

# 2013 PACCAR MX-13

## Diagnostic Service Manual

### EPA2013

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(U0101 to U1574)



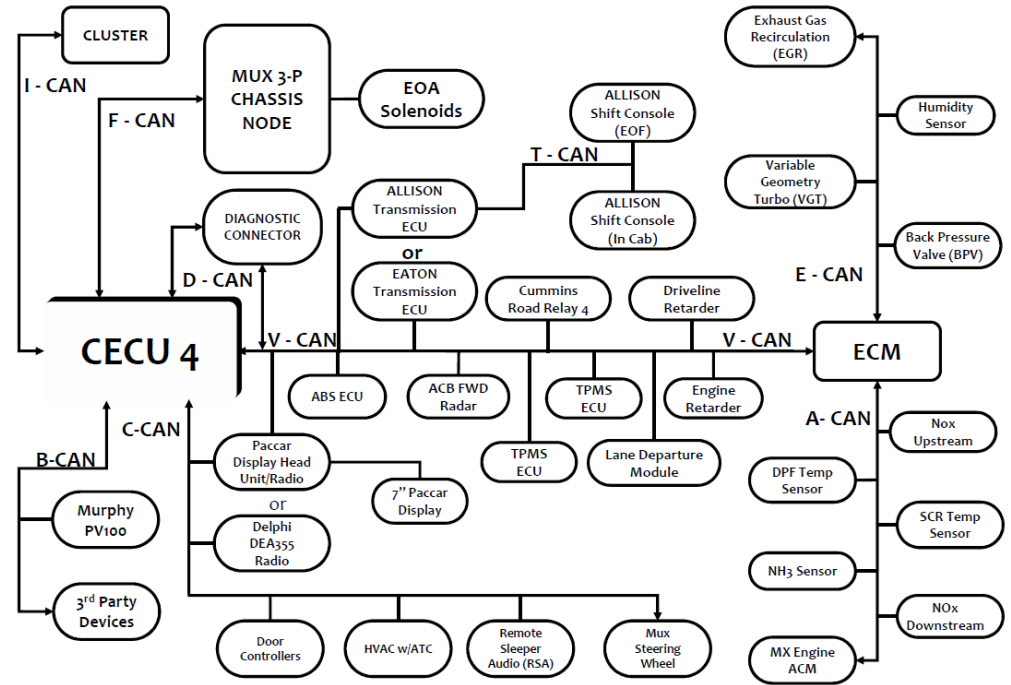
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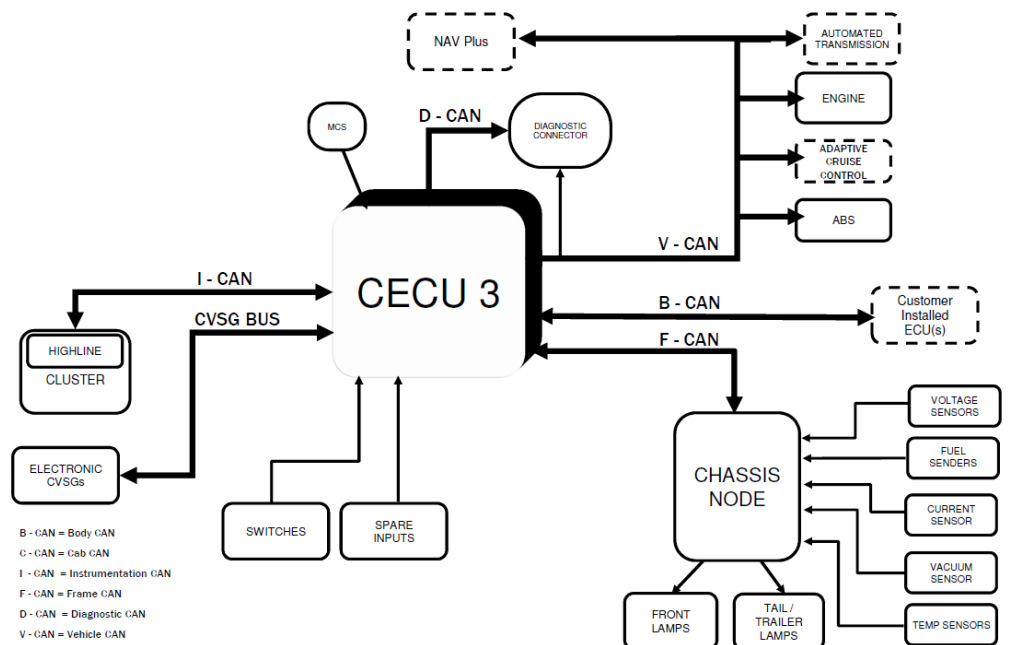
## U0101

<b>Code number</b>	U0101
<b>Fault code description</b>	CAN communication - Message (ETC7) rate too low from transmission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the <b>CECU 3</b> (Central Electronic Control Unit). It is connected to several systems and components:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the <b>DIAGNOSTIC CONNECTOR</b> and <b>MCS</b> (Master Control System).</li> <li><b>Cab CAN:</b> Connects CECU 3 to the <b>Cluster</b> and <b>STEERING WHEEL</b>.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the <b>Cluster</b>.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to <b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups).</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b> are connected to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the <b>CHASSIS NODE</b> and <b>Aftertreatment CAN</b>.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the <b>CHASSIS NODE</b>.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the <b>ENGINE</b> and <b>After-treatment DCU</b>.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the <b>ENGINE</b> and <b>VGT Actuator</b>.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including <b>FRONT LAMPS</b>, <b>TAIL / TRAILER LAMPS</b>, <b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>Engine Components:</b> Includes <b>ENGINE</b>, <b>ADAPTIVE CRUISE CONTROL</b>, <b>ABS</b>, <b>PACCAR Display</b>, and <b>AUTO TRANSMISSION</b>.</li> </ul> <p>Dashed lines labeled <b>FIREWALL</b> indicate communication barriers between the CECU 3 and the CHASSIS NODE, and between the CHASSIS NODE and the Aftertreatment CAN.</p>

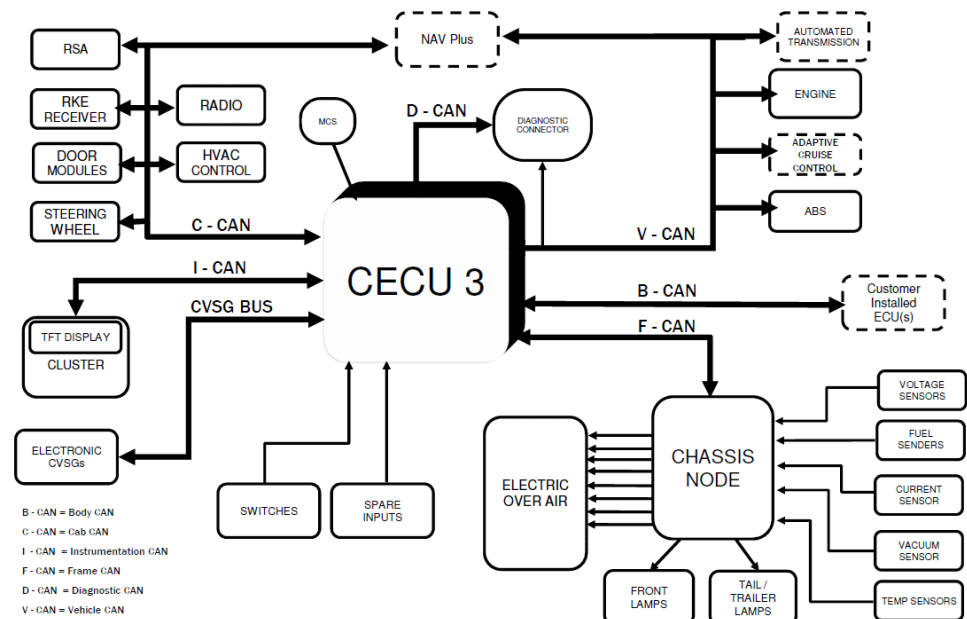
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 0101a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 0101b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 0101c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness .</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>		
	Step 4	Step ID 0101d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251</p>		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

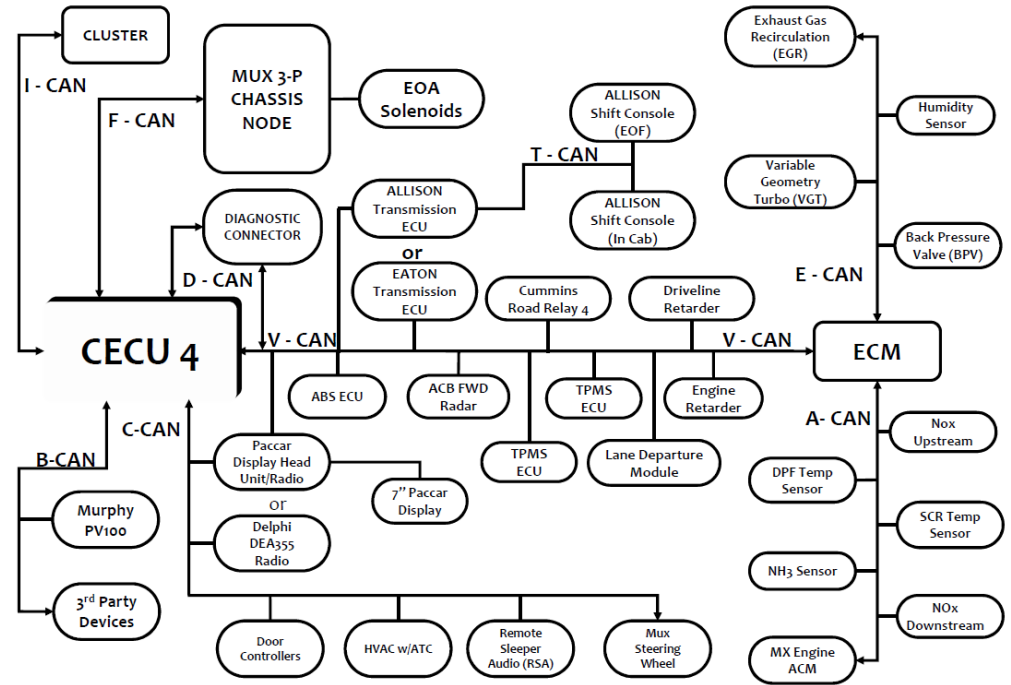
## U0103

<b>Code number</b>	U0103
<b>Fault code description</b>	CAN communication - Message (ETC2) rate too low from transmission system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

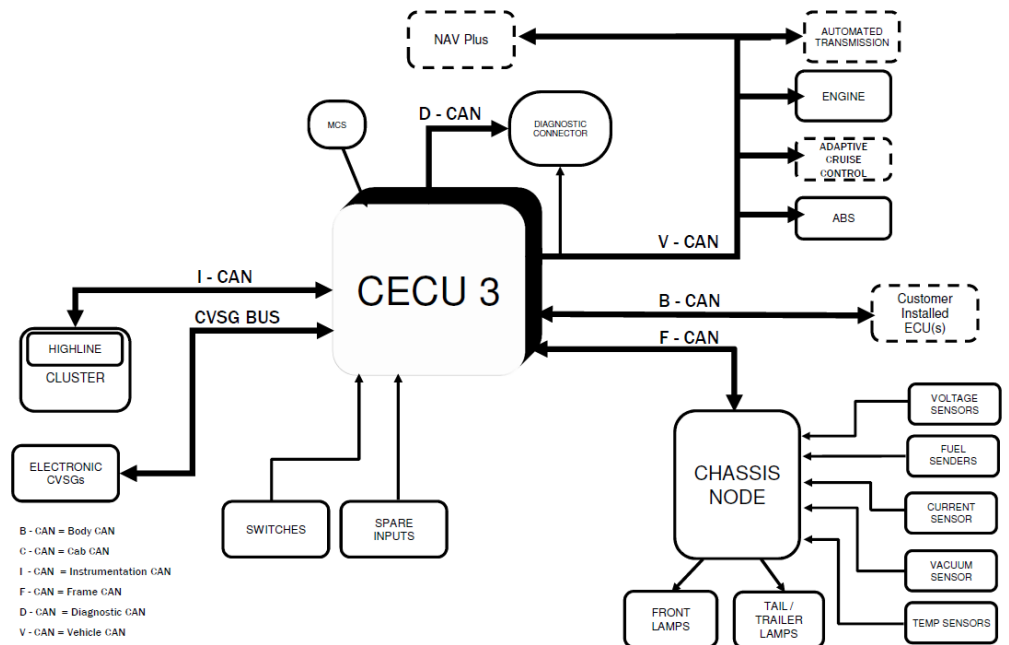
## U0104

<b>Code number</b>	U0104
<b>Fault code description</b>	CAN communication - Message (CCVS) rate too low from vehicle controller
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to various components via different CAN buses and physical connections. On the left, the CECU 3 is connected to the Steering Wheel, MCS (Master Control Switch), Cluster, Instrumentation CAN, CVSG BUS, ELECTRONIC CVSG's, SWITCHES, and SPARE INPUTS. On the right, it connects to the Diagnostic CAN, DIAGNOSTIC CONNECTOR, ABS, PACCAR Display, Vehicle CAN, and a FIREWALL. Below the CECU 3, it connects to the CHASSIS NODE, which in turn connects to FRONT LAMPS and TAIL / TRAILER LAMPS. The CHASSIS NODE also manages a series of sensors: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS. Above the CECU 3, it connects to the Diagnostic CAN, DIAGNOSTIC CONNECTOR, ABS, PACCAR Display, and Vehicle CAN. The Vehicle CAN is connected to the CHASSIS NODE and the FIREWALL. The FIREWALL separates the CECU 3 from the Aftertreatment CAN, which is connected to the ENGINE, ADAPTIVE CRUISE CONTROL, VGT Actuator, and After-treatment DCU. The Aftertreatment CAN is also connected to the CHASSIS NODE.</p>

## NAMUX 4 Architecture (Phase 1): T680

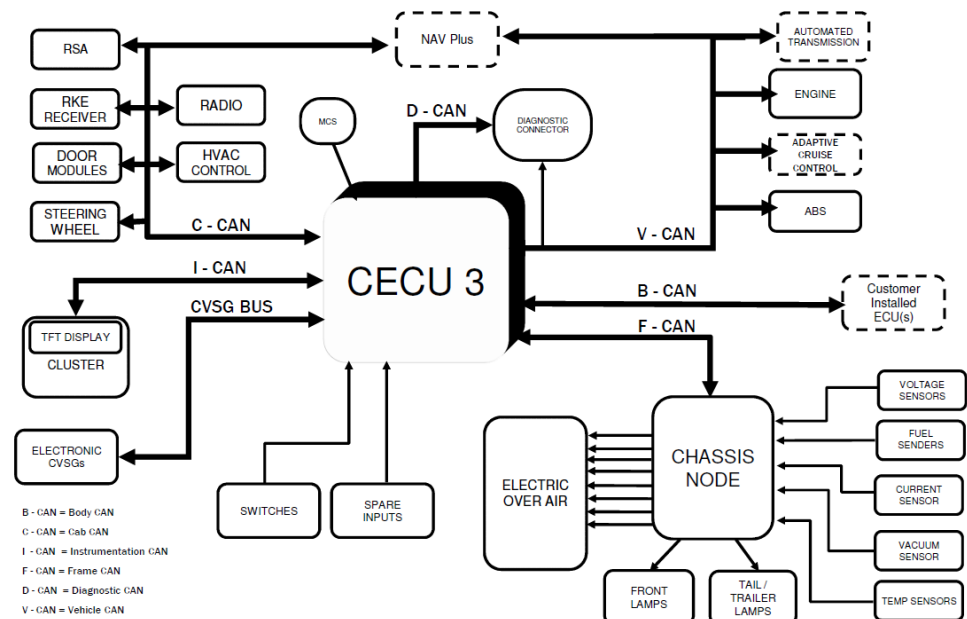


## NAMUX 3 Architecture





## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 0104a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

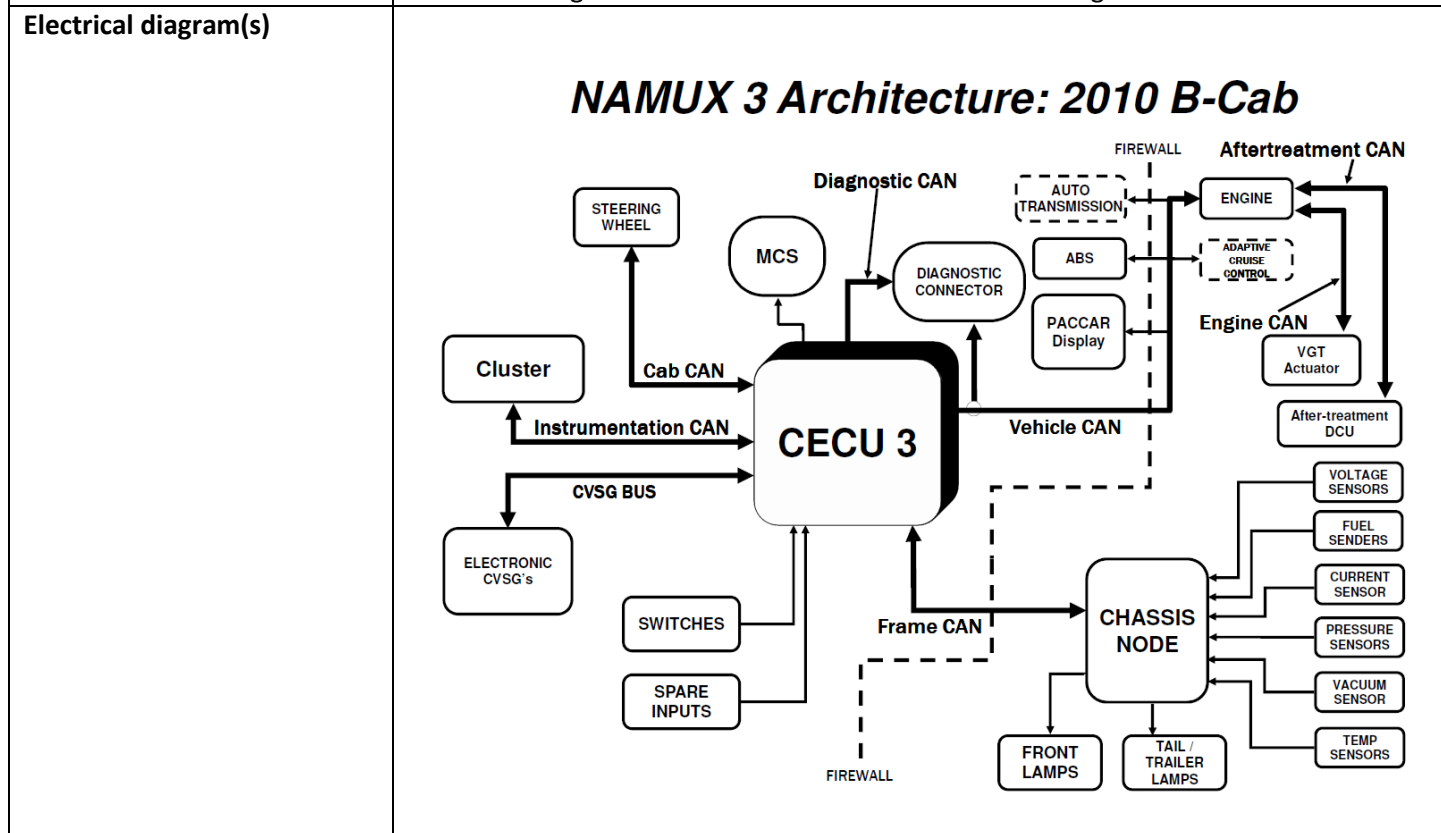
	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 0104b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 0104c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness .</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>		
	Step 4	Step ID 0104d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

## U0105

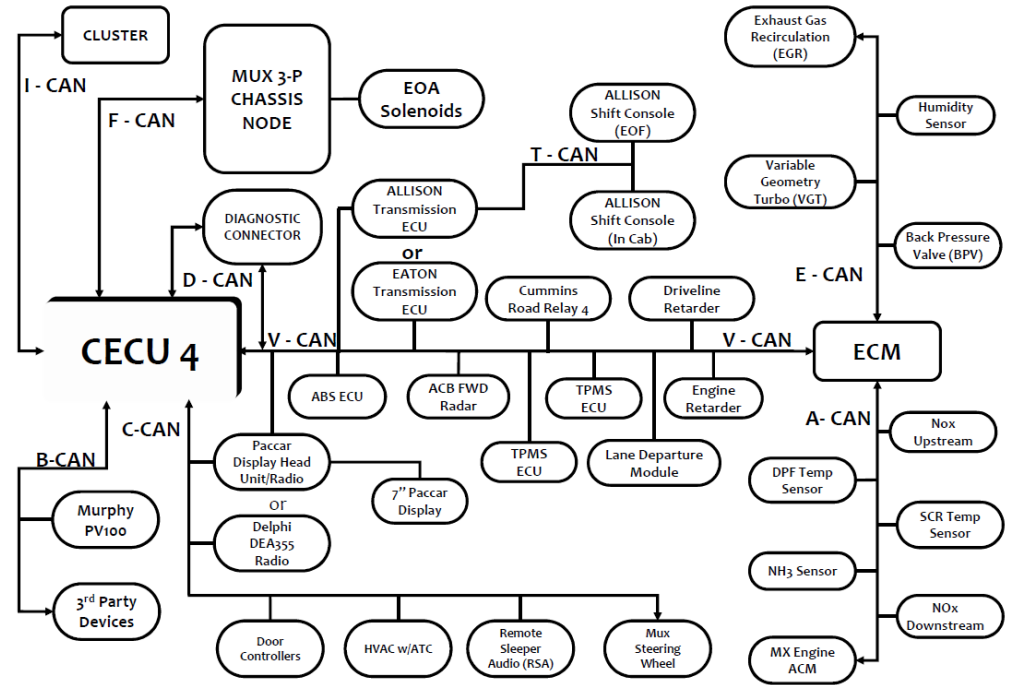
<b>Code number</b>	U0105
<b>Fault code description</b>	CAN communication - Message (TESTRUN_INFO) rate too low from emission system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
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## U0106

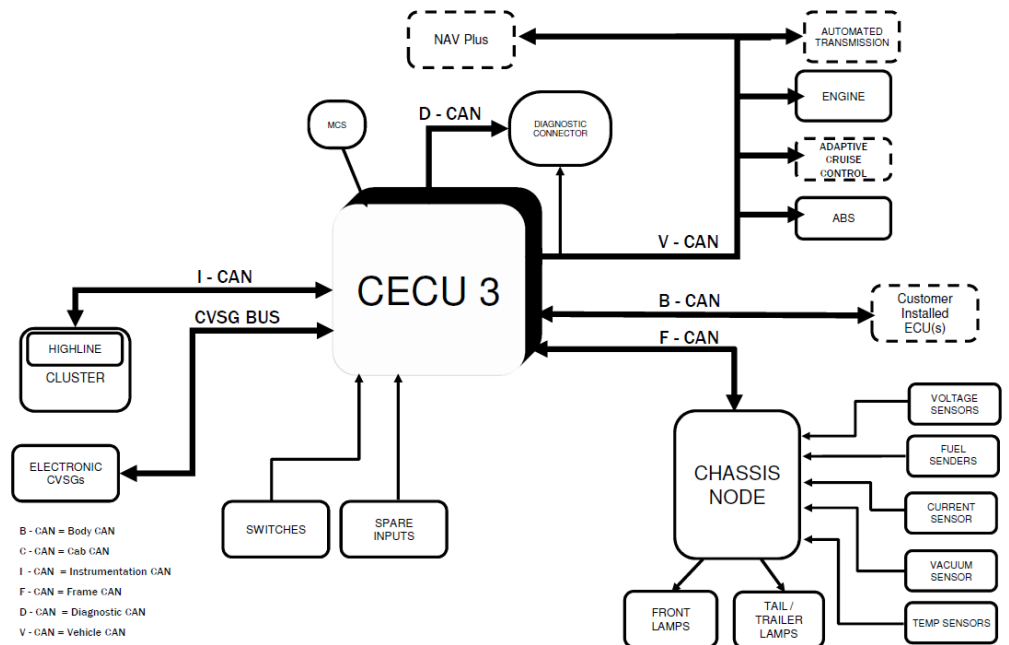
<b>Code number</b>	U0106
<b>Fault code description</b>	CAN communication - Message (CCVS_EBS) rate too low from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.



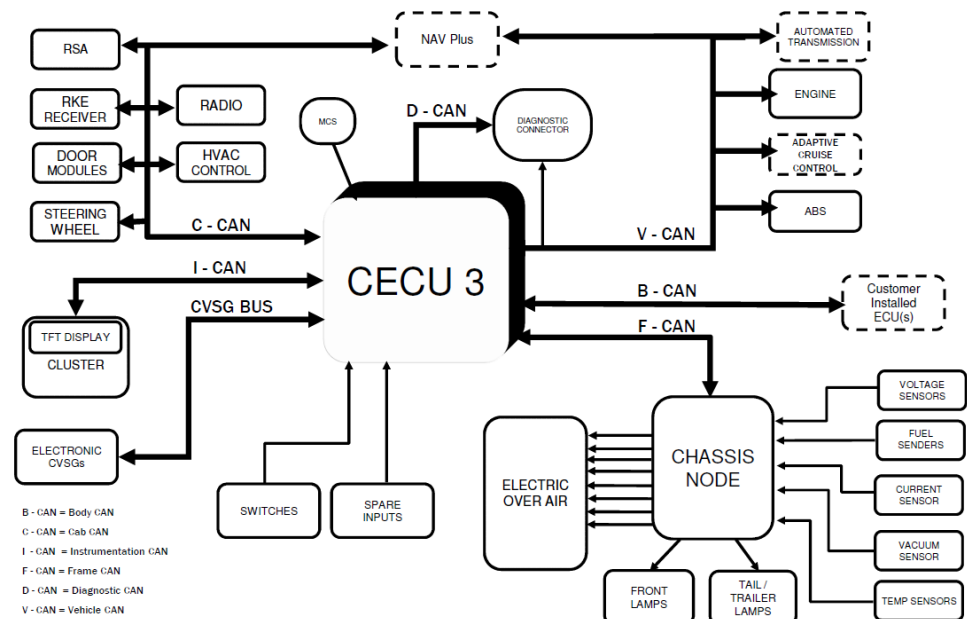
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 0106a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• f this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 0106b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 0106c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness .</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive : Issue resolved. Clear inactive fault</li></ul>		
Step 4	Step ID 0106d	SRT	
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

## U0120

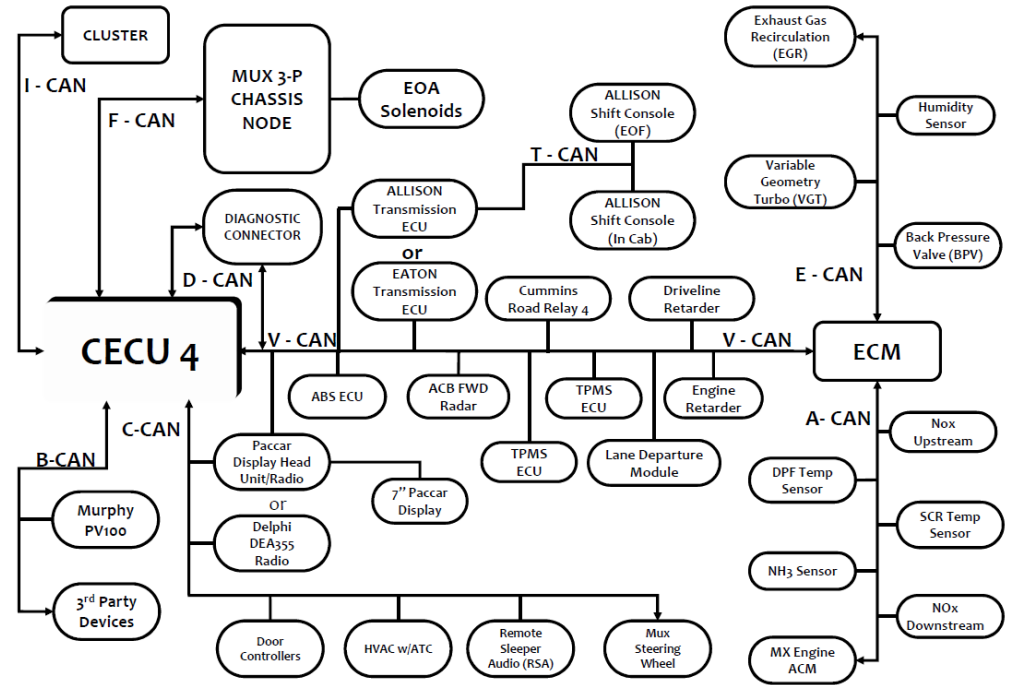
<b>Code number</b>	U0120
<b>Fault code description</b>	CAN communication - Message (ETC7) rate too low from transmission system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>



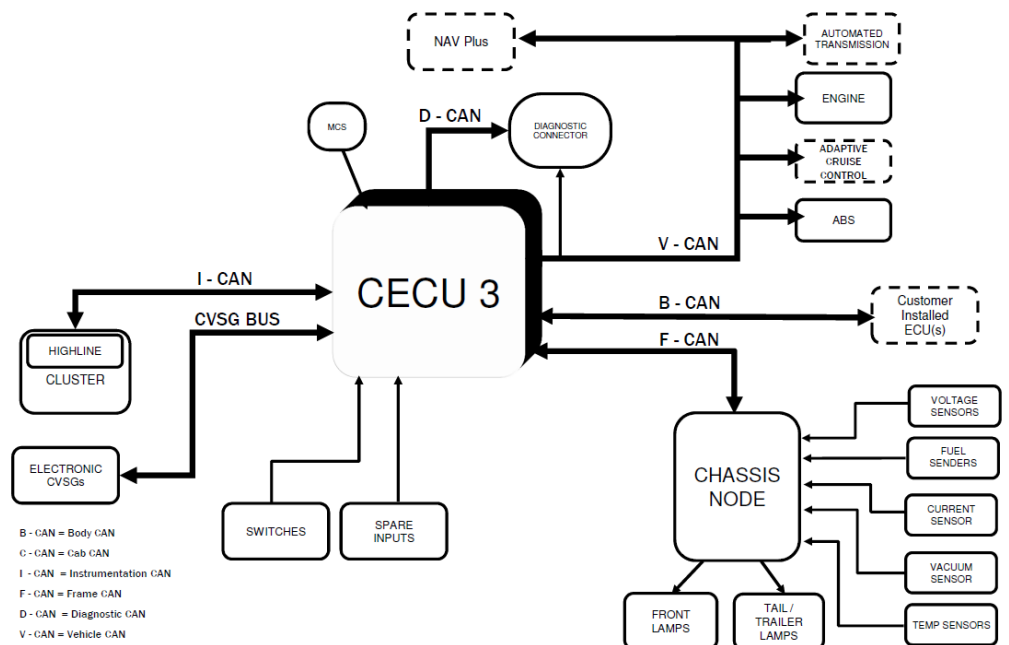
## U0129

<b>Code number</b>	U0129
<b>Fault code description</b>	CAN communication - Message (EBC1) rate too low from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b> and <b>MCS</b> (Master Control Switch) are connected to CECU 3 via <b>Cab CAN</b>.</li> <li><b>Cluster</b> is connected to CECU 3 via <b>Instrumentation CAN</b>.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups) are connected to CECU 3 via <b>CVSG BUS</b>.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b> are connected to CECU 3.</li> <li><b>Diagnostic CAN</b> connects CECU 3 to the <b>DIAGNOSTIC CONNECTOR</b>.</li> <li><b>Vehicle CAN</b> connects CECU 3 to the <b>CHASSIS NODE</b>.</li> <li><b>CHASSIS NODE</b> is connected to <b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> <li><b>Aftertreatment CAN</b> connects CECU 3 to the <b>ENGINE</b> and <b>After-treatment DCU</b>.</li> <li><b>ENGINE</b> is connected to <b>ADAPTIVE CRUISE CONTROL</b> and <b>VGT Actuator</b>.</li> <li><b>CHASSIS NODE</b> is connected to various sensors: <b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>Vehicle CAN</b> also connects to <b>ABS</b> (Anti-lock Braking System) and <b>PACCAR Display</b>.</li> <li><b>Firewalls</b> are indicated between the Cab CAN, Diagnostic CAN, and Vehicle CAN networks.</li> </ul>

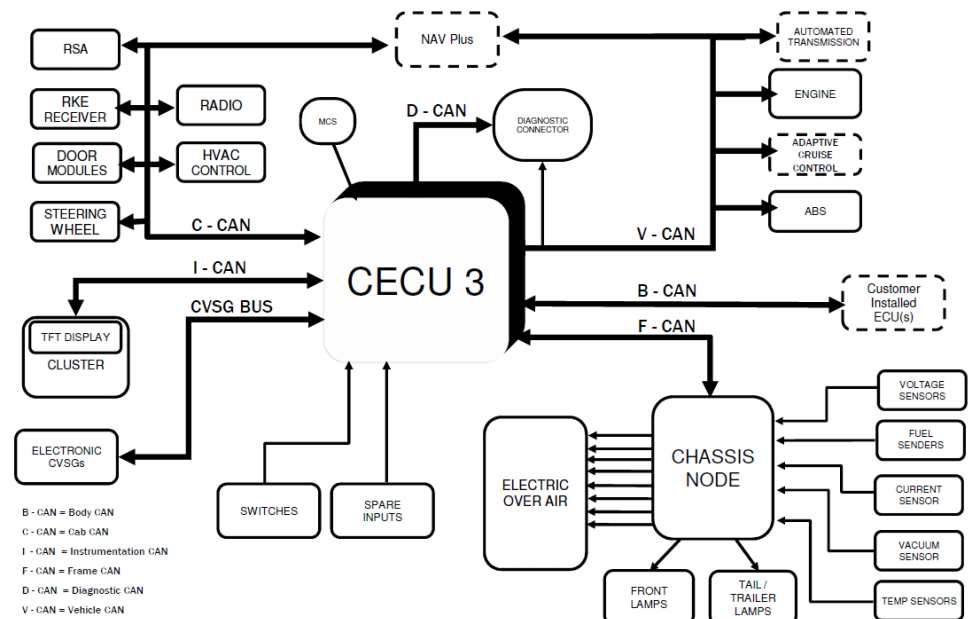
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

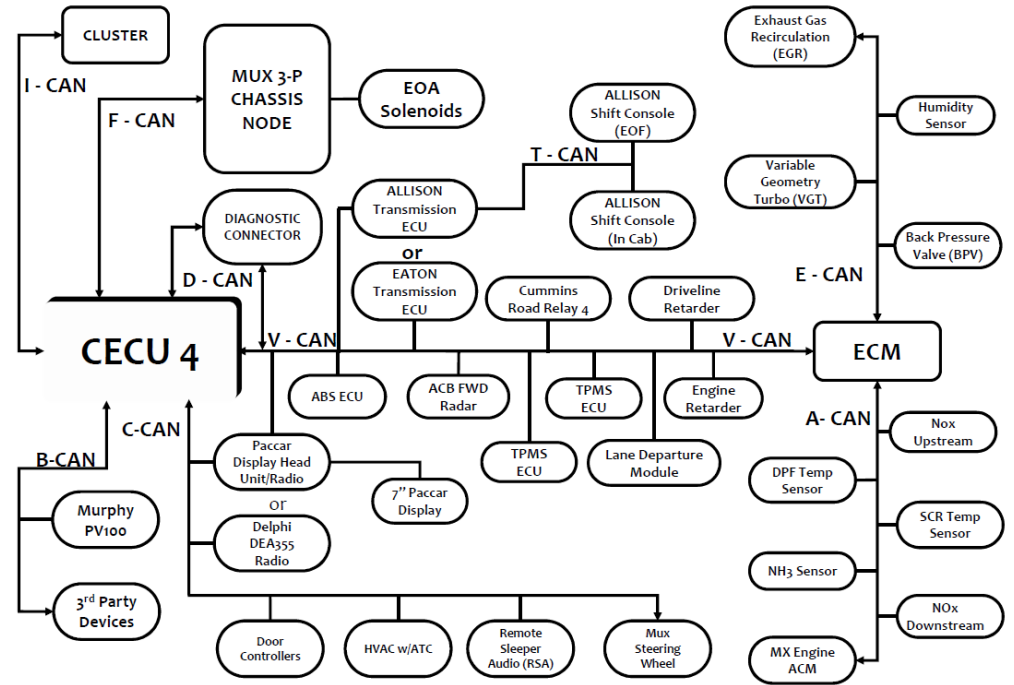
Step 1	Step ID 0129a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>f this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 0129b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 0129c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness .</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive : Issue resolved. Clear inactive fault</li></ul>		
	Step 4	Step ID 0129d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

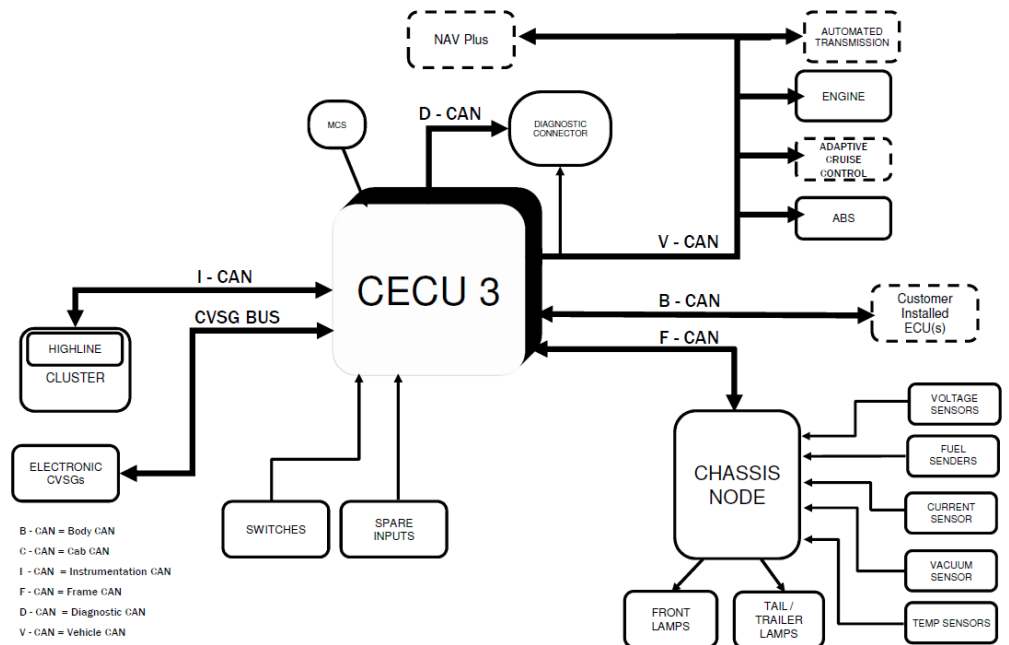
## U0133

<b>Code number</b>	U0133
<b>Fault code description</b>	CAN communication - Message (VDC1) rate too low from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type - Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems and components:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the STEERING WHEEL and the Cluster.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>SWITCHES and SPARE INPUTS:</b> These are connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-Lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator (Variable Geometry Turbine Actuator).</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>CHASSIS NODE:</b> This node is connected to the CECU 3 and manages various chassis-related components:             <ul style="list-style-type: none"> <li><b>FRONT LAMPS and TAIL / TRAILER LAMPS:</b> Connected to the CHASSIS NODE.</li> <li><b>Sensors:</b> VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS are all connected to the CHASSIS NODE.</li> </ul> </li> <li><b>Firewall:</b> Indicated by dashed lines, separating the Diagnostic CAN from the Vehicle CAN and the Engine CAN.</li> </ul>

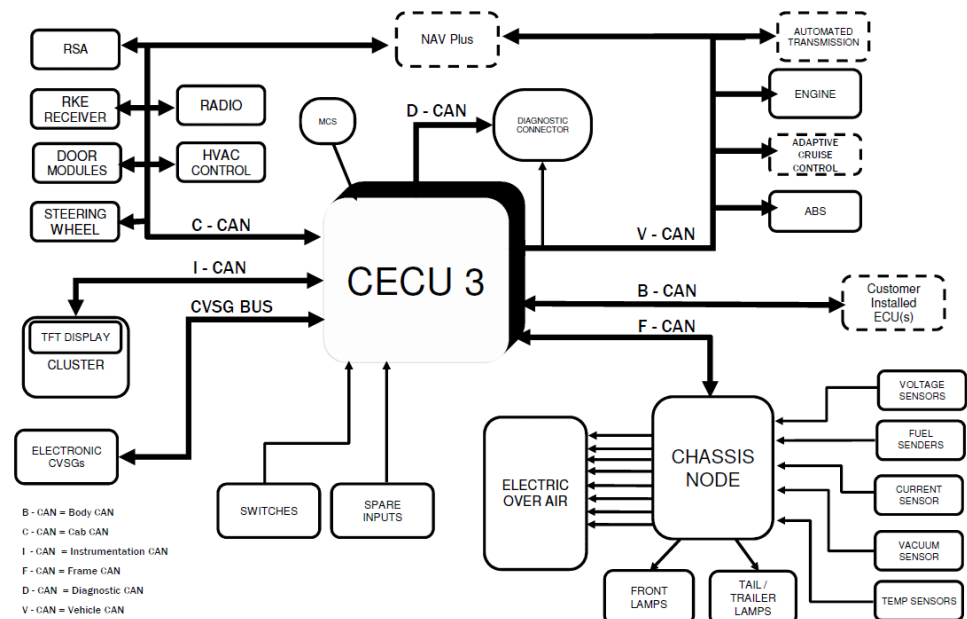
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.


### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step

 Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1

Step ID 0133a

SRT

Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 0133b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 0133b	SRT
	Step 2	Step ID 0133b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 0133c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 0133c	SRT
	Step 3	Step ID 0133c	SRT	
<table><tr><td>Step 4</td><td>Step ID 0133d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 0133d	SRT	
Step 4	Step ID 0133d	SRT		
<p><b>Verification Drive Cycle</b></p>				
	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			



## U0141

<b>Code number</b>	U0141
<b>Fault code description</b>	CAN communication - Message (TCO1) rate too low from tachograph
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U0143

<b>Code number</b>	U0143
<b>Fault code description</b>	CAN communication - Message (EEC2) rate too low
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U0155

<b>Code number</b>	U0155
<b>Fault code description</b>	CAN communication - Message (PROBA_BBM_to_Eng) rate too low from Body Builder Module
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U0156

<b>Code number</b>	U0156
<b>Fault code description</b>	CAN communication - Message (PROP B VIC) rate too low from vehicle controller
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U0157

<b>Code number</b>	U0157
<b>Fault code description</b>	CAN communication - Message (AMB) rate too low from vehicle controller
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U0404

<b>Code number</b>	U0404
<b>Fault code description</b>	CAN communication - Message (ETC2) out of range - selected gear from transmission system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U1011

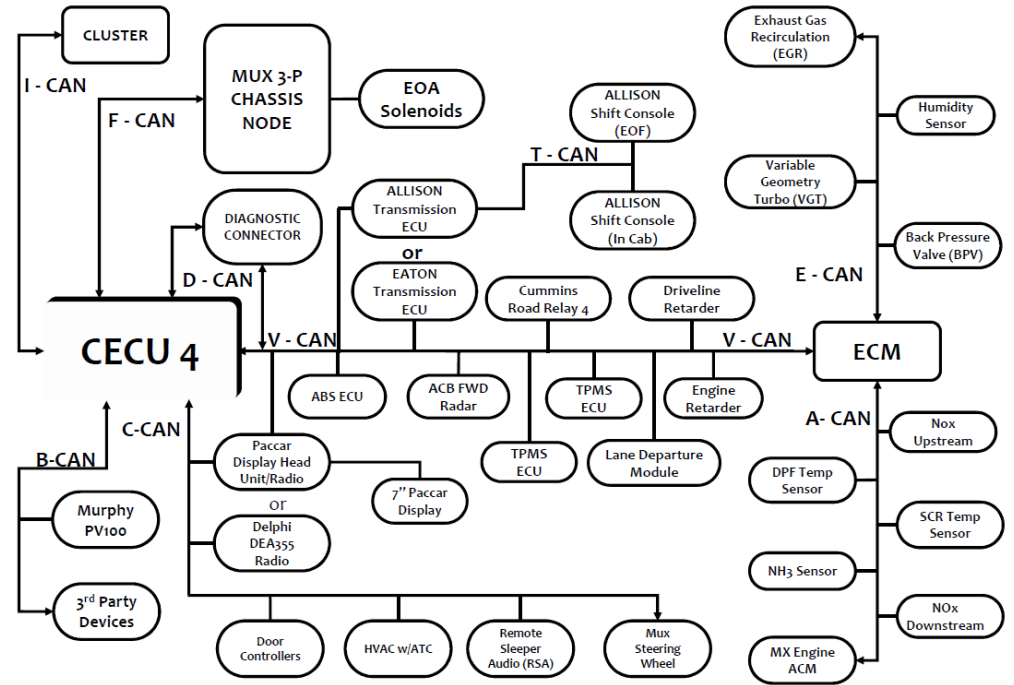
<b>Code number</b>	U1011
<b>Fault code description</b>	CAN communication - Hardware or software malfunction on E-CAN
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

# U1014

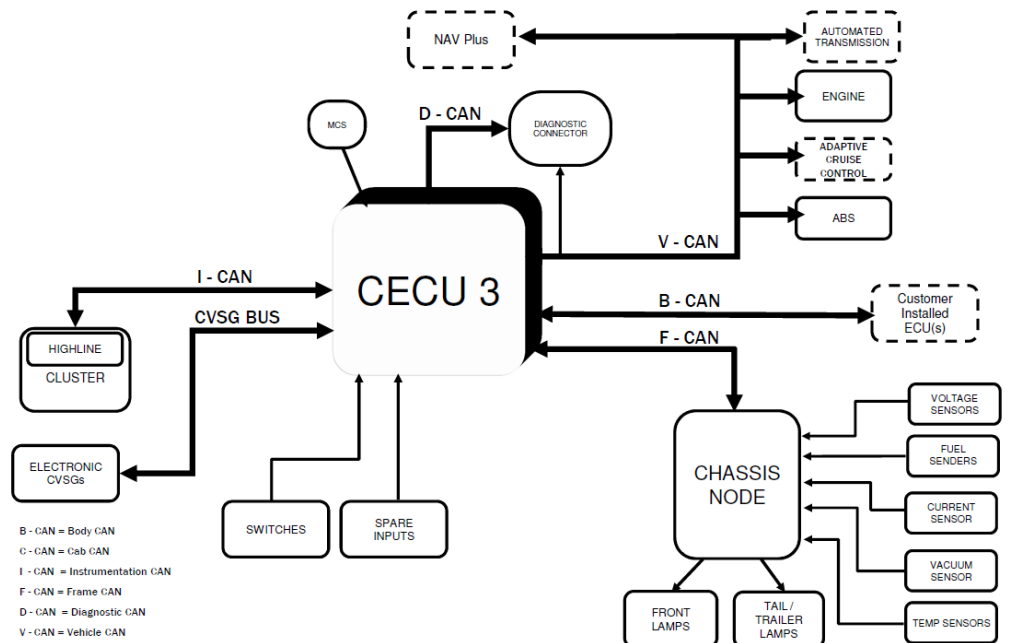
<b>Code number</b>	U1014
<b>Fault code description</b>	CAN communication - Hardware or software fault on V-CAN1.
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Comprehensive
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	Positive acknowledgement after a CAN message is FALSE.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connected to the MCS (Monitoring Control System) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connected to the STEERING WHEEL and the Cluster.</li> <li><b>Instrumentation CAN:</b> Connected to the Cluster.</li> <li><b>CVSG BUS:</b> Connected to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connected to the CECU 3 and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connected to the CECU 3 and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connected to the CECU 3 and the ENGINE.</li> <li><b>Aftertreatment CAN:</b> Connected to the CECU 3 and the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connected to the CECU 3 and the Frame CAN. It controls FRONT LAMPS and TAIL / TRAILER LAMPS.</li> <li><b>Engine and Aftertreatment Components:</b> The ENGINE is connected to the Engine CAN and Aftertreatment CAN. It includes components like AUTO TRANSMISSION, ABS, PACCAR Display, ADAPTIVE CRUISE CONTROL, and VGT Actuator. The After-treatment DCU is connected to the Aftertreatment CAN.</li> <li><b>Sensors:</b> Various sensors are connected to the CHASSIS NODE, including VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN/Aftertreatment CAN.</p>



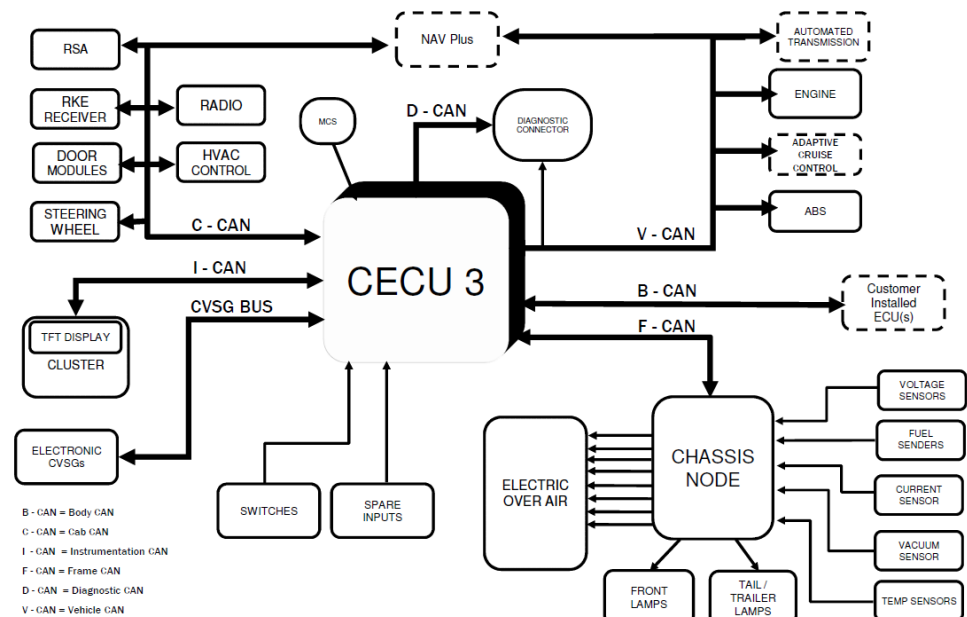
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network.
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring.

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

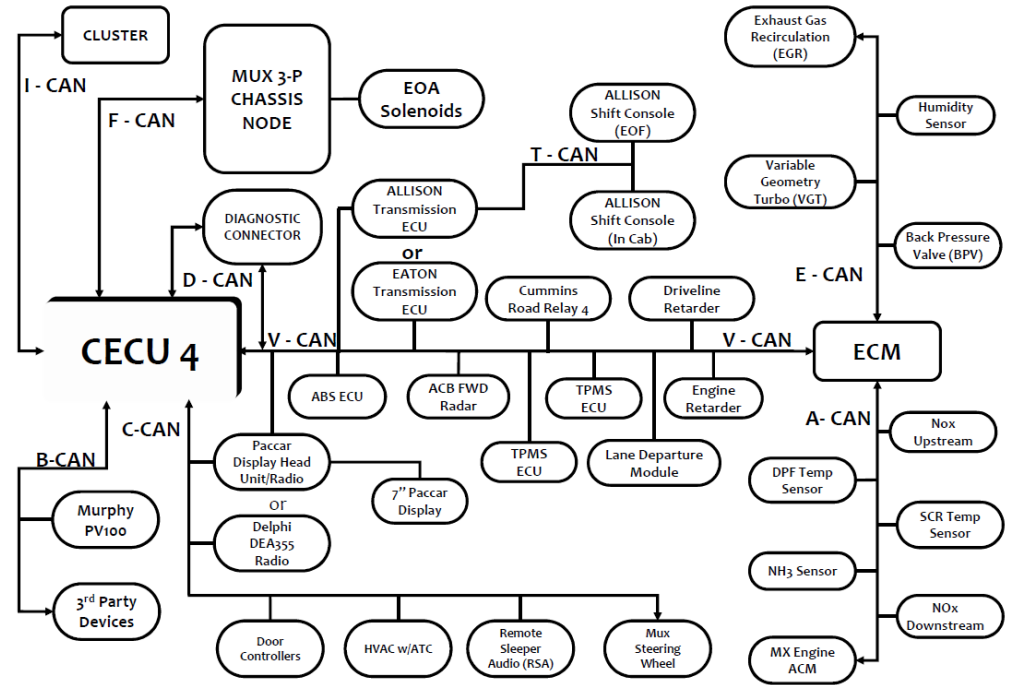
Step 1	Step ID 1014a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above?		

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2.</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1014b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system.</li><li>Perform the checking data test of the specific component.</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3.</li><li>Yes : Proceed to step4.</li></ul>	Step 2	Step ID 1014b	SRT
	Step 2	Step ID 1014b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1014c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector.</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4.</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1014c	SRT
	Step 3	Step ID 1014c	SRT	
<table><tr><td>Step 4</td><td>Step ID 1014d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1014d	SRT	
Step 4	Step ID 1014d	SRT		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

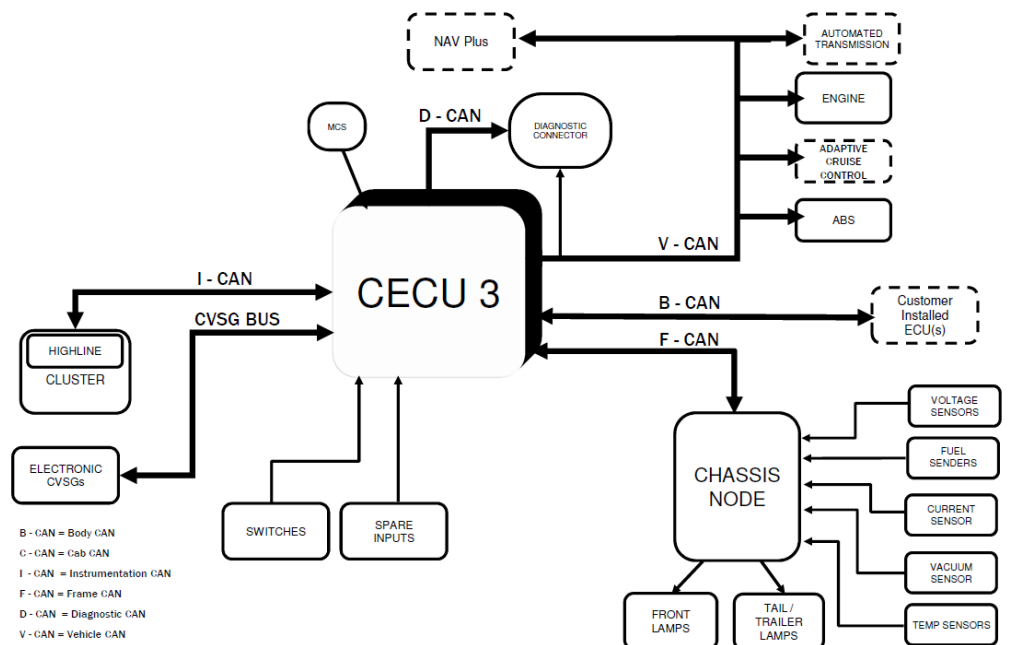
## U1015

<b>Code number</b>	U1015
<b>Fault code description</b>	CAN communication – Hardware or software fault on A-CAN
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Comprehensive
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	Positive acknowledgement after a CAN message is false.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connected to the MCS (Microcontroller System) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connected to the STEERING WHEEL and the Cluster.</li> <li><b>Instrumentation CAN:</b> Connected to the Cluster.</li> <li><b>CVSG BUS:</b> Connected to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connected to the CECU 3 and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connected to the CECU 3 and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connected to the CECU 3 and the ENGINE.</li> <li><b>Aftertreatment CAN:</b> Connected to the CECU 3 and the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connected to the CECU 3 and the Frame CAN. It controls FRONT LAMPS and TAIL / TRAILER LAMPS.</li> <li><b>Sensors:</b> Connected to the CHASSIS NODE include VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>Engine Components:</b> Connected to the Engine CAN include the ENGINE, ADAPTIVE CRUISE CONTROL, VGT Actuator, and After-treatment DCU.</li> <li><b>Other Components:</b> Connected to the Vehicle CAN include ABS and PACCAR Display.</li> <li><b>Firewall:</b> Indicated by dashed lines between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</li> </ul>

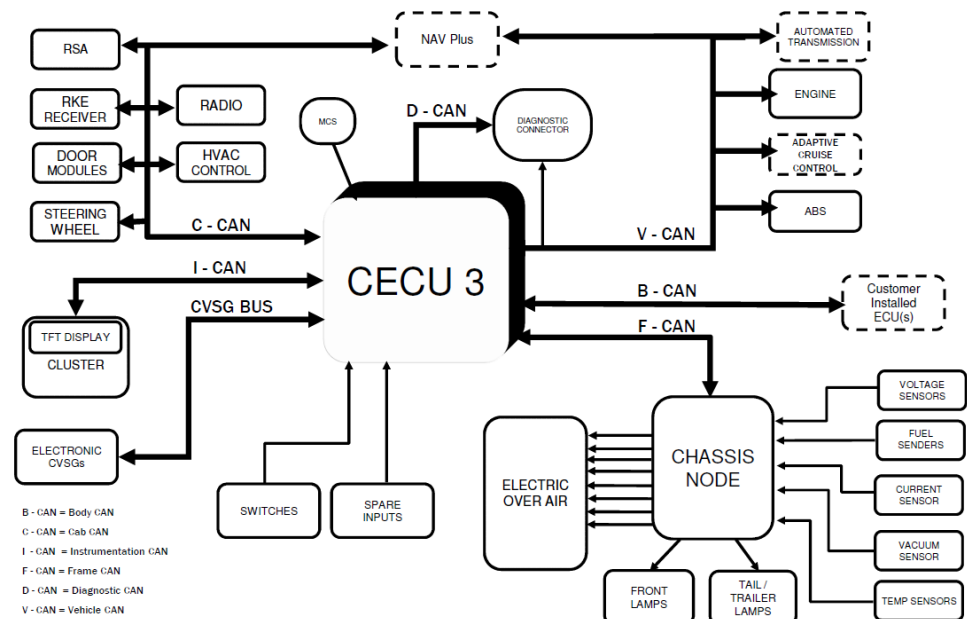
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network.
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring.

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1015a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above?		

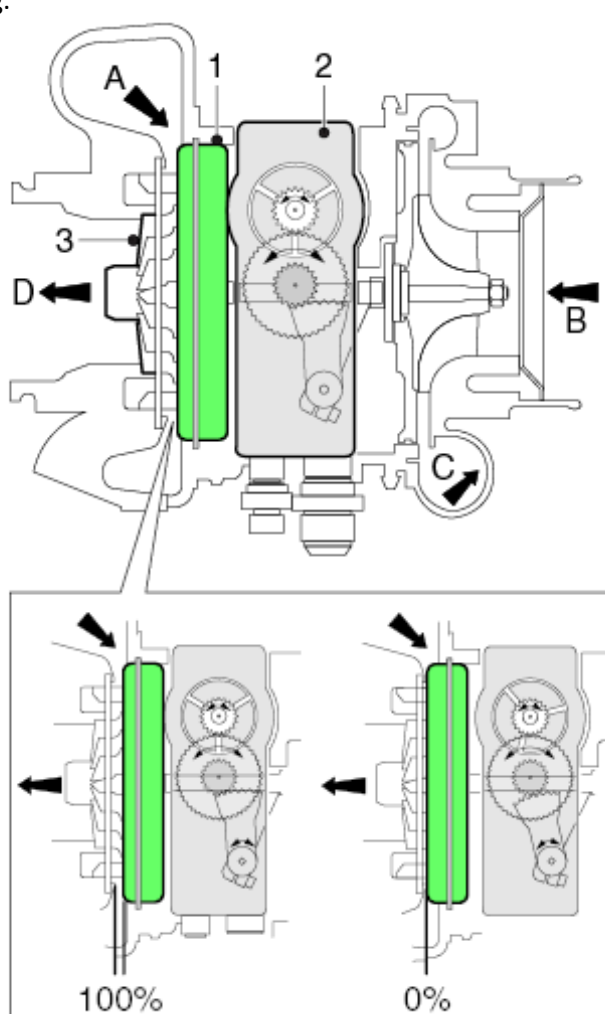
	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2.</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1015b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system.</li><li>Perform the checking data test of the specific component.</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3.</li><li>Yes : Proceed to step 4.</li></ul>	Step 2	Step ID 1015b	SRT
	Step 2	Step ID 1015b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1015c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector.</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4.</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1015c	SRT
	Step 3	Step ID 1015c	SRT	
<table><tr><td>Step 4</td><td>Step ID 1015d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1015d	SRT	
Step 4	Step ID 1015d	SRT		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.			
	<a href="#">Back to Index</a>			

## U1016

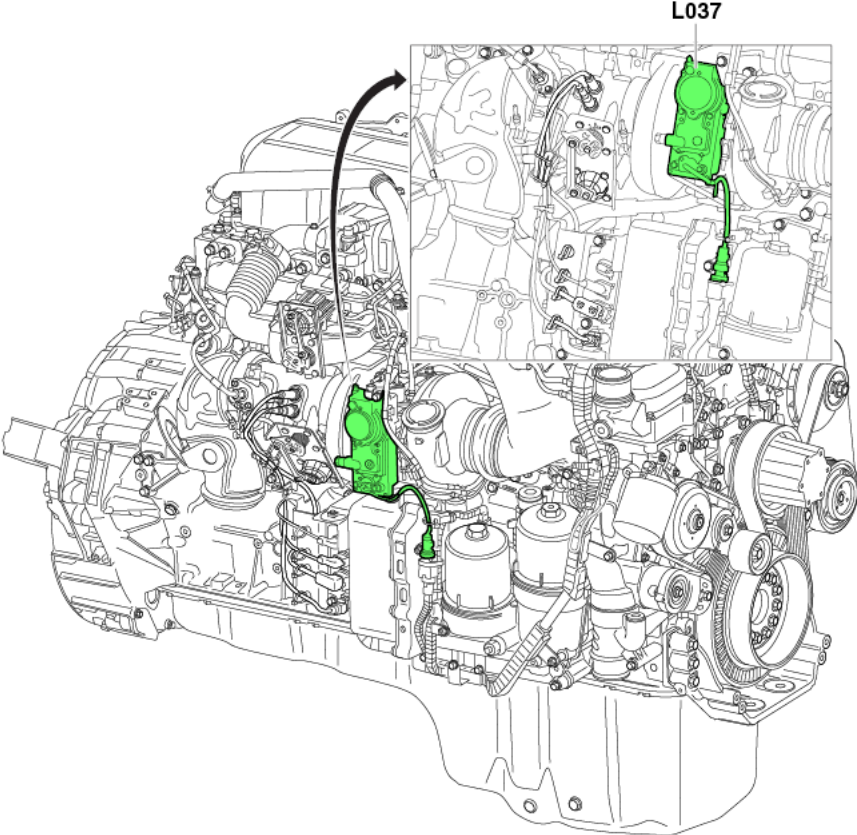
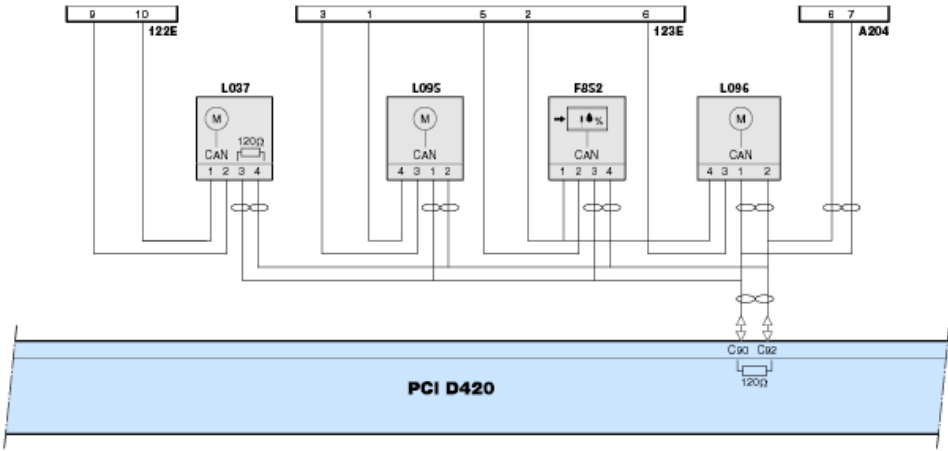
<b>Code number</b>	U1016
<b>Fault code description</b>	CAN communication - Message (A1DOC) rate too low from aftertreatment system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

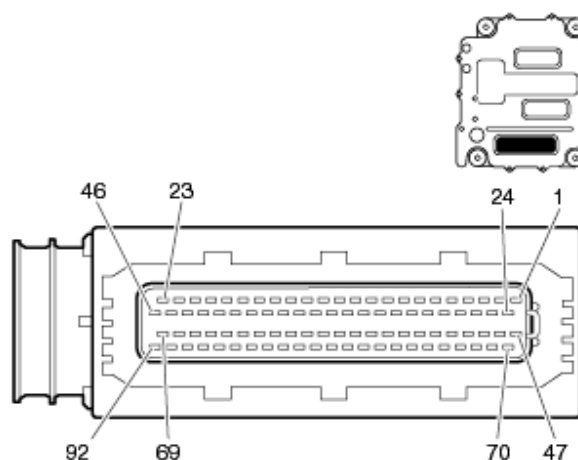


## U104C

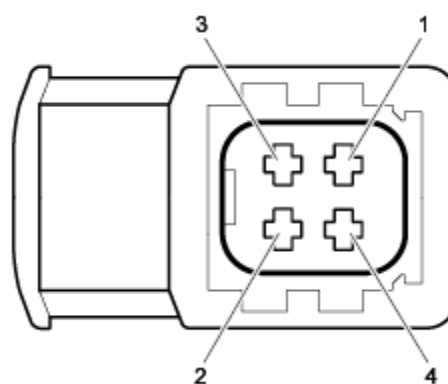
<b>Code number</b>	U104C
<b>Fault code description</b>	VTG turbo charger actuator - CAN communication error
<b>Fault code information</b>	<p>1 trip MIL</p> <p>3 drive cycle recovery</p> <p>Readiness group – None</p> <p>Freeze frame type – Boost</p>
<b>Description of component(s)</b>	<p>The main task of the VTG turbo charger actuator is to control the turbo charger nozzle ring position.</p> <p>The gas flow guidance into the turbine rotor is controlled by the position of the turbo charger nozzle ring.</p>  <p>1 Nozzle ring  2 VTG actuator  3 Turbine rotor  A Exhaust gas flow to turbine rotor  B Inlet air  C Boost air outlet  D Exhaust gas outlet</p> <p>The main components of the VTG turbo charger actuator are:</p>

	<ul style="list-style-type: none"> <li>• ECU</li> <li>• Electromotor The electromotor rotates the output shaft via internal gears.</li> <li>• output shaft The nozzle ring mechanism is moved via a sector gear by rotating the output shaft</li> <li>• output shaft position sensor The position of the actuator output shaft is monitored with an internal sensor and a reference magnet (reference point).</li> <li>• temperature sensor The temperature of the printed circuit board of the ECU is monitored.</li> </ul> <p>Control</p> <p>The VTG turbo charger actuator is a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics on the following actuator inputs and outputs:</p> <ul style="list-style-type: none"> <li>• power supply voltage</li> <li>• electromotor current The effort to move the nozzle ring is monitored.</li> <li>• output shaft position The mechanical end positions of the nozzle ring mechanism are monitored.</li> <li>• ECU printed circuit board temperature</li> <li>• ECU hardware and software</li> </ul> <p>Learn sweep</p> <p>After the ignition is keyed on, a learn sweep is performed by the actuator. During this sweep the VTG turbo charger nozzle ring is fully opened and fully closed to check the mechanical end positions of the nozzle ring mechanism.</p> <p>Unpowered and fail-safe position</p> <p>The unpowered and fail-safe position of the actuator is 80%. If a failure is detected the VTG actuator moves to the fail-safe position, if possible</p> <p>Effect of actuator on the system:</p> <ul style="list-style-type: none"> <li>• controlling the VTG turbo charger</li> <li>• In general, a lower opening percentage results in a higher turbo speed and therefore in a higher boost pressure. The controlled opening percentage also depends on other conditions, such as the required EGR flow (pressure before turbine).</li> <li>• Controlling the pressure before turbine to generate EGR flow and back pressure during engine braking.</li> </ul>
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<b>Location of component(s)</b>	
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The VTG turbo charger actuator (L037) detects that the cyclic CAN command message transmitted by the PCI ECU (D420) is missing.
<b>Reset condition of fault code</b>	This DTC will change to inactive immediately after the diagnostic runs and passes.
<b>Electrical diagram(s)</b>	



Wiring harness connector D420.C front view



Wiring harness connector L037

122E 12-pin interface connector  
 123E 7-pin interface connector  
 A204 electronic fan interface connector  
 D420 PCI ECU  
 F852 humidity sensor  
 L037 VTG turbocharger actuator  
 L095 EGR valve module  
 L096 BPV valve

D420	L037	Function
C90	3	E-CAN high
C92	4	E-CAN low
	1	Power supply after ignition
	2	Ground

#### Technical data

Component check, VTG turbocharger actuator (L037)

Preparation

- Key off the ignition.
- Disconnect connector L037
- Measure on component L037

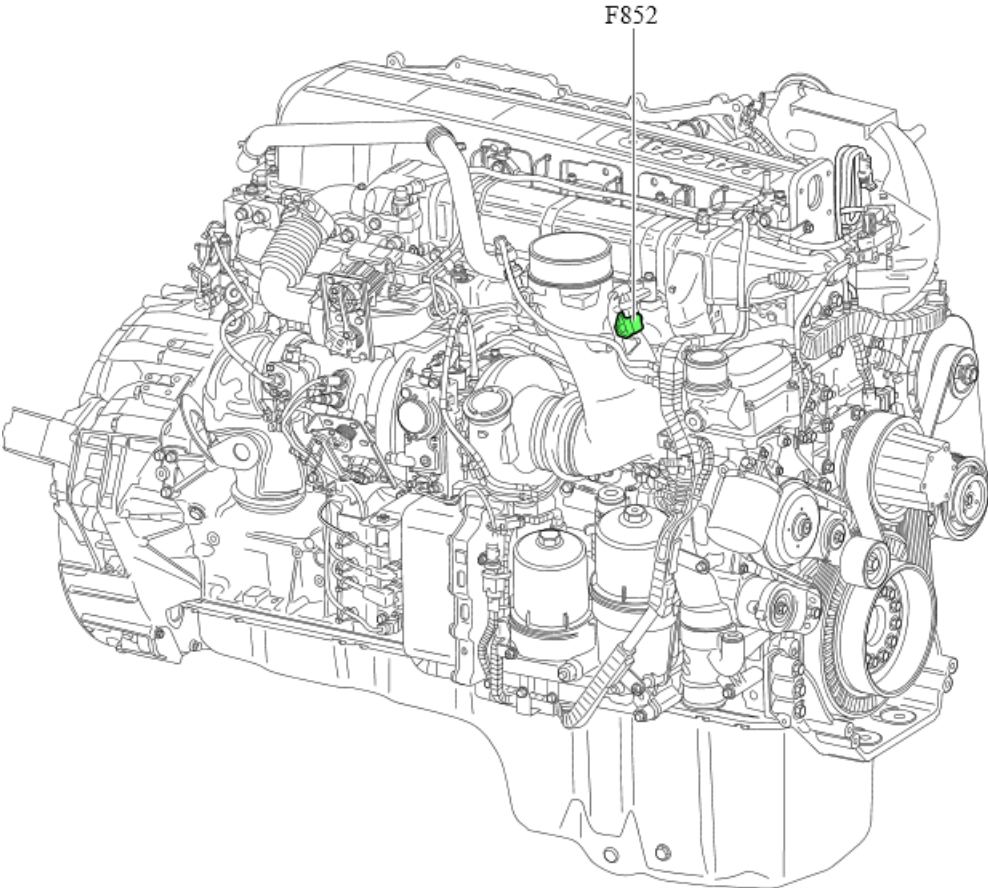
Pin (+ probe)	Pin (- probe)	Value	Additional information
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	<div>34± 120 Ω</div> <div>Wiring check, VTG turbocharger actuator (L037)</div> <div>Preparation</div> <div><div><div><div>• Key off the ignition.</div><div>• Disconnect connector L037</div><div>• Measure on component connector L037</div></div></div><table><tr><th>Pin (+ probe)</th><th>Pin (- probe)</th><th>Value</th><th>Additional information</th></tr><tr><td>1</td><td>2</td><td>Ubat</td><td>Ignition keyed on</td></tr><tr><td>3</td><td>4</td><td>± 120 Ω</td><td>Ignition keyed off Ground cable from the battery disconnected Vehicle Communication Interface (VCI) of DAVIE disconnected</td></tr></table></div>	Pin (+ probe)	Pin (- probe)	Value	Additional information	1	2	Ubat	Ignition keyed on	3	4	± 120 Ω	Ignition keyed off Ground cable from the battery disconnected Vehicle Communication Interface (VCI) of DAVIE disconnected
Pin (+ probe)	Pin (- probe)	Value	Additional information										
1	2	Ubat	Ignition keyed on										
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Possible causes	Bad CAN communication												
Additional information	<div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div><div></div><div></div></div><div><div></div><div></div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div><div></div><div></div></div><div><div></div><div></div></div></div> 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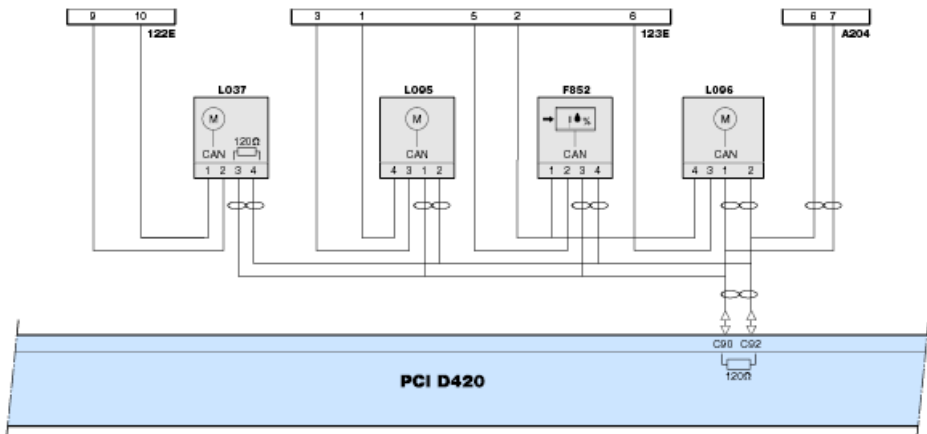
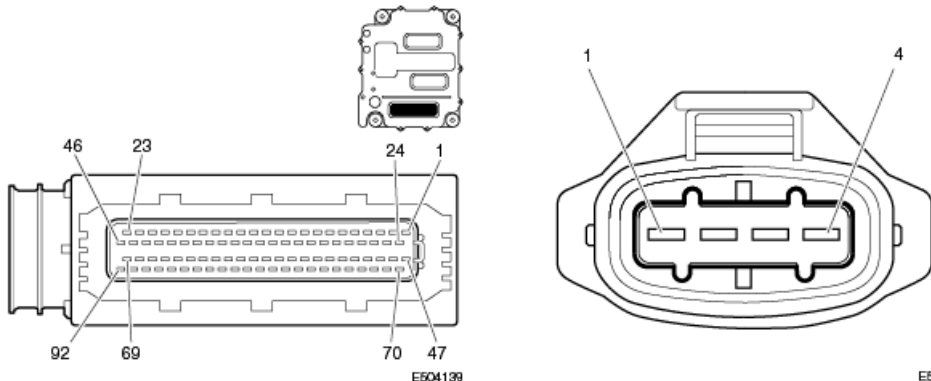
	Data check <ul style="list-style-type: none"> <li>• Lookup the technical data of the specific system.</li> <li>• Perform the checking data test of the specific component.</li> </ul> Is test pass? <ul style="list-style-type: none"> <li>• No: Proceed to step 3</li> <li>• Yes : Proceed to step 4</li> </ul>		
	Step 3	Step ID 104C-c	SRT
	Repair or replace component <ul style="list-style-type: none"> <li>• Repair or replace the component, also check for electrical connection and wiring harness.</li> <li>• Reconnect the connector.</li> <li>• ON the ignition key</li> </ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"> <li>• Is DTC fault active: Proceed to step 4</li> <li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li> </ul>		
	Step 4	Step ID 104C-d	SRT
	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.		
	<a href="#">Back to Index</a>		



## U1069

<b>Code number</b>	U1069
<b>Fault code description</b>	Inlet air pressure before compressor - Data erratic, intermittent or incorrect
<b>Fault code information</b>	<p>1 trip MIL  3 drive cycle recovery  Readiness group – None  Freeze frame type – Crankcase</p>
<b>Description of component(s)</b>	<p><b>Humidity sensor (F852)</b></p> <p>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor is positioned in the air inlet pipe before the turbo compressor and measures the following parameters:</p> <ul style="list-style-type: none"> <li>• Relative humidity</li> <li>• Temperature</li> <li>• Pressure</li> </ul> <p><b>Inlet air humidity – before the turbo compressor</b></p> <p>The relative humidity refers to the moisture percentage of the air.</p> <p><b>Effect on the system</b></p> <ul style="list-style-type: none"> <li>• Determines NOx emissions  Higher measured relative humidity results in a lower calculated NOx emission.</li> </ul> <p><b>Inlet air temperature – before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Determines soot emissions  Higher measured precompressor temperature results in lower calculated soot formation in the engine.</li> <li>• Calculates exhaust gas pressure before the turbine;  Higher measured precompressor temperature results in lower calculated exhaust gas pressure before the turbine.</li> <li>• Limits the maximum engine torque; for example, to limit the cylinder pressures during cold ambient conditions or driving at high altitudes.</li> <li>• to determine turbo charger compressor flow and thus the detection of VTG surge;  Surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> <li>• calculation of the temperature after the turbo charger compressor;  A higher measured pre-compressor temperature results in a higher calculation for the temperature after the turbocharger compressor.</li> </ul> <p><b>Inlet air pressure - before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Corrects pressure before turbine  Higher measured precompressor pressure results in higher calculated exhaust</li> </ul>

	<p>gas pressure before the turbine.</p> <ul style="list-style-type: none"> <li>• Determines soot emissions Higher measured precompressor pressure results in lower calculated soot formation in the engine.</li> <li>• Calculates the temperature after the turbocharger compressor A lower measured pre-compressor pressure results in a higher calculated temperature after the turbo charger compressor.</li> <li>• Limits the maximum engine torque when driving at high altitudes (low air density) Lower measured precompressor pressure results in higher engine torque reduction.</li> <li>• Detects VTG surge, the sensor is used to determine the compressor pressure ratio; surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> </ul>
<b>Location of component(s)</b>	<p><b>Humidity sensor (F852)</b></p>  <p>1402277</p>
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the humidity sensor (F852) that



	contains an out-of-range value for the pressure.															
Reset condition of fault code	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds and keyed on again, and the fault is no longer detected															
Electrical diagram(s)	<div><div><h3>Humidity Sensor (F852)</h3></div><div><p>122E 12-pin interface connector</p><p>123E 7-pin interface connector</p><p>A204 Electronic fan interface connector</p><p>D420 PCI ECU</p><p>F852 humidity sensor</p><p>L037 VTG turbocharger actuator</p><p>L095 EGR valve module</p><p>L096 BPV valve</p></div><div><table><tr><th>D420</th><th>F852</th><th>Function</th></tr><tr><td>C90</td><td>3</td><td>E-CAN high</td></tr><tr><td>C92</td><td>4</td><td>E-CAN low</td></tr><tr><td></td><td>1</td><td>Power supply after ignition</td></tr><tr><td></td><td>2</td><td>Ground</td></tr></table></div><div></div></div>	D420	F852	Function	C90	3	E-CAN high	C92	4	E-CAN low		1	Power supply after ignition		2	Ground
D420	F852	Function														
C90	3	E-CAN high														
C92	4	E-CAN low														
	1	Power supply after ignition														
	2	Ground														

	<div>Wiring harness connector D420.C front view</div> <div>Wiring harness connector F852 front view</div> <div><div></div><div>Handle connectors and pins with care and use matching measuring probes.</div></div>												
Technical data	<div>Component check, humidity sensor (F852)</div> <div>This type of component cannot be checked with a multimeter or oscilloscope. Perform the following to assess the component:</div> <div><ul style="list-style-type: none"><li>Monitor/test the component with DAVIE</li><li>Perform the wiring check</li></ul></div> <div>Wiring check, humidity sensor (F852)</div> <div>Preparation</div> <div><ul style="list-style-type: none"><li>Switch off the ignition.</li><li>Disconnect connector F852.</li><li>Measure on the front side of wiring harness connector F852.</li></ul></div> <table><tr><th>Pin (+ probe)</th><th>Pin (- probe)</th><th>Value</th><th>Additional information</th></tr><tr><td>1</td><td>2</td><td>Ubat</td><td>Switch on ignition</td></tr><tr><td>3</td><td>4</td><td>± 60 Ω</td><td><ul style="list-style-type: none"><li>Switch off ignition</li><li>Ground cable from the battery disconnected</li><li>DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul></td></tr></table>	Pin (+ probe)	Pin (- probe)	Value	Additional information	1	2	Ubat	Switch on ignition	3	4	± 60 Ω	<ul style="list-style-type: none"><li>Switch off ignition</li><li>Ground cable from the battery disconnected</li><li>DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>
Pin (+ probe)	Pin (- probe)	Value	Additional information										
1	2	Ubat	Switch on ignition										
3	4	± 60 Ω	<ul style="list-style-type: none"><li>Switch off ignition</li><li>Ground cable from the battery disconnected</li><li>DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>										
Possible causes	<ul style="list-style-type: none"><li>E-CAN communication</li><li>Faulty humidity sensor</li></ul>												
Additional information	<div>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor measures the following three properties of the drawn in precompressor (VTG turbo charger) air in the inlet air pipe:</div> <div><ul style="list-style-type: none"><li>Relative humidity</li><li>Pressure</li><li>Temperature</li></ul></div>												
Diagnostic Step-by-Step	<div><div></div><div>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</div></div>												



- This troubleshooting procedure is based on the assumption that supply power and ground to the PCI are functioning properly.
- Disconnecting the PCI 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 DTCs 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.

