

### 33. ATA/J1939 Diagnostic Code Quick Reference

Refer to Troubleshooting Manual for Recommended Service Procedures

PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
1-5	651-5	Cylinder #1 Injector Actuator # 1 Current Low
1-6	651-6	Cylinder #1 Injector Actuator # 1 Current High
2-5	652-5	Cylinder #2 Injector Actuator # 1 Current Low
2-6	652-6	Cylinder #2 Injector Actuator # 1 Current High
3-5	653-5	Cylinder #3 Injector Actuator # 1 Current Low
3-6	653-6	Cylinder #3 Injector Actuator # 1 Current High
4-5	654-5	Cylinder #4 Injector Actuator # 1 Current Low
4-6	654-6	Cylinder #4 Injector Actuator # 1 Current High
5-5	655-5	Cylinder #5 Injector Actuator # 1 Current Low
5-6	655-6	Cylinder #5 Injector Actuator # 1 Current High
6-5	656-5	Cylinder #6 Injector Actuator # 1 Current Low
6-6	656-6	Cylinder #6 Injector Actuator # 1 Current High
22-11	637-11	Primary to Secondary Engine Speed Signal Calibration
22-13	637-13	Engine Speed Signal Calibration Not Performed
30-8	644-8	PTO Throttle Signal Invalid
30-13	644-13	PTO Throttle Signal Calibration
38-3	38-3	Secondary Fuel Level Voltage High
38-4	38-4	Secondary Fuel Level Voltage Low
41-3	678-3	8 Volt Supply Above Normal
41-4	678-4	8 Volt Supply Below Normal
43-2	158-2	Ignition Key Switch Fault
52-11	52-11	Inlet Air Shutoff Shutdown
54-5	54-5	Auxiliary Output #06 Current Low (Eaton Top 2 Lockout Solenoid)
54-6	54-6	Auxiliary Output #06 Current High (Eaton Top 2 Lockout Solenoid)

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PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
55-5	55-5	Auxiliary Output #07 Current Low (Eaton Top 2 Shift Solenoid)
55-6	55-6	Auxiliary Output #07 Current High (Eaton Top 2 Shift Solenoid)
64-8	723-8	Secondary Engine Speed Abnormal Frequency
71-0	592-0	Idle Shutdown Override
71-1	593-1	Idle Shutdown Occurrence
71-11	71-11	Engine Shutdown Override Switch Occurrence
71-14	71-14	PTO Shutdown Occurrence
84-0	84-0	Wheel-Based Vehicle Overspeed Warning
84-1	84-1	Loss of Wheel-Based Vehicle Speed Signal
84-2	84-2	Invalid Wheel-Based Vehicle Speed Signal
84-8	84-8	Wheel-Based Vehicle Speed Out of Range
84-10	84-10	Wheel-Based Vehicle Speed Rate of Change
84-14	84-14	Quickstop Occurrence
91-8	91-8	Accelerator Pedal Position Invalid
91-13	91-13	Accelerator Pedal Position Out of Calibration
96-3	96-3	Primary Fuel Level Voltage High
96-4	96-4	Primary Fuel Level Voltage Low
100-1	100-17	Low Oil Pressure Warning
100-3	100-3	Oil Pressure Sensor Voltage High
100-4	100-4	Oil Pressure Sensor Voltage Low
100-10	100-10	Oil Pressure Signal Abnormal Rate of Change
100-11	100-11	Very Low Oil Pressure
101-0	101-15	High Crankcase Pressure
101-3	101-3	Crankcase Pressure Sensor Voltage High
101-4	101-4	Crankcase Pressure Sensor Voltage Low

