

## General Diagnostic Table

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

### 13.General Diagnostic Table

#### A: INSPECTION

Symptoms		Main probable cause	Other probable cause
Poor brake performance	Long braking/ stopping distance	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Brake pad</li> <li>• Aeration to brake line</li> <li>• Tire specifications, tire wear and air pressures</li> <li>• Incorrect wiring or piping connections</li> </ul>	<ul style="list-style-type: none"> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Master cylinder</li> <li>• Brake caliper</li> <li>• Disc rotor</li> <li>• Brake pipe</li> <li>• Brake booster</li> </ul>
	Wheel lock	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Incorrect wiring or piping connections</li> </ul>	<ul style="list-style-type: none"> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Brake caliper</li> <li>• Brake pipe</li> </ul>
	Brake drag	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Master cylinder</li> <li>• Brake caliper</li> <li>• Parking brake</li> <li>• Axle and wheels</li> <li>• Brake pedal play</li> </ul>	<ul style="list-style-type: none"> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Brake pad</li> <li>• Brake pipe</li> </ul>
	Long brake pedal stroke	<ul style="list-style-type: none"> <li>• Aeration to brake line</li> <li>• Brake pedal play</li> </ul>	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Master cylinder</li> <li>• Brake caliper</li> <li>• Brake pad</li> <li>• Brake pipe</li> <li>• Brake booster</li> </ul>
	Vehicle vertical pitching	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Road surface (uneven)</li> <li>• Suspension play or fatigue (reduced damping)</li> <li>• Incorrect wiring or piping connections</li> </ul>	<ul style="list-style-type: none"> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> </ul>
Poor brake performance	Unstable or uneven braking	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Brake caliper</li> <li>• Brake pad</li> <li>• Road surface (uneven)</li> <li>• Tire specifications, tire wear and air pressures</li> <li>• Incorrect wiring or piping connections</li> </ul>	<ul style="list-style-type: none"> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Master cylinder</li> <li>• Disc rotor</li> <li>• Brake pipe</li> <li>• Axle and wheels</li> <li>• Road with crowns or banks</li> <li>• Suspension play or fatigue (reduced damping)</li> </ul>

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Symptoms		Main probable cause	Other probable cause
Vibration or noise • When braking suddenly • When accelerating suddenly • While driving on a slippery road	Excessive brake pedal vibration	<ul style="list-style-type: none"> <li>Road surface (uneven)</li> <li>Incorrect wiring or piping connections</li> </ul>	<ul style="list-style-type: none"> <li>VDCCM&amp;H/U</li> <li>Brake booster</li> <li>Suspension play or fatigue (reduced damping)</li> </ul>
	Noise from VDCH/U	<ul style="list-style-type: none"> <li>VDCCM&amp;H/U (mount bushing)</li> <li>Defective ABS wheel speed sensor or sensor gap</li> <li>Brake pipe</li> </ul>	<ul style="list-style-type: none"> <li>VDCCM&amp;H/U</li> <li>Defective steering angle sensor or improper neutral position</li> <li>Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> </ul>
	Noise from the front side of vehicle	<ul style="list-style-type: none"> <li>VDCCM&amp;H/U (mount bushing)</li> <li>Defective ABS wheel speed sensor or sensor gap</li> <li>Master cylinder</li> <li>Brake caliper</li> <li>Brake pad</li> <li>Disc rotor</li> <li>Brake pipe</li> <li>Brake booster</li> <li>Suspension play or fatigue (reduced damping)</li> </ul>	<ul style="list-style-type: none"> <li>Axle and wheels</li> <li>Tire specifications, tire wear and air pressures</li> </ul>
	Noise from the rear side of vehicle	<ul style="list-style-type: none"> <li>Defective ABS wheel speed sensor or sensor gap</li> <li>Brake caliper</li> <li>Brake pad</li> <li>Disc rotor</li> <li>Parking brake</li> <li>Brake pipe</li> <li>Suspension play or fatigue (reduced damping)</li> </ul>	<ul style="list-style-type: none"> <li>Axle and wheels</li> <li>Tire specifications, tire wear and air pressures</li> </ul>
Engine does not accelerate or goes into a stall when accelerating suddenly or driving on a slippery surface.		<ul style="list-style-type: none"> <li>VDCCM&amp;H/U</li> <li>Defective ABS wheel speed sensor or sensor gap</li> <li>Master cylinder</li> <li>Brake caliper</li> <li>Parking brake</li> <li>Incorrect wiring or piping</li> </ul>	<ul style="list-style-type: none"> <li>Defective steering angle sensor or improper neutral position</li> <li>Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>Brake pad</li> <li>Brake pipe</li> </ul>

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Symptoms		Main probable cause	Other probable cause
Poor change-direction-operation stability of TCS	Deviation to right or left direction	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Brake caliper</li> <li>• Brake pad</li> <li>• Wheel alignment</li> <li>• Road surface (uneven)</li> <li>• Road with crowns or banks</li> <li>• Tire specifications, tire wear and air pressures</li> <li>• Incorrect wiring or piping connections</li> </ul>	<ul style="list-style-type: none"> <li>• Disc rotor</li> <li>• Brake pipe</li> <li>• Axle and wheels</li> <li>• Suspension play or fatigue (reduced damping)</li> </ul>
	Vehicle spin	<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Brake pad</li> <li>• Tire specifications, tire wear and air pressures</li> <li>• Incorrect wiring or piping connections</li> </ul>	<ul style="list-style-type: none"> <li>• Brake caliper</li> <li>• Brake pipe</li> </ul>
Steering wheel drag while driving		<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Incorrect wiring or piping connections</li> <li>• Power steering system</li> </ul>	<ul style="list-style-type: none"> <li>• Brake caliper</li> <li>• Brake pad</li> <li>• Disc rotor</li> <li>• Wheel alignment</li> <li>• Road surface (uneven)</li> <li>• Road with crowns or banks</li> <li>• Suspension play or fatigue (reduced damping)</li> <li>• Tire specifications, tire wear and air pressures</li> </ul>
VDC operates while driving normally.		<ul style="list-style-type: none"> <li>• VDCCM&amp;H/U</li> <li>• Defective ABS wheel speed sensor or sensor gap</li> <li>• Defective steering angle sensor or improper neutral position</li> <li>• Defective yaw rate &amp; G sensor or improper installation of VDCCM&amp;H/U.</li> <li>• Wheel alignment</li> <li>• Road surface (uneven)</li> <li>• Road with crowns or banks</li> <li>• Suspension play or fatigue (reduced damping)</li> <li>• Tire specifications, tire wear and air pressures</li> <li>• Incorrect wiring or piping connections</li> <li>• Power steering system</li> </ul>	

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Symptoms	Main probable cause	Other probable cause
VDC OFF indicator light does not illuminate when the VDC OFF switch is depressed. NOTE: When pressing VDC OFF switch for 10 seconds or more, VDC OFF indicator light goes off and cannot operate any more. When turning the ignition switch from OFF to ON, the previous status is re-stored.	<ul style="list-style-type: none"><li>• Harness</li><li>• Combination meter</li><li>• VDC OFF switch</li></ul>	

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# BRAKE

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