The heritage of our turbo business began in 1936 when young Cliff Garrett formed his company in a tiny, one-room office in Los Angeles. Cliff founded the company that would later become the Garrett Corporation. Number of employees, 1. Number of customers, 1. In the 1950s, it successfully added boosting a Caterpillar C9 tractor signaling the birth of automotive turbocharging.

Through names such as AiResearch, AlliedSignal, Honeywell Transportation Systems, and now Garrett Advancing Motion, the business has sustained a reputation for revolutionizing turbocharger technologies generation after generation. From the world’s first turbocharged production car – the Oldsmobile Jetfire Rocket - to the first Garrett turbocharged car to win the Indianapolis 500, Garrett’s industry-leading technology and patented designs are used daily for both OE and aftermarket vehicle applications.

Garrett turbocharger technology is the preferred choice for leading original equipment manufacturers including: Audi, BMW, GM, Daimler Chrysler, Mercedes, DDC, Fiat, Ford, International Truck Co, Peugeot, Renault, Saab and Volkswagen. Top race teams in Formula 1, World Rally, American Le Mans, 24 Hours of Le Mans, Formula Drift, Global Time Attack, NHRA, Radial vs the World Drag Racing, X275, and Pikes Peak Hill Climb rely on Garrett turbo technology to keep them on the podium.

Today, our Garrett legacy in both Aerospace and automotive industries helps create some of the most innovative and high-performing turbochargers in the world that can enable a four cylinder turbocharged engine to perform like a non-turbocharged V6 engine while providing 20-40% greater fuel efficiency. Garrett’s global engineering network continues to inspire technological innovation around the world.

The products contained in this catalog are performance aftermarket parts that are not legal for street use in certain states or countries, unless a type-approval/executive order has been obtained e.g. by the distributor of the product. Check with your distributor before using in any vehicle on a public road or highway. You should check with your state or applicable country authorities to find out whether these products are legal for street use in your state or country. Applicable laws may also prohibit 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 laws, regulations and ordinances (including, but not limited to, emission, noise, safety, and type-approval/executive order). Any vehicle modifications using the products in this catalog are completed AT YOUR OWN RESPONSIBILITY and AT YOUR OWN RISK. A vehicle modification using these performance aftermarket products may affect or void a vehicle’s warranty, operating license/registration or type-approval/executive order. You should contact your local laws, as well as the owner’s manual and service manual of your vehicle. You should also contact your vehicle’s manufacturer to determine what effect modifications may have on safety, warranty, performance, and other aspects of your vehicle. These products generally may be used on racing vehicles that will never be driven on public roads or highways.
A turbo is a high technology product that requires superior design and intensive capital to produce. It must meet severe requirements that only a world class manufacturer can achieve.

Garrett is one of the few turbocharger manufacturers that subjects our turbos to several OE qualification tests. These tests ensure Garrett produces a safe and reliable turbo for OE applications. When you buy a Garrett turbocharger you can be sure it is reliable.

On-Engine Durability – More than 1,000-hours of general turbocharger durability, is run on-engine in one of Garrett’s engineering laboratories.

Gas Stand Cyclic Durability – A several hundred hour durability test is conducted on a gas stand where the turbo is run past it normal operating limits.

Compressor & Turbine Housing Containment – A compressor/turbine wheel is weakened to hub burst at a specific speed. No portion of the wheel is allowed to penetrate a containment shroud surrounding the turbocharger. A test to ensure safety. See full article at www.GarrettMotion.com

Shaft Motion – The maximum tolerances of the bearing system are tested for rotordynamic stability beyond the maximum turbocharger operating speed. This means no bearing problems and a long turbo life.

Thrust Bearing Capacity – A test that stresses the thrust bearing at extreme conditions. This test makes sure your Garrett turbocharger can tolerate the load you put it through.

Compressor & Turbine Seal – Multiple turbochargers are run on-engine under conditions designed to cause seal leakage. No significant leakage is allowed during these tests.

Heat Soakback – A turbocharger instrumented with thermocouples is taken beyond maximum operating temperature and shut down hard! Repeat the test four more times and make sure maximum temperatures stay within our strict limits to avoid oil coking or build up inside the center housing. This is particularly critical for high temperature gasoline applications.

Compressor & Turbine Performance – The entire operating range of both the compressor and turbine are mapped on one of Garrett’s performance gas stands. These test cells are calibrated to strict standards to assure accuracy and consistency.

Compressor & Turbine Blade Frequencies – Garrett has strict requirements for compressor and turbine blade natural frequency. This is critical on large trims where the blade must be stiff enough to withstand potentially damaging vibrations.

Thermal Cycle – A several hundred hour endurance test that cycles the turbocharger from low temperature to glowing red every 10 minutes. To ensure a long turbo life, no cracking of the turbine housing or distortion of the heat shroud are allowed.

Rotor Inertia – A measurement made to document the rotational inertia of Garrett’s compressor and turbine wheels. Garrett’s turbochargers are known for their high flow / low inertia characteristics.

Shaft Critical Speed – An analytical test that ensures that destructive shaft critical speeds are well out of the turbocharger operating range. For example, large wheels may require a large shaft diameter to avoid the shaft bending critical speed.

Wheel Fatigue – Garrett will only sell compressor or turbine wheels that have passed a cyclic fatigue test. Garrett tests on a regular basis to ensure quality and to constantly improve our products.

Turbo Vibrations – The entire turbocharger is vibrated and monitored on Garrett’s large shaker table to ensure product durability.

WHY CHOOSE GARRETT TURBOCHARGERS

Engine power is proportional to the amount of air and fuel that can get into the cylinders. All things being equal, larger engines flow more air and as such will produce more power. If we want our small engine to perform like a large engine, or simply make our larger engine produce more power, our ultimate objective is to deliver more air into the cylinder. By installing a Garrett turbocharger, the power and performance of an engine can be dramatically increased.

HOW DOES A TURBOCHARGER DELIVER MORE AIR INTO THE ENGINE?

1. Compressor Inlet: Opening through which ambient air passes before entering the compressor.
2. Compressor Discharge: Ambient air is then compressed which raises the air’s density (mass/unit volume).
3. Charge Air Cooler (aka Intercooler): cools the compressed air to increase its density and to increase resistance to detonation.
4. Intake Manifold: Directs dense air into the engine’s cylinders. Each cylinder draws in an increased mass flow rate of air.
5. Exhaust Manifold: Directs burned fuel and exhaust gasses from the cylinders towards the turbine.
6. Turbo Inlet: Directs high temperature exhaust gas towards the turbine wheel. The turbine creates backpressure on the engine which means engine exhaust pressure is higher than atmospheric pressure.
7. Turbo Discharge: A pressure and temperature drop occurs (expansion) across the turbine, which harnesses the exhaust gas’ energy to provide the power necessary to drive the compressor wheel.

HOW A TURBO SYSTEM WORKS

COMPONENTS OF A TURBOCHARGER
Turbine Trim =
Compressor Trim =
factors are not held constant. So just because a wheel is a larger trim does not necessarily mean that it will flow more.

The trim of a wheel, whether compressor or turbine, affects performance by shifting the airflow capacity. All other factors held
constant, a higher trim wheel will flow more than a smaller trim wheel. However, it is important to note that very often all other
factors held constant the potential flywheel horsepower.

Reduced Oil Flow =
The ball bearing design reduces the required amount of oil required to provide adequate lubrication. This lower oil volume reduces the chance for seal leakage. Also, the ball bearing is more tolerant of marginal lube conditions, and diminishes the possibility of turbocharger failure on cold start conditions.

Read more at www.GarrettMotion.com

Improved Rotordynamics and Durability =
The ball bearing cartridge gives better damping and control over shaft motion, increasing reliability for both every day and extreme driving conditions. In addition, the opposed angular contact bearing cartridge eliminates the need for a thrust bearing, a common weak link in the turbo bearing system.

WHEEL TRIM

Trim is a common term used when talking about or describing turbochargers. For example, you may hear someone say “I have a GTXxxxx”. What is trim? Trim is a term used to express the relationship between the inducer and exducer of both turbine and compressor wheels. More accurately, it is an area ratio. Based on aerodynamics and air entry paths, the inducer for a compressor wheel is the smaller diameter. For turbine wheels, the inducer is the larger diameter.

The trim of a wheel, whether compressor or turbine, affects performance by shifting the airflow capacity. All other factors held constant, a higher trim wheel will flow more than a smaller trim wheel. However, it is important to note that very often all other factors are not held constant. So just because a wheel is a larger trim does not necessarily mean that it will flow more.

Compression Trim = (Inducer/Exducer) x 100
Turbine Trim = (Exducer/Inducer) x 100

The compressor map describes each compressor’s performance characteristics, including efficiency, mass flow rate, turbo speed, choke line, surge line, and pressure ratio. Below is a figure that identifies these aspects.

Efficiency Islands: Efficiency Islands are concentric regions that represent the compressor efficiency at any point on the map. The smallest island near the center of the map is the highest or peak efficiency island. As the rings move out from there, the efficiency drops by the indicated amount until the surge and choke limits are reached.

Mass Flow Rate: Mass Flow Rate is the mass of air flowing through a compressor over a period of time and is expressed as lb/min. As a very general rule, turbocharged gasoline engines generate 10.0-11.0* horsepower at the flywheel for each lb/min of airflow. So, an engine with a target peak horsepower of 400 HP will require 40-45 lb/min of airflow to achieve that target. Many people use Volumetric Flow Rate (expressed in cubic feet per minute, CFM or ft³/min) instead of mass flow rate. Volumetric flow rate can be converted to mass flow by multiplying by the air density. Air density at sea level is 0.075 lb/ft³. Mass flow can be physically measured, but in many cases it is sufficient to estimate the mass flow when choosing the proper turbo.

Turbo Speed: Turbo Speed Lines are constant turbo speed measured in RPM. As turbo speed increases, the pressure ratio and mass flow increases. Turbo speed lines are very close together at the far right edge of the map indicating a potential turbo over-speed condition.

Choke Line: The Choke Line is the right hand boundary of the compressor map and defined at the point where the efficiency drops below 58%. In addition to the rapid drop of compressor efficiency past this point, turbo speed also approaches or exceeds the recommended limit. If your actual or predicted operation is beyond this limit, a larger compressor is necessary.

Surge Line: Surge is the left hand boundary of the compressor map and represents a region of flow instability. This region is characterized by mild flutter to wildly fluctuating boost from the compressor. Continued operation within this region can lead to premature turbo failure due to heavy turbo loading. Surge will decay once the turbo speed finally slows enough to reduce the boost and move the operating point back into the stable region. This situation is commonly addressed by using a Blow-Off Valve (BOV) or bypass valve. A BOV functions to vent intake pressure to atmosphere so that the mass flow ramps down smoothly, keeping the compressor out of surge. In the case of a recirculating bypass valve, the airflow is recirculated back to the compressor inlet.

Pressure Ratio (PR) = \( \frac{P_{out}}{P_{in}} \)

Absolute Pressure: It is important to use units of Absolute Pressure for both Psi and Psia. Absolute pressure at sea level is 14.7 Psia. In units of Psia, the “a” refers to “absolute”. This is referred to as standard atmospheric pressure at standard conditions.

Gauge Pressure: Measures the pressure above atmospheric, so a gauge pressure reading at atmospheric conditions will read zero. Boost gauges measure the manifold pressure relative to atmospheric pressure, and thus are measuring Gauge Pressure. In units of Psig, the “G” refers to “gauge”. This is important when determining Psig.

Calculating Psig: For example, a reading of 12 Psig on a boost gauge means that the air pressure in the manifold is 12 Psig above atmospheric pressure. For standard atmospheric conditions, 12 Psig = 14.7 Psia + 26.7 Psig absolute compressor outlet pressure (Ps2c). The Psie at this condition can now be calculated: 26.7 / 14.7 = 1.82

Depression: A pressure loss upstream of the compressor caused by any restriction from the air filter or restrictive ducting. Depression can be 1 Psig or more on some intake systems. In the compressor outlet (Ps2c) is often LESS than the ambient pressure, especially at high load. Taking into account the 1 psig intake depression, the pressure ratio is now: (12 psig + 14.7 Psia) / 13.7 Psia = 1.99

Elevation: Higher elevations can have a significant effect on pressure ratio. Turbo speed increases to compensate for increases in altitude. Substitute the actual atmospheric pressure in place of the 14.7 psig in the equations above to give a more accurate calculation. For example, at Denver’s 5000 feet elevation, the atmospheric pressure is typically around 12.4 psig. In this case, the pressure ratio calculation, taking into account the intake depression, is:

\( \frac{12 \text{ psig} + 14.7 \text{ Psia}}{12.4 \text{ Psig} - 1 \text{ psig}} = 2.14 \)

Compared to the 1.92 pressure ratio calculated originally, this is a big difference.

