

# TECHNICAL BULLETIN

Ref Document No.	TB15001	Issue No.	1
Subject	Display module software upgrade		
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### Purpose

To advise COALTRAM® owners of the MONEx Display module software V1.12 upgrade. This Display module V1.12 software reduces the response time and shuts down the DES when there is a disconnect message from the Accelerator pedal position sensor.

### Applicability

Applies to all COALTRAM® vehicles

### Background

The MONEx engine management system has the built in feature in the event of a loss of signal from the accelerator pedal position sensor. The MONEx display module will register the fault in the event log, give an audible alarm and display the 'disconnect' on the screen within 2 seconds. The engine will return to idle within another 8 seconds under the control of the existing ECU.

During these 10 seconds the ECUEX consistently resets the sensor to try and re-establish the connection.

Where the Accelerator pedal position sensor signal is re-established the engine will respond the input given.

If the Accelerator pedal position sensor experiences a short circuit the COALTRAM® will shut down applying the park brake. An audible alarm will sound and the MONEx display module screen will give a visual fault response.

PPK was issued with an Improvement Notice to investigate the time delay between registering the Accelerator pedal position sensor disconnect and the engine returning to idle.

**Findings**

PPK reduced the time to return the DES to idle if the signal between the Accelerator pedal position sensor and ECUEX is lost.

Also replacing the 'return to idle' function to a 'DES shutdown' function.

PPK added functionality to shut down the DES if the Accelerator pedal position sensor signal is lost. Instead of taking 10 seconds for the DES to return to idle it now takes 3 seconds to shut down the DES.

A Shutdown system message is now generated from the MONEX display module as soon as the accelerator pedal position sensor 'disconnect' message is received by the ECUEX. The ECUEX DES shutdown response is less than 3 seconds.

The software upgrade was machine tested numerous times in each case it took less than 3 seconds for the system to shut down the DES.

PPK conducted a 12010 MONEX System Acceptance test report to verify that the display module software upgrade V1.12 changes have no side effects on the rest of the system.

PPK also conducted an FMEA on the COALTRAM® Accelerator pedal position sensor assembly.

Indicating that failing due to a mechanical issue such as sticking results in a far greater risk priority number than the throttle failing through an electrical fault.

**Recommendations**

PPK recommends ALL COALTRAM® owners / end users update there MONEX Display Module to the new V1.12 software.

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