

DIVISION 1

CASS

Technical Services

Engineering Uptime. Restoring Performance.

Mechanical · Electrical · Electronic

Heavy Earthmoving · Power Generation

OEM-Aligned · Field & Workshop Service

CASS Solutions Group (Pty) Ltd | Reg No: 2022/736579/07 | Level 1 B-BBEE





ABOUT CASS TECHNICAL SERVICES

The Technical Backbone of the Group

Our Purpose

CASS Technical Services provides specialised diagnostic and repair services for heavy earthmoving and power generation industries.

Unlike general maintenance providers, CASS deploys dual-trade capability — integrating mechanical AND electrical expertise — to resolve complex electromechanical faults that single-trade technicians frequently miss.

40% Faster diagnostics vs single-trade

Dual Mechanical & Electrical trade

OEM Aligned to original manufacturer specs

What Sets Us Apart



Dual-Trade Capability

Mechanical and electrical expertise combined in a single technician team — eliminating inter-trade communication failures and delay.



Advanced Diagnostics

Sophisticated fault-finding across CAN Bus, Hydraulics, Powertrain, Engine Systems and Electrical Circuits on complex, modern machines.



Reduced Downtime

Faster root-cause identification cuts diagnostic time by up to 40% compared with single-trade approaches — getting equipment back online sooner.



Technical Reporting

In-depth machine health reports, component failure analysis and Warranty / CPI support — full documentation for every job.



CORE SERVICE COMPETENCIES

Five pillars of technical excellence

01

Advanced Troubleshooting



Mechanical · Electrical · Electronic

Expert diagnostics on Trackless Mobile Equipment and Generators — covering Hydraulics, Powertrain, CAN Bus, Engine Systems and full Electrical Circuits.

02

Earthmoving Equipment



OEM-Aligned Heavy Machine Service

Specialised OEM service for Hydraulic Excavators, Motor Graders, Off-Highway Trucks, Articulated Trucks, Wheel Loaders, Track-Type Tractors, Wheel Dozers, Backhoe Loaders & Skid Steer Loaders.

03

Power Generation



Prime & Standby Generator Sets

Full-service maintenance and fault-finding on Prime and Standby generator sets — including controllers, alternators and application support.



04 Technical Analyst Services

Data-Driven Machine Intelligence

In-depth machine health reports, component failure analysis, and Warranty / Continuous Product Improvement (CPI) support to extend asset life.



05 Field Service

On-Site Response & Monitoring

On-site repairs, condition-based monitoring and emergency response — delivering operational continuity where it matters most: in the field.



EARTHMOVING EQUIPMENT

OEM-Aligned Specialised Service for Heavy Machine Fleets

Equipment We Service

Hydraulic Excavators

Full OEM diagnostic & repair

Motor Graders

Powertrain & blade system service

Off-Highway Trucks

Engine, suspension & electrical

Articulated Trucks

Hydraulic & drivetrain specialists

Wheel Loaders

OEM systems & component analysis

Track-Type Tractors

Final drive & undercarriage

Wheel Dozers

Hydraulic blade & power systems

Backhoe Loaders

Multi-system diagnostics

Skid Steer Loaders

Compact machine full service & multi-system diagnostics

OEM Service Capabilities



CAN Bus Diagnostics

Full network scanning & fault code resolution on modern machine control architectures.



Hydraulic Systems

Pressure testing, flow analysis, pump/valve diagnostics & component replacement.



Powertrain Analysis

Torque converters, transmissions, differentials and final drive fault-finding.



Electrical & Electronic

Circuit tracing, sensor calibration, ECM programming and wiring fault diagnosis.



Machine Health Reports

Comprehensive condition assessments with component wear tracking and failure prediction.



POWER GENERATION SERVICES

Prime & Standby Application Support



Complete lifecycle support for Prime and Standby generator sets — from installation commissioning through to emergency fault response.



Prime Power Systems

- ✓ Continuous duty generator commissioning & setup
- ✓ Load testing and performance benchmarking
- ✓ Fuel system analysis and consumption optimisation
- ✓ Scheduled preventive maintenance programmes
- ✓ Controller programming and fault code resolution
- ✓ Alternator rewind and rewinding assessments



Standby Power Systems

- ✓ Automatic Transfer Switch (ATS) setup & testing
- ✓ Emergency response — 24-hour fault resolution
- ✓ Annual servicing & load bank testing
- ✓ Battery bank assessment and replacement
- ✓ Compliance testing for critical applications
- ✓ Controller diagnostics: Deep Sea, ComAp, Woodward



ADVANCED TROUBLESHOOTING & DIAGNOSTICS

Where Precision Meets Performance

CASS technicians are trained to resolve complex electromechanical interface faults — where mechanical systems interact with electronic control systems — a skill set rare in the industry.