* Performance results of this product are highly dependent upon your vehicle’s modifications and tuning/calibration. Horsepower numbers represented in this catalog are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.
When deciding between A/R options, be realistic with the flow capacity, resulting in lower backpressure and more power wheel in a more radial fashion, increasing the wheel’s effective ability to breathe effectively at high RPM, adversely affecting peak engine power. Using a larger A/R will lower exhaust gas velocity, and delay peak engine power.

**Turbine A/R**

Turbine performance is greatly affected by changing the A/R of the housing. Using a smaller A/R will increase the exhaust gas velocity into the turbine wheel providing increased turbine power at lower engine speeds and resulting in quicker boost response. The smaller A/R also causes the flow to enter the wheel more tangentially, which reduces the ultimate flow capacity of the turbine wheel. This will increase exhaust backpressure and reduce the engine’s ability to breathe effectively at high RPM, adversely affecting peak engine power.

Using a larger A/R will lower exhaust gas velocity, and delay boost response. The flow in a larger A/R housing enters the wheel in a more radial fashion, increasing the wheel’s effective flow capacity, resulting in lower backpressure and more power wheel at higher engine speeds.

When deciding between A/R options, be realistic with the intended vehicle use and choose the A/R to bias the performance toward the desired powerband characteristic.

---

**WHAT IS A/R?**

A/R (Area/Radius) describes a geometric characteristic of all compressor and turbine housings. It is defined as the inlet (or, for compressor housings, the discharge) cross-sectional area divided by the radius from the turbine centerline to the centroid of that area.

**Compressor A/R**

Compressor performance is comparatively insensitive to changes in A/R. Larger A/R housings are sometimes used to optimize performance of low boost applications, and smaller A/R are used for high boost applications. However, as this influence of A/R on compressor performance is minor, there are rarely A/R options available for compressor housings.

**Turbine A/R**

Turbine performance is greatly affected by changing the A/R of the housing. Using a smaller A/R will increase the exhaust gas velocity into the turbine wheel providing increased turbine power at lower engine speeds and resulting in quicker boost response. The smaller A/R also causes the flow to enter the wheel more tangentially, which reduces the ultimate flow capacity of the turbine wheel. This will increase exhaust backpressure and reduce the engine’s ability to breathe effectively at high RPM, adversely affecting peak engine power.

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When deciding between A/R options, be realistic with the intended vehicle use and choose the A/R to bias the performance toward the desired powerband characteristic.

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**HOW DO I CHOOSE THE RIGHT TURBO**

The primary input in determining which turbocharger is appropriate is to have a target horsepower in mind. This should be as realistic as possible for the application. Remember that engine power is generally proportional to air and fuel flow. Once you have a target horsepower identified along with your engine displacement, you begin to hone in on the turbocharger size, which is highly dependent on airflow requirements.

Other important factors include the type of application. An autocross car, for example, requires rapid boost response. A smaller turbocharger or smaller turbine housing would be most suitable for this application. While this will trade off ultimate power due to increased exhaust backpressure at higher engine speeds, boost response of the small turbo will be excellent. Alternatively, on a car dedicated to track days, peak horsepower is a higher priority than low-end torque. Plus, engine speeds tend to be consistently higher. Here, a larger turbocharger or turbine housing will provide reduced backpressure but less immediate low-end response. This is a welcome tradeoff given the intended operating conditions.

Selecting the turbocharger for your application goes beyond “how much boost” you want to run. Defining your target power level and the primary use for the application are the first steps in enabling your Performance Distributor to select the right turbocharger for you.

To find your local Performance Distributor visit: GarrettMotion.com/Racing-and-Performance/Distributor-Locator/  
You can also download our Boost Advisor app for your mobile device. Visit GarrettMotion.com/BoostAdvisor for more details.

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**TROUBLESHOOTING**

Nearly all turbocharger-related problems are the result of a handful of causes. Knowing how to recognize the symptoms of these issues early and link them with causes will help you save downtime and money. The chart above outlines the probable causes and noticeable conditions of the most common turbocharger maladies as well as what you can do to solve them. If a problem falls outside of your mechanical comfort level, contact a Performance Distributor or a Master Distributor for assistance. www.GarrettMotion.com/Racing-and-Performance/Distributor-Locator/
Garrett G Series turbochargers feature the latest innovations in turbocharger technology. This clean sheet product has our highest performing compressor and turbine aero to date. Countless engineering hours have been spent to create the perfect blend of efficiency and performance in a compact package. Advanced features tailored to meet the demands of hard core competitors making G Series the most powerful turbochargers on the market.
A TURN AHEAD OF THE COMPETITION

INTERNALLY WASTEGATED configurations available for in both standard and reverse rotation. Turbochargers are fully assembled and calibrated by Garrett to with a 1.0 bar actuator.

TWIN PISTON RINGS on both sides of the shaft combined with a new oil deflector help reduce oil leakage from the center housing to the compressor and turbine stage.

BEARING CARTRIDGE new compact cartridge features ceramic ball bearings resulting in less heat transfer to the oil. Steel bearing cages improve the durability of complete assembly.

COMPRESSOR WHEEL forged fully machined with improved aero flows up to 15-30% more air. Lightweight construction and CFD designed and manufactured by Garrett engineers.

OIL DEFLECTOR

SEAL PLATE

THRUST SHROUD

Adam LZ | Garrett G25-660 | Pro-Am Drift
**Garrett G25-550**

Horsepower: 300 - 550
Displacement: 1.4L - 3.0L

**Garrett G25-660**

Horsepower: 350 - 660
Displacement: 1.4L - 3.0L

<table>
<thead>
<tr>
<th>FEATURES:</th>
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</thead>
<tbody>
<tr>
<td>G SERIES COMPRESSOR AERODYNAMICS FOR MAXIMUM HP</td>
</tr>
<tr>
<td>G SERIES TURBINE WHEEL AERO WITH IMPROVED EFFICIENCY</td>
</tr>
<tr>
<td>STANDARD AND REVERSE ROTATION CONFIGURATIONS</td>
</tr>
<tr>
<td>TURBINE WHEEL CONSTRUCTED OF MAR-M ALLOY RATED UP TO 1050°C</td>
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<tr>
<td>FULLY MACHINED SPEED SENSOR AND PRESSURE PORTS</td>
</tr>
<tr>
<td>OIL RESTRICTOR AND WATER FITTINGS INCLUDED</td>
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</tbody>
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### COMPRESSOR MAP

- **Compressor:** Inducer 877895-5001S, Exducer 877895-5002S, Trim 877895-5008S
- **Turbine:** Turbo PN 877895-5001S

### EXHAUST FLOW CHART

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### G25-550 Reference Flow Data

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<thead>
<tr>
<th>HP: 300-550 Disp: 1.4L-3.0L</th>
<th>Compressor</th>
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<tr>
<th>G25-550 Turbocharger PN</th>
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<tbody>
<tr>
<td>Turbo PN 877895-5001S</td>
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<td>Turbo PN assembled and calibrated with 0.5 bar actuator</td>
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<table>
<thead>
<tr>
<th>G25-550 Reverse Rotation Supercore PN</th>
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<tbody>
<tr>
<td>Turbo Kit PN 877895-5007</td>
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<td>Turbo PNG assembled and calibrated with 0.5 bar actuator</td>
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### G25-660 Reference Flow Data

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<td>Turbo PNG assembled and calibrated with 0.5 bar actuator</td>
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- G SERIES TURBINE WHEEL AERO WITH IMPROVED EFFICIENCY
- STANDARD AND REVERSE ROTATION CONFIGURATIONS
- TURBINE WHEEL CONSTRUCTED OF MAR-M ALLOY RATED UP TO 1050°C
- FULLY MACHINED SPEED SENSOR AND PRESSURE PORTS
- OIL RESTRICTOR AND WATER FITTINGS INCLUDED

Garrett G30-660
Horsepower: 350 - 660
Displacement: 2.0L - 3.5L

Garrett G30-770
Horsepower: 475 - 770
Displacement: 2.0L - 3.5L
Garrett G30-900
Horsepower: 550 - 900
Displacement: 2.0L - 3.5L

**FEATURES:**
- G SERIES COMPRESSOR AERODYNAMICS FOR MAXIMUM HP
- G SERIES TURBINE WHEEL AERO WITH IMPROVED EFFICIENCY
- STANDARD AND REVERSE ROTATION CONFIGURATIONS
- TURBINE WHEEL CONSTRUCTED OF MAR-M ALLOY RATED UP TO 1050°C
- FULLY MACHINED SPEED SENSOR AND PRESSURE PORTS
- OIL RESTRICTOR AND WATER FITTINGS INCLUDED

**COMPRESSOR MAP**

**EXHAUST FLOW CHART**

Garrett G35-900
Horsepower: 550 - 900
Displacement: 2.0L - 5.5L

**FEATURES:**
- G SERIES COMPRESSOR AERODYNAMICS FOR MAXIMUM HP
- G SERIES TURBINE WHEEL AERO WITH IMPROVED EFFICIENCY
- STANDARD AND REVERSE ROTATION CONFIGURATIONS
- TURBINE WHEEL CONSTRUCTED OF MAR-M ALLOY RATED UP TO 1050°C
- FULLY MACHINED SPEED SENSOR AND PRESSURE PORTS
- OIL RESTRICTOR AND WATER FITTINGS INCLUDED

**COMPRESSOR MAP**

**EXHAUST FLOW CHART**
**Garrett G35-1050**
Horsepower: 700 - 1050
Displacement: 2.0L - 5.5L

**Garrett G42-1200**
Horsepower: 475 - 1200
Displacement: 2.0L - 7.0L

**Compressor Map**

**Exhaust Flow Chart**

**Features:**
- Garrett G Series compressor aerodynamics for maximum HP
- G series turbine wheel aero with improved efficiency
- Standard and reverse rotation configurations
- Turbine wheel constructed of Mar-M alloy rated up to 1050°C
- Fully machined speed sensor and pressure ports
- Oil restrictor and water fittings included

**Table:**

<table>
<thead>
<tr>
<th>Turbine Kit PN</th>
<th>Trim</th>
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**Garrett G35-1050 Turbocharger PN**
Turbo PN assembled and calibrated with 0.5 bar actuator

**Garrett G35-1050 Standard Rotation Supercore PN**

**Garrett G35-1050 Reverse Rotation Supercore PN**

**Garrett G42-1200 Compact Ref Data Compressor Turbine**

**Garrett G42-1200 Reference Data Compressor Turbine**

**Garrett G42-1200 Supercore PN**

**Exhaust Flow Chart**

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<table>
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<tr>
<th>Turbine Kit PN</th>
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**Garrett G42-1200 Compact Supercore PN Turbine Kit PN**

**Garrett G42-1200 Supercore PN Turbine Kit PN**
Garrett G42-1200 Compact
Horsepower: 475 - 1200
Displacement: 2.0L - 7.0L

Garrett G42-1450
Horsepower: 525 - 1450
Displacement: 2.0L - 8.0L

COMPRESSOR MAP

FEATURES:
- Garrett G Series Compressor Aerodynamics for maximum HP
- Fully machined speed sensor and pressure ports
- New turbine wheel aero for increased efficiency and flow
- Stainless steel turbine housings
- Water fittings included

EXHAUST FLOW CHART

<table>
<thead>
<tr>
<th>Compressor</th>
<th>Turbine</th>
<th>Inducer</th>
<th>Exducer</th>
<th>Trim</th>
<th>A/R</th>
<th>Inlet</th>
<th>Outlet</th>
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FEATURES:
- Garrett G Series Compressor Aerodynamics for maximum HP
- Fully machined speed sensor and pressure ports
- New turbine wheel aero for increased efficiency and flow
- Stainless steel turbine housings
- Water fittings included

EXHAUST FLOW CHART

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<thead>
<tr>
<th>Compressor</th>
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<td>Free Float N</td>
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<td>757707-0013 T4</td>
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Garrett G57-3000
Horsepower: 1400 - 3000
Displacement: 3.0L - 12.0L

FEATURES:
- 88MM, 94MM, 98MM, 102MM, 106MM COMPRESSOR OPTIONS
- 118MM INDUCER TURBINE WHEEL
- 28% MORE TURBINE FLOW (COMPAred TO GTX) SEE GRAPH BELOW
- STAINLESS STEEL TURBINE HOUSINGS
- ONE-PIECE ALUMINUM CENTER HOUSING
- 16MM DUAL CERAMIC BALL BEARING CARTRIDGE
- OUTLINE INTERCHANGEABLE WITH GTX GEN II TURBOS
- STAINLESS STEEL TURBINE KIT SOLD INDIVIDUALLY: 1.09 A/R, 1.25 A/R, 1.41 A/R

EXHAUST FLOW CHART

COMPRESSOR MAP

Supercore PN | Compressor | Turbine
--- | --- | ---
880547-5031S | G57-2000 | 88mm
880547-5032S | G57-2350 | 94mm
880547-5033S | G57-2500 | 98mm
880547-5029S | G57-2750 | 102mm
880547-5030S | G57-3000 | 106mm

Turbine Kit PN | A/R | Inlet | Outlet | Wastegate | Stainless | Divided | Trim
--- | --- | --- | --- | --- | --- | --- | ---
761208-0083 | 1.09 | V-Band | V-Band | Free Float | Y | N | 90
761208-0084 | 1.25 | V-Band | V-Band | Free Float | Y | N | 90
761208-0085 | 1.41 | V-Band | V-Band | Free Float | Y | N | 90
Garrett GTX Series turbochargers are designed specifically for the hard-core enthusiast who wants optimal performance. The forged fully-machined billet aluminum compressor wheels feature next generation aerodynamics that provides a larger horsepower range and maximize boost response. Ported shroud compressor housings increase surge resistance and provide reliable, continuous power throughout the power band.

