

Delphi TC5399

Delphi TC5399 Ball Joint Instruction Manual

Model: TC5399

1. PRODUCT OVERVIEW

The Delphi TC5399 Ball Joint is engineered to meet the rigorous standards of original equipment (OE) performance and longevity. Through extensive dimensional and material analysis, it ensures optimal compatibility with both OE and aftermarket components. This ball joint is designed to perform reliably in extreme conditions, tested to withstand temperatures ranging from below -40°C to over 120°C. For enhanced durability and protection, parts are subjected to 720 hours of salt spray and feature an additional cathaphoretic coating.



Image 1.1: Front view of the Delphi TC5399 Ball Joint.



Image 1.2: Side view of the Delphi TC5399 Ball Joint, showing its robust construction.

Key Features:

- Manufactured with high-quality forgings for increased strength and smooth operation.
- Utilizes chloroprene rubber boots to improve durability and prevent premature failure.

- Machined to micron tolerances to guarantee durability and smooth joint operation.
- Features optimum surface protection and enhanced aesthetics through applied coatings.

2. PACKAGE CONTENTS

Upon opening the package, please verify that all components are present and undamaged.

- 1 x Delphi TC5399 Ball Joint

3. SAFETY INFORMATION

Automotive repair can be hazardous. Always prioritize safety to prevent injury or damage to the vehicle. It is highly recommended that installation be performed by a qualified professional.

- **Wear Personal Protective Equipment:** Always wear safety glasses, gloves, and appropriate footwear.
- **Use Proper Tools:** Ensure you have the correct tools for the job, including a torque wrench for proper tightening.
- **Secure the Vehicle:** Use jack stands to support the vehicle securely after lifting. Never rely solely on a jack.
- **Consult Service Manual:** Refer to your vehicle's specific service manual for detailed instructions and torque specifications.
- **Avoid Pinch Points:** Be aware of potential pinch points when working with suspension components.
- **Cleanliness:** Keep the work area clean and free of debris.

4. INSTALLATION

The Delphi TC5399 Ball Joint is designed for direct replacement. Professional installation is strongly recommended due to the critical nature of suspension components for vehicle safety and performance.



Image 4.1: The Delphi TC5399 Ball Joint shown with accompanying installation hardware (bolts and cotter pin).

General Installation Steps (Consult Vehicle Service Manual for Specifics):

1. **Prepare Vehicle:** Park the vehicle on a level surface, engage the parking brake, and block the wheels. Lift the vehicle safely and support it with jack stands. Remove the wheel.
2. **Access Ball Joint:** Depending on the vehicle's suspension design, you may need to remove other components to gain access to the ball joint.
3. **Remove Old Ball Joint:** Loosen and remove the retaining nut from the ball joint stud. Use a ball joint separator or appropriate tool to separate the ball joint from its mating component (e.g., steering knuckle). Remove any bolts or rivets securing the ball joint to the control arm.
4. **Clean Mounting Area:** Thoroughly clean the mounting surfaces on the control arm and steering knuckle to ensure proper seating of the new ball joint.
5. **Install New Ball Joint:** Position the new Delphi TC5399 Ball Joint into place. Secure it with new bolts or rivets as per the vehicle manufacturer's specifications. Insert the ball joint stud into the steering knuckle.
6. **Tighten Fasteners:** Install the new retaining nut onto the ball joint stud. Torque all fasteners to the vehicle manufacturer's specified values using a calibrated torque wrench. Install the new cotter pin if applicable.
7. **Reassemble:** Reinstall any components removed for access. Reattach the wheel and lower the vehicle safely.
8. **Alignment:** After replacing any suspension component, it is highly recommended to have a professional wheel alignment performed to ensure proper vehicle handling and tire wear.

5. FUNCTION AND OPERATION

The ball joint is a critical component of a vehicle's suspension system, acting as a pivot point between the steering knuckle and the control arm. It allows for the necessary articulation of the suspension while maintaining proper wheel alignment and steering control. The Delphi TC5399 Ball Joint ensures smooth and precise movement, contributing to stable handling and a comfortable ride by allowing the wheels to move up and down and turn left and right.

6. MAINTENANCE

While the Delphi TC5399 Ball Joint is designed for long-term durability, regular inspection of your vehicle's suspension components is crucial for safety and performance.

- **Routine Inspections:** During routine vehicle maintenance (e.g., oil changes, tire rotations), have a qualified technician inspect the ball joints for signs of wear, such as torn boots, excessive play, or unusual noises.
- **Lubrication:** If the ball joint is equipped with a grease fitting (zirc fitting), lubricate it periodically according to your vehicle's service manual or the ball joint manufacturer's recommendations using appropriate grease.
- **Address Issues Promptly:** Any signs of wear or damage should be addressed immediately by a professional to prevent further damage to suspension components or loss of vehicle control.

7. TROUBLESHOOTING

If you experience any of the following symptoms, it may indicate an issue with your vehicle's ball joints or other suspension components. Professional diagnosis is recommended.

- **Clunking or Popping Noises:** Especially noticeable when going over bumps, turning, or during acceleration/braking.
- **Loose or Wandering Steering:** The vehicle may feel less responsive or difficult to keep in a straight line.
- **Uneven Tire Wear:** Particularly on the inner or outer edges of the tires.
- **Vibrations:** Vibrations felt through the steering wheel or floorboard.
- **Vehicle Pulling:** The vehicle may pull to one side.

If you suspect a problem with your ball joint, discontinue driving the vehicle and seek professional automotive service immediately.

8. SPECIFICATIONS

Attribute	Value
Brand	Delphi
Model	Suspension Ball Joint
Item Model Number	TC5399
Item Weight	1.54 pounds
Product Dimensions	3.88 x 3.88 x 4.63 inches
Country of Origin	Turkey
Exterior	Machined
Manufacturer Part Number	TC5399
OEM Part Number	K8212, C9AZ-3082A
Position	Front
ASIN	B079WSGMZL
Date First Available	October 18, 2018

9. WARRANTY AND SUPPORT

Please note the following regarding warranty for Delphi products purchased through, from, or on Amazon:

- Delphi products purchased through, from, or on Amazon do not qualify for Delphi's standard LIMITED warranty.
- When purchased through, from, or on Amazon, any warranty on this product is offered by and is the sole responsibility of the seller identified on the shipment details of your order.
- Please review all warranties carefully and contact the identified seller for all warranty details and claims.

For technical support or further inquiries, please refer to the contact information provided by your specific seller or visit the official Delphi website for general product information.