## Step 1 Investigate Related DTCs

Before troubleshooting this DTC, take notice of any other active or inactive DTCs. One or multiple other DTCs could have been the cause for this DTC.

### Step 1A Investigate related DTCs

#### Action

1. Use DAVIE Diagnostics to perform a Quick Check for current DTCs.

Are these or any other related DTCs active?

P1872

**Yes**

**No**

Possible problem with humidity sensor (F852). Refer to the troubleshooting information for these DTCs before continuing with this procedure.

**Go to step 2A**

## Step 2 Humidity Sensor (F852) Checks

### Step 2A Visual inspection, connections and wiring, humidity sensor (F852)

#### 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
  - Moisture or dirt in the connections
  - Damage to the wire harness or insulation
  - The correct parts are not installed

- ECU connections are damaged or disconnected
- Batteries not fully charged or contacts are not tight

Was there evidence of any of the above?

**Yes**

**No**

Correct any issues found. If the humidity sensor (F852) is found to be damaged or broken, replace it.  
Refer to step 3A to perform the corresponding repair verification cycles and rechecks.

**If this DTC is still present, go to step 2B**

**Go to step 2B**

## Step 2B Electrical checks, supply voltage, humidity sensor (F852)



Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.

### Action

1. Confirm the supply voltage level as outlined in the corresponding checking data, "component check, humidity sensor (F852)".

Are measured values within expected range?

**Yes**

**No**

Correct any issues found.  
Refer to step 3A to perform the corresponding repair verification cycles and rechecks.

**Go to step 2C**

**If this DTC is still present, go to step 2C**

## Step 2B Electrical checks, resistance, humidity sensor (F852) to E-CAN



Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.

### Action

1. Confirm the resistance value as outlined in the corresponding checking data,

“component check, humidity sensor (F852).”

Is the measured value within expected range?

**Yes**

**No**

Correct any issues found.  
Refer to step 3A to perform the corresponding repair verification cycles and rechecks.

**If all steps have been completed and this DTC is still present, contact the PACCAR Engine Support Center for further assistance.**

## Step 3 Repair Verification

### Step 3A 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 DTC 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. Start-up

With the brakes set, start the engine and allow it to run at idle for 2 minutes.

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 3B**

**Go to step 3B**

## Step 3B DAVIE Diagnostics, Quick Check, OBD Readiness Monitors

### Action

Use DAVIE Diagnostics to perform a Quick Check for current DTCs to determine whether the actions taken have cleared this DTC.

1. Confirm that the corresponding OBD Monitor Readiness Status value is displayed as "Ready."  
A status of Ready indicates that the corresponding OBD monitor has run successfully and the problem has been resolved—no further action.  
  
If the displayed status is "Not ready," continue to action step 2.
2. View the DTC overview display, and confirm that U1069 has been cleared.

Is the related OBD Monitor Readiness Status set to "Ready." Or, has U1069 been cleared?

### Yes

Problem resolved. No further actions.

### No

Continue with the next step in this troubleshooting procedure.

If all steps have been completed and this DTC is still present:

- continue to operate the truck to extend the run time, allowing the corresponding OBD monitor sufficient time to complete
- or, return to step 3A and perform this repair verification again.

If this issue is still present after extending or re-running the repair verification, contact the PACCAR Engine Support Center for further assistance.



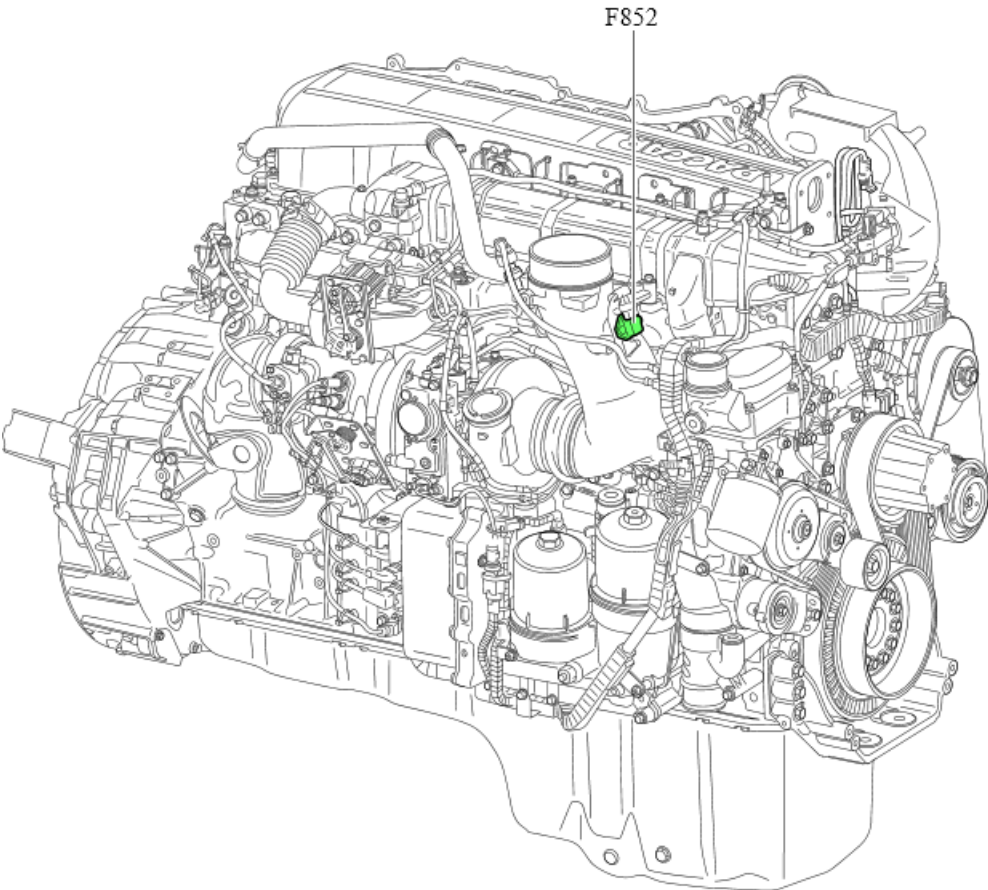
### Contacting the PACCAR Engine Support Center

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

[Back to Index](#)


## U1071

<b>Code number</b>	U1071
<b>Fault code description</b>	Inlet air humidity before compressor - Data erratic, intermittent or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Crankcase
<b>Description of component(s)</b>	<p><b>Humidity sensor (F852)</b></p> <p>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor is positioned in the air inlet pipe before the turbo compressor and measures the following parameters:</p> <ul style="list-style-type: none"> <li>• Relative humidity</li> <li>• Temperature</li> <li>• Pressure</li> </ul> <p><b>Inlet air humidity – before the turbo compressor</b></p> <p>The relative humidity refers to the moisture percentage of the air.</p> <p><b>Effect on the system</b></p> <ul style="list-style-type: none"> <li>• Determines NOx emissions Higher measured relative humidity results in a lower calculated NOx emission.</li> </ul> <p><b>Inlet air temperature – before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Determines soot emissions Higher measured precompressor temperature results in lower calculated soot formation in the engine.</li> <li>• Calculates exhaust gas pressure before the turbine; Higher measured precompressor temperature results in lower calculated exhaust gas pressure before the turbine.</li> <li>• Limits the maximum engine torque; for example, to limit the cylinder pressures during cold ambient conditions or driving at high altitudes.</li> <li>• to determine turbo charger compressor flow and thus the detection of VTG surge; Surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> <li>• calculation of the temperature after the turbo charger compressor; A higher measured pre-compressor temperature results in a higher calculation for the temperature after the turbocharger compressor.</li> </ul> <p><b>Inlet air pressure - before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Corrects pressure before turbine Higher measured precompressor pressure results in higher calculated exhaust</li> </ul>

	<p>gas pressure before the turbine.</p> <ul style="list-style-type: none"> <li>• Determines soot emissions Higher measured precompressor pressure results in lower calculated soot formation in the engine.</li> <li>• Calculates the temperature after the turbocharger compressor A lower measured pre-compressor pressure results in a higher calculated temperature after the turbo charger compressor.</li> <li>• Limits the maximum engine torque when driving at high altitudes (low air density) Lower measured precompressor pressure results in higher engine torque reduction.</li> <li>• Detects VTG surge, the sensor is used to determine the compressor pressure ratio; surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> </ul>
<b>Location of component(s)</b>	<p><b>Humidity sensor (F852)</b></p>  <p>1402277</p>
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the humidity sensor (F852) that





	<div>Wiring harness connector D420.C front view</div> <div>Wiring harness connector F852 front view</div> <div><div></div><div>Handle connectors and pins with care and use matching measuring probes.</div></div>												
Technical data	<div>Component check, humidity sensor (F852)</div> <div>This type of component cannot be checked with a multimeter or oscilloscope. Perform the following to assess the component:</div> <div><ul style="list-style-type: none"><li>Monitor/test the component with DAVIE</li><li>Perform the wiring check</li></ul></div> <div>Wiring check, humidity sensor (F852)</div> <div>Preparation</div> <div><ul style="list-style-type: none"><li>Switch off the ignition.</li><li>Disconnect connector F852.</li><li>Measure on the front side of wiring harness connector F852.</li></ul></div> <table><tr><th>Pin (+ probe)</th><th>Pin (- probe)</th><th>Value</th><th>Additional information</th></tr><tr><td>1</td><td>2</td><td>Ubat</td><td>Switch on ignition</td></tr><tr><td>3</td><td>4</td><td>± 60 Ω</td><td><ul style="list-style-type: none"><li>Switch off ignition</li><li>Ground cable from the battery disconnected</li><li>DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul></td></tr></table>	Pin (+ probe)	Pin (- probe)	Value	Additional information	1	2	Ubat	Switch on ignition	3	4	± 60 Ω	<ul style="list-style-type: none"><li>Switch off ignition</li><li>Ground cable from the battery disconnected</li><li>DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>
Pin (+ probe)	Pin (- probe)	Value	Additional information										
1	2	Ubat	Switch on ignition										
3	4	± 60 Ω	<ul style="list-style-type: none"><li>Switch off ignition</li><li>Ground cable from the battery disconnected</li><li>DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>										
Possible causes	<ul style="list-style-type: none"><li>E-CAN communication</li><li>Faulty humidity sensor</li></ul>												
Additional information	<div>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor measures the following three properties of the drawn in precompressor (VTG turbo charger) air in the inlet air pipe:</div> <div><ul style="list-style-type: none"><li>Relative humidity</li><li>Pressure</li><li>Temperature</li></ul></div>												

## Diagnostic Step-by-Step



**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 PCI are functioning properly.
- Disconnecting the PCI 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 DTCs 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.

### Step 1 Humidity Sensor (F852) Checks

#### Step 1A Visual inspection, connections and wiring, humidity sensor (F852)

##### 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
  - Moisture or dirt in the connections
  - Damage to the wire harness or insulation
  - The correct parts are not installed
  - ECU connections are damaged or disconnected
  - Batteries not fully charged or contacts are not tight

Was there evidence of any of the above?

**Yes**

**No**

Correct any issues found. If the humidity sensor (F852) is found to be damaged or broken, replace it.  
Refer to step 2A to perform the corresponding repair verification cycles and rechecks.

**If this DTC is still present, go to step 1B**

**Go to step 1B**

### Step 1B Electrical checks, supply voltage, humidity sensor (F852)



Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.

#### Action

1. Confirm the supply voltage level as outlined in the corresponding checking data, "component check, humidity sensor (F852)".

Are measured values within expected range?

**Yes**

**No**

Correct any issues found.  
Refer to step 2A to perform the corresponding repair verification cycles and rechecks.

**Go to step 1C**

**If this DTC is still present, go to step 1C**

### Step 1C Electrical checks, resistance, humidity sensor (F852) to E-CAN



Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.

#### Action

1. Confirm the resistance value as outlined in the corresponding checking data, "component check, humidity sensor (F852)".

Is the measured value within expected range?

**Yes**

**No**

Correct any issues found.  
Refer to step 2A to perform the corresponding repair verification cycles and rechecks.

**If all steps have been completed and this DTC is still present, contact the PACCAR Engine Support Center for further assistance.**

## Step 2 Repair Verification

### Step 2A 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 DTC 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. Start-up

With the brakes set, start the engine and allow it to run at idle for 2 minutes.

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 2B**


### Step 2B DAVIE Diagnostics, Quick Check, OBD Readiness Monitors

#### Action

Use DAVIE Diagnostics to perform a Quick Check for current DTCs to determine whether the actions taken have cleared this DTC.

1. Confirm that the corresponding OBD Monitor Readiness Status value is displayed as “Ready.”  
A status of Ready indicates that the corresponding OBD monitor has run successfully and the problem has been resolved—no further action.  
  
If the displayed status is “Not ready,” continue to action step 2.
2. View the DTC overview display, and confirm that U1071 has been cleared.

Is the related OBD Monitor Readiness Status set to “Ready.” Or, has U1071 been cleared?

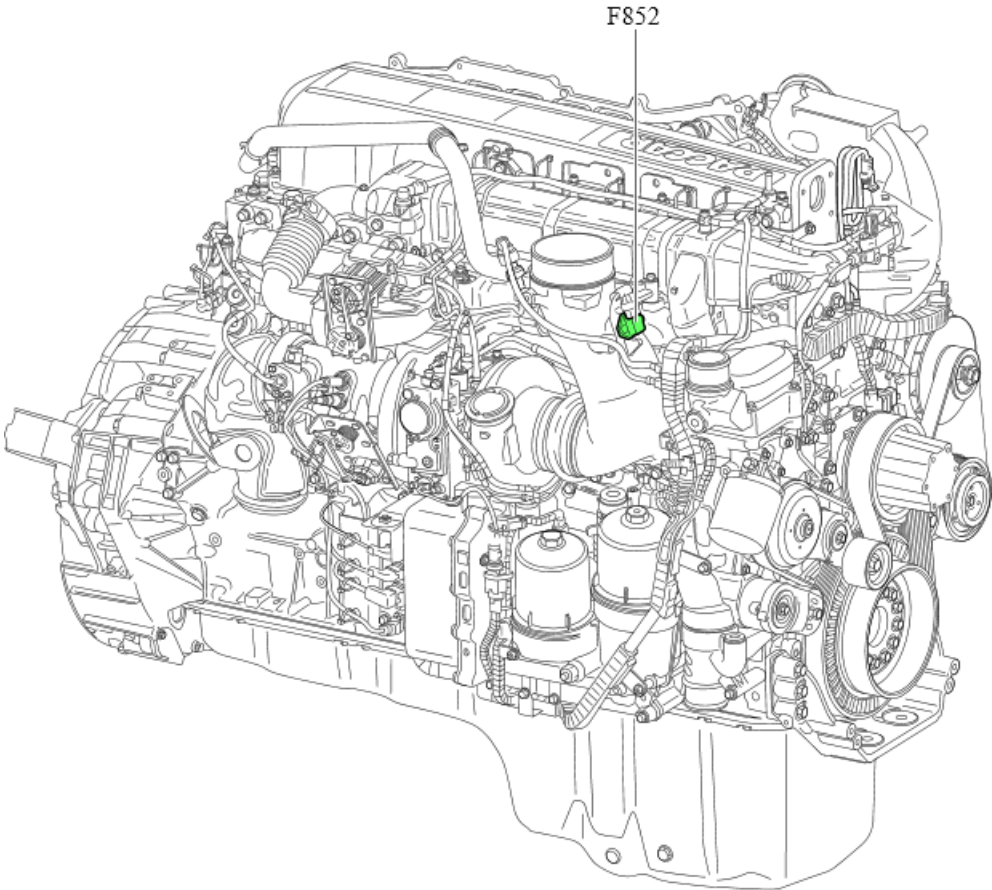
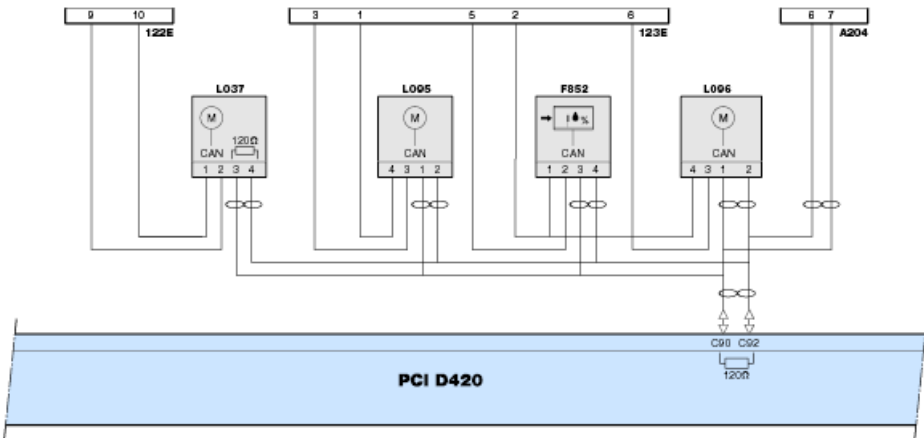
	<b>Yes</b>	<b>No</b>
	Problem resolved. No further actions.	<p>Continue with the next step in this troubleshooting procedure.</p> <p>If all steps have been completed and this DTC is still present:</p> <ul style="list-style-type: none"> <li>• continue to operate the truck to extend the run time, allowing the corresponding OBD monitor sufficient time to complete</li> <li>• or, return to step 3A and perform this repair verification again.</li> </ul> <p>If this issue is still present after extending or re-running the repair verification, contact the PACCAR Engine Support Center for further assistance.</p>
	<div>  <p> <b>Contacting the PACCAR Engine Support Center</b>            For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.         </p> </div>	
	<a href="#">Back to Index</a>	

## U1073

<b>Code number</b>	U1073
<b>Fault code description</b>	Humidity sensor - CAN communication error, message rate too low
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Crankcase
<b>Description of component(s)</b>	<p><b>Humidity sensor (F852)</b></p> <p>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor is positioned in the air inlet pipe before the turbo compressor and measures the following parameters:</p> <ul style="list-style-type: none"> <li>• Relative humidity</li> <li>• Temperature</li> <li>• Pressure</li> </ul> <p><b>Inlet air humidity – before the turbo compressor</b></p> <p>The relative humidity refers to the moisture percentage of the air.</p> <p><b>Effect on the system</b></p> <ul style="list-style-type: none"> <li>• Determines NOx emissions Higher measured relative humidity results in a lower calculated NOx emission.</li> </ul> <p><b>Inlet air temperature – before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Determines soot emissions Higher measured precompressor temperature results in lower calculated soot formation in the engine.</li> <li>• Calculates exhaust gas pressure before the turbine; Higher measured precompressor temperature results in lower calculated exhaust gas pressure before the turbine.</li> <li>• Limits the maximum engine torque; for example, to limit the cylinder pressures during cold ambient conditions or driving at high altitudes.</li> <li>• to determine turbo charger compressor flow and thus the detection of VTG surge; Surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> <li>• calculation of the temperature after the turbo charger compressor;</li> </ul>

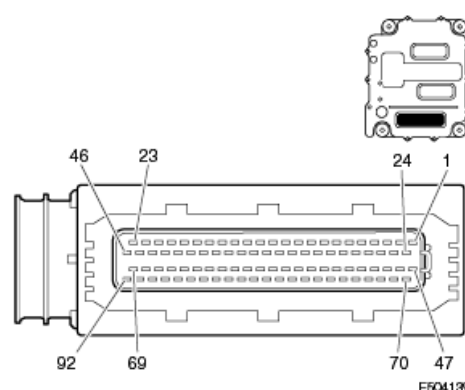
	<p>A higher measured pre-compressor temperature results in a higher calculation for the temperature after the turbocharger compressor.</p> <p><b>Inlet air pressure - before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Corrects pressure before turbine</li> </ul> <p>Higher measured precompressor pressure results in higher calculated exhaust gas pressure before the turbine.</p> <ul style="list-style-type: none"> <li>• Determines soot emissions</li> </ul> <p>Higher measured precompressor pressure results in lower calculated soot formation in the engine.</p> <ul style="list-style-type: none"> <li>• Calculates the temperature after the turbocharger compressor</li> </ul> <p>A lower measured pre-compressor pressure results in a higher calculated temperature after the turbo charger compressor.</p> <ul style="list-style-type: none"> <li>• Limits the maximum engine torque when driving at high altitudes (low air density)</li> </ul> <p>Lower measured precompressor pressure results in higher engine torque reduction.</p> <ul style="list-style-type: none"> <li>• Detects VTG surge, the sensor is used to determine the compressor pressure ratio; surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> </ul>
<b>Location of component(s)</b>	<b>Humidity sensor (F852)</b>



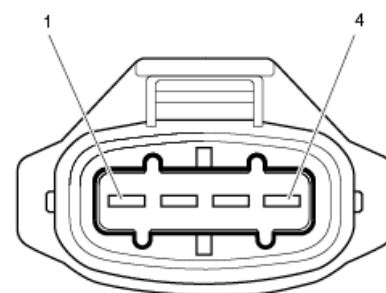
	 <p style="text-align: right;">1402277</p>
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) lost communication with the humidity sensor (F852).
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds and keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p><b>Humidity Sensor (F852)</b></p>  <p>122E 12-pin interface connector</p>

123E 7-pin interface connector  
 A204 Electronic fan interface connector  
 D420 PCI ECU  
 F852 humidity sensor  
 L037 VTG turbocharger actuator  
 L095 EGR valve module  
 L096 BPV valve

D420	F852	Function
C90	3	E-CAN high
C92	4	E-CAN low
	1	Power supply after ignition
	2	Ground



**Wiring harness connector D420.C front view**



**Wiring harness connector F852 front view**



Handle connectors and pins with care and use matching measuring probes.

## Technical data



### Component check, humidity sensor (F852)

This type of component cannot be checked with a multimeter or oscilloscope. Perform the following to assess the component:

- Monitor/test the component with DAVIE
- Perform the wiring check

### Wiring check, humidity sensor (F852)

#### Preparation

	<ul style="list-style-type: none"><li>• Switch off the ignition.</li><li>• Disconnect connector F852.</li><li>• Measure on the front side of wiring harness connector F852.</li></ul> <table><tr><th>Pin (+ probe)</th><th>Pin (- probe)</th><th>Value</th><th>Additional information</th></tr><tr><td>1</td><td>2</td><td>Ubat</td><td>Switch on ignition</td></tr><tr><td>3</td><td>4</td><td>± 60 Ω</td><td><ul style="list-style-type: none"><li>• Switch off ignition</li><li>• Ground cable from the battery disconnected</li><li>• DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul></td></tr></table>	Pin (+ probe)	Pin (- probe)	Value	Additional information	1	2	Ubat	Switch on ignition	3	4	± 60 Ω	<ul style="list-style-type: none"><li>• Switch off ignition</li><li>• Ground cable from the battery disconnected</li><li>• DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>
Pin (+ probe)	Pin (- probe)	Value	Additional information										
1	2	Ubat	Switch on ignition										
3	4	± 60 Ω	<ul style="list-style-type: none"><li>• Switch off ignition</li><li>• Ground cable from the battery disconnected</li><li>• DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>										
Possible causes	<ul style="list-style-type: none"><li>• E-CAN communication</li><li>• Faulty humidity sensor</li></ul>												
Additional information	<p>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor measures the following three properties of the drawn in precompressor (VTG turbo charger) air in the inlet air pipe:</p> <ul style="list-style-type: none"><li>• Relative humidity</li><li>• Pressure</li><li>• Temperature</li></ul>												
Diagnostic Step-by-Step	<div><p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p></div> <div><ul style="list-style-type: none"><li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PCI are functioning properly.</li><li>▪ Disconnecting the PCI connectors during the troubleshooting process will result in multiple errors.</li><li>▪ 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.</li><li>▪ It is necessary to use DAVIE to clear all current DTCs from the PCI and EAS-3 ECUs, and then run the Quick Check to identify a change in fault status.</li><li>▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence</li></ul></div>												

provided.

### Step 1 Humidity Sensor (F852) Checks

#### Step 1A Visual inspection, connections and wiring, humidity sensor (F852)

##### 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
  - Moisture or dirt in the connections
  - Damage to the wire harness or insulation
  - The correct parts are not installed
  - ECU connections are damaged or disconnected
  - Batteries not fully charged or contacts are not tight

Was there evidence of any of the above?

**Yes**

**No**

Correct any issues found. If the humidity sensor (F852) is found to be damaged or broken, replace it.  
Refer to step 2A to perform the corresponding repair verification cycles and rechecks.

**If this DTC is still present, go to step 1B**

**Go to step 1B**

#### Step 1B Electrical checks, supply voltage, humidity sensor (F852)



Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.


##### Action

1. Confirm the supply voltage level as outlined in the corresponding checking data, "component check, humidity sensor (F852)".

Are measured values within expected range?


	Yes	No
		Correct any issues found. Refer to step 2A to perform the corresponding repair verification cycles and rechecks.
	Go to step 1C	If this DTC is still present, go to step 1C


<b>Step 1C Electrical checks, resistance, humidity sensor (F852) to E-CAN</b>	
	Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.
<b>Action</b>	
1. Confirm the resistance value as outlined in the corresponding checking data, <u>"component check, humidity sensor (F852)"</u> .	
Is the measured value within expected range?	
Yes	No
	Correct any issues found. Refer to step 2A to perform the corresponding repair verification cycles and rechecks.
If all steps have been completed and this DTC is still present, contact the PACCAR Engine Support Center for further assistance.	

**Step 2 Repair Verification**

<b>Step 2A Repair verification cycles</b>	
Perform these repair verification cycles following any corrective actions taken, to enable related OBD monitors to reach a readiness state associated with the DTC 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.

	<b>Action</b>	
	1. Start-up	
	With the brakes set, start the engine and allow it to run at idle for 2 minutes.	
	Were the identified repair verification cycles able to be completed?	
	<b>Yes</b>	<b>No</b>
		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.
	<b>Go to step 2B</b>	
	<b>Step 2B DAVIE Diagnostics, Quick Check, OBD Readiness Monitors</b>	
	<b>Action</b>	
	Use DAVIE Diagnostics to perform a Quick Check for current DTCs to determine whether the actions taken have cleared this DTC.	
	1. Confirm that the corresponding OBD Monitor Readiness Status value is displayed as "Ready."	
	A status of Ready indicates that the corresponding OBD monitor has run successfully and the problem has been resolved—no further action.	
	If the displayed status is "Not ready," continue to action step 2.	
	2. View the DTC overview display, and confirm that U1073 has been cleared.	
	Is the related OBD Monitor Readiness Status set to "Ready." Or, has U1073 been cleared?	
	<b>Yes</b>	<b>No</b>
	Problem resolved. No further actions.	Continue with the next step in this troubleshooting procedure. If all steps have been completed and this DTC is still present:
		<ul style="list-style-type: none"> <li>continue to operate the truck to extend the run time, allowing the corresponding OBD monitor sufficient time to complete</li> <li>or, return to step 2A and perform this repair verification again.</li> </ul>
		If this issue is still present after extending

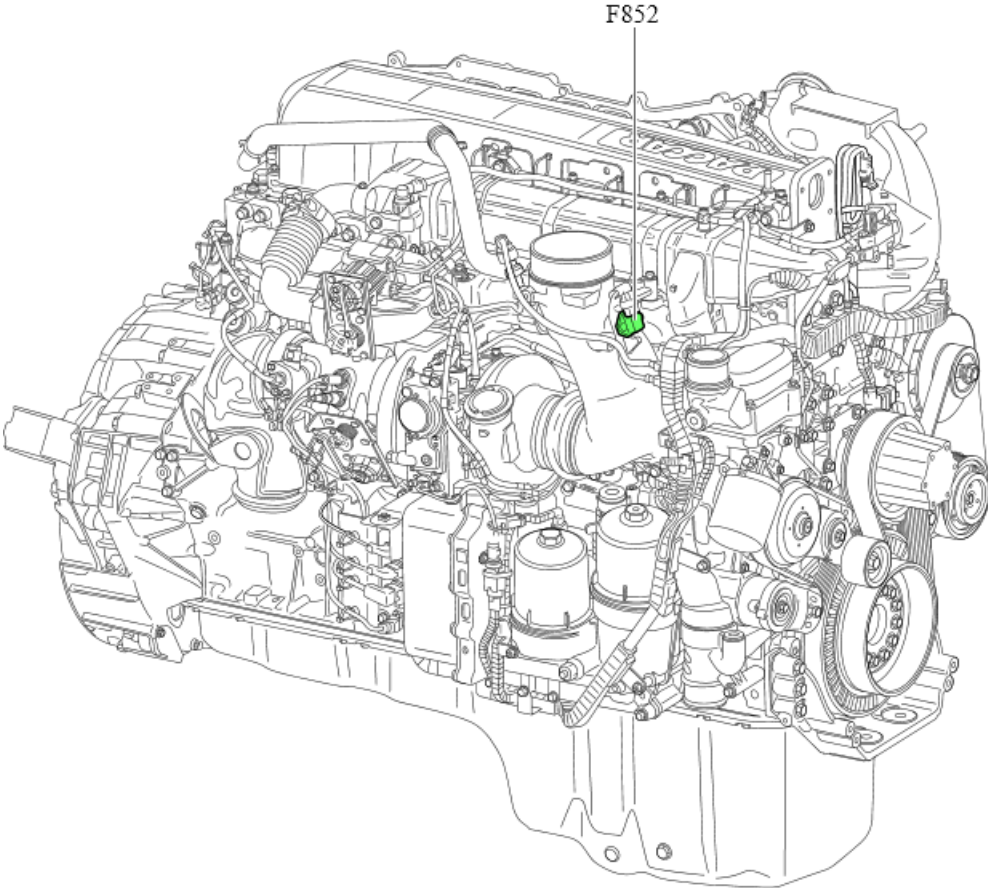
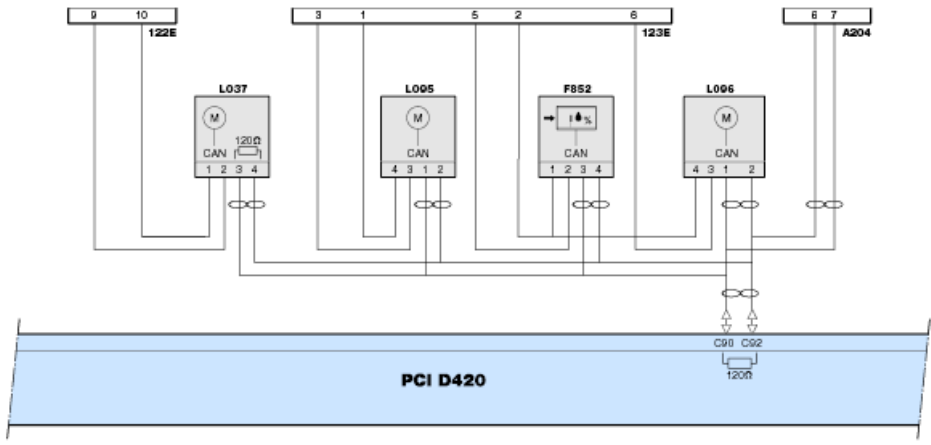
	<div data-bbox="493 130 1528 243"> <div></div> <div>or re-running the repair verification, contact the PACCAR Engine Support Center for further assistance.</div> </div> <div data-bbox="493 310 1528 495"> <div>  <div> <p>Contacting the PACCAR Engine Support Center</p> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.</p> </div> </div> </div>
	<div data-bbox="1354 516 1528 550"> <a href="#">Back to Index</a> </div>

## U1074

<b>Code number</b>	U1074
<b>Fault code description</b>	Inlet air temperature before compressor - Data erratic, intermittent or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Crankcase
<b>Description of component(s)</b>	<p><b>Humidity sensor (F852)</b></p> <p>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor is positioned in the air inlet pipe before the turbo compressor and measures the following parameters:</p> <ul style="list-style-type: none"> <li>• Relative humidity</li> <li>• Temperature</li> <li>• Pressure</li> </ul> <p><b>Inlet air humidity – before the turbo compressor</b></p> <p>The relative humidity refers to the moisture percentage of the air.</p> <p><b>Effect on the system</b></p> <ul style="list-style-type: none"> <li>• Determines NOx emissions Higher measured relative humidity results in a lower calculated NOx emission.</li> </ul> <p><b>Inlet air temperature – before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Determines soot emissions Higher measured precompressor temperature results in lower calculated soot formation in the engine.</li> <li>• Calculates exhaust gas pressure before the turbine; Higher measured precompressor temperature results in lower calculated exhaust gas pressure before the turbine.</li> <li>• Limits the maximum engine torque; for example, to limit the cylinder pressures during cold ambient conditions or driving at high altitudes.</li> <li>• to determine turbo charger compressor flow and thus the detection of VTG surge; Surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> <li>• calculation of the temperature after the turbo charger compressor;</li> </ul>

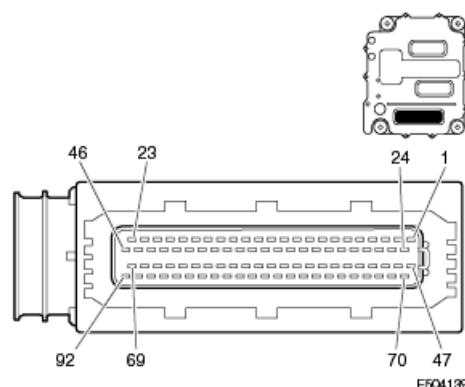


	<p>A higher measured pre-compressor temperature results in a higher calculation for the temperature after the turbocharger compressor.</p> <p><b>Inlet air pressure - before the turbo compressor</b></p> <ul style="list-style-type: none"> <li>• Corrects pressure before turbine</li> </ul> <p>Higher measured precompressor pressure results in higher calculated exhaust gas pressure before the turbine.</p> <ul style="list-style-type: none"> <li>• Determines soot emissions</li> </ul> <p>Higher measured precompressor pressure results in lower calculated soot formation in the engine.</p> <ul style="list-style-type: none"> <li>• Calculates the temperature after the turbocharger compressor</li> </ul> <p>A lower measured pre-compressor pressure results in a higher calculated temperature after the turbo charger compressor.</p> <ul style="list-style-type: none"> <li>• Limits the maximum engine torque when driving at high altitudes (low air density)</li> </ul> <p>Lower measured precompressor pressure results in higher engine torque reduction.</p> <ul style="list-style-type: none"> <li>• Detects VTG surge, the sensor is used to determine the compressor pressure ratio; surge can typically occur at high compressor pressure ratios and low compressor mass flows.</li> </ul>
<b>Location of component(s)</b>	<b>Humidity sensor (F852)</b>

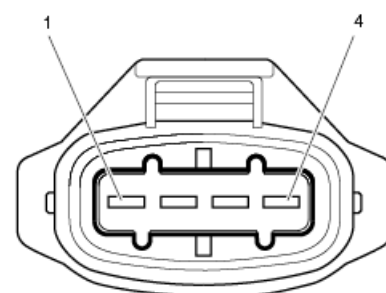
	 <p style="text-align: right;">1402277</p>
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the humidity sensor (F852) that contains an out-of-range value for the temperature.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds and keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p><b>Humidity Sensor (F852)</b></p> 

122E 12-pin interface connector  
 123E 7-pin interface connector  
 A204 Electronic fan interface connector  
 D420 PCI ECU  
 F852 humidity sensor  
 L037 VTG turbocharger actuator  
 L095 EGR valve module  
 L096 BPV valve

D420	F852	Function
C90	3	E-CAN high
C92	4	E-CAN low
	1	Power supply after ignition
	2	Ground



Wiring harness connector D420.C front view



Wiring harness connector F852 front view



Handle connectors and pins with care and use matching measuring probes.



## Technical data

### Component check, humidity sensor (F852)

This type of component cannot be checked with a multimeter or oscilloscope. Perform the following to assess the component:

- Monitor/test the component with DAVIE
- Perform the wiring check

### Wiring check, humidity sensor (F852)

	<p><b>Preparation</b></p> <ul style="list-style-type: none"><li>• Switch off the ignition.</li><li>• Disconnect connector F852.</li><li>• Measure on the front side of wiring harness connector F852.</li></ul> <table><tr><th>Pin (+ probe)</th><th>Pin (- probe)</th><th>Value</th><th>Additional information</th></tr><tr><td>1</td><td>2</td><td>Ubat</td><td>Switch on ignition</td></tr><tr><td>3</td><td>4</td><td>± 60 Ω</td><td><ul style="list-style-type: none"><li>• Switch off ignition</li><li>• Ground cable from the battery disconnected</li><li>• DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul></td></tr></table>	Pin (+ probe)	Pin (- probe)	Value	Additional information	1	2	Ubat	Switch on ignition	3	4	± 60 Ω	<ul style="list-style-type: none"><li>• Switch off ignition</li><li>• Ground cable from the battery disconnected</li><li>• DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>
Pin (+ probe)	Pin (- probe)	Value	Additional information										
1	2	Ubat	Switch on ignition										
3	4	± 60 Ω	<ul style="list-style-type: none"><li>• Switch off ignition</li><li>• Ground cable from the battery disconnected</li><li>• DAVIE Vehicle Communication Interface (VCI) disconnected</li></ul>										
<b>Possible causes</b>	<ul style="list-style-type: none"><li>• E-CAN communication</li><li>• Faulty humidity sensor</li></ul>												
<b>Additional information</b>	<p>The humidity sensor is a smart sensor that communicates with the PCI ECU via E-CAN. The sensor measures the following three properties of the drawn in precompressor (VTG turbo charger) air in the inlet air pipe:</p> <ul style="list-style-type: none"><li>• Relative humidity</li><li>• Pressure</li><li>• Temperature</li></ul>												
<b>Diagnostic Step-by-Step</b>	<div><p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p></div> <div><ul style="list-style-type: none"><li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PCI are functioning properly.</li><li>▪ Disconnecting the PCI connectors during the troubleshooting process will result in multiple errors.</li><li>▪ 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.</li><li>▪ It is necessary to use DAVIE to clear all current DTCs from the PCI and EAS-3 ECUs, and then run the Quick Check to identify a change in fault status.</li><li>▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence provided.</li></ul></div>												

## Step 1 Humidity Sensor (F852) Checks

### Step 1A Visual inspection, connections and wiring, humidity sensor (F852)

#### 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
  - Moisture or dirt in the connections
  - Damage to the wire harness or insulation
  - The correct parts are not installed
  - ECU connections are damaged or disconnected
  - Batteries not fully charged or contacts are not tight

Was there evidence of any of the above?

**Yes**

**No**

Correct any issues found. If the humidity sensor (F852) is found to be damaged or broken, replace it.  
Refer to step 2A to perform the corresponding repair verification cycles and rechecks.

**If this DTC is still present, go to step 1B**

**Go to step 1B**

### Step 1B Electrical checks, supply voltage, humidity sensor (F852)



Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.

#### Action



1. Confirm the supply voltage level as outlined in the corresponding checking data, "component check, humidity sensor (F852)".

Are measured values within expected range?


**Yes**

**No**

Correct any issues found.  
Refer to step 2A to perform the

		corresponding repair verification cycles and rechecks.
	<b>Go to step 1C</b>	<b>If this DTC is still present, go to step 1C</b>
<b>Step 1C Electrical checks, resistance, humidity sensor (F852) to E-CAN</b>		
 Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.		
<b>Action</b> <ol style="list-style-type: none"> <li>Confirm the resistance value as outlined in the corresponding checking data, <u>“component check, humidity sensor (F852).”</u></li> </ol>		
Is the measured value within expected range?		
<b>Yes</b>		<b>No</b>
		Correct any issues found. Refer to step 2A to perform the corresponding repair verification cycles and rechecks.
<b>If all steps have been completed and this DTC is still present, contact the PACCAR Engine Support Center for further assistance.</b>		
<b>Step 2 Repair Verification</b>		
<b>Step 2A Repair verification cycles</b>		
Perform these repair verification cycles following any corrective actions taken, to enable related OBD monitors to reach a readiness state associated with the DTC 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.		
<b>Action</b> <ol style="list-style-type: none"> <li>Start-up  With the brakes set, start the engine and allow it to run at idle for 2 minutes.</li> </ol>		

	Were the identified repair verification cycles able to be completed?	
	<b>Yes</b>	<b>No</b>
		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.
	<b>Go to step 2B</b>	
	<b>Step 2B DAVIE Diagnostics, Quick Check, OBD Readiness Monitors</b>	
	<b>Action</b> Use DAVIE Diagnostics to perform a Quick Check for current DTCs to determine whether the actions taken have cleared this DTC. <ol style="list-style-type: none"> <li>Confirm that the corresponding OBD Monitor Readiness Status value is displayed as "Ready."</li> </ol> <p>A status of Ready indicates that the corresponding OBD monitor has run successfully and the problem has been resolved—no further action. If the displayed status is "Not ready," continue to action step 2.</p> <ol style="list-style-type: none"> <li>View the DTC overview display, and confirm that U1074 has been cleared.</li> </ol>	
	Is the related OBD Monitor Readiness Status set to "Ready." Or, has U1074 been cleared?	
	<b>Yes</b>	<b>No</b>
	Problem resolved. No further actions.	Continue with the next step in this troubleshooting procedure. If all steps have been completed and this DTC is still present: <ul style="list-style-type: none"> <li>continue to operate the truck to extend the run time, allowing the corresponding OBD monitor sufficient time to complete</li> <li>or, return to step 2A and perform this repair verification again.</li> </ul> <p>If this issue is still present after extending or re-running the repair verification, contact the PACCAR Engine Support Center for further assistance.</p>

	 <p>Contacting the PACCAR Engine Support Center</p> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.</p>
	<a href="#">Back to Index</a>



## U1104

<b>Code number</b>	U1104
<b>Fault code description</b>	CAN communication - Message (ACC1) rate too low from Advanced Emergency Braking System
<b>Diagnostic Step-by-Step</b>	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

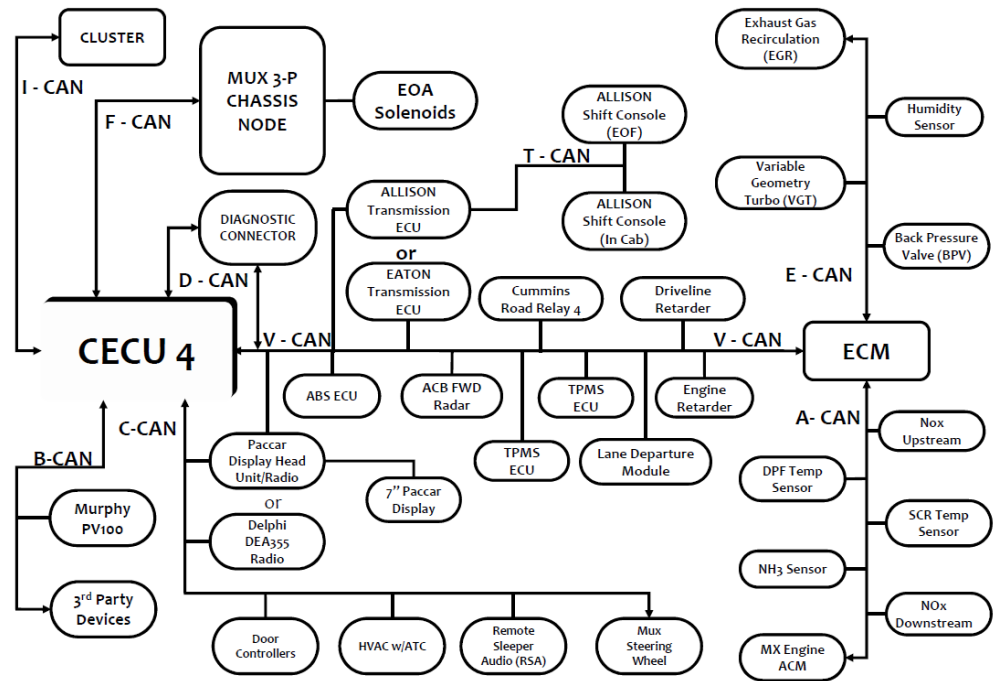
## U1105

<b>Code number</b>	U1105
<b>Fault code description</b>	CAN communication - Message (PROBA_BBM_to_Eng) out of range, engine stop from Body Builder Module
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

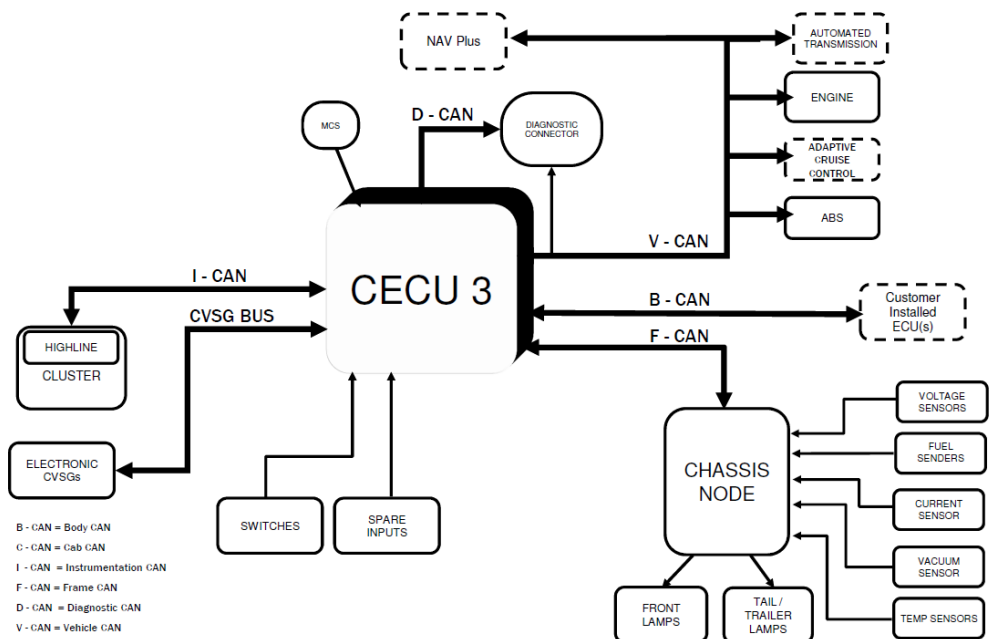
## U1110

<b>Code number</b>	U1110
<b>Fault code description</b>	CAN Communication – Message (RC_DR) rate too low from retarder
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Motor Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. This node manages various sensors and actuators:             <ul style="list-style-type: none"> <li><b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected directly to CECU 3.</li> <li><b>CVSG BUS</b> (Cable Vehicle Signal Generator Bus): Connected to CECU 3 and <b>ELECTRONIC CVSG's</b>.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN, Vehicle CAN, and Aftertreatment CAN networks.</p>

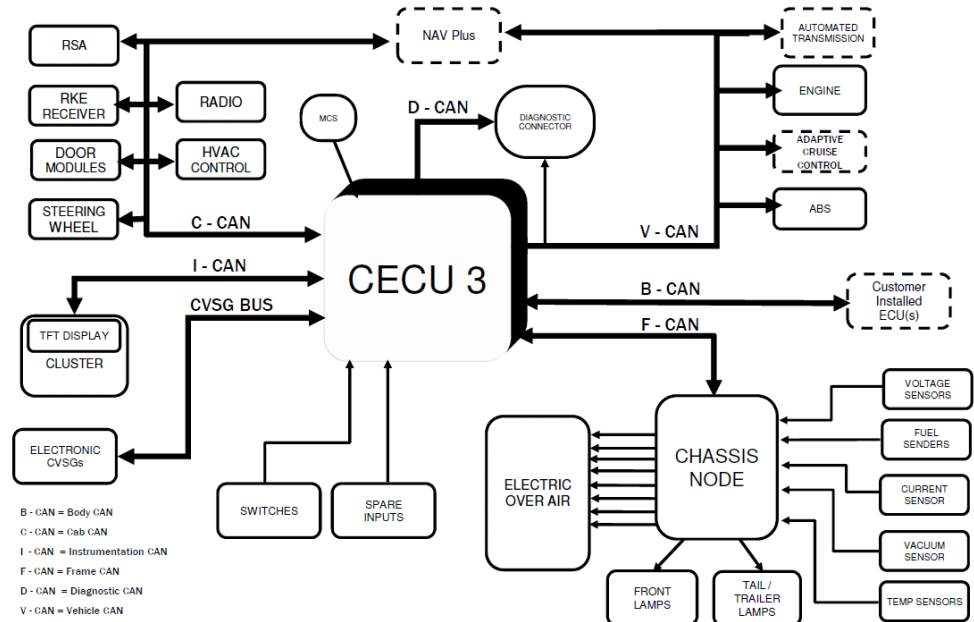
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1

Step ID 1110a

SRT

Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

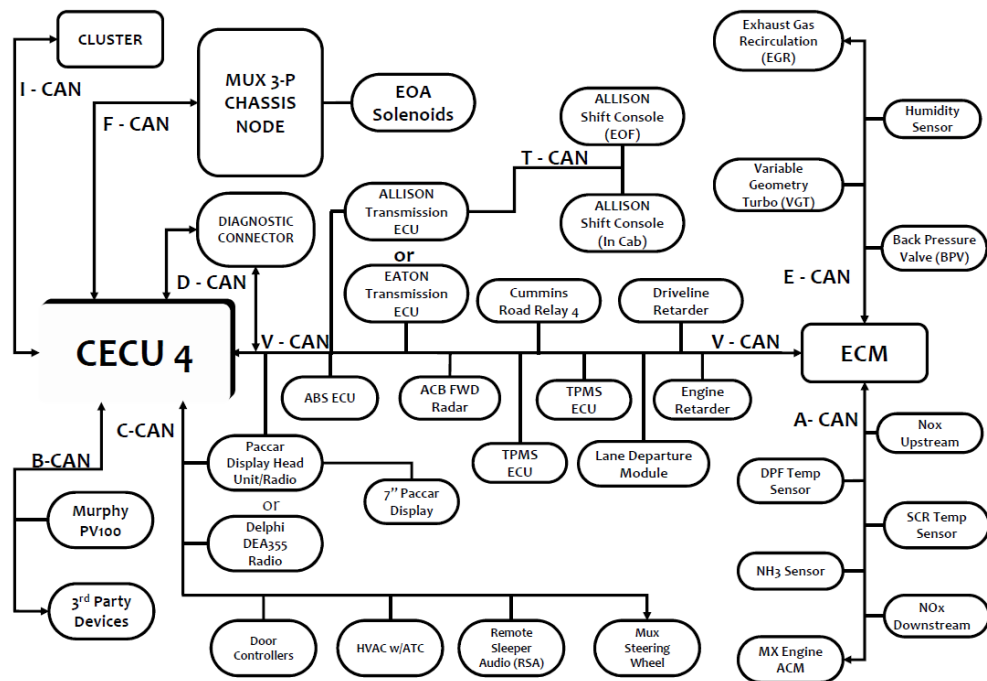
Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1110b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1110c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>			
	Step 4	Step ID 1110d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

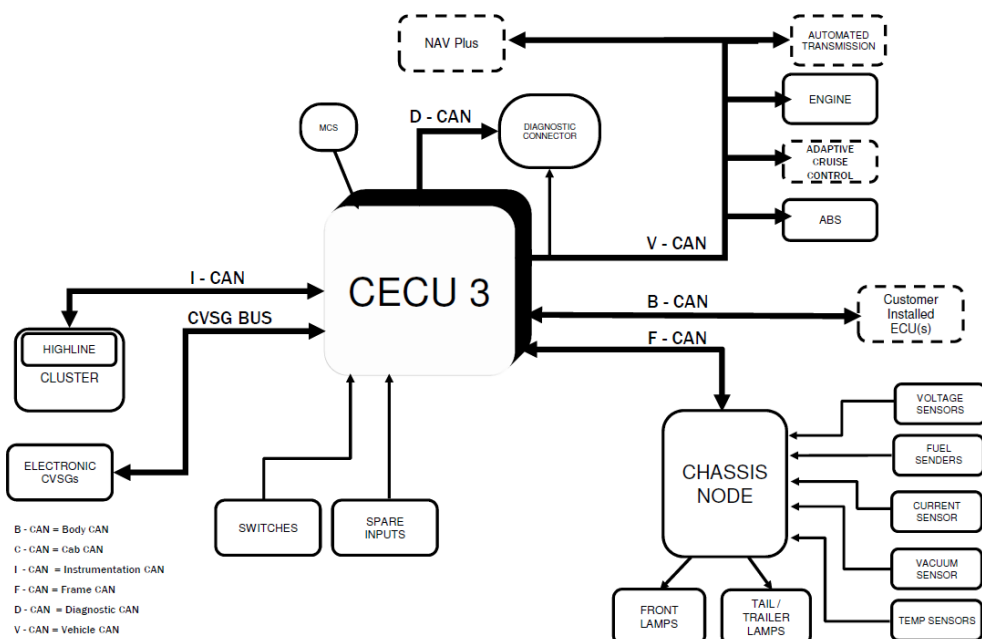
## U1112

<b>Code number</b>	U1112
<b>Fault code description</b>	CAN communication - Message (SCR1) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	This condition will set when Time since last reception is greater than 0.6 sec
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which acts as the primary communication hub. It is connected to several key systems:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b>: Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b>: Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b>: Connected via Engine CAN.</li> <li><b>After-treatment DCU</b>: Connected via Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b>: Connected via Frame CAN.</li> <li><b>Tail / Trailer Lamps</b>: Connected via Frame CAN.</li> <li><b>CVSG BUS</b>: Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b>: Connected via Instrumentation CAN.</li> <li><b>SWITCHES</b>: Connected via Cab CAN.</li> <li><b>SPARE INPUTS</b>: Connected via Cab CAN.</li> </ul> <p>The diagram also shows various sensors connected to the CHASSIS NODE, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors. Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Frame CAN.</p>

## NAMUX 4 Architecture (Phase 1): T680

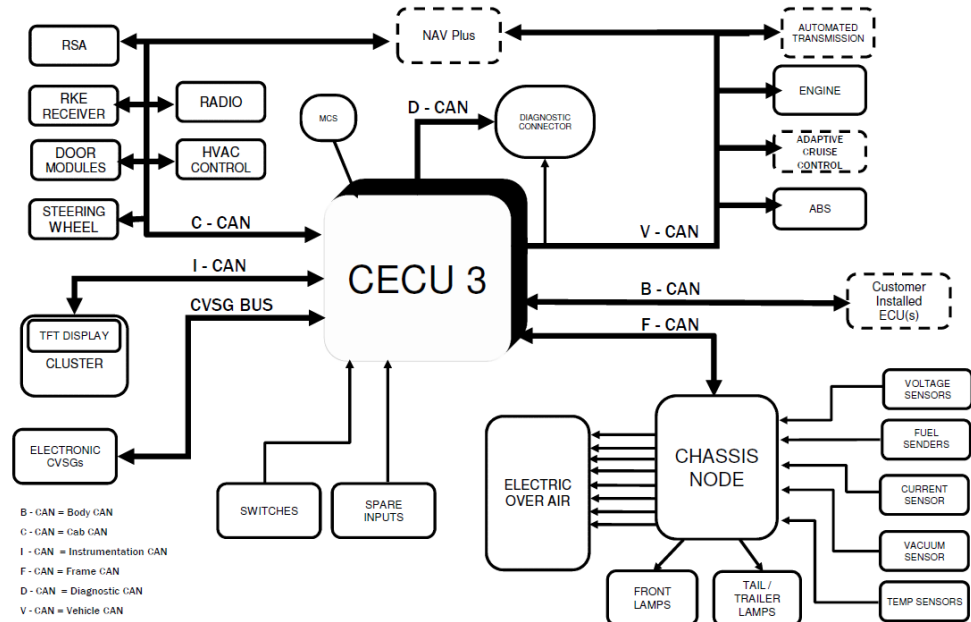




## NAMUX 3 Architecture





## NAMUX 4 Architecture



Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1112a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 1112a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 1112a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

	<ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1112b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step 4</li></ul>	Step 2	Step ID 1112b	SRT
Step 2	Step ID 1112b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 1112c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 1112c	SRT
Step 3	Step ID 1112c	SRT		
	<table><tr><td>Step 4</td><td>Step ID 1112d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1112d	SRT
Step 4	Step ID 1112d	SRT		
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

## U1114

<b>Code number</b>	U1114
<b>Fault code description</b>	CAN communication - Message (AT1T1I) rate too low, DEF tank information from aftertreatment system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U1118

<b>Code number</b>	U1118
<b>Fault code description</b>	CAN communication - Message (EXH_GAS_CORR) out of range - Post SCR NOx reading stable from emission system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U111A

<b>Code number</b>	U111A
<b>Fault code description</b>	CAN communication - Message (EXH_GAS_CORR) out of range, engine out NOx reading stable from aftertreatment system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U111B

<b>Code number</b>	U111B
<b>Fault code description</b>	CAN communication - Message (EXH_GAS_CORR) out of range, engine out O2 percentage corrected from aftertreatment system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U111C

<b>Code number</b>	U111C
<b>Fault code description</b>	CAN communication - Message (EXH_GAS_CORR) out of range, engine out NOx corrected from aftertreatment system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U111D

<b>Code number</b>	U111D
<b>Fault code description</b>	CAN communication - Message (EXH_GAS_CORR) rate too low from aftertreatment system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>



## U1120

<b>Code number</b>	U1120
<b>Fault code description</b>	CAN communication - Message (TSC1_BE) rate too low from brake system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U1122

<b>Code number</b>	U1122
<b>Fault code description</b>	CAN communication - Message (TSC1_TE) rate too low from transmission system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U1124

<b>Code number</b>	U1124
<b>Fault code description</b>	CAN communication - Message (TSC1_VE) rate too low from vehicle controller
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

## U1126

<b>Code number</b>	U1126
<b>Fault code description</b>	CAN communication - Message (TSC1_SE) rate too low from Body Builder Module
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

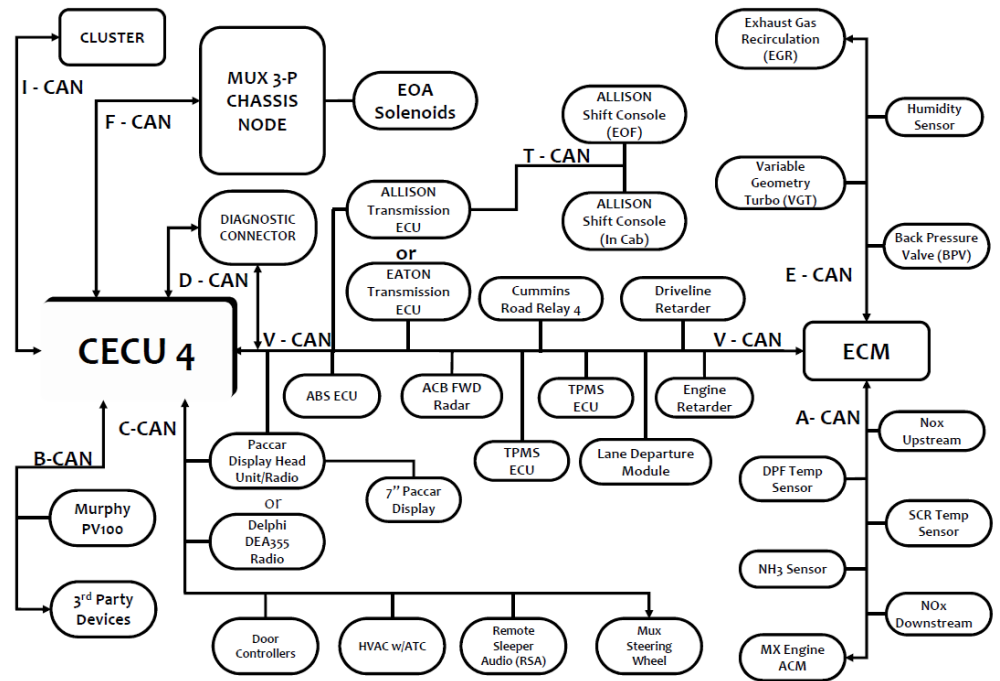
## U112A

<b>Code number</b>	U112A
<b>Fault code description</b>	CAN communication - Message (ACM) rate too low from aftertreatment system
	<b>Diagnostic and supporting information for this DTC is available in Engine Rapido.</b>
	<a href="#">Back to Index</a>

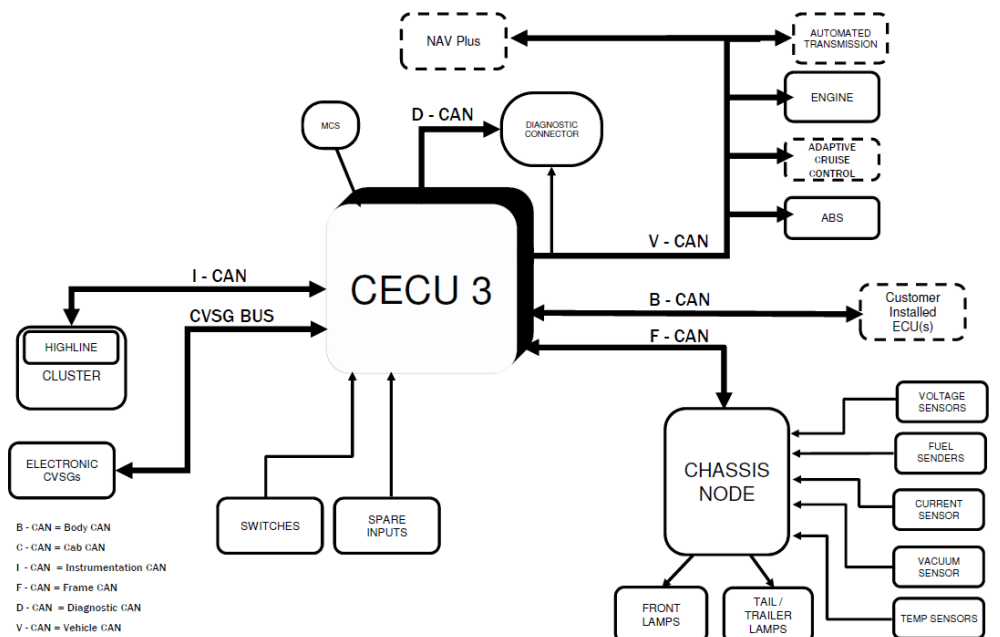
# P112C

<b>Code number</b>	U112C
<b>Fault code description</b>	CAN communication - Message (AT1FC1) out of range - Fuel rate from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	Received value of fuel rate in message (AT1FC1) is more than 3213 L/h.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems:</p> <ul style="list-style-type: none"> <li><b>Cluster:</b> Connected via Instrumentation CAN and CVSG BUS.</li> <li><b>STEERING WHEEL:</b> Connected via Cab CAN.</li> <li><b>MCS (Motor Control System):</b> Connected via Diagnostic CAN.</li> <li><b>DIAGNOSTIC CONNECTOR:</b> Connected via Diagnostic CAN.</li> <li><b>Vehicle CAN:</b> Connected via Vehicle CAN.</li> <li><b>CHASSIS NODE:</b> Connected via Frame CAN. The chassis node includes FRONT LAMPS and TAIL / TRAILER LAMPS.</li> <li><b>Engine CAN:</b> Connected via Engine CAN. This includes the ENGINE, ADAPTIVE CRUISE CONTROL, VGT Actuator, and After-treatment DCU.</li> <li><b>Aftertreatment CAN:</b> Connected via Aftertreatment CAN.</li> <li><b>Sensors:</b> Various sensors are connected to the chassis node, including VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>Other components:</b> SWITCHES, SPARE INPUTS, and ELECTRONIC CVSG's are also connected to the CECU 3.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN.</p>

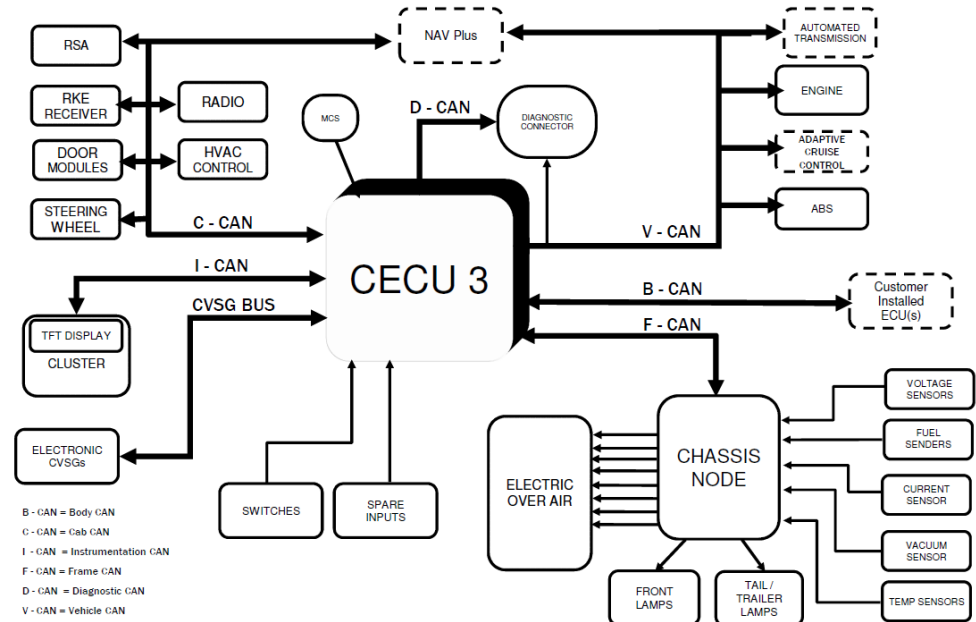
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

Check the after treatment for fuel consumption

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 112C-a	SRT
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Visual Inspection  
 OFF the ignition key, disconnect the connector from component and ECU.  
 Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

Was there evidence of any of the above?

- No: Proceed to step 2.

