AA Ignition F6TZ-9F838-A

AA Ignition ICP Sensor with Harness Kit User Manual

Model: F6TZ-9F838-A

Introduction

This manual provides instructions for the installation and maintenance of the AA Ignition Injection Control Pressure (ICP) Sensor with Harness Kit. This sensor is crucial for monitoring oil pressure in Ford 7.3L Powerstroke diesel engines, ensuring proper operation of the fuel injectors.

Vehicle Compatibility

This ICP Sensor with Harness Kit is compatible with Ford vehicles equipped with 7.3L Powerstroke engines, typically from 1994 to 2003.

- 2003 Ford E-350 Club Wagon
- 1995 - 1998 Ford E-350 Econoline
- 1995 - 2002 Ford E-350 Econoline Club Wagon
- 2000 - 2003 Ford Excursion
- 1994 - 1996 Ford F-250
- 1999 - 2003 Ford F-250 Super Duty
- 1994 - 1997 Ford F-350
- 1999 - 2003 Ford F-350 Super Duty

Replaces Part Numbers: 1807329C92, ICP102, F4TZ-9F838-A, F6TZ-9F838-A, CM5227.

Components Included

- 1x ICP Sensor
- 1x Pigtail Harness Replacement Kit
- 3x Heat Shrink Crimp Connectors

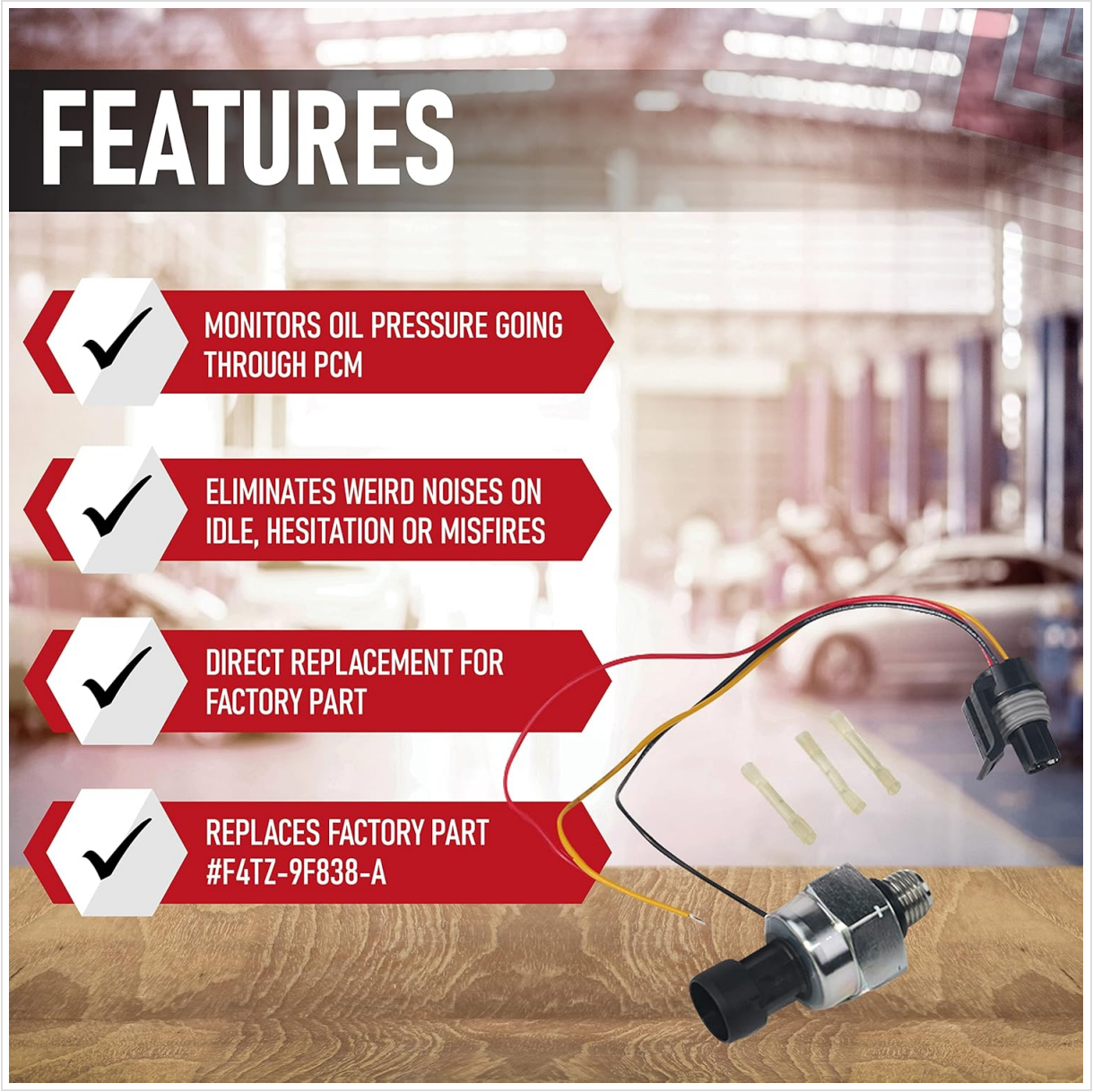

Image shows the ICP sensor, the pigtail harness, and three heat shrink crimp connectors.

