

turbo-zone

Insider Turbo knowledge for the garage professional



**Get the inside
insight on
variable turbos.**

SUPPORTED BY
Garrett[®]
by Honeywell



Non-OE can mean
40% less power.

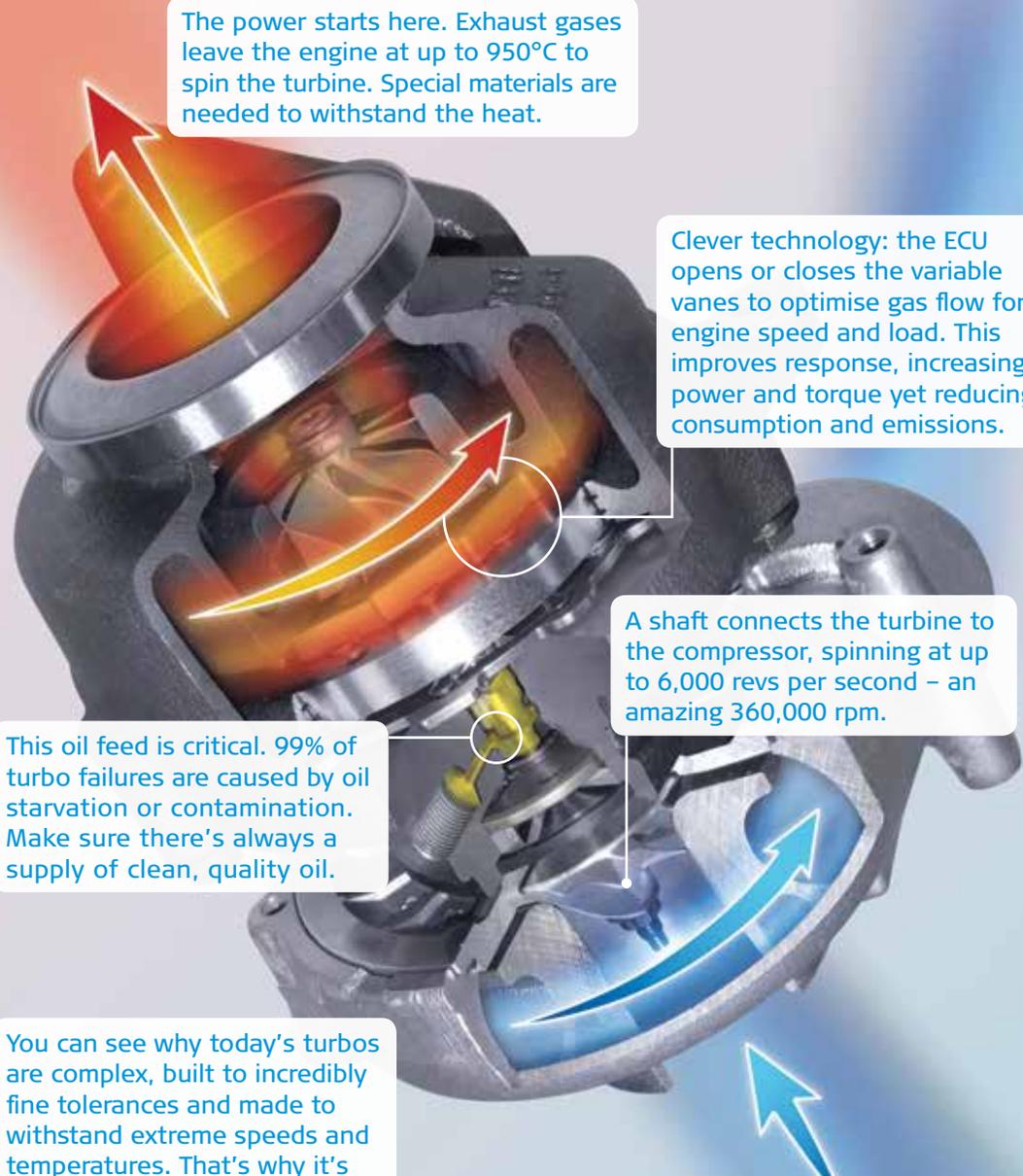


50% on UK roads
have turbos.



Garrett takes
17th Le Mans win.

See what's inside a modern variable turbine turbo.



The power starts here. Exhaust gases leave the engine at up to 950°C to spin the turbine. Special materials are needed to withstand the heat.

Clever technology: the ECU opens or closes the variable vanes to optimise gas flow for engine speed and load. This improves response, increasing power and torque yet reducing consumption and emissions.

A shaft connects the turbine to the compressor, spinning at up to 6,000 revs per second – an amazing 360,000 rpm.

