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› maXpeedingrods Universal Front Mount Intercooler Instruction Manual

maXpeedingrods KO89@ZLQ-27-7-25

maXpeedingrods Universal Front Mount Intercooler

Model: KO89@ZLQ-27-7-25

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your maXpeedingrods Universal Front Mount Intercooler. Designed to enhance engine performance by efficiently cooling compressed intake air, this intercooler is a critical component for turbocharged or supercharged vehicles. Please read this manual thoroughly before installation and use to ensure proper function and safety.



Figure 1.1: maXpeedingrods Universal Front Mount Intercooler.

2. SAFETY INFORMATION

Always prioritize safety when working on your vehicle. Improper installation or handling of automotive components can lead to serious injury or damage. It is highly recommended that installation be performed by a qualified professional.

- Always wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure the vehicle is cool and stable before beginning any work. Disconnect the battery to prevent accidental electrical discharge.
- Be aware of hot surfaces and sharp edges.
- Do not modify the intercooler. Any alterations may compromise its integrity and performance.
- Ensure all connections are secure and leak-free after installation.

3. PRODUCT FEATURES

The maXpeedingrods Universal Front Mount Intercooler is engineered with several key features to deliver optimal performance and durability:

- **Optimized Dimensions:** Inlet/Outlet size of 2.5 inches. Full size: 27.00 inches (L) x 7.00 inches (H) x 2.50 inches (W).
- **High Performance:** Designed for compressed air flow rates of less than 350 Cubic Feet/Min, rated up to 500 Max HP.
- **Efficient Heat Transfer:** Features a tube and fin design that provides excellent heat transfer capabilities, reducing intake air temperatures and minimizing heat soak.
- **Durable Construction:** Manufactured from T6061 Aluminum, known for its lightweight properties, excellent heat transfer, and corrosion resistance.
- **Precision Craftsmanship:** TIG welded and CNC machined for precise fitment and robust construction.
- **Universal Fitment:** Its lightweight design and simple structure facilitate easy and convenient installation, suitable for various vehicle applications.

UNIVERSAL INTERCOOLER



- Inlet / Outlet Size: 2.5"
- Max PSi: 400HP

Figure 3.1: Universal Intercooler application.

SUPERIOR STRENGTH



T6061 Aluminium

Lightweight design with
excellent heat transfer and
corrosion resistance

Figure 3.2: Superior strength T6061 Aluminium construction.



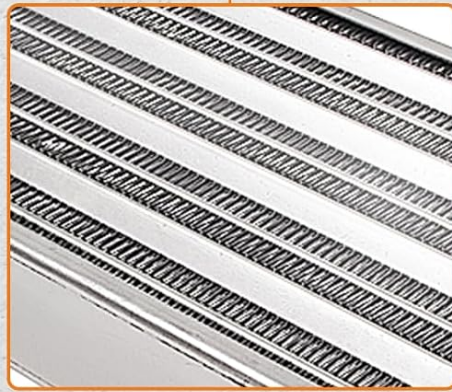
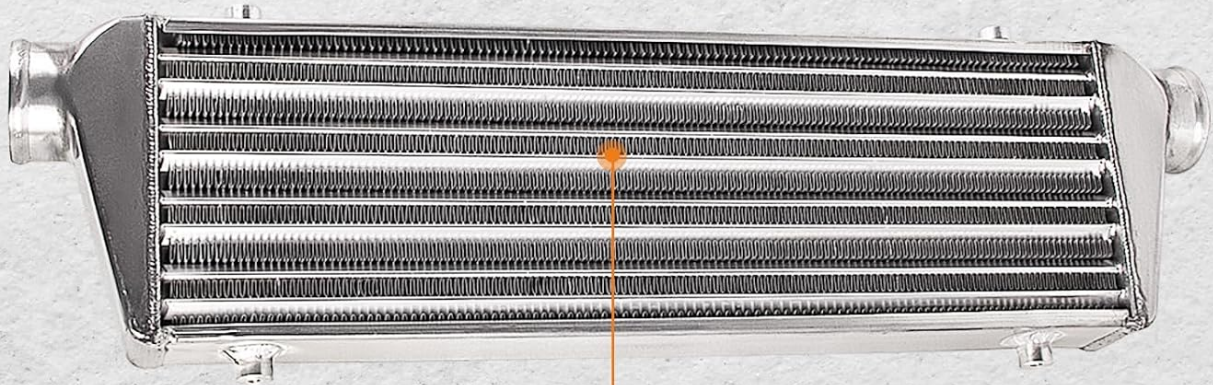
Figure 3.3: Detailed view of the tube and fin design.

4. SPECIFICATIONS

Detailed specifications for the maXpeedingrods Universal Front Mount Intercooler:

Specification	Value
Model Number	KO89@ZLQ-27-7-25
Inlet / Outlet Size	2.5 inches
Full Size (L x H x W)	27.00" x 7.00" x 2.50"
Material	T6061 Aluminum
Compress Air Flow Rate	<350 Cubic Feet/Min
Rated Max HP	Up to 500 HP
Pressure Drop (at 35psi)	2~5 psi
Pressure Drop (at 15psi)	0.2~0.5 psi
Item Weight	6.94 pounds
Product Dimensions (Shipping)	29.13 x 9.84 x 3.54 inches

TUBE & FIN DESIGN



Excellent heat transfer capability
reduces intake air temperature
and heat soak

Figure 4.1: Intercooler dimensions overview.

