

9 DDEC V Codes

To read DDEC V codes, use the Detroit Diesel Diagnostic Link (DDDL). The DDDL will display active and inactive fault codes which are listed in Table "Flash Codes, SAE Codes, Descriptions" .

Note: Some vehicle dashboard displays will show SAE faults.

- Yellow= Sensor
- Red= Protection
- Blue = Logic
- Green = MAS (Maintenance Alert System)

DDC Code # (Flashed)	PID	SID	FMI	Description
11	187	-	4	Variable Speed Governor Sensor Voltage Low
11	187	-	7	Variable Speed Governor Switch System Not Responding
12	187	-	3	Variable Speed Governor Sensor Voltage High
13	111	-	4	Coolant Level Sensor Input Voltage Low
13	111	-	6	Add Coolant Level Sensor Input Voltage Low
13	-	146	6	EGR Valve Current Too High
14	110	-	3	Coolant Temperature Sensor Input Voltage High
14	175	-	3	Oil Temperature Sensor Input Voltage High
15	110	-	4	Coolant Temperature Sensor Input Voltage Low
15	175	-	4	Oil Temperature Sensor Input Voltage Low
16	111	-	3	Coolant Level Sensor Input Voltage High
16	111	-	5	Add Coolant Level Sensor Input Voltage High
16	-	146	5	EGR Valve Current Too Low
21	91	-	3	Throttle Position Sensor Input Voltage High
22	91	-	4	Throttle Position Sensor Input Voltage Low
23	174	-	3	Fuel Temperature Sensor Input Voltage High
24	174	-	4	Fuel Temperature Sensor Input Voltage Low
25	-	-	-	Reserved for ``No Codes"
26	-	25	11	Aux. Shutdown #1 Active
26	-	61	11	Aux. Shutdown #2 Active
27	105	-	3	Intake Manifold Temperature Sensor Input Voltage High
27	171	-	3	Ambient Air Temperature Sensor Input Voltage High
27	172	-	3	Air Temperature Sensor Input Voltage High
28	105	-	4	Intake Manifold Temperature Sensor Input Voltage Low
28	171	-	4	Ambient Air Temperature Sensor Input Voltage Low
28	172	-	4	Air Temperature Sensor Input Voltage Low
29	351	-	4	TCI Temperature Circuit Failed Low
29	404	-	4	Turbo Compressor Temperature Out Sensor Input Voltage Low
31	-	51	3	Aux. Output #3 Open Circuit (High Side) - E49
31	-	51	4	Aux. Output #3 Short To Ground (High Side) - E49
31	-	51	7	Aux. Output #3 Mechanical System Fail - E49
31	-	52	3	Aux. Output #4 Open Circuit (High Side) - E48
31	-	52	4	Aux. Output #4 Short to Ground (High Side) - E48
31	-	52	7	Aux. Output #4 Mechanical System Failure - E48

