

Udyog Bhawan, New Delhi
Dated 22nd August 2023

Subject: To explore local/ domestic potential to manufacture Slag Handling Equipment such as Slag Pot Carrier and Steel Mill Arrangement (SMA) Wheel Loader for the Iron & Steel Industry.

Slag Handling Equipment such as Slag Pot Carrier and Steel Mill Arrangement (SMA) Wheel Loader are critical equipment in steel making process in an integrated steel plant. Such slag needs to be removed on periodic basis for reclaiming and processing. The SMA Wheel Loaders are used for handling of this hot slag which are at about 1500 degree centigrade and the same is transported through Slag Pot Carrier at slag yard.

Salient features of both these equipment are as under:

FEATURES OF SLAG POT CARRIER:

- Specifically designed for handling hot slag in steel melting shops of integrated steel plants withstanding the higher temperature during liquid hot slag cleaning.
- It is an articulated transport machine comprising a prime mover and trailing unit.
- Hydraulic lift-tip device suitable for transportation of slag pots.
- A modern one-man cabin designed in conformity with the latest ergonomic findings.
- It is designed to comply with all the most recent safety requirements and safeguards.

FEATURES OF SMA WHEEL LOADER:

- Specifically designed for handling hot slag in steel melting shops of integrated steel plants withstanding the higher temperature during liquid hot slag cleaning.
- Equipped with additional guards, heat insulation and other safety features.
- Designed for durability, ensuring availability through multiple life cycles with optimized performance and simplified serviceability.
- Bring all new levels of performance, operator comfort and efficiency in slag pit digging and skull handling applications in furnace and dumping yard areas.
- Has specific safety features, safeguarding the operator and critical machine components. A transmission override control in the cab allows the operator a secondary transmission control in the event of damage to transmission Electronic Control Module (ECM).

Presently, these equipment are being imported by the iron & steel industry from reputed global manufacturers (copies enclosed). Domestic manufacturers of yellow goods are requested to explore local/ domestic potential to manufacture the said equipment and intimate Ministry of Steel through email within 10 days of this notification.

Parmjeet Singh
22/8/2023

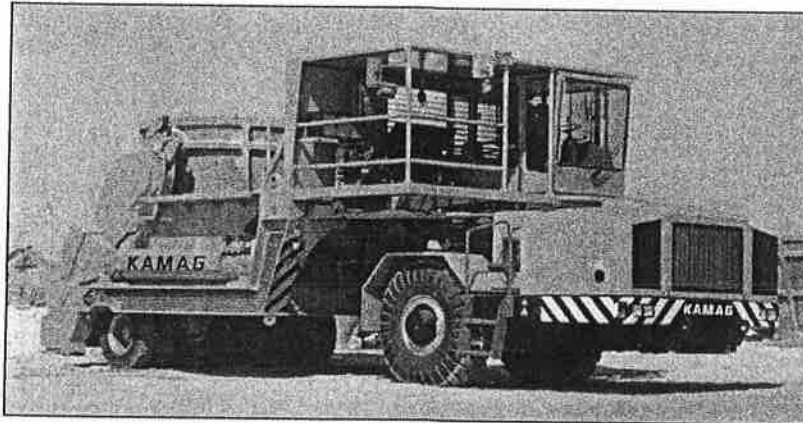
(Parmjeet Singh)
Additional Industrial Adviser
Email: parmjeet.singh@gov.in
Tel: 011-23061587

Technical Description Slag Pot Carrier

Type 2700

The slag pot carrier is an articulated transport machine comprising a prime mover and trailing unit with hydraulic lift-tip device suitable for the transportation of slag pots.

The slag pot deposited on the ground or on a transfer car is engaged by the hydraulic lift-tip device and can be deposited on a platform or on the ground, or emptied by tipping without the aid of a crane. The carrier features a modern one-man cabin designed in conformity with the latest ergonomic findings. The machine can be controlled by single operator. The carrier is designed to comply with all the most recent safety requirements and safeguards in order to guarantee the safest possible continuous operation.



General outline conditions for the deployment of slag pot transporters

- Firm surface (asphalt or gravel).
- Speed (refer to technical data sheet).
- Inclines (refer to technical data sheet).
- Diesel quality for engines in accordance with exhaust emissions standard: ASTM D975.
Pot pick-up position on the ground, from a transfer car or platform.
- The slag pot can be optionally deposited in the overhead position (see section "Additional tipping device").
- Freeboard in the pot approx. 300 mm.

Artur

Gr. Ullrich Schum
(B. Ullrich AM SEITZ)
10/11/2021

ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India

Project no. 1002001996

Quotation no. 1102002479-A

Date: October 20th, 2021



Prime mover

The technical concept of the prime mover is designed to withstand the heavy-duty application conditions occurring in the transportation of wide-ranging different products in smelting and steel works, and benefits from many years of application experience in the industry. Particular attention was paid to ensure optimum accessibility of components for maintenance and repair work.

The large steering angle of the prime mover makes the carrier highly manoeuvrable despite its dimensions. Manual fire extinguisher system for prime mover type ANSUL LT-A-101-30 (no. 64287538).

Steering

The prime mover is linked to the trailing unit by means of an articulated hinge connection. Steering takes place electro hydraulically. The steering angle is approx. $\pm 55^\circ$.



Emergency steering

It is possible to equip the machine with an electro-hydraulic emergency steering system in order to simplify towing away in case of damage. The steering oil circuit is supplied by an electric pump. The steering speed is tangibly slower compared to normal steering operation. This option includes automatic engine hood opening by means of a pushbutton in the switchbox on prime mover.

Articulated hinge connection

The entire prime mover is mounted in self-aligning bearings at the articulated joint. This guarantees floor contact of all wheels in case of uneven surfaces, and continuous transmission of the entire engine output to the drive wheels. The articulated hinge connection is an internally designed mechanism with extremely compact dimensions which is unmatched, particularly in this construction height and class. Detachable connections to the prime mover and trailing unit are part of the standard equipment outfit, so reducing maintenance input and simplifying repairs. All bearing points are designed for simple mounting, removal and maintenance with low-maintenance bushings made of high-quality special bronze.

Appl.

