





TROUBLESHOOTING



Engine lacks power
 Black smoke
 Excessive oil consumption
 Blue smoke
 Noise
 Excessive oil compressor end
 Excessive oil turbine end
 Drag within CHRA
 Excessive play in CHRA
 Damaged compressor wheel
 Damaged turbine wheel

POSSIBLE CAUSE	Engine lacks power	Black smoke	Excessive oil consumption	Blue smoke	Noise	Excessive oil compressor end	Excessive oil turbine end	Drag within CHRA	Excessive play in CHRA	Damaged compressor wheel	Damaged turbine wheel	REMEDY
Dirty air filter												Clean or replace filter
Restricted crankcase breather												Clean or replace breather filter
Air filter missing, leaking or loose connection to turbo												Replace or repair as required
restricted or collapsed air inlet pipe												Inspect pipe for Damage, Replace or repair
Restricted or damaged boost pipes												Inspect pipe for Damage, Replace or repair
Foreign object between air filter and turbo												Inspect air inlet pipe for obstruction
Foreign object in exhaust system												Check exhaust system
Turbo flanges, clamp or loose bolts												Check gaskets / check fittings are tight
Cracked inlet manifold or loose gaskets												Check manifold and gaskets for damage
Cracked exhaust manifold or blown gasket												Check manifold and gaskets for damage
Restricted exhaust system												Check exhaust system inc DPF and CAT
Low oil supply on start up / priming												Check oil pick up pipe, oil feed and air filter
insufficient lubrication												Check oil pick up pipe, oil feed and air filter
Lubricating oil contaminated												Replace all filters and oil
Incorrect oil used												Replace with correct oil
Restricted oil feed pipe												Inspect oil feed line
Restricted oil return pipe												Inspect oil return pipe
Turbine housing damaged or restricted												Send turbo for repair or replace
Turbo seals leakage												Check oil feed and return are suitable bore
Worn journal bearings												Send turbo for repair or replace
Excessive carbon build up behind shaft wheel												Send turbo for repair or replace
Excessive carbon build up on compressor housing												Check engine breather filter and pipes
Too fast acceleration on initial start up												Reduce acceleration on start up
Insufficient warm up time												Allow sufficient warm up time
Fuel pump failure												Check and repair or replace
Worn or Damaged injectors												Inspect injectors and repair or replace
Engine timing												check and adjust
Engine piston rings worn												Check and repair or replace
Damaged pistons												Check and repair or replace
Leak from oil feed pipe												Check feed pipe for damage or blockage
Engine oil level too high												Check and repair or replace
Excessive engine idle												Check and repair or replace
Excessive build up in bearing housing												Send turbo for repair or replace
Oil pump failure												Check and repair or replace
Oil filter blocked												Check and repair or replace
Boost control fault: Wastegate												Check for damage, leaking pipes or obstructions
Boost control fault: VNT mechanism												Send turbo for repair or replace
Boost control fault: ECU												Check and repair or replace

 Possible cause
 Not a probable cause

 Possible cause
 Not a probable cause