

AEROFLOW

PERFORMANCE PRODUCTS

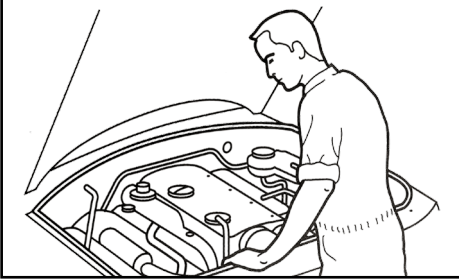
BOOSTED

TURBOCHARGER TECHNOLOGY

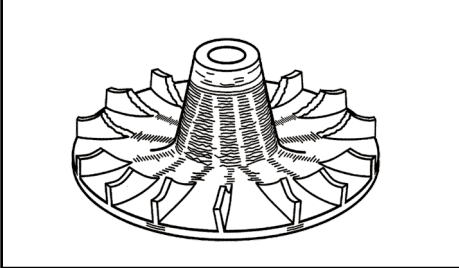


GENERAL TURBOCHARGER INSTALLATION INSTRUCTIONS

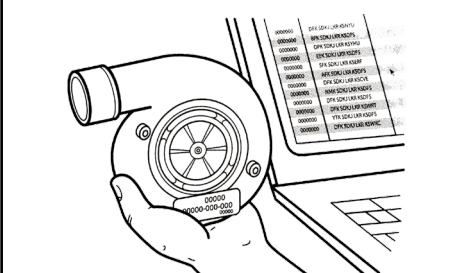
Diagnostic Check of Engine



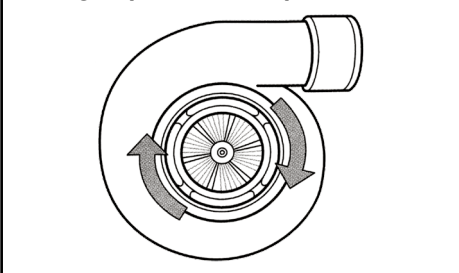
Damaged Compressor Wheel



Check Part Number



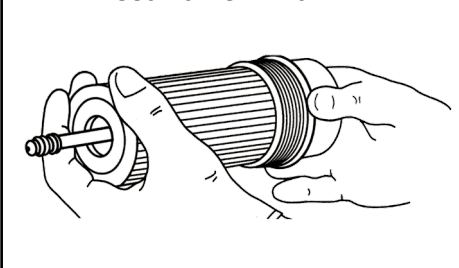
High Speed Turbo Operation



Choose Correct Gasket



Use New Oil Filter



STEP 1 BEFORE REPLACING A TURBO

It is important to conduct a thorough diagnostic check of the engine operating system to determine if the "fault" is actually the turbocharger.

A lack of power, noisy operation, excessive smoke or oil consumption could result from a malfunctioning fuel injection system, ECU or electrical problems, restricted, damaged or blocked air filter system, a damaged exhaust system or an oil lubrication problem. If possible, check the engines crankcase pressure according to the engine manufacturer's specification. A higher than normal crankcase pressure reading may lead to oil leakage from the turbo into the inlet and exhaust systems.

STEP 2

If the engine diagnostic check does not shed any light to the cause, make sure that an extensive trouble shooting analysis is conducted.

Key turbocharger areas for examination include foreign objects, lack of correct oil pressure lubrication, oil contamination, over-speeding of the turbocharger and excessive temperature. This is very important because turbo damage can often be a symptom of an underlying problem rather than the cause itself.

The following steps must be strictly followed. Always consult the workshop manual for instructions which are specific to your engine or vehicle.

STEP 3 TURBO INSTALLATION

Check the part number to ensure that it is the correct turbo charger for your vehicle / engine combination. Installing the incorrect turbo to an engine may damage the turbo and/or engine and will void the warranty.

If in doubt, call 02 8825 1999.

STEP 4

It is important that during the whole installation process, you prevent dirt and debris from entering any part of the turbo.

Any dirt debris entering the turbo may cause catastrophic damage due to the very high speed of operation (up to 300,000rpm) Damage due to contamination (Dirt, debris, etc) is NOT covered by warranty.

STEP 5

Ensure the correct gaskets are used!

For example – The centre hole of any gasket must be perfectly aligned with the centre hole of the turbo flange.

Important Note:

Do not use liquid gaskets or sealants, particularly for the oil inlet & outlet since excessive material may enter the turbo, reducing or stopping oil flow.