A dual ceramic ball bearing cartridge prolongs the lifespan and improves shaft balance. The water cooled CHRA keeps housing temperatures to a minimum. The turbine wheel is constructed from Inconel, a super alloy that maintains strength during prolonged exposure to high exhaust gas temperatures.

Turbine kits are offered in open volute and twin scroll, and a variety of A/R and flange configurations. GTX Series turbochargers are used by today’s top motorsports teams and are ready to boost you to the podium or wherever your destination may be.

**GEN II PRODUCT UPDATES**

**UPDATED FEATURES ON SELECT GTX TURBOCHARGERS**

- GEN II COMPRESSOR AERODYNAMICS FOR INCREASED HORSEPOWER RANGE (GTX28/30/35/47/50/55)
- FULLY MACHINED SPEED SENSOR PORT FOR DATA ACQUISITION (GTX28/30/35/47/50/55)
- LIGHTWEIGHT ALUMINUM BACKPLATE FOR WEIGHT REDUCTION (GTX47/50/55)
Garrett GTX2860R GEN II
Horsepower: 200 - 475
Displacement: 1.4L - 2.5L

FEATURES:
- GEN 2 AERODYNAMICS FEATURE INCREASED HORSEPOWER RANGE
- IMPROVED PORTED SHROUD DESIGN FOR SURGE RESISTANCE
- NEW FULLY MACHINED SPEED SENSOR PORT. DETAILS ON PG. 72
- WASTEGATE ACTUATORS & BRACKET KIT AVAILABLE ON PG. 73
- SOLD AS ASSEMBLY KITS (SUPER CORE + TURBINE HSG)

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856800-5003S
Assembly Kit Includes Super Core and Turbine Kit

GTX2867R GEN II
Horsepower: 275 - 550
Displacement: 1.4L - 2.5L

FEATURES:
- GEN 2 AERODYNAMICS FEATURE INCREASED HORSEPOWER RANGE
- IMPROVED PORTED SHROUD DESIGN FOR SURGE RESISTANCE
- NEW FULLY MACHINED SPEED SENSOR PORT. DETAILS ON PG. 72
- WASTEGATE ACTUATORS & BRACKET KIT AVAILABLE ON PG. 73
- SOLD AS ASSEMBLY KITS (SUPER CORE + TURBINE HSG)

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856800-5007S
Assembly Kit Includes Super Core and Turbine Kit

Notes:
- Assembly Kit PN
- 856800-5003S
- 856800-5004S
- 856800-5001S
- 856800-5002S
FEATURES:
- GEN 2 AERODYNAMICS FEATURE INCREASED HORSEPOWER RANGE
- NEW FULLY MACHINED SPEED SENSOR PORT DETAILS ON PG. 72
- SOLD AS ASSEMBLY KITS (SUPER CORE + TURBINE KIT)
- REVERSE ROTATION OPTIONS AVAILABLE

---

EXHAUST FLOW CHART

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GTX3576R GEN II

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Assembly Kit Includes Super Core and Turbine Kit

Reverse Rotation

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GTX3582R GEN II

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Assembly Kit Includes Super Core and Turbine Kit

Reverse Rotation

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GTX3576R GEN II

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GTX3582R GEN II

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<tr>
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Garrett GTX3576R GEN II

Horsepower: 400 - 750
Displacement: 2.0L - 4.5L

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Garrett GTX3582R GEN II

Horsepower: 450 - 900
Displacement: 2.0L - 6.0L

---
**Garrett GTX3584RS**

- Horsepower: 550 - 1000
- Displacement: 2.0L - 5.5L

**Compressor**

- Assembly Kit Includes Super Core

**Turbine Kit PN**

- GTX3582R Gen II
- Reverse Rotation

- 825614-5005S

**COMPRESSOR MAP**

- Available only with divided turbine housings
- Super core and turbine kit sold separately
- Features original GTX comp wheel aerodynamics

**EXHAUST FLOW CHART**

- Corrected air flow: 2.0L - 6.0L
- Pressure ratio: 0.5 - 1.5
- Maximum efficiency: 80%

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<tr>
<td>V-Band 866804-5005S</td>
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**Garrett GTX4088R**

- Horsepower: 460 - 850
- Displacement: 2.0L - 6.0L

**Compressor**

- Assembly Kit Includes Super Core

**Turbine Kit PN**

- GTX4088R

**COMPRESSOR MAP**

- Available only with divided turbine housings
- Super core and turbine kit sold separately
- Features original GTX comp wheel aerodynamics

**EXHAUST FLOW CHART**

- Corrected air flow: 2.0L - 6.0L
- Pressure ratio: 0.5 - 1.5
- Maximum efficiency: 80%

<table>
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<tr>
<th>GTX4088R</th>
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<td>V-Band 773628-0001</td>
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<td>Free Float</td>
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*GTX3584 turbine housings not compatible with other GTX/GTX housings.*
Garrett GTX4294R
Horsepower: 475 - 950
Displacement: 2.0L - 7.0L

**FEATURES:**
- Original GTX Comp Wheel Aerodynamics
- Super Core and Turbine Kit Sold Separately
- Available only with divided turbine housings
- V-Band compressor outlet configuration

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Garrett GTX4202R
Horsepower: 525 - 1120
Displacement: 2.0L - 7.0L

**FEATURES:**
- Original GTX Comp Wheel Aerodynamics
- Super Core and Turbine Kit Sold Separately
- Available only with divided turbine housings
- V-Band compressor outlet configuration

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Garrett GTX4508R
Supercore PN
Turbine Kit PN

Garrett GTX4720R Gen II
Super Core PN
Turbine Housing Kits

Garrett GTX4709R Gen II
Super Core PN
Turbine Kit PN

Garrett GTX3584RS

Garrett GTX3582R Gen II
Assembly Kit PN

Assembly Kit Includes Super Core and Turbine Kit
Garrett GTX4508R
Horsepower: 700 - 1250
Displacement: 2.0L - 8.0L

FEATURES:
- FEATURES ORIGINAL GTX COMP WHEEL AERODYNAMICS
- SUPER CORE AND TURBINE KIT SOLD SEPARATELY
- AVAILABLE ONLY WITH DIVIDED TURBINE HOUSINGS
- V-BAND COMPRESSOR OUTLET CONFIGURATION

Compressor
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Turbine
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Garrett GTX4709R GEN II
Horsepower: 825 - 1625
Displacement: 2.0L - 10.0L

FEATURES:
- GEN 2 COMPRESSOR WHEEL AERODYNAMICS
- 15% INCREASED COMPRESSOR FLOW
- 76MM, 80MM, INDUCER CONFIGURATIONS
- 88 A/R COMPRESSOR HOUSING VOLUTE
- 39% LOWER INERTIA THAN PREVIOUS GENERATION
- SUPER CORE AND TURBINE HOUSING SOLD SEPARATELY
- COMPATIBLE WITH GT AND GTX GEN I TURBINE HOUSINGS

Compressor
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<thead>
<tr>
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Turbine
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Super Core and Turbine Kit Sold Separately

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Turbine
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**Garrett GTX4720R GEN II**

**Horsepower:** 1025 - 1950  
**Displacement:** 2.5L - 10.0L

**FEATURES:**
- GEN 2 COMPRESSOR WHEEL AERODYNAMICS
- 9% INCREASED COMPRESSOR FLOW
- 76MM, 80MM, 88MM INDUCER CONFIGURATIONS
- 88 A/R COMPRESSOR HOUSING VOLUTE
- 50% LOWER INERTIA THAN PREVIOUS GENERATION
- SUPER CORE AND TURBINE HOUSING SOLD SEPARATELY
- COMPATIBLE WITH GT AND GTX GEN I TURBINE HOUSINGS

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**Garrett GTX5009R GEN II**

**Horsepower:** 875 - 1700  
**Displacement:** 2.5L - 10.0L

**FEATURES:**
- GEN 2 COMPRESSOR WHEEL AERODYNAMICS
- 9% INCREASED COMPRESSOR FLOW
- 76MM, 80MM, INDUCER CONFIGURATIONS
- 88 A/R COMPRESSOR HOUSING VOLUTE
- 50% LOWER INERTIA THAN PREVIOUS GENERATION
- SUPER CORE AND TURBINE HOUSING SOLD SEPARATELY
- COMPATIBLE WITH GT AND GTX GEN I TURBINE HOUSINGS

---

**Compressor**

**Turbine**

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**Compressor**

**Turbine**

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<td>GTX55 Turbine Housing Kits</td>
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<tr>
<td>Super Core and Turbine Kit Sold Separately</td>
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**Compressor**

**Turbine**

| GTX50 Turbine Housing Kits |
| Super Core and Turbine Kit Sold Separately |
| 761208-0013  | 1.39 T6 V-band Free Float N |
| 761208-0014  | 1.39 T6 V-band Free Float N |
| 761208-0015  | 1.39 T6 V-band Free Float N |
| 761208-0016  | 1.39 T6 V-band Free Float N |
**Garrett GTX5020R GEN II**

**Horsepower:** 1075 - 2050

**Displacement:** 2.8L - 11.0L

**FEATURES:**
- GEN 2 COMPRESSOR WHEEL AERODYNAMICS
- 5% INCREASED COMPRESSOR FLOW
- 76mm, 80mm, 88mm INDUCER CONFIGURATIONS
- 84 A/R COMPRESSOR HOUSING VOLUME
- 10% LOWER INERTIA THAN PREVIOUS GENERATION
- SUPER CORE AND TURBINE HOUSING SOLD SEPARATELY
- COMPATIBLE WITH GT AND GTX GEN I TURBINE HOUSINGS

---

**Garrett GTX5533R GEN II**

**Horsepower:** 1000 - 2500

**Displacement:** 3.0L - 12.0L

**FEATURES:**
- GEN 2 AERODYNAMICS FEATURE INCREASED HORSEPOWER RANGE
- NEW FULLY-MACHINED SPEED SENSOR PORT
- IMPROVED PORTED HOUSING DESIGN FOR SURGE RESISTANCE
- LIGHTWEIGHT BILLET BACKPLATE
- SFI SUPER CORE AND TURBINE OPTIONS AVAILABLE
- V-BAND COMPRESSOR OUTLET CONFIGURATION

---

**GTX5020R Gen II**

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Super Core and Turbine Kit Sold Separately

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**GTX5533R Gen II**

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Super Core and Turbine Kit Sold Separately

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**GTX50 Turbine Housing Kits**

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**GTX55 Turbine Housing Kits**

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* SFI Certified Turbine Housings
Garrett GTX5544R GEN II

Horsepower: 1400-2850
Displacement: 3.0L - 12.0L

FEATURES:
- GEN II COMPRESSOR WHEEL AERODYNAMICS
- LIGHTWEIGHT BILLET BACKPLATE
- NEW BACKPLATE TO COMPRESSOR HOUSING O-RING
- NEW COMPRESSOR EXCLUDER
- FEATURES THE 36 A/R COMPRESSOR HOUSING
- SUPER CORE AND TURBINE HOUSING SOLD SEPARATELY
- COMPATIBLE WITH GT, GTX, AND GTX5533R TURBINE HOUSINGS

COMPRESSOR MAP

EXHAUST FLOW CHART

GTX5533R GEN II

Horsepower: 1000-2500
Displacement: 3.0L - 12.0L

GTX55 DRAG RACING

Garrett GTX55 Turbine Kit PN

761208-0054 761208-0062 761208-0063 761208-0064 761208-0065

A/R Desc SFI Inlet Outlet

1.24 Long Outlet Y V-Band V-Band
1.24 Long Outlet N V-Band V-Band
1.24 Short Outlet N V-Band V-Band
1.40 Long Outlet Y V-Band V-Band
1.40 Long Outlet N V-Band V-Band
1.40 Short Outlet N V-Band V-Band

GTX55 STAINLESS STEEL TURBINE HOUSING CONFIGURATIONS

Features:
- 1.24 A/R and 1.40 A/R options
- SFI certification optional
- 3/8" grade 5 cross bolts on both SFI and non-SFI long outlet housings
- Threaded bosses for attachment points
- 4.25" V-Band inlet
- 5" V-Band outlet
- Compatible with GTX5533R GEN I & GEN II | GTX5544R
- Long and short outlet configurations
Garrett Boost | Club Line turbochargers are engineered for small engine displacements including powersports, personal watercraft, and automobiles. These turbochargers feature internally wastegated turbine housings and journal bearing rotating groups. Forged, fully-machined compressor wheels can support from 200 up to 350 horsepower for engine displacements ranging from 0.4L up to 2.5L.

