

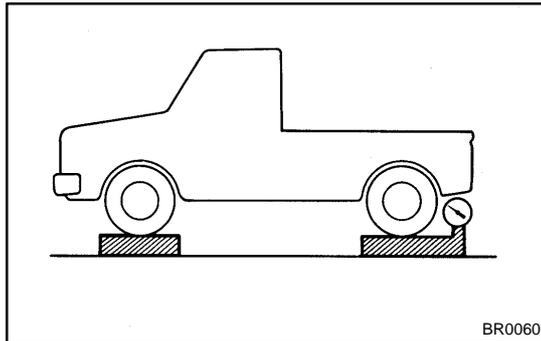
# LOAD SENSING PROPORTIONING AND BY-PASS VALVE (LSP & BV) ON-VEHICLE INSPECTION

BR051-05

**HINT:**

Pre runner is the described below.

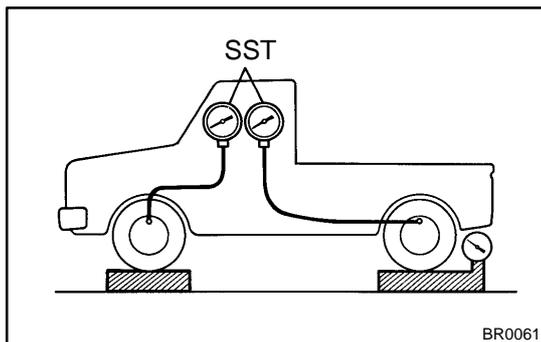
RZN191L-TRPKAB, RZN196L-CRPKAB,  
RZN196L-PRPKAB, VZN195L-CRPKAB,  
VZN195L-PRPKAB



BR0060

**1. SET REAR AXLE LOAD****Rear axle load (includes vehicle weight):**

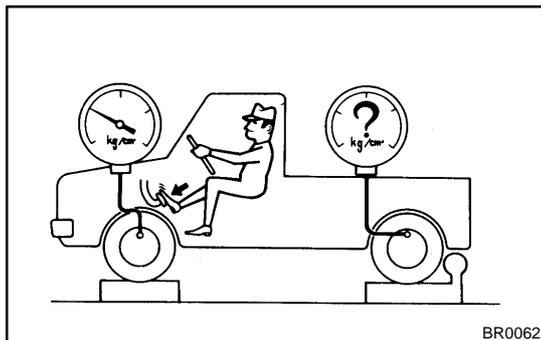
2WD (except pre runner)	700 kg (1,543 lb)
4WD and pre runner	850 kg (1,874 lb)



BR0061

**2. INSTALL LSP & BV GAUGE (SST) AND BLEED AIR**

SST 09709-29018



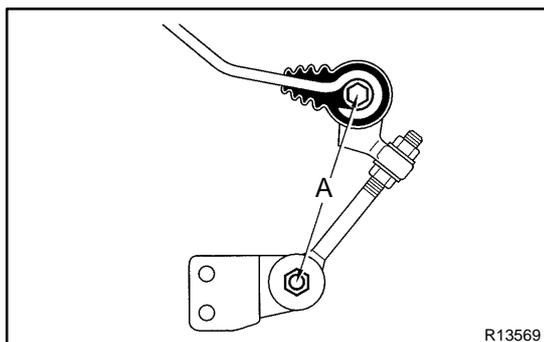
BR0062

**3. RAISE FRONT BRAKE PRESSURE TO 7,845 kPa (80 kgf/cm<sup>2</sup>, 1,138 psi) AND CHECK REAR BRAKE PRESSURE****Rear brake pressure:**

2WD (except pre runner)	4,913 ± 490 kPa (50.1 ± 5 kgf/cm <sup>2</sup> , 713 ± 71 psi)
4WD and pre runner	4,383 ± 490 kPa (44.7 ± 5 kgf/cm <sup>2</sup> , 636 ± 71 psi)

**HINT:**

The brake pedal should not be depressed twice and/or returned while setting to the specified pressure. Read the value of rear brake pressure 2 seconds after adjusting the specified fluid pressure. If the brake pressure is incorrect, adjust the fluid pressure.



