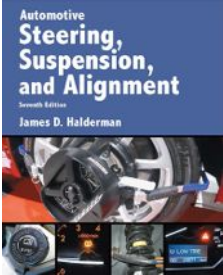


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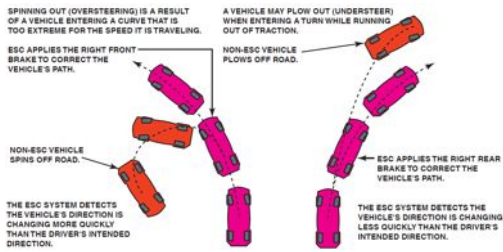


CHAPTER 10

Electronic Stability Control Systems

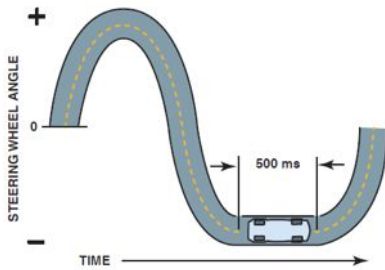
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FIGURE 10.1 The electronic stability control (ESC) system applies individual wheel brakes to keep the vehicle under control of the driver.



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FIGURE 10.2 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.



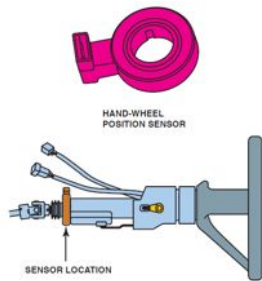
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FIGURE 10.3 Using a simulator is the most cost-effective way for vehicle and aftermarket suspension manufacturers to check that the vehicle is able to perform within the FMVSS No. 126 standard for vehicle stability.



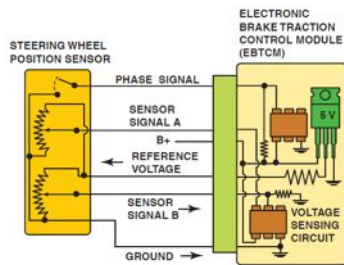
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FIGURE 10.4 The hand-wheel position sensor is usually located at the base of the steering column.



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FIGURE 10.5 Hand-wheel (steering wheel) position sensor schematic.



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FIGURE 10.6 The VS sensor information is transmitted to the EBCM by Class 2 serial data.

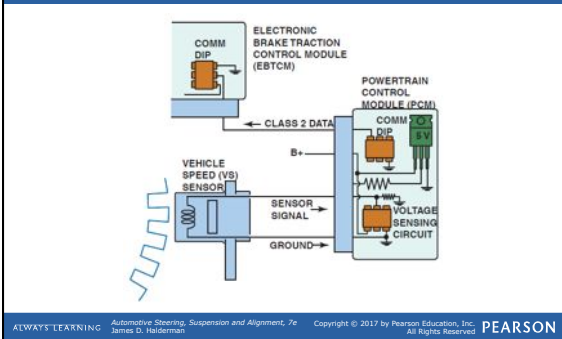


FIGURE 10.7 A schematic showing the lateral acceleration sensor and EBCM.

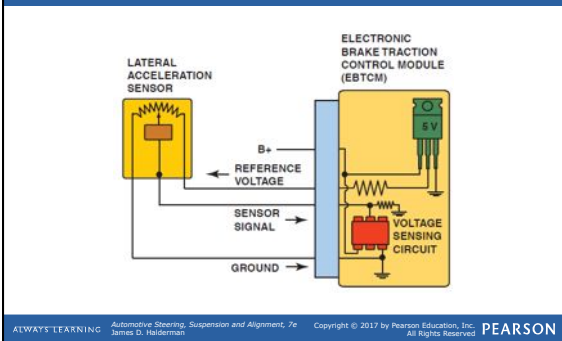
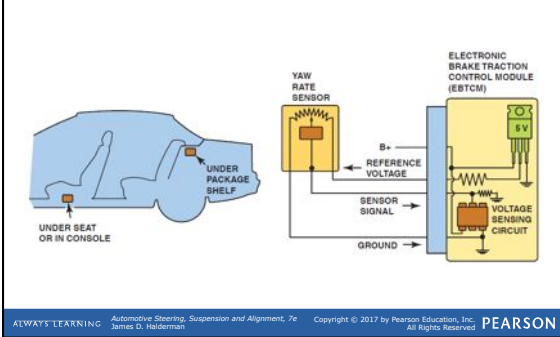


FIGURE 10.8 A lateral acceleration sensor is usually located under the center console and can be easily checked by unbolting it and turning it on its side while monitoring the sensor value using a scan tool.

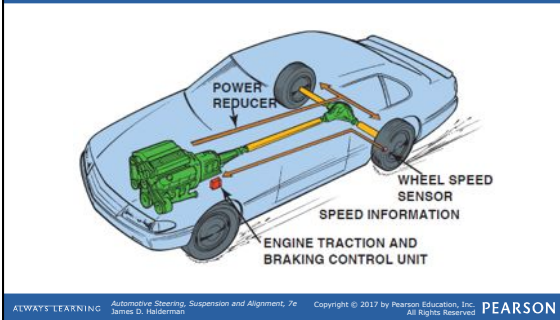


FIGURE 10.9 Yaw rate sensor showing the typical location and schematic.



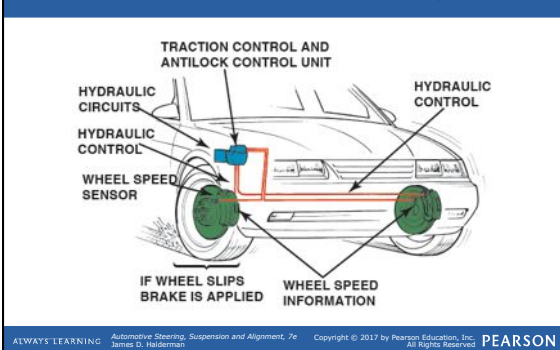
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FIGURE 10.10 Typical traction control system that uses wheel speed sensor information and the engine controller (PCM) to apply the brakes at lower speeds and also reduce engine power applied to the drive wheels.



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FIGURE 10.11 Wheel speed sensor information is used to monitor if a drive wheel is starting to spin.



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FIGURE 10.12 A traction control or low traction light on the dash is confusing to many drivers.



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FIGURE 10.13 The use of a factory scan tool is often needed to diagnose the ESC system.



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