BRAKE ACTUATOR ASSY

3214P–01

ON–VEHICLE INSPECTION

1. INSPECT BRAKE ACTUATOR OPERATION

(a) Pre–check preparation

(1) Move the shift lever to the P position. Apply the parking brake and connect the intelligent tester II to the DLC3.

(2) Turn the power switch on (IG).

(3) Turn on the intelligent tester II. Select "MAS CYL PRS 1", "MAS CYL PRS2", "FR PRESS SENS", "FL PRESS SENS", "RR PRESS SENS" and "RL PRESS SENS".

(b) Check FR system solenoid (SLA**, SLR**, SMC1, SMC2)

(1) Select "SLAFR CUR". → Set the current to 1.2 A. → Enter and check the output voltage.

NOTICE:

Do not depress the brake pedal.

HINT:

- It takes approximately 35 seconds to complete the check.
- If incorrect, troubleshoot the brake system (see page 05–729).

Standard value:

Sensor	10 to 20 sec. after check start (V)	35 sec. or more after check start (V)
MAS CYL PRS 1	0.3 – 0.7	0.3 – 0.7
MAS CYL PRS 2	0.3 – 0.7	0.3 – 0.7
FR PRESS SENS	2.5 – 4.5	0.3 – 0.7
FL PRESS SENS	0.3 – 0.7	0.3 – 0.7
RR PRESS SENS	0.3 – 0.7	0.3 – 0.7
RL PRESS SENS	0.3 – 0.7	0.3 – 0.7

(c) Check FL system solenoid (SLA**, SLR**, SMC1, SMC2)

(1) Select "SLAFL CUR". → Set the current to 1.2 A. → Enter and check the output voltage.

NOTICE:

Do not depress the brake pedal.

HINT:

- It takes approximately 35 seconds to complete the check.
- If incorrect, troubleshoot the brake system (see page 05–729).

Standard value:

Sensor	10 to 20 sec. after check start (V)	35 sec. or more after check start (V)
MAS CYL PRS 1	0.3 – 0.7	0.3 – 0.7
MAS CYL PRS 2	0.3 – 0.7	0.3 – 0.7
FR PRESS SENS	0.3 – 0.7	0.3 – 0.7
FL PRESS SENS	2.5 – 4.5	0.3 – 0.7
RR PRESS SENS	0.3 – 0.7	0.3 – 0.7
RL PRESS SENS	0.3 – 0.7	0.3 – 0.7

(d) Check RR system solenoid (SLA**, SLR**, SMC1, SMC2)

(1) Select "SLARR CUR". → Set the current to 1.2 A. → Enter and check the output voltage.

NOTICE:

Do not depress the brake pedal.

HINT:

- It takes approximately 35 seconds to complete the check.
- If incorrect, troubleshoot the brake system (see page 05–729).

Standard value:

Sensor	10 to 20 sec. after check start (V)	35 sec. or more after check start (V)
MAS CYL PRS 1	0.3 – 0.7	0.3 – 0.7
MAS CYL PRS 2	0.3 – 0.7	0.3 – 0.7
FR PRESS SENS	0.3 – 0.7	0.3 – 0.7
FL PRESS SENS	0.3 – 0.7	0.3 – 0.7
RR PRESS SENS	2.5 – 4.5	0.3 – 0.7
RL PRESS SENS	0.3 – 0.7	0.3 – 0.7

(e) Check RL system solenoid (SLA**, SLR**, SMC1, SMC2)

(1) Select "SLARL CUR". → Set the current to 1.2 A. → Enter and check the output voltage.

NOTICE:

Do not depress the brake pedal.

HINT:

- It takes approximately 35 seconds to complete the check.
- If incorrect, troubleshoot the brake system (see page 05–729).

Standard value:

Sensor	10 to 20 sec. after check start (V)	35 sec. or more after check start (V)
MAS CYL PRS 1	0.3 – 0.7	0.3 – 0.7
MAS CYL PRS 2	0.3 – 0.7	0.3 – 0.7
FR PRESS SENS	0.3 – 0.7	0.3 – 0.7
FL PRESS SENS	0.3 – 0.7	0.3 – 0.7
RR PRESS SENS	0.3 – 0.7	0.3 – 0.7
RL PRESS SENS	2.5 – 4.5	0.3 – 0.7

(f) Check SMC1, SMC2

(1) Select and enter "ECB INVALID" to prohibit the brake control (ECB) on the intelligent tester II menu screen.

(2) Check that the ECB warning light comes on.

(3) Check the output voltage by depressing the pedal.

Standard:

Difference in output voltage between "MAS CYL PRS 1" and "FR PRESS SENS" is less than 0.4 V.

Difference in the output voltage between "MAS CYL PRS 2" and "FL PRESS SENS" is less than 0.4 V.