STEP 6

It is a MUST that you change or clean your air filter, change the oil and fuel filters and install fresh engine oil that matches engine or vehicles manufacturers specifications.

When installing the new oil filter, if possible, fill it with clean, fresh engine oil. Also, if it is accessible, back-fill the pressure line from the oil pump to the filter. This is particularly important on high mileage engines, where the oil pressure line may empty during oil changes.

STEP 7

Before installing the turbo, ensure that all air hoses connected to the turbo are totally clean and show no sign of damage.

Inspect all electrical connections and harnesses to ensure these are not broken or damaged, take particular note of the electrical pins inside the plugs. Bad or improper connection can cause damage to the turbocharger or engine. Replace any damaged electrical connectors with new genuine OE parts.



STEP 8

The air filter and its housing must be clean and free from debris.

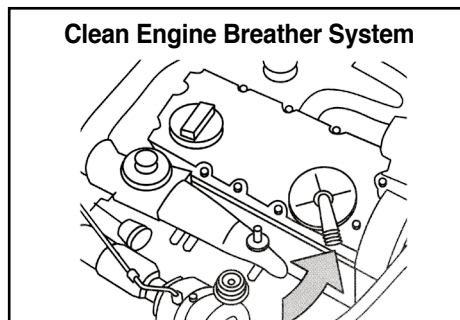
This step is important during installation as the turbocharger will require fresh clean air free from debris that could be sucked into the intake piping and into the front compressor wheel of the turbocharger causing damage to the front wheel. This will void any warranty for this turbo charger.



STEP 9

Clean the engine breather system commonly known as PCV (Positive Crankcase Ventilation system) and ensure that it functions properly.

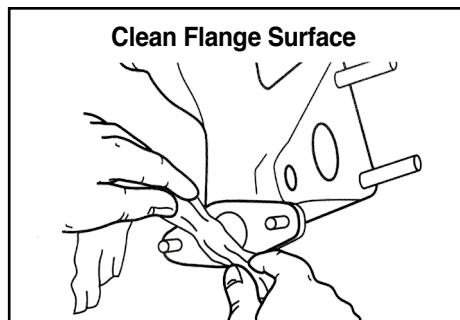
Any blockages or malfunction may cause high crankcase pressure and lead to leakage from the turbo into the inlet and exhaust systems.



STEP 10

Remove any old gasket material from the exhaust manifold and pipe.

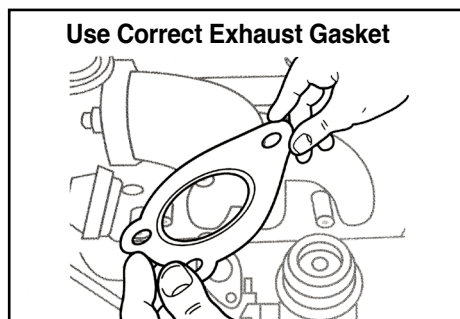
The surfaces of the flange must be clean and have no damage. Then remove blanking plugs from the turbo.



STEP 11

Position the turbo onto the manifold or engine block using the correct new gasket, and then reconnect the exhaust pipe.

Tighten all nuts and bolts.

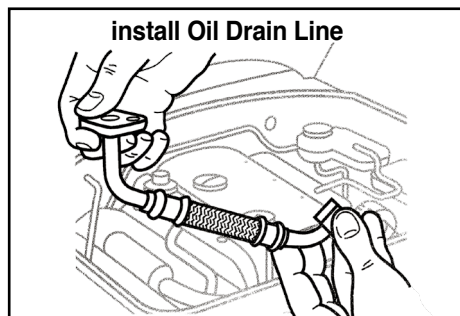


Important Note for steps 12-15

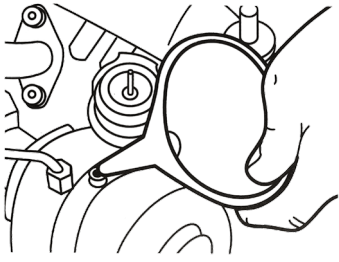
Pay special attention to the oil feed and drain lines! They must be totally clean and have no damage to ensure unrestricted oil flow. Oil return from the turbo must return above engine oil level. Make sure that flexible hose liners have not collapsed internally and that the oil feed line is not too close to a heat source which may have damaged the oil feed line internally. This is common on some vehicles and difficult to detect without cutting the pipe to have a clear inspection. For this reason, we recommend fitting a new oil feed line when installing a new turbocharger.

