



## **Cummins QuickServe Online Short Guide**

## **Contents**

Disclaimer.....	3
Logging in to QSOL .....	3
Engine Serial Number (ESN).....	4
Engine Manuals.....	5
Using the Wiring Diagram.....	7
Using the Fault Code Troubleshooting Manual.....	9
My tool suggestions .....	9
Section “TS”: Troubleshooting Symptoms.....	9
Section “TF”: Troubleshooting Fault Codes .....	10
Using the Service Manual.....	11
Section i: How to use Cummins manuals.....	11
Section E: Engine and System Identification.....	12
Section F: Familiarisation .....	13
Section TS: Troubleshooting Symptoms .....	14
Section TT: Troubleshooting Symptoms (new Format).....	14
Section DS: Engine Disassembly.....	14
Section AS: Engine Assembly.....	15
Numbered Sections: Section 0, 1, 2... ..	15
Section L: Service Literature .....	16
Section V: Specifications.....	17
Using the Owner’s Manual.....	18
Using the Operation and Maintenance Manuals.....	19
Troubleshooting Fault Codes.....	21
Feedback or Suggestions .....	23

## Disclaimer

This short guide assumes that you already have a QuickServe Online account. In case you still haven't created one, you can [read my guide here](#) and create a free account.

The procedures described are applicable to Free or Subscription accounts.

I will only be describing the procedure of finding the most common information to help you perform maintenance or repairs on your Cummins engine. If you would like **more detailed information**, [please consider enrolling on one of my QSOL courses](#).

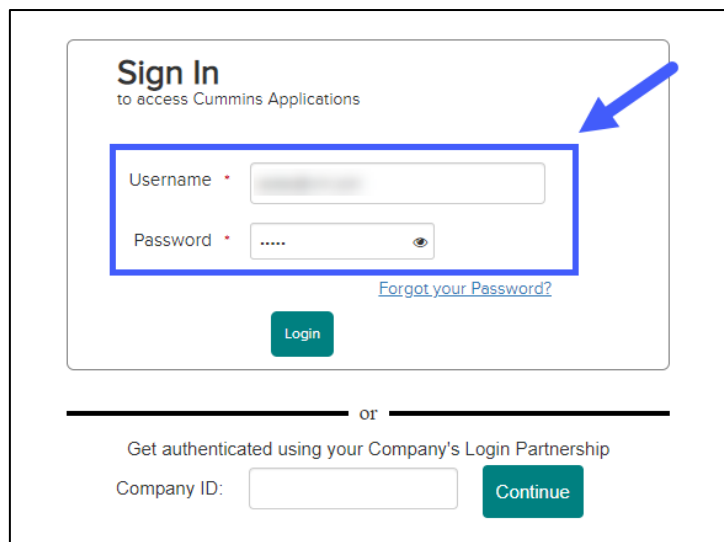
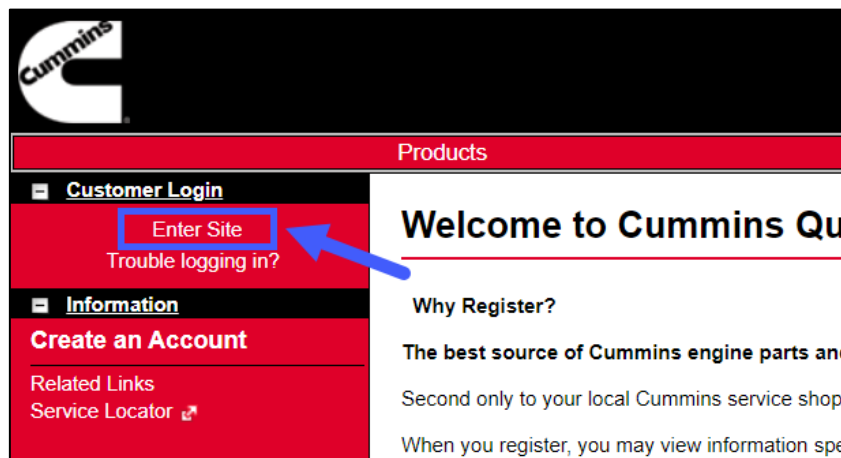
## Logging in to QSOL

Start by navigating to QuickServe Online:

<https://quickserve.cummins.com/>

*Tip! Maybe it's a good idea to also bookmark this page on your Browser.*

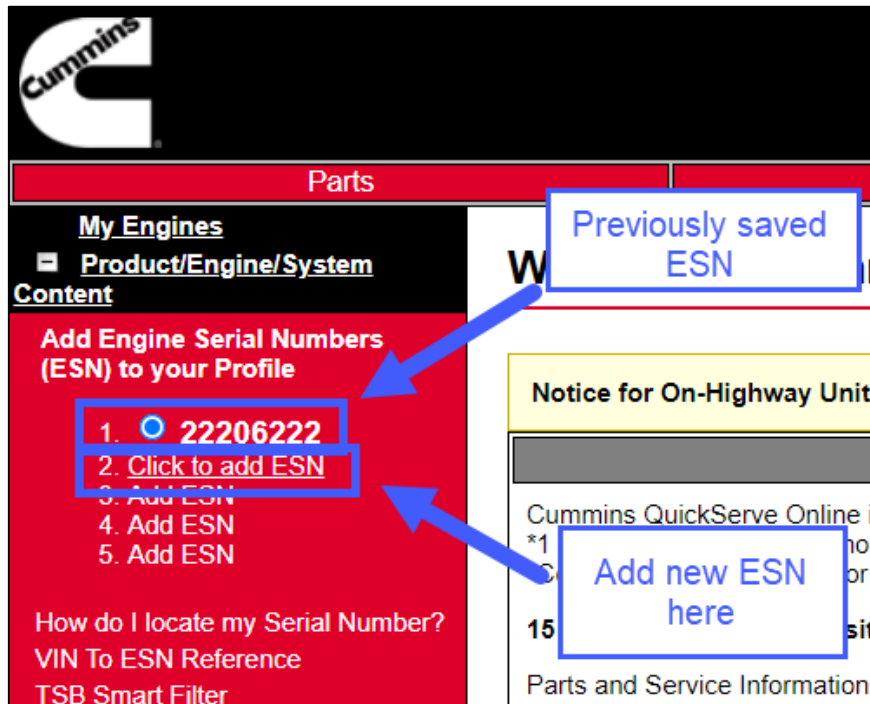
Click on "Enter Site" and login using your credentials:



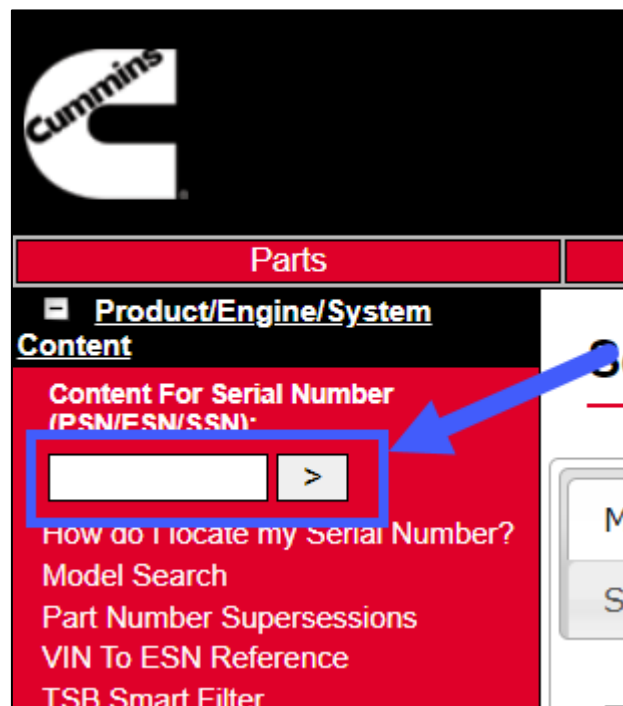
## Engine Serial Number (ESN)

Once you have your ESN, add it to the list (free accounts), or type it in the ESN field (subscription accounts):

### Free Accounts:



### Subscription Accounts:

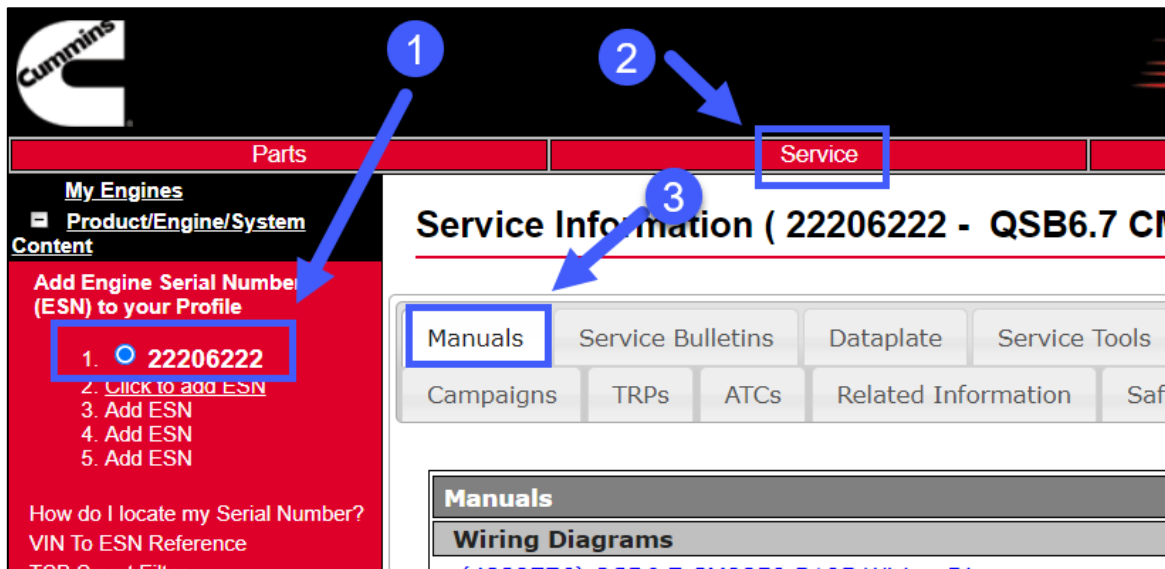


## Engine Manuals

To access the manuals for your engine, ensure your engine ESN is selected (free accounts) or you have used a valid ESN (subscription accounts).

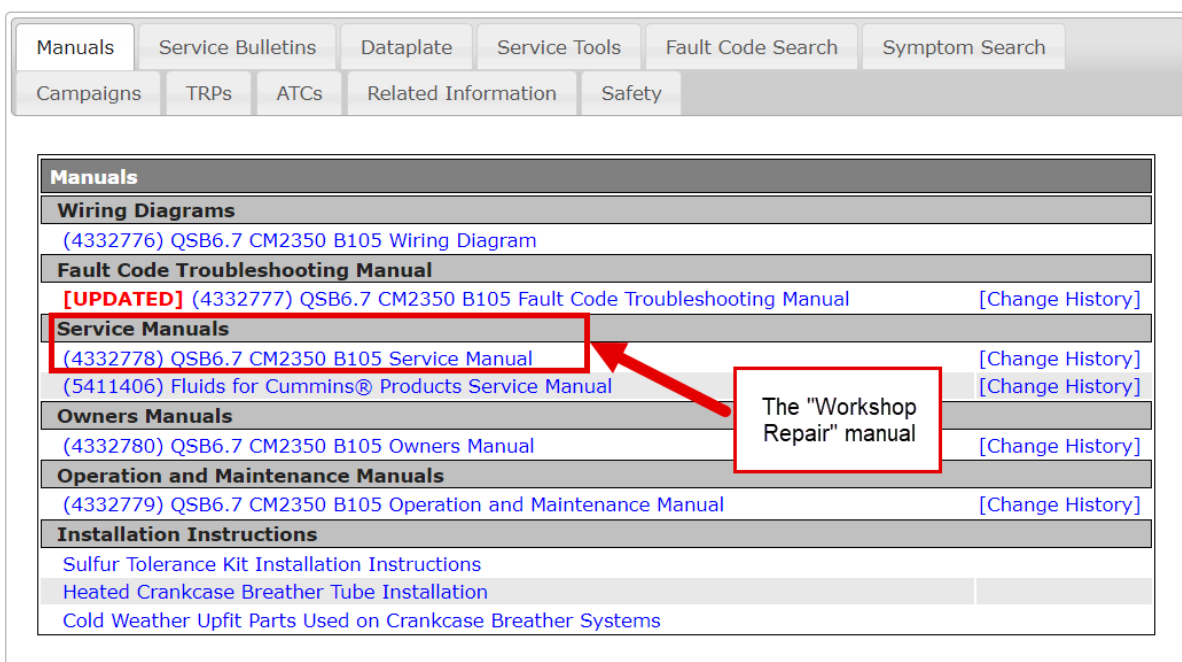
1. Use a valid ESN
2. Click on "Service" on the top menu
3. Ensure the "Manuals" Tab is selected

The next screenshot is from a free account:



Click on the manual you want to access from the list.

**Tip! The "Service Manual" is practically a Workshop Repair Manual.**



## **Wiring Diagrams:**

The Wiring Diagram for the selected ESN

## **Fault Code Troubleshooting manual:**

A complete list of all the Fault Codes the ESM can show, for the selected Engine Model.

