



# COMMITTED TO SERVICE.

SOLUTIONS CATALOG.

2016 Edition

**JA Delmas**







## **EDITORIAL** JA Delmas has been bringing service-minded solutions to its customers for over 80 years.

Expert teams, in every branch of our network, offer you the level of reliability and thoroughness you can expect from a Cat dealer.

We are proud of the trust you place in us and make every effort to guarantee your projects' success and profitability.

In this catalog you will find all the services we offer guaranteeing long life to your machines.

*Bernard Ballion*

JA Delmas Managing Director / Network and Product Support Director

## THE STRENGTH OF OUR NETWORK IN FIGURES

- 80 years of presence across 12 countries in West Africa
- 2 500 professionals dedicated to your entire satisfaction
- 12 repair and maintenance workshops
- 3 Component Rebuild Centers (CRC)

## OUR WORKSHOPS

Each of our network's companies owns a specialized workshop where our dedicated technical teams back you up for your machine maintenance.

- Rebuild programs
- Repairs: mechanics, metalwork, welding...
- Interventions: diagnosis, repair services...
- Technical inspections
- Equipment commissioning: tests and settings
- Scheduled maintenance operations
- Specific assembly and adjustments

## OUR COMPONENT REBUILD CENTERS (CRC)

Our CRCs use highly complex rebuild methods, which maximize your equipment's life expectancy and reliability. Every component is designed to be rebuilt several times in a machine's lifetime. Our CRCs provide the same level of safety, quality and contamination control standards as those used by Caterpillar factories. Components: engines, transmissions, torque convertors, differentials, final drives, cylinders, injection pumps.

## OUR COMMITMENTS

- Timely and cost-effective quotes
- Guaranteed repairs
- Maintenance costs and machine downtime reduction
- Service quality in line with Caterpillar requirements
- Maintaining of manufacturer warranty
- On-site interventions and assistance



# STANDARD OPERATIONS

OUR WORKSHOPS PROVIDE YOU WITH FIXED-PRICE, CONSISTENT SERVICES FOR THE MAINTENANCE OF YOUR CAT MACHINES

- Cylinder repairs
- Hydraulic and Transmission systems kidney looping
- Hose manufacturing
- Preventive maintenance programs



## CYLINDER REPAIRS

OUR BRANCHES OWN ALL THE RESOURCES AND EQUIPMENT REQUIRED TO PERFORM REBUILD OPERATIONS, REDUCE CONTAMINANTS AND OPTIMIZE YOUR CYLINDERS' PERFORMANCE.

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### OUR SERVICE OFFERING

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- Cylinder disassembly / reassembly
- Complete cylinder rebuild
- Resealing and rebearing
- Light honing and cylinder cleaning
- Performance test with the test bench  
(included in our fixed price)

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### WE GIVE YOU MORE

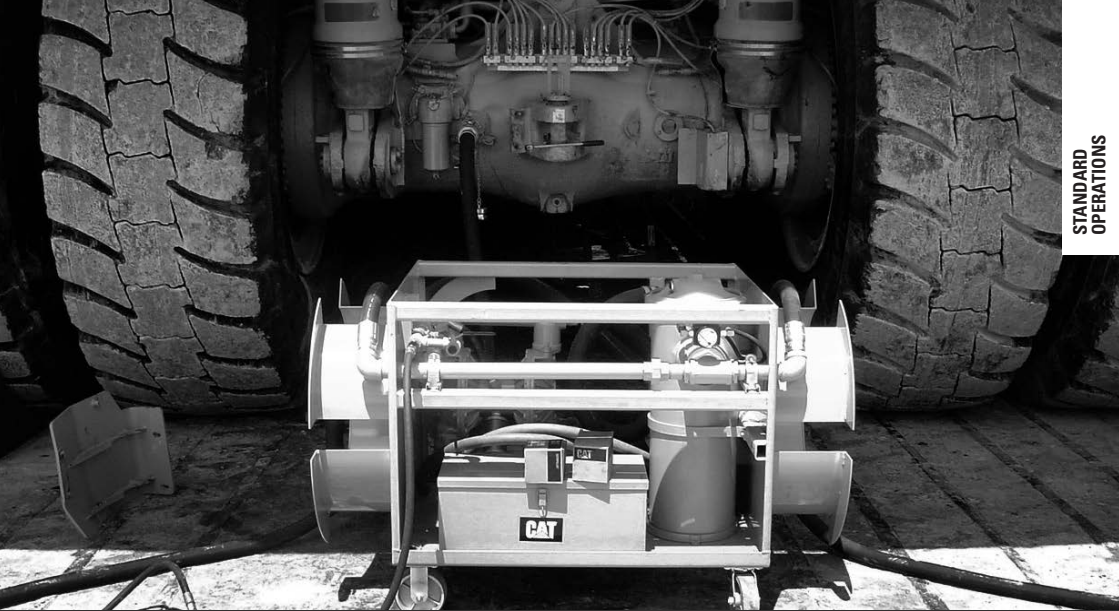
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- Repair costs are 15% to 20% of new cylinders\*
- Reliable, durable and fast repair
- 6 months manufacturer warranty\*\*
- Components exchange program for most common machines: increased availability

