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- › [Delphi](#) /
- › [Delphi TA2708 Steering Tie Rod End Instruction Manual](#)

Delphi TA2708

Delphi TA2708 Steering Tie Rod End Instruction Manual

Brand: Delphi

[Overview](#) [Installation](#) [Operation](#) [Maintenance Support](#) [Troubleshooting](#) [Specifications](#) [Warranty &](#)

1. PRODUCT OVERVIEW

The Delphi TA2708 Steering Tie Rod End is a critical component in your vehicle's steering system, designed for specific BMW models including the 5 Series (F10, F11, F18), 5 Gran Turismo (F07), 6 Series (F06, F12, F13), and 7 Series (F01, F02, F04) from 2008 onwards. This part ensures precise steering control and stability.

Delphi products are rigorously tested under extreme conditions to meet Original Equipment (OE) precision standards. Key features include:

- Delphi tie rods are fatigue tested to avoid failure, ensuring long-term reliability.
- Necessary accessories for a complete installation job are included.
- Ball studs are machined to micron tolerances, guaranteeing durability and smooth joint operation.
- Each part receives anti-corrosion protection for optimum corrosion prevention and enhanced aesthetics.



Figure 1: Delphi TA2708 Steering Tie Rod End. This image displays the complete tie rod end assembly, featuring the main body, the protective rubber boot covering the ball joint, and the threaded stud with its accompanying nut.

2. INSTALLATION GUIDE

Important Safety Notice: Installation of automotive steering components requires specialized tools and knowledge. If you are not confident in your ability to perform this installation safely and correctly, it is highly recommended to seek assistance from a qualified automotive technician. Always refer to your vehicle's specific service manual for detailed instructions and torque specifications.

2.1. Tools and Materials Required

- New Delphi TA2708 Steering Tie Rod End (includes tie rod end and nut)
- Jack and Jack Stands
- Wheel Chocks
- Wrench Set (Metric)
- Torque Wrench
- Tie Rod End Puller/Separator
- Measuring Tape or Caliper
- Penetrating Oil (optional)
- Wire Brush
- Gloves and Safety Glasses

2.2. Installation Steps

1. **Prepare the Vehicle:** Park the vehicle on a flat, level surface. Engage the parking brake and place wheel chocks behind the rear wheels. Loosen the lug nuts on the front wheel(s) where the tie rod end will be replaced.

2. **Lift and Secure:** Using a jack, lift the front of the vehicle and support it securely with jack stands. Remove the front wheel(s).
3. **Measure and Mark:** Before removal, measure the exposed thread length on the old tie rod end or count the number of turns required to remove it from the tie rod shaft. This helps in setting the new tie rod end to approximately the correct length for initial alignment. Mark the position of the jam nut on the tie rod shaft.
4. **Loosen Jam Nut:** Loosen the jam nut that secures the tie rod end to the tie rod shaft. You may need penetrating oil and a wire brush to clean threads if corroded.
5. **Remove Cotter Pin and Castle Nut:** If present, remove the cotter pin from the castle nut on the tie rod end stud. Then, remove the castle nut.
6. **Separate Tie Rod End:** Use a tie rod end puller or separator tool to safely separate the tie rod end stud from the steering knuckle. *Do not use a hammer directly on the stud or knuckle as this can cause damage.*
7. **Unscrew Old Tie Rod End:** Unscrew the old tie rod end from the tie rod shaft. Count the exact number of turns it takes to remove it.
8. **Install New Tie Rod End:** Thread the new Delphi TA2708 tie rod end onto the tie rod shaft, turning it the exact same number of turns counted during removal. Ensure the jam nut is in its approximate original position.
9. **Connect to Steering Knuckle:** Insert the new tie rod end stud into the steering knuckle. Install the new castle nut (provided with the Delphi part) and tighten it to the manufacturer's specified torque. Install a new cotter pin through the castle nut and stud.
10. **Tighten Jam Nut:** Tighten the jam nut against the new tie rod end to secure its position on the tie rod shaft.
11. **Reassemble:** Reinstall the wheel(s) and hand-tighten the lug nuts. Lower the vehicle and torque the lug nuts to the vehicle manufacturer's specifications.
12. **Wheel Alignment:** ***A professional wheel alignment is mandatory immediately after replacing a tie rod end.*** Failure to do so will result in premature tire wear and unsafe driving conditions.