## **Service Manuals:**

The Service manual option is practically the Workshop repair manual. All you will ever need for any inspection, diagnostic, or repair procedure for the engine. **True Gold; Really.**

Fluids for Cummins Products Service Manual is the complete list of all approved fluids for the selected engine model.

## **Owner's Manuals:**

General information about the engine. Operating Instructions, Maintenance guidelines, Maintenance specifications, etc.

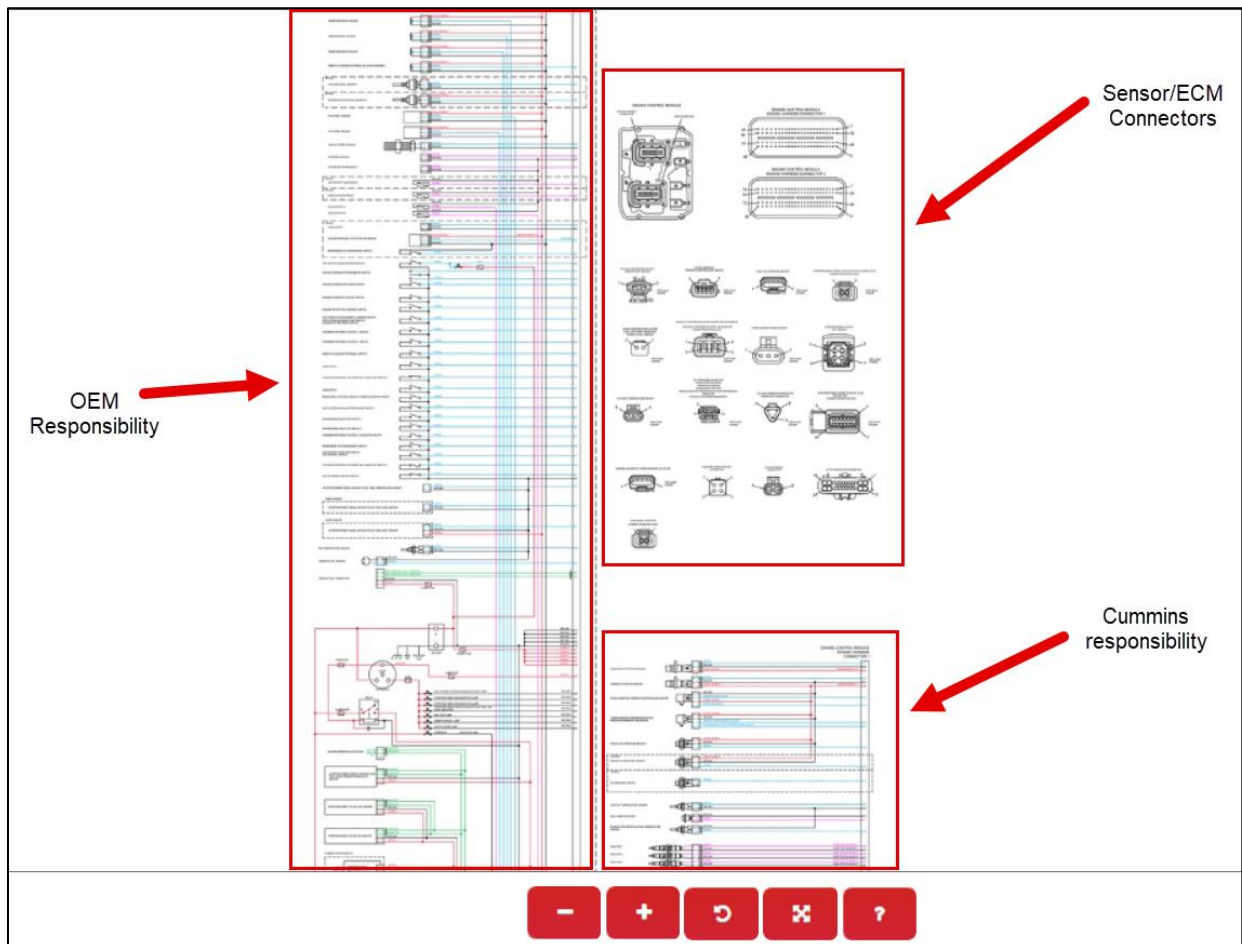
## **Operation and Maintenance Manuals:**

Complete Instructions related to this specific engine model's maintenance.

## Using the Wiring Diagram

There are 3 sections on the wiring diagrams:

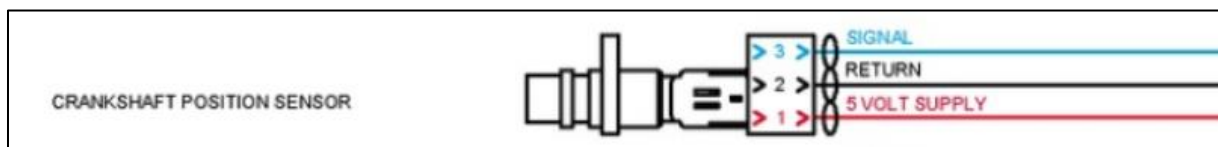
1. OEM side (vehicle/machine manufacturer's responsibility)
2. Cummins side (Cummins responsibility – practically all components fitted on the engine)
3. Sensor/ECM Connector overview



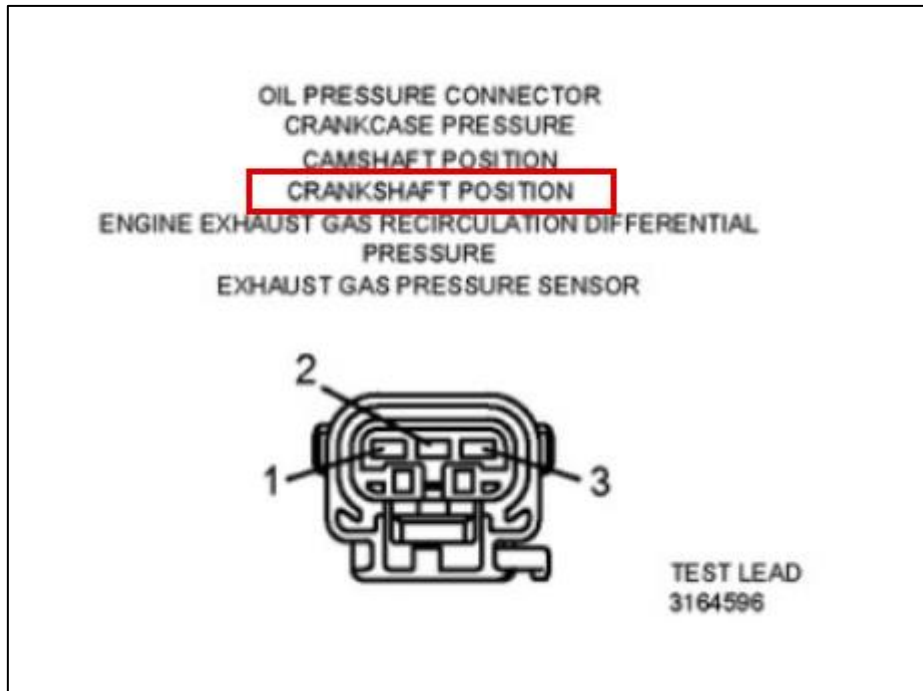
### Correct procedure of identifying pins:

Let's assume we want to measure **Voltage Supply** on the **Crankshaft Position Sensor**:

1. Identify connector pins to perform the measurement: Pin 1 (Supply) & Pin 2 (Return)



2. Identify the **correct** sensor connector:



3. Identify the pin positions on the connector: With the locking-tab facing down, the left pin is Pin 1 and the middle pin is Pin 2.
4. Ensure the key is on the "On" position and perform the measurement.



## Using the Fault Code Troubleshooting Manual

Connect your preferred Diagnostic tool to read Fault Codes.

### My tool suggestions

#### Cummins official tools:

[Cummins Insite Lite \(Diagnostic Software\)](#)

[Cummins Inline 7 Adaptor](#)

#### Alternative:

[TEXA CAR Automotive Diagnostic Tool](#) (comes with Tablet and adapter)

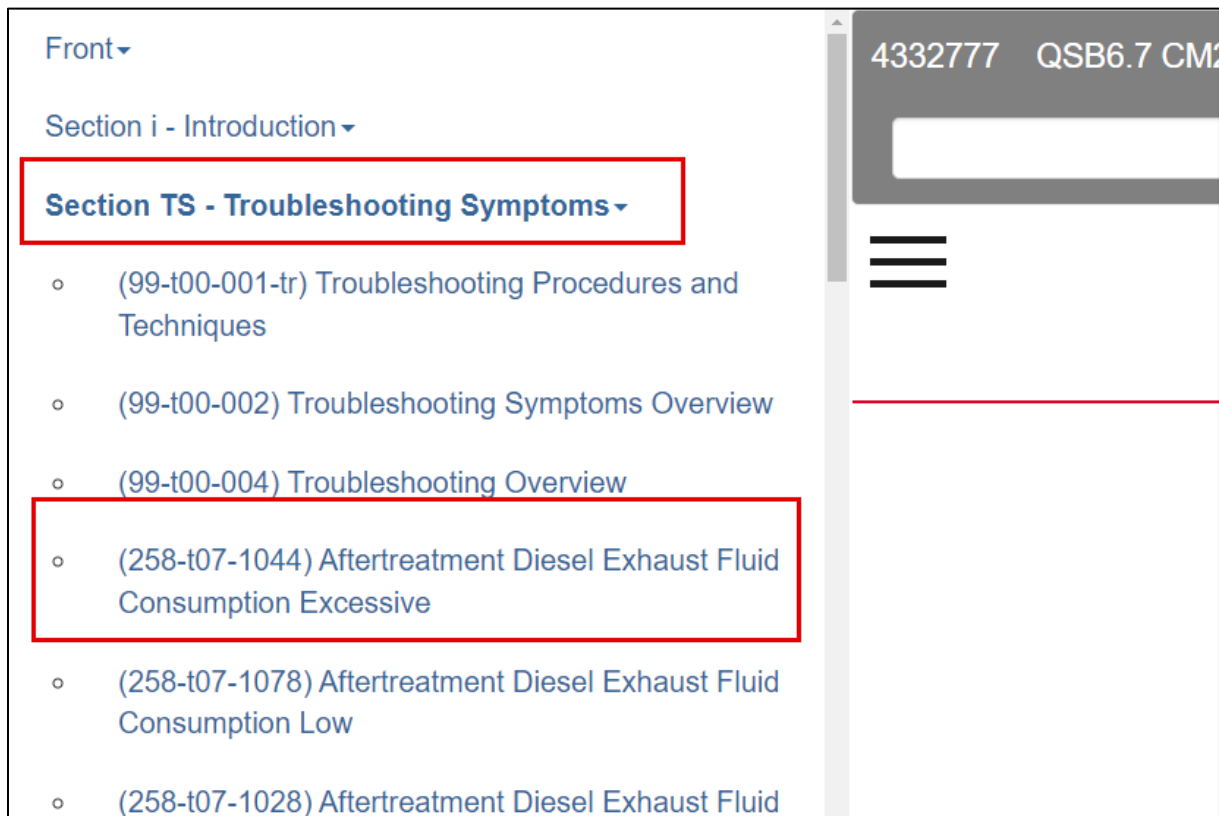
[TEXA Dealer Level Truck Diagnostic Scanner Tool with Laptop](#)

[Nexiq USB Link 2](#) (Inline adaptor alternative, works with Insite)

[Heavy & Medium Commercial Truck Diagnostic Starter Kit](#) (Entry-level. Comes with laptop, adaptor and software)

### Section “TS”: Troubleshooting Symptoms

Open section “TS” to follow troubleshooting steps for faults that are usually not related to fault codes:



### Section “TF”: Troubleshooting Fault Codes

Open Section “TS” to follow troubleshooting steps for Fault Codes. The Fault code number starts with “fc” (short for fault code):

Section TS - Troubleshooting Symptoms ▾

**Section TF - Troubleshooting Fault Codes ▾**

- (258-fc111) Engine Control Module Critical Internal Failure - Bad Intelligent Device or Component
- (258-fc115) Engine Magnetic Speed/Position Lost Both of Two Signals - Data Erratic, Intermittent, or Incorrect
- (258-fc122) Intake Manifold 1 Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source
- (258-fc123) Intake Manifold 1 Pressure Sensor Circuit - Voltage Below Normal or Shorted to Low Source
- (258-fc124) Intake Manifold 1 Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level

Example of how to identify the procedure for Cummins Fault Code “122” (fc122).