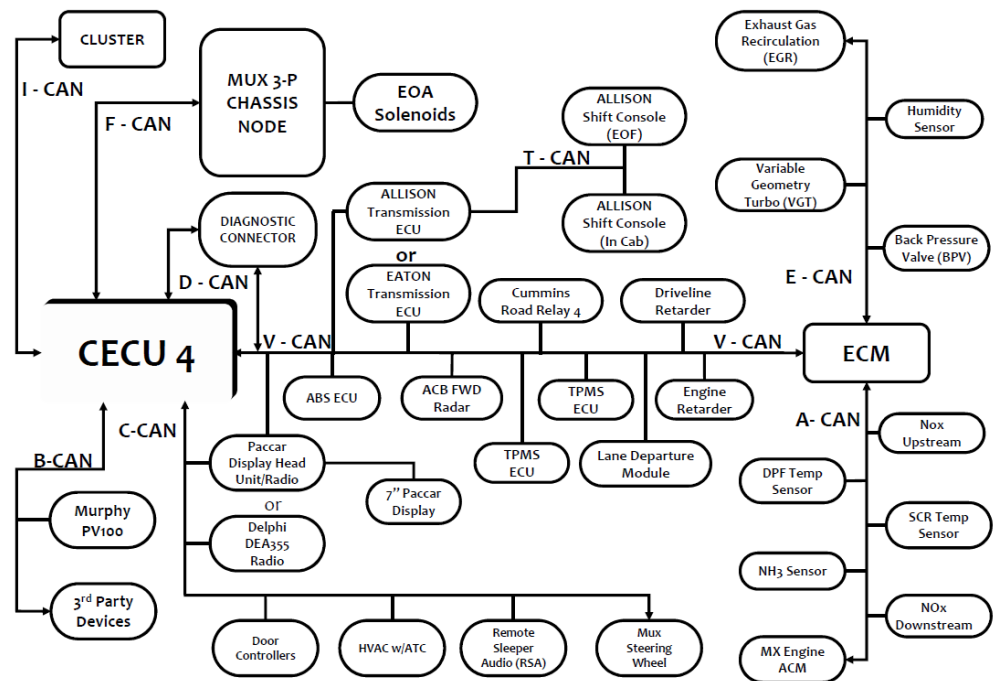


	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 112C-b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step 4</li></ul>	Step 2	Step ID 112C-b	SRT
	Step 2	Step ID 112C-b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 112C-c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 112C-c	SRT
	Step 3	Step ID 112C-c	SRT	
<table><tr><td>Step 4</td><td>Step ID 112C-d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 112C-d	SRT	
Step 4	Step ID 112C-d	SRT		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<div>Back to Index</div>			

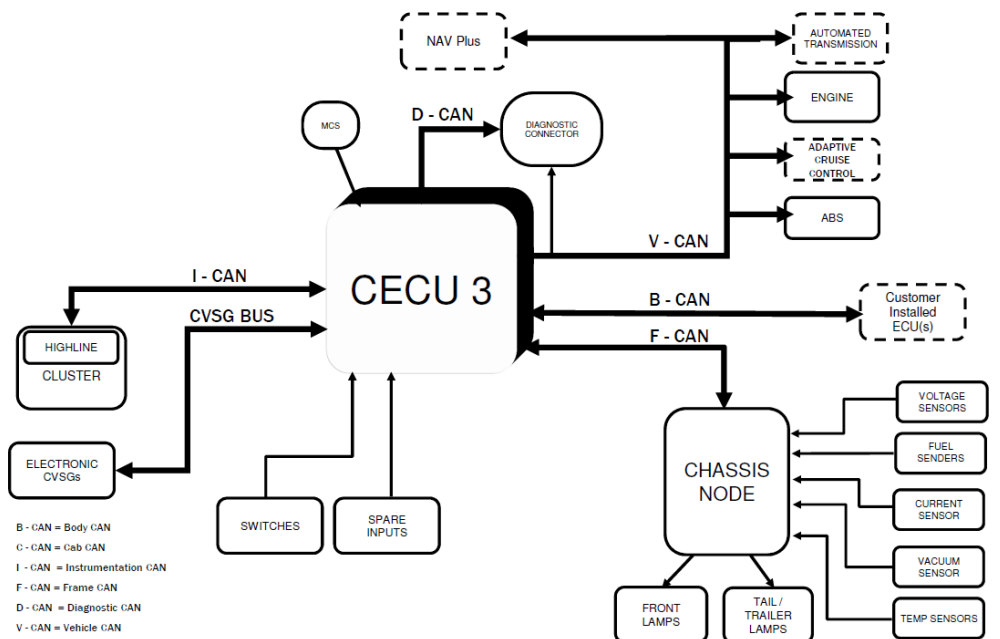
# P112D

<b>Code number</b>	U112D
<b>Fault code description</b>	CAN communication - Message (AT1FC1) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message AT1FC1 is missing for more than 1.5 sec.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Motor Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic CAN</b>: Connected to the Diagnostic Connector.</li> <li><b>ABS</b> (Anti-lock Braking System) and <b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected to the After-treatment DCU.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine Actuator): Connected to the After-treatment DCU.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. It manages various sensors and actuators: <ul style="list-style-type: none"> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> <li><b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to the CECU 3.</li> <li><b>CVSG BUS</b> (Cable Vehicle Signal Generator Bus): Connected to the CECU 3 and <b>ELECTRONIC CVSG's</b>.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN.</p>

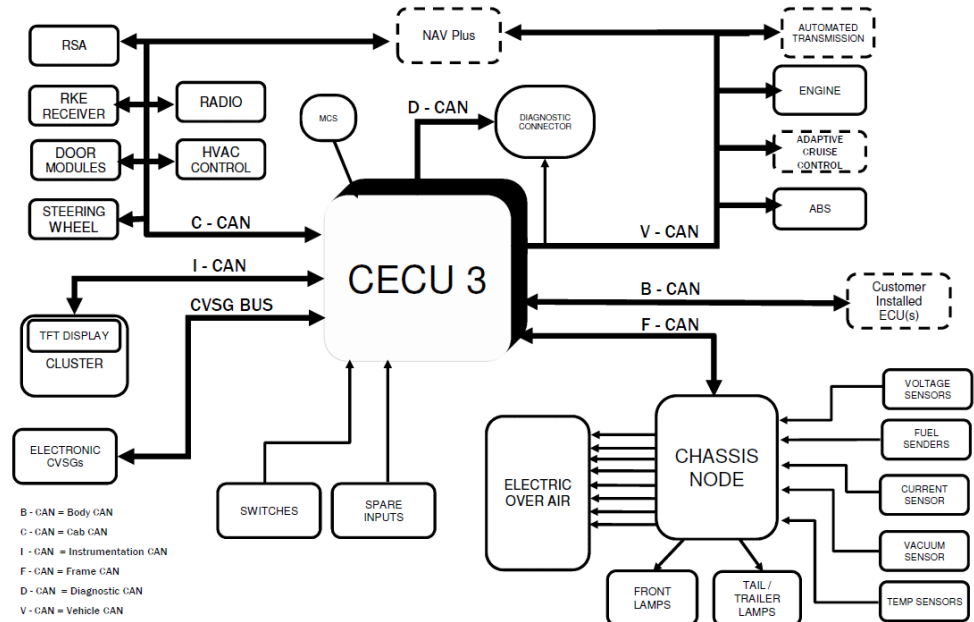
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX<sub>3</sub> Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 112D-a	SRT
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#### Visual Inspection

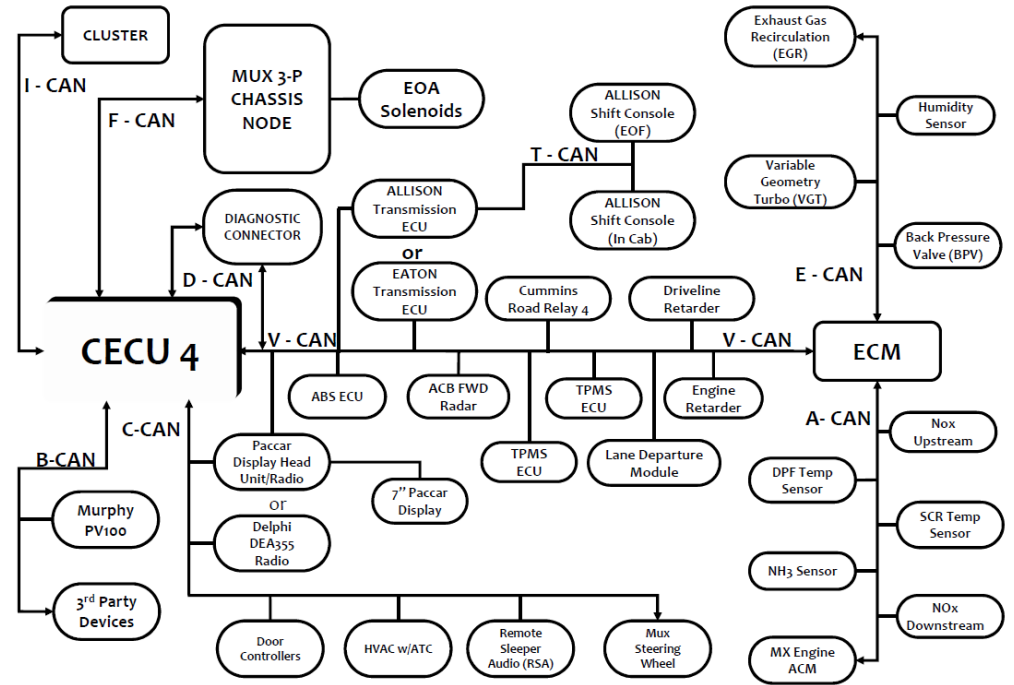
OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 112D-b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step 4</li></ul>		
	Step 3	Step ID 112D-c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>		
	Step 4	Step ID 112D-d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

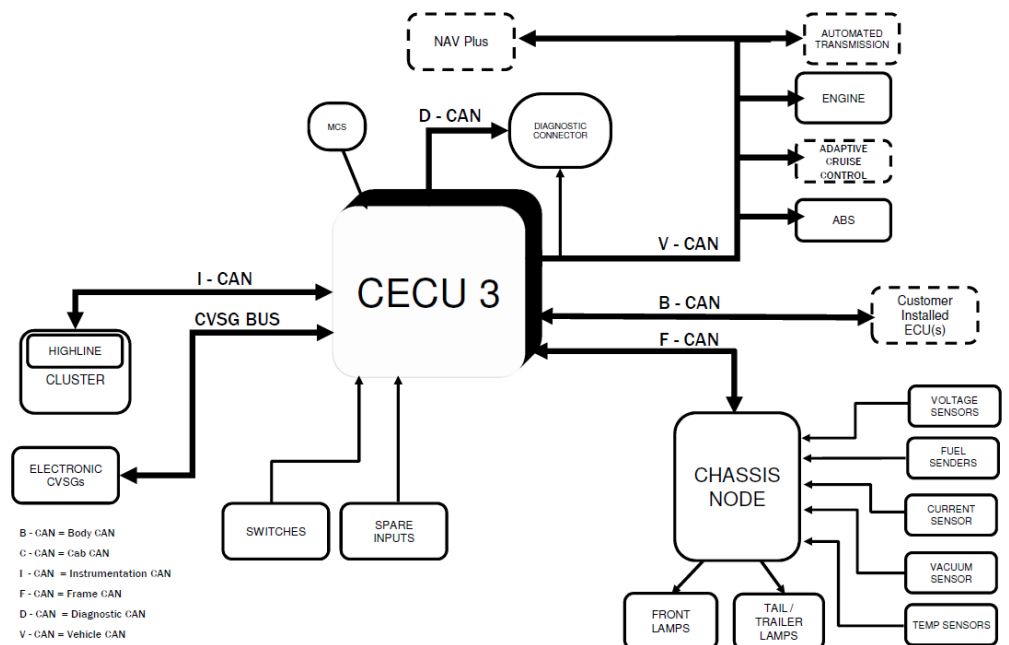
## U112F

<b>Code number</b>	U112F
<b>Fault code description</b>	CAN communication - Message (AT1HI) out of range - total fuel used from emission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit). It is connected to several components: <ul style="list-style-type: none"> <li><b>Steering Wheel</b> and <b>MCS</b> (Master Control Switch) are connected to the CECU 3.</li> <li><b>Cluster</b> is connected to the CECU 3 via the <b>Instrumentation CAN</b>.</li> <li><b>CVSG BUS</b> (Cruise/Vehicle Speed/Gear Shift) is connected to the CECU 3.</li> <li><b>ELECTRONIC CVSG's</b> (Cruise/Vehicle Speed/Gear Shift) are connected to the CECU 3.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b> are connected to the CECU 3.</li> <li><b>Diagnostic CAN</b> is connected to the CECU 3.</li> <li><b>DIAGNOSTIC CONNECTOR</b> is connected to the CECU 3.</li> <li><b>Vehicle CAN</b> is connected to the CECU 3.</li> <li><b>ABS</b> (Anti-lock Braking System) and <b>PACCAR Display</b> are connected to the CECU 3.</li> <li><b>CHASSIS NODE</b> is connected to the CECU 3 via the <b>Frame CAN</b>.</li> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b> are connected to the CHASSIS NODE.</li> <li><b>Aftertreatment CAN</b> is connected to the CECU 3.</li> <li><b>ENGINE</b> is connected to the CECU 3.</li> <li><b>ADAPTIVE CRUISE CONTROL</b> is connected to the CECU 3.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine) is connected to the CECU 3.</li> <li><b>After-treatment DCU</b> (Data Control Unit) is connected to the CECU 3.</li> <li><b>Sensors</b> connected to the CHASSIS NODE include: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> </ul> </p>

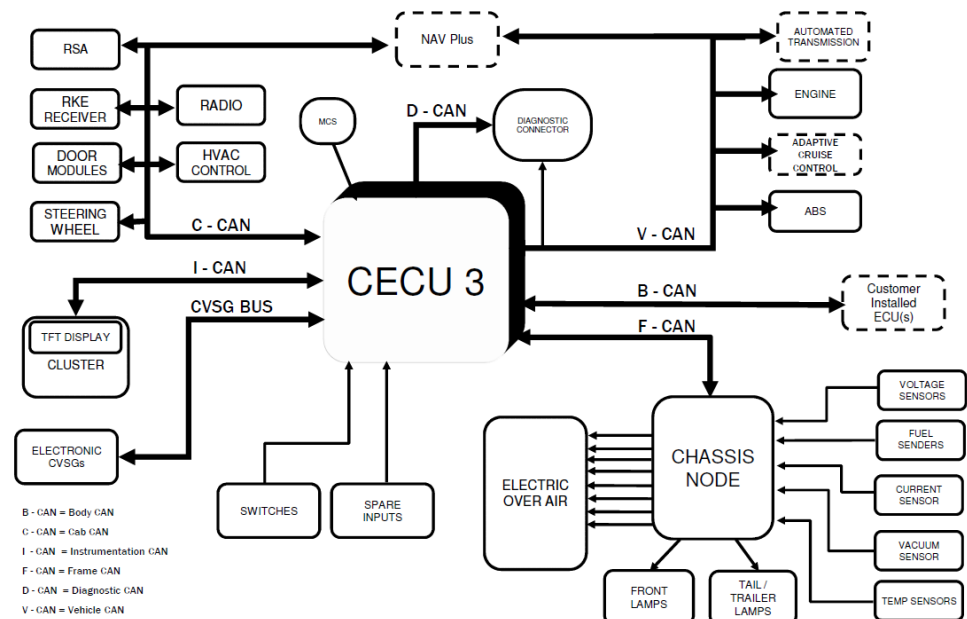
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

Check the after treatment for total fuel used

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 112F-a	SRT
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> <li>• Yes: Make the appropriate repairs or component replacements.</li> </ul>		

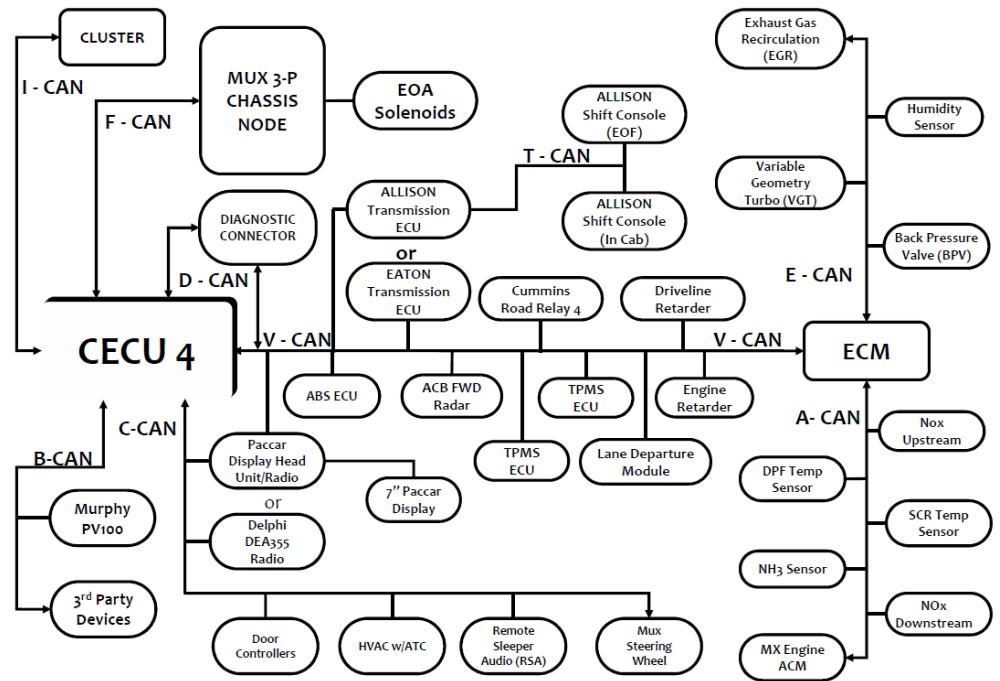


	Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"> <li>• If this related fault is no longer active, then this issue has been resolved.</li> <li>• If this related fault is still active, Proceed to step 2</li> </ul>		
	Step 2	Step ID 112F-b	SRT
	Data check <ul style="list-style-type: none"> <li>• Lookup the technical data of the specific system</li> <li>• Perform the checking data test of the specific component</li> </ul> Is test pass? <ul style="list-style-type: none"> <li>• No: Proceed to step 3</li> <li>• Yes : Proceed to step4</li> </ul>		
	Step 3	Step ID 112F-c	SRT
	Repair or replace component <ul style="list-style-type: none"> <li>• Repair or replace the component, also check for electrical connection and wiring harness .</li> <li>• Reconnect the connector</li> <li>• ON the ignition key</li> </ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"> <li>• Is DTC fault active: Proceed to step 4</li> <li>• Is DTC fault inactive : Issue resolved. Clear inactive fault.</li> </ul>		
	Step 4	Step ID 112F-d	SRT
	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.		
	<a href="#">Back to Index</a>		

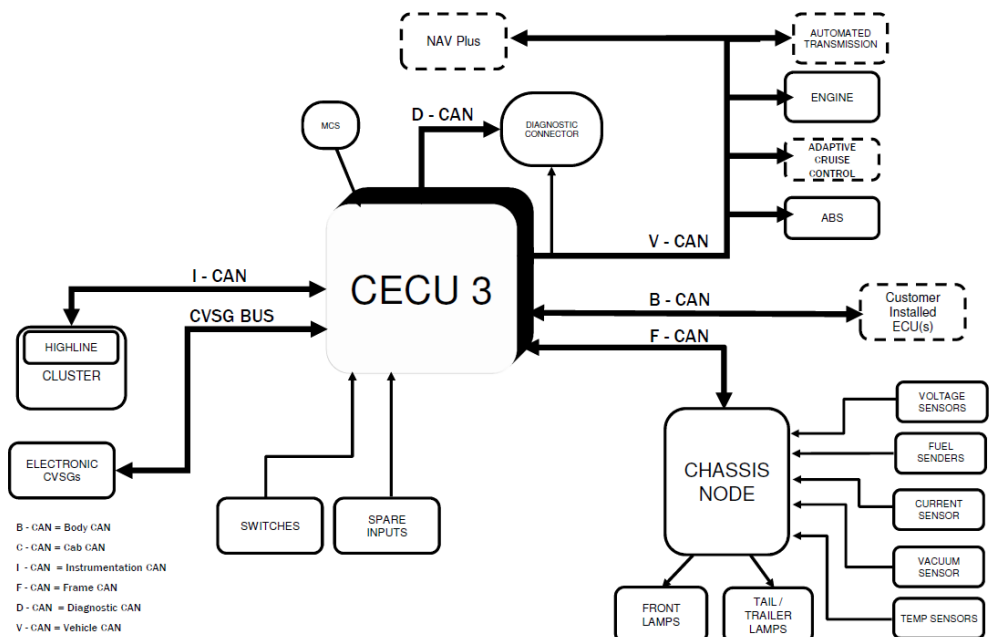
# U1130

<b>Code number</b>	U1130
<b>Fault code description</b>	CAN communication - Message (AT1HI) out of range - Distance between active DPF regenerations from emission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b>: Connected via Frame CAN.</li> <li><b>Tail / Trailer Lamps</b>: Connected via Frame CAN.</li> <li><b>CVSG BUS</b> (Control Valve Solenoid Group): Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups): Connected via Instrumentation CAN.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> <li><b>Sensors</b>: Connected to CHASSIS NODE, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN.</p>

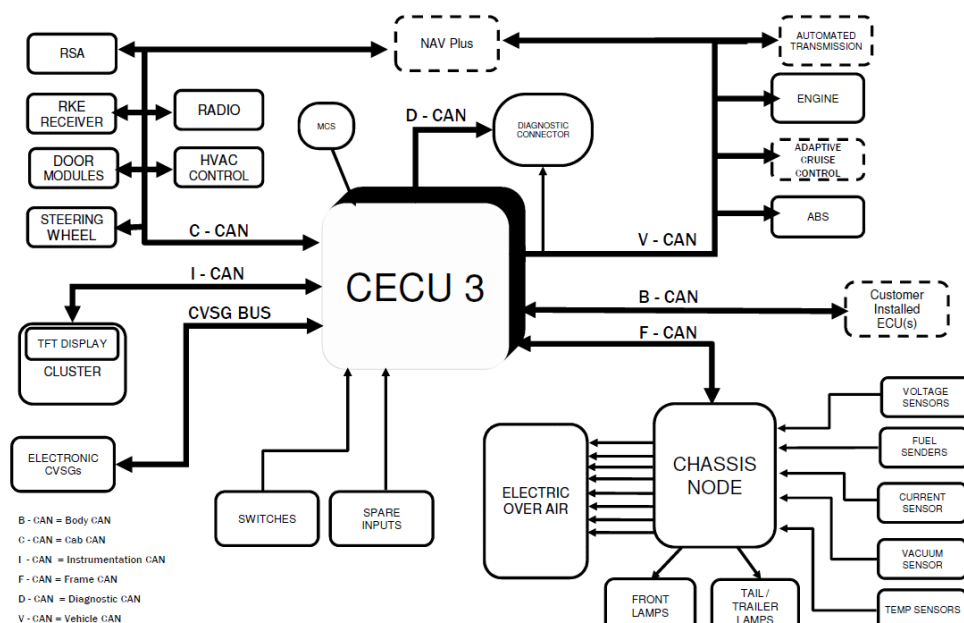
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



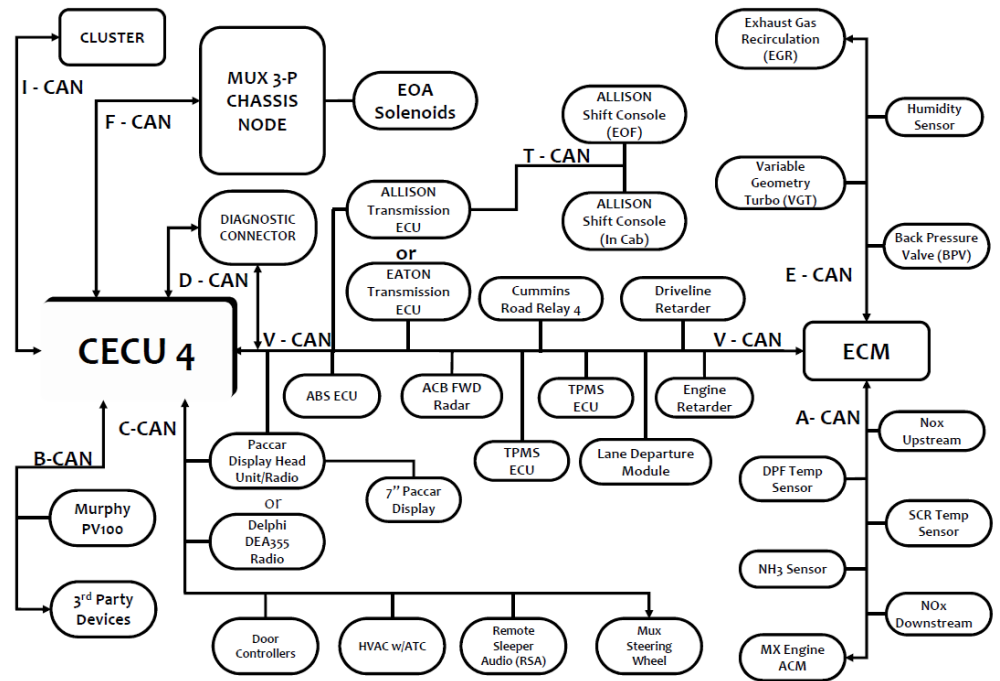
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>Breakdown in communication in the CAN network</li><li>Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1130a</td><td>SRT</td></tr><tr><td colspan="3">Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</td></tr></table>			Step 1	Step ID 1130a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Step 1	Step ID 1130a	SRT							
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.									

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1130b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1130c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>			
	Step 4	Step ID 1130d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

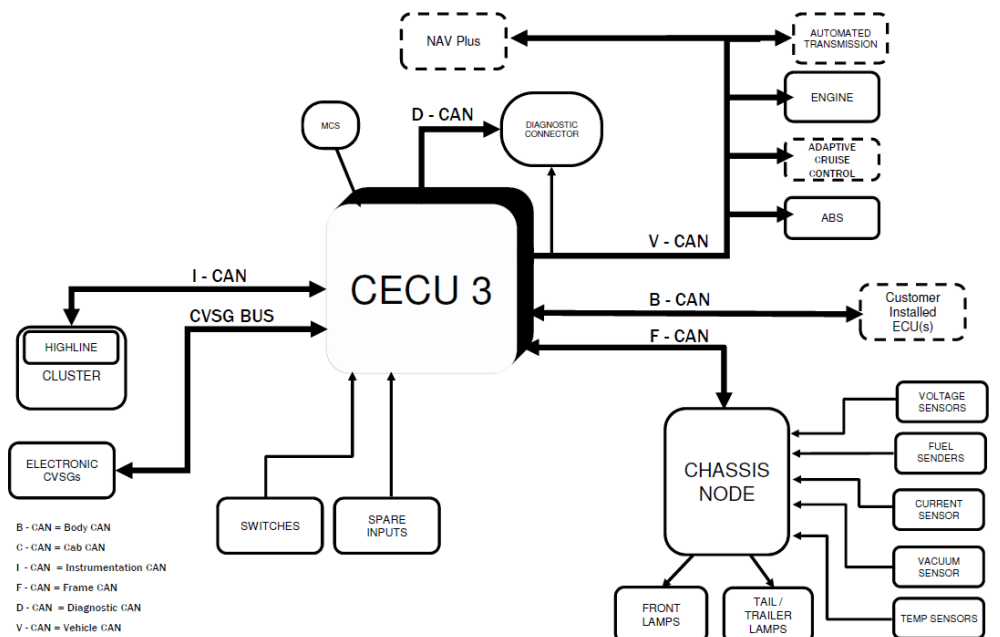
## U1132

<b>Code number</b>	U1132
<b>Fault code description</b>	CAN communication - Message (CM1) rate too low from vehicle controller
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. It includes:             <ul style="list-style-type: none"> <li>VOLTAGE SENSORS</li> <li>FUEL SENDERS</li> <li>CURRENT SENSOR</li> <li>PRESSURE SENSORS</li> <li>VACUUM SENSOR</li> <li>TEMP SENSORS</li> <li>FRONT LAMPS</li> <li>TAIL / TRAILER LAMPS</li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> <li><b>CVSG BUS</b> (Cable Vehicle Signal Generator Bus): Connected to CECU 3 and ELECTRONIC CVSG's.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN, Vehicle CAN, and Aftertreatment CAN networks.</p>

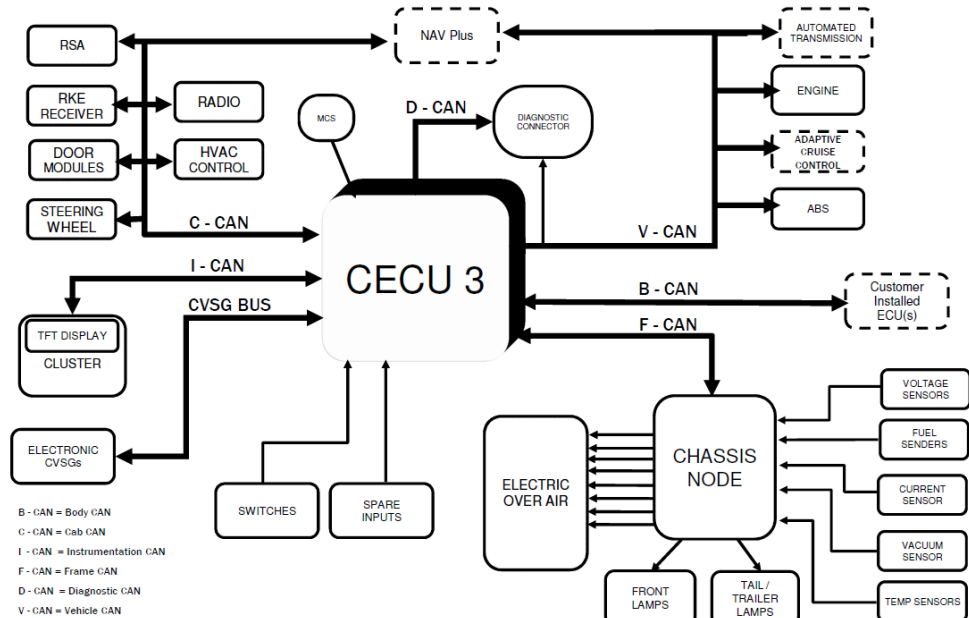
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>Breakdown in communication in the CAN network</li> <li>Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring</li> </ul>							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1132a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3"> <b>Visual Inspection</b>  OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. </td></tr> </tbody> </table>		Step 1	Step ID 1132a	SRT	<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Step 1	Step ID 1132a	SRT						
<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.								

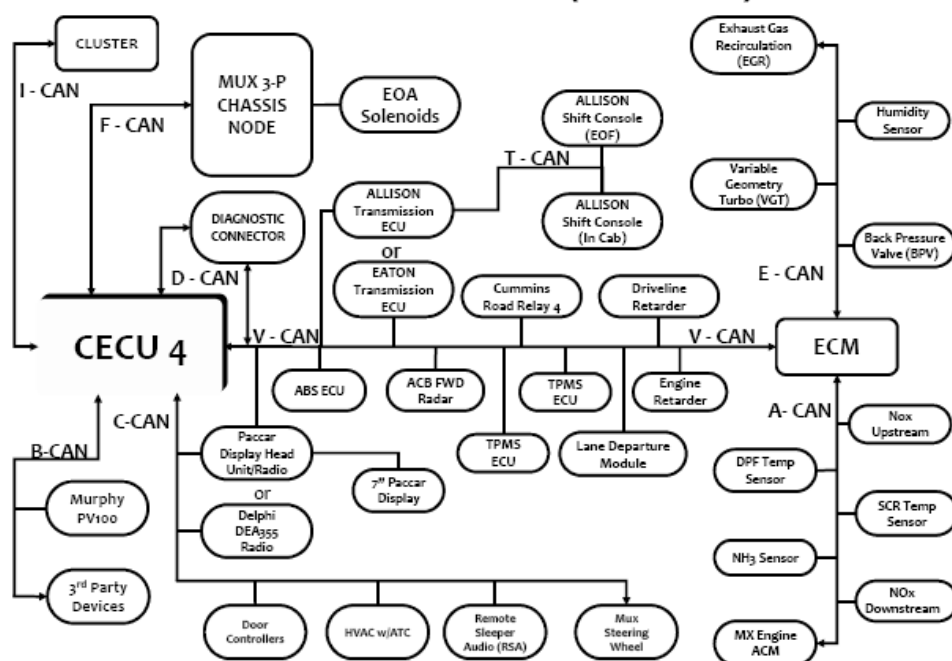


	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1132b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1132c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>			
	Step 4	Step ID 1132d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

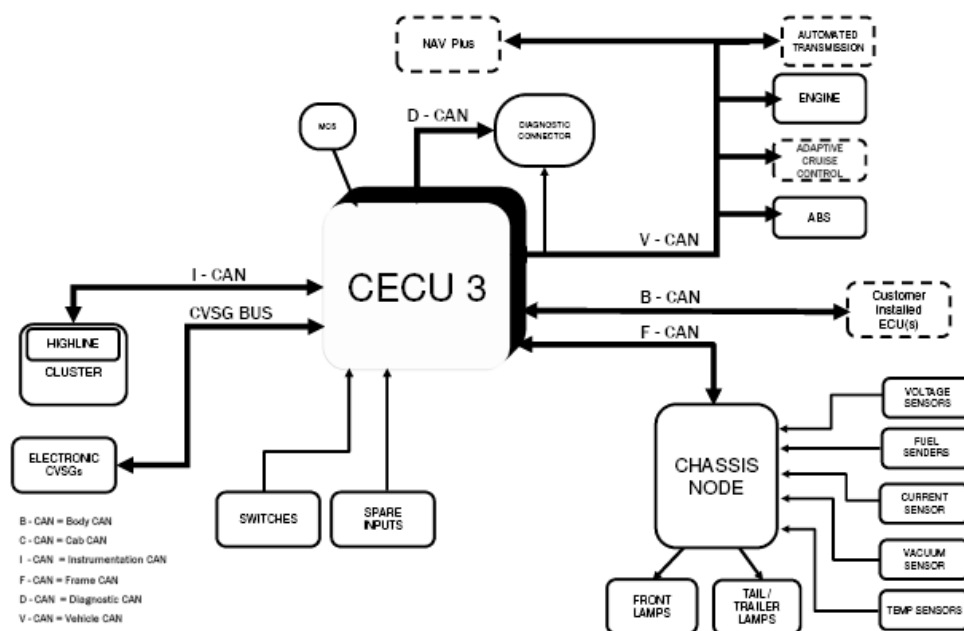
## U1134

<b>Code number</b>	U1134
<b>Fault code description</b>	CAN communication - Message (A1SCRDSR2) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message A1SCRDSR2 is missing for more than 1.5 sec.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b>NAMUX 3 Architecture: 2010 B-Cab</b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which acts as the primary communication hub. It is connected to several key systems:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b>: Connected via CVSG BUS.</li> <li><b>Diagnostic CAN</b>: Connected to the Diagnostic Connector.</li> <li><b>Vehicle CAN</b>: Connected to the ABS and PACCAR Display.</li> <li><b>Engine CAN</b>: Connected to the Engine and VGT Actuator.</li> <li><b>Aftertreatment CAN</b>: Connected to the After-treatment DCU.</li> <li><b>CHASSIS NODE</b>: Connected to various sensors including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors. It also controls Front Lamps and Tail/Trailer Lamps.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected directly to the CECU 3.</li> </ul> <p>The diagram also shows Firewall boundaries separating different communication domains.</p>

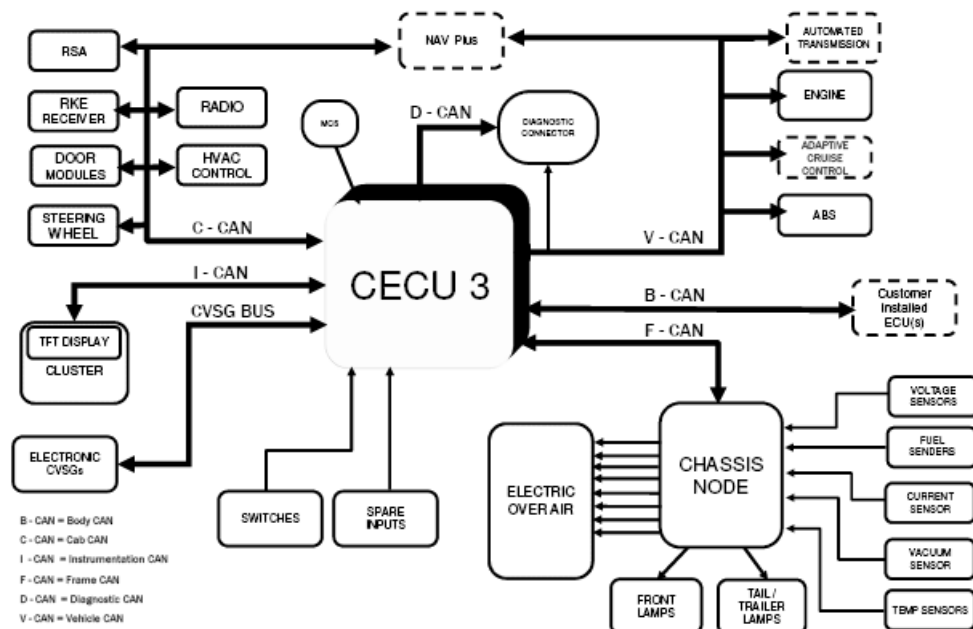
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.





- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1134a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1134b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1134c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>		
Step 4	Step ID 1134d	SRT	
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

## U1136

<b>Code number</b>	U1136
<b>Fault code description</b>	CAN communication - Message (HRW) rate too low from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message HRW is missing for more than 0.06 seconds.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>• Breakdown in communication in the CAN network</li> <li>• Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring</li> <li>• Incorrect male terminal in J1939 network that can cause intermittent communication</li> </ul>
<b>Additional information</b>	No additional information available.
<b>Diagnostic Step-by-Step</b>	<div>  <p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p> </div> <div>  <ul style="list-style-type: none"> <li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PMCI are functioning properly.</li> <li>▪ Disconnecting the PMCI connectors during the troubleshooting process will result in multiple errors.</li> <li>▪ 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.</li> <li>▪ 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.</li> </ul> </div>

- This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence provided.

## Step 1. Data Bus Connection Checks

### Step 1.A Visual inspection, J1939 connectors

#### Action

2. Set the ignition switch to OFF.
3. Locate the J1939 connectors on the OEM engine harness, near the firewall on the driver's side of the engine.
4. Visually inspect all J1939 connectors for bent, broken, corroded, or loose pins.
5. Inspect the wires for signs of damage (strain) where they leave the connectors.
6. Inspect male connector pins to ensure that the correct terminal pin type has been installed.



#### Correct terminal pins:

- Thicker material
- Terminal pin ends are almost flush with the top of the plastic terminal separator

#### Incorrect terminal pins:

- Thinner material
- Terminal pins are recessed in the connector socket

Were there any signs of damage to the connectors or connector pins, connector wires, or were any of the terminal connector pins found to be incorrect?

**Yes**

Correct any issues found.  
Refer to step 4.A to perform the corresponding repair verification cycles and rechecks.

**No**

If this code is still present, go to step 2.A	Go to step 2.A
---	----------------

## Step 2. ABS Connection Checks

### Step 2. A Visual inspection, ABS connector

#### Action

- Set the ignition switch to OFF.
- Locate the ABS connector on the inside of the dashboard (refer to the related OEM service information for the particular vehicle make and model).
- Visually inspect the ABS connector for signs of bent, broken, corroded, or loose connector pins.
- Inspect the J1939 wires (green/yellow twisted pair) for signs of damage (strain) where they leave the connectors.

Was there evidence of any of the above?

**Yes**

**No**

Correct any issues found. Refer to Step 4.A to perform the corresponding repair verification cycles and rechecks.

If this code is still present, go to Step 3.A

Go to step 3.A

## Step 3. Data Bus Harness Checks

### Step 3. A Visual inspection, J1939 harness wiring

#### Action

- Set the ignition switch to OFF.
- Visually inspect the J1939 wires (green/yellow twisted pair) in the dash and engine harness for any signs of damage to the insulation caused by heat, chafing, or cuts. Removal of the convolute tubing may be needed to expose the harness wires for a full visual inspection.



It may be necessary to remove the convolute tubing to expose the wires for a full visual inspection.

Were there any signs of damage to the J1939 harness wiring?

**Yes**

**No**



Correct any issues found. Refer to Step 4.A to perform the corresponding repair verification cycles and rechecks.	
If this code is still present, contact the PACCAR Engine Support Center for further assistance.	Contact the PACCAR Engine Support Center for further assistance.

## Step 4. Repair Verification

### Step 4.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

##### 2. Power-up/Electrical

With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.

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 4.B

### Step 4.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 code.


Has U1136 been cleared?

**Yes**

**No**

Problem resolved. No further actions.

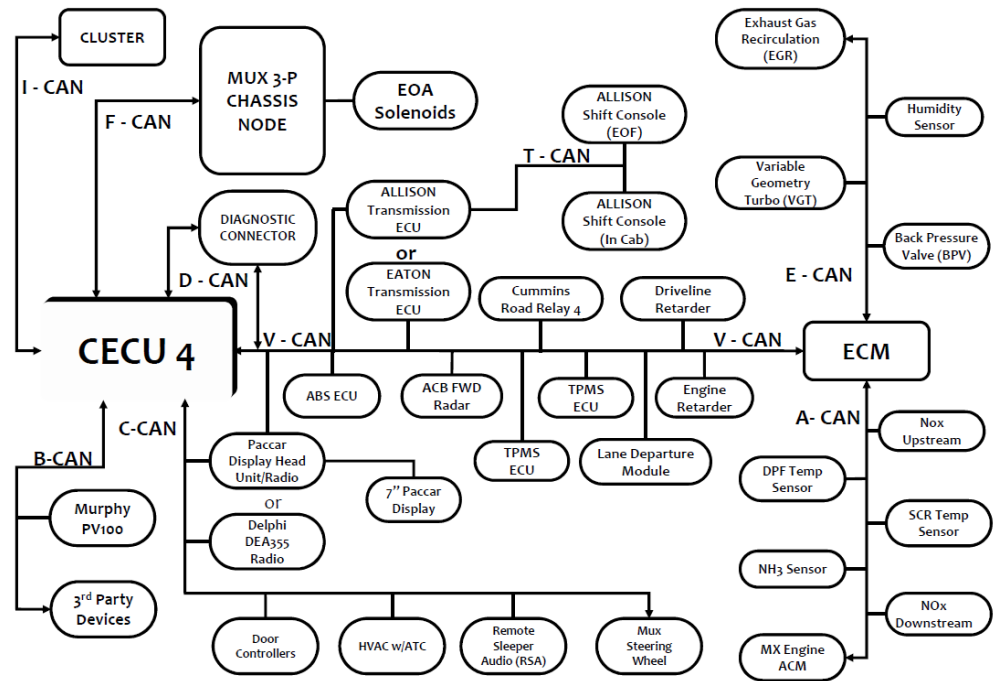
Continue with the next step in this troubleshooting procedure. If all steps have been completed and this trouble code is still present, contact the PACCAR Engine Support Center for further assistance.

	 <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.</p>
	<p><a href="#">Back to Index</a></p>

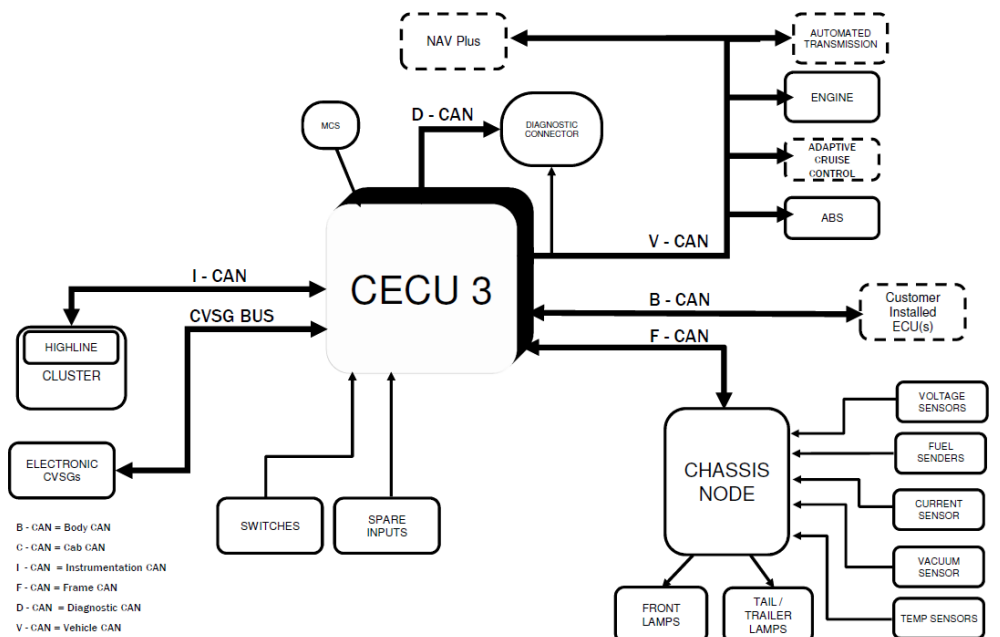
## U1138

<b>Code number</b>	U1138
<b>Fault code description</b>	CAN communication - Message (TSC_AE) rate too low from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Motor Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Diesel Exhaust Fluid Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. This node manages various sensors and actuators:             <ul style="list-style-type: none"> <li><b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected directly to CECU 3.</li> <li><b>CVSG BUS</b> (Cabin Ventilation System Control Bus): Connected to CECU 3.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Cabin Ventilation Systems): Connected via CVSG BUS.</li> </ul> <p>The diagram also shows a <b>FIREWALL</b> separating the Engine/Aftertreatment CAN network from the Vehicle CAN network.</p>

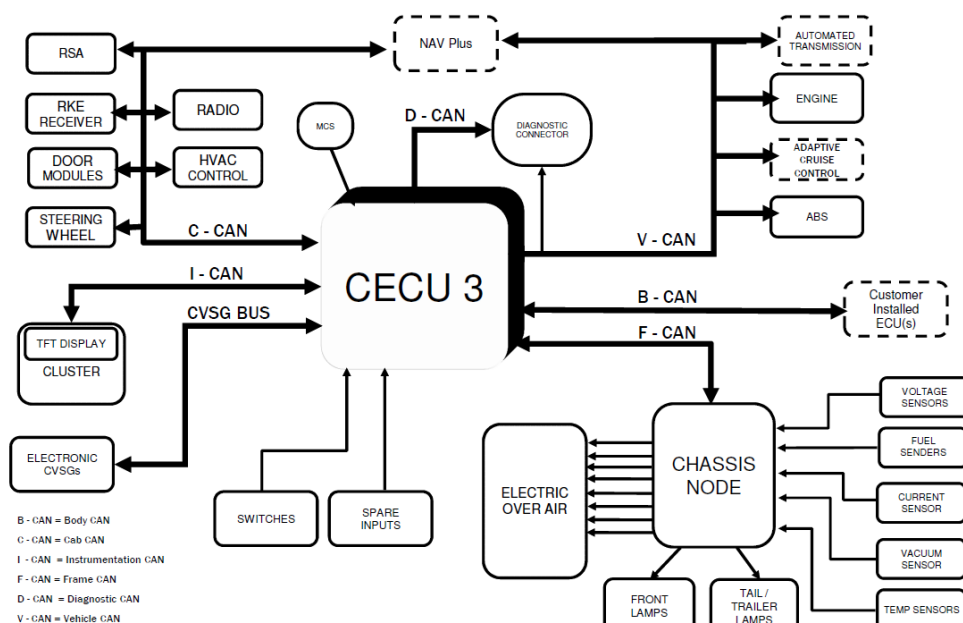
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



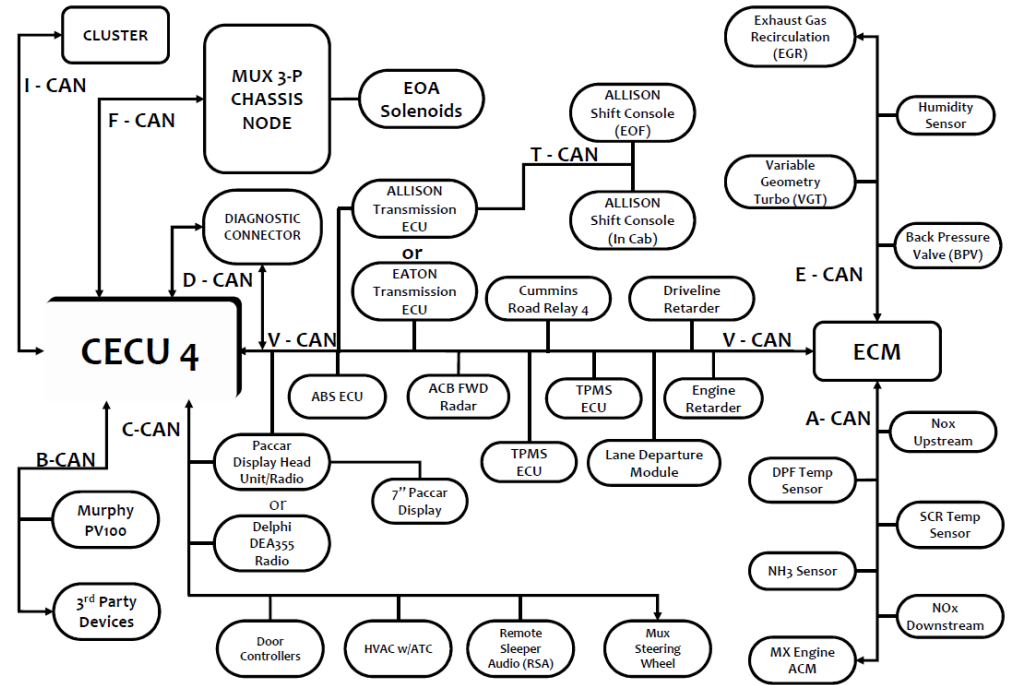
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>Breakdown in communication in the CAN network</li> <li>Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring</li> </ul>							
<b>Additional information</b>	No additional information available.							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1138a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3"> <b>Visual Inspection</b>  OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. </td></tr> </tbody> </table>		Step 1	Step ID 1138a	SRT	<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Step 1	Step ID 1138a	SRT						
<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.								

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1138b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1138c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness .</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>			
	Step 4	Step ID 1138d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

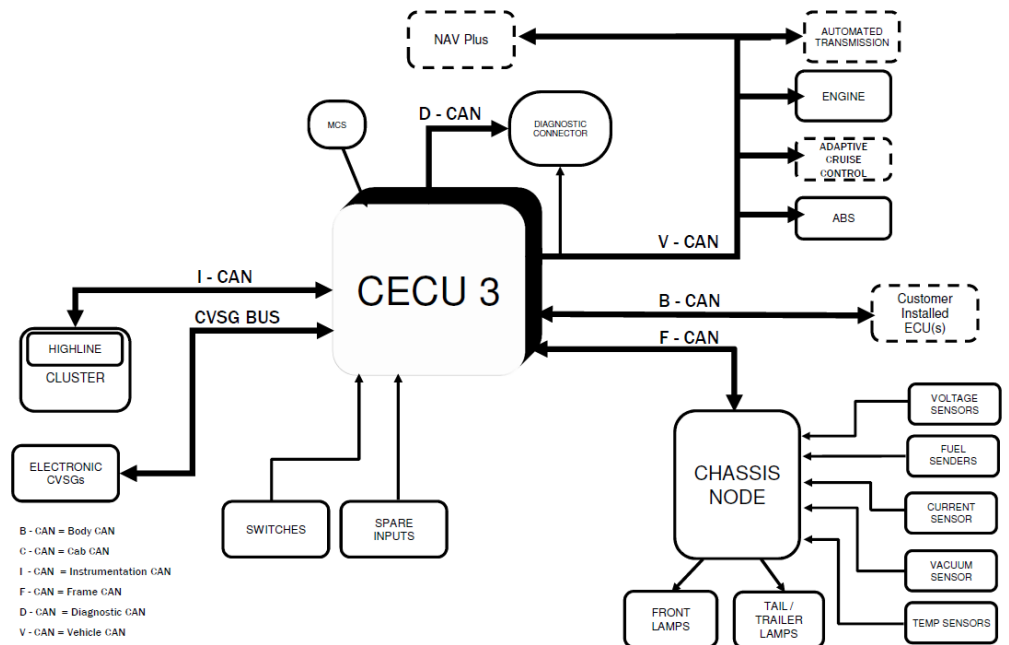
## U113A

<b>Code number</b>	U113A
<b>Fault code description</b>	CAN communication - Message (AT1HI) rate too high from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>MCS</b> (Motor Control System): Connected to CECU 3.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>CVSG BUS</b> (Cruise/Vehicle Speed/Gear Shift Bus): Connected to CECU 3.</li> <li><b>ELECTRONIC CVSG's</b>: Connected to CECU 3.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> <li><b>Diagnostic CAN</b>: Connected to CECU 3 and the DIAGNOSTIC CONNECTOR.</li> <li><b>Vehicle CAN</b>: Connected to CECU 3 and the CHASSIS NODE.</li> <li><b>ABS</b> (Anti-Lock Braking System) and <b>PACCAR Display</b>: Connected to the Vehicle CAN.</li> <li><b>AUTO TRANSMISSION</b>: Connected to the Vehicle CAN.</li> <li><b>Engine CAN</b>: Connected to CECU 3 and the ENGINE.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine Actuator): Connected to the Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected to the Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected to CECU 3 and the Vehicle CAN. It manages various sensors and actuators: <ul style="list-style-type: none"> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>: Connected to the CHASSIS NODE.</li> <li><b>Sensors</b>: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS are connected to the CHASSIS NODE.</li> </ul> </li> </ul> <p>The diagram also shows a <b>FIREWALL</b> separating the CECU 3 from the CHASSIS NODE and the <b>Aftertreatment CAN</b> connecting the ENGINE to the After-treatment DCU.</p>

## NAMUX 4 Architecture (Phase 1): T680

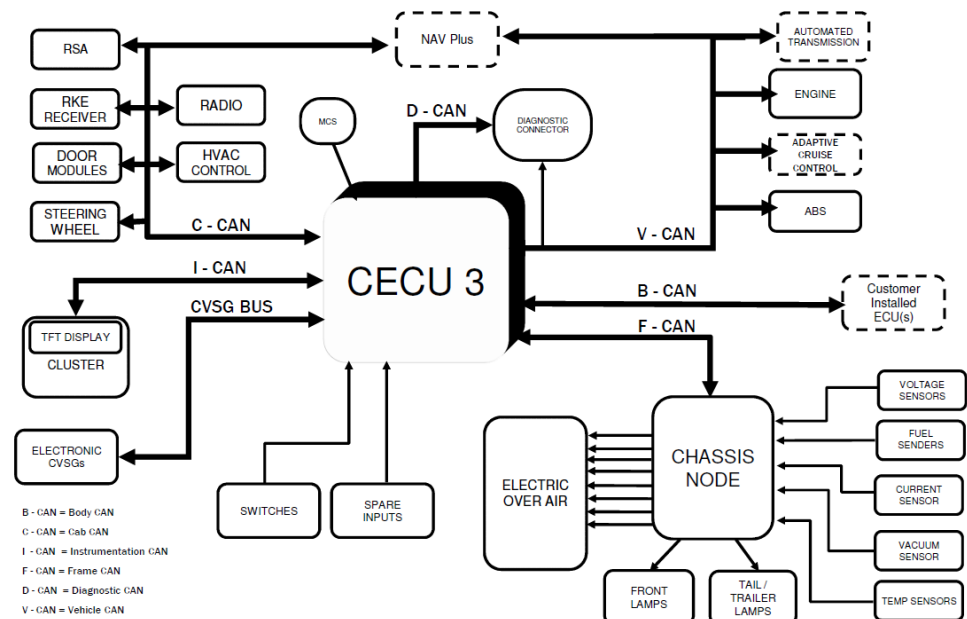


## NAMUX 3 Architecture





## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Fault in aftertreatment ECU

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.

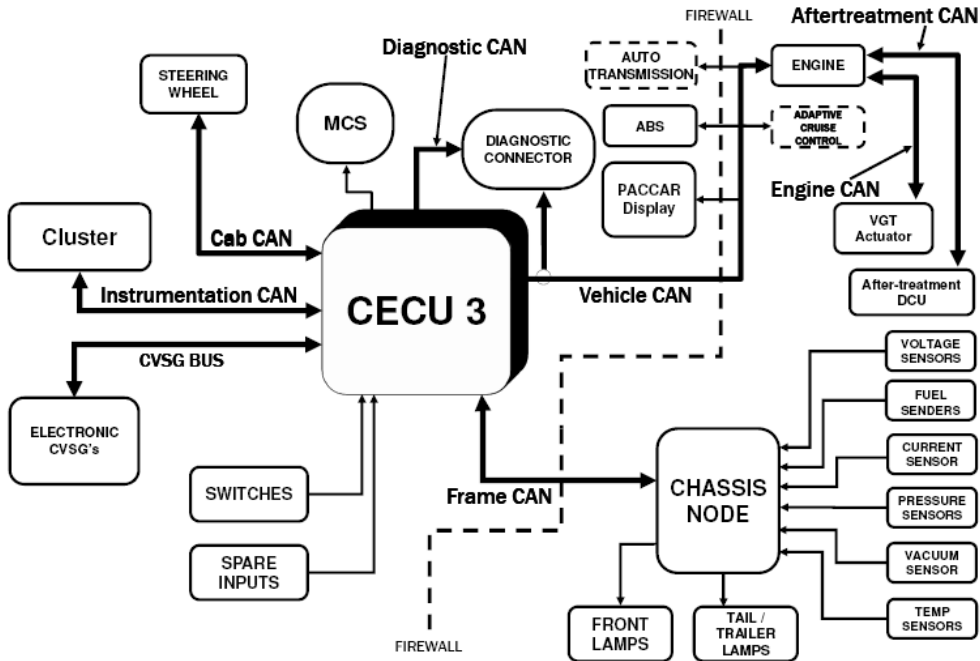


- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

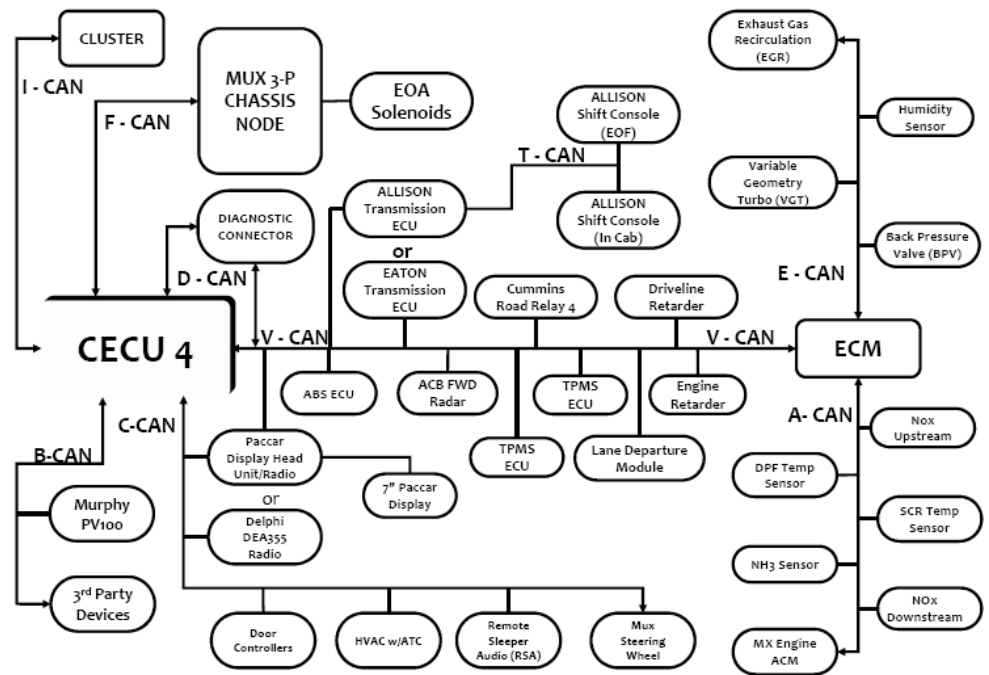
Step 1	Step ID 113A-a	SRT
<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Was there evidence of any of the above?		

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 113A-b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 113A-b	SRT
	Step 2	Step ID 113A-b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 113A-c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness .</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 113A-c	SRT
	Step 3	Step ID 113A-c	SRT	
<table><tr><td>Step 4</td><td>Step ID 113A-d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 113A-d	SRT	
Step 4	Step ID 113A-d	SRT		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<div>Back to Index</div>			

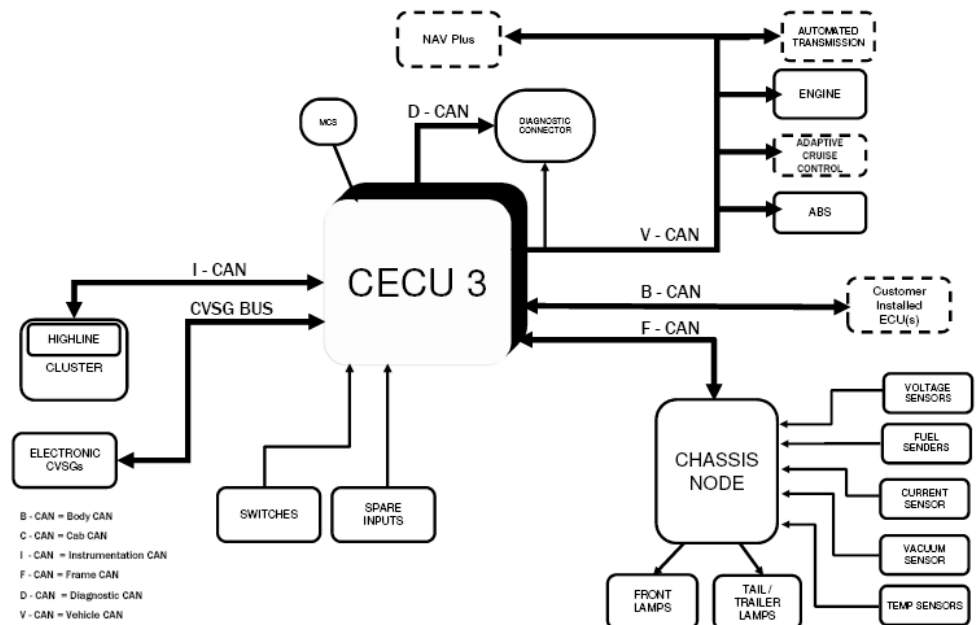
## U113D

<b>Code number</b>	U113D
<b>Fault code description</b>	CAN communication - Message (A1SCRDSI2) rate too low
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message A1SCRDSI2 is missing for more than 1.5 seconds.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	 <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which is connected to several CAN buses and other systems:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connected to the MCS (Message Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connected to the Steering Wheel and the Cluster.</li> <li><b>Instrumentation CAN:</b> Connected to the Cluster.</li> <li><b>CVSG BUS:</b> Connected to the Electronic CVSG's (Control Valve Solenoid Groups).</li> <li><b>Vehicle CAN:</b> Connected to the ABS (Anti-Lock Braking System), PACCAR Display, and the Chassis Node.</li> <li><b>Engine CAN:</b> Connected to the Engine, Adaptive Cruise Control, and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connected to the After-treatment DCU (Differential Control Unit).</li> <li><b>Frame CAN:</b> Connected to the Chassis Node.</li> <li><b>Chassis Node:</b> Connected to the Front Lamps, Tail / Trailer Lamps, and various sensors including Voltage, Fuel, Current, Pressure, Vacuum, and Temperature sensors.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

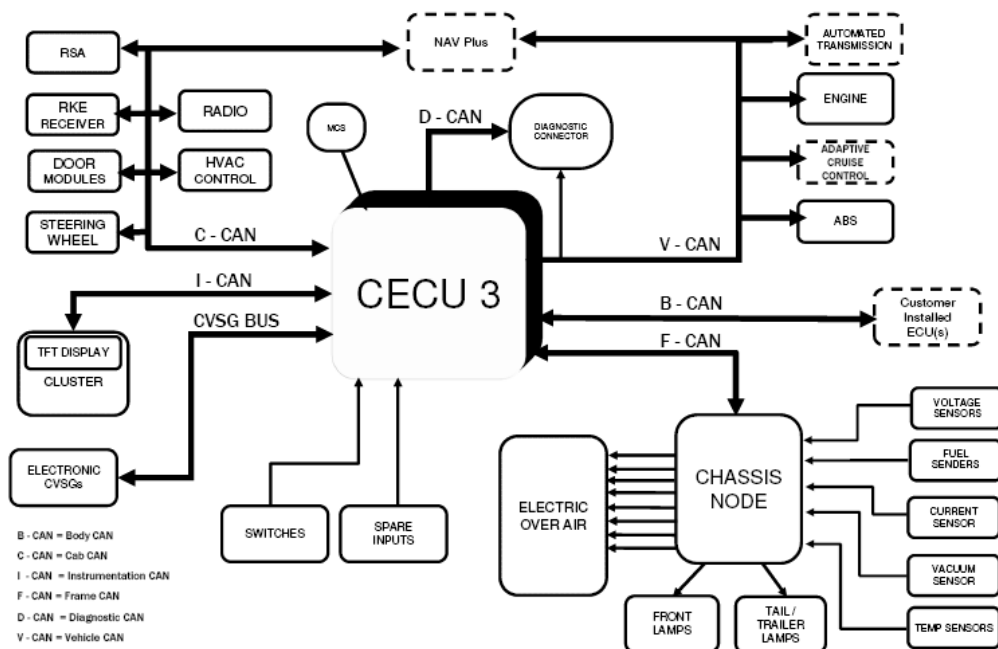
NAMUX 3 Architecture: 2010 B-Cab





NAMUX 4 Architecture (Phase 1): T680



NAMUX 3 Architecture



NAMUX 4 Architecture

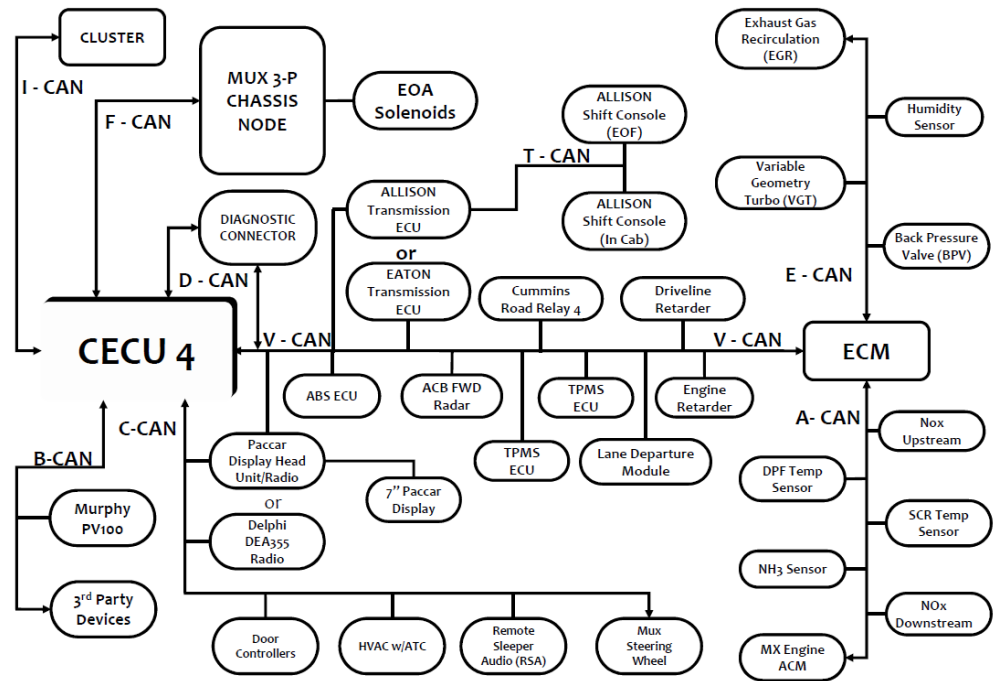
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available.								
Diagnostic Step-by-Step	<div><div></div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 113D-a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 113D-a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 113D-a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 113D-b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 113D-b	SRT
	Step 2	Step ID 113D-b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 113D-c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 113D-c	SRT
	Step 3	Step ID 113D-c	SRT	
<table><tr><td>Step 4</td><td>Step ID 113D-d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 113D-d	SRT	
Step 4	Step ID 113D-d	SRT		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<div>Back to Index</div>			

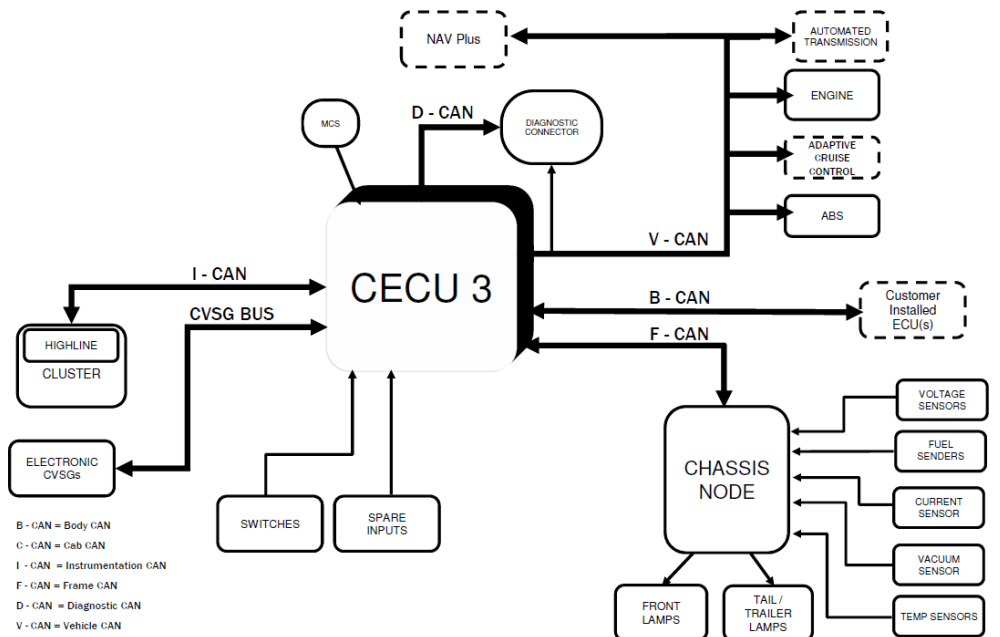
# U1144

<b>Code number</b>	U1144
<b>Fault code description</b>	CAN communication - Message (TD) rate too low from tachograph
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the Electronic CVSG's (Control Valve Solenoid Group).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and Diagnostic Connector.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the Engine, Adaptive Cruise Control, and VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>CHASSIS NODE:</b> Connects CECU 3 to the Front Lamps, Tail / Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temp).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>FIREWALL:</b> Indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the CHASSIS NODE.</li> </ul>

## NAMUX 4 Architecture (Phase 1): T680

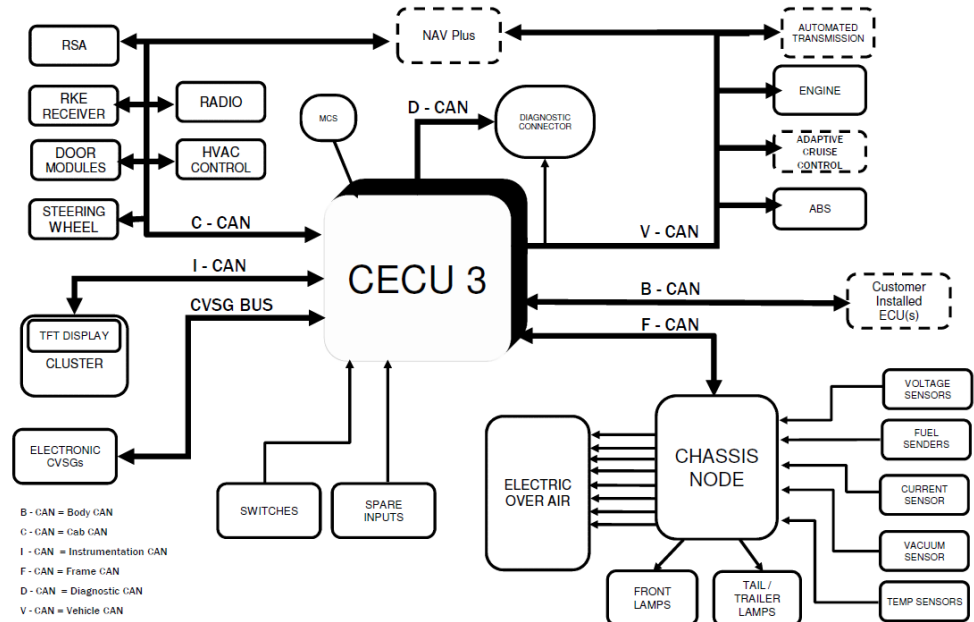




## NAMUX 3 Architecture





## NAMUX 4 Architecture



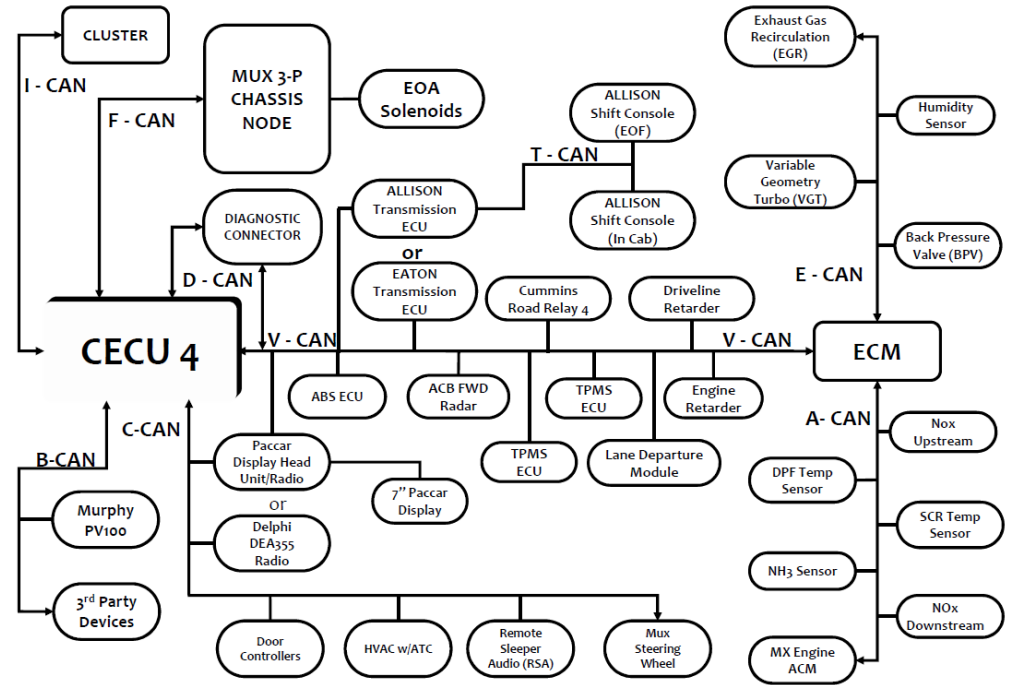
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring.</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pin out locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1144a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 1144a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 1144a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

	<ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1144b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1144b	SRT
Step 2	Step ID 1144b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 1144c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1144c	SRT
Step 3	Step ID 1144c	SRT		
	<table><tr><td>Step 4</td><td>Step ID 1144d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1144d	SRT
Step 4	Step ID 1144d	SRT		
Verification Drive Cycle	To verify the repair: With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics With the brakes set, start the engine and allow it to run at idle for 2 minutes			
	<a href="#">Back to Index</a>			

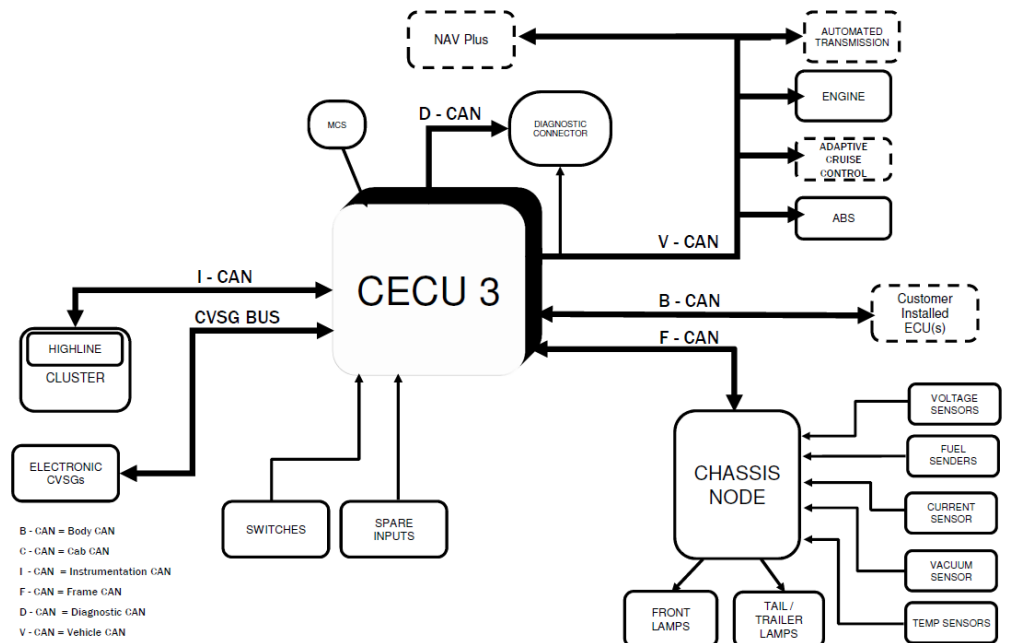
# U1145

<b>Code number</b>	U1145
<b>Fault code description</b>	CAN communication - Message (A1SCRRSI) rate too low
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message A1SCRRSI is missing for more than 3 seconds.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connected to the MCS (Master Control Switch) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connected to the STEERING WHEEL and the CLUSTER.</li> <li><b>Instrumentation CAN:</b> Connected to the CLUSTER.</li> <li><b>CVSG BUS:</b> Connected to the ELECTRONIC CVSG's (Crankshaft Position Sensor).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connected to the CECU 3 and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connected to the CECU 3 and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connected to the CECU 3 and the ENGINE.</li> <li><b>After-treatment CAN:</b> Connected to the CECU 3 and the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connected to the CECU 3 and the FRAME CAN. It controls FRONT LAMPS and TAIL / TRAILER LAMPS.</li> <li><b>Engine and After-treatment Components:</b> The ENGINE is connected to the ENGINE CAN and the After-treatment CAN. The After-treatment DCU is connected to the After-treatment CAN and the VGT Actuator.</li> <li><b>Sensors:</b> The CHASSIS NODE is connected to VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

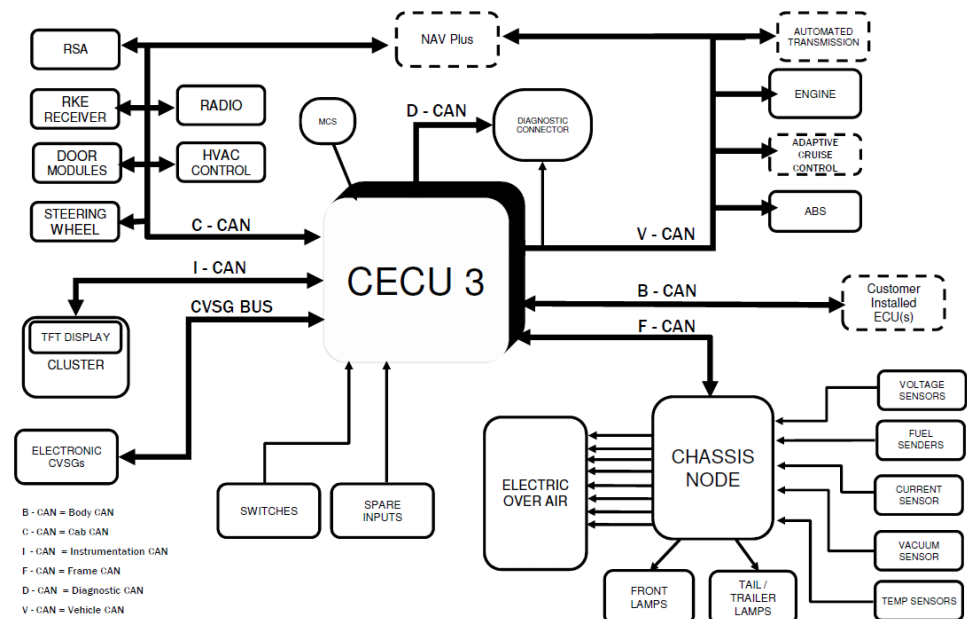
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.


### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available.

