



***GTURBO***

# WHY A GTURBO

FOR YOUR 1HD-T

1990-1995 HDJ80 LANDCRUISER

Version 1.1 (2025)

PERFORMANCE BY DESIGN





# TABLE OF CONTENTS

About Us	4
Our Turbos	6
GTurbo & The 1HD-T	8
Product Guide	10
Philosophy & Warranty	32
Contact Us	33

# ABOUT US

**GTurbo is proudly Australian-owned and operated. Our turbochargers are designed and manufactured at our Balcatta facility in Western Australia.**

Our story begins with founder Graeme Bentink, an avid explorer of Australia's rugged landscapes, who struggled with the limitations of an underpowered and inefficient 4WD.

Convinced his factory LandCruiser had untapped potential, Graeme used his background in process engineering and metallurgy to create a solution: a high performance turbocharger built for real-world conditions.







Fourteen years on, GTurbo has grown into one of Australia's leading manufacturers of high-performance diesel turbos and tuning solutions. Fuelled by a passion for performance, we engineer, test, and optimise every product to deliver maximum power and reliability for every drive.

**DRIVEN BY INNOVATION AND BACKED BY ENGINEERING  
EXCELLENCE, WE FOCUS ON THE ENTIRE SYSTEM TO BRING  
YOU GREATER POWER OUTPUT WITH EVERY UPGRADE.**



# OUR TURBOS

**ENGINEERED  
BY DESIGN**

**BUILT ON THE FOUNDATION  
OF FACTORY-FITTED UNITS,  
OUR TURBOCHARGERS ARE  
COMPLETELY REIMAGINED  
USING CUTTING-EDGE DESIGN  
PRINCIPLES TO MEET  
MODERN PERFORMANCE  
DEMANDS.**

All GTurbo turbochargers are balanced using state-of-the-art, four-stage high-speed equipment, spinning at up to 200,000 RPM.

We use a proprietary GTurbo balancing procedure that delivers levels of precision far beyond any original turbo we've tested. This advanced balancing ensures quiet operation, exceptional reliability under extreme boost, and, most importantly, long service life. Each GTurbo is race-ready straight out of the box, with no need for extra tuning or preparation, giving drivers the confidence to push performance to the limit from day one.

**OUR COMPREHENSIVE REDESIGN DELIVERS MORE POWER,  
GREATER EFFICIENCY, AND ENHANCED RELIABILITY UNDER  
HIGH-DEMAND CONDITIONS, THROUGH IMPROVED AIRFLOW,  
SUPERIOR MATERIALS, AND ROBUST CONSTRUCTION.**

# 1 Turbine Shaft

Larger and stronger, with advanced blade metallurgy.

# 2 Compressor Wheel

Precision billet aluminium or titanium, point-machined for uncompromised accuracy, far superior to line-machined alternatives common in the market.

# 3 Bearings

Reinforced to handle high boost with gapless seals for superior oil control.

# 4 Boost Capability

Rated over 40psi, ensuring durability even under over-boost conditions.

# 5 Variable Nozzle Technology (VNT)

Precision-controlled VNT for rapid spool, consistent boost delivery, and unmatched throttle response.





# **GTURBO** & **THE 1HD-T**

The Toyota 1HD-T engine was widely regarded as the ultimate performance option in the LandCruiser lineup before the introduction of the 24 valve 1HD-FT. However, from the factory, it suffered from underwhelming low-end performance, with a noticeable lack of torque below 2000rpm.

At GTurbo, our mission is to unlock the true potential of the 1HD-T, safely and reliably. We deliver class-leading power and, most importantly, exceptional torque in the 4.2L diesel class, all while maintaining the impressive fuel economy these engines are known





for. You'll be blown away by the transformation, especially the surge of low-RPM torque that brings the engine to life.

To appreciate just how well-built and over-engineered this motor is, look no further than its marine counterparts. The Yanmar 6LPA-DTP, producing 194kW (260hp), shares core components with the 1HD-T. This includes the cylinder head, block, conrods, and crankshaft. This level of over-engineering provides an excellent foundation for safely increasing power without compromising engine longevity.