5. SETUP (INSTALLATION)

The maXpeedingrods Universal Front Mount Intercooler is designed for straightforward installation, but professional installation is highly recommended to ensure optimal performance and safety. Due to its universal nature, specific mounting hardware and piping may vary depending on your vehicle and existing setup.

5.1 Pre-Installation Checks

- **Verify Fitment:** Before beginning installation, carefully measure the intended mounting location on your vehicle to ensure the intercooler's dimensions (27" L x 7" H x 2.5" W) are compatible. Consider clearance for piping, bumper, and other components.
- **Inspect Product:** Unpack the intercooler and inspect it for any shipping damage. Ensure all inlets and outlets are clear of debris.

5.2 General Installation Steps

1. **Prepare Vehicle:** Park the vehicle on a level surface, engage the parking brake, and disconnect the negative terminal of the battery. Allow the engine to cool completely.
2. **Remove Obstructions:** Depending on your vehicle, you may need to remove the front bumper, grille, or other components to access the mounting area.
3. **Mount Intercooler:** Securely mount the intercooler in the desired front-mount location. Custom brackets or modifications may be necessary for a stable fit. The lightweight design aids in this process.
4. **Connect Piping:** Connect your existing or new intercooler piping to the 2.5-inch inlet and outlet of the intercooler. Ensure all clamps are tightened securely to prevent boost leaks.
5. **Reconnect Components:** Reinstall any removed vehicle components (bumper, grille, etc.).
6. **Final Checks:** Reconnect the battery. Start the vehicle and check for any unusual noises, leaks, or performance issues. It is advisable to perform a boost leak test.

6. OPERATING PRINCIPLES

An intercooler is a heat exchanger used to cool the compressed air from a turbocharger or supercharger before it enters the engine's intake manifold. When air is compressed, its temperature increases significantly. Hot, less dense air reduces engine power and can lead to detonation.

The maXpeedingrods intercooler works by passing the hot, compressed air through its internal core, which consists of a series of tubes and fins. Ambient air flowing over the external fins dissipates heat from the compressed air, effectively lowering its temperature. This results in denser, cooler air entering the engine, which translates to:

- **Increased Horsepower and Torque:** Denser air contains more oxygen, allowing for a more complete combustion and greater power output.
- **Improved Fuel Efficiency:** A more efficient combustion process can lead to better fuel economy.
- **Reduced Engine Stress:** Cooler intake temperatures help prevent pre-ignition and detonation, protecting engine components and extending engine life.



Figure 6.1: Intercooler's role in maximizing power output.

7. MAINTENANCE

The maXpeedingrods Universal Front Mount Intercooler requires minimal maintenance. Regular inspection is key to ensuring its continued efficiency and longevity.

- **Regular Inspection:** Periodically inspect the intercooler core for any signs of damage, bent fins, or blockages from road debris (leaves, insects, dirt).
- **Cleaning:** If the fins are dirty or blocked, carefully clean them using compressed air or a soft brush. Avoid using high-pressure washers directly on the fins, as this can bend them.
- **Check Connections:** Ensure all piping connections and clamps remain tight and free of leaks. Boost leaks can significantly reduce performance.
- **Structural Integrity:** Check the mounting points and the intercooler body for any cracks, dents, or signs of corrosion.

8. TROUBLESHOOTING

If you experience issues after installing your intercooler, consider the following common troubleshooting steps:

- **Reduced Engine Performance:**
 - *Possible Cause:* Boost leak from loose clamps or damaged piping.
 - *Solution:* Inspect all connections for tightness and integrity. Perform a boost leak test.
 - *Possible Cause:* Blocked or damaged intercooler fins.
 - *Solution:* Clean the intercooler core. If fins are severely bent, consider professional repair or replacement.
- **Whistling or Hissing Sound:**
 - *Possible Cause:* Air leak from intercooler piping or connections.
 - *Solution:* Re-check all clamps and connections. Listen carefully for the source of the sound.
- **Fitment Issues:**
 - *Possible Cause:* Incorrect measurements or vehicle-specific variations.
 - *Solution:* Re-verify dimensions against your vehicle's available space. Custom fabrication of mounting brackets or piping may be required.

If problems persist, it is recommended to consult with a professional automotive technician.

9. WARRANTY AND SUPPORT

maXpeedingrods stands behind the quality of its products. The Universal Front Mount Intercooler is covered by **2-year warranty** from the date of purchase against manufacturing defects in materials and workmanship.

In addition to the warranty, maXpeedingrods provides unlimited technical support and customer service. For assistance with installation, troubleshooting, or warranty claims, please contact maXpeedingrods customer support through their official channels or visit their Amazon store page for more information:

[Visit the maXpeedingrods Store on Amazon](#)

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Question

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.

Submit question