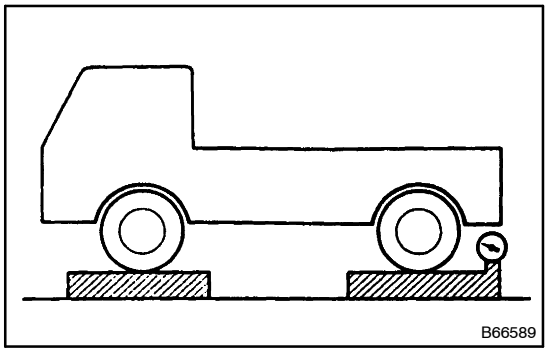
LOAD SENSING VALVE ASSY

ON–VEHICLE INSPECTION

3218T–01



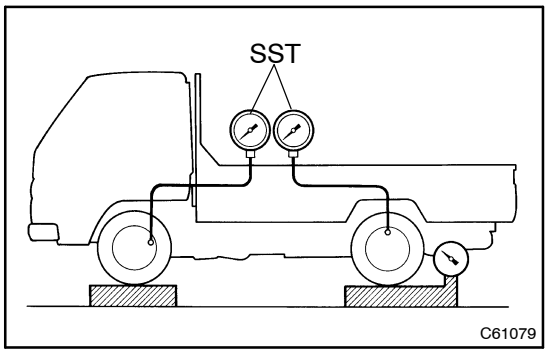
1. SET REAR AXLE LOAD

HINT:

If the vehicle unladen weight exceeds the specification, set it by following step 5.

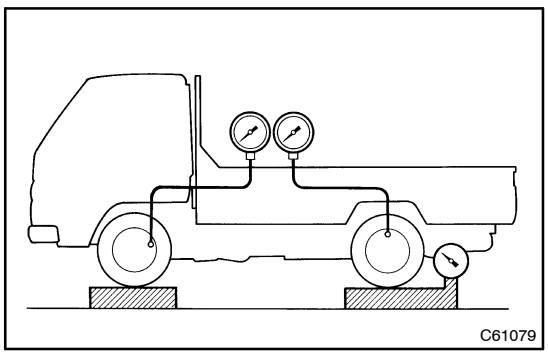
Rear axle load (including vehicle weight):

Model	Front axle load kg (lb)
XZU305R–TQMMWQ3	1,350 (2,976)
XZU305R–HQMMWQ3	1,350 (2,976)
XZU305R–TKMMWQ3	1,350 (2,976)
XZU305R–HKMMWQ3	1,350 (2,976)
XZU345R–TKMMWQ3	1,400 (3,086)
XZU345R–HKMMWQ3	1,400 (3,086)



2. INSTALL LSPV GAUGE (SST) AND BLEED AIR

SST 09709–29018



3. RAISE FRONT BRAKE PRESSURE 9,807 kPa (100 kgf/cm^2, 1,422 psi) AND CHECK REAR BRAKE PRESSURE

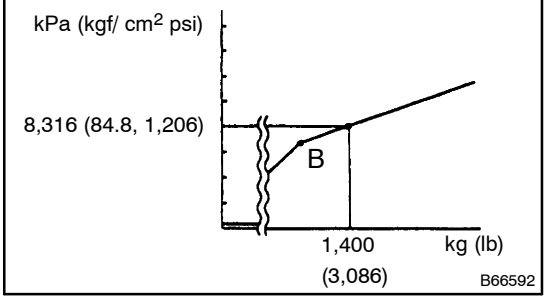
Rear brake fluid pressure:

5,600 ± 500 kPa (57 ± 5 kgf/cm^2, 810 ± 70 psi)

HINT:

Gradually depress on the brake pedal until the pressure reaches the specified valve. Do not overshoot the specified pressure. Read the value of rear pressure 2 seconds after adjusting to the specified fluid pressure.