### Diagnostic Step-by-Step

 Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



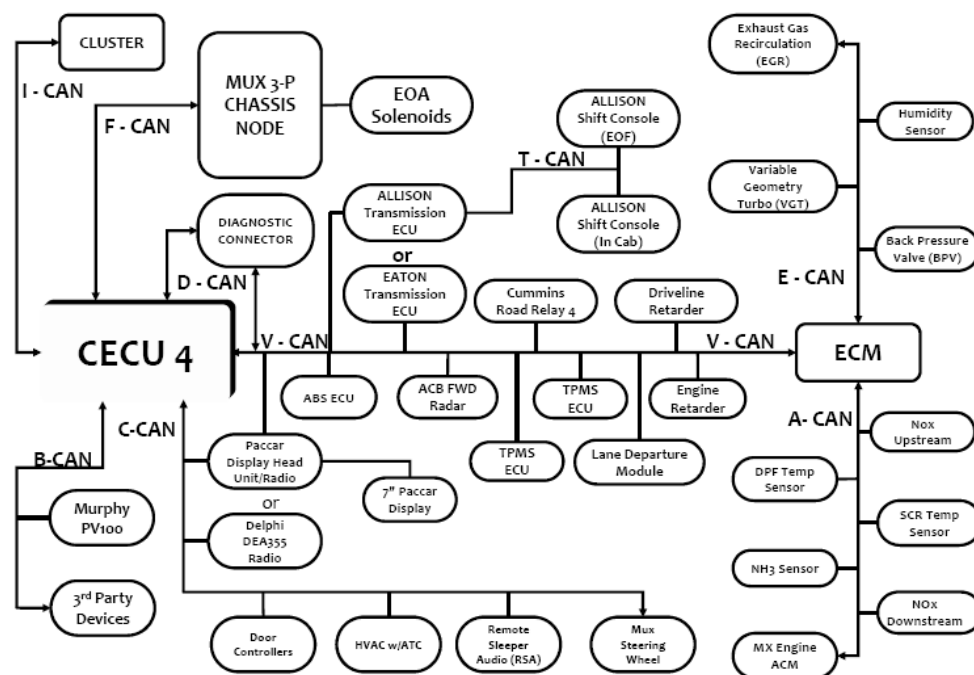
- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1145a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic		

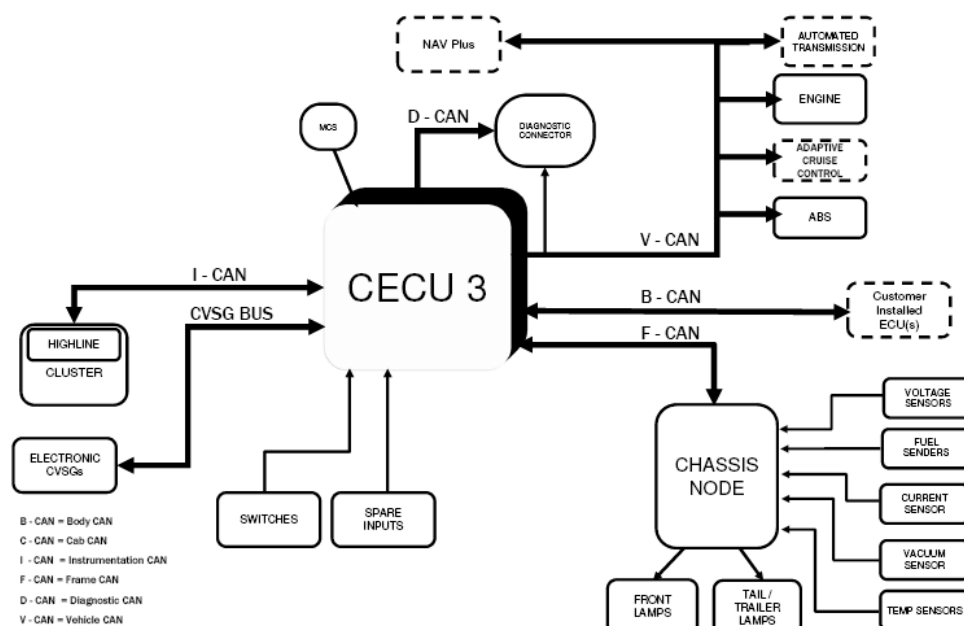
	<p>procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1145b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step 4</li></ul>		
	Step 3	Step ID 1145c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>			
	Step 4	Step ID 1145d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

## U1147

<b>Code number</b>	U1147
<b>Fault code description</b>	CAN communication - Message (A1SCRRSI) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message A1SCRRSI is missing for more than 1.5 seconds.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected to CECU 3.</li> <li><b>Diagnostic CAN</b>: Connected to CECU 3 and a Diagnostic Connector.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>CVSG BUS</b>: Connected to CECU 3 and Electronic CVSG's.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> <li><b>Vehicle CAN</b>: Connected to CECU 3 and a Firewall.</li> <li><b>Frame CAN</b>: Connected to CECU 3 and a Firewall.</li> <li><b>CHASSIS NODE</b>: Connected to CECU 3 and a Firewall. It includes Front Lamps and Tail / Trailer Lamps.</li> <li><b>Engine CAN</b>: Connected to CECU 3 and a Firewall. It includes the Engine, Adaptive Cruise Control, VGT Actuator, and After-treatment DCU.</li> <li><b>Aftertreatment CAN</b>: Connected to the Engine CAN and After-treatment DCU.</li> <li><b>Sensors</b>: Connected to the CHASSIS NODE, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> </ul> <p>The diagram also shows a Firewall separating the Diagnostic CAN from the Vehicle CAN and Frame CAN, and another Firewall separating the Engine CAN from the Aftertreatment CAN.</p> <p style="text-align: center;">NAMUX 3 Architecture: 2010 B-Cab</p>

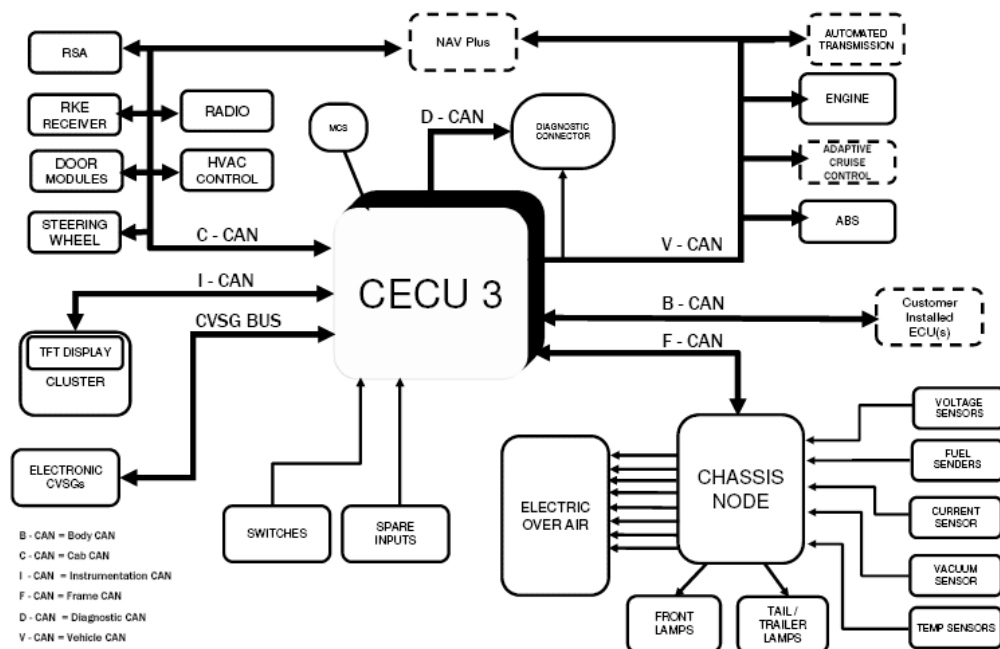


NAMUX 4 Architecture (Phase 1): T680





NAMUX 3 Architecture





NAMUX 4 Architecture

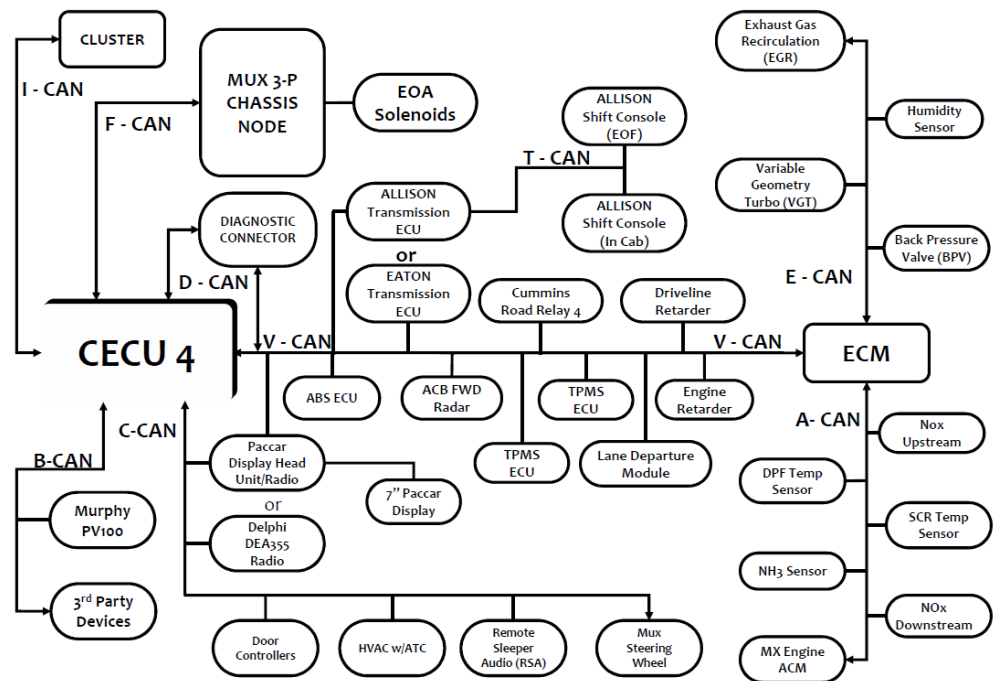
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available.								
Diagnostic Step-by-Step	<div><div></div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1147a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 1147a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 1147a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1147b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 1147b	SRT
	Step 2	Step ID 1147b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1147c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 1147c	SRT
	Step 3	Step ID 1147c	SRT	
<table><tr><td>Step 4</td><td>Step ID 1147d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1147d	SRT	
Step 4	Step ID 1147d	SRT		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<div>Back to Index</div>			

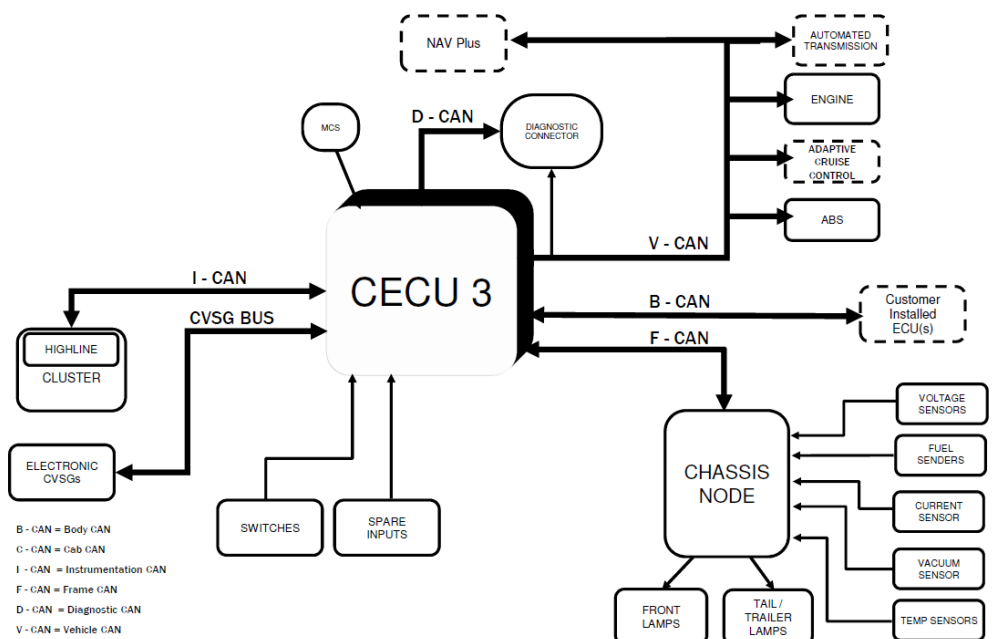
## U1149

<b>Code number</b>	U1149
<b>Fault code description</b>	CAN communication - Message (DCUST1) rate too low from emission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Message Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. This node manages various sensors and actuators:             <ul style="list-style-type: none"> <li><b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected directly to CECU 3.</li> <li><b>CVSG BUS</b> (Cabin Vehicle Signal Generator): Connected to CECU 3.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Cabin Vehicle Signal Generators): Connected to CECU 3.</li> </ul> <p>The diagram also shows a <b>FIREWALL</b> separating the CECU 3 from the CHASSIS NODE and the Engine/Aftertreatment CAN systems.</p>

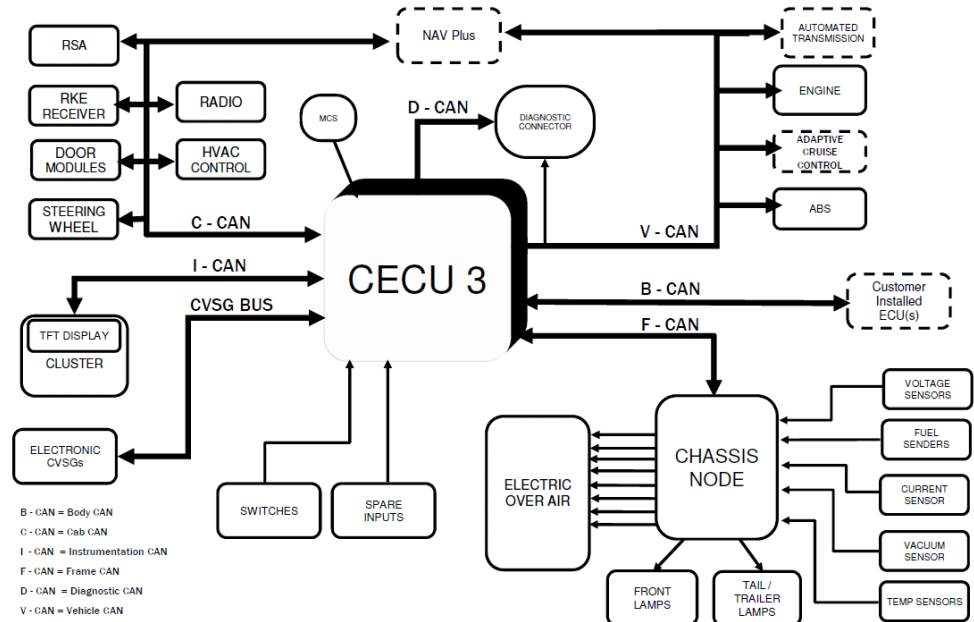
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

#### Step 1

Step ID 1149a

SRT

#### Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

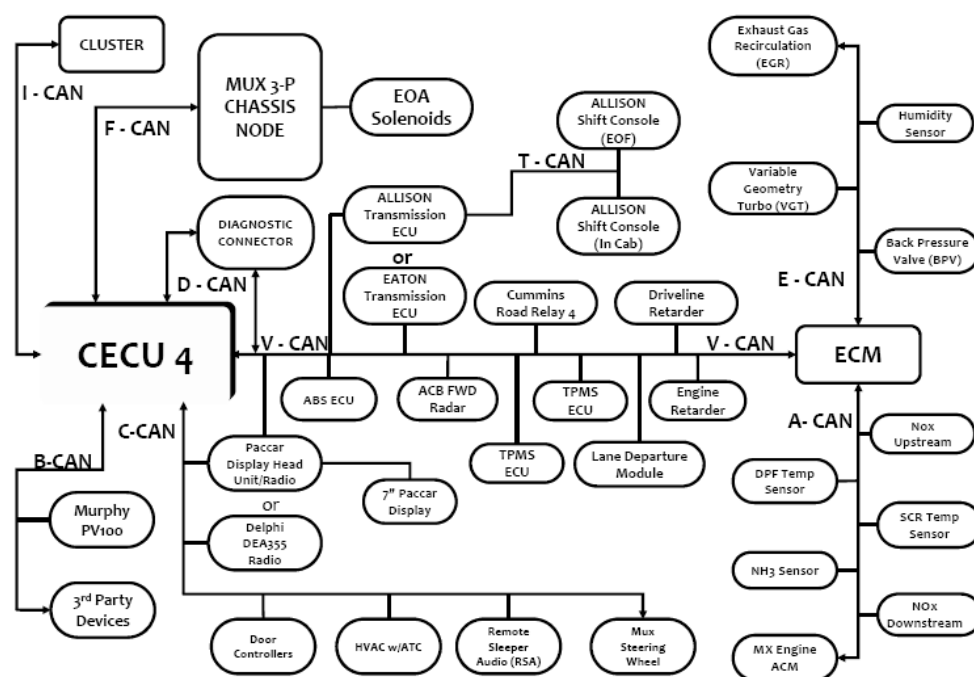
Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>f this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1149b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1149c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness .</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive : Issue resolved. Clear inactive fault</li></ul>			
	Step 4	Step ID 1149d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

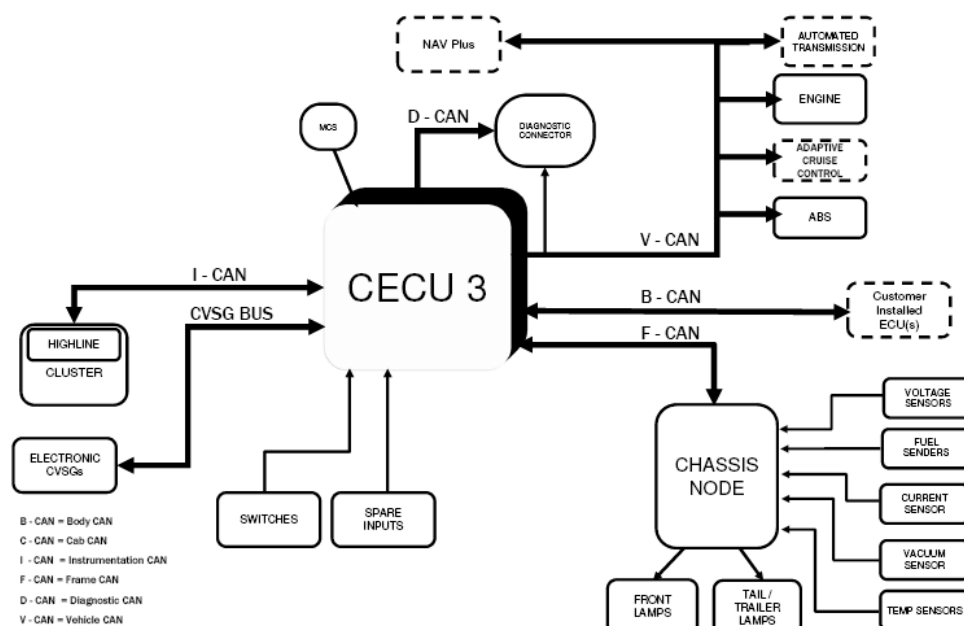
## U114A

<b>Code number</b>	U114A
<b>Fault code description</b>	CAN communication - Message (A1SCREGT) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message A1SCREGT is missing for more than 1.5 seconds.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key components and networks:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected to CECU 3.</li> <li><b>Diagnostic CAN</b>: Connected to CECU 3 and a Diagnostic Connector.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>CVSG BUS</b>: Connected to CECU 3 and Electronic CVSG's.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> <li><b>Vehicle CAN</b>: Connected to CECU 3 and a Firewall.</li> <li><b>Frame CAN</b>: Connected to CECU 3 and a Firewall.</li> <li><b>CHASSIS NODE</b>: Connected to CECU 3 and a Firewall. It manages various sensors and actuators:             <ul style="list-style-type: none"> <li><b>Front Lamps</b> and <b>Tail / Trailer Lamps</b>.</li> <li><b>Voltage Sensors</b>, <b>Fuel Senders</b>, <b>Current Sensor</b>, <b>Pressure Sensors</b>, <b>Vacuum Sensor</b>, and <b>Temp Sensors</b>.</li> </ul> </li> <li><b>Engine CAN</b>: Connected to CECU 3 and a Firewall. It manages the <b>Engine</b> and <b>Aftertreatment CAN</b>.</li> <li><b>Aftertreatment CAN</b>: Connected to CECU 3 and a Firewall. It manages the <b>Engine</b>, <b>Adaptive Cruise Control</b>, <b>VGT Actuator</b>, and <b>After-treatment DCU</b>.</li> </ul> <p>The diagram also shows a <b>DIAGNOSTIC CONNECTOR</b> and a <b>PACCAR Display</b> connected to the Diagnostic CAN network.</p>

NAMUX 3 Architecture: 2010 B-Cab

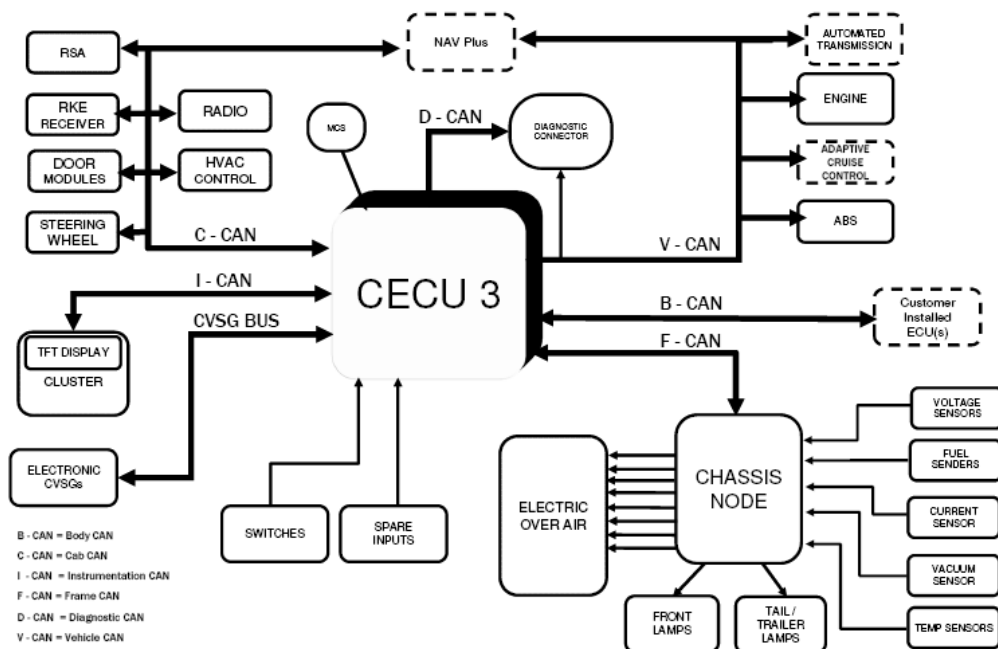


NAMUX 4 Architecture (Phase 1): T680





NAMUX 3 Architecture



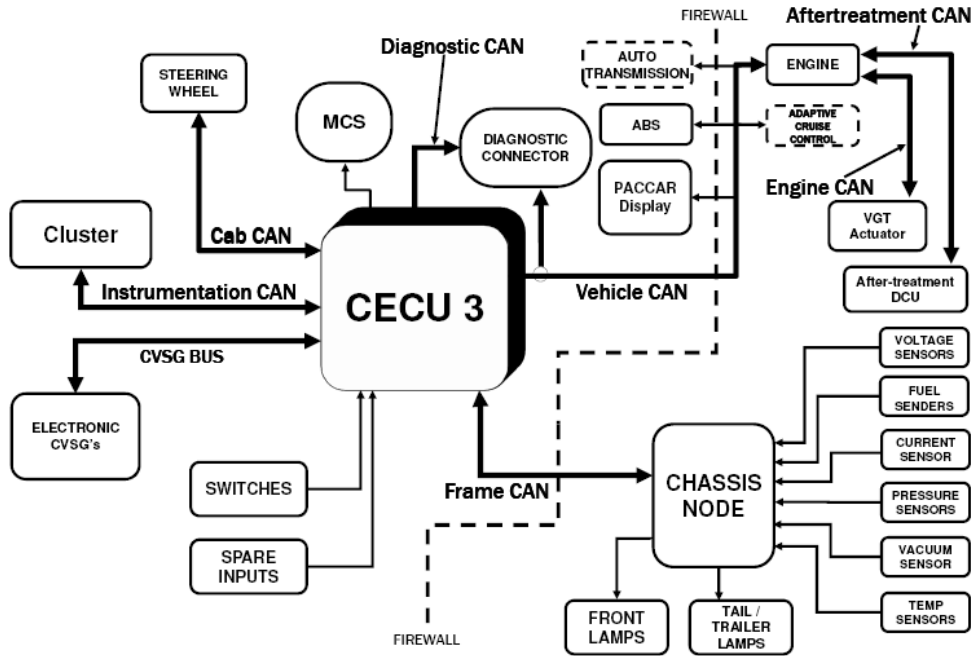


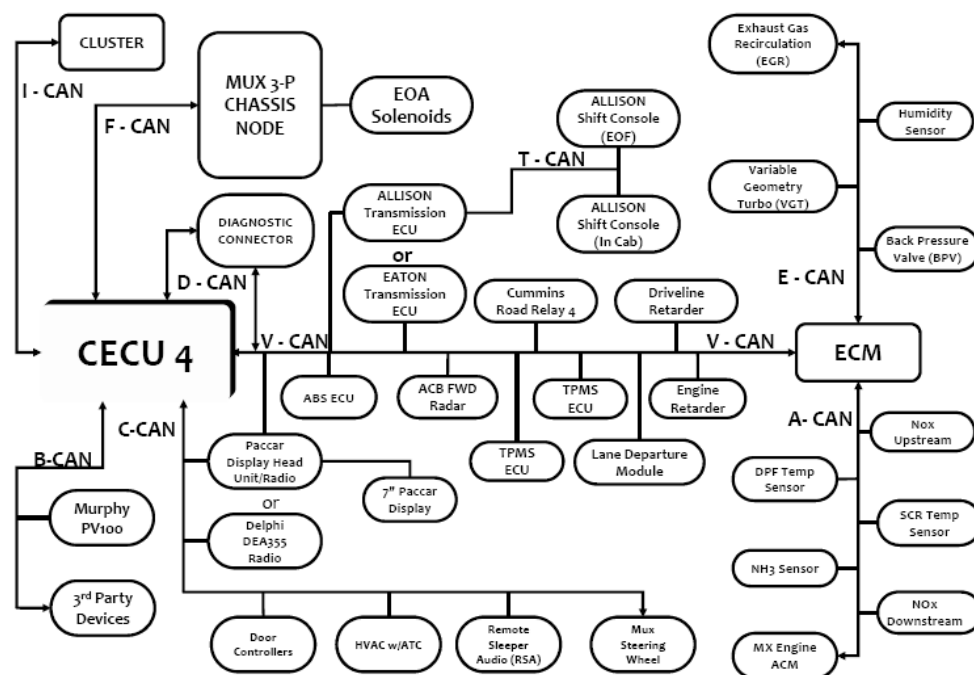
NAMUX 4 Architecture

Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available.								
Diagnostic Step-by-Step	<div><div></div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 114A-a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 114A-a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 114A-a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

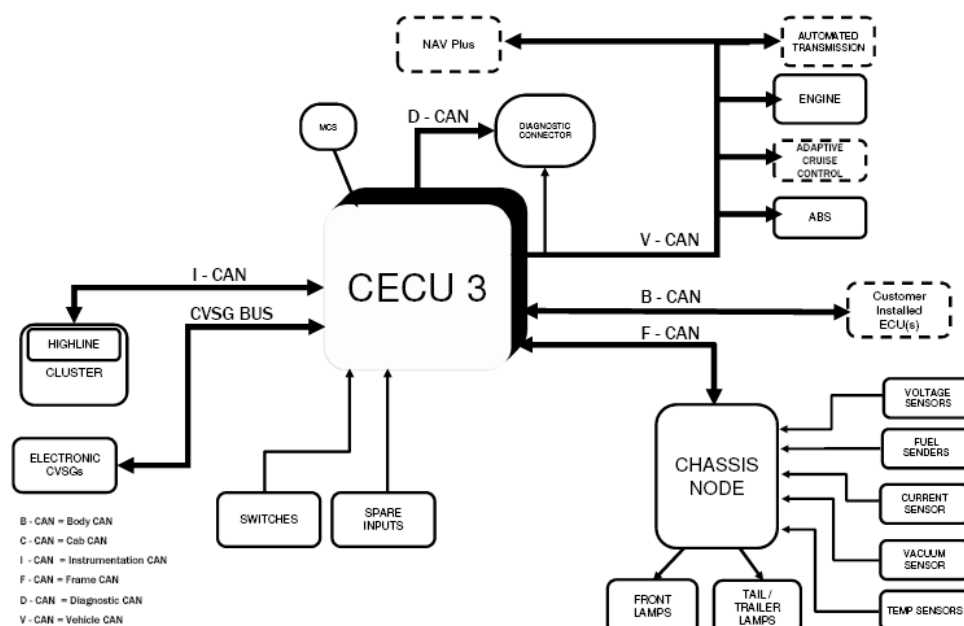
	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 114A-b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 114A-b	SRT
	Step 2	Step ID 114A-b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 114A-c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 114A-c	SRT
	Step 3	Step ID 114A-c	SRT	
<table><tr><td>Step 4</td><td>Step ID 114A-d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 114A-d	SRT	
Step 4	Step ID 114A-d	SRT		
<b>Verification Drive Cycle</b>	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<div>Back to Index</div>			

## U114D

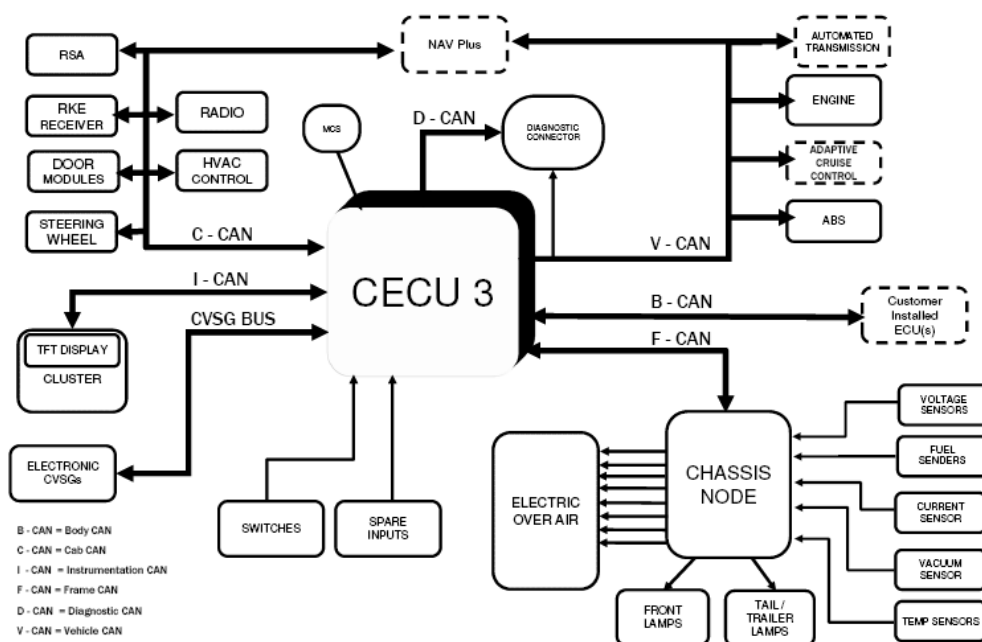
<b>Code number</b>	U114D
<b>Fault code description</b>	CAN communication - Message (A1SCRDSI1) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	CAN command message A1SCRDSI1 is missing for more than 1.5 seconds.
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	 <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which is connected to several CAN buses and other systems:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connected to the MCS (Message Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connected to the Steering Wheel, Cluster, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connected to the Cluster and the CVSG BUS.</li> <li><b>CVSG BUS:</b> Connected to the Electronic CVSG's.</li> <li><b>Vehicle CAN:</b> Connected to the ABS, PACCAR Display, and the Chassis Node.</li> <li><b>Engine CAN:</b> Connected to the Engine, Adaptive Cruise Control, and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connected to the After-treatment DCU.</li> <li><b>Frame CAN:</b> Connected to the Chassis Node.</li> <li><b>Chassis Node:</b> Connected to the Front Lamps, Tail / Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temp).</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p> <p>NAMUX 3 Architecture: 2010 B-Cab</p>





NAMUX 4 Architecture (Phase 1): T680



NAMUX 3 Architecture



NAMUX 4 Architecture

Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available.								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 114D-a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p><ul style="list-style-type: none"><li>• No: Proceed to step 2.</li></ul></td></tr></table>			Step 1	Step ID 114D-a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li></ul>		
Step 1	Step ID 114D-a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li></ul>									

	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements. Use DAVIE to re-check for the presence of active faults.</li><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 114D-b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 114D-b	SRT
Step 2	Step ID 114D-b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 114D-c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 114D-c	SRT
Step 3	Step ID 114D-c	SRT		
	<table><tr><td>Step 4</td><td>Step ID 114D-d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 114D-d	SRT
Step 4	Step ID 114D-d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<div>Back to Index</div>			

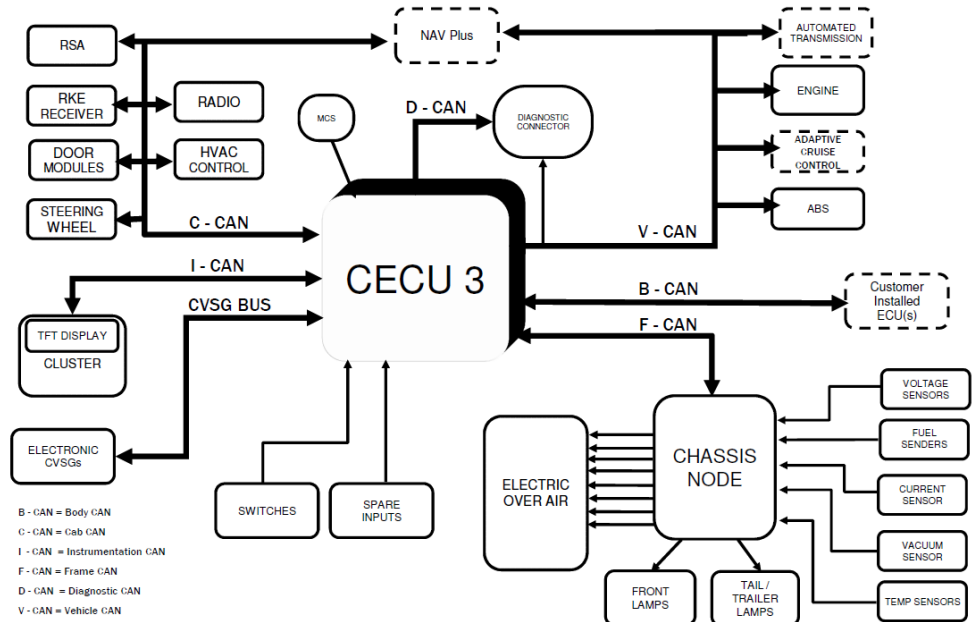
## U1150



<b>Code number</b>	U1150
<b>Fault code description</b>	CAN communication - Message (EBC1) rate too high from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Cab CAN.</li> <li><b>Diagnostic CAN</b>: Connected to the Diagnostic Connector.</li> <li><b>Vehicle CAN</b>: Connected to the Diagnostic Connector.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b>: Connected via Engine CAN.</li> <li><b>After-treatment DCU</b>: Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b> and <b>Tail / Trailer Lamps</b>: Connected to the Chassis Node.</li> <li><b>Sensors</b>: Connected to the Chassis Node, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> <li><b>CVSG BUS</b>: Connected to the CECU 3 and Electronic CVSG's.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to the CECU 3.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Engine CAN and Aftertreatment CAN.</p>





## NAMUX 4 Architecture



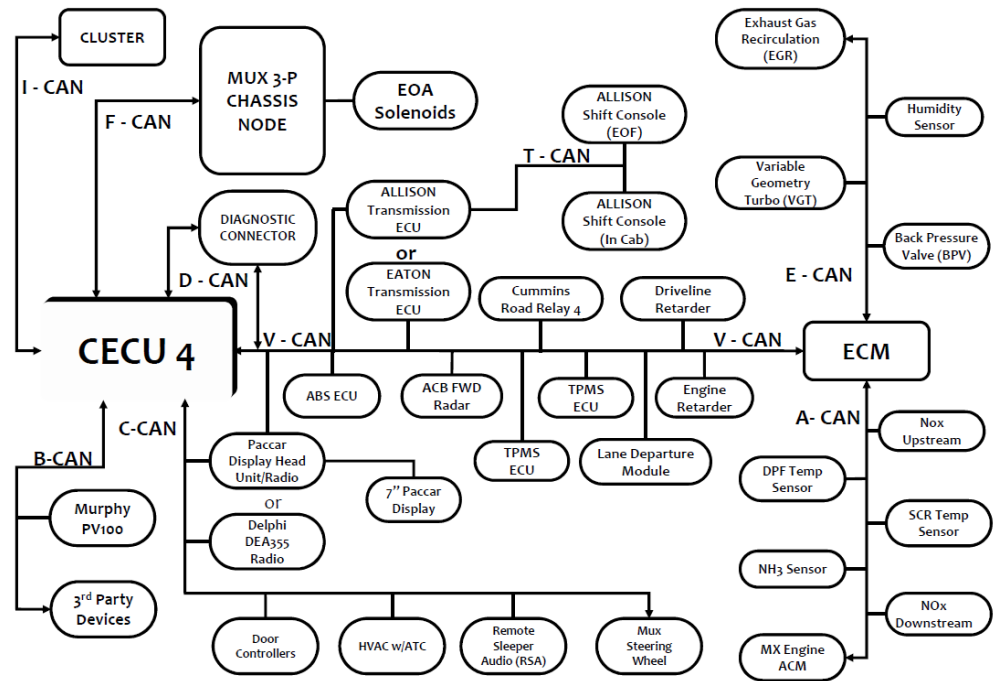
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>Breakdown in communication in the CAN network</li><li>Fault in brake system ECU</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1150a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 1150a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 1150a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

	<ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• f this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1150b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1150b	SRT
Step 2	Step ID 1150b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 1150c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness .</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive : Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 1150c	SRT
Step 3	Step ID 1150c	SRT		
	<table><tr><td>Step 4</td><td>Step ID 1150d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1150d	SRT
Step 4	Step ID 1150d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

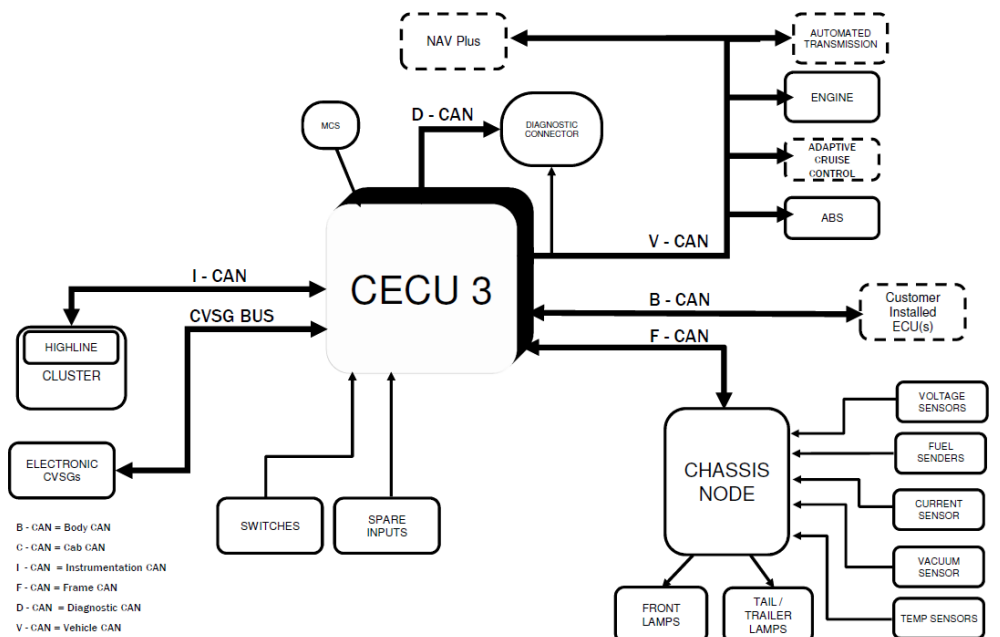
## U1154

<b>Code number</b>	U1154
<b>Fault code description</b>	CAN communication - Message (B) rate too low from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. This node manages various sensors and actuators:             <ul style="list-style-type: none"> <li><b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected directly to CECU 3.</li> <li><b>CVSG BUS</b> (Cable Vehicle Signal Generator Bus): Connected to CECU 3 and <b>ELECTRONIC CVSG's</b>.</li> </ul> <p>The diagram also shows a <b>FIREWALL</b> separating the CECU 3 from the CHASSIS NODE and the Engine/Aftertreatment CAN network.</p>

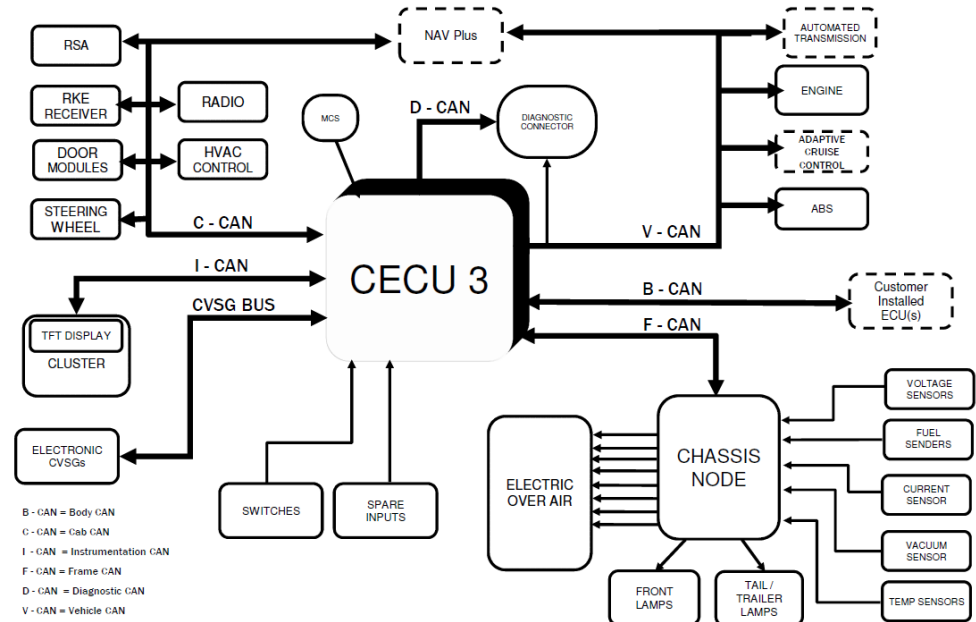
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring.

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

#### Step 1

Step ID 1154a

SRT

#### Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

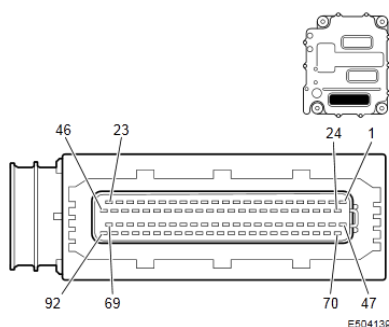
Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>f this related fault is still active, Proceed to step 2</li></ul>					
	<table><tr><td>Step 2</td><td>Step ID 1154b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>			Step 2	Step ID 1154b	SRT
	Step 2	Step ID 1154b	SRT			
	<table><tr><td>Step 3</td><td>Step ID 1154c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness .</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive : Issue resolved. Clear inactive fault</li></ul>			Step 3	Step ID 1154c	SRT
Step 3	Step ID 1154c	SRT				
<table><tr><td>Step 4</td><td>Step ID 1154d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			Step 4	Step ID 1154d	SRT	
Step 4	Step ID 1154d	SRT				
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.					
	<a href="#">Back to Index</a>					

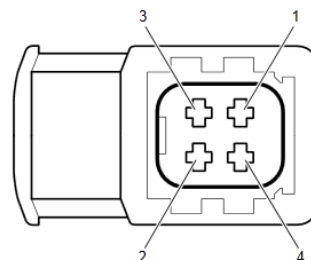
## U1159

Code number	U1159															
Fault code description	VTG turbo charger actuator - CAN communication error, message rate too low															
Fault code information	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic															
Description of component(s)	This code relates to a communication issue and not to a specific component.															
Location of component(s)	This code relates to a communication issue and not to a specific component.															
Diagnostic condition	This diagnostic runs continuously when the ignition is on.															
Set condition of fault code	The PCI ECU (D420) lost communication with the VTG turbocharger actuator (L037).															
Reset condition of fault code	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the trouble code is no longer detected.															
Electrical diagram(s)	<div><p><b>E-CAN Component (L037)</b></p><p>D420 PCI ECU</p><p>L037 VTG turbocharger actuator</p><table><thead><tr><th>D420</th><th>L037</th><th>Function</th></tr></thead><tbody><tr><td>C90</td><td>3</td><td>E-CAN high</td></tr><tr><td>C92</td><td>4</td><td>E-CAN low</td></tr><tr><td></td><td>1</td><td>Power supply after ignition</td></tr><tr><td></td><td>2</td><td>Ground</td></tr></tbody></table></div>	D420	L037	Function	C90	3	E-CAN high	C92	4	E-CAN low		1	Power supply after ignition		2	Ground
D420	L037	Function														
C90	3	E-CAN high														
C92	4	E-CAN low														
	1	Power supply after ignition														
	2	Ground														

E-CAN terminating resistance 108-132  $\Omega$



**Wiring harness connector D420.C front view**



**Wiring harness connector L037**

E504061



Handle connectors and pins with care and use matching measuring probes.

## Technical data

### Component and wiring checks, VTG turbocharger actuator (L037)

#### Component check, VTG turbocharger actuator (L037)

##### Preparation

- Switch off the ignition.
- Disconnect connector L037.
- Measure on component L037.

Pin (+ probe)	Pin (- probe)	Value	Additional information
3	4	$\pm 120 \Omega$	

Besides the termination resistor check, this type of component cannot be checked with a multimeter/oscilloscope. Perform the following to assess the component:

- Monitor/test the component with DAVIE.
- Perform the wiring check (see below).



#### Wiring check, VTG turbocharger actuator (L037)


##### Preparation

- Switch off the ignition.
- Disconnect connector L037.
- Measure on component connector L037.

Pin	Pin	Value	Additional information
-----	-----	-------	------------------------



	<table><tr><th>(+ probe)</th><th>(- probe)</th><th></th><th></th></tr><tr><td>1</td><td>2</td><td>Ubat</td><td>Switch on the ignition</td></tr><tr><td>3</td><td>4</td><td>± 120 Ω</td><td>Switch off the ignition  Disconnect the ground cable from the battery  Disconnect the vehicle communication interface (VCI) of DAVIE</td></tr></table>	(+ probe)	(- probe)			1	2	Ubat	Switch on the ignition	3	4	± 120 Ω	Switch off the ignition  Disconnect the ground cable from the battery  Disconnect the vehicle communication interface (VCI) of DAVIE
(+ probe)	(- probe)												
1	2	Ubat	Switch on the ignition										
3	4	± 120 Ω	Switch off the ignition  Disconnect the ground cable from the battery  Disconnect the vehicle communication interface (VCI) of DAVIE										
Possible causes	<ul style="list-style-type: none"><li>• Communication error between actuator and PCI ECU.</li><li>• No or incorrect VTG turbo charger actuator power supply.</li><li>• Faulty VTG turbocharger actuator.</li></ul>												
Additional information	The VTG turbocharger is controlled by the VTG turbocharger actuator, a smart actuator that communicates with the PCI ECU via E-CAN.												
Diagnostic Step-by-Step	<div><div></div><div><p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p></div></div> <div><div></div><div><ul style="list-style-type: none"><li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PCI are functioning properly.</li><li>▪ Disconnecting the PCI connectors during the troubleshooting process will result in multiple errors.</li><li>▪ 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.</li><li>▪ It is necessary to use DAVIE to clear all current DTCs from the PCI and EAS-3 ECUs, and then run the Quick Check to identify a change in fault status.</li><li>▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence provided.</li></ul></div></div> <div><h3>Step 1 VTG Turbo Charger Actuator (L037) Checks</h3><table><tr><th>Step 1A Visual inspection, VTG turbo charger actuator (L037)</th></tr><tr><td><p><b>Action</b></p><ol style="list-style-type: none"><li>1. Visually inspect the associated component connections and wiring for any of the following:<ul style="list-style-type: none"><li>• Damaged or loose connectors</li><li>• Bent, broken, corroded or loose connector pins</li></ul></li></ol></td></tr></table></div>	Step 1A Visual inspection, VTG turbo charger actuator (L037)	<p><b>Action</b></p> <ol style="list-style-type: none"><li>1. Visually inspect the associated component connections and wiring for any of the following:<ul style="list-style-type: none"><li>• Damaged or loose connectors</li><li>• Bent, broken, corroded or loose connector pins</li></ul></li></ol>										
Step 1A Visual inspection, VTG turbo charger actuator (L037)													
<p><b>Action</b></p> <ol style="list-style-type: none"><li>1. Visually inspect the associated component connections and wiring for any of the following:<ul style="list-style-type: none"><li>• Damaged or loose connectors</li><li>• Bent, broken, corroded or loose connector pins</li></ul></li></ol>													

	<ul style="list-style-type: none"> <li>• Moisture or dirt in the connections</li> <li>• Damage to the wire harness or insulation</li> <li>• The correct parts are not installed</li> <li>• ECU connections are damaged or disconnected</li> <li>• Batteries are not okay, contacts are not tight</li> <li>• VTG turbo charger actuator broken or not installed correctly</li> </ul>	
	Was there evidence of any of the above?	
	<b>Yes</b>	<b>No</b>
	Correct any issues found. If the VTG turbo charger actuator is found to be damaged or broken, the actuator may need to be replaced. Contact the PACCAR Engine Support Center for further assistance. Refer to step 2A to perform the corresponding repair verification cycles and rechecks.	
	<b>If this DTC is still present, go to step 1B</b>	<b>Go to step 1B</b>
	<b>Step 1B Electrical checks, supply voltage, VTG turbo charger actuator (L037)</b>	
	 Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.	
	<b>Action</b> <ol style="list-style-type: none"> <li>1. Confirm the supply voltage level as outlined in the corresponding checking data, "<u>wiring check, VTG turbocharger actuator (L037).</u>"</li> </ol>	
	Is the measured value within expected range?	
	<b>Yes</b>	<b>No</b>
		Inspect the 12 V battery voltage and power and ground wiring. Correct the battery or wiring, as needed. Refer to step 2A to perform the corresponding repair verification cycles and rechecks.
	<b>Go to step 1C</b>	<b>If this DTC is still present, go to step 1C</b>

## Step 1C Electrical checks, termination resistance, VTG turbo charger actuator (L037)



Refer to the corresponding checking data for associated supply and signal voltages, resistance values, and related connector pin test points.

### Action

1. With the VTG turbo charger unplugged, check the termination resistance as outlined in, "component check, VTG Turbocharger Actuator (L037)."

Are measured values within expected range?

**Yes**

**No**

Correct any issues found, or contact the PACCAR Engine Support Call Center for further assistance in diagnosing and correcting this issue.  
Refer to step 2A to perform the corresponding repair verification cycles and rechecks.

**Go to step 1D**

**If this DTC is still present, go to step 1D**

## Step 1D Electrical checks, component isolation


### Action

Perform the following steps for each of the components listed below, one at a time, to isolate the possible cause of this DTC.

- Turbocharger actuator (L037)
- EGR valve module (L095)
- BPV actuator (L096)
- Humidity sensor (F852)

1. Switch off the ignition.
2. Disconnect the suspected component's connector.
3. Switch on the ignition.
4. Use DAVIE Diagnostics to view all current DTCs, to determine if disconnecting the suspected component has changed the status for U1159.

	Repeat these steps for each of the suspected components until a change in U1159 status can be observed.	
	Did the status for U1159 change when a component was disconnected?	
	<b>Yes</b>	<b>No</b>
	Investigate the suspected component, checking related wiring and connections, or component operation. Correct any issues found or replace the component if it is found to be damaged or broken. Refer to step 2A to perform the corresponding repair verification cycles and rechecks.	
	<b>If this DTC is still present, go to step 1E</b>	<b>Go to step 1E</b>
	<b>Step 1E Electrical checks, resistance, E-CAN-H and E-CAN-L</b>	
	<b>Action</b> <ol style="list-style-type: none"> <li>1. Check the resistance between CAN-H and CAN-L at the as outlined in the corresponding checking data, "<u>E-CAN PCI ECU (D420), circuit check, E-CAN and wiring.</u>"</li> </ol>	
	Are measured values within expected range?	
	<b>Yes</b>	<b>No</b>
		Contact the PACCAR Engine Support Call Center for further assistance in diagnosing and correcting this issue. Refer to step 2A to perform the corresponding repair verification cycles and rechecks.
	<b>Go to step 1F</b>	<b>If this DTC is still present, go to step 1F</b>
	<b>Step 1F Visual inspection, turbo charger actuator (L037)</b>	
	<b>Action</b> <ol style="list-style-type: none"> <li>1. Visually inspect the turbocharger fuse to see if it is blown.</li> </ol>	
	Is the turbocharger fuse blown?	

	<b>Yes</b>	<b>No</b>
	Replace the turbocharger fuse. Visually inspect the turbocharger actuator (L037) for evidence of coolant or moisture. In addition to a blown fuse, if the turbocharger actuator (L037) shows evidence of coolant or moisture, the entire turbocharger (not just the turbocharger actuator) may need to be replaced. Contact the PACCAR Engine Support Call Center for confirmation before replacing the turbocharger.	
	<b>If all steps have been completed and this DTC is still present, contact the PACCAR Engine Support Center for further assistance.</b>	<b>If all steps have been completed and this DTC is still present, contact the PACCAR Engine Support Center for further assistance.</b>
<b>Step 2 Repair Verification</b>		
<b>Step 2A Repair verification cycles</b>		
Perform these repair verification cycles following any corrective actions taken, to enable related OBD monitors to reach a readiness state associated with the DTC or system being investigated.		
<div> 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.</div>		
<b>Action</b>		
<div>1. Steady State</div> <p>This cycle is best performed on a level grade road (least amount of incline possible) and under load using a trailer. If a loaded trailer is unavailable, produce engine load by turning the A/C and fan to ON.</p> <p>With the System Initiation cycle complete, proceed to a road with a minimum speed limit of 50 mph, then get to the highest gear possible with the engine speed between 1100-1500 rpm, and set the cruise control. Run this cycle for roughly 3 to 5 miles or in three separate 1-mile increments if a steady 3 to 5 miles is unachievable.</p>		
Were the identified repair verification cycles able to be completed?		
<b>Yes</b>	<b>No</b>	

		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 2B	Go to step 2B
<b>Step 2B DAVIE Diagnostics, Quick Check, OBD Readiness Monitors</b>		
<b>Action</b> Use DAVIE Diagnostics to perform a Quick Check for current DTCs to determine whether the actions taken have cleared this DTC. <ol style="list-style-type: none"> <li>Confirm that the corresponding OBD Monitor Readiness Status value is displayed as "Ready."                A status of Ready indicates that the corresponding OBD monitor has run successfully and the problem has been resolved—no further action.                 If the displayed status is "Not ready," continue to action step 2.</li> <li>View the DTC overview display, and confirm that U1159 has been cleared.</li> </ol>		
Is the related OBD Monitor Readiness Status set to "Ready." Or, has U1159 been cleared?		
<b>Yes</b>		<b>No</b>
Problem resolved. No further actions.		Continue with the next step in this troubleshooting procedure.  If all steps have been completed and this DTC is still present: <ul style="list-style-type: none"> <li>continue to operate the truck to extend the run time, allowing the corresponding OBD monitor sufficient time to complete</li> <li>or, return to step 2A and perform this repair verification again.</li> </ul> If this issue is still present after extending or re-running the repair verification, contact the PACCAR Engine Support Center for further assistance.

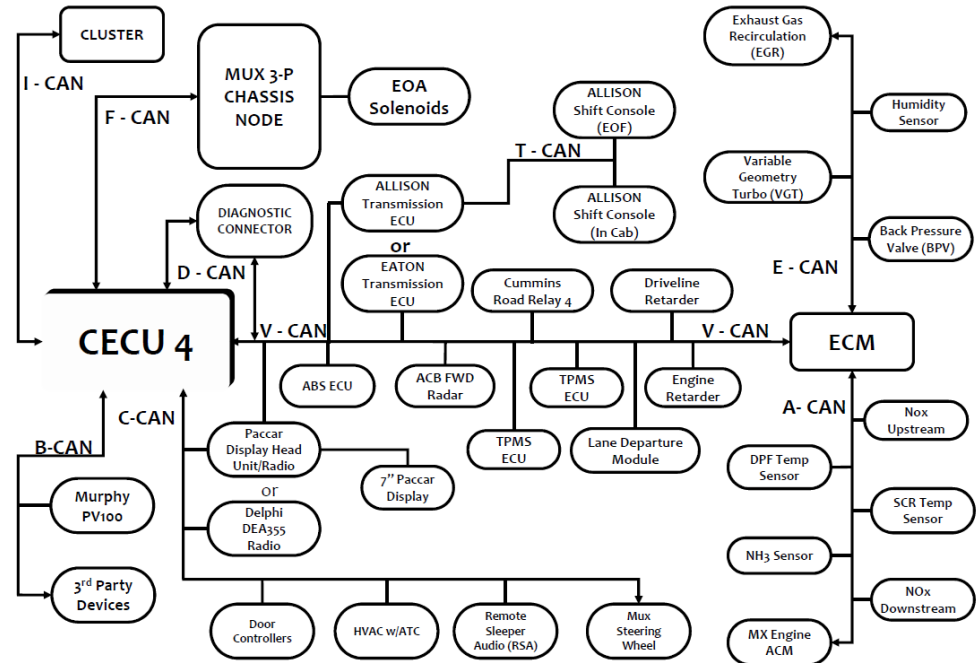
	<div data-bbox="467 205 548 289" data-label="Image"> </div> <div data-bbox="594 220 1511 380" data-label="Text"> <p> <b>Contacting the PACCAR Engine Support Center</b>            For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.         </p> </div>
	<p style="text-align: right;"><a href="#">Back to Index</a></p>

# U1160

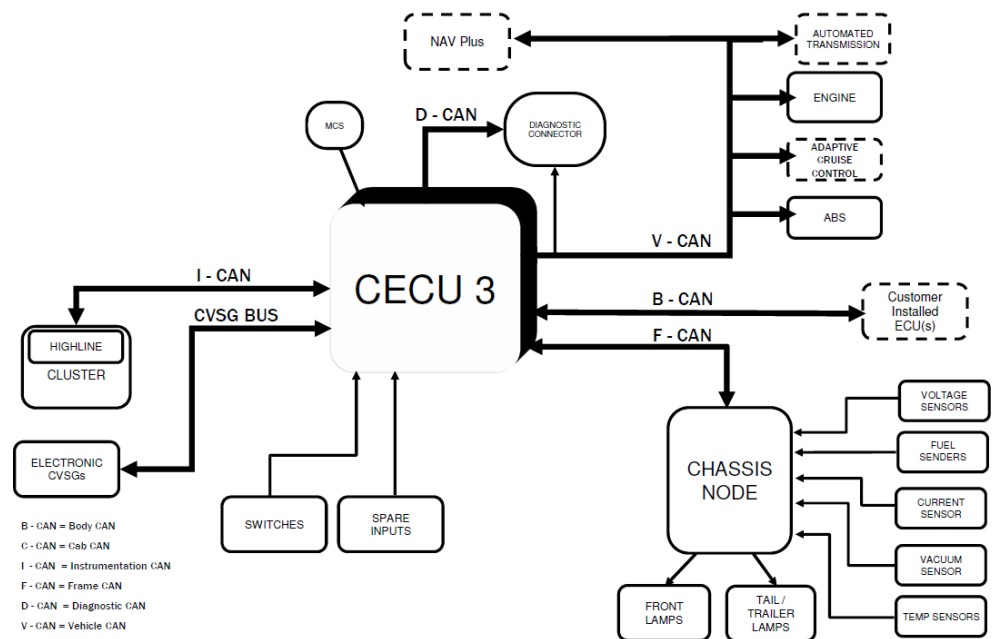
<b>Code number</b>	U1160
<b>Fault code description</b>	VTG turbo charger actuator position - Data erratic, intermittent or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the VTG turbo charger actuator (L037) that contains an out of range value for the actuator position.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Engine Control Unit). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster and the Steering Wheel.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the Electronic CVSG's (Control Valve Solenoid Groups).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the Chassis Node.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the Engine, Adaptive Cruise Control, and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>Frame CAN:</b> Connects CECU 3 to the Chassis Node.</li> <li><b>Chassis Node:</b> A central hub for chassis-related components, including Front Lamps, Tail / Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temp).</li> <li><b>Engine:</b> Connected to the Engine CAN and Aftertreatment CAN.</li> <li><b>After-treatment DCU:</b> Connected to the Aftertreatment CAN.</li> <li><b>Other components:</b> SWITCHES, SPARE INPUTS, and AUTO TRANSMISSION are also shown.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Frame CAN.</p>



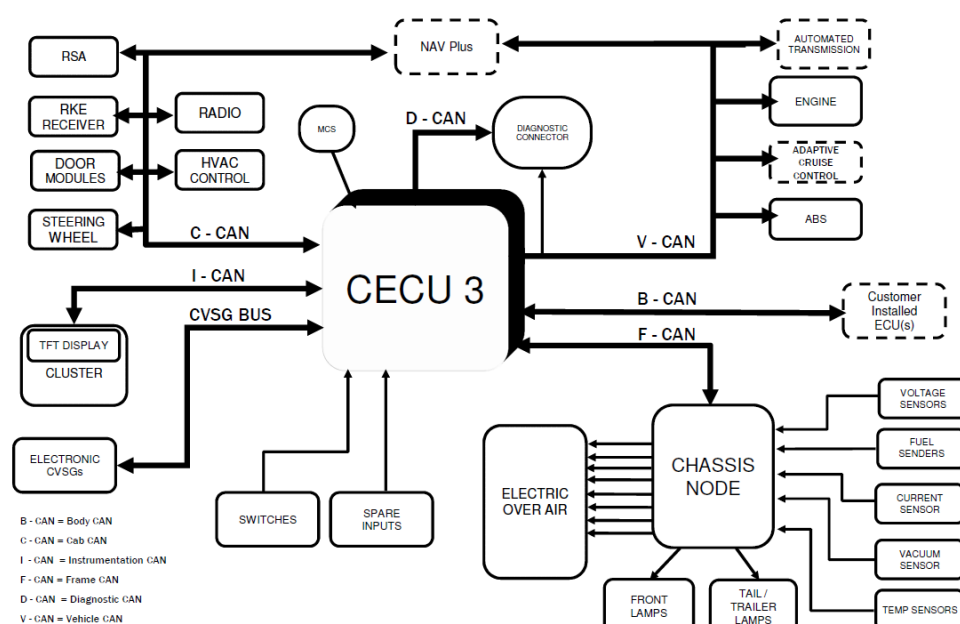
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



# NAMUX 4 Architecture



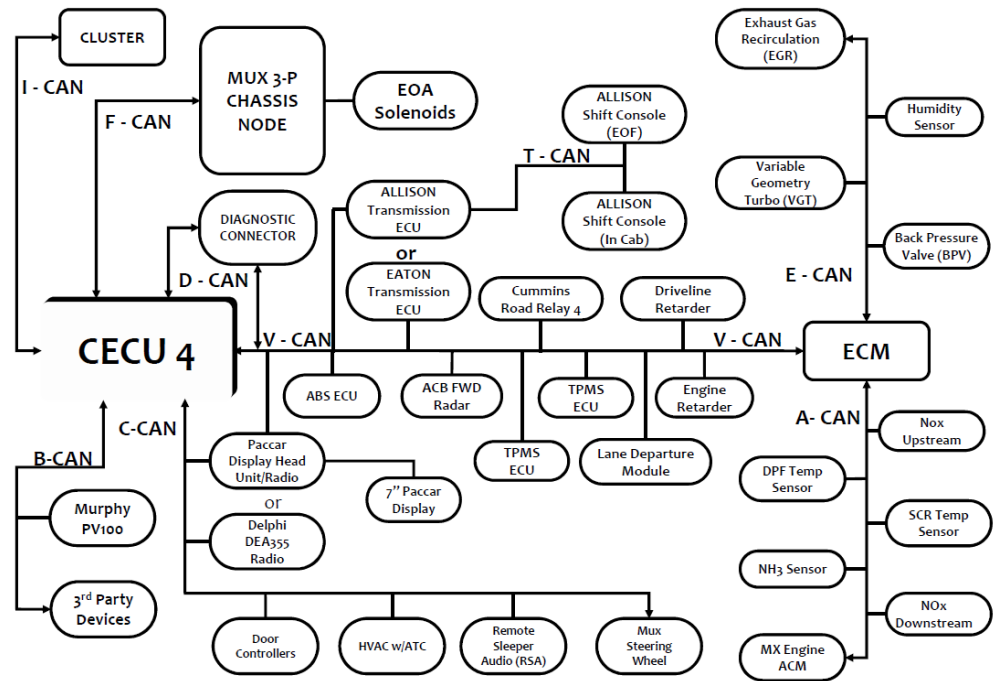
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• E-CAN communication</li><li>• Faulty VTG turbocharger actuator</li></ul>								
Additional information	<ul style="list-style-type: none"><li>• The VTG turbocharger is controlled by the VTG turbocharger actuator, a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.</li><li>• The actuator provides feedback to the PCI ECU about the nozzle ring position.</li></ul>								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1160a</td><td>SRT</td></tr><tr><td colspan="3">Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins)</td></tr></table>			Step 1	Step ID 1160a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins)		
Step 1	Step ID 1160a	SRT							
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins)									

	<p>damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1160b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1160b	SRT
Step 2	Step ID 1160b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 1160c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1160c	SRT
Step 3	Step ID 1160c	SRT		
	<table><tr><td>Step 4</td><td>Step ID 1160d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1160d	SRT
Step 4	Step ID 1160d	SRT		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

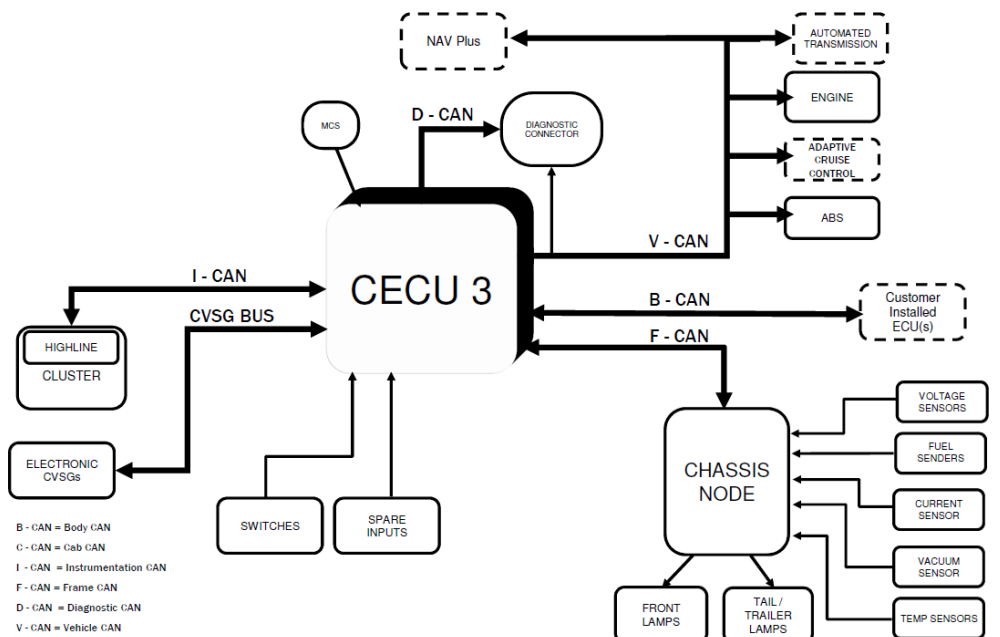
# U1161

<b>Code number</b>	U1161
<b>Fault code description</b>	CAN communication - Message (A1SCRAI2) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Engine Control Unit). It is connected to several systems:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>MCS</b> (Motor Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic CAN</b>: Connected to the Diagnostic Connector.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected to the After-treatment DCU.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected to the After-treatment DCU.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. It includes Front Lamps and Tail / Trailer Lamps.</li> <li><b>Sensors</b>: Connected to the CHASSIS NODE, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups): Connected via CVSG BUS.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to the CECU 3.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Frame CAN.</p>

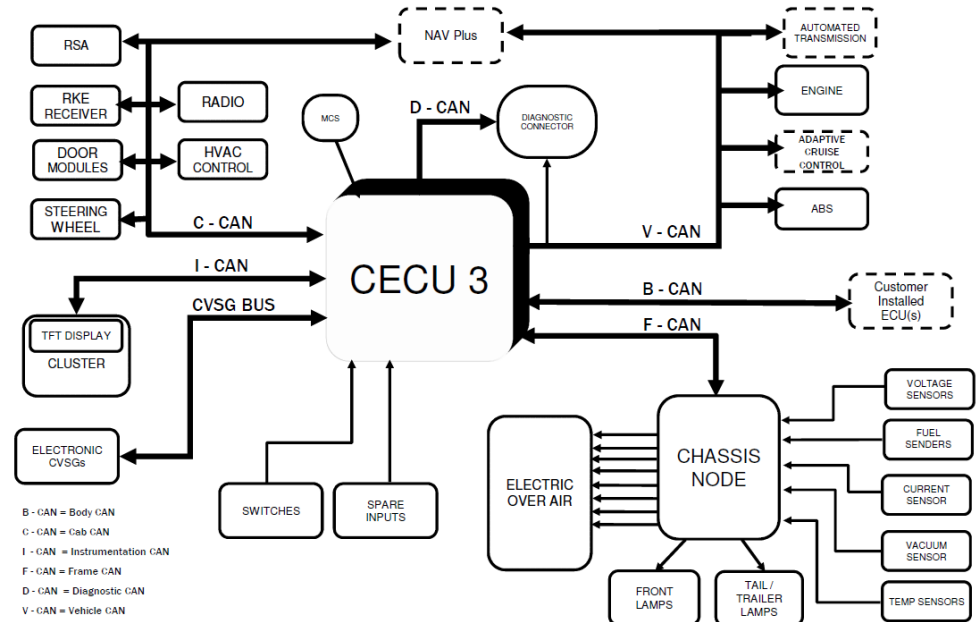
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring.

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pin out locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1

Step ID 1161a

SRT

Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

Was there evidence of any of the above?

	<ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1161b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1161b	SRT
	Step 2	Step ID 1161b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1161c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1161c	SRT
Step 3	Step ID 1161c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1161d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1161d	SRT	
Step 4	Step ID 1161d	SRT		
Verification Drive Cycle	To verify the repair: With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics With the brakes set, start the engine and allow it to run at idle for 2 minutes			
	<a href="#">Back to Index</a>			

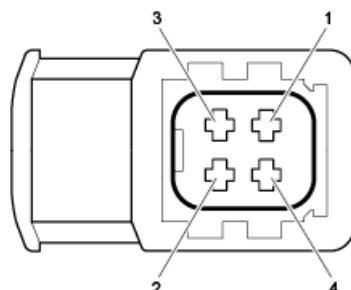




## U1163

<b>Code number</b>	U1163
<b>Fault code description</b>	CAN communication - Message (A1SCRAI2) out of range - SCR intermediate NH3 from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Freeze frame type – Crankcase
<b>Description of component(s)</b>	This code relates to a communication issue dealing with the signal for the NH3 sensor to the ACM to the engine PCI.
<b>Location of component(s)</b>	This code relates to a communication issue and not a specific component.
<b>Diagnostic condition</b>	This diagnostic consists of two parts: <ul style="list-style-type: none"> <li>• This diagnostic runs continuously when the ignition is initially keyed on</li> <li>• This diagnostic runs when the engine is running.</li> </ul>
<b>Set condition of fault code</b>	The aftertreatment 1 SCR ammonia information 2 reception message is received every 50 ms. If more than 50 messages are received with an NH3 value above 6225.5 ppm, the fault sets.
<b>Reset condition of fault code</b>	THE DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p>D420 PCI ECU D374 EAS-3 ECU F869 NH3 sensor</p> <p>HQ2381-3</p>

D420	F823	Function
B14	3	A-CAN High
B15	2	A-CAN Low
	1	Power supply
	4	Ground



E504061

Wiring harness connector F869



Handle connectors and pins with care and use matching measuring probes.

## Technical data



### Component and circuit checks, NH3 sensor (F869)

#### Circuit check, ECU & wiring

#### Conditions

- Connector removed from NH3 sensor (F869)
- Ignition switch to ON
- Measurements must be made on the wiring harness connector F869

Pin (+ probe)	Pin (- probe)	Value	Additional information
1	4	Ubat	
4	Battery negative pole	>0.5V	Switch on all consumers

	<p><b>Circuit check, A-CAN</b></p> <p><b>Conditions</b></p> <ul style="list-style-type: none"><li>• Ignition switch to OFF</li><li>• Connector removed from NH3 sensor (F869)</li><li>• Measurements must be made on the wiring harness connector F823</li></ul> <table><tr><th>Pin (+ probe)</th><th>Pin (- probe)</th><th>Value</th><th>Additional information</th></tr><tr><td>2</td><td>3</td><td>± 60 Ω</td><td></td></tr></table>	Pin (+ probe)	Pin (- probe)	Value	Additional information	2	3	± 60 Ω	
Pin (+ probe)	Pin (- probe)	Value	Additional information						
2	3	± 60 Ω							
<b>Possible causes</b>	<ul style="list-style-type: none"><li>• Breakdown in communication of the CAN network</li><li>• An open circuit or a short circuit to ground for the NH3 sensor (F869)</li></ul>								
<b>Additional information</b>	This is a low level CAN fault that is checking whether the message from the ACM is within a specified range.								
<b>Diagnostic Step-by-Step</b>	<div><p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p></div> <div><ul style="list-style-type: none"><li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PMCI are functioning properly.</li><li>▪ Disconnecting the PMCI connectors during the troubleshooting process will result in multiple errors.</li><li>▪ For specific electrical component information and pin out locations, always refer to the technical data in Rapido.</li><li>▪ It is necessary to exit the 'Active errors' screen in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence provided.</li></ul></div> <p><b>Step 1. Investigate Related Trouble Codes</b></p> <p>Before troubleshooting this code, take notice of any other current trouble codes. One or multiple other codes could have been the cause for this code.</p> <table><tr><td>Step U1163_1.A</td><td>Investigate related trouble codes</td><td>SRT:</td></tr><tr><td colspan="3">Are these or any other related trouble codes present?</td></tr></table>	Step U1163_1.A	Investigate related trouble codes	SRT:	Are these or any other related trouble codes present?				
Step U1163_1.A	Investigate related trouble codes	SRT:							
Are these or any other related trouble codes present?									

P3950; P3951; P3952; P3953; P3954; P3955; P3956; P3961; P3962; P3963; P3964; P3965; P3966; P3967; P3968; P3969; P3970

**Yes** Refer to the troubleshooting information for these codes before continuing with this procedure.

**No** Step 2.A

## Step 2. NH3 Sensor Checks

Step U1163_2.A	Visual Inspection: NH3 Sensor (F869)	SRT:
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Visually inspect the associated component connections and wiring for any of the following:

- Damaged or loose connectors
- Bent, broken, corroded or loose connector pins
- Moisture or dirt in the connections
- Missing or damaged connector seals
- Damage to the wire harness or insulation
- Connector locking tabs damaged or not functioning
- ECU connections are damaged or disconnected
- Battery voltage low, loose contacts
- NH3 sensor is broken or not installed correctly
- The correct parts are not installed

Was there evidence of any of the above?

**Yes** Clean or and repair any issues found.

If the NH3 sensor (F869) is found to be damaged or broken, replace it.

Refer to Step 3.A to perform the corresponding repair verification cycles.

Use DAVIE Diagnostics to perform a Quick Check for current trouble codes.

If this code is still active, proceed to Step 2.B

**No** Step 2.B

Step U1163_2.B	Electrical Checks: NH3 sensor (F869)	SRT:
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Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.

### 2.B.1 Supply and signal voltage

Perform circuit check, ECU & wiring measurements across the corresponding pins of the NH3 sensor (F869) wiring harness connector.

Are measured values within expected range?

**Yes** Step 2.B.2

**No** Correct any issues found, or replace the sensor if measured values indicate a

sensor error.

Refer to Step 3.A to perform the corresponding repair verification cycles.  
Use DAVIE Diagnostics to perform a Quick Check for current trouble codes.  
If this code is still active, proceed to Step 2.B.2

## 2.B.2 Resistance checks

Perform circuit check, ECU & wiring measurements across the corresponding pins of the NH3 sensor (F869) wiring harness connector.

Are measured values within expected range?

**Yes** Step 4.A

**No** Correct any issues found, or replace the sensor if measured values indicate a sensor error.

Refer to Step 3.A to perform the corresponding repair verification cycles.  
Use DAVIE Diagnostics to perform a Quick Check for current trouble codes.  
If this code is still active, proceed to Step 4.A

## Step 3. Repair Verification Cycles



Perform these repair verification cycles following any corrective actions taken, to confirm that this trouble code is no longer active.

Step U1163_3.A	Repair Verification Cycle: Steady State	SRT:
This cycle is best performed on a level grade road (least amount of incline possible) and under load using a trailer. If a loaded trailer is unavailable, produce engine load by turning the A/C and fan to ON.		
With the System Initiation cycle complete, proceed to a road with a minimum speed limit of 50 mph, then get to the highest gear possible with the engine speed between 1100-1500 rpm, and set the cruise control. Run this cycle for roughly 3 to 5 miles or in three separate 1-mile increments if a steady 3 to 5 miles is unachievable.		

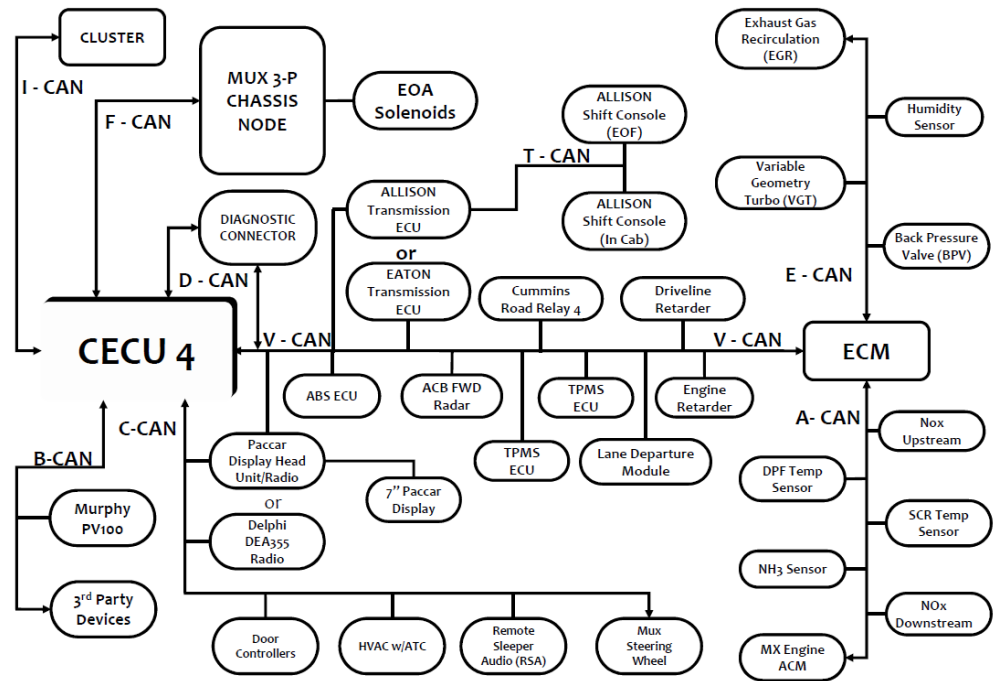
Step U1163_3.B	Repair Verification Cycle: DEF Doser & SCR	SRT:
Perform the same driving requirements as described for the Steady State cycle. Using DAVIE, select the following Monitor values to record:		
<ul style="list-style-type: none"> <li>Exhaust Temperature Before SCR</li> <li>Exhaust Temperature After SCR</li> <li>Pump Module</li> </ul>		
Once the SCR temperatures have reached a minimum of 536°F (280°C), continue the remainder of this cycle with the high idle. The monitored Pump Module value will indicate when dosing starts. Allow dosing to occur for a minimum of 15 minutes. Check the recorded values after the driving has been completed to verify		

	<div>temperatures and dosing.</div> <div><b>Step 3. Contact PACCAR Engine Support Center</b></div> <table><tr><td>Step U1163_4.A</td><td>Contact PACCAR Engine Support Center</td><td>SRT:</td></tr><tr><td colspan="3">For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center at 1-800-477-0251.</td></tr></table>	Step U1163_4.A	Contact PACCAR Engine Support Center	SRT:	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center at 1-800-477-0251.		
Step U1163_4.A	Contact PACCAR Engine Support Center	SRT:					
For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center at 1-800-477-0251.							
	<div><a href="#">Back to Index</a></div>						

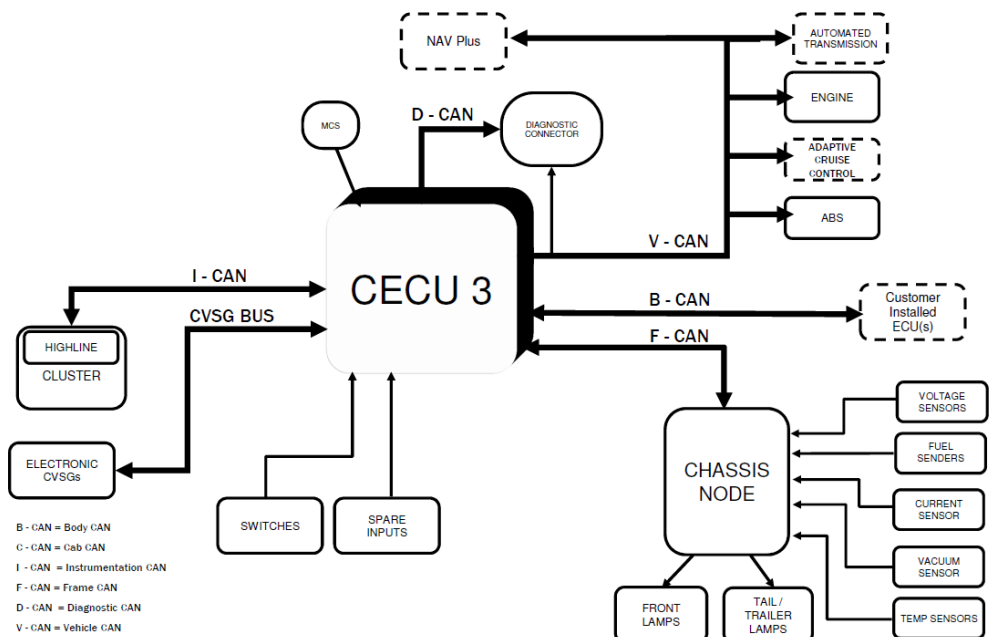
# U1164

<b>Code number</b>	U1164
<b>Fault code description</b>	CAN communication - Message (A1SCRAI2) out of range - SCR intermediate NH3 reading stable from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit). It is connected to several other components via various CAN buses and a CVSG BUS.</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Monitoring Control System) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the STEERING WHEEL and the CLUSTER.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the CLUSTER.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-Lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors (VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, TEMP SENSORS).</li> <li><b>Other components:</b> SWITCHES, SPARE INPUTS, and the AUTO (TRANSMISSION) are also connected to the CECU 3.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

## NAMUX 4 Architecture (Phase 1): T680

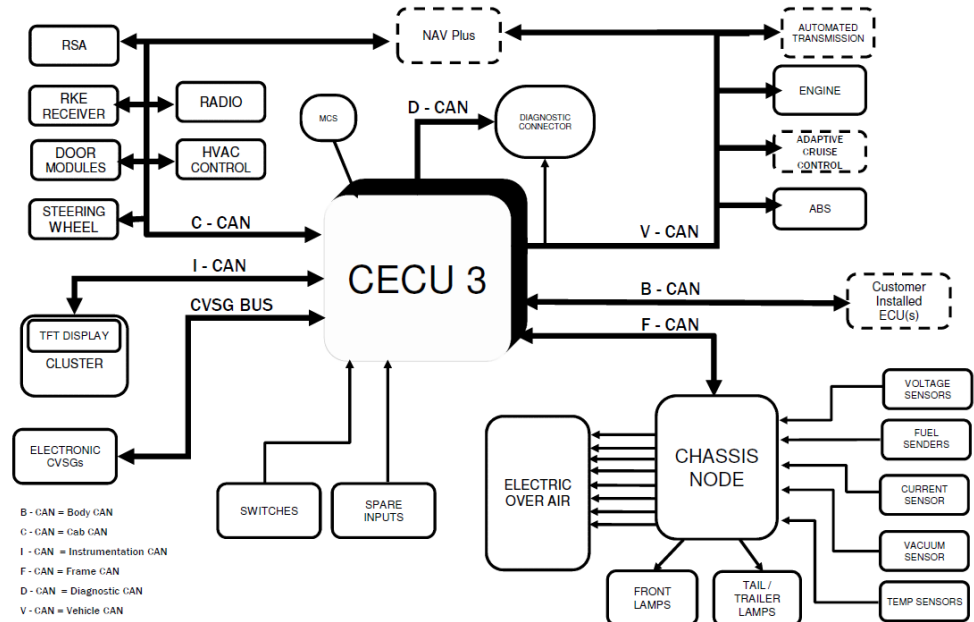


## NAMUX 3 Architecture





## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring.

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pin out locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1

Step ID 1164a

SRT

Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

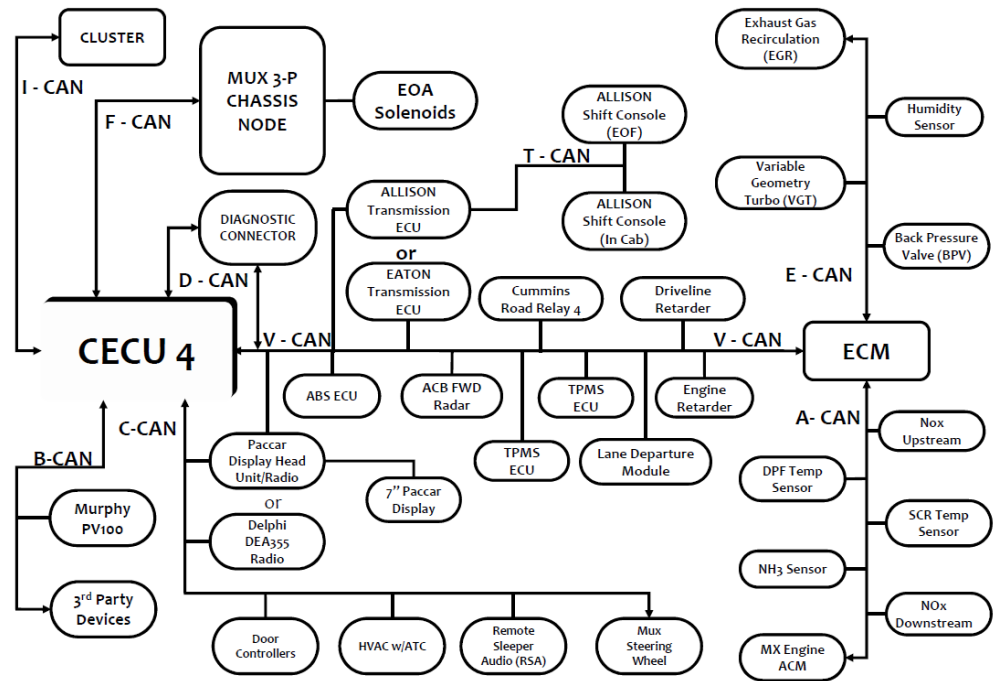
Was there evidence of any of the above?