**4. IF NECESSARY, ADJUST FLUID PRESSURE**

- (a) Adjust the length of the No. 2 shackle.  
 Low pressure – Lengthen A  
 High pressure – Shorten A

**Initial set:**

2WD (except pre runner)	78 mm (3.07 in.)
4WD and pre runner	120 mm (4.72 in.)

**Adjustment range:**

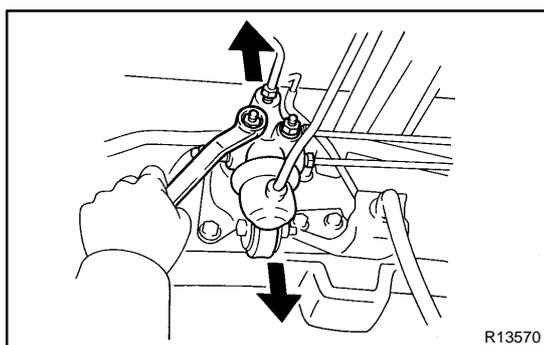
2WD (except pre runner)	70 – 86 mm (2.76 – 3.39 in.)
4WD and pre runner	112 – 128 mm (4.41 – 5.04 in.)

**HINT:**

One turn of the nut changes the fluid pressure as shown in the following table.

**Rear brake pressure:**

2WD (except pre runner)	55 kPa (0.56 kgf/cm <sup>2</sup> , 8.0 psi)
4WD and pre runner	52 kPa (0.53 kgf/cm <sup>2</sup> , 7.5 psi)

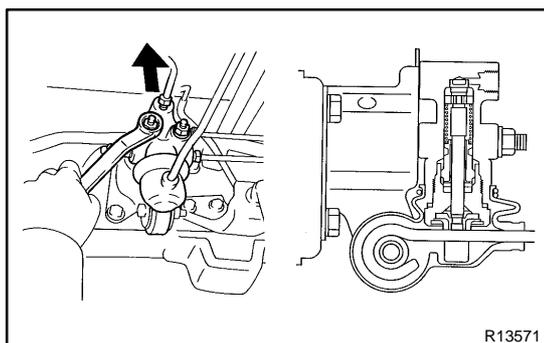


- (b) If the pressure cannot be adjusted by the No. 2 shackle, raise or lower the valve body.  
 Low pressure – Lower body  
 High pressure – Raise body

- (c) Torque the nuts.

**Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)**

- (d) Adjust the length of the No. 1 shackle again.  
 If it cannot be adjusted, inspect the valve housing.

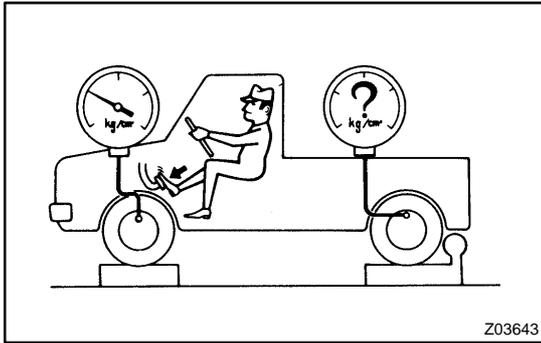


**5. IF NECESSARY, CHECK VALVE BODY**

- (a) Assemble the valve body in the uppermost position.

**HINT:**

When the brakes are applied, the position will move down about 0.8 mm (0.03 in.). Even at this time, the piston should not make contact with or move the load sensing spring.



(b) In this position, check the rear brake pressure.

**2WD (except pre runner):**

Front brake pressure kPa (kgf/cm <sup>2</sup> , psi)	Rear brake pressure kPa (kgf/cm <sup>2</sup> , psi)
1,960 (20, 285)	1,960 (20, 285)
3,920 (40, 570)	2,450 ± 196 (25 ± 2.0, 356 ± 28.5)
6,860 (70, 997.5)	3,190 ± 343 (32.5 ± 3.5, 463 ± 50)

**4WD and pre runner:**

Front brake pressure kPa (kgf/cm <sup>2</sup> , psi)	Rear brake pressure kPa (kgf/cm <sup>2</sup> , psi)
1,470 (15, 213.5)	1,470 (15, 213.5)
3,920 (40, 570)	1,960 ± 196 (20 ± 2.0, 285 ± 28.5)
6,860 (70, 997.5)	2,550 ± 343 (26 ± 3.5, 370.5 ± 50)

If the measured value is not within the standard, replace the valve body.