31	-	260	3	Aux. Output #12 (E46) Open Circuit (High Side)
31	-	260	4	Aux. Output #12 (E46) Short To Ground (High Side)
31	-	260	7	Aux. Output #12 (E46) Mechanical System Failure (High Side)
31	-	261	3	Aux. Output #13 (E47) Open Circuit (High Side)
31	-	261	4	Aux. Output #13 (E47) Short To Ground (High Side)
31	-	261	7	Aux. Output #13 (E47) Mechanical System Failure
31	-	262	3	Aux. Output #14 (E50) Open Circuit (High Side)
31	-	262	4	Aux. Output #14 (E50) Short To Ground (High Side)
31	-	262	7	Aux. Output #14 (E50) Mechanical System Failure (High Side)
31	-	263	3	Aux. Output #15 (E51) Open Circuit (High Side)
31	-	263	4	Aux. Output #15 (E51) Short To Ground (High Side)
31	-	263	7	Aux. Output #15 (E51) Mechanical System Failure
31	-	264	3	Aux. Output #16 (E52) Open Circuit (High Side)
31	-	264	4	Aux. Output #16 (E52) Short To Ground (High Side)
31	-	264	7	Aux. Output #16 (E52) Mechanical System Failure
31	-	265	3	Aux. Output #17 (E53) Open Circuit (High Side)
31	-	265	4	Aux. Output #17 (E53) Short To Ground (High Side)
31	-	265	7	Aux. Output #17 (E53) Mechanical System Failure
32	-	238	3	RSL Short to Battery (+)
32	-	238	4	RSL Open Circuit
32	-	239	3	AWL Short to Battery (+)
32	-	239	4	AWL Open Circuit
33	102	-	3	Turbo Boost Pressure Sensor Input Voltage High
34	102	-	4	Turbo Boost Pressure Sensor Input Voltage Low
35	100	-	3	Oil Pressure Sensor Input Voltage Low
36	100	-	4	Oil Pressure Sensor Input Voltage Low
37	94	-	3	Fuel Pressure Sensor Input Voltage High
37	95	-	3	Fuel Restriction Sensor Input Voltage High
38	94	-	4	Fuel Pressure Sensor Input Voltage Low
38	95	-	4	Fuel Restriction Sensor Input Voltage Low
39	-	146	2	EGR Leak - Boost Power
39	-	146	7	EGR Valve Not Responding
39	-	146	12	EGR Leak - Boost Jake
39	-	147	2	Low or High Boost-Boost Mode
39	-	147	7	VNT Vanes not responding-Boost Mode
39	-	147	7	Excessive EGR Flow-EGR Mode
39	-	147	11	VNT Vanes not responding-EGR Mode
39	-	147	11	VNT Vanes at Max - Jake
39	-	147	12	Low or High Boost during Jake Operation
39	-	147	12	VNT Vanes not responding-Jake Mode
39	-	147	14	EGR Flow too Low
41	-	21	0	Too Many SRS (missing TRS)
42	-	21	1	Too few SRS (missing SRS)
43	111	-	1	Coolant Level Low

44	105	-	0	Intake Manifold Temperature High
44	105	-	14	Engine Power Derate Due To Intake Manifold Temperature
44	110	-	0	Coolant Temperature High
44	110	-	14	Engine Power Derate Due To Coolant Temperature
44	172	-	0	Air Inlet Temperature High
44	175	-	0	Oil Temperature High
44	175	—	14	Oil Temperature Derate
45	100	-	1	Oil Pressure Low
46	-	155	4	Injector Vreg Voltage Failed Low
46	168	-	1	ECU Battery Voltage Low
46	-	211	1	Vehicle Sensor Supply Voltage Low
46	-	212	4	Injector Vslope Voltage Failed Low
46	-	214	1	RTC Backup Battery Voltage Low
46	-	221	4	Injector ILpullin Voltage Failed Low
46	-	232	1	Sensor Supply Voltage Low
47	94	-	0	Fuel Pressure High
47	102	-	14	Engine Power Derate Due To Boost Pressure
47	102	-	0	Turbo Boost Pressure High
47	106	-	0	Air Inlet Pressure High
48	94	-	1	Fuel Pressure Low
48	106	-	1	Air Inlet Pressure Low
48	351	-	1	TCI Temperature Below Range
48	404	-	1	Turbo Compressor Temperature Out Low
48	411	-	1	EGR Delta Pressure Low
48	412	-	1	EGR Temperature Low
49	351	-	0	TCI Temperature Above Range
49	404	-	0	Turbo Compressor Out Temperature High
49	404	14	-	Engine Power Derate Due To TCO Temperature
51	351	-	3	TCI Temperature Circuit Failed High
51	404	-	3	Turbo Compressor Out Temperature Sensor Input Voltage High
52	-	254	12	A/D Conversion Fail
53	-	253	2	Memory Check Failed On Startup
53	-	253	12	Memory Write Error - Single Location
53	-	253	13	Calibration Memory Error
53	-	253	14	Memory Write Error - All Locations
54	84	-	12	Vehicle Speed Sensor Fault
55	-	216	14	Other ECU Fault (This fault is logged in conjunction with another fault to indicate missing information from another ECU.)
55	-	231	12	J1939 Data Link Fault
58	40	-	9	Engine Retarder Switch Not Responding
58	40	-	12	Engine Retarder Switch Failed
58	70	-	9	Park Brake/Safety Loop Switch Not Responding
58	70	-	12	Park Brake/Safety Loop Switch Failed
58	92	-	0	Torque Overload
58	-	216	7	ECU Information Not Responding (Mux'd Dashboard Devices)
58	-	242	9	Cruise Control Resume/Accel Switch Not Responding