\* on average, please contact us for a more accurate price corresponding to your cylinder.

\*\* provided that warranty conditions are respected.

Resealing operations are generally performed preventively or further to a leak, loss of power or excessive drift. Light honing operations are conducted with a specific bench in order to remove minor cylinder bore scratches up to 0.01 inches (0.254 mm), strains and imperfections inside the cylinder. Each cylinder is tested under pressure before leaving our premises.



## HYDRAULIC AND TRANSMISSION SYSTEMS KIDNEY LOOPING

IN ORDER TO PREVENT SYSTEM CONTAMINATION, OUR WORKSHOPS KIDNEY LOOP YOUR SYSTEM'S OIL WITH A DEDICATED DEVICE.

### OUR SERVICE OFFERING

- Preventive filtration of your machine oils
- Filtration of clean oil kept in drums or IBCs during your machine draining operations
- Cleanliness is controlled by particle counting

### WE GIVE YOU MORE

- Oils meet Cat cleanliness specifications
- Filter change intervals remain the same without early replacement
- Timely on-site intervention
- May be performed in combination with any other operation in our workshops or on site upon request

Keeping your oil clean and contamination-free will prevent premature wear of your most critical machine components (pumps, cylinders...) and optimize your productivity and maintenance costs. Heavily contaminated oil will rapidly plug your filters and increase risk of early failures. More than 75% of hydraulic system breakdowns are due to the presence of contaminants in the fluids.



# HOSE MANUFACTURING

WE MANUFACTURE ALL HOSES MOUNTED ON YOUR MACHINES UPON REQUEST. WE ONLY USE GENUINE, CONTAMINATION-FREE COMPONENTS WITH EXCELLENT RESISTANCE TO PRESSURE, ABRASION, AND HEAVY-DUTY WORKING ENVIRONMENTS.

## OUR SERVICE OFFERING

- Hose disassembly / reassembly
- Replication of all hoses (Cat and non-Cat)
- Hose manufacturing based on a part number (Cat only)
- Complete inner tube cleaning to eliminate all contamination

## WE GIVE YOU MORE

- Immediate, rapid manufacturing of all hoses\*
- 100% contamination-free hoses
- Pick up / delivery service upon request\*\*

\* for a hose dropped off and collected over the counter.

\*\* available in some countries only: please contact us.



## PREVENTIVE MAINTENANCE PROGRAMS

OUR PREVENTIVE MAINTENANCE PROGRAMS COMPLY WITH CATERPILLAR RECOMMENDATIONS, AND ENABLE YOU TO ANTICIPATE EARLY FAILURE RISKS AND MACHINE DOWNTIME. YOU WILL PROTECT YOUR MAJOR MACHINE COMPONENTS (ENGINE, TRANSMISSION...) THROUGH FILTER CHANGE, FLUID ANALYSIS, AND REGULAR TECHNICAL INSPECTION.

Our services vary depending on machine type and serial number.

