

## Appendix A: SAE Diagnostic Trouble Codes and Cummins Fault Codes

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description              | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|------------------------------------|---|---------|-------|--------|---------|---------|--------|
| 111        | 629       | 12        | Red   | Controller #1                      | Engine Control Module Critical Internal Failure - Bad intelligent device or component                         | X       | X     | X      | X       | X       | X      |
| 115        | 612       | 2         | Red   | System Diagnostic Code #2          | Engine Magnetic Speed/Position Lost Both of Two Signals - Data erratic, intermittent or incorrect             | X       | X     | X      | X       | X       | X      |
| 122        | 102       | 3         | Amber | Engine Intake Manifold #1 Pressure | Intake Manifold 1 Pressure Sensor Circuit - Voltage above normal, or shorted to high source                   | X       | X     | X      | X       | X       | X      |
| 123        | 102       | 4         | Amber | Engine Intake Manifold #1 Pressure | Intake Manifold 1 Pressure Sensor Circuit - Voltage below normal, or shorted to low source                    | X       | X     | X      | X       | X       | X      |
| 124        | 102       | 16        | Amber | Engine Intake Manifold #1 Pressure | Intake Manifold 1 Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level            | X       | X     |        |         | X       |        |
| 125        | 102       | 18        | Amber | Engine Intake Manifold #1 Pressure | Intake Manifold 1 Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level            |         |       | X      |         |         | X      |
| 131        | 91        | 3         | Red   | Accelerator Pedal Position 1       | Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage above normal, or shorted to high source        | X       | X     | X      | X       | X       | X      |
| 132        | 91        | 4         | Red   | Accelerator Pedal Position 1       | Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage below normal, or shorted to low source         | X       | X     | X      | X       | X       | X      |
| 133        | 974       | 3         | Red   | Remote Accelerator Pedal Position  | Remote Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage above normal, or shorted to high source | X       | X     | X      | X       | X       | X      |
| 134        | 974       | 4         | Red   | Remote Accelerator Pedal Position  | Remote Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage below normal, or shorted to low source  | X       | X     | X      | X       | X       | X      |
| 135        | 100       | 3         | Amber | Engine Oil Pressure                | Engine Oil Rifle Pressure 1 Sensor Circuit - Voltage above normal, or shorted to high source                  | X       | X     | X      | X       | X       | X      |
| 141        | 100       | 4         | Amber | Engine Oil Pressure                | Engine Oil Rifle Pressure 1 Sensor Circuit - Voltage below normal, or shorted to low source                   | X       | X     | X      | X       | X       | X      |
| 143        | 100       | 18        | Amber | Engine Oil Pressure                | Engine Oil Rifle Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level             | X       | X     | X      | X       | X       | X      |
| 144        | 110       | 3         | Amber | Engine Coolant Temperature         | Engine Coolant Temperature 1 Sensor Circuit - Voltage above normal, or shorted to high source                 | X       | X     | X      | X       | X       | X      |
| 145        | 110       | 4         | Amber | Engine Coolant Temperature         | Engine Coolant Temperature 1 Sensor Circuit - Voltage below normal, or shorted to low source                  | X       | X     | X      | X       | X       | X      |
| 146        | 110       | 16        | Amber | Engine Coolant Temperature         | Engine Coolant Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level            | X       | X     | X      | X       | X       | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--------------------------------------|--|---------|-------|--------|---------|---------|--------|
| 147        | 91        | 1         | Red   | Accelerator Pedal Position 1         | Accelerator Pedal or Lever Position 1 Sensor Circuit Frequency - Data valid but below normal operating Range     | X       | X     | X      | X       | X       | X      |
| 148        | 91        | 0         | Red   | Accelerator Pedal Position 1         | Accelerator Pedal or Lever Position Sensor 1 - Data valid but above normal operational range - Most Severe Level | X       | X     | X      | X       | X       | X      |
| 151        | 110       | 0         | Red   | Engine Coolant Temperature           | Engine Coolant Temperature - Data valid but above normal operational range - Most Severe Level                   | X       | X     | X      | X       | X       | X      |
| 153        | 105       | 3         | Amber | Engine Intake Manifold 1 Temperature | Intake Manifold 1 Temperature Sensor Circuit - Voltage above normal, or shorted to high source                   | X       | X     | X      | X       | X       | X      |
| 154        | 105       | 4         | Amber | Engine Intake Manifold 1 Temperature | Intake Manifold 1 Temperature Sensor Circuit - Voltage below normal, or shorted to low source                    | X       | X     | X      | X       | X       | X      |
| 155        | 105       | 0         | Red   | Engine Intake Manifold 1 Temperature | Intake Manifold 1 Temperature - Data valid but above normal operational range - Most Severe Level                | X       | X     | X      | X       | X       | X      |
| 187        | 3510      | 4         | Amber | Sensor supply voltage 2              | Sensor Supply 2 Circuit - Voltage below normal, or shorted to low source   | X       | X     | X      | X       | X       | X      |
| 193        | 520199    | 3         | Amber | Cruise Control                       | Cruise Control (Resistive) Signal Circuit - Voltage above normal, or shorted to high source                      |         |       |        |         |         |        |
| 194        | 520199    | 4         | Amber | Cruise Control                       | Cruise Control (Resistive) Signal Circuit - Voltage below normal, or shorted to low source                       |         |       |        |         |         |        |
| 195        | 111       | 3         | Amber | Engine Coolant Level                 | Coolant Level Sensor 1 Circuit - Voltage above normal, or shorted to high source                                 | X       | X     | X      | X       | X       | X      |
| 196        | 111       | 4         | Amber | Engine Coolant Level                 | Coolant Level Sensor 1 Circuit - Voltage below normal, or shorted to low source                                  | X       | X     | X      | X       | X       | X      |
| 197        | 111       | 18        | Amber | Engine Coolant Level                 | Coolant Level - Data Valid But Below Normal Operating Range - Moderately Severe Level                            | X       | X     | X      | X       | X       | X      |
| 212        | 175       | 3         | Amber | Engine Oil Temperature 1             | Engine Oil Temperature Sensor 1 Circuit - Voltage above normal, or shorted to high source                        |         |       | X      |         |         | X      |
| 213        | 175       | 4         | Amber | Engine Oil Temperature 1             | Engine Oil Temperature Sensor 1 Circuit - Voltage below normal, or shorted to low source                         |         |       | X      |         |         | X      |
| 214        | 175       | 0         | Red   | Engine Oil Temperature 1             | Engine Oil Temperature - Data valid but above normal operational range - Most Severe Level                       |         |       | X      |         |         | X      |
| 221        | 108       | 3         | Amber | Barometric Pressure                  | Barometric Pressure Sensor Circuit - Voltage above normal, or shorted to high source                             | X       | X     | X      |         | X       | X      |
| 222        | 108       | 4         | Amber | Barometric Pressure                  | Barometric Pressure Sensor Circuit - Voltage above normal, or shorted to low source                              | X       | X     | X      |         | X       | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                    | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--|--|---------|-------|--------|---------|---------|--------|
| 227        | 3510      | 3         | Amber | Sensor supply voltage 2                  | Sensor Supply 2 Circuit - Voltage above normal, or shorted to high source                              | X       | X     | X      | X       | X       | X      |
| 231        | 109       | 3         | Amber | Engine Coolant Pressure                  | Coolant Pressure Sensor Circuit - Voltage above normal, or shorted to high source                      |         |       |        |         |         |        |
| 232        | 109       | 4         | Amber | Engine Coolant Pressure                  | Coolant Pressure Sensor Circuit - Voltage below normal, or shorted to low source                       |         |       |        |         |         |        |
| 233        | 109       | 18        | Amber | Engine Coolant Pressure                  | Coolant Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level               |         |       |        |         |         |        |
| 234        | 190       | 0         | Red   | Engine Speed                             | Engine Crankshaft Speed/Position - Data valid but above normal operational range - Most Severe Level   | X       | X     | X      | X       | X       | X      |
| 235        | 111       | 1         | Red   | Engine Coolant Level                     | Coolant Level - Data valid but below normal operational range - Most Severe Level                      | X       | X     | X      | X       | X       | X      |
| 237        | 644       | 2         | Amber | Engine External Speed Command Input      | External Speed Command Input (Multiple Unit Synchronization) - Data erratic, intermittent or incorrect |         |       |        | X       |         | X      |
| 238        | 3511      | 4         | Amber | Sensor supply voltage 3                  | Sensor Supply 3 Circuit - Voltage below normal, or shorted to low source                               | X       | X     | X      | X       | X       | X      |
| 239        | 3511      | 3         | Amber | Sensor supply voltage 3                  | Sensor Supply 3 Circuit - Voltage above normal, or shorted to high source                              | X       | X     | X      | X       | X       | X      |
| 241        | 84        | 2         | Amber | Wheel-Based Vehicle Speed                | Wheel-Based Vehicle Speed - Data erratic, intermittent or incorrect                                    | X       | X     | X      | X       | X       | X      |
| 242        | 84        | 10        | Amber | Wheel-Based Vehicle Speed                | Wheel-Based Vehicle Speed Sensor Circuit tampering has been detected - Abnormal rate of change         | X       | X     |        |         | X       |        |
| 245        | 647       | 4         | Amber | Engine Fan Clutch 1 Output Device Driver | Fan Control Circuit - Voltage below normal, or shorted to low source                                   | X       | X     | X      | X       | X       | X      |
| 249        | 171       | 3         | Amber | Ambient Air Temperature                  | Ambient Air Temperature Sensor 1 Circuit - Voltage above normal, or shorted to high source             | X       | X     |        |         | X       |        |
| 253        | 98        | 1         | Red   | Engine Oil Level                         | Engine Oil Level - Data valid but below normal operational range - Most Severe Level                   |         |       |        |         |         |        |
| 256        | 171       | 4         | Amber | Ambient Air Temperature                  | Ambient Air Temperature Sensor 1 Circuit - Voltage below normal, or shorted to low source              | X       | X     |        |         | X       |        |
| 261        | 174       | 16        | Amber | Engine Fuel Temperature 1                | Engine Fuel Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level        |         |       |        |         |         |        |
| 263        | 174       | 3         | Amber | Engine Fuel Temperature 1                | Engine Fuel Temperature Sensor 1 Circuit - Voltage above normal, or shorted to high source             |         |       |        |         |         |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--|--|---------|-------|--------|---------|---------|--------|
| 265        | 174       | 4         | Amber | Engine Fuel Temperature 1  | Engine Fuel Temperature Sensor 1 Circuit - Voltage below normal, or shorted to low source                        |         |       |        |         |         |        |
| 266        | 174       | 0         | Red   | Engine Fuel Temperature 1  | Engine Fuel Temperature - Data valid but above normal operational range - Most Severe Level                      |         |       |        |         |         |        |
| 269        | 1195      | 2         | Red   | Anti-theft Password Valid Indicator  | Antitheft Password Valid Indicator - Data erratic, intermittent or incorrect                                     |         |       | X      |         |         |        |
| 271        | 1347      | 4         | Amber | Engine Fuel Pump Pressurizing Assembly #1                                  | Engine Fuel Pump Pressurizing Assembly 1 Circuit - Voltage below normal, or shorted to low source                | X       | X     | X      | X       | X       | X      |
| 272        | 1347      | 3         | Amber | Engine Fuel Pump Pressurizing Assembly #2                                  | Engine Fuel Pump Pressurizing Assembly 1 Circuit - Voltage above normal, or shorted to high source               | X       | X     | X      | X       | X       | X      |
| 281        | 1347      | 7         | Amber | Engine Fuel Pump Pressurizing Assembly #3                                  | Engine Fuel Pump Pressurizing Assembly 1 - Mechanical system not responding or out of adjustment                 | X       | X     | X      | X       | X       | X      |
| 285        | 639       | 9         | Amber | J1939 Network #1, Primary Vehicle Network (previously SAE J1939 Data Link) | SAE J1939 Multiplexing PGN Timeout Error - Abnormal update rate  | X       | X     | X      | X       | X       | X      |
| 286        | 639       | 13        | Amber | J1939 Network #1, Primary Vehicle Network (previously SAE J1939 Data Link) | SAE J1939 Multiplexing Configuration Error - Out of Calibration  | X       | X     | X      | X       | X       | X      |
| 288        | 974       | 19        | Red   | Remote Accelerator Pedal Position  | SAE J1939 Multiplexing Remote Accelerator Pedal or Lever Position Sensor System - Received Network Data In Error | X       | X     | X      | X       | X       | X      |
| 291        | 625       | 9         | Red   | Proprietary Datalink   | Proprietary Datalink Error (OEM/Vehicle Datalink) - Abnormal update rate   | X       | X     | X      | X       | X       | X      |
| 292        | 441       | 14        | Red   | Auxiliary Temperature 1  | Auxiliary Temperature Sensor Input 1 - Special Instructions  | X       | X     | X      | X       | X       | X      |
| 293        | 441       | 3         | Amber | Auxiliary Temperature 1  | Auxiliary Temperature Sensor Input 1 Circuit - Voltage above normal, or shorted to high source                   | X       | X     | X      | X       | X       | X      |
| 294        | 441       | 4         | Amber | Auxiliary Temperature 1  | Auxiliary Temperature Sensor Input 1 Circuit - Voltage below normal, or shorted to low source                    | X       | X     | X      | X       | X       | X      |
| 295        | 108       | 2         | Amber | Barometric Pressure  | Barometric Pressure - Data erratic, intermittent or incorrect  |         |       | X      |         |         | X      |
| 296        | 1388      | 14        | Red   | Auxiliary Pressure #2  | Auxiliary Pressure Sensor Input 2 - Special Instructions   | X       | X     | X      | X       | X       | X      |
| 297        | 1388      | 3         | Amber | Auxiliary Pressure #2  | Auxiliary Pressure Sensor Input 2 Circuit - Voltage above normal, or shorted to high source                      | X       | X     | X      | X       | X       | X      |
| 298        | 1388      | 4         | Amber | Auxiliary Pressure #2  | Auxiliary Pressure Sensor Input 2 Circuit - Voltage below normal, or shorted to low source                       | X       | X     | X      | X       | X       | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description                                  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|------------------|--|--|---------|-------|--------|---------|---------|--------|
| 319        | 251       | 2         | Amber (Blinking) | Real Time Clock  | Real Time Clock - Data erratic, intermittent or incorrect  |         |       |        |         |         | X      |
| 322        | 651       | 5         | Amber            | Engine Injector Cylinder #01                           | Injector Solenoid Driver Cylinder 1 Circuit - Current below normal or open circuit                       | X       | X     | X      | X       | X       | X      |
| 323        | 655       | 5         | Amber            | Engine Injector Cylinder #05                           | Injector Solenoid Driver Cylinder 5 Circuit - Current below normal or open circuit                       | X       | X     | X      |         |         | X      |
| 324        | 653       | 5         | Amber            | Engine Injector Cylinder #03                           | Injector Solenoid Driver Cylinder 3 Circuit - Current below normal or open circuit                       | X       | X     | X      | X       | X       | X      |
| 325        | 656       | 5         | Amber            | Engine Injector Cylinder #06                           | Injector Solenoid Driver Cylinder 6 Circuit - Current below normal or open circuit                       | X       | X     | X      |         |         | X      |
| 331        | 652       | 5         | Amber            | Engine Injector Cylinder #02                           | Injector Solenoid Driver Cylinder 2 Circuit - Current below normal or open circuit                       | X       | X     | X      | X       | X       | X      |
| 332        | 654       | 5         | Amber            | Engine Injector Cylinder #04                           | Injector Solenoid Driver Cylinder 4 Circuit - Current below normal or open circuit                       | X       | X     | X      | X       | X       | X      |
| 334        | 110       | 2         | Amber            | Engine Coolant Temperature                             | Engine Coolant Temperature - Data erratic, intermittent or incorrect                                     |         |       | X      |         |         | X      |
| 338        | 1267      | 3         | Amber            | Idle Shutdown Vehicle Accessories Relay Driver Circuit | Idle Shutdown Vehicle Accessories Relay Driver Circuit - Voltage above normal, or shorted to high source | X       | X     | X      |         | X       | X      |
| 339        | 1267      | 4         | Amber            | Idle Shutdown Vehicle Accessories Relay Driver Circuit | Idle Shutdown Vehicle Accessories Relay Driver Circuit - Voltage below normal, or shorted to low source  | X       | X     | X      |         | X       | X      |
| 343        | 629       | 12        | Amber            | Controller #1  | Engine Control Module Warning Internal Hardware Failure - Bad intelligent device or component            | X       | X     | X      | X       | X       | X      |
| 349        | 191       | 16        | Amber            | Transmission Output Shaft Speed                        | Transmission Output Shaft Speed - Data Valid But Above Normal Operating Range - Moderately Severe Level  | X       | X     | X      |         | X       | X      |
| 351        | 3597      | 12        | Amber            | ECU Power Output Supply Voltage #1                     | Injector Power Supply - Bad intelligent device or component  | X       | X     | X      | X       | X       | X      |
| 352        | 3509      | 4         | Amber            | Sensor supply voltage 1                                | Sensor Supply 1 Circuit - Voltage below normal, or shorted to low source                                 | X       | X     | X      | X       | X       | X      |
| 386        | 3509      | 3         | Amber            | Sensor supply voltage 1                                | Sensor Supply 1 Circuit - Voltage above normal, or shorted to high source                                | X       | X     | X      | X       | X       | X      |
| 415        | 100       | 1         | Red              | Engine Oil Pressure                                    | Engine Oil Pressure - Data valid but below normal operational range - Most Severe Level                  | X       | X     | X      | X       | X       | X      |
| 418        | 97        | 15        | Amber (Blinking) | Water In Fuel Indicator                                | Water in Fuel Indicator - Data Valid But Above Normal Operating Range - Least Severe Level               | X       | X     | X      | X       | X       | X      |
| 421        | 175       | 16        | Amber            | Engine Oil Temperature 1                               | Engine Oil Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level           |         |       | X      |         |         | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description  | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|------------------|--|---|---------|-------|--------|---------|---------|--------|
| 422        | 111       | 2         | Amber            | Engine Coolant Level   | Coolant Level - Data erratic, intermittent or incorrect   |         |       | X      |         |         | X      |
| 425        | 175       | 2         | Amber            | Engine Oil Temperature 1   | Engine Oil Temperature - Data erratic, intermittent or incorrect                                      |         |       | X      |         |         | X      |
| 426        | 639       | 2         | None             | J1939 Network #1, Primary Vehicle Network (previously SAE J1939 Data Link) | J1939 Network #1 - Data erratic, intermittent or incorrect  |         |       |        |         |         |        |
| 427        | 639       | 9         | None             | J1939 Network #1, Primary Vehicle Network (previously SAE J1939 Data Link) | SAE J1939 Datalink - Abnormal update rate   |         |       |        |         |         |        |
| 428        | 97        | 3         | Amber            | Water In Fuel Indicator  | Water in Fuel Indicator Sensor Circuit - Voltage above normal, or shorted to high source              | X       | X     | X      | X       | X       | X      |
| 429        | 97        | 4         | Amber            | Water In Fuel Indicator  | Water in Fuel Indicator Sensor Circuit - Voltage below normal, or shorted to low source               | X       | X     | X      | X       | X       | X      |
| 431        | 558       | 2         | Amber            | Accelerator Pedal 1 Low Idle Switch  | Accelerator Pedal or Lever Idle Validation Switch - Data erratic, intermittent or incorrect           | X       | X     | X      | X       | X       | X      |
| 432        | 558       | 13        | Red              | Accelerator Pedal 1 Low Idle Switch  | Accelerator Pedal or Lever Idle Validation Switch Circuit - Out of Calibration                        | X       | X     | X      | X       | X       | X      |
| 435        | 100       | 2         | Amber            | Engine Oil Pressure  | Engine Oil Pressure - Data erratic, intermittent or incorrect   | X       | X     | X      | X       | X       | X      |
| 436        | 105       | 2         | Amber            | Engine Intake Manifold 1 Temperature                                       | Intake Manifold 1 Temperature - Data erratic, intermittent or incorrect                               |         |       |        |         |         | X      |
| 441        | 168       | 18        | Amber            | Battery Potential / Power Input 1  | Battery 1 Voltage - Data Valid But Below Normal Operating Range - Moderately Severe Level             | X       | X     | X      | X       | X       | X      |
| 442        | 168       | 16        | Amber            | Battery Potential / Power Input 1  | Battery 1 Voltage - Data Valid But Above Normal Operating Range - Moderately Severe Level             | X       | X     | X      | X       | X       | X      |
| 449        | 157       | 0         | Red              | Engine Injector Metering Rail 1 Pressure                                   | Injector Metering Rail 1 Pressure - Data valid but above normal operational range - Most Severe Level | X       | X     | X      | X       | X       | X      |
| 451        | 157       | 3         | Amber            | Engine Injector Metering Rail 1 Pressure                                   | Injector Metering Rail 1 Pressure Sensor Circuit - Voltage above normal, or shorted to high source    | X       | X     | X      | X       | X       | X      |
| 452        | 157       | 4         | Amber            | Engine Injector Metering Rail 1 Pressure                                   | Injector Metering Rail 1 Pressure Sensor Circuit - Voltage below normal, or shorted to low source     | X       | X     | X      | X       | X       | X      |
| 471        | 98        | 17        | Amber (Blinking) | Engine Oil Level   | Engine Oil Level - Data Valid But Below Normal Operating Range - Least Severe Level                   |         |       |        |         |         |        |
| 483        | 1349      | 3         | Amber            | Engine Injector Metering Rail 2 Pressure                                   | Injector Metering Rail 2 Pressure Sensor Circuit - Voltage above normal, or shorted to high source    | X       | X     | X      | X       | X       | X      |