**GARRETT BOOST | CLUB LINE FEATURES**

- **FRAME SIZES**: 14, 17, 20, and 22
- **GBC 17, 20 AND 22 ARE OUTLINE INTERCHANGEABLE**
- **150 - 350 HORSEPOWER CAPABILITY**
- **INTEGRATED WASTEGATE ASSEMBLY WITH CALIBRATED ACTUATOR**
- **BILLET COMPRESSOR WHEEL WITH EXTENDED TIP DESIGN FOR HIGHER PRESSURE RATIO CAPABILITY**
- **GTX GEN II COMPRESSOR AERO WITH MODERN GASOLINE TURBINE WHEEL AERO**
- **INCONEL TURBINE WHEEL MATERIAL**
- **DUCTILE IRON (SIMO+) TURBINE HOUSING MATERIAL**
- **LATEST GENERATION OF JOURNAL BEARING ROTOR GROUP**
- **360-DEGREE THRUST BEARING**
- **OIL-COOLED CENTER HOUSING**
- **BOOST SIGNAL PORT WITH INSTALLED PLUG**
Garrett GBC14-200
Horsepower: 140 - 200
Displacement: 0.4L - 1.0L

FEATURES:
- 34mm Compressor Inducer
- Supports up to 200 Horsepower
- Forged Fully-Machined Compressor Wheel
- Journal Bearing Rotating Group
- Internally-Wastegated Turbine Housing
- Engineered for small displacement engines including Powersports, Personal Watercraft and Automobiles

EXHAUST FLOW CHART

COMPRESSOR MAP

Garrett GBC17-250
Horsepower: 150 - 250
Displacement: 0.6L - 1.5L

FEATURES:
- 36mm Compressor Inducer
- Supports up to 250 Horsepower
- Forged Fully-Machined Compressor Wheel
- Journal Bearing Rotating Group
- Internally-Wastegated Turbine Housing
- Engineered for small displacement engines including Powersports, Personal Watercraft and Automobiles

EXHAUST FLOW CHART

COMPRESSOR MAP
Garrett GBC20-300
Horsepower: 170 - 300
Displacement: 0.8L - 2.0L

*COMPRESSOR MAP*

- Supports up to 300 horsepower
- Forged fully-machined compressor wheel
- Journal bearing rotating group
- Internally wastegated turbine housing
- Engineered for small displacement engines including powersports, personal watercraft and automobiles

*EXHAUST FLOW CHART*

- HP: 140-200 Disp: 0.4L-1.0L
  - Inducer: 34mm
  - Exducer: 46mm
  - Trim: 55
  - A/R: 0.52
  - Inlet: 39mm
  - Outlet: 36mm
  - 3 Bolt

- HP: 150-250 Disp: 0.6L-1.5L
  - Inducer: 36mm
  - Exducer: 49mm
  - Trim: 55
  - A/R: 0.52
  - Inlet: 44mm
  - Outlet: 40mm
  - T25
  - 5 Bolt

- HP: 170-300 Disp: 0.8L-2.0L
  - Inducer: 39mm
  - Exducer: 52mm
  - Trim: 57
  - A/R: 0.59
  - Inlet: 47mm
  - Outlet: 42mm
  - T25
  - 5 Bolt

- HP: 200-350 Disp: 1.0L-2.5L
  - Inducer: 44mm
  - Exducer: 56mm
  - Trim: 62
  - A/R: 0.59
  - Inlet: 50mm
  - Outlet: 46mm
  - T25
  - 5 Bolt

---

Garrett GBC22-350
Horsepower: 200 - 350
Displacement: 1.0L - 2.5L

*COMPRESSOR MAP*

- Supports up to 350 horsepower
- Forged fully-machined compressor wheel
- Journal bearing rotating group
- Internally wastegated turbine housing
- Engineered for small displacement engines including powersports, personal watercraft and automobiles

*EXHAUST FLOW CHART*

- HP: 140-200 Disp: 0.4L-1.0L
  - Inducer: 34mm
  - Exducer: 46mm
  - Trim: 55
  - A/R: 0.52
  - Inlet: 39mm
  - Outlet: 36mm
  - 3 Bolt

- HP: 150-250 Disp: 0.6L-1.5L
  - Inducer: 36mm
  - Exducer: 49mm
  - Trim: 55
  - A/R: 0.52
  - Inlet: 44mm
  - Outlet: 40mm
  - T25
  - 5 Bolt

- HP: 170-300 Disp: 0.8L-2.0L
  - Inducer: 39mm
  - Exducer: 52mm
  - Trim: 57
  - A/R: 0.59
  - Inlet: 47mm
  - Outlet: 42mm
  - T25
  - 5 Bolt

- HP: 200-350 Disp: 1.0L-2.5L
  - Inducer: 44mm
  - Exducer: 56mm
  - Trim: 62
  - A/R: 0.59
  - Inlet: 50mm
  - Outlet: 46mm
  - T25
  - 5 Bolt

---

*NOTE:*
- PN: 896053-5003S
- PN: 896052-5003S
- PN: 896051-5004S
- PN: 896055-5003S
Garrett GTW Series Turbochargers were designed to provide budget-minded enthusiasts with a high-performing mid frame product offering available in ball bearing and journal bearing options.

The fully-machined billet aluminum compressor wheels provide optimal horsepower range and boost response. Ported shroud compressor housings increase surge resistance and provide reliable, continuous power throughout the power band. A lightweight aluminum backplate comes standard on all GTW turbochargers and reduces overall weight.

The water cooled CHRA keeps housing temperatures to a minimum. The GTW3476 and GTW3884 turbine wheels are constructed from Inconel, a Super Alloy that maintains strength during prolonged exposure to high exhaust gas temperatures. Turbine kits are offered in open volute and twin scroll, and a variety of A/R and flange configurations. The GTW is a cost effective option for enthusiasts looking to turbocharge their vehicles.
**Garrett GTW3476R**
Horsepower: 450 - 700
Displacement: 2.0L - 4.5L

**Garrett GTW3684R**
Horsepower: 425 - 750
Displacement: 2.0L - 5.3L

---

**Compressor Map**

**Exhaust Flow Chart**

---

**Features:**
- Ported Shroud Design for Surge Resistance
- Available in both Journal Bearing and Ball Bearing Options
- Forged Fully-Machined Billet Compressor Wheel
- Lightweight Aluminum Backplate
- Inconel Super-Alloy Turbine Wheel

---

**GTW3476R Reference Data**

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**GTW44 Turbine Housing Kits**

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<tr>
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**GTW3684R Reference Data**

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**GTW56 Turbine Housing Kits**

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**GTW56 Turbine Housing Kits**

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Garrett GTW3884R
Horsepower: 450 - 950
Displacement: 2.0L - 6.0L

COMPRRESSOR MAP

FEATURES:
- PORTED SHROUD DESIGN FOR SURGE RESISTANCE
- AVAILABLE IN JOURNAL BEARING OR BALL BEARING OPTIONS
- FORGED FULLY-MACHINED BILLET COMPRESSOR WHEEL
- INCONEL SUPER-ALLOY TURBINE WHEEL
- LIGHTWEIGHT ALUMINUM BACKPLATE

EXHAUST FLOW CHART

GTW3884R Reference Data

<table>
<thead>
<tr>
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<tr>
<td>841297-50045</td>
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<td>84mm</td>
<td>54</td>
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<td>54</td>
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<td>65mm</td>
<td>76</td>
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GTW3884R Turbine Housing Kits

<table>
<thead>
<tr>
<th>Bearing</th>
<th>Trim</th>
<th>V-Band</th>
<th>Wastegate</th>
<th>Divided</th>
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<tbody>
<tr>
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<td>0.96</td>
<td>T4</td>
<td>Free Float</td>
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</table>

Super Core and Turbine Kit Sold Separately.
Garrett GT Series is the name that pioneered turbo technology and boosted drag racing and road racing teams to break hundreds of world records. The GT Series lineup is offered in both journal and ball bearing options, with sizes ranging from GT2052 to GT3582.

The cast compressor wheels feature original GT Series aerodynamics and provide maximum durability and longevity. Internally wastegated turbine housing options are available in all GT Series sizes.

Turbine kits are offered in open volute and twin scroll, and a variety of A/R and flange configurations. For any performance need, GT Series turbochargers have you covered.
Garrett GT2052
Horsepower: 140 - 230
Displacement: 1.4L - 2.0L

Garrett GT2252
Horsepower: 150 - 260
Displacement: 1.7L - 2.5L

**COMPRESSOR MAP**

**FEATUES:**
- ORIGINAL GT SERIES AERODYNAMICS
- INTERNALLY WASTEGATED TURBINE HOUSING
- SOLD AS A COMPLETE TURBO (INCLUDES TURBINE KIT)
- JOURNAL BEARING CONFIGURATION
- OIL COOLED CHRA

**EXHAUST FLOW CHART**

<table>
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<tr>
<th>Pressure Ratio</th>
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<table>
<thead>
<tr>
<th>GT2052 Reference Data</th>
<th>Compressor</th>
<th>Turbine</th>
</tr>
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<tbody>
<tr>
<td>GT2052 Reference Data</td>
<td>72264-5001S</td>
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<table>
<thead>
<tr>
<th>GT2252 Reference Data</th>
<th>Compressor</th>
<th>Turbine</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT2252 Reference Data</td>
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**TOOL KIT PN**

**TURBINE KIT PN**

**SUPER CORE AND TURBINE KIT PN**

**WASTEGATED TURBINE ASSEMBLY**

<table>
<thead>
<tr>
<th>Turbo PN</th>
<th>Turbo PN</th>
<th>Turbo PN</th>
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<tbody>
<tr>
<td>72264-5001S</td>
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<td>52mm</td>
</tr>
</tbody>
</table>

**NOTES:**

- COMPRESSOR MAP
- EXHAUST FLOW CHART
Garrett GT2554R
Horsepower: 170 - 270
Displacement: 1.4L - 2.2L

Garrett GT2560R
Horsepower: 200 - 330
Displacement: 1.6L - 2.5L

**COMPRESSOR MAP**

**EXHAUST FLOW CHART**

**FEATURES:**
- Original GT series aerodynamics
- Internally wastegated turbine housing
- Sold as a complete turbo (includes turbine kit & actuator)
- Smallest ball bearing configuration available
- Water cooled CHRA

**COMPRESSOR MAP**

**EXHAUST FLOW CHART**

**FEATURES:**
- Original GT series aerodynamics
- Internally wastegated turbine housing
- Sold as a complete turbo (includes turbine kit & actuator)
- Ball bearing configuration with water cooled CHRA
Garrett GT2860R
Horsepower: 250 - 360
Displacement: 1.8L - 3.0L

**ORIGINAL GT SERIES AERODYNAMICS**

- INTERNALLY WASTEGATED TURBINE HOUSING
- SOLD AS A COMPLETE TURBO (INCLUDES TURBINE KIT & ACTUATOR)
- BALL BEARING CONFIGURATION WITH WATER COOLED CHRA
- V-BAND TURBINE HOUSING OPTIONS
- BOLT-ON UPGRADE FOR NISSAN RB26DETT

**FEATURES:**

- COMPRESSOR MAP
- EXHAUST FLOW CHART

**Turbine Kit PN**
827690-0001
827690-0002
827690-0004
827690-0005

**Notes:**
Additional turbine housing options not directly interchangeable and will require modifications to the exhaust system to fit.

