

| Complaint | | | | | | | TURBOCHARGER TROUBLE SHOOTING CHART | |
|--------------------|---------------------|---------------------------|--------------------|--------------------|---------------------|-----------------------|--|---|
| | | | | | | | POSSIBLE CAUSES | REMEDIAL ACTIONS |
| Engine lacks power | Black exhaust smoke | Excessive oil consumption | Blue / white smoke | Turbocharger noisy | Oil leak from comp. | Oil leak from turbine | | |
| ● | ★ | ○ | ⬡ | | ★ | | Clogged air filter elements | Check & replace the element according to engine manufacturer's recommendations |
| ● | ★ | ○ | ⬡ | ● | ★ | | Restrictions in air intake to TC compressor inlet | Remove restriction or replace the damaged parts i.e. intake pipes, withered hoses etc., |
| ● | ★ | | | ● | | | Restrictions in TC compressor outlet to intake manifold | Remove restriction or replace damaged parts i.e. pipe, hoses, intercooler etc., |
| | | | | ● | | | Air leak between air cleaner and TC compressor / Ex. Gas leakages at the turbine outlet connections. | Check & arrest the leak by replacing defective hoses, clips, pipes, gaskets or tighten the clamps & fasteners as required |
| ● | ★ | ○ | ⬡ | ● | ★ | | Air leak in between TC compressor & intake manifold. | Check & arrest the leak by replacing defective hoses, clips, pipes, gaskets, intercooler or tighten the clamps & fasteners the clamp & fasteners as required. |
| ● | ★ | | | ● | | | Foreign object in engine exhaust manifold / intake duct to TC compressor | Remove the object & check for the cause / origin of the object entry & correct it. |
| ● | ★ | | | | ★ | | Restricted exhaust system / choked catalytic converter. | Remove restriction or replace damaged parts, clean / replace catalytic converter as required |

| | | | | | | | | |
|---|---|---|---|---|---|---|--|--|
| ● | ★ | | | ● | | | Exhaust gas leakage before the TC. | Check & arrest the leak by replacing defective parts, gaskets or tighten the fasteners as required. |
| | | ○ | ⬡ | | ★ | ■ | Restriction in turbocharger oil drain line | Remove restriction in the pipes, at joints or replace withered hoses as required |
| | | ○ | ⬡ | | ★ | ■ | Restricted engine crank case breather / malfunctioning of crank case ventilation system. | Refer to engine manufacturer's manual and remove restriction (ensure free flow of gases) & replace the defective parts |
| | | ○ | ⬡ | ● | ★ | ■ | Rotor rotation not free due to thick oil sludge or coke in turbocharger central housing | Change oil & oil filter, check EGR for correct operation, contact TEL Authorised service centers for TC rectification. |
| ● | ★ | | | | | | Faulty fuel injection pump & injectors & its fitment to engine / faulty ECU / defective EGR operation. | Refer to engine manufacturer's manual and replace or adjust as required |
| ● | ★ | ○ | ⬡ | | ★ | ■ | Worn-out valves, piston ring, liners, internal engine problems (increased blow by) | Refer to engine manufacturer's manual and repair as required |
| ● | ★ | | | | | | Damaged actuator assy., boost pressure control valve stuck in open position | Replace TC OR contact TEL Authorised service centers for rectification. |
| | | | | ● | | | Actuator assy. Operating hose punctured OR found disconnected | Replace / connect the hose contact TEL Authorised service centers for rectification. |
| ● | | | | | ★ | | VGT actuator operating hose found disconnected or found punctured, control valve defective | Connect the hose, replace the damaged hose / control valve. |
| ● | ★ | ○ | ⬡ | ● | ★ | ■ | Turbocharger damaged | Refer to TEL, Authorised service center, analyse & correct the cause of failure (turbo failure is normally due to lack of oil, low oil pressure, bad engine oil condition, foreign particle entry into compressor / turbine inlet). Service or replace turbocharger as required. |