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> Airshi HL129 Valve Lifter Instruction Manual for ATS, CTS, STS, and Saturn Vehicles

Airshi Airshipm9irsdo3e

Airshi HL129 Valve Lifter Instruction Manual

Model: Airshipm9irsdo3e

1. INTRODUCTION

This manual provides essential information for the Airshi HL129 OEM Standard Valve Lifter. It covers product overview, compatibility, specifications, installation guidelines, and general maintenance. Please read this manual thoroughly before installation and use to ensure proper function and longevity of the component.

2. PRODUCT OVERVIEW

The Airshi HL129 Valve Lifter is a critical engine component designed to ensure precise valve timing and efficient engine operation. Manufactured from high-strength materials, it provides reliable performance and contributes to reduced engine noise and vibration. This product is engineered to meet or exceed OEM standards, ensuring direct fitment and optimal functionality.



Figure 2.1: Airshi HL129 Valve Lifters. These components are essential for the proper functioning of an internal combustion engine's valvetrain.

3. COMPATIBILITY AND FITMENT

The Airshi HL129 Valve Lifter is designed for direct installation without modifications for a range of vehicles. Please verify your vehicle's make, model, and engine specifications against the list below to ensure proper fitment.



Fitment:

Fit for ATS 2.0L L4 Turbocharged 2.5L L4 3.6L V6 2013-2015

Fit for CTS 2.0L L4 Turbocharged 2014-2015

Fit for SRX 2.8L V6 Turbocharged 2010-2011

Fit for SRX 3.0L V6 2010-2011

Fit for STS 4.6L V8 2005-2010

Fit for XTS 3.6L V6 2013-2015

Fit for XTS 3.6L V6 Turbocharged 2014-2015

Fit for XLR 4.4L V8 Supercharged 2006-2009

Fit for ELDORADO 4.6L V8 2000-2002

Replacement for Saturn 146 2.4L DOHC L4 16v Ecotec
2006-2009

Replacement for Saturn 134 2.2L DOHC L4 16v Ecotec
2000-2007

Replacement for CHEVY; Replacement for SATURN



Figure 3.1: Visual representation of compatible vehicle types and the valve lifter product.

Compatible Models:

- **For ATS:** 2.0L L4 Turbocharged, 2.5L L4, 3.6L V6 (2013-2015)
- **For CTS:** 2.0L L4 Turbocharged (2014-2015), 2.8L V6 (2005-2007), 3.0L V6 (2010-2014), 3.6L V6 (2004-2015), 6.2L V8 Supercharged DOHC (2012)
- **For SRX:** 2.8L V6 Turbocharged (2010-2011), 3.0L V6 (2010-2011), 3.6L V6 (2004-2015)
- **For STS:** 4.6L V8 (2004-2009), 3.6L V6 (2005-2011), 4.4L V8 Supercharged (2006-2009), 4.6L V8 (2005-2010)
- **For XTS:** 3.6L V6 (2013-2015), 3.6L V6 Turbocharged (2014-2015)
- **For XLR:** 4.4L V8 Supercharged (2006-2009), 4.6L V8 (2004-2009)
- **For DTS:** 4.6L V8 (2006-2011)
- **For ELDORADO:** 4.6L V8 (2000-2002)
- **Replacement for Saturn:** 146 2.4L DOHC L4 16v Ecotec (2006-2009), 134 2.2L DOHC L4 16v Ecotec (2000-2007), 122 2.0L DOHC L4 16v Ecotec S/C (2004-2008), 116 1.9L DOHC L4 16v Vin 7 (1999-2002)

OEM Part Numbers: HL129, 12572638, 24100005. These numbers are provided for cross-referencing and ensuring compatibility with original equipment specifications.

4. KEY FEATURES

- **OEM Standard Design:** Engineered to match original vehicle specifications, ensuring direct fitment and reliable performance.
- **High-Strength Materials:** Manufactured using durable materials for safe, reliable operation and extended lifespan.
- **Enhanced Engine Performance:** Contributes to efficient engine operation, optimal power output, and stable vehicle performance.
- **Noise and Vibration Reduction:** Helps restore normal engine function by effectively reducing noise and vibration transmission, improving driving comfort.
- **Engine Protection:** Provides top-level engine protection by ensuring proper valve timing and lubrication.

5. SPECIFICATIONS

Attribute	Detail
Item Type	Valve Lifter
Brand	Airshi
Model Number	Airshipm9irsdo3e
OEM Part Numbers	HL129, 12572638, 24100005
Material	Metal
Quantity	16 pieces
Package Dimensions	5.51 x 5.51 x 0.39 inches
Item Weight	10.8 ounces



Figure 5.1: The complete set of 16 valve lifters included in the package.