**Tip! Ensure you read every single word in the troubleshooting steps to avoid losing time due to avoidable mistakes.**

**Tip!** If you want to learn more about how to use the troubleshooting guides or the Cummins manuals, **consider enrolling on one of my QuickServe Online courses:**

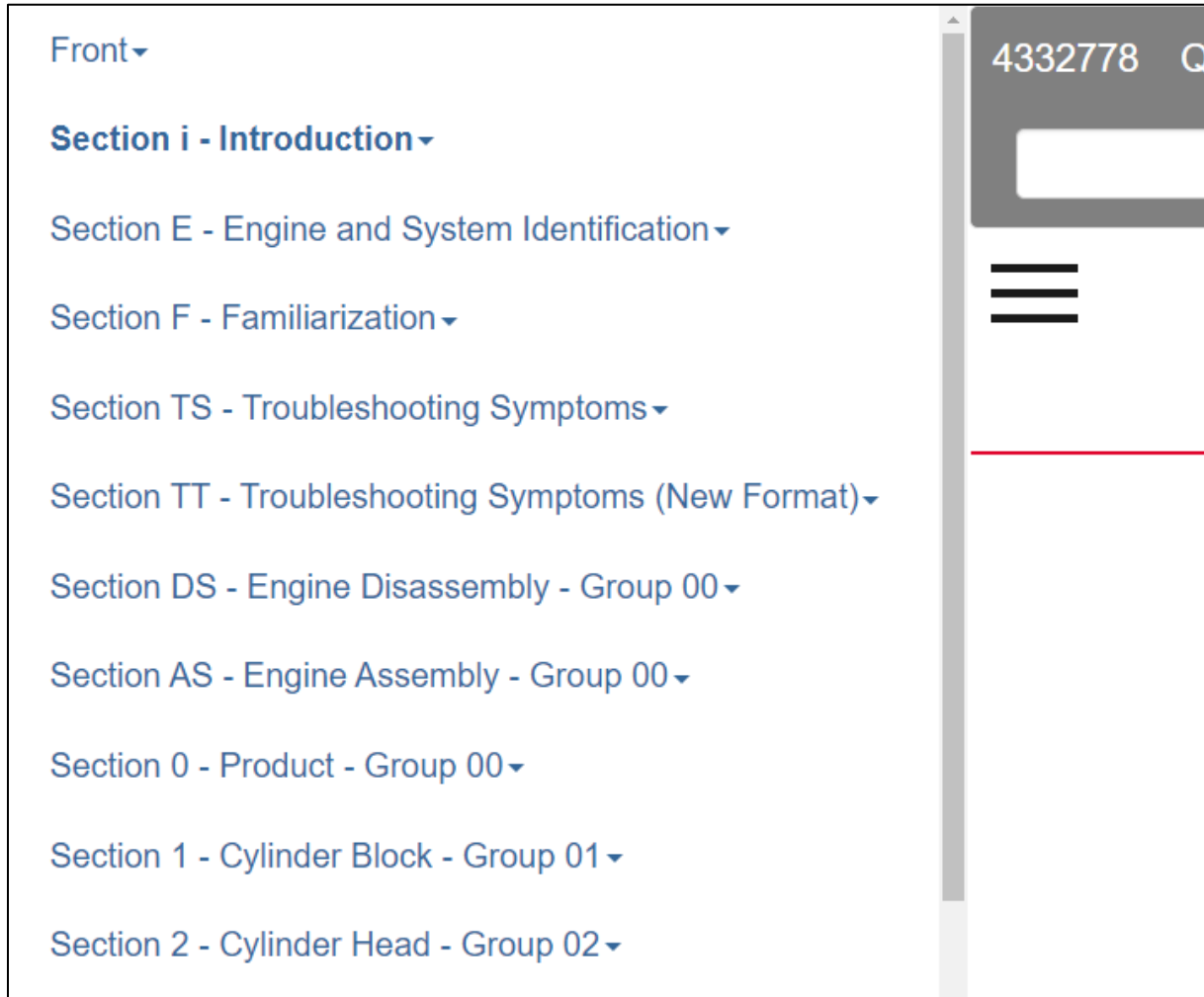
[Cummins QuickServe Online for beginners](#) (hosted on Udemy)

[Cummins QuickServe Online Fundamentals](#) (**Premium course**, hosted on our own Training Platform)

Alternatively, you can navigate to: <https://dieseltraining.net/training-courses>

## Using the Service Manual

*Tip! That's the most important manual for all inspections, diagnostic procedures and repairs on any Cummins engine.*



### Section i: How to use Cummins manuals

Generic information on how to use the Cummins Manuals.

- Section i - Introduction**
- (99-204-002-shopds) About the Manual
  - (99-204-003-shopds) How to Use the Manual
  - (99-204-004) Symbols
  - (99-204-005) Illustrations
  - (99-204-006) General Safety Instructions

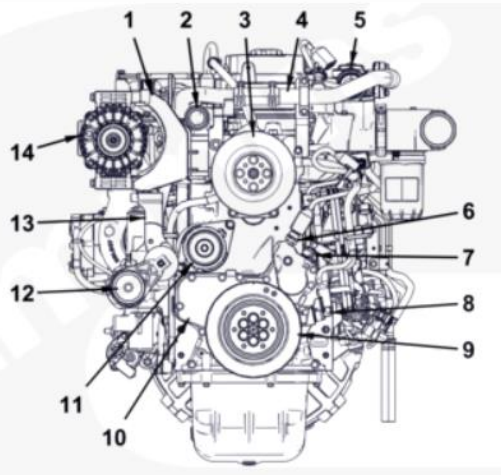
### Section E: Engine and System Identification

The most important part of this section is the Engine Diagrams. Use it to find the the component positions on the engine.

#### Section E - Engine and System Identification ▾

- (257-100-001) Engine Identification
- (99-100-005) Cummins® Service Engine Model Identification
- (257-100-006) Cummins® Product Technology
- (257-100-002) Engine Diagrams

©Cummins Inc.



