

DUCRES TA3107

DUCRES TA3107 Turbocharger Instruction Manual

Model: TA3107 | Part Number: 465778-0018

1. INTRODUCTION

This manual provides essential instructions for the installation, operation, and maintenance of the DUCRES TA3107 Turbocharger. Designed for optimal performance in Perkins T4.236 and Cummins 6CT engines, proper adherence to these guidelines will ensure longevity and efficient function.

The DUCRES TA3107 Turbocharger (Part Number: 465778-0018) is an oil-cooled unit engineered to enhance engine power and efficiency.

2. SAFETY INFORMATION

Always prioritize safety during installation, operation, and maintenance.

- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the engine is completely shut down and cooled before beginning any work.
- Disconnect the battery to prevent accidental engine startup.
- Handle hot components with extreme caution.
- Consult a qualified mechanic if you are unsure about any procedure.

3. SETUP AND INSTALLATION

Proper installation is critical for the turbocharger's performance and lifespan.

1. **Pre-Installation Check:** Inspect the new turbocharger for any shipping damage. Verify that all included gaskets match the required specifications for your engine.
2. **Cleanliness:** Ensure all connecting pipes, hoses, and engine ports are thoroughly cleaned and free of debris, carbon deposits, or foreign objects.
3. **Oil Supply:** Before connecting the oil supply line, prime the turbocharger with clean engine oil by pouring a small amount into the oil inlet port and rotating the compressor wheel by hand. This lubricates the bearings for initial startup.
4. **Gasket Placement:** Install new gaskets (provided) between the turbocharger and the exhaust manifold, and

between the turbocharger and the exhaust downpipe. Ensure correct orientation.

5. **Mounting:** Securely mount the turbocharger to the exhaust manifold using appropriate fasteners. Torque to manufacturer specifications.
6. **Oil Lines:** Connect the oil supply line and oil drain line. Ensure the oil drain line has a continuous downward slope to prevent oil pooling.
7. **Air Intake/Outlet:** Connect the air intake pipe and the compressed air outlet pipe (to the intercooler/intake manifold). Ensure all clamps are tight.
8. **Final Inspection:** Double-check all connections for tightness and ensure no tools or debris are left in the engine bay.



Figure 3.1: The DUCRES TA3107 Turbocharger with included gaskets. Note the exhaust inlet flange and compressor housing.

