

Diagnostic Trouble Codes

ThunderMax High Resolution ECM For 2008-2010 Delphi®-Based Air Cooled Touring Motorcycles

The ThunderMax EFI controller is not legal for use or installation on motor vehicles operated on public highways in the State of California or other States where similar emission control laws may apply. A 50 state ARB legal version, the ThunderMax 50, is now available.

The user shall determine suitability of the product for his or her use. The user shall assume all risk and liability in violation of regulations and any incurred financial obligations due to vehicle inspections or emissions tests.

Email Technical Questions to: <u>ProductSupport@ZippersPerformance.com</u>

www.Thunder-Max.com

DIAGNOSTIC TROUBLE CODES

When the Diagnostic Codes option is selected from the Tuning Maps Tree (Subcategory of Module Configuration), the following window will appear:

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Code Page 1 Code F	Page 2 Code Page	3 Code Page 4					
ОК	OK	OK	605 Module Flash Low	OK	OK	OK	641 5v Vref1 Out Of Range
ОК	OK	ОК	603 Module Eeprom Low	ОК	OK	ОК	651 5v Vref2 Out Of Range
ОК	OK	ОК	U1300 ECM Serial Data Low	ОК	OK	ОК	373 Crank Pos Sensor Intermitt
ОК	ОК	OK	U1301 ECM Serial Data High	0K	OK	ОК	107 Map Sensor Lo
ОК	OK	ОК	U1097 Lost Speedo Serial Data	ОК	OK	ОК	108 Map Sensor Hi
ОК	OK	ОК	U1064 Lost TSSM Serial Data	OK	OK	ОК	374 Crank Sensor Sync Error
ОК	OK	ОК	1003 Sys Relay Contacts Open	ОК	OK	ОК	1600 EFI Module Internal Fault
ОК	OK	OK	1002 Sys Relay Coil Hi	OK	OK	ОК	1270 TGS Validation Error
ОК	OK	ОК	1001 Sys Relay Coil Lo	OK	OK	ОК	2107 EFI Module Internal Error
ОК	OK	OK	1004 Sys Relay Contacts Close	OK	OK	ОК	2122 TGS1 Lo
ОК	OK	ОК	1009 Incorrect Password	ОК	OK	ОК	2123 TGS1 Hi
ОК	OK	OK	1010 Missing Password	OK	OK	ОК	2127 TGS2 Lo

Trouble Coder									
Code Page 1 Code I	Page 2 Code Page	3 Code Page 4					1		
ОК	OK	OK	2128 TGS2 Hi	ОК	0K	ОК	2102 TAC Lo		
ОК	OK	ОК	2138 TGS Correlation Error	ОК	0K	ОК	2103 TAC Hi		
ОК	OK	ОК	120 TPS1 Range Error	ОК	0K	ОК	661 Intake Solenoid Lo		
ОК	OK	ОК	220 TPS2 Range Error	ОК	0K	ОК	662 Intake Solenoid Hi		
ОК	OK	ОК] 122 TPS1 Lo	ОК	0K	0K	2176 TAC Closed Pos Not Lear		
ОК	ОК	ОК	123 TPS1 Hi	ОК	ОК	ОК	1514 Air Flow Fault		
ОК	OK	ОК	222 TPS2 Lo	ОК	0K	0K	2105 Efi Forced Engine Shutdo		
ОК	OK	ОК	223 TPS2 Hi	ОК	0K	ОК	1501 Jiffy Stand Lo		
ОК	OK	ОК	2135 TPS Correlation Error	ОК	0K	0K	1502 Jiffy Stand Hi		
ОК	OK	ОК	2119 TAC Range Performance	ОК	ОК	ОК	572 Brake Switch Lo		
ОК	OK	ОК	2100 TAC Motor Open	ОК	0K	ОК	117 Engine Temp Sensor Lo		
ОК	OK	ОК	2101 TAC Actuation Error	ОК	0K	0K	118 Engine Temp Sensor Hi		
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			Close	Clear Diagr	nostic Codes				

