



GENUINE SUPPLIER

RECURRING TURBOCHARGER FAILURES FOR HYUNDAI ILOAD & IMAX

Prior to fitment of the replacement genuine turbocharger it is important to determine the original cause of failure to prevent reoccurring turbocharger failures.

As per the technical service bulletin SE07812 the following must be inspected to assist with the diagnosis of the root cause.

- A. Inspect turbocharger for any damage
 - Excessive shaft radial & axial play or damage to the rotor assembly blades
 - Bent and/or broken shaft
 - Carbon build up within the nozzle ring assembly (inside VGT system)
- B. Inspect intercooler assembly
 - Inspect for split fins with oil contamination
- C. Inspect oil pick-up screen
 - Inspect screen for carbon blockage
- D. Inspect injectors
 - Inspect for evidence of leaking washers and carbon build-up around outside of the injector body
- E. Inspect the injector seat in cylinder head for damage

The above conditions may result in combustion gases entering the engines crankcase resulting in excessive blow-by and carbonising/thickening of engine oil.

Note: *Poor vehicle servicing or incorrect engine oil specifications can also result in the above failures and should not be confused with poor injector sealing as the root cause.*

SERVICE REQUIREMENTS WHEN SERVICING INJECTORS

If injectors have been leaking compression past sealing washer (resulting in carbon contamination in oil and blockage of oil pick-up), the injector holes within the cylinder head will need to be cleaned of any carbon build-up to ensure sealing integrity and the injector washers will need to be replaced. Failure to remove all carbon deposits from the injector holes will result in repeat blow-by. Injector clamp bolts need to be replaced with new bolts and ensure the torque is set to specification.

Note: *Engine oil and oil filter must be replaced if compression has leaked past the injectors.*

TYPES OF TURBOCHARGER FAILURES & CAUSE

Combustion gases entering the engines crankcase, poor servicing of the vehicle or incorrect grades of oil can result in a number of ensuing issues with the turbocharger;

- A reduction of oil quality to the turbocharger causing premature bearing and shaft wear, and potentially shaft fracture
- Insufficient or interrupted supply of oil to the turbocharger causing premature bearing and shaft wear, and potentially shaft fracture

Split silicone hoses between the turbocharger, intercooler and inlet manifold (and/or intercooler leaks) can also allow the turbocharger to overspeed. This is due to the turbo 'over working' to overcome the loss of boost pressure due to the pressure leaks. Overspeed failures result in compressor wheel fatigue (loss of a blade, or complete fracture) with secondary failures such as shaft fracture.

Authorised Gen 5 dealers can also assist with turbocharger failure analysis (if the above diagnosis points are unable to be determined) by disassembling the original failed turbo for internal inspection. While not completely conclusive (some turbocharger failures are so catastrophic that root cause is difficult to ascertain), it can be helpful in finding the original fault or in the very least point you in the right direction.