What is a Proportioning Valve and What Does It Do?

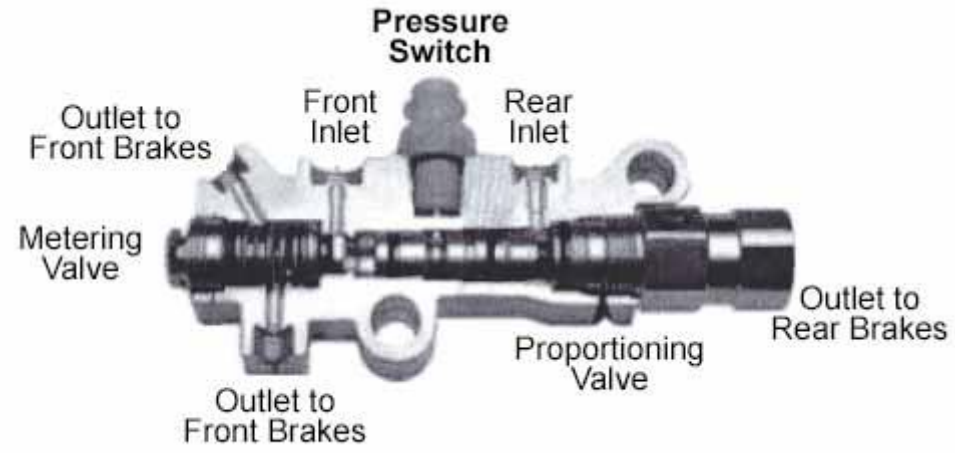
A brake proportioning valve is a single unit that performs multiple functions. Its ultimate job is to achieve balanced braking on a vehicle with disc brake brakes installed.

The proportioning valve performs 3 functions:

1) Keeps the rear brakes from locking up during a panic stop.
2) The valve delays the front brakes long enough for the fluid pressure to overcome the rear brake return springs.
3) The Pressure Switch sends an electric signal for the light on your dash ("idiot light") if you have one.

Not all proportioning valves have a pressure switch and there are several different styles.

A proportioning valve is normally mounted right next to the master cylinder. It will have 2 inlets coming from the master cylinder, 1 for the front and 1 for the rear brakes. It also has 3 outlets, 1 for the rear and 2 for the front brake lines.



Trouble Shooting

There is really only one issue that can cause the proportioning valve not to work properly.

Inside the proportioning valve is a metering valve. The job of the metering valve is to move forward and backward, slowing or shutting off the flow of brake fluid. Sometimes the metering valve will slide all the way in one direction or the other to stop the flow of brake fluid all together. This is a safety feature built into the proportioning valve in case of fluid loss to the front or rear brakes. This can happen during install if the metering valve senses an imbalance in fluid pressure between the front and the rear brakes!

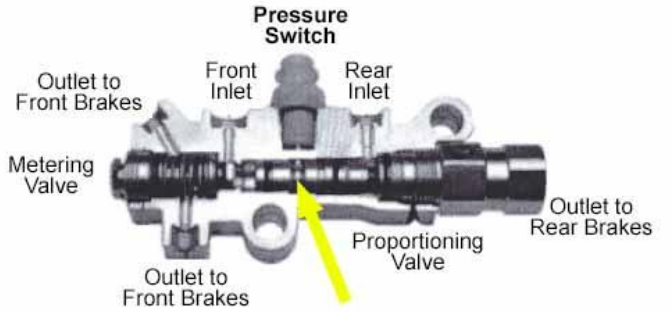
If you are getting brake pressure to the front and not the back or vice versa, this is most likely the issue. To test if this has happened you will need a test light. Hook the test light up to 12volt power and touch the probe on the pressure switch lead on the top of the proportioning valve. If it lights up the metering valve is off center. If it does not light up the metering valve is centered and functioning properly.

If you find yourself with a metering valve that is not centered there is an easy fix. If you are getting pressure to the front brakes but not the rear brakes, slightly open the front brake bleeder and depress the pedal about halfway and then close the bleeder. This should recenter the metering valve. You can test it by using your testing light again. You may have to do this a couple times to make it center. Just reverse the process if you have pressure in the rear and not the front.

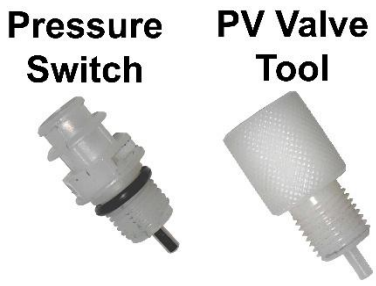
Proportioning Valve Tool

There is a tool that will keep the proportioning valve centered during install and bleeding if you wish to use it OR if you continue to have a problem with the proportioning valve moving off center during your install.

To use this tool your proportioning valve must be centered before you install it. As shown below you will notice that the valve has a notch in it that when centered is right under the pressure switch.



When the proportioning valve is centered remove the pressure switch and replace it with the proportioning valve tool. This tool is a similar shape to the proportioning valve but the probe at the bottom is solid to hold valve in place, not allowing it to move while you are bleeding your brake system.



Once you have bled your brake system remove the tool and replace it with the pressure switch to complete your install.