# PRODUCT GUIDE

## FOR THE 1HD-T PLATFORM





# TURBOCHARGERS

## FOR THE 1HD-T PLATFORM



**HD-G333 Titan**  
T T 1HD S2.1

### Description

Delivers rapid spool and strong low-end torque, perfect for touring and responsive everyday performance.

**\$2690**



**HD-G380 Titan**  
T T 1HD S3B

### Description

Combines sharp response with massive midrange power, ideal for heavy towing and high-output builds.

**\$2690**



**HD-G400 Titanium**  
T T 1HD S4.5

### Description

Engineered for maximum boost and top-end performance, delivering extreme power for serious builds.

**\$3490**





# HD-G333 TITAN

## STAGE 1: TURBO UPGRADE

RESPONSIVE | LOW-END TORQUE | DAILY DRIVES

The GTurbo HD-G333 Titan is our Stage 1 turbo upgrade, designed for strong low-end torque and excellent all-round drivability. It's the ideal choice for daily drives, towing, touring, and off-road driving.



PRICE **\$2690**

### Key Features



At the core of the HD-G333 Titan is our advanced Vortex 4 billet compressor wheel. Built from upgraded 2618-grade alloy and finished in our Titan thermal coating for improved heat resistance and long-term durability.



The unit features a revised compressor cover with anti-surge slots and a larger 3.5" inlet, which improves airflow and throttle response over the stock 2.75" setup. The full-plate high-efficiency turbine wheel reduces back pressure for cooler exhaust gas temperatures (EGTs) and better top-end performance.



The HD-G333 Titan is built for reliable performance under sustained load with a 4340 chromoly shaft, stepped piston ring seals, and enhanced oiling to the thrust bearing.



## Performance Expectations

The HD-G333 Titan delivers efficient boost from 10–33psi, with a design boost of 24psi and a preset of 18psi. A boost controller and gauge allow fine-tuning beyond the preset level, unlocking even more performance.

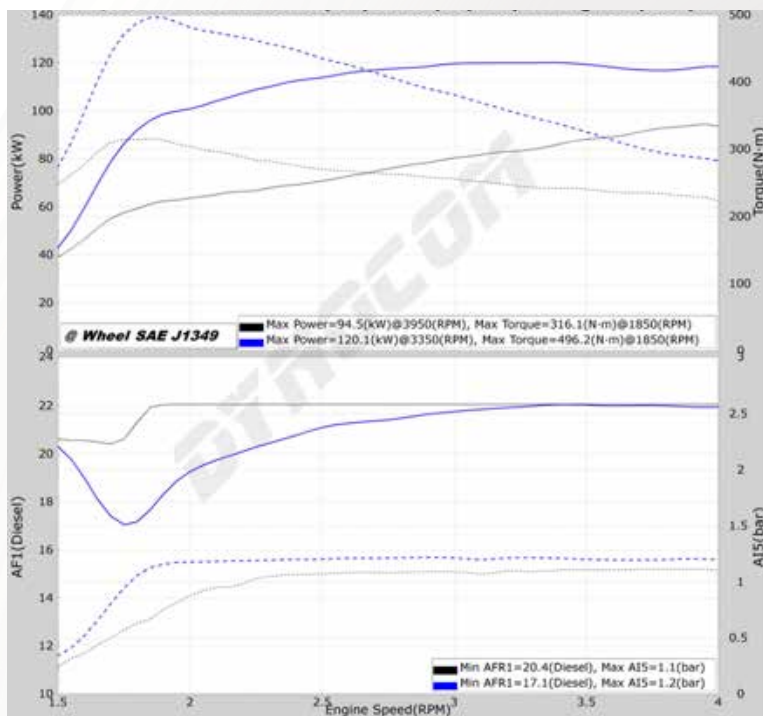
Expect a minimum 9psi by 1500rpm when tuned correctly, and up to 16psi by 1500rpm with full supporting mods.

