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TURBOCHARGERS & PARTS

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OVERSPEEDING

What is overspeeding

Overspeeding is a term used when a turbo is operating well above its normal operating limits.

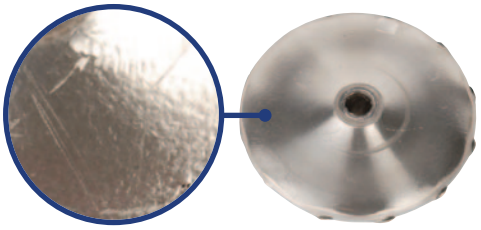
If there are any leaks, cracks or poor seals between the compressor and the engine, the turbo will have to work much harder than it should to deliver the required air levels to the engine.

Causes of overspeeding

- Engine modifications including 'chipping' or 'over-fuelling'
- Inconsistent flow of air into the turbo;
  - Tear in the air hose or the hose becoming completely detached
  - Restrictions in the air intake filter or pipe work
  - Air leaks between compressor and engine
- The wastegate or VNT mechanism has been set incorrectly
- Worn injectors
- Installing an incorrect turbo
- Loss of signal to the Electronic Actuator for the wastegate or VNT control
- High altitude
- Incorrect movement or restrictions in the VNT mechanism

Signs of overspeeding

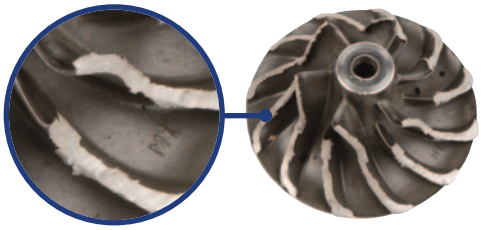
- The 'orange peel' effect
- Inducer blade damage
- Partial loss of blades
- Burst wheel
- Fatigue fractures of blades



'Orange peel' effect on compressor wheels



Complete component failure



Another example would be good

Preventing turbo failure caused by overspeeding:

- The turbocharger must always be left in the original state
- The turbocharger may only be installed in the specified vehicles
- Check there are no restrictions or leaks in the air intake pipe work
- Ensure the wastegate or VNT linkage is operating freely and is properly calibrated
- Check the electronic sensors and ECU are operating correctly
- Avoid remaps chipping or over-fuelling

For further information on this or other topics, visit www.melett.com/technical / technicalsupport@melett.com

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