6. INSTALLATION GUIDELINES

Warning: Installation of engine components requires specialized knowledge and tools. Improper installation can lead to severe engine damage or personal injury. It is highly recommended that installation be performed by a qualified automotive technician.

General Steps (for professional reference):

1. **Preparation:** Ensure the engine is cool. Disconnect the battery. Drain engine oil if necessary for access.
2. **Access:** Remove components obstructing access to the valvetrain (e.g., valve covers, camshafts, rocker arms).
3. **Removal of Old Lifters:** Carefully remove the old valve lifters. Note their original positions if they are to be inspected or if only specific ones are being replaced.
4. **Inspection:** Inspect the lifter bores, camshaft lobes, and other valvetrain components for wear or damage. Address any issues before installing new lifters.
5. **Pre-lubrication:** Before installation, soak new lifters in clean engine oil for at least 30 minutes to ensure they are properly primed. This helps prevent dry starts and premature wear.
6. **Installation of New Lifters:** Install the new Airshi HL129 valve lifters into their respective bores. Ensure they slide in smoothly without force.
7. **Reassembly:** Reinstall camshafts, rocker arms, valve covers, and any other removed components according

to manufacturer specifications, paying close attention to torque values.

8. **Fluid Refill:** Refill engine oil to the correct level.
9. **Initial Start-up:** Start the engine and allow it to run at idle. Listen for unusual noises. Monitor oil pressure. A break-in procedure may be required depending on the extent of the valvetrain work.

Refer to your vehicle's specific service manual for detailed, model-specific installation procedures and torque specifications.

7. OPERATING PRINCIPLE

Valve lifters, also known as tappets, are hydraulic or mechanical components that ride on the camshaft lobes and transfer the camshaft's motion to the pushrods or directly to the valves. The Airshi HL129 is a hydraulic valve lifter, which uses engine oil pressure to maintain zero lash (clearance) in the valvetrain. This hydraulic action ensures quiet operation, compensates for thermal expansion, and reduces wear on valvetrain components by eliminating play.

Once installed, the valve lifter operates continuously as part of the engine's valvetrain system, ensuring the intake and exhaust valves open and close at the precise times dictated by the camshaft, which is crucial for engine combustion and efficiency.



Figure 7.1: Detailed view of a single Airshi HL129 valve lifter.

8. MAINTENANCE

Proper maintenance of your engine is crucial for the longevity and performance of valve lifters and other internal components. While valve lifters themselves are not typically a user-serviceable item, their performance is directly

affected by engine health.

- **Regular Oil Changes:** Adhere to your vehicle manufacturer's recommended oil change intervals using the specified type and viscosity of engine oil. Clean oil is vital for hydraulic lifter function.
- **Use Quality Oil Filters:** Always use a high-quality oil filter to ensure contaminants are removed from the engine oil, preventing blockages in the lifters.
- **Monitor Oil Level:** Regularly check and maintain the engine oil at the correct level. Low oil levels can starve lifters of lubrication and hydraulic pressure.
- **Listen for Unusual Noises:** Pay attention to any ticking or tapping noises from the engine, especially upon cold start-up, as these can indicate lifter issues.

9. TROUBLESHOOTING

If you experience issues that you suspect are related to valve lifters, consider the following common symptoms and potential causes. Always consult a qualified mechanic for diagnosis and repair.

Common Symptoms:

- **Ticking or Tapping Noise:** Often heard from the top of the engine, especially when cold or at idle.
 - **Possible Causes:** Low oil pressure, dirty or incorrect engine oil, worn lifter, worn camshaft lobe, air trapped in hydraulic lifter.
- **Engine Misfires or Rough Idle:** Can occur if a lifter is stuck or not functioning correctly, leading to improper valve operation.
 - **Possible Causes:** Severely worn or collapsed lifter, bent pushrod.
- **Reduced Engine Performance:** Improper valve timing due to lifter issues can lead to a noticeable drop in power.
 - **Possible Causes:** Multiple lifters failing, significant valvetrain wear.

Important: Do not attempt complex engine repairs without proper training, tools, and safety equipment. Consult a professional automotive service center.

10. WARRANTY AND SUPPORT

For information regarding the warranty of your Airshi HL129 Valve Lifter, please refer to the purchase documentation or contact the seller directly. For technical support or inquiries, please reach out to Airshi customer service through their official channels.