58	-	242	12	Cruise Control Resume/Accel Switch Failed
58	-	243	9	Cruise Control Set/Coast Switch Not Responding
58	-	243	12	Cruise Control Set/Coast Switch Failed
58	-	244	9	Cruise Control Enable Switch Not Responding
58	-	244	12	Cruise Control Enable Switch Failed
58	-	245	9	Clutch Pedal Switch Not Responding
58	-	245	12	Clutch Pedal Switch Failed
58	-	246	9	Service Brake Pedal Switch Not Responding
58	-	246	12	Service Brake Pedal Switch Failed
61	-	xxx	0	Injector xxx Response Time Long
61	-	1	6	Injector #1 Circuit Short To Ground
61	-	2	6	Injector #2 Circuit Short To Ground
61	-	3	6	Injector #3 Circuit Short To Ground
61	-	4	6	Injector #4 Circuit Short To Ground
61	-	5	6	Injector #5 Circuit Short To Ground
61	-	6	6	Injector #6 Circuit Short To Ground
62	-	26	3	Aux. Output #1 Short to Battery (+) - V4
62	-	26	4	Aux. Output #1 Open Circuit - V4
62	-	26	7	Aux. Output #1 Mechanical System Not Responding Properly -V4
62	-	40	3	Aux. Output #2 Short to Battery (+) - V5
62	-	40	4	Aux. Output #2 Open Circuit - V5
62	-	40	7	Aux. Output #2 Mechanical System Not Responding Properly - V5
62	-	53	3	Aux. Output #5 Short to Battery (+) -V6
62	-	53	4	Aux. Output #5 Open Circuit - V6
62	-	53	7	Aux. Output #5 Mechanical System Not Responding Properly - V6
62	-	54	3	Aux. Output #6 Short to Battery (+) - V7
62	-	54	4	Aux. Output #6 Open Circuit - V7
62	-	54	7	Aux. Output #6 Mechanical System Not Responding Properly - V7
62	-	55	3	Aux. Output #7 Short to Battery (+) - V40
62	-	55	4	Aux. Output #7 Open Circuit - V40
62	-	55	7	Aux. Output #7 Mechanical System Not Responding Properly - V40
62	-	56	3	Aux. Output #8 Short to Battery (+) - V53
62	-	56	4	Aux. Output #8 Open Circuit - V53
62	-	56	7	Aux. Output #8 Mechanical System Not Responding Properly - V53
62	-	250	12	J1587 Data Link Fault
62	-	257	3	Aux.Output #9 (V54) Short To Battery
62	-	257	4	Aux.Output #9 (V54) Open Circuit
62	-	257	7	Aux.Output #9 (V54) Mechanical System Failure-Pin Top 2
62	-	258	3	Aux.Output #10 (V55) Short To Battery
62	-	258	4	Aux.Output #10 (V55) Open Circuit)
62	-	258	7	Aux.Output #10 (V55) Mechanical System Failure Top 2
62	-	259	3	Aux.Output #11 (E13) Short To Battery
62	-	259	4	Aux.Output #11 (E13) Open Circuit
62	-	259	7	Aux.Output #11 (E13) Mechanical System Failure
63	-	57	0	PWM #1 (V52) Above Normal Range
63	-	57	1	PWM #1 (V52) Below Normal Range