---

Garrett GT2860RS
Horsepower: 250 - 360
Displacement: 1.8L - 3.0L

**ORIGINAL GT SERIES AERODYNAMICS**

- INTERNALLY WASTEGATED TURBINE HOUSING
- SOLD AS A COMPLETE TURBO (INCLUDES TURBINE KIT & ACTUATOR)
- BALL BEARING CONFIGURATION WITH WATER COOLED CHRA
- V-BAND TURBINE HOUSING OPTIONS

**FEATURES:**

- COMPRESSOR MAP
- EXHAUST FLOW CHART

**Turbine Kit PN**
827690-0001
827690-0002
827690-0004
827690-0005

**Notes:**
Additional turbine housing options not directly interchangeable and will require modifications to the exhaust system to fit.

---
Garrett GT2871R
Horsepower: 280 - 475
Displacement: 1.8L - 3.0L

**ORIGINAL GT SERIES AERODYNAMICS**
- INTERNALLY WASTEGATED TURBINE HOUSING OPTIONS
- NON WASTEGATED TURBINE HOUSINGS AVAILABLE
- SOLD AS A COMPLETE TURBO (INCLUDES TURBINE KIT & ACTUATOR)
- BALL BEARING CONFIGURATION WITH WATER COOLED CHRA
- V-BAND TURBINE HOUSING OPTIONS

**FEATURES:**
- COMPRESSOR MAP
- EXHAUST FLOW CHART

<table>
<thead>
<tr>
<th>Turbo PN</th>
<th>Inducer</th>
<th>Exducer</th>
<th>Trim</th>
<th>A/R</th>
<th>Inducer</th>
<th>Exducer</th>
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<tbody>
<tr>
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<td>56</td>
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<td>836026-5004</td>
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<tr>
<td>740902-0004</td>
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<td>71mm</td>
<td>56</td>
<td>0.50</td>
<td>60mm</td>
<td>55mm</td>
<td>84</td>
<td>0.57</td>
</tr>
</tbody>
</table>

**Notes:**
- Additional turbine housing options not directly interchangeable and will require modifications to the exhaust system to fit.

Garrett GT3071R
Horsepower: 280 - 480
Displacement: 2.5L - 3.5L

**ORIGINAL GT SERIES AERODYNAMICS**
- NON WASTEGATED TURBINE HOUSINGS AVAILABLE
- BALL BEARING CONFIGURATION WITH WATER COOLED CHRA
- V-BAND AND T3 TURBINE HOUSING INLET OPTIONS

**FEATURES:**
- COMPRESSOR MAP
- EXHAUST FLOW CHART

<table>
<thead>
<tr>
<th>Turbo PN</th>
<th>Description</th>
<th>Inducer</th>
<th>Exducer</th>
<th>Trim</th>
<th>A/R</th>
<th>Inducer</th>
<th>Exducer</th>
<th>Trim</th>
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<tbody>
<tr>
<td>836026-5005</td>
<td>69.85mm hose / square heat shroud</td>
<td>53mm</td>
<td>71mm</td>
<td>56</td>
<td>0.50</td>
<td>60mm</td>
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<td>84</td>
<td>0.57</td>
</tr>
<tr>
<td>836026-5004</td>
<td>102.00mm hose / square heat shroud</td>
<td>53mm</td>
<td>71mm</td>
<td>56</td>
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<tr>
<td>836028-5002S</td>
<td>69.85mm hose / stepped heat shroud</td>
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<tr>
<td>836028-5005S</td>
<td>102.00mm hose / stepped heat shroud</td>
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<td>71mm</td>
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<td>60mm</td>
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<td>0.57</td>
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</table>

**Notes:**
- Super Core and Turbine Kit Sold Separately
- Wastegated Turbine Assembly does not include bolts, clamps, or actuator

<table>
<thead>
<tr>
<th>Turbo PN</th>
<th>Description</th>
<th>Inducer</th>
<th>Exducer</th>
<th>Trim</th>
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<td>0.50</td>
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<td>60mm</td>
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<td>740902-0004</td>
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<td>71mm</td>
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<td>60mm</td>
<td>55mm</td>
<td>84</td>
<td>0.57</td>
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</tbody>
</table>

**Super Core PN**
- 771000-0006 | T3 | 69.85mm hose / square heat shroud | V-Band | Free Float | N
- 771000-0005 | T3 | 102.00mm hose / square heat shroud | V-Band | Free Float | N
- 771000-0004 | T3 | 69.85mm hose / stepped heat shroud | V-Band | Free Float | N
- 771000-0003 | T3 | 102.00mm hose / stepped heat shroud | V-Band | Free Float | N

---

**COMPRESSOR MAP**

**EXHAUST FLOW CHART**
Comparing boost levels and shaft speed on a compressor map, you can determine the ideal operating conditions to insure peak power over a wider operating range. All Garrett Turbocharger Speed Sensor Kits are compatible with data loggers to enhance engine tuning capability. In addition, the Garrett-branded gauge’s maximum speed recall function will retain the highest wheel speed for five minutes for easy mapping. The data gained from the Garrett Turbocharger Speed Sensor Kit can be used to closely estimate the engine’s flow behavior without a flow bench. Flow information is invaluable for determining if the turbocharger is reaching its maximum performance, for validating the turbo match, and for insuring that it is not overspeeding, allowing you to avoid potentially damaging operating conditions. This kit could even be used in conjunction with an aftermarket ECU to limit compressor speed. The Garrett Turbocharger Speed Sensor Kit will help you be sure you’ve got the correct turbo for your needs!

**Easy To Use**

The Garrett Turbocharger Speed Sensor works with any turbocharger to accurately determine compressor wheel speed. The instructions include detailed drawings of the exact machining specifications for all Garrett GT and GTX Gen I catalog turbochargers as well as general guidelines for other compressor housing types. G Series / GTX55 Gen II / and GTX50 Gen II turbochargers use a new sensor that eliminates the calibration process. GT/GTX speed sensor kits not applicable with G Series turbochargers.

**Speed Sensors:**

- Select Garrett turbochargers come standard with a fully machined speed sensor port. Just remove the bolt and screw in the appropriate kit for your application. GT and GTX Gen I turbos can be machined by a shop of your choice to retrofit the speed sensor port. G Series turbochargers utilize a new and easy to install sensor that does not need to be calibrated. GT/TXT speed sensor kits not applicable with G Series turbochargers.

**Maximum Performance**

Comparing boost levels and shaft speed on a compressor map, you can determine the ideal operating conditions to insure peak power over a wider operating range. All Garrett Turbocharger Speed Sensor Kits are compatible with data loggers to enhance engine tuning capability. In addition, the Garrett-branded gauge’s maximum speed recall function will retain the highest wheel speed for five minutes for easy mapping. The data gained from the Garrett Turbocharger Speed Sensor Kit can be used to closely estimate the engine’s flow behavior without a flow bench. Flow information is invaluable for determining if the turbocharger is reaching its maximum performance, for validating the turbo match, and for insuring that it is not overspeeding, allowing you to avoid potentially damaging operating conditions. This kit could even be used in conjunction with an aftermarket ECU to limit compressor speed. The Garrett Turbocharger Speed Sensor Kit will help you be sure you’ve got the correct turbo for your needs!

**Boost Gauge:**

The Garrett Mechanical Boost Gauge is the perfect addition to your interior for the important job of accurately monitoring your boost levels. The gauge has a sleek design and features a black face, white backlight numbers and a brushed aluminum ring. The gauge monitors boost from 30 Hg of vacuum to 30 psi of boost and is available in PSI and BAR configurations.

**Boost Gauge Components:**
- gauge, mounting bracket, hose, fitting, mounting hardware.

**Boost Gauge PSi Part Number:** 773326-0001

**Boost Gauge BAR Part Number:** 773326-0002

---

**ACCESSORIES**

**Boost Gauge:**

- The Garrett Mechanical Boost Gauge is the perfect addition to your interior for the important job of accurately monitoring your boost levels. The gauge has a sleek design and features a black face, white backlight numbers and a brushed aluminum ring. The gauge monitors boost from 30 Hg of vacuum to 30 psi of boost and is available in PSI and BAR configurations.

**Boost Gauge Components:**
- gauge, mounting bracket, hose, fitting, mounting hardware.

**Boost Gauge PSi Part Number:** 773326-0001

**Boost Gauge BAR Part Number:** 773326-0002

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**Vband Turbo Outlet Adapter:**

The Garrett V-band outlet adapter is for fabricating the turbo down pipe. This adapter mates perfectly with the GT/GTX 30, 35, and G25 turbo housing outlet. It has a 3” recessed opening feeding the flange.

**Vband Turbo Outlet Adapter Part Number:** 774175-0001

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**Adjustable Wastegate Bracket:**

The Garrett Adjustable Wastegate Bracket allows for a greater range of motion to set up the compressor outlet and wastegate can. The bracket also allows for redirection of the actuator to keep vacuum lines away from heat or sharp edges. The adjustable actuator bracket is available for use on GT25R, GT28R and GT30R turbochargers.

**Adjustable Wastegate Bracket Part Number:** 774175-0001
Important product information:
Garrett Performance Kits are professional aftermarket products only designed for certain racing vehicles driven on particular racing tracks and shall only be used on racing vehicles that will never be driven on public roads or highways. Garrett Performance Kits are not legal for use in vehicles on public roads or other roads to which public road law applies. Any vehicle modifications using Garrett Performance Kits are AT YOUR OWN RESPONSIBILITY and AT YOUR OWN RISK. Only use Garrett Performance Kits in compliance with all applicable laws, regulations and ordinances (including but not limited to emission, noise, operating license, performance, safety and type-approval aspects). A vehicle modification using Garrett Performance Kits may particularly affect or void a vehicle’s warranty, operating license or type-approval. Moreover, only use Garrett Performance Kits in compliance with all applicable racing and racing track provisions. It is YOUR OWN RESPONSIBILITY AND RISK to ensure that your Garrett Performance Kit fits your vehicle and area of application. YOU MUST ENSURE LAWFUL AND SAFE OPERATIONS AT ANY TIME. You should particularly consult the owner’s manual and service manual of your vehicle. You should also contact your vehicle’s manufacturer to determine what effects modifications may have on important aspects such as safety, warranty, performance, etc. Only install and use Garrett Performance Kits if you have fully read and understood this important safety information and if you fully agree with the terms and conditions set forth therein.
PowerMax™ Turbocharger Upgrade

**Part Numbers:** 881027-5001S | 881028-5001S | 881027-5002S | 881028-5002S

**Applications:**
- Direct Replacement Stage 1 Turbo Upgrade for F-150 | Expedition | Navigator 3.5L (2011 – 2017)

- PowerMax™ Turbocharger Upgrade for the Ford 3.5L EcoBoost engine platform is engineered to increase engine performance capability while maintaining OEM installation specifications. This direct drop-in stage 1 upgrade provides 22% more flow than OEM and will support up to 300HP* from each turbo. Improvements in efficiency and flow can be attributed to the light weight forged fully-machined compressor wheel. Boost response of this PowerMax turbocharger compared to OEM has not been tested. This turbocharger kit comes fully assembled and calibrated and is outline interchangeable with the OE hardware to ensure a perfect fit every time.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Year</th>
<th>Model</th>
<th>Make</th>
<th>Engine</th>
<th>OEM PN</th>
<th>Notes</th>
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<tbody>
<tr>
<td>881027-5001S</td>
<td>2011-2012</td>
<td>F-150</td>
<td>Ford</td>
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<td>CL3Z-6K682-C</td>
<td>Left Turbocharger</td>
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<tr>
<td>881028-5001S</td>
<td>2011-2012</td>
<td>F-150</td>
<td>Ford</td>
<td>3.5L EcoBoost</td>
<td>CL3Z-6K682-D</td>
<td>Right Turbocharger</td>
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<tr>
<td>881027-5002S</td>
<td>2013-2016</td>
<td>F-150</td>
<td>Ford</td>
<td>3.5L EcoBoost</td>
<td>DL3Z-6K682-E</td>
<td>Left Turbocharger</td>
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<td>881028-5002S</td>
<td>2013-2016</td>
<td>F-150</td>
<td>Ford</td>
<td>3.5L EcoBoost</td>
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<tr>
<td>881027-5002S</td>
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<td>DL3Z-6K682-E</td>
<td>Left Turbocharger</td>
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<tr>
<td>881028-5002S</td>
<td>2015-2017</td>
<td>Expedition</td>
<td>Ford</td>
<td>3.5L EcoBoost</td>
<td>DL3Z-6K682-F</td>
<td>Right Turbocharger</td>
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<td>2015-2017</td>
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<td>DL3Z-6K682-E</td>
<td>Left Turbocharger</td>
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<td>Lincoln</td>
<td>3.5L EcoBoost</td>
<td>DL3Z-6K682-F</td>
<td>Right Turbocharger</td>
</tr>
</tbody>
</table>