Product	Torque (Nm)	Power (rwkW)
Stock 1HD-T	290	76-80
HD-G333T + FIP* Tune	400-500	115-130
HD-G333T + Supporting mods**	600	155

\*FIP = Factory injection pump

\*\*Supporting Mods = Clutch, large intercooler, 3" exhaust, upgraded airbox, injector pump

The dyno graph below, reflects real-world performance of the HD-G333 Titan on a 1HD-T vehicle with tune and intercooler (FMIC).



# HD-G380 TITAN

## STAGE 2: TURBO UPGRADE

MID-RANGE PUNCH | REAL-WORLD PERFORMANCE

The GTurbo HD-G380 Titan steps up the performance game with sharp response down low, huge midrange torque, and the ability to carry boost all the way to redline. It's built for those chasing real-world performance in towing, touring, and high-output builds.



PRICE **\$2690**

### Key Features



The HD-G380 Titan features our latest Vortex 4 billet compressor wheel, 12% larger than the G333 and made from a high-strength, heat-resistant 2618-grade alloy, with our Titan thermal coating for corrosion protection and long service life.



Our redesigned compressor cover with anti-surge slots and a 3.5" inlet boosts airflow, while the full-plate turbine wheel improves efficiency and lowers back pressure.



The HD-G380 Titan has a 4340 chromoly shaft, stepped piston ring seals, and enhanced oiling to the thrust bearing to provide long-term durability under sustained boost.

## Performance Expectations

The HD-G380 Titan operates efficiently from 16–36psi (design boost: 28psi), with a preset of 18 psi. A boost controller and gauge allow fine-tuning beyond the preset level, unlocking even more performance.

Expect a minimum 9psi by 1500rpm when tuned correctly, and up to 16psi by 1600rpm with full supporting mods.

Product	Torque (Nm)	Power (rwkW)
Stock 1HD-T	290	76-80
HD-G380T + FIP* Tune	400-550	120-135
HD-G333T + Supporting mods**	700	180

\*FIP = Factory injection pump

\*\*Supporting Mods = Clutch, large intercooler, 3" exhaust, upgraded airbox, injector pump



# HD-G400 TITANIUM

## STAGE 3: TURBO UPGRADE

**SUPERIOR TOP-END POWER | DEMANDING DRIVES**

The GTurbo HD-G400 Titanium is designed for serious power seekers. It delivers massive top-end horsepower, outstanding towing capacity, and proven durability for demanding off-road, touring, and competition builds.



**PRICE \$3490**

### Key Features



The HD-G400 Titanium is engineered with our most advanced internals yet. At its core is a lightweight, ultra-strong titanium compressor wheel, delivering faster spool and higher boost stability under extreme load.



A redesigned compressor cover with anti-surge slots and a large 3.5" inlet ensures minimal restriction and maximum airflow. The latest high-flow turbine wheel with a full-plate rear reduces back pressure for improved top-end power. While the 4340 CrMo shaft and upgraded thrust assembly provide exceptional durability under sustained boost.



The HD-G400Ti features enhanced oil flow and stepped piston seals on both the compressor and turbine sides, keep the turbo cool even under punishing conditions.



## Performance Expectations

The HD-G400 Titanium operates efficiently from 16–47psi (design boost: 35psi), and preset to 22–25psi. Boost can be raised to 47psi with a boost controller and supporting mods.

With the right setup and tuning, this turbo delivers 30psi by 1750rpm and over 40psi by 2000rpm, making it ideal for high-load, high-output diesel builds.

Product	Torque (Nm)	Power (rwkW)
Stock 1HD-T	295	80-88
HD-G400Ti + FIP* Tune	450-600	125-150
HD-G400Ti + Supporting mods**	700-800	200-220

\*FIP = Factory injection pump

\*\*Supporting Mods = Clutch, large intercooler, 3" exhaust, upgraded airbox, injector pump



# SUPPORTING MODS FOR THE 1HD-T PLATFORM



**NPC1300 Clutch**  
C CL XHD T3

**Description**

1300nm rated heavy-duty clutch for HDJ80 manual transmission.