G. Ombra Schen.
(G. Ombra Schen. & Engman)
10/20/21 10/20/21

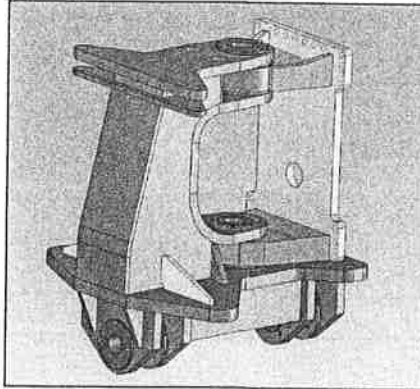
ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India

Project no. 1002001996

Quotation no. 1102002479-A

Date: October 20th, 2021

KAMAG
Member of TH Group



The large transverse oscillation angle of approx. 10° to 12° (tyre-dependent) permits optimum transmission of forces and minimal frame distortion on uneven ground.

With transverse oscillation angle of 12°, the front wheel may enter a dip of approx. 250 mm in the ground without losing floor contact.



Automatic central lubrication for articulated hinge connection.

Front axle

Differential drive axle with planetary gear and brake bolted to the prime mover frame.

Service brake

The front axle is equipped with multi-plate brakes with hydraulic actuation. The system is closed and consequently permits no ingress of dirt into the brake. The brake works practically free of wear, considerably reducing maintenance and repair input.

Parking brake

The parking brake is mounted on the front axle input shaft and designed as a spring brake with hydraulic actuation. A pressure drop (pipe damage in the hydraulic system) initiates a braking process.



G. Chocano
(G. Chocano - RAISE 2021)
10/20/21

ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India

Project no. 1002001996

Quotation no. 1102002479-A

Date: October 20th, 2021

KAMAG
Member of TII Group



Drive system

The drive concept and selector lever operation in the driver's cabin for the drive direction and gear stage selection are designed in line with the difficult application conditions in a steel plant. The design of the drive train from the diesel engine via torque converter and power shift to the drive wheels guarantees optimum transmission of motor output to the carriageway. The gear stages are fully automatically selected. Gear stages are switched up and down automatically. If required, each gear stage can be manually selected by the driver.

An optical gear stage display is integrated in the area of the shift lever.

Diesel engines in compliance with
exhaust emission standard TIER/COM III:
Manufacturer: Caterpillar
Other diesel engines on request

Power shift and torque converter
Manufacturer: Clark

As a protection against engine damage, the electronic engine control systems automatically switch to interference operation mode if, for example, the cooling water level drops below admissible levels or the engine oil pressure is too high. In the interference operation mode, the engine continues to operate but with reduced performance. Serious faults which would cause direct damage to the engine result in an engine cut-out.

Trailing unit in platform design

The trailing unit with hydraulic lift and tip device which is linked by the articulated hinge connection to the prime mover is designed to comply with the difficult application conditions occurring when transporting liquid slag.

The frame is a welded steel construction made of high-grade quality steel in a hard-wearing design. Two main beams mounted on the outside transmit the force from the lift-tip device to the frame and limit the width of the carrier.

In line with our many years of application experience, the tipping cylinder and piston rods have been provided with covers which provide protection against thermal and mechanical damage. Additionally, the trailing unit is provided with steel wire mesh in preparation for fire safe concrete casting at customer's site. The steel wire mesh allows a concrete thickness of 50 mm.

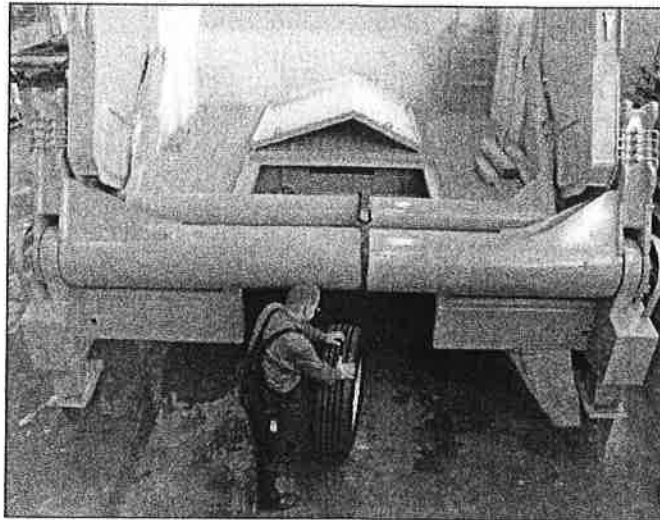
Author: L. Chocano - Rev. 08.2014

Page 4 of 11

We reserve the right for technical modifications. Illustrations can contain equipment which is not included in quotation or scope of supply
KAMAG Transporttechnik GmbH & Co. KG • Liststraße 3 – 89079 Ulm, Germany • Tel.: +49-731-4088-0 • www.kamag.com

TII GROUP

G. Chocano Sabido
(G. CHOCANO SABIDO)
SMP-2 10/11/2021



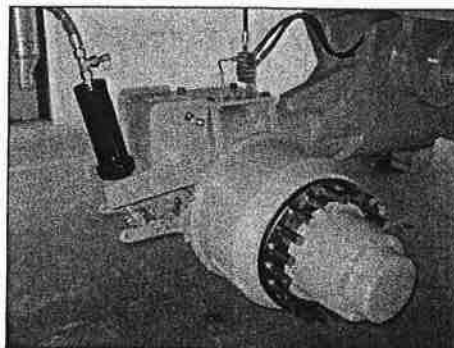
Rear axle

The rear axle(s) are made up of individual pendular axle shafts. In the tandem version (3-axle machine), the axles are linked in the longitudinal direction and mounted in self-aligning bearings. This hardwearing chassis permits the trouble-free compensation of ground unevenness in the transverse and longitudinal direction. In order to guarantee optimum operational reliability, the trailing unit is equipped with super-elastic tyres.

Lubrication of all bearing points at the axles is performed by link-up of the various lubrication groups. The lubrication points are designed for easy maintenance and are easily accessible at the outside beams. With a transverse oscillation angle of 10°, the rear wheels may enter a dip of approx. 200 mm in the ground on one side without losing floor contact.

Service brake

The rear axles are equipped with hydraulically actuated drum brakes. Covers over the brake drums reduce the ingress of dirt.