| 484        | 1349      | 4         | Amber            | Engine Injector Metering Rail 2 Pressure                                   | Injector Metering Rail 2 Pressure Sensor Circuit - Voltage below normal, or shorted to low source     |         |       | X      |         |         | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                    | Cummins_Description   | QSB 6.7 | QSL 9 | QSX 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--|---|---------|-------|--------|---------|---------|--------|
| 487        | 626       | 18        | Amber | Engine Start Enable Device 1             | Start Enable Device 1 Canister Empty (Ether Injection) - Data Valid But Below Normal Operating Range      |         |       |        |         |         |        |
| 488        | 105       | 16        | Amber | Engine Intake Manifold Temperature       | Intake Manifold 1 Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level     | X       | X     | X      | X       | X       | X      |
| 489        | 191       | 18        | Amber | Transmission Output Shaft Speed          | Transmission Output Shaft Speed - Data Valid But Below Normal Operating Range - Moderately Severe Level   | X       | X     | X      |         | X       | X      |
| 497        | 1377      | 2         | Amber | Engine Synchronization Switch            | Multiple Unit Synchronization Switch - Data erratic, intermittent or incorrect                            | X       | X     | X      |         | X       | X      |
| 515        | 3514      | 3         | Amber | Sensor supply voltage 6                  | Sensor Supply 6 Circuit - Voltage above normal, or shorted to high source                                 | X       | X     | X      | X       | X       | X      |
| 516        | 3514      | 4         | Amber | Sensor supply voltage 6                  | Sensor Supply 6 Circuit - Voltage below normal, or shorted to low source                                  | X       | X     | X      | X       | X       | X      |
| 523        | 611       | 2         | Amber | System Diagnostic Code #1                | Auxiliary Intermediate (PTO) Speed Switch Validation - Data erratic, intermittent or incorrect            | X       | X     | X      |         | X       | X      |
| 527        | 702       | 3         | Amber | Auxiliary I/O #02                        | Auxiliary Input/Output 2 Circuit - Voltage above normal, or shorted to high source                        | X       | X     | X      |         | X       | X      |
| 528        | 93        | 2         | Amber | Engine Net Brake Torque                  | Auxiliary Alternate Torque Validation Switch - Data erratic, intermittent or incorrect                    |         |       | X      |         |         | X      |
| 529        | 703       | 3         | Amber | Auxiliary I/O #03                        | Auxiliary Input/Output 3 Circuit - Voltage above normal, or shorted to high source                        | X       | X     | X      |         | X       | X      |
| 535        | 174       | 2         | Amber | Engine Fuel Temperature 1                | Engine Fuel Temperature - Data erratic, intermittent or incorrect   |         |       |        |         |         |        |
| 546        | 94        | 3         | Amber | Engine Fuel Delivery Pressure            | Fuel Delivery Pressure Sensor Circuit - Voltage above normal, or shorted to high source                   | X       | X     |        | X       | X       |        |
| 547        | 94        | 4         | Amber | Engine Fuel Delivery Pressure            | Fuel Delivery Pressure Sensor Circuit - Voltage below normal, or shorted to low source                    | X       | X     |        | X       | X       |        |
| 553        | 157       | 16        | Amber | Engine Injector Metering Rail 1 Pressure | Injector Metering Rail 1 Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level | X       | X     | X      | X       | X       | X      |
| 554        | 157       | 2         | Amber | Engine Injector Metering Rail 1 Pressure | Injector Metering Rail 1 Pressure - Data erratic, intermittent or incorrect                               |         |       |        |         |         |        |
| 555        | 101       | 16        | Amber | Engine Crankcase Pressure                | Crankcase Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level                | X       | X     | X      | X       |         | X      |
| 556        | 101       | 0         | Red   | Engine Crankcase Pressure                | Crankcase Pressure - Data valid but above normal operational range - Most Severe Level                    | X       | X     | X      | X       |         | X      |
| 559        | 157       | 18        | Amber | Engine Injector Metering Rail 1 Pressure | Injector Metering Rail 1 Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level | X       | X     | X      | X       | X       | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description                               | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|------------------|---|--|---------|-------|--------|---------|---------|--------|
| 584        | 677       | 3         | Amber            | Engine Starter Motor Relay                          | Starter Relay Driver Circuit - Voltage above normal, or shorted to high source                         | X       | X     | X      | X       | X       | X      |
| 585        | 677       | 4         | Amber            | Engine Starter Motor Relay                          | Starter Relay Driver Circuit - Voltage below normal, or shorted to low source                          | X       | X     | X      | X       | X       | X      |
| 595        | 103       | 16        | Amber            | Engine Turbocharger 1 Speed                         | Turbocharger 1 Speed - Data Valid But Above Normal Operating Range - Moderately Severe Level           | X       | X     | X      | X       |         | X      |
| 599        | 640       | 14        | Red              | Engine External Protection Input                    | Auxiliary Commanded Dual Output Shutdown - Special Instructions  | X       | X     |        |         | X       |        |
| 611        | 1383      | 31        | None             | Engine was Shut Down Hot                            | Engine Shut Down Hot - Condition Exists  |         |       |        |         |         |        |
| 629        | 1176      | 18        | Amber            | Engine Turbocharger 1 Compressor Intake Pressure    | Turbocharger 1 Compressor Intake Pressure - Data Valid But Below Normal Operating Range - Moderately   |         |       |        |         |         |        |
| 649        | 1378      | 31        | Amber (Blinking) | Engine Oil Change Interval                          | Engine Oil Change Interval - Condition Exists  | X       | X     |        | X       | X       |        |
| 686        | 103       | 2         | Amber            | Engine Turbocharger 1 Speed                         | Turbocharger 1 Speed - Data erratic, intermittent or incorrect   |         |       |        |         |         |        |
| 687        | 103       | 18        | Amber            | Engine Turbocharger 1 Speed                         | Turbocharger 1 Speed - Data Valid But Below Normal Operating Range - Moderately Severe Level           | X       | X     | X      | X       |         | X      |
| 688        | 98        | 0         | Red              | Engine Oil Level                                    | Engine Oil Level - Data valid but above normal operational range - Most Severe Level                   |         |       |        |         |         |        |
| 689        | 190       | 2         | Amber            | Engine Speed  | Engine Crankshaft Speed/Position - Data erratic, intermittent or incorrect                             | X       | X     | X      | X       | X       | X      |
| 691        | 1172      | 3         | Amber            | Engine Turbocharger 1 Compressor Intake Temperature | Turbocharger 1 Compressor Intake Temperature Circuit - Voltage above normal, or shorted to high source | X       | X     | X      | X       | X       | X      |
| 692        | 1172      | 4         | Amber            | Engine Turbocharger 1 Compressor Intake Temperature | Turbocharger 1 Compressor Intake Temperature Circuit - Voltage below normal, or shorted to low source  | X       | X     | X      | X       | X       | X      |
| 693        | 1172      | 2         | Amber            | Engine Turbocharger 1 Compressor Intake Temperature | Turbocharger 1 Compressor Intake Temperature - Data erratic, intermittent or incorrect                 |         |       |        |         |         |        |
| 697        | 1136      | 3         | Amber            | Engine ECU Temperature                              | Engine ECU Temperature Sensor Circuit - Voltage above normal, or shorted to high source                |         |       |        |         |         |        |
| 698        | 1136      | 4         | Amber            | Engine ECU Temperature                              | Engine ECU Temperature Sensor Circuit - Voltage below normal, or shorted to low source                 |         |       |        |         |         |        |
| 699        | 1136      | 2         | Amber            | Engine ECU Temperature                              | Engine ECU Temperature - Data erratic, intermittent or incorrect                                       |         |       |        |         |         | X      |



| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                             | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|---|--|---------|-------|--------|---------|---------|--------|
| 731        | 723       | 7         | Amber | Engine Speed 2                                    | Engine Speed / Position Camshaft and Crankshaft Misalignment - Mechanical system not responding or out of adjustment | X       | X     | X      | X       | X       | X      |
| 741        | 1176      | 3         | Amber | Engine Turbocharger 1 Compressor Intake Pressure  | Turbocharger 1 Compressor Intake Pressure Circuit - Voltage above normal, or shorted to high source                  | X       | X     | X      | X       | X       | X      |
| 742        | 1176      | 4         | Amber | Engine Turbocharger 1 Compressor Intake Pressure  | Turbocharger 1 Compressor Intake Pressure Circuit - Voltage below normal, or shorted to low source                   | X       | X     | X      | X       | X       | X      |
| 743        | 1176      | 2         | Amber | Engine Turbocharger 1 Compressor Intake Pressure  | Turbocharger 1 Compressor Intake Pressure - Data erratic, intermittent or incorrect                                  | X       | X     | X      | X       | X       | X      |
| 755        | 157       | 7         | Amber | Engine Injector Metering Rail 1 Pressure          | Injector Metering Rail 1 Pressure - Mechanical system not responding or out of adjustment                            |         |       |        |         |         |        |
| 769        | 597       | 3         | Amber | Brake Switch                                      | Brake Switch Circuit - Voltage above normal, or shorted to high source   |         |       | X      |         |         | X      |
| 771        | 597       | 4         | Amber | Brake Switch                                      | Brake Switch Circuit - Voltage below normal, or shorted to low source  |         | X     |        |         |         |        |
| 778        | 723       | 2         | Amber | Engine Speed 2                                    | Engine Camshaft Speed / Position Sensor - Data erratic, intermittent or incorrect                                    | X       | X     | X      | X       | X       | X      |
| 784        | 1590      | 2         | None  | Adaptive Cruise Control Mode                      | Adaptive Cruise Control Mode - Data erratic, intermittent or incorrect   |         |       |        |         |         | X      |
| 1117       | 3597      | 2         | None  | ECU Power Output Supply Voltage #1                | Power Supply Lost With Ignition On - Data erratic, intermittent or incorrect   | X       | X     | X      | X       | X       | X      |
| 1139       | 651       | 7         | Amber | Engine Injector Cylinder #01                      | Injector Solenoid Driver Cylinder 1 - Mechanical system not responding or out of adjustment                          |         |       | X      |         |         | X      |
| 1141       | 652       | 7         | Amber | Engine Injector Cylinder #02                      | Injector Solenoid Driver Cylinder 2 - Mechanical system not responding or out of adjustment                          | X       | X     | X      | X       | X       | X      |
| 1142       | 653       | 7         | Amber | Engine Injector Cylinder #03                      | Injector Solenoid Driver Cylinder 3 - Mechanical system not responding or out of adjustment                          | X       | X     | X      | X       | X       | X      |
| 1143       | 654       | 7         | Amber | Engine Injector Cylinder #04                      | Injector Solenoid Driver Cylinder 4 - Mechanical system not responding or out of adjustment                          | X       | X     | X      | X       | X       | X      |
| 1144       | 655       | 7         | Amber | Engine Injector Cylinder #05                      | Injector Solenoid Driver Cylinder 5 - Mechanical system not responding or out of adjustment                          | X       | X     | X      |         |         | X      |
| 1145       | 656       | 7         | Amber | Engine Injector Cylinder #06                      | Injector Solenoid Driver Cylinder 6 - Mechanical system not responding or out of adjustment                          | X       | X     | X      |         |         | X      |
| 1228       | 27        | 2         | Amber | Engine Exhaust Gas Recirculation 1 Valve Position | EGR Valve Position - Data erratic, intermittent or incorrect   |         |       |        |         |         |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                            | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--|---|---------|-------|--------|---------|---------|--------|
| 1239       | 2623      | 3         | Amber | Accelerator Pedal #1 Channel 2                   | Accelerator Pedal or Lever Position Sensor 2 Circuit - Voltage above normal, or shorted to high source  | X       | X     | X      | X       | X       | X      |
| 1241       | 2623      | 4         | Amber | Accelerator Pedal #1 Channel 2                   | Accelerator Pedal or Lever Position Sensor 2 Circuit - Voltage below normal, or shorted to low source   | X       | X     | X      | X       | X       | X      |
| 1242       | 91        | 2         | Red   | Accelerator Pedal Position 1                     | Accelerator Pedal or Lever Position Sensor 1 - Data erratic, intermittent or incorrect                  | X       | X     | X      | X       | X       | X      |
| 1256       | 1563      | 2         | Amber | Incompatible Monitor/Controller                  | Control Module Identification Input State Error - Data erratic, intermittent or incorrect               |         |       | X      |         |         | X      |
| 1257       | 1563      | 2         | Red   | Incompatible Monitor/Controller                  | Control Module Identification Input State Error - Data erratic, intermittent or incorrect               |         |       | X      |         |         | X      |
| 1358       | 91        | 3         | Amber | Accelerator Pedal Position 1                     | Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage above normal, or shorted to high source  | X       | X     | X      | X       | X       | X      |
| 1359       | 91        | 4         | Amber | Accelerator Pedal Position 1                     | Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage below normal, or shorted to low source   | X       | X     | X      | X       | X       | X      |
| 1427       | 4185      | 31        | Amber | Overspeed Shutdown Relay Driver                  | Overspeed Shutdown Relay Driver Diagnostic has detected an error - Condition Exists                     | X       | X     |        | X       | X       |        |
| 1428       | 4186      | 31        | Amber | Low Oil Pressure Shutdown Relay Driver           | Low Oil Pressure (LOP) Shutdown Relay Driver Diagnostic has detected an error - Condition Exists        | X       | X     |        | X       | X       |        |
| 1429       | 4187      | 31        | Amber | High Engine Temperature Shutdown Relay Driver    | High Engine Temperature (HET) Shutdown Relay Driver Diagnostic has detected an error - Condition Exists | X       | X     | X      | X       | X       | X      |
| 1431       | 4188      | 31        | Amber | Pre-Low Oil Pressure Indicator Relay Driver      | Pre-Low Oil Pressure Warning Relay Driver Diagnostic has detected an error - Condition Exists           | X       | X     |        | X       | X       |        |
| 1432       | 4223      | 31        | Amber | Pre-High Engine Temperature Warning Relay Driver | Pre-High Engine Temperature Warning Relay Driver Diagnostic has detected an error - Condition Exists    | X       | X     |        | X       | X       |        |
| 1515       | 91        | 19        | Red   | Accelerator Pedal Position 1                     | SAE J1939 Multiplexed Accelerator Pedal or Lever Sensor System - Received Network Data In Error         | X       | X     | X      | X       | X       | X      |
| 1539       | 1387      | 3         | Amber | Auxiliary Pressure #1                            | Auxiliary Pressure Sensor Input 1 Circuit - Voltage above normal, or shorted to high source             | X       | X     | X      |         | X       | X      |
| 1548       | 657       | 5         | Amber | Engine Injector Cylinder #7                      | Injector Solenoid Driver Cylinder 7 Circuit - Current below normal or open circuit                      |         |       |        |         |         |        |
| 1549       | 658       | 5         | Amber | Engine Injector Cylinder #8                      | Injector Solenoid Driver Cylinder 8 Circuit - Current below normal or open circuit                      |         |       |        |         |         |        |
| 1551       | 660       | 5         | Amber | Engine Injector Cylinder #10                     | Injector Solenoid Driver Cylinder 10 Circuit - Current below normal or open circuit                     |         |       |        |         |         |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                                  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|--|--|---------|-------|--------|---------|------------------|--------|
| 1552       | 661       | 5         | Amber | Engine Injector Cylinder #11                           | Injector Solenoid Driver Cylinder 11 Circuit - Current below normal or open circuit                                  |         |       |        |         |                  |        |
| 1553       | 662       | 5         | Amber | Engine Injector Cylinder #12                           | Injector Solenoid Driver Cylinder 12 Circuit - Current below normal or open circuit                                  |         |       |        |         |                  |        |
| 1554       | 663       | 5         | Amber | Engine Injector Cylinder #13                           | Injector Solenoid Driver Cylinder 13 Circuit - Current below normal or open circuit                                  |         |       |        |         |                  |        |
| 1555       | 664       | 5         | Amber | Engine Injector Cylinder #14                           | Injector Solenoid Driver Cylinder 14 Circuit - Current below normal or open circuit                                  |         |       |        |         |                  |        |
| 1556       | 665       | 5         | Amber | Engine Injector Cylinder #15                           | Injector Solenoid Driver Cylinder 15 Circuit - Current below normal or open circuit                                  |         |       |        |         |                  |        |
| 1557       | 666       | 5         | Amber | Engine Injector Cylinder #16                           | Injector Solenoid Driver Cylinder 16 Circuit - Current below normal or open circuit                                  |         |       |        |         |                  |        |
| 1621       | 1387      | 4         | Amber | Auxiliary Pressure #1                                  | Auxiliary Pressure Sensor Input 1 Circuit - Voltage below normal, or shorted to low source                           | X       | X     | X      |         | X                | X      |
| 1622       | 659       | 5         | Amber | Engine Injector Cylinder #9                            | Injector Solenoid Driver Cylinder 9 Circuit - Current below normal or open circuit                                   |         |       |        |         |                  |        |
| 1654       | 1323      | 31        | Amber | Engine Misfire Cylinder #1                             | Engine Misfire Cylinder 1 - Condition Exists   | X       | X     |        | X       | X                |        |
| 1655       | 1324      | 31        | Amber | Engine Misfire Cylinder #2                             | Engine Misfire Cylinder 2 - Condition Exists   | X       | X     |        | X       | X                |        |
| 1656       | 1325      | 31        | Amber | Engine Misfire Cylinder #3                             | Engine Misfire Cylinder 3 - Condition Exists   | X       | X     |        | X       | X                |        |
| 1657       | 1326      | 31        | Amber | Engine Misfire Cylinder #4                             | Engine Misfire Cylinder 4 - Condition Exists   | X       | X     |        | X       | X                |        |
| 1658       | 1327      | 31        | Amber | Engine Misfire Cylinder #5                             | Engine Misfire Cylinder 5 - Condition Exists   | X       | X     |        |         |                  |        |
| 1659       | 1328      | 31        | Amber | Engine Misfire Cylinder #6                             | Engine Misfire Cylinder 6 - Condition Exists   | X       | X     |        |         |                  |        |
| 1664       | 4796      | 31        | Amber | Aftertreatment 1 Diesel Oxidation Catalyst Missing     | Aftertreatment 1 Diesel Oxidation Catalyst Missing - Condition Exists  | X       | X     | X      | X       | X<br>DOC+<br>SCR | X      |
| 1668       | 1761      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level       | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor Circuit - Voltage below normal, or shorted to low source     | X       | X     | X      | X       | X<br>With<br>SCR | X      |
| 1669       | 1761      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level       | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor Circuit - Voltage above normal, or shorted to high source    | X       | X     | X      | X       | X<br>With<br>SCR | X      |
| 1673       | 1761      | 1         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level       | Aftertreatment 1 Diesel Exhaust Fluid Tank Level - Data valid but below normal operational range - Most Severe Level | X       | X     | X      | X       | X<br>With<br>SCR | X      |
| 1677       | 3031      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature Sensor - Voltage below normal, or shorted to low source       | X       | X     | X      | X       | X<br>With<br>SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|--|--|---------|-------|--------|---------|------------|--------|
| 1678       | 3031      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature           | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature Sensor - Voltage above normal, or shorted to high source                          | X       | X     | X      | X       | X With SCR | X      |
| 1679       | 3031      | 2         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature           | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature - Data erratic, intermittent or incorrect   | X       | X     | X      | X       | X With SCR | X      |
| 1682       | 3362      | 31        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Input Lines    | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Input Lines - Condition Exists   | X       | X     | X      | X       | X With SCR | X      |
| 1683       | 3363      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater              | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Voltage above normal, or shorted to high source                                      | X       | X     | X      | X       | X With SCR | X      |
| 1684       | 3363      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater              | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Voltage below normal, or shorted to low source                                       | X       | X     | X      | X       | X With SCR | X      |
| 1685       | 3364      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality             | Aftertreatment Diesel Exhaust Fluid Quality Sensor Circuit - Voltage below normal, or shorted to low source                              | X       | X     | X      | X       | X With SCR | X      |
| 1686       | 3364      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality             | Aftertreatment Diesel Exhaust Fluid Quality Sensor Circuit - Voltage above normal, or shorted to high source                             | X       | X     | X      | X       | X With SCR | X      |
| 1691       | 5298      | 18        | Amber | Aftertreatment 1 Diesel Oxidation Catalyst Conversion Efficiency | Aftertreatment 1 Diesel Oxidation Catalyst Conversion Efficiency - Data Valid But Below Normal Operating Range - Moderately Severe Level | X       | X     | X      | X       | X DOC+ SCR | X      |
| 1694       | 3226      | 2         | Amber | Aftertreatment 1 Outlet NOx                                      | Aftertreatment 1 Outlet NOx Sensor - Data erratic, intermittent or incorrect   | X       | X     |        | X       | X With SCR |        |
| 1695       | 3513      | 3         | Amber | Sensor supply voltage 5  | Sensor Supply 5 - Voltage above normal, or shorted to high source  | X       | X     | X      | X       | X          | X      |
