



X11 Turbocharger Upgrade and Options. The AXT X11 Series Turbochargers have quickly become the industry standard for replacement turbochargers due to the economic advantages of utilising the improved durability and reliability derived from the AXT X11 Program.

Additionally, the performance improvement potential offered, allows the installer far greater options and diversity, than from simply sticking to an OEM turbo.

Exactly what is an X11 turbocharger? The X11 Series turbochargers are the product of the AXT X11 program, which was initially tasked to identify and improve the longevity of OEM type turbochargers, with known limited lifespans.

Within a short period of time a couple of very obvious issues were apparent, however with further investigation, it became clear that these "OEM issues" were actually specifically part of the design and manufacture process. They are not what could be called a design fault and in fact, have been very cleverly engineered.

When an OEM is called to produce a turbocharger, they will be looking at designing the best solution to suit the client's specific application. This will include engine operation, performance, emissions compliance and of course, cost of manufacture being a very critical factor in consideration for the multinational corporate customer.

However, they are not considering older engines outside of warranty periods, or performance improvement. In some cases, the turbocharger has been specially designed to actually become a relatively low km service item, requiring scheduled replacement to ensure emissions compliance.

This provides the OEM and vehicle producer and additional revenue stream later on, while providing them an opportunity to try to legislate in a monopoly based on EPA type approvals etc. (Some OEMs are already pushing this, even though it's not officially recognised)

What this means for you is that the standard OEM turbo, while optimal for a brand new factory tuned engine, will rarely actually still be suitable on either an older engine with wear and tear, or on any performance application, it will be operating completely outside of the initial design parameters.

Specifically, for the ZD30 engine, Garrett make an awesome turbo, matched spot-on to Nissan's original specification, however as most of the industry knows, the ZD30 does respond very well to the aftermarket NADS kits, to aid the engine longevity.

The actual need for the NADS kits shows how the wear and tear on these engines affects the driveability and reliability.

To compensate for these problems, the AXT X11 Series Turbochargers are designed to handle a reduction of oil supply pressure and volume (can handle 25% less than OEM minimum specification) as well as handling much higher carbon contamination, in both lubricant and exhaust gases (commonly triggered from blocking the EGR system).

Over-boosting is a very common issue with the ZD's and is also rectified using the AXT X11 series Turbochargers. Due to the various installations and power/torque levels that many people offer, the X11 series has been designed to take advantage of the additional durability by also offering improved spool rates and volumetric flow of up to 50%.

For boost control, our standard X11 units retain the same system as OEM, so the turbo can be simply used as a direct replacement, however we have a full complimentary range of options, such as manual high pressure boost driven actuators, to truly take advantage of the potential performance benefits.

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