63	-	57	3	PWM #1 (V52) Short to Battery (+)
63	-	57	4	PWM #1 (V52) Open Circuit
63	-	57	7	PWM #1 (V52) Mechanical System Failure
63	-	58	0	PWM #2 (V46) Above Normal Range
63	-	58	1	PWM #2 (V46) Below Normal Range
63	-	58	3	PWM #2 (V46) Short to Battery (+)
63	-	58	4	PWM #2 (V46) Open Circuit
63	-	58	7	PWM #1 (V46) Mechanical System Failure
63	-	59	0	PWM #3 (E01) Above Normal Range
63	-	59	1	PWM #3 (E01) Below Normal Range
63	-	59	3	PWM #3 (E01) Short to Battery (+)
63	-	59	4	PWM #3 (E01) Open Circuit
63	-	59	7	PWM #3 (E01) Mechanical System Failure
63	-	60	0	PWM #4 (E04) Above Normal Range
63	-	60	1	PWM #4 (E04) Below Normal Range
63	-	60	3	PWM #4 (E04) Short to Battery (+)
63	-	60	4	PWM #4 (E04) Open Circuit
63	-	60	7	PWM #4 (E04) Mechanical System Failure
63	-	267	0	PWM #5 (E08) Above Normal Range
63	-	267	1	PWM #5 (E08) Below Normal Range
63	-	267	3	PWM #5 (E08) Short To Battery
63	-	267	4	PWM #5 (E08) Open Circuit
63	-	267	7	PWM #5 (E08) Mechanical System Failure
63	-	268	0	PWM #6 (E11) Above Normal Range
63	-	268	1	PWM #6 (E11) Below Normal Range
63	-	268	3	PWM #6 (E11) Short To Battery
63	-	268	4	PWM #6 (E11) Open Circuit
63	-	268	7	PWM #6 (E11) Mechanical System Failure
64	103	-	0	Turbo Overspeed
64	103	-	8	Turbo Speed Sensor Input Failure - Abnormal Period
65	107	-	3	Air Filter Restriction Sensor Voltage High
65	107	-	4	Air Filter Restriction Sensor Voltage Low
66	99	-	3	Oil Filter Restriction Sensor Voltage High
66	99	-	4	Oil Filter Restriction Sensor Voltage Low
67	106	-	3	Air Inlet Pressure Sensor Input Voltage High
67	106	-	4	Air Inlet Pressure Sensor Input Voltage Low
67	109	-	3	Coolant Pressure Circuit Failed High
67	109	-	4	Coolant Pressure Circuit Failed Low
68	-	230	5	TPS Idle Validation Circuit Fault (open circuit)
68	-	230	6	TPS Idle Validation Circuit Fault (short to ground)
71	-	xxx	1	Injector xxx Response Time Short
72	84	-	0	Vehicle Overspeed
72	84	-	11	Vehicle Overspeed (Absolute)
74	70	-	4	Optimized Idle Safety Loop Short to Ground
74	99	-	0	Oil Filter Restriction High
75	-	155	3	Injector Vreg Voltage Failed High