	<ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1164b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1164b	SRT
	Step 2	Step ID 1164b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1164c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1164c	SRT
Step 3	Step ID 1164c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1164d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1164d	SRT	
Step 4	Step ID 1164d	SRT		
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>			
	<div>Back to Index</div>			

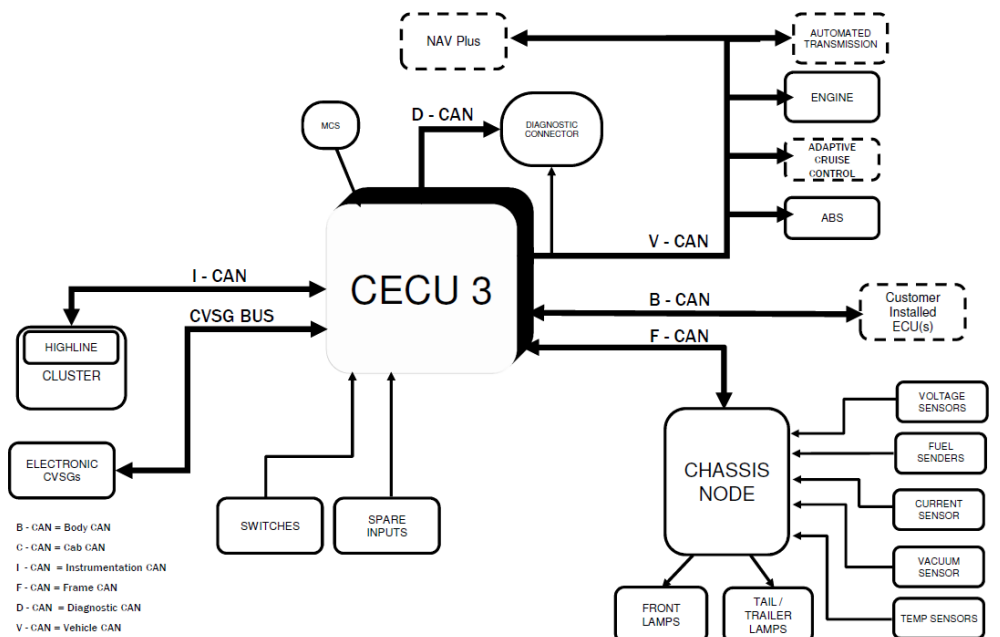
## U1165

<b>Code number</b>	U1165
<b>Fault code description</b>	CAN communication - Message (AT1S) rate too low from emission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type - Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This code relates to a communication issue and not to a specific component.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems and components:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and Instrumentation CAN.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the Electronic CVSG's (Control Valve Solenoid Groups).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the Chassis Node.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the Engine, VGT Actuator, and After-treatment DCU.</li> <li><b>Chassis Node:</b> Connects CECU 3 to the Front Lamps, Tail / Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temp).</li> <li><b>After-treatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the Chassis Node.</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>Firewall:</b> Indicated between the Diagnostic CAN and the Engine CAN, and between the Vehicle CAN and the Chassis Node.</li> </ul>

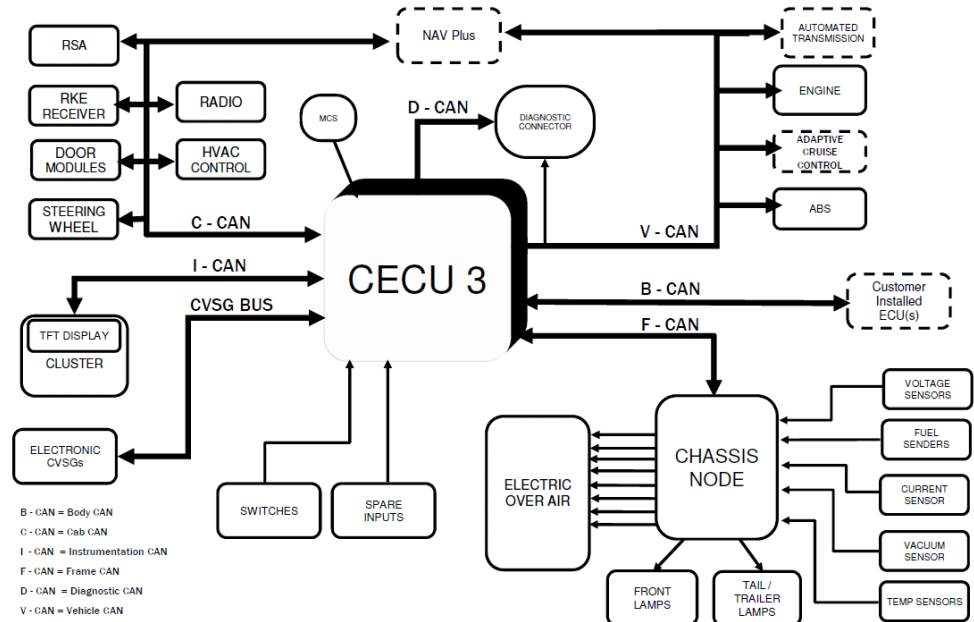
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.


### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step

 Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

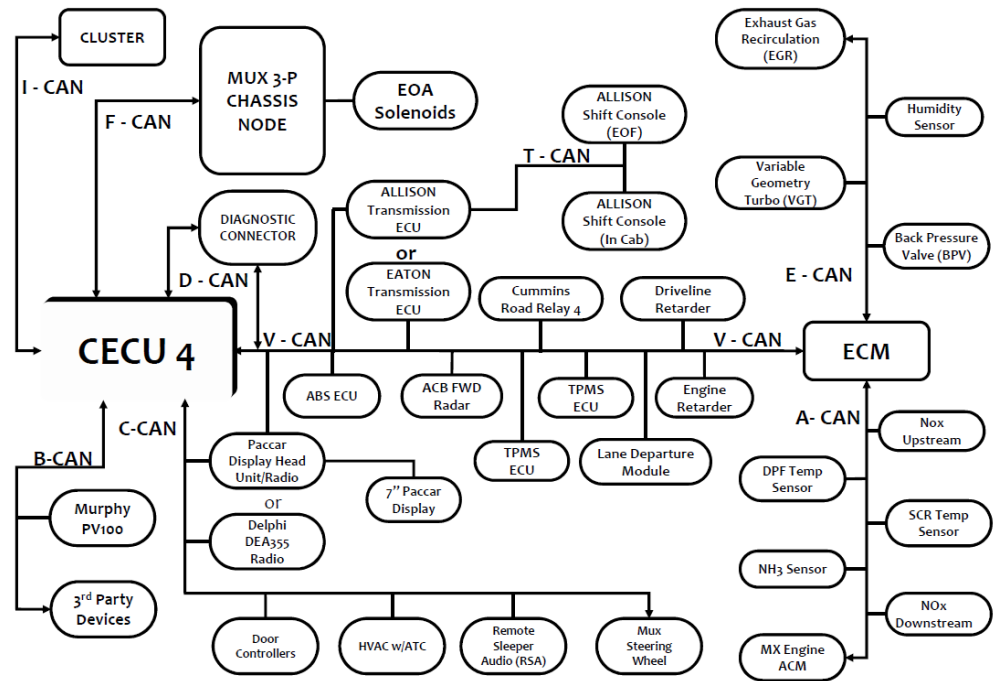
Step 1	Step ID 1165a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above?		

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1165b	SRT
	Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1165c	SRT
	Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>		
	Step 4	Step ID 1165d	SRT
	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.		
	<a href="#">Back to Index</a>		

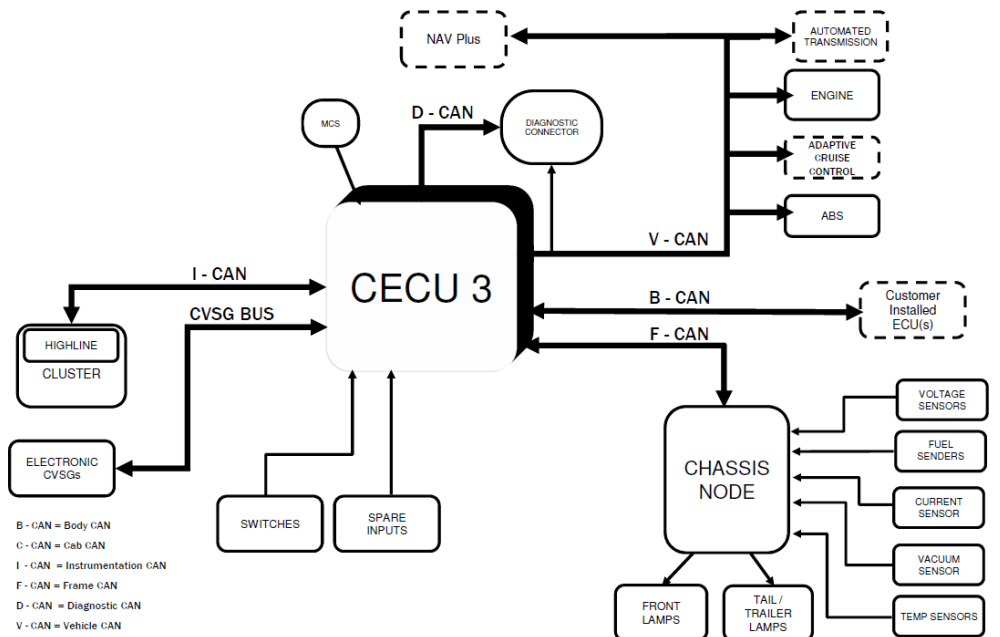
## U1167

<b>Code number</b>	U1167
<b>Fault code description</b>	CAN communication - Message (AT1S) out of range - Soot load percent from emission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type - Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This code relates to a communication issue and not to a specific component.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which acts as the primary communication hub. It is connected to several key systems:</p> <ul style="list-style-type: none"> <li><b>Cluster:</b> Connected via Cab CAN and Instrumentation CAN.</li> <li><b>MCS (Motor Control System):</b> Connected via Diagnostic CAN.</li> <li><b>Diagnostic CAN:</b> A dedicated network for diagnostic components, including the Diagnostic Connector, ABS, and PACCAR Display.</li> <li><b>Vehicle CAN:</b> The main vehicle communication network, connecting to the Engine CAN and Chassis Node.</li> <li><b>Engine CAN:</b> Connects the CECU 3 to the Engine and VGT Actuator.</li> <li><b>Chassis Node:</b> Manages chassis-related functions, including Front Lamps, Tail/Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temperature).</li> <li><b>Aftertreatment CAN:</b> Connects the CECU 3 to the After-treatment DCU.</li> <li><b>Other Components:</b> Includes the Steering Wheel, CVSG BUS, Electronic CVSG's, Switches, Spare Inputs, and a Firewall separating the diagnostic network from the engine/chassis networks.</li> </ul>

## NAMUX 4 Architecture (Phase 1): T680

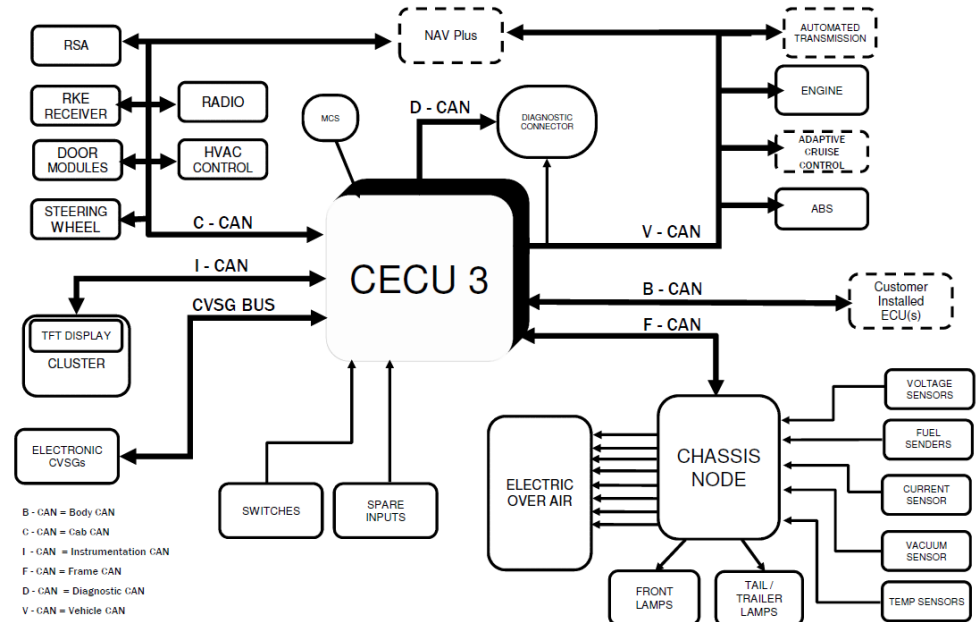


## NAMUX 3 Architecture





# NAMUX 4 Architecture



## Technical data

This code relates to a communication issue and not to a specific component.


## Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring

## Additional information

No additional information available

## Diagnostic Step-by-Step

 Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



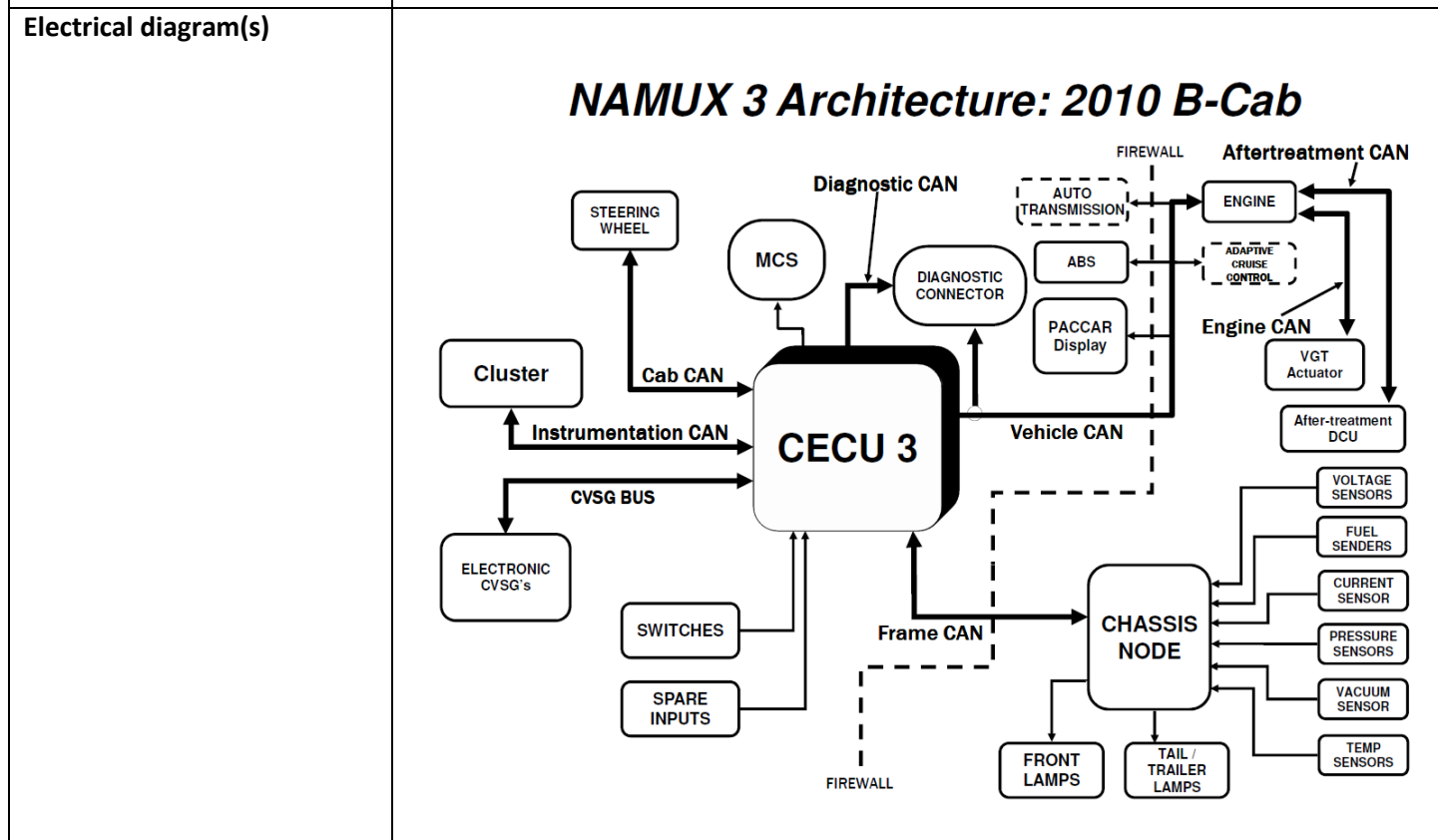
- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1167a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above?		

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1167b	SRT
	Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1167c	SRT
	Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>		
	Step 4	Step ID 1167d	SRT
	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.		
	<a href="#">Back to Index</a>		

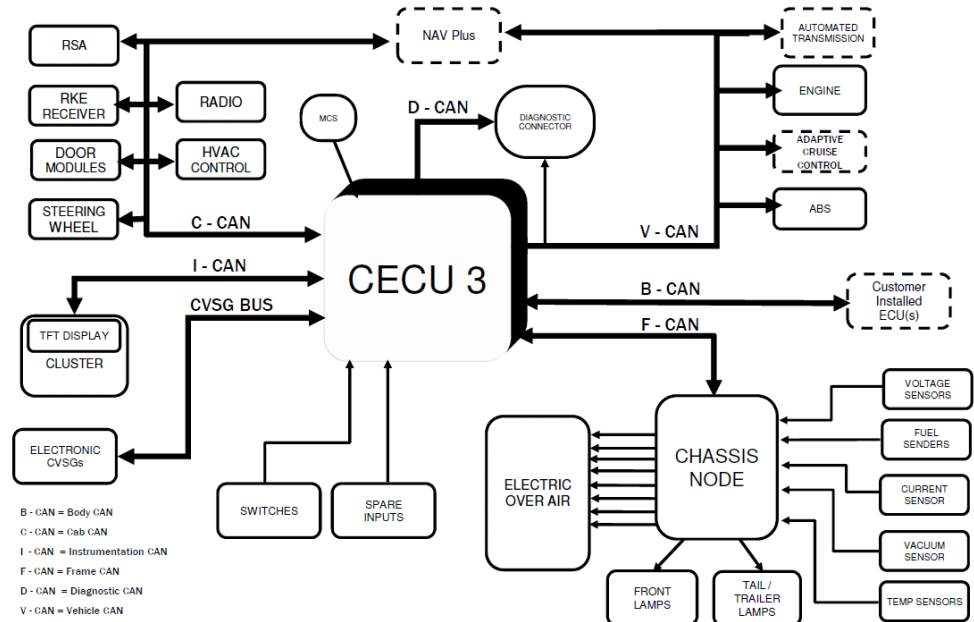
# U1168



<b>Code number</b>	U1168
<b>Fault code description</b>	CAN communication - Message (DPFC1) rate too low from emission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type - Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This code relates to a communication issue and not to a specific component.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.





## NAMUX 4 Architecture



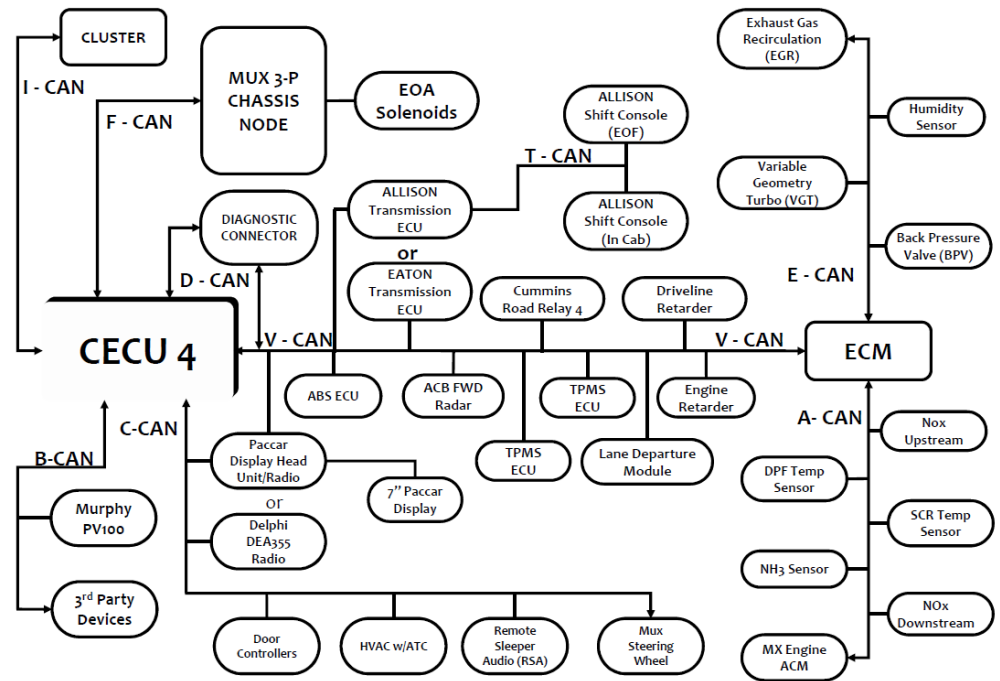
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>Breakdown in communication in the CAN network</li><li>Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1168a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 1168a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 1168a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1168b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 1168b	SRT
	Step 2	Step ID 1168b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1168c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 1168c	SRT
Step 3	Step ID 1168c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1168d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1168d	SRT	
Step 4	Step ID 1168d	SRT		
Verification Drive Cycle	To validate the repair: <ul style="list-style-type: none"><li>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</li><li>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</li></ul>			
	<a href="#">Back to Index</a>			

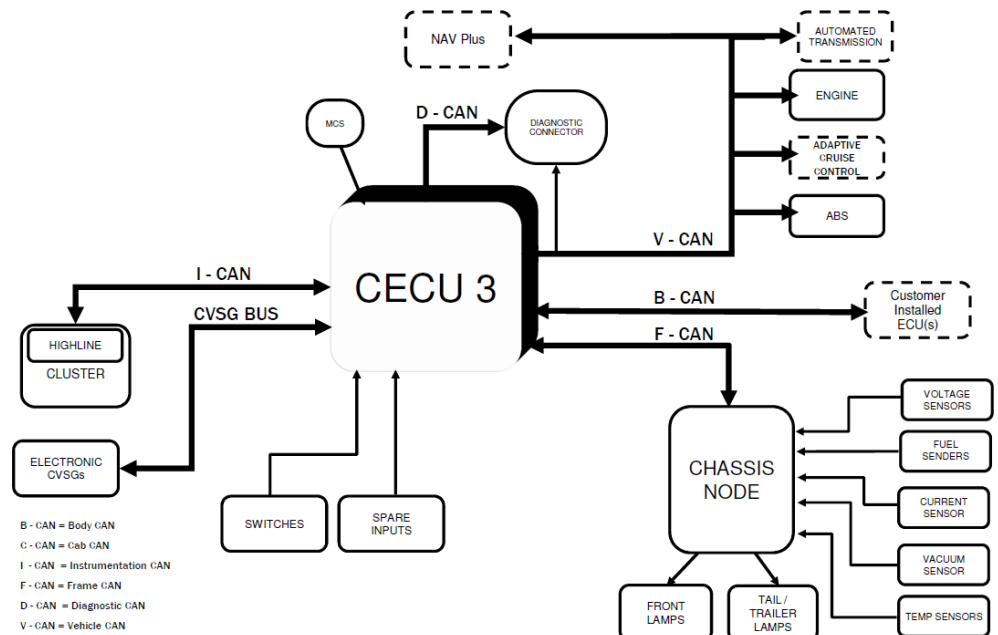
## U1179

<b>Code number</b>	U1179
<b>Fault code description</b>	CAN communication - Message (PROPB_VIC) out of range
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b>NAMUX 3 Architecture: 2010 B-Cab</b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the <b>CECU 3</b> (Central Electronic Control Unit). It is connected to several CAN buses and other components:</p> <ul style="list-style-type: none"> <li><b>Cab CAN:</b> Connects CECU 3 to the <b>Cluster</b>, <b>STEERING WHEEL</b>, and <b>MCS</b> (Master Control Switch).</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the <b>Cluster</b>.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to <b>ELECTRONIC CVSG's</b> (Electronic Control Valves/Gears).</li> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the <b>DIAGNOSTIC CONNECTOR</b>.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the <b>DIAGNOSTIC CONNECTOR</b>, <b>ABS</b> (Anti-lock Braking System), and <b>PACCAR Display</b>.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the <b>ENGINE</b> and <b>VGT Actuator</b> (Variable Geometry Turbine Actuator).</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the <b>After-treatment DCU</b> (Differential Control Unit).</li> <li><b>CHASSIS NODE:</b> Connects CECU 3 to the <b>CHASSIS NODE</b>, which manages <b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> <li><b>Sensors:</b> The CHASSIS NODE also manages various sensors: <b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>Other Components:</b> <b>SWITCHES</b> and <b>SPARE INPUTS</b> are connected to CECU 3. A <b>FIREWALL</b> is shown between the Diagnostic CAN and the Vehicle CAN.</li> </ul>

## NAMUX 4 Architecture (Phase 1): T680

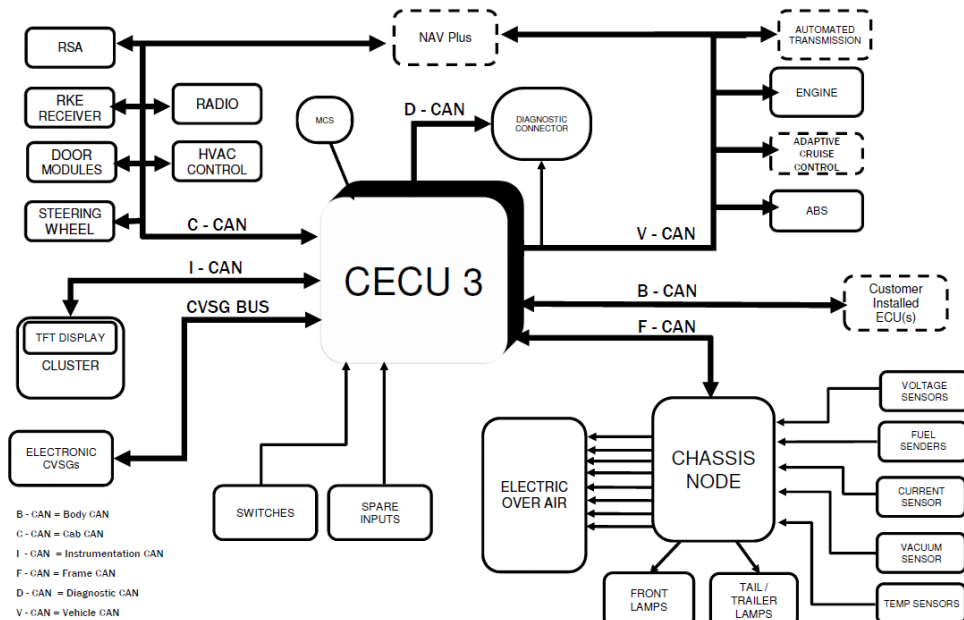




## NAMUX 3 Architecture





## NAMUX 4 Architecture



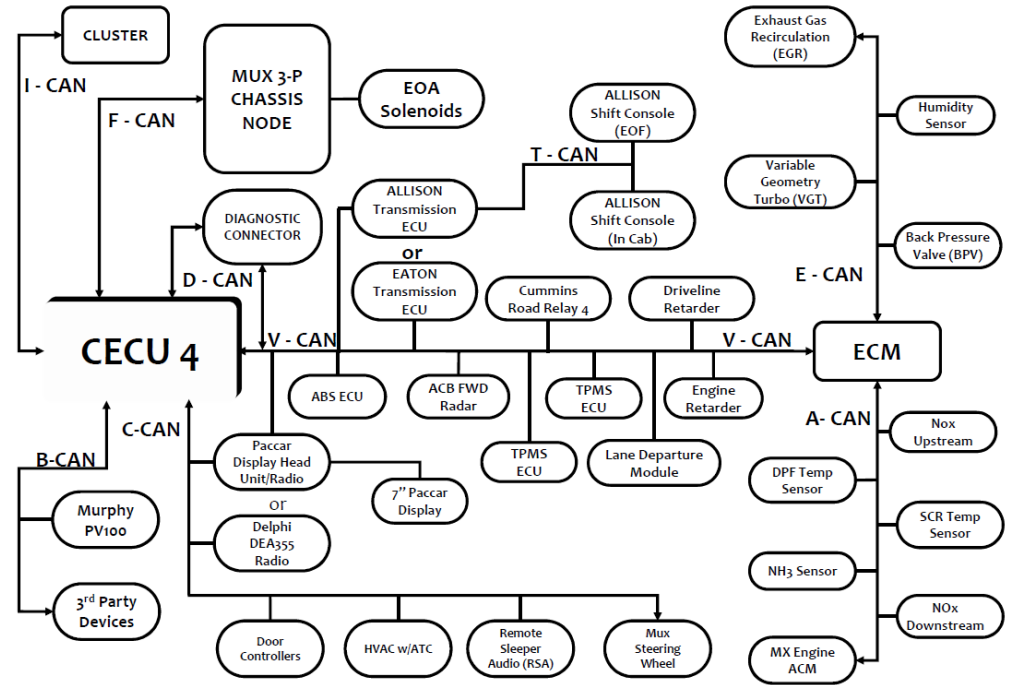
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>Breakdown in communication in the CAN network</li><li>Fault in adjustable speed limiter switch</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1179a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p></td></tr></table>			Step 1	Step ID 1179a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>		
Step 1	Step ID 1179a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p>									

	<ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1179b	SRT
	Data check <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1179c	SRT
	Repair or replace component <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>		
	Step 4	Step ID 1179d	SRT
	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.		
	<a href="#">Back to Index</a>		

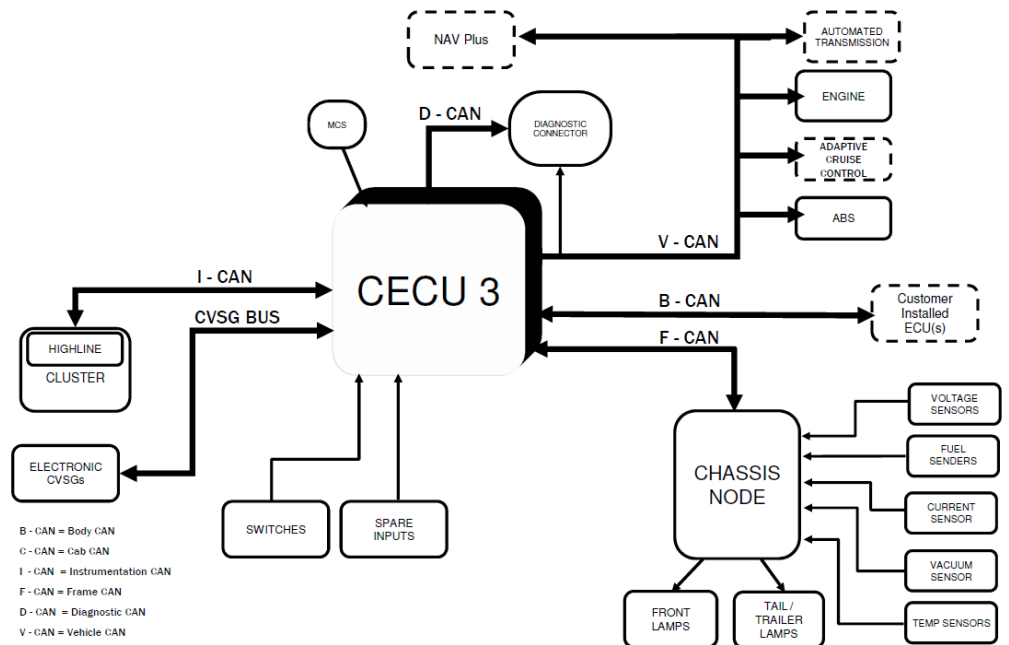
## U117A

<b>Code number</b>	U117A
<b>Fault code description</b>	CAN communication - Message (A1SCREGT2) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Inputs/Outputs:</b> STEERING WHEEL, MCS (Microcontroller System), Cluster, Instrumentation CAN, CVSG BUS, ELECTRONIC CVSG's, SWITCHES, and SPARE INPUTS.</li> <li><b>Communication Networks:</b> Cab CAN, Diagnostic CAN, Diagnostic CONNECTOR, Vehicle CAN, and Frame CAN.</li> <li><b>Vehicle Systems:</b> ABS, PACCAR Display, AUTO TRANSMISSION, Engine CAN, Aftertreatment CAN, VGT Actuator, and After-treatment DCU.</li> <li><b>Chassis and Sensors:</b> CHASSIS NODE, FRONT LAMPS, TAIL / TRAILER LAMPS, VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>Firewalls:</b> Two FIREWALL lines are shown, separating the CECU 3 from the Engine/Aftertreatment CAN and the Chassis Node.</li> </ul>

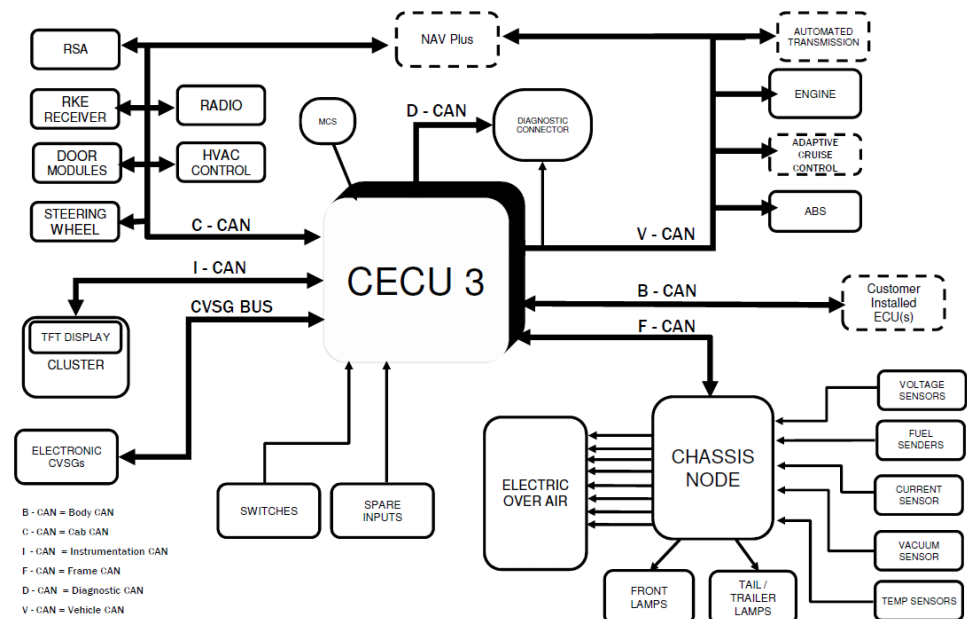
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

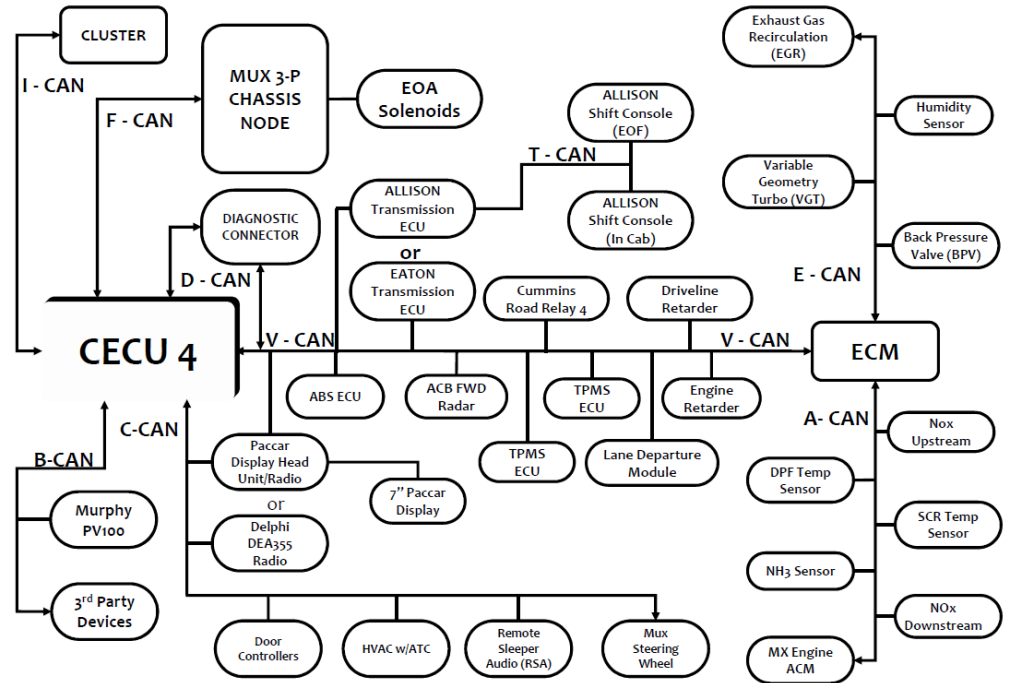
Step 1	Step ID 117A-a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>					
	<table><tr><td>Step 2</td><td>Step ID 117A-b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>			Step 2	Step ID 117A-b	SRT
	Step 2	Step ID 117A-b	SRT			
	<table><tr><td>Step 3</td><td>Step ID 117A-c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>			Step 3	Step ID 117A-c	SRT
	Step 3	Step ID 117A-c	SRT			
<table><tr><td>Step 4</td><td>Step ID 117A-d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			Step 4	Step ID 117A-d	SRT	
Step 4	Step ID 117A-d	SRT				
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>					
	<div>Back to Index</div>					

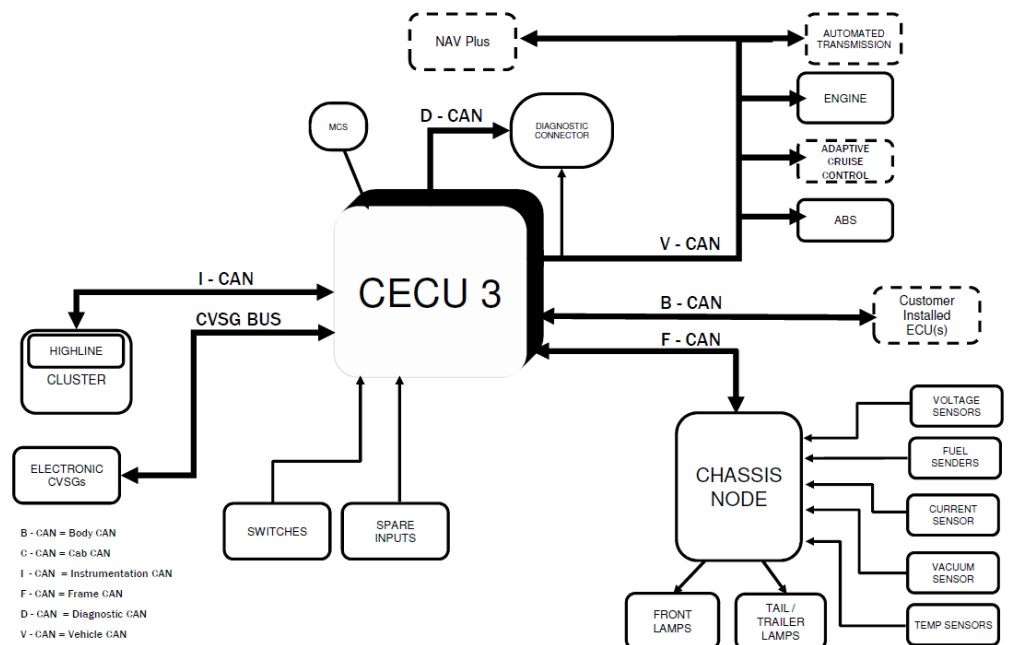
# U117C

<b>Code number</b>	U117C
<b>Fault code description</b>	CAN communication - Message (A1SCREGT2) out of range - Intermediate gas temperature from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, STEERING WHEEL, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and the CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's.</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS, PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors (VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, TEMP SENSORS).</li> <li><b>ENGINE:</b> Connected to the VGT Actuator and the After-treatment DCU.</li> <li><b>After-treatment DCU:</b> Connected to the ENGINE and the Aftertreatment CAN.</li> <li><b>ADAPTIVE CRUISE CONTROL:</b> Connected to the ENGINE and the Vehicle CAN.</li> <li><b>AUTO TRANSMISSION:</b> Connected to the Vehicle CAN.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

## NAMUX 4 Architecture (Phase 1): T680

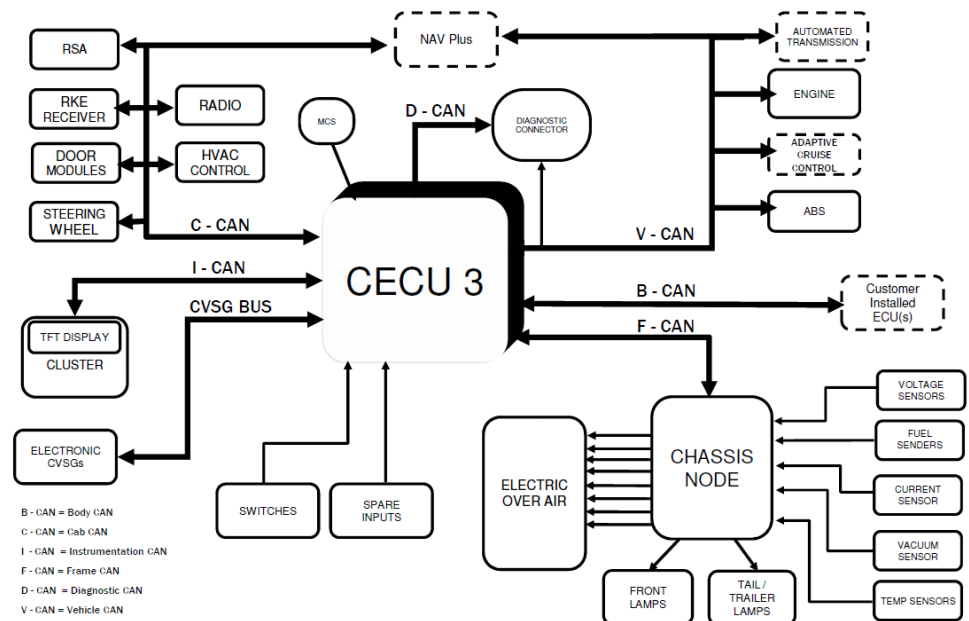


## NAMUX 3 Architecture





## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring.

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

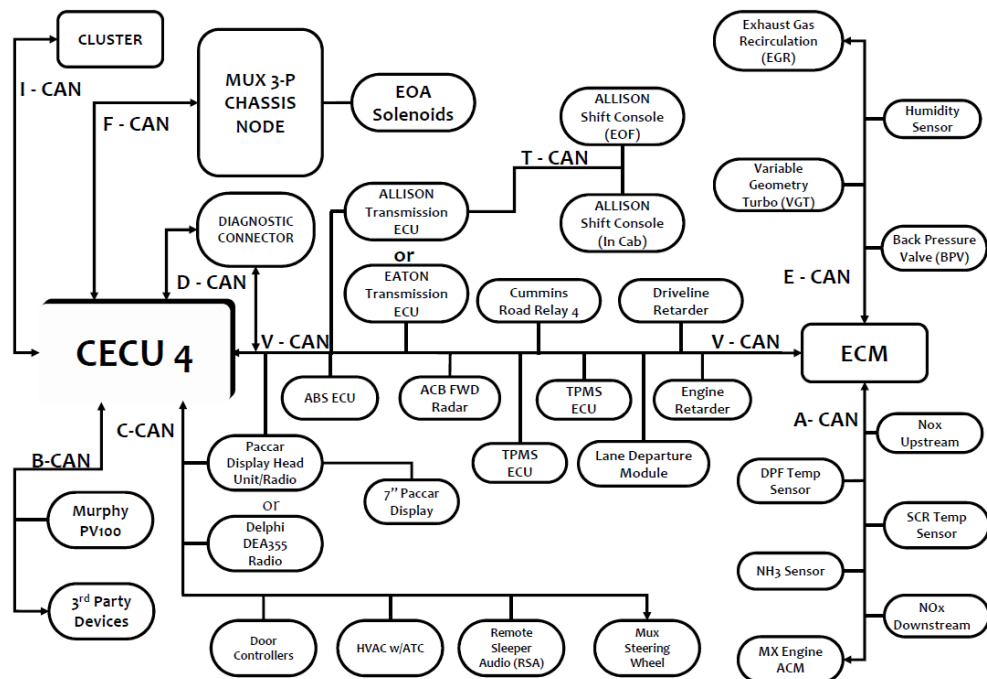
Step 1	Step ID 117C-a	SRT
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 117C-b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 117C-c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>		
	Step 4	Step ID 117C-d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>		
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>		
	<p><a href="#">Back to Index</a></p>		

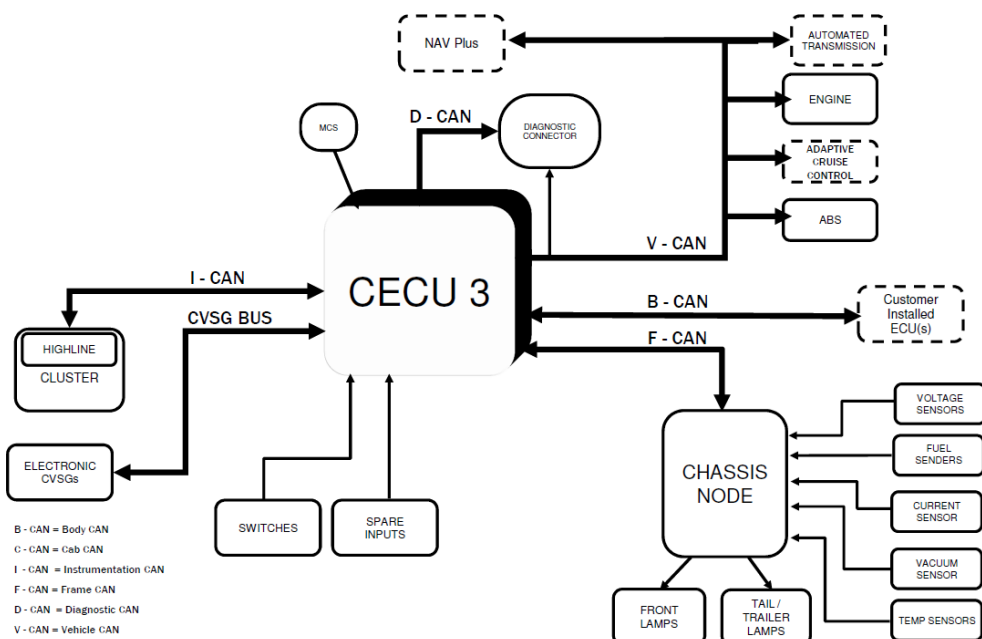
# U1184

<b>Code number</b>	U1184
<b>Fault code description</b>	CAN communication - Message (CCVS) out of range - Cruise Control enable switch from vehicle controller
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Master Control Switch) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the STEERING WHEEL and the Cluster.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's (Cruise Control Vehicle Speed Governor).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors (VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, TEMP SENSORS).</li> <li><b>Other components:</b> SWITCHES, SPARE INPUTS, and the AUTO (TRANSMISSION) are also shown.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

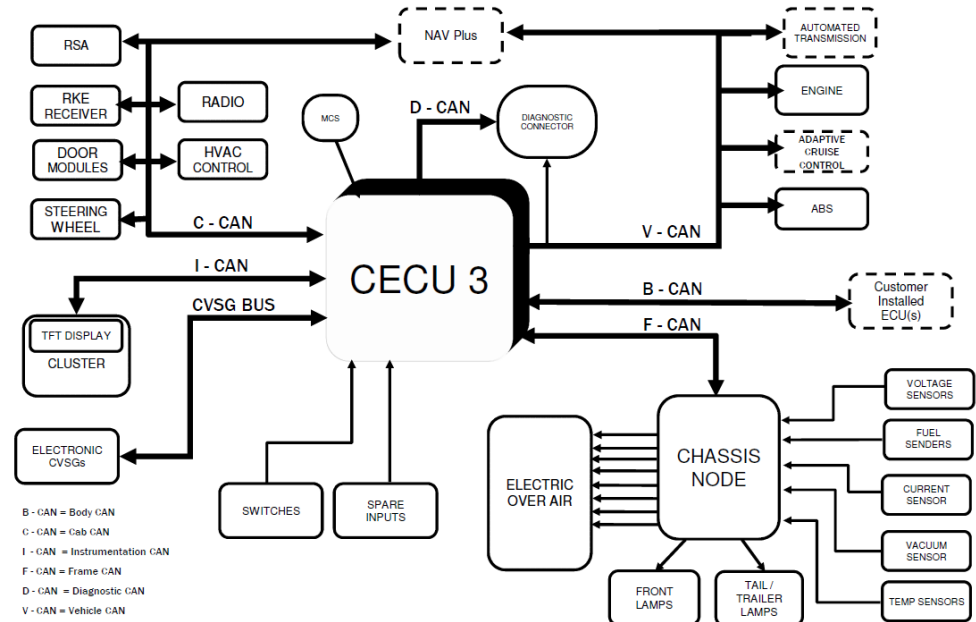
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



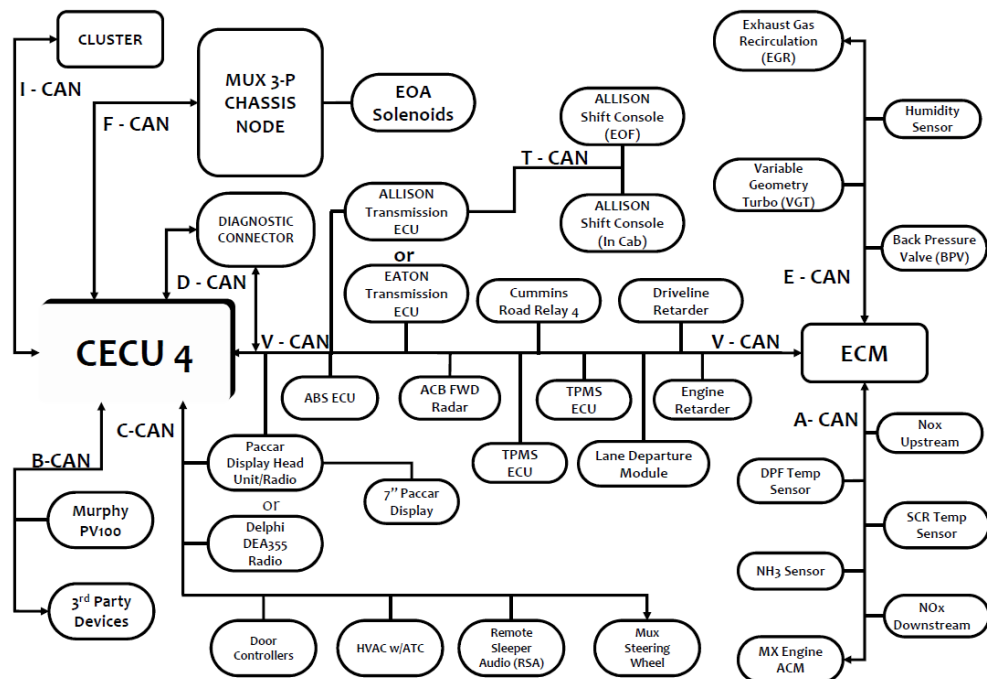
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check cabin ECU for faults							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1184a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.            Was there evidence of any of the above?           <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1184a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
Step 1	Step ID 1184a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>								

	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements. Use DAVIE to re-check for the presence of active faults.</li><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1184b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1184b	SRT
	Step 2	Step ID 1184b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1184c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1184c	SRT
Step 3	Step ID 1184c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1184d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1184d	SRT	
Step 4	Step ID 1184d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

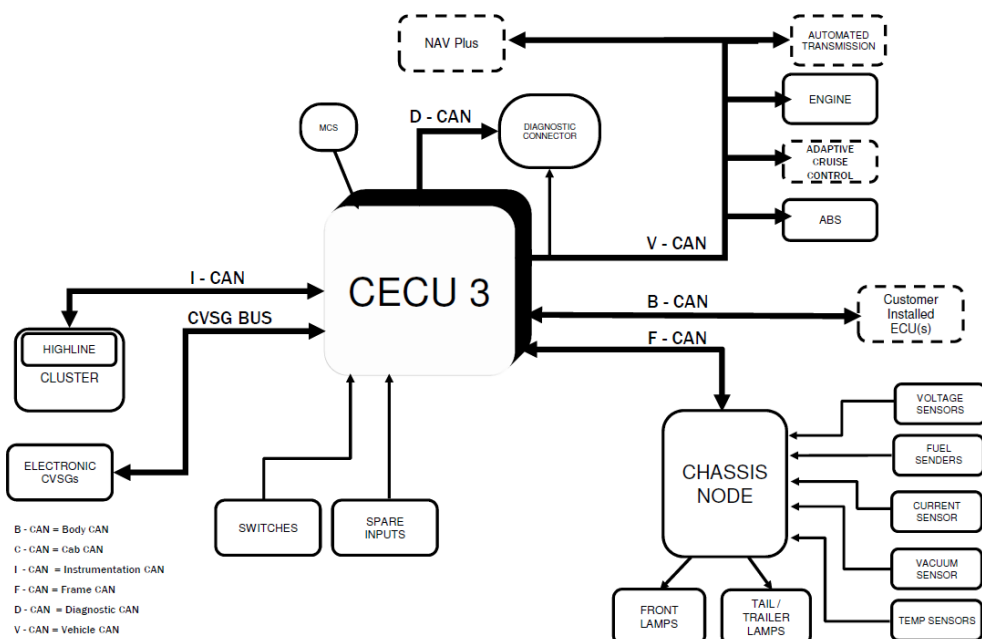
# U1188

<b>Code number</b>	U1188
<b>Fault code description</b>	CAN communication - Message (EBC2) out of range - Front axle speed from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to various components via different CAN buses and physical connections. The Diagnostic CAN bus connects CECU 3 to the Diagnostic Connector, ABS, and PACCAR Display. The Vehicle CAN bus connects CECU 3 to the Engine, Adaptive Cruise Control, VGT Actuator, and After-treatment DCU. The Chassis Node is connected to CECU 3 via the Frame CAN bus and provides inputs for Front Lamps and Tail / Trailer Lamps. The Instrumentation CAN bus connects CECU 3 to the Cluster. The Cab CAN bus connects CECU 3 to the Steering Wheel. The CVSG BUS connects CECU 3 to Electronic CVSG's. Various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temp) are connected to the Chassis Node. The diagram also shows a Firewall separating the Diagnostic CAN from the Vehicle CAN, and another Firewall separating the Vehicle CAN from the Chassis Node.</p>

## NAMUX 4 Architecture (Phase 1): T680

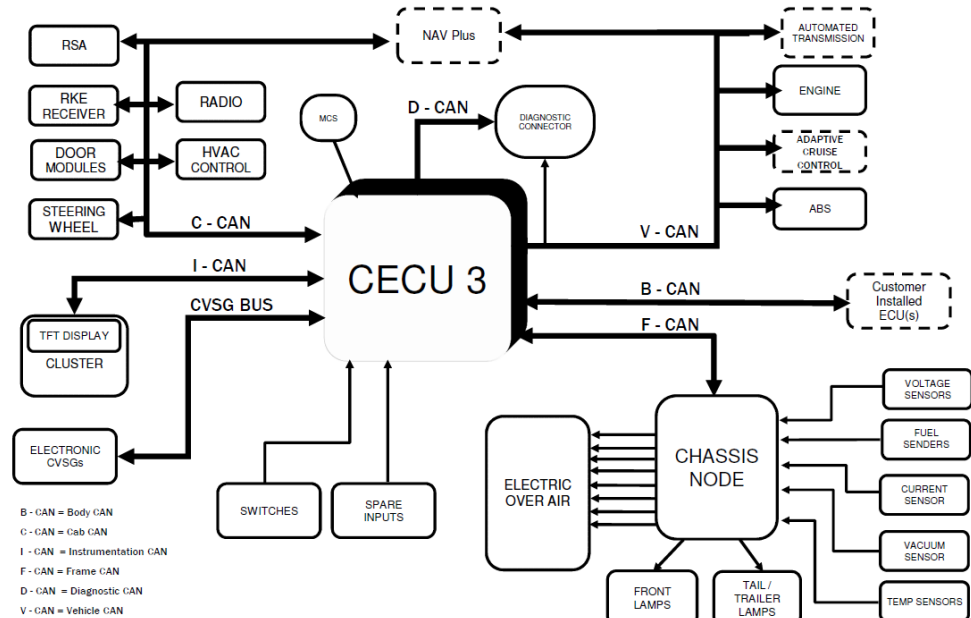




## NAMUX 3 Architecture





## NAMUX 4 Architecture



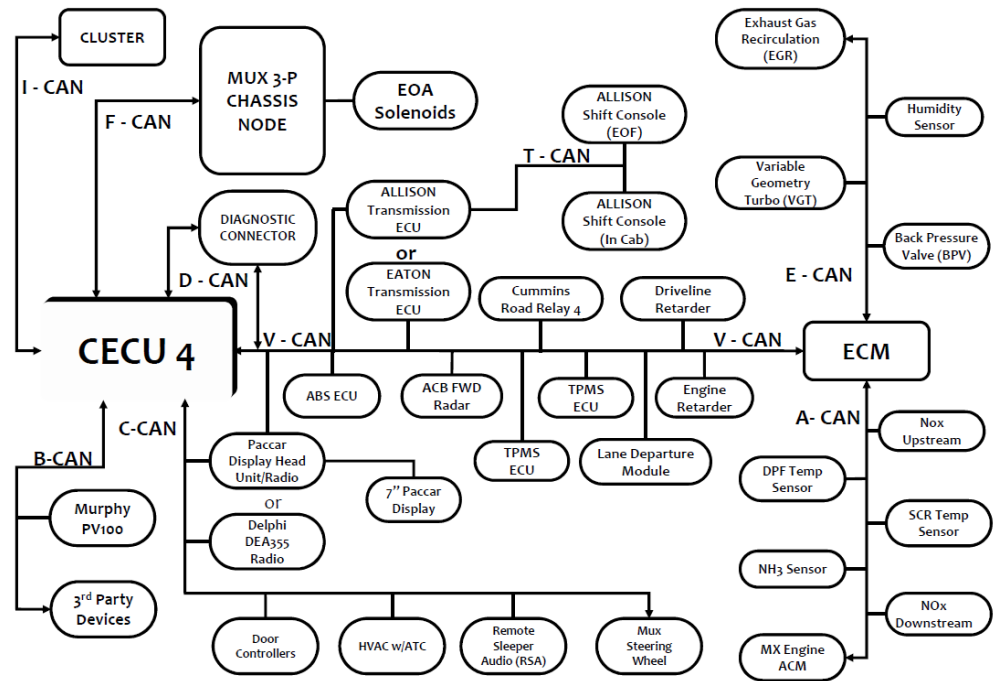
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check brake system ECU for faults							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1188a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.            Was there evidence of any of the above?           <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1188a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
Step 1	Step ID 1188a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>								

	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1188b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1188b	SRT
	Step 2	Step ID 1188b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1188c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1188c	SRT
Step 3	Step ID 1188c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1188d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1188d	SRT	
Step 4	Step ID 1188d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

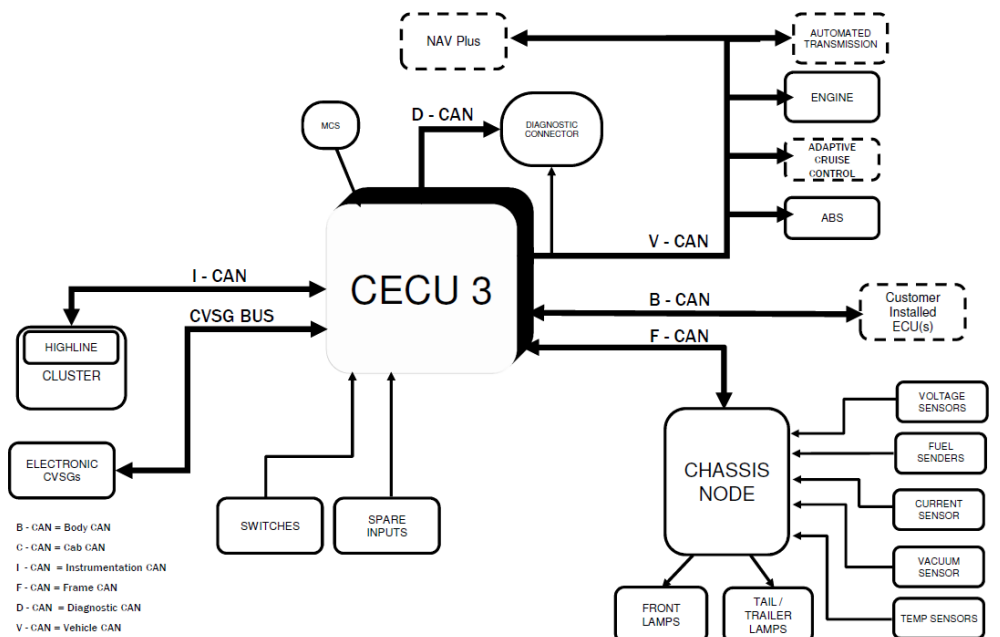
# U1190

<b>Code number</b>	U1190
<b>Fault code description</b>	CAN communication - Message (ERC1_DR) rate too low from retarder
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the Diagnostic Connector and MCS (Maintenance Control Switch).</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the Electronic CVSG's (Control Valve Solenoid Groups).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS, PACCAR Display, and Diagnostic Connector.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the Engine, VGT Actuator, and After-treatment DCU.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connects CECU 3 to the Front Lamps, Tail / Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temp).</li> <li><b>Frame CAN:</b> Connects CECU 3 to the Chassis Node.</li> <li><b>FIREWALL:</b> Indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN.</li> </ul>

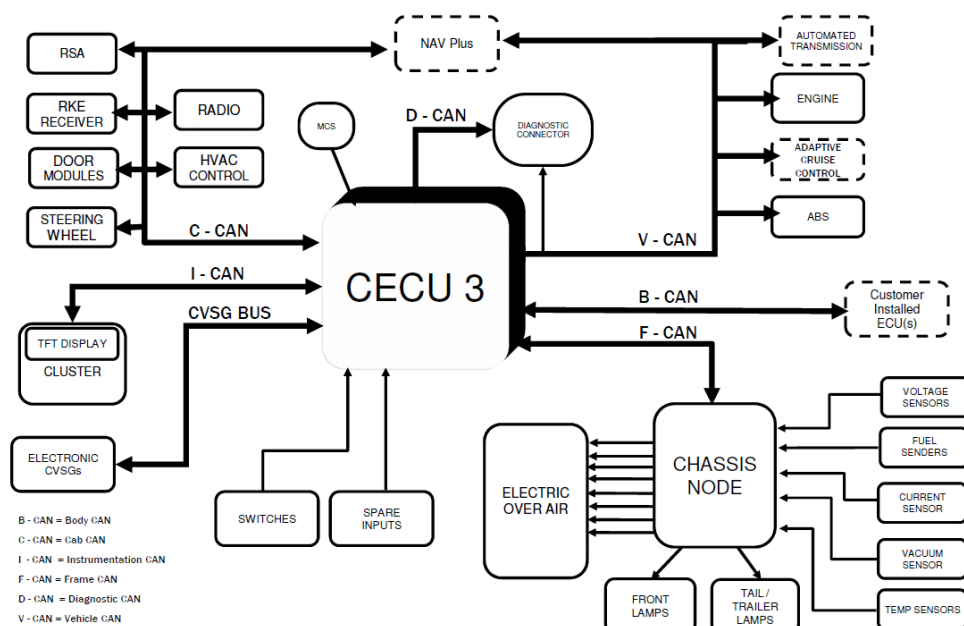
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



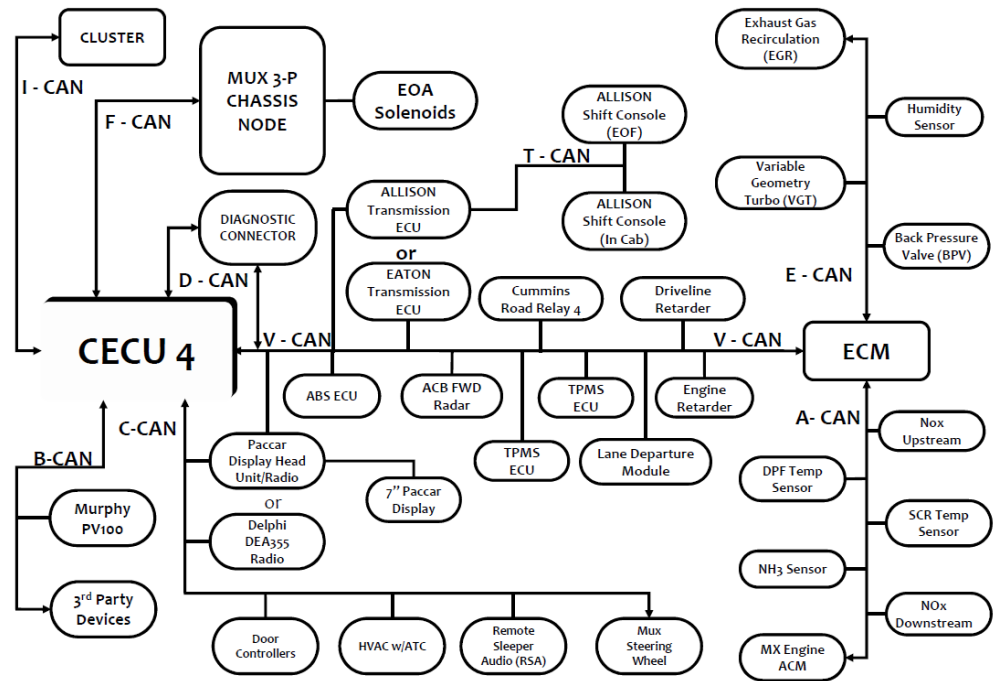
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>Breakdown in communication in the CAN network</li><li>Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1190a</td><td>SRT</td></tr><tr><td colspan="3">Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</td></tr></table>			Step 1	Step ID 1190a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Step 1	Step ID 1190a	SRT							
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.									

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1190b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1190c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>			
	Step 4	Step ID 1190d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

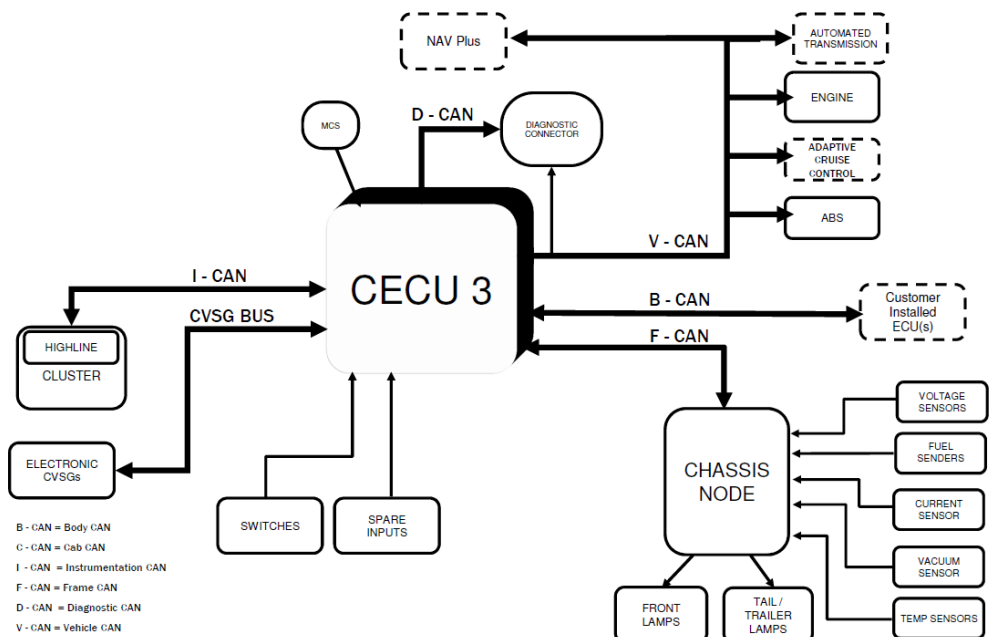
## U1194

<b>Code number</b>	U1194
<b>Fault code description</b>	CAN Communication – Message (DD) rate too low from vehicle controller
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the <b>CECU 3</b> (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the <b>DIAGNOSTIC CONNECTOR</b> and <b>MCS</b> (Message Control System).</li> <li><b>Cab CAN:</b> Connects CECU 3 to the <b>Cluster</b> and <b>STEERING WHEEL</b>.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the <b>Cluster</b>.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to <b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups).</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b> are connected to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the <b>CHASSIS NODE</b> and <b>DIAGNOSTIC CONNECTOR</b>.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the <b>CHASSIS NODE</b>.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the <b>ENGINE</b> and <b>VGT Actuator</b>.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the <b>After-treatment DCU</b>.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including <b>FRONT LAMPS</b>, <b>TAIL / TRAILER LAMPS</b>, <b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>Engine and Aftertreatment Components:</b> The <b>ENGINE</b> is connected to <b>ABS</b>, <b>PACCAR Display</b>, <b>ADAPTIVE CRUISE CONTROL</b>, and <b>VGT Actuator</b>. The <b>After-treatment DCU</b> is connected to the <b>Aftertreatment CAN</b>.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Frame CAN.</p>

## NAMUX 4 Architecture (Phase 1): T680

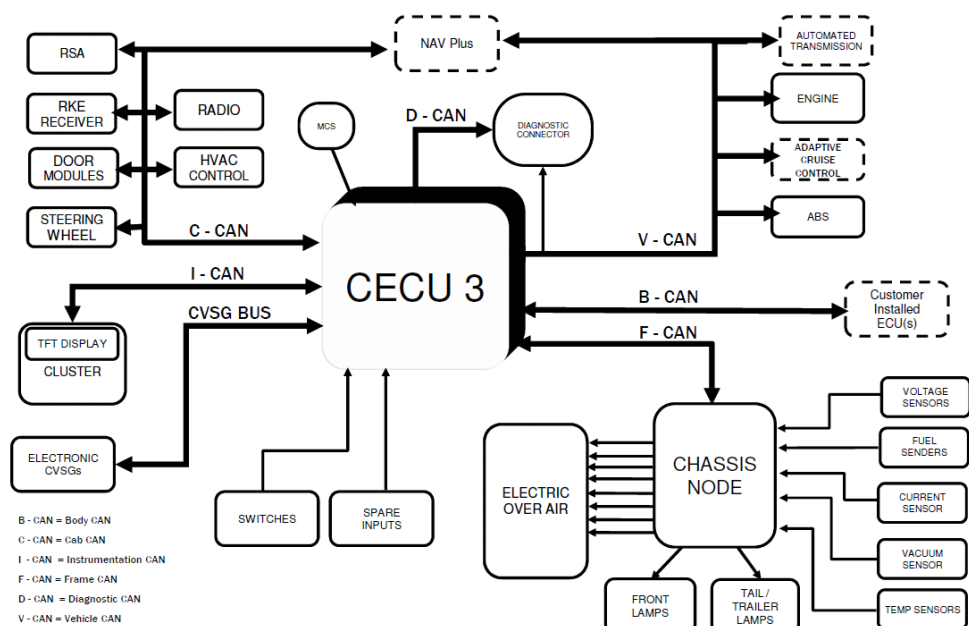




## NAMUX 3 Architecture





## NAMUX 4 Architecture



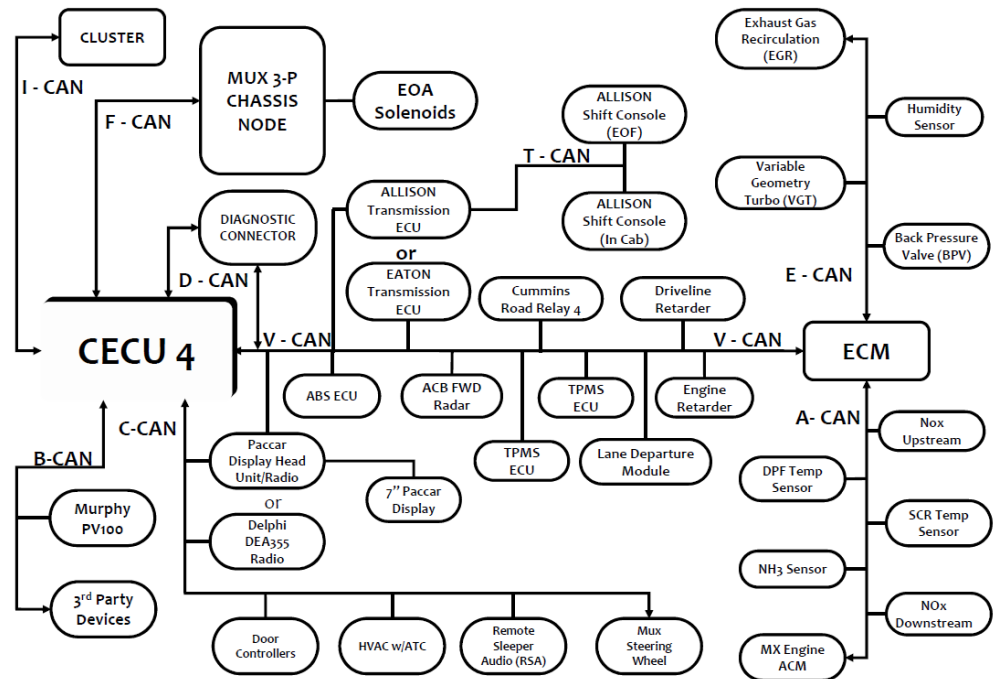
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>Breakdown in communication in the CAN network</li> <li>Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring</li> </ul>							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<div>  <p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> </div> <div>  <ul style="list-style-type: none"> <li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </div> <table border="1"> <tr> <td>Step 1</td><td>Step ID 1194a</td><td>SRT</td></tr> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU.            Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.         </td></tr> </table>		Step 1	Step ID 1194a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Step 1	Step ID 1194a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.								

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1194b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1194b	SRT
	Step 2	Step ID 1194b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1194c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1194c	SRT
	Step 3	Step ID 1194c	SRT	
<table><tr><td>Step 4</td><td>Step ID 1194d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1194d	SRT	
Step 4	Step ID 1194d	SRT		
<p><b>Verification Drive Cycle</b></p>	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

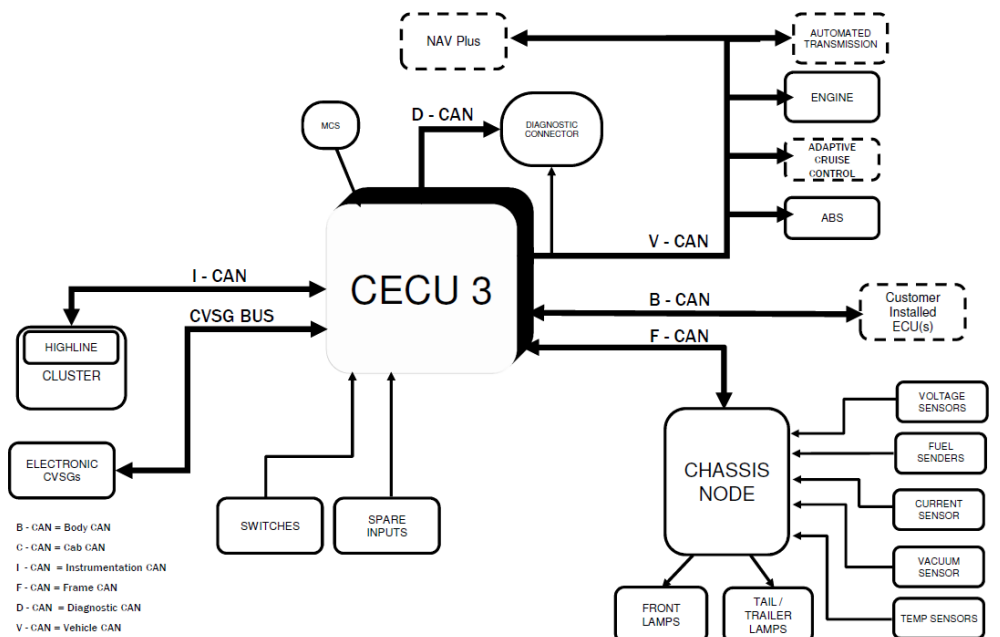
## U1198

<b>Code number</b>	U1198
<b>Fault code description</b>	CAN Communication – Message (EBC2) rate too low from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. This node manages various sensors and actuators:             <ul style="list-style-type: none"> <li><b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>.</li> <li><b>FRONT LAMPS</b> and <b>TAIL / TRAILER LAMPS</b>.</li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected directly to CECU 3.</li> <li><b>CVSG BUS</b> (Cabin Ventilation System Control Bus): Connected to CECU 3 and <b>ELECTRONIC CVSG's</b>.</li> </ul> <p>The diagram also shows a <b>FIREWALL</b> separating the CECU 3 from the CHASSIS NODE and the Engine/Aftertreatment CAN network.</p>

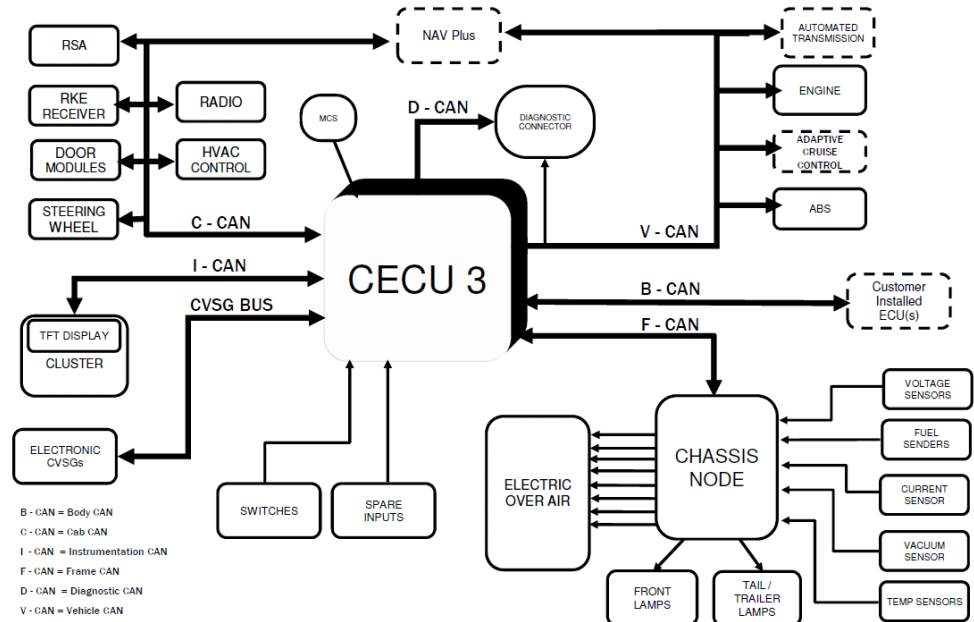
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



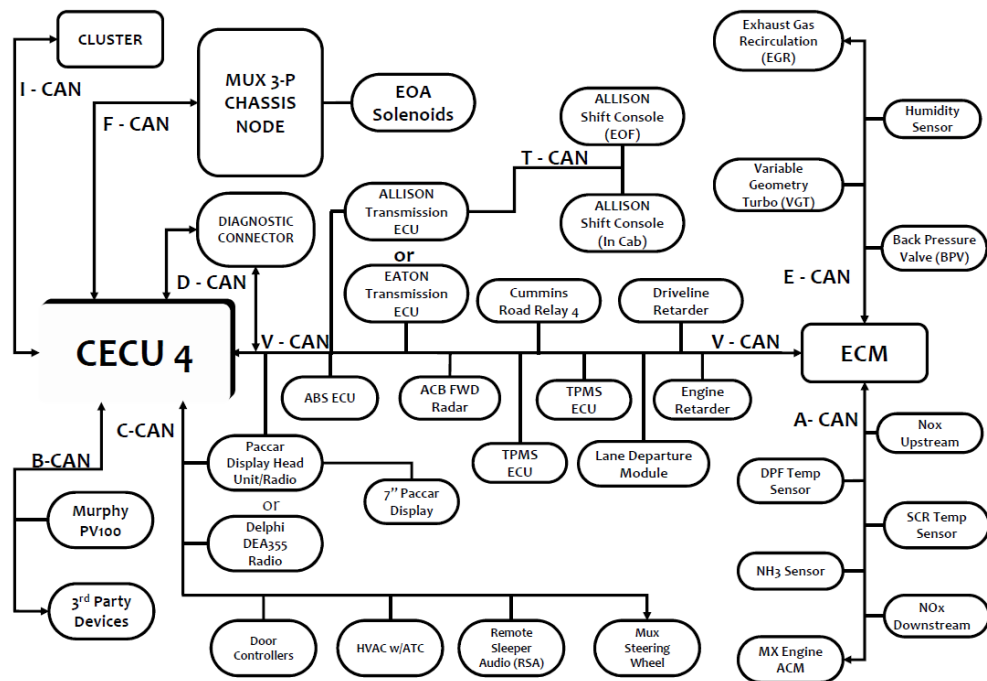
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1198a</td><td>SRT</td></tr><tr><td colspan="3">Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</td></tr></table>			Step 1	Step ID 1198a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Step 1	Step ID 1198a	SRT							
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.									

