

OmniTRACS Mobile Communications System Critical Event Reporting Installation Guide

Introduction

Critical Event Reporting (CER) is the OmniTRACS mobile communications system feature that captures and reports critical event information (e.g., hard braking, vehicle speed, location, stability control (VDC), lane departure warning (LDW), and panic button events), to the customer before and after the event occurs. The event information is sent from the OmniTRACS system over-the-air to the Omnitrac network management center (NMC) where it is made available to the customer for analysis.

This document contains information regarding the CER requirements, installation instructions, and a system verification procedure to ensure the feature is working properly with the OmniTRACS system.

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If you have technical questions about CER, please contact Omnitrac Customer Support. Customer Support is staffed 24 hours a day, 365 days a year:

In the United States, call 800-541-7490
In Canada, call 800-863-9191

Critical Event Reporting Features

Feature Requirements

The following list specifies the requirements necessary to operate the CER feature on the OmniTRACS system:

- The CER feature is enabled at the Omnitrac's NMC.
- The minimum firmware required to use the CER feature on the mobile communication terminal (MCT)/Integrated mobile communication terminal (IMCT) is 16.75/76.
- The minimum Memory Enhanced-IMCT (ME-IMCT) firmware required to use the CER feature on the IMCT is 18.38.
- If VDC event information is needed:
 - The minimum firmware required to use the CER feature on the MCT/IMCT is 16.83/84.
 - The minimum ME-IMCT firmware required to use the CER feature is 18.42.
- If LDW event information is needed:
 - The minimum firmware required to use the CER feature on the MCT/IMCT is 16.87/88.
 - The minimum ME-IMCT firmware required to use the CER feature is 18.46.
- If panic button event information is needed:
 - The minimum firmware required to use the CER feature on the MCT/IMCT is 16.87/88.
 - The minimum ME-IMCT firmware required to use the CER feature is 18.46.

Feature Details

The following information provides details about CER and how it works with Omnitrac's mobile communication system and the NMC to record events.

- The CER feature records a set of predefined data for the five minute period *before* a critical event occurs and the two minute period *after* a critical event is triggered.
- Critical events can be triggered by:
 - a hard brake event
 - a VDC event
 - an LDW event
 - a panic button event
 - manually pressing the "Shift" and the "!" keys on the display for firmware versions 16.75/76 and 18.38/18.42, or

- manually pressing the “Shift” and the “T” keys on the display for firmware versions 16.77/78 and 18.46.
- Depending on the firmware version, some of the feature parameters for hard braking, VDC, and LDW can be customer-configured at the NMC.
- The (SensorTRACS) Performance Monitoring system feature is not required for CER.
- The “hard brake” feature in the Performance Monitoring system does not have to be enabled in order for the CER feature to operate.
- The Performance Monitoring system is needed *only* if the driver ID is required.

Critical Event Reporting Installation Instructions

In order for the CER feature to function, the J1708 wires need to be connected. Please refer to the following steps to connect the J1708 wires.