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PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
102-3	102-3	Intake Manifold Pressure Voltage High (Boost)
102-4	102-4	Intake Manifold Pressure Voltage Low (Boost)
102-10	102-10	Intake Manifold Pressure Signal Abnormal Rate of Change
102-14	102-18	Very Low Intake Manifold Pressure (Boost)
105-0	105-15	High Intake Manifold Air Temperature Warning
105-3	105-3	Intake Manifold Air Temperature Sensor Voltage High
105-4	105-4	Intake Manifold Air Temperature Sensor Voltage Low
105-11	105-16	Very High Intake Manifold Air Temperature
110-0	110-15	High Coolant Temperature Warning
110-3	110-3	Coolant Temperature Sensor Voltage High
110-4	110-4	Coolant Temperature Sensor Voltage Low
110-11	110-16	Very High Coolant Temperature
111-1	111-1	Low Coolant Level Warning
111-2	111-2	Invalid Coolant Level
111-3	111-3	Coolant Level Sensor Voltage High
111-4	111-4	Coolant Level Sensor Voltage Low
111-11	111-11	Very Low Coolant Level
111-14	111-14	Low Coolant Level Warning (Less that 6 hours)
121-5	1072-5	Retarder Solenoid Low/High Voltage Low
121-6	1072-6	Retarder Solenoid Low/High Voltage High
122-5	1073-5	Retarder Solenoid Med/High Voltage Low
122-6	1073-6	Retarder Solenoid Med/High Voltage High
151-0	611-15	High Particulate Trap # 1 Soot Loading
151-11	611-16	Very High Particulate Trap # 1 Soot Loading
168-0	168-0	High ECU Battery Power
168-1	168-1	Low ECU Battery Power

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PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
168-2	168-2	Intermittent Battery Power to ECM
171-3	171-3	Outside Air Temp Sensor Voltage High
171-4	171-4	Outside Air Temp Sensor Voltage Low
171-11	171-11	No Outside Air Temp Data
172-2	172-2	Air Inlet Temperature Incorrect
172-3	172-3	Air Inlet Temperature Voltage High
172-4	172-4	Air Inlet Temperature Voltage Low
173-0	173-11	High Exhaust Temperature
174-0	174-15	High Fuel Temp Warning
174-3	174-3	Fuel Temp Voltage High
174-4	174-4	Fuel Temp Voltage Low
190-0	190-15	Engine Overspeed Warning
190-8	190-8	Primary Engine Speed Abnormal Signal Frequency
191-7	191-7	Transmission Not Responding
211-3	3510-3	5 Volt Sensor Supply #2 Voltage High
211-4	3510-4	5 Volt Sensor Supply #2 Voltage Low
212-3	3509-3	5 Volt Sensor Supply #1 Voltage High
212-4	3509-4	5 Volt Sensor Supply #1 Voltage Low
224-11	224-11	Theft Deterrent Enabled
224-14	224-14	Engine Cranking with Theft Deterrent Enabled
231-9	231-9	J1939 Abnormal Update
231-2	231-2	J1939 Device Sending Incorrect Data
231-12	231-12	J1939 Device Not Responding
231-14	231-14	Transmission Datalink Engine Derate
246-11	597-11	Brake Pedal Switch #1 Fault
247-11	603-11	Brake Pedal Switch #2 Fault

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PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
252-2	252-2	Engine Software Incorrect
253-2	630-2	Check Customer or System Parameters
253-11	253-11	Check Transmission Customer Parameters
283-5	2949-5	Intake Valve Actuation System Oil Pressure Solenoid Current Low
283-6	2949-6	Intake Valve Actuation System Oil Pressure Solenoid Current High
283-7	2949-7	Intake Valve Actuation System Oil Pressure Not Responding
285-5	2950-5	Intake Valve Actuator #1 Current Low
285-6	2950-6	Intake Valve Actuator #1 Current High
285-7	2950-7	Intake Valve Actuator #1 Not Responding
286-5	2951-5	Intake Valve Actuator #2 Current Low
286-6	2951-6	Intake Valve Actuator #2 Current High
286-7	2951-7	Intake Valve Actuator #2 Not Responding
287-5	2952-5	Intake Valve Actuator #3 Current Low
287-6	2952-6	Intake Valve Actuator #3 Current High
287-7	2952-7	Intake Valve Actuator # 3 Not Responding
288-5	2953-5	Intake Valve Actuator # 4 Current Low
288-6	2953-6	Intake Valve Actuator # 4 Current High
288-7	2953-7	Intake Valve Actuator # 4 Not Responding
289-5	2954-5	Intake Valve Actuator # 5 Current Low
289-6	2954-6	Intake Valve Actuator # 5 Current High
289-7	2954-7	Intake Valve Actuator # 5 Not Responding
290-5	2955-5	Intake Valve Actuator # 6 Current Low
290-6	2955-6	Intake Valve Actuator # 6 Current High
290-7	2955-7	Intake Valve Actuator # 6 Not Responding
311-0	612-17	Aftertreatment Insufficient Temperature to Complete Regen