**\$1990**



**High-Flow Airbox**  
A AB GT 80

**Description**

Unrestricted airflow and ultimate dust sealing for maximum engine performance.

**\$1495**



**Boost Controller**  
T T BC

**Description**

Take control of your power by increasing boost beyond the preset limits

**\$55**



**Intercooler - HDJ80(A)**  
A IC AA T1F-4

**Description**

Optimised airflow and thermal efficiency to support higher boost and sustained performance. For automatic transmission.

**PRICING FROM \$2230**



**Intercooler - HDJ80(M)**  
A IC AA T1F-3

**Description**

Optimised airflow and thermal efficiency to support higher boost and sustained performance. For manual transmission.

**PRICING FROM \$1750**



**200hp Injector Pump**  
F IP 1HD-T 200hp

**Description**

Delivers clean, reliable fuel flow for 1HD-T builds pushing up to 200rwhp

**PRICING FROM \$2750**



**250hp Injector Pump**  
F IP 1HD-T 250+hp

**Description**

Delivers clean, reliable fuel flow for 1HD-T builds chasing up to 250rwhp

**PRICING FROM \$3150**

# HIGH-FLOW AIRBOX

## HDJ80 SERIES LANDCRUISER

**DURABLE | LIGHT-WEIGHT | DROP-IN FIT**

GTurbo's high-performance airboxes are engineered for maximum airflow, strength, and durability to complement our turbo systems. Designed for harsh conditions, they deliver consistent performance, reliable filtration, and the long-term protection needed for high-power builds.



**PRICE \$1495**

### Features

Our High-Flow Airbox features a market-first double-seal system for superior dust and water protection in the harshest conditions. Built from 3mm alloy with 8mm flanges and finished in corrosion-resistant anodizing, it delivers strength, durability, and long-term reliability.

Designed as a direct OEM replacement, it uses factory mounting points and retains OEM filter compatibility for easy servicing. Unlike plastic factory units that flex and leak under load, GTurbo's alloy design ensures clean, cool, and unrestricted airflow, improving engine performance and providing consistent protection for towing, touring, and serious off-road use.

### Why its needed

High-performance turbos demand more air than the factory airbox can deliver. Stock units can become a major restriction, reducing power and efficiency.



# NPCI300 CLUTCH

## HDJ80 MANUAL TRANSMISSION

**EXCELLENT DRIVEABILITY | RELIABLE | STRONG**

The NPC1300 Clutch with billet fly-wheel offers excellent drivability with a factory-like pedal feel while providing the strength and reliability required to handle significant torque for long-term performance. NPC remains our trusted partner for all LandCruiser clutch applications.

**PRICE \$1990**



### Features

The NPC1300 clutch is engineered to handle up to 1300Nm of torque, making it the perfect match for high-performance turbo upgrades and heavy-duty applications. Featuring a full-face organic disc and a heavy-duty pressure plate, the NPC1300 delivers superior clamping force while maintaining a smooth, factory-like pedal feel for everyday comfort.

Every kit includes a billet steel flywheel for added strength and heat resistance, ensuring consistent performance under extreme conditions. Designed and built in Australia, the NPC1300 is made to thrive in harsh environments.

### Why its needed

The factory clutch in manual HDJ80s with the 1HD-T and 1HD-FT are decades old now and commonly begins to slip around 400Nm at the wheels (especially under load or after tuning). Even at stock power levels, age and wear make failure increasingly likely. When targeting higher power, upgrading to the NPC1300 clutch with a billet flywheel is essential.

# FM INTERCOOLER

## HDJ80 SERIES LANDCRUISER

UNMATCHED COOLING | EFFICIENT | SEAMLESS

The PDI Front Mount Intercooler Kit for the 80 Series LandCruiser is the ultimate cooling upgrade for 1HD-T powered models.

It delivers unmatched cooling efficiency, clean fitment, and long-term durability.



