

## TOM 102mm Heads Intake Manifold

# TOM 102mm Heads Intake Manifold Kit User Manual

Model: 102mm Heads Intake Manifold (Part No. Y01-071)

Brand: TOM

## 1. INTRODUCTION

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This manual provides essential information for the installation, operation, and maintenance of your TOM 102mm Heads Intake Manifold and Throttle Body Fuel Rails Kit. This product is designed to enhance the performance of compatible engines by optimizing airflow and fuel delivery. Please read this manual thoroughly before installation to ensure proper function and safety.

## 2. PRODUCT OVERVIEW

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The TOM 102mm Heads Intake Manifold Kit is a high-performance component fabricated from 3mm sheet metal aluminum, TIG welded for durability. It includes a 102mm throttle body and 3/4 high-flow fuel rails with a braided fuel crossover line. The design features 3 vacuum ports and an intake height of approximately 9.00 inches, which is about 3 inches higher than stock manifolds, contributing to improved airflow.

### 2.1 Kit Components

- Intake Manifold (Black)
- 102mm Throttle Body
- Fuel Rails (2 included)
- Braided Fuel Crossover Line
- Gaskets
- Hardware (bolts, fittings)

### 2.2 Product Features

- Constructed from 3mm sheet metal aluminum for rigidity under boost or vacuum.
- TIG welded aluminum fabrication ensures robust construction.
- Designed to fit cathedral style LS1, LS2, LS6, 4.8L, 5.3L, 5.7L, and 6.0L heads.
- Enhances engine airflow for improved performance.

2.3 Visual Overview



Figure 1: Complete TOM 102mm Heads Intake Manifold Kit, including the manifold, throttle body, and fuel rails.