Installation Instructions

Safety Warning: Always disconnect the vehicle's battery before performing any electrical work. Consult a professional mechanic if you are unsure about any steps.

1. **Locate the Existing Sensor:** The ICP sensor is typically located in the engine bay, often behind the alternator, on Ford 7.3L Powerstroke engines.
2. **Disconnect Battery:** For safety, disconnect the negative terminal of the vehicle's battery before beginning installation.
3. **Remove Old Sensor:** Carefully disconnect the electrical connector from the old ICP sensor. Use an appropriate wrench or socket to remove the sensor. Ensure the old O-ring is removed completely from the engine block port.
4. **Prepare New Sensor:** Apply a light coat of clean engine oil to the pre-installed O-ring on the new ICP sensor. This prevents tearing or creasing of the O-ring during installation and ensures a proper seal.

Close-up view of the ICP sensor, highlighting the O-ring that requires lubrication before installation.

5. **Install New Sensor:** Thread the new ICP sensor into its port by hand to avoid cross-threading. Tighten it to the manufacturer's specified torque using a wrench or socket. The updated design of this sensor allows for easier use of a socket compared to older designs.
6. **Install Pigtail Harness (if necessary):** If your existing harness is corroded or damaged, use the included pigtail harness. Corroded pins can lead to increased resistance and sensor failure.
    - Cut the old harness wires one by one, stripping a small portion of insulation from each end.
    - Insert one end of a stripped wire from the vehicle side and one end of a corresponding wire from the new pigtail harness into a heat shrink crimp connector.
    - Crimp the connector securely.
    - Apply heat using a heat gun or heat shrink torch to seal the connector, ensuring a weather-tight seal.
    - Repeat for all wires, matching colors correctly (e.g., red to red, yellow to yellow, black to black).

Image showing the pigtail harness with colored wires and the heat shrink crimp connectors.

7. **Connect Electrical Connector:** Plug the pigtail harness connector onto the new ICP sensor. Ensure it clicks securely into place.
8. **Reconnect Battery:** Reconnect the negative terminal of the vehicle's battery.
9. **Test Operation:** Start the engine and check for any oil leaks around the sensor and verify proper engine operation.

Operating Principles

The Injection Control Pressure (ICP) sensor measures the oil pressure within the high-pressure oil system. This pressure is critical for actuating the fuel injectors in a 7.3L Powerstroke diesel engine. The sensor sends this pressure data to the Powertrain Control Module (PCM), which then uses this information, along with input from the Injection Pressure Regulator (IPR), to precisely control fuel delivery.

Maintenance

Regular inspection of the ICP sensor and its harness is recommended. Check for any signs of oil leaks around the sensor's electrical connector or physical damage to the wiring. If oil is present in the electrical connector, it often indicates a failing sensor O-ring or internal sensor failure, requiring replacement.

Troubleshooting Common Issues

Symptom	Possible Cause	Recommended Action
Oil leaking from ICP Sensor's electrical connector	Failing O-ring or internal sensor failure	Replace ICP sensor and ensure proper O-ring lubrication during installation.
Unusual noises on idle during first starts	Faulty ICP sensor or IPR	Inspect ICP sensor and IPR. Consider replacing the ICP sensor first.
Engine hesitation or misfires	Incorrect ICP readings due to faulty sensor or corroded harness connections	Check ICP sensor and harness connections. Replace sensor and/or harness if issues persist. Ensure harness connections are weather-tight.
Check Engine Light (CEL) with ICP related codes	ICP sensor malfunction or wiring issue	Scan for diagnostic trouble codes (DTCs). Follow diagnostic procedures for specific codes. Replace sensor or harness as indicated.

Product Specifications

- **Brand:** AA Ignition
- **Model:** F6TZ-9F838-A
- **Material:** Metal
- **Item Weight:** 0.11 Kilograms
- **Mounting Type:** Flange Mount
- **Output Type:** Push-Pull
- **Specific Uses:** Diesel engines, automotive fuel injection pressure sensing

Warranty and Support

This AA Ignition ICP Sensor with Harness Kit comes with a**Lifetime Warranty**. For warranty claims or technical support, please refer to the contact information provided by your retailer or visit the official AA Ignition website.

Additional Resources

For a visual guide on the product and its features, please refer to the videos below.

Video: ICP Sensor with Harness Kit For Ford Vehicles

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This video provides an overview of the ICP Sensor with Harness Kit, detailing its features and compatibility with Ford 7.3L Powerstroke engines.

Video: Injection Control Pressure Sensor with Harness Kit - Fits Ford Powerstroke 7.3L Vehicles

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This video offers a detailed look at the ICP sensor and harness kit, including installation tips and information on its application in Ford Powerstroke 7.3L vehicles.