

## FUEL SYSTEM Misdiagnosis

Airtex fuel pumps are 100% tested before they leave the factory. That's why it's a good idea to check out everything else first before suspecting the fuel pump. In fact, 50% of all fuel pumps returned for warranty consideration meet all manufacturer's specifications when tested.

### Nearly 75% of all aftermarket fuel pump failures are caused by:

- Misdiagnosis
- Vehicle related electrical wiring or connector issues
- Contaminated vehicle fuel systems

### Misdiagnosis

Misdiagnosis is the leading cause of fuel pump returns. If the engine runs but displays driveability symptoms that you suspect are fuel-related (hard starting, hesitation, misfiring, power loss), first attempt to eliminate other possible causes of the problem.

**Make sure the engine is in good mechanical condition.**

**An engine may not start or run properly for many reasons.**

#### **BE SURE TO CHECK:**

- Fuel in the vehicle tank is adequate (add 2 to 3 gallons as needed).
- Fuel is fresh and of good quality.
- Fuel system has no leaks.
- Fuel filter has been replaced.
- Fuel delivery electrical system checks OK.
- Engine mechanical systems check OK.
- Engine electrical system checks OK.
- Ignition system checks OK.
- Charging system checks OK.
- Battery voltage is at least 12.4 volts.
- Cranking voltage at the starter is at least 9.6 volts.
- Inertia switch is reset (typical of Ford applications).
- Oil pressure and RPM signals are present (various applications).

#### **THE MOST COMMON REASONS FOR REPEAT FUEL PUMP FAILURE ARE:**

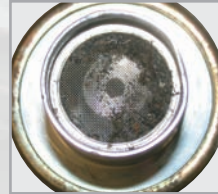
- Misdiagnosis: Pump is OK, fault lies elsewhere!
- Not measuring fuel volume.
- Not replacing fuel filter and strainer(s).
- Fuel contamination.
- Not properly cleaning and flushing inside of fuel tank.
- Not correcting vehicle electrical connector, wiring and ground issues.
- Not resetting a tripped inertia switch.
- Not checking for oil pressure and RPM signals.



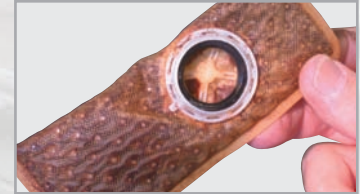
# FUEL SYSTEM Contamination

## A clean fuel tank is essential to successful fuel pump replacement!

- Rust, corrosion or other contamination in the vehicle's fuel tank can quickly cause a new fuel pump to fail
- Rusty, brown, or dark colored strainers and pumps are signs that contaminated fuel or a contaminated fuel tank contributed to pump failure
- The presence of rust, dirt, scale, or slime indicate that the fuel tank must be professionally cleaned or replaced before installing a new fuel pump



Contamination



Dirty Strainer

## NEVER REUSE OLD STRAINERS OR FILTERS, especially when installing a new fuel pump!

- Fuel filters and strainers assure that the fuel sent to the pump and the injectors is clean
- The fuel pump, fuel injectors, and other fuel system components are highly susceptible to damage from minute particles of dirt and contaminants
- Restricted or "plugged" filters force fuel pumps to work harder, allow less fuel to circulate in the system, and contribute to pump overheating and premature failure



Rust



Corrosion

Typically, two filters are used on the fuel system to keep the fuel system clean:

- In-tank strainer mounted to the fuel pump
  - In-tank strainer must be replaced whenever the fuel pump is replaced or as required by the vehicle manufacturer
- External inline fuel filter
  - Change inline filters every 30,000 miles or as recommended by the vehicle manufacturer



In-Tank Strainer



Inline Fuel Filter

**Fuel pump strainer and inline fuel filter replacement does not take the place of cleaning a dirty, contaminated fuel tank!**

### Remember, the Major Causes of Fuel Pump Failure Are:

- Misdiagnosis of the vehicle's problem
- Rust, corrosion or other contamination in the vehicle's fuel tank
- Clogged or plugged fuel filters and strainers
- Faulty on-vehicle fuel pump wiring or connectors

### When Replacing a Fuel Pump, ALWAYS...

- Replace the filter or strainer with new
- Professionally flush or clean the fuel tank
- Inspect, repair, or replace suspect vehicle connectors and wiring
- Refer to the Diagnostic/Troubleshooting and Installation Guidelines document found in the fuel pump box

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