MAINTENANCE MANAGEMENT TRAINING

Diesel Engine Maintenance and Fault Diagnosis

5 day course Classroom, online or in-house

Course overview

Most diesel engines that fail early are not worn out; they are killed by fuel contamination, air restriction or a cooling fault that a technician could have found in an hour. This course teaches finding them. Delegates work through the four stroke cycle and what each system contributes, then through fuel systems from tank to injector, covering filtration, water separation and the contamination that destroys modern high pressure components. Air intake and turbocharging follow, including restriction measurement and the intercooling that decides charge density. Lubrication is covered, including oil selection, analysis and the bearing damage that oil tells you about. Cooling systems are addressed, since overheating is both a cause and a symptom. Electronic control and diagnostics are covered at the level a workshop uses: fault codes, live data and the difference between a code and a cause. Compression and cylinder leak testing follow. Common faults are diagnosed systematically: hard starting, low power, smoke by colour, overheating and oil consumption. The course closes on overhaul decisions and on running hours against condition.

What you will learn

- Trace the fuel system and control contamination and water
- Measure air restriction and assess turbocharging and intercooling
- Select oil and read oil analysis for bearing and wear evidence
- Diagnose cooling faults as both cause and symptom
- Read fault codes and live data without mistaking a code for a cause
- Run compression and cylinder leak tests
- Diagnose smoke, low power and oil consumption, and judge overhaul timing

Who should attend

- Diesel mechanics and workshop technicians
- Fleet and plant maintenance supervisors
- Mine and quarry equipment maintainers
- Generator and marine engine technicians
- Apprentices moving into diagnostic work

Course outline

01 Killed rather than worn out
02 The four stroke cycle and its systems
03 Fuel from tank to injector
04 Filtration, water separation and contamination
05 Air restriction, turbocharging and intercooling
06 Lubrication and oil analysis
07 Cooling faults, fault codes and live data
08 Compression testing, smoke diagnosis and overhaul decisions

Upcoming dates

Dates	Venue	Format	Fee per delegate
9 to 13 November 2026	Maputo, Mozambique	Classroom	USD 1,325
21 to 25 December 2026	Harare, Zimbabwe	Classroom	USD 1,325
11 to 15 January 2027	Pretoria, South Africa	Classroom	R19,950
22 to 26 February 2027	Online	Online	R8,500

Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit **www.afrisciencegroup.com**, email **info@afriscience.co.za**, or WhatsApp us on **+27 63 479 1136**.

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