5. Proportioning Valve

Rear drum brake model

Rear wheel cylinder fluid pressure

7,846 (80,1,138)
5,884 (60, 853)
3,923 (40, 569)
1,961 (20, 284)
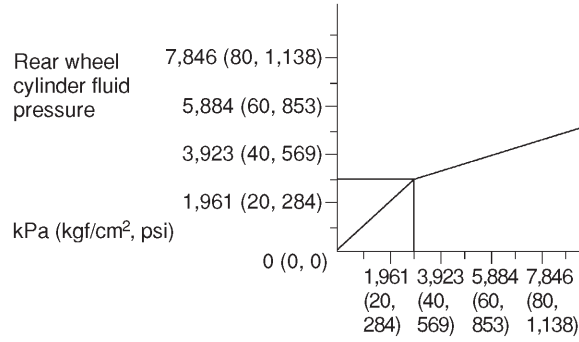kPa (kgf/cm^2, psi)
0 (0,0)

1,961 3,923 5,884 7,846
(20,   (40,   (60,   (80,
284)   569)   853) 1,138)
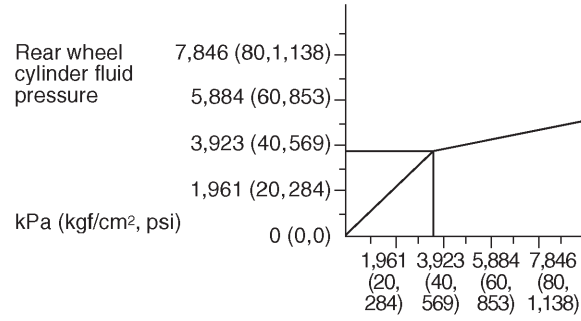
Master cylinder fluid pressure kPa (kgf/cm^2, psi)
In case of split point 3,677kPa (37.5 kgf/cm^2,533 psi)

B4H2221A

Rear disc brake model

Rear wheel cylinder fluid pressure

7,846 (80, 1,138)
5,884 (60, 853)
3,923 (40, 569)
1,961 (20, 284)
kPa (kgf/cm^2, psi)
0 (0, 0)

1,961 3,923 5,884 7,846
(20,   (40,   (60,   (80,
284)   569)   853) 1,138)

Master cylinder fluid pressure kPa (kgf/cm^2, psi)
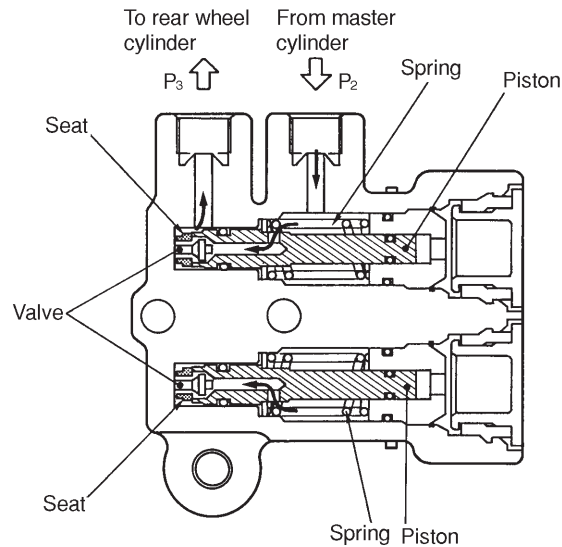In case of split point 2,942 kPa (30 kgf/cm^2, 427 psi)

B4H1942A

A: OPERATION

1) Operation before the split point

Piston is held by spring so that valve is kept away from valve seat.

Under this condition, fluid pressure "P_3" to rear wheel cylinders equals fluid pressure "P_2" from master cylinder.

H4H1127B

2) Operation near the split point

● Force "f_1", applied to piston by spring, is one-half of spring force "F". In other words, "f_1" = "F".

● Force "f_2" is also applied to piston in the direction opposite to spring force "F" due to fluid pressure "P_2" generated by master cylinder according to cross sectional area "A".

● Force "f_2" increases respondingly with fluid pressure "P_2". When "f_2" is greater than, piston moves in direction opposite to spring force "F". This causes valve to come in contact with valve seat, blocking fluid passage.

H4H1128B

8
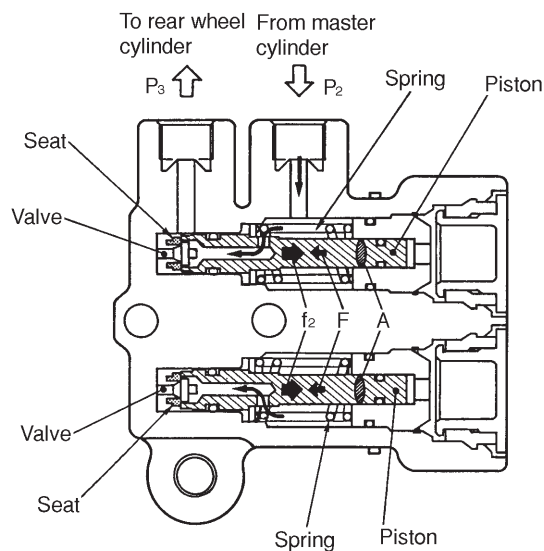
3) Immediately before fluid passage is closed, fluid pressure "P_2" is held equal to pressure "P_3". When brake pedal is depressed to increase fluid pressure "P_2", piston moves in the same direction as spring force "F", opening fluid passage.

However, since fluid passage is closed again immediately after pressure "P_2" equals "P_3", pressure "P_3" is held at a value of less than pressure "P_2".