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> Giuqa 4JA1 Engine Piston, Piston Ring, and Cylinder Liner Kit Instruction Manual

**Giuqa 8-97176-693-0 8971766930**

# Giuqa 4JA1 Engine Piston, Piston Ring, and Cylinder Liner Kit Instruction Manual

Model: 8-97176-693-0, 8-97942-985-0

## 1. PRODUCT OVERVIEW

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This instruction manual provides essential information for the installation and proper handling of the Giuqa 4JA1 Engine Piston, Piston Ring, and Cylinder Liner Kit. This kit is designed for specific Isuzu 4JA1 and 4JA1T engine applications, including NHR54, TFR54, Rodeo, Pickup, and D-Max models. It includes pistons, piston rings, piston pins, piston clips, and semi-finished cylinder liners.



- 4 PCS STD 4JA1 Piston
- 4 Sets STD 4JA1 Piston Rings
- 4 PCS STD 4JA1 Piston Pin
- 4 Pairs STD 4JA1 Piston Clip
- 4 PCS STD 4JA1 Cylinder Liners (Semi-finished)

### 3. SPECIFICATIONS

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Detailed specifications for the included components are provided below:

#### 3.1. Cylinder Liners

**Part Number:** 8-97176-693-0, 8971766930

**Total Length (TL):** 156mm

**Inner Diameter (ID):** 93mm

**Outer Diameter (OD):** 95mm

**Note:** These cylinder liners are semi-finished products and require processing (e.g., honing, boring) after installation into the engine block.



**Figure 3.1:** Four semi-finished cylinder liners. These components require final machining after installation.

#### 3.2. Pistons

**Part Number:** 8-97942-985-0, 8979429850

**Diameter:** 93mm

**Height:** 102.8mm

**Round Combustion Chamber:** 44mm

**Pin Diameter:** 31mm × 76mm



**Figure 3.2:** Four pistons for the 4JA1 engine, showing the combustion chamber design.

## 4. COMPATIBILITY AND APPLICATION

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This kit is compatible with the following engine models and vehicles:

- **Engine Models:** Isuzu 4JA1, Isuzu 4JA1T
- **Vehicle Applications:** Isuzu NHR54, Isuzu TFR54, Isuzu Rodeo, Isuzu Pickup, Isuzu D-Max

## 5. INSTALLATION AND SETUP

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Installation of engine internal components requires specialized knowledge and tools. **Professional installation is strongly recommended.**

1. **Component Verification:** Before beginning installation, carefully verify that all received components match the required specifications and part numbers for your specific engine model. Refer to your engine's service manual for precise details.
2. **Cylinder Liner Preparation:** The included cylinder liners are semi-finished. This means they require final machining, such as cylinder boring and honing, after being pressed into the engine block. This process ensures proper fitment and optimal engine performance. Failure to perform this step correctly can lead to engine damage.
3. **Piston and Piston Ring Installation:** Install pistons and piston rings according to the manufacturer's specifications outlined in your engine's service manual. Pay close attention to ring gap, orientation, and lubrication.

4. **Assembly:** Assemble all engine components following the detailed procedures in your engine's official service manual. Ensure all fasteners are torqued to the correct specifications.

For detailed step-by-step instructions, consult the official Isuzu 4JA1 or 4JA1T engine service manual relevant to your vehicle.

## 6. MAINTENANCE

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Proper engine maintenance is crucial for the longevity and performance of these components. Adhere to the engine manufacturer's recommended maintenance schedule, which typically includes:

- Regular oil and filter changes using specified lubricants.
- Monitoring engine temperature and fluid levels.
- Periodic inspection of engine components for wear or damage.

Consult your vehicle's service manual for specific maintenance procedures and intervals.

## 7. TROUBLESHOOTING

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This section provides general guidance for common issues. For specific engine problems, it is recommended to consult a qualified automotive technician or refer to your engine's service manual.

- **Engine Noise:** Unusual engine noises after installation may indicate incorrect assembly, improper clearances, or component interference. Immediately cease engine operation and inspect.
- **Excessive Smoke:** Blue or black smoke from the exhaust can suggest issues with piston rings, cylinder liners, or fuel system.
- **Loss of Power:** Reduced engine power may be due to poor compression, which can be related to piston or cylinder liner issues.

Always prioritize safety and seek professional assistance for complex engine diagnostics and repairs.

## 8. IMPORTANT NOTES AND WARNINGS

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- **Professional Installation:** This kit is intended for installation by experienced professionals. Incorrect installation can lead to severe engine damage and void any implied warranties.
- **Part Verification:** It is the installer's responsibility to ensure that the received product matches the requirements of the specific engine. If unsure, provide Giuqa with a photo of the engine nameplate, product part number, or a photo of the existing product for confirmation before installation.
- **Visual Representation:** Product images are for illustrative purposes. Slight deviations between the picture and the physical object may occur. The correct kit will be provided based on the specified part numbers and application.
- **No Instructions Included:** This kit does not include a detailed step-by-step installation guide. Refer to the official service manual for your specific Isuzu 4JA1 or 4JA1T engine.

## 9. WARRANTY AND SUPPORT

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For information regarding product warranty, returns, or technical support, please contact Giuqa customer service through the platform where the purchase was made. Ensure you have your purchase details and product information readily available.

