

Electronic Control Module

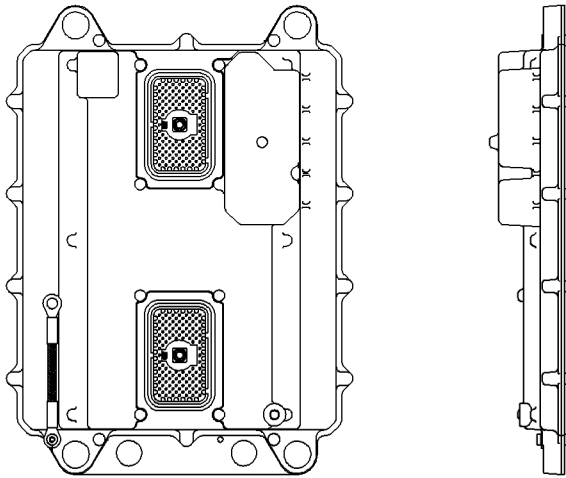


Illustration 59

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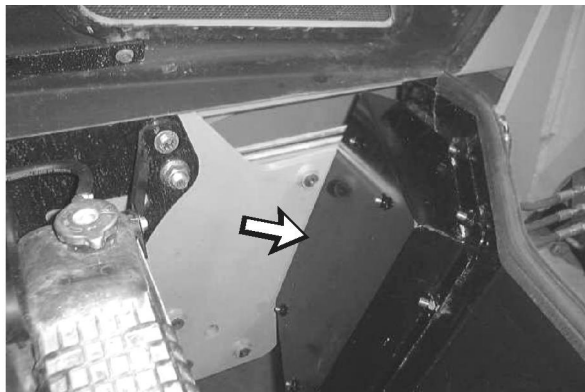


Illustration 60

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The electronic control module is located on the inside of the engine enclosure.

The electronic control module (ECM) makes decisions that are based on input information and memory information. After the ECM receives the input information, the ECM sends a corresponding response to the outputs. The inputs and outputs of the ECM are connected to the machine harness by two 70 contact connectors (J1 and J2). The ECM sends the information to the Caterpillar Electronic Technician on the CAT data link.

Note: The ECM is not serviceable. The ECM must be replaced if the ECM is damaged. Replace the ECM if a failure of the ECM is diagnosed.

Inputs

The inputs describe the status of the machine systems. Two types of inputs exist. The inputs can be either a switch type or a sensor type. Switches provide an open, a ground, or a + battery signal to the inputs of

the controller. Sensors (frequency, pulse width modulation or voltage) provide a changing signal to the sensor inputs of the controller. The inputs to the ECM are listed in table 3 and table 4.

Outputs

The ECM responds to decisions by sending electrical signals to the outputs. The outputs can create an action or the outputs can provide information to the operator or the service technician. The outputs of the machine ECM are listed in table 3 and table 4.

Data Links

The machine ECM supports three data links.

- Cat Data Link
- J1939 CAN Data Link
- PHS CAN Data Link

The three data links are the main structure for the communications between the machine ECM and any other ECM on the machine.

Input/Output

The CAT Electronic Technician (ET) is used in order to provide a connection for the service tool for troubleshooting, testing, and calibrations. The data link is bidirectional. The data link allows the ECM to receive information. The data link allows the ECM to send information.