

<b>Last Modified:</b> 3-22-2019	6.8:8.0.48	<b>Doc ID:</b> RM000000XHW0D8X
<b>Model Year Start:</b> 2013	<b>Model:</b> Prius C	<b>Prod Date Range:</b> [12/2012 -     ]
<b>Title:</b> BRAKE CONTROL / DYNAMIC CONTROL SYSTEMS: ELECTRONICALLY CONTROLLED BRAKE SYSTEM: DATA LIST / ACTIVE TEST; 2013 MY Prius C [12/2012 -     ]		

## DATA LIST / ACTIVE TEST

### 1. DATA LIST

#### HINT:

Using the Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

#### NOTICE:

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

- (a) Warm up the engine.
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the ignition switch to ON (IG).
- (e) Turn the Techstream on.
- (f) Enter the following menus: Chassis / ABS/VSC/TRAC / Data List.
- (g) According to the display on the Techstream, read the Data List.

### ABS/VSC/TRAC

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ABS Warning Light	ABS warning light / ON or OFF	ON: Warning light on OFF: Warning light off	-
Brake Warning Light	Brake warning light / red (malfunction) / ON or OFF	ON: Warning light on OFF: Warning light off	-
ECB* Warning Light	Brake warning light / yellow (minor malfunction) / ON or OFF	ON: Warning light on OFF: Warning light off	-
Buzzer	Meter buzzer / ON or OFF	ON: Buzzer on OFF: Buzzer off	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Stop Light SW	Stop light switch assembly / ON or OFF	ON: Brake pedal depressed OFF: Brake pedal released	-
Parking Brake SW	Parking brake switch assembly / ON or OFF	ON: Parking brake applied OFF: Parking brake released	-
Reservoir Warning SW	Brake fluid level warning switch / ON or OFF	ON: Reservoir level low OFF: Reservoir level normal	-
Main Idle SW	Main idle switch / ON or OFF	ON: Accelerator pedal released OFF: Accelerator pedal depressed	-
Shift Lever Position	Shift position information / Fail, 1st-6th/B, D/M, P,N or R	Actual shift position	-
Inspection Mode	Inspection mode / Other or Inspect	Other: Normal mode Inspect: Inspection mode	-
Regulator Pressure Sensor Output	Regulator pressure sensor output / Min.: 0.00 V, Max.: 5.00 V	When brake pedal released: 0.10 to 0.90 V	Reading increases when brake pedal is depressed
Stroke Sensor	Brake pedal stroke sensor assembly / Min.: 0.00 V, Max.: 5.00 V	When brake pedal released: 0.65 to 1.35 V	Reading increases when brake pedal is depressed
Voltage of Stroke Sensor	Voltage of brake pedal stroke sensor assembly / Min.: -2.50 V, Max.: 2.49 V	-	-
Stroke Sensor2	Brake pedal stroke sensor assembly 2 / Min.: 0.00 V, Max.: 5.00 V	When brake pedal released: 3.65 to 4.35 V	Reading decreases when brake pedal is depressed
Voltage of Stroke Sensor2	Voltage of brake pedal stroke sensor assembly 2 / Min.: -2.50 V, Max.: 2.49 V	-	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Accumulator Sensor	Accumulator pressure sensor / Min.: 0.00 V, Max.: 5.00 V	Specified value: 2.90 to 4.20 V	When brake fluid is stored in the accumulator: Accumulator pressure changes in accordance with volume of fluid stored in the accumulator
Deceleration Sensor	Acceleration sensor 1 / Min.: -18.525 m/s <sup>2</sup> , Max.: 18.387 m/s <sup>2</sup>	-	During deceleration/acceleration: Changes continuously
Zero Point of Decele	Memorized zero value / Min.: -25.10 m/s <sup>2</sup> , Max.: 24.90 m/s <sup>2</sup>	-	-