STEP 12

Next, install the oil drain line to the turbocharger.

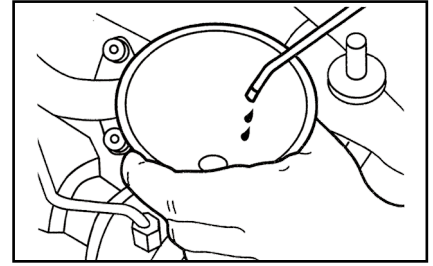


Fill Turbocharger with Oil

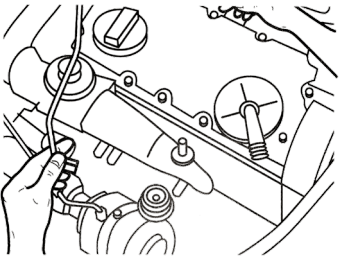


STEP 13

Use a dedicated turbo Pre-lube prior to installing the oil feed line. Squeeze the entire 20ml into the oil inlet hole of the turbocharger.



Fit Oil Feed Line



STEP 14

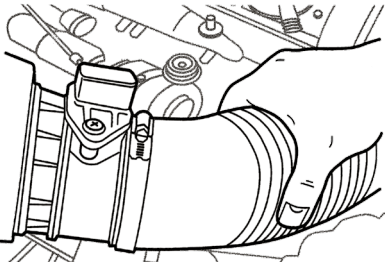
Next, fit the new oil feed line.

STEP 15

Install the inlet and outlet piping/hoses to turbocharger compressor housing. Being sure that they are free from dirt and debris.

Make sure that the connections are airtight and that the clamps are correctly tightened. If any clamps are questionable replace immediately.

install Air Hoses



If concerned about air leaks undertake an engine smoke test to find any possible issues. If leaks are found repair or replace the parts immediately. These leaks can affect the performance of the turbocharger and engine.

STEP 16

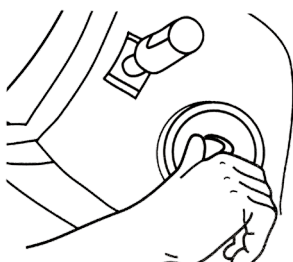
Crank the engine for 10-15 seconds without starting the engine.

If possible, disable the fuelling/ignition or use compression test mode to allow this. This helps to prime the oil feed to the turbocharger by filling the oil pressure lines, oil filter and turbo with oil before start-up.

Important note:

As soon as the engine starts, the turbo will run at high speed and a lack of lubrication in these vital first few seconds can destroy a brand new turbo.

Prime Oil Feed

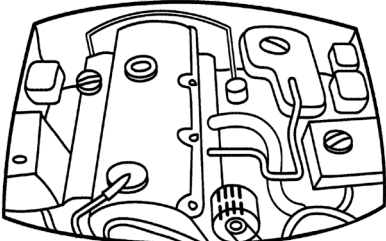


STEP 17

Now start the engine, and let it idle for 3 to 4 minutes to allow for proper inspection of oil, gas and air leakage.

If any leak is detected during engine start up, fix the issue immediately.

Inspect Engine For Leaks



STEP 18

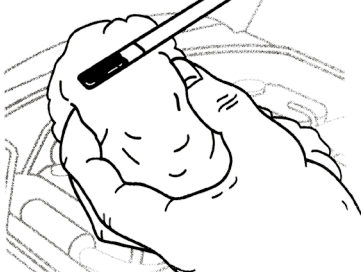
Stop the engine and re-check engine oil level.

Oil level should be between the minimum and maximum mark on the dipstick – it is important to make sure that the oil level is not above the point where the turbo oil drain pipe connects to the engine or this may cause oil leakage from the turbo into the inlet and exhaust systems.

IMPORTANT NOTE:

For information on oil, tightening specification and installation details, always refer to the manufacturer's service manual/data for your vehicle or engine for the correct information.

Check Engine Oil Level



Warranty Disclaimer

Boosted by Aeroflow products are manufactured to industry standard specifications from quality materials. Utmost care is taken to ensure products are free from blemishes, inconsistencies and defects. Aeroflow products carry a one year warranty from the date of purchase however warranty will be void if the product is not used in the correct way for which it was intended. Boosted Turbo Chargers and replacement parts are designed for street use only. Products used in race applications and/or products that have been modified, damaged, incorrectly installed or incorrectly/poorly maintained are not covered by this warranty. Proof of purchase will be required for all warranty claims.