## DATA LIST / ACTIVE TEST

### 1. DATA LIST

**HINT:**
By referring to the DATA LIST displayed on the intelligent tester, the value and status of parts such as switches, sensors and actuator can be read without removing any parts. Reading the DATA LIST as the first step of troubleshooting is one method of shortening diagnostic time.

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch on.
(c) Turn the intelligent tester on.
(d) Select the following menu items: Chassis / ABS/ VSC/TRC / Data List.

<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement Item : Range (Display)</th>
<th>Normal Condition</th>
<th>Diagnostic Note</th>
</tr>
</thead>
</table>
| HB MOT RELAY   | HB motor relay : ON or OFF        | ON : Motor relay ON  
 OFF : Motor relay OFF | -               |
| SOL RELAY      | Solenoid relay : ON or OFF        | ON : Solenoid relay ON  
 OFF : Solenoid relay OFF | -               |
| IDLE SW        | Main idle switch : ON or OFF      | ON : Accelerator pedal released  
 OFF : Accelerator pedal depressed | -               |
| STOP LIGHT SW  | Stop light switch : ON or OFF     | ON : Brake pedal depressed  
 OFF : Brake pedal released | -               |
| PKB SW         | Parking brake switch : ON or OFF  | ON : Parking brake applied  
 OFF : Parking brake released | -               |
| RESERVOIR SW   | Reservoir level warning switch : ON or OFF | ON : Switch ON  
 OFF : Switch OFF | -               |
| ABS OPERT FR   | ABS operation (FR) : BEFORE or OPERATE | BEFORE : No ABS operation (FR)  
 OPERATE : During ABS operation (FR) | -               |
| ABS OPERT FL   | ABS operation (FL) : BEFORE or OPERATE | BEFORE : No ABS operation (FL)  
 OPERATE : During ABS operation (FL) | -               |
| ABS OPERT RR   | ABS operation (RR) : BEFORE or OPERATE | BEFORE : No ABS operation (RR)  
 OPERATE : During ABS operation (RR) | -               |
| ABS OPERT RL   | ABS operation (RL) : BEFORE or OPERATE | BEFORE : No ABS operation (RL)  
 OPERATE : During ABS operation (RL) | -               |
<p>| WHEEL SPD FR   | Wheel speed sensor (FR) reading : min.: 0 MPH (0 km/h), max.: 202 MPH (326 km/h) | Actual wheel speed | Similar speed to that indicated on speedometer |
| WHEEL SPD FL   | Wheel speed sensor (FL) reading : min.: 0 MPH (0 km/h), max.: 202 MPH (326 km/h) | Actual wheel speed | Similar speed to that indicated on speedometer |
| WHEEL SPD RR   | Wheel speed sensor (RR) reading : min.: 0 MPH (0 km/h), max.: 202 MPH (326 km/h) | Actual wheel speed | Similar speed to that indicated on speedometer |
| WHEEL SPD RL   | Wheel speed sensor (RL) reading : min.: 0 MPH (0 km/h), max.: 202 MPH (326 km/h) | Actual wheel speed | Similar speed to that indicated on speedometer |
| DECELERAT SEN  | Deceleration sensor 1 reading : min.: -1.869 G, max.: 1.869 G | Approximately 0 +/- 0.13G in still condition | Reading changes when vehicle bounced |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement Item : Range (Display)</th>
<th>Normal Condition</th>
<th>Diagnostic Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECELERAT SEN2</td>