75	168	-	0	ECU Battery Voltage High
75	-	211	0	Vehicle Sensor Supply Voltage High
75	-	212	3	Injector Vslope Voltage Failed High
75	-	214	0	RTC Backup Battery Voltage High
75	-	221	3	Injector Ipullin Voltage Failed High
75	-	232	0	Sensor Supply Voltage High
76	121	-	0	Engine Overspeed With Engine Brake
77	21	-	0	ECU Temperature Above Range
77	21	-	1	ECU Temperature Below Range
77	21	-	3	ECU Temperature Failed High
77	21	-	4	ECU Temperature Failed Low
77	73	-	1	Fire Pump Pressure Low
77	81	-	0	Exhaust Back Pressure High
77	81	-	1	Exhaust Back Pressure Low
77	81	-	3	Exhaust Back Pressure Sensor Voltage High
77	81	-	4	Exhaust Back Pressure Sensor Voltage Low
77	81	-	12	Exhaust Back Pressure at Rampdown Threshold
77	95	-	1	Fuel Filter Differential Pressure Low
77	99	-	1	Oil Filter Differential Pressure Low
77	100	-	0	Engine Oil Pressure High
77	102	-	1	Turbo Boost Pressure Low
77	105	-	1	Inlet Manifold Temperature Low
77	107	-	1	Air filter Restriction Pressure Low
77	108	-	0	Barometric Pressure High
77	108	-	1	Barometric Pressure Low
77	109	-	0	Coolant Pressure High
77	110	-	1	Coolant Temperature Low
77	111	-	0	Coolant Level High
77	-	151	11	Service Now Lamp Fault Expiration
77	171	-	0	Ambient Air Temperature High
77	171	-	1	Ambient Air Temperature Low
77	172	-	1	Air Inlet Temperature Low
77	174	-	0	Fuel Temperature High
77	174	-	1	Fuel Temperature Low
77	175	-	1	Engine Oil Temperature Low
77	177	-	0	Transmission Oil Temperature High
77	177	-	1	Transmission Oil Temperature Low
77	177	-	3	Transmission Oil Temperature Failed High
77	177	-	4	Transmission Oil Temperature Failed Low
77	-	151	11	Service Now Lamp Fault Expiration
78	86	-	14	Cruise Control/Adaptive Cruise Control Fault
81	98	-	3	Oil Level Sensor Input Voltage High
81	173	-	3	Exhaust Temperature Sensor Input Voltage High
81	355	-	3	Engine Oil Life Sensor Circuit Failed High
81	411	-	3	EGR Delta Pressure Circuit Failed High
81	412	-	3	EGR Temperature Circuit Failed High

81	355	-	3	Engine Oil Life Sensor Circuit Failed High
82	98	-	4	Oil Level Sensor Input Voltage Low
82	101	-	4	Crankcase Pressure Sensor Input Voltage Low
82	153	-	4	Extended Crankcase Pressure Input Voltage Low
82	173	-	4	Exhaust Temperature Sensor Input Voltage Low
82	355	-	4	Engine Oil Life Sensor Circuit Failed Low
82	411	-	4	EGR Delta Pressure Circuit Failed low
82	412	-	4	EGR Temperature Circuit Failed Low
83	73	-	0	Aux. Pump Pressure High
83	98	-	0	Oil Level High
83	101	-	0	Crankcase Pressure High
83	153	-	0	Extended Crankcase Pressure High
83	173	-	0	Exhaust Temperature High
83	355	-	9	Coolant In Oil Detected
83	355	-	14	Change Oil Now
83	411	-	0	EGR Delta Pressure High
83	412	-	0	EGR Temperature High
84	98	-	1	Oil Level Low
84	355	-	1	Change Oil Soon
85	190	-	0	Engine Overspeed
85	190	-	14	Engine Overspeed Signal
86	73	-	3	Aux. Pump Pressure Sensor Input Voltage High
86	108	-	3	Barometric Pressure Sensor Input Voltage High
87	73	-	4	Pump Pressure Sensor Input Voltage Low
87	108	-	4	Barometric Pressure Sensor Input Voltage Low
89	95	-	0	Fuel Filter Restriction High
89	111	-	12	Maintenance Alert Coolant Level Fault
-	-	240	2	ECU Checksum Incorrect
-	-	240	13	ECU Checksum Incorrect
-	-	253	2	Calibration Checksum Incorrect
-	-	253	9	Calibration Checks Invalid
-	-	253	13	Calibration Versions Invalid
-	-	254	0	External RAM Failed
-	-	254	1	Internal RAM Failed
-	-	254	6	Module Forced To Boot Mode
-	-	254	12	Boot Code Checksum INcorrect

Flash Codes, SAE Codes, Descriptions

LOGIC CODES (MECHANICAL FAILURES)

Logic codes indicate the detection of mechanical failures by the DDEC V system. The response will be a Flash Code.

