

Service Manual: AUXILIARY BRAKE SYSTEM

## DESCRIPTION AND OPERATION > AUXILIARY BRAKE SYSTEM - VEHICLES WITH: TRAILER BRAKE CONTROL - OVERVIEW > TRAILER BRAKE CONTROL

The trailer brake system uses an Electronic Control Unit (ECU) called the TBM to provide variable braking power to the electric-actuated brakes on a towed trailer (1 to 4 axles only). The braking energy provided to the trailer is modulated with a PWM signal that varies between 0 volt and battery voltage, the higher the duty cycle the more braking power available.

## DESCRIPTION AND OPERATION > AUXILIARY BRAKE SYSTEM - VEHICLES WITH: TRAILER BRAKE CONTROL - SYSTEM OPERATION AND COMPONENT DESCRIPTION

System Operation

## DESCRIPTION AND OPERATION > AUXILIARY BRAKE SYSTEM - VEHICLES WITH: TRAILER BRAKE CONTROL - SYSTEM OPERATION AND COMPONENT DESCRIPTION > NETWORK MESSAGE CHART

### TBM Network Input Messages

| Broadcast Message             | Originating Module | Message Purpose                                                                                                          |
|-------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|
| ABS active                    | ABS Module         | When the TBM receives this message, it adjusts the PWM signal sent to the trailer brakes to aid in the ABS event.        |
| ABS fault                     | ABS Module         | Alerts the TBM of possible system failures in the ABS.                                                                   |
| Brake on / off switch         | PCM                | Used to inform the TBM the driver has pressed the brake pedal. The TBM uses this message to activate the trailer brakes. |
| Illumination dimming level    | BCM                | The TBM dims or brightens the display based on current dimming levels.                                                   |
| Trailer brake configuration   | IPC                | This message informs the TBM of the current IPC configuration for trailer brake messages.                                |
| Trailer brake control request | ABS Module         | This message communicates the trailer brake output request to the TBM during a trailer sway or other                     |