G. Anantha Sathyan
(BHARADWAJ SEWARAN)
SMP-2 10/11/2022

[Handwritten signature]

ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India

Project no. 1002001996

Quotation no. 1102002479-A

Date: October 20th, 2021

KAMAG
Member of TIG group

Driver's cabin

The driver's cabin is positioned on the trailing unit under the protective roof, on the left seen in the direction of travel.

The benefit of this position is that steering movements of the traction unit do not affect the driver's work place. At the same time, when reversing, the seat position at the outside ensures that the side of the carrier and the slag pot are in the driver's field of vision.



- The sound-insulated one-man driver's cabin is roomy and designed in keeping with the latest ergonomic findings. The noise level in the interior of the cabin is low at 73 dB(A)
- The sprung suspension with four hydraulic bearings guarantees fatigue-free driving
- Driver's seat with suspension and hydraulic damping, height and length adjustment, backrest incline also adjustable, seat with 180° rotation capability
- Front control panel with all functions required for driving
- Rear control panel with second steering wheel facilitates manoeuvring and reversing operations
- The lift-tip device is operated and monitored using a joystick on the instrument panel
- The steering column height and incline can be adjusted at the front and rear
- Windscreen and windows in tinted safety glass, front windscreen down to floor level, affording optimum visibility directly in front of the carrier
- The window panes are not glued in place (easy exchange possible)
- Windscreen wiper and washer unit for front and rear windscreen
- Hot water heating with blower and defrost nozzle
- Optimum monitoring and operating convenience afforded by practically-oriented installation of all monitoring and display instruments required for safe operation of the carrier
- Multifunction display. Display of the engine speed, engine oil pressure, engine coolant temperature, service hours, battery voltage, converter oil temperature
- Error diagnosis via the display
- Instruments clearly arranged, indirect lighting, dazzle-free
- 2 rear view mirrors, sun visor, ashtray, clothes hook, bottle holder and storage compartment
- Cabin doors hinge open to the back, lockable
- 1 manual fire extinguisher 12 kg close to the driver's cabin
- Escape route in case of emergency through the front windscreen (windscreen can be simply and quickly pushed out)
- Lap seatbelt for driver's seat and first aid kit
- Second seat (foldable)
- Air conditioner up to 30°C for top of platform cabin - vehicle series 2700 / 2800 (no. 51001655)
- Fix installed remote maintenance for KAMAG transporter (5 years) (no. 51001363)

Author: L. Chocano - Rev. 06.2014

G. Ullrich Sohn
(by Ullrich Sohn)
SMP-2

10/11/2021
Page 6 of 11

We reserve the right for technical modifications. Illustrations can contain equipment which is not included in quotation or scope of supply
KAMAG Transporttechnik GmbH & Co. KG • Liststraße 3 – 89079 Ulm, Germany • Tel.: +49-731-4088-0 • www.kamag.com

TIGROUP

Signature

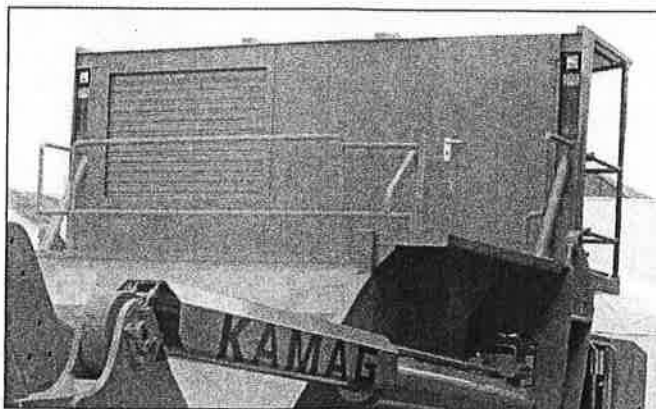
ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India

Project no. 1002001996
Quotation no. 1102002479-A
Date: October 20th, 2021



Protective roof for driver's cabin

The protective roof is a solid welded construction made of sheet steel. The rear wall of the cabin protection is provided with steel wire mesh in preparation for fire safe concrete casting at customer's site. The steel wire mesh allows a concrete thickness of 50 mm. Behind the driver's cabin a viewing window which can be swivelled for maintenance and cleaning purposes with lamellar openings directed towards the platform is located. The strips are hydraulically actuated and automatically closed when the vehicle moves forward. The 40 mm high rim along the front and sides of the protective roof serves as a molten metal splash guard. The rear wall is as well provided with a fire-shielding steel door T30-1 leading to the platform. The platform (with handrail) behind the cabin protection serves as access for maintenance and cleaning of the strips and the rear window of the driver's cabin.



Electrical equipment

- 24 Volt generator 80A up to 100A depending on the diesel engine
- 2 starter batteries with 135 Ah each
- Loud horn
- Acoustic reversing signal
- Lighting system:
 - 4 main front headlamps at the front
 - 2 tail lamps integrated in the protective roof
 - 4 turn signal lamps
 - 2 manually adjustable working spotlights on the back of the protective roof
 - Hazard warning lights
 - 1 rotating beacon light on the protective roof
- The electrical switch box and fuses are integrated in the driver's cabin.

Hydraulic lift-tip device

To engage and pick up a slag pot, the two tipping arms with the pick-up jaws are swivelled back by the main tipping cylinders and driven into the pick-up trunnions on the slag pot, which is then hoisted onto the platform. As a further safety device, dual pipes are laid to the main tipping cylinders and fitted with an automatic pipe breakage safety device. The tipping process can be performed even with a burst hydraulic pipe.

For the tipping process, the two locking mechanisms located on each side are hydraulically driven into the bolt sleeves on the slag pot, fixing the slag pot firmly on the tipping device. The tipping arms are synchronized by means of an extremely stable transverse connector.

The hydraulic connection from the frame to the tipping arm is performed by means of a rotary union.



