



W Poplin Engineering

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Big Truck Crash?
Questions you need to be asking about the ECM and other electronics



Lab Setup for Software Testing and Bench Downloads

Electronics were introduced into heavy truck engines to control emissions, the powertrain, and monitor the status of engine operations. Some of the functions such as speed, rpm, throttle and brake status are directly applicable to the analysis and reconstruction of an accident.

The name plate on the truck e.g. Freightliner, Volvo, Kenworth, etc. does not identify the engine. If unknown, the engine can be determined from the 17 digit VIN (Vehicle Identification Number). **Caterpillar, Cummins, Detroit Diesel, International, Mack, Volvo, and Mercedes Benz** are the major engine manufacturers.

Heavy truck engine manufacturers use different terminology for their particular module(s). **MCM, VECU, ECU** etc. All refer to the same basic components. Some manufacturers use a single module bolted to the engine. Others use two or even three separate units. These can be located on the engine, frame or in the cab.

There are decisions to be made with respect to "altering" the ECM Data after an

Accident.

Should the vehicle be moved under its own power?

Should power be removed?

If the vehicle has already been driven after the accident, does it matter?

Should a download be attempted on a heavily damaged truck? If so how?

Can the appropriate circuits be repaired?

Can the module be removed and downloaded?

Does downloading alter the data?

Can the module be removed to preserve the data?

The answers vary depending on a) the particular truck and ECM, b) the type of crash and c) what happened to the vehicle/engine during and following the accident.

Many trucks have other electronics that should also be considered.

Is there data in the *ABS or Stability* control systems?

Does the truck have an *airbag* system?

Does the truck have a *GPS unit* and if so what type?

Does the truck have *electronic logs, Qualcomm* or a similar system?

Does the truck have any *collision avoidance systems* such as VORAD?

Does the *trailer* have any *electronic systems*? If so what type?



ECM Units for Lab Testing

Truck Accident Evaluation Tools - UPDATED

[Commercial Summary Sheet - Download capabilities by engine manufacturer](#)

[Commercial ECM Specific Data by Engine - Initial Trigger, Trigger Adjustable, Min Speed, Pre Trigger, Post Trigger, Interval, Dates Available, Last Stop Record](#)



Truck Download

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