memory	21		Code retained in memory
8	Pedal position sensor under voltage (0 volts)		Trouble code is stored in memory	22		Code retained in memory
9	Air temperature sensor indicates open circuit		Trouble code is stored in memory	23		Code retained in memory
10	Air temperature sensor indicates short circuit		Trouble code is stored in memory	24		Code retained in memory
11	MAP sensor circuit indicates high voltage (4.98 V or above)		Trouble code is stored in memory	33		Code retained in memory
12	MAP sensor circuit indicates short to ground		Trouble code is stored in memory	34		Code retained in memory
13	Oxygen sensor – lean condition detected		Trouble code is stored in memory	44		Code retained in memory
14	Oxygen sensor – rich condition detected		Trouble code is stored in memory	45		Code retained in memory