

## FREEZE FRAME DATA OF ABS

### 1. FREEZE FRAME DATA

#### HINT:

- Whenever a DTC is detected or the ABS operates, the skid control ECU stores the current vehicle (sensor) state as freeze frame data.
  - The skid control ECU stores the number of times (maximum: 31) the power switch has been turned from off to the On position since the last time ABS was activated. However, if the vehicle was stopped or at low speed (4.3 mph (7 km/h) or less), or if a DTC is detected, the skid control ECU will not count the number since then.
  - Freeze frame data at the time the ABS operates:  
The skid control ECU stores and updates data whenever the ABS system operates.  
When the ECU stores data at the time a DTC is detected, the data stored when the ABS operated is erased.
  - Freeze frame data at the time a DTC is detected:  
When the skid control ECU stores data at the time a DTC is detected, no updates will be performed until the data is cleared.
- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the power switch ON (READY).
- (c) From the display on the tester, select the "FREEZE FRAME DATA".

Hand-held tester display	Measurement Item	Reference Value
BUZZER	Buzzer	Buzzer ON: ON, OFF: OFF
RESERVOIR SW	Reservoir level warning switch	Reservoir level warning switch ON: ON, OFF: OFF
PKB SW	PKB sw	PKB switch ON: ON, OFF: OFF
SHIFT POSITION	Shift SFT Position	<ul style="list-style-type: none"> <li>• Fail</li> <li>• P, N</li> <li>• R</li> <li>• D (M)</li> <li>• 4</li> <li>• 3</li> <li>• 2</li> <li>• L</li> </ul>
VSC/TRC OFF SW	VSC OFF switch	VSC OFF switch ON: ON, OFF: OFF
STOP LIGHT SW	Stop light switch	Stop light switch ON: ON, OFF: OFF
SYSTEM	SYSTEM	<ul style="list-style-type: none"> <li>• ABS</li> <li>• VSC (TRC)</li> <li>• BA</li> <li>• HAB</li> <li>• FAIL SAFE</li> <li>• PBA</li> <li>• PB</li> <li>• NO SYS</li> </ul>
# IG ON	# IG ON	0 - 31
VEHICLE SPD	Vehicle speed	Speed indicated on speedometer
STEERING ANG	Steering sensor	<ul style="list-style-type: none"> <li>• Left turn: Increase</li> <li>• Right turn: Drop (Deceleration)</li> </ul>
YAW RATE	Yaw rate sensor	-128 to 127
MAS CYL PRESS	Master cylinder pressure	0 to 5 V
PEDAL STROKE	Stroke sensor	0 to 5.1 V
THROTTLE	Throttle position sensor	Release accelerator pedal: Approx. 0 deg. Depress accelerator pedal: Approx. 125 deg.
MAS PRESS GRADE	Master pressure sensor grade	30 tp 225 Mpa/s

## DIAGNOSTICS - ELECTRONICALLY CONTROLLED BRAKE SYSTEM

Hand-held tester display	Measurement Item	Reference Value
G (RIGHT & LEFT)	Right and left G	-1869 to 1869
G (BACK & FORTH)	Back and forth G	-1869 to 1869
SPD GRADE	Vehicle speed grade	-1869 to 1869
FR W/C SENS	FR wheel cylinder pressure sensor	0 to 5 V
FL W/C SENS	FL wheel cylinder pressure sensor	0 to 5 V
RR W/C SENS	RR wheel cylinder pressure sensor	0 to 5 V
RL W/C SENS	RL wheel cylinder pressure sensor	0 to 5 V
ACCUM PRESS	Accumulator Pressure Sensor	0 to 5 V
MAS CYL PRESS 2	Master cylinder pressure sensor 2	0 to 5 V
PEDAL STROKE 2	Stroke sensor 2	0 to 5 V
MTT	MTT	0 to 5 V
IG1 VOLTAGE	Voltage value of IG1	0 to 20 V
IG2 VOLTAGE	Voltage value of IG2	0 to 20 V
BS1	BS1	0 to 20 V
BS2	BS2	0 to 20 V
VM1	VM1	0 to 20 V
VM2	VM2	0 to 20 V
+B1	+B1	0 to 5 V
+B2	+B2	0 to 5 V
FR TARGET OIL	Target oil pressure (FR)	0 to 20 V
FL TARGET OIL	Target oil pressure (FL)	0 to 20 V
RR TARGET OIL	Target oil pressure (RR)	0 to 20 V
RL TARGET OIL	Target oil pressure (RL)	0 to 20 V
SLAFR CUR	Current of SLAFR solenoid	0 to 1.5 A
SLAFL CUR	Current of SLAFL solenoid	0 to 1.5 A
SLARR CUR	Current of SLARR solenoid	0 to 1.5 A
SLARL CUR	Current of SLARL solenoid	0 to 1.5 A
SLRFR CUR	Current of SLRFR solenoid	0 to 1.5 A
SLRFL CUR	Current of SLRFL solenoid	0 to 1.5 A
SLRRR CUR	Current of SLRRR solenoid	0 to 1.5 A
SLRRL CUR	Current of SLRRL solenoid	0 to 1.5 A
WHEEL SPD FR	Front Right Wheel speed	0 to 255 km/h
WHEEL SPD FL	Front Left Wheel speed	0 to 255 km/h
WHEEL SPD RR	Rear Right Wheel speed	0 to 255 km/h
WHEEL SPD RL	Rear Left Wheel speed	0 to 255 km/h
CAPA MODE	Capacitor mode	ON: ON, OFF: OFF
SCSS	SCSS	ON: ON, OFF: OFF
SMC2	SMC2	ON: ON, OFF: OFF
SMC1	SMC1	ON: ON, OFF: OFF
MOTOR RELAY 2	Motor relay 2	ON: ON, OFF: OFF
MOTOR RELAY 1	Motor relay 1	ON: ON, OFF: OFF
MAIN RELAY 2	Main relay 2 for ECB	ON: ON, OFF: OFF
MAIN RELAY 1	Main relay 1 for ECB	ON: ON, OFF: OFF
DETAILED CODE	Detailed code for freeze DTC	0 to 65535