| 1696       | 3513      | 4         | Amber | Sensor supply voltage 5  | Sensor Supply 5 - Voltage below normal, or shorted to low source   | X       | X     | X      | X       | X          | X      |
| 1699       | 1761      | 2         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level                 | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor - Data erratic, intermittent or incorrect  |         |       |        |         |            |        |
| 1712       | 3363      | 18        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater              | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Data Valid But Below Normal Operating Range - Moderately Severe Level                | X       | X     | X      | X       | X With SCR | X      |
| 1713       | 3363      | 16        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater              | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Data Valid But Above Normal Operating Range - Moderately Severe Level                | X       | X     | X      | X       | X With SCR | X      |
| 1714       | 3364      | 13        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality             | Aftertreatment Diesel Exhaust Fluid Quality - Out of Calibration   | X       | X     | X      | X       | X With SCR | X      |
| 1715       | 3364      | 11        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality             | Aftertreatment Diesel Exhaust Fluid Quality - Root Cause Not Known   | X       | X     | X      | X       | X With SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description   | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|--|---|--------------------------|--------------------------|--------|---------|------------------|--------|
| 1718       | 1322      | 31        | Amber | Engine Misfire for Multiple Cylinders                            | Engine Misfire for Multiple Cylinders - Condition Exists  |                          |                          |        |         |                  |        |
| 1776       | 2634      | 3         | Amber | Power Relay  | Power Relay Driver Circuit - Voltage above normal, or shorted to high source                                    |                          |                          |        |         |                  | X      |
| 1777       | 2634      | 4         | Amber | Power Relay  | Power Relay Driver Circuit - Voltage below normal, or shorted to low source                                     |                          |                          |        |         |                  | X      |
| 1843       | 101       | 3         | Amber | Engine Crankcase Pressure  | Crankcase Pressure Circuit - Voltage above normal, or shorted to high source                                    | X                        | X                        | X      | X       |                  | X      |
| 1844       | 101       | 4         | Amber | Engine Crankcase Pressure  | Crankcase Pressure Circuit - Voltage below normal, or shorted to low source                                     | X                        | X                        | X      | X       |                  | X      |
| 1847       | 110       | 14        | Red   | Engine Coolant Temperature                                       | Engine Coolant Temperature - Special Instructions   |                          |                          |        |         |                  |        |
| 1852       | 97        | 16        | Amber | Water In Fuel Indicator  | Water in Fuel Indicator - Data Valid But Above Normal Operating Range - Moderately Severe Level                 | X                        | X                        | X      | X       | X                | X      |
| 1861       | 3217      | 2         | Amber | Aftertreatment 1 Intake O2                                       | Aftertreatment Intake Oxygen Sensor - Data erratic, intermittent or incorrect                                   |                          |                          |        |         |                  |        |
| 1866       | 411       | 2         | Amber | Engine Exhaust Gas Recirculation 1 Differential Pressure         | Exhaust Gas Recirculation Differential Pressure - Data erratic, intermittent or incorrect                       | X                        | X                        | X      | X       | X                |        |
| 1867       | 412       | 2         | Amber | Engine Exhaust Gas Recirculation 1 Temperature                   | Exhaust Gas Recirculation Temperature - Data erratic, intermittent or incorrect                                 |                          |                          | X      |         |                  |        |
| 1879       | 3251      | 3         | Amber | Aftertreatment 1 Diesel Particulate Filter Differential Pressure | Aftertreatment Diesel Particulate Filter Differential Pressure Sensor Circuit - Voltage above normal            | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 1881       | 3251      | 4         | Amber | Aftertreatment 1 Diesel Particulate Filter Differential Pressure | Aftertreatment Diesel Particulate Filter Differential Pressure Sensor Circuit - Voltage below normal            | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 1883       | 3251      | 2         | Amber | Aftertreatment 1 Diesel Particulate Filter Differential Pressure | Aftertreatment Diesel Particulate Filter Differential Pressure Sensor - Data erratic, intermittent or incorrect | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 1885       | 3216      | 4         | Amber | Aftertreatment 1 Intake NOx                                      | Aftertreatment 1 Intake NOx Sensor Circuit - Voltage below normal, or shorted to low source                     | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 1887       | 3226      | 4         | Amber | Aftertreatment 1 Outlet NOx                                      | Aftertreatment 1 Outlet NOx Sensor Circuit - Voltage below normal, or shorted to low source                     | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 1893       | 2791      | 9         | Amber | Engine Exhaust Gas Recirculation 1 (EGR1) Valve Control          | EGR Valve Control Circuit - Abnormal update rate  |                          |                          |        |         |                  |        |
| 1896       | 2791      | 13        | Amber | Engine Exhaust Gas Recirculation 1 (EGR1) Valve Control          | EGR Valve Controller - Out of Calibration   | X                        | X                        | X      | X       | X                |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description   | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--|---|--------------------------|--------------------------|--------|---------|---------|--------|
| 1898       | 641       | 13        | Amber | Engine Variable Geometry Turbocharger Actuator #1                | VGT Actuator Controller - Out of Calibration  | X                        | X                        | X      | X       |         |        |
| 1921       | 3251      | 16        | Amber | Aftertreatment 1 Diesel Particulate Filter Differential Pressure | Aftertreatment Diesel Particulate Filter Differential Pressure - Data Valid But Above Normal Operating Range  | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |         | X      |
| 1922       | 3251      | 0         | Red   | Aftertreatment 1 Diesel Particulate Filter Differential Pressure | Aftertreatment Diesel Particulate Filter Differential Pressure - Data valid but above normal Operating Range  | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |         | X      |
| 1923       | 3482      | 3         | Amber | Aftertreatment 1 Fuel Enable Actuator                            | Aftertreatment Fuel Shutoff Valve Circuit - Voltage above normal, or shorted to high source                   |                          |                          | X      |         |         | X      |
| 1924       | 3482      | 4         | Amber | Aftertreatment 1 Fuel Enable Actuator                            | Aftertreatment Fuel Shutoff Valve Circuit - Voltage below normal, or shorted to low source                    |                          |                          | X      |         |         | X      |
| 1925       | 3482      | 2         | Amber | Aftertreatment 1 Fuel Enable Actuator                            | Aftertreatment Fuel Shutoff Valve - Data erratic, intermittent or incorrect                                   |                          |                          | X      |         |         | X      |
| 1926       | 3480      | 2         | Amber | Aftertreatment Fuel Pressure                                     | Aftertreatment Fuel Pressure Sensor - Data erratic, intermittent or incorrect                                 |                          |                          | X      |         |         | X      |
| 1927       | 3480      | 3         | Amber | Aftertreatment Fuel Pressure                                     | Aftertreatment Fuel Pressure Sensor Circuit - Voltage above normal, or shorted to high source                 |                          |                          | X      |         |         | X      |
| 1928       | 3480      | 4         | Amber | Aftertreatment Fuel Pressure                                     | Aftertreatment Fuel Pressure Sensor Circuit - Voltage below normal, or shorted to low source                  |                          |                          | X      |         |         | X      |
| 1932       | 3556      | 2         | Amber | Aftertreatment Hydrocarbon Doser                                 | Aftertreatment Doser - Data erratic, intermittent or incorrect  |                          |                          | X      |         |         | X      |
| 1938       | 3597      | 18        | Amber | ECU Power Output Supply Voltage #1                               | ECU Power Output Supply Voltage 1 - Data Valid But Below Normal Operating Range - Moderately Severe Level     | X                        | X                        | X      | X       |         | X      |
| 1939       | 3597      | 3         | Amber | ECU Power Output Supply Voltage #1                               | ECU Power Output Supply Voltage 1 - Voltage above normal, or shorted to high source                           |                          |                          | X      |         |         | X      |
| 1941       | 3597      | 4         | Amber | ECU Power Output Supply Voltage #1                               | ECU Power Output Supply Voltage 1 - Voltage below normal, or shorted to low source                            |                          |                          |        |         |         |        |
| 1942       | 101       | 2         | Amber | Engine Crankcase Pressure  | Crankcase Pressure - Data erratic, intermittent or incorrect  | X                        | X                        | X      | X       |         | X      |
| 1943       | 3555      | 17        | None  | Ambient Air Density  | Ambient Air Density - Data Valid But Below Normal Operating Range - Least Severe Level                        |                          |                          |        |         |         | X      |
| 1961       | 2791      | 15        | Amber | Engine Exhaust Gas Recirculation 1 (EGR1) Valve Control          | EGR Valve Control Circuit Over Temperature - Data Valid But Above Normal Operating Range - Least Severe Level | X                        | X                        | X      | X       | X       |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description                              | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|------------------|--|--|--------------------------|--------------------------|--------|---------|---------|--------|
| 1962       | 641       | 15        | Amber            | Engine Variable Geometry Turbocharger Actuator #1  | VGT Actuator Driver Over Temperature (Calculated) - Data Valid But Above Normal Operating Range - Least Severe Level | X                        | X                        | X      | X       |         |        |
| 1963       | 3482      | 7         | Amber            | Aftertreatment 1 Fuel Enable Actuator              | Aftertreatment Fuel Shutoff Valve - Mechanical system not responding or out of adjustment                            |                          |                          | X      |         |         | X      |
| 1964       | 3556      | 7         | Amber            | Aftertreatment Hydrocarbon Doser                   | Aftertreatment Doser - Mechanical system not responding or out of adjustment   |                          |                          | X      |         |         | X      |
| 1974       | 101       | 15        | Amber (Blinking) | Engine Crankcase Pressure                          | Crankcase Pressure - Data Valid But Above Normal Operating Range - Least Severe Level                                | X                        | X                        | X      | X       |         | X      |
| 1976       | 641       | 15        | None             | Engine Variable Geometry Turbocharger Actuator #1  | VGT Actuator Driver Over Temperature (Calculated) - Data Valid But Above Normal Operating Range - Least Severe Level | X                        | X                        | X      | X       | X       | X      |
| 1977       | 3556      | 5         | Amber            | Aftertreatment Hydrocarbon Doser                   | Aftertreatment Doser Circuit - Current below normal or open circuit.   |                          |                          | X      |         |         | X      |
| 1981       | 3936      | 15        | Amber            | Aftertreatment Diesel Particulate Filter System    | Aftertreatment 1 Diesel Particulate Filter System - Data Valid But Above Normal Operating Range - Level              | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |         | X      |
| 1992       | 190       | 16        | Red              | Engine Speed                                       | Engine Crankshaft Speed/Position - Data Valid But Above Normal Operating Range - Moderately Severe Level             |                          |                          |        |         |         |        |
| 1993       | 4795      | 31        | Amber            | Aftertreatment 1 Diesel Particulate Filter Missing | Aftertreatment 1 Diesel Particulate Filter Missing - Condition Exists  | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |         | X      |
| 2182       | 1072      | 3         | Amber            | Engine (Compression) Brake Output #1               | Engine Brake Actuator Driver 1 Circuit - Voltage above normal, or shorted to high source                             |                          | X                        | X      |         |         | X      |
| 2183       | 1072      | 4         | Amber            | Engine (Compression) Brake Output #1               | Engine Brake Actuator Driver 1 Circuit - Voltage below normal, or shorted to low source                              |                          | X                        | X      |         |         | X      |
| 2185       | 3512      | 3         | Amber            | Sensor supply voltage 4                            | Sensor Supply 4 Circuit - Voltage above normal, or shorted to high source  | X                        | X                        | X      | X       | X       | X      |
| 2186       | 3512      | 4         | Amber            | Sensor supply voltage 4                            | Sensor Supply 4 Circuit - Voltage below normal, or shorted to low source   | X                        | X                        | X      | X       | X       | X      |
| 2198       | 641       | 11        | Amber            | Engine Variable Geometry Turbocharger Actuator #1  | VGT Actuator Driver Circuit - Root Cause Not Known   | X                        | X                        | X      | X       |         |        |
| 2215       | 94        | 18        | Amber            | Engine Fuel Delivery Pressure                      | Fuel Pump Delivery Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level                  |                          |                          |        |         |         |        |
| 2249       | 157       | 1         | Amber            | Engine Injector Metering Rail 1 Pressure           | Injector Metering Rail 1 Pressure - Data valid but below normal operational range - Most Severe Level                |                          |                          |        |         |         |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description                                       | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|------------------|---|--|---------|-------|--------|---------|---------|--------|
| 2261       | 94        | 15        | Amber (Blinking) | Engine Fuel Delivery Pressure                               | Fuel Pump Delivery Pressure - Data Valid But Above Normal Operating Range - Least Severe Level                   |         |       |        |         |         |        |
| 2262       | 94        | 17        | Amber (Blinking) | Engine Fuel Delivery Pressure                               | Fuel Pump Delivery Pressure - Data Valid But Below Normal Operating Range - Least Severe Level                   |         |       |        |         |         |        |
| 2263       | 1800      | 16        | Amber            | Battery 1 Temperature                                       | Battery Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level                      |         |       |        |         |         |        |
| 2264       | 1800      | 18        | Amber            | Battery 1 Temperature                                       | Battery Temperature - Data Valid But Below Normal Operating Range - Moderately Severe Level                      |         |       |        |         |         |        |
| 2265       | 1075      | 3         | Amber            | Engine Electric Lift Pump for Engine Fuel Supply            | Electric Lift Pump for Engine Fuel Supply Circuit - Voltage above normal, or shorted to high source              |         | X     | X      |         |         | X      |
| 2266       | 1075      | 4         | Amber            | Engine Electric Lift Pump for Engine Fuel Supply            | Electric Lift Pump for Engine Fuel Supply Circuit - Voltage below normal, or shorted to low source               |         | X     | X      |         |         | X      |
| 2272       | 27        | 4         | Amber            | Engine Exhaust Gas Recirculation 1 Valve Position           | EGR Valve Position Circuit - Voltage below normal, or shorted to low source                                      | X       | X     | X      | X       | X       |        |
| 2273       | 411       | 3         | Amber            | Engine Exhaust Gas Recirculation 1 Differential Pressure    | Exhaust Gas Recirculation Differential Pressure Sensor Circuit - Voltage above normal, or shorted to high source | X       | X     | X      | X       | X       |        |
| 2274       | 411       | 4         | Amber            | Engine Exhaust Gas Recirculation 1 Differential Pressure    | Exhaust Gas Recirculation Differential Pressure Sensor Circuit - Voltage below normal, or shorted to low source  | X       | X     | X      | X       | X       |        |
| 2288       | 103       | 15        | None             | Engine Turbocharger 1 Speed                                 | Turbocharger 1 Speed - Data Valid But Above Normal Operating Range - Least Severe Level                          | X       | X     | X      | X       |         |        |
| 2311       | 633       | 31        | Amber            | Engine Fuel Actuator 1 Control Command                      | Electronic Fuel Injection Control Valve Circuit - Condition Exists   | X       | X     | X      | X       | X       | X      |
| 2321       | 190       | 2         | None             | Engine Speed  | Engine Crankshaft Speed/Position - Data erratic, intermittent or incorrect                                       | X       | X     | X      | X       | X       | X      |
| 2322       | 723       | 2         | None             | Engine Speed 2  | Engine Camshaft Speed / Position Sensor - Data erratic, intermittent or incorrect                                | X       | X     | X      | X       | X       | X      |
| 2346       | 2789      | 15        | None             | Engine Turbocharger 1 Calculated Turbine Intake Temperature | Turbocharger Turbine Intake Temperature - Data Valid But Above Normal Operating Range - Least Severe             | X       | X     | X      | X       | X       | X      |
| 2347       | 2629      | 15        | None             | Engine Turbocharger 1 Compressor Outlet Temperature         | Turbocharger Compressor Outlet Temperature (Calculated) - Data Valid But Above Normal Operating Range            |         |       |        |         |         |        |
| 2349       | 2791      | 5         | Amber            | Engine Exhaust Gas Recirculation 1 (EGR1) Valve Control     | EGR Valve Control Circuit - Current below normal or open circuit   | X       | X     | X      | X       | X       |        |

| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description                                       | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|------------------|---|---|---------|-------|--------|---------|---------|--------|
| 2353       | 2791      | 6         | Amber            | Engine Exhaust Gas Recirculation 1 (EGR1) Valve Control     | EGR Valve Control Circuit - Current above normal or grounded circuit  | X       | X     | X      | X       | X       |        |
| 2357       | 2791      | 7         | Amber            | Engine Exhaust Gas Recirculation 1 (EGR1) Valve Control     | EGR Valve Control Circuit - Mechanical system not responding or out of adjustment                               | X       | X     | X      | X       | X       |        |
| 2363       | 1073      | 4         | Amber            | Engine (Compression) Brake Output #2                        | Engine Brake Actuator Driver Output 2 Circuit - Voltage below normal, or shorted to low source                  | X       | X     | X      |         | X       | X      |
| 2365       | 1112      | 4         | Amber            | Engine (Compression) Brake Output #3                        | Engine Brake Actuator Driver Output 3 Circuit - Voltage below normal, or shorted to low source                  |         |       |        |         |         |        |
| 2367       | 1073      | 3         | Amber            | Engine (Compression) Brake Output #2                        | Engine Brake Actuator Driver Output 2 Circuit - Voltage above normal, or shorted to high source                 | X       | X     | X      |         | X       | X      |
| 2368       | 1112      | 3         | Amber            | Engine (Compression) Brake Output #3                        | Engine Brake Actuator Driver 3 Circuit - Voltage above normal, or shorted to high source                        |         |       |        |         |         |        |
| 2372       | 95        | 16        | Amber            | Engine Fuel Filter Differential Pressure                    | Fuel Filter Differential Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level       | X       | X     | X      | X       | X       | X      |
| 2373       | 1209      | 3         | Amber            | Engine Exhaust Gas Pressure 1                               | Exhaust Gas Pressure Sensor 1 Circuit - Voltage above normal, or shorted to high source                         | X       | X     | X      | X       | X       | X      |
| 2374       | 1209      | 4         | Amber            | Engine Exhaust Gas Pressure 1                               | Exhaust Gas Pressure Sensor 1 Circuit - Voltage below normal, or shorted to low source                          | X       | X     | X      | X       | X       | X      |
| 2375       | 412       | 3         | Amber            | Engine Exhaust Gas Recirculation 1 Temperature              | Exhaust Gas Recirculation Temperature Sensor Circuit - Voltage above normal, or shorted to high source          | X       | X     | X      | X       | X       |        |
| 2376       | 412       | 4         | Amber            | Engine Exhaust Gas Recirculation 1 Temperature              | Exhaust Gas Recirculation Temperature Sensor Circuit - Voltage below normal, or shorted to low source           | X       | X     | X      | X       | X       |        |
| 2377       | 647       | 3         | Amber            | Engine Fan Clutch 1 Output Device Driver                    | Fan Control Circuit - Voltage above normal, or shorted to high source   | X       | X     | X      | X       | X       | X      |
| 2387       | 641       | 7         | Amber            | Engine Variable Geometry Turbocharger Actuator #1           | VGT Actuator Driver Circuit (Motor) - Mechanical system not responding or out of adjustment                     | X       | X     | X      | X       |         |        |
| 2398       | 171       | 2         | Amber            | Ambient Air Temperature                                     | Ambient Air Temperature - Data erratic, intermittent or incorrect   |         |       |        |         |         |        |
| 2448       | 111       | 17        | Amber (Blinking) | Engine Coolant Level  | Coolant Level - Data Valid But Below Normal Operating Range - Least Severe Level                                | X       | X     | X      | X       | X       | X      |
| 2449       | 641       | 13        | Red              | Engine Variable Geometry Turbocharger Actuator #1           | VGT Actuator Controller - Out of Calibration  | X       | X     | X      | X       |         |        |
| 2451       | 2789      | 16        | None             | Engine Turbocharger 1 Calculated Turbine Intake Temperature | Turbocharger Turbine Intake Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level |         |       |        |         |         | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|--|--|--------------------------|--------------------------|--------|---------|------------------|--------|
| 2468       | 190       | 16        | Amber | Engine Speed   | Engine Crankshaft Speed/Position - Data Valid But Above Normal Operating Range - Moderately Severe Level                                 | X                        | X                        | X      | X       |                  | X      |