**PRICING  
FROM \$1750**

### Features

The PDI front-mount features a large bar-and-plate core (585 x 300 x 76mm) paired with 2.5" polished stainless-steel piping for unrestricted airflow and long-term durability. The piping routes directly into the engine bay, avoiding the wheel arches to reduce the risk of damage from debris while maintaining a tidy layout. Heavy-duty silicone joiners and Breeze Aero clamps ensure a secure seal under boost.

Independent testing has shown post-intercooler intake temperatures as low as 47°C under heavy load, significantly outperforming top-mount alternatives, which can exceed 80°C.

For automatic models, the kit can be optioned with a high-BTU Canadian-made transmission cooler, mounted in front of the intercooler. This manages transmission heat without compromising intercooler efficiency.

## Why should I upgrade my intercooler?

Toyota's factory 80 Series turbo-diesel setup lacks an intercooler, meaning intake air temperatures rise quickly under boost, particularly during towing, touring, or sustained high-load driving. High intake temps reduce power, increase EGTs, and stress engine components.

PDI's front-mount solution drastically lowers intake temps, improves throttle response, and enhances overall efficiency, outperforming top-mount designs that suffer from heat soak and reduced airflow. Positioned behind the grill, it offers maximum exposure to cool air, just like the radiator, for consistent results at any speed.

## Kit Options

### Manual Kit

Includes the intercooler core, stainless piping, silicone joiners, cast alloy manifold adapter (specific for 1HD-FT), mounting brackets, and detailed instructions.

PRICE **\$1750**

### Automatic Kit (with Transmission Cooler)

Includes everything in the manual kit plus a high-capacity 12-plate, 34,000 BTU Canadian-made transmission cooler, designed to keep transmission temperatures under control during heavy towing or sustained load.

PRICE **\$2170**



# INJECTOR PUMPS

## HDJ80 ADS INJECTOR PUMPS

**PRE-TUNED | PRECISE CONTROL | BENCH-TESTED**

GTurbo High-Flow Injector Pumps, built in partnership with ADS Injection, are designed for seamless integration with GTurbo systems. Every unit is bench-tested and pre-tuned, and these pumps deliver the fuel volume needed for increased torque and reliable high-power performance.



**PRICING  
FROM \$2750**

### Key features

Each GTurbo High-Flow Injector Pump is fully bench-tested and pre-tuned before shipping, ensuring reliable plug-and-play fitment. Built for reliability and consistency, these pumps are designed for straightforward installation with no immediate tuning required. They can be preset to any desired power level within the pump's capability, offering tailored performance for a wide range of builds.

### Why should I upgrade my injector pump?

The factory injector pump in the 1HD-T is now decades old, and even in peak condition, is typically limited to around 120–130kW and 400–450Nm at the wheels. As these pumps age, internal wear reduces fuel delivery, making them a key bottleneck in performance builds. If you're running a larger turbocharger, increased boost, or chasing power beyond factory limits, upgrading the pump becomes essential for safe, reliable, and consistent fueling.



## What we offer?

We offer two levels of high-flow injector pumps, supplied by ADS Injection, our trusted pump builder for over 10 years. Each ADS pump is pre-tuned on the bench, meaning you can install, prime, and drive with confidence. While some customers choose to fine-tune on the dyno for maximum results, these pumps are ready to deliver serious performance straight out of the box.

### 200hp Injector Pump

Designed to support builds making up to 180–200hp and 400–500Nm at the wheels. This is the ideal option for vehicles running moderate turbo and airflow upgrades.

### 250hp Injector Pump

This pump unlocks the power potential up to 250hp and 700Nm at the wheels, when paired with the right supporting mods. This is the ideal option for vehicles running a moderate to large turbo and airflow upgrades.

## Purchase options

### Exchange Program

Injector pumps are supplied first on an exchange basis with a **\$1500 refundable core charge**. The core charge is refunded once your original injector pump is received. The cores must be in working, serviceable condition for refund eligibility.