<td>Deceleration sensor 2 reading : min.: -1.869 G, max.: 1.869 G</td>
<td>Approximately 0 +/- 0.13G in still condition</td>
<td>Reading changes when vehicle bounced</td>
</tr>
<tr>
<td>IG VOLTAGE</td>
<td>ECU power supply voltage : TOO HIGH : NORMAL : TOO HIGH</td>
<td>TOO HIGH: 14 V or more NORMAL: 9.5 V or 14V</td>
<td>-</td>
</tr>
<tr>
<td>SFRR</td>
<td>ABS solenoid (SFRR) : ON or OFF</td>
<td>ON: Operates</td>
<td>-</td>
</tr>
<tr>
<td>SFRH</td>
<td>ABS solenoid (SFRH) : ON or OFF</td>
<td>OFF: Does not operate</td>
<td>-</td>
</tr>
<tr>
<td>SFLR</td>
<td>ABS solenoid (SFLR) : ON or OFF</td>
<td>ON: Operates</td>
<td>-</td>
</tr>
<tr>
<td>SFLH</td>
<td>ABS solenoid (SFLH) : ON or OFF</td>
<td>OFF: Does not operate</td>
<td>-</td>
</tr>
<tr>
<td>SRRR (SRR)</td>
<td>ABS solenoid (SRRR [SRR]) : ON or OFF</td>
<td>ON: Operates</td>
<td>-</td>
</tr>
<tr>
<td>SRRH (SRH)</td>
<td>ABS solenoid (SRRH [SRH]) : ON or OFF</td>
<td>OFF: Does not operate</td>
<td>-</td>
</tr>
<tr>
<td>SRLR</td>
<td>ABS solenoid (SRLR) : ON or OFF</td>
<td>ON: Operates</td>
<td>-</td>
</tr>
<tr>
<td>SRLH</td>
<td>ABS solenoid (SRLH) : ON or OFF</td>
<td>OFF: Does not operate</td>
<td>-</td>
</tr>
<tr>
<td>SRCF (SA1)</td>
<td>TRAC solenoid (SRCF [SMCF]) : ON or OFF</td>
<td>ON: Operates</td>
<td>-</td>
</tr>
<tr>
<td>SRCR (SA2)</td>
<td>TRAC solenoid (SRCR [SREA]) : ON or OFF</td>
<td>OFF: Does not operate</td>
<td>-</td>
</tr>
<tr>
<td>SRMF (SMCF, SA3)</td>
<td>TRAC solenoid (SRMF [SREC]) : ON or OFF</td>
<td>ON: Operates</td>
<td>-</td>
</tr>
<tr>
<td>SRMR (SMCR, STR)</td>
<td>TRAC solenoid (SRMR [SMCR, STR]) : ON or OFF</td>
<td>OFF: Does not operate</td>
<td>-</td>
</tr>
<tr>
<td>VEHICLE SPD</td>
<td>Maximum wheel speed sensor reading : min.: 0 MPH (0 km/h), max.: 202 MPH (326 km/h)</td>
<td>Actual engine speed</td>
<td>Speed indicated on speedometer</td>
</tr>
<tr>
<td>MAS CYL PRS 1</td>
<td>Master cylinder pressure sensor 1 reading : min.: 0 V, max.: 5 V</td>
<td>When brake pedal released : 0.3 V to 0.9 V</td>
<td>Reading increases when brake pedal depressed</td>
</tr>
<tr>
<td>WHEEL DIR FR</td>
<td>Front right wheel direction</td>
<td>Wheel direction BACK: BACK, FORWARD: FORWARD</td>
<td>-</td>
</tr>
<tr>
<td>WHEEL DIR FL</td>
<td>Front left wheel direction</td>
<td>Wheel direction BACK: BACK, FORWARD: FORWARD</td>
<td>-</td>
</tr>
<tr>
<td>WHEEL DIR RR</td>
<td>Rear right wheel direction</td>
<td>Wheel direction BACK: BACK, FORWARD: FORWARD</td>
<td>-</td>
</tr>
<tr>
<td>WHEEL DIR RL</td>
<td>Rear left wheel direction</td>
<td>Wheel direction BACK: BACK, FORWARD: FORWARD</td>
<td>-</td>
</tr>
<tr>
<td>SPD SEN FR</td>
<td>FR speed sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td>SPD SEN FL</td>
<td>FL speed sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td>SPD SEN RR</td>
<td>RR speed sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td>SPD SEN RL</td>
<td>RL speed sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td>EFI COM</td>
<td>EFI communication open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
</tbody>
</table>
2. **ACTIVE TEST**