[Handwritten signature]

G. Müller (Chairman of IEMAG)
SMP-2 (1.11.2021)

ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India

Project no. 1002001986

Quotation no. 1102002479-A

Date: October 20th, 2021

KAMAG
Member of TIG group

Specifications:

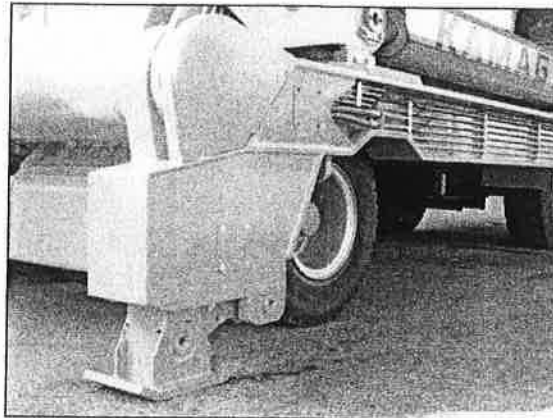
- tipping angle approx. 125° (depending on pot type).
- approx. 90 % of the payload can be fetched back onto the carrier from the 125° tilt position (backed-on slag in the pot). This is only possible following partial emptying of the pot during the tipping process.



Support

During tipping, loading and emptying processes, the carrier is supported at the back. In the driver's cabin there is an optical display showing "support extended".

- Support by means of swing arm bearing
- Support cylinder mounted with protection against the ingress of molten metal



Author: L. Chocano - Rev. 06.2014

Page 8 of 11

We reserve the right for technical modifications. Illustrations can contain equipment which is not included in quotation or scope of supply
KAMAG Transporttechnik GmbH & Co. KG • Liststraße 3 – 89079 Ulm, Germany • Tel.: +49-731-4098-0 • www.kamag.com

TIG GROUP

Apk

*Gr. Umhüllung
(Gr. Umhüllung) 5.11.2021
10/11/2021 SMP-2*

ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India

Project no. 1002001996

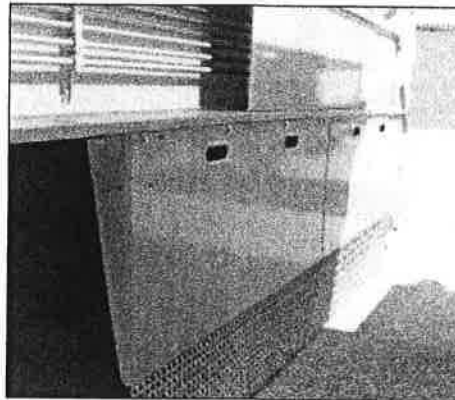
Quotation no. 1102002479-A

Date: October 20th, 2021



Protection chains for rear axles (no. 51001365)

The rear wheels can be additionally protected against splashing molten metal and thermal radiation by a flexible chain curtain.



Additional tipping device

For complete emptying of the slag pot, a total tipping angle of approx. 180° can be achieved with the aid of an additional tipping device. The pot can be deposited approx. 200-300 mm above the ground in the overhead position. Depositing the pot directly on the ground is possible, but must be reviewed in each individual case depending on the type of pot used. Maximum retractable load from 180° back to the platform amount to approx. 66 % of nominal transporter payload.

The two additional tipping arms are synchronized by means of a transverse connecting pipe.



Handwritten signature

Handwritten notes:
G. ...
(G. ...)
CMPD 10/11/2021

Handling of slag pots in slag pot transfer car

1. Positioning of slag pot carrier longitudinal (drive direction)

During pick up and setting down the slag pot to the transfer car, a circle is described by the dumping arms of the slag pot carrier. If guides are used, the design should consider the circle of the slag pot during pick up resp. setting down by the slag pot carrier.

In longitudinal direction we would propose to install a stop bar for the rear tyres of the carrier in front of the loading area. This installation can be made during commissioning.

2. Positioning of slag pot carrier lateral

In case the carrier has to set down the pot onto the transfer car, the carrier must meet the stand centre line as precise as possible, this operation is not so easy with a free manoeuvrable vehicle. It is only possible to position the carrier in between a tolerance of 200 mm to the left and right side of the centre line of the transfer car stand (this dimension comes from experienced operators on similar jobs). At any rate for a greater safety and security we propose to have a tolerance of at least 300 mm at each side of the pot. If this is not possible the transfer car should have guides to place the pot as precise as possible. In case of guides it has to be considered that the rail-mounted transfer car must have an ease of movement sidewise.

Emergency operation

In order to complete a transport operation following a failure of the control system of the machine the functions steering, tipping, support and locking can be controlled by activating the emergency operation mode in the driver's cabin (emergency operation).

This means that the carrier can still be manoeuvred following a failure of the sensors or control system. The slag pot can be deposited or tipped, the support can still be moved and the carrier can still be steered when being towed. Speed of different functions in emergency operation mode is noticeable slower than in normal operation mode. Slag pot pick-up is not permitted in the emergency mode, as the hydraulic system operates at maximum pump pressure and the protective functions safeguarding against the pick-up of excess loads are deactivated.

Every time the emergency operating mode is activated, the relevant information is stored for subsequent evaluation.

Overload protection and weighing system

There is a weight sensor located in the driver's cabin. During the slag pot pick-up process, the hydraulic differential pressure in the lifting system is measured by sensors and registered by the control system. The integrated weighing system operates with an accuracy of +/- 5 %, i.e. 5 % excess load (see table below) can be picked up from the ground or from a transfer car without restriction and subsequently tipped out. The maximum travel speed is automatically reduced in the excess load range.

With an excess load of 10 % (see table) the overload safeguard can be bypassed using a key-operated switch in the driver's cabin. This process is registered by the control system and stored.

Higher excess loads may not be engaged by the slag pot carrier. If this type of load is engaged, the only possible action is to deposit the pot again after the weighing process. Transport is not possible.

Payload category	40 t	50 t	60 t	70 t	80 t	90 t	100 t	110 t	120 t
with 5 % excess load	42 t	52,5 t	63 t	73,5 t	84 t	94,5 t	105 t	115,5 t	126 t
with 10 % excess load	44 t	55 t	66 t	77 t	88 t	99 t	110 t	121 t	132 t

Special loads on request

Driving, lifting and tipping with more than 5 % excess load reduces the service life of the machine and its components. If regular trips with an excess load exceeding 5 % are anticipated every day, the next highest payload category should be selected.