LARGE

QSB6.7 CM2350 B105 - Front View

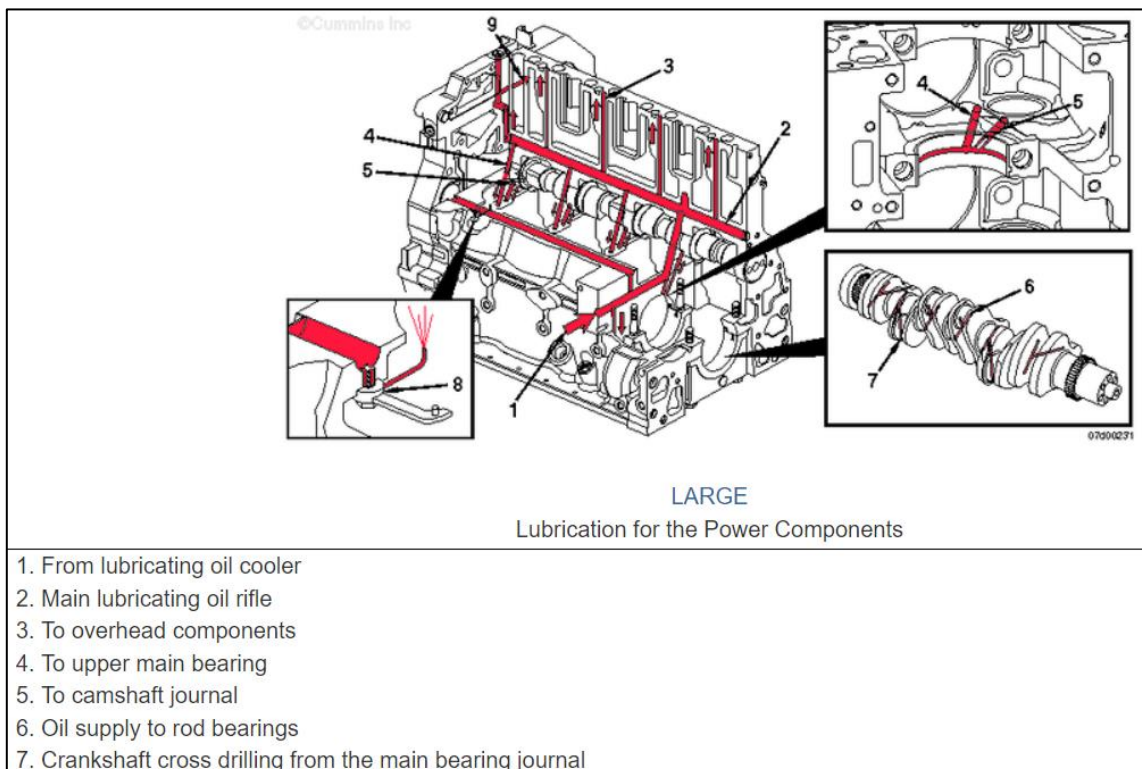
1. Alternator mounting
2. Coolant outlet connection/Thermostat housing
3. Fan hub
4. Exhaust gas recirculation (EGR) connection tube
5. EGR valve
6. Oil pressure switch
7. Engine speed/position sensor (camshaft)
8. Engine speed/position sensor (crankshaft)
9. Vibration damper (viscous)
10. Front gear cover

### Section F: Familiarisation

Use it get information about engine systems (eg. Lubrication) and to find Flow Diagrams. Very important for troubleshooting.

#### Section F - Familiarization ▾

- (257-000-999) Complete Engine - Overview
- (257-001-999) Cylinder Block - Overview
- (257-002-999) Cylinder Head - Overview
- (257-003-999) Rocker Levers - Overview
- (257-004-999) Cam Followers/Tappets - Overview
- (257-005-999) Fuel System - Overview
- (257-200-001) **Flow Diagram, Fuel System**
- (257-006-999) Injectors and Fuel Lines - Overview
- (257-007-999) Lubricating Oil System - Overview
- (257-200-002) **Flow Diagram, Lubricating Oil System**
- (257-008-999) Cooling System - Overview



### Section TS: Troubleshooting Symptoms

Troubleshooting guides for Symptoms (eg. external leakage, noise etc.). Usually the symptoms are not associated with active fault codes.

#### Section TS - Troubleshooting Symptoms -

- (99-t00-001-tr) Troubleshooting Procedures and Techniques
- (99-t00-002) Troubleshooting Symptoms Overview
- (257-t00-004) Troubleshooting Overview
- (4332778-t004-tr) Air Compressor Air Pressure Rises Slowly
- (4332778-t005-tr) Air Compressor Cycles Frequently
- (4332778-t006-tr) Air Compressor Noise is Excessive
- (4332778-t007-tr) Air Compressor Pumping Excess Lubricating Oil into the Air System
- (4332778-t008-tr) Air Compressor Will Not Maintain Adequate Air Pressure (Not Pumping Continuously)
- (4332778-t009-tr) Air Compressor Will Not Pump Air

### Section TT: Troubleshooting Symptoms (new Format)

This section could contain significantly less information than the previous section (TS). The troubleshooting follows the new formatting, of “Yes” or “No” questions.

### Section DS: Engine Disassembly

Quick Step-by-Step guide to perform a complete engine disassembly. Focuses only on removing parts in a sequence. No description on how to inspect the components.

#### Section DS - Engine Disassembly - Group 00 -

- (257-016-002-shopds) Engine Support Bracket, Front
- (257-016-003-shopds) Engine Support Bracket, Rear
- (257-008-002-shopds) Drive Belt, Cooling Fan
- (257-008-039-shopds) Fan Spacer and Pulley
- (257-008-026-shopds) Fan Clutch, Electric
- (257-008-036-shopds) Fan Hub, Belt Driven
- (257-008-087-shopds) Cooling Fan Belt Tensioner

## Section AS: Engine Assembly

Quick Step-by-Step guide to perform a complete engine assembly. Focuses on installing parts in a sequence. Tightening Torque settings, tightening sequence and tolerance specifications (eg. thrust bearing clearance).

### Section AS - Engine Assembly - Group 00 ▾

- [\(257-001-010-shopas\) Camshaft Bushings](#)
- [\(257-001-016-shopas\) Crankshaft](#)
- [\(257-001-054-shopas\) Piston and Connecting Rod Assembly](#)
- [\(257-001-046-shopas\) Piston Cooling Nozzle](#)
- [\(257-001-034-shopas\) Gear Housing, Rear](#)
- [\(257-004-015-shopas\) Tappet](#)
- [\(257-001-008-shopas\) Camshaft](#)
- [\(257-001-012-shopas\) Camshaft Gear \(Camshaft Installed\)](#)

## Numbered Sections: Section 0, 1, 2...

**This section is all you will ever need to repair any Cummins engine.** Each section refers to a part of the engine, or system. Use it to see a complete guide on how to:

- Prepare to remove a part
- Disassemble a part
- Clean and inspect for reuse
- Install a part
- Tightening torques
- Tolerances
- Finishing steps after the repair



- Section 0 - Product - Group 00 ▾
- Section 1 - Cylinder Block - Group 01 ▾
- Section 2 - Cylinder Head - Group 02 ▾
- Section 3 - Rocker Levers - Group 03 ▾
- Section 4 - Cam Followers/Tappets - Group 04 ▾
- Section 5 - Fuel System - Group 05 ▾
- Section 6 - Injectors and Fuel Lines - Group 06 ▾
- Section 7 - Lubricating Oil System - Group 07 ▾
- Section 8 - Cooling System - Group 08 ▾
- Section 9 - Drive Units - Group 09 ▾
- Section 10 - Air Intake System - Group 10 ▾
- Section 11 - Exhaust System - Group 11 ▾

**Tip! The first Link of each numbered section is called “Service Tools”. Use it to see the relevant special tools for this part/system of the engine.**

Section 0 - Product - Group 00 ▾

Section 1 - Cylinder Block - Group 01 ▾


Section 2 - Cylinder Head - Group 02 ▾

**Section 3 - Rocker Levers - Group 03 ▾**

- (257-022-001\_03) Service Tools**
- (257-003-001-tr) Crankcase Breather (External)
- (257-003-002-tr) Crankcase Breather (Internal)
- (257-003-004-tr) Overhead Set

Rocker Levers

Tool Number	
3822566	<b>Blowby Tool - 0.302 inch Orifice</b>  Used to measure the engine crankcase blowby. Use with manometer, Part Number ST 1111-3



©Cummins Inc

## Section L: Service Literature

This section contains information on how to purchase additional service literature for the engine.