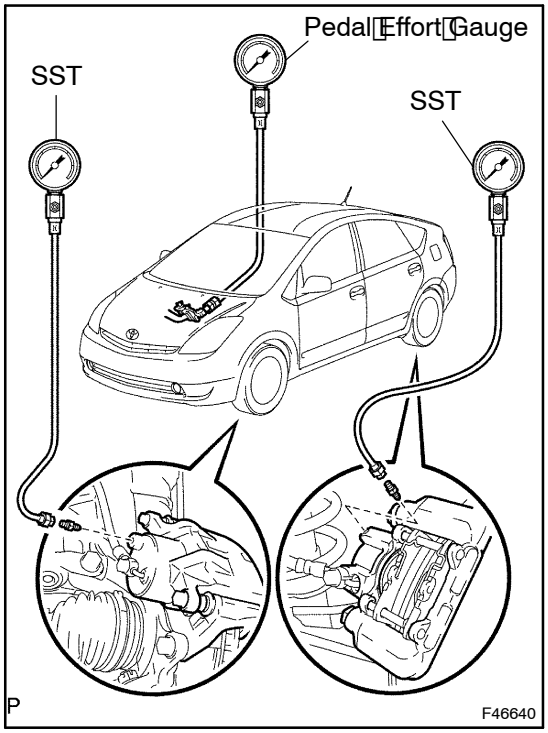
(4) Enter the return key on the intelligent tester II and cancel brake control prohibition (ECB INVALID).

2. INSPECT PRESSURE SENSOR OPERATION

(a) Check battery voltage

Standard Value: 10 to 14 V (during engine stop)

(b) Connect the hydro booster pressure gauge and pedal effort gauge.



(1) Install LSPV gauge (SST) and brake pedal effort gauge.

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(2) Bleed the air out of the front brake and rear brake systems.

(3) Move the shift lever to the P position. Connect the intelligent tester II to the DLC3 with the parking brake applied.

(4) Turn the power switch on (IG).

(5) Clear the DTC (see page 05–738).

(c) Check wheel cylinder pressure sensor and master pressure sensor.

(1) Turn on the intelligent tester II. Select and enter "MAS CYL PRS 1", "MAS CYL PRS 2", "FR PRESS SENS", "FL PRESS SENS", "RR PRESS SENS" and "RL PRESS SENS" into the data monitor.

(2) Check the brake effort, pressure gauge reading, and output pressure voltage.

If incorrect, troubleshoot the brake system (see page 05–729).

Standard value:

Brake effort N (kgf, lbf)	MAS CYL PRS 1 (V)	MAS CYL PRS 2 (V)
200 (20.4, 45)	0.9 – 1.2	0.9 – 1.2
500 (51, 112)	1.7 – 2.2	1.7 – 2.2

Brake effort N (kgf, lbf)	Front right wheel hydraulic pressure MPa (kgf/cm^2, psi)	FR PRESS SENS (V)
50 (5.1, 11)	3 (30.6, 435)	1.0 – 1.2
100 (10.2, 22)	5.9 (59.8, 851)	1.6 – 1.8
150 (15.3, 34)	7.9 (80.2, 1141)	2.0 – 2.2
200 (20.4, 45)	9.9 (101.0, 1437)	2.35 – 2.6

Brake effort N (kgf, lbf)	Front left wheel hydraulic pressure MPa (kgf/cm^2, psi)	FL PRESS SENS (V)
50 (5.1, 11)	3 (30.6, 435)	1.0 – 1.2
100 (10.2, 22)	5.9 (59.8, 851)	1.6 – 1.8
150 (15.3, 34)	7.9 (80.2, 1141)	2.0 – 2.2
200 (20.4, 45)	9.9 (101.0, 1437)	2.35 – 2.6

Brake effort N (kgf, lbf)	Rear right wheel hydraulic pressure MPa (kgf/cm^2, psi)	RR PRESS SENS (V)
50 (5.1, 11)	3.8 (38.7, 550)	1.15 – 1.35
100 (10.2, 22)	4 (40.8, 580)	1.25 – 1.5
150 (15.3, 34)	4 (40.8, 580)	1.25 – 1.5
200 (20.4, 45)	4 (40.8, 580)	1.25 – 1.5

Brake effort N (kgf, lbf)	Rear left wheel hydraulic pressure MPa (kgf/cm^2, psi)	RL PRESS SENS (V)
50 (5.1, 11)	3.8 (38.7, 550)	1.15 – 1.35
100 (10.2, 22)	4 (40.8, 580)	1.25 – 1.5
150 (15.3, 34)	4 (40.8, 580)	1.25 – 1.5
200 (20.4, 45)	4 (40.8, 580)	1.25 – 1.5

(d) Check accumulator (ACC) pressure sensor

(1) Move the shift lever to the P position. Apply the parking brake and connect the intelligent tester II.

(2) Turn the power switch on (IG).

(3) Turn on the intelligent tester II. Select and enter the accumulator (ACC) pressure sensor 1 ("ACC PRESS SENS") into the data monitor.

(4) Temporarily operate the pump motor by depressing the brake pedal 4 to 5 times.

(5) After confirming that the pump motor stops, check the pressure output voltage.

If incorrect, troubleshoot the brake system (see page 05–729).

Standard Value: 2.6 to 3.8 V