ELD Malfunctions & Diagnostics Events: FMCSA Codes & Explanations

ELD Technical Requirements

According to the ELD Technical Standard Section 4.6, an ELD must have the capability to monitor its compliance with the technical requirements for detectable malfunctions and data inconsistencies listed below in Table 4.

The ELD must also keep records of its malfunction and data diagnostic event detection.

Table 4

Standard Coding for Required Compliance Malfunction and Data Diagnostic Event Detection

Malfunction/Diagnostic Code	Description
P	Power compliance malfunction
E	Engine synchronization compliance malfunction
T	Timing compliance malfunction
L	Positioning compliance malfunction
R	Data recording compliance malfunction
S	Data transfer compliance malfunction
O	Other ELD detected malfunction
1	Power data diagnostic event
2	Engine synchronization data diagnostic event
3	Missing required data elements data diagnostic event
4	Data transfer data diagnostic event
5	Unidentified driving records data diagnostic event
6	Other ELD identified diagnostic event

What are Data Diagnostics & Malfunction Events?

ELD Malfunctions indicate that something is wrong with the device and will require you to resolve the issue. Otherwise, you will need to re-produce the last 7 days (US) of logs on paper.

- Depending on your Role in BigRoad, there are additional responsibilities that must be followed.
- These malfunctions will show during roadside inspections on the Mobile App and can also be sent for an audit to the FMCSA.

Data Diagnostics are active warnings that indicate something <u>may</u> be wrong, but you do not need to switch to paper logs.

- Some events will start as a data diagnostic event and progress to a malfunction, if not corrected.
- Data diagnostics represent an issue that happened in a specific moment and can auto correct when that moment has passed.

ELD Malfunction Events:

In the latest update made to the BigRoad applications, any active or previously recorded malfunction events will be shown with their Code, Description, a detailed explanation and suggestions to resolve them.

The following are the possible malfunction events with their FMCSA explanations and Codes:

➢ **What does Power Compliance Malfunction indicate? (Code P)**

- This malfunction indicates that the Power Data Diagnostic Event shows an understatement of in-motion driving time of 30 minutes or more, over a 24-hour period across all driver profiles recorded for the vehicle, including the unidentified driver profile.
- If the ELD hardware device is properly installed and connected to the vehicle and this malfunction does not resolve, contact BigRoad Customer Support for further assistance.

➢ **What does Engine Synchronization Compliance Malfunction indicate? (Code E)**

- This malfunction indicates that the ELD was unable to retrieve updated values from the engine ECM for the required ELD parameters for more than 30 minutes during a 24-hour period across all driver profiles connected to the vehicle, including the unidentified driver profile.
- If proper installation and connection of the device to the vehicle has been verified and the malfunction does not resolve within 24 hours, contact BigRoad Customer Support for further assistance.

Quick Reference Card

> ***What does Timing Compliance Malfunction indicate? (Code T)***

This malfunction indicates that the ELD time deviates from UTC time by more than 10 minutes.

> ***What does Positioning Compliance Malfunction indicate? (Code L)***

- This malfunction indicates that the ELD has been unable to acquire a valid position measurement for the vehicle for an accumulated time of more than 60 minutes in a 24-hour period.

> ***What does Data Recording Compliance Malfunction indicate? (Code R)***

- This malfunction indicates that the ELD can no longer record or retain required events or retrieve recorded logs that are not otherwise stored remotely.

> ***What does Data Transfer Compliance Malfunction indicate? (Code S)***

- This malfunction indicates that the mechanism for transferring electronic files during a roadside safety inspection was not operational the last few times it was monitored. This could mean that the mobile device running BigRoad may not be connecting to the internet.
- To resolve this malfunction, ensure your device can connect to the internet and remains connected to the internet whenever possible. Data transfer functionality will be monitored again in the next 24 hours.
- If successful, the event will be cleared. If monitoring is not successful, the malfunction will remain.

> ***What does Other ELD Malfunction indicate? (Code O)***

- This malfunction indicates Odometer Warning and can display the following potential messages in BigRoad:

1. **Message for uncalibrated odometer**: BigRoad detected an uncalibrated odometer. DashLink requires a verified odometer in order to produce valid logs. Please verify your odometer by pressing the odometer warning banner on the main page and follow the proceeding prompts.
2. **Message for slow odometer**: BigRoad detected a slow odometer. It is possible the odometer or speed sensor in the vehicle is broken and should be repaired. Please contact your fleet manager to disable DashLink for this truck. In the meantime, you must use paper driver logs.
3. **Message for fast odometer**: BigRoad detected a fast odometer. It is possible the odometer or speed sensor in the vehicle is broken and should be repaired. Please contact your fleet manager to disable DashLink for this truck. In the meantime, you must use paper driver logs

ELD Data Diagnostics Events:

In the latest update made to the BigRoad applications, any Data diagnostic event that is detected, will be shown with their Code, Description, a more detailed explanation of what they mean and possible suggestions to resolve them.

The following are all the currently possible data diagnostic events with their FMCSA explanations and Codes:

> ***What does Power Data Diagnostic Event indicate? (Code 1)***

- This data diagnostic event indicates that the ELD was not fully functional within one minute of the vehicle engine receiving power or it lost power while the vehicle engine was powered.
- Verify proper connection of the device to the vehicle.

> ***What does Engine Synchronization Data Diagnostic Event indicate? (Code 2)***

- This data diagnostic event indicates that the ELD was unable to retrieve updated values from the engine ECM for the required ELD parameters within 60 seconds of needing them.
- Verify proper installation and connection of the device to the vehicle.

Quick Reference Card

➢ **What does Missing Required Data Elements indicate? (Code 3)**

- This data diagnostic event indicates that the required data elements for an ELD event were missing at the time of recording the event.

➢ **What does Data Transfer Data Event indicate? (Code 4)**

- This data diagnostic event is monitored for at least every 7 days and indicates that the mechanism for transferring electronic files during a roadside safety inspection was not operational the last time it was monitored.
- This indicates that the mobile device running BigRoad may not have been connected to the internet when the data transfer monitoring was last done.
- To resolve this data diagnostic event, ensure your device is connected to the internet whenever possible. Data transfer functionality will be monitored again in the next 24 hours.
- If successful, the event will be cleared.
- If monitoring is not successful within the next three tests, a malfunction will be recorded.

➢ **What does Unidentified Driving Records Data Diagnostic Event indicate? (Code 5)**

- This data diagnostic event indicates that more than 30 minutes of driving time for this vehicle during a given 24-hour period was logged against the unidentified driver profile and that unidentified driving has not been claimed or annotated.
- This data diagnostic event will be cleared when driving time logged against the unidentified driver profile drops to 15 minutes or less for the current 24-hour period and the previous 7 days (in the US) / 14 days (in Canada).

Driver & Motor Carrier Responsibilities

Drivers and the Motor carriers of ELD equipped Fleets have the following responsibilities, in the event an ELD Malfunctions:

If an ELD malfunctions, a Motor Carrier must:
1. Correct, repair, replace or service the malfunctioning ELD within 8 days of discovering the condition.
2. If the malfunction cannot be resolved by BigRoad Support, a new MGS or DashLink will be provided. This will depend on your type of account.
3. Require the driver to maintain paper record of duty status (RODS) until the ELD is back in service.
4. If more time is required to resolve the issue, the carrier must notify their State FMCSA Division Administrator as part of S395.34(2). For non-US operators, this can be the nearest State.

If an ELD malfunctions, a Driver must:
1. Call BigRoad Support to troubleshoot the issue.
2. Note the malfunction of the ELD and provide written notice of the malfunction to their motor carrier within 24 hours.
3. Reconstruct paper records of the duty status (RODS) for the current 24-hour period and the previous 7 consecutive days.
4. Continue to manually prepare RODS in accordance with 49 CFR 395.8 until the ELD is serviced and back in compliance

Note: Please refer to the BigRoad Mobile and Web app Quick Reference Guides to review the app enhancements to support the Data Diagnostics & Malfunction Events.