| 2554       | 1209      | 2         | Amber | Engine Exhaust Gas Pressure 1                                    | Exhaust Gas Pressure 1 - Data erratic, intermittent or incorrect   | X                        | X                        | X      | X       | X                | X      |
| 2555       | 729       | 3         | Amber | Engine Intake Air Heater Driver #1                               | Engine Intake Air Heater 1 Circuit - Voltage above normal, or shorted to high source   | X                        | X                        |        | X       | X                | X      |
| 2556       | 729       | 4         | Amber | Engine Intake Air Heater Driver #1                               | Engine Intake Air Heater 1 Circuit - Voltage below normal, or shorted to low source  | X                        | X                        |        | X       | X                | X      |
| 2557       | 697       | 3         | Amber | Auxiliary PWM Driver #1  | Auxiliary PWM Driver 1 Circuit - Voltage above normal, or shorted to high source   | X                        | X                        | X      | X       | X                | X      |
| 2558       | 697       | 4         | Amber | Auxiliary PWM Driver #1  | Auxiliary PWM Driver 1 Circuit - Voltage below normal, or shorted to low source  | X                        | X                        | X      | X       | X                | X      |
| 2571       | 2630      | 3         | Amber | Engine Charge Air Cooler 1 Outlet Temperature                    | Engine Charge Air Cooler Outlet Temperature - Voltage above normal, or shorted to high source  | X                        | X                        | X      |         | X                | X      |
| 2572       | 2630      | 4         | Amber | Engine Charge Air Cooler 1 Outlet Temperature                    | Engine Charge Air Cooler Outlet Temperature - Voltage below normal, or shorted to low source   | X                        | X                        | X      |         | X                | X      |
| 2634       | 641       | 12        | Red   | Engine Variable Geometry Turbocharger Actuator #1                | VGT Actuator Controller - Bad intelligent device or component  | X                        | X                        | X      | X       |                  |        |
| 2635       | 641       | 31        | Red   | Engine Variable Geometry Turbocharger Actuator #1                | VGT Actuator Driver Circuit - Condition Exists   | X                        | X                        | X      | X       |                  |        |
| 2636       | 641       | 9         | Red   | Engine Variable Geometry Turbocharger Actuator #1                | VGT Actuator Driver Circuit - Abnormal update rate   | X                        | X                        | X      | X       |                  |        |
| 2637       | 5018      | 11        | None  | Aftertreatment Diesel Oxidation Catalyst                         | Aftertreatment 1 Diesel Oxidation Catalyst Face Plugged - Root Cause Not Known   | X                        | X                        | X      | X       | X<br>DOC+<br>SCR |        |
| 2638       | 5298      | 17        | None  | Aftertreatment 1 Diesel Oxidation Catalyst Conversion Efficiency | Aftertreatment 1 Diesel Oxidation Catalyst Conversion Efficiency - Data Valid But Below Normal Operating Range - Moderately Severe Level | X                        | X                        | X      | X       | X<br>DOC+<br>SCR | X      |
| 2639       | 3251      | 15        | None  | Aftertreatment 1 Diesel Particulate Filter Differential Pressure | Aftertreatment Diesel Particulate Filter Differential Pressure - Data valid but above normal Operating Range                             | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 2646       | 110       | 31        | Amber | Engine Coolant Temperature                                       | Engine Coolant Temperature - Condition Exists  | X                        | X                        | X      | X       | X                | X      |
| 2659       | 110       | 31        | None  | Engine Coolant Temperature                                       | Engine Coolant Temperature - Condition Exists  | X                        | X                        |        | X       | X                | X      |
| 2661       | 629       | 31        | Red   | Controller #1  | At Least One Unacknowledged Most Severe Fault - Condition Exists   |                          |                          | X      |         |                  |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                            | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|--|--|--------------------------|--------------------------|--------|---------|------------------|--------|
| 2662       | 629       | 31        | Amber | Controller #1                                    | At Least One Unacknowledged Moderately Severe Fault - Condition Exists   |                          |                          | X      |         |                  |        |
| 2683       | 3227      | 9         | Amber | Aftertreatment 1 Outlet O2                       | Aftertreatment Outlet Oxygen Sensor Circuit - Abnormal update rate   |                          |                          |        |         |                  |        |
| 2699       | 520320    | 7         | Amber | Crankcase Depression Valve                       | Crankcase Depression Valve - Mechanical system not responding or out of adjustment                                       |                          |                          |        |         |                  |        |
| 2721       | 599       | 2         | Amber | Cruise Control Set Switch                        | Cruise Control Set Switch - Data erratic, intermittent or incorrect  |                          |                          |        |         |                  |        |
| 2732       | 4097      | 3         | Amber | Aftertreatment 1 Fuel Drain Actuator             | Aftertreatment Fuel Drain Valve Circuit - Voltage above normal, or shorted to high source                                |                          |                          | X      |         |                  | X      |
| 2733       | 4097      | 4         | Amber | Aftertreatment 1 Fuel Drain Actuator             | Aftertreatment Fuel Drain Valve Circuit - Voltage below normal, or shorted to low source                                 |                          |                          | X      |         |                  | X      |
| 2738       | 626       | 3         | Amber | Engine Start Enable Device 1                     | Start Enable Device 1 Circuit (Ether Injection) - Voltage above normal, or shorted to high source                        |                          |                          |        |         |                  |        |
| 2739       | 626       | 4         | Amber | Engine Start Enable Device 1                     | Start Enable Device 1 Circuit (Ether Injection) - Voltage below normal, or shorted to low source                         |                          |                          |        |         |                  |        |
| 2741       | 3482      | 13        | Amber | Aftertreatment 1 Fuel Enable Actuator            | Aftertreatment Fuel Shutoff Valve Swapped - Out of Calibration   |                          |                          |        |         |                  |        |
| 2742       | 3249      | 17        | None  | Aftertreatment 1 Exhaust Gas Temperature 2       | Aftertreatment Exhaust Gas Temperature 2 - Data Valid But Below Normal Operating Range - Least Severe Level              |                          |                          |        |         | X                |        |
| 2743       | 3249      | 18        | Amber | Aftertreatment 1 Exhaust Gas Temperature 2       | Aftertreatment Exhaust Gas Temperature 2 - Data Valid But Below Normal Operating Range - Moderately Severe Level         |                          |                          |        |         | X                |        |
| 2754       | 81        | 16        | Amber | Engine Diesel Particulate Filter Intake Pressure | Engine Diesel Particulate Filter Intake Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 2755       | 520332    | 3         | Amber | Cruise Control                                   | Cruise Control (Resistive) #2 Signal Circuit - Voltage above normal, or shorted to high source                           |                          |                          |        |         |                  |        |
| 2756       | 520332    | 4         | Amber | Cruise Control                                   | Cruise Control (Resistive) #2 Signal Circuit - Voltage below normal, or shorted to low source                            |                          |                          |        |         |                  |        |
| 2764       | 1209      | 16        | Amber | Engine Exhaust Gas Pressure 1                    | Exhaust Gas Pressure 1 - Data Valid But Above Normal Operating Range - Moderately Severe Level                           |                          |                          | X      |         |                  | X      |
| 2765       | 2797      | 13        | None  | Engine Injector Group 1                          | Engine Injector Bank 1 Barcodes - Out of Calibration   |                          |                          |        |         | X                |        |
| 2771       | 3226      | 9         | Amber | Aftertreatment 1 Outlet NOx                      | Aftertreatment 1 Outlet NOx Sensor - Abnormal update rate  | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description   | Cummins_Description   | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|------------------|---|---|--------------------------|--------------------------|--------|---------|------------------|--------|
| 2777       | 3703      | 31        | Amber (Blinking) | Diesel Particulate Filter Active Regeneration Inhibited Due to Inhibit Switch | Particulate Trap Active Regeneration Inhibited Due to Inhibit Switch - Condition Exists                                     | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 2778       | 3481      | 16        | Amber            | Aftertreatment 1 Fuel Rate  | Aftertreatment Fuel Rate - Data Valid But Above Normal Operating Range - Moderately Severe Level                            |                          |                          |        |         |                  |        |
| 2789       | 110       | 18        | Amber            | Engine Coolant Temperature  | Engine Coolant Temperature - Data Valid But Below Normal Operating Range - Moderately Severe Level                          |                          |                          |        |         |                  | X      |
| 2878       | 4097      | 7         | Amber            | Aftertreatment 1 Fuel Drain Actuator  | Aftertreatment Fuel Drain Valve - Mechanical system not responding or out of adjustment                                     |                          |                          | X      |         |                  | X      |
| 2881       | 3480      | 17        | Amber            | Aftertreatment Fuel Pressure  | Aftertreatment Fuel Pressure Sensor - Data Valid But Below Normal Operating Range - Least Severe Level                      |                          |                          | X      |         |                  | X      |
| 2961       | 412       | 15        | None             | Engine Exhaust Gas Recirculation 1 Temperature                                | Exhaust Gas Recirculation Temperature - Data Valid But Above Normal Operating Range - Least Severe Level                    | X                        | X                        | X      | X       | X                |        |
| 2962       | 412       | 16        | Amber            | Engine Exhaust Gas Recirculation 1 Temperature                                | Exhaust Gas Recirculation Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level               | X                        | X                        | X      | X       | X                |        |
| 2963       | 110       | 15        | None             | Engine Coolant Temperature  | Engine Coolant Temperature - Data Valid But Above Normal Operating Range - Least Severe Level                               |                          |                          |        |         |                  |        |
| 2964       | 105       | 15        | None             | Engine Intake Manifold #1 Temperature   | Intake Manifold 1 Temperature - Data Valid But Above Normal Operating Range - Least Severe Level                            | X                        | X                        | X      | X       | X                | X      |
| 2973       | 102       | 2         | Amber            | Engine Intake Manifold #1 Pressure  | Intake Manifold 1 Pressure - Data erratic, intermittent or incorrect  |                          |                          | X      |         | X                | X      |
| 2976       | 3361      | 2         | Amber            | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit                             | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Temperature - Data erratic, intermittent or incorrect                     | X                        | X                        | X      | X       | X<br>With<br>SCR |        |
| 2998       | 1632      | 14        | Amber            | Engine Torque Limit Feature   | Engine Torque Limit Feature - Special Instructions  | X                        | X                        | X      |         | X                | X      |
| 3133       | 3610      | 3         | Amber            | Aftertreatment Diesel Particulate Filter Outlet Pressure                      | Aftertreatment 1 Diesel Particulate Filter Outlet Pressure Sensor Circuit - Voltage above normal, or shorted to high source | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 3134       | 3610      | 4         | Amber            | Aftertreatment Diesel Particulate Filter Outlet Pressure                      | Aftertreatment 1 Diesel Particulate Filter Outlet Pressure Sensor Circuit - Voltage below normal, or shorted to low source  | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 3135       | 3610      | 2         | Amber            | Aftertreatment Diesel Particulate Filter Outlet Pressure                      | Aftertreatment 1 Diesel Particulate Filter Outlet Pressure - Data erratic, intermittent or incorrect                        | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 3136       | 5019      | 3         | Amber            | Engine Exhaust Gas Recirculation 1 Outlet Pressure                            | Engine Exhaust Gas Recirculation Outlet Pressure Sensor Circuit - Voltage above normal, or shorted to high source           |                          |                          | X      |         |                  |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|---|--|---------|-------|--------|---------|------------|--------|
| 3137       | 5019      | 4         | Amber | Engine Exhaust Gas Recirculation 1 Outlet Pressure                  | Engine Exhaust Gas Recirculation Outlet Pressure Sensor Circuit - Voltage below normal, or shorted to low source |         |       | X      |         |            |        |
| 3138       | 5019      | 2         | Amber | Engine Exhaust Gas Recirculation 1 Outlet Pressure                  | Engine Exhaust Gas Recirculation Outlet Pressure - Data erratic, intermittent or incorrect                       |         |       | X      |         |            |        |
| 3139       | 3667      | 3         | Amber | Engine Air Shutoff Status   | Engine Air Shutoff Circuit - Voltage above normal, or shorted to high source                                     | X       | X     | X      |         | X          | X      |
| 3141       | 3667      | 4         | Amber | Engine Air Shutoff Status   | Engine Air Shutoff Circuit - Voltage below normal, or shorted to low source                                      | X       | X     | X      |         | X          | X      |
| 3142       | 4360      | 3         | Amber | Aftertreatment 1 SCR Catalyst Intake Gas Temperature                | Aftertreatment 1 SCR Intake Temperature Sensor Circuit - Voltage above normal, or shorted to high source         | X       | X     | X      | X       | X With SCR | X      |
| 3143       | 4360      | 4         | Amber | Aftertreatment 1 SCR Catalyst Intake Gas Temperature                | Aftertreatment 1 SCR Intake Temperature Sensor Circuit - Voltage below normal, or shorted to low source          | X       | X     | X      | X       | X With SCR | X      |
| 3144       | 4360      | 2         | Amber | Aftertreatment 1 SCR Catalyst Intake Gas Temperature                | Aftertreatment 1 SCR Intake Temperature Sensor - Data erratic, intermittent or incorrect                         | X       | X     | X      | X       | X With SCR | X      |
| 3146       | 4363      | 3         | Amber | Aftertreatment 1 SCR Catalyst Outlet Gas Temperature                | Aftertreatment 1 SCR Outlet Temperature Sensor Circuit - Voltage above normal, or shorted to high source         | X       | X     | X      | X       | X With SCR | X      |
| 3147       | 4363      | 4         | Amber | Aftertreatment 1 SCR Catalyst Outlet Gas Temperature                | Aftertreatment 1 SCR Outlet Temperature Sensor Circuit - Voltage below normal, or shorted to low source          | X       | X     | X      | X       | X With SCR | X      |
| 3148       | 4363      | 2         | Amber | Aftertreatment 1 SCR Catalyst Outlet Gas Temperature                | Aftertreatment 1 SCR Outlet Temperature Sensor - Data erratic, intermittent or incorrect                         | X       | X     | X      | X       | X With SCR | X      |
| 3151       | 4794      | 31        | Amber | Aftertreatment 1 SCR Catalyst System                                | Aftertreatment 1 SCR Catalyst System Missing - Condition Exists  | X       | X     | X      | X       | X With SCR | X      |
| 3152       | 4809      | 3         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature Sensor Circuit - Voltage above normal        |         |       |        |         |            |        |
| 3153       | 4809      | 4         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature Sensor Circuit - Voltage below normal        |         |       |        |         |            |        |
| 3154       | 4809      | 2         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature - Data erratic, intermittent or incorrect    |         |       |        |         |            |        |
| 3155       | 4810      | 3         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature Sensor Circuit - Voltage above normal        |         |       |        |         |            |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|---|--|---------|-------|--------|---------|------------|--------|
| 3156       | 4810      | 4         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature Sensor Circuit - Voltage below normal                            |         |       |        |         |            |        |
| 3157       | 4810      | 2         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature - Data erratic, intermittent or incorrect                        |         |       |        |         |            |        |
| 3158       | 4793      | 31        | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst                    | Aftertreatment Warm Up Diesel Oxidation Catalyst Missing - Condition Exists  |         |       |        |         |            |        |
| 3162       | 4810      | 0         | Red   | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature - Data valid but above normal operating Range –Most Severe level |         |       |        |         |            |        |
| 3164       | 4360      | 15        | None  | Aftertreatment 1 SCR Catalyst Intake Gas Temperature                | Aftertreatment 1 SCR Intake Temperature - Data Valid But Above Normal Operating Range - Least Severe                                 | X       | X     | X      | X       | X With SCR | X      |
| 3165       | 4363      | 0         | Red   | Aftertreatment 1 SCR Catalyst Outlet Gas Temperature                | Aftertreatment 1 SCR Outlet Temperature - Data valid but above normal operational range - Most Severe                                | X       | X     | X      | X       | X With SCR | X      |
| 3166       | 4809      | 13        | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature Sensor Swapped - Out of Calibration                              |         |       |        |         |            |        |
| 3167       | 3556      | 18        | Amber | Aftertreatment Hydrocarbon Doser                                    | Aftertreatment Doser - Data Valid But Below Normal Operating Range - Moderately Severe Level   |         |       | X      |         |            |        |
| 3169       | 4810      | 16        | Red   | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature - Data Valid But Above Normal Operating Range                    |         |       |        |         |            |        |
| 3186       | 1623      | 9         | Amber | Tachograph output shaft speed                                       | Tachograph Output Shaft Speed - Abnormal update rate   | X       | X     |        |         | X          |        |
| 3213       | 1623      | 19        | Amber | Tachograph output shaft speed                                       | Tachograph Output Shaft Speed - Received Network Data In Error   | X       | X     |        |         | X          |        |
| 3222       | 520435    | 12        | Amber | Glow Plug Module  | Glow Plug Module - Bad intelligent device or component   |         |       |        |         |            |        |
| 3223       | 3490      | 4         | Amber | Aftertreatment 1 Purge Air Actuator                                 | Aftertreatment Purge Air Actuator Circuit - Voltage below normal, or shorted to low source   |         |       |        |         |            |        |
| 3224       | 3490      | 3         | Amber | Aftertreatment 1 Purge Air Actuator                                 | Aftertreatment Purge Air Actuator Circuit - Voltage above normal, or shorted to high source  |         |       |        |         |            |        |
| 3225       | 3490      | 7         | Amber | Aftertreatment 1 Purge Air Actuator                                 | Aftertreatment Purge Air Actuator - Mechanical system not responding or out of adjustment  |         |       |        |         |            |        |
| 3228       | 3216      | 2         | Amber | Aftertreatment 1 Intake NOx   | Aftertreatment 1 Intake NOx Sensor - Data erratic, intermittent or incorrect   | X       | X     | X      | X       | X With SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description   | QSB 6.7         | QSL 9           | QSL 15 | QSB 4.5 | QSF 3.8     | QSG 12 |
|------------|-----------|-----------|-------|---|---|-----------------|-----------------|--------|---------|-------------|--------|
| 3229       | 4360      | 0         | Red   | Aftertreatment 1 SCR Catalyst Intake Gas Temperature                | Aftertreatment 1 SCR Intake Temperature - Data valid but above normal operational range - Most Severe Level       | X               | X               | X      | X       | X With SCR  | X      |
| 3231       | 4360      | 16        | Red   | Aftertreatment 1 SCR Catalyst Intake Gas Temperature                | Aftertreatment 1 SCR Intake Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level   | X               | X               | X      | X       | X With SCR  | X      |
| 3232       | 3216      | 9         | Amber | Aftertreatment 1 Intake NOx   | Aftertreatment 1 Intake NOx Sensor - Abnormal update rate   | X               | X               | X      | X       | X With SCR  | X      |
| 3235       | 4363      | 16        | Red   | Aftertreatment 1 SCR Catalyst Outlet Gas Temperature                | Aftertreatment 1 SCR Outlet Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level   | X               | X               | X      | X       | X With SCR  | X      |
| 3237       | 4340      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 State           | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 Circuit - Voltage above normal, or shorted to high source     | X               | X               | X      | X       | X With SCR  | X      |
| 3238       | 4340      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 State           | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 Circuit - Voltage below normal, or shorted to low source      | X               | X               | X      | X       | X With SCR  | X      |
| 3239       | 4342      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 State           | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 Circuit - Voltage above normal, or shorted to high source     | X               | X               | X      | X       | X With SCR  | X      |
| 3241       | 4342      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 State           | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 Circuit - Voltage below normal, or shorted to low source      | X               | X               | X      | X       | X With SCR  | X      |
| 3242       | 3363      | 7         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater                 | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Mechanical system not responding or out of adjustment         | X               | X               | X      | X       | X With SCR  | X      |
| 3243       | 3060      | 18        | Amber | Engine Cooling System Monitor                                       | Engine Cooling System Monitor - Data Valid But Below Normal Operating Range - Moderately Severe Level             |                 |                 | X      |         |             |        |
| 3245       | 3936      | 7         | Amber | Aftertreatment 1 Diesel Particulate Filter System                   | Aftertreatment 1 Diesel Particulate Filter System - Mechanical system not responding or out of adjustment         | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |             | X      |
| 3247       | 4809      | 16        | Red   | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Intake Temperature - Data Valid But Above Normal Operating Range |                 |                 |        |         |             |        |
