

# VW TDI (Golf, Jetta, New Beetle) Upgrade Turbocharger

## Bill of Materials & Precautions

1.9L TDI – with **BEW**-code engine:  
 2003.5-2006 A4 New Beetle TDI  
 2003.5-2006.0 A4 Golf  
 2003.5-2005.0 A4 Jetta

Part Number: 778445-5002S

| Parts List |   |      | Tools Needed  |
|------------|---|------|---|
| Item       | Description                                 | Qty. |   |
| 1          | GT1749V Turbocharger                        | 1    | <ul style="list-style-type: none"> <li>• Factory Service Manual</li> <li>• For installation, use tools recommended in factory service manual</li> </ul> |
| 2          | Installation Instructions                   | 1    |   |
| 3          | (Sold Separately) EGR Tube Kit, 795496-0001 | 1    |   |

• NOTE: Bolt and fastener sizes may be different from one model year to the next depending on OE specifications. Different tools than those listed above may be required.

PLEASE INSURE THAT THE PART NUMBER THAT HAS BEEN ORDERED WAS THE INTENDED PART NUMBER BEFORE BEGINNING INSTALLATION.

See Honeywell Turbo Technologies' return policy if the incorrect turbo kit has been ordered.

### Recommended Other Items

- Safety glasses
- Anti-seize compound
- Oil filter
- Oil (quantity per service manual)

## IMPORTANT INFORMATION - PLEASE READ CAREFULLY



We recommend that this turbocharger be installed by a qualified automotive technician. If you have any doubts as to your ability to install this turbocharger, consult with a local automotive repair company. Please be sure to carefully read all of the attached instructions prior to starting the installation process. If you have any questions about the enclosed parts or the instructions, call the distributor that you purchased the turbocharger from for clarification.

Prior to the Garrett turbocharger installation, be sure that the vehicle is parked on a level surface and the engine is cool. Engine fluids and components can be extremely hot following normal vehicle operation. Avoid direct contact of engine fluids or components with your skin which may cause personal injury.

**NOTE: It is recommended that the oil and oil filter are changed prior to running the Garrett turbocharger. This will provide clean oil to the new turbocharger. To ensure optimal performance, always follow oil and filter change intervals per the Factory Service Manual.**

**IMPORTANT INFORMATION - PLEASE READ CAREFULLY****Return Policy**

Only unused and complete merchandise will be accepted for return subject to inspection and acceptance by Honeywell Turbo Technologies. No goods will be accepted without prior return authorization from Honeywell Turbo Technologies. No returns are accepted after thirty (30) days from original ship date from Honeywell. All accepted returns are subject to a 20% restocking charge - NO EXCEPTIONS.

**Damaged Shipments**

The customer must file a claim with the shipping company if goods arrive in a damaged condition. The customer must also notify the distributor from which the goods were purchased with pertinent information.

**Refused Shipments**

Sending a shipment back to The Garrett Garage (or Honeywell) does not automatically give rise to a complete refund or credit. Honeywell Turbo Technologies may, at its sole discretion require different payment means for any shipment refused and then reshipped. It is the customer's responsibility to make all arrangements with Honeywell Turbo Technologies for disposition of refused shipments.

**Shortage or Discrepancy Claim**

Shortage or Discrepancy claims must be reported within forty-eight (48) hours of receipt of goods to the distributor from which the goods were purchased. The Honeywell distributor will determine the best solution on how to address shortages or discrepancies.

**Limited Warranty**

Honeywell Turbo Technologies warrants to the original purchaser of its Turbocharger Products that such Turbocharger Products will, for a period of 1 year from date of shipment and subject to the Limitations on Warranty, be free from defects in materials and workmanship. For approved warranty claims Honeywell Turbo Technologies will, at its sole discretion, either credit the original purchaser in an amount equal to the original purchase price, or replace the applicable Turbocharger Product free of charge, within 60 days of Honeywell Turbo Technologies' approval. This is purchaser's sole and exclusive remedy and provides the complete financial responsibility of Honeywell Turbo Technologies for a warranty claim. To be eligible for reimbursement, Customer must (a) submit all warranty claims to Honeywell Turbo Technologies within 30 days of the discovery of the alleged Turbocharger Product defect; and (b) complete and return a Returned Material Authorization Form. Consumers are required to work through Honeywell's distributors in order to process any warranty claims.

When Honeywell Turbo Technologies requires the examination of a failed part, Honeywell Turbo Technologies will promptly notify Customer and will await receipt of the failed part before further processing the warranty claim. If Honeywell Turbo Technologies ultimately determines that the failed part is covered under the Limited Warranty, Honeywell Turbo Technologies will reimburse Customer for the actual cost of ground shipment for any part found to be defective.

**IMPORTANT INFORMATION - PLEASE READ CAREFULLY****Limitations on Warranty**

The Limited Warranty does not apply to any parts: (a) not used in accordance with Honeywell Turbo Technologies' written instructions (b) for which no fault is found; (c) that have been modified in any manner not specifically approved by Honeywell Turbo Technologies; (d) for which an inspection indicates that reasonable and proper installation and/or preventative care and maintenance has not occurred; (e) that have been subject to damage attributable to or caused by misuse, abuse or vandalism; mishandling, improper shipping or other transit related damage; acts of god or insurrection; foreign object entry; any part not supplied by Honeywell Turbo Technologies; any repair, maintenance or service by anyone other than Honeywell Turbo Technologies; or any other acts that are beyond Honeywell Turbo Technologies' reasonable control; or (f) attributable to parts not supplied by Honeywell Turbo Technologies. Honeywell Turbo Technologies expressly disclaims any and all warranties relative to the foregoing circumstances.

