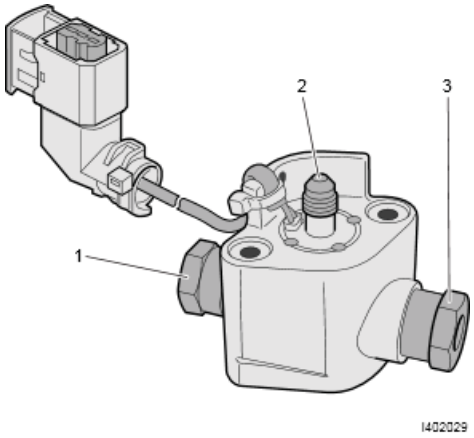
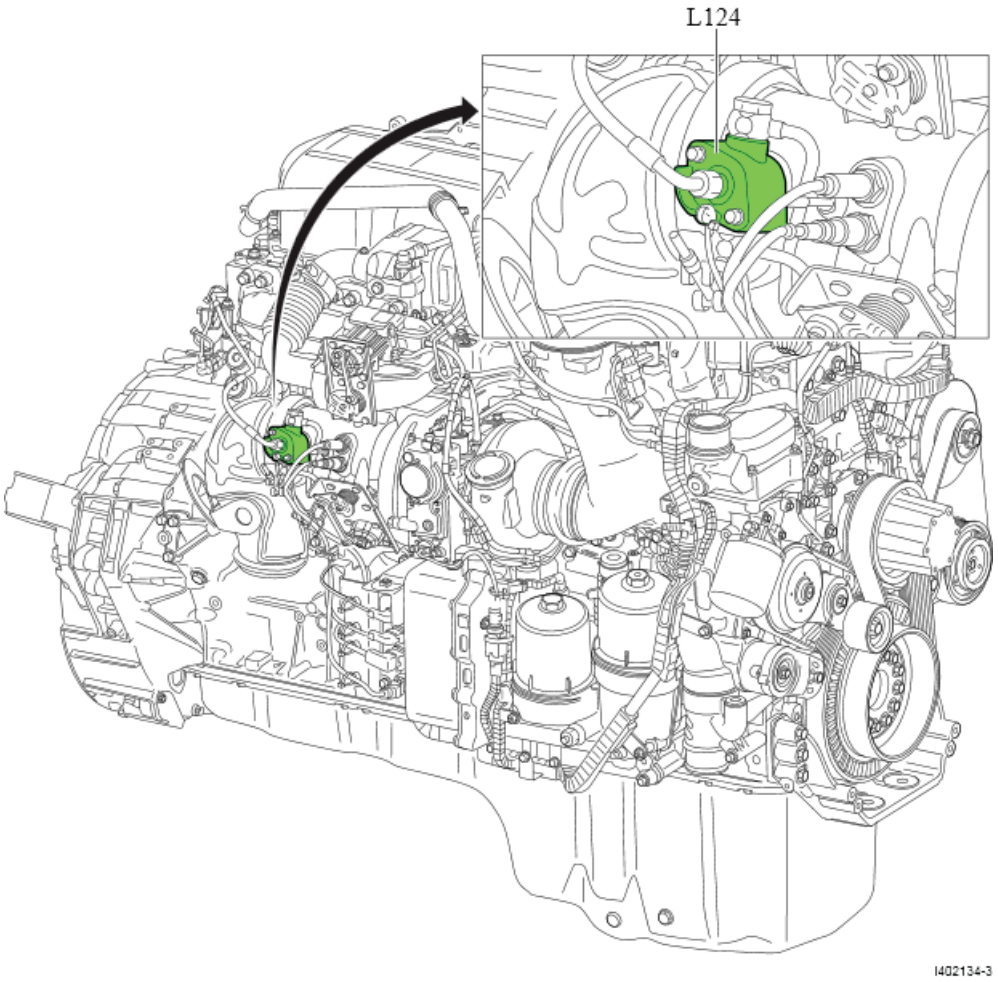
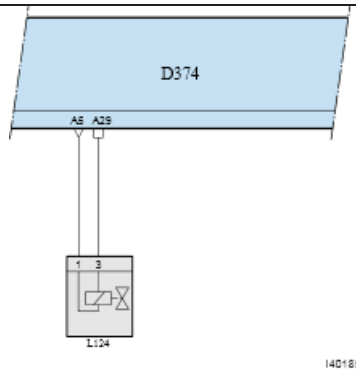
P3833