### Section L - Service Literature ▾

- (257-205-001) Additional Service Literature
- (99-205-002) Service Literature Ordering Location
- (99-205-004) Cummins Customized Parts Catalog



### Section V: Specifications

Always the last section of every Service manual. Contains the specifications of each system (eg. Oil pressure). **Important for troubleshooting.**

Section V - Specifications ▾

- (257-018-015) General Engine
- (257-018-016-tr) Fuel System
- **(257-018-017) Lubricating Oil System**
- (257-018-018) Cooling System
- (257-018-019) Air Intake System
- (257-018-020) Exhaust System
- (257-018-021) Electrical System
- (257-018-022) Compressed Air System
- (99-018-026) Diesel Exhaust Fluid

Recommendations and Specifications

Specifications

Oil Pressure

Low Idle (minimum allowed)	69 kPa [10 psi]
At Rated Speed (minimum allowed)	207 kPa [30 psi]
Oil Regulating Valve Opening Pressure Range	448 kPa [65 psi] to
Oil Filter Differential Pressure to Open Bypass	345 kPa [50 psi]

Lubricating Oil Capacity of Standard Engine (Standard Oil Pan)

Pan Only	14.2 liters [15 qt]
Total System	16.7 liters [17.6 qt]
High to Low (on dipstick)	1.9 liters [2 qt]
Lubricating Oil Filter Capacity	0.950 liters [1 qt]

## Using the Owner's Manual

Generic manual which targets Owners. The most important sections are:

### Section 2: Maintenance guidelines

The Maintenance schedule is what you'll need from this section.

<p>Section I - Introduction ▾</p> <p>Section E - Engine and System Identification ▾</p> <p>Section 1 - Operating Instructions ▾</p> <p><b>Section 2 - Maintenance Guidelines ▾</b></p> <ul style="list-style-type: none"> <li>◦ (99-102-999) Maintenance Guidelines - Overview</li> <li>◦ <b>(257-102-002-owner) Maintenance Schedule</b></li> <li>◦ (99-102-001) Maintenance Record Form</li> </ul> <p>Section L - Service Literature ▾</p> <p>Section S - Service Assistance ▾</p> <p>Section V - Maintenance Specifications ▾</p> <p>Section W - Warranty ▾</p>	<p>Lubricating Oil Level - Check</p> <ul style="list-style-type: none"> <li>• Aftertreatment Exhaust Piping - Check</li> <li>• Dust Ejection Valve - Check</li> <li>• Diesel Exhaust Fluid (DEF) Level - Check</li> </ul> <p><b>Maintenance Procedures at 250 Hours or 3 Months</b></p> <ul style="list-style-type: none"> <li>• Charge Air Piping - Check</li> <li>• Charge Air Cooler - Check</li> <li>• Radiator Hoses - Check</li> <li>• Air Intake Piping - Check</li> <li>• Radiator - Check</li> </ul> <p><b>Maintenance Procedures at 500 Hours or 6 Months</b></p> <ul style="list-style-type: none"> <li>• Fuel Filter (Spin-On Type) - Change<sup>6</sup></li> <li>• Lubricating Oil and Filters - Change<sup>1, 7</sup></li> <li>• Engine Coolant Antifreeze - Check<sup>2</sup></li> <li>• Batteries - Check<sup>4</sup></li> <li>• Battery Cables and Connections - Check<sup>4</sup></li> <li>• Radiator Pressure Cap - Inspect for Reuse</li> </ul> <p><b>Maintenance Procedures at 1000 Hours or 1 Year</b></p>
--	--

### Section V: Maintenance Specifications

**Tip! Click on Cummins/Fleetguard Filter specifications to find the part numbers of the engine filters.**

<p><b>Section V - Maintenance Specifications ▾</b></p> <ul style="list-style-type: none"> <li>◦ (257-018-015) General Engine</li> <li>◦ (257-018-017) Lubricating Oil System</li> <li>◦ (257-018-018) Cooling System</li> <li>◦ <b>(257-018-024) Cummins®/Fleetguard® Filter Specifications</b></li> <li>◦ (99-018-026) Diesel Exhaust Fluid Recommendations and Specifications</li> <li>◦ (257-018-002) Fuel Recommendations and Specifications</li> </ul>	<p>substituted, the purchaser <b>must</b> insist on products that the supplier has tested to meet <b>not</b> be responsible for problems caused by non-genuine filters that do <b>not</b> meet Cummins specifications.</p> <p>Filter Part Numbers</p> <table> <tr> <td colspan="2"><b>Lubricating Oil Filter</b></td></tr> <tr> <td>Cummins® Part Number</td><td>3937736</td></tr> <tr> <td>Fleetguard® Part Number</td><td>LF3970</td></tr> <tr> <td colspan="2"><b>Fuel Filter (Primary)</b></td></tr> <tr> <td>Cummins® Part Number</td><td>5303743</td></tr> <tr> <td>Fleetguard® Part Number</td><td>FF63009</td></tr> <tr> <td colspan="2"><b>Fuel Filter (Prefilter with WIF Sensor)<sup>1</sup></b></td></tr> <tr> <td>Cummins® Part Number</td><td>5308722</td></tr> <tr> <td>Fleetguard® Part Number</td><td>FS20038</td></tr> </table> <p>1. The fuel filter (Prefilter with WIF Sensor) could be OEM-supplied.</p>	<b>Lubricating Oil Filter</b>		Cummins® Part Number	3937736	Fleetguard® Part Number	LF3970	<b>Fuel Filter (Primary)</b>		Cummins® Part Number	5303743	Fleetguard® Part Number	FF63009	<b>Fuel Filter (Prefilter with WIF Sensor)<sup>1</sup></b>		Cummins® Part Number	5308722	Fleetguard® Part Number	FS20038
<b>Lubricating Oil Filter</b>																			
Cummins® Part Number	3937736																		
Fleetguard® Part Number	LF3970																		
<b>Fuel Filter (Primary)</b>																			
Cummins® Part Number	5303743																		
Fleetguard® Part Number	FF63009																		
<b>Fuel Filter (Prefilter with WIF Sensor)<sup>1</sup></b>																			
Cummins® Part Number	5308722																		
Fleetguard® Part Number	FS20038																		

## Using the Operation and Maintenance Manuals

Use this manual to find all the Maintenance procedures (eg. how to drain the oil, how to adjust valves, etc.)

