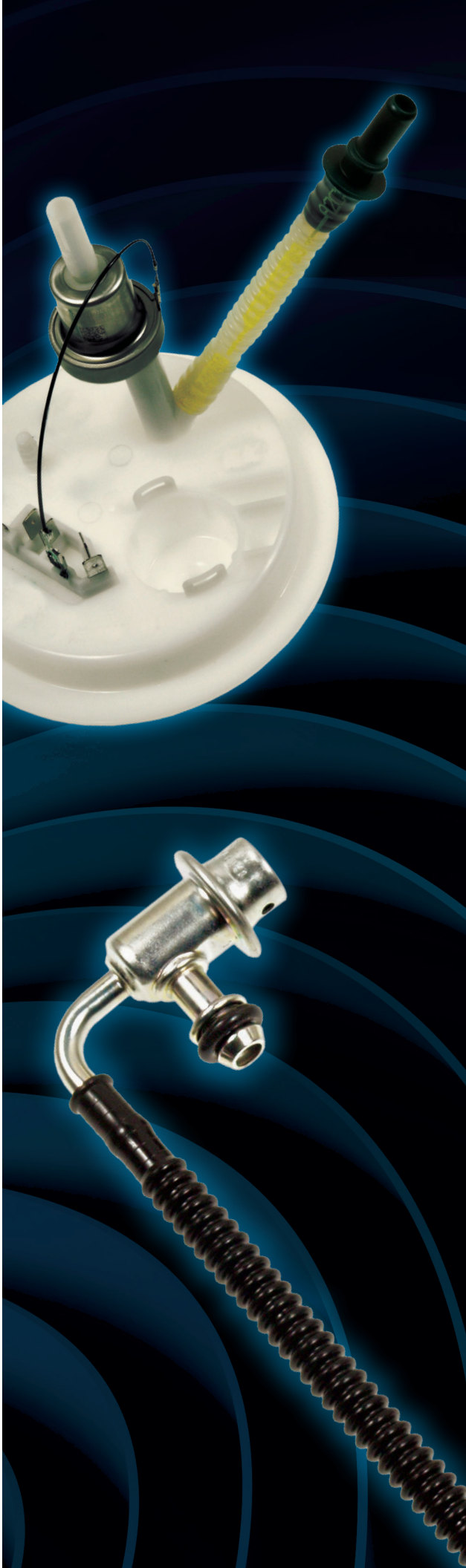
Fuel Pressure Regulators

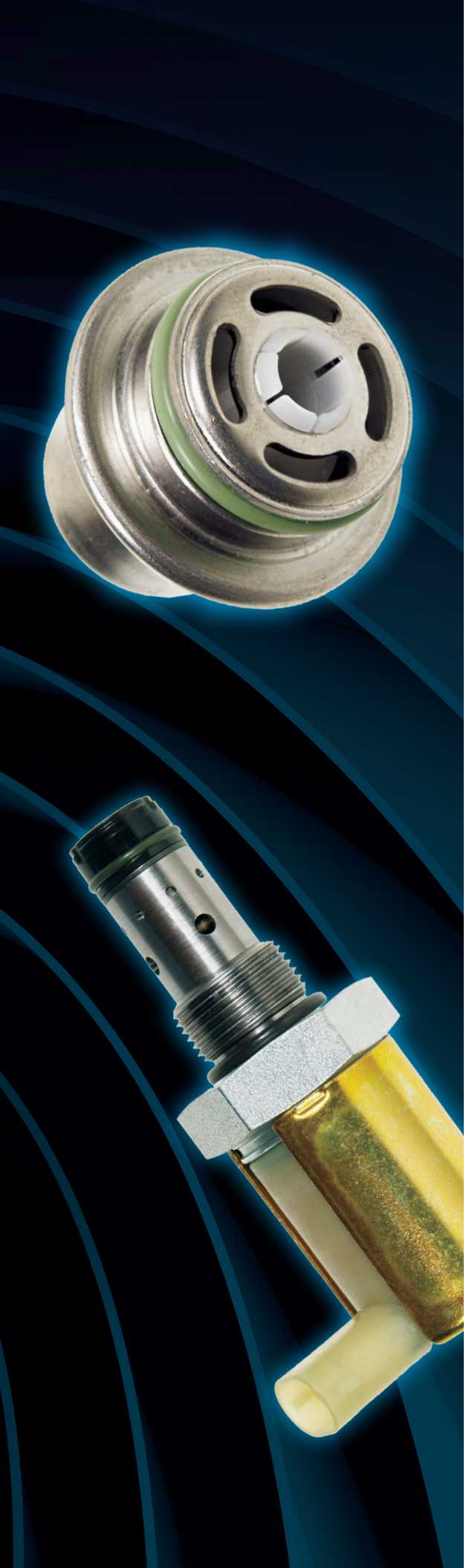
[Features and Benefits]

NAPA® Echlin® Fuel Pressure Regulators and Fuel Dampers are designed to meet the demands of all types of fuel delivery systems, from conventional return to electronic return-less systems. Our Regulators and Damper assemblies are 100% calibrated and leak tested on computerized test system to ensure top of the line quality and performance. They feature two-ply, fiber-reinforced diaphragms which provide exceptional strength and resistance to tearing and puncture. The ball and seat on the regulator are precision machined for accurate fuel pressure control. This process eliminates internal vacuum leakage while ensuring efficient performance. NAPA® Echlin® offers the domestic and import coverage you need with the OE performance you can count on for your fuel system repairs.

[How Do Fuel Pressure Regulators Work?]

Fuel Pressure Regulators are a vacuum operated spring-loaded diaphragm that enables a vehicle's fuel delivery system to maintain a constant pressure. When the vehicle is at idle the regulator is open allowing fuel to bypass the delivery system and go back into the tank. When the engine produces more vacuum under load the pressure regulator diaphragm closes and allows an increase in fuel volume to be provided to the injectors while maintaining a consistent pressure. You will find fuel pressure regulators typically located at the end of the fuel rail on mechanical return systems, or at the fuel tank in mechanical return-less fuel delivery systems.





How Do Fuel Line Pressure Dampers Work?

Fuel Pressure Dampers look much like pressure regulators but function differently. They have a spring loaded diaphragm which absorbs the pulsations and pressure differentials that may occur each time an injector is turned on and off. These are typically seen on electronic return-less fuel systems. The vacuum port located on top of the damper is connected to manifold vacuum to avoid fuel spillage if the diaphragm in the damper should rupture.

How to Determine If A Regulator or Damper Is Malfunctioning?

Pressure Regulator – Is it leaking? Is the fuel pressure within specs? During operation does fuel pressure increase 8-10 psi when the vacuum supply is closed off?

Fuel Damper – Is it leaking? Does the fuel pressure tester have significant needle fluctuation during engine operation?

Potential Symptoms of A Failed Regulator Or Fuel Damper

- **Scan Tool – P0172 or P0175 Codes**
- **High Negative Fuel Trim**
- **Exhaust System – Black Smoke**
- **Ignition System – Blackened Spark Plug Electrodes**
- **Poor Engine Performance**
- **Lubrication System – Gasoline in the Engine Oil**
- **Extended Crank/Hard Start**

Since fuel pressure regulators and pulse dampers typically do not set codes and can negatively impact the operation of many more of the vehicles components, regulators and dampers should be inspected during annual fuel injection system cleanings or whenever engine management work is performed.

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