Handwritten signature

*G. Ulrich Schmitt
 (GILYARDIA SE KAMAG)
 Samp-2
 10/11/2021*

ArcelorMittal Nippon Steel, Surat Hazira, Gujarat / India
Project no. 1002001896
Quotation no. 1102002479-A
Date: October 20th, 2021



Accessories

The transporter comes with the following accessories:

- MINI MEASUREMENT box, comprising:
 - 1 x plastic case
 - 1 x measurement box insert
 - 1 x pressure gauge 0 to 60 bar
 - 1 x pressure gauge 0 to 400 bar
 - 2 x pressure gauge connection
 - 2 x measurement hose 1620, 400 bar
- 1 coupling for filling with hydraulic oil (loose half)
- 1 portable lamp
- 1 toolbox complete standard tool kit

Finish

- Surface preparation: Steel structure shot blasted SA 2,5 SIS (ISO 8501-1)
- First coat: two-component primer coat, approx. 50µm dry film thickness (DFT)
- Second coat: two-component intermediate coat, approx. 50µm DFT
- Top coat: two-component coat, approx. 40µm DFT
- Total coat thickness approx. 140µm DFT
- Colour: Uni-colour RAL 2000 or at customers preference
- Rims: RAL 9006 (silver)

We reserve the right for technical modifications in order to keep up with further technical developments; however, these modifications will be discussed with the customer.

980

WHEEL LOADER



Engine Maximum Power
Operating Weight

303 kW (406 hp)
30 344 kg (66,877 lb)

Meets Brazil MAR-1, UN ECE R96 Stage IIIA, and China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.

CAT

CAT[®] 980

SUPERIOR TECHNOLOGY.
INCREASED PRODUCTIVITY.

The Cat[®] 980 Wheel Loader brings premium performance with simple-to-use technologies as a standard offering, boosting operator efficiencies and delivering increased productivity. Improved performance, reliability, durability, and versatility result in a machine that is better built to meet your needs.



WHEEL LOADERS MADE FOR MORE

Cat wheel loaders were built with efficiency in mind, offering you the best in:

- + RELIABILITY
- + DURABILITY
- + PRODUCTIVITY
- + FUEL EFFICIENCY
- + TECHNOLOGY
- + VERSATILITY

Experience higher performance while reducing costs and fuel consumption with Cat wheel loaders.



UP TO 12% LOWER MAINTENANCE COSTS*

Save time and money with extended maintenance intervals and remote troubleshooting and flash capability. Get a better view of maintenance points with the optional underhood service light system.

SMART MACHINE FOR EFFICIENT OPERATION

Integrated Cat technologies like Cat Payload with Assist and on-board job aids make machine operation easier, so your jobsite is more efficient.

UP TO 10% MORE PRODUCTIVITY*

New Autodig with Auto Set Tires offers automated loading, consistent high fill factors, and reduced tire wear, while Cat Payload** with Assist helps you load to target every time to boost productivity.

*Compared to 980L/980M.

**Not legal for trade.

MAXIMIZE EFFICIENCY RIGHT FROM THE CAB

Cat wheel loaders feature integrated technologies that help make your operation more efficient.

CAT PAYLOAD WITH ASSIST

- + Achieve precise load targets every time
- + Track daily production

AUTODIG WITH AUTO SET TIRES

- + Boost productivity with automated loading
- + Reduce tire wear

JOB AIDS

- + Make machine operation easier



A MORE EFFICIENT JOBSITE MEANS
MORE PROFIT IN EVERY LOAD.

RELIABLE, PROVEN COMPONENTS & TECHNOLOGY

Staying ahead of the competition, Caterpillar offers a wide variety of cutting-edge technologies to get the job done quickly and easily with outstanding accuracy.



COMPONENTS YOU CAN COUNT ON

Every machine is equipped with a combination of proven electronic, hydraulic, cooling, and power train systems. Amplify your efficiency with better traction and enhanced work tools, delivering continuous productivity for your machine. Reliable fuel systems boost machine performance and fuel economy, lowering your overall costs and fuel consumption. You can rely on our components to save you time, money, and effort.



ON-BOARD JOB AIDS

Job Aids help make machine operation easier, while also allowing your operators improve and optimize their skills on the jobsite.

POWERSHIFT TRANSMISSION

Featuring a lock-up clutch torque converter, our power trains deliver smooth shifting, fast acceleration, and speed on grade, amplifying your performance and fuel efficiency.

OPTIMIZED RIDE CONTROL SYSTEM

Dual accumulator system enables a better ride in loaded and unloaded situations. It improves smoothness over rough terrain, increasing confidence and efficiency and ensuring excellent material retention.

PRODUCTIVE RESULTS

WORK SMART AND MOVE MORE

PERFORMANCE SERIES BUCKETS

Easy-to-load Performance Series Buckets improve material retention and reduce dig times, significantly improving productivity and fuel efficiency, resulting in unsurpassed production capabilities with increased fill factors – ranging from 100% to 115%.

BETTER TRACTION

New Autodig with Auto Set Tires for consistent high bucket fill factors delivers up to 10% more productivity compared to previous model. Optional limited slip differentials increase traction in slippery conditions.

AGGREGATE HANDLER

Aggregate packages are specialized offerings for loose aggregate rehandling applications. Payloads can be increased above other applications by installing larger buckets and counterweights in compliance with Caterpillar payload policy.

THE RIGHT MIX OF FEATURES

Fine-tuned for the right applications:

- + BETTER FUEL ECONOMY, MAXIMIZED UPTIME, AND LOWER MAINTENANCE COSTS
- + HIGH POWER AND PERFORMANCE ACROSS A VARIETY OF APPLICATIONS
- + ENHANCED RELIABILITY THROUGH COMMONALITY AND SIMPLICITY OF DESIGN
- + WORLD-CLASS SUPPORT FROM THE CAT DEALER NETWORK
- + DURABLE DESIGNS WITH LONG LIFE TO OVERHAUL



ENHANCED POWER TRAIN

Our power trains come standard with a lock-up clutch transmission, matching the engine power to increase fuel efficiency while delivering optimal performance.