### Outright Purchase

Outright purchase allows you to buy the injector pump without returning a core. This option is ideal if you want to keep your original pump or don't have a serviceable unit for exchange

## Pricing

Injector Pump	Exchange Price	Outright Price
200hp	\$2750 + \$1500 core charge	\$3950
250hp	\$3150 + \$1500 core charge	\$4450

# PERFORMANCE EXPECTATIONS

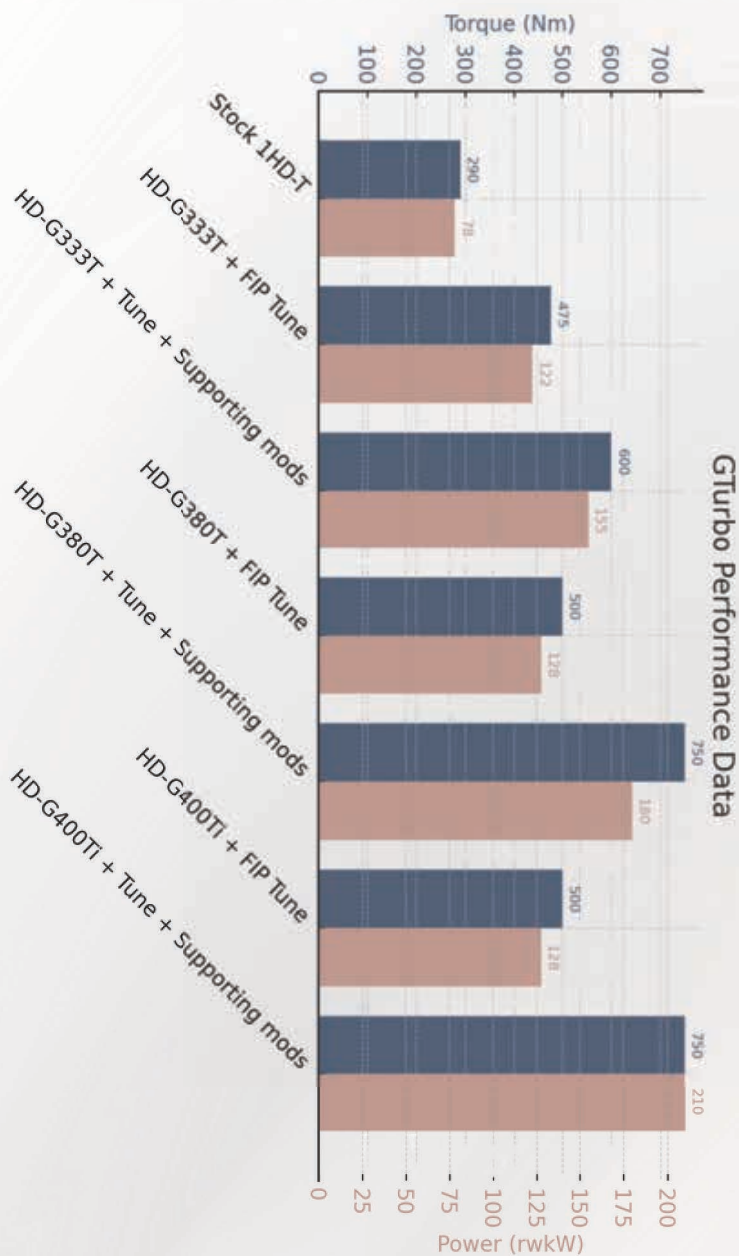
## COMPARISON TABLE

When choosing the right turbo for your build, it's important to consider your performance goals, vehicle use, and supporting modifications. The table below compares each GTurbo option to help you decide which upgrade best suits your needs.

Product	Torque (Nm)	Power (rwkW)
Stock 1HD-T	290	76-80
HD-G333 Titan		
HD-G333T + FIP* Tune	400-550	115-130
HD-G333T + Tune + Supporting mods**	600	155
HD-G380 Titan		
HD-G380T + FIP* Tune	450-550	120-135
HD-G380T + Tune + Supporting mods**	700	180
HD-G400 Titanium		
HD-G400Ti + FIP* Tune	450-550	120-135
HD-G400Ti + Tune + Supporting mods**	700-800	200-220

\*FIP = Factory injection pump

\*\*Supporting Mods = Clutch, large intercooler, 3" exhaust, upgraded airbox, injector pump





# PRODUCT GUIDE

## SPECIAL CONSIDERATIONS

### **Before Upgrading**

Before upgrading your turbo, it's crucial to plan for the supporting modifications that make extra power safe and reliable. Relying on stock components can limit performance—or worse, lead to engine or driveline damage. Ensuring the right supporting mods will protect your investment and unlock the full potential of your GTurbo upgrade.