3. OPERATION

The Delphi TA2708 Steering Tie Rod End is a crucial component of your vehicle's steering and suspension system. It connects the steering rack (or steering linkage) to the steering knuckle, allowing the wheels to turn in response to steering wheel input. The ball joint within the tie rod end facilitates the necessary articulation and movement as the suspension travels and the wheels turn.

Proper operation of the tie rod end ensures:

- Accurate and responsive steering.
- Stable vehicle handling, especially at higher speeds.
- Even tire wear by maintaining correct wheel alignment.
- Smooth absorption of road imperfections.

Any looseness or wear in the tie rod end can compromise these functions, leading to noticeable symptoms and potentially unsafe driving conditions.

4. MAINTENANCE

While the Delphi TA2708 Steering Tie Rod End is designed for durability and often comes as a sealed, maintenance-free unit, regular inspection of your vehicle's steering and suspension components is vital for safety and longevity.

4.1. Recommended Inspection Schedule

- Inspect tie rod ends during every oil change or at least every 10,000 miles (16,000 km).

- Perform an inspection immediately if you notice any changes in steering feel, unusual noises, or uneven tire wear.

4.2. Inspection Procedure

1. With the vehicle safely lifted and supported on jack stands, grasp the tie rod end firmly.
2. Attempt to move the tie rod end up and down, and side to side. There should be no noticeable play or looseness. Any movement indicates wear and a need for replacement.
3. Visually inspect the rubber boot covering the ball joint. Ensure it is intact, not torn, cracked, or leaking grease. A damaged boot can allow dirt and moisture to enter, leading to premature wear.
4. Check for any signs of corrosion on the metal components.

If any signs of wear or damage are detected, replace the tie rod end promptly to maintain vehicle safety and performance.

5. TROUBLESHOOTING COMMON ISSUES

If you experience any of the following symptoms, a worn or damaged tie rod end could be the cause. Always consult a qualified mechanic for proper diagnosis and repair.

Symptom	Possible Cause (Tie Rod End Related)	Recommended Action
Loose or Sloppy Steering	Excessive play in the tie rod end ball joint.	Inspect tie rod ends for looseness. Replace if worn.
Uneven Tire Wear (especially on the inner or outer edge)	Worn tie rod ends can lead to incorrect wheel alignment (toe angle).	Inspect and replace worn tie rod ends. Perform a wheel alignment.
Clunking or Popping Noises from the front suspension	Loose or worn ball joint within the tie rod end, particularly when going over bumps or turning.	Inspect tie rod ends for play. Replace if worn.
Steering Wheel Not Centered	Incorrect tie rod end adjustment or wear affecting toe angle.	Check tie rod end condition and adjustment. Perform a wheel alignment.
Vibration in Steering Wheel	Severe wear in tie rod ends can contribute to vibrations, though often other components are also involved.	Inspect all steering and suspension components. Replace worn parts.

6. PRODUCT SPECIFICATIONS

The following table details the key specifications for the Delphi TA2708 Steering Tie Rod End:

Attribute	Detail
Model Number	TA2708
Brand	Delphi
Material	Alloy Steel
Exterior Finish	Machined

Attribute	Detail
Special Feature	Easy to Install
Included Components	Tie Rod End, Nut
Item Weight	1.59 pounds (0.72 kg)
Product Dimensions	3.9 x 2.4 x 8.4 inches (9.9 x 6.1 x 21.3 cm)
Manufacturer Part Number	TA2708
OEM Part Numbers	101-7484, 3210 6784 796, ER09003, MS106120, TO14212
UPC	689604249130

7. WARRANTY AND SUPPORT

7.1. Warranty Information

Specific warranty details for the Delphi TA2708 Steering Tie Rod End are typically provided by the manufacturer or the point of purchase. Please retain your proof of purchase. For the most accurate and up-to-date warranty information, it is recommended to visit the official Delphi website or contact their customer service directly.

7.2. Customer Support

For technical assistance, installation queries, or any other product-related support, please contact Delphi customer service. You can often find contact information, FAQs, and additional resources on the official Delphi website.

Visit the official Delphi Store for more information: [Delphi Store on Amazon](#)