## ELECTRICAL & ELECTRONIC APPLICATION AND INSTALLATION GUIDE

PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
311-14	612-18	Very Low Aftertreatment Insufficient Temperature to Complete Regen
314-3	520197-3	CGI Absolute Pressure Voltage High
314-4	520197-4	CGI Absolute Pressure Voltage Low
315-3	520193-3	CGI Temperature Voltage High
315-4	520193-4	CGI Temperature Voltage Low
316-0	520192-15	High clean gas induction mass flow
316-1	520192-17	Low clean gas induction mass flow
316-3	520196-3	CGI Temperature Voltage High
316-4	520196-4	CGI Temperature Voltage Low
316-11	520192-16	Very High CGI Mass Flow
317-5	520194-5	CGI Control Valve Current Low
317-6	520194-6	CGI Control Valve Current High
318-0	3242-15	High Particulate Trap # 1 Intake Temperature
318-3	3242-3	Particulate Trap # 1 Intake Temperature Voltage High
318-4	3242-4	Particulate Trap # 1 Intake Temperature Voltage Low
318-11	3242-16	Very High Particulate Trap # 1 Intake Temperature
318-14	3242-18	Very Low Particulate Trap # 1 Intake Temperature
319-0	3276-16	High Particulate Trap # 2 Intake Temperature
319-3	3276-3	Particulate Trap #2 Intake Temperature Voltage High
319-4	3276-4	Particulate Trap #2 Intake Temperature Voltage Low
319-11	3276-15	Very High Particulate Trap # 2 Intake Temperature
319-14	3276-18	Very Low Particulate Trap # 2 Intake Temperature
320-0	3246-15	High Particulate Trap # 1 Outlet Temperature
320-1	3246-17	Low Particulate Trap #1 Outlet Temperature

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PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
320-3	3246-3	Particulate Trap # 1 Outlet Temperature Voltage High
320-4	3246-4	Particulate Trap # 1 Outlet Temperature Voltage Low
320-11	3246-16	Very High Particulate Trap # 1 Outlet Temperature
321-0	3280-15	High Particulate Trap # Outlet Temperature
321-3	3280-3	Particulate Trap #2 Outlet Temperature Voltage High
321-4	3280-4	Particulate Trap #2 Outlet Temperature Voltage Low
321-11	3280-16	High Particulate Trap # 2 Outlet Temperature
324-0	3251-15	High Particulate Trap # 1 Differential Pressure
324-1	3251-17	Low Particulate Trap # 1 Differential Pressure
324-3	3251-3	Particulate Trap # 1 Differential Pressure Voltage High
324-4	3251-4	Particulate Trap # 1 Differential Pressure Voltage Low
324-11	3251-16	Very High Particulate Trap # 1 Differential Pressure
325-0	3258-15	High Particulate Trap # 2 Differential Pressure
325-1	3258-17	Low Particulate Trap # 2 Differential Pressure
325-3	3258-3	Particulate Trap # 2 Differential Pressure Voltage High
325-4	3258-4	Particulate Trap # 2 Differential Pressure Voltage Low
325-11	3258-16	Very High Particulate Trap # 2 Differential Pressure
326-2	3241-2	Exhaust Gas Temperature # 1 Incorrect
326-3	3241-3	Exhaust Gas Temperature #1 Voltage High
326-4	3241-4	Exhaust Gas Temperature #1 Voltage Low
327-3	3249-3	Exhaust Gas Temperature #2 Voltage High
327-4	3249-4	Exhaust Gas Temperature #2 Voltage Low
327-11	3249-16	Very High Exhaust Gas Temperature # 2
328-0	3245-15	Exhaust Gas Temperature #3 High
328-3	3245-3	Exhaust Gas Temperature # 3 Voltage High