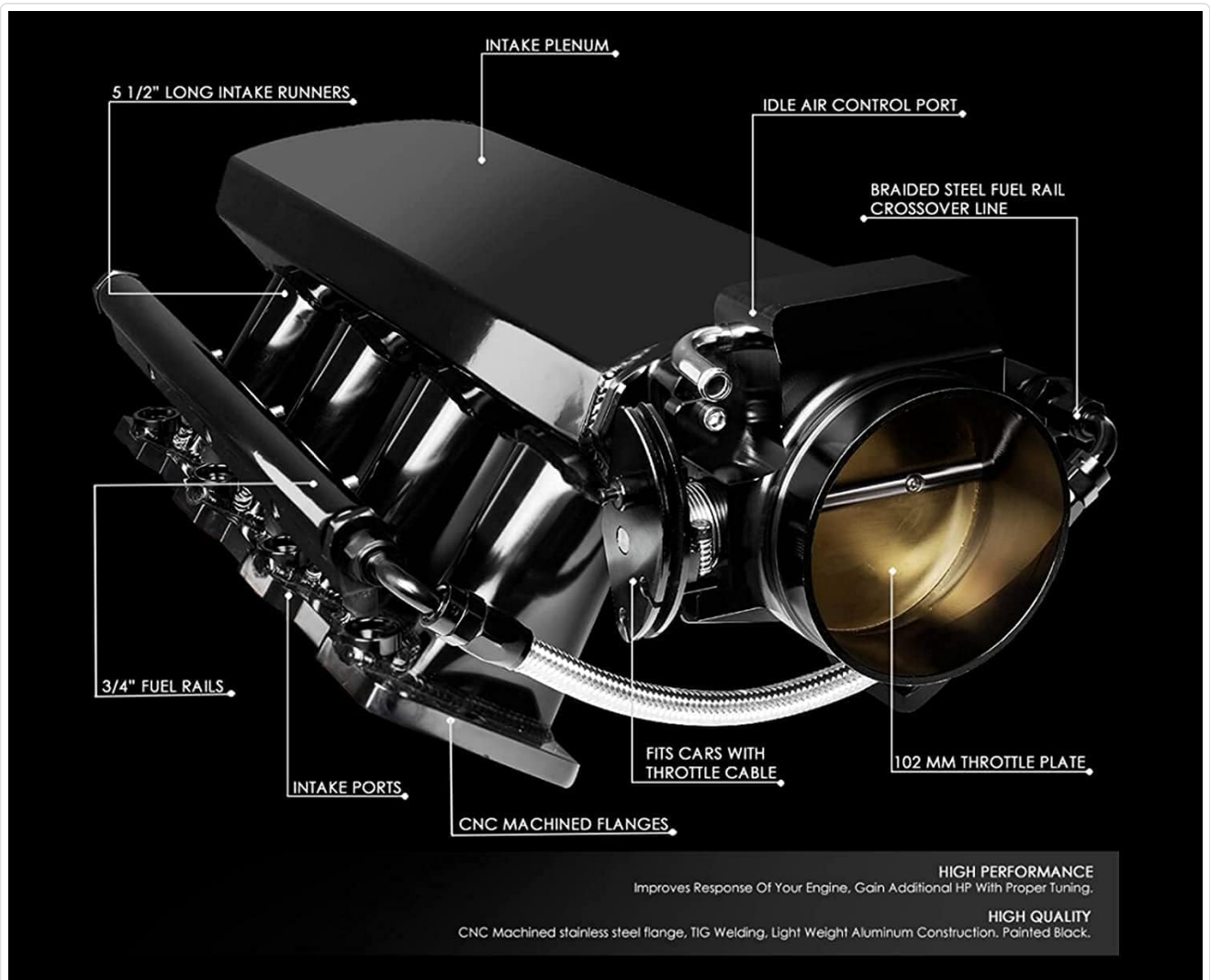


Figure 2: Detailed diagram illustrating key components such as the intake plenum, runners, throttle plate, and fuel rails.



Figure 3: All components of the kit laid out, including gaskets, hardware, and fuel system parts.

### 3. COMPATIBILITY

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This intake manifold kit is compatible with various vehicles equipped with Cathedral Port LS1, LS2, LS6, 4.8L, 5.3L, 5.7L, and 6.0L engines. Specific compatible models include:

- Chevrolet Corvette (1997-2004, 2005-2007)
- Chevrolet Corvette Z06 (2001-2004)
- Chevrolet TrailBlazer SS (2006-2009)
- Chevrolet SSR (2005-2006)
- Cadillac CTS V-series (2004-2007)
- Pontiac Firebird Formula Trans Am (1998-2002)
- Pontiac GTO (2005-2006)
- Saab 9-7X Aero (2008-2009)

## **FITMENT**

### **Compatible with**

For 1997-2004 Chevrolet Corvette

For 2005-2006 Pontiac GTO

For 2005-2007 Chevrolet Corvette

For 1998-2002 Pontiac Firebird Formula,

For 2005-2006 Chevrolet SSR

Trans AM

For 2006-2009 Chevrolet TrailBlazer SS

For 2008-2009 Saab 9-7X Aero

For 2006-2007 Cadillac CTS V-Series

For 2001-2004 Corvette Z06

For 2004-2005 Cadillac CTS V-series



Figure 4: Visual representation of vehicle compatibility for the intake manifold kit.

## **4. SETUP AND INSTALLATION**

Installation of an intake manifold requires advanced mechanical knowledge and specialized tools. It is highly recommended that installation be performed by a qualified professional to ensure correct fitment and optimal engine performance. Improper installation can lead to engine damage or safety hazards.

### **4.1 Pre-Installation Checks**

1. **Inspect Components:** Before beginning installation, carefully inspect all components for any manufacturing defects, damage, or debris. Pay particular attention to the fuel rails; it is crucial to check for and remove any metal shavings that may be present from the manufacturing process to prevent fuel injector clogging.
2. **Verify MAP Sensor Port:** Confirm the presence and proper alignment of the MAP (Manifold Absolute Pressure) sensor port on the intake manifold. Some units may vary, and a missing or misaligned port can affect engine operation.
3. **Gasket and Hardware Check:** Ensure all necessary gaskets and hardware are present and undamaged as per the kit contents.