Deceleration Sensor2	Acceleration sensor 2 / Min.: -18.525 m/s <sup>2</sup> , Max.: 18.387 m/s <sup>2</sup>	-	During deceleration/acceleration: Changes continuously
Zero Point of Decele2	Memorized zero value / Min.: -25.10 m/s <sup>2</sup> , Max.: 24.90 m/s <sup>2</sup>	-	-
Yaw Rate Sensor	Yaw rate sensor 1 / Min.: -128 degrees/s, Max.: 127 degrees/s	Vehicle stationary: 0 degrees/s Turning right: -128 to 0 degrees/s Turning left: 0 to 127 degrees/s	-
Zero Point of Yaw Rate	Memorized zero value / Min.: -128 degrees, Max.: 127 degrees	-	After completing zero point calibration: 0 degrees
Yaw Rate Sensor2	Yaw rate sensor 2 / Min.: -128 degrees/s, Max.: 127 degrees/s	Vehicle stationary: 0 degrees/s Turning right: -128 to 0 degrees/s Turning left: 0 to 127 degrees/s	-
Zero Point of Yaw Rate2	Memorized zero value / Min.: -128 degrees/s, Max.: 127 degrees/s	-	After completing zero point calibration: 0 degrees/s
Steering Angle Sensor	Steering angle sensor / Min.: -3276.8 degrees, Max.: 3276.7 degrees	Turning left: Increases Turning right: Decreases	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Zero Point of Steering Angle	Memorized zero value / Min.: -3276.8 degrees, Max.: 3276.7 degrees	-	After clearing zero point calibration: 0 degrees
Lateral G	Lateral G / Min.: -25.10 m/s <sup>2</sup> , Max.: 24.90 m/s <sup>2</sup>	-	During turning: Changes in proportion with lateral acceleration
Forward and Rearward G	Forward and backward G / Min.: -25.10 m/s <sup>2</sup> , Max.: 24.90 m/s <sup>2</sup>	-	During acceleration/deceleration: Changes in proportion with acceleration
Yaw Rate Value	Yaw rate value / Min.: -128 degrees/s, Max.: 127 degrees/s	-	During turning: Changes in proportion with yaw
Steering Angle Value	Steering angle value / Min.: -3276.8 degrees, Max.: 3276.7 degrees	-	During steering operation: Changes in proportion with steering wheel rotation
Slip Indicator Light	Slip indicator light / ON or OFF	ON: Indicator light on OFF: Indicator light off	-
FR Wheel Speed	Front speed sensor RH / Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Vehicle stopped: 0 km/h (0 mph)	When driving at constant speed: No large fluctuations
FL Wheel Speed	Front speed sensor LH / Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Vehicle stopped: 0 km/h (0 mph)	When driving at constant speed: No large fluctuations
RR Wheel Speed	Rear speed sensor RH / Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Vehicle stopped: 0 km/h (0 mph)	When driving at constant speed: No large fluctuations
RL Wheel Speed	Rear speed sensor LH / Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Vehicle stopped: 0 km/h (0 mph)	When driving at constant speed: No large fluctuations
Vehicle Speed	Maximum wheel speed sensor / Min.: 0 km/h (0 mph), Max.: 326 km/h (202 mph)	Vehicle stopped: 0 km/h (0 mph)	When driving at constant speed: No large fluctuations
FR Wheel Acceleration	Front wheel RH acceleration / Min.: -200.84 m/s <sup>2</sup> , Max.: 199.27 m/s <sup>2</sup>	-	During deceleration/acceleration: Changes continuously
FL Wheel Acceleration	Front wheel LH acceleration / Min.: -200.84 m/s <sup>2</sup> , Max.: 199.27 m/s <sup>2</sup>	-	During deceleration/acceleration: Changes continuously