| 3249       | 4810      | 15        | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature | Aftertreatment Warm Up Diesel Oxidation Catalyst Outlet Temperature - Data Valid But Above Normal Operating Range |                 |                 |        |         |             |        |
| 3251       | 4765      | 16        | Red   | Aftertreatment Diesel Oxidation Catalyst Intake Temperature         | Aftertreatment 1 Diesel Oxidation Catalyst Intake Temperature - Data Valid But Above Normal Operating Range       | X               | X               | X      | X       | X DOC + SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8              | QSG 12 |
|------------|-----------|-----------|-------|---|--|--------------------------|--------------------------|--------|---------|----------------------|--------|
| 3253       | 3242      | 16        | Red   | Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Intake Temperature - Data Valid But Above Normal Operating Range                    | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3254       | 3242      | 15        | Amber | Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Intake Temperature - Data Valid But Above Normal Operating Range                    | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3255       | 3246      | 16        | Red   | Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Outlet Temperature - Data Valid But Above Normal Operating Range                    | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3256       | 3246      | 15        | Amber | Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Outlet Temperature - Data Valid But Above Normal Operating Range                    | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3258       | 4340      | 5         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 State         | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 Circuit - Current below normal or open circuit                             | X                        | X                        | X      | X       | X<br>With<br>SCR     |        |
| 3261       | 4342      | 5         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 State         | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 Circuit - Current below normal or open circuit                             | X                        | X                        | X      | X       | X<br>With<br>SCR     |        |
| 3298       | 1194      | 13        | Red   | Anti-theft Encryption Seed Present Indicator                      | Anti-theft Encryption Seed - Out of Calibration  | X                        | X                        | X      | X       | X                    |        |
| 3311       | 3242      | 0         | Red   | Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Intake Temperature - Data valid but above normal operation                          | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3312       | 3246      | 0         | Red   | Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Outlet Temperature - Data valid but above normal operation                          | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3313       | 4765      | 4         | Amber | Aftertreatment Diesel Oxidation Catalyst Intake Temperature       | Aftertreatment 1 Diesel Oxidation Catalyst Intake Temperature Sensor Circuit - Voltage below normal, or shorted to low source  | X                        | X                        | X      | X       | X<br>DOC<br>+<br>SCR | X      |
| 3314       | 4765      | 3         | Amber | Aftertreatment Diesel Oxidation Catalyst Intake Temperature       | Aftertreatment 1 Diesel Oxidation Catalyst Intake Temperature Sensor Circuit - Voltage above normal, or shorted to high source | X                        | X                        | X      | X       | X<br>DOC<br>+<br>SCR | X      |
| 3315       | 4765      | 2         | Amber | Aftertreatment Diesel Oxidation Catalyst Intake Temperature       | Aftertreatment 1 Diesel Oxidation Catalyst Intake Temperature - Data erratic, intermittent or incorrect                        | X                        | X                        | X      | X       | X<br>DOC<br>+<br>SCR | X      |
| 3316       | 3242      | 4         | Amber | Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Intake Temperature Sensor Circuit - Voltage below normal, or shorted to low source  | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3317       | 3242      | 3         | Amber | Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Intake Temperature Sensor Circuit - Voltage above normal, or shorted to high source | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |
| 3318       | 3242      | 2         | Amber | Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Intake Temperature - Data erratic, intermittent or incorrect                        | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                      | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|---|--|--------------------------|--------------------------|--------|---------|---------|--------|
| 3319       | 3246      | 3         | Amber | Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Outlet Temperature Sensor Circuit - Voltage above normal, or shorted to high source | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |         | X      |
| 3321       | 3246      | 4         | Amber | Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Outlet Temperature Sensor Circuit - Voltage below normal, or shorted to low source  | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |         | X      |
| 3322       | 3246      | 2         | Amber | Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature | Aftertreatment 1 Diesel Particulate Filter Outlet Temperature - Data erratic, intermittent or incorrect                        | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |         | X      |
| 3325       | 4765      | 13        | Amber | Aftertreatment Diesel Oxidation Catalyst Intake Temperature       | Aftertreatment 1 Diesel Oxidation Catalyst Intake Temperature Swapped - Out of Calibration                                     |                          |                          |        |         |         |        |
| 3326       | 91        | 9         | Red   | Accelerator Pedal Position 1                                      | SAE J1939 Multiplexed Accelerator Pedal or Lever Sensor System - Abnormal update rate  | X                        | X                        | X      | X       | X       | X      |
| 3328       | 191       | 9         | Amber | Transmission Output Shaft Speed                                   | Transmission Output Shaft Speed - Abnormal update rate   | X                        | X                        | X      |         | X       | X      |
| 3329       | 1231      | 2         | None  | J1939 Network #2  | J1939 Network #2 - Data erratic, intermittent or incorrect   | X                        | X                        | X      | X       | X       | X      |
| 3331       | 1235      | 2         | None  | J1939 Network #3  | J1939 Network #3 - Data erratic, intermittent or incorrect   | X                        | X                        | X      | X       | X       | X      |
| 3337       | 5395      | 16        | Amber | Engine Idle Fuel Quantity   | Engine Idle Fuel Quantity - Data Valid But Above Normal Operating Range - Moderately Severe Level                              |                          |                          |        |         |         |        |
| 3338       | 5395      | 18        | Amber | Engine Idle Fuel Quantity   | Engine Idle Fuel Quantity - Data Valid But Below Normal Operating Range - Moderately Severe Level                              |                          |                          |        |         |         |        |
| 3341       | 107       | 16        | Amber | Engine Air Filter 1 Differential Pressure                         | Engine Air Filter Differential Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level                | X                        | X                        | X      | X       | X       | X      |
| 3348       | 1176      | 1         | Red   | Engine Turbocharger 1 Compressor Intake Pressure                  | Turbocharger 1 Compressor Intake Pressure - Data valid but below normal operational range - Most Severe Level                  |                          |                          |        |         |         |        |
| 3361       | 102       | 10        | Amber | Engine Intake Manifold #1 Pressure                                | Intake Manifold 1 Pressure - Abnormal rate of change   |                          |                          |        |         |         |        |
| 3366       | 111       | 18        | None  | Engine Coolant Level  | Coolant Level - Data Valid But Below Normal Operating Range - Moderately Severe Level  |                          |                          |        |         |         |        |
| 3367       | 4490      | 9         | Amber | Specific Humidity   | Specific Humidity Sensor - Abnormal update rate  |                          |                          |        |         |         |        |
| 3368       | 4490      | 19        | Amber | Specific Humidity   | Specific Humidity Sensor - Received Network Data In Error  |                          |                          |        |         |         | X      |
| 3369       | 1172      | 9         | Amber | Engine Turbocharger 1 Compressor Intake Temperature               | Turbocharger 1 Compressor Intake Temperature Sensor - Abnormal update rate   |                          |                          |        |         |         |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description   | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|--|---|--------------------------|--------------------------|--------|---------|------------------|--------|
| 3371       | 1172      | 19        | Amber | Engine Turbocharger 1 Compressor Intake Temperature                    | Turbocharger 1 Compressor Intake Temperature Sensor - Received Network Data In Error                        |                          |                          |        |         |                  |        |
| 3372       | 1176      | 9         | Amber | Engine Turbocharger 1 Compressor Intake Pressure                       | Turbocharger 1 Compressor Intake Pressure - Abnormal update rate  |                          |                          |        |         |                  |        |
| 3373       | 1176      | 19        | Amber | Engine Turbocharger 1 Compressor Intake Pressure                       | Turbocharger 1 Compressor Intake Pressure - Received Network Data In Error                                  |                          |                          |        |         |                  |        |
| 3374       | 1818      | 31        | None  | ROP Brake Control active   | Roll Over Protection Brake Control Active - Condition Exists  |                          |                          |        |         |                  |        |
| 3375       | 5397      | 31        | Amber | Aftertreatment 1 Diesel Particulate Filter Regeneration too Frequent   | Aftertreatment Diesel Particulate Filter Regeneration too Frequent - Condition Exists                       | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 3376       | 5319      | 31        | Amber | Aftertreatment 1 Diesel Particulate Filter Incomplete Regeneration     | Aftertreatment Diesel Particulate Filter Incomplete Regeneration - Condition Exists                         | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 3377       | 5396      | 31        | Amber | Engine Crankcase Ventilation Hose Disconnected                         | Engine Crankcase Ventilation Hose Disconnected - Condition Exists   |                          |                          |        |         |                  |        |
| 3385       | 105       | 18        | Amber | Engine Intake Manifold 1 Temperature                                   | Intake Manifold 1 Temperature - Data Valid But Below Normal Operating Range - Moderately Severe Level       |                          |                          | X      |         |                  | X      |
| 3396       | 3750      | 31        | Amber | Diesel Particulate Filter 1 Conditions Not Met for Active Regeneration | Diesel Particulate Filter 1 Conditions Not Met for Active Regeneration - Condition Exists                   |                          |                          |        |         |                  |        |
| 3418       | 191       | 19        | Amber | Transmission Output Shaft Speed  | Transmission Output Shaft Speed - Received Network Data In Error  | X                        | X                        | X      |         | X                | X      |
| 3419       | 5125      | 3         | Amber | Sensor supply voltage 7  | Sensor Supply 7 Circuit - Voltage above normal, or shorted to high source                                   | X                        | X                        |        | X       | X                |        |
| 3421       | 5125      | 4         | Amber | Sensor supply voltage 7  | Sensor Supply 7 Circuit - Voltage below normal, or shorted to low source                                    | X                        | X                        |        | X       | X                |        |
| 3422       | 4344      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 State              | Aftertreatment Diesel Exhaust Fluid Line Heater 3 Circuit - Voltage above normal, or shorted to high source | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 3423       | 4344      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 State              | Aftertreatment Diesel Exhaust Fluid Line Heater 3 Circuit - Voltage below normal, or shorted to low source  | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 3425       | 4344      | 5         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 State              | Aftertreatment Diesel Exhaust Fluid Line Heater 3 Circuit - Current below normal or open circuit            | X                        | X                        | X      | X       | X<br>With<br>SCR |        |
| 3478       | 2630      | 2         | Amber | Engine Charge Air Cooler 1 Outlet Temperature                          | Engine Charge Air Cooler Outlet Temperature - Data erratic, intermittent or incorrect                       |                          |                          |        |         |                  |        |
| 3488       | 563       | 9         | Amber | Anti-Lock Braking (ABS) Active   | Anti-Lock Braking (ABS) Controller - Abnormal update rate   | X                        | X                        | X      | X       | X                | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp             | J1939_SPN Description  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|------------------|--|--|---------|-------|--------|---------|------------|--------|
| 3494       | 1081      | 7         | Amber            | Engine Wait to Start Lamp  | Engine Wait to Start Lamp - Mechanical system not responding or out of adjustment  |         |       |        |         |            |        |
| 3497       | 1761      | 17        | Amber (Blinking) | Aftertreatment 1 Diesel Exhaust Fluid Tank Level                     | Aftertreatment 1 Diesel Exhaust Fluid Tank Level - Data Valid But Below Normal Operating Range - Least Severe Level      | X       | X     | X      | X       | X With SCR | X      |
| 3498       | 1761      | 18        | Amber (Blinking) | Aftertreatment 1 Diesel Exhaust Fluid Tank Level                     | Aftertreatment 1 Diesel Exhaust Fluid Tank Level - Data Valid But Below Normal Operating Range - Moderately Severe Level | X       | X     | X      | X       | X With SCR | X      |
| 3525       | 84        | 19        | Amber            | Wheel-Based Vehicle Speed  | Wheel-Based Vehicle Speed - Received Network Data In Error   | X       | X     | X      |         | X          | X      |
| 3526       | 84        | 9         | Amber            | Wheel-Based Vehicle Speed  | Wheel-Based Vehicle Speed - Abnormal update rate   |         |       |        |         |            |        |
| 3527       | 558       | 19        | Red              | Accelerator Pedal 1 Low Idle Switch                                  | Accelerator Pedal or Lever Idle Validation Switch - Received Network Data In Error                                       | X       | X     | X      | X       | X          | X      |
| 3528       | 558       | 9         | Red              | Accelerator Pedal 1 Low Idle Switch                                  | Accelerator Pedal or Lever Idle Validation Switch - Abnormal update rate   |         |       | X      |         |            | X      |
| 3531       | 171       | 9         | Amber            | Ambient Air Temperature  | Ambient Air Temperature - Abnormal update rate   | X       | X     |        |         | X          | X      |
| 3532       | 171       | 19        | Amber            | Ambient Air Temperature  | Ambient Air Temperature - Received Network Data In Error   |         |       |        |         |            |        |
| 3535       | 1213      | 9         | Amber            | Malfunction Indicator Lamp   | Malfunction Indicator Lamp - Abnormal update rate  |         |       | X      |         |            | X      |
| 3543       | 4094      | 31        | Amber            | NOx limits exceeded due to Insufficient Diesel Exhaust Fluid Quality | NOx limits exceeded due to Insufficient Reagent Quality - Condition Exists   | X       | X     | X      |         | X With SCR | X      |
| 3545       | 3226      | 10        | Amber            | Aftertreatment 1 Outlet NOx  | Aftertreatment 1 Outlet NOx Sensor - Abnormal rate of change   | X       | X     | X      | X       | X With SCR | X      |
| 3547       | 4096      | 31        | Amber            | NOx limits exceeded due to Empty Diesel Exhaust Fluid Tank           | Aftertreatment Diesel Exhaust Fluid Tank Empty - Condition Exists  | X       | X     | X      | X       | X With SCR | X      |
| 3555       | 1081      | 9         | Amber            | Engine Wait to Start Lamp  | Engine Wait to Start Lamp - Abnormal update rate   | X       | X     | X      | X       | X          | X      |
| 3556       | 1081      | 19        | Amber            | Engine Wait to Start Lamp  | Engine Wait to Start Lamp - Received Network Data In Error   |         |       |        |         |            |        |
| 3558       | 3361      | 3         | Amber            | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit                    | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit - Voltage above normal, or shorted to high source                      | X       | X     | X      | X       | X With SCR | X      |
| 3559       | 3361      | 4         | Amber            | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit                    | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit - Voltage below normal, or shorted to low source                       | X       | X     | X      | X       | X With SCR | X      |
| 3562       | 5491      | 3         | Amber            | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay              | Aftertreatment Diesel Exhaust Fluid Line Heater Relay - Voltage above normal, or shorted to high source                  | X       | X     | X      | X       | X With SCR |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|---|---|---------|-------|--------|---------|------------|--------|
| 3563       | 5491      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay       | Aftertreatment Diesel Exhaust Fluid Line Heater Relay - Voltage below normal, or shorted to low source                    | X       | X     | X      | X       | X With SCR |        |
| 3567       | 5394      | 5         | Amber | Aftertreatment Diesel Exhaust Fluid Dosing Valve              | Aftertreatment Diesel Exhaust Fluid Dosing Valve - Current below normal or open circuit                                   | X       | X     | X      | X       | X With SCR |        |
| 3568       | 5394      | 7         | Amber | Aftertreatment Diesel Exhaust Fluid Dosing Valve              | Aftertreatment Diesel Exhaust Fluid Dosing Valve - Mechanical system not responding or out of adjustment                  | X       | X     | X      | X       | X With SCR | X      |
| 3571       | 4334      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Doser Absolute Pressure | Aftertreatment 1 Diesel Exhaust Fluid Pressure Sensor - Voltage above normal, or shorted to high source                   | X       | X     | X      | X       | X With SCR | X      |
| 3572       | 4334      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Doser Absolute Pressure | Aftertreatment 1 Diesel Exhaust Fluid Pressure Sensor - Voltage below normal, or shorted to low source                    | X       | X     | X      | X       | X With SCR | X      |
| 3574       | 4334      | 18        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Doser Absolute Pressure | Aftertreatment 1 Diesel Exhaust Fluid Pressure Sensor - Data Valid But Below Normal Operating Range                       | X       | X     | X      | X       | X With SCR | X      |
| 3575       | 4334      | 16        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Doser Absolute Pressure | Aftertreatment 1 Diesel Exhaust Fluid Pressure Sensor - Data Valid But Above Normal Operating Range                       | X       | X     | X      | X       | X With SCR |        |
| 3577       | 4376      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Return Valve            | Aftertreatment Diesel Exhaust Fluid Return Valve - Voltage above normal, or shorted to high source                        | X       | X     | X      | X       | X With SCR |        |
| 3578       | 4376      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Return Valve            | Aftertreatment Diesel Exhaust Fluid Return Valve - Voltage below normal, or shorted to low source                         | X       | X     | X      | X       | X With SCR |        |
| 3582       | 4364      | 18        | Amber | Aftertreatment 1 SCR Conversion Efficiency                    | Aftertreatment SCR Catalyst Conversion Efficiency - Data Valid But Below Normal Operating Range - Moderately Severe Level | X       | X     | X      | X       | X With SCR | X      |
| 3583       | 5031      | 10        | Amber | Aftertreatment 1 Outlet Gas NOx Sensor Heater Ratio           | Aftertreatment 1 Outlet NOx Sensor Heater - Abnormal rate of change   | X       | X     | X      | X       | X With SCR | X      |
| 3596       | 4334      | 2         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Doser Absolute Pressure | Aftertreatment 1 Diesel Exhaust Fluid Pressure Sensor - Data erratic, intermittent or incorrect                           | X       | X     | X      | X       | X With SCR |        |
| 3613       | 111       | 9         | Amber | SAE J1939 Multiplexing PGN Timeout                            | SAE J1939 Multiplexing PGN Timeout Error - Abnormal update rate   | X       | X     |        |         | X          |        |
| 3614       | 111       | 19        | Amber | SAE J1939 Multiplexing PGN Timeout                            | Coolant Level Sensor - Received Network Data in Error   | X       | X     |        |         |            |        |
| 3616       | 2633      | 7         | None  | Engine Variable Geometry Turbocharger (VGT) 1 Nozzle Position | Engine VGT Nozzle Position - Mechanical system not responding or out of adjustment  |         |       | X      |         |            |        |
| 3633       | 5484      | 3         | Amber | Engine Fan Clutch 2 Output Device Driver                      | Engine Fan Clutch 2 Control Circuit - Voltage above normal, or shorted to high source                                     | X       | X     | X      | X       | X          | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                                   | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8       | QSG 12 |
|------------|-----------|-----------|-------|---|---|---------|-------|--------|---------|---------------|--------|
| 3634       | 5484      | 4         | Amber | Engine Fan Clutch 2 Output Device Driver                | Engine Fan Clutch 2 Control Circuit - Voltage below normal, or shorted to low source                            | X       | X     | X      | X       | X             | X      |
| 3641       | 748       | 9         | Amber | Transmission Output Retarder                            | Transmission Output Retarder - Abnormal update rate   | X       | X     | X      | X       | X             | X      |
| 3649       | 5024      | 10        | Amber | Aftertreatment 1 Intake Gas NOx Sensor Heater Ratio     | Aftertreatment 1 Intake NOx Sensor Heater - Abnormal rate of change   | X       | X     | X      | X       | X<br>With SCR | X      |
| 3681       | 3228      | 2         | Amber | Aftertreatment 1 Outlet Gas Sensor Power Status         | Aftertreatment 1 Outlet NOx Sensor Power Supply - Data erratic, intermittent or incorrect                       | X       | X     | X      | X       | X<br>With SCR | X      |
| 3682       | 3218      | 2         | Amber | Aftertreatment 1 Intake Gas Sensor Power Status         | Aftertreatment 1 Intake NOx Sensor Power Supply - Data erratic, intermittent or incorrect                       | X       | X     | X      | X       | X<br>With SCR | X      |
| 3683       | 1127      | 7         | Amber | Engine Turbocharger 1 Boost Pressure                    | Engine Turbocharger 1 Boost Pressure - Mechanical system not responding or out of adjustment                    |         |       |        |         |               |        |
| 3694       | 4184      | 4         | Amber | Gain Adjust Potentiometer Circuit                       | Gain Adjust Potentiometer Circuit - Voltage below normal, or shorted to low source                              |         |       |        |         |               |        |
| 3695       | 4182      | 4         | Amber | Generator Output Frequency Adjust Potentiometer Circuit | Generator Output Frequency Adjust Potentiometer Circuit - Voltage below normal, or shorted to low source        |         |       |        |         |               |        |
| 3696       | 4183      | 4         | Amber | Droop Adjust Potentiometer Circuit                      | Droop Adjust Potentiometer Circuit - Voltage below normal, or shorted to low source                             |         |       |        |         |               |        |