**Honeywell Turbo Technologies shall not be liable to Customer under any circumstances for any special, incidental or consequential damages, including without limitation, damage to or loss of property other than for Turbocharger Products; damages incurred in installation, repair or replacement; lost profits, revenue or opportunity; loss of use; losses resulting from or related to downtime of Turbocharger Products; the cost of replacement transportation, power, or compression; the cost of substitute products; or claims of third parties for such damages, howsoever caused, and whether based on warranty, contract, and/or tort (including negligence, strict liability or otherwise).**

**The Limited Warranty is the only warranty made by Honeywell Turbo Technologies for any of its turbochargers and related parts and/or services, and is in lieu of and excludes all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose. Honeywell Turbo Technologies hereby disclaims all other warranties not expressly set forth. Some jurisdictions do not allow for the exclusion of implied warranties, so the above exclusions may not apply to you, however if implied warranties do apply they are limited to the original purchaser and for a period of one (1) year from the date of shipment.**

**Diagnosing Your Vehicle**

Do not rely on diagnostic software without seeking the advice of an ASE certified mechanic. Diagnostic software should only be used as a general guideline to help you facilitate the repair of your car. If you experience or suspect any malfunction of vital safety equipment, such as your brakes, exhaust, motor, transmission, fuel delivery system, your car's structural integrity or any other potentially life threatening malfunction, cease driving your vehicle immediately and seek professional help. Always consult your owner's manual.

**Vehicle Modification Notice**

Any modifications to your car are AT YOUR OWN RISK. You should consult the owner's manual and service manual. You should also contact your car's manufacturer to determine what effects modifications may have on your safety, warranty, performance, etc. Please also contact your local authorities to determine whether your intended modifications will make your car illegal to drive on public roads. A vehicle modified by the use of competition parts may not meet the legal requirement for use on public roads. It is your responsibility to comply with federal, state, and local laws prior to driving your vehicle on public roads.

**IMPORTANT INFORMATION - PLEASE READ CAREFULLY****OTHER PRECAUTIONS**

Observe all safety precautions and warnings contained in the installation instructions. Wear eye and ear protection and appropriate protective clothing. When working under or around the vehicle support it securely with jack stands. Use only the proper tools. Exercise extreme caution when working with flammable, corrosive, and hazardous liquids and materials.

**LEGAL INFORMATION**

This product is an aftermarket part that is not legal for street use in California and New York. Use on public roads may also be prohibited in other states adopting California emissions standards under Section 177 of the Clean Air Act. If you do not live in California or New York, you should check with your state authorities to find out whether this product is legal for street use in your state. Federal and state laws also prohibit the tampering with parts or vehicle design elements affecting emissions on vehicles intended for use on public roads. You are responsible for ensuring that the use of this product complies with all applicable federal, state or local laws, regulations and ordinances. This product may be used on racing vehicles that will never be driven on public roads or highways.

**Contact Information for Questions**

Please contact the Honeywell distributor from which the equipment was purchased for any questions regarding this Shipping/Returns/Cancellation Policy, for notifications to Honeywell Turbo Technologies, and for instructions on processing damaged shipments and authorized returns.

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**Garrett**<sup>®</sup>  
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## Installation Instructions

NOTE: This turbocharger is intended as an upgrade for vehicles equipped with the **BEW**-code 1.9L TDI engine. It replaces Volkswagen OE part numbers 038253019S & 038253014E, model KP39 (BorgWarner/3K).

1. Installation of this turbocharger is straightforward, and the procedure is almost identical to replacing a stock unit. The only exception concerns the EGR cooler port on the exhaust manifold (see *Fig. 2*). Follow the turbocharger replacement procedure in the Volkswagen factory service manual. Anti-seize compound is recommended on exhaust studs for ease of removal, if necessary. Be sure to connect the VNT actuator vacuum line and electrical connector.

2. The EGR cooler port will either need to be blocked off (and the cooler removed), or the Garrett EGR tube kit will need to be used in conjunction with the turbocharger. Part number is shown below. Kit includes unique EGR tube and 2 gaskets. Contact your distributor for availability. See *Fig. 3*.

*Garrett EGR tube kit: 795496-0001*

3. If the port is blocked off, a simple plate with a gasket or suitable seal will suffice. This plate is also a convenient location for an EGT thermocouple or probe. Blocking off this port necessitates removing the EGR cooler assembly and blocking its outlet port as well.

**Note:** vehicles with altered emissions equipment may not be highway legal in your state. Consult local laws.



Fig. 1



Fig. 2



Fig. 3

## Installation Instructions (cont'd)

4. In order to realize the performance upgrade potential of this turbocharger, upgrades to the fuel injectors and engine tuning are recommended. Consult with a TDI specialist for guidance and recommendations.
5. Change engine oil and filter before starting engine. Regular oil changes with a high quality diesel-specific oil are recommended, as clean oil is vital to turbocharger performance and durability.
6. Start engine and check for oil leaks. Once the system is confirmed to be leak-free, you are ready to enjoy your new Garrett GT1749V turbocharger.

NOTE: After handling the exhaust components, it is not uncommon for the components to smoke as the engine heats up. Once the initial oil film is burned off, there should be no more smoke.

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