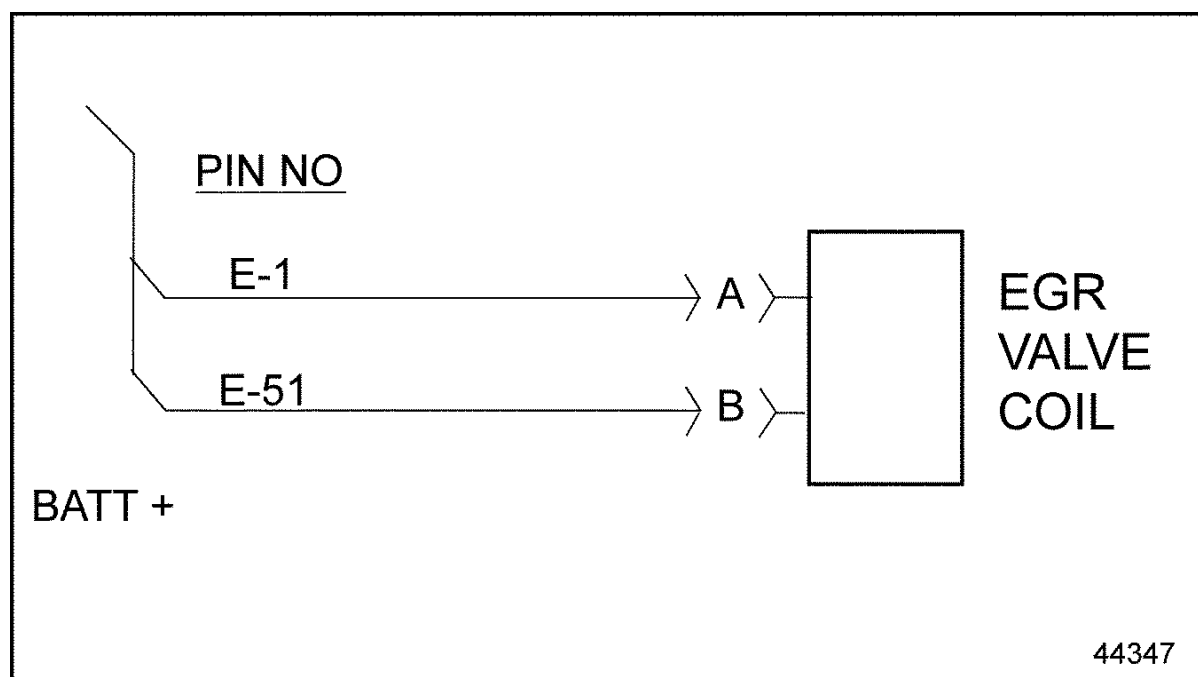
Diagnosing Flash Code 13

Failure Mode : SID 146, FMI 6

Indicates : EGR valve electric current is too high.

Response : Perform the following steps if the EGR valve current is too high.

1. Check for a short circuit.
2. Disconnect the harness connector from the actuator control valve coil.
3. Measure the coil resistance between pins A and B. See Figure "EGR Valve Coil Wiring" for pin locations and compare the measured ohm values to the ohm values listed in Table "Ranges Allowed (Ohms)" 9-2.
 - a. If the coil resistance is too low replace the actuator assembly.
 - b. If the coil resistance is acceptable, go to step 4 .
4. Disconnect engine harness at ECU and at coil and measure resistance across the two pin connector pins.
 - a. If resistance is less than 100 Ω , the two wires are shorted to each other.
 - b. If the resistance is greater than 100 Ω , try a test ECU or contact Detroit Diesel Customer Support Center at 313-592-5800.



EGR Valve Coil Wiring

Coil Temperature °C	Coil Temperature °F	Allowed Ranges (ohms)
22	71	3.4 - 4.2
50	122	3.7 - 4.6
100	212	4.4 - 5.4

Ranges Allowed (Ohms)

Possible Causes :

- Wires shorted together.
- Positive wire shorted to ground.
- Low resistance in the solenoid.

Note:

This symptom may be improved with reprogramming.

Reprogram the ECU if the ECU has not been reprogrammed since the dates listed below.

- 12 L — 02-23-04
- 14 L — 03-08-04

Note: There is an update program for the DDEC V troubleshooting in 6.0 DDDL.

EGR Valve Electric Current

Failure Mode : SID 146, FMI 5 & 6

EGR valve electric current is too low (FMI 5) or EGR valve electric current is too high (FMI 6)

The CEL (AWL) will be illuminated and the engine will operate in boost mode.