Code number	P3833
Fault code description	Fuel dosing valve - Current too low or open circuit on ECU (D374) pin (A05) or pin (A29)
Fault code information	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – PM filter
Description of component(s)	**Fuel dosing valve (L124)** During an active or stationary DPF regeneration, the fuel dosing valve doses fuel into the exhaust system befor the diesel oxidation catalyst (DOC). • The fuel dosing valve is actuated by a PWM signal. • The fuel dosing valve is connected to the engine cooling systme to limit the temperature of the nozzle. • Te longer the solenoid is activated, the more fuel is injected.  1 Coolant return 2 Fuel Supply 3 Coolant supply **Effects on the system** • Doses fuel into the exhaust system. • Raises the temperature of the exhaust gas in order to “burn” soot in the DPF. • To raise the temperature of the aftertreatment system during a regeneration.

Location of component(s)	
Diagnostic condition	This diagnostic runs continuously when the ignition is on and the fuel dosing module (L124) is activated.
Set condition of fault code	A short circuit to supply or open circuit is detected for 3 consecutive seconds.
Reset condition of fault code	To validate the repair, perform the DPF regeneration test in DAVIE. Once the temperatures in the aftertreatment systems are warm enough to inject fuel into the exhaust, the diagnostic runs.

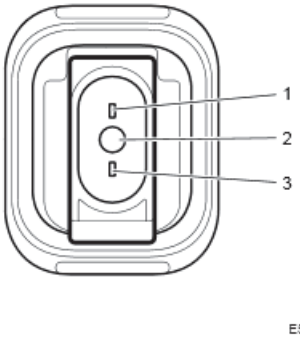
Electrical diagram(s)



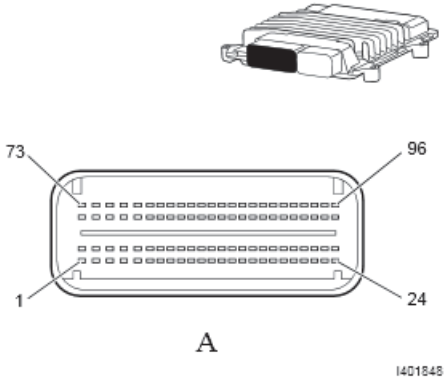
D374 EAS-3 ECU

L124 fuel dosing valve

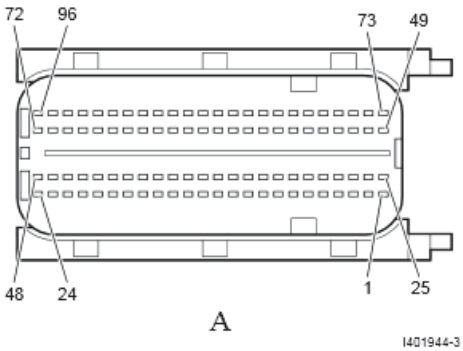
D374	L124	Function
A5	1	Signal, fuel dosing valve
A29	3	Ground, fuel dosing valve



Component connector L124 front view



Component connector D374.A



Wiring harness connector D374.A front view

<table>
<tr><td></td><td>Handle connectors and pins with care and use matching measuring probes.</td></tr>
<tr><td>Technical data</td><td>Component check, fuel dosing valve (L124)

Preparation

• Key off the ignition
• Remove connector L124
• Measure on the fuel dosing valve (L124)