**Estimated Horsepower. Performance results of this product are highly dependent upon your vehicle's modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.**

PowerMax™ Turbocharger Upgrade

**Part Number:** 901654-5001W | 901655-5001W

**Application:** Direct Replacement Stage 2 Turbo Upgrade For Ford Raptor | F-150 3.5L (2017+) Supports up to 700+WHP**

- The Garrett PowerMax™ Stage 2 turbocharger upgrade for the 2017+ F-150 and F-150 Raptor platform is engineered to increase engine performance capability while maintaining OEM installation specifications. This direct drop-in Stage 2 upgrade provides 54% more flow than OEM and will support up to 700+ BHP*. Improvements in compressor efficiency and flow can be attributed to the 60mm fully-machined compressor wheel. Turbine flow is increased by 52% compared to OEM with a 50mm Inconel turbine wheel and larger 0.45 A/R turbine housing. This turbocharger kit comes fully assembled, calibrated, and is outline interchangeable with the OE hardware to ensure a perfect fit every time.

<table>
<thead>
<tr>
<th>Turbo PN</th>
<th>Bearing</th>
<th>Rotation</th>
<th>Inducer A/R</th>
<th>Inducer Trim</th>
<th>Exducer A/R</th>
<th>Exducer Trim</th>
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</thead>
<tbody>
<tr>
<td>901654-5001W</td>
<td>Journal</td>
<td>Standard</td>
<td>Electric</td>
<td>45mm</td>
<td>60mm</td>
<td>57</td>
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<td>901655-5001W</td>
<td>Journal</td>
<td>Reverse</td>
<td>Electric</td>
<td>45mm</td>
<td>60mm</td>
<td>57</td>
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</tbody>
</table>

**Features:**
- Direct-fit Stage 2 upgrade (LH & RH Turbos)
- Compressor housing inlet (2.75”) is larger than stock to allow for increased flow and optimized surge port
- Adapter for stock inlet tube included with turbo kit
- Turbo model: GT2260S
- 700+ BHP capability*
- Complete assembly with calibrated electric actuator
- Billet compressor wheel with 54% increased flow
- Inconel turbine wheel with 52% increased flow
- Modern compressor and turbine wheel aero
- Tuned ported shroud for optimal compressor surge and choke performance
- Speed sensor port: use PN 781328-0003 (street kit) or 781328-0004 (pro kit)
- Journal-bearing rotating group

*Estimated Horsepower. Performance results of this product are highly dependent upon your vehicle's modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.

*Please refer to the legal notice on page 66 before purchasing this product.

PowerMax™ Turbocharger Upgrade

**Part Number:** 901654-5001W | 901655-5001W

**Application:** Direct Replacement Stage 2 Turbo Upgrade For Ford Raptor | F-150 3.5L (2017+)**

- The Garrett PowerMax™ Stage 2 turbocharger upgrade for the 2017+ F-150 and F-150 Raptor platform is engineered to increase engine performance capability while maintaining OEM installation specifications. This direct drop-in Stage 2 upgrade provides 54% more flow than OEM and will support up to 700+ BHP*. Improvements in compressor efficiency and flow can be attributed to the 60mm fully-machined compressor wheel. Turbine flow is increased by 52% compared to OEM with a 50mm Inconel turbine wheel and larger 0.45 A/R turbine housing. This turbocharger kit comes fully assembled, calibrated, and is outline interchangeable with the OE hardware to ensure a perfect fit every time.

<table>
<thead>
<tr>
<th>Turbo PN</th>
<th>Bearing</th>
<th>Rotation</th>
<th>Inducer A/R</th>
<th>Inducer Trim</th>
<th>Exducer A/R</th>
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<tbody>
<tr>
<td>901654-5001W</td>
<td>Journal</td>
<td>Standard</td>
<td>Electric</td>
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<tr>
<td>901655-5001W</td>
<td>Journal</td>
<td>Reverse</td>
<td>Electric</td>
<td>45mm</td>
<td>60mm</td>
<td>57</td>
</tr>
</tbody>
</table>

**Features:**
- Direct-fit Stage 2 upgrade (LH & RH Turbos)
- Compressor housing inlet (2.75”) is larger than stock to allow for increased flow and optimized surge port
- Adapter for stock inlet tube included with turbo kit
- Turbo model: GT2260S
- 700+ BHP capability*
- Complete assembly with calibrated electric actuator
- Billet compressor wheel with 54% increased flow
- Inconel turbine wheel with 52% increased flow
- Modern compressor and turbine wheel aero
- Tuned ported shroud for optimal compressor surge and choke performance
- Speed sensor port: use PN 781328-0003 (street kit) or 781328-0004 (pro kit)
- Journal-bearing rotating group

*Please refer to the legal notice on page 66 before purchasing this product.

Stock inlet adapter (for use with the stock intake system) and the 2.75 inch adapter (for use with larger than stock intake systems) have different performance potentials.
The Garrett Evo X Turbo Upgrade allows you to push your AWD, rally-bred monster up to an estimated 550 HP with the Garrett GTX3071R or a tire-smoking estimated 650 HP with the Garrett GTX3076R. Each turbo has been meticulously designed to be a bolt-on upgrade with no major modifications or guesswork required. The Garrett Evo X Turbo Upgrade features a specially designed twin-scroll turbine housing that mates to the Evo X’s stock exhaust manifold as well as the stock exhaust downpipe to allow for aftermarket exhausts to be used without worrying about fitment.

The turbine housing allows for the retention of the stock-exhaust heat shield for better temperature control as well as a stealth look. The ported shroud compressor housing reduces the occurrence of surge during operation and mates directly to the intake piping as well as the stock outlet position. Garrett patented dual ball bearing center housing is standard on both turbocharger options for unmatched power handling and unbeatable response.

*Please refer to the legal notice on page 66 before purchasing this product.

---

**VW 1.9L TURBO UPGRADE**

Part Number: 778445-5002S 1.9L (175hp*)

The Garrett GT1749V is the first performance upgrade / replacement turbocharger available to the aftermarket for Volkswagen 1.9L TDI BEW Engines. The GT1749V comes equipped with a smart actuator, an industry exclusive, and a position sensor, which enables the turbocharger to communicate automatically with the Engine Control Unit (ECU). The kit is easy to install and suitable as a performance upgrade or replacement turbocharger. The Garrett VW TDI Kit also promotes a longer turbo and engine life span and increased reliability by lowering exhaust gas temperatures.

Replaces VW OE Part Numbers: 038 253 019 S & 038 253 014 E

Model: KP39 (3K)

Vehicles: 2003.05 - 2006 Volkswagen Beetle TDI
2003.05 - 2006 Volkswagen Golf TDI
2003.05 - 2005 Volkswagen Jetta TDI

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**VW 2.0L TURBO UPGRADE**

Part Number: 838946-5001S 2.0L (190hp*)

The Garrett GTA1749V is a performance upgrade / replacement turbocharger available to the Aftermarket for Volkswagen 2.0L TDI BKD/BKP/AZV engines. The GTA1749V comes equipped with a larger compressor wheel for increased flow and bolts directly to the stock engine manifold flange. The turbo is easy to install and suitable as a performance upgrade or replacement turbocharger. The Garrett VW TDI turbo also promotes a longer turbo and engine life span and increased reliability by lowering exhaust gas temperatures.

Replaces VW OE Part Numbers: 03G 253 010 J & 03G 253 010 J V100

Vehicles: 2.0L TDI BKD/BKP/AZV engines
2003.08-2011.05 – Jetta A5 (PQ35) (typ 1K)
2003.08-2020.05 – Touran (typ 1T) – [AZV for 136 HP]
2004.02-2010.05 – Skoda Octavia Mk2 (typ 1Z)
2003.09-2010.03 – Skoda Superb B6 (typ 3T)
2004.03-2011.09 – Seat Altea
2004.04-2009.05 – Seat Toledo 3
2003.08-2007.05 – Audi A3 (typ 8P)

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MITSUBISHI EVO X TURBO UPGRADE

Bolt-on Upgrade Kit
Evo X 0.73 A/R GTX3071R Stage 1 Part Number: 788550-5005s (550hp*)
Evo X 0.94 A/R GTX3076R Stage 2 Part Number: 788550-5008s (650hp*)

*Estimated. Performance results of this product are highly dependent upon your vehicle’s modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.
PowerMax™ Turbocharger Upgrade

### Applications: Direct Replacement Stage 1 Turbo For Ford 2.0L EcoBoost (2013 - 2018)

**Focus ST | Escape | Kuga | Fusion | Taurus | MKC | MKT | MKZ**

The Garrett PowerMax™ Stage 1 turbocharger upgrade for the 2013 - 2018 2.0L Ford EcoBoost engine platform is engineered to increase engine performance capability while maintaining OEM installation specifications. This direct drop-in turbocharger provides up to 16% more flow than OEM and will support up to 350 BHP* (260kW). Improvements in compressor efficiency and flow can be attributed to the 52mm fully-machined compressor wheel with advanced aero design. Inconel alloy turbine wheel and stainless steel turbine housings are rated for up to 950°C. This turbocharger kit comes fully assembled, calibrated, and is outline interchangeable with the OE hardware to ensure a perfect fit every time.

**Please refer to the legal notice on page 66 before purchasing this product.**

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### Model Year

- Escape / Kuga 2014 - 2016
- Focus 2013 - 2018
- Fusion 2013 - 2016
- Police Sedan 2014 - 2018
- Taurus 2013 - 2017
- MKC 2015 - 2017
- MKT 2016
- MKZ 2013 - 2016

### Type

- Fuel: Gas

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### Part Number 773540-5001s (590HP*) Stage 1

**Applications:** 2004.5-2009 Chevy / GMC 2500, 3500

The Duramax Stage 1 turbocharger kit features Garrett patented Advanced Variable Nozzle Turbine AVNT™ design for increased compressor and turbine flow. The GT Series wheel design ensures top performance, lower back pressure and reduces intake and exhaust gas temperatures. The unique design features nine movable vanes which significantly increase turbine efficiency and improve engine performance from idle launch through peak torque. Patented integral-electro-hydraulic actuation and proportional solenoid allow for infinitely variable control. Suitable as a performance upgrade or replacement for original equipment. Outline interchangeable with the OE turbo for a perfect fit each and every time.

*Estimated Horsepower. Performance results of this product are highly dependent upon your vehicle's modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.

Available through the Master Distributors, Performance Distributors, and PowerMax™ Distributor networks.

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### Part Number 773542-5001s (630HP*) Stage 2

**Applications:** 2004.5-2009 Chevy / GMC 2500, 3500

The Duramax Stage 2 turbocharger kit features Garrett patented Advanced Variable Nozzle Turbine AVNT™ design for increased compressor flow and turbine flow. Utilizes nine movable vanes which significantly increase turbine efficiency and improve engine performance from idle launch through peak torque. Patented integral-electro-hydraulic actuation and proportional solenoid for infinitely variable control. Larger compressor trim (52), plus larger GT40 turbine wheel and vanes. Outline interchangeable with the OE turbo for a perfect fit each and every time.

*Estimated Horsepower. Performance results of this product are highly dependent upon your vehicle’s modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.