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PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
328-4	3245-4	Exhaust Gas Temperature # 3 Voltage Low
328-11	3245-16	Very High Exhaust Gas Temperature # 3
332-0	3480-15	High Aftertreatment Main Fuel Pressure
332-1	3480-17	Low Aftertreatment Main Fuel Pressure
332-3	3480-3	Aftertreatment Main Fuel Pressure Voltage High
332-4	3480-4	Aftertreatment Main Fuel Pressure Voltage Low
332-11	3480-16	Very High Aftertreatment Main Fuel Pressure
332-14	3480-18	Very Low Aftertreatment Main Fuel Pressure
333-5	3479-5	Aftertreatment Fuel Pressure Control Solenoid Current Low
333-6	3479-6	Aftertreatment Fuel Pressure Control Solenoid Current High
334-5	3482-5	Aftertreatment Fuel Enable Solenoid Current Low
334-6	3482-6	Aftertreatment Fuel Enable Solenoid Current High
335-5	3484-5	Aftertreatment Ignition Primary Current Low
335-6	3484-6	Aftertreatment Ignition Primary Current High
336-0	3494-15	High Aftertreatment Pilot Fuel Pressure
336-1	3494-17	Low Aftertreatment Pilot Fuel Pressure
336-3	3494-3	Aftertreatment Pilot Fuel Pressure Voltage High
336-4	3494-4	Aftertreatment Pilot Fuel Pressure Voltage Low
336-11	3494-16	Very High Aftertreatment Pilot Fuel Pressure
336-14	3494-18	Very Low Aftertreatment Pilot Fuel Pressure
341-5	3490-5	Aftertreatment Purge Air Actuator Current Low
341-6	3490-6	Aftertreatment Purge Air Actuator Current High
350-5	3487-5	Aftertreatment Air Pressure Control Solenoid Current Low

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PID/SID-FMI	J1939 SPN-FMI	Diagnostic Code Description
350-6	3487-6	Aftertreatment Air Pressure Control Solenoid Current High
350-7	3487-7	Aftertreatment Air Pressure Control Solenoid Not Responding
356-11	3473-31	Aftertreatment Failed To Ignite
357-11	3474-31	Aftertreatment Loss of Ignition
360-11	3530-31	Aftertreatment Regeneration Device Manually Disabled
362-5	3659-5	Cylinder # 1 Actuator # 2 Injector Current Low
362-6	3659-6	Cylinder # 1 Actuator # 2 Injector Current High
363-5	3660-5	Cylinder # 2 Injector Actuator # 2 Current Low
363-6	3660-6	Cylinder # 2 Injector Actuator # 2 Current High
364-5	3661-5	Cylinder # 3 Injector Actuator # 2 Current Low
364-6	3661-6	Cylinder # 3 Injector Actuator #2 Current High
365-5	3662-5	Cylinder # 4 Injector Actuator #2 Current Low
365-6	3662-6	Cylinder # 4 Injector Actuator # 2 Current High
366-5	3663-5	Cylinder # 5 Injector Actuator # 2 Current Low
366-6	3663-6	Cylinder # 5 Injector Actuator # 2 Current High
367-5	3664-5	Cylinder # 6 Injector Actuator # 2 Current Low
367-6	3664-6	Cylinder # 6 Injector Actuator # 2 Current High
372-3	613-3	Aftertreatment Regeneration Device Air Flow Differential Pressure Voltage High
372-4	613-4	Aftertreatment Regeneration Device Air Flow Differential Pressure Voltage Low
385-1	2948-1	Low Intake Valve Actuation System Oil Pressure
385-3	2948-3	Intake Valve Actuation Oil Pressure Voltage High
385-4	2948-4	Intake Valve Actuation Oil Pressure Voltage Low