

DNJ VTS1074

DNJ VTS1074 Variable Timing Solenoid Instruction Manual

Model: VTS1074

1. INTRODUCTION

This instruction manual provides essential information for the proper installation, function, and maintenance of the DNJ VTS1074 Variable Timing Solenoid. The Variable Valve Timing (VVT) solenoid is a critical component in modern engine systems, responsible for controlling the flow of oil to the camshaft phasers, thereby adjusting valve timing. This adjustment optimizes engine performance, fuel efficiency, and emissions across various operating conditions. For optimal performance and longevity, it is crucial to follow all instructions and safety guidelines outlined in this manual. Professional installation is recommended.

2. SAFETY INFORMATION

Always prioritize safety when working on any vehicle. Failure to observe safety precautions can result in personal injury or damage to the vehicle.

- Ensure the vehicle's engine is off and cooled down before beginning any work.
- Disconnect the negative terminal of the battery to prevent electrical hazards.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Refer to the vehicle's specific service manual for detailed procedures and torque specifications.
- Keep work area clean and well-lit.
- Dispose of old parts and fluids responsibly according to local regulations.

3. PACKAGE CONTENTS

Upon opening the package, verify that all components are present and undamaged. The DNJ VTS1074 package typically includes:

- 1 x DNJ VTS1074 Variable Timing Solenoid





Image 1: DNJ VTS1074 Variable Timing Solenoid with its product box. The solenoid is black with a green O-ring, and the box features the DNJ logo with an eagle.

4. COMPATIBILITY

The DNJ VTS1074 Variable Timing Solenoid is designed for specific vehicle applications. Please confirm compatibility with your vehicle's make, model, and engine specifications before installation.

Compatible Vehicles (2006-2011):

- Buick
- Chevrolet
- Isuzu
- Pontiac
- Saturn Aura
- Saturn G6
- Isuzu i-350

Engine Specifications: 3.5L-4.6L V6 12V OHV 213cid

5. INSTALLATION (SETUP)

Installation of the Variable Timing Solenoid requires mechanical aptitude and specific tools. If you are not confident in your ability to perform this repair, it is highly recommended to seek assistance from a certified automotive technician.

General Installation Steps:

1. **Preparation:** Park the vehicle on a level surface, engage the parking brake, and ensure the engine is cool. Disconnect the negative battery terminal.
2. **Locate the Solenoid:** Consult your vehicle's service manual to identify the exact location of the VVT solenoid. It is typically located on the cylinder head or valve cover.
3. **Access:** Depending on the vehicle, you may need to remove other components (e.g., engine cover, intake manifold, wiring harnesses) to gain access to the solenoid.
4. **Disconnect Electrical Connector:** Carefully disconnect the electrical connector from the old solenoid.
5. **Remove Old Solenoid:** Remove the retaining bolt(s) or clip(s) holding the solenoid in place. Gently pull the old solenoid out of its bore. Be prepared for a small amount of oil to drain.
6. **Inspect Bore:** Clean the solenoid bore and inspect it for any debris or damage.
7. **Install New Solenoid:** Apply a thin layer of clean engine oil to the new solenoid's O-ring. Carefully insert the new DNJ VTS1074 solenoid into the bore, ensuring it seats properly.
8. **Secure Solenoid:** Reinstall the retaining bolt(s) or clip(s) and tighten to the manufacturer's specified torque. Refer to your vehicle's service manual for exact torque values.

9. **Reconnect Electrical Connector:** Reconnect the electrical connector firmly.
10. **Reassemble:** Reinstall any components that were removed for access.
11. **Final Steps:** Reconnect the negative battery terminal. Start the engine and check for any leaks or abnormal operation. Clear any stored diagnostic trouble codes (DTCs) using an OBD-II scanner.



Image 2: A detailed view of the DNJ VTS1074 Variable Timing Solenoid, highlighting its internal components and the green O-ring seal.



Image 3: The reverse side of the DNJ VTS1074 Variable Timing Solenoid, displaying the sealed casing and a small blue quality control mark.

6. FUNCTION (OPERATING PRINCIPLES)

The Variable Timing Solenoid (VTS) is an electromechanical component controlled by the engine's Powertrain Control Module (PCM). Its primary function is to regulate the oil pressure directed to the camshaft phasers. By precisely controlling this oil flow, the VTS can advance or retard the camshaft timing, which in turn adjusts the opening and closing of the engine's valves.

This dynamic adjustment allows the engine to:

- Improve low-end torque and high-end horsepower.
- Enhance fuel economy.
- Reduce harmful exhaust emissions.
- Optimize engine idle stability.

A properly functioning VTS ensures the engine operates efficiently across its entire RPM range.

7. MAINTENANCE

The DNJ VTS1074 Variable Timing Solenoid is designed for durability and reliability. While it does not require specific routine maintenance, its performance is directly linked to the overall health of your engine's lubrication system.

- **Regular Oil Changes:** Adhere strictly to your vehicle manufacturer’s recommended oil change intervals using the specified oil type and viscosity. Contaminated or low-quality oil can clog the solenoid's internal passages, leading to malfunction.
- **Oil Filter Replacement:** Always replace the oil filter with each oil change to ensure clean oil circulation.
- **Monitor Engine Lights:** Pay attention to any illuminated "Check Engine" or "Service Engine Soon" lights on your dashboard. These can indicate issues with the VVT system or other engine components.

8. TROUBLESHOOTING

Symptoms of a failing or faulty Variable Timing Solenoid can include:

- **Illuminated Check Engine Light:** Often accompanied by specific diagnostic trouble codes (DTCs) related to VVT system performance (e.g., P0010, P0011, P0013, P0014).
- **Rough Idle or Stalling:** Incorrect valve timing can lead to unstable engine operation at idle.
- **Reduced Fuel Economy:** The engine may consume more fuel if valve timing is not optimized.
- **Decreased Engine Performance:** Noticeable loss of power or acceleration.
- **Increased Emissions:** The vehicle may fail emissions tests due to improper combustion.

If you experience any of these symptoms, it is recommended to have your vehicle diagnosed by a qualified technician. An OBD-II scanner can help retrieve specific trouble codes to pinpoint the issue.

9. SPECIFICATIONS

Attribute	Value
Brand	DNJ
Model Number	VTs1074
Item Weight	1.21 pounds
Package Dimensions	5.63 x 4.84 x 1.69 inches
Manufacturer Part Number	VTs1074
ASIN	B07H5TKZP8
First Available	September 7, 2018

10. WARRANTY AND SUPPORT

DNJ Engine Components stands behind the quality of its products. For specific warranty information regarding the VTs1074 Variable Timing Solenoid, please refer to the warranty documentation included with your purchase or visit the official DNJ website. Warranty terms typically cover manufacturing defects under normal use. For technical assistance, troubleshooting guidance, or warranty claims, please contact DNJ customer support through their official channels. When contacting support, have your product model number (VTs1074) and purchase details readily available. You can find more information about DNJ products and support on their official website [DNJ Engine Components Store](#)

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Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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