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1198b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1198b	SRT
	Step 2	Step ID 1198b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1198c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1198c	SRT
Step 3	Step ID 1198c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1198d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1198d	SRT	
Step 4	Step ID 1198d	SRT		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

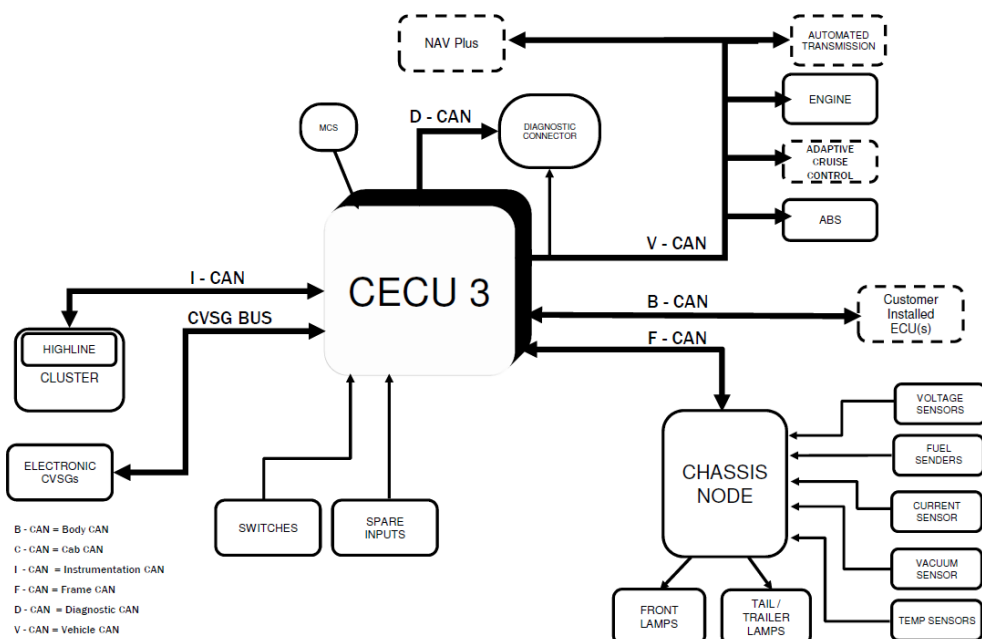
## U1208

<b>Code number</b>	U1208
<b>Fault code description</b>	CAN Communication – Message (PTO) rate too low from vehicle controller
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Message Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. It includes: <ul style="list-style-type: none"> <li><b>FRONT LAMPS</b></li> <li><b>TAIL / TRAILER LAMPS</b></li> <li><b>VOLTAGE SENSORS</b></li> <li><b>FUEL SENDERS</b></li> <li><b>CURRENT SENSOR</b></li> <li><b>PRESSURE SENSORS</b></li> <li><b>VACUUM SENSOR</b></li> <li><b>TEMP SENSORS</b></li> </ul> </li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> <li><b>ELECTRONIC CVSG's</b> (Control Valve Solenoid Groups): Connected via CVSG BUS.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN, Vehicle CAN, and Aftertreatment CAN networks.</p>

## NAMUX 4 Architecture (Phase 1): T680

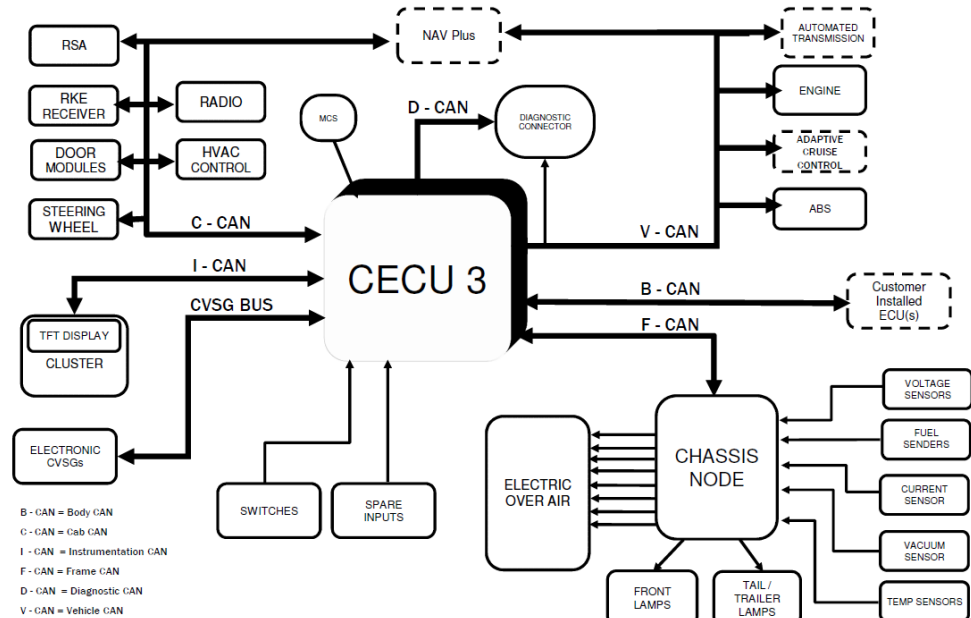




## NAMUX 3 Architecture





## NAMUX 4 Architecture



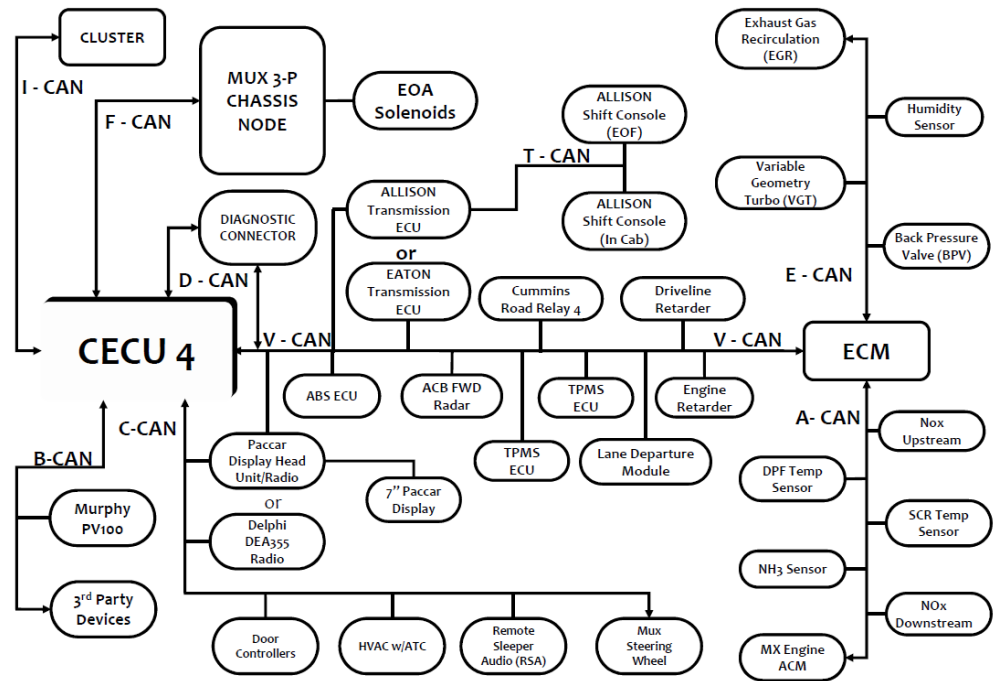
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>Breakdown in communication in the CAN network</li><li>Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div></div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div></div> <div><div></div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div> <table><tr><td>Step 1</td><td>Step ID 1208a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p></td></tr></table>			Step 1	Step ID 1208a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>		
Step 1	Step ID 1208a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>									

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1208b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1208c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>		
Step 4	Step ID 1208d	SRT	
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

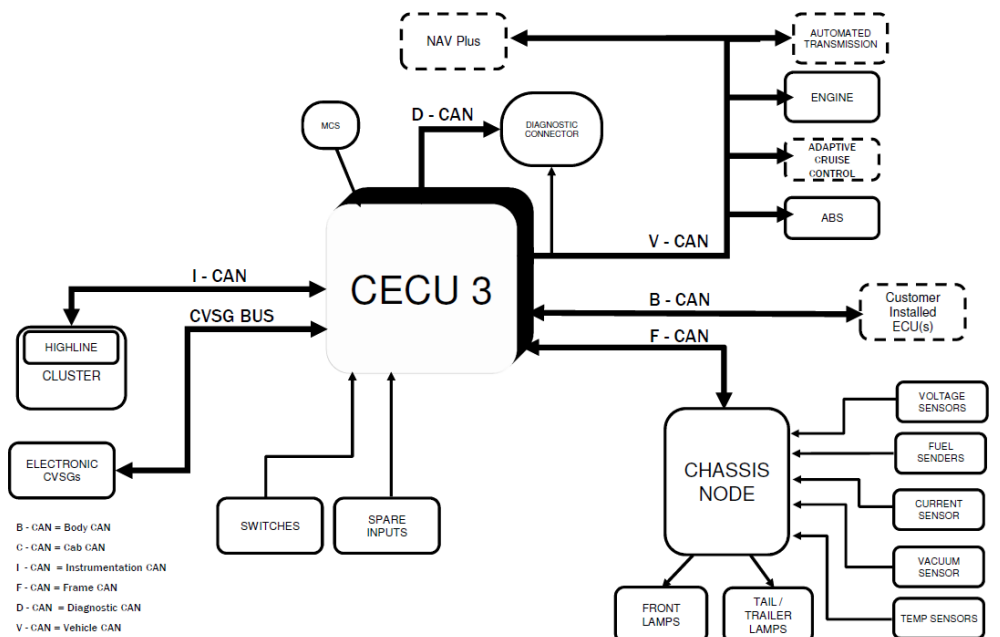
# U1404

<b>Code number</b>	U1404
<b>Fault code description</b>	CAN communication - Message (ETC2) out of range - current gear from transmission system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Diesel Exhaust Fluid Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b> and <b>Tail / Trailer Lamps</b>: Connected via Frame CAN.</li> <li><b>Sensors</b>: Connected via Frame CAN, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> <li><b>Other Components</b>: Connected via CVSG BUS (Electronic CVSG's) and SW/SPARE INPUTS.</li> </ul> <p>The diagram also shows a FIREWALL separating the CECU 3 from the CHASSIS NODE and the Engine CAN system.</p>

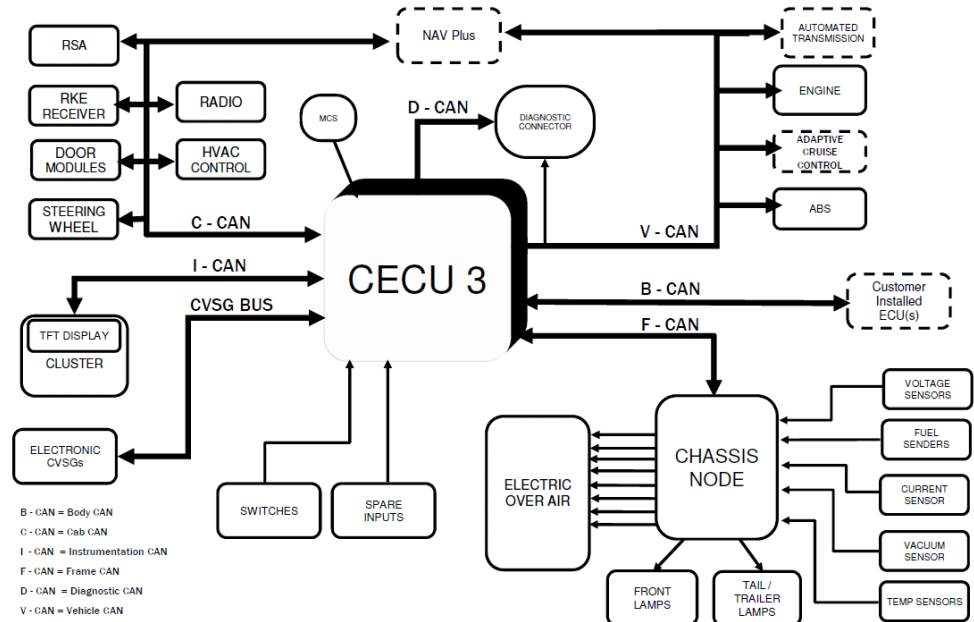
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

Check transmission ECU for fault

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.





- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1404a	SRT
<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> <li>• Yes: Make the appropriate repairs or component replacements.</li> </ul>		

	Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1404b	SRT
	Data check <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1404c	SRT
	Repair or replace component <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>		
	Step 4	Step ID 1404d	SRT
	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.		
	<a href="#">Back to Index</a>		

## U1406

<b>Code number</b>	U1406
<b>Fault code description</b>	CAN communication - Message (ACC1) out of range, Adaptive Cruise Control mode from Advanced Emergency Braking System
<b>Fault code information</b>	1-trip Check Engine lamp 3 drive cycle recovery Readiness group – None Freeze frame type – Crankcase
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	
<b>Technical data</b>	This DTC relates to a communication issue and not to a specific component.
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>• ACC RADAR Misalignment</li> <li>• Faulty wiring or related connection</li> </ul>
<b>Additional information</b>	
<b>Diagnostic Step-by-Step</b>	<div>  <p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p> </div> <div>  <ul style="list-style-type: none"> <li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PMCI are functioning properly.</li> <li>▪ Disconnecting the PMCI connectors during the troubleshooting process will result in multiple errors.</li> <li>▪ For specific electrical component information and pin out locations, always refer to the technical data in Rapido.</li> <li>▪ It is necessary to exit the 'Active errors' screen in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence provided.</li> </ul> </div>

### Step 1. Investigate Related Trouble Codes

Before troubleshooting this code, take notice of any other active or inactive trouble codes. One or multiple other codes could have been the cause for this code.

#### Step 1.A Investigate related trouble codes

##### Action

1. Use DAVIE Diagnostics to perform a Quick Check for current trouble codes.

Are these or any other related codes active?

P0567; P0568; P1062; P1122; U1184; U180B; U181F; U1820

**Yes**

**No**

Refer to the troubleshooting information for these codes before continuing with this procedure.

**Go to step 2.A**

### Step 2. Radar Alignment Checks

#### Step 2.A Special procedure, Wingman (Bendix) or OnGuard (Meritor-Wabco) RADAR alignment

##### Action

1. Check Wingman (Bendix) or OnGuard (Meritor-Wabco) RADAR alignment using the procedure provided by the RADAR system's manufacturer.

Was the RADAR found to be out of alignment?

**Yes**

**No**

Re-align the RADAR using the associated procedure and tools from the system manufacturer.

Use the corresponding tool to verify alignment: A-COM tool (Bendix Wingman) or Toolbox (Meritor-Wabco OnGuard).

Refer to Step 3.A to perform the corresponding repair verification cycles and rechecks.



If this code is still present after completing RADAR alignment, contact the PACCAR Engine Support Center for additional assistance.

Contact the PACCAR Engine Support Center for additional assistance.

## 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. Test Drive – 25 miles

Drive the truck under normal conditions for distance of approximately 25 miles while running the autoadaptive cruise control.

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 U1406 been cleared?

**Yes**



**No**

Problem resolved. No further actions.

Continue with the next step in this troubleshooting procedure. If all steps

	<div data-bbox="495 130 987 304"></div> <div data-bbox="995 130 1513 304"> <p>have been completed and this trouble code is still present, contact the PACCAR Engine Support Center for further assistance.</p> </div> <div data-bbox="505 375 591 464">  </div> <div data-bbox="625 390 1190 430"> <p>Contacting the PACCAR Engine Support Center</p> </div> <div data-bbox="625 447 1490 558"> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.</p> </div>
	<div data-bbox="1338 726 1513 766"> <a href="#">Back to Index</a> </div>

## U1407

<b>Code number</b>	U1407
<b>Fault code description</b>	CAN communication - Message (ACC1) out of range, Adaptive Cruise Control set speed from Advanced Emergency Braking System
<b>Fault code information</b>	1-trip Check Engine lamp 3 drive cycle recovery Readiness group – None Freeze frame type – Crankcase
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	
<b>Technical data</b>	This DTC relates to a communication issue and not to a specific component.
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>• ACC RADAR Misalignment</li> <li>• Faulty wiring or related connection</li> </ul>
<b>Additional information</b>	
<b>Diagnostic Step-by-Step</b>	<div>  <p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p> </div> <div>  <ul style="list-style-type: none"> <li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PMCI are functioning properly.</li> <li>▪ Disconnecting the PMCI connectors during the troubleshooting process will result in multiple errors.</li> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence</li> </ul> </div>

provided.

## Step 1. Investigate Related Trouble Codes

Before troubleshooting this code, take notice of any other active or inactive trouble codes. One or multiple other codes could have been the cause for this code.

### Step 1.A Investigate related trouble codes

#### Action

1. Use DAVIE Diagnostics to perform a Quick Check for current trouble codes.

Are these or any other related codes active?

P0567; P0568; P1062; P1122; U1184; U180B; U181F; U1820

**Yes**

**No**

Refer to the troubleshooting information for these codes before continuing with this procedure.

**Go to step 2.A**

## Step 2. Radar Alignment Checks

### Step 2.A Special procedure, Wingman (Bendix) or OnGuard (Meritor-Wabco) RADAR alignment

#### Action

1. Check Wingman (Bendix) or OnGuard (Meritor-Wabco) RADAR alignment using the procedure provided by the RADAR system's manufacturer.

Was the RADAR found to be out of alignment?


**Yes**


**No**

Re-align the RADAR using the associated procedure and tools from the system manufacturer.

Use the corresponding tool to verify alignment: A-COM tool (Bendix Wingman) or Toolbox (Meritor-Wabco OnGuard).

Refer to Step 3.A to perform the corresponding repair verification cycles

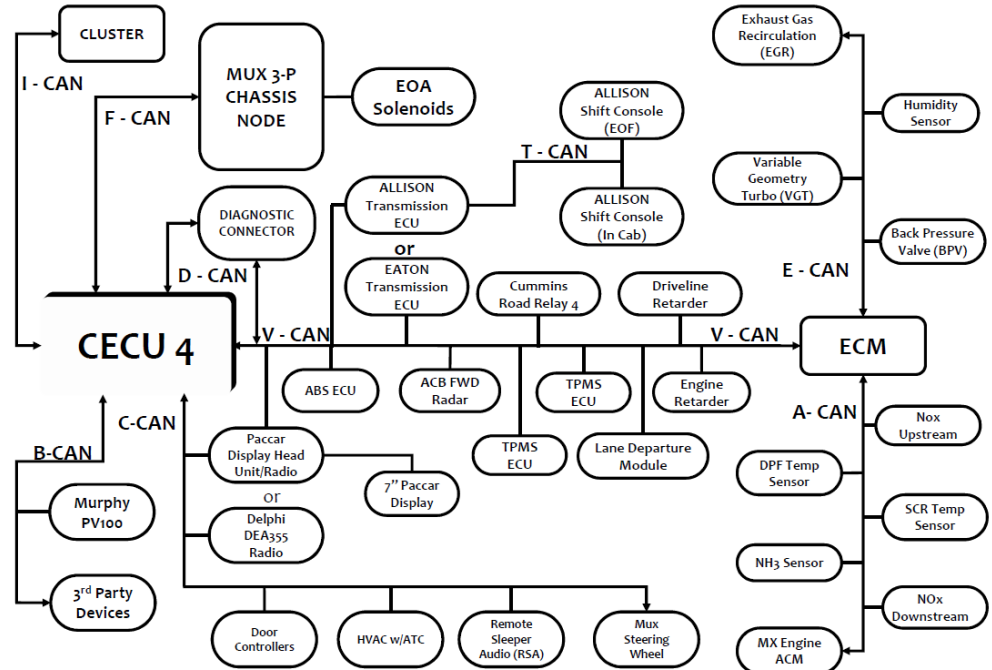
	and rechecks.	
	<b>If this code is still present after completing RADAR alignment, contact the PACCAR Engine Support Center for additional assistance.</b>	<b>Contact the PACCAR Engine Support Center for additional assistance.</b>
<p><b>Step 3. Repair Verification</b></p>		
<p><b>Step 3.A Repair verification cycles</b></p>		
<p>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.</p>		
<div style="display: flex; align-items: center;">  <p>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.</p> </div>		
<p><b>Action</b></p>		
<p>1. Test Drive – 25 miles</p> <p>Drive the truck under normal conditions for distance of approximately 25 miles while running the autoadaptive cruise control.</p>		
<p>Were the identified repair verification cycles able to be completed?</p>		
<b>Yes</b>		<b>No</b>
		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.
<b>Go to step 3.B</b>		<b>Go to step 3.B</b>
<p><b>Step 3.B DAVIE Diagnostics, Quick Check</b></p>		
<p><b>Action</b></p>		
<p>1. Use DAVIE Diagnostics to perform a Quick Check for current trouble codes to determine whether the actions taken have cleared this trouble code.</p>		
<p>Has U1407 been cleared?</p>		
<b>Yes</b>		<b>No</b>

	<div data-bbox="495 130 1513 380"> <div>Problem resolved. No further actions.</div> <div>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.</div> </div> <div data-bbox="495 436 1513 772"> <div>  <div> <div>Contacting the PACCAR Engine Support Center</div> <div>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.</div> </div> </div> </div>
	<div data-bbox="1336 800 1513 833"> <a href="#">Back to Index</a> </div>

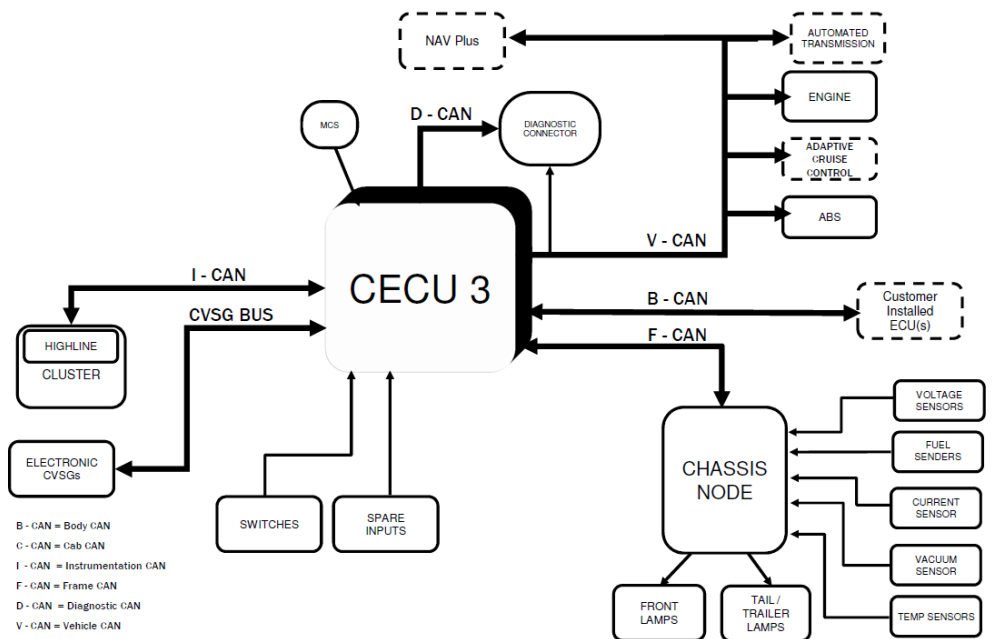
# U1408

<b>Code number</b>	U1408
<b>Fault code description</b>	VTG turbocharger actuator status - Data erratic, intermittent or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the VTG turbocharger actuator (L037) that contains an out-of-range value for the actuator status.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which is connected to several other components via CAN buses and other interfaces. The connections are as follows:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected to CECU 3 via Cab CAN.</li> <li><b>MCS</b>: Connected to CECU 3 via Diagnostic CAN.</li> <li><b>Diagnostic CAN</b>: Connected to CECU 3 via Diagnostic Connector.</li> <li><b>Cluster</b>: Connected to CECU 3 via Instrumentation CAN.</li> <li><b>CVSG BUS</b>: Connected to CECU 3 via CVSG BUS.</li> <li><b>ELECTRONIC CVSG's</b>: Connected to CECU 3 via CVSG BUS.</li> <li><b>SWITCHES</b>: Connected to CECU 3 via Frame CAN.</li> <li><b>SPARE INPUTS</b>: Connected to CECU 3 via Frame CAN.</li> <li><b>Vehicle CAN</b>: Connected to CECU 3 via Vehicle CAN.</li> <li><b>CHASSIS NODE</b>: Connected to CECU 3 via Frame CAN.</li> <li><b>FRONT LAMPS</b>: Connected to CHASSIS NODE.</li> <li><b>TAIL / TRAILER LAMPS</b>: Connected to CHASSIS NODE.</li> <li><b>Engine</b>: Connected to CECU 3 via Engine CAN.</li> <li><b>VGT Actuator</b>: Connected to Engine CAN.</li> <li><b>After-treatment DCU</b>: Connected to Engine CAN.</li> <li><b>VOLTAGE SENSORS</b>: Connected to CHASSIS NODE.</li> <li><b>FUEL SENDERS</b>: Connected to CHASSIS NODE.</li> <li><b>CURRENT SENSOR</b>: Connected to CHASSIS NODE.</li> <li><b>PRESSURE SENSORS</b>: Connected to CHASSIS NODE.</li> <li><b>VACUUM SENSOR</b>: Connected to CHASSIS NODE.</li> <li><b>TEMP SENSORS</b>: Connected to CHASSIS NODE.</li> </ul> <p>The diagram also shows a FIREWALL separating the CECU 3 from the CHASSIS NODE and the Engine CAN. The CHASSIS NODE is connected to the Engine CAN via a dashed line.</p>

## NAMUX 4 Architecture (Phase 1): T680

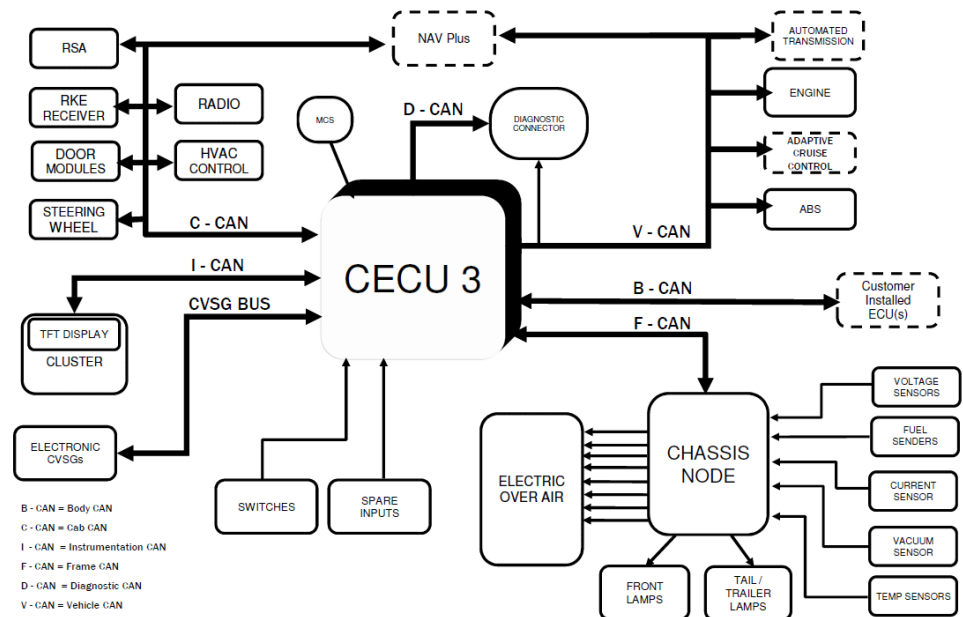


## NAMUX 3 Architecture





## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- E-CAN communication
- Faulty VTG turbocharger actuator

### Additional information

The VTG turbocharger is controlled by the VTG turbocharger actuator, a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

#### Step 1

Step ID 1408a

SRT

#### Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

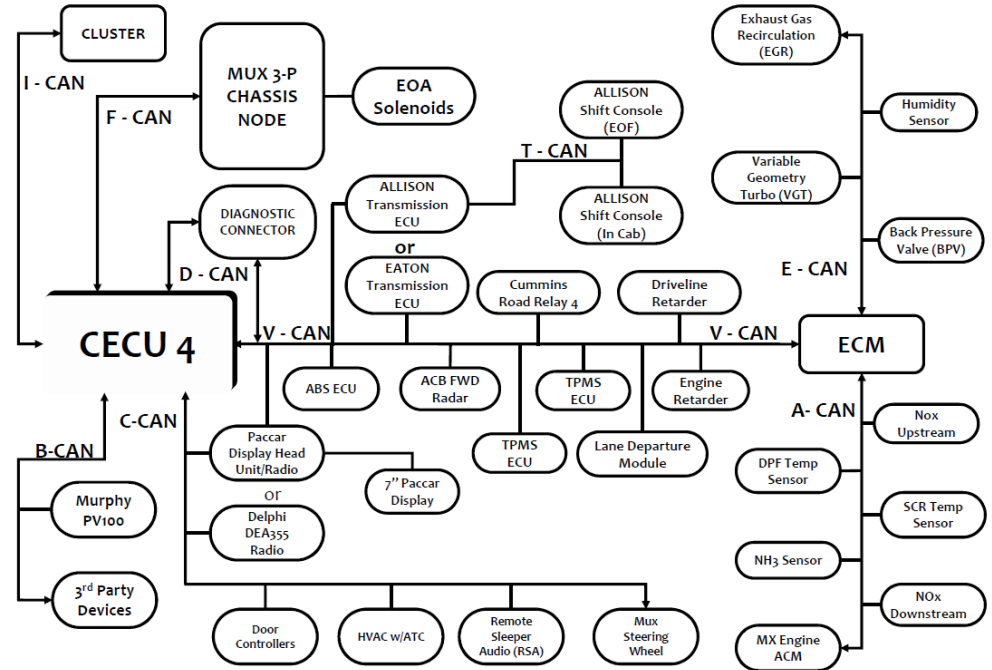
Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1408b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step 4</li></ul>	Step 2	Step ID 1408b	SRT
	Step 2	Step ID 1408b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1408c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 1408c	SRT
	Step 3	Step ID 1408c	SRT	
<table><tr><td>Step 4</td><td>Step ID 1408d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1408d	SRT	
Step 4	Step ID 1408d	SRT		
<p><b>Verification Drive Cycle</b></p>	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

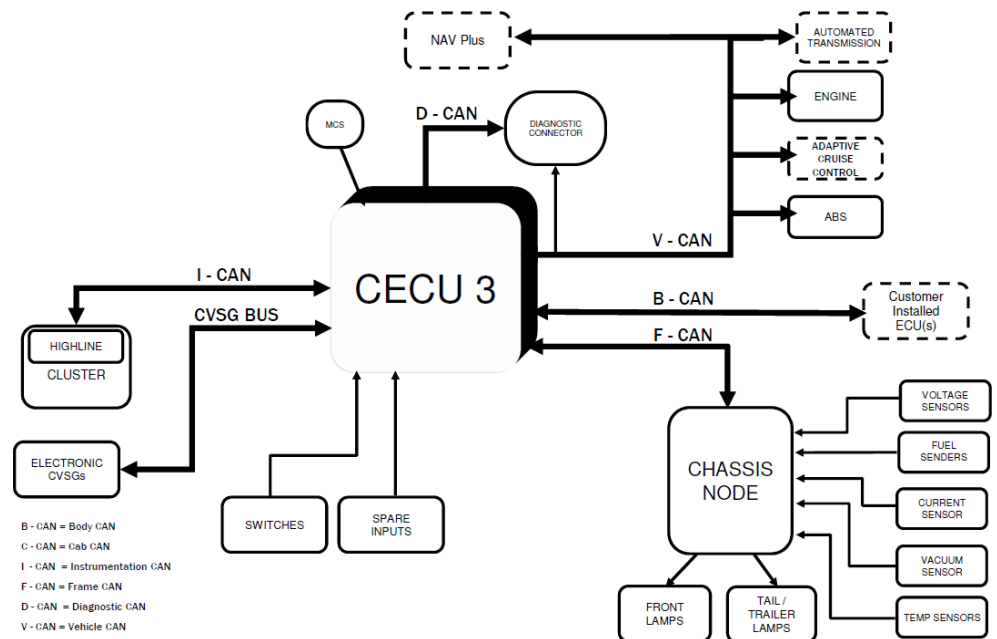
# U1409

<b>Code number</b>	U1409
<b>Fault code description</b>	VTG turbo charger actuator state - Data erratic intermittent or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the VTG turbocharger actuator (L037) that contains an out-of-range value for the actuator operating state.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit). It is connected to several components via different CAN buses and other interfaces:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster and the Steering Wheel.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the Electronic CVSG's (Control Valve Solenoid Groups).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the Engine and the VGT Actuator (Variable Geometry Turbocharger Actuator).</li> <li><b>After-treatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Diesel Particulate Filter Control Unit).</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including Front Lamps, Tail/Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temperature).</li> <li><b>Engine and After-treatment:</b> The Engine is connected to the VGT Actuator and the After-treatment DCU. The After-treatment DCU is also connected to the CHASSIS NODE.</li> <li><b>Other components:</b> The CHASSIS NODE is also connected to the Front Lamps and Tail/Trailer Lamps.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

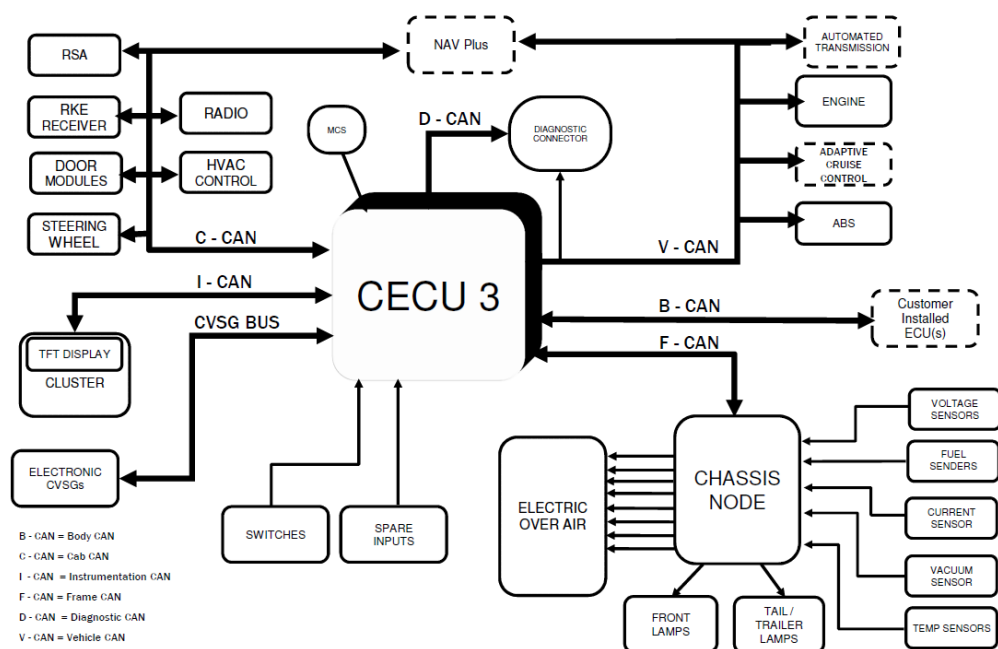
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- E-CAN communication
- Faulty VTG turbocharger actuator

### Additional information

The VTG turbocharger is controlled by the VTG turbocharger actuator, a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

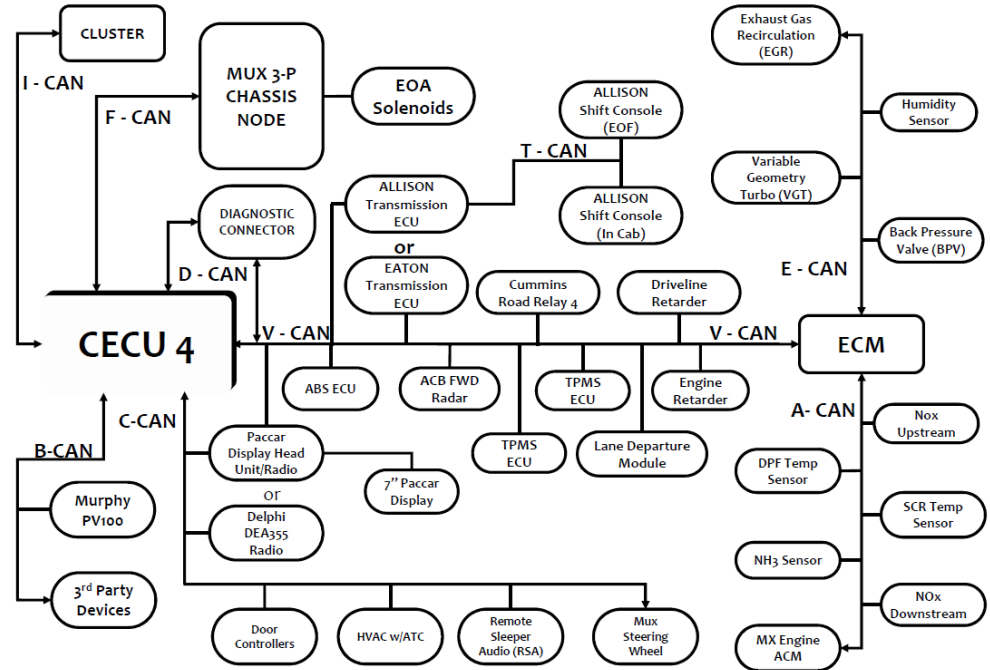
Step 1	Step ID 1409a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic		

	<p>procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1409b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step 4</li></ul>	Step 2	Step ID 1409b	SRT
Step 2	Step ID 1409b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 1409c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>	Step 3	Step ID 1409c	SRT
Step 3	Step ID 1409c	SRT		
	<table><tr><td>Step 4</td><td>Step ID 1409d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1409d	SRT
Step 4	Step ID 1409d	SRT		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

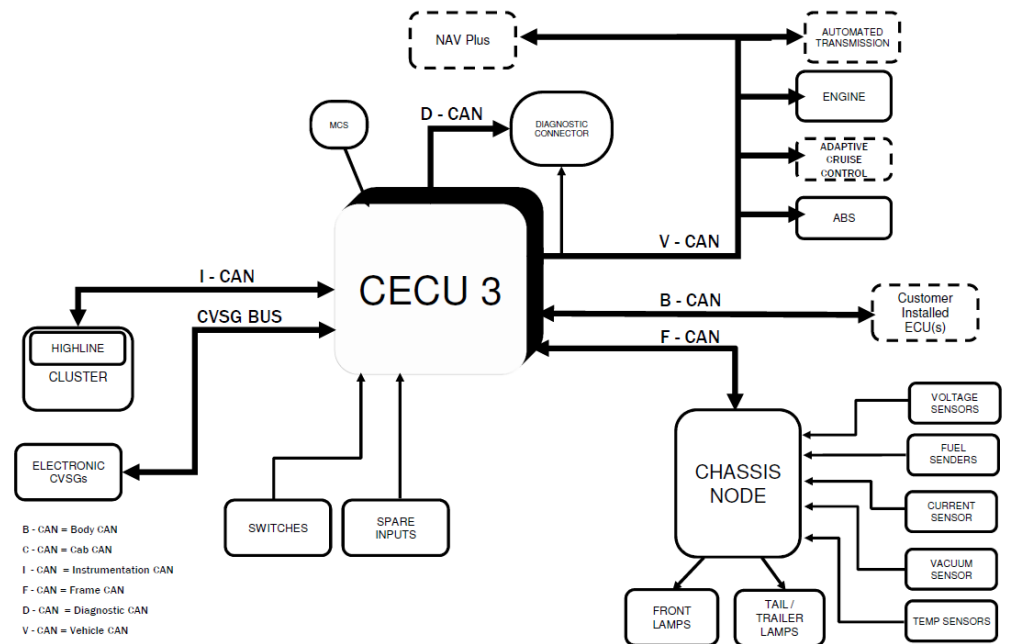
## U140A

<b>Code number</b>	U140A
<b>Fault code description</b>	VTG turbocharger actuator effort - Data erratic intermittent or incorrect
<b>Fault code information</b>	2 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the VTG turbocharger actuator (L037) that contains an out-of-range value for the actuator effort.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which is connected to several other components via CAN buses and other communication lines. The connections are as follows:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected to CECU 3 via Cab CAN.</li> <li><b>MCS</b>: Connected to CECU 3 via Diagnostic CAN.</li> <li><b>Diagnostic CAN</b>: Connected to CECU 3 via Diagnostic Connector.</li> <li><b>ABS</b>: Connected to CECU 3 via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected to CECU 3 via Vehicle CAN.</li> <li><b>Engine</b>: Connected to CECU 3 via Engine CAN.</li> <li><b>VGT Actuator</b>: Connected to CECU 3 via Engine CAN.</li> <li><b>After-treatment DCU</b>: Connected to CECU 3 via After-treatment CAN.</li> <li><b>Cluster</b>: Connected to CECU 3 via Instrumentation CAN.</li> <li><b>CVSG BUS</b>: Connected to CECU 3 via CVSG BUS.</li> <li><b>ELECTRONIC CVSG's</b>: Connected to CECU 3 via CVSG BUS.</li> <li><b>SWITCHES</b>: Connected to CECU 3 via Frame CAN.</li> <li><b>SPARE INPUTS</b>: Connected to CECU 3 via Frame CAN.</li> <li><b>CHASSIS NODE</b>: Connected to CECU 3 via Frame CAN.</li> <li><b>FRONT LAMPS</b>: Connected to CHASSIS NODE.</li> <li><b>TAIL / TRAILER LAMPS</b>: Connected to CHASSIS NODE.</li> <li><b>VOLTAGE SENSORS</b>: Connected to CHASSIS NODE.</li> <li><b>FUEL SENDERS</b>: Connected to CHASSIS NODE.</li> <li><b>CURRENT SENSOR</b>: Connected to CHASSIS NODE.</li> <li><b>PRESSURE SENSORS</b>: Connected to CHASSIS NODE.</li> <li><b>VACUUM SENSOR</b>: Connected to CHASSIS NODE.</li> <li><b>TEMP SENSORS</b>: Connected to CHASSIS NODE.</li> </ul> <p>The diagram also shows a FIREWALL separating the CECU 3 from the CHASSIS NODE and the Engine CAN from the After-treatment CAN.</p>

## NAMUX 4 Architecture (Phase 1): T680

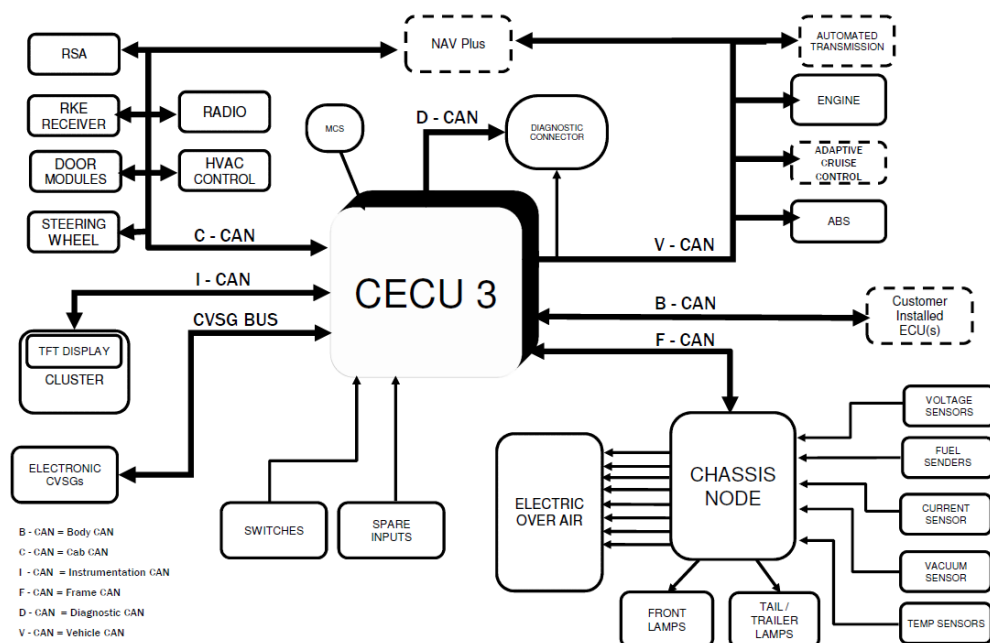




## NAMUX 3 Architecture





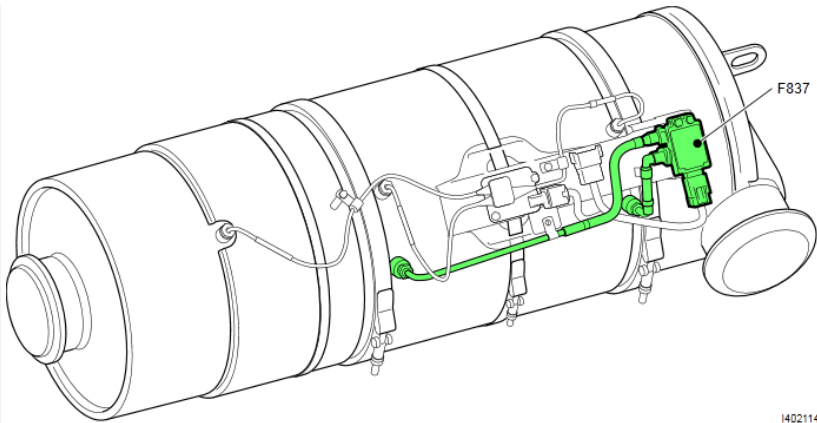
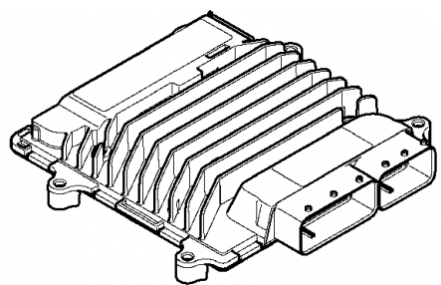
## NAMUX 4 Architecture

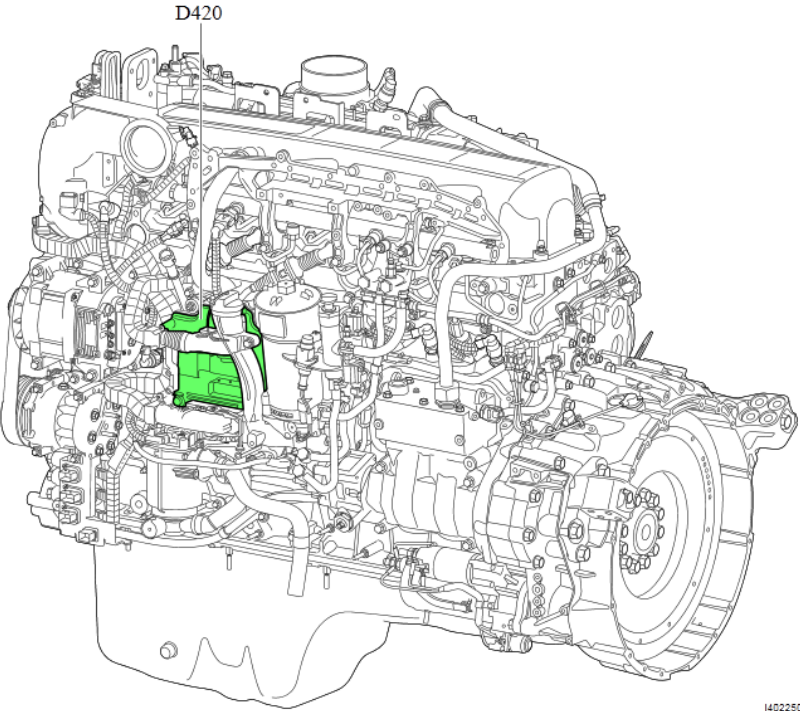
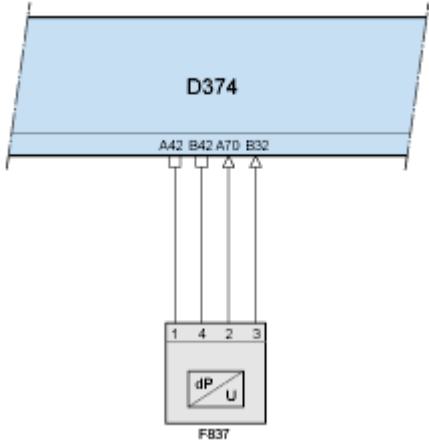


Technical data	This code relates to a communication issue and not to a specific component.											
Possible causes	<ul style="list-style-type: none"><li>• E-CAN communication</li><li>• Faulty VTG turbocharger actuator</li></ul>											
Additional information	<ul style="list-style-type: none"><li>• The VTG turbocharger is controlled by the VTG turbocharger actuator, a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.</li><li>• The actuator provides feedback to the PCI ECU about the effort to move the nozzle ring.</li></ul>											
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 140A-a</td><td>SRT</td></tr><tr><td colspan="3">Visual Inspection</td></tr><tr><td colspan="3">OFF the ignition key, disconnect the connector from component and ECU.</td></tr></table>			Step 1	Step ID 140A-a	SRT	Visual Inspection			OFF the ignition key, disconnect the connector from component and ECU.		
Step 1	Step ID 140A-a	SRT										
Visual Inspection												
OFF the ignition key, disconnect the connector from component and ECU.												

	<p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 140A-b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 140A-b	SRT
Step 2	Step ID 140A-b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 140A-c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 140A-c	SRT
Step 3	Step ID 140A-c	SRT		
	<table><tr><td>Step 4</td><td>Step ID 140A-d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 140A-d	SRT
Step 4	Step ID 140A-d	SRT		
Verification Drive Cycle	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

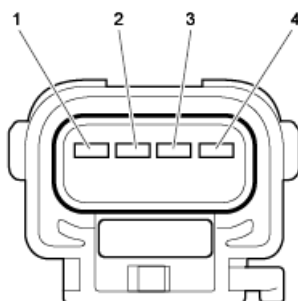
## U142F

<b>Code number</b>	U142F
<b>Fault code description</b>	CAN communication - Message (ACM_to_Eng) out of range - Estimated pre DOC pressure from emission system.
<b>Fault code information</b>	# trip MIL – N/A Freeze frame type – Crankcase 3 drive cycle recovery Readiness group - None
<b>Description of component(s)</b>	This code relates to a communication issue dealing with the signal from the DPF pressure sensor (F837) to the EAS-3 ECU to the engine PCI (D420).
<b>Location of component(s)</b>	 <p>1402114 <b>F837</b></p>  <p><b>EAS-3 ECU</b></p>

	 <p style="text-align: right;">1402250</p> <p><b>Engine PCI D420 Connector</b></p>
<b>Diagnostic condition</b>	<p>This diagnostic consists of two parts:</p> <ul style="list-style-type: none"> <li>• This diagnostic runs continuously when the ignition is initially keyed on.</li> <li>• This diagnostic runs when the engine is running.</li> </ul>
<b>Set condition of fault code</b>	<p>The EAS-3 ECU to eng Prop B message is received every 200ms. If more than 25 messages are received with the pre DOC pressure above 251.99 kPa (35.55psi), then the fault sets.</p>
<b>Reset condition of fault code</b>	<p>This DTC changes to inactive as soon as the error is no longer detected.</p>
<b>Electrical diagram(s)</b>	 <p style="text-align: right;">1401855</p> <p><b>D374 EAS-3 ECU</b></p>

F837 DPF pressure sensor

D374	F837	Function
A42	1	Ground
A70	2	Signal, delta pressure over DPF
B32	3	Signal pressure after DPF
B42	4	Supply



E504110

Wiring harness connector F837 front view



Handle connectors and pins with care and use matching measuring probes.

Technical data

Component check, DPF pressure sensor (F837)



Preparation

- Disconnect connector F837
- Set the ignition key to ON
- Measure on component connector F837

Pin (+ probe)	Pin (- probe)	Value	Additional information
1	Battery negative pole	< 0.5V	Switch all consumers on
4	1	4.75 – 5.25V	

Possible causes

- Breakdown in communication of the CAN network

	<ul style="list-style-type: none"><li>• Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring.</li><li>• Open circuit, short circuit to ground for the DPF pressure sensor (F837)</li></ul>												
Additional information	This is a low level CAN fault that is checking whether the message from the ACM is within a specified range.												
Diagnostic Step-by-Step	<div><div><p><b>The ignition should always be in the OFF position when connecting or disconnecting electrical components to reduce the likelihood of damage to the components.</b></p></div><div><ul style="list-style-type: none"><li>▪ This troubleshooting procedure is based on the assumption that supply power and ground to the PMCI are functioning properly.</li><li>▪ Disconnecting the PMCI connectors during the troubleshooting process will result in multiple errors.</li><li>▪ For specific electrical component information and pin out locations, always refer to the technical data in Rapido.</li><li>▪ It is necessary to exit the 'Active errors' screen in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>▪ This DTC can be set as a result of multiple failure modes. For proper fault isolation, complete all troubleshooting steps in the sequence provided.</li></ul></div></div> <div><p><b>Step 1. Investigate Related Trouble Codes</b></p><p>Before troubleshooting this code, take notice of any other current codes. One or multiple other codes could have been the cause for this code.</p><table><tr><td>Step U142F_1.A</td><td>Investigate related trouble codes</td><td>SRT:</td></tr><tr><td colspan="3">Are these or any other related trouble codes present? P3770, P3766, P3767, P3768, P3769  <b>Yes</b> Refer to the troubleshooting information for these codes before continuing with this procedure. <b>No</b> Step 2.A</td></tr></table></div> <div><p><b>Step 2. Step 2. DOC Pressure Sensor (F837) Checks</b></p><table><tr><td>Step U142F_2.A</td><td>Visual Inspection: DOC pressure sensor (F837)</td><td>SRT:</td></tr><tr><td colspan="3">Visually inspect the associated component connections and wiring for any of the following:<ul style="list-style-type: none"><li>▪ Damaged or loose connectors</li></ul></td></tr></table></div>	Step U142F_1.A	Investigate related trouble codes	SRT:	Are these or any other related trouble codes present? P3770, P3766, P3767, P3768, P3769  <b>Yes</b> Refer to the troubleshooting information for these codes before continuing with this procedure. <b>No</b> Step 2.A			Step U142F_2.A	Visual Inspection: DOC pressure sensor (F837)	SRT:	Visually inspect the associated component connections and wiring for any of the following: <ul style="list-style-type: none"><li>▪ Damaged or loose connectors</li></ul>		
Step U142F_1.A	Investigate related trouble codes	SRT:											
Are these or any other related trouble codes present? P3770, P3766, P3767, P3768, P3769  <b>Yes</b> Refer to the troubleshooting information for these codes before continuing with this procedure. <b>No</b> Step 2.A													
Step U142F_2.A	Visual Inspection: DOC pressure sensor (F837)	SRT:											
Visually inspect the associated component connections and wiring for any of the following: <ul style="list-style-type: none"><li>▪ Damaged or loose connectors</li></ul>													

- ECU connections are damaged or disconnected
- Bent, broken, corroded or loose connector pins
- Moisture or dirt in the connections
- Missing or damaged connector seals
- Damaged connector locking tabs
- Damage to the wire harness or insulation
- DOC pressure sensor damaged or not installed properly
- Low battery supply voltage or loose contacts

Was there evidence of any of the above?

**Yes** Correct any issues found. If the DOC pressure sensor (F837) is found to be damaged or broken, replace it.  
Refer to Step 3.A to perform the corresponding repair verification cycles.  
Use DAVIE Diagnostics to perform a Quick Check for current trouble codes.  
If this code is still active, proceed to Step 2.B

**No** Step 2.B

Step U142F_2.B	Electrical Checks: DOC pressure sensor (F837)	SRT:
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Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, resistance values, and related connector pin test points.

## 2.B.1 Supply and signal voltages

- Set the ignition key to OFF.
- Disconnect the harness connector from the DOC pressure sensor (F837).
- Set the ignition key to ON.

Measure the DOC pressure sensor supply and signal voltages across the appropriate connector pins.

Are measured values within expected range?

**Yes** Step 4.A

**No** Correct any issues found, or replace the sensor if measured values indicate a sensor error.

Refer to Step 3.A to perform the corresponding repair verification cycles.  
Use DAVIE Diagnostics to perform a Quick Check for current trouble codes.  
If this code is still active, proceed to Step 4.A

## Step 3. Repair Verification Cycles



Perform these repair verification cycles following any corrective actions

taken, to confirm that this trouble code is no longer present.

Step U142F_3.A	Repair Verification Cycle: Start-up	SRT:
With the brakes set, start the engine and allow it to run at idle for 2 minutes.		

#### Step 4. Contact PACCAR Engine Support Center

Step U142F_4.A	Contact PACCAR Engine Support Center	SRT:
For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center at 1-800-477-0251.		

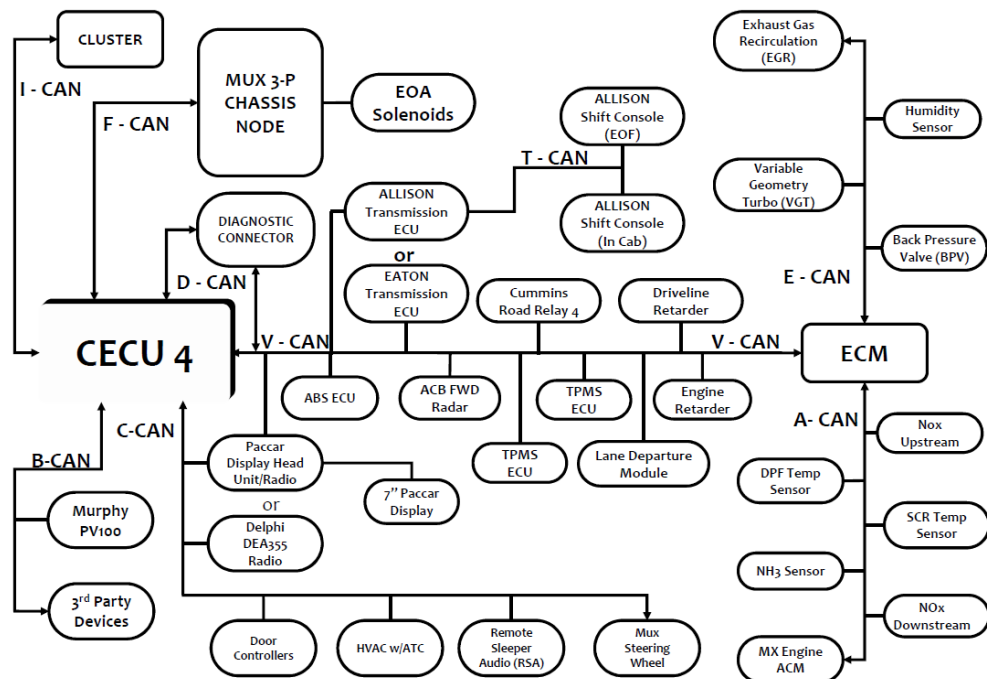
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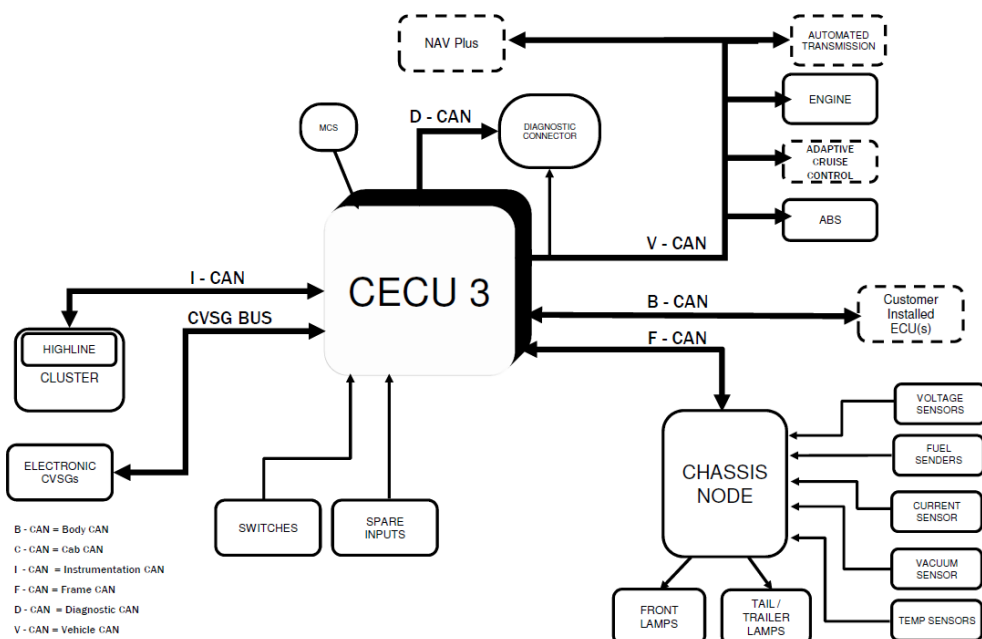
# U1501

<b>Code number</b>	U1501
<b>Fault code description</b>	CAN communication - Message (TCO1) out of range - output shaft speed from tachograph
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Empty
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, STEERING WHEEL, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and the CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's.</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS, PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors (VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, TEMP SENSORS).</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE, VGT Actuator, and After-treatment DCU.</li> <li><b>Aftertreatment CAN:</b> Connects the ENGINE, VGT Actuator, and After-treatment DCU.</li> <li><b>Other components:</b> Includes AUTO (TRANSMISSION), ADAPTIVE CRUISE CONTROL, and a FIREWALL separating the engine/aftertreatment systems from the chassis systems.</li> </ul>

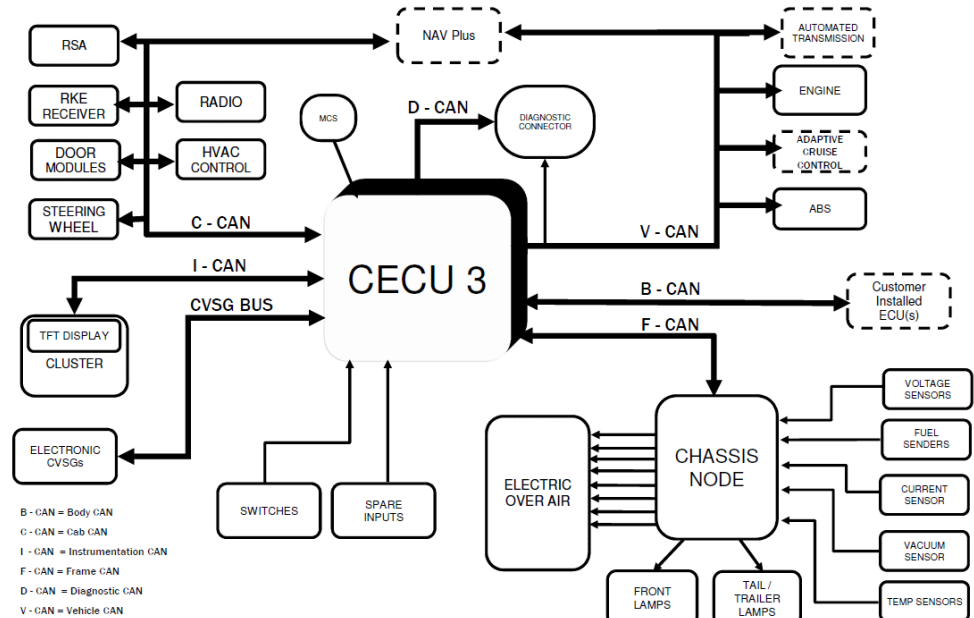
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



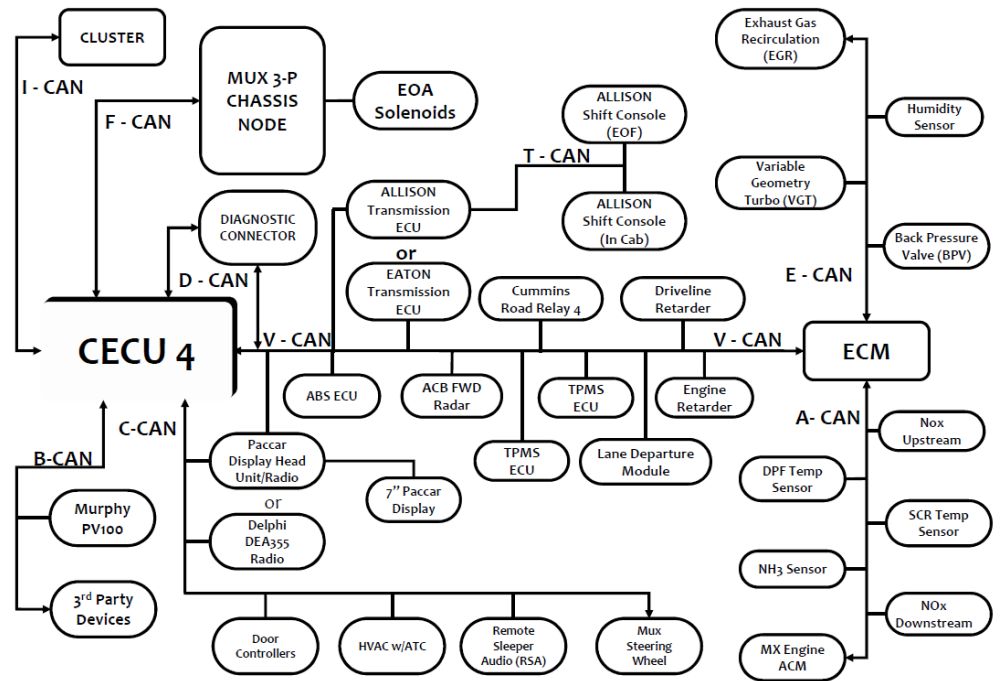
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>Breakdown in communication in the CAN network</li> <li>Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li> </ul>							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <tr> <td>Step 1</td><td>Step ID 1501a</td><td>SRT</td></tr> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.         </td></tr> </table>		Step 1	Step ID 1501a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
Step 1	Step ID 1501a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.								

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1501b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1501c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>		
Step 4	Step ID 1501d	SRT	
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>		
	<p><a href="#">Back to Index</a></p>		

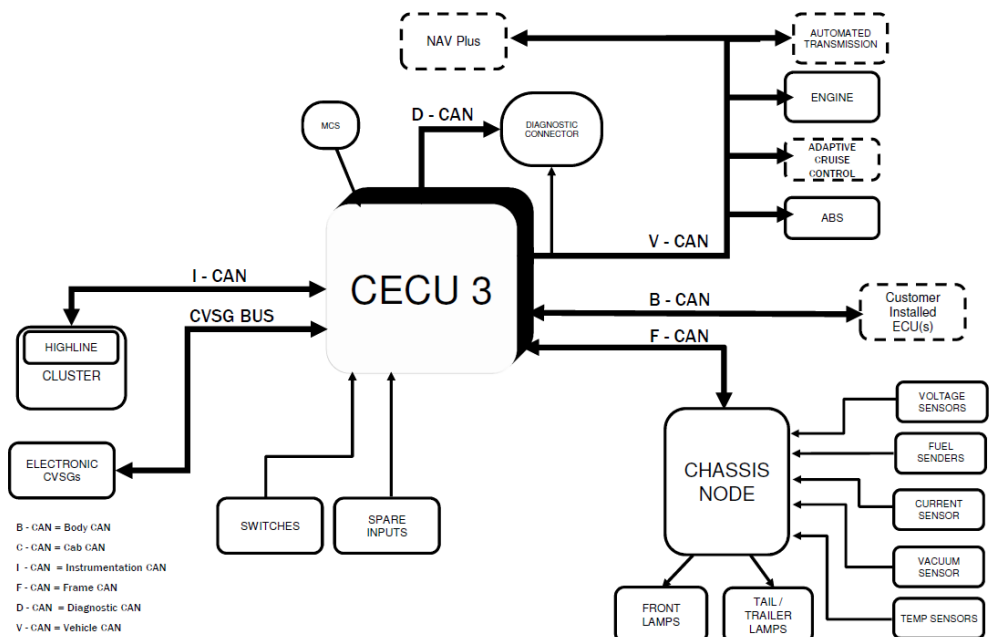
## U1502

<b>Code number</b>	U1502
<b>Fault code description</b>	CAN communication - Message (TCO1) out of range - vehicle speed from tachograph
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Empty
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected to CECU 3.</li> <li><b>Diagnostic CAN</b>: Connected to CECU 3 and a Diagnostic Connector.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN and Aftertreatment CAN.</li> <li><b>Aftertreatment CAN</b>: Connected to the Engine and VGT Actuator.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected to the Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected to the Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN and Vehicle CAN. It includes: <ul style="list-style-type: none"> <li>VOLTAGE SENSORS</li> <li>FUEL SENDERS</li> <li>CURRENT SENSOR</li> <li>PRESSURE SENSORS</li> <li>VACUUM SENSOR</li> <li>TEMP SENSORS</li> <li>FRONT LAMPS</li> <li>TAIL / TRAILER LAMPS</li> </ul> </li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups): Connected via CVSG BUS.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Aftertreatment CAN.</p>

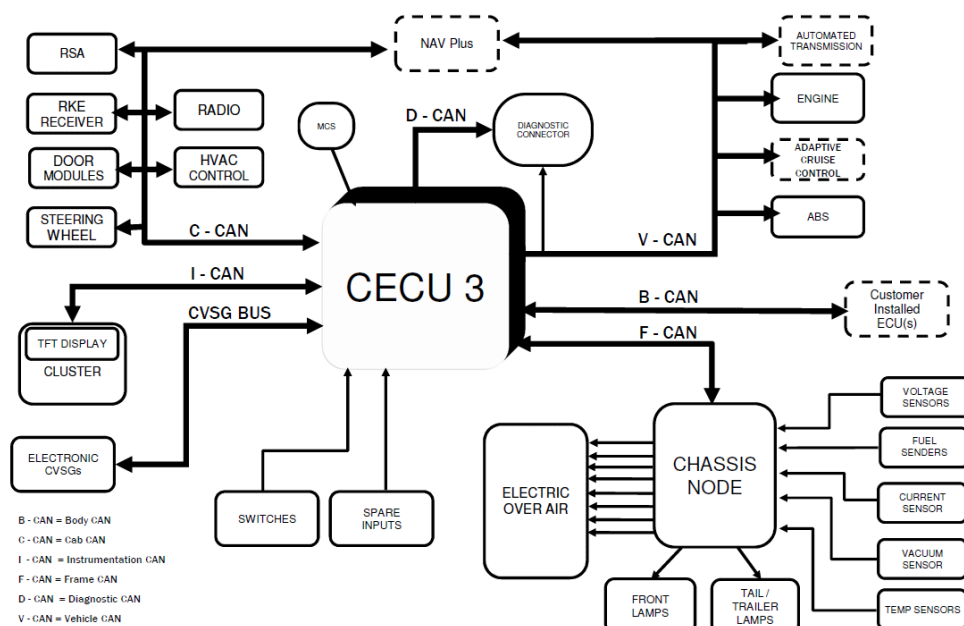
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>Breakdown in communication in the CAN network</li><li>Interruption, short circuit to ground, or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div></div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div></div> <div><div></div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div> <table><tr><td>Step 1</td><td>Step ID 1502a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p></td></tr></table>			Step 1	Step ID 1502a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>		
Step 1	Step ID 1502a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>									

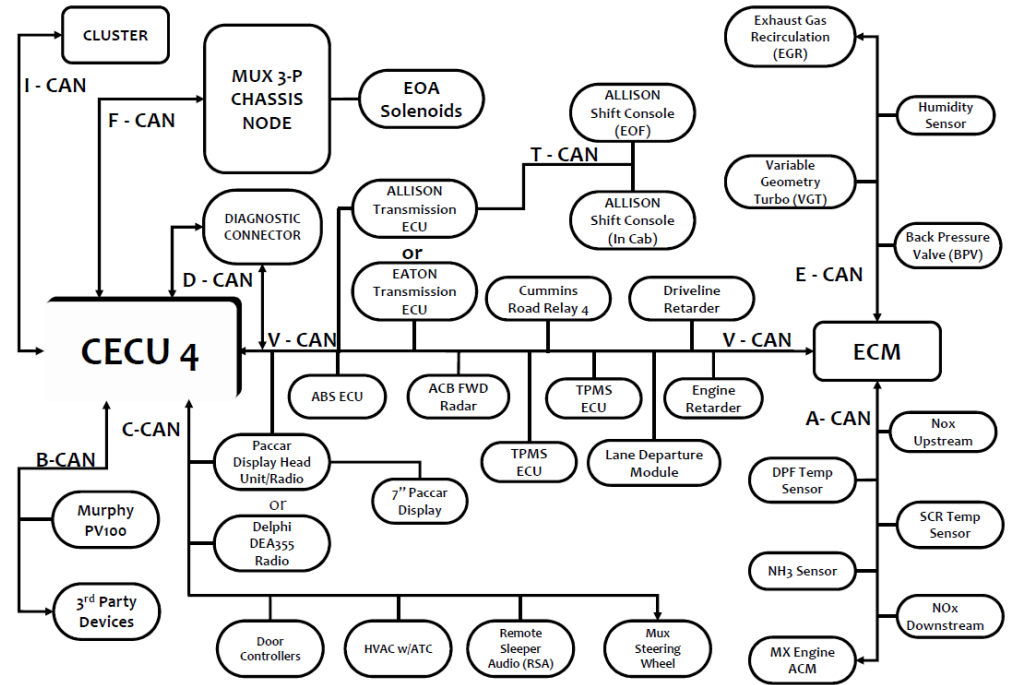
	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1502b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1502c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>		
	Step 4	Step ID 1502d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>		
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>		
	<p><a href="#">Back to Index</a></p>		



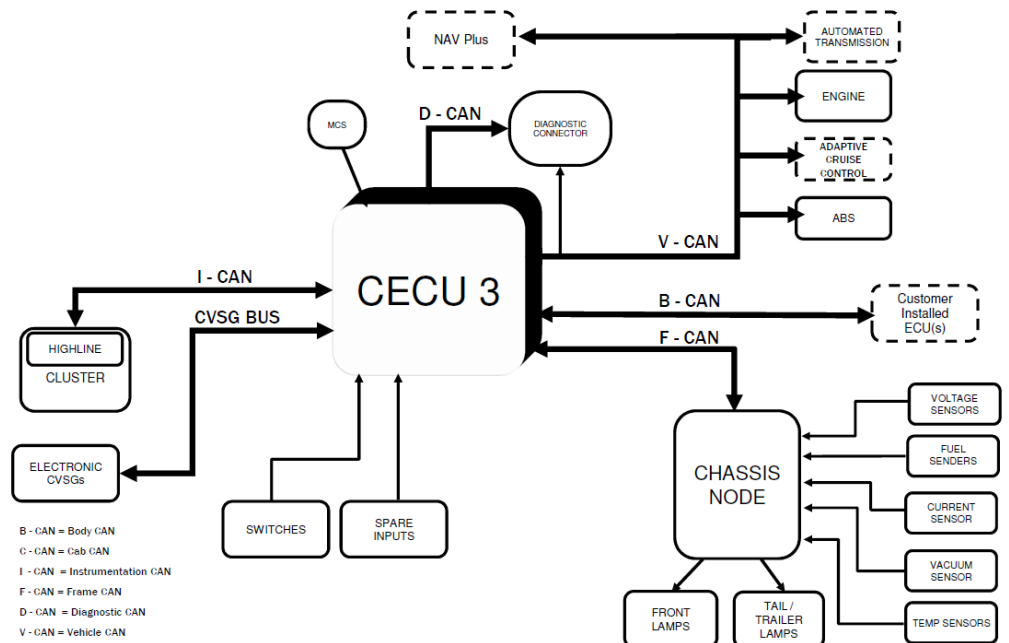
# U153B

<b>Code number</b>	U153B
<b>Fault code description</b>	CAN communication - Message (PTO) out of range - Engine PTO resume switch
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connected to the MCS (Master Control Switch) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connected to the STEERING WHEEL and the CLUSTER.</li> <li><b>Instrumentation CAN:</b> Connected to the CLUSTER.</li> <li><b>CVSG BUS:</b> Connected to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connected to the CECU 3 and the CHASSIS NODE. It also connects to the AUTO TRANSMISSION, ABS, and PACCAR Display.</li> <li><b>Engine CAN:</b> Connected to the CECU 3 and the ENGINE. It also connects to the ADAPTIVE CRUISE CONTROL and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connected to the ENGINE and the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connected to the CECU 3 and the Vehicle CAN. It controls the FRONT LAMPS and TAIL / TRAILER LAMPS. It also receives inputs from various sensors: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>FIREWALL:</b> Indicated by dashed lines separating the Diagnostic CAN, Vehicle CAN, and Engine CAN from the other networks.</li> </ul>

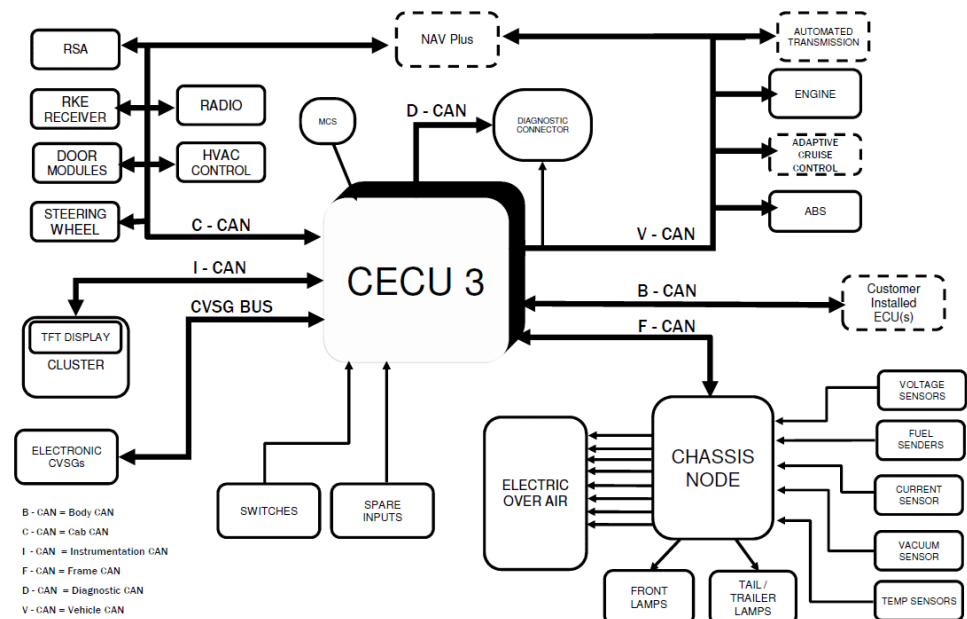
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

Check cabin ECU for faults

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

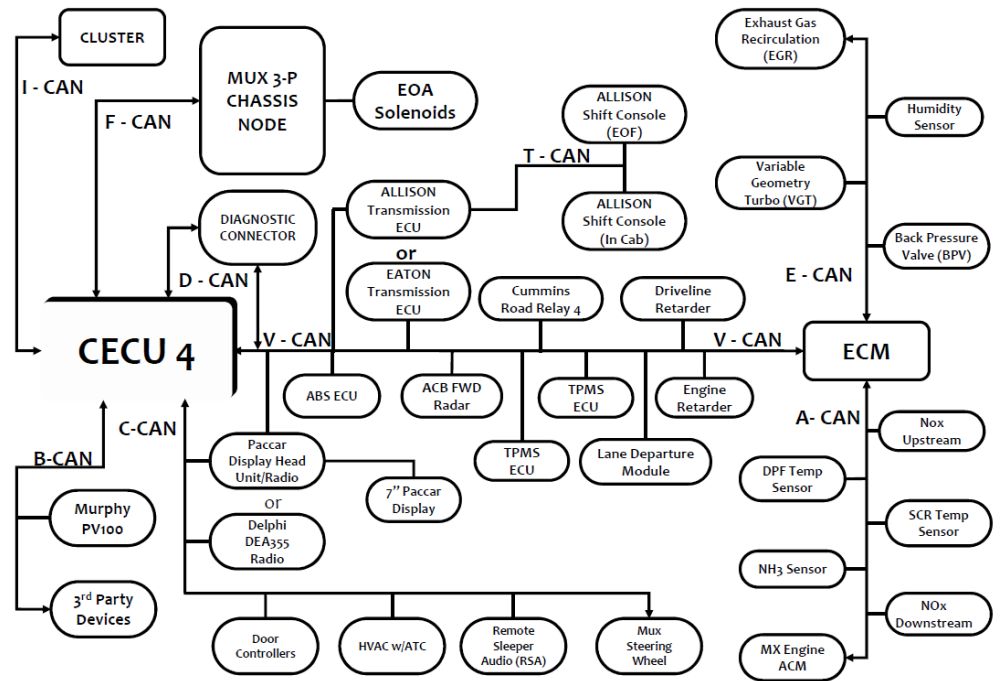
Step 1	Step ID 153Ba	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> <li>• Yes: Make the appropriate repairs or component replacements.</li> </ul>		

	Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"> <li>• If this related fault is no longer active, then this issue has been resolved.</li> <li>• If this related fault is still active, Proceed to step 2</li> </ul>		
	Step 2	Step ID 153Bb	SRT
	Data check <ul style="list-style-type: none"> <li>• Lookup the technical data of the specific system</li> <li>• Perform the checking data test of the specific component</li> </ul> Is test pass? <ul style="list-style-type: none"> <li>• No: Proceed to step 3</li> <li>• Yes : Proceed to step4</li> </ul>		
	Step 3	Step ID 153Bc	SRT
	Repair or replace component <ul style="list-style-type: none"> <li>• Repair or replace the component, also check for electrical connection and wiring harness .</li> <li>• Reconnect the connector</li> <li>• ON the ignition key</li> </ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"> <li>• Is DTC fault active: Proceed to step 4</li> <li>• Is DTC fault inactive : Issue resolved. Clear inactive fault.</li> </ul>		
	Step 4	Step ID 153Bd	SRT
	For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.		
Verification Drive Cycle	To validate the repair: <ul style="list-style-type: none"> <li>• With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</li> <li>• With the brakes set, start the engine and allow it to run at idle for 2 minutes.</li> </ul>		
	<a href="#">Back to Index</a>		

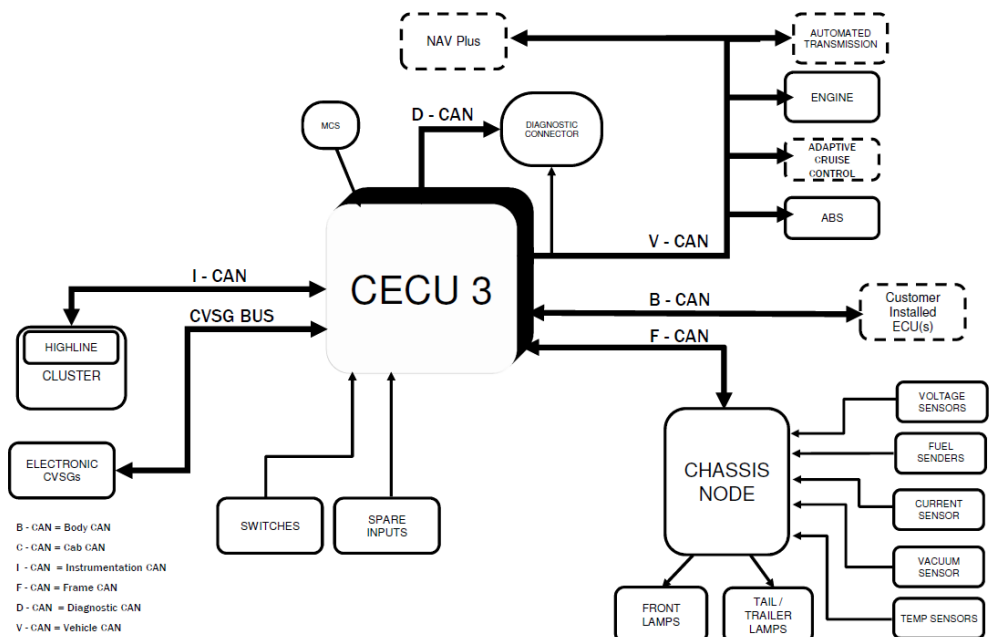
# U1544

<b>Code number</b>	U1544
<b>Fault code description</b>	CAN communication - Message (ERC1_DR) out of range - Retarder torque actual percentage from transmission
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Motor Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b> and <b>Tail / Trailer Lamps</b>: Connected via Frame CAN.</li> <li><b>Sensors</b>: Connected via Frame CAN, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> <li><b>Other Components</b>: Connected via CVSG BUS (Electronic CVSG's), SWITCHES, and SPARE INPUTS.</li> </ul> <p>The diagram also shows a FIREWALL separating the CECU 3 from the CHASSIS NODE and the Engine/Aftertreatment CAN network.</p>

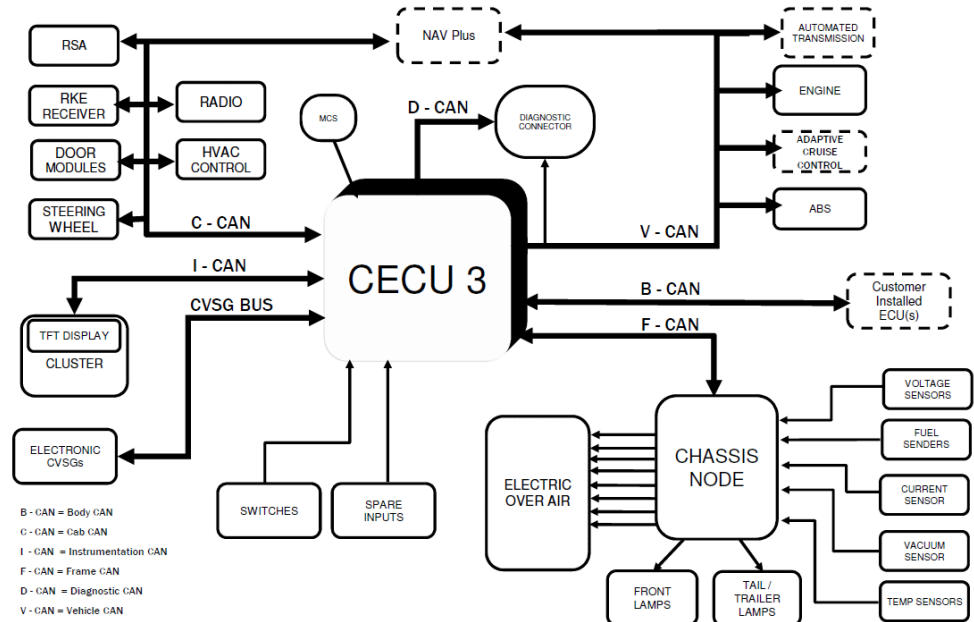
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check driveline retarder ECU for faults							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1544a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3"> <b>Visual Inspection</b>  OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.  Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1544a	SRT	<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
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<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>								

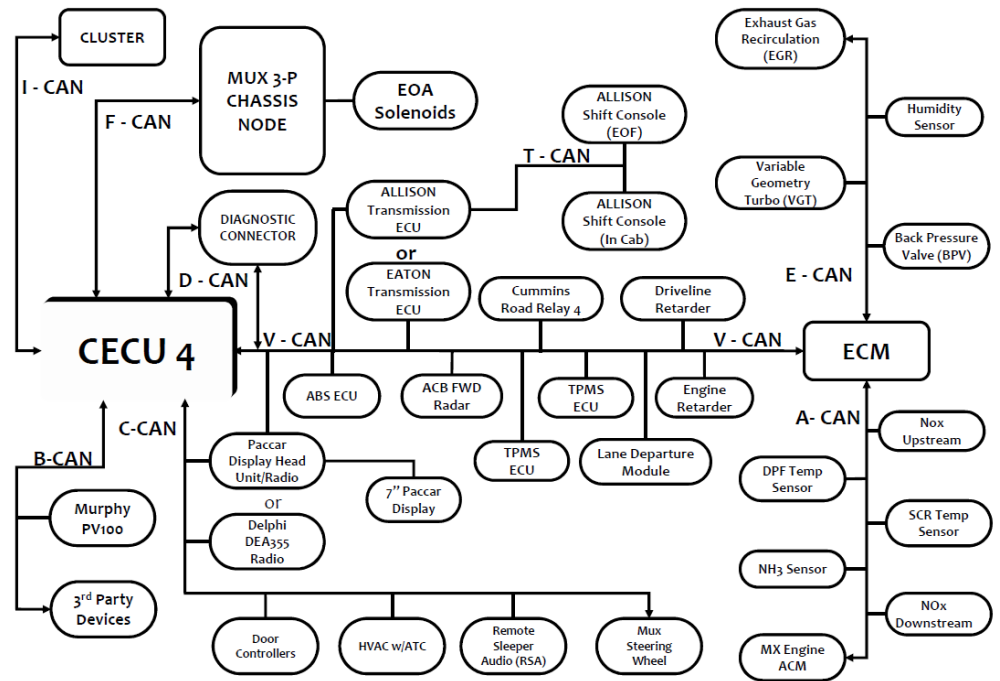
	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1544b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1544b	SRT
Step 2	Step ID 1544b	SRT		
	<table><tr><td>Step 3</td><td>Step ID 1544c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness .</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1544c	SRT
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	<table><tr><td>Step 4</td><td>Step ID 1544d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1544d	SRT
Step 4	Step ID 1544d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			



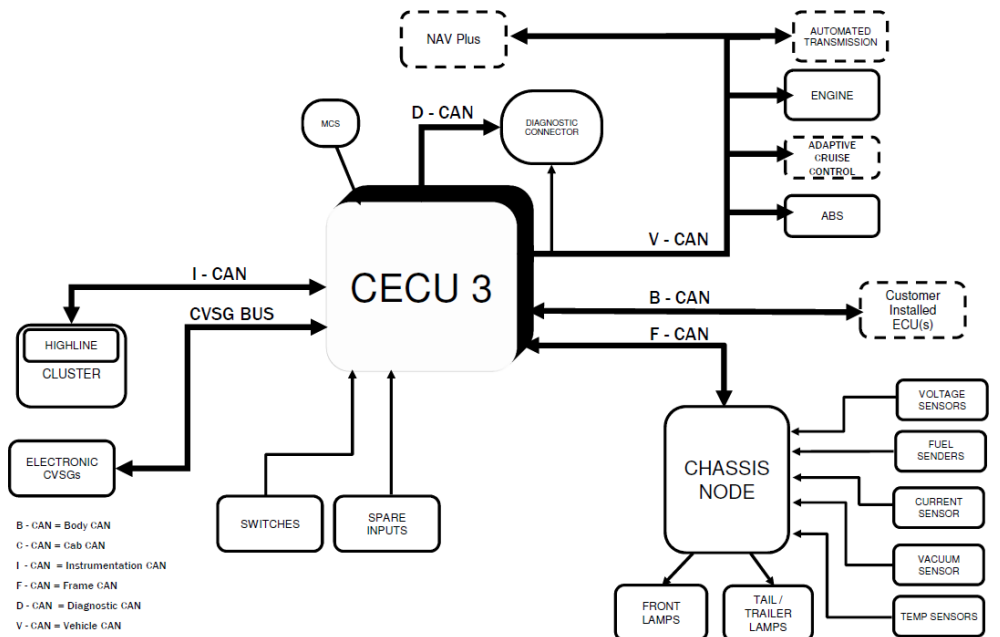
# U1545

<b>Code number</b>	U1545
<b>Fault code description</b>	CAN communication - Message (ERC1_DR) out of range - Driver's demand retarder percentage torque from retarder
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Master Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's.</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS, PACCAR Display, and CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connects to FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors (VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, TEMP SENSORS).</li> <li><b>Engine:</b> Connects to the VGT Actuator and After-treatment DCU.</li> <li><b>After-treatment DCU:</b> Connects to the After-treatment CAN.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN.</p>

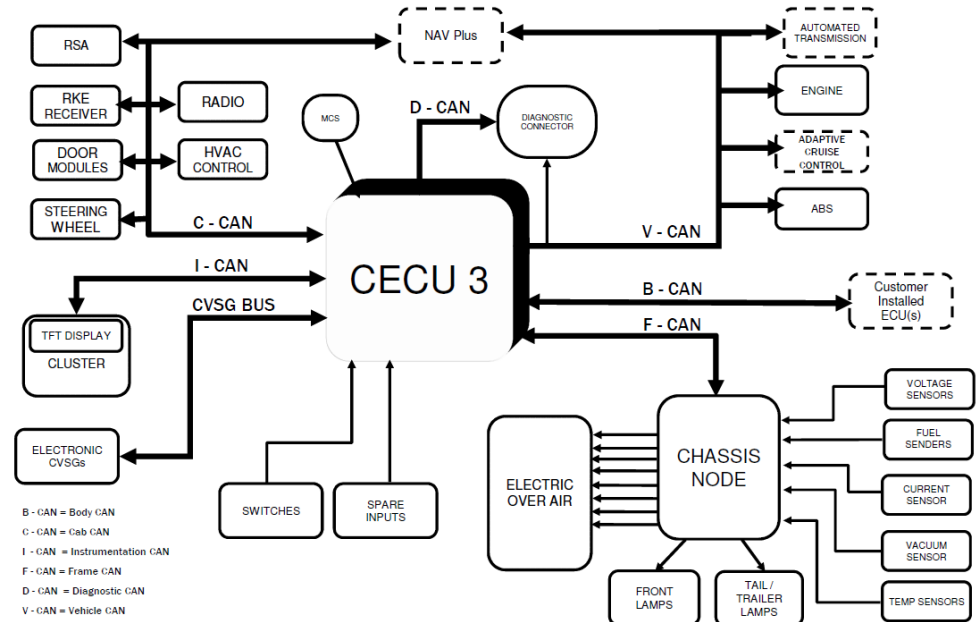
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



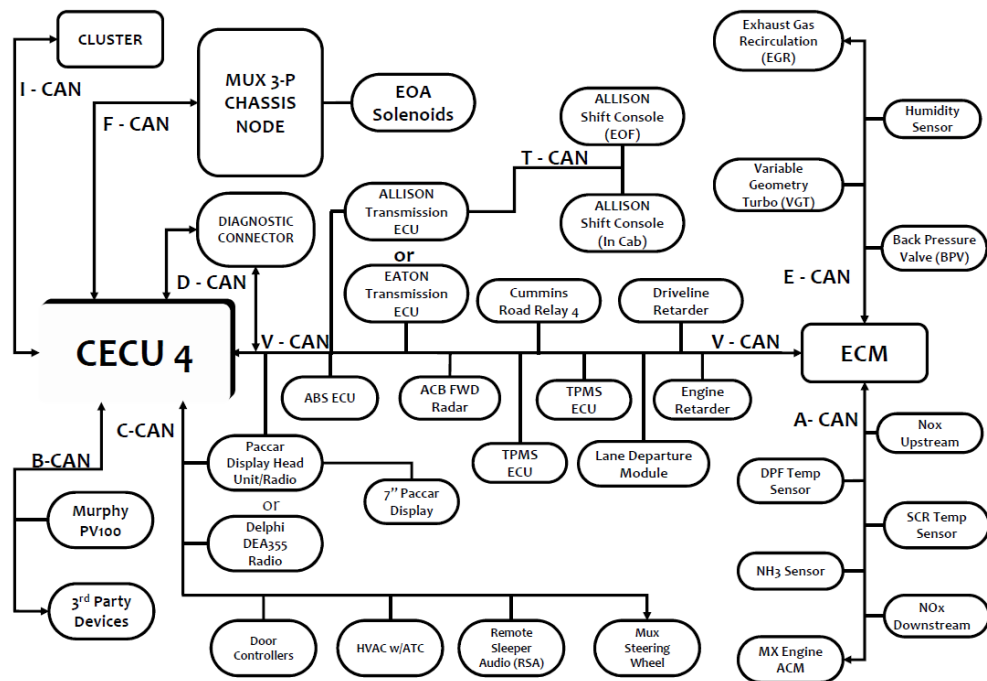
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check driveline retarder ECU for faults							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1545a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3"> <b>Visual Inspection</b>  OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.  Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1545a	SRT	<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
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Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

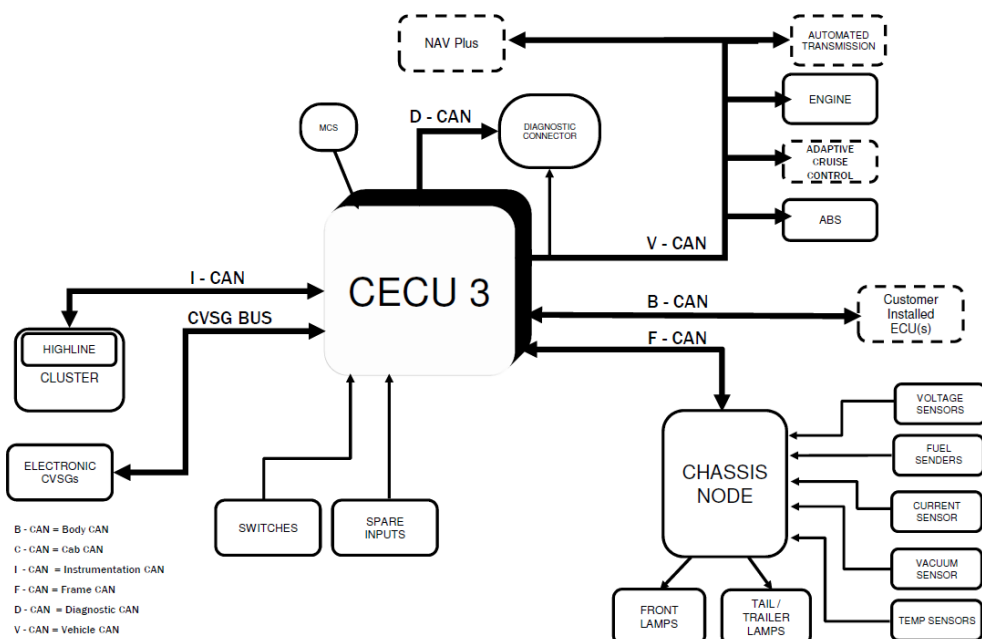
# U1546

<b>Code number</b>	U1546
<b>Fault code description</b>	CAN communication - Message (ERC1_DR) out of range - Intended retarder percentage torque from retarder
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and the CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's.</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS, PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connects to FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>Engine:</b> Connects to the VGT Actuator and the After-treatment DCU.</li> <li><b>After-treatment DCU:</b> Connects to the After-treatment CAN.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

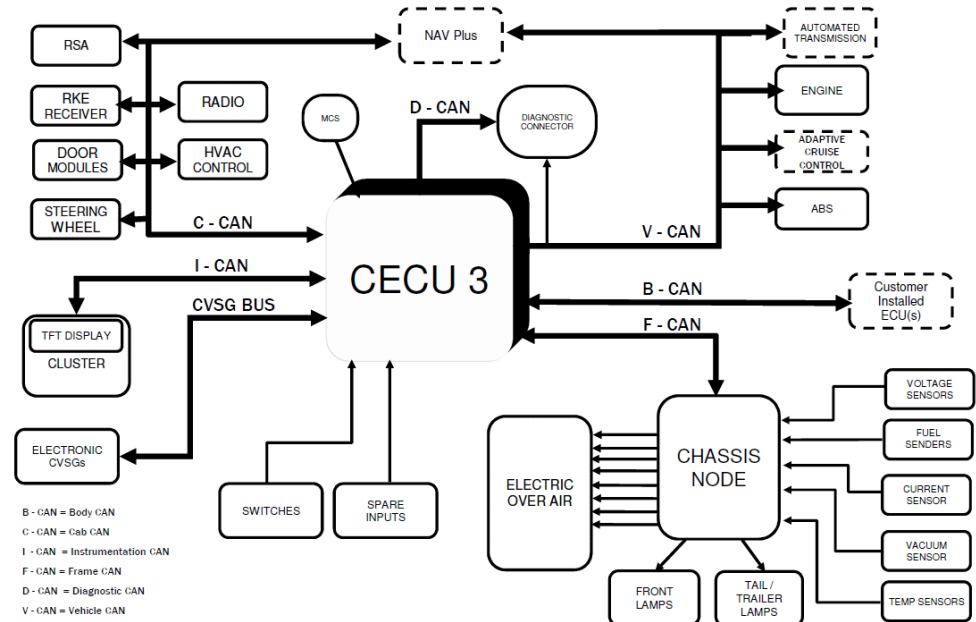
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check driveline retarder ECU for faults							
<b>Additional information</b>	No additional information available.							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1546a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.            Was there evidence of any of the above?           <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1546a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
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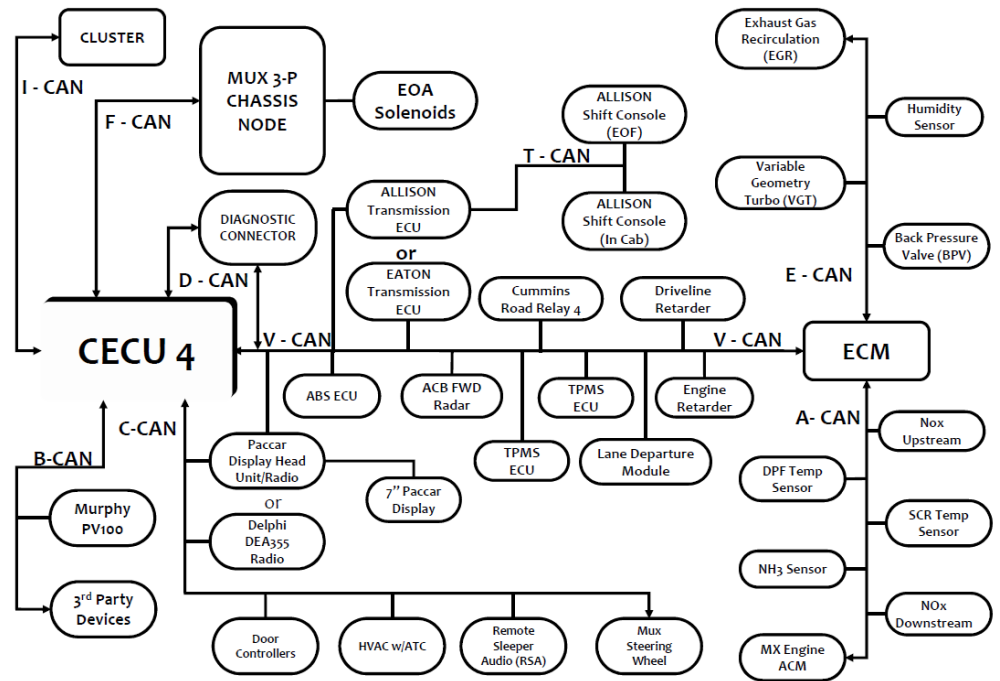
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	Step 2	Step ID 1546b	SRT	
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Step 4	Step ID 1546d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			



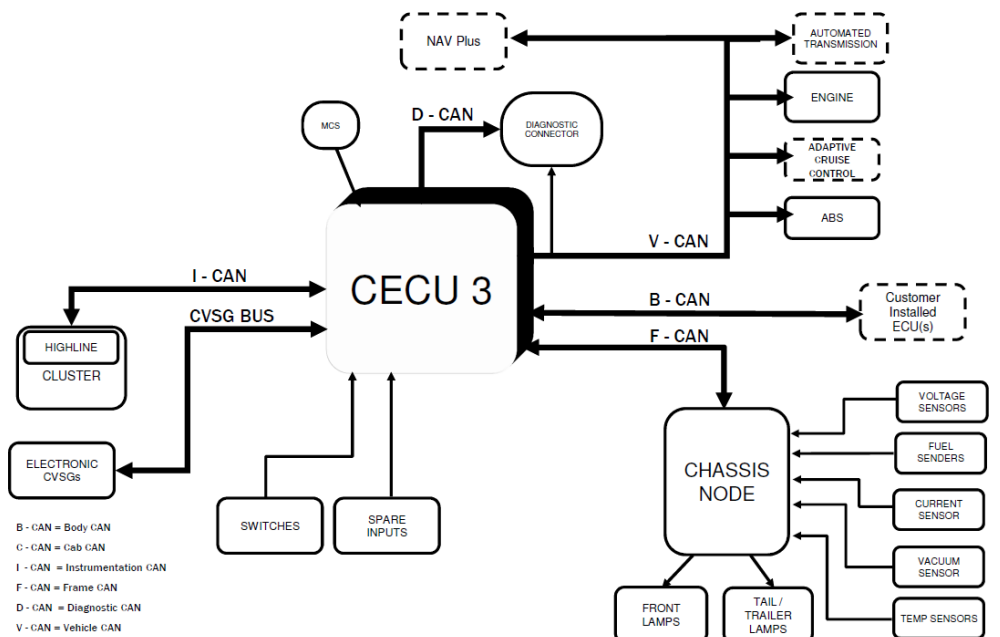
# U1547

<b>Code number</b>	U1547
<b>Fault code description</b>	CAN communication - Message (ERC1_DR) out of range - Retarder selection, non-engine from retarder
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b>: Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b>: Connected via Frame CAN.</li> <li><b>Tail / Trailer Lamps</b>: Connected via Frame CAN.</li> <li><b>CVSG BUS</b> (Control Valve Solenoid Group Bus): Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups): Connected via Instrumentation CAN.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected via Diagnostic CAN.</li> <li><b>VOLTAGE SENSORS</b>, <b>FUEL SENDERS</b>, <b>CURRENT SENSOR</b>, <b>PRESSURE SENSORS</b>, <b>VACUUM SENSOR</b>, and <b>TEMP SENSORS</b>: Connected via the CHASSIS NODE.</li> </ul> <p>The diagram also shows a <b>FIREWALL</b> separating the CECU 3 from the CHASSIS NODE and the Engine/Aftertreatment CAN network.</p>

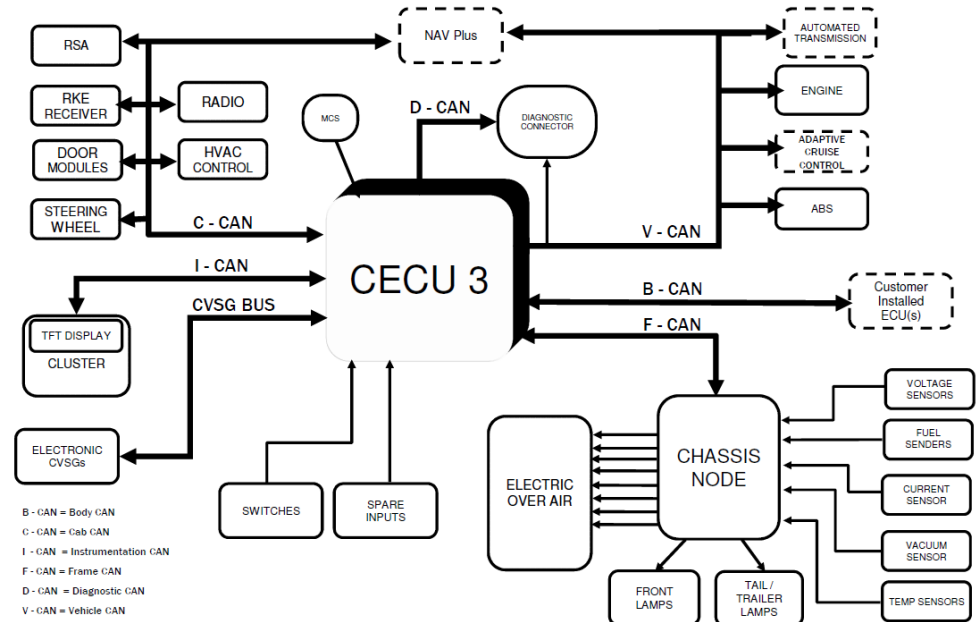
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



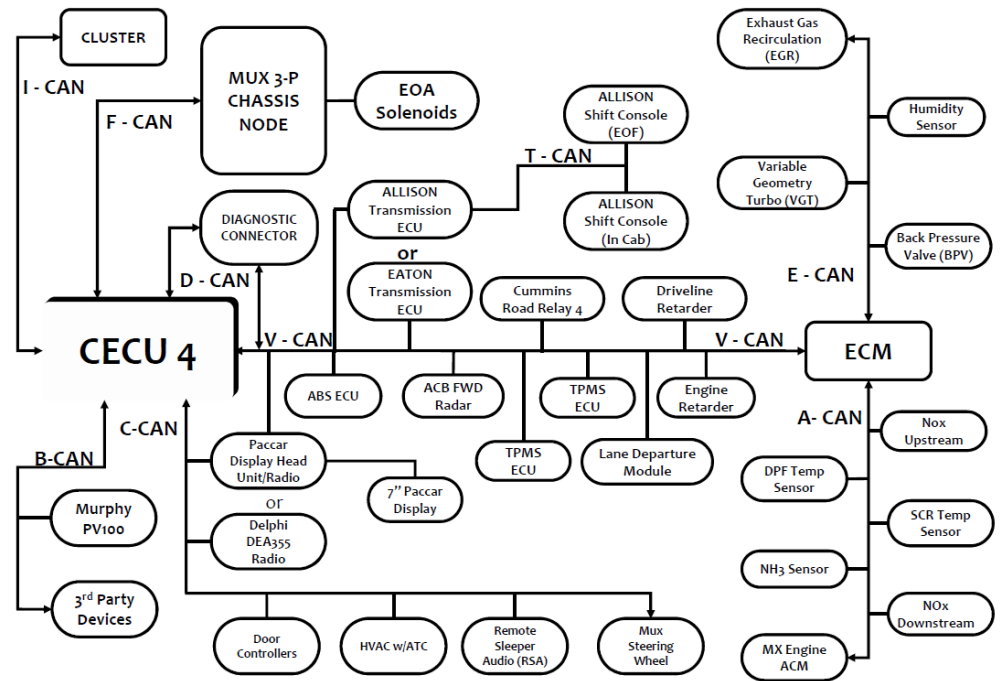
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check driveline retarder ECU for faults							
<b>Additional information</b>	No additional information available.							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1547a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.            Was there evidence of any of the above?           <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1547a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
Step 1	Step ID 1547a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>								

	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements. Use DAVIE to re-check for the presence of active faults.</li><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1547b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1547b	SRT
	Step 2	Step ID 1547b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1547c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness .</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1547c	SRT
Step 3	Step ID 1547c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1547d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1547d	SRT	
Step 4	Step ID 1547d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

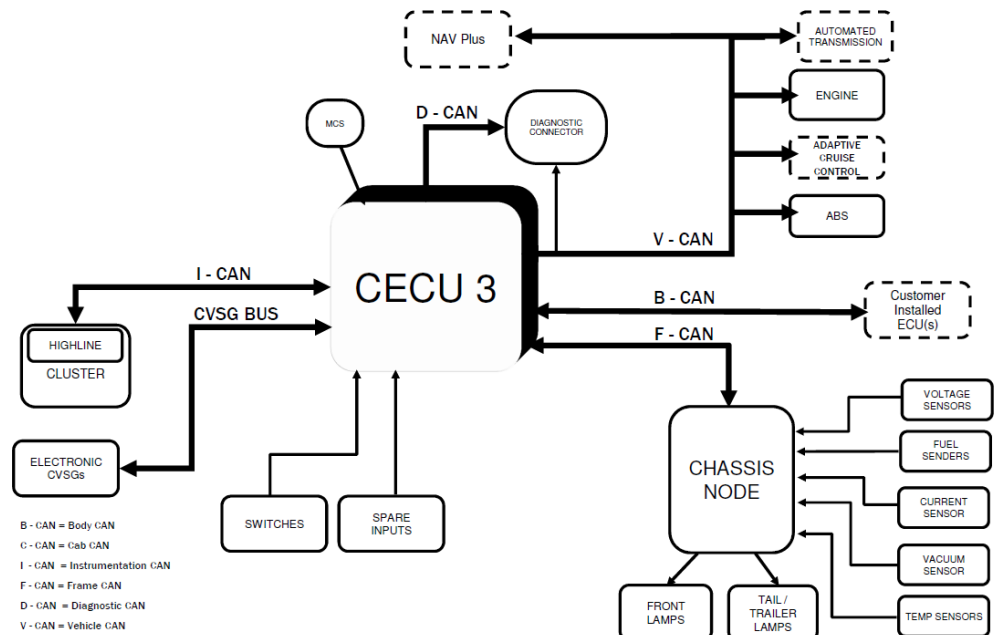
## U1548

<b>Code number</b>	U1548
<b>Fault code description</b>	CAN communication - Message (ETC1) out of range - Transmission output shaft speed from transmission
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Engine Control Unit). It is connected to various vehicle systems via CAN buses and other communication lines. The connections are as follows:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Monitoring Control System) and the Diagnostic Connector.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the Chassis Node.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the Engine and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>Chassis Node:</b> Connects CECU 3 to the Chassis Node, which in turn connects to various sensors and actuators:             <ul style="list-style-type: none"> <li>VOLTAGE SENSORS</li> <li>FUEL SENDERS</li> <li>CURRENT SENSOR</li> <li>PRESSURE SENSORS</li> <li>VACUUM SENSOR</li> <li>TEMP SENSORS</li> <li>FRONT LAMPS</li> <li>TAIL / TRAILER LAMPS</li> </ul> </li> <li><b>Other Connections:</b> <ul style="list-style-type: none"> <li>CECU 3 is connected to the STEERING WHEEL via the Cab CAN.</li> <li>CECU 3 is connected to the Cluster via the Instrumentation CAN.</li> <li>CECU 3 is connected to the ELECTRONIC CVSG's (Control Valve Solenoid Groups) via the CVSG BUS.</li> <li>CECU 3 is connected to SWITCHES and SPARE INPUTS.</li> </ul> </li> </ul> <p>The diagram also shows a FIREWALL separating the Diagnostic CAN from the Vehicle CAN, and another FIREWALL separating the Vehicle CAN from the Chassis Node.</p>

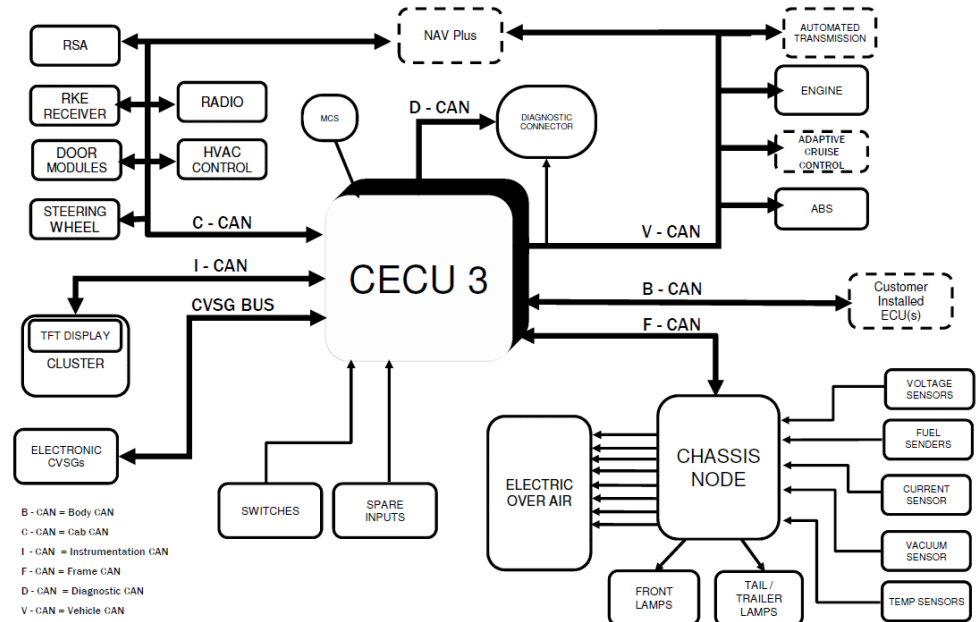
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

Check driveline retarder ECU for faults

### Additional information

No additional information available.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1548a	SRT
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		

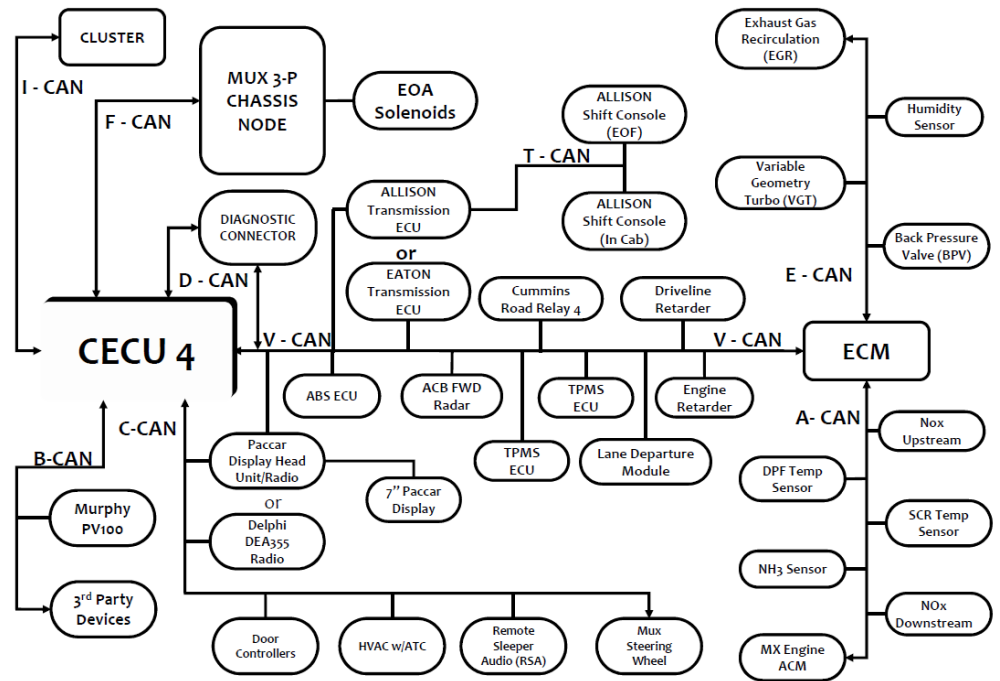
	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements. Use DAVIE to re-check for the presence of active faults.</li><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1548b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1548b	SRT
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	<table><tr><td>Step 3</td><td>Step ID 1548c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness .</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive : Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1548c	SRT
Step 3	Step ID 1548c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1548d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1548d	SRT	
Step 4	Step ID 1548d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			



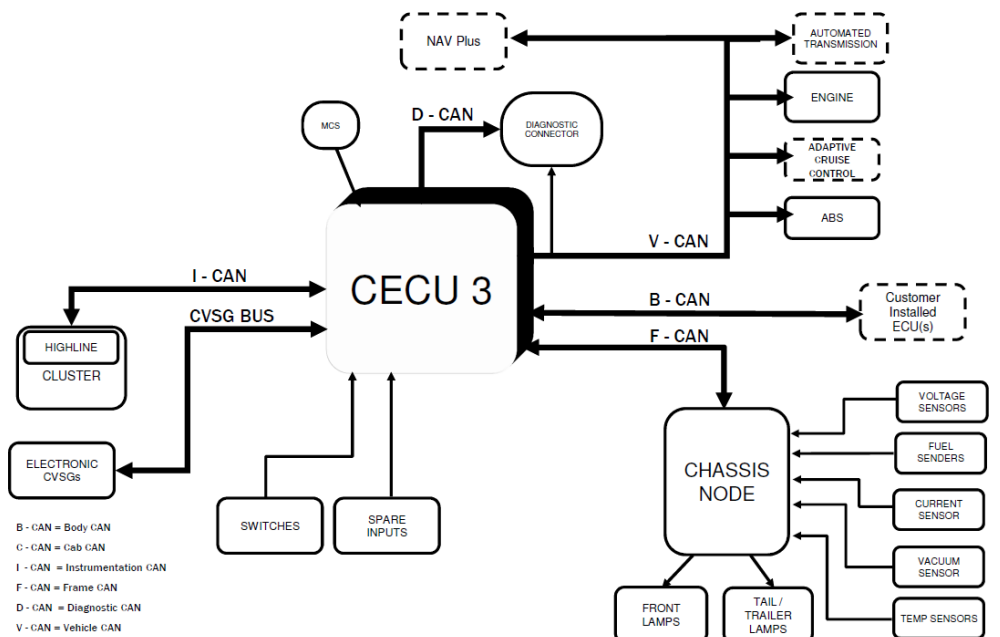
## U1549

<b>Code number</b>	U1549
<b>Fault code description</b>	CAN communication - Message (ETC1) out of range - Transmission torque converter lock-up engaged from transmission
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3, which acts as the primary communication hub. It is connected to various vehicle systems and components via different CAN buses and protocols. Key connections include:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects the CECU 3 to the Diagnostic Connector and the MCS (Message Control System).</li> <li><b>Vehicle CAN:</b> Connects the CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects the CECU 3 to the ENGINE, ADAPTIVE CRUISE CONTROL, and VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects the CECU 3 to the After-treatment DCU.</li> <li><b>Instrumentation CAN:</b> Connects the CECU 3 to the Cluster.</li> <li><b>Cab CAN:</b> Connects the CECU 3 to the STEERING WHEEL.</li> <li><b>CVSG BUS:</b> Connects the CECU 3 to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>Frame CAN:</b> Connects the CECU 3 to the CHASSIS NODE.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors (VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, TEMP SENSORS).</li> <li><b>SWITCHES and SPARE INPUTS:</b> These are connected to the CECU 3 for monitoring and control.</li> <li><b>Firewall:</b> Indicated by dashed lines, it separates different communication domains or safety-critical systems.</li> </ul>

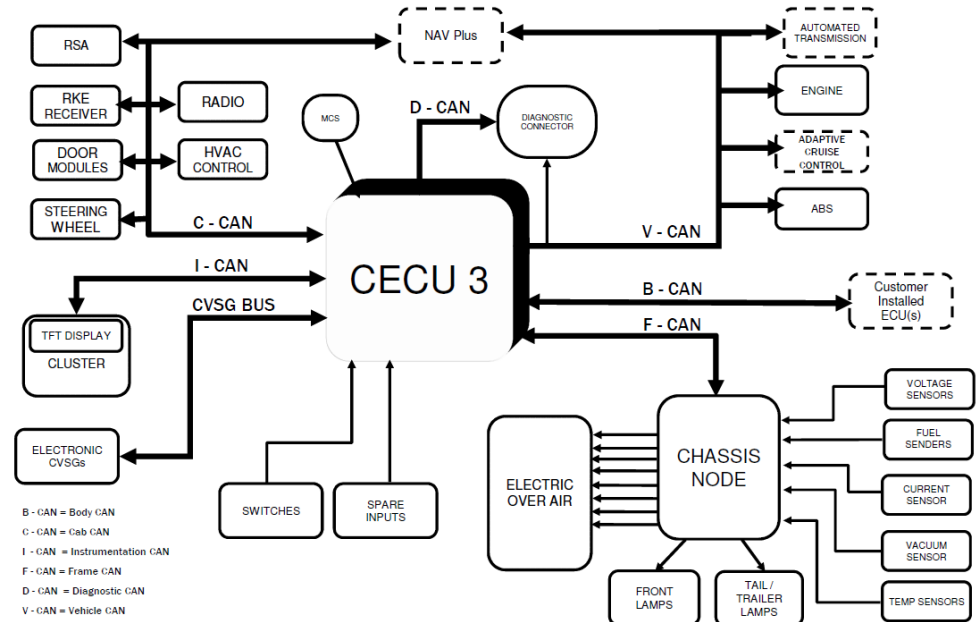
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



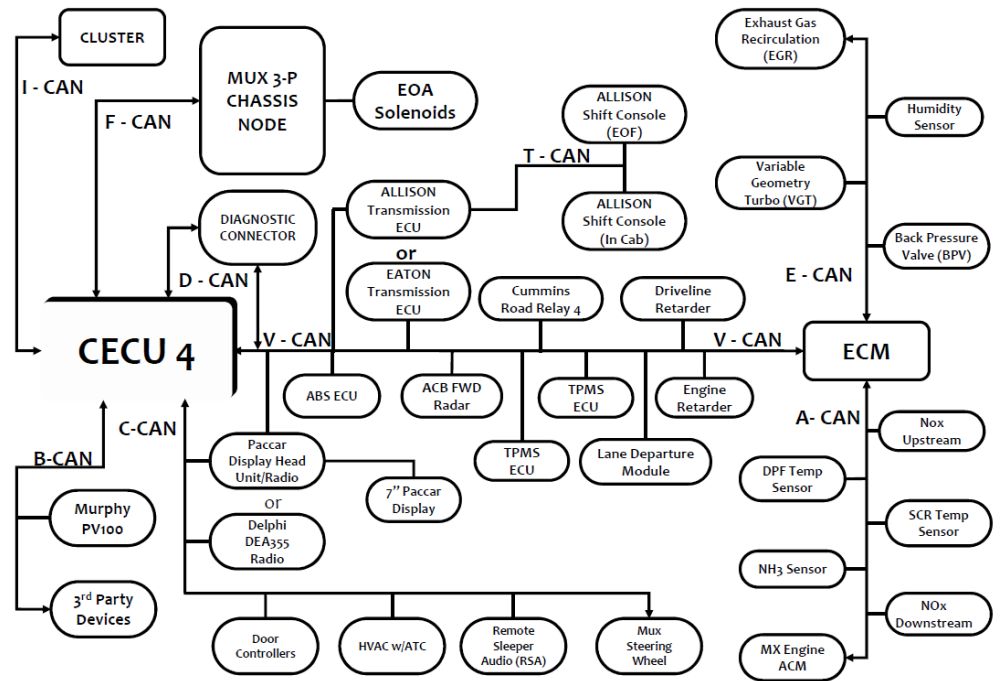
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	Check driveline retarder ECU for faults								
Additional information	No additional information available.								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1549a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU.</p><p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p><p>Was there evidence of any of the above?</p><ul style="list-style-type: none"><li>• No: Proceed to step 2.</li></ul></td></tr></table>			Step 1	Step ID 1549a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU.</p> <p>Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li></ul>		
Step 1	Step ID 1549a	SRT							
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	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1549b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1549b	SRT
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Step 3	Step ID 1549c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1549d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1549d	SRT	
Step 4	Step ID 1549d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

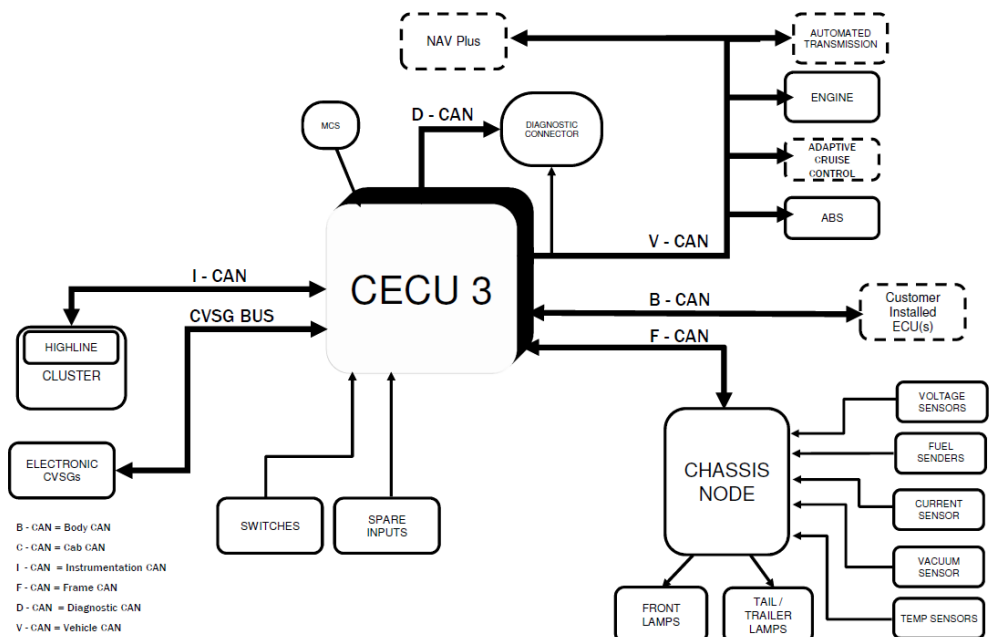
# U1550

<b>Code number</b>	U1550
<b>Fault code description</b>	CAN communication - Message (RC_DR) out of range - Reference retarder torque from retarder
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Monitoring Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and the CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's (Electronic Control Valve Solenoid Groups).</li> <li><b>SWITCHES and SPARE INPUTS:</b> These are connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>CHASSIS NODE:</b> This node is connected to the FRONT LAMPS and TAIL / TRAILER LAMPS. It also receives inputs from various sensors: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator (Variable Geometry Turbine Actuator).</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>Other components:</b> The diagram also shows the AUTO TRANSMISSION, ADAPTIVE CRUISE CONTROL, and a FIREWALL separating the CECU 3 from the CHASSIS NODE.</li> </ul>

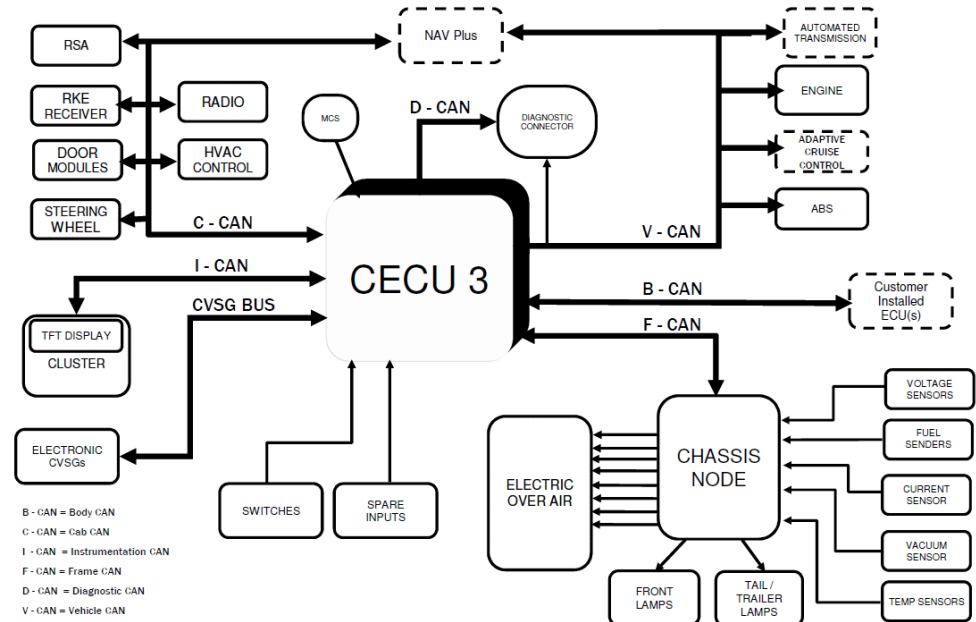
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check driveline retarder ECU for faults							
<b>Additional information</b>	No additional information available.							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1550a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.            Was there evidence of any of the above?           <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1550a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
Step 1	Step ID 1550a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>								

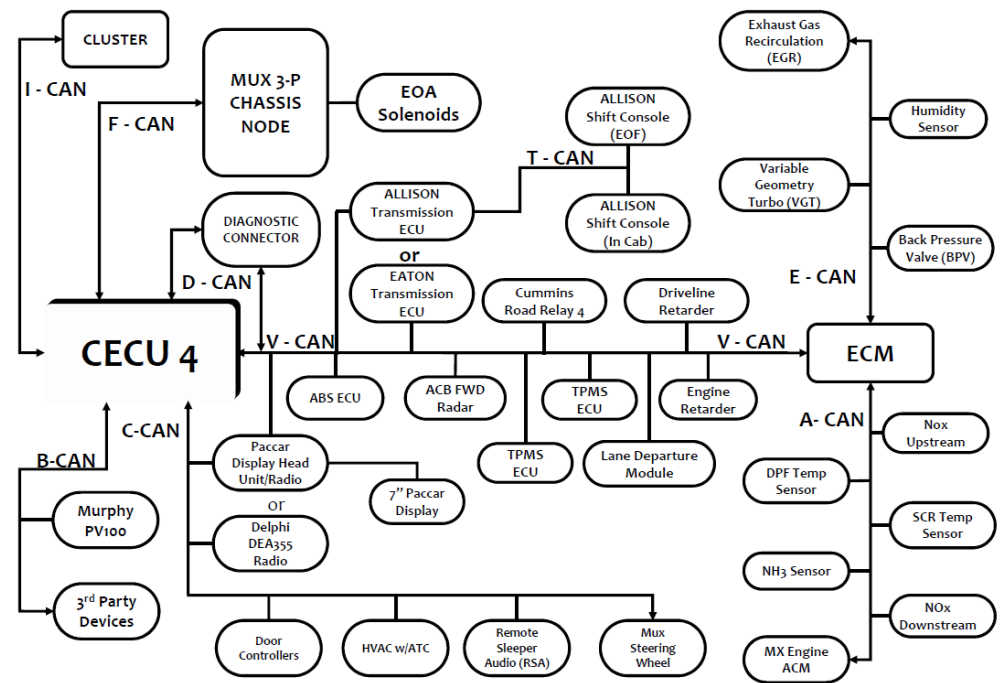
	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements. Use DAVIE to re-check for the presence of active faults.</li><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
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Step 3	Step ID 1550c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1550d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1550d	SRT	
Step 4	Step ID 1550d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			



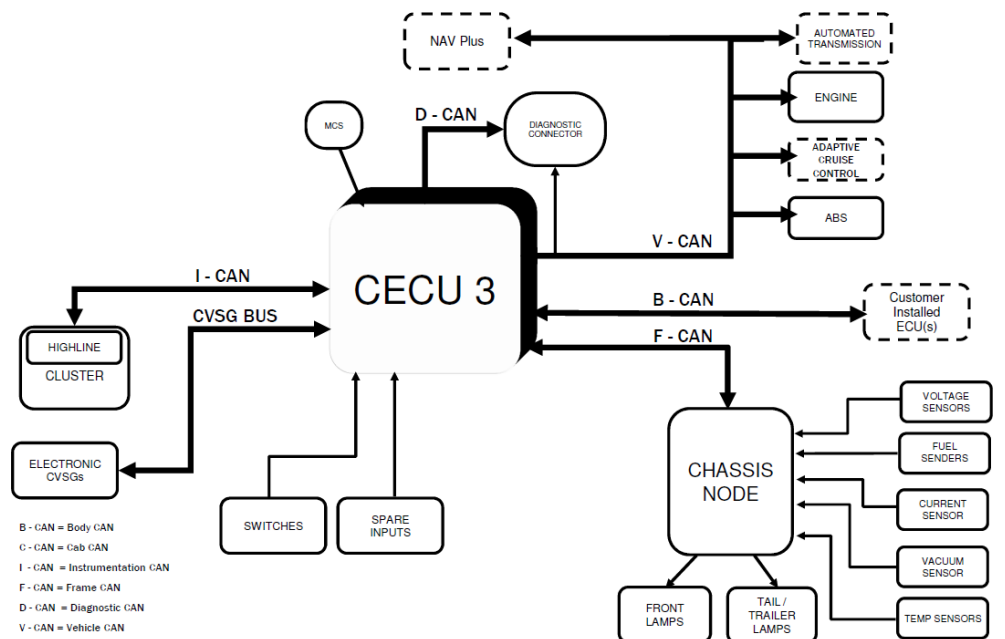
# U1551

<b>Code number</b>	U1551
<b>Fault code description</b>	CAN Communication – Message (VDC1) out of range – Roll-over-protection brake control active from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connected to the MCS (Master Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connected to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>CVSG BUS:</b> Connected to the Electronic CVSG's (Control Valve Solenoid Gears).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connected to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connected to the ENGINE, VGT Actuator, and After-treatment DCU.</li> <li><b>Aftertreatment CAN:</b> Connected to the ENGINE and After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> Connected to the CECU 3 and the Vehicle CAN. It also controls the FRONT LAMPS and TAIL / TRAILER LAMPS.</li> <li><b>Sensors:</b> The CHASSIS NODE is connected to a series of sensors: VOLTAGE SENSORS, FUEL SENSORS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>Firewalls:</b> There are two FIREWALLs indicated: one between the Diagnostic CAN and the Vehicle CAN, and another between the Vehicle CAN and the Engine CAN.</li> </ul>

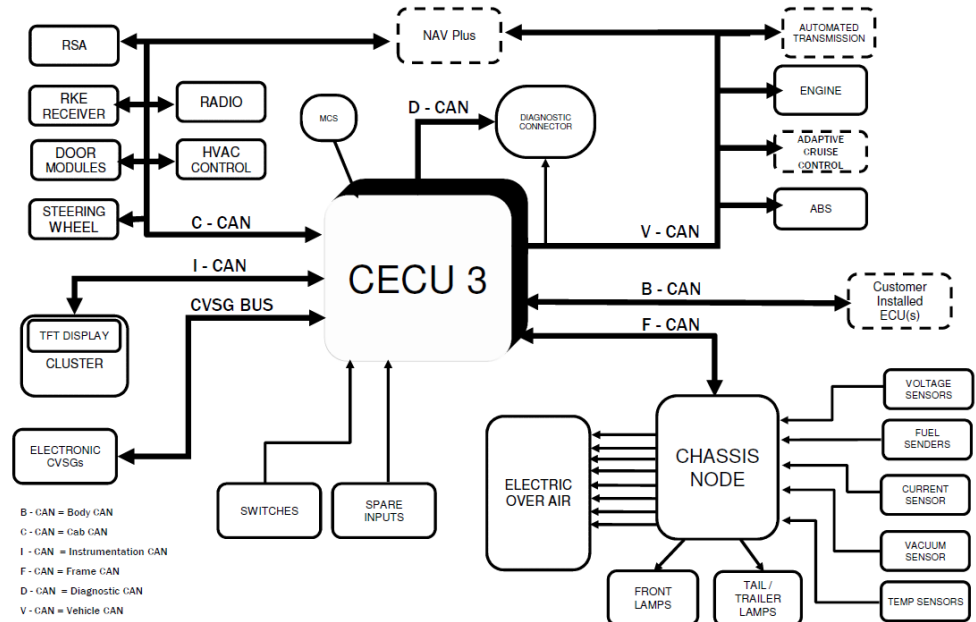
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

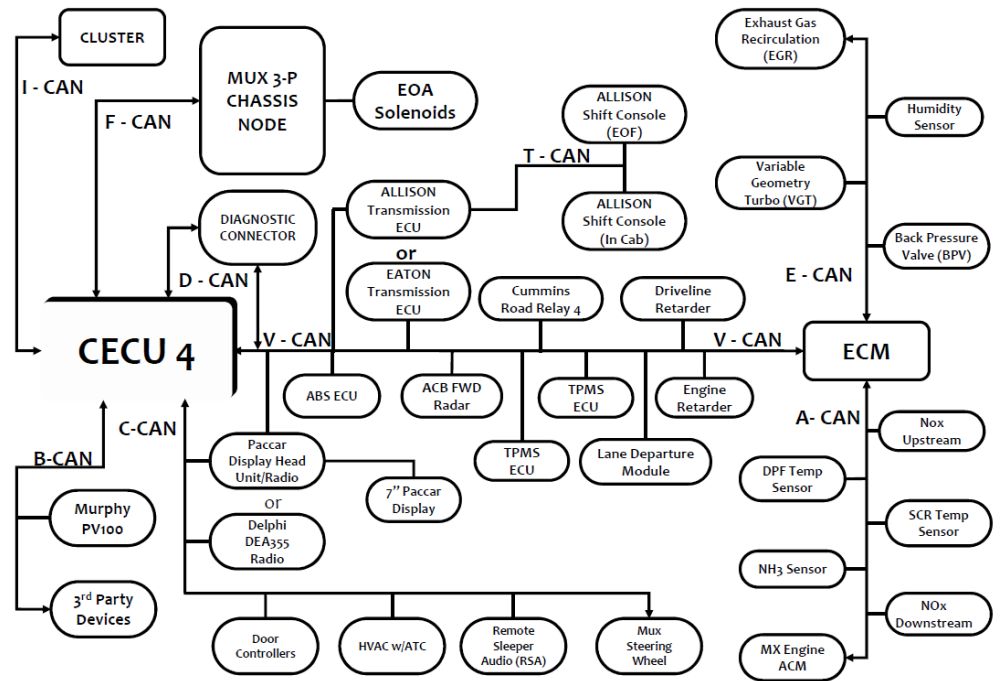
Step 1	Step ID 1551a	SRT
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1551b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>	Step 2	Step ID 1551b	SRT
	Step 2	Step ID 1551b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1551c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1551c	SRT
	Step 3	Step ID 1551c	SRT	
<table><tr><td>Step 4</td><td>Step ID 1551d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1551d	SRT	
Step 4	Step ID 1551d	SRT		
<p><b>Verification Drive Cycle</b></p>	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			

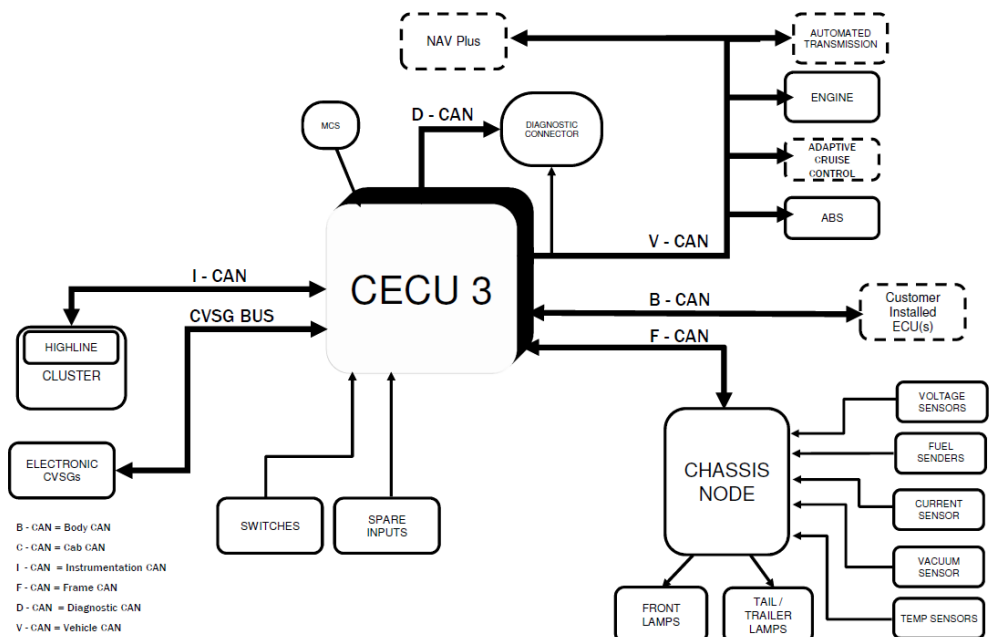
## U1552

<b>Code number</b>	U1552
<b>Fault code description</b>	CAN Communication – Message (VDC1) out of range – Roll-over-protection engine control active from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b>: Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b>: Connected via Frame CAN.</li> <li><b>Tail / Trailer Lamps</b>: Connected via Frame CAN.</li> <li><b>CVSG BUS</b> (Control Valve Solenoid Group Bus): Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups): Connected via Instrumentation CAN.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected via Diagnostic CAN.</li> <li><b>Vehicle CAN</b>: A central network connecting the CECU 3 to the ABS, PACCAR Display, and CHASSIS NODE.</li> <li><b>Engine CAN</b>: A network connecting the CECU 3 to the Engine, VGT Actuator, and After-treatment DCU.</li> <li><b>Frame CAN</b>: A network connecting the CECU 3 to the CHASSIS NODE, Front Lamps, and Tail / Trailer Lamps.</li> <li><b>Firewall</b>: Indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN.</li> <li><b>Sensors</b>: Various sensors are connected to the CHASSIS NODE, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> </ul>

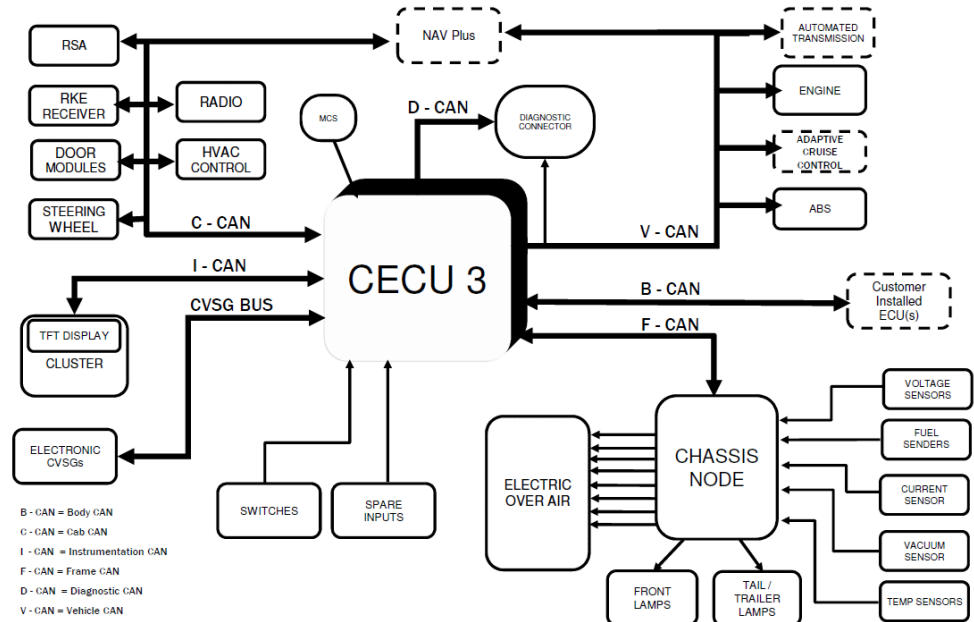
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>• Breakdown in communication in the CAN network</li><li>• Open circuit, short circuit to ground or short circuit to supply in the CAN network wiring</li></ul>								
Additional information	No additional information available								
Diagnostic Step-by-Step	<div><div></div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div></div> <div><div></div><ul style="list-style-type: none"><li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>• For specific electrical component information and pinout locations, always refer to the technical data.</li><li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div> <table><tr><td>Step 1</td><td>Step ID 1552a</td><td>SRT</td></tr><tr><td colspan="3"><p>Visual Inspection</p><p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p></td></tr></table>			Step 1	Step ID 1552a	SRT	<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>		
Step 1	Step ID 1552a	SRT							
<p>Visual Inspection</p> <p>OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p>									

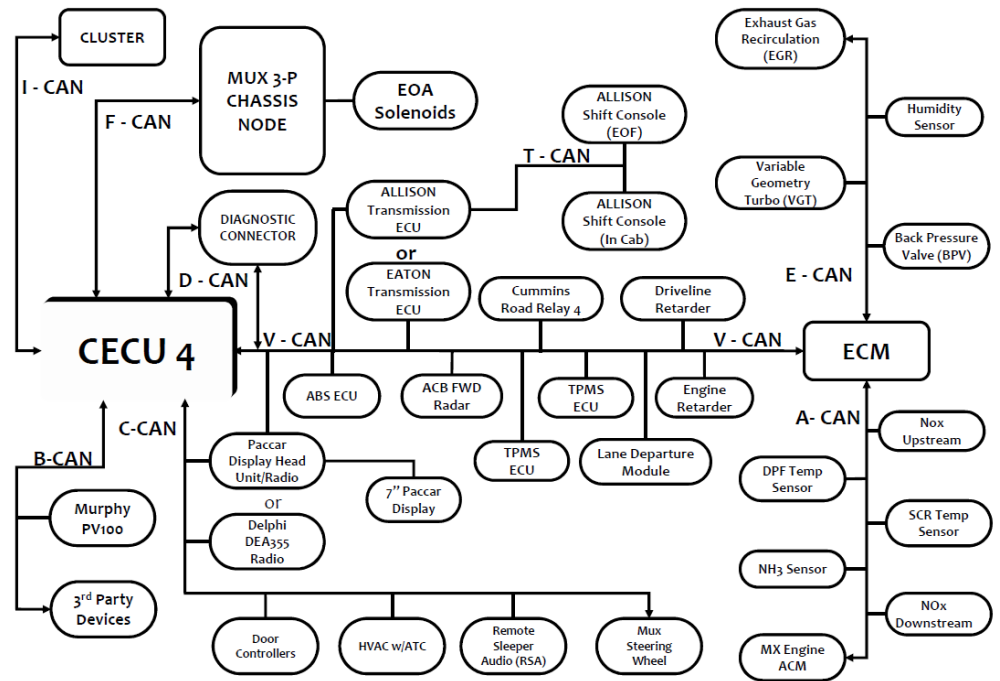
	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1552b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1552b	SRT
	Step 2	Step ID 1552b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1552c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1552c	SRT
Step 3	Step ID 1552c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1552d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1552d	SRT	
Step 4	Step ID 1552d	SRT		
<b>Verification Drive Cycle</b>	<p>To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>			
	<p><a href="#">Back to Index</a></p>			



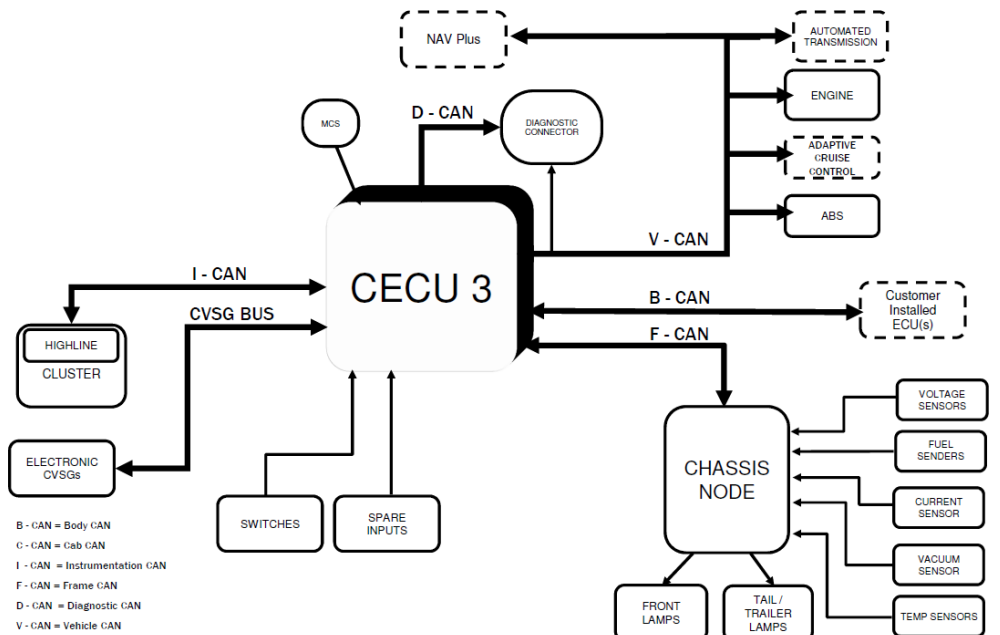
## U1553

<b>Code number</b>	U1553
<b>Fault code description</b>	CAN Communication – Message (VDC1) out of range – Yaw control brake control active from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key systems and components:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>MCS</b> (Master Control Switch): Connected via Diagnostic CAN.</li> <li><b>Diagnostic Connector</b>: Connected via Diagnostic CAN.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected via Engine CAN.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (Differential Control Unit): Connected via Engine CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN.</li> <li><b>Front Lamps</b> and <b>Tail / Trailer Lamps</b>: Connected via Frame CAN.</li> <li><b>Sensors</b>: Connected via Frame CAN, including Voltage Sensors, Fuel Senders, Current Sensor, Pressure Sensors, Vacuum Sensor, and Temp Sensors.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected via Frame CAN.</li> <li><b>CVSG BUS</b> (Control Valve Solenoid Group Bus): Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups): Connected via Instrumentation CAN.</li> </ul> <p>The diagram also shows a <b>FIREWALL</b> separating the CECU 3 from the CHASSIS NODE and the Engine/Aftertreatment CAN network.</p>

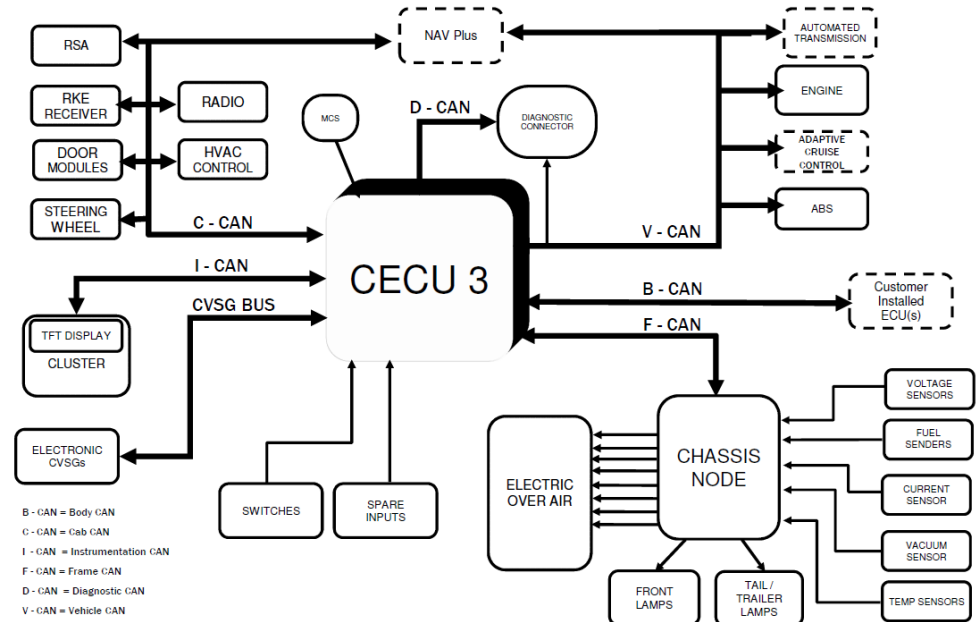
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



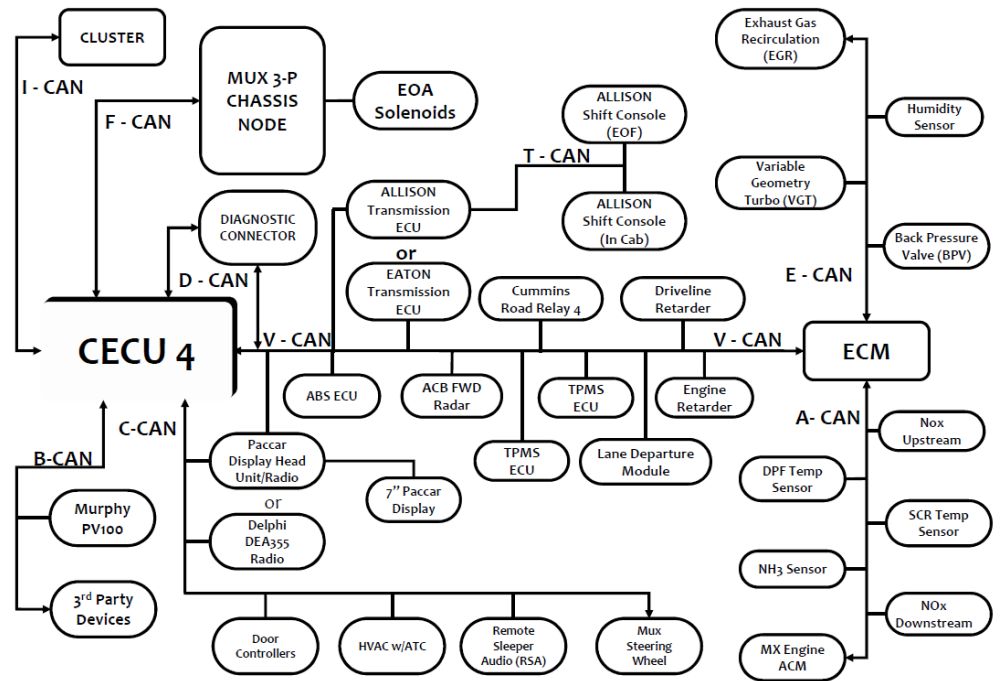
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check brake system ECU for faults							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1553a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.            Was there evidence of any of the above?           <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1553a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
Step 1	Step ID 1553a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>								

	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> Use DAVIE to re-check for the presence of active faults. <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1553b</td><td>SRT</td></tr></table> Data check <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> Is test pass? <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1553b	SRT
	Step 2	Step ID 1553b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1553c</td><td>SRT</td></tr></table> Repair or replace component <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> Use DAVIE to re-check for the presence of active faults: <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1553c	SRT
Step 3	Step ID 1553c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1553d</td><td>SRT</td></tr></table> For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.	Step 4	Step ID 1553d	SRT	
Step 4	Step ID 1553d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			

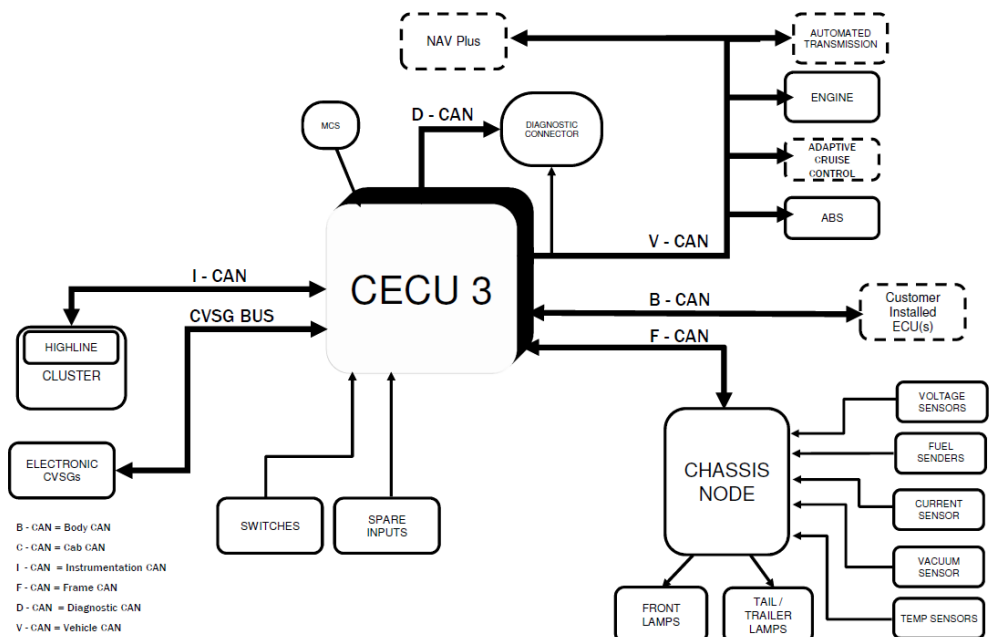
# U1554

<b>Code number</b>	U1554
<b>Fault code description</b>	CAN Communication – Message (VDC1) out of range – Yaw control engine control active from brake system
<b>Fault code information</b>	3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Master Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster, Steering Wheel, and Instrumentation CAN.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster and CVSG BUS.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the Electronic CVSG's (Control Valve Solenoid Group).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect directly to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including:             <ul style="list-style-type: none"> <li>VOLTAGE SENSORS</li> <li>FUEL SENDERS</li> <li>CURRENT SENSOR</li> <li>PRESSURE SENSORS</li> <li>VACUUM SENSOR</li> <li>TEMP SENSORS</li> <li>FRONT LAMPS</li> <li>TAIL / TRAILER LAMPS</li> </ul> </li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN/Aftertreatment CAN.</p>