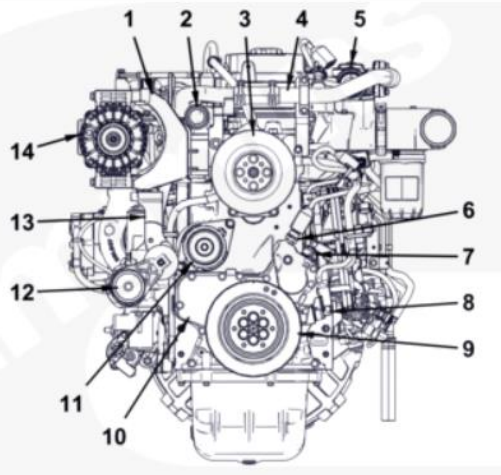
Important sections:

### Engine Diagrams

#### Section E - Engine and System Identification ▾

- (257-100-001) Engine Identification
- (99-100-005) Cummins® Service Engine Model Identification
- (257-100-006) Cummins® Product Technology
- (257-100-002) Engine Diagrams

©Cummins Inc.



LARGE

QSB6.7 CM2350 B105 - Front View

1. Alternator mounting
2. Coolant outlet connection/Thermostat housing
3. Fan hub
4. Exhaust gas recirculation (EGR) connection tube
5. EGR valve
6. Oil pressure switch
7. Engine speed/position sensor (camshaft)
8. Engine speed/position sensor (crankshaft)
9. Vibration damper (viscous)
10. Front gear cover

### Maintenance Schedule

#### Section 2 - Maintenance Guidelines ▾

- (99-102-999) Maintenance Guidelines - Overview
- (257-102-004) Tool Requirements
- **(257-102-002-om) Maintenance Schedule**
- (99-102-001) Maintenance Record Form

### Maintenance procedures

Click on each section to see the procedures to be followed during Maintenance at a specific interval.

**Tip! Check if you are allowed to pre-fill the filters to avoid any future damage!**

<b>Section 5 - Maintenance Procedures at 500 Hours or 6 Months ▾</b> <ul style="list-style-type: none"><li>◦ (99-999-999) Maintenance Procedures - Overview</li><li>◦ <b>(257-006-015-om) Fuel Filter (Spin-On Type)</b></li><li>◦ (257-007-002) Lubricating Oil and Filters</li><li>◦ (99-008-115) Engine Coolant Antifreeze</li><li>◦ (99-013-007) Batteries</li><li>◦ (99-013-009) Battery Cables and Connections</li><li>◦ (257-008-047) Radiator Pressure Cap</li></ul> <b>Section 6 - Maintenance Procedures at 1000 Hours or 1</b>	<p>design, refer to the OEM service manual for fuel system priming information.</p> <h4>Fuel System Priming</h4> <p><b>Note :</b> The priming pump can be an OEM-supplied component and can be designed or installed differently. If a priming pump is <b>not</b> installed or is a different design, refer to the OEM service manual for fuel system priming information.</p> <p>A certain amount of air becomes trapped in the fuel system when fuel system components on the supply and/or high-pressure side are serviced or replaced. Fuel system priming is accomplished using a manual priming pump. For priming procedures, see the Prime step of this procedure.</p> <p><b>Note :</b> It is possible that Fault Code 559 may become active after fuel filter replacement due to air introduced into the system. Be sure to operate the engine until air is purged and use INSITE™ electronic service tool to clear the fault code before releasing the vehicle.</p>
---	--

## Troubleshooting Fault Codes

If you used a diagnostic tool to read Fault Codes, you can find the troubleshooting procedures by typing the code(s) in the relevant fields in the “Fault Code Search” Tab.

Manuals Service Bulletins Dataplate Service Tools **Fault Code Search** Symptom Search

Campaigns TRPs ATCs Related Information Safety

**Engine Fault Code Analyzer** Engine Fault Code Search SPN/FMI To Fault Codes

Enter all active fault codes. Also enter all inactive fault codes with more than one count logged in the last 25 engine hours. [Help](#)

	FAULT CODE	DESCRIPTION
<a href="#">Remove</a>	1. <input type="text"/>	
<a href="#">Remove</a>	2. <input type="text"/>	
<a href="#">Remove</a>	3. <input type="text"/>	
<a href="#">Remove</a>	4. <input type="text"/>	
<a href="#">Remove</a>	5. <input type="text"/>	

Use the “**Fault Code Analyzer**” if you have more than 1 active Fault Codes. Click on “Add more Fault Codes” to add more fields, or “Analyze” to let QSOL to arrange the fault codes according to troubleshooting priority. Really helpful.

If you have one Fault Code, you can simply use the “Engine Fault Code” tab:

**Engine Fault Code Analyzer** **Engine Fault Code Search** SPN/FMI To Fault Codes

**Engine Fault Code Search**

If your diagnostic tool shows only SPN and FMI instead of the Cummins Fault Codes, use the “SPN/FMI To Fault Codes” tab to find the troubleshooting guide.

Engine Fault Code AnalyzerEngine Fault Code SearchSPN/FMI To Fault Codes

Enter an SPN and FMI combination to display the Cummins fault code number and description.

SPN Code: 3610FMI Code: 4Search

Enter a Cummins fault code to display it's description.

Fault Code: Search

Cummins Fault Codes for SPN:3610FMI:4

Fault Code	Lamp Color	Description
3134	Amber	Aftertreatment 1 Diesel Particulate Filter Outlet Pressure Sensor Circuit - Voltage Below Normal or Shorted to Low Source

**Tip!** If you want to learn more about how to use the troubleshooting guides or the Cummins manuals, **consider enrolling on one of my QuickServe Online courses:**

[Cummins QuickServe Online for beginners](#) (hosted on Udemy)

[Cummins QuickServe Online Fundamentals](#) (**Premium course**, hosted on our own Training Platform)

Alternatively, you can navigate to: <https://dieseltraining.net/training-courses>

## Feedback or Suggestions

This short guide was intended to be used as a quick reference to help you navigate yourself in QSOL. If you would like more information, please [check my online courses](#).

If you have any Feedback or Suggestions, you can contact me directly on: [george@dieseltraining.net](mailto:george@dieseltraining.net), or use the [contact form on Dieseltraining.net](#).

Thank you for taking the time to read my guide.

**George Sarimpalidis**  
Technical Trainer, Content Creator,  
Owner of [Dieseltraining.net](http://Dieseltraining.net)