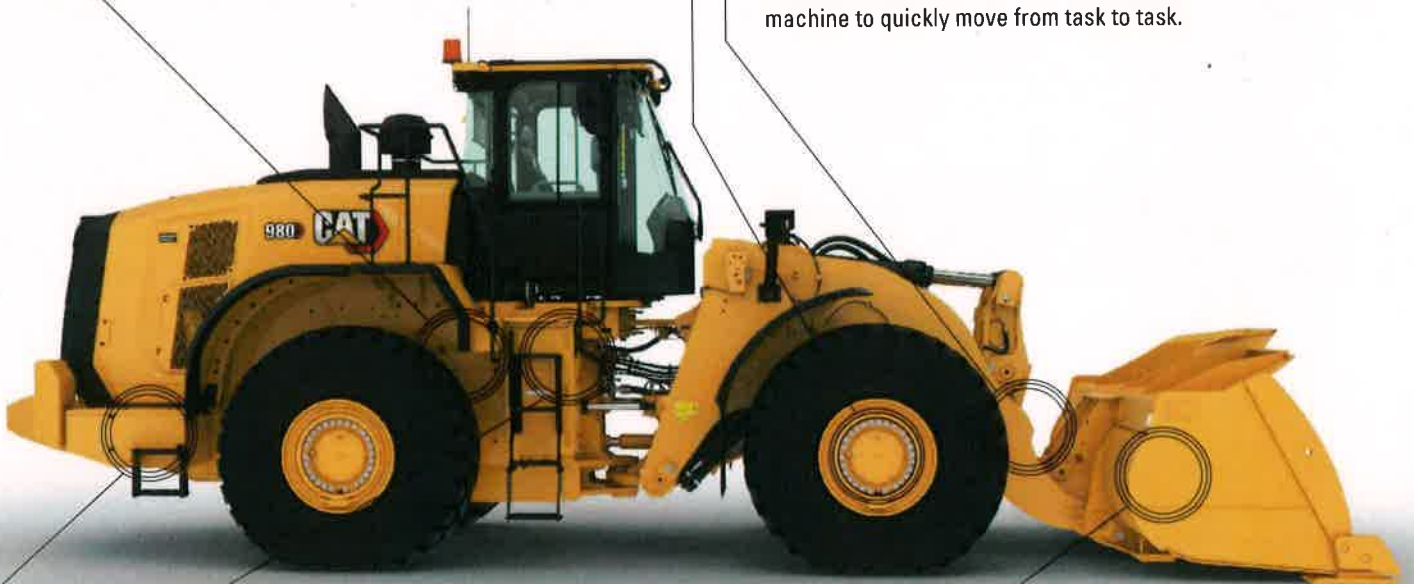
DURABLE AXLES

Axles are designed to handle your most extreme applications. The rear axle oscillates to ± 13 degrees for excellent stability and traction on even the roughest terrain.



QUICK COUPLERS AND WORK TOOLS

For versatility, buckets and components can be changed without leaving the cab, allowing the machine to quickly move from task to task.



OPTIMIZED HYDRAULICS

Our hydraulic systems come equipped with a mono-block main hydraulic valve. This design reduces weight while decreasing leak points by 40%.



EXTENSIVE RANGE OF ATTACHMENTS

Do more jobs with one machine. An extensive range of work tools and bucket styles are available to optimize these machines for your operation.



DURABLE FRAMES

The robotically welded two-piece structural frame absorbs impact associated with excavation and loading, while the hitch system provides high bearing force capacity.

SMART MACHINE FOR EFFICIENT OPERATION

INNOVATIVE CAT TECHNOLOGIES



Your machine comes equipped with innovative Cat technologies that give you the edge. Operators of all experience levels will dig and load with more confidence, speed, and accuracy. The result? Better productivity and lower costs.



CAT PAYLOAD WITH ASSIST

Cat Payload technology delivers precise bucket load information with on-the-go weighing, which helps prevent over- or underloading. The low lift weigh and manual tip-off functions optimize the final bucket process and maximize efficiency.



CAT ADVANCED PAYLOAD WITH ASSIST

The optional advanced system adds features like list management. It also includes tip-off-assist, which automatizes the final bucket load adjust process. With multi-task mode, the operator can track two loading processes. The advanced platform is also ready for Dispatch for Loading, integrating the loader into the scale house process (requires compatible third-party scale house software and subscription).



DETECT

Rearview camera is standard. This system can be enhanced with an additional display dedicated to the rearview camera as well as for a Multiview (360 degree) system. To complete the Cat Detect offerings, the machines can be equipped with a rear radar system, which features speed-sensitive alerts and smart floor-plane recognition to avoid annoyance.



CAT PRODUCTIVITY

A Cat Productivity subscription provides comprehensive, actionable information to help you manage and improve the productivity and profitability of your operations.

REAL-TIME INFORMATION FROM CAT LINK TAKES THE GUESSWORK OUT OF MANAGING YOUR EQUIPMENT

Cat Link technologies work together to put equipment information at your fingertips. Get real-time access to information on every machine in your fleet on any jobsite – no matter the size of the operation or the brands of equipment you run.



PRODUCT LINK™

Product Link collects data automatically and accurately from your assets. Information such as location, hours, fuel usage, idle time, maintenance alerts, diagnostic codes, and machine health can be viewed online through web and mobile applications.



VISIONLINK®

Access information anytime, anywhere with VisionLink and use it to make informed decisions that boost productivity, lower costs, simplify maintenance, and improve safety and security on your jobsite. With different subscription level options, your Cat dealer can help you configure exactly what you need to connect your fleet and manage your business without paying for extras you don't want. Subscriptions are available with cellular or satellite reporting (or both).



REMOTE SERVICES

The Cat App helps you manage your assets – at any time – right from your smartphone. See fleet location and hours, get critical required maintenance alerts, and even request service from your local Cat dealer.

- + **Remote Troubleshoot** can connect the machine to the dealer service department to help diagnose problems quickly so you can get back to work.
- + **Remote Flash** – get software updates sent to your machine remotely.
- + **Operator ID** lets you track machine operation by individual operator using the main display and Product Link.

SUPERIOR FUEL EFFICIENCY



ENGINE AND EMISSIONS

High power density and fuel efficiency set our engines apart. Certified to meet emission standards, our engines feature Cat electronics, fuel injection, and air-management systems.

PROVEN FUEL SYSTEM

The HEUI™ fuel systems boost performance and reduce soot for the engine. Cat injection timing regulates the fuel injection process through a series of timed microbursts, providing more control of combustion for the cleanest, most efficient fuel burn.