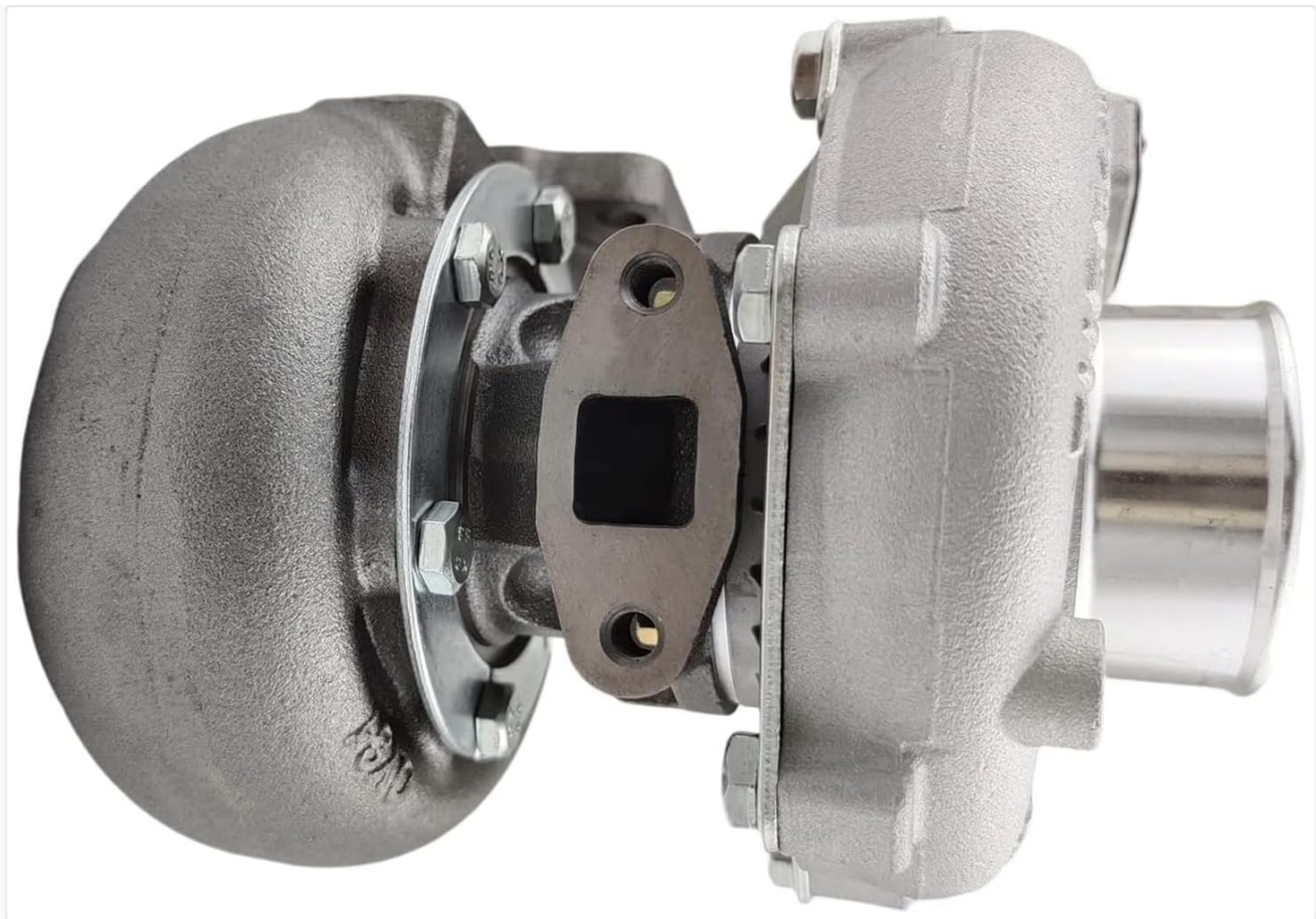


Figure 3.2: Side view of the turbocharger, showing the compressor and turbine housings, and the central bearing housing.

4. OPERATING INSTRUCTIONS

After installation, follow these steps for initial startup and normal operation.

1. **Initial Engine Start:** After installation, crank the engine without allowing it to start (e.g., by disabling fuel injection) for 10-15 seconds to allow oil pressure to build and circulate through the turbocharger.
2. **First Start-up:** Start the engine and let it idle for several minutes. Check for any leaks (oil, exhaust, air) and unusual noises.
3. **Warm-up:** Avoid high engine loads or high RPMs immediately after starting. Allow the engine and turbocharger to reach operating temperature gradually.
4. **Shut-down Procedure:** Before shutting down the engine after a period of high load, allow it to idle for 1-2 minutes. This allows the turbocharger to cool down and prevents oil coking in the bearings due to residual heat.

5. MAINTENANCE

Regular maintenance is essential for the longevity and performance of your turbocharger.

- **Oil Changes:** Adhere strictly to the engine manufacturer's recommended oil change intervals and use the specified oil type. Clean engine oil is paramount for turbocharger health.
- **Oil Filter Replacement:** Replace the engine oil filter with every oil change.
- **Air Filter Inspection:** Regularly inspect and replace the engine air filter as per manufacturer recommendations. A clogged air filter can restrict airflow, causing the turbocharger to work harder and potentially leading to premature wear.
- **Oil Line Inspection:** Periodically check oil supply and drain lines for kinks, blockages, or leaks.

- **Boost Leaks:** Inspect all intake and exhaust connections for leaks.
- **Shaft Play:** If accessible, check for excessive radial or axial play in the turbocharger shaft. Minimal play is normal, but excessive movement indicates wear.



Figure 5.1: View of the compressor wheel, which draws in air and compresses it. Keep the air intake system clean to protect this component.



Figure 5.2: The turbine housing and identification plate showing model number TA3107 and serial number. This plate is crucial for part identification.

6. TROUBLESHOOTING

This section provides guidance for common issues. For complex problems, consult a professional.

Symptom	Possible Cause	Action
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Symptom	Possible Cause	Action
Reduced Engine Power / Lack of Boost	Boost leak (loose clamps, cracked hoses), clogged air filter, faulty wastegate, damaged compressor/turbine wheel.	Inspect all intake and exhaust connections. Check air filter. Inspect turbocharger wheels for damage.
Excessive Smoke from Exhaust	Blue Smoke: Oil leaking into exhaust (worn turbo seals, blocked oil drain). Black Smoke: Over-fueling, restricted air intake.	Check oil levels and oil drain line. Inspect air filter. Consult engine diagnostics.
Whining or Hissing Noise	Air leak in intake system, worn turbocharger bearings, foreign object ingestion.	Inspect intake pipes and intercooler. Check for shaft play.
Oil Leaks Around Turbocharger	Loose oil lines, damaged gaskets, excessive crankcase pressure, worn turbo seals.	Tighten connections, replace gaskets. Check PCV system.

7. SPECIFICATIONS

- **Part Name:** Oil Cooled Turbo Turbocharger
- **Model Number:** TA3107
- **Part Number:** 465778-0018, 4657780018
- **Brand:** DUCRES
- **Engine Compatibility:** Perkins T4.236, Cummins 6CT, ISC, QSC, L9, ISL, QSL9
- **Cooling Type:** Oil Cooled

8. WARRANTY INFORMATION

This DUCRES TA3107 Turbocharger comes with a **6-month warranty** from the date of purchase. This warranty covers manufacturing defects and material faults under normal operating conditions.

The warranty does not cover damage resulting from:

- Improper installation or handling.
- Lack of proper maintenance, including insufficient oil supply or contaminated oil.
- Foreign object ingestion.
- Over-speeding or excessive boost pressure.
- Unauthorized modifications or repairs.
- Normal wear and tear.

For warranty claims, please contact your point of purchase with proof of purchase.

9. SUPPORT

For further assistance or technical inquiries, please refer to the DUCRES official support channels or contact your authorized dealer.

Always provide the model number (TA3107) and part number (465778-0018) when seeking support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question