Below are examples of programs on dozers D8R 9EM00898 to 9EM99999:

### PM 1 PROGRAM (250 H)

- Engine oil change
- Greasing of critical points
- Oil and fuel filter change
- Engine oil SOS sampling
- TA 1 inspection

### PM 2 PROGRAM (500 H)

- PM 1 program (250 h)+
- Air filter change
- Coolant & transmission,  
final drive and hydraulic oil SOS sampling

### PM 3 PROGRAM (1000 H)

- PM 2 program (500 h)+
- Transmission oil change
- Hydraulic filter change
- Battery refill
- Lift cylinder lubrication
- Coolant SOS sampling (level 1)

### PM 4 PROGRAM (2000 H)

- PM 3 program (1000 h)+
- Hydraulic oil change
- Coolant SOS sampling (level 2)
- TA 2 inspection
- Cabin filter change
- Refill and cleaning of air conditioning system

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### WE GIVE YOU MORE

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- Monitoring of your machines' condition
- 100% genuine Cat filters
- Filter change intervals remain the same without early replacement



# EQUIPMENT MANAGEMENT

THE EQUIPMENT MANAGEMENT  
PROGRAM AIMSTO:

- ◆ Assist you with your machine fleet management
- ◆ Share our expertise in Cat machines with you
- ◆ Maintain your equipment in the best possible condition
- ◆ Minimize your maintenance and operating costs

EQUIPMENT  
MANAGEMENT





## EMSOLUTIONS™: OUR CONDITION MONITORING SERVICE

### OUR SERVICE OFFERING

WE SUPPLY YOU WITH A TEAM OF CATERPILLAR-CERTIFIED EXPERTS, EITHER ON SITE OR REMOTELY, TO ANALYZE HEALTH INDICATORS OF YOUR EQUIPMENT:

- Electronic data (VIMS and Product Link)
- Oil analysis
- Visual inspections
- All parameters impacting equipment's lifetime (working conditions, historical analysis...)

**Our experts provide technical advice based on alerts signaled by your equipment.**

# OUR EMSOLUTIONS™ SERVICE OFFERING.

OUR EMSOLUTIONS™ SERVICE INCLUDES 4 PACKAGES OR SOLUTION LEVELS:

## LEVEL 1: ACCESS



This solution gives you access to all electronic data relevant to your equipment via the VisionLink® or MineStar® Health websites. You will know your machines' real time location, fuel consumption, work hours and more. This service includes access to websites, training and profile creation for any user.

## LEVEL 2 : INFORM



In addition to accessing electronic data, your fleet supervisors receive a monthly summary report covering fuel consumption, utilization, top 10 operating problems, and more.

## LEVEL 3 : ADVISE



When subscribing to this service, you will receive advice and recommendations from Caterpillar-certified analysts, based on alerts recorded by your equipment (on-board computer electronic data / oil analysis results compared to Caterpillar specifications / machine condition after inspection).

This service also includes an annual technical inspection and maintenance scheduling support. This solution enables you to delegate your equipment's condition monitoring to Caterpillar experts, minimize your operating costs and optimize your fleet's availability.

## LEVEL 4 : SUPPORT



With this service, we carry out the preventive maintenance of your equipment:

- > by planning interventions according to intervals recommended by Caterpillar,
- > by providing required human resources, tooling and parts,
- > by integrating the analyst's recommendations we suggest additional, more specific interventions.

This service increases your availability and helps you stick to your core business : Production.

# OUR SERVICE OFFERING

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
Unlimited access to VisionLink	●	●	●	●
Creation of user accounts	●	●	●	●
Online training	●	●	●	●
Monthly report (fuel consumption, time at low speed, events...)		●	●	●
Annual technical inspection			●	●
Certified data analysis and weekly recommendations			●	●
Alerts on maintenance follow-up (if you set up this option)			●	●
Condition monitoring quarterly report			●	●
Preventive maintenance, preparation, planning, implementation & follow-up				●

## WE GIVE YOU MORE

- Use Caterpillar technologies to monitor your machines and increase your responsiveness to health warnings.
- Optimize your reassurance: rely on Caterpillar experts to monitor your equipment's condition.
- Minimize your operating costs: by increased monitoring of machine utilization (fuel consumption, time of use, maintenance intervals...).
- Increase your productivity by reducing machine downtime.
- Increase your operators' safety by monitoring tyre pressure, brake control and safety around the machine.