CAN Bus Networks

Diagnosis of J1939 and proprietary CAN protocols. Network health scans, node isolation and message trace analysis.



Hydraulic Systems

Pressure/flow diagnostics, pump efficiency testing, variable displacement analysis and proportional valve mapping.



Powertrain & Drivetrain

Torque converter stall testing, clutch pack assessment, differential analysis and final drive fault-finding.



Engine Management

ECM/ECU programming, injection timing, turbocharger diagnostics and emissions system fault analysis.



Electrical Circuits

Complex wiring fault tracing, grounding analysis, sensor calibration and component bench testing.



Electronic Systems (ET & SIS)

Caterpillar ET, Perkins EST/SPI software — live data logging, parameter programming and diagnostic reporting.



FIELD SERVICE & TECHNICAL REPORTING

On-Site Response. Data-Driven Decisions.



Field Service

Directly at your site — zero delay, maximum continuity

- ✓ On-site repairs for operational equipment failures
- ✓ Condition-based monitoring — scheduled site visits
- ✓ Emergency breakdown response
- ✓ Component replacement & field commissioning
- ✓ Pre- and post-repair performance validation



Technical Analyst Services

Turning machine data into actionable decisions

- ✓ Machine health reports — full component grading
- ✓ Failure mode and root cause analysis
- ✓ Warranty support & CPI documentation
- ✓ Predictive maintenance recommendations
- ✓ Fleet condition management reporting

Impact in Numbers

40%

Reduction in diagnostic time

56+

Years combined technical
expertise

OEM

Manufacturer-aligned
procedures

24/7

Emergency field response
available



THE DUAL-TRADE ADVANTAGE

Why CASS Outperforms Single-Trade Providers

Traditional Single-Trade

X Requires two separate teams

Mechanical + Electrical = double cost

X Communication delays

Between trades causes longer downtime

X Interface faults missed

Cross-system faults often overlooked

X Slower root-cause ID

Handoffs add hours to every job

X Higher invoice cost

Two call-outs for one problem

X Warranty risk

Non-OEM procedures void coverage

VS

CASS Dual-Trade Approach



Single integrated team

One call solves mechanical & electrical



Instant cross-trade visibility

No handoffs — full system awareness



Interface faults diagnosed

Electromechanical faults caught first pass



Up to 40% faster diagnosis

Parallel system investigation saves hours



One invoice, full resolution

Transparent pricing, reduced overheads



OEM-compliant procedures

Warranty-safe repairs, every time



TECHNICAL LEADERSHIP

Credentials That Command Confidence



Mr. Sakhumzi Memela

Lead Product Specialist & Technical Advisor | 18+ years heavy equipment industry | 8+ years technical training development

South African Credentials

- Red Seal: Earthmoving Equipment Mechanic
- Red Seal: Auto Electrician
- N6 Mechanical Engineering — Motheo TVET
- Certified Assessor & Moderator
- Legal Liability Certified

International Certifications

- Caterpillar Advanced Certified Mining Technician
- Advanced Electronic Troubleshooting
- Next Gen Hydraulic Excavator Service Training
- Caterpillar Instructor Accreditation

"One of the most credentialed independent technical specialists in Southern Africa"



INDUSTRIES WE SERVE

Technical Expertise Across High-Demand Sectors



Mining

Heavy machine reliability is critical in mining operations. CASS provides rapid on-site response for earthmoving fleet maintenance, reducing costly production stoppages.



Construction

Excavators, graders and loaders working in demanding construction environments demand expert service. CASS delivers OEM-standard repairs without sending machines off-site.



Power Generation

Hospitals, data centres, mining camps and municipalities depend on reliable standby power. CASS ensures generator sets are always ready when the grid fails.



Earthmoving & Plant Hire

Plant hire operators depend on high machine availability. CASS condition monitoring and scheduled maintenance keeps fleets productive and rental-ready.



Agriculture

Agricultural equipment requires specialist mechanical knowledge. CASS expertise extends to tractors and material handling equipment supporting farming operations.



Material Handling

Forklifts, wheel loaders and skid steers operating in warehouses and ports — CASS provides rapid turnaround service to minimise logistical downtime.

Engineering Uptime.

Get in touch with CASS Technical Services today.



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REACH

South Africa | Serving Global Clients

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"Excellence is an Attitude" — CASS Solutions Group