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
RR Wheel Acceleration	Rear wheel RH acceleration / Min.: -200.84 m/s <sup>2</sup> , Max.: 199.27 m/s <sup>2</sup>	-	During deceleration/acceleration: Changes continuously
RL Wheel Acceleration	Rear wheel LH acceleration / Min.: -200.84 m/s <sup>2</sup> , Max.: 199.27 m/s <sup>2</sup>	-	During deceleration/acceleration: Changes continuously
Stop Light Relay Output	Stop light control relay (Stop light switch assembly) output / ON or OFF	ON: Relay output on OFF: Relay output off	-
FR Wheel ABS Ctrl Status	Front wheel RH ABS control status / ON or OFF	ON: During control	-
FL Wheel ABS Ctrl Status	Front wheel LH ABS control status / ON or OFF	ON: During control	-
RR Wheel ABS Ctrl Status	Rear wheel RH ABS control status / ON or OFF	ON: During control	-
RL Wheel ABS Ctrl Status	Rear wheel LH ABS control status / ON or OFF	ON: During control	-
RR Wheel EBD Ctrl Status	Rear wheel RH EBD control status / ON or OFF	ON: During control	-
RL Wheel EBD Ctrl Status	Rear wheel LH EBD control status / ON or OFF	ON: During control	-
BA Ctrl Status	BA control status / ON or OFF	ON: During control	-
PBA Ctrl Status	PBA control status / ON or OFF	OFF	No change
TRC(TRAC) Ctrl Status	TRAC control status / ON or OFF	ON: During control	-
TRC(TRAC) Engine Ctrl Status	TRAC engine control status / ON or OFF	ON: During control	-
TRC(TRAC) Brake Ctrl Status	TRAC brake control status / ON or OFF	ON: During control	-
FR Wheel VSC Ctrl Status	Front wheel RH VSC control status / ON or OFF	ON: During control	-
FL Wheel VSC Ctrl Status	Front wheel LH VSC control status / ON or OFF	ON: During control	-
RR Wheel VSC Ctrl Status	Rear wheel RH VSC control status / ON or OFF	ON: During control	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
RL Wheel VSC Ctrl Status	Rear wheel LH VSC control status / ON or OFF	ON: During control	-
Accelerator Opening Angle %	The difference of a present accelerator / Min.: 0.0%, Max.: 128.0%	When the accelerator pedal released: 0.0%	During accelerator pedal operation: Changes in proportion with the pedal movement
Regenerative Cooperation	Regenerative cooperation / ON or OFF	ON: Operate OFF: Not operate	-
FR Regenerative Request	FR regenerative request torque / Min.: 0 Nm, Max.: 1048560 Nm	-	Changes according to brake pedal force (When depressing the brake pedal lightly after reaching 30 km/h (19 mph) or more, avoiding sudden braking.)
FR Regenerative Operation	FR regenerative operation torque / Min.: 0 Nm, Max.: 1048560 Nm	-	Changes according to brake pedal force (When depressing the brake pedal lightly after reaching 30 km/h (19 mph) or more, avoiding sudden braking.)
ECB* Motor Relay	ABS motor relay / ON or OFF	ON: Relay on OFF: Relay off	-
ECB* Main Relay	ABS main relay / ON or OFF	ON: Relay on OFF: Relay off	-
ABS Solenoid (SFRH)	Holding solenoid valve (FRH) / ON or OFF	ON: Operate OFF: Not operate	-
ABS Solenoid (SFRR)	Reduction solenoid valve (FRR) / ON or OFF	ON: Operate OFF: Not operate	-
ABS Solenoid (SFLH)	Holding solenoid valve (FLH) / ON or OFF	ON: Operate OFF: Not operate	-
ABS Solenoid (SFLR)	Reduction solenoid valve (FLR) / ON or OFF	ON: Operate OFF: Not operate	-
ABS Solenoid (SRRH)	Holding solenoid valve (RRH) / ON or OFF	ON: Operate OFF: Not operate	-
ABS Solenoid (SRRR)	Reduction solenoid valve (RRR) / ON or OFF	ON: Operate OFF: Not operate	-
ABS Solenoid (SRLH)	Holding solenoid valve (RLH) / ON or OFF	ON: Operate OFF: Not operate	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
ABS Solenoid (SRLR)	Reduction solenoid valve (RLR) / ON or OFF	ON: Operate OFF: Not operate	-
ECB* Solenoid (SRC)	Regulator cut solenoid valve (SRC) / ON or OFF	ON: Operate OFF: Not operate	-
ECB* Solenoid (SCC)	Switching solenoid valve (SCC) / ON or OFF	ON: Operate OFF: Not operate	-
ECB* Solenoid (SMC)	Master cut solenoid valve (SMC) / ON or OFF	ON: Operate OFF: Not operate	-
ECB* Solenoid (SSC)	Simulator cut solenoid valve (SSC) / ON or OFF	ON: Operate OFF: Not operate	-
Regulator Pressure Sensor Correction Voltage	Voltage of regulator pressure sensor / Min.: -2.50 V, Max.: 2.49 V	-	-
FR Speed Open	Front speed sensor RH open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
FL Speed Open	Front speed sensor LH open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
RR Speed Open	Rear speed sensor RH open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
RL Speed Open	Rear speed sensor LH open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
Yaw Rate Open	Yaw rate sensor open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Deceleration Open	Acceleration sensor open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
Steering Open	Steering angle sensor open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
Master Cylinder Open	Regulator pressure sensor open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
Stroke Open	Brake pedal stroke sensor assembly open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
FR Wheel Cylinder Open	Wheel cylinder pressure sensor open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
Accumulator Open	Accumulator pressure sensor open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
HV Communication Open	Hybrid vehicle communication open detection / Error or Normal	Error: Momentary interruption Normal: Normal	-
Number of DTC	Number of DTC / Min.: 0, Max.: 255	-	Number of DTC output is displayed
Wheel Cylinder Pressure Sensor	Wheel cylinder pressure sensor / Min.: 0.00 V, Max.: 5.00 V	When brake pedal released: 0.10 to 0.90 V	Reading increases when brake pedal is depressed
Regulator Pressure Sensor Output After Filter	Regulator pressure sensor output after filter / Min.: -1.00 Mpa, Max.: 23.99 Mpa	-	-



TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Regulator Pressure Sensor Variation	Regulator pressure sensor variation / Min.: -30 Mpa/s, Max.: 225 Mpa/s	-	-
SLA Solenoid Current	Linear solenoid additional valve (SLA) current / Min.: 0.00 A, Max.: 3.00 A	When brake pedal released: 0.00 A	-
SLR Solenoid Current	Linear solenoid reduction valve (SLR) current / Min.: 0.00 A, Max.: 3.00 A	When brake pedal released: 0.00 A	-
SSC Solenoid Current	Simulator cut solenoid valve (SSC) current / Min.: 0.00 A, Max.: 3.00 A	When brake pedal released: 0.00 A	-
SCC Solenoid Current	Switching solenoid valve (SCC) current / Min.: 0.00 A, Max.: 3.00 A	When brake pedal released: 0.00 A	-
SMC Solenoid Current	Master cut solenoid valve (SMC) current / Min.: 0.00 A, Max.: 3.00 A	When brake pedal released: 0.00 A	-
SRC Solenoid Current	Regulator cut solenoid valve (SRC) current / Min.: 0.00 A, Max.: 3.00 A	When brake pedal released: 0.00 A	-

\*: Electronically Controlled Brake System

## 2. ACTIVE TEST

### HINT:

Using the Techstream to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts to operate without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

- (a) Warm up the engine.
- (b) Turn the ignition switch off.
- (c) Connect the Techstream to the DLC3.
- (d) Turn the ignition switch to ON (IG).
- (e) Turn the Techstream on.
- (f) Enter the following menus: Chassis / ABS/VSC/TRAC / Active Test.
- (g) According to the display on the Techstream, perform the Active Test.