This oil feed is critical. 99% of turbo failures are caused by oil starvation or contamination. Make sure there's always a supply of clean, quality oil.

You can see why today's turbos are complex, built to incredibly fine tolerances and made to withstand extreme speeds and temperatures. That's why it's essential to buy a genuine 100% OE turbo supplied by BTN Turbo, so you and your customers get the power you've paid for.

The compressor pulls air in through the filter and forces it into the engine, producing the turbo boost.

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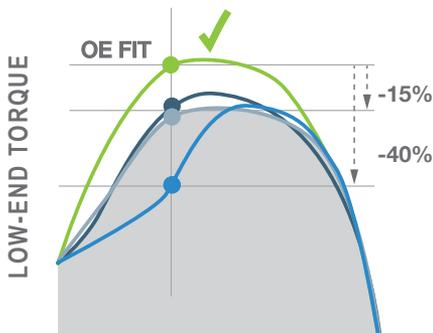
Independent tests show copy turbos can be 40% down on power.

Non-original remanufactured and copy turbos can be 40% down on performance with higher emissions, compared to OE remanufactured units.

Testing the best selling units

Independent tests by the Millbrook Group compared Garrett 100% OE Original Remanufactured turbochargers with non-OE replacements, including the best-selling copy units imported into the UK. The non-OE turbochargers produced less low-end torque than the Garrett 100% OE equivalent, with higher NO_x emissions and more CO₂ emissions.

Low-end torque with the non-OE turbos was 15% - 40% lower than the 100% OE Garrett Original Remanufactured.



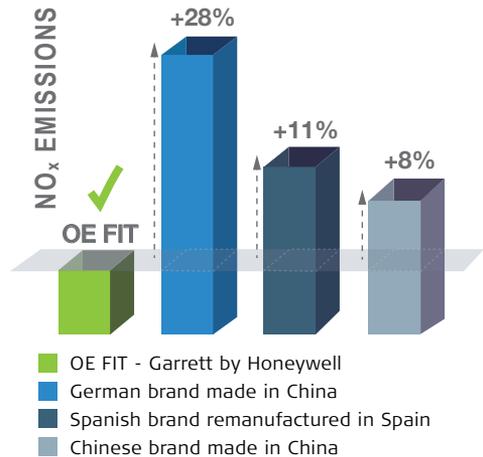
- OE FIT - Garrett by Honeywell
- German brand made in China
- Spanish brand remanufactured in Spain
- Chinese brand made in China

Non-OE issues

These tests prove non-OE replacement turbos can be a false economy, causing poor performance, generating warning lights due to incompatibility with the engine management ECU, and leading to MOT failure because of increased emissions.

Only the Garrett remanufactured turbo used entirely OE parts. Non-OE turbos use copy parts, which aren't guaranteed to match original specifications. They may also be produced without essential calibration equipment, or are simply counterfeits.

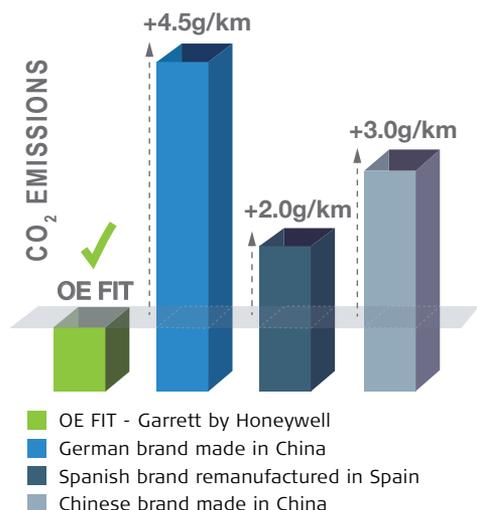
NO_x emissions from the non-OE turbos were 8% - 28% higher than the 100% OE turbos.



Buy peace of mind

BTN Turbo stocks over 18,000 turbos for immediate despatch, all of them 100% OE: brand new or remanufactured from the original manufacturers, such as Garrett's Original Remanufactured range, and all with a two year warranty.

CO₂ emissions from the non-OE turbochargers were nearly 3% greater than the 100% OE turbochargers.



Turbos take the lead.

More than ever, it pays to know your turbo tech.

The latest SMMT figures reveal that nearly 50% of all cars and LCVs in the UK are turbocharged.

And that should be good news for your business.

Garages that show they're experts in understanding and fitting turbos will benefit from extra custom, as the percentage of turbocharged vehicles continues to grow.