ADVANCED SYSTEM INTEGRATION

Lower fuel consumption is the result of advanced system integration of the engine and emissions system, power train, hydraulic system, and cooling system.

POWER MODES

Operating the machine in the standard power mode will assure the best efficiency results in most applications. Using the available HP+ mode will not significantly increase the machine's digging capability but will allow higher speeds on grades in Load & Carry.

WORK IN COMFORT

IN THE ALL-NEW CAB

The cab is designed to maximize comfort and productivity, offering a quieter, more spacious operating environment and intuitive controls to help reduce the fatigue, stresses, sounds, and temperatures of a demanding job.



CAB ACCESS

Inclined steps, large opening door, optional remote door opener, and convenient grab handles ease accessibility to the operating space.



OPERATOR ID

Secure machine usage with dedicated Operator IDs. Machine settings are saved separately, increasing shift change efficiency. Unlock the machine using Passcode or optional Bluetooth® key.



GREATER VISIBILITY

Extended windows enhance visibility while convex and spot mirrors extend the driver's view on the sides and rear.



ADVANCED SEAT & MORE LEGROOM

The next generation of operator comfort includes increased legroom and an easily adjustable seat with updated styling and an enhanced suspension system. It comes in three trim levels and can be equipped with a dealer-installed 4-point harness.



NOISE REDUCTION

Sound-suppression, seals, and viscous cab mounts decrease noise for a quieter work environment.



COMFORTABLE STEERING

The standard HMU steering wheel provides precision control, resulting in excellent comfort and accuracy. An optional seat-mounted electro-hydraulic joystick steering system (replaces the HMU steering wheel) is also available in many regions.

SIMPLE CONTROLS AT YOUR FINGERTIPS

TOUCHSCREEN DISPLAY

The easy and intuitive interface lets the operator work with confidence and efficiency. It includes Operator ID, machine settings, Job Aids, help functions, security, rear-vision camera, and integrated Cat Payload with Assist.



CENTRAL DISPLAY

Featuring easy-to-read analog gauges and LED indicators that allow the operator to quickly monitor critical machine health parameters.

A large text box displays the Cat Payload information as well as gear selection, machine travel speed, time, and hour meter.



KEYPADS

Easy-to-reach backlit keypads on the implement control pod and the A-post provide instant access to many functions and settings. Only active buttons or functions are illuminated, making it very intuitive for the operator.





Cat wheel loaders are easy to maintain and service, eliminating any potential waste of time or money. Major components are rebuildable, giving the machine a second life, and often a third life.

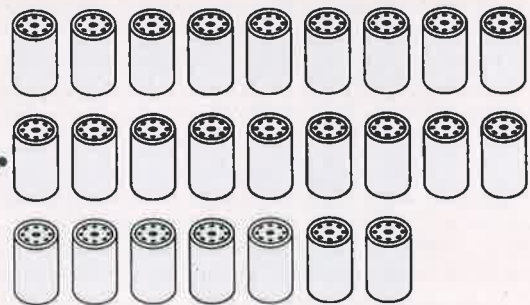
KEY FEATURES SAVING YOU TIME, MONEY, AND ENERGY:

- + Convenient access to hydraulic and electrical service centers for easy and safe servicing.
- + Remote Troubleshoot can connect the machine to the dealer service department to help diagnose problems quickly so you can get back to work.
- + Remote Flash works around your schedule to ensure your machine's software is up to date for optimal performance.
- + Optional integrated Autolube extends component and service life.
- + One-piece tilting hood makes engine compartment access fast and easy.

*Parts and fluids only

FEWER FILTERS MEANS LESS MAINTENANCE

25 THE 980 USES 25 FEWER FILTERS OVER 10,000 HOURS COMPARED TO THE 980L.



Fewer filters over the machine's lifetime.



DO MORE JOBS

VERSATILE ATTACHMENTS AND COUPLERS

For worksites that demand more, you need a wheel loader that is purpose-built for the job. Cat work tools are engineered to handle all of your specific application needs.

STANDARD Z-BAR LINKAGE

The proven Z-bar linkage combines digging efficiency with sharp visibility, resulting in excellent excavation, high breakout forces, and superior production capabilities.

QUICK COUPLERS AND WORK TOOL ATTACHMENTS

A wheel loader equipped with a Cat Fusion™ quick coupler system is a much more versatile machine. Buckets and work tools can be changed without leaving the cab – allowing the machine to quickly move from task to task. Consult your local dealer for availability of a variety of specialty buckets and forks.

PERFORMANCE SERIES BUCKETS

Performance Series Buckets use a system-based approach to balance bucket shape with the machine's lift and tilt capacity, weight, and linkage. A variety of work tools and bucket styles are available for a range of applications, including general purpose, flat floor, heavy duty rock, and coal-style buckets.

- + Easy loading
- + Fuel efficient
- + Carry more
- + Lower operating costs
- + Higher productivity

HIGH LIFT LINKAGE

The optional high lift linkage offers increased hinge pin height to load more easily in a variety of applications with any type of bucket or fork.

PURPOSE-BUILT SPECIALTY CONFIGURATIONS

Maximize your wheel loader's performance and durability in the toughest applications with application-specific arrangements direct from the factory.

Scrap and waste models – guarding and reinforcement protect components when working in transfer stations, recycling depots, scrap yards, and demolition sites.

Forestry model – increases lift and tilt capacities for efficiency and productive log and chip handling in paper, pellet, and sawmills.

Steel mill model – designed for the challenging work environment of steel mills and slag handling applications.

Block handler model – built with the strength and stability to get the work done in block quarries.

TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

ENGINE

Engine Model	Cat [®] C13	
Engine Power @ 1,800 rpm – ISO 14396:2002	303 kW	406 hp
Gross Power @ 1,800 rpm – SAE J1995:2014	307 kW	412 hp
Net Power @ 1,800 rpm – ISO 9249:2007, SAE J1349:2011	282 kW	378 hp
Engine Torque @ 1,300 rpm – ISO 14396:2002	2172 N·m	1,602 lbf·ft
Gross Torque @ 1,300 rpm – SAE J1995:2014	2192 N·m	1,617 lbf·ft
Net Torque @ 1,000 rpm – ISO 9249:2007, SAE J1349:2011	2070 N·m	1,527 lbf·ft
Displacement	12.5 L	

- Cat engine meets Brazil MAR-1, UN ECE R96 Stage IIIA, and China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
- The net power advertised is the power available at the flywheel when the engine is equipped with fan, alternator, air cleaner, and muffler.