**ABS/VSC/TRAC**

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
ABS Warning Light	ABS warning light	Warning light ON/OFF	Observe combination meter assembly
Brake Warning Light	Brake warning light / red (malfunction)	Warning light ON/OFF	Observe combination meter assembly
ECB* Warning Light	Brake warning light / yellow (minor malfunction)	Warning light ON/OFF	Observe combination meter assembly
Buzzer	Meter buzzer	Buzzer ON/OFF	Buzzer can be heard
Stop Light Relay	Stop light control relay (Stop light switch assembly)	Relay (Switch) ON/OFF	Stop lights come on
ECB* Main Relay	ABS main relay	Relay ON/OFF	-
ECB* Motor Relay	ABS motor relay	Relay ON/OFF	-
ABS Solenoid (SRLR)	Reduction solenoid valve (RLR)	Solenoid ON/OFF	-
ABS Solenoid (SRLH)	Holding solenoid valve (RLH)	Solenoid ON/OFF	-
ABS Solenoid (SRRR)	Reduction solenoid valve (RRR)	Solenoid ON/OFF	-
ABS Solenoid (SRRH)	Holding solenoid valve (RRH)	Solenoid ON/OFF	-
ABS Solenoid (SFLR)	Reduction solenoid valve (FLR)	Solenoid ON/OFF	-
ABS Solenoid (SFLH)	Holding solenoid valve (FLH)	Solenoid ON/OFF	-
ABS Solenoid (SFRR)	Reduction solenoid valve (FRR)	Solenoid ON/OFF	-
ABS Solenoid (SFRH)	Holding solenoid valve (FRH)	Solenoid ON/OFF	-
ECB* Control Invalid	Electronically controlled brake system control invalid	Control invalid ON/OFF	Electronically controlled brake system control is disabled (braking with no accumulator assist)
Accumulator Zero Down	Reduction of pressure in accumulator	Activation ON/OFF	Brake fluid in the accumulator makes noise
Actuator Air Bleeding Pattern	Actuator air bleeding pattern activation	Activation ON/OFF	When accumulator pressure drops, pump operation creates sound

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Power Supply Air Bleeding Pattern1	Power supply air bleeding pattern activation 1	Activation ON/OFF	When accumulator pressure drops, pump operation creates sound
Power Supply Air Bleeding Pattern2	Power supply air bleeding pattern activation 2	Activation ON/OFF	When accumulator pressure drops, pump operation creates sound
Slip Indicator Light	Slip indicator light	Indicator light ON/OFF	Observe combination meter assembly
ECB* Solenoid (SLR)	Linear solenoid reduction valve (SLR)	Solenoid ON/OFF	-
ECB* Solenoid (SLA)	Linear solenoid addition valve (SLA)	Solenoid ON/OFF	-
Stroke Simulator Cut Valve Pattern	Simulator cut solenoid valve (SSC)	Pattern activation ON/OFF	(Difficult to identify visually)
ECB* Solenoid (SRC)	Regulator cut solenoid valve (SRC)	Solenoid ON/OFF	Operation sound of solenoid (clicking sound) can be heard
ECB* Solenoid (SMC)	Master cut solenoid valve (SMC)	Solenoid ON/OFF	Operation sound of solenoid (clicking sound) can be heard
ECB* Solenoid (SCC)	Switching solenoid valve (SCC)	Solenoid ON/OFF	Operation sound of solenoid (clicking sound) can be heard
ECB* Solenoid (SSC)	Simulator cut solenoid valve (SSC)	Solenoid ON/OFF	Operation sound of solenoid (clicking sound) can be heard
ECB* Solenoid (SMC/SRC/SCC)	Switching solenoid valve (SMC/SRC/SCC)	Solenoid ON/OFF	Operation sound of solenoid (clicking sound) can be heard
ABS Solenoid	Solenoid valve (FRH, FRR, FLH, FLR, RRH, RRR, RLH or RLR)	Solenoid SFRH/SFRR/SFLH/SFLR/SRRH/SRRR/SRLH/SRLR	Operation sound of solenoid (clicking sound) can be heard

\*: Electronically Controlled Brake System

