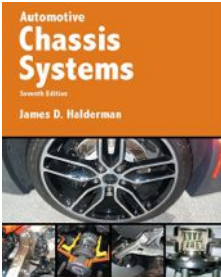


# Automotive Chassis Systems



## CHAPTER 19

### Electronic Stability Control Systems

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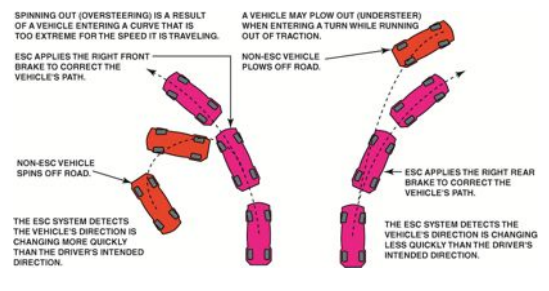
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**FIGURE 19.1** The electronic stability control (ESC) system applies individual wheel brakes to keep the vehicle under control of the driver.



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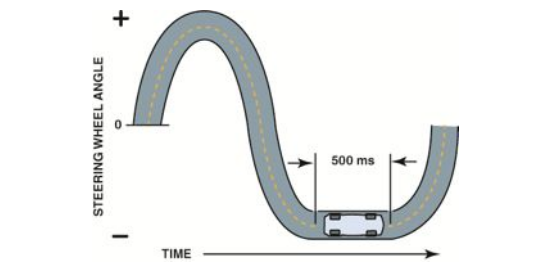
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**FIGURE 19.2** The sine with dwell test is designed to test the electronic stability control (ESC) system to determine if the system can keep the vehicle under control.



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**FIGURE 19.3** Using a simulator is the most cost-effective way for vehicle and aftermarket suspension manufacturers to check that the vehicle is able to perform within the FMVSS No. 126 standard for vehicle stability.



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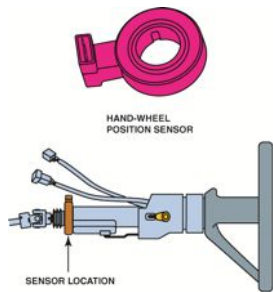
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**FIGURE 19.4** The hand-wheel position sensor is usually located at the base of the steering column.



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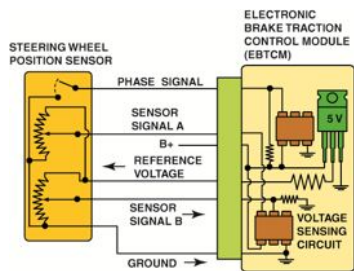
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**FIGURE 19.5** Hand-wheel (steering wheel) position sensor schematic.



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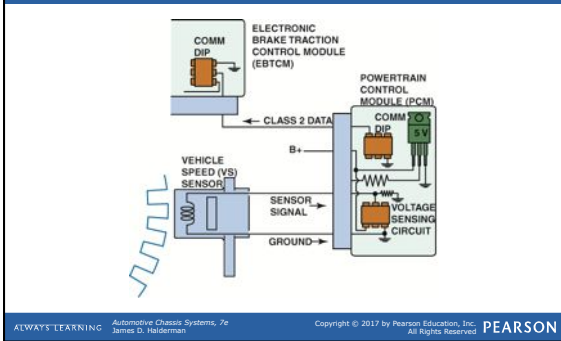
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**FIGURE 19.6** The VS sensor information is transmitted to the EBCM by Class 2 serial data.




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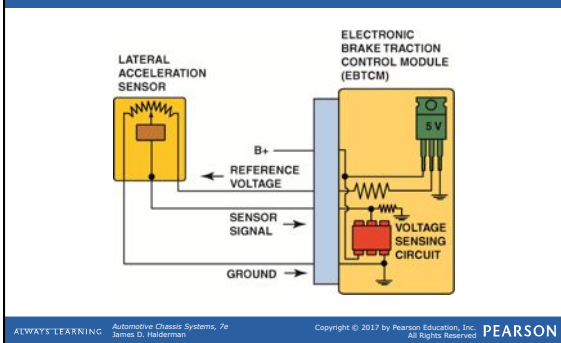
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**FIGURE 19.7** A schematic showing the lateral acceleration sensor and EBCM.




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**FIGURE 19.8** A lateral acceleration sensor is usually located under the center console and can be easily checked by unbolting it and turning it on its side while monitoring the sensor value using a scan tool.




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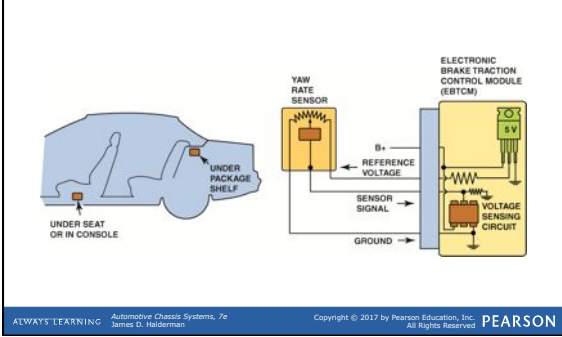
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**FIGURE 19.9** Yaw rate sensor showing the typical location and schematic.



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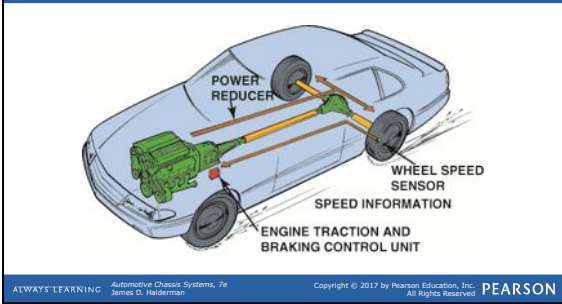
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**FIGURE 19.10** Typical traction control system that uses wheel speed sensor information and the engine controller (PCM) to apply the brakes at lower speeds and also reduce engine power applied to the drive wheels.



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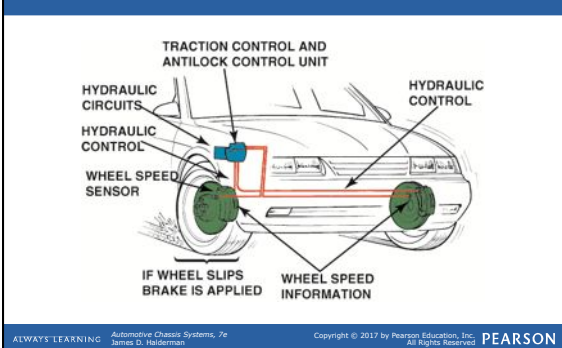
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**FIGURE 19.11** Wheel speed sensor information is used to monitor if a drive wheel is starting to spin.



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**FIGURE 19.12** A traction control or low traction light on the dash is confusing to many drivers.



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**FIGURE 19.13** The use of a factory scan tool is often needed to diagnose the ESC system.



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