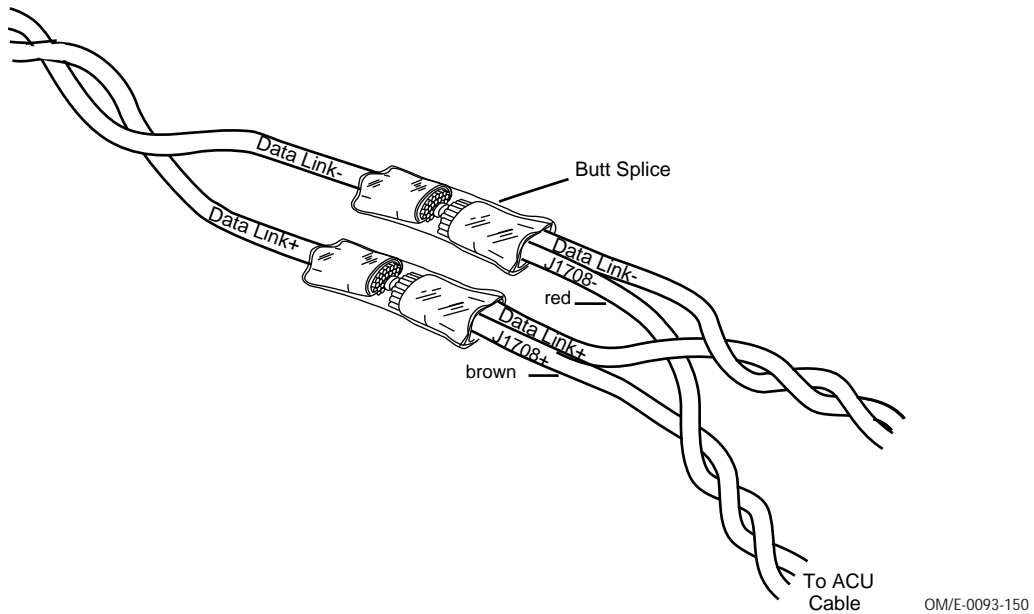
Connecting J1708 Data Link Wires

1. Verify that the engine ignition switch is OFF.
2. Locate the engine data diagnostic connector. It may be below the dash near the driver’s left knee area.
3. The data link wires to the engine data diagnostic connector are a twisted pair that should remain twisted after the installation is complete. Consult the manufacturer’s wiring diagrams to identify the wires. (Some are marked DATA+ and DATA- or D/L+ and D/L-, and some are marked with numbers or colors). Note which wire is plus (+) and which is minus (-).

Note

To avoid confusion, cut and splice the positive wires first and then the negative wires. Because there usually is not much slack in the engine data diagnostic connector wires, be careful in cutting and splicing to them.

4. Splice the brown J1708+ wire from the ACU cable to the DATA+ wire of the data link. Reconnect the wires as shown in the following illustration.



5. Repeat the procedure in [step 3](#). to splice the red J1708- wire to the DATA- wire of the engine data diagnostic connector.
6. Stow and secure any loose wires, making sure to keep the wires clear of sharp edges and away from panels and moving parts such as throttle and brake linkage. Maintain wire twists as close to the splice as possible.

Critical Event Reporting System Verification

If you are using an MCT/IMCT with firmware version 16.75/76 or an ME-IMCT with firmware version 18.38/18.42, perform [System Verification for MCT/IMCT Firmware Versions 16.75/76 and ME-IMCT Firmware Version 18.38/18.42](#) on page 5.

If you are using an MCT/IMCT with firmware version 16.87/88 or an ME-IMCT with firmware version 18.46, perform [System Verification for MCT/IMCT Firmware Versions 16.87/88 and ME-IMCT Firmware Version 18.46](#) on page 7.

System Verification for MCT/IMCT Firmware Versions 16.75/76 and ME-IMCT Firmware Version 18.38/18.42

Refer to the display screens that follow when performing the system verification.

1. If Performance Monitoring *is* enabled, go to the J1708 installer screen (see the following screen) on the display. If Performance Monitoring *is not* enabled, go directly to [step 2](#).

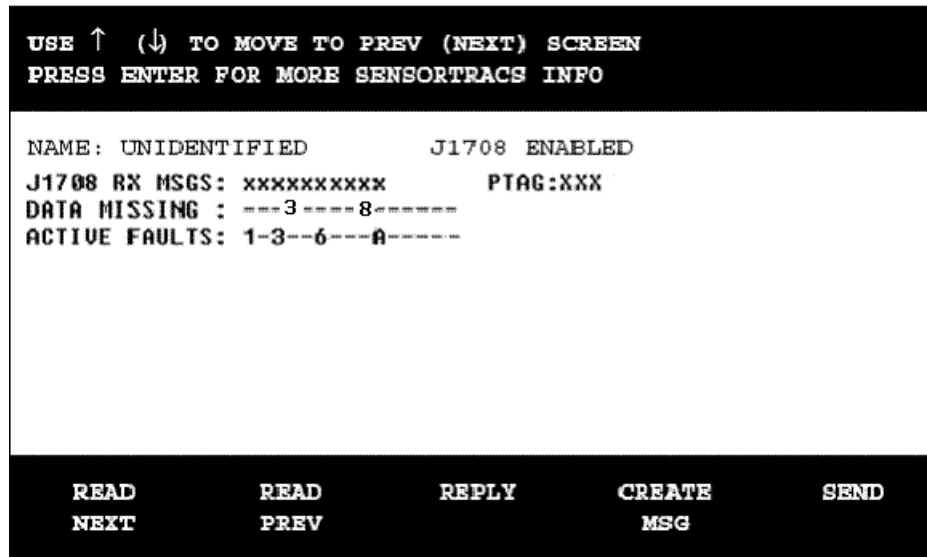
With the ignition turned ON, verify the following:

- Check the J1708 RX MSGS field value. This value should be a constantly increasing number when the engine is running. If the number is rapidly increasing, you are receiving J1708 messages. If the number is not rapidly increasing, you are not receiving J1708 messages, and you need to recheck the installation.
- Check the DATA MISSING field value. If this value says 012345678, recheck the connections to the J1708 data bus.
- If 7 is present on the DATA MISSING line then “parking brake status” information is not given in the CER event record.

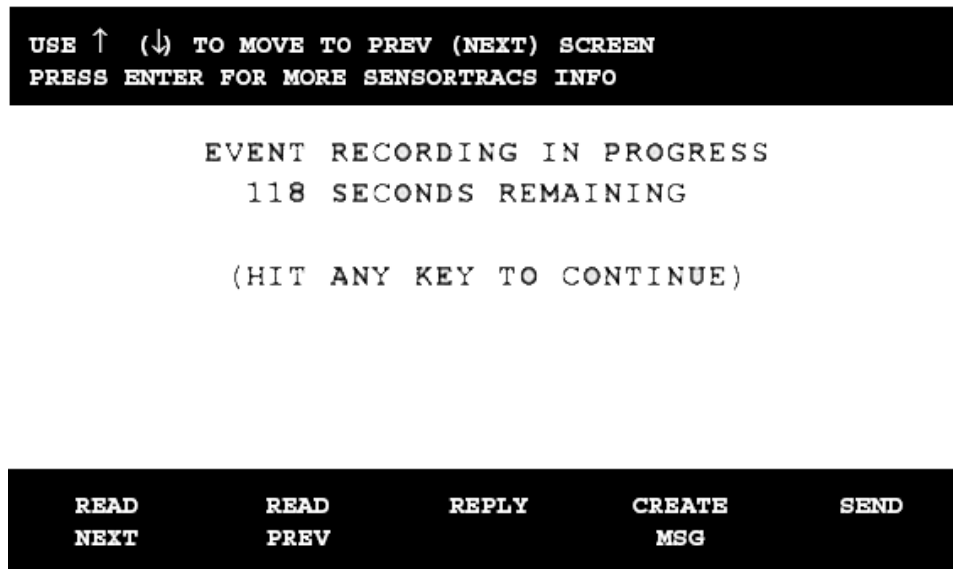
Note

Some vehicles do not provide parking brake status and, although this data is not reported with other event data, CER still functions without it.

- The number 9 (MID 136/PID 151) appearing on the DATA MISSING line signifies that the VDC trigger feature is not working.



2. Create a CER event: With the MCT/IMCT powered on, press the “Shift” and “!” keys on the display.
3. The following screen should appear, alerting you that a CER event has just been triggered.



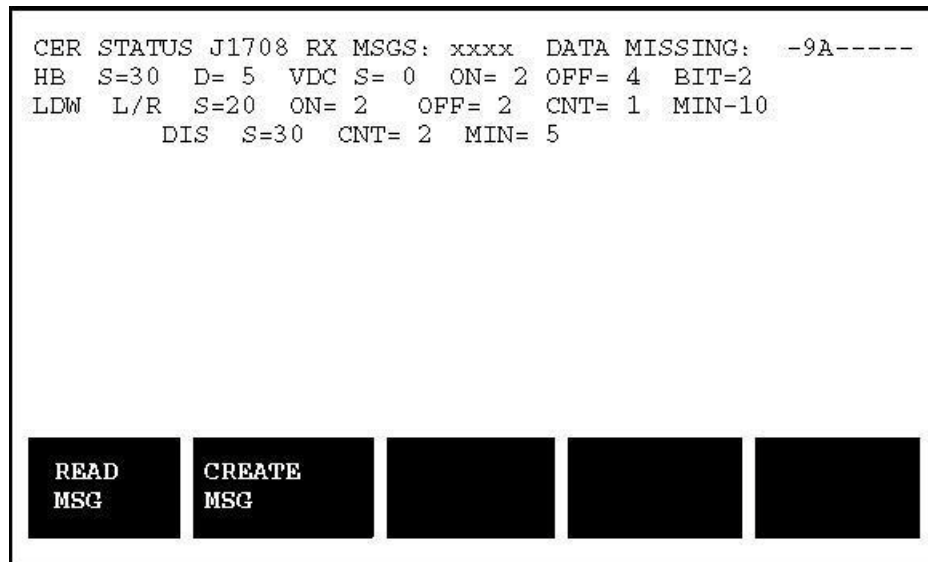
- The number counts down from 120 seconds and then the CER message is sent to the NMC.
- If the CER event screen does not appear, consider the following:

- The CER feature may not be enabled for the MCT/IMCT being verified. Verify the MCT/IMCT is enabled for CER by calling Omnitrac's Customer Support. In the United States, call 800-541-7490; in Canada, call 800-863-9191.
- Verify that the minimum firmware versions for MCT/IMCT or ME-IMCT are running on the system. See [Feature Requirements on page 2](#).
 - Verify that the host receives the CER event message and that data is present. If data is not present, recheck the connections to the J1708 data bus.
- If the message is not received at the host application, then the NMC account could be set up incorrectly. Call Omnitrac's Customer Support. In the United States, call 800-541-7490; in Canada, call 800-863-9191.

System Verification for MCT/IMCT Firmware Versions 16.87/88 and ME-IMCT Firmware Version 18.46

Refer to the display screens that follow when performing the system verification.

1. Press the "C" key to access the CER status screen. The status screen shown below has VDC and LDW enabled.
 - If the CER status screen does not display, call the NMC to have it enabled.



The various screen fields are described below.

Field	Value
CER STATUS J1708 RX MSGS	The value should be a constantly increasing number when the engine is running. If the number is rapidly increasing, you are receiving J1708 messages. If the number is not rapidly increasing, you are not receiving J1708 messages, and you need to recheck the installation.
DATA MISSING	Signifies certain types of critical events that are <i>not supported</i> on the vehicle. If “9” appears, then VDC event triggers are not supported. If “A” appears, then LDW event triggers are not supported.
HB	Hard brake is enabled/disabled.
S	Speed at which mobile unit detects hard brake events.
D	The rate of deceleration that triggers a hard brake event (Default = 9MPH/SEC).
VDC	Stability control is enabled/disabled.
S	Speed at which mobile unit detects VDC messages.
ON	Number of ATC (PID 151) “on” messages that must be seen in a row before a VDC event is considered to be in progress.
OFF	Number of ATC (PID 151) “off” messages that must be seen in a row before a VDC event is considered to have ended.
BIT	Setting that determines which bits the mobile unit tracks to detect VDC events. 0 = track brake bits only 1 = track engine bits only 2 = track brake or engine bits 3 = track brake and engine bits Default = 2
LDW L/R	Left/right lane departure enabled/disabled.
S	Speed at which mobile unit detects LDW L/R messages.

