

Listings of Diagnostic Trouble Codes (DTCs)

Not all of these codes are used in all engine applications.

If the corrective actions below do not solve the engine fault, contact your servicing dealer.

The SPN and FMI codes in the table below are not intended to be paired from left to right. There are several possible combinations of SPN and FMI codes. To use the table below, first write down the SPN and FMI codes you received from the engine diagnostic gauge. Locate each SPN in the first column and its associated definition to the right in the second column. In the same way, locate the FMI in the fourth column and its associated definition to the right in the fifth column.

SPN Code	SPN Name	FMI Code	FMI Name
27	EGR Valve Position Signal	0	Extremely High
28	Digital Throttle Signal	1	Extremely Low
29	Secondary Analog Throttle Signal	2	Invalid
51	Air Throttle Actuator Position Signal	3	Out of Range High
54	Throttle Signal	4	Out of Range Low
91	Primary Analog Throttle Signal	5	High Resistance
94	Low Pressure Fuel Signal	6	Low Resistance
96	Fuel Level	7	Mismatch
97	Water-in-fuel Signal	8	Signal Missing
100	Engine Oil Pressure Signal	9	Loss of Communication
101	Crankcase Pressure Signal	10	Change Abnormal
102	Manifold Air Pressure Signal	11	Activated
103	Turbocharger Speed Signal	12	Error
105	Manifold Air Temperature Signal	13	Fault
107	Air Filter Pressure Differential	14	Incorrect Message
108	Barometric Pressure Signal	15	Slightly High
109	Engine Coolant Pressure Signal	16	Moderately High
110	Engine Coolant Temperature Signal	17	Slightly Low
111	Engine Coolant Level Alarm Switch	18	Moderately Low
127	Transmission Oil Pressure Signal	19	Communication Error
157	Fuel Rail Pressure Signal	31	Condition Exists
158	ECU Power Down		
168	Unswitched Battery Voltage		
174	Fuel Temperature Signal		
177	Transmission Oil Temperature Signal		
189	Engine Speed Derate		
190	Engine Speed		
191	Engine/Pump Speed		
237	VIN Security Data		
412	EGR Temperature Signal		
569	Rear Axle Diff Lock Signal		
611	Injector Drive #1		
612	Injector Drive #2		

620	Sensor Supply Voltage			
627	All Injector Circuits			
628	ECU Programming			
629	ECU EEPROM			
632	Fuel Shutoff Valve			
636	Camshaft Position Signal			
637	Crankshaft Position Signal			
638	Rack Position			
639	CAN Bus			
640	External Engine Protection			
641	VGT Actuator			
644	Lead ECU Sync Circuit			
647	Engine Fan Drive Circuit			
651	Injector #1			
652	Injector #2			
653	Injector #3			
654	Injector #4			
655	Injector #5			
656	Injector #6			
676	Cold Start Aid Relay Output Signal			
729	Inlet Air Heater Signal			
833	Rack Position Sensor			
834	Rack Actuator			
898	Requested Engine Speed Signal			
970	External Shutdown Switch			
971	External Derate Switch			
974	Remote Throttle Signal			
1075	Low Pressure Fuel Pump Data			
1076	Fuel Inj Pump Control Valve			
1077	Fuel Inj Pump Control Valve			
1078	Fuel Inj Pump Spd/Pos Sensor			
1079	Sensor Supply 1 Voltage			
1080	Sensor Supply Voltage			
1109	Engine Protection Approaching			
1110	Engine Protection			
1136	ECU Temperature Signal			
1172	Intake Air Temperature			
1176	Intake Air Pressure			
1180	Calculated VGT Turbine Inlet Temp			
1209	Exhaust Manifold Pressure Signal			
1321	Engine Starter Control Circuit			
1347	Suction Control Valve Circuit			
1348	Fuel Pump Control Valve #2			
1349	Redundant Fuel Rail Pressure Signal			
1485	Pump Power Relay			
1568	Torque Curve Selection			

1569	Engine Power Derate			
1638	Hydraulic Oil Temperature Signal			
1639	Fan Speed Signal			
1762	Hydraulic Oil Pressure Signal			
2000	Incorrect ECU			
2002-2253	Source Address 2-253			
2629	Fixed Turbo Comp Outlet Temp Signal			
2630	Charge Air Cooler Outlet Temp Signal			
2659	EGR Flow Signal			
2790	Fixed Turbocharger Comp Outlet Temp			
2791	EGR Valve Drive Circuit			
2795	VGT Calibration Version			
2797	Injector High Voltage Supply #1			
2798	Injector High Voltage Supply #2			
3246	DPF Outlet Temperature			
3251	DPF Differential Pressure Signal			
3464	Air Throttle Actuator Drive Circuit			
3471	Fuel Dosing Control Valve Signal			
3480	Fuel Dosing Inlet Pressure Signal			
3482	Fuel Dosing Shutoff Valve Signal			
3509	Sensor Supply #1 Voltage			
3510	Sensor Supply #2 Voltage			
3511	Sensor Supply #3 Voltage			
3512	Sensor Supply #4 Voltage			
3513	Sensor Supply #5 Voltage			
3514	Sensor Supply #6 Voltage			
3556	Fuel Dosing Nozzle			
3587	Auto ether Control Circuit			
3597	Injector Power Supply Voltage			
3598	Injector Power Supply Voltage #2			
3659	Spill Valve Circuit #1			
3660	Spill Valve Circuit #2			
3661	Spill Valve Circuit #3			
3662	Spill Valve Circuit #4			
3663	Spill Valve Circuit #5			
3664	Spill Valve Circuit #6			
3711	DOC Inlet Temp			
3719	Calculated Soot Level			
3720	Calculated Ash Level			
3822	Rear EGR Valve Position Signal			
3936	DPF Fault Occurrences			
4077	Fuel Dosing Outlet Pressure Signal			
4490	Intake Air Humidity			
4765	DOC Inlet Temp			
4766	DOC Outlet Temp			
4795	DPF Missing			

5018	DOC Fault Occurrences		
5125	Sensor Supply #7 Voltage		
5126	Sensor Supply #8 Voltage		
5298	DOC Fault Occurrences		
5456	Fuel Dosing Inlet Temp Signal		
522458	Fuel Dosing Pump Data		
522494	Intake Air Sensor Communication		
522495	Exhaust Filter Temp Module		
523379	Single Point Ground #7		
523744	A/C Compressor		
523926	Reverse Pump Pressure Sensor #1 Signal		
523926	Reverse Pump Pressure Sensor #1 Signal		
523927	Forward Pump Pressure Sensor #2 Signal		
523927	Forward Pump Pressure Sensor #2 Signal		
524037	MFWD Switch Circuit		
524223	Rear Axle Diff Lock Signal		
524225	Engine Start Protection		
524235	MFWD Solenoid Circuit Voltage		

Diagnostic gauge on instrument panel may also display text for communication faults, such as “CAN Bus FAILURE”. Contact your servicing dealer.

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