ode Page 1 Code F	Page 2 Code Page	3 Code Page 4					
OK	OK	OK	112 Intake Air Temp Sensor Lo	0K	OK	OK	562 Battery Voltage Lo
OK	OK	OK	113 Intake Air Temp Sensor Hi	0K	OK	OK	563 Battery Voltage Hi
ОК	ОК	OK] 1351 Front Ign Coil Lo	0K	OK	OK	501 Vehicle Speed Sensor Lo
OK	ОК	OK	1354 Rear Ign Coil Lo	0K	OK	OK	502 Vehicle Speed Sensor Hi
0K	ОК	OK	1352 Front Ign Coil Hi	ОК	ОК	OK	1356 Rear No Combustion
0K	ОК	OK	1355 Rear Ign Coil Hi	0K	ОК	OK	1353 Front No Combustion
ОК	ОК	OK] 1357 Front Combustion Intermit	ОК	ОК	OK	505 Idle Response
0K	OK	OK	1358 Rear Combustion Intermitt	0K	OK	OK	444 Purge Sol Lo
OK	ОК	OK	261 Front Injector Lo	OK	OK	OK	445 Purge Sol Hi
OK	ОК	OK	263 Rear Injector Lo	0K	OK	OK	1475 Exhaust Act Pos error
OK	ОК	OK	262 Front Injector Hi	0K	ОК	OK	1477 Exhaust Act Lo
ОК	ОК	OK	264 Rear Injector Hi	0K	OK	OK	1478 Exhaust Act Hi
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Tr	ouble Code	es						X
Co	de Page 1 Code	Page 2 Code Page	3 Code Page 4					
Ľ	OK	OK	ОК	131 Front O2 Sensor Lo	OK	0K	ОК	Baro Sensor Lo
E	0K	0K	ОК] 151 Rear O2 Sensor Lo	0K	OK	ОК	Baro Sensor Hi
E	ОК	ОК	ОК] 132 Front O2 Sensor Hi				
Ε	ОК	ОК	ОК] 152 Rear O2 Sensor Hi				
E	0K	ОК	ОК	134 Front O2 Sensor Inactive				
Ē	ОК	OK	ОК	154 Rear O2 Sensor Inactive				
E	0K	OK	ОК	1510 EFI Limited Performance				
Γ	OK	ОК	ОК	1511 EFI Power Management M				
E	0K	OK	OK] 1512 EFI Forced Idle Mode				
Ē	ОК	OK	ОК	577 Cruise Control Input Hi				
E	ОК	ОК	ОК] 1655 Acr Lo				
E	ОК	ОК	OK] 1656 Acr Hi				
				Close	Clear Diag	nostic Codes		

Open the Diagnostic Trouble Codes window when linked to your ThunderMax ECM to view the Diagnostic Trouble Codes status.

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The Diagnostic Trouble Codes window displays **counts, current** and **historical errors** for all of the sensors and devices that are necessary for the proper operation of your motorcycle. These windows eliminate the need for the factory scan tool for reading trouble codes. Instead of outputting a trouble code, this window will display the status of the electronic system.

Three types of messages are given in the DTC window, (1) Counts which are not a DTC fault code, (2) Current errors, (3) Historic Errors

Trouble Codes												
(Co	Code Page 1 Code Page 2 Code Page 3 Code Page 4											
[OK	ОК		Historic Fault		605 Module Flash Low						
[OK		0K	0K 0K		603 Module Eeprom Low U1300 ECM Serial Data Low						
[ОК		ок									
	OK Counts – This is the test mode counting - scanning system integrity. A low numeric value listed within the left column (counts) is not a DTC fault code. A large number in the counts window should reflect a current fault in the		OK OK Current Fault – A fault is occurring with the sensor in question. Example: A 2122 TGS1 Low "Current Fault" simply means that the sensor voltage is currently too low to operate correctly. Inspect TGS - wiring required		Hist fault occu if "C disp elec addu the l show issu with clea	U1300 ECM Serial Data Low oric Fault – A has previously urred in the past; urrent Fault" is layed there are trical issues that d to be ressed. If only Historic Fault is wn, and no es are found the motorcycle, r the DTC.						

Low battery voltage will result in a Fault Code as well due to low return voltage from the sensors. With an extended session of linking without the engine running, a charger may be <u>properly</u> connected to the battery <u>before</u> prolonged link sessions, but only with the engine off. Otherwise you may have a weak battery when you try to crank the engine over. Removal of the headlight fuse will greatly reduce battery drain while linked.

The Diagnostic Trouble Codes are useful when troubleshooting electrical issues with your motorcycle. Most all problems we have encountered thru development are related to ECM connector problems, faulty wiring, adding incompatible electrical accessories, faulty TSSM. If an error is occurring with a sensor, but you only see a Historic Code, use the "Clear Diagnostic Codes" button to clear the historic codes. If the code is current and it re-appears after you clear it, start your inspection of new devises added to the cycle or work thru the factory manual to locate the problem in the system. If you find stored DTC in the module we recommend you perform the following on your ECM connector. Remove it from the ECM then before re-installing the connector, lightly spread some dielectric grease on harness connector terminals, and on the inside lip of the connector port opening of the ECM to allow the rubber weather seal in the connector plug to slide into place without binding. Review connector procedure in the current installation manual.

See H-D Electronic Diagnostic Manual for more information about DTC's