**HINT:**
Performing the ACTIVE TEST using the intelligent tester allows relays and actuators to be operated without removing any parts. Performing the ACTIVE TEST as the first step of troubleshooting is one method of shortening diagnostic time.

It is possible to display the DATA LIST during the ACTIVE TEST.

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch on.
(c) Turn the tester on.
(d) By following the prompts on the tester, perform the ACTIVE TEST.

**HINT:**
- The ignition switch must be turned on to proceed to the ACTIVE TEST using the intelligent tester.
- The motors stop automatically after 5 seconds of activation to prevent them from being damaged. When repeatedly activated, certain intervals are required.
- Each solenoid stops automatically after 2 seconds of activation to prevent them from being damaged, and can be operated again after a certain interval.
- Do not depress the brake pedal while only the pressure reduction solenoid valves are on.

<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement Item : Range (Display)</th>
<th>Normal Condition</th>
<th>Diagnostic Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>YAWRATE SEN</td>
<td>Yaw rate sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NORMAL: Normal</td>
<td></td>
</tr>
<tr>
<td>DECELE SEN</td>
<td>Deceleration sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NORMAL: Normal</td>
<td></td>
</tr>
<tr>
<td>STEERING SEN</td>
<td>Steering angle sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NORMAL: Normal</td>
<td></td>
</tr>
<tr>
<td>ACC SEN</td>
<td>Accumulator pressure sensor open detection : OPN_DET or NORMAL</td>
<td>OPN_DET: Momentary interruption</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NORMAL: Normal</td>
<td></td>
</tr>
<tr>
<td>ACCELERATOR %</td>
<td>Different % of present accelerator</td>
<td>min.: 0 max.: 128</td>
<td>-</td>
</tr>
<tr>
<td>TORQUE</td>
<td>Real output torque</td>
<td>min.: -1024 max.: 1016</td>
<td>-</td>
</tr>
<tr>
<td>TEST MODE</td>
<td>Test mode : Normal or TEST</td>
<td>NORMAL: Normal mode</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TEST: During test mode</td>
<td></td>
</tr>
<tr>
<td>MAS CYL PRESS 1</td>
<td>Master cylinder pressure sensor 1 reading : min.: 0V, max.: 5V</td>
<td>When brake pedal released: 0.3 to 0.9V</td>
<td>Reading increases when brake pedal depressed</td>
</tr>
<tr>
<td>ACC PRESS SENS</td>
<td>Accumulator pressure sensor reading : min.: 0 V, max.: 5 V</td>
<td>min.: 3 V max.: 5 V</td>
<td>If value constant regardless of pump operation, accumulator pressure sensor malfunction suspected.</td>
</tr>
<tr>
<td>#CODES</td>
<td>Number of DTC recorded : min.: 0, max.: 255</td>
<td>min.: 0 max.: 255</td>
<td>-</td>
</tr>
</tbody>
</table>
- Do not drive 2 or more solenoids simultaneously except to operate the pressure holding solenoid valves and pressure reduction solenoid valves of each wheel.

<table>
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<tr>
<th>Item</th>
<th>Test Details</th>
<th>Diagnostic Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFRR</td>
<td>Turns ABS solenoid (SFRR) ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>SFRH</td>
<td>Turns ABS solenoid (SFRH) ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>SFLR</td>
<td>Turns ABS solenoid (SFLR) ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
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<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>SRCF (SA1)</td>
<td>Turns TRAC solenoid SRCF (SMCF) ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>SRCR (SA2)</td>
<td>Turns TRAC solenoid SRCR (SREA) ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>SRMF (SMCF, SA3)</td>
<td>Turns TRAC solenoid SRMF (SREC) ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>SRMR (SMCR, STR)</td>
<td>Turns TRAC solenoid SRMR (STR) ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>SOL RELAY</td>
<td>Turns ABS solenoid relay ON or OFF</td>
<td>Operation of solenoid (clicking sound) can be heard</td>
</tr>
<tr>
<td>ABS MOT RELAY</td>
<td>Turns ABS motor relay ON or OFF</td>
<td>Operation of motor can be heard</td>
</tr>
<tr>
<td>ABS WARN LIGHT</td>
<td>Turns ABS warning light ON or OFF</td>
<td>Operation of motor can be heard</td>
</tr>
<tr>
<td>VSC WARN LIGHT</td>
<td>Turns VSC TRAC warning light ON or OFF</td>
<td>Operation of motor can be heard</td>
</tr>
<tr>
<td>VSC/TRC OFF IND</td>
<td>Turns VSC OFF indicator ON or OFF</td>
<td>Operation of motor can be heard</td>
</tr>
<tr>
<td>SLIP INDI LIGHT</td>
<td>Turn SLIP indicator light ON or OFF</td>
<td>Operation of motor can be heard</td>
</tr>
<tr>
<td>BRAKE WRN LIGHT</td>
<td>Turns BRAKE warning light ON or OFF</td>
<td>Operation of motor can be heard</td>
</tr>
<tr>
<td>VSC/BR WARN BUZ</td>
<td>Turns skid control buzzer ON or OFF</td>
<td>Buzzer can be heard</td>
</tr>
<tr>
<td>STP LIGHT RELAY</td>
<td>Turns stop light relay ON or OFF</td>
<td>Observe stop light</td>
</tr>
</tbody>
</table>