WEIGHTS

Operating Weight	30 344 kg	66,877 lb
------------------	-----------	-----------

- Weight based on a machine configuration with Bridgestone 29.5R25 VSNT L4 radial tires, full fluids, operator, standard counterweight, ride control, cold start, roading fenders, Product Link, open differential axles (front/rear), secondary steering, sound suppression, and a 5.4 m³ (7.1 yd³) general purpose bucket with BOCE.

BUCKET CAPACITIES

Bucket Range	4.0- 14.5 m ³	5.25- 19.0 yd ³
--------------	-----------------------------	-------------------------------

TRANSMISSION

Forward 1	6.9 km/h	4.3 mph	Reverse 1	7.8 km/h	4.8 mph
Forward 2	13.3 km/h	8.3 mph	Reverse 2	15.2 km/h	9.4 mph
Forward 3	23.5 km/h	14.6 mph	Reverse 3	26.9 km/h	16.7 mph
Forward 4	39.5 km/h	24.5 mph	Reverse 4	39.5 km/h	24.5 mph

- Maximum travel speed in standard vehicle with empty bucket and standard L4 tires with 935 mm (37 in) roll radius.

SOUND

With Cooling Fan Speed at Maximum Value:

Operator Sound Pressure Level (ISO 6396:2008)	75 dB(A)
Exterior Sound Power Level (ISO 6395:2008)	112 dB(A)
Exterior Sound Pressure Level (SAE J88:2013)	78 dB(A)*

*Distance of 15 m (49.2 ft), moving forward in second gear ratio.

With Cooling Fan Speed at 70% of Maximum Value:**

Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Exterior Sound Power Level	109 dB(A)***

**For machines in European Union countries and in countries that adopt the "EU Directives."

***European Union Directive "2000/14/EC" as amended by "2005/88/EC."

OPERATING SPECIFICATIONS

Static Tipping Load – Full 40° Turn – with Tire Deflection	19 706 kg	43,432 lb
Static Tipping Load – Full 40° Turn – No Tire Deflection	20 965 kg	46,208 lb
Breakout Force	227 kN	51,008 lbf

- For a machine configuration as defined under "Weight."
- Full compliance to ISO 14397-1:2007 Sections 1 thru 6, which requires 2% verification between calculations and testing.

SERVICE REFILL CAPACITIES

Fuel Tank	426 L	112.5 gal
Cooling System	50 L	13.2 gal
Crankcase	37 L	9.8 gal
Transmission	77 L	20.3 gal
Differentials and Final Drives – Front	84 L	22.2 gal
Differentials and Final Drives – Rear	84 L	22.2 gal
Hydraulic Tank	153 L	40.4 gal

HYDRAULIC SYSTEM

Implement System:		
Maximum Pump Output (2,250 rpm)	449 L/min	119 gal/min
Maximum Operating Pressure	34 300 kPa	4,975 psi
Hydraulic Cycle Time – Total	10.1 seconds	

DIMENSIONS

	Standard Lift		High Lift	
Height to Top of Hood	3064 mm	10'1"	3064 mm	10'1"
Height to Top of Exhaust Pipe	3764 mm	12'5"	3764 mm	12'5"
Height to Top of ROPS	3829 mm	12'7"	3829 mm	12'7"
Ground Clearance	456 mm	1'5"	456 mm	1'5"
Center Line of Rear Axle to Edge of Counterweight	2661 mm	8'9"	2661 mm	8'9"
Center Line of Rear Axle to Hitch	1900 mm	6'3"	1900 mm	6'3"
Wheelbase	3800 mm	12'6"	3800 mm	12'6"
Overall Length (without bucket)	8155 mm	26'10"	8355 mm	27'5"
Hinge Pin Height at Maximum Lift	4554 mm	14'11"	4775 mm	15'7"
Hinge Pin Height at Carry	632 mm	2'0"	682 mm	2'2"
Lift Arm Clearance at Maximum Lift	3881 mm	12'8"	4125 mm	13'6"
Rack Back at Maximum Lift	61 degrees		61 degrees	
Rack Back at Carry Height	48 degrees		50 degrees	
Rack Back at Ground	40 degrees		40 degrees	
Width over Tires (Loaded)	3260 mm	10'9"	3260 mm	10'9"
Tread Width	2440 mm	8'0"	2440 mm	8'0"

- All dimensions are approximate and based on machine equipped with 5.4 m³ (7.1 yd³) general purpose bucket with BOCE and Bridgestone 29.5R25 VSNT L4 radial tires.

AIR CONDITIONING SYSTEM

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.6 kg (3.52 lb) of refrigerant which has a CO₂ equivalent 2.288 metric tonnes (2.522 tons).

STANDARD & OPTIONAL EQUIPMENT

Standard and optional equipment may vary. Consult your Cat dealer for details.

OPERATOR ENVIRONMENT	STANDARD	OPTIONAL
Cab, pressurized, sound suppression	•	
Door, remote opening system		•
EH implement controls, parking brake	•	
HMU steering wheel	•	
Steering, joystick		•
Entertainment radio (FM, AM, USB, BT)		•
Entertainment radio (DAB+)		•
CB radio ready		•
Seat, cloth, air suspension	•	
Seat, suede/cloth, air suspension, heated		•
Seat, leather/cloth, air suspension, heated/cooled		•
Touchscreen display	•	
Visibility: mirrors, rear-vision camera	•	
Multiview (360°) camera system		•
Cat Detect rear radar system		•
Dedicated rearview screen		•
Mirrors, heated		•
Air conditioner, heater, defroster (auto temp, fan)	•	
Sun visor, front and rear, retractable	•	
Window cleaning standing surface, front		•
Windows, front, safety laminated rounded glass	•	
Windows, front, heavy duty, or full guards		•
ON-BOARD TECHNOLOGIES	STANDARD	OPTIONAL
Cat Payload scale	•	
Autodig with Auto Set Tires	•	
Operator ