HPD
HIGH PERFORMANCE DIESEL

HPD is Australia's leading manufacturer of performance upgrade products for turbo diesel vehicles.
Range includes:

- » CATCH CANS
- » INTERCOOLER KITS
- » TURBOCHARGER KITS
- » TRANSMISSION COOLERS
- » PERFORMANCE UPGRADES

DESIGNED & MANUFACTURED IN AUSTRALIA

For further sale & support contact HPD
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BC-VNTC
VNTC TURBO BOOST CONTROLLER
FOR ENGINES WITH VARIABLE NOZZLE CONTROLLED TURBOCHARGERS

PARTS LIST

Please ensure you have received all parts before performing installation

	PART No	DESCRIPTION	Qty	PACKED
A	BC-VNTC	HPD VNTC BOOST CONTROLLER	1	✓
B	HTT-1/8-6	6mm THREADED HOSE TAIL	1	✓
C	5S-4	4mm SILICONE HOSE	0.5m	✓
D	ZIP TIE	2.4mm X 168mm ZIP TIE	3	✓
E	BC-B	BOOST CONTROLLER BRACKET - Already fastened to Boost Controller (BC-VNTC)	1	✓
F	6X12MG304BSS	M6 X 12 STAINLESS STEEL BUTTON HEAD SCREW - Already used to fasten bracket (BC-B)	1	✓
G	3X4MG304SSS	M3 GRUB SCREW 0.5 PITCH - Already screwed into Boost Controller (BC-VNTC)	1	✓

PACKED BY:

DIFFICULTY LEVEL

Install Time: 30min

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Congratulations on buying a HPD product.

HPD products are designed and manufactured in Australia and built to last.

⚠ IMPORTANT - READ FIRST

- **HPD recommends this kit to be installed by a qualified mechanic. Before you undertake this installation, please read through the installation guide in detail from start to finish. Should you need assistance please call the business of purchase for more information.**
- **When removing protective coatings, ensure all new edges are deburred, clean any swarf from the area and apply rust preventative to exposed surfaces.**
- **Do not use this product for any vehicle make or model, other than those specified. Doing so will void the warranty.**
- **This product or its fixing must not be modified in any way.**
- **The installation of this product may require the use of specialized tools and/or techniques.**
- **These instructions are correct as at the publication date. High Performance Diesel cannot be held responsible for the impact of any changes subsequently made by the vehicle manufacturer.**
- **During installation, it is the duty of the installer to check correct operation/clearances of all components.**
- **HPD aftermarket products may void OE manufacture warranty. Please check with your warranty provider if you are unsure.**
- **Check over the kit within the first 1000km to ensure all fixings remain tight, clamps are tensioned and all clearances are still adequate.**

CONDITIONAL MANUFACTURERS WARRANTY:

For full warranty details see: www.hpdiesel.com.au/terms

HPD products are covered by a 1 year limited warranty from the date of sale to the original purchaser only, covering manufacturing and workmanship exclusively.

Modifying any HPD products will void warranty.

Our products carry a 12 month warranty against manufacturing faults.

All orders shipped/freighted by us are subject to our returns policy.

No returns are accepted after 30 days.

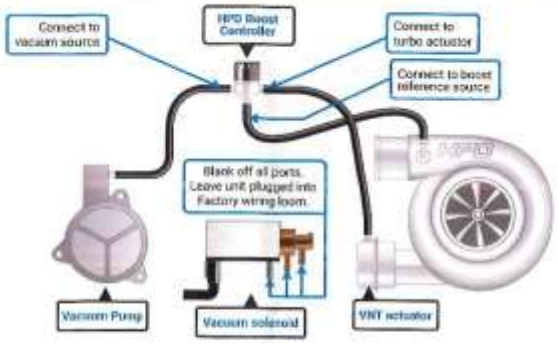
You must have a return authority before returning any goods. Accepted returned goods will incur a re-stocking fee.

The buyer is responsible for all freight costs involved with the return.

TROUBLE SHOOTING

The following items should be checked if your engine is developing excessive boost, the boost pressure is fluctuating or target boost level cannot be achieved

- Check that the the bottom tail end is connected to boost reference source and that side outlet is connected to turbo actuator
- Check that all hoses connected to your intake system are properly secured, free from splits and cracks, in good condition and the correct size
- Check if the boost controller is blocked or contaminated with debris
- Make sure there are no components other than the the boost controller, between the boost reference source and turbocharger actuator, e.g. connections to boost gauges
- Check that the wastegate is operating correctly
- If wastegate is operating correctly and problems persist, pressure test the wastegate actuator for leaks; the diaphragm or housing may be cracked or split
- If air hissing through the controller can be heard at idle, the boost reference source hose tail is attached to the intake manifold. Re-connect to a boost reference source BEFORE the throttle body



INSTALLATION INSTRUCTIONS

- It is highly recommended that the boost controller is fixed utilising the bracket to a solid, stable part of your engine bay that is easily accessible for future adjustment.
- Connect a boost reference source from intercooler or pipe work to the single hose tail at the base of the controller with silicone hose. Cut as much hose as required, while leaving enough hose to connect the remaining two hose tails to their respective components.
- Identify the electronic boost pressure control solenoid on you vehicle. *Blue arrow on image right indicates an example of an electronic boost controller.*
- Identify the vacuum hose from vacuum pump to the electronic boost controller. Remove the hose from electronic boost controller and connect it to one of the two hose tails on the side of the HPD boost controller.
- Identify the vacuum hose from the electronic boost controller to the actuator on the turbo charger. Remove the hose from the electronic boost controller and connect it to the other hose tail on the side of the HPD boost controller.

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- **HPD RECOMMEND DYNO TUNING THE VEHICLE TO SET THE CORRECT BOOST PRESSURE.**
- **TO SET THE REQUIRED BOOST PRESSURE YOU WILL NEED A BOOST GAUGE FITTED TO THE VEHICLE.**

OPERATING INSTRUCTIONS

- **NOTE: MAKE SURE LOCK SCREW IS FULLY LOOSENED BEFORE TURNING TOP HOUSING TO AVOID DAMAGE TO THE BOTTOM HOUSING.**
- Unscrew top housing until there is an approximate gap of 3mm visible between top and bottom housing.
- Check the maximum boost pressure. Adjust if necessary. Rotate top housing clockwise to increase boost or anti-clockwise to reduce boost at approximately quarter-turn increments until you reach the desired boost level.
- Once desired boost pressure has been achieved, secure the top housing by tightening the lock screw on the side to avoid accidental rotation.
- **NOTE: ENSURE ALL HOSES ARE SECURELY CLAMPED TO HOSE TAILS WITH THE SUPPLIED ZIP TIES.**

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TESTING BOOST LEVELS

What is your starting boost pressure?

It's important to measure your engines boost level **before you install your HPD Boost Controller** to establish a starting point.

Do not rely on factory-quoted boost figures as boost levels can vary due to factors including: wear on engine components, installation of aftermaket accessories and environmental conditions such as altitude and climate.

Check that all hoses connected to your intake system are properly secured, free from splits and cracks, are not brittle and in good condition.

Is your target boost level safe?

Consider your target boost level and if it's going to create excessive strain on the vehicles components.

Ensure that all silicone hose joins are adquately tightened as increasing boost pressure will place extra load on these joins, possibly resulting in leaks and hoses blowing off.

How do I get the most accurate boost measurements?

Use the highest gear possible when measuring your maximum boost level. First and second gear ratios are too short in most vehicles to put adequate load on the engine - ideally direct drive 1:1 ratio is preferred.

To get accurate full-boost readings, test in third or fourth gear in a sustained load environment such as an incline. This also avoids travelling at excessive speed.

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BC-VNTC BOOST CONTROLLER

The HPD BC-VNTC [variable nozzle turbo controller] is a reliable boost controller for all turbo chargers that have a variable nozzle exhaust housing and a vacuum controlled actuator.

This controller will allow the turbo to be set to a predetermined boost level and provide stable control throughout the rev range.

Installation is easy and adjustments can be made by simply turning the top housing clockwise to raise boost and anti-clockwise to lower boost.

⚠ EXCESSIVE BOOST PRESSURE CAN RESULT IN DAMAGE TO YOUR VEHICLE'S COMPONENTS! - Please read points below

- **ONCE BOOST CONTROLLER IS INSTALLED, HPD RECOMMEND TESTING BY AN EXPERIENCED TECHNICIAN TO ENSURE BOOST LEVELS ARE SAFE FOR YOUR DRIVETRAIN.**
- **ALWAYS USE AN ACCURATE BOOST GAUGE WHEN MAKING BOOST ADJUSTMENTS**
- **MEASURE BOOST BEFORE INSTALLING BOOST CONTROLLER TO PROVIDE A REFERENCE POINT**
- **IT IS THE OWNER'S RESPONSIBILITY TO BE AWARE OF THE LEGALITIES OF FITTING THIS PRODUCT IN THEIR RESPECTIVE STATE/TERRITORY REGARDING NOISE, EMISSIONS AND VEHICLE MODIFICATIONS.**