| 3697       | 630       | 12        | Red   | Engine Control Module Calibration Memory                | Engine Control Module Calibration Memory - Bad intelligent device or component                                  | X       | X     | X      | X       | X             | X      |
| 3712       | 5246      | 0         | Red   | Aftertreatment SCR Operator Inducement Severity         | Aftertreatment SCR Operator Inducement - Data valid but above normal operational range - Most Severe level      | X       | X     | X      | X       | X<br>With SCR | X      |
| 3713       | 5491      | 7         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay - Mechanical system not responding or out of adjustment |         |       |        |         |               |        |
| 3714       | 1569      | 31        | Amber | Engine Protection Torque Derate                         | Engine Protection Torque Derate - Condition Exists  | X       | X     | X      | X       | X             | X      |
| 3715       | 188       | 16        | Amber | Engine Speed At Idle, Point 1 (Engine Configuration)    | Engine Speed At Idle - Data Valid But Above Normal Operating Range - Moderately Severe Level                    |         |       |        |         |               |        |
| 3716       | 188       | 18        | Amber | Engine Speed At Idle, Point 1 (Engine Configuration)    | Engine Speed At Idle - Data Valid But Below Normal Operating Range - Moderately Severe Level                    |         |       |        |         |               |        |
| 3717       | 3226      | 13        | Amber | Aftertreatment 1 Outlet NOx                             | Aftertreatment 1 Outlet NOx Sensor - Out of Calibration   | X       | X     | X      | X       | X<br>With SCR | X      |
| 3718       | 3216      | 13        | Amber | Aftertreatment 1 Intake NOx                             | Aftertreatment 1 Intake NOx - Out of Calibration  | X       | X     | X      | X       | X<br>With SCR | X      |
| 3724       | 168       | 17        | Amber | Battery Potential / Power Input 1                       | Battery 1 Voltage - Data Valid But Below Normal Operating Range - Least Severe Level                            | X       | X     | X      | X       | X             | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description  | QSB 6.7         | QSL 9           | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|---|--|-----------------|-----------------|--------|---------|------------|--------|
| 3725       | 3216      | 10        | Amber | Aftertreatment 1 Intake NOx   | Aftertreatment 1 Intake NOx Sensor - Abnormal rate of change   | X               | X               | X      | X       | X With SCR | X      |
| 3726       | 3216      | 16        | Amber | Aftertreatment 1 Intake NOx   | Aftertreatment 1 Intake NOx - Data Valid But Above Normal Operating Range - Moderately Severe Level          | X               | X               | X      | X       | X With SCR | X      |
| 3727       | 5571      | 7         | None  | High Pressure Common Rail Fuel Pressure Relief Valve                          | High Pressure Common Rail Fuel Pressure Relief Valve - Mechanical system not responding or out of adjustment | X               | X               | X      | X       | X          | X      |
| 3733       | 862       | 3         | Amber | Crankcase breather Heater Circuit   | Crankcase Breather Filter Heater Circuit - Voltage above normal, or shorted to high source                   |                 |                 | X      |         |            | X      |
| 3734       | 862       | 4         | Amber | Crankcase breather Heater Circuit   | Crankcase Breather Filter Heater Circuit - Voltage below normal, or shorted to low source                    |                 |                 | X      |         |            | X      |
| 3735       | 2884      | 9         | None  | Engine Auxiliary Governor Switch  | Engine Auxiliary Governor Switch - Abnormal update rate  |                 |                 |        |         |            |        |
| 3737       | 1675      | 31        | None  | Engine Starter Mode   | Engine Starter Mode Overcrank Protection - Condition Exists  | X               | X               | X      | X       | X          | X      |
| 3741       | 5571      | 0         | Amber | High Pressure Common Rail Fuel Pressure Relief Valve                          | High Pressure Common Rail Fuel Pressure Relief Valve - Data valid but above normal operational range         | X               | X               | X      | X       | X          | X      |
| 3748       | 3216      | 20        | Amber | Aftertreatment 1 Intake NOx   | Aftertreatment 1 Intake NOx Sensor - Data not Rational - Drifted High  | X               | X               | X      | X       | X With SCR | X      |
| 3749       | 3226      | 20        | Amber | Aftertreatment 1 Outlet NOx   | Aftertreatment 1 Outlet NOx Sensor - Data not Rational - Drifted High  | X               | X               | X      | X       | X With SCR | X      |
| 3751       | 4792      | 7         | None  | Aftertreatment SCR Catalyst System  | Aftertreatment SCR Catalyst System - Mechanical system not responding or out of adjustment                   | X               | X               | X      | X       | X With SCR | X      |
| 3753       | 3713      | 31        | None  | Diesel Particulate Filter Active Regeneration Inhibited Due to System Timeout | Diesel Particulate Filter Active Regeneration Inhibited Due to System Timeout - Condition Exists             | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |            | X      |
| 3755       | 5394      | 2         | None  | Aftertreatment Diesel Exhaust Fluid Dosing Valve                              | Aftertreatment Diesel Exhaust Fluid Dosing Valve - Data erratic, intermittent or incorrect                   | X               | X               | X      | X       | X With SCR |        |
| 3765       | 442       | 3         | Amber | Auxiliary Temperature 2   | Auxiliary Temperature Sensor Input 2 Circuit - Voltage above normal, or shorted to high source               | X               | X               | X      |         | X          | X      |
| 3766       | 442       | 4         | Amber | Auxiliary Temperature 2   | Auxiliary Temperature Sensor Input 2 Circuit - Voltage below normal, or shorted to low source                | X               | X               | X      |         | X          | X      |
| 3838       | 2978      | 9         | Amber | Estimated Engine Parasitic Losses - Percent Torque                            | Estimated Engine Parasitic Losses - Percent Torque - Abnormal update rate                                    |                 |                 |        |         |            |        |
| 3839       | 596       | 7         | Amber | Cruise Control Enable Switch  | Cruise Control Enable Switch - Mechanical system not responding or out of adjustment                         |                 |                 |        |         |            |        |
| 3841       | 596       | 2         | Amber | Cruise Control Enable Switch  | Cruise Control Enable Switch - Data erratic, intermittent or incorrect                                       |                 |                 |        |         |            |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description   | QSB 6.7         | QSL 9           | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|--|---|-----------------|-----------------|--------|---------|------------|--------|
| 3842       | 596       | 13        | Amber | Cruise Control Enable Switch   | Cruise Control Enable Switch - Out of Calibration   |                 |                 |        |         |            |        |
| 3843       | 5603      | 9         | None  | Cruise Control Disable Command   | Cruise Control Disable Command - Abnormal update rate   | X               | X               |        |         | X          | X      |
| 3844       | 5605      | 31        | None  | Cruise Control Pause Command   | Cruise Control Pause Command - Condition Exists   | X               | X               |        |         | X          |        |
| 3845       | 5603      | 31        | None  | Cruise Control Disable Command   | Cruise Control Disable Command - Condition Exists   | X               | X               |        |         | X          |        |
| 3866       | 3364      | 1         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                   | Aftertreatment Diesel Exhaust Fluid Quality - Data valid but below normal operational range - Most Severe Level   |                 |                 | X      |         |            | X      |
| 3867       | 3364      | 18        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                   | Aftertreatment Diesel Exhaust Fluid Quality - Data Valid But Below Normal Operating Range - Moderate Severe Level | X               | X               | X      | X       | X With SCR | X      |
| 3868       | 3364      | 9         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                   | Aftertreatment Diesel Exhaust Fluid Quality - Abnormal update rate  | X               | X               | X      | X       | X With SCR | X      |
| 3876       | 3364      | 7         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                   | Aftertreatment Diesel Exhaust Fluid Quality Sensor - Mechanical system not responding or out of adjustment        | X               | X               | X      | X       | X With SCR | X      |
| 3877       | 3364      | 12        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                   | Aftertreatment Diesel Exhaust Fluid Quality Sensor - Bad intelligent device or component                          | X               | X               | X      |         | X With SCR | X      |
| 3878       | 3364      | 2         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                   | Aftertreatment Diesel Exhaust Fluid Quality - Data erratic, intermittent or incorrect                             | X               | X               | X      | X       | X With SCR | X      |
| 3917       | 104       | 18        | Amber | Engine Turbocharger Lube Oil Pressure 1                                | Engine Turbocharger Lube Oil Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level     |                 |                 | X      |         |            | X      |
| 3931       | 1109      | 0         | Red   | Engine Protection System Approaching Shutdown                          | Engine Protection System Approaching Shutdown - Data valid but above normal operational range - Most              |                 |                 |        |         |            |        |
| 3988       | 3265      | 9         | Amber | Aftertreatment 2 Outlet NOx  | Aftertreatment 2 Outlet NOx - Abnormal Update Rate  |                 |                 |        |         |            |        |
| 4143       | 5741      | 3         | Amber | Aftertreatment 1 Outlet Soot Sensor                                    | Aftertreatment 1 Outlet Soot Sensor - Voltage Above Normal, or Shorted to High Source                             |                 |                 |        |         |            |        |
| 4144       | 5741      | 4         | Amber | Aftertreatment 1 Outlet Soot Sensor                                    | Aftertreatment 1 Outlet Soot Sensor - Voltage below normal, or shorted to low source                              |                 |                 |        |         |            |        |
| 4145       | 3255      | 9         | Amber | Aftertreatment 2 Intake NOx  | Aftertreatment 2 Intake NOx Sensor - Abnormal update rate   |                 |                 |        |         |            |        |
| 4151       | 5742      | 9         | Amber | Aftertreatment Diesel Particulate Filter Temperature Sensor Module     | Aftertreatment Diesel Particulate Filter Temperature Sensor Module - Abnormal update rate                         | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |            | X      |
| 4152       | 5743      | 9         | Amber | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module - Abnormal update rate                     | X               | X               | X      | X       | X With SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7         | QSL 9           | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|--|--|-----------------|-----------------|--------|---------|------------|--------|
| 4153       | 5747      | 3         | Amber | Aftertreatment 1 Outlet Soot Sensor Heater                             | Aftertreatment 1 Outlet Soot Sensor Heater - Voltage Above Normal, or Shorted to High Source                             |                 |                 |        |         |            |        |
| 4154       | 5747      | 4         | Amber | Aftertreatment 1 Outlet Soot Sensor Heater                             | Aftertreatment 1 Outlet Soot Sensor Heater - Voltage below normal, or shorted to low source                              |                 |                 |        |         |            |        |
| 4155       | 5746      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Relay         | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Relay - Voltage Above Normal, or Shorted to high source         | X               | X               | X      | X       | X With SCR |        |
| 4156       | 5746      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Relay         | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Relay - Voltage below normal, or shorted to low source          | X               | X               | X      | X       | X With SCR |        |
| 4157       | 4376      | 7         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Return Valve                     | Aftertreatment Diesel Exhaust Fluid Return Valve - Mechanical system not responding or out of adjust                     | X               | X               | X      | X       | X With SCR |        |
| 4158       | 5742      | 12        | Amber | Aftertreatment Diesel Particulate Filter Temperature Sensor Module     | Aftertreatment Diesel Particulate Filter Temperature Sensor Module - Bad intelligent device or component                 | X               | X               | X      | X       | X          | X      |
| 4159       | 5743      | 12        | Amber | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module - Bad intelligent device or component             | X               | X               | X      | X       | X With SCR | X      |
| 4161       | 5742      | 3         | Amber | Aftertreatment Diesel Particulate Filter Temperature Sensor Module     | Aftertreatment Diesel Particulate Filter Temperature Sensor Module - Voltage Above Normal, or Shorted to high source     | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |            | X      |
| 4162       | 5742      | 4         | Amber | Aftertreatment Diesel Particulate Filter Temperature Sensor Module     | Aftertreatment Diesel Particulate Filter Temperature Sensor Module - Voltage below normal, or shorted to low source      | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |            | X      |
| 4163       | 5742      | 16        | Amber | Aftertreatment Diesel Particulate Filter Temperature Sensor Module     | Aftertreatment Diesel Particulate Filter Temperature Sensor Module- Data Valid But Above Normal Operating Range          | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |            | X      |
| 4164       | 5743      | 3         | Amber | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module - Voltage Above Normal, or Shorted to high source | X               | X               | X      | X       | X With SCR | X      |
| 4165       | 5743      | 4         | Amber | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module - Voltage below normal, or Shorted to low source  | X               | X               | X      | X       | X With SCR | X      |
| 4166       | 5743      | 16        | Amber | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module - Data Valid But Above Normal                     | X               | X               | X      | X       | X With SCR | X      |
| 4168       | 5745      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater               | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater - Voltage Above Normal, or Shorted to High                      | X               | X               | X      | X       | X With SCR |        |

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8       | QSG 12 |
|------------|-----------|-----------|-------|--|--|---------|-------|--------|---------|---------------|--------|
| 4169       | 5745      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater             | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater - Voltage below normal, or shorted to low source            | X       | X     | X      | X       | X<br>With SCR |        |
| 4171       | 5745      | 18        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater             | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater - Data Valid But Below Normal Operating Range               | X       | X     | X      | X       | X             |        |
| 4174       | 4337      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature Sensor      | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature Sensor - Voltage Above Normal, or Shorted to High Source    |         |       |        |         |               | X      |
| 4175       | 4337      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature Sensor      | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature Sensor - Voltage below normal, or shorted to low source     |         |       |        |         |               | X      |
| 4213       | 3695      | 2         | Amber | Aftertreatment Regeneration Inhibit Switch                           | Aftertreatment Regeneration Inhibit Switch - Data erratic, intermittent or incorrect                                 | X       | X     | X      | X       | X             | X      |
| 4215       | 563       | 31        | None  | Anti-Lock Braking (ABS) Active                                       | Anti-Lock Braking (ABS) Active - Condition Exists  | X       | X     | X      | X       | X             |        |
| 4233       | 3515      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2                  | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 Sensor Circuit - Voltage above normal, or shorted to high source |         |       | X      |         |               | X      |
| 4234       | 3515      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2                  | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 Sensor Circuit - Voltage below normal, or shorted to low source  |         |       | X      |         |               | X      |
| 4235       | 3521      | 31        | Red   | Aftertreatment 1 Diesel Exhaust Fluid Property                       | Aftertreatment 1 Diesel Exhaust Fluid Property - Condition Exists  |         |       | X      |         |               | X      |
| 4241       | 3364      | 19        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                 | Aftertreatment Diesel Exhaust Fluid Quality - Received Network Data In Error   | X       | X     | X      | X       | X<br>With SCR | X      |
| 4242       | 3515      | 2         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2                  | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 - Data erratic, intermittent or incorrect                        |         |       | X      |         |               | X      |
| 4243       | 3515      | 10        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2                  | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 - Abnormal Rate of Change  | X       | X     | X      | X       | X<br>With SCR | X      |
| 4244       | 4337      | 2         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature             | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature - Data erratic, intermittent or incorrect                   |         |       |        |         |               | X      |
| 4245       | 5798      | 2         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Temperature | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Temperature - Data erratic, intermittent or incorrect       |         |       |        |         |               |        |
| 4249       | 4337      | 10        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature             | Aftertreatment 1 Diesel Exhaust Fluid Dosing Temperature - Abnormal Rate of Change                                   | X       | X     | X      | X       | X<br>With SCR |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|--|--|--------------------------|--------------------------|--------|---------|------------------|--------|
| 4251       | 5798      | 10        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Temperature       | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Temperature - Abnormal Rate of Change   | X                        | X                        | X      | X       | X<br>With<br>SCR |        |
| 4252       | 1081      | 31        | Amber | Engine Wait to Start Lamp  | Engine Wait to Start Lamp - Condition Exists   |                          |                          |        |         |                  |        |
| 4253       | 5797      | 12        | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module - Bad intelligent device  |                          |                          |        |         |                  |        |
| 4254       | 5797      | 3         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module - Voltage Above Normal, or shorted to high source                       |                          |                          |        |         |                  |        |
| 4255       | 5797      | 4         | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module - Voltage below normal, or shorted to low source                        |                          |                          |        |         |                  |        |
| 4256       | 5797      | 16        | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module - Data Valid But Above Normal Operating Range – Moderately Severe Level |                          |                          |        |         |                  |        |
| 4258       | 5797      | 11        | Amber | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Warm Up Diesel Oxidation Catalyst Temperature Sensor Module - Root Cause Not Known  |                          |                          |        |         |                  |        |
| 4259       | 5742      | 11        | Amber | Aftertreatment Diesel Particulate Filter Temperature Sensor Module         | Aftertreatment Diesel Particulate Filter Temperature Sensor Module - Root Cause Not Known  | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 4261       | 5743      | 11        | Amber | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module     | Aftertreatment Selective Catalytic Reduction Temperature Sensor Module - Root Cause Not Known  | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 4262       | 5571      | 3         | Amber | High Pressure Common Rail Fuel Pressure Relief Valve                       | High Pressure Common Rail Fuel Pressure Relief Valve - Voltage Above Normal, or Shorted to High Source   | X                        |                          |        |         |                  |        |
| 4263       | 5571      | 4         | Amber | High Pressure Common Rail Fuel Pressure Relief Valve                       | High Pressure Common Rail Fuel Pressure Relief Valve - Voltage below normal, or shorted to low source  | X                        |                          |        |         |                  |        |
| 4265       | 5571      | 11        | Amber | High Pressure Common Rail Fuel Pressure Relief Valve                       | High Pressure Common Rail Fuel Pressure Relief Valve - Root Cause Not Known  |                          |                          |        |         |                  |        |
| 4277       | 3364      | 10        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality                       | Aftertreatment Diesel Exhaust Fluid Quality - Abnormal Rate of Change  | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 4284       | 5793      | 9         | Amber | Desired Engine Fueling State   | Desired Engine Fueling State - Abnormal Update Rate  |                          |                          |        |         |                  |        |
| 4286       | 520595    | 3         | Amber | Closed Crankcase Ventilation System Pressure Sensor                        | Closed Crankcase Ventilation System Pressure Sensor - Voltage Above Normal, or Shorted to High Source  |                          |                          |        |         |                  |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7          | QSL 9            | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--|--|------------------|------------------|--------|---------|---------|--------|
| 4287       | 520595    | 4         | Amber | Closed Crankcase Ventilation System Pressure Sensor                              | Closed Crankcase Ventilation System Pressure Sensor - Voltage below normal, or shorted to low source                               |                  |                  |        |         |         |        |
| 4288       | 520595    | 2         | Amber | Closed Crankcase Ventilation System Pressure                                     | Closed Crankcase Ventilation System Pressure - Data erratic, intermittent or incorrect   |                  |                  |        |         |         |        |
| 4293       | 5097      | 3         | Amber | Engine Brake Active Lamp Data  | Engine Brake Active Lamp - Voltage Above Normal, or Shorted to High Source   |                  |                  |        |         |         |        |
| 4294       | 5097      | 4         | Amber | Engine Brake Active Lamp Data  | Engine Brake Active Lamp - Voltage below normal, or shorted to low source  |                  |                  |        |         |         |        |
