NGK AN0135

NGK/NTK Ambient Air Temp Sensor AN0135 (75979) User Manual

Brand: NGK | Model: AN0135

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your NGK/NTK Ambient Air Temp Sensor AN0135. Designed as a direct OE replacement, this sensor delivers reliable performance for your vehicle's engine management system.

The NGK/NTK AN0135 sensor is part of NTK's commitment to providing high-quality technical sensors that meet or exceed OE specifications. It undergoes rigorous testing, including vibration, thermal shock, and OBD verification, to ensure durability and accuracy.

Figure 1: The NGK/NTK Ambient Air Temp Sensor AN0135. This image shows the compact, black plastic sensor with its electrical connector on one end and the sensing element on the other, featuring a ribbed or finned section for air interaction.

2. What's in the Box

- One (1) NGK/NTK Ambient Air Temp Sensor AN0135

Please inspect the contents upon opening the package to ensure all components are present and undamaged.

3. Setup and Installation

Installation of the Ambient Air Temp Sensor AN0135 typically involves replacing an existing sensor. It is recommended that installation be performed by a qualified technician.

Safety Precautions:

- Always disconnect the vehicle's battery before beginning any electrical work to prevent accidental short circuits or electrical shock.
- Ensure the engine is cool to the touch before working on any engine components.
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves.
- Refer to your vehicle's specific service manual for detailed instructions and torque specifications for sensor replacement.

Installation Steps:

1. Locate the existing ambient air temperature sensor in your vehicle. Its location can vary but is often found near the front bumper, radiator support, or in the intake system.
2. Carefully disconnect the electrical connector from the old sensor. Press any release tabs or clips as necessary.
3. Remove the old sensor. This may involve unscrewing it, unbolting it, or releasing a clip that holds it in place.
4. Compare the new NGK/NTK AN0135 sensor with the old one to ensure they are identical in form, fit, and function.
5. Install the new sensor into its mounting location. Ensure it is securely fastened according to your vehicle's specifications.
6. Reconnect the electrical connector to the new sensor. Ensure it clicks into place securely.
7. Reconnect the vehicle's battery.
8. Start the vehicle and check for proper operation and ensure no warning lights related to the sensor are illuminated.

4. Operating Principles

The NGK/NTK Ambient Air Temp Sensor AN0135 is a critical component of your vehicle's engine management system. It measures the temperature of the air outside the vehicle or within specific parts of the intake system, depending on its exact application.
The sensor typically uses a thermistor, a type of resistor whose resistance changes significantly with temperature. As the ambient air temperature changes, the resistance of the thermistor changes, which the vehicle's Engine Control Unit (ECU) interprets as a temperature reading.
This temperature data is used by the ECU for various functions, including:

- **Fuel Mixture Adjustment:** Cold air is denser than warm air, requiring more fuel for optimal combustion. The sensor helps the ECU adjust the fuel-air mixture accordingly.
- **Idle Speed Control:** Temperature affects engine idle speed, and the sensor provides data for stable idle control.
- **Emissions Control:** Accurate temperature readings contribute to efficient engine operation, which helps reduce harmful emissions.
- **Air Conditioning System:** In some vehicles, the ambient air temperature sensor also provides input to the automatic climate control system.

A properly functioning ambient air temperature sensor ensures your vehicle's engine operates efficiently and reliably across various environmental conditions.

5. Maintenance

The NGK/NTK Ambient Air Temp Sensor AN0135 is designed for long-term reliability and typically requires minimal maintenance. However, periodic inspection can help ensure its continued performance.

Inspection Guidelines:

- **Visual Check:** Periodically inspect the sensor and its wiring for any signs of physical damage, corrosion, or loose connections. Ensure the connector is firmly seated.
- **Cleanliness:** While the sensor is generally robust, excessive dirt or debris accumulation on the sensing element could potentially affect its accuracy. If accessible and safe, gently clean the sensor with a soft, dry cloth. Avoid using harsh chemicals or abrasive materials.
- **Wiring Integrity:** Check the wiring harness leading to the sensor for fraying, cuts, or signs of rodent damage.

If any damage or significant corrosion is observed, or if the sensor is suspected of malfunctioning, replacement is usually the recommended course of action as these sensors are not typically repairable.

6. Troubleshooting

Issues with an ambient air temperature sensor can manifest in various ways, often triggering a "Check Engine" light or affecting engine performance. Here are some common symptoms and troubleshooting steps:

Symptom	Possible Cause	Action
Check Engine Light (CEL) illuminated	Faulty sensor, wiring issue, incorrect signal.	Scan for Diagnostic Trouble Codes (DTCs) using an OBD-II scanner. Codes related to ambient air temperature (e.g., P0070, P0071) indicate a sensor or circuit problem. Inspect wiring and connector. If codes persist after inspection, consider sensor replacement.
Inaccurate temperature display (e.g., dashboard display)	Sensor malfunction, open circuit, short circuit.	Verify the sensor's resistance values against manufacturer specifications using a multimeter. Check for continuity in the wiring.
Poor fuel economy or rough idle (less common for AAT sensor)	Incorrect temperature data affecting ECU calculations.	While less direct, an incorrect AAT reading can subtly affect engine performance. Check other related sensors (MAF, IAT) as well.

For complex issues or persistent problems, it is highly recommended to consult a professional automotive technician. They have specialized diagnostic tools and expertise to accurately identify and resolve sensor-related issues.

7. Specifications

Key specifications for the NGK/NTK Ambient Air Temp Sensor AN0135:

Attribute	Value
Brand	NGK
Model	NTK
Item Model Number	AN0135
Manufacturer Part Number	AN0135

Attribute	Value
Specific Uses For Product	Oxygen Sensor (Note: Product title indicates Ambient Air Temp Sensor, but specification lists Oxygen Sensor. Please verify application.)
Item Weight	9.07 g (0.32 ounces)
Package Dimensions	2.63 x 1.5 x 1 inches
UPC	087295759790
ASIN	B07F4LQFD7
Date First Available	June 29, 2018

Note: The "Specific Uses For Product" listed as "Oxygen Sensor" in the specifications might be a general categorization or a data discrepancy. The product title and description clearly indicate it is an Ambient Air Temp Sensor. Always confirm compatibility with your vehicle's specific requirements.

8. Warranty Information

NGK/NTK products are manufactured to high-quality standards. For specific warranty terms and conditions applicable to your Ambient Air Temp Sensor AN0135, please refer to the official NGK/NTK website or contact their customer service directly. Typically, warranties cover defects in materials and workmanship under normal use.
Keep your proof of purchase (receipt or invoice) as it will be required for any warranty claims.

9. Support and Contact

For technical assistance, product inquiries, or support, please contact NGK/NTK directly through their official channels:

- **Official Website:** Visit the NGK Spark Plugs (U.S.A.) website for product information, FAQs, and contact details. www.ngksparkplugs.com
- **Customer Service:** Refer to the website for phone numbers or email contact forms for customer support.

When contacting support, please have your product model number (AN0135) and any relevant vehicle information ready to expedite assistance.