

K-140 Pressure Relief Valve

Extremely Precise
Fuel Pressure Control

© 2011

- > Light-weight
- > Compact
- > Adjustable
- > Vacuum/Boost Reference
- > Methanol Compatible
- > The Most Accurate Valve on the Market



FURTHER DISCUSSION REGARDING THE K-140 PRESSURE RELIEF VALVE

9-10-11

Pressure Relief Valves (PRV) have a diaphragm assembly with a pintle or ball, with spring(s) above it to force it down onto the seat. Fuel pressure from the pump must rise to the set point to exert enough force on the diaphragm to lift the sealing device off the seat, allowing fuel to pass through the valve. To bypass more fuel, the spring(s) have to be compressed slightly more to open the valve a bit further, causing a rise in pressure. Our valve has less pressure rise (less slope) than any other valve because of its large efficient-flowing pintle and seat.

As the flow is decreased, the pressure decreases. Ideally, this would form one slightly slanted straight line (see graph to right), but friction in the valve makes the closing pressures slightly less than the opening ones. This result is called a hysteresis loop. Our valve has the tightest loop of any valve we have tested: the closing pressures are just .2 (2/10) psi lower than the opening pressures.

Our Swivel Pintle is self centering as the valve closes. The piston that carries the diaphragms and swivel pintle on its nose prevents any spring end angle from cocking the pintle carrier, but even if it could cock, the swivel pintle would cancel it out.