**EMSOLUTIONS™ IS YOUR ULTIMATE TOOL TO PROTECT AND GET THE BEST OUT OF YOUR INVESTMENT.**

DEPENDING ON YOUR NEEDS, WE CAN INCLUDE OTHER SERVICES IN YOUR MAINTENANCE CONTRACT, IN ORDER TO CUSTOMIZE OUR SUPPORT (INCLUDING ANY CO-CONTRACTING OR SUB-CONTRACTING OPTIONS).

# MACHINE MAINTENANCE PROGRAM AND SCHEDULING

WE SUPPORT YOU THROUGHOUT YOUR PROJECT OFFERING A COMPLETE RANGE OF EQUIPMENT MANAGEMENT SOLUTIONS

## OUR SERVICE OFFERING

### 1 - PRE-PROJECT PHASE / FEASIBILITY STUDY

We analyze your operating costs and define strategies to optimize your equipment maintenance

### 2 - DEPLOYMENT PHASE

We train your operators and technicians

We implement Maintenance and Repair process (pending tasks management, components repair management, preventive maintenance...)

### 3 - MAINTENANCE COMPLETION PHASE

- We deploy technical teams to your site
- We manage your spare parts logistics issues
- We set up a Maintenance and Repair scheduling team on your site
- Together we define and follow-up on a mutual replacement plan for your fleet's major components (see details below)
- We forecast budgets, monitor consumption and suggest actions
- We set up a Condition Monitoring team

**DEPENDING ON YOUR NEEDS, WE CAN DEPLOY ALL OR PART OF THESE SOLUTIONS, AND INCLUDE THEM IN OUR CO-CONTRACTING OR SUBCONTRACTING MAINTENANCE AGREEMENTS.**

### WE GIVE YOU MORE

- Extend your Cat equipment's life-time
- Reduce your maintenance costs by scheduling operations as much as possible
- Increase your productivity by minimizing machine downtime
- Control and implement standard process based on the Caterpillar network's experience



# SITE ASSESSMENTS AND CONTINUOUS IMPROVEMENT PROJECTS

## OUR SERVICE OFFERING

### SITE ASSESSMENTS

A team of Caterpillar and JA Delmas experts (2 to 6 people) is at your disposal to visit your site.

**Objective:**

- 1 - Highlight simple and quick savings
- 2 - Offer highly complex solutions to optimize your production and improve machine availability.

We adapt the team size and the length of their visit according to your needs.

Our fields of action are:

- Machines Applications and Operations
- Maintenance and Repair.

### IMPLEMENTATION OF CONTINUOUS IMPROVEMENT PROJECTS

Improvements detected during site assessments generate action plans. We offer to pilot these actions and carry out continuous improvements projects on a long-term basis.

### WE GIVE YOU MORE

- We use all our teams' expertise to reduce your cost per ton by acting on:
  - > The complete Maintenance and Repair process
  - > The utilization of active production equipment.
- We conduct a complete and factual analysis of your site based on worldwide benchmarks.
- We strengthen our partnership by using mutual action plans.





# PRODUCTION SUPPORT: NEW TECHNOLOGIES

## OUR SERVICE OFFERING

OUR ORGANIZATION AND REGIONAL TEAMS WILL HELP YOU OPTIMIZE USE OF ON-BOARD TECHNOLOGIES. WE INSTALL AND PROVIDE TECHNICAL ASSISTANCE IN ORDER TO IMPROVE :

- MACHINE AND SITE PRODUCTIVITY
- EQUIPMENT HEALTH
- OPERATION ACCURACY
- USER SAFETY

You can see below all the technologies on offer from your dealer.  
Contact us if you wish to study your reducing cost per ton options.

### PRODUCT LINK

Product Link (the equipment on-board computer) and its web-based interface VisionLink inform you with accuracy on where your machine stands, its usage, working conditions, operating status, incident warning....

Your sole objective: improve efficiency and reduce cost prices.