<table>
<tr><th>Pin (+ probe)</th><th>Pin (- probe)</th><th>Value</th><th>Additional information</th></tr>
<tr><td>1</td><td>3</td><td>0.5 – 2.0 Ω</td><td></td></tr>
</table>
</td></tr>
<tr><td>Possible causes</td><td>• A short circuit to supply.
• A short circuit to ground.
• An open circuit.
• Check the electrical connections and wiring of the EAS-3 ECU (D374).
• Perform the 2.7.4 fuel dosing system override test with DAVIE.</td></tr>
<tr><td>Additional information</td><td>• Engine runs in protection mode.
• Active DPF regeneration will be disabled.</td></tr>
<tr><td>Diagnostic Step-by-Step</td><td>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.

▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PMCI are functioning properly.
▪ Disconnecting the PMCI connectors during the troubleshooting process will result in multiple errors.
▪ Specific electrical component information and pin out locations are provided in this procedure as a reference only. Always refer to the technical data sections in Rapido for the most up-to-date changes.
▪ It is necessary to use DAVIE to clear all current trouble codes from the PCI and EAS-3 ECUs, and then run the Quick Check to identify a change in fault status.
▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence provided.</td></tr>
</table>

Step 1. Fuel Dosing Module (L124) Checks

Step 1.A Visual inspection, connectors and connections, fuel dosing module (L124)	
Action 1. Visually inspect the associated component connections and wiring for any of the following: • Damaged or loose connectors • Bent, broken, corroded or loose connector pins • Missing or damaged connector seals • Moisture or dirt in the connections • Connector shell damaged or broken • Damage to wire insulation • Damaged connector locking tab	
Was there evidence of any of the above?	
Yes	**No**
Correct any issues found. Refer to step 3.A to perform the corresponding repair verification cycles and rechecks.	
If this code is still present, go to step 1.B.	**Step 1.B**

Step 1.B Electrical checks, resistance, fuel dosing module (L124)	
 Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.	
Action 1. Confirm the signal to ground resistance as outlined in the corresponding checking data procedure, “component check, fuel dosing valve (L124).	
Is the measured value within the expected range?	
Yes	**No**

	Correct any issues found, or replace the fuel dosing module (L124). Refer to step 3.A to perform the corresponding repair verification cycles and rechecks.
Step 1.C	**If this code is still present, go to step 2.A**

Step 1.C Electrical checks, short-to-ground, fuel dosing module (L124)	
 Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.	
Action 1. Set the ignition switch to OFF. 2. Disconnect the fuel dosing module (L124) connector. 3. Measure the resistance between the fuel dosing module (L124) connector SIGNAL pin and the metal case of the fuel dosing module.	
Is the measured resistance greater than 100kΩ?	
Yes	**No**
	Likely short circuit in the fuel dosing module. Replace the fuel dosing module (L124). Refer to step 3.A to perform the corresponding repair verification cycles and rechecks.
Step 2.A	**If this code is still present, go to step 2.A.**

Step 2. EAS-3 ECU D374 and Harness Checks

Step 2. A Visual inspection, connectors and connections,
Action 1. Visually inspect the associated component connections and wiring for any of

the following:

- Damaged or loose connectors
- Bent, broken, corroded or loose connector pins
- Missing or damaged connector seals
- Moisture or dirt in the connections
- Connector shell damaged or broken
- Damage to wire insulation
- Damaged connector locking tab

Was there evidence of any of the above?

Yes	**No**
Correct any issues found. Refer to Step 3.A to perform the corresponding repair verification cycles and rechecks.	
If this code is still present, go to Step 2.B	**Step 2.B**

Step 2.B Electrical checks, harness open supply circuit, fuel dosing module (L124)

Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.

Action

1. Set the ignition switch to OFF.
2. Disconnect the engine harness A connector from the EAS-3 ECU.
3. Measure the resistance between the A connector fuel dosing module SIGNAL pin and the corresponding SIGNAL pin on the fuel dosing module (L124) harness connector.