Available through the Master Distributors, Performance Distributors, and PowerMax™ Distributor networks.
PowerMax™ Turbocharger Upgrade

Part Number: 850662-02000W
Applications: Direct Replacement for 2007-2018 Toyota Land Cruiser 4.5L 1VD-FTV turbo diesel
Supports up to 151kW*

This Garrett PowerMax™ direct fit turbocharger is designed for the 4.5L 1VD-FTV VS diesel engine platform found in the 2007-2018 Toyota Land Cruiser. The forged, fully machined compressor wheel designed for the GTX Gen II product line increases flow by 20% over the OE wheel. With the correct engine calibration, this enables the engine to be tuned up to 172kW from OE standard 151kW. All Garrett PowerMax™ direct fit turbochargers are outline interchangeable with the OE turbocharger ensuring a perfect fit every time.

*Estimated Horsepower. Performance results of this product are highly dependent upon your vehicle’s modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.
PowerMax™ Turbocharger Upgrade
Part Numbers 892179-5001S

Applications: Direct Replacement Stage 1 Turbo For General Motors (Holden, Chevrolet) Colorado 2.8L XLDE (2014 - 2019)
Garrett PowerMax™ turbocharger upgrade for the Chevrolet Duramax 2.8L engine platform is engineered to increase engine performance while maintaining OEM installation specifications. This direct drop-in stage 1 upgrade provides up to 20% more flow than OEM and will support up to 160kW / 215 BHP*. Variable turbine geometry is engineered to factory OEM specs and is controlled by the included module. Improvements in efficiency and flow can be attributed to the lightweight forged fully-machined compressor wheel with advanced aero design. This turbocharger is outline interchangeable with the OE hardware to ensure a perfect fit every time.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Turbo Model</th>
<th>Comp Inducer</th>
<th>Replaces OEM part numbers</th>
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<tr>
<td>892179-5001S</td>
<td>GTB1752V</td>
<td>42mm</td>
<td>814067-0005, 814067-0004, 814067-0003, 814067-0002, 814067-0001</td>
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Vehicle
Type: 2.8L XLDE
Year: 2014 - 2019

Engine
Fuel: Diesel
Emission Regulation: Euro 3,4,5
Cylinders: I4
Horsepower: 160kW / 215BHP*

*Please refer to the legal notice on page 66 before purchasing this product.

Available through the Master Distributors, Performance Distributors, and PowerMax™ Distributor networks.

* Estimated Horsepower. Performance results of this product are highly dependent upon your vehicle’s modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.
Vehicle Specific Turbochargers

PowerMax™ direct fit performance turbocharger kits are engineered for enthusiasts that want increased engine performance while maintaining OEM direct fitment. With professional engine calibration and tuning, the optimized compressor aero will increase flow and outperform the stock turbocharger. These products are not approved for street use. Installation may affect the vehicle’s safety, warranty, and operating license. For details, contact your vehicle’s manufacturer or turbo kit distributor.

7.3L Power Stroke
Part Number 739619-5004s (590HP*)
Applications: 1999.5 – 2003 7.3L Ford F250, F350 & Excursion
The GT3788R turbocharger contains an exclusive ball bearing cartridge for unbeatable response, efficiency, and durability. Elimination of the thrust bearing eliminates Failures at elevated boost levels. The 88mm GT compressor wheel provides 33% more flow than the stock 80mm wheel. A ported shroud housing improves compressor flow range for surge control. The kit includes a 1.00 A/R turbine housing for free flowing exhaust with reduced back pressure and up to 200° F reduction in exhaust gas temperature. Maximum

6.0L Power Stroke
Part Number 774619-5002s (560HP*)
Applications: 2003 Ford F-Series & Excursion Power Stroke 6.0L
Part Number 772441-5002s (560HP*)
The GT3788VA Turbocharger features the Garrett patented Advanced Variable Nozzle, Turbine AVNT™ design for increased compressor flow and boost response. Utilizes nine movable vanes which significantly increase turbine efficiency and improve engine performance from idle launch through peak torque. Patented integral electro-hydraulic actuation and proportional solenoid for infinitely variable control. Larger compressor wheel over stock increases maximum power range while keeping turbo speeds down for the same power output. Outline interchangeable for a perfect fit each and every time.

Available through the Master Distributors, Performance Distributors, and PowerMax™ Distributor networks.

* Estimated Horsepower. Performance results of this product are highly dependent upon your vehicle’s modifications and tuning/calibration. The horsepower numbers represented above are calculated based strictly on choke flow of the compressor map (total turbo capability), which represents the potential flywheel horsepower.
INTERCOOLER CORES AND VEHICLE SPECIFIC APPLICATIONS

Utilizing advanced Aerospace technology, Garrett intercoolers offer superior fatigue protection for the high boost pressures and temperatures of today’s extreme engines. With over 75 years of charge air cooler experience, Garrett remains ahead of the industry in intercooler design and function making it the number one choice for some of the premier names in the performance car industry - Roush, Saleen, Mercedes-Benz AMG, Ford SVT, GM, and McLaren have all turned to Garrett to intercool their hottest models.

We now offer this expertise and quality to enthusiasts, in a full range of intercooler cores that are manufactured in-house by Garrett technicians. The bar and plate construction offers hi-performance, in a compact design using high strength vacuum brazed aluminum alloys with advanced fin designs to ensure greater heat transfer effectiveness and durability. From air-to-air cores sized for sport compact cars to air-to-water cores capable of supporting 1000+ hp, we can provide optimum performance for nearly any application.

Part Number  Model  Supported Horsepower  Length/Hot Flow (in) (mm)  Height/No Flow (in) (mm)  Width/Cold Flow (in) (mm)
703518-6015  Air / Air  310  18.0  457  6.4  163  3.0  76
703521-6003  Air / Air  375  10.0  254  12.3  312  4.5  114
703518-6016  Air / Air  410  18.0  457  8.0  203  3.0  76
703520-6025  Air / Air  425  18.0  457  8.0  203  3.5  89
703518-6018  Air / Air  410  18.0  457  8.0  203  3.0  76
703520-6009  Air / Air  500  24.0  610  6.4  163  3.5  89
703518-6017  Air / Air  350  18.0  457  10.5  267  3.0  76
703520-6002  Air / Air  550  14.0  356  12.1  307  3.5  89
848054-6004  Air / Air  600  21.0  533  5.4  137  5.3  135
848054-6024  Air / Air  600  13.0  330  10.2  259  4.0  102
487085-6002  Air / Air  600  20.1  511  12.1  284  3.0  76
703520-6010  Air / Air  600  24.0  610  8.0  203  3.5  89
848054-6001  Air / Air  660  27.5  699  6.2  157  5.1  130
849054-6015  Air / Air  750  21.0  533  9.4  239  5.3  135
703518-6004  Air / Air  750  18.0  457  12.1  307  3.0  76
703522-6008  Air / Air  750  18.0  457  12.1  307  3.5  89
703522-6004  Air / Air  785  18.0  457  12.1  307  4.5  114
848054-6020  Air / Air  800  26.3  668  7.8  198  4.3  109
703520-6001  Air / Air  800  24.0  610  10.5  267  3.5  89
848054-6005  Air / Air  900  33.3  838  9.6  278  5.0  127
848054-6001  Air / Air  970  20.0  508  12.5  218  3.5  89
703518-6005  Air / Air  900  24.0  610  12.1  307  3.0  76
703520-6005  Air / Air  925  24.0  610  12.1  307  3.5  89
848054-6021  Air / Air  950  26.8  681  10.4  264  4.0  102
703522-6005  Air / Air  950  24.0  610  12.1  307  4.5  114
486827-6002  Air / Air  1000  23.7  602  12.0  305  3.8  97
848054-6003  Air / Air  1140  22.0  559  14.0  356  4.5  114
701596-6001  Air / Air  1260  27.8  706  12.7  323  5.1  130

INTERCOOLER CORES AND VEHICLE SPECIFIC APPLICATIONS

Utilizing advanced Aerospace technology, Garrett intercoolers offer superior fatigue protection for the high boost pressures and temperatures of today’s extreme engines. With over 75 years of charge air cooler experience, Garrett remains ahead of the industry in intercooler design and function making it the number one choice for some of the premier names in the performance car industry - Roush, Saleen, Mercedes-Benz AMG, Ford SVT, GM, and McLaren have all turned to Garrett to intercool their hottest models.

We now offer this expertise and quality to enthusiasts, in a full range of intercooler cores that are manufactured in-house by Garrett technicians. The bar and plate construction offers hi-performance, in a compact design using high strength vacuum brazed aluminum alloys with advanced fin designs to ensure greater heat transfer effectiveness and durability. From air-to-air cores sized for sport compact cars to air-to-water cores capable of supporting 1000+ hp, we can provide optimum performance for nearly any application.

Part Number  Model  Supported Horsepower  Length/Hot Flow (in) (mm)  Height/No Flow (in) (mm)  Width/Cold Flow (in) (mm)
717874-6009  Air / Liquid  500  3.8  97  3.8  97  9.8  249
717874-6008  Air / Liquid  750  3.8  97  3.8  97  11.7  297
873213-6002  Air / Liquid  980  7.2  183  3.6  91  9.8  249
734408-6009  Air / Liquid  1000  4.8  122  4.5  114  11.9  302

Charge Air Coolers

Utilizing advanced Aerospace technology, Garrett intercoolers offer superior fatigue protection for the high boost pressures and temperatures of today’s extreme engines. With over 75 years of charge air cooler experience, Garrett remains ahead of the industry in intercooler design and function making it the number one choice for some of the premier names in the performance car industry - Roush, Saleen, Mercedes-Benz AMG, Ford SVT, GM, and McLaren have all turned to Garrett to intercool their hottest models.

We now offer this expertise and quality to enthusiasts, in a full range of intercooler cores that are manufactured in-house by Garrett technicians. The bar and plate construction offers hi-performance, in a compact design using high strength vacuum brazed aluminum alloys with advanced fin designs to ensure greater heat transfer effectiveness and durability. From air-to-air cores sized for sport compact cars to air-to-water cores capable of supporting 1000+ hp, we can provide optimum performance for nearly any application.
The Garrett direct fit F150 charge air cooler boasts an 83% larger core than stock to provide up to 40 °F reduction in air temperature and up to 30% reduction in pressure drop. Optimized end tanks improve air flow through the core. This direct fit performance intercooler is easily installed and can support up to 750 horsepower all while reusing the stock bolts, hoses, and clamps.

This direct fit performance intercooler installs in 2.5 hours and reuses the stock bolts, hoses, and clamps. Removal of the OE grill shutters required. For more information including Installation instructions please visit our website: www.garrettmotion.com/racing-and-performance/performance-catalog/intercoolers/

**DIRECT FIT PERFORMANCE INTERCOOLER FOR 2015+ FORD F-150 & RAPTOR SUPPORTS UP TO 750 HORSEPOWER C.A.R.B. CERTIFIED**

**Features:**
- Supports up to 750 horsepower
- C.A.R.B Certified (EO# D-794)
- 83% larger core than stock
- Installs in stock location
- Up to a 40 °F reduction in temperature
- Integrated drain plug to evacuate condensation

**Part Number:** 870702-6001

The Garrett direct fit F150 charge air cooler boasts an 83% larger core than stock to provide up to 40 °F reduction in air temperature and up to 30% reduction in pressure drop. Optimized end tanks improve air flow through the core. This direct fit performance intercooler is easily installed and can support up to 750 horsepower all while reusing the stock bolts, hoses, and clamps. Removal of the OE grill shutters required. For more information including Installation instructions please visit our website: www.garrettmotion.com/racing-and-performance/performance-catalog/intercoolers/

**DIRECT FIT PERFORMANCE INTERCOOLER FOR 2015+ 3.5L | 2.7L FORD SUPPORTS UP TO 600 HORSEPOWER C.A.R.B. CERTIFIED**

**Part Number:** 857564-6001

The Garrett Direct Fit Performance intercooler is C.A.R.B. certified (EO# D-794) and fits the 2015+ 2.3L Ecoboost Mustang in the stock location and can support up to 600 horsepower. The aluminum core features advanced offset fin design and vacuum brazed bar-and-plate construction resulting in superior thermal and fatigue performance. CFD optimized cast aluminum end tanks reduces recirculation and maximizes flow. The complete assembly results in up to a 30% reduction in pressure drop and up to a 40 °F reduction in charge air temperature.

