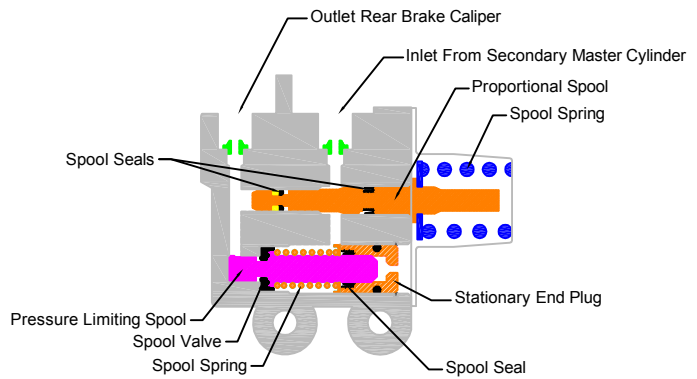


Honda Proportioning Valve

The proportioning valve used on the Honda ST1300 aids in stabilizing the motorcycle during braking by limiting brake fluid pressure going to the rear brake caliper. Due to weight shifting from the rear wheel to the front wheel during brake application, the potential of rear wheel lock-up becomes greater causing the motorcycle to become unstable.

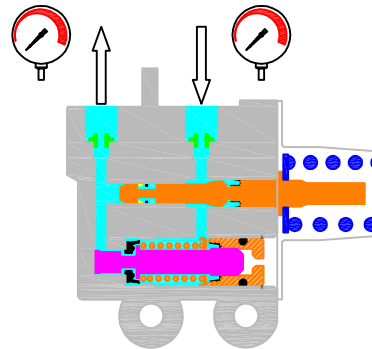
The Honda 3-stage proportioning valve:

1. Allows brake fluid pressure to be applied to the two non-center pistons of the rear brake caliper up to a pressure (determined by the brake system designers).
2. When fluid pressure rises to that predetermined pressure, the valve prevents any increase of applied fluid pressure to the two non-center pistons of the rear brake caliper.
3. As overall brake system pressures increase, the valve allows the fluid pressure (currently limited) to the two non-center pistons of the rear brake caliper, to decrease.
4. Note(1): The proportioning valve is not a component of the center piston of the rear brake caliper, and thus has no influence on the operation of this part of the rear brake caliper.
5. Note(2): All brake fluid pressures to the proportioning valve are supplied via the secondary master-cylinder.



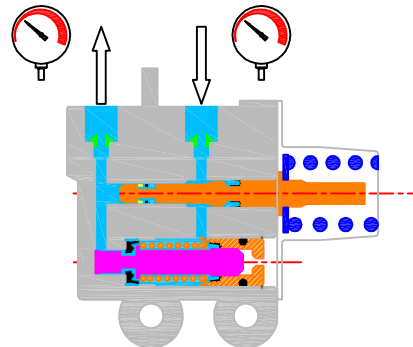
Brake System At Rest

When the brake system is at rest, the pressure limiting spool (magenta) is fully extended due to the force of its spool spring. The spring holds the spool off of the spool valve, keeping the valve open, allowing brake fluid to flow through the valve. The proportioning spool is also fully extended into the valve body due to the force of its spool spring.



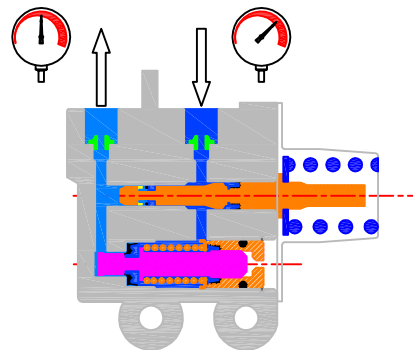
Brake System In Use

When the incoming fluid pressure remains below the pressure setting of the proportioning valve, the valve will have no influence on fluid pressures applied to the two non-center pistons of the rear brake caliper.



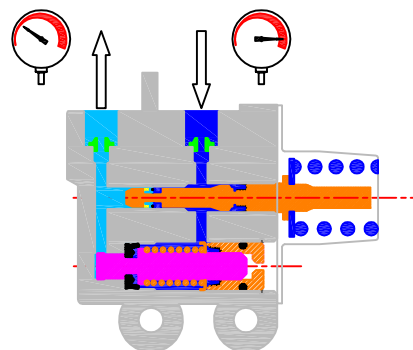
Brake System At Pressure Limiting

As the incoming fluid pressure increases to the pressure setting of the proportioning valve, the pressure limiting spool (magenta) moves along its bore compressing the spool spring, and closing the spool valve. The fluid pressure to the two non-center pistons of the rear brake caliper has now been limited, and cannot increase.



Brake System At Greater Pressures

If incoming fluid pressure continues to increase, the limiting spool (magenta) continues to prevent any increase of fluid pressure being applied to the two non-center pistons of the rear brake caliper. However the proportional spool (gold) begins to move along its bore compressing the larger spool spring, thus increasing the volume of the fluid chamber allowing the fluid to expand, which causes a decrease in fluid pressure.



HELCKHOUSE North Plainfield NJ	'06 HONDA ST1300			
	BRAKE - PROPORTIONING VALVE			
DATE 5.Mar.2017	SCALE NTS	DRAWN BY DAVID	SHOW NO. 000	DRAWING NO. 00.00
				REVISION 0