Is the measured resistance less than 10Ω?

Yes	**No**
	Possible open condition in the harness. Contact the PACCAR Engine Support Call

	Center for additional assistance in troubleshooting this issue, and for possible repair or replacement of the harness. Refer to Step 3.A to perform the corresponding repair verification cycles and rechecks.
Step 2.C	

Step 2.C Electrical checks, harness open return circuit, fuel dosing module (L124)

Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.

Action

1. Set the ignition switch to OFF.
2. Disconnect the engine harness A connector from the EAS-3 ECU.
3. Measure the resistance between the A connector fuel dosing module GROUND pin and the corresponding GROUND pin on the fuel dosing module (L124) harness connector.

Is the measured resistance less than 10Ω?

Yes	**No**
	Possible open condition in the harness. Contact the PACCAR Engine Support Call Center for additional assistance in troubleshooting this issue, and for possible repair or replacement of the harness. Refer to Step 3.A to perform the corresponding repair verification cycles and rechecks.
Step 2.D	

Step 2.D Electrical checks, harness pin-to-ground short circuit, fuel dosing module (L124)

Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.

Action

1. Set the ignition switch to OFF.
2. Disconnect the engine harness A connector from the EAS-3 ECU.
3. Measure the resistance between the A connector fuel dosing module SIGNAL pin and a corresponding GROUND.

Is the measured resistance greater than 100kΩ?

Yes	**No**
	Possible short condition in the harness. Contact the PACCAR Engine Support Call Center for additional assistance in troubleshooting this issue, and for possible repair or replacement of the harness. Refer to Step 3.A to perform the corresponding repair verification cycles and rechecks.
Step 2.E	

Step 2.E Electrical checks, harness pin-to-pin short circuit, fuel dosing module (L124)

Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.

Action

1. Set the ignition switch to OFF.
2. Disconnect the engine harness A connector from the EAS-3 ECU.
3. Measure the resistance between the A connector fuel dosing module SIGNAL pin and the A connector fuel dosing module GROUND pin.

Is the measured resistance greater than 100 kΩ?	
Yes	**No**
If this code is still present after completing all of the above steps, contact the PACCAR Engine Support Center for additional assistance in troubleshooting this issue.	Possible short condition in the harness. Contact the PACCAR Engine Support Call Center for additional assistance in troubleshooting this issue, and for possible repair or replacement of the harness. Refer to Step 3.A to perform the corresponding repair verification cycles and rechecks.

Step 3. Repair Verification

Step 3.A Repair verification cycles

Perform these repair verification cycles following any corrective actions taken, to enable related OBD monitors to reach a readiness state associated with the trouble code or system being investigated.

Before beginning these repair verification cycles, use the DAVIE Diagnostics, Quick Check function to clear all current DTCs from the PCI and EAS-3 ECUs.

Action

1. DPF & DOC

This test can take up to 45 minutes to an hour to complete.

Start the truck and using cruise control, bump and set the idle to 1,500 rpm. Connect DAVIE, and go to the DFP Regeneration test. Follow the prompts to complete a Stationary Regeneration.

Were the identified repair verification cycles able to be completed?

Yes	**No**
	Investigate and correct any issues

	preventing these repair verification cycles from being completed, then re-run. For additional assistance, contact the PACCAR Engine Support Center.
Go to step 3.B	Go to step 3.B

Step 3.B DAVIE Diagnostics, Quick Check	
Action 1. Use DAVIE Diagnostics to perform a Quick Check for current trouble codes to determine whether the actions taken have cleared this trouble code.	
Has P3833 been cleared?	
Yes	**No**
Problem resolved. No further actions.	Continue with the next step in this troubleshooting procedure. If all steps have been completed and this trouble code is still present, contact the PACCAR Engine Support Center for further assistance.

For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.

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