

SECTION D

Fault Diagnosis

Fault	Possible Cause
Low cranking speed	1, 2, 3, 4.
Will not start	5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 31, 32, 33.
Difficult starting	5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 24, 29, 31, 32, 33.
Lack of power	8, 9, 10, 11, 12, 13, 14, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 31, 32, 33.
Misfiring	8, 9, 10, 12, 13, 14, 16, 18, 19, 20, 25, 26, 28, 29, 30, 32.
Excessive fuel consumption	11, 13, 14, 16, 18, 19, 20, 22, 23, 24, 25, 27, 28, 29, 31, 32, 33.
Black exhaust	11, 13, 14, 16, 18, 19, 20, 22, 24, 25, 27, 28, 29, 31, 32, 33.
Blue/white exhaust	4, 16, 18, 19, 20, 25, 27, 31, 33, 34, 35, 45, 56.
Low oil pressure	4, 36, 37, 38, 39, 40, 42, 43, 44, 58.
Knocking	9, 14, 16, 18, 19, 22, 26, 28, 29, 31, 33, 35, 36, 45, 46, 59.
Erratic running	7, 8, 9, 10, 11, 12, 13, 14, 16, 20, 21, 23, 26, 28, 29, 30, 33, 35, 45, 59.
Vibration	13, 14, 20, 23, 25, 26, 29, 30, 33, 45, 47, 48, 49.
High oil pressure	4, 38, 41.
Overheating	11, 13, 14, 16, 18, 19, 24, 25, 45, 50, 51, 52, 53, 54, 57.
Excessive crankcase pressure	25, 31, 33, 34, 45, 55.
Poor compression	11, 19, 25, 28, 29, 31, 32, 33, 34, 46, 59.
Starts and stops	10, 11, 12.

Key to Fault Finding Chart

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| <ol style="list-style-type: none"> 1. Battery capacity low. 2. Bad electrical connections. 3. Faulty starter motor. 4. Incorrect grade of lubricating oil. 5. Low cranking speed. 6. Fuel tank empty. 7. Faulty stop control operation. 8. Blocked fuel feed pipe. 9. Faulty fuel lift pump. 10. Choked fuel filter. 11. Restriction in air cleaner. 12. Air in fuel system. 13. Faulty fuel injection pump. 14. Faulty atomisers or incorrect type. 15. Incorrect use of cold start equipment. 16. Faulty cold starting equipment. 17. Broken fuel injection pump drive. 18. Incorrect fuel pump timing. 19. Incorrect valve timing. 20. Poor compression. 21. Blocked fuel tank vent. 22. Incorrect type or grade of fuel. 23. Sticking throttle or restricted movement. 24. Exhaust pipe restriction. 25. Cylinder head gasket leaking. 26. Overheating. 27. Cold running. 28. Incorrect tappet adjustment. 29. Sticking valves. 30. Incorrect high pressure pipes. | <ol style="list-style-type: none"> 31. Worn cylinder bores. 32. Pitted valves and seats. 33. Broken, worn or sticking piston ring/s. 34. Worn valve stems and guides. 35. Overfull air cleaner or use of incorrect grade of oil. 36. Worn or damaged bearings. 37. Insufficient oil in sump. 38. Inaccurate gauge. 39. Oil pump worn. 40. Pressure relief valve sticking open. 41. Pressure relief valve sticking closed. 42. Broken relief valve spring. 43. Faulty suction pipe. 44. Choked oil filter. 45. Piston seizure/pick up. 46. Incorrect piston height. 47. Damaged fan. 48. Faulty engine mounting (Housing). 49. Incorrectly aligned flywheel housing, or flywheel. 50. Faulty thermostat. 51. Restriction in water jacket. 52. Loose fan belt. 53. Choked radiator. 54. Faulty water pump. 55. Choked breather pipe. 56. Damaged valve stem oil deflectors (if fitted). 57. Coolant level too low. 58. Blocked sump strainer. 59. Broken valve spring. |
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