Motor manufacturers are relying on turbochargers to meet increasingly tough environmental regulations. As a turbocharged engine is more efficient than its naturally aspirated equivalent, designers can specify smaller engines with comparable performance and better economy.

Medium sized family cars that traditionally had 1.6 – 2.0 litre, four cylinder engines are now using three cylinder turbocharged petrol engines as small as 1.1 litres, reducing vehicle weight and emissions.

With turbo engines set to dominate the UK market, it's time to capitalise on being a turbo expert. The Turbo Tech section at **btnturbo.com** will help you diagnose and remedy turbo problems, and fit replacement turbos easily and correctly. There's video guidance on the BTN Turbo YouTube channel, or call our Technical Helpline on 01895 466663.



*Cars and LCVs
on the UK roads.*



Are Turbocharged.

Learn about turbos and win a T-shirt.

Want to learn more, or check how much you really know about turbos?

Try our online turbo training course at:

www.btnturbo.com/training

Log in whenever you like and take as long as you like.

The course covers all the essential information about turbos, including how they can bring you more business, what causes them to fail and fitting advice. Score 100% and you can choose a free T-shirt from the BTN collection!



Sign up to our turbo seminars.

Look out for our turbo tech masterclass seminars which we'll be staging around the UK next year. Each one will be a great opportunity to increase your turbo expertise, with our own experts plus guest speakers covering hot topics in the motor industry. To register your interest, just send an email with your contact details - subject 'seminar' to **sales@btnturbo.com**.



www.btnturbo.com

Receive our free newsletter and you could win a turbo!

We've recently launched a handy newsletter that keeps you up to date with the latest turbocharger news, fitting advice and alerts. Plus industry insights, advance notice of promotions and offers, exclusive competitions and more.

Win a turbo keyring - we're giving 40 away!

For your free newsletter, just email us at sales@btnturbo.com with 'newsletter' in the subject line, and we'll enter you into the draw to win a turbo! It's a smart little turbo keyring with a neat trick: blow into the 'intake' and the compressor wheel actually spins. Take a deep breath and see if you can reach 360,000 rpm!



A screenshot of a BTN Turbo newsletter. The header features the BTN Turbo logo and logos for OE New, OE Reman, and OEM. Below the header are logos for Garrett, BorgWarner, and Mitsubishi. The main content includes a warning on PSA 1.6HDI turbocharger issues, a caution for PSA 1.6HDI engines, and a watch step-by-step guide for replacing a PSA 1.6HDI engine turbo. There are also buttons for 'Read the article in full', 'Watch the video now', and 'View the critical instructions on PSA 1.6HDI turbochargers 2004+ before'.

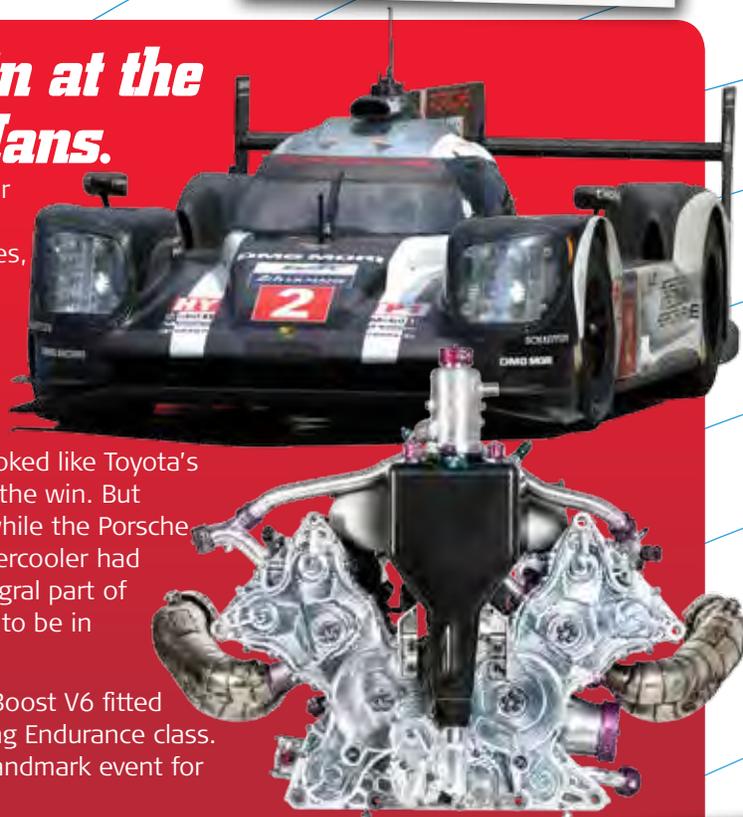
Garrett wins again at the closest ever Le Mans.