Example 1



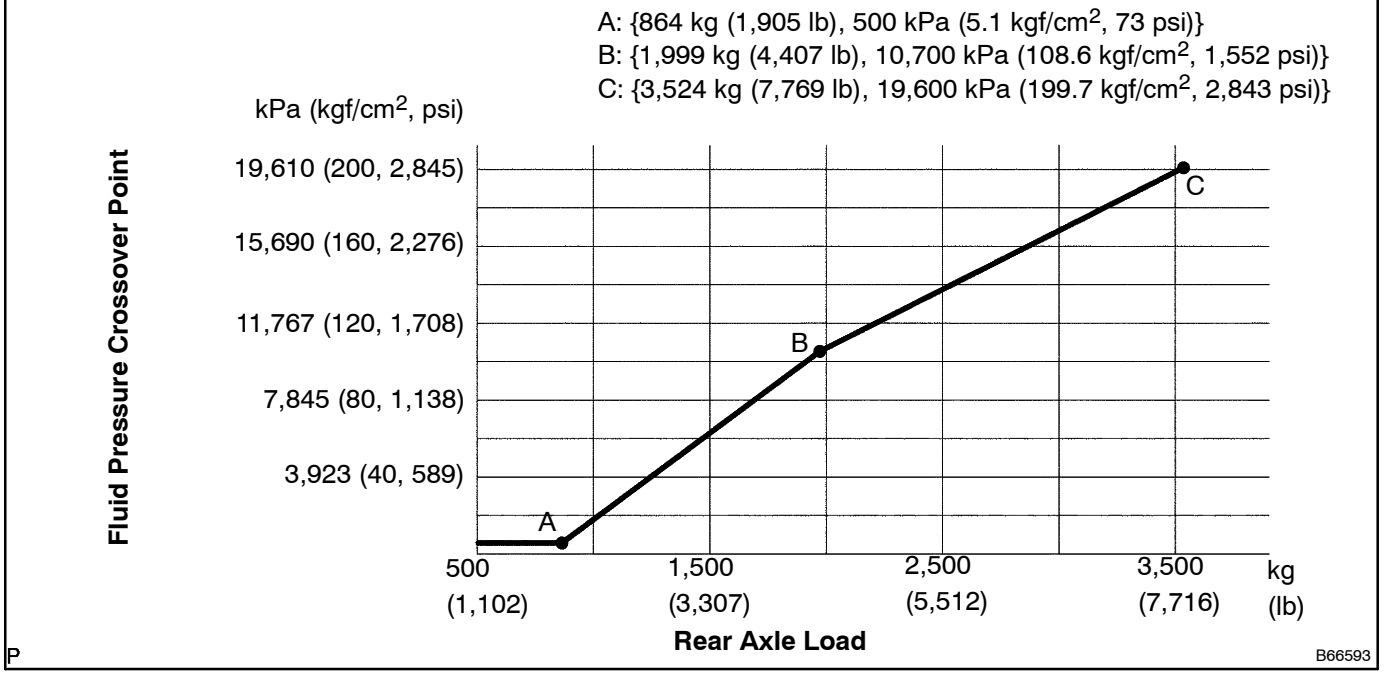
4. IF VEHICLE UNLADEN WEIGHT EXCEEDS SPECIFICATION, SET IT BY FOLLOWING STEPS

(a) Make a graph of rear axle load and brake fluid pressure as shown in example 1 or 2, using the applicable data of A B C point data table.

(b) Input the rear axle load on the applicable graph and find out the fluid pressure crossover point.
Example: When the rear axle load is 1,400 kg (3,086 lb), the fluid pressure crossover point is 8,316 kPa (84.8 kgf/cm^2, 1,206 psi).

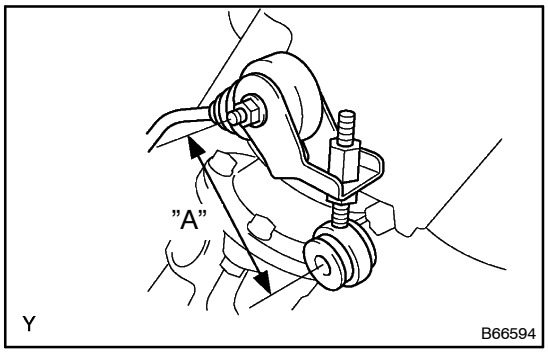
(c) Calculate the rear brake pressure when the front brake pressure is 7,845 kPa (80 kgf/cm^2, 1,138 psi) using the following formula.
X: Fluid Pressure Crossover Point
X + (7,845 – X) x 0.37
Example:
X: 8,316 kPa (84.8 kgf/cm^2, 1,206 psi)
8,316 + (7,845 – 8,316) x 0.37 = 83.024
Rear brake pressure: 8,142 kPa (83.0 kgf/cm^2, 1,181 psi)
Service limit: ± 490 kPa (5 kgf/cm^2, 71 psi)

