

TAMIYA TMYTAM53671

Tamiya TT-01 Front One-Way Unit Instruction Manual

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of the Tamiya TT-01 Front One-Way Unit (Model TMYTAM53671). This component is designed to enhance the performance characteristics of your Tamiya TT-01 chassis by modifying the front differential action. Please read these instructions thoroughly before proceeding with installation to ensure correct assembly and optimal performance.

2. PRODUCT OVERVIEW

The Tamiya TT-01 Front One-Way Unit replaces the standard front differential in your TT-01 chassis. Unlike a traditional differential that distributes power to both wheels equally, a one-way unit allows the front wheels to freewheel independently when the vehicle is decelerating or coasting. When accelerating, it locks, providing power to both front wheels. This modification can significantly alter the vehicle's handling, particularly improving steering response and enabling specific driving techniques such as drifting.

2.1. Included Components

The kit typically includes the following parts:

- One-Way Differential Gears (2)
- Outdrive Cups (2)
- Bearings and Shims
- Mounting Screws
- Hex Wrench (for assembly)



Image 1: All components of the Tamiya TT-01 Front One-Way Unit, including the one-way gears, outdrive cups, bearings, shims, screws, and a hex wrench.



Image 2: A closer view of the Tamiya TT-01 Front One-Way Unit components, highlighting the gear teeth and bearing seats.

3. SETUP AND INSTALLATION

Installation of the Front One-Way Unit requires careful disassembly and reassembly of the front gearbox section of your Tamiya TT-01 chassis. Always refer to your specific TT-01 chassis manual for detailed instructions on disassembling and reassembling the front gearbox.

3.1. Required Tools

- Small Phillips head screwdriver
- Hex wrenches (sizes as required by your chassis)
- Precision pliers or tweezers
- Grease for gears and bearings (e.g., Tamiya Cera-Grease HG)

3.2. Installation Steps

1. **Preparation:** Ensure your workspace is clean and organized. Have a container for small parts to prevent loss.
2. **Disassemble Front Gearbox:** Carefully remove the front bumper, suspension arms, and any other components necessary to access and open the front gearbox housing. Refer to your TT-01 chassis manual for the exact procedure.
3. **Remove Stock Differential:** Once the gearbox is open, remove the existing front differential unit. Note the orientation of any shims or bearings.
4. **Assemble One-Way Unit:**
 - Install the bearings onto the one-way differential gears.
 - Insert the outdrive cups into the one-way differential gears, ensuring they engage correctly.
 - Secure the assembly with the provided screws. Apply a small amount of thread-locking compound if recommended by Tamiya for similar applications.
 - Apply a thin layer of appropriate grease to the gear teeth.
5. **Install One-Way Unit:** Place the assembled Front One-Way Unit into the front gearbox housing. Ensure it seats correctly and that any shims or spacers are reinstalled in their original positions, or as specified by the one-way unit instructions if different.
6. **Reassemble Gearbox:** Close the gearbox housing, ensuring all screws are tightened securely but without over-tightening. Reattach the suspension arms, bumper, and any other components removed during disassembly.
7. **Function Check:** After reassembly, manually rotate the front wheels. When rotating forward, both wheels should turn together. When rotating backward, the wheels should freewheel independently.

4. OPERATING PRINCIPLES

The Tamiya TT-01 Front One-Way Unit provides a distinct driving experience compared to a standard differential. Understanding its operation is key to maximizing its benefits:

- **Acceleration:** When accelerating, the one-way unit locks, providing direct power to both front wheels. This ensures strong forward traction.
- **Deceleration/Braking:** When you release the throttle or apply brakes, the one-way unit disengages, allowing the front wheels to rotate independently. This effectively removes engine braking from the front wheels.

- **Cornering:** During corner entry and mid-corner, the freewheeling front wheels allow the vehicle to turn in more sharply and reduce understeer. This characteristic is particularly beneficial for drift setups, as it allows the front wheels to maintain grip and pull the car through the drift.
- **Reverse:** In reverse, the one-way unit will typically freewheel, meaning the front wheels will not provide drive. This can make reversing more challenging and requires careful throttle control.

5. MAINTENANCE

Regular maintenance ensures the longevity and consistent performance of your Front One-Way Unit.

- **Inspection:** Periodically inspect the unit for any signs of wear, damage, or excessive play. Check the outdrive cups for wear from the dogbones.
- **Cleaning:** After running, especially in dusty or dirty conditions, clean the exterior of the gearbox. If performance degrades, disassemble the gearbox and clean the one-way unit components.
- **Lubrication:** Apply a small amount of appropriate grease to the gear teeth and bearing surfaces during reassembly. Avoid over-greasing, which can attract dirt.
- **Bearing Check:** Ensure the bearings rotate freely and smoothly. Replace any rough or seized bearings.

6. TROUBLESHOOTING

If you encounter issues after installing the Front One-Way Unit, consider the following:

- **Front Wheels Not Driving:** Ensure the one-way unit is assembled correctly and locking in the forward direction. Check that the outdrive cups are properly engaged with the dogbones.
- **Excessive Noise or Binding:** This could indicate incorrect assembly, missing shims, or damaged bearings/gears. Disassemble and inspect all components. Ensure gears are properly meshed.
- **Inconsistent Freewheeling:** If one or both front wheels do not freewheel smoothly when decelerating, the internal mechanism of the one-way unit may be faulty or obstructed. Re-check assembly and cleanliness.
- **Difficulty Reversing:** This is a normal characteristic of a front one-way unit. The front wheels will not provide drive in reverse. Adjust your driving style accordingly.

7. SPECIFICATIONS

Specification	Detail
Product Dimensions	12 x 12 x 5 inches (Packaging)
Item Weight	1.76 ounces
ASIN	B00061HFOC
Item Model Number	TMYTAM53671
Manufacturer Recommended Age	4 years and up
Manufacturer	Tamiya
Date First Available	June 22, 2008

8. WARRANTY AND SUPPORT

For specific warranty information regarding the Tamiya TT-01 Front One-Way Unit, please refer to the documentation provided with your purchase or contact your retailer. Tamiya products are known for their quality, and any manufacturing defects should be addressed through authorized channels.

For technical support or further assistance, please visit the official Tamiya website or contact their customer service department. When seeking support, have your product model number (TMYTAM53671) and purchase details readily available.