| 4437       | 1668      | 2         | None  | J1939 Network #4 - Data erratic  | J1939 Network #4 - Data erratic, intermittent or incorrect   | X                | X                | X      | X       | X       | X      |
| 4449       | 5747      | 10        | Amber | Aftertreatment 1 Outlet Soot Sensor Heater                                       | Aftertreatment 1 Outlet Soot Sensor Heater - Abnormal rate of change   |                  |                  |        |         |         |        |
| 4451       | 5741      | 2         | Amber | Aftertreatment 1 Outlet Soot   | Aftertreatment 1 Outlet Soot - Data erratic, intermittent or incorrect   |                  |                  |        |         |         |        |
| 4452       | 520668    | 31        | Amber | Aftertreatment 1 Outlet NOx Sensor Closed Loop Operation                         | Aftertreatment 1 Outlet NOx Sensor Closed Loop Operation - Condition Exists  |                  |                  |        |         |         |        |
| 4484       | 3667      | 7         | Red   | Engine Air Shutoff   | Engine Air Shutoff - Mechanical System Not Responding or Out of Adjustment   | X                | X                |        |         |         |        |
| 4485       | 5838      | 31        | Amber | EGR Valve Malfunction  | EGR Valve Malfunction - Condition Exists   |                  |                  |        |         |         |        |
| 4486       | 5839      | 31        | Amber | Diesel Exhaust Fluid Consumption Malfunction                                     | Diesel Exhaust Fluid Consumption Malfunction - Condition Exists  |                  |                  |        |         |         |        |
| 4487       | 5840      | 31        | Amber | Diesel Exhaust Fluid Dosing Malfunction  | Diesel Exhaust Fluid Dosing Malfunction - Condition Exists   |                  |                  |        |         |         |        |
| 4488       | 5841      | 31        | Amber | Diesel Exhaust Fluid Quality Malfunction   | Diesel Exhaust Fluid Quality Malfunction - Condition Exists  |                  |                  |        |         |         |        |
| 4489       | 5842      | 31        | Amber | SCR Monitoring System Malfunction  | SCR Monitoring System Malfunction - Condition Exists   |                  |                  |        |         |         |        |
| 4517       | 237       | 13        | Amber | Vehicle Identification Number  | Vehicle Identification Number - Out of Calibration   | X                | X                | X      | X       | X       | X      |
| 4526       | 521       | 2         | Amber | Brake Pedal Position   | Brake Pedal Position - Data erratic, intermittent or incorrect   |                  |                  | X      |         |         | X      |
| 4533       | 4766      | 3         | Amber | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature Sensor Circuit | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature Sensor Circuit - Voltage above normal, or shorted to high source | X<br>DOC+<br>SCR | X<br>DOC+<br>SCR |        | X       |         |        |
| 4534       | 4766      | 4         | Amber | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature Sensor Circuit | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature Sensor Circuit - Voltage below normal, or shorted to low source  | X<br>DOC+<br>SCR | X<br>DOC+<br>SCR |        | X       |         |        |



| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|--|--|--------------------------|--------------------------|--------|---------|------------------|--------|
| 4568       | 3482      | 16        | Amber | Aftertreatment 1 Fuel Enable Actuator                        | Aftertreatment Fuel Shutoff Valve - Data Valid But Above Normal Operating Range - Moderately Severe          |                          |                          |        |         |                  |        |
| 4572       | 3031      | 9         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature       | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature - Abnormal Update Rate                                | X                        | X                        | X      | X       | X                | X      |
| 4573       | 3826      | 18        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Average Consumption    | Aftertreatment 1 Diesel Exhaust Fluid Average Consumption - Data Valid But Below Normal Operating Range      |                          |                          |        |         |                  |        |
| 4584       | 3936      | 14        | Red   | Aftertreatment Diesel Particulate Filter System              | Aftertreatment Diesel Particulate Filter System - Special Instructions                                       | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 4585       | 4792      | 14        | Red   | Aftertreatment 1 SCR Catalyst System                         | Aftertreatment 1 SCR Catalyst System - Special Instructions  | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 4586       | 4339      | 31        | Amber | Aftertreatment 1 SCR Feedback Control Status                 | Aftertreatment 1 SCR Feedback Control Status - Condition Exists  |                          |                          |        |         |                  | X      |
| 4615       | 94        | 0         | Red   | Engine Fuel Delivery Pressure                                | Engine Fuel Delivery Pressure - Data Valid but Above Normal Operational Range - Most Severe Level            |                          |                          |        |         |                  |        |
| 4658       | 4331      | 18        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Actual Dosing Quantity | Aftertreatment SCR Actual Dosing Reagent Quantity - Data Valid But Below Normal Operating Range - Mo         |                          |                          |        |         |                  |        |
| 4677       | 1761      | 9         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level             | SAE J1939 Multiplexing PGN Timeout Error - Abnormal update rate  | X                        | X                        | X      | X       | X                | X      |
| 4679       | 1761      | 5         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level             | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor Circuit - Current below normal or open circuit       |                          |                          |        |         |                  |        |
| 4682       | 3031      | 5         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature       | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature Sensor Circuit - Current below normal or open circuit |                          |                          |        |         |                  | X      |
| 4688       | 6301      | 3         | Amber | Water in Fuel Indicator 2 Sensor Circuit                     | Water in Fuel Indicator 2 Sensor Circuit - Voltage above normal, or shorted to high source                   |                          |                          |        |         |                  |        |
| 4689       | 6301      | 4         | Amber | Water in Fuel Indicator 2 Sensor Circuit                     | Water in Fuel Indicator 2 Sensor Circuit - Voltage below normal, or shorted to low source                    |                          |                          |        |         |                  |        |
| 4691       | 5585      | 18        | Amber | Engine Injector Metering Rail 1 Cranking Pressure            | Engine Injector Metering Rail 1 Cranking Pressure - Data Valid But Below Normal Operating Range - Mo         |                          |                          |        |         |                  |        |
| 4713       | 5357      | 31        | Amber | Engine Fuel Injection Quantity Error for Multiple Cylinders  | Engine Fuel Injection Quantity Error for Multiple Cylinders - Condition Exists                               |                          |                          |        |         |                  |        |
| 4721       | 237       | 31        | Amber | Vehicle Identification Number                                | Vehicle Identification Number - Condition Exists   |                          |                          | X      |         |                  | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                                  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|--|--|---------|-------|--------|---------|------------|--------|
| 4722       | 237       | 2         | Amber | Vehicle Identification Number                          | Vehicle Identification Number - Data erratic, intermittent or incorrect  |         |       | X      |         |            | X      |
| 4724       | 702       | 5         | Amber | Auxiliary I/O #02                                      | Auxiliary Input/Output 2 Circuit - Current below normal or open circuit  |         |       |        |         |            |        |
| 4725       | 702       | 6         | Amber | Auxiliary I/O #02                                      | Auxiliary Input/Output 2 Circuit - Current above normal or grounded circuit                                      |         |       |        |         |            |        |
| 4726       | 1239      | 16        | Amber | Engine Fuel Leakage 1                                  | Engine Fuel Leakage - Data Valid But Above Normal Operating Range - Moderately Severe Level                      |         |       |        |         |            |        |
| 4727       | 157       | 15        | Amber | Engine Injector Metering Rail 1 Pressure               | Injector Metering Rail 1 Pressure - Data Valid But Above Normal Operating Range - Least Severe Level             |         |       |        |         |            |        |
| 4731       | 3031      | 13        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature Sensor - Out of Calibration                               | X       | X     |        |         | X With SCR | X      |
| 4732       | 1761      | 13        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor - Out of Calibration                                     | X       | X     |        |         | X With SCR | X      |
| 4734       | 701       | 14        | Red   | Auxiliary I/O #01                                      | Auxiliary Input/Output 1 - Special Instructions  | X       | X     | X      | X       | X          | X      |
| 4736       | 3031      | 6         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature Sensor Circuit - Current above normal or grounded circuit |         |       |        |         |            | X      |
| 4737       | 3031      | 11        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature - Root Cause Not Known                                    | X       | X     | X      |         | X With SCR | X      |
| 4738       | 1761      | 6         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level       | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor Circuit - Current above normal or grounded circuit       |         |       |        |         |            |        |
| 4739       | 1761      | 11        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level       | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor - Root Cause Not Known                                   | X       | X     | X      | X       | X With SCR | X      |
| 4741       | 3364      | 5         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality   | Aftertreatment Diesel Exhaust Fluid Quality Sensor Circuit - Current below normal or open circuit                | X       | X     | X      | X       | X With SCR | X      |
| 4742       | 3364      | 6         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Quality   | Aftertreatment Diesel Exhaust Fluid Quality Sensor Circuit - Current above normal or grounded circuit            | X       | X     | X      | X       | X With SCR | X      |
| 4743       | 3515      | 5         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2    | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 Sensor Circuit - Current below normal or open circuit        | X       | X     | X      | X       | X With SCR | X      |
| 4744       | 3515      | 6         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2    | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 Sensor Circuit - Current above normal or grounded            | X       | X     | X      | X       | X With SCR | X      |
| 4745       | 3515      | 11        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2    | Aftertreatment 1 Diesel Exhaust Fluid Temperature 2 - Root Cause Not Known                                       | X       | X     | X      | X       | X With SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|-------|---|--|---------|-------|--------|---------|------------|--------|
| 4752       | 520716    | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Valve 1 Heater             | Aftertreatment 1 Diesel Exhaust Fluid Dosing Valve 1 Heater - Voltage Above Normal, or Shorted to High Source      |         |       |        |         |            | X      |
| 4753       | 520716    | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Dosing Valve 1 Heater             | Aftertreatment 1 Diesel Exhaust Fluid Dosing Valve 1 Heater - Voltage Below Normal, or Shorted to Low Source       |         |       |        |         |            | X      |
| 4768       | 3521      | 11        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Property                          | Aftertreatment 1 Diesel Exhaust Fluid Property - Root Cause Not Known  | X       | X     | X      | X       | X With SCR | X      |
| 4769       | 1761      | 10        | Amber | Aftertreatment 1 Diesel Exhaust Fluid Tank Level                        | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor - Abnormal Rate of Change                                  | X       | X     | X      | X       | X With SCR | X      |
| 4789       | 1639      | 0         | Amber | Fan Speed   | Fan Speed - Data Valid but Above Normal Operational Range - Most Severe Level                                      | X       | X     | X      | X       | X          | X      |
| 4791       | 1639      | 1         | Amber | Fan Speed   | Fan Speed - Data Valid but Below Normal Operational Range - Most Severe Level                                      | X       | X     | X      | X       | X          | X      |
| 4841       | 6653      | 16        | Amber | Cold Start Injector Metering Rail 1 Pressure                            | Cold Start Injector Metering Rail 1 Pressure - Data Valid But Above Normal Operating Range - Moderate Severe Level |         |       |        |         |            |        |
| 4842       | 3364      | 15        | None  | Aftertreatment Diesel Exhaust Fluid Quality                             | Aftertreatment Diesel Exhaust Fluid Quality - Data Valid But Above Normal Operating Range - Least Severe Level     | X       | X     | X      | X       |            | X      |
| 4863       | 5245      | 31        | Amber | Aftertreatment Selective Catalytic Reduction Operator Inducement Active | Aftertreatment Diesel Exhaust Fluid Tank Low Level Indicator   | X       | X     | X      | X       | X With SCR | X      |
| 4867       | 5571      | 31        | Amber | High Pressure Common Rail Fuel Pressure Relief Valve                    | High Pressure Common Rail Fuel Pressure Relief Valve - Condition Exists  | X       |       |        |         |            |        |
| 4936       | 5380      | 11        | Amber | Engine Fuel Valve 1   | Engine Fuel Valve 1 - Root Cause Not Known   |         |       |        |         |            |        |
| 4937       | 5380      | 13        | Amber | Engine Fuel Valve 1   | Engine Fuel Valve 1 - Out of Calibration   |         |       |        |         |            |        |
| 4951       | 6655      | 3         | Amber | ECU Power Lamp  | Maintain ECU Power Lamp - Voltage Above Normal, or Shorted to High Source  | X       | X     | X      |         | X          | X      |
| 4952       | 6655      | 4         | Amber | ECU Power Lamp  | Maintain ECU Power Lamp - Voltage Below Normal, or Shorted to Low Source   | X       | X     | X      |         | X          | X      |
| 4953       | 3353      | 3         | Amber | Alternator 1 Status   | Alternator 1 Status - Voltage Above Normal, or Shorted to High Source  |         |       |        |         |            |        |
| 4954       | 3353      | 4         | Amber | Alternator 1 Status   | Alternator 1 Status - Voltage Below Normal, or Shorted to Low Source   |         |       |        |         |            |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description  | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8 | QSG 12 |
|------------|-----------|-----------|-------|--|--|---------|-------|--------|---------|---------|--------|
| 4956       | 6713      | 13        | Red   | Variable Geometry Turbocharger Actuator                        | Variable Geometry Turbocharger Actuator Software - Out of Calibration  | X       | X     |        |         |         |        |
| 4957       | 6713      | 31        | Red   | Variable Geometry Turbocharger Actuator                        | Variable Geometry Turbocharger Actuator Software - Condition Exists  | X       | X     |        |         |         |        |
| 5133       | 2006      | 9         | Amber | Source Address 6   | Source Address 6 - Abnormal Update Rate  |         |       |        |         |         |        |
| 5167       | 111       | 17        | Amber | Engine Coolant Level   | Coolant Level - Data Valid But Below Normal Operating Range - Least Severe Level                                 |         |       |        |         |         |        |
| 5177       | 6713      | 9         | Amber | VGT Actuator Driver Circuit                                    | VGT Actuator Driver Circuit - Abnormal update rate   | X       | X     |        |         |         |        |
| 5183       | 6799      | 3         | Amber | Engine Fan Blade Pitch   | Fan Blade Pitch Position Sensor Circuit - Voltage Above Normal, or Shorted to High Source                        | X       | X     | X      | X       | X       | X      |
| 5184       | 6799      | 4         | Amber | Engine Fan Blade Pitch   | Fan Blade Pitch Position Sensor Circuit - Voltage Below Normal, or Shorted to Low Source                         | X       | X     | X      | X       | X       | X      |
| 5185       | 6799      | 7         | Amber | Engine Fan Blade Pitch   | Fan Blade Pitch - Mechanical system not responding or out of adjustment  | X       | X     | X      | X       | X       | X      |
| 5193       | 1632      | 31        | Amber | Engine Torque Limit Feature                                    | Engine Torque Limit Feature - Condition Exists   |         |       | X      |         |         | X      |
| 5215       | 520791    | 2         | Amber | Engine Boost Curve Selection                                   | Engine Boost Curve Selection - Data erratic, intermittent or incorrect   |         |       | X      |         |         | X      |
| 5221       | 3667      | 2         | Red   | Engine Air Shutoff Status                                      | Engine Air Shutoff Status - Data erratic, intermittent or incorrect  | X       | X     |        |         |         |        |
| 5247       | 4360      | 16        | Amber | Aftertreatment 1 SCR Intake Temperature                        | Aftertreatment 1 SCR Intake Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level  |         |       |        |         |         |        |
| 5248       | 1623      | 13        | Amber | Tachograph Output Shaft Speed                                  | Tachograph Output Shaft Speed - Out of Calibration   | X       | X     | X      |         | X       | X      |
| 5271       | 649       | 3         | Amber | Engine Exhaust Back Pressure Regulator Control Circuit         | Engine Exhaust Back Pressure Regulator Control Circuit - Voltage Above Normal, or Shorted to High Source         |         |       |        |         | X       |        |
| 5272       | 649       | 4         | Amber | Engine Exhaust Back Pressure Regulator Control Circuit         | Engine Exhaust Back Pressure Regulator Control Circuit - Voltage Below Normal, or Shorted to Low Source          |         |       |        |         | X       |        |
| 5273       | 649       | 5         | Amber | Engine Exhaust Back Pressure Regulator Control Circuit         | Engine Exhaust Back Pressure Regulator Control Circuit - Current Below Normal or Open Circuit                    |         |       |        |         | X       |        |
| 5274       | 5625      | 2         | Amber | Engine Exhaust Back Pressure Regulator Position                | Engine Exhaust Back Pressure Regulator Position - Data Erratic, Intermittent or Incorrect                        |         |       |        |         |         |        |
| 5275       | 5625      | 3         | Amber | Engine Exhaust Back Pressure Regulator Position Sensor Circuit | Engine Exhaust Back Pressure Regulator Position Sensor Circuit - Voltage Above Normal, or Shorted to High Source |         |       |        |         | X       |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description  | Cummins_Description   | QSB 6.7       | QSL 9         | QSL 15 | QSB 4.5 | QSF 3.8       | QSG 12 |
|------------|-----------|-----------|-------|--|---|---------------|---------------|--------|---------|---------------|--------|
| 5276       | 5625      | 4         | Amber | Engine Exhaust Back Pressure Regulator Position Sensor Circuit     | Engine Exhaust Back Pressure Regulator Position Sensor Circuit - Voltage Below Normal, or Shorted to Low Source                           |               |               |        |         | X             |        |
| 5277       | 5626      | 13        | Amber | Engine Exhaust Back Pressure Regulator                             | Engine Exhaust Back Pressure Regulator - Out of Calibration   |               |               |        |         | X             |        |
| 5278       | 6802      | 31        | Amber |  | Aftertreatment 1 Diesel Exhaust Fluid Dosing System Frozen - Condition Exists   | X             | X             | X      | X       | X<br>With SCR | X      |
| 5291       | 520808    | 31        | Amber | Engine Emergency Shutdown Switch Activated                         | Engine Emergency Shutdown Switch Activated - Condition Exists   | X             | X             |        |         |               |        |
| 5292       | 520809    | 31        | Amber | Excessive Time Since Last Engine Air Shutoff Maintenance Test      | Excessive Time Since Last Engine Air Shutoff Maintenance Test - Condition Exists  | X             | X             |        |         |               |        |
| 5386       | 4766      | 2         | Amber | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature  | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature - Data Erratic, Intermittent, or Incorrect                              | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5387       | 4766      | 0         | Red   | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature  | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature - Data Valid But Above Normal Operating Range - Most Severe Level       | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5388       | 4766      | 16        | Red   | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature  | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5389       | 4766      | 15        | Amber | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature  | Aftertreatment 1 Diesel Oxidation Catalyst Outlet Gas Temperature - Data Valid But Above Normal Operating Range - Least Severe Level      | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5391       | 6882      | 9         | Amber | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module - Abnormal Update Rate   | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5392       | 6882      | 12        | Amber | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module - Bad Intelligent Device or Component                                  | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5393       | 6882      | 3         | Amber | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module - Voltage Above Normal or Shorted to High Source                       | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5394       | 6882      | 4         | Amber | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module - Voltage Below Normal or Shorted to Low Source                        | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |
| 5395       | 6882      | 11        | Amber | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module - Root Cause Not Known   | X<br>DOC+ SCR | X<br>DOC+ SCR |        | X       |               |        |

| Fault Code | J1939_SPN | J1939_FMI | Lamp        | J1939_SPN Description  | Cummins_Description  | QSB 6.7          | QSL 9            | QSL 15 | QSB 4.5 | QSF 3.8             | QSG 12 |
|------------|-----------|-----------|-------------|--|--|------------------|------------------|--------|---------|---------------------|--------|
| 5396       | 6882      | 16        | Amber       | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module | Aftertreatment Diesel Oxidation Catalyst Temperature Sensor Module - Data Valid But Above Normal Operating Range - Moderately Severe Level   | X<br>DOC+<br>SCR | X<br>DOC+<br>SCR |        | X       |                     |        |
| 5576       | 107       | 15        | Amber       | Engine Air Filter 1 Differential Pressure                          | Engine Air Filter Differential Pressure - Data Valid But Above Normal Operating Range - Least Severe Level   | X                | X                | X      | X       | X                   | X      |
| 5585       | 5571      | 15        | Amber       | High Pressure Common Rail Fuel Pressure Relief Valve               | High Pressure Common Rail Fuel Pressure Relief Valve - Data Valid But Above Normal Operating Range - Least Severe Level  | X                | X                | X      | X       | X                   | X      |
| 5617       | 524286    | 31        | Amber       | Aftertreatment 1 Diesel Oxidation Catalyst System                  | Aftertreatment 1 Diesel Oxidation Catalyst System- Special Instruction   | X<br>DOC+<br>SCR | X<br>DOC+<br>SCR |        | X       | X<br>(DOC +<br>SCR) |        |