### VIMS: THE MINING MACHINES ON-BOARD COMPUTER

Caterpillar's Vital Information Management System tool (VIMS) provides operators, service staff and managers with a large amount of information on the machine's vital functions and production follow-up.

All this information will help you make the right decisions and optimize your production in order to reduce cost per ton.



## MINESTAR

MineStar System is the most complete software suite for mining. Compatible with other manufacturers' equipment it can be set up to meet all mine site requirements, MineStar System includes all or parts of the following software:



### FLEET

Fleet manages the fleet in real time, machine assignment and productivity monitoring, bringing you a complete overview of all operations from any place in the world. This system enables to improve levelling, loading, transport or auxiliary equipment management on one or more sites.



### TERRAIN

With its high precision GPS technology, Terrain facilitates high accuracy in drilling, dredging, levelling and loading operations' management. It increases machine productivity and transmits real time information for more efficiency. Terrain provides mine operation management tools for drilling, blasting, and ore grading.



### HEALTH

Health provides critical information on your equipment's condition. It includes a wide range of diagnosis, analysis and reporting tools.



### COMMAND

By combining the capacities of Fleet, Terrain, Detect and Health, Command enables remote control of semi-autonomous or autonomous mining equipment systems in open-pit or underground mines.



### DETECT

Detect enhances operators' awareness, thus improving operation safety. This system includes blind spot vision and localization alerts for stationary or mobile equipment close by.



## ACCUGRADE

- AccuGrade is an in-cab guidance feature for project design monitoring.
- By combining pre-programed guiding functions and work profiles on the on-board computer, AccuGrade substantially improves accuracy and operator productivity, thus decreasing operating costs.

## WE GIVE YOU MORE

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- Complete, remote management of your machine fleet
- Direct connection with your equipment
- Anticipate / make the right decisions at the right time (maintenance and production) / Detect potential problems before they occur
- Improve operator safety
- Reduce your operating costs and increase your productivity by helping you to reduce machine downtime and measure your equipment's time cycle.



# REBUILD PROGRAMS

YOUR CAT MACHINE COMPONENTS ARE BUILT FOR A SECOND OR A THIRD LIFE. THAT'S WHY OUR WORKSHOPS OFFER YOU REBUILD PROGRAMS DESIGNED TO:

- Protect your investment through time
- Minimize your operating costs
- Improve spare part flows thanks to increased availability

# PARTS EXCHANGE PROGRAM (PEX)

COMPONENT REPAIRS ACCOUNT FOR APPROXIMATELY 60% OF YOUR MACHINE MAINTENANCE COST PER HOUR. TO MEET YOUR REPAIR BEFORE FAILURE REQUIREMENTS, JA DELMAS OFFERS YOU A COMPETITIVE PARTS EXCHANGE PROGRAM («PEX»).

THIS PROGRAM INSPIRED BY THE CAT REMAN PROGRAM, WITH AN ADDITIONAL ADVANTAGE OF IMMEDIATE COMPONENT AVAILABILITY. COMPONENTS ARE REBUILT IN OUR CRC (COMPONENT REBUILD CENTERS).

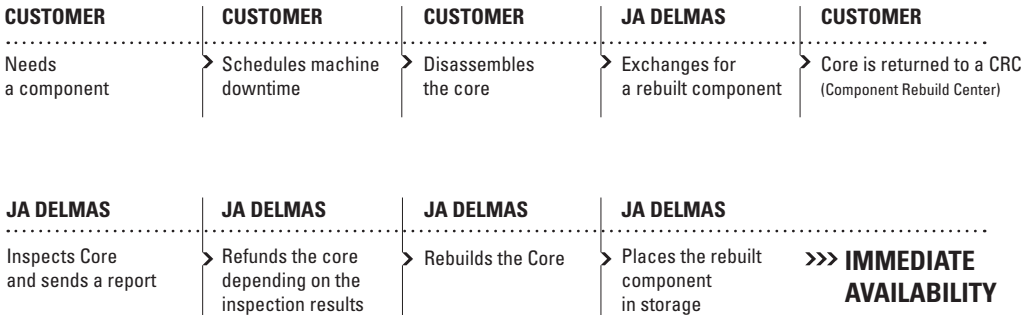


## WE GIVE YOU MORE

- Same performances as new parts, with excellent value for money
- Maintenance costs and machine downtime reduced to the minimum
- 6 months warranty (parts and labor)
- Immediate availability
- Components tested in compliance with Caterpillar recommendations.