This direct fit performance intercooler installs in 2.5 hours and reuses the stock bolts, hoses, and clamps. Removal of the OE grill shutters required. For more information including Installation instructions please visit our website: www.garrettmotion.com/racing-and-performance/performance-catalog/intercoolers/

**Features:**
- Supports up to 600 horsepower
- C.A.R.B Certified (EO# D-794)
- 60% larger core than stock
- Installs in stock location
- Up to a 40 °F reduction in temperatures

**Part Number:** 857564-6001

<table>
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<tr>
<th>Vehicle</th>
<th>Make</th>
<th>Model</th>
<th>Year</th>
<th>Type</th>
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<tr>
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<td>Mustang</td>
<td>2015+</td>
<td>2.3L</td>
<td>Gas</td>
<td>16.5 LBS</td>
<td>21” x 5.32” x 5.44”</td>
</tr>
</tbody>
</table>

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**DIRECT FIT PERFORMANCE INTERCOOLER FOR 2015+ 2.3L FORD MUSTANG SUPPORTS UP TO 600 HORSEPOWER C.A.R.B. CERTIFIED**

**Part Number:** 857564-6001

The Garrett Direct Fit Performance intercooler is C.A.R.B. certified (EO# D-794) and fits the 2015+ 2.3L Ecoboost Mustang in the stock location and can support up to 600 horsepower. The aluminum core features advanced offset fin design and vacuum brazed bar-and-plate construction resulting in superior thermal and fatigue performance. CFD optimized cast aluminum end tanks reduces recirculation and maximizes flow. The complete assembly results in up to a 30% reduction in pressure drop and up to a 40 °F reduction in charge air temperature.

This direct fit performance intercooler installs in 2.5 hours and reuses the stock bolts, hoses, and clamps. Removal of the OE grill shutters required. For more information including Installation instructions please visit our website: www.garrettmotion.com/racing-and-performance/performance-catalog/intercoolers/

**Features:**
- Supports up to 600 horsepower
- C.A.R.B Certified (EO# D-794)
- 60% larger core than stock
- Installs in stock location
- Up to a 40 °F reduction in temperatures

---

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<thead>
<tr>
<th>Vehicle</th>
<th>Make</th>
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<th>Year</th>
<th>Type</th>
<th>Fuel</th>
<th>Weight</th>
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<tr>
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<td>Gas</td>
<td>16.5 LBS</td>
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</tbody>
</table>

---

**DIRECT FIT PERFORMANCE INTERCOOLER FOR 2015+ 2.3L FORD MUSTANG**

**Supports up to 600 horsepower**

C.A.R.B. CERTIFIED

**Features:**
- Supports up to 600 horsepower
- C.A.R.B Certified (EO# D-794)
- 60% larger core than stock
- Installs in stock location
- Up to a 40 °F reduction in temperatures

---

**DIRECT FIT PERFORMANCE INTERCOOLER FOR 2015+ 3.5L | 2.7L FORD**

**Supports up to 750 horsepower**

C.A.R.B. CERTIFIED

**Features:**
- Supports up to 750 horsepower
- C.A.R.B Certified (EO# D-794)
- 83% larger core than stock
- Installs in stock location
- Up to a 40 °F reduction in temperatures
- Integrated drain plug to evacuate condensation

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**DIRECT FIT PERFORMANCE INTERCOOLER FOR 2015+ FORD F-150 & RAPTOR**

**Supports up to 750 horsepower**

C.A.R.B. CERTIFIED

**Features:**
- Supports up to 750 horsepower
- C.A.R.B Certified (EO# D-794)
- 83% larger core than stock
- Installs in stock location
- Up to a 40 °F reduction in temperatures
- Integrated drain plug to evacuate condensation
The Garrett direct fit Ford Focus ST performance charge air cooler boasts a 115% larger core that helps reduce intake manifold temperatures by an average of 11 °F (6.1 °C) based on OBD II data. Optimized end tanks improve air flow through the core. This performance intercooler showed an increase of up to 25 HP (19 kW) and 9 lb-ft (12 N·m) of torque compared to OE during back to back dyno comparisons in a wind tunnel which generates air velocity that matches vehicle speed. During testing the heat saturation point increased from 4 dyno pulls to 8 dyno pulls.

This direct fit performance intercooler installs in 1.5 hour and reuses the stock bolts, hoses, and clamps. Removal of the OE grill shutters required. For more information including installation instructions please visit our website: www.garrettmotion.com/racing-and-performance/performance-catalog/intercoolers/

### Features:
- Supports up to 670 HP (499 kW)
- 115% larger core than stock
- Installs in stock location
- Up to 25 HP (19 kW) and 9 lb-ft (12 N·m) of torque
- Average 11 °F (6.1 °C) reduction in intake temperature based on OBD II data
- Integrated drain plug to evacuate condensation
- Cast aluminum end tanks
- Advanced offset fin design
- Bar-and-plate construction
The Garrett direct fit performance charge air cooler for the Ford Ranger and Mazda BT50 boasts a 218% larger core that helps reduce intake manifold temperatures by an average of 32 °C based on test data. Optimized end tanks improve airflow through the core. This direct fit performance intercooler installs in 2.0 hours and reuses the stock bolts, hoses, and clamps.

This direct fit performance intercooler installs in 1.5 hour and reuses the stock bolts, hoses, and clamps. Removal of the OE grill shutters required. For more information including installation instructions please visit our website: www.garrettmotion.com/racing-and-performance/performance-catalog/intercoolers/

<table>
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<th>Part Number: 881649-6001</th>
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<tr>
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<tr>
<td>Model: Ranger/Raptor/</td>
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<tr>
<td>Year: 2011-2020</td>
</tr>
<tr>
<td>Engine:</td>
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<td>Weight: 12.56 kg</td>
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<td>Size Specs: 680mm x 109mm x 260mm</td>
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</tbody>
</table>

Features:
- Supports up to 499 kW
- 218% larger core than stock
- Installs in stock location
- Cast aluminum end tanks
- Advanced offset fin design
- Bar-and-plate construction

Garrett Powermax™ direct fit performance charge air cooler for the 2015+ BMW M3 and M4 boasts a 47% larger core with dual pass coolant flow to help reduce intake manifold temperatures by an average of 10 °F. CFD optimized end tanks improve airflow through the core. An average increase of 12.4 horsepower and 4.9 lb-ft of torque were measured during back to back dyno pulls. This direct-fit performance intercooler installs in 1.5 hours and reuses the stock bolts, hoses, and clamps.

Part Number: 888883-6001 | 888883-6002
Garrett Powermax™ direct fit performance charge air cooler for the 2015+ BMW M3 and M4 boasts a 47% larger core with dual pass coolant flow to help reduce intake manifold temperatures by an average of 10 °F. CFD optimized end tanks improve airflow through the core. An average increase of 12.4 horsepower and 4.9 lb-ft of torque were measured during back to back dyno pulls.

This direct fit performance intercooler installs in 1.5 hours and reuses the stock bolts, hoses, and clamps.

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<tr>
<td>Make: BMW</td>
</tr>
<tr>
<td>Model: M3</td>
</tr>
<tr>
<td>Year: 2015+</td>
</tr>
<tr>
<td>Engine:</td>
</tr>
<tr>
<td>Type: I6</td>
</tr>
<tr>
<td>Fuel: Gas</td>
</tr>
<tr>
<td>Weight: 14.1 lbs</td>
</tr>
<tr>
<td>Size Specs: 7.2&quot; x 9.8&quot; x 3.6&quot;</td>
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</table>

Features:
- Supports up to 980 HP
- 47% larger core than stock
- Installs in stock location
- Cast aluminum end tanks
- Air-to-water design
- Bar-and-plate construction
- Aluminum finish coming Q1 2020
Turbo PN
Internally wastegated turbochargers are fully assembled and calibrated by Garrett with a 1 Bar actuator. Gasket kit included.

Assembly Kit PN
Externally wastegated options include super core and turbine housing kit in separate boxes. Gasket kit included. Tools and assembly required to connect the super core to the turbine housing.

Supercore PN
Supercore refers to a rotating assembly with compressor housing attached. Gasket kit included. Turbine housing kit purchased separately.

Turbine Kit PN
Individually packaged exhaust housings. Connections and size vary between models. Gasket kit included. Reverse Rotation housings not interchangeable with standard rotation. GT and GTX housings are interchangeable within frame family. (e.g., GT30 – GTX30). G Series housings are NOT interchangeable with GT, GTX, GTW. GTW housings are NOT interchangeable with GT, GTX, G Series. Some options may require modifications to the exhaust system to fit.

### Turbo PN

**Internally wastegated turbochargers are fully assembled and calibrated by Garrett with a 1 Bar actuator. Gasket kit included.**

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<table>
<thead>
<tr>
<th>HP</th>
<th>Displ.</th>
<th>A/R</th>
<th>Inducer</th>
<th>Exducer</th>
<th>Trim</th>
<th>Turbine Kit PN</th>
<th>A/R</th>
<th>Inlet</th>
<th>Outlet</th>
<th>WasteGate</th>
<th>Divided</th>
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<tbody>
<tr>
<td>350</td>
<td>2.0L-3.5L</td>
<td>0.70</td>
<td>54mm</td>
<td>41mm</td>
<td>B4</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>350</td>
<td>2.0L-3.5L</td>
<td>0.70</td>
<td>54mm</td>
<td>41mm</td>
<td>B4</td>
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<tr>
<td>500</td>
<td>2.0L-5.5L</td>
<td>0.72</td>
<td>60mm</td>
<td>55mm</td>
<td>B4</td>
<td></td>
<td></td>
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<tr>
<td>500</td>
<td>2.0L-5.5L</td>
<td>0.72</td>
<td>60mm</td>
<td>55mm</td>
<td>B4</td>
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<tr>
<td>770</td>
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<td>61mm</td>
<td>52mm</td>
<td>B4</td>
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<td>B4</td>
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<td>63mm</td>
<td>52mm</td>
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<tr>
<td>1200</td>
<td>2.0L-7.0L</td>
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<tr>
<td>1200</td>
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<td>73mm</td>
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### Assembly Kit Includes Super Core and Turbine Kit Sold Separately

<table>
<thead>
<tr>
<th>Super Core PN</th>
<th>Bearing Inducer Exducer Trim A/R Inducer Exducer Trim</th>
<th>HP: 400-750</th>
<th>Disp: 2.0L-4.5L</th>
<th>80mm</th>
<th>109mm</th>
<th>54</th>
<th>0.88</th>
<th>99mm</th>
<th>91mm</th>
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<tbody>
<tr>
<td>856804-5002S</td>
<td>856804-5003S</td>
<td>856804-5004S</td>
<td>856804-5005S</td>
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<td>856801-5058S</td>
<td>856801-5067S</td>
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<td>856801-5079S</td>
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* SFI Certified Turbine Housings

### GTM Series

<table>
<thead>
<tr>
<th>Super Core PN</th>
<th>Bearing Inducer Exducer Trim A/R Inducer Exducer Trim</th>
<th>HP: 400-750</th>
<th>Disp: 2.0L-4.5L</th>
<th>80mm</th>
<th>109mm</th>
<th>54</th>
<th>0.88</th>
<th>99mm</th>
<th>91mm</th>
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<tbody>
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<td>86028-5005S</td>
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<td>86028-5009S</td>
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<td>86028-5009S</td>
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<td>56</td>
<td>0.66</td>
<td>54mm</td>
<td>47mm</td>
<td>76</td>
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</tbody>
</table>

* Wastegated Turbine Assembly does not include bolts, clamps, or actuator.

### Notes

- Additional turbine housing options not directly interchangeable and will require modifications to the exhaust system to fit.
- 84497-0001S journal 64mm 84mm 54 0.70 74mm 65mm 76
- 84497-0002S journal 62mm 84mm 54 0.70 74mm 65mm 76
- 84497-0003S journal 62mm 84mm 54 0.70 74mm 65mm 76
- 84497-0004S journal 62mm 84mm 54 0.70 74mm 65mm 76
- 84497-0005S journal 62mm 84mm 54 0.70 74mm 65mm 76
- 84497-0006S journal 62mm 84mm 54 0.70 74mm 65mm 76
- 84497-0007S journal 62mm 84mm 54 0.70 74mm 65mm 76
- 84497-0008S journal 62mm 84mm 54 0.70 74mm 65mm 76
- 84497-0009S journal 62mm 84mm 54 0.70 74mm 65mm 76

- Additional turbine housing options not directly interchangeable and will require modifications to the exhaust system to fit.

### Additional Notes

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COMPETITION IS IN OUR NATURE

And so are the races we’ve won, the records we’ve broken, and our Motorsport partnerships.

Garrett
ADVANCING MOTION