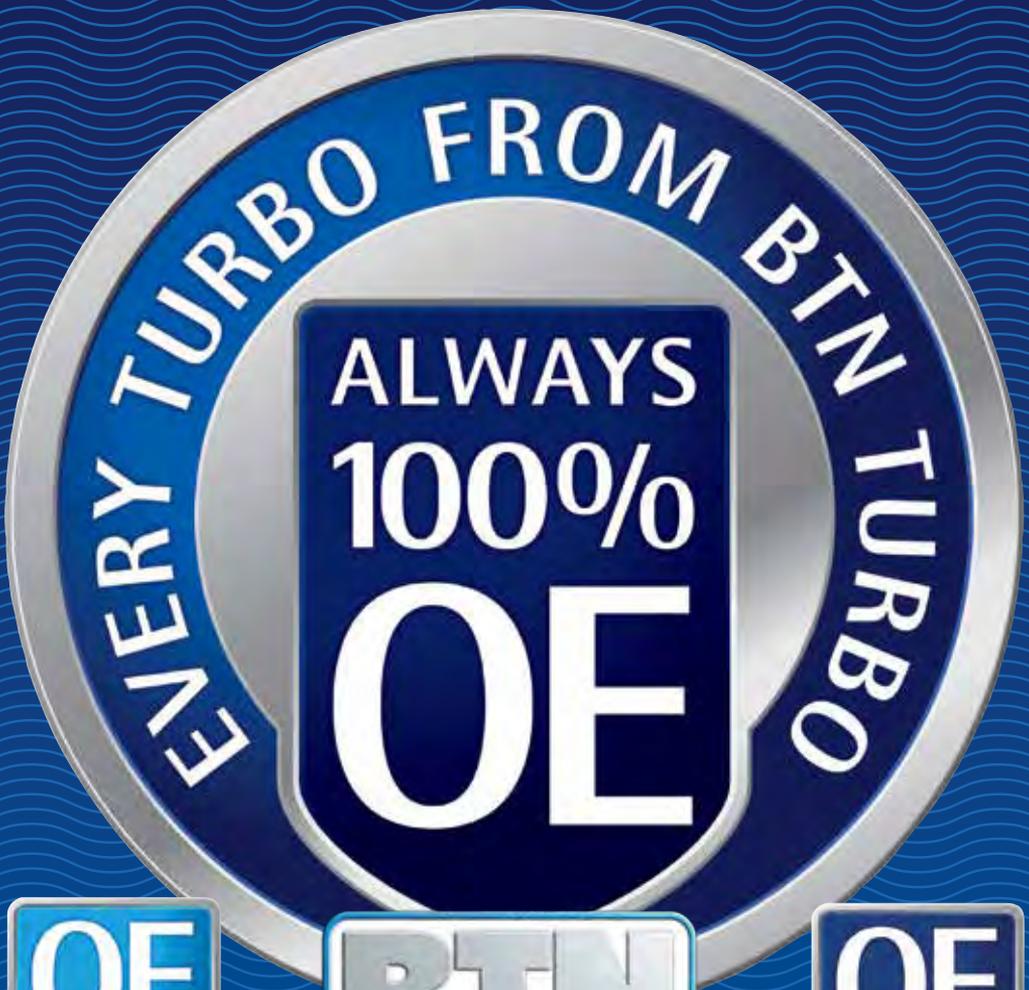
It was almost certain a turbo-powered car would win the 2016 Le Mans, but which one? After the lead had swapped 40 times, the Garrett turbocharged Porsche 919 Hybrid No.2 was first past the chequered flag. It was the 18th Le Mans victory for Porsche, and the 17th for Garrett.

All change on the last lap.

Right up to the last of the 384 laps, it looked like Toyota's turbocharged TS050 Hybrid would clinch the win. But suddenly the Toyota slowed to a crawl, while the Porsche surged past. A pipe from the Toyota's intercooler had failed; tragic proof that a turbo is an integral part of the engine's systems and relies on them to be in good condition.

Garrett also powered the twin turbo EcoBoost V6 fitted to the Ford GT that won the Grand Touring Endurance class. A frustrating 24 hours for Toyota, but a landmark event for Garrett, Porsche and Ford.





The turbocharger people



BorgWarner



MITSUBISHI TURBOCHARGERS



The turbocharger people

BTN Turbo is the world's largest independent turbo supplier. Over 18,000 OE turbos in stock, new first fit or remanufactured by the original manufacturer. All with 2 year warranty.

Contact your local factor for a BTN Turbo or call us to find your local stockist.

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