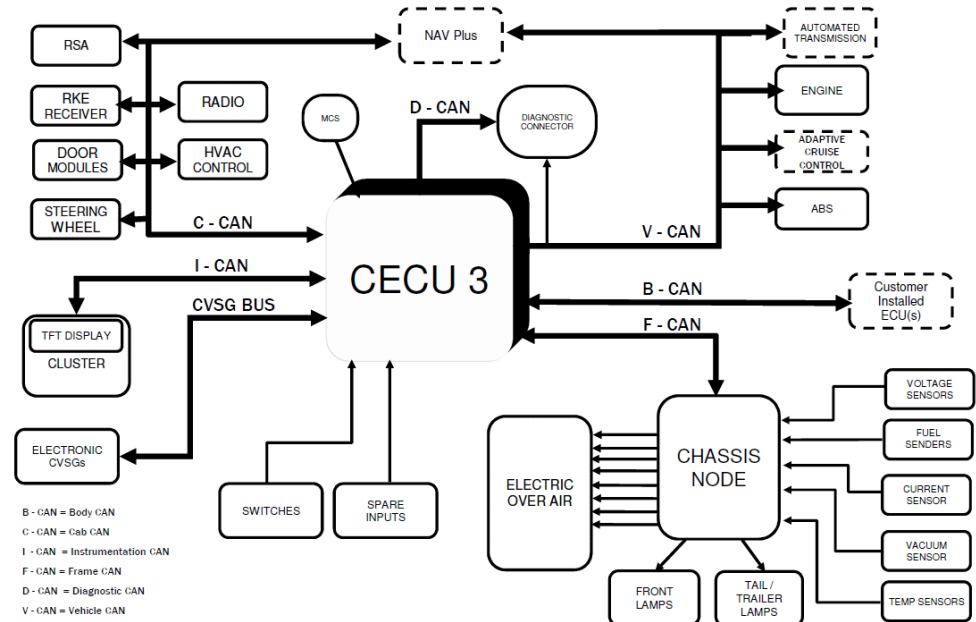
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	Check brake system ECU for faults							
<b>Additional information</b>	No additional information available							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>• Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>• For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>• It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>• Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1554a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3">           Visual Inspection            OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.            Was there evidence of any of the above?           <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul> </td></tr> </tbody> </table>		Step 1	Step ID 1554a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>		
Step 1	Step ID 1554a	SRT						
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. Was there evidence of any of the above? <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> </ul>								

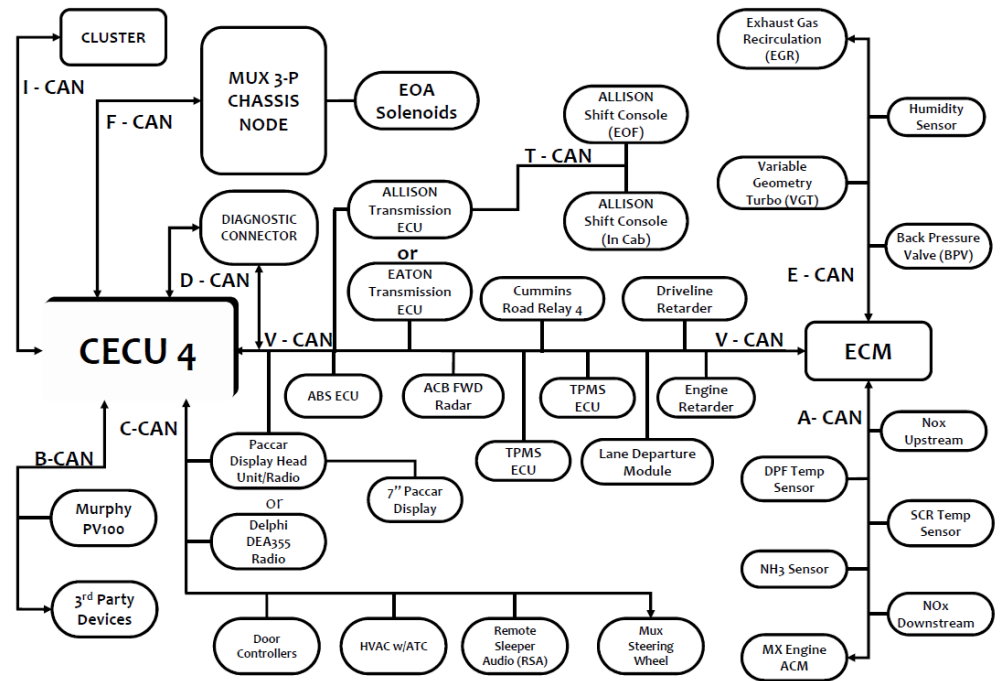
	<ul style="list-style-type: none"><li>• Yes: Make the appropriate repairs or component replacements. Use DAVIE to re-check for the presence of active faults.</li><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1554b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1554b	SRT
	Step 2	Step ID 1554b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1554c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1554c	SRT
Step 3	Step ID 1554c	SRT		
<table><tr><td>Step 4</td><td>Step ID 1554d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1554d	SRT	
Step 4	Step ID 1554d	SRT		
Verification Drive Cycle	To validate the repair, with the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics. With the brakes set, start the engine and allow it to run at idle for 2 minutes.			
	<a href="#">Back to Index</a>			



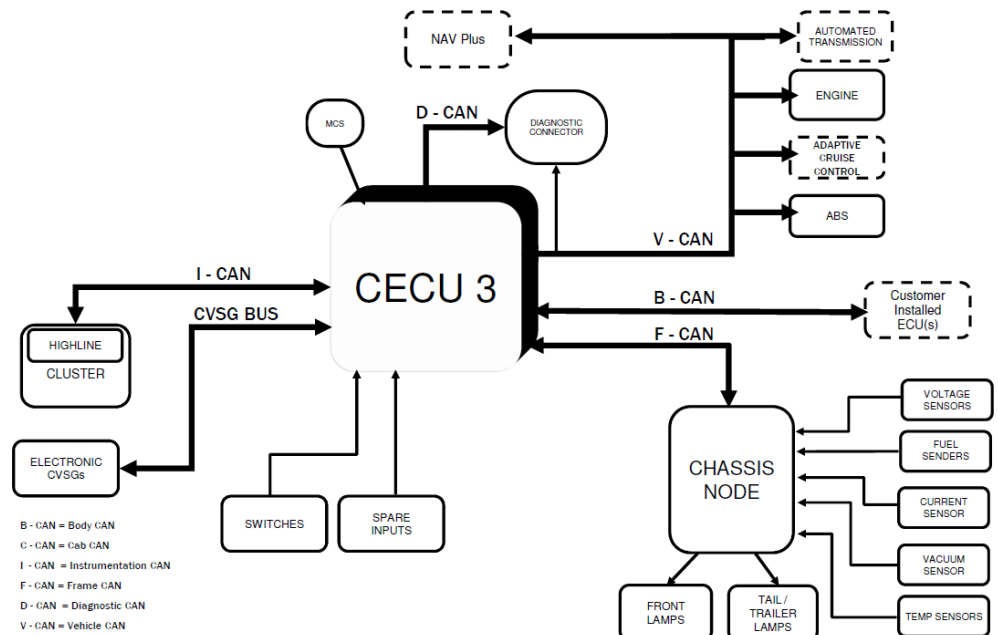
# U1562

<b>Code number</b>	U1562
<b>Fault code description</b>	CAN communication - Message (ACM_Limits) out of range - Turbine outlet flow low target request from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key components and networks:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>MCS</b> (Motor Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic CAN</b>: A network connecting the CECU 3 to the Diagnostic Connector, ABS, PACCAR Display, and AUTO TRANSMISSION.</li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>Cab CAN</b>: A network connecting the CECU 3 to the Steering Wheel and Instrumentation CAN.</li> <li><b>Instrumentation CAN</b>: A network connecting the CECU 3 to the Cluster and CVSG BUS.</li> <li><b>CVSG BUS</b>: A network connecting the CECU 3 to ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected directly to the CECU 3.</li> <li><b>Vehicle CAN</b>: A network connecting the CECU 3 to the ABS, PACCAR Display, and AUTO TRANSMISSION.</li> <li><b>Engine CAN</b>: A network connecting the CECU 3 to the ENGINE and Adaptive Cruise Control.</li> <li><b>After-treatment CAN</b>: A network connecting the CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>CHASSIS NODE</b>: A network connecting the CECU 3 to the CHASSIS NODE, which in turn controls FRONT LAMPS and TAIL / TRAILER LAMPS.</li> <li><b>Sensors</b>: The CHASSIS NODE is connected to a variety of sensors: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and the CHASSIS NODE.</p>

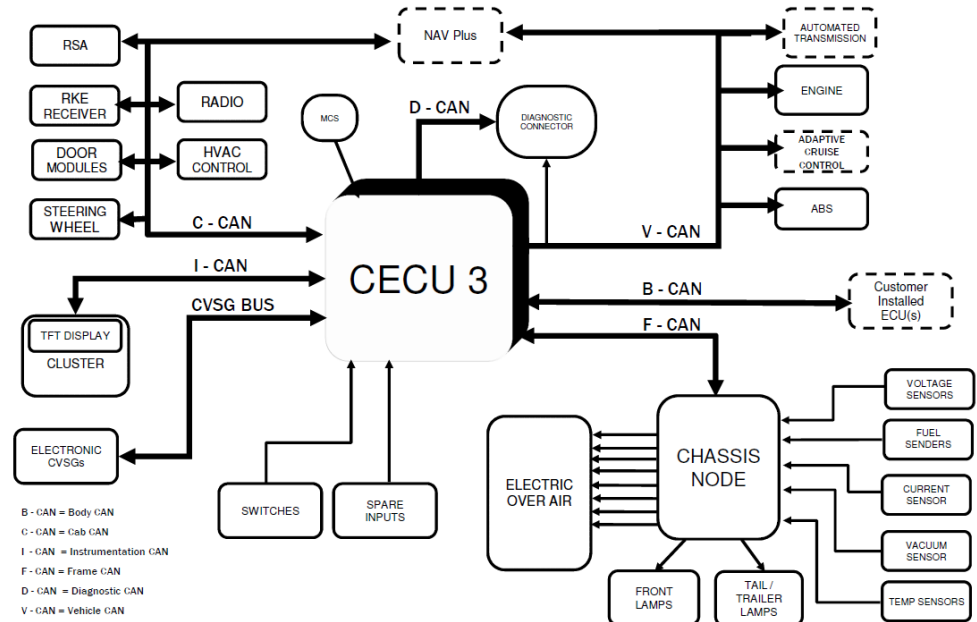
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1562a	SRT
<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

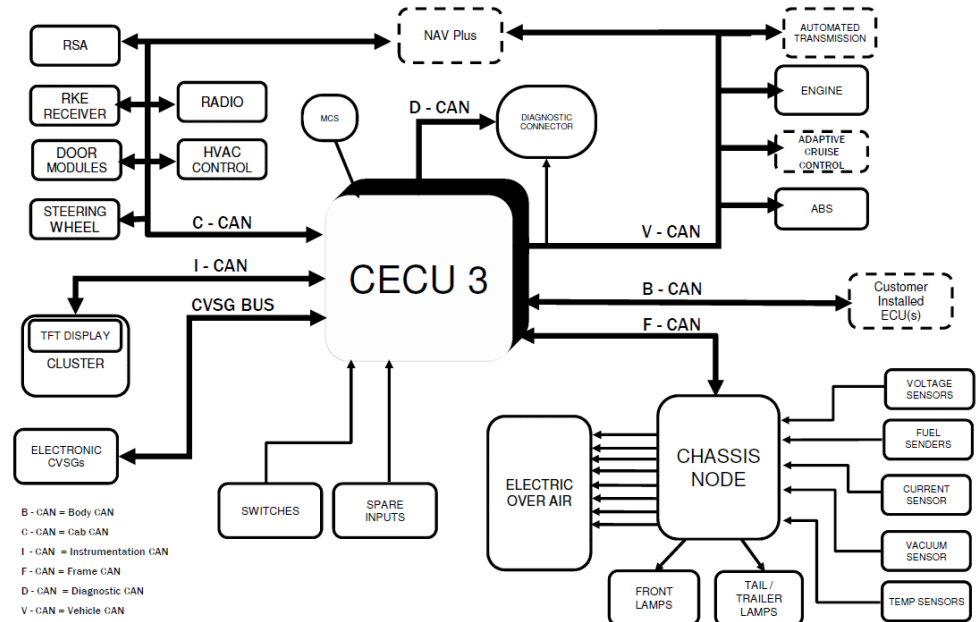
	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1562b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1562c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>			
	Step 4	Step ID 1562d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>		
	<p><a href="#">Back to Index</a></p>		

# U1563

<b>Code number</b>	U1563
<b>Fault code description</b>	CAN communication - Message (ACM_Limits) out of range - Turbine outlet flow low limit request from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. At the center is the CECU 3 (Central Electronic Control Unit 3). It is connected to several key components and networks:</p> <ul style="list-style-type: none"> <li><b>Inputs/Outputs:</b> STEERING WHEEL, MCS (Microcontroller System), Cluster, Cab CAN, Instrumentation CAN, CVSG BUS (connected to ELECTRONIC CVSG's), SWITCHES, and SPARE INPUTS.</li> <li><b>Communication Networks:</b> Diagnostic CAN (via a DIAGNOSTIC CONNECTOR), Vehicle CAN, and Frame CAN.</li> <li><b>Vehicle Systems:</b> ABS (Anti-lock Braking System), PACCAR Display, AUTO TRANSMISSION, and CHASSIS NODE (which controls FRONT LAMPS and TAIL / TRAILER LAMPS).</li> <li><b>Engine and Emission Systems:</b> Engine CAN (connected to ENGINE and VGT Actuator), Adaptive Cruise Control, and After-treatment CAN (connected to After-treatment DCU).</li> <li><b>Sensors:</b> A collection of sensors including VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS, all connected to the CHASSIS NODE.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Frame CAN.</p>



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1563a	SRT
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

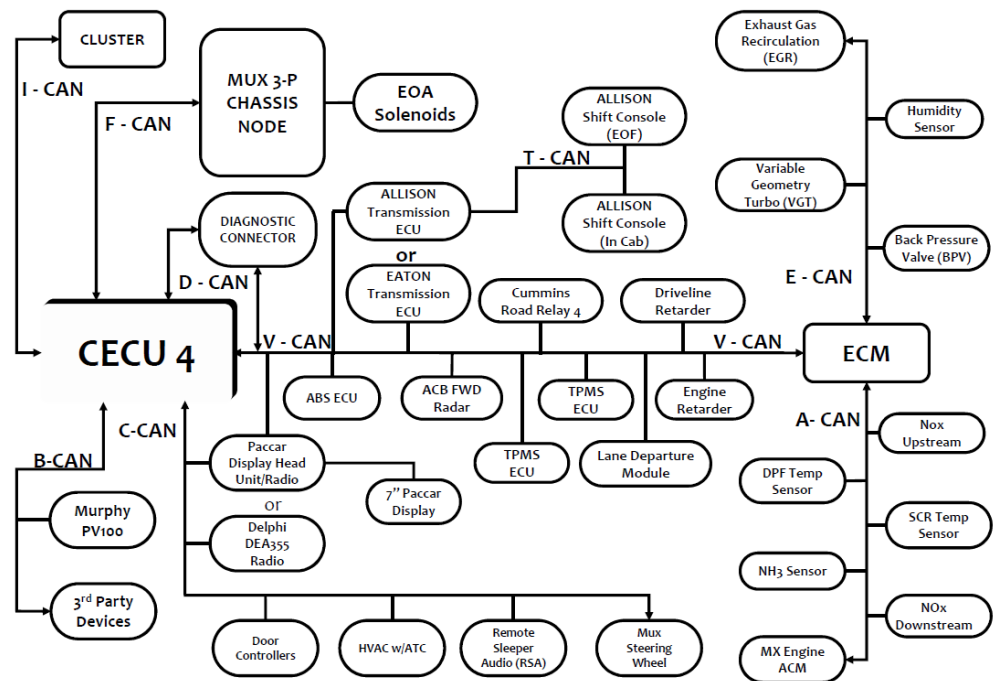
	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>No: Proceed to step 2.</li><li>Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>If this related fault is no longer active, then this issue has been resolved.</li><li>If this related fault is still active, Proceed to step 2</li></ul>		
	Step 2	Step ID 1563b	SRT
	<p>Data check</p> <ul style="list-style-type: none"><li>Lookup the technical data of the specific system</li><li>Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>No: Proceed to step 3</li><li>Yes : Proceed to step4</li></ul>		
	Step 3	Step ID 1563c	SRT
<p>Repair or replace component</p> <ul style="list-style-type: none"><li>Repair or replace the component, also check for electrical connection and wiring harness.</li><li>Reconnect the connector</li><li>ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>Is DTC fault active: Proceed to step 4</li><li>Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>			
	Step 4	Step ID 1563d	SRT
<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>		
	<p><a href="#">Back to Index</a></p>		



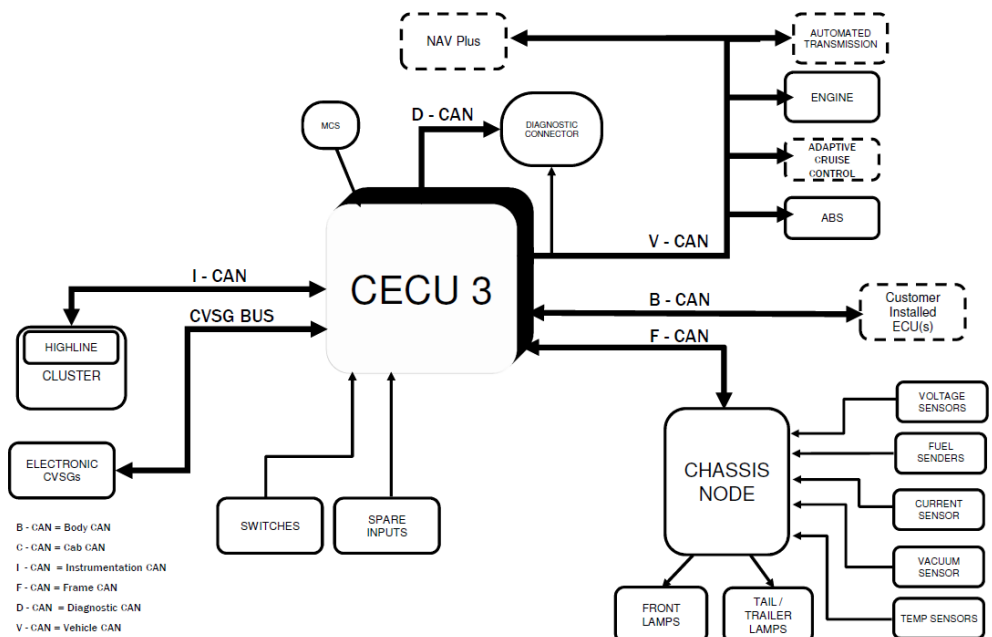
# U1564

<b>Code number</b>	U1564
<b>Fault code description</b>	CAN communication - Message (ACM_Limits) out of range - Turbine outlet temperature low target torque from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the STEERING WHEEL and the Cluster.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including FRONT LAMPS, TAIL / TRAILER LAMPS, and various sensors (VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, TEMP SENSORS).</li> <li><b>Other components:</b> SWITCHES, SPARE INPUTS, and the AUTO (TRANSMISSION) are also shown.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

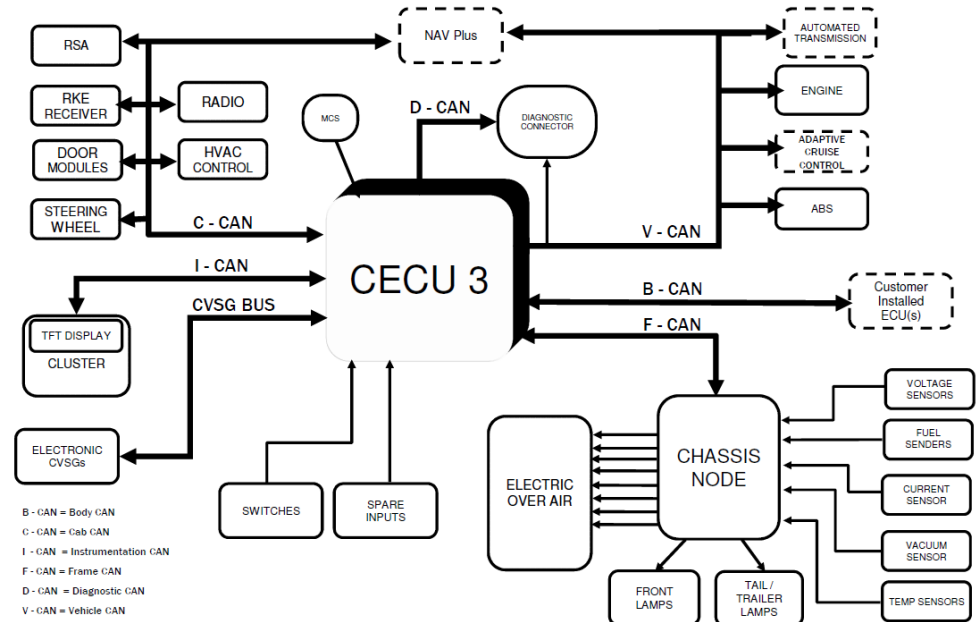
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX<sub>3</sub> Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1

Step ID 1564a

SRT

Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

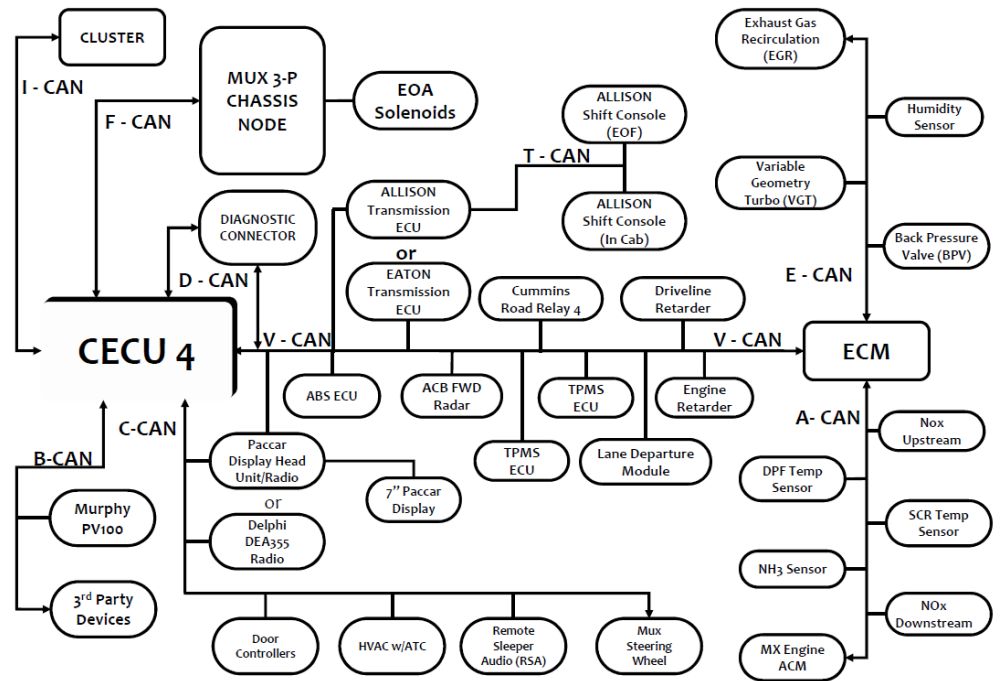
Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>			
	<table><tr><td>Step 2</td><td>Step ID 1564b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>	Step 2	Step ID 1564b	SRT
	Step 2	Step ID 1564b	SRT	
	<table><tr><td>Step 3</td><td>Step ID 1564c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault.</li></ul>	Step 3	Step ID 1564c	SRT
	Step 3	Step ID 1564c	SRT	
<table><tr><td>Step 4</td><td>Step ID 1564d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>	Step 4	Step ID 1564d	SRT	
Step 4	Step ID 1564d	SRT		
<p><b>Verification Drive Cycle</b></p>	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes</p>			
	<p><a href="#">Back to Index</a></p>			

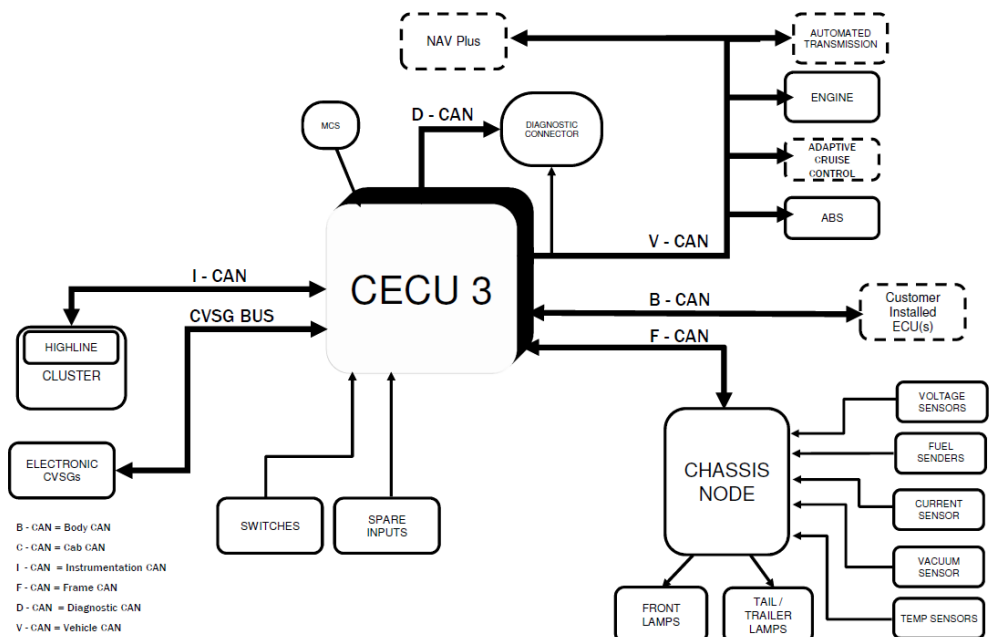
# U1565

<b>Code number</b>	U1565
<b>Fault code description</b>	CAN communication – Message (ACM_Limits) out of range – Turbine outlet temperature upper limit torque from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several components and buses:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Monitoring Control System) and the DIAGNOSTIC CONNECTOR.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the STEERING WHEEL and the Cluster.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the ELECTRONIC CVSG's (Control Valve Solenoid Groups).</li> <li><b>SWITCHES and SPARE INPUTS:</b> These are connected to the CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU (Differential Control Unit).</li> <li><b>CHASSIS NODE:</b> This node is connected to the CECU 3 and manages various chassis functions, including FRONT LAMPS and TAIL / TRAILER LAMPS.</li> <li><b>Sensors:</b> The CHASSIS NODE is connected to a variety of sensors: VOLTAGE SENSORS, FUEL SENDERS, CURRENT SENSOR, PRESSURE SENSORS, VACUUM SENSOR, and TEMP SENSORS.</li> <li><b>Other Components:</b> The diagram also shows the AUTO (TRANSMISSION), ADAPTIVE CRUISE CONTROL, and ENGINE components.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and the Vehicle CAN, and between the Vehicle CAN and the Engine CAN.</p>

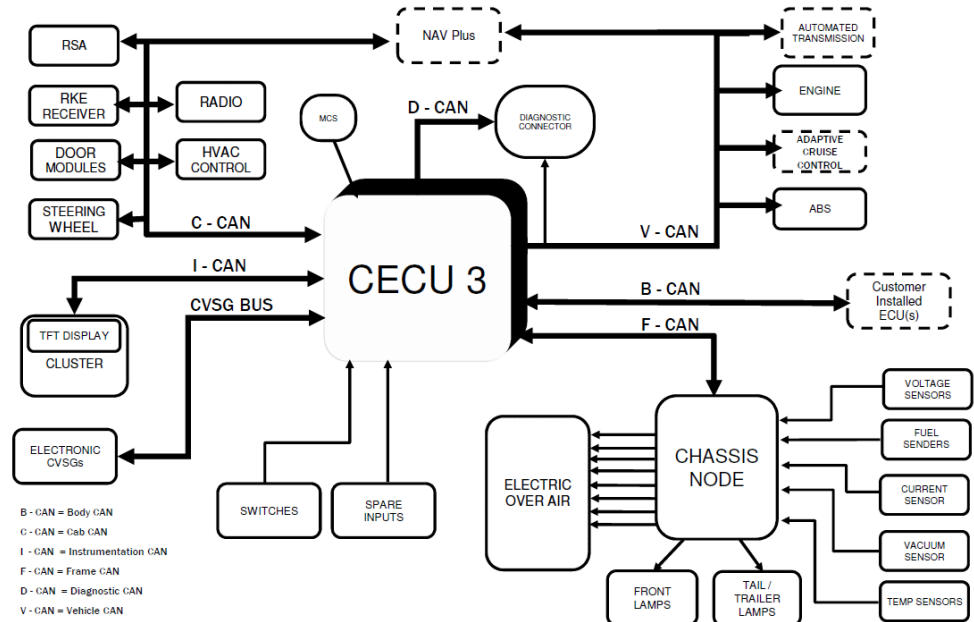
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1

Step ID 1565a

SRT

Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

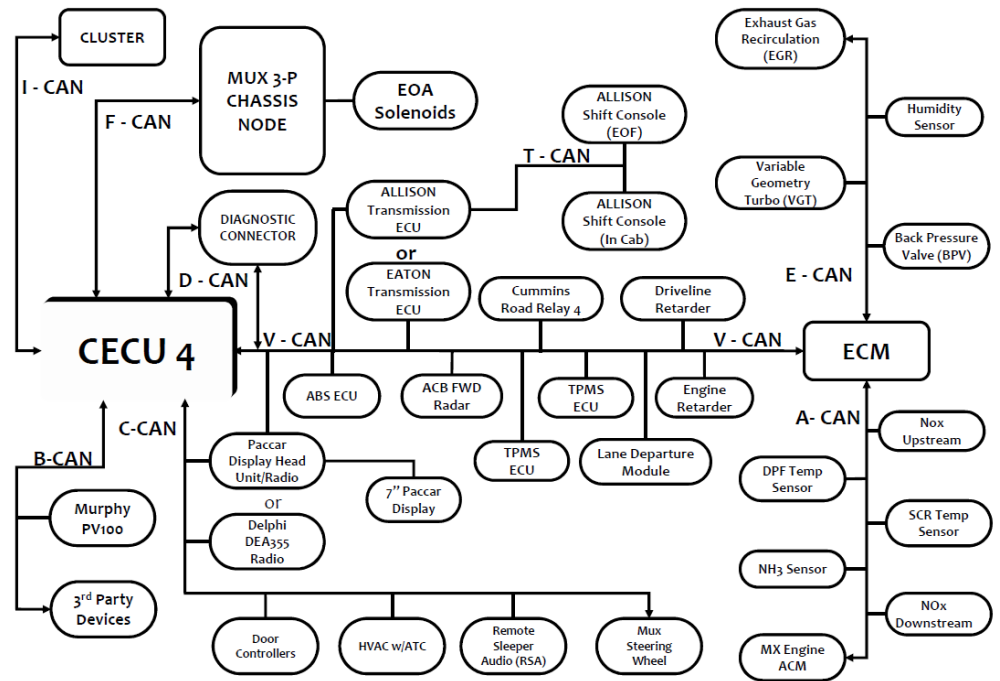
	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>						
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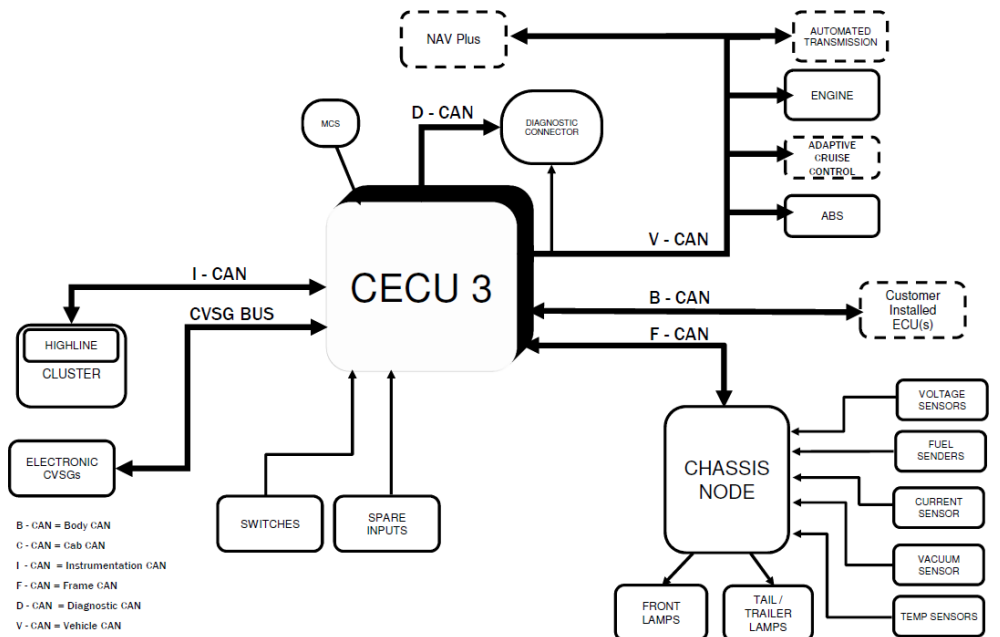
# U1566

<b>Code number</b>	U1566
<b>Fault code description</b>	CAN communication – Message (ACM_Limits) rate too low from emission system
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	
<b>Reset condition of fault code</b>	This DTC changes to inactive as soon as the error is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Central Electronic Control Unit 3). It is connected to several systems:</p> <ul style="list-style-type: none"> <li><b>Steering Wheel</b>: Connected via Cab CAN.</li> <li><b>MCS</b> (Message Control System): Connected via Diagnostic CAN.</li> <li><b>Diagnostic CAN</b>: Connected to the Diagnostic Connector.</li> <li><b>ABS</b> (Anti-lock Braking System): Connected via Vehicle CAN.</li> <li><b>PACCAR Display</b>: Connected via Vehicle CAN.</li> <li><b>Engine</b>: Connected via Engine CAN.</li> <li><b>Aftertreatment CAN</b>: Connected to the After-treatment DCU.</li> <li><b>VGT Actuator</b> (Variable Geometry Turbine Actuator): Connected via Engine CAN.</li> <li><b>After-treatment DCU</b> (After-treatment Diesel Control Unit): Connected via Aftertreatment CAN.</li> <li><b>CHASSIS NODE</b>: Connected via Frame CAN. It includes: <ul style="list-style-type: none"> <li>VOLTAGE SENSORS</li> <li>FUEL SENDERS</li> <li>CURRENT SENSOR</li> <li>PRESSURE SENSORS</li> <li>VACUUM SENSOR</li> <li>TEMP SENSORS</li> <li>FRONT LAMPS</li> <li>TAIL / TRAILER LAMPS</li> </ul> </li> <li><b>Cluster</b>: Connected via Instrumentation CAN.</li> <li><b>ELECTRONIC CVSG's</b> (Electronic Control Valve Solenoid Groups): Connected via CVSG BUS.</li> <li><b>SWITCHES</b> and <b>SPARE INPUTS</b>: Connected to CECU 3.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Frame CAN.</p>

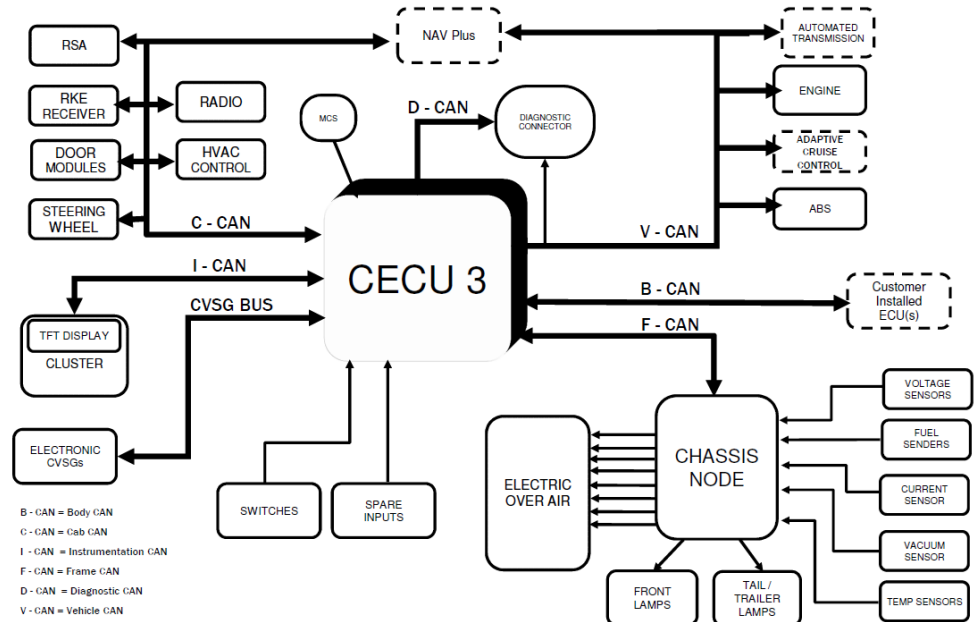
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- Breakdown in communication in the CAN network
- Open circuit, short circuit to ground, or short circuit to supply in the CAN network wiring

### Additional information

No additional information available

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1

Step ID 1566a

SRT

Visual Inspection

OFF the ignition key, disconnect the connector from component and ECU.

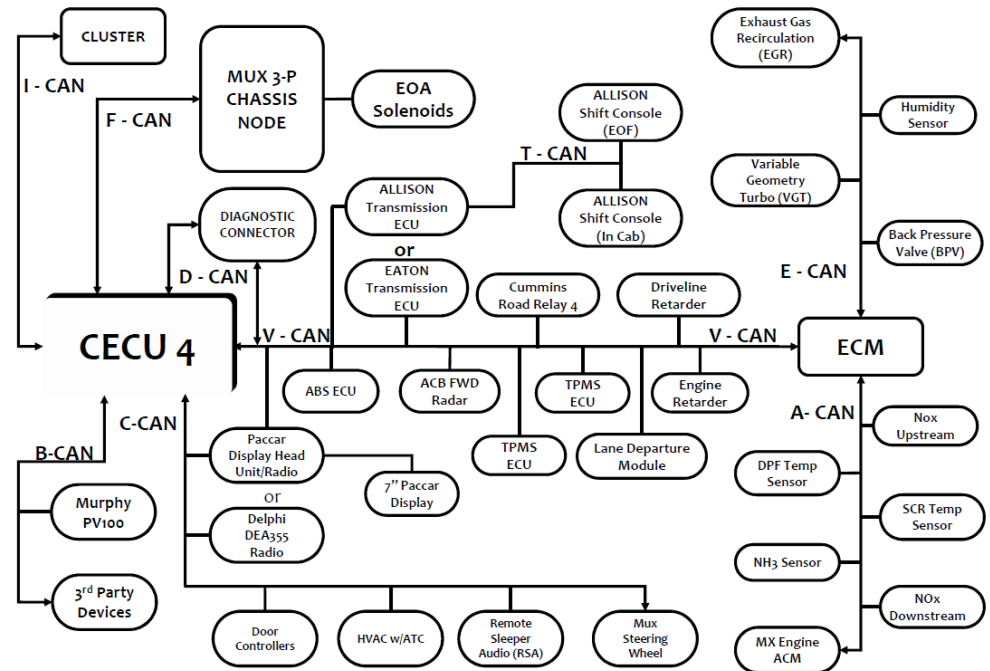
Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>						
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Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>						
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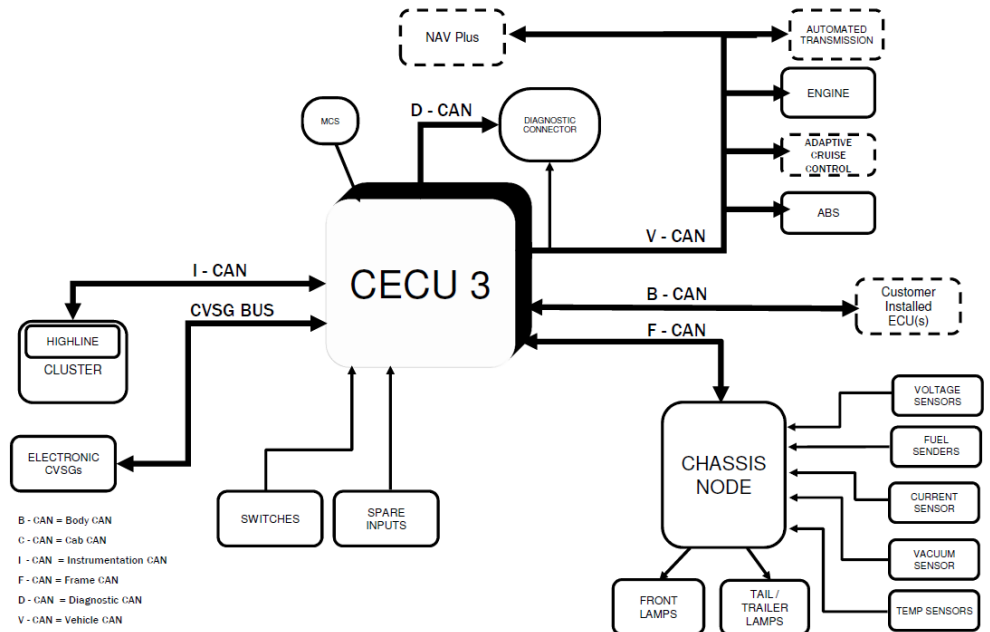
# U1571

<b>Code number</b>	U1571
<b>Fault code description</b>	EGR valve module - CAN communication error - Message rate too low
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) lost communication with the EGR valve module (L095).
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Engine Control Unit). It is connected to several components and networks:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the MCS (Maintenance Control System) and the Diagnostic Connector.</li> <li><b>Cab CAN:</b> Connects CECU 3 to the Cluster and the Steering Wheel.</li> <li><b>Instrumentation CAN:</b> Connects CECU 3 to the Cluster.</li> <li><b>CVSG BUS:</b> Connects CECU 3 to the Electronic CVSG's (Control Valve Solenoid Group).</li> <li><b>SWITCHES and SPARE INPUTS:</b> Connect to CECU 3.</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS (Anti-lock Braking System), PACCAR Display, and the CHASSIS NODE.</li> <li><b>Frame CAN:</b> Connects CECU 3 to the CHASSIS NODE.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the ENGINE and the VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>CHASSIS NODE:</b> A central hub for chassis-related components, including: <ul style="list-style-type: none"> <li>VOLTAGE SENSORS</li> <li>FUEL SENDERS</li> <li>CURRENT SENSOR</li> <li>PRESSURE SENSORS</li> <li>VACUUM SENSOR</li> <li>TEMP SENSORS</li> <li>FRONT LAMPS</li> <li>TAIL / TRAILER LAMPS</li> </ul> </li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Engine CAN/Aftertreatment CAN.</p>

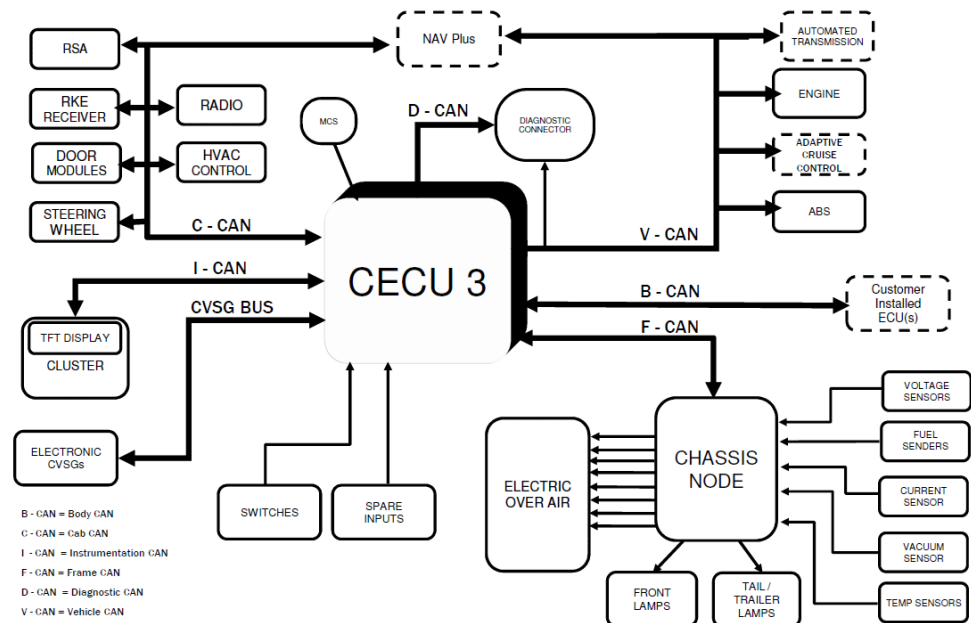
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



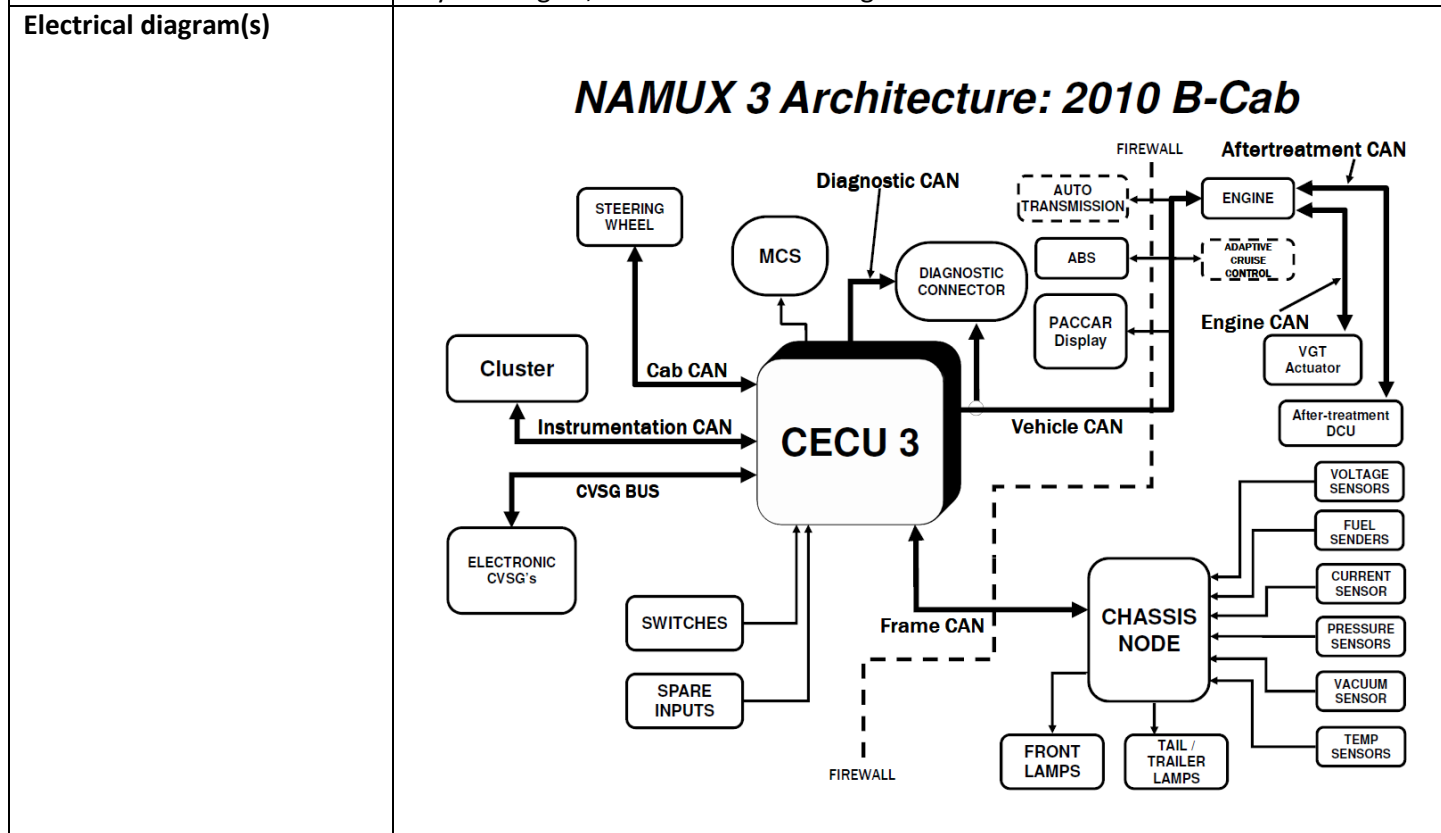
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>EGR valve module power supply</li><li>E-CAN communication</li><li>Faulty EGR valve module</li></ul>								
Additional information	The EGR valve actuator is a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.								
Diagnostic Step-by-Step	<div><div></div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div></div> <div><div></div><div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1571a</td><td>SRT</td></tr><tr><td colspan="3">Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic</td></tr></table>			Step 1	Step ID 1571a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic		
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	<p>procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>		
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	<p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step4</li></ul>		
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	Step 4	Step ID 1571d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>		
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
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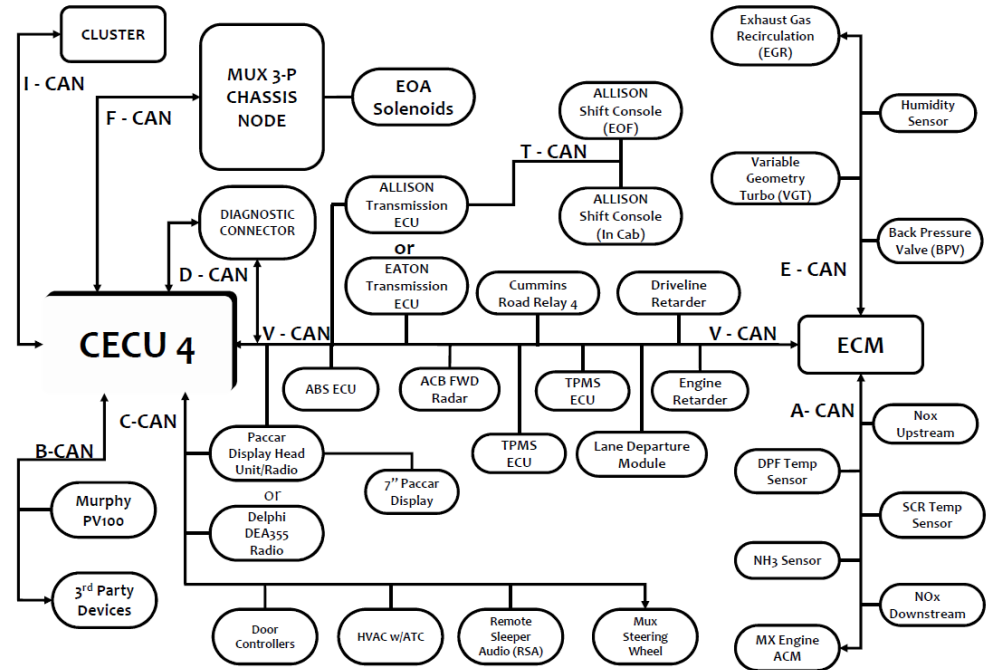


# U1572

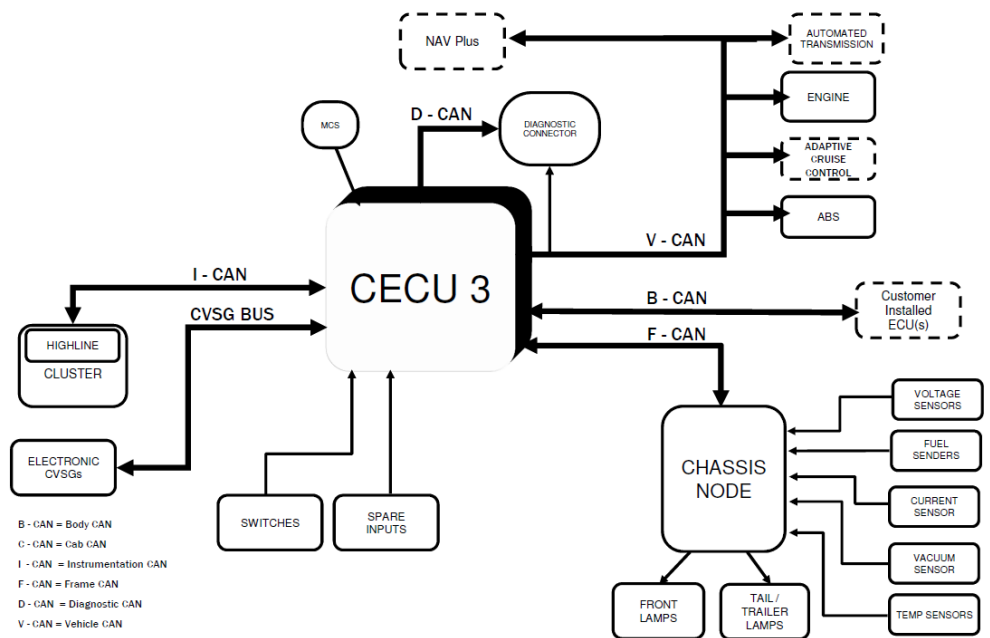
<b>Code number</b>	U1572
<b>Fault code description</b>	EGR valve module state – Data erratic, intermittent, or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the EGR valve module (L095) that contains an out-of-range value for the actuator operating state.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.



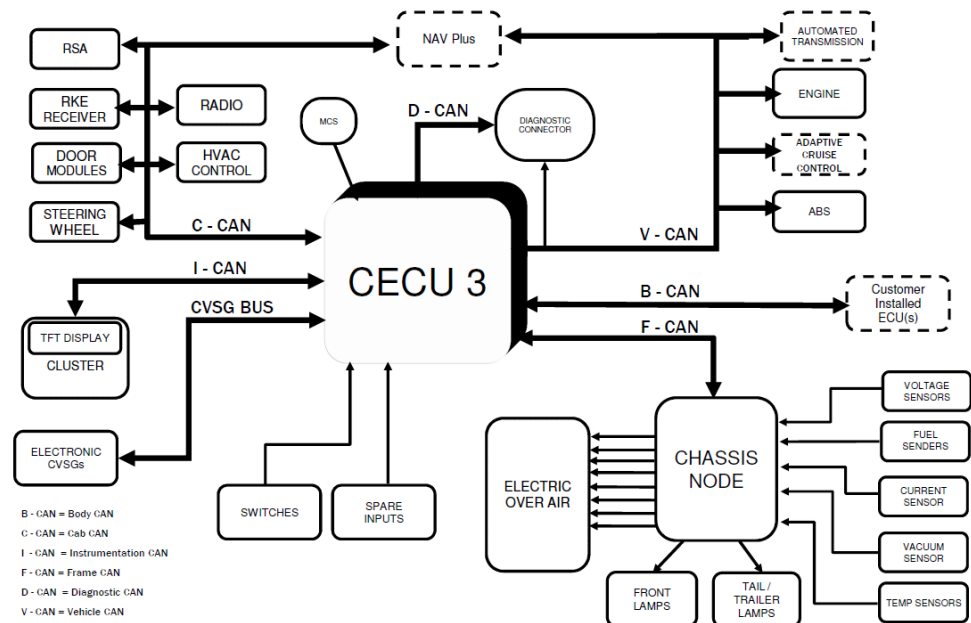
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



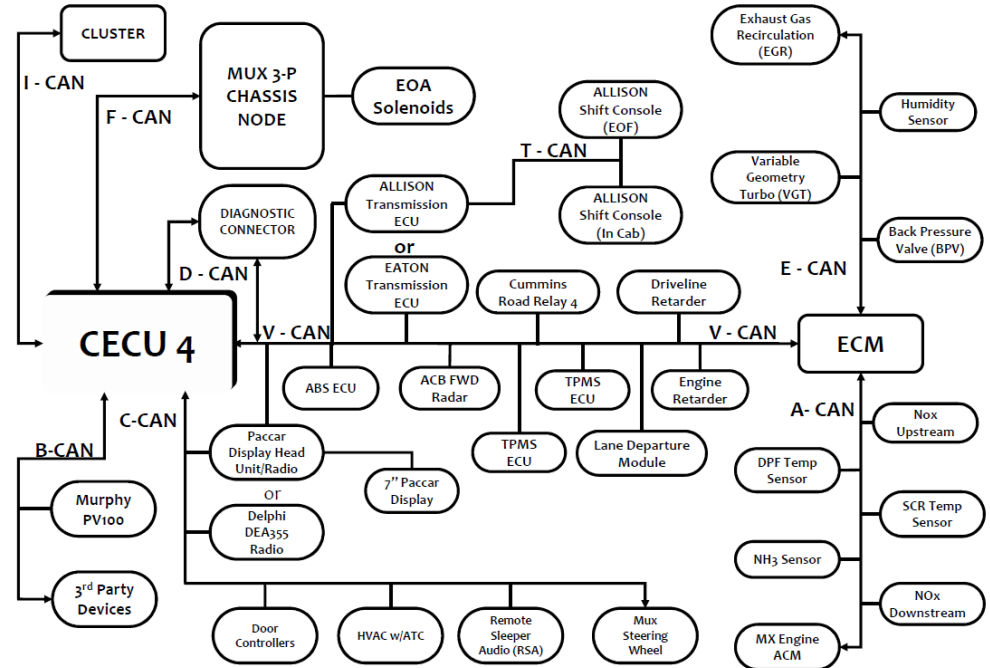
<b>Technical data</b>	This code relates to a communication issue and not to a specific component.							
<b>Possible causes</b>	<ul style="list-style-type: none"> <li>E-CAN communication</li> <li>Faulty EGR valve module</li> </ul>							
<b>Additional information</b>	The EGR valve actuator is a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.							
<b>Diagnostic Step-by-Step</b>	<p> Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p> <p> <ul style="list-style-type: none"> <li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li> <li>For specific electrical component information and pinout locations, always refer to the technical data.</li> <li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li> <li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li> </ul> </p> <table border="1"> <thead> <tr> <th>Step 1</th><th>Step ID 1572a</th><th>SRT</th></tr> </thead> <tbody> <tr> <td colspan="3"> <b>Visual Inspection</b>  OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure. </td></tr> </tbody> </table>		Step 1	Step ID 1572a	SRT	<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		
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Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>					
	<div>Back to Index</div>					

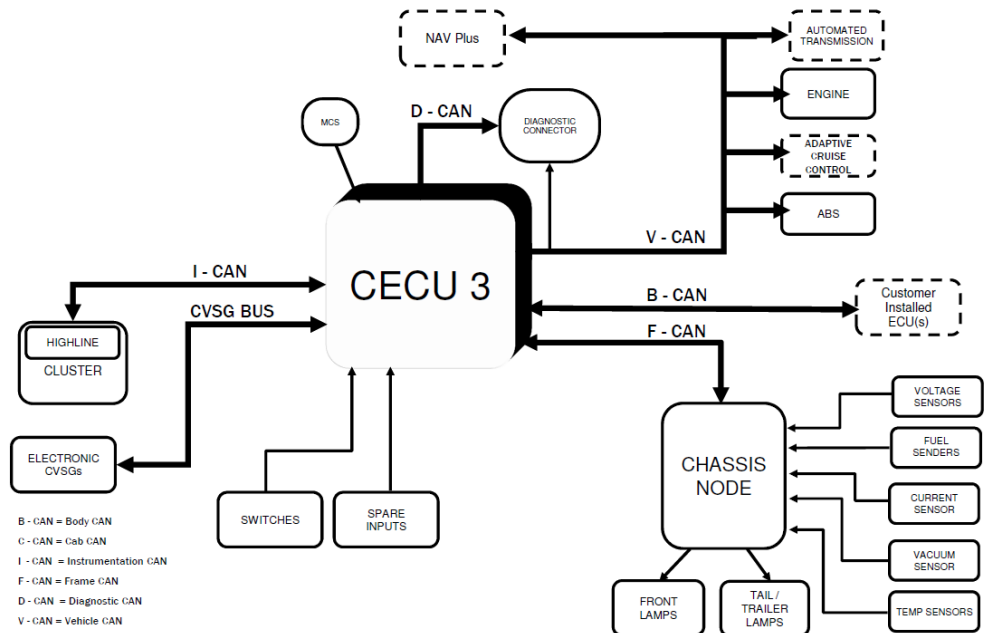
## U1573

<b>Code number</b>	U1573
<b>Fault code description</b>	EGR valve module position – Data erratic, intermittent, or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the EGR valve module (L095) that contains an out-of-range value for the actuator shaft position.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.
<b>Electrical diagram(s)</b>	<p style="text-align: center;"><b><i>NAMUX 3 Architecture: 2010 B-Cab</i></b></p> <p>The diagram illustrates the NAMUX 3 Architecture for a 2010 B-Cab. The central component is the CECU 3 (Engine Control Unit). It is connected to various vehicle systems via CAN buses and other interfaces:</p> <ul style="list-style-type: none"> <li><b>Diagnostic CAN:</b> Connects CECU 3 to the Diagnostic Connector and MCS (Monitoring Control System).</li> <li><b>Vehicle CAN:</b> Connects CECU 3 to the ABS, PACCAR Display, and Chassis Node.</li> <li><b>Engine CAN:</b> Connects CECU 3 to the Engine, Adaptive Cruise Control, and VGT Actuator.</li> <li><b>Aftertreatment CAN:</b> Connects CECU 3 to the After-treatment DCU.</li> <li><b>Chassis Node:</b> Connects CECU 3 to the Chassis Node, which manages Front Lamps, Tail / Trailer Lamps, and various sensors (Voltage, Fuel, Current, Pressure, Vacuum, Temp).</li> <li><b>Other Connections:</b> CECU 3 is also connected to the Steering Wheel, Cluster, Instrumentation CAN, CVSG BUS, Electronic CVSG's, Switches, and Spare Inputs.</li> </ul> <p>Firewalls are indicated between the Diagnostic CAN and Vehicle CAN, and between the Vehicle CAN and Chassis Node.</p>

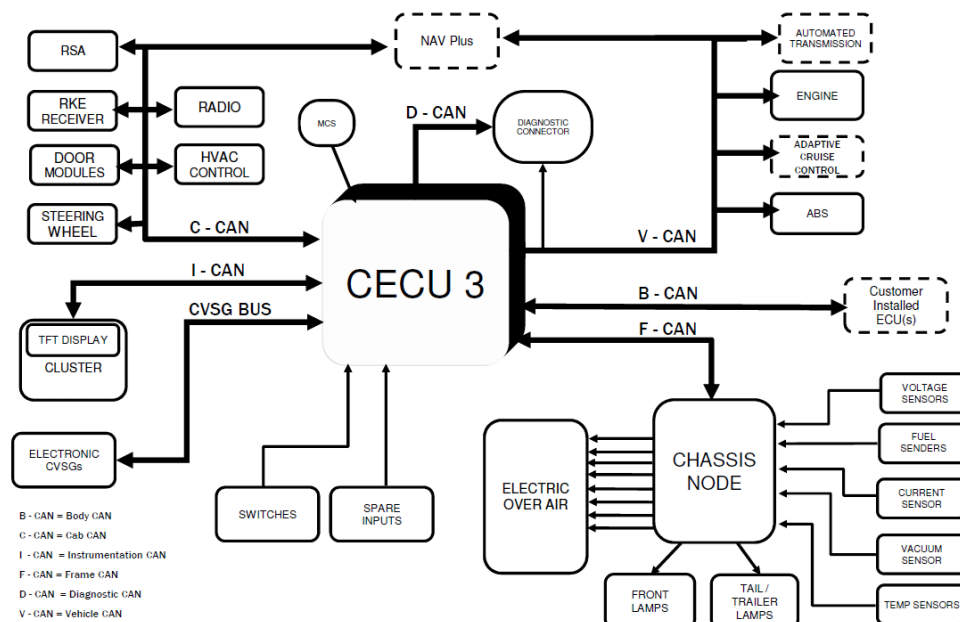
## NAMUX 4 Architecture (Phase 1): T680





## NAMUX 3 Architecture



## NAMUX 4 Architecture



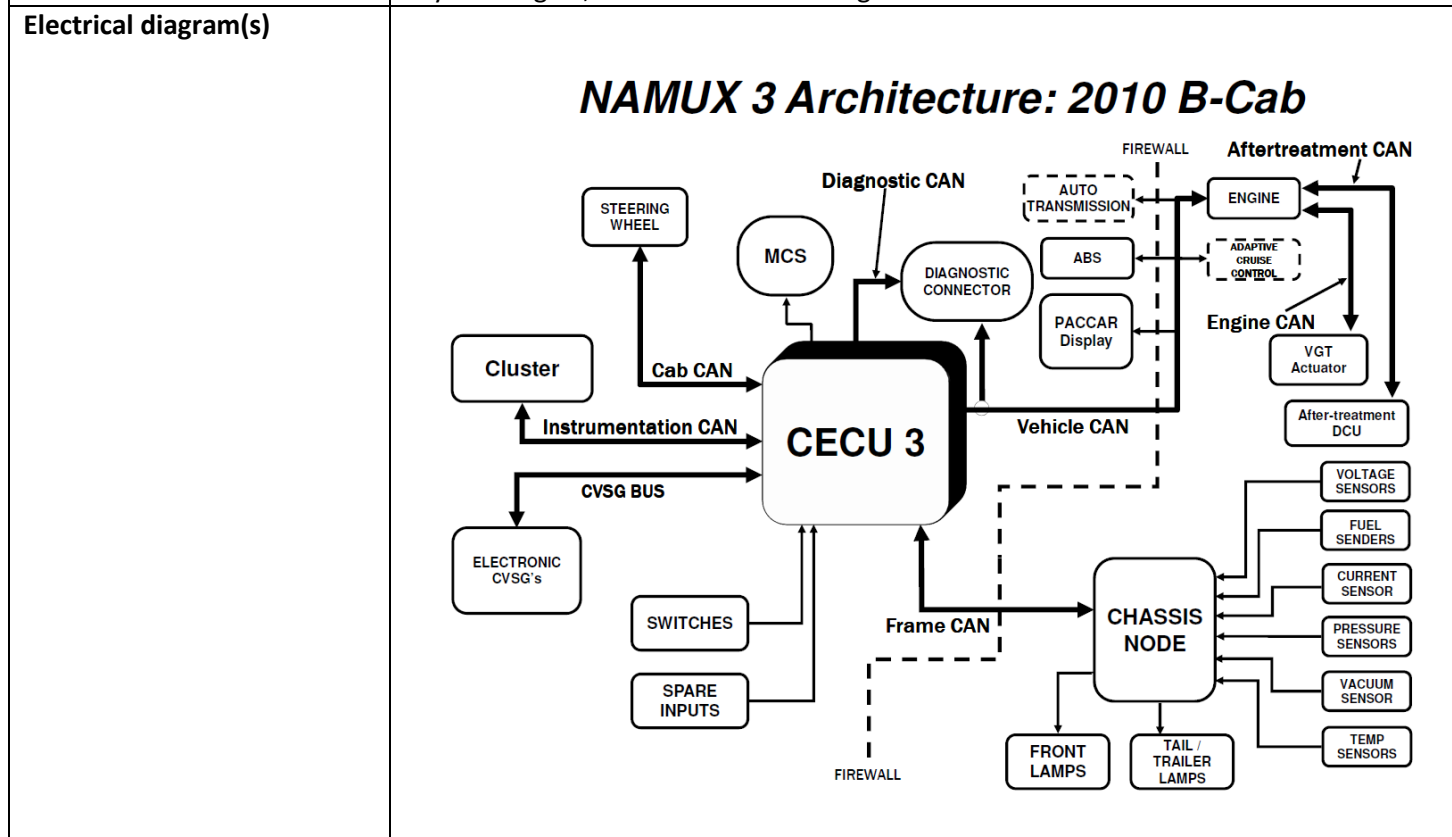
Technical data	This code relates to a communication issue and not to a specific component.								
Possible causes	<ul style="list-style-type: none"><li>E-CAN communication</li><li>Faulty EGR valve module</li></ul>								
Additional information	<ul style="list-style-type: none"><li>The EGR valve actuator is a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.</li><li>The position of the actuator shaft, and therefore the position of the EGR valve, is monitored.</li></ul>								
Diagnostic Step-by-Step	<div><div><p>Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.</p></div><div><ul style="list-style-type: none"><li>Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.</li><li>For specific electrical component information and pinout locations, always refer to the technical data.</li><li>It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.</li><li>Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.</li></ul></div></div> <table><tr><td>Step 1</td><td>Step ID 1573a</td><td>SRT</td></tr><tr><td colspan="3">Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins)</td></tr></table>			Step 1	Step ID 1573a	SRT	Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins)		
Step 1	Step ID 1573a	SRT							
Visual Inspection OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins)									

	<p>damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.</p> <p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"> <li>• No: Proceed to step 2.</li> <li>• Yes: Make the appropriate repairs or component replacements.</li> </ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"> <li>• If this related fault is no longer active, then this issue has been resolved.</li> <li>• If this related fault is still active, Proceed to step 2</li> </ul>		
	Step 2	Step ID 1573b	SRT
	<p>Data check</p> <ul style="list-style-type: none"> <li>• Lookup the technical data of the specific system</li> <li>• Perform the checking data test of the specific component</li> </ul> <p>Is test pass?</p> <ul style="list-style-type: none"> <li>• No: Proceed to step 3</li> <li>• Yes : Proceed to step 4</li> </ul>		
	Step 3	Step ID 1573c	SRT
	<p>Repair or replace component</p> <ul style="list-style-type: none"> <li>• Repair or replace the component, also check for electrical connection and wiring harness.</li> <li>• Reconnect the connector</li> <li>• ON the ignition key</li> </ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"> <li>• Is DTC fault active: Proceed to step 4</li> <li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li> </ul>		
	Step 4	Step ID 1573d	SRT
	<p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>		
<b>Verification Drive Cycle</b>	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>		
	<p><a href="#">Back to Index</a></p>		

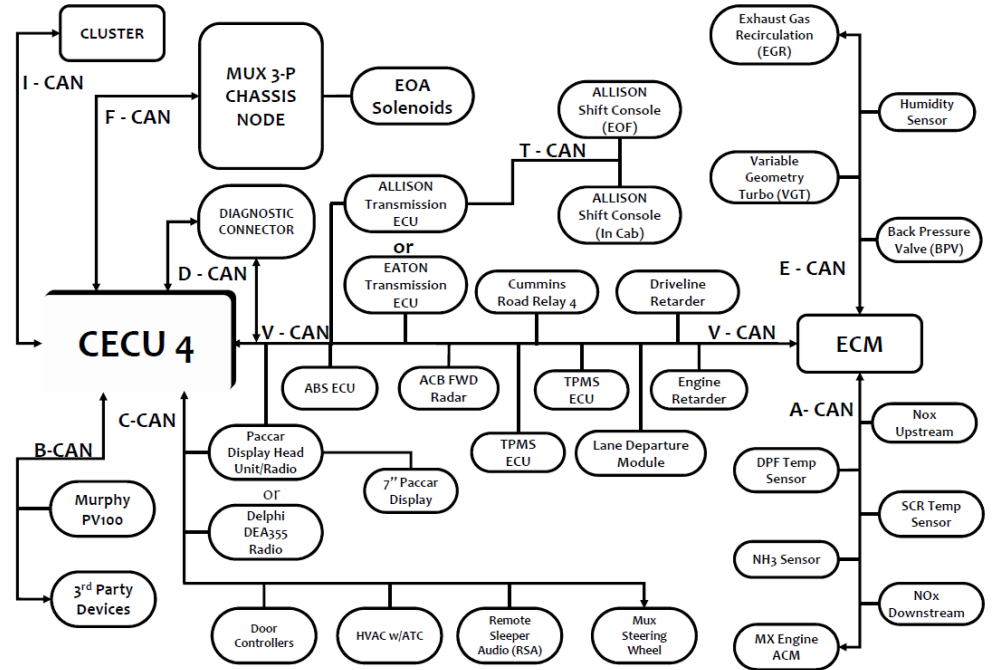


# U1574

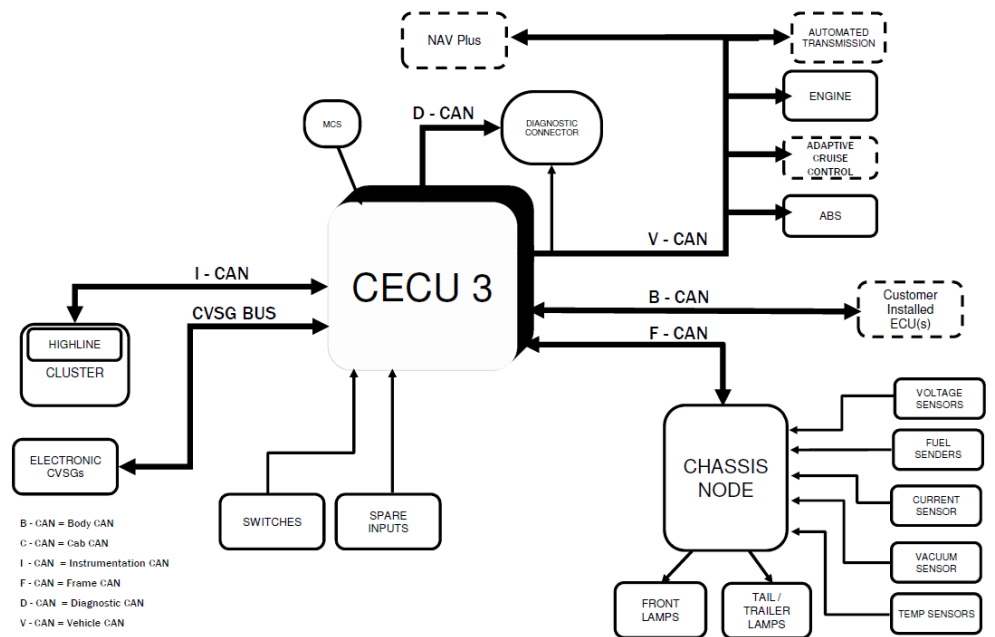
<b>Code number</b>	U1574
<b>Fault code description</b>	EGR valve module temperature – Data erratic, intermittent, or incorrect
<b>Fault code information</b>	1 trip MIL 3 drive cycle recovery Readiness group – None Freeze frame type – Generic
<b>Description of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Location of component(s)</b>	This code relates to a communication issue and not to a specific component.
<b>Diagnostic condition</b>	This diagnostic runs continuously when the ignition is on.
<b>Set condition of fault code</b>	The PCI ECU (D420) receives a CAN message from the EGR valve module (L095) that contains an out-of-range value for the actuator temperature.
<b>Reset condition of fault code</b>	This DTC changes to inactive after the ignition is keyed off for at least 15 seconds, keyed on again, and the fault is no longer detected.



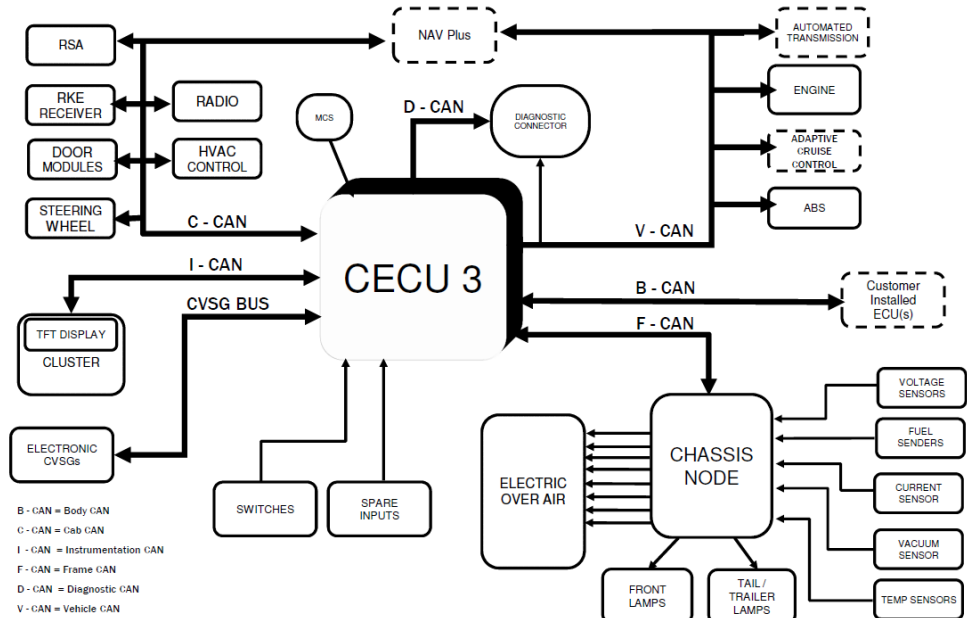
## NAMUX 4 Architecture (Phase 1): T680



## NAMUX 3 Architecture



## NAMUX 4 Architecture



### Technical data

This code relates to a communication issue and not to a specific component.

### Possible causes

- E-CAN communication
- Faulty EGR valve module

### Additional information

- The EGR valve actuator is a smart actuator that communicates with the PCI ECU via E-CAN. The actuator ECU is controlled by the PCI ECU but has its own diagnostics.
- The temperature is measured on the (printed circuit board) of the actuator.

### Diagnostic Step-by-Step



Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and harnesses. Back probing is not recommended, as it could damage the harness. The ignition should always be in the OFF position when connecting or disconnecting electrical components in order to reduce the likelihood of damage to electrical components.



- Disconnecting the EAS connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pinout locations, always refer to the technical data.
- It is necessary to exit the fault code menu in DAVIE and run the diagnostic test again to identify a change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive fault codes. Refer to the 'possible causes' section.

Step 1	Step ID 1574a	SRT
<b>Visual Inspection</b> OFF the ignition key, disconnect the connector from component and ECU. Visually inspect all applicable connectors (bent, broken, corroded or loose pins) damage to wire harness, sign of exhaust leaks during each step of the diagnostic procedure.		

	<p>Was there evidence of any of the above?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 2.</li><li>• Yes: Make the appropriate repairs or component replacements.</li></ul> <p>Use DAVIE to re-check for the presence of active faults.</p> <ul style="list-style-type: none"><li>• If this related fault is no longer active, then this issue has been resolved.</li><li>• If this related fault is still active, Proceed to step 2</li></ul>					
	<table><tr><td>Step 2</td><td>Step ID 1574b</td><td>SRT</td></tr></table> <p>Data check</p> <ul style="list-style-type: none"><li>• Lookup the technical data of the specific system</li><li>• Perform the checking data test of the specific component</li></ul> <p>Is test pass?</p> <ul style="list-style-type: none"><li>• No: Proceed to step 3</li><li>• Yes : Proceed to step 4</li></ul>			Step 2	Step ID 1574b	SRT
	Step 2	Step ID 1574b	SRT			
	<table><tr><td>Step 3</td><td>Step ID 1574c</td><td>SRT</td></tr></table> <p>Repair or replace component</p> <ul style="list-style-type: none"><li>• Repair or replace the component, also check for electrical connection and wiring harness.</li><li>• Reconnect the connector</li><li>• ON the ignition key</li></ul> <p>Use DAVIE to re-check for the presence of active faults:</p> <ul style="list-style-type: none"><li>• Is DTC fault active: Proceed to step 4</li><li>• Is DTC fault inactive: Issue resolved. Clear inactive fault</li></ul>			Step 3	Step ID 1574c	SRT
Step 3	Step ID 1574c	SRT				
<table><tr><td>Step 4</td><td>Step ID 1574d</td><td>SRT</td></tr></table> <p>For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the Engine Support Call Center at 1-800-477-0251.</p>			Step 4	Step ID 1574d	SRT	
Step 4	Step ID 1574d	SRT				
Verification Drive Cycle	<p>To verify the repair:</p> <p>With the brakes set, turn the key to the ON position with the engine off, and allow 10 seconds for the system to initialize and run diagnostics.</p> <p>With the brakes set, start the engine and allow it to run at idle for 2 minutes.</p>					
	<div>Back to Index</div>					