| 5631       | 6928      | 31        | None        | SCR System Cleaning Inhibited Due to System Timeout                | SCR System Cleaning Inhibited Due to System Timeout - Condition Exists   | X<br>DOC+<br>SCR | X<br>DOC+<br>SCR |        | X       | X<br>With<br>SCR    |        |
| 5632       | 6918      | 31        | Maintenance | SCR System Cleaning Inhibited Due to Inhibit Switch                | SCR System Cleaning Inhibited Due to Inhibit Switch - Condition Exists   | X<br>DOC+<br>SCR | X<br>DOC+<br>SCR |        | X       | X<br>With<br>SCR    |        |
| 5653       | 6881      | 9         | Amber       | SCR Operator Inducement Override Switch                            | SCR Operator Inducement Override Switch - Abnormal Update Rate   | X                | X                | X      | X       | X<br>With<br>SCR    | X      |
| 5654       | 6881      | 13        | Amber       | SCR Operator Inducement Override Switch                            | SCR Operator Inducement Override Switch - Out of Calibration   | X                | X                | X      | X       | X<br>With<br>SCR    | X      |
| 5866       | 520953    | 3         | Amber       |  | Aftertreatment Diesel Exhaust Fluid Dosing Unit Relay Feedback- Voltage Above Normal or Shorted to High Source.  |                  |                  |        |         |                     | X      |
| 5867       | 520953    | 4         | Amber       |  | Aftertreatment Diesel Exhaust Fluid Dosing Unit Relay Feedback- Voltage Below Normal or Shorted to Low Source.   |                  |                  |        |         |                     | X      |
| 5939       | 520968    | 9         | Amber       |  | Machine Constrained Operation- Abnormal Update Rate. No Communication or an invalid data transfer rate has been detected on the J1939 data link between the ECM and the machine electronic control unit. | X                | X                | X      | X       | X                   | X      |
| 5941       | 520968    | 19        | None        |  | Machine Constrained Operation- Received Network Data in Error. The received J1939 datalink message was not valid.  | X                | X                | X      | X       | X                   | X      |
| 6256       | 168       | 15        | None        | Battery Potential / Power Input 1                                  | Battery 1 Voltage - Data Valid But Above Normal Operating Range - Moderately Severe Level  | X                | X                | X      | X       | X                   | X      |
| 6257       | 168       | 17        | None        | Battery Potential / Power Input 1                                  | Battery 1 Voltage - Data Valid But Below Normal Operating Range - Moderately Severe Level  | X                | X                | X      | X       | X                   | X      |
| 6258       | 1075      | 3         | None        | Engine Electric Lift Pump for Engine Fuel Supply                   | Electric Lift Pump for Engine Fuel Supply Circuit - Voltage above normal, or shorted to high source  | X                | X                | X      | X       | X                   | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp | J1939_SPN Description                             | Cummins_Description   | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|------|---|---|--------------------------|--------------------------|--------|---------|------------------|--------|
| 6259       | 1075      | 4         | None | Engine Electric Lift Pump for Engine Fuel Supply  | Electric Lift Pump for Engine Fuel Supply Circuit - Voltage below normal, or shorted to low source        | X                        | X                        | X      | X       | X                | X      |
| 6263       | 647       | 3         | None | Engine Fan Clutch 1 Output Device Driver          | Fan Control Circuit - Voltage above normal, or shorted to high source                                     | X                        | X                        | X      | X       | X                | X      |
| 6264       | 647       | 4         | None | Engine Fan Clutch 1 Output Device Driver          | Fan Control Circuit - Voltage below normal, or shorted to low source                                      | X                        | X                        | X      | X       | X                | X      |
| 6265       | 3936      | 7         | None | Aftertreatment 1 Diesel Particulate Filter System | Aftertreatment 1 Diesel Particulate Filter System - Mechanical system not responding or out of adjustment | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 6336       | 862       | 3         | None | Crankcase breather Heater Circuit                 | Crankcase Breather Filter Heater Circuit - Voltage above normal, or shorted to high source                | X                        | X                        | X      | X       | X                | X      |
| 6337       | 862       | 4         | None | Crankcase breather Heater Circuit                 | Crankcase Breather Filter Heater Circuit - Voltage below normal, or shorted to low source                 | X                        | X                        | X      | X       | X                | X      |
| 6418       | 1072      | 3         | None | Engine (Compression) Brake Output #1              | Engine Brake Actuator Driver 1 Circuit - Voltage above normal, or shorted to high source                  | X                        | X                        | X      | X       | X                | X      |
| 6419       | 1072      | 4         | None | Engine (Compression) Brake Output #1              | Engine Brake Actuator Driver 1 Circuit - Voltage below normal, or shorted to low source                   | X                        | X                        | X      | X       | X                | X      |
| 6421       | 1073      | 3         | None | Engine (Compression) Brake Output #2              | Engine Brake Actuator Driver Output 2 Circuit - Voltage above normal, or shorted to high source           | X                        | X                        | X      | X       | X                | X      |
| 6422       | 1073      | 4         | None | Engine (Compression) Brake Output #2              | Engine Brake Actuator Driver Output 2 Circuit - Voltage below normal, or shorted to low source            | X                        | X                        | X      | X       | X                | X      |
| 6456       | 5484      | 3         | None | Engine Fan Clutch 2 Output Device Driver          | Engine Fan Clutch 2 Control Circuit - Voltage above normal, or shorted to high source                     | X                        | X                        | X      | X       | X                | X      |
| 6457       | 5484      | 4         | None | Engine Fan Clutch 2 Output Device Driver          | Engine Fan Clutch 2 Control Circuit - Voltage below normal, or shorted to low source                      | X                        | X                        | X      | X       | X                | X      |
| 6458       | 3216      | 20        | None | Aftertreatment 1 Intake NOx                       | Aftertreatment 1 Intake NOx Sensor - Data not Rational - Drifted High                                     | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 6459       | 3216      | 21        | None | Aftertreatment 1 Intake NOx                       | Aftertreatment 1 Intake NOx Sensor - Data not Rational - Drifted High                                     | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 6462       | 3226      | 20        | None | Aftertreatment 1 Outlet NOx                       | Aftertreatment 1 Outlet NOx Sensor - Data not Rational - Drifted High                                     | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 6463       | 3226      | 21        | None | Aftertreatment 1 Outlet NOx                       | Aftertreatment 1 Outlet NOx Sensor - Data not Rational - Drifted High                                     | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 6464       | 3226      | 2         | None | Aftertreatment 1 Outlet NOx                       | Aftertreatment 1 Outlet NOx Sensor - Data not Rational - Drifted High                                     | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 6467       | 1639      | 15        | None | Fan Speed   | Fan Speed - Data Valid but Above Normal Operational Range - Most Severe Level                             | X                        | X                        | X      | X       | X                | X      |
| 6468       | 1639      | 17        | None | Fan Speed   | Fan Speed - Data Valid but Below Normal Operational Range - Most Severe Level                             | X                        | X                        | X      | X       | X                | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp | J1939_SPN Description                                     | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|------|---|---|---------|-------|--------|---------|------------|--------|
|            | 1639      | 2         | None | Fan Speed   | Fan Speed- Data Erratic, Intermittent, or Incorrect   | X       | X     | X      | X       | X          | X      |
| 6471       | 6799      | 3         | None | Engine Fan Blade Pitch                                    | Fan Blade Pitch Position Sensor Circuit - Voltage Above Normal, or Shorted to High Source                                 | X       | X     | X      | X       | X          | X      |
| 6472       | 6799      | 4         | None | Engine Fan Blade Pitch                                    | Fan Blade Pitch Position Sensor Circuit - Voltage Below Normal, or Shorted to Low Source                                  | X       | X     | X      | X       | X          | X      |
| 6473       | 6799      | 2         | None | Engine Fan Blade Pitch                                    | Fan Blade Pitch - Mechanical system not responding or out of adjustment   | X       | X     | X      | X       | X          | X      |
| 6475       | 3363      | 7         | None | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater       | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Mechanical system not responding or out of adjustment                 | X       | X     | X      | X       | X With SCR | X      |
| 6476       | 3363      | 18        | None | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater       | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Data Valid But Below Normal Operating Range - Moderately Severe Level | X       | X     | X      | X       | X With SCR | X      |
| 6477       | 5491      | 3         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay   | Aftertreatment Diesel Exhaust Fluid Line Heater Relay - Voltage above normal, or shorted to high source                   | X       | X     | X      | X       | X With SCR | X      |
| 6478       | 5491      | 4         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay   | Aftertreatment Diesel Exhaust Fluid Line Heater Relay - Voltage below normal, or shorted to low source                    | X       | X     | X      | X       | X With SCR | X      |
| 6479       | 3363      | 3         | None | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater       | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Voltage above normal, or shorted to high source                       | X       | X     | X      | X       | X With SCR | X      |
| 6481       | 3363      | 4         | None | Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Heater       | Aftertreatment 1 Diesel Exhaust Fluid Tank Heater - Voltage below normal, or shorted to low source                        | X       | X     | X      | X       | X With SCR | X      |
| 6482       | 4340      | 5         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 State | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 Circuit - Current below normal or open circuit                        | X       | X     | X      | X       | X With SCR | X      |
| 6483       | 4342      | 5         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 State | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 Circuit - Current below normal or open circuit                        | X       | X     | X      | X       | X With SCR | X      |
| 6484       | 4344      | 5         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 State | Aftertreatment Diesel Exhaust Fluid Line Heater 3 Circuit - Current below normal or open circuit                          | X       | X     | X      | X       | X With SCR | X      |
| 6493       | 3464      | 3         | None | Electronic Throttle Control Actuator Driver Circuit       | Electronic Throttle Control Actuator Driver Circuit-Voltage above normal, or shorted to high source                       | X       | X     | X      | X       | X          | X      |
| 6494       | 3464      | 4         | None | Electronic Throttle Control Actuator Driver Circuit       | Electronic Throttle Control Actuator Driver Circuit-Voltage above normal, or shorted to low source                        | X       | X     | X      | X       | X          | X      |
| 6496       | 3464      | 5         | None | Electronic Throttle Control Actuator Driver Circuit       | Electronic Throttle Control Actuator Driver Circuit-Voltage above normal, or shorted to high source                       | X       | X     | X      | X       | X          | X      |
| 6497       | 51        | 3         | None | Engine Intake Throttle Actuator Position Sensor Circuit   | Engine Intake Throttle Actuator Position Sensor Circuit-Voltage above normal, or shorted to high source                   | X       | X     | X      | X       | X          | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.



| Fault Code | J1939_SPN | J1939_FMI | Lamp | J1939_SPN Description  | Cummins_Description   | QSB 6.7 | QSL 9 | QSL 15 | QSB 4.5 | QSF 3.8    | QSG 12 |
|------------|-----------|-----------|------|--|---|---------|-------|--------|---------|------------|--------|
| 6498       | 51        | 4         | None | Engine Intake Throttle Actuator Position Sensor Circuit        | Engine Intake Throttle Actuator Position Sensor Circuit- Voltage above normal, or shorted to low source                   | X       | X     | X      | X       | X          | X      |
| 6499       | 3597      | 17        | None | ECU Power Output Supply Voltage #1                             | ECU Power Output Supply Voltage 1 - Data Valid But Below Normal Operating Range - Moderately Severe Level                 | X       | X     | X      | X       | X          | X      |
| 6511       | 6655      | 3         | None | ECU Power Lamp   | Maintain ECU Power Lamp - Voltage Above Normal, or Shorted to High Source   | X       | X     | X      | X       | X          | X      |
| 6512       | 6655      | 4         | None | ECU Power Lamp   | Maintain ECU Power Lamp - Voltage Below Normal, or Shorted to Low Source  | X       | X     | X      | X       | X          | X      |
| 6513       | 5745      | 17        | None | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater       | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater - Data Valid But Below Normal Operating Range                    | X       | X     | X      | X       | X With SCR | X      |
| 6517       | 4364      | 17        | None | Aftertreatment 1 SCR Conversion Efficiency                     | Aftertreatment SCR Catalyst Conversion Efficiency - Data Valid But Below Normal Operating Range - Moderately Severe Level | X       | X     | X      | X       | X With SCR | X      |
| 6521       | 3226      | 4         | None | Aftertreatment Outlet NOx Sensor Circuits                      | Aftertreatment Outlet NOx Sensor Circuit- Voltage below normal or shorted to low source                                   | X       | X     | X      | X       | X With SCR | X      |
| 6522       | 111       | 3         | None | Engine Coolant Level   | Coolant Level Sensor 1 Circuit - Voltage above normal, or shorted to high source  | X       | X     | X      | X       | X          | X      |
| 6523       | 111       | 4         | None | Engine Coolant Level   | Coolant Level Sensor 1 Circuit - Voltage below normal, or shorted to low source   | X       | X     | X      | X       | X          | X      |
| 6524       | 175       | 3         | None | Engine Oil Temperature 1                                       | Engine Oil Temperature Sensor 1 Circuit - Voltage above normal, or shorted to high source                                 | X       | X     | X      | X       | X          | X      |
| 6525       | 175       | 4         | None | Engine Oil Temperature 1                                       | Engine Oil Temperature Sensor 1 Circuit - Voltage below normal, or shorted to low source                                  | X       | X     | X      | X       | X          | X      |
| 6526       | 1761      | 13        | None | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature         | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor - Out of Calibration  | X       | X     | X      | X       | X With SCR | X      |
| 6527       | 4376      | 7         | None | Aftertreatment 1 Diesel Exhaust Fluid Return Valve             | Aftertreatment Diesel Exhaust Fluid Return Valve - Mechanical system not responding or out of adjust                      | X       | X     | X      | X       | X With SCR | X      |
| 6529       | 5746      | 3         | None | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Relay | Aftertreatment 1 Diesel Exhaust Fluid Dosing Unit Heater Relay - Voltage Above Normal, or Shorted to high source          | X       | X     | X      | X       | X With SCR | X      |
| 6531       | 4340      | 3         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 State      | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 Circuit - Voltage above normal, or shorted to high source             | X       | X     | X      | X       | X With SCR | X      |
| 6532       | 4340      | 4         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 State      | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 1 Circuit - Voltage below normal, or shorted to low source              | X       | X     | X      | X       | X With SCR | X      |
| 6533       | 4342      | 3         | None | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 State      | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 Circuit - Voltage above normal, or shorted to high source             | X       | X     | X      | X       | X With SCR | X      |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description                                       | Cummins_Description   | QSB 6.7         | QSL 9           | QSL 15 | QSB 4.5 | QSF 3.8     | QSG 12 |
|------------|-----------|-----------|-------|---|---|-----------------|-----------------|--------|---------|-------------|--------|
| 6534       | 4342      | 4         | None  | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 State   | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 2 Circuit - Voltage below normal, or shorted to low source                | X               | X               | X      | X       | X With SCR  | X      |
| 6535       | 4344      | 3         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 State   | Aftertreatment Diesel Exhaust Fluid Line Heater 3 Circuit - Voltage above normal, or shorted to high source                 | X               | X               | X      | X       | X With SCR  | X      |
| 6536       | 4344      | 4         | Amber | Aftertreatment 1 Diesel Exhaust Fluid Line Heater 3 State   | Aftertreatment Diesel Exhaust Fluid Line Heater 3 Circuit - Voltage below normal, or shorted to low source                  | X               | X               | X      | X       | X With SCR  | X      |
| 6537       | 5491      | 7         | None  | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay     | Aftertreatment 1 Diesel Exhaust Fluid Line Heater Relay - Mechanical system not responding or out of adjustment             | X               | X               | X      | X       | X With SCR  | X      |
| 6539       | 4765      | 2         | None  | Aftertreatment Diesel Oxidation Catalyst Intake Temperature | Aftertreatment 1 Diesel Oxidation Catalyst Intake Temperature - Data erratic, intermittent or incorrect                     | X               | X               | X      | X       | X DOC + SCR | X      |
| 6551       | 3610      | 3         | Amber | Aftertreatment Diesel Particulate Filter Outlet Pressure    | Aftertreatment 1 Diesel Particulate Filter Outlet Pressure Sensor Circuit - Voltage above normal, or shorted to high source | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |             | X      |
| 6552       | 3610      | 4         | Amber | Aftertreatment Diesel Particulate Filter Outlet Pressure    | Aftertreatment 1 Diesel Particulate Filter Outlet Pressure Sensor Circuit - Voltage below normal, or shorted to low source  | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |             | X      |
| 6553       | 3610      | 2         | Amber | Aftertreatment Diesel Particulate Filter Outlet Pressure    | Aftertreatment 1 Diesel Particulate Filter Outlet Pressure - Data erratic, intermittent or incorrect                        | X DOC+ DPF+ SCR | X DOC+ DPF+ SCR | X      |         |             | X      |
| 6556       | 729       | 3         | None  | Engine Intake Air Heater Driver #1                          | Engine Intake Air Heater 1 Circuit - Voltage above normal, or shorted to high source  | X               | X               | X      | X       | X           | X      |
| 6557       | 729       | 4         | None  | Engine Intake Air Heater Driver #1                          | Engine Intake Air Heater 1 Circuit - Voltage below normal, or shorted to low source   | X               | X               | X      | X       | X           | X      |
| 6559       | 3031      | 4         | None  | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature      | Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature Sensor - Voltage below normal, or shorted to low source              | X               | X               | X      | X       | X With SCR  | X      |
| 6562       | 1761      | 11        | None  | Aftertreatment 1 Diesel Exhaust Fluid Tank Level            | Aftertreatment 1 Diesel Exhaust Fluid Tank Level Sensor - Root Cause Not Known  | X               | X               | X      | X       | X With SCR  |        |
| 6563       | 976       | 2         | None  | PTO Governor State  | Auxiliary Intermediate (PTO) Speed Switch Validation - Data erratic, intermittent or incorrect                              | X               | X               | X      | X       | X           | X      |
| 6565       | 3226      | 10        | None  | Aftertreatment 1 Outlet NOx                                 | Aftertreatment 1 Outlet NOx Sensor - Abnormal rate of change  | X               | X               | X      | X       | X With SCR  | X      |
| 6568       | 3695      | 2         | None  | Aftertreatment Regeneration Inhibit Switch                  | Aftertreatment Regeneration Inhibit Switch - Data erratic, intermittent or incorrect  | X               | X               | X      | X       | X           | X      |
| 6569       | 4363      | 3         | None  | Aftertreatment 1 SCR Catalyst Outlet Gas Temperature        | Aftertreatment 1 SCR Outlet Temperature Sensor Circuit - Voltage above normal, or shorted to high source                    | X               | X               | X      | X       | X With SCR  |        |
| 6571       | 4363      | 4         | None  | Aftertreatment 1 SCR Catalyst Outlet Gas Temperature        | Aftertreatment 1 SCR Outlet Temperature Sensor Circuit - Voltage below normal, or shorted to low source                     | X               | X               | X      | X       | X With SCR  |        |

Cummins Internal Use Only: This information is labeled per CORP-00-24-00-00.

| Fault Code | J1939_SPN | J1939_FMI | Lamp  | J1939_SPN Description   | Cummins_Description  | QSB 6.7                  | QSL 9                    | QSL 15 | QSB 4.5 | QSF 3.8          | QSG 12 |
|------------|-----------|-----------|-------|---|--|--------------------------|--------------------------|--------|---------|------------------|--------|
| 6581       | 5031      | 10        | None  | Aftertreatment 1 Outlet Gas NOx Sensor Heater Ratio                           | Aftertreatment 1 Outlet NOx Sensor Heater - Abnormal rate of change                              | X                        | X                        | X      | X       | X<br>With<br>SCR | X      |
| 6582       | 3228      | 2         | None  | Aftertreatment 1 Outlet Gas Sensor Power Status                               | Aftertreatment 1 Outlet NOx Sensor Power Supply - Data erratic, intermittent or incorrect        |                          |                          | X      |         | X<br>With<br>SCR | X      |
| 6583       | 441       | 14        | Amber | Auxiliary Temperature 1   | Auxiliary Temperature Sensor Input 1 - Special Instructions                                      |                          |                          | X      |         | X                | X      |
| 6584       | 1388      | 14        | Amber | Auxiliary Pressure #2   | Auxiliary Pressure Sensor Input 2 - Special Instructions   |                          |                          | X      |         | X                | X      |
| 6596       | 3713      | 31        | Amber | Diesel Particulate Filter Active Regeneration Inhibited Due to System Timeout | Diesel Particulate Filter Active Regeneration Inhibited Due to System Timeout - Condition Exists | X<br>DOC+<br>DPF+<br>SCR | X<br>DOC+<br>DPF+<br>SCR | X      |         |                  | X      |
| 6597       | 6928      | 31        | Amber | SCR System Cleaning Inhibited Due to System Timeout                           | SCR System Cleaning Inhibited Due to System Timeout - Condition Exists                           | X<br>DOC+<br>SCR         | X<br>DOC+<br>SCR         |        | X       |                  |        |
| 9491       | 524286    | 31        | Amber |   | Reserved for temporary use - Condition Exists  |                          |                          |        |         |                  | X      |
| 9999       | 524286    | 31        | Amber |   | Reserved for temporary use - Condition Exists  |                          |                          | X      |         |                  | X      |