### **4.2 General Installation Steps (Consult Service Manual)**

The following are general steps. Always refer to your vehicle's specific service manual for detailed, model-specific instructions and torque specifications.

1. Disconnect the vehicle's battery.
2. Drain the cooling system if necessary and relieve fuel system pressure.
3. Carefully remove existing intake manifold, throttle body, and fuel rails.
4. Clean the cylinder head mating surfaces thoroughly, ensuring no old gasket material remains.
5. Install new gaskets onto the cylinder heads.
6. Carefully position the new TOM intake manifold onto the engine.
7. Install the provided hardware, tightening bolts to manufacturer specifications in the correct sequence.

8. Install the 102mm throttle body and connect all necessary sensors and vacuum lines. Ensure sensors seat flush to prevent vacuum leaks.
9. Install the fuel rails and injectors, connecting the braided fuel crossover line.
10. Reconnect all electrical connectors, vacuum lines, and coolant hoses.
11. Refill cooling system and check for leaks.
12. Reconnect the battery and perform initial engine startup and checks.

## 5. OPERATING CONSIDERATIONS

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After installation, the engine's ECU (Engine Control Unit) may require tuning to fully optimize the performance benefits of the new intake manifold and throttle body. Professional tuning is recommended to ensure proper air-fuel ratios and prevent potential engine issues, especially in high-performance applications.

## 6. MAINTENANCE

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Regular inspection of the intake manifold and associated components is recommended as part of routine vehicle maintenance. Check for:

- Loose bolts or connections.
- Signs of vacuum leaks around gaskets or sensor ports.
- Integrity of fuel lines and connections.
- Cleanliness of the throttle body.

Clean the exterior of the manifold as needed with appropriate automotive cleaning products. Avoid abrasive cleaners that could damage the finish.

## 7. TROUBLESHOOTING

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This section addresses common issues that may arise during or after installation.

### 7.1 Common Issues and Solutions

| Issue                                       | Possible Cause   | Solution   |
|---|--|--|
| MAP Sensor Not Seating Flush / Missing Port | Manufacturing variation; incorrect sensor type or fitment. | Verify the manifold has the correct MAP sensor port for your application. If the sensor does not seat flush, inspect for obstructions or manufacturing imperfections. Custom fitting or modification may be required, or contact support for assistance. |
| Metal Shavings in Fuel Rails                | Residue from manufacturing process.                        | Thoroughly clean the inside of the fuel rails before installation. Use a wire brush or compressed air to remove all debris to prevent injector clogging.   |
| Paint Imperfections                         | Cosmetic manufacturing defect.                             | This is primarily a cosmetic issue and does not affect performance. If significant, contact customer support.  |
| Insufficient Hardware Provided              | Packaging error.   | Verify the quantity of bolts and hardware against the packing list. Obtain additional necessary hardware if missing, or contact customer support.  |

## 8. SPECIFICATIONS

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| Specification            | Value                       |
|--------------------------|-----------------------------|
| Manufacturer             | TOM                         |
| Model                    | 102mm Heads Intake Manifold |
| Manufacturer Part Number | Y01-071                     |
| Country of Origin        | China                       |
| Intake Manifold Height   | Approx. 9.00 inches         |
| Material Thickness       | 3mm                         |
| Throttle Body Opening    | 102mm                       |
| Vacuum Ports             | 3                           |
| Fuel Rail Size           | 3/4 inch high flow          |
| Fabrication              | TIG Welded Aluminum         |

## 9. WARRANTY AND SUPPORT

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The TOM 102mm Heads Intake Manifold Kit comes with a 12-month guarantee from the date of purchase. This warranty covers manufacturing defects under normal use conditions.

For technical assistance, warranty claims, or inquiries regarding missing components, please contact the seller or manufacturer directly. Provide your purchase details and a clear description of the issue to facilitate prompt support.