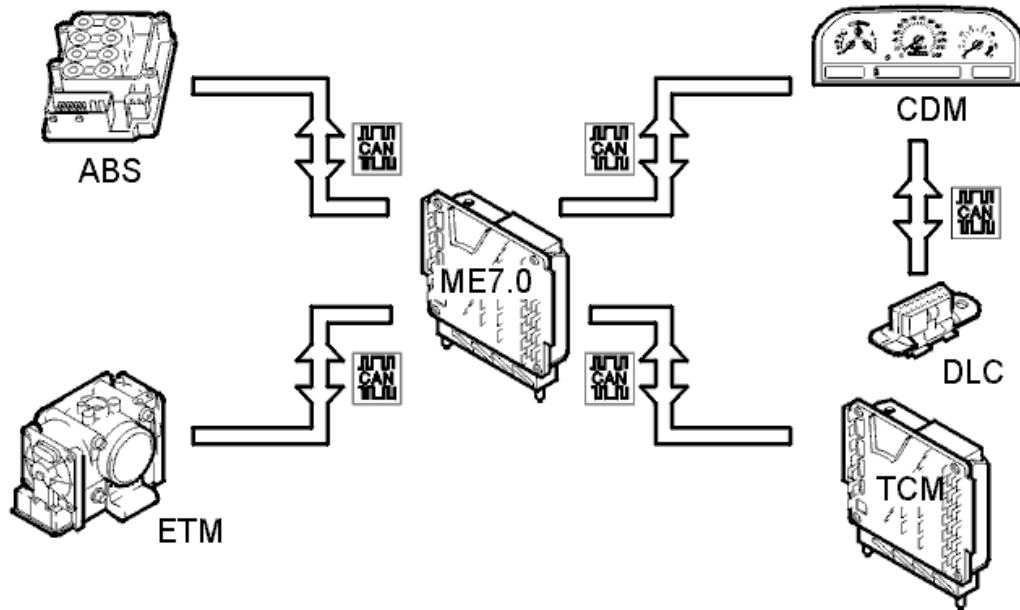


## Communication via network



X70

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### CAN communication

ECM (Engine Control Module) sends out and receives the following signals via the network:

#### Can and Driver information Module (CDM)

Is the "main computer" in the network and sends on required information to other modules. It also controls diagnostic communication by connecting the data link connector (DLC) to the network for programming/downloading and reading off diagnostic trouble codes (DTCs) and parameters.

#### Transmission Control Module (TCM)

The following signals are sent out on the network from the engine control module (ECM) and taken up by the TCM:

- Engine load
- Throttle opening
- Acknowledgement of torque limiting

The following signals are sent out on the network from the Transmission Control Module (TCM) and taken up by the ECM:

- Torque limiting request stage I and II
- Request to operate the malfunction indicator lamp (MIL)

Constant idle speed compensation (D/N)

- Constant idle speed compensation (P/N position) signal

### **Electronic Throttle Module (ETM)**

The following signals are sent out on the network from the electronic throttle module and taken up by the engine control module (ECM):

- Provides information about current throttle position
- Request via engine control module (ECM) to the CAN and Driver module to light the electronic throttle system lamp
- Faults discovered in the electronic throttle module are stored as diagnostic trouble codes (DTCs) in the Engine Control Module (ECM)

### **Anti-lock Braking System (ABS)**

The following signals are sent out on the network from the ABS and taken up by the ECM:

- Vehicle speed signal, (goes via the CAN and driver module first)

### **Data Link Connector (DLC)**

When reprogramming and downloading new software **and fault-tracing with Volvo on-board diagnostic (OBD) system** the initiation request is transferred from VADIS via data link connector (DLC) pin 7 also called C-link Communication link) to the Can and Driver information Module and closing two internal relays and opening communication with the network.

## **Serial communication**

ECM (Engine Control Module) communicates serially with the following:

### **Immobilizer**

The request and exchange of information between the engine control module (ECM) and the Immobilizer.

### **Data Link Connector (DLC)**

The serial communication via the data link connector (DLC) (pin 7, C-line) is only used by the authorities and certain other workshops in the USA/CDN for reading off OBD II codes using the Generic Scan Tool.