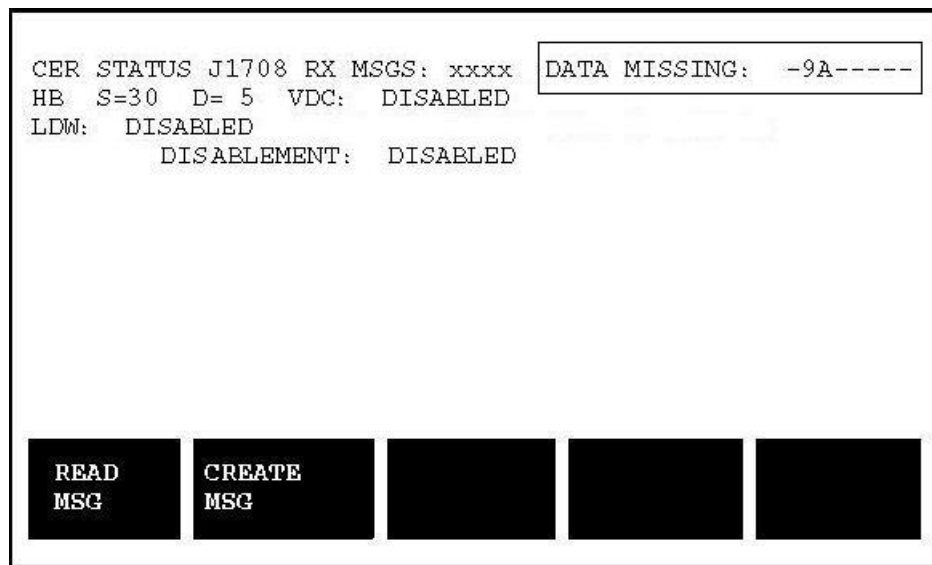
Field	Value
ON	Number of L/R LDW (PID 368) "on" messages that must be seen in a row before an LDW event is considered to be in progress.
OFF	Number of L/R LDW (PID 368) "off" messages that must be seen in a row before an LDW event is considered to have ended.
CNT	Number of LDW L/R messages within time window before mobile unit over the air (OTA) notification is sent.
MIN	Time window in minutes in which if LDW L/R event count is met unit sends an OTA notification.
DIS	LDW disablement enabled/disabled.
S	Speed at which mobile unit detects LDW disablement messages.
CNT	Number of LDW disablement messages within time window before mobile unit OTA notification is sent.
MIN	Time window in minutes in which if LDW disablement event count is met unit sends an OTA notification.

With the ignition turned ON, verify the following:

- Check the J1708 RX MSGS field value. This value should be a constantly increasing number when the engine is running. If the number is rapidly increasing, you are receiving J1708 messages. If the number is not rapidly increasing, you are not receiving J1708 messages, and you need to recheck the installation.
- Check the DATA MISSING field value.

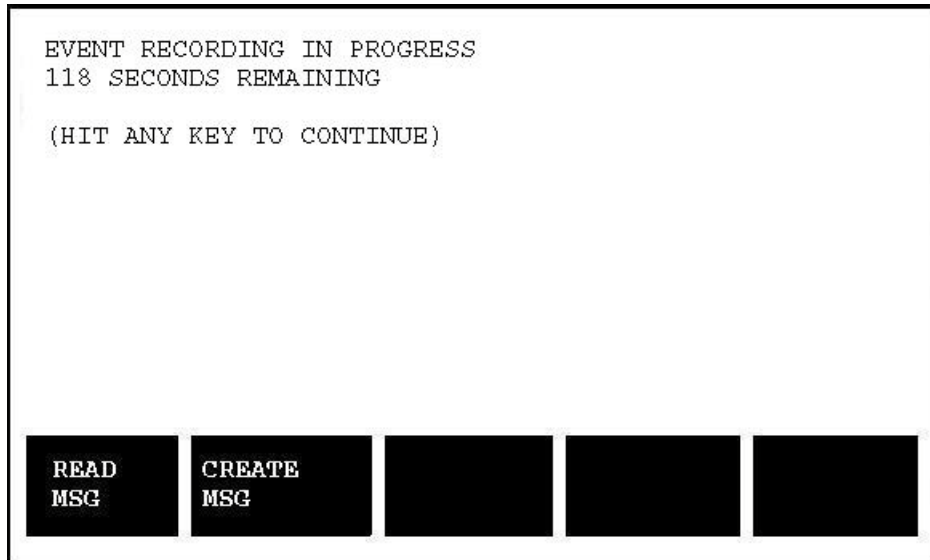
If the number 9 (MID 136/PID 151) is present on the DATA MISSING line, the VDC trigger feature is not working.

If the letter A (MID 248, PID 368) is present on the DATA MISSING line, the LDW trigger feature is not working.



2. Create a CER event: With the MCT/IMCT powered on, press the “Shift” and “T” keys on the display.

3. The following screen should appear, alerting you that a CER event has just been triggered.



- The number counts down from 120 seconds and then the CER message is sent to the NMC.
- Verify that the host receives the CER event message and that data is present. If data is not present, recheck the connections to the J1708 data bus.
- If the message is not received at the host application, then the NMC account could be set up incorrectly. Call Omnitrac's Customer Support. In the United States, call 800-541-7490; in Canada, call 800-863-9191.

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