## Supporting modifications

We have provided extensive information on preceding pages regarding supporting modifications. To summarise:

### REQUIRED

- Clutch OR valve body upgrade

### RECOMMENDED

- PDI Front-Mount Intercooler with transmission cooling
- Minimum 3" Exhaust
- Airbox
- Injector pump
- Boost gauge and controller

## Turbos

Every GTurbo upgrade includes a redesigned compressor cover with a larger 3.5" inlet and 2" outlet to maximise airflow and efficiency. Unlike the factory 2.75" inlet, these connections improve breathing and support higher boost levels. If you're retaining the stock airbox or intercooler, the intake and piping will need minor modifications to suit the new dimensions.

## Fueling

The factory mechanical injection pump performs well to a point, but begins to run out of fuel around 130–140rwkW. If you're aiming for more power, GTurbo recommends upgrading to a high-flow mechanical pump built by ADS Injection, matched to your target power level. Injector condition is also vital, worn injectors can lead to poor spray patterns, high EGTs, and reduced fuel economy.

## Boost and Power Limits (Stock Configuration)

The 1HD-T handles boost well thanks to its factory direct-injection design, but the factory CT26 turbo is a limiting factor. It's only safely capable of producing up to 15psi, pushing beyond this risks turbocharger failure. With this setup, and a safe tune, you can expect around 110–120rwkW and ~400Nm at the wheels. To go further reliably, you'll need to upgrade the turbo, intercooler, and fuel system to manage increased airflow and control EGTs.

## **Intercooling – Top Mount or Front Mount?**

While the factory top-mount design works for light use, front-mount intercoolers deliver superior cooling efficiency, especially under sustained load such as towing, touring, or off-road driving. A front-mount system is recommended as it eliminates heat soak, improves consistency, and allows easier engine access compared to bulky top-mounted setups.

## **Cooling System Health**

The 1HD-T is less prone to overheating than the 1HZ, but the cooling system condition still plays a big role in reliability. Before increasing boost or fuelling, ensure your radiator is clean or replaced, the thermostat is functioning correctly, and the viscous fan hub is in good working order.

For builds pushing beyond 170-180rwhp or used in demanding applications like towing and touring, GTurbo recommends key internal upgrades for long-term reliability. Genuine Toyota pistons with a larger modern combustion bowl improve burn efficiency, while GTurbo's forged conrods provide the strength needed for high cylinder pressures. ARP head studs prevent head lift under boost, and a genuine Toyota head gasket ensures sealing reliability where aftermarket options often fail.

Together, these upgrades create a strong, dependable bottom end built to handle high power.

## **1HD-T Big-End Bearing Failure**

Early 12-valve (especially built before 1994–1996) 1HD-T engines are prone to bearing shell failure due to poor early bearing design and subpar shell material. This can occur unexpectedly, typically between 300,000 and 400,000 km. GTurbo recommends big-end bearing replacement, using high-quality or OEM shells, especially before boosting or adding load. Regular oil analysis and correct oil choice further improve longevity.