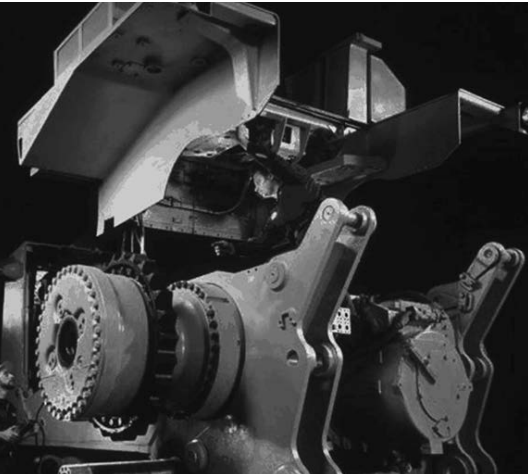
\* provided that warranty conditions are respected

## OUR SERVICE OFFERING



# «CERTIFIED REBUILD» PROGRAM

OUR AIM WITH THE CERTIFIED REBUILD PROGRAM IS TO RESTORE COMPONENTS OR MACHINES TO SAME-AS-NEW PERFORMANCE AND RELIABILITY. BY GIVING YOUR EQUIPMENT A SECOND LIFE YOU GET MAXIMUM RETURN ON YOUR INVESTMENT.



## WE GIVE YOU MORE

- Same-as-new performance
- A new life for your component or machine
- We use only genuine parts
- Cost: approximately 60 to 70% of new component cost\*
- Latest Caterpillar technical updates are included
- Component or machine warranty with EPP\*\*

\* Book value given for a machine excluding depreciation  
 \*\* Equipment Protection Plan (extended warranty)

REBUILD PROGRAMS

## OUR SERVICE OFFERING

CERTIFIED REBUILD	The entire machine
CERTIFIED POWER TRAIN	The full power train
CERTIFIED HYDRAULIC REBUILD	An excavator's hydraulic system
CERTIFIED MACHINE COMPONENT REBUILD	Engines and/or transmission/torque converter/differential/final drive combinations
CERTIFIED ENGINE REBUILD	Marine propulsion, generator sets, pumps, locomotives and other power applications

# YOUR CAT DEALER IN WEST AFRICA

Ever closer to support you ever further





# NOTES

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## NOTES

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## OUR AFRICAN NETWORK

### • BÉNIN ÉQUIPEMENTS

ZI AKPAKPA - PK 3  
06 BP 2670 Cotonou - BENIN  
Tel. (229) 21 33 18 06  
info@beninequipements.com

### • BURKINA ÉQUIPEMENTS

Site de Dassasgho : 3228 Route de Fada  
Tel. (226) 25 36 47 66  
Site de Gampéla : RN4 - Route de Fada  
Tel. (226) 70 21 18 00  
01 BP 1476 Ouagadougou 01 - BURKINA FASO  
info@burkinaequipements.com

### • MANUTENTION AFRICAINE CÔTE D'IVOIRE

Route de Dabou - Km 12 - Yopougon  
01 BP 1299 Abidjan 01 - COTE D'IVOIRE  
info@manutafci.com  
Tel. (225) 23 53 55 80  
Antenne V.G.E. Tel. (225) 21 26 20 09  
Antenne SAN PEDRO Tel. (225) 34 71 15 65

### • BISSAU EQUIPAMENTOS

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BP 336 Conakry - GUINEE  
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info@manuginee.com

### • MINES ÉQUIPEMENTS ET SERVICES

Zone Technique mine de Sangarédi  
BP 21 Sangarédi - GUINEE  
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info@mes-guinee.com

### • LIBERIA EQUIPMENT LTD

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### • MANUTENTION AFRICAINE MALI

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### • SAUDEQUIP

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### • TOGO ÉQUIPEMENTS

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