Example 2



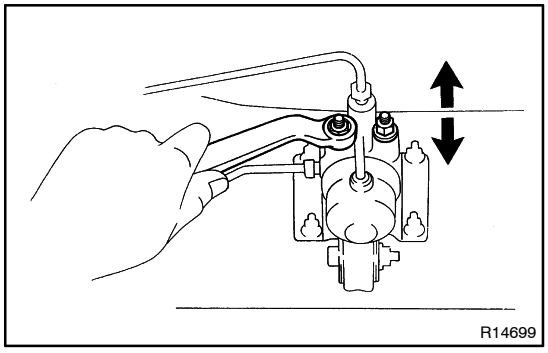
A, B, C point data table:

Model	A		B		C	
	kg (lb)	kPa (kg/ cm^2, psi)	kg (lb)	kPa (kg/ cm^2, psi)	kg (lb)	kPa (kg/ cm^2, psi)
XZU305R–TQMMWQ3	991 (2,185)	500 (5.1, 73)	2,179 (4,803)	8,300 (84.9, 1,204)	2,555 (5,633)	12,900 (132, 1,871)
XZU305R–HQMMWQ3	1,121 (2,471)	500 (5.1, 73)	2,152 (4,745)	7,300 (74.4, 1,059)	2,943 (6,488)	13,000 (132.4, 1,885)
XZU305R–TKMMWQ3	1,127 (2,485)	500 (5.1, 73)	2,406 (5,304)	8,700 (89, 1,262)	4,246 (9,361)	16,400 (167.1, 2,379)
XZU305R–HKMMWQ3	875 (1,929)	500 (5.1, 73)	1,908 (4,206)	7,100 (72.9, 1,030)	4,247 (9,363)	16,300 (166, 2,364)
XZU345R–TKMMWQ3	1,095 (2,414)	500 (5.1, 73)	2,012 (4,436)	8,400 (85.6, 1,218)	4,994 (11,010)	17,000 (173.3, 2,466)
XZU345R–HKMMWQ3	1,145 (2,524)	500 (5.1, 73)	2,012 (4,436)	8,000 (81.2, 1,160)	4,815 (10,615)	16,000 (163, 2,321)



5. IF NECESSARY, ADJUST FLUID PRESSURE

(a) Adjust the length of the No. 2 shackle.
Lower pressure – Lengthen "A"
High pressure – Shorten "A"
Initial value: 78 mm (3.07 in.)
Adjusting: 72 to 84 mm (2.83 to 3.31 in.)

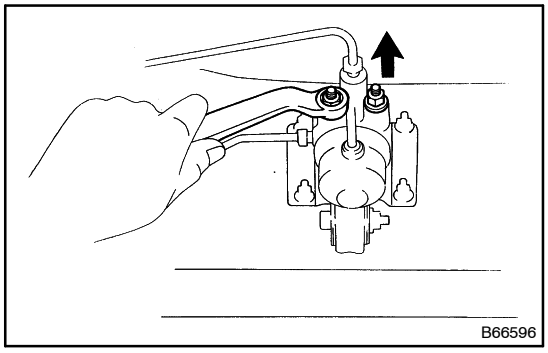


(b) If the pressure cannot be adjusted by the No. 2 shackle, raise or lower the valve body.
Lower pressure – Lower
High pressure – Raise

(c) Torque the nuts.
Torque: 12.5 N·m (130 kgf·cm, 9 ft·lbf)

(d) Adjust the length of the No. 2 shackle again.

If it cannot be adjusted, inspect the valve body.



6. IF NECESSARY, CHECK VALVE BODY

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

HINT:

When the brakes are applied, the piston moves down about 1 mm (0.039 in.). Even at this time, the piston should not make contact with or move the load sensing spring.

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

Brake pressure:

Front Brake Pressure kPa (kgf/cm^2, psi)	Rear Brake Pressure kPa (kgf/cm^2, psi)
490 (5, 71)	490 (5, 71)
2,452 (25, 356)	1,020 to 1,412 (10.4 to 14.4, 148 to 204)
5,884 (60, 853)	2,148 to 2,834 (21.9 to 28.9, 311 to 411)

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

7. REMOVE LSPV GAUGE (SST) AND BLEED BRAKE SYSTEM (See Pub. No. RM1008E, page 32– 4)