## Clutch Special Consideration

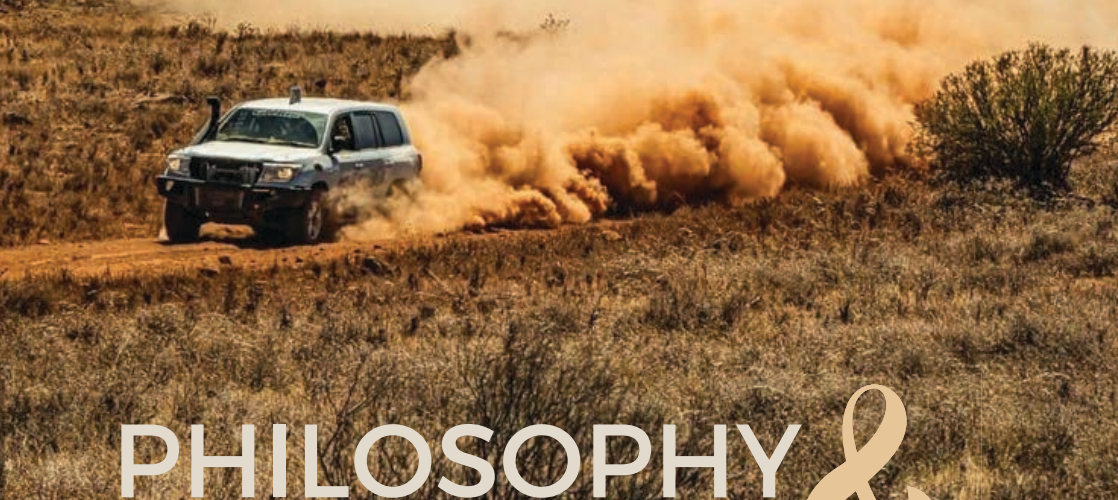
The IHD-T engines are getting older, and the factory clutches typically hold around 400Nm at the wheels before slipping becomes an issue. To ensure reliable performance, especially with upgraded turbochargers and increased power, GTurbo always recommends fitting NPC 1300Nm clutches.

While this may seem like overkill, these clutches can handle any power or torque level you're likely to produce, all while maintaining a smooth, factory-like clutch pedal feel. This upgrade provides peace of mind and durability for both daily driving and heavy-duty use.

## Secondary Fuel Filters – Choose the Right Micron Rating

While adding a secondary fuel filter is a popular upgrade to protect the IHD-T from contaminated fuel, using the wrong filter can do more harm than good. Many aftermarket kits use a 5-micron element, which is far too restrictive for the factory injector pump to draw through on its own. This restriction causes the pump to struggle, leading to internal wear and metal contamination.

Over time, metal from the pump can circulate through the fuel system and even make its way back into the fuel tank, risking widespread damage. We strongly recommend using a 30-micron filter at a minimum for secondary filtration. If you plan to run anything finer, a quality lift pump is essential to relieve strain on the injector pump and maintain long-term reliability.



# PHILOSOPHY & WARRANTY

## **Philosophy**

GTurbo turbos are designed to safely handle the boost levels we specify, while maintaining exceptional durability and performance. Our units are bolt-on replacements, connecting seamlessly to your existing manifold and exhaust for a straightforward upgrade.

At GTurbo, we prioritise safe, reliable performance. The figures we publish reflect conservative, real-world results suited to long-term reliability. If you're aiming for more aggressive tuning, we can accommodate that, with the understanding that increased risk may be involved. We're here to guide you through the right setup based on your goals and how you use your vehicle.

## **Warranty**

Every GTurbo product comes with a 12-month warranty against manufacturing and assembly defects. This excludes our titanium models which are covered for 24-months under warranty.

We take pride in delivering world-class products that significantly enhance your vehicle's performance and in providing outstanding support to ensure the best possible GTurbo experience.

While we'll assist you wherever possible, please note that we cannot accept liability for issues caused by factors outside our control.



# CONTACT US



**G GTURBO**

PERFORMANCE BY DESIGN

We're here to help you get the most out of your diesel performance. Whether you have questions about our products, need advice on the right upgrade, or want to book a tune, the GTurbo team is ready to assist.

**18 Abrams Street, Balcatta,  
Perth, WA 6021,  
Australia**

**(08) 9240 8715**

**+61 401 524 399**

**[www.gturbo.com.au](http://www.gturbo.com.au)**

**[sales@gturbo.com.au](mailto:sales@gturbo.com.au)**

## **Opening Hours**

**Monday – Friday:**

**8:30 AM – 4:30 PM**

**Saturday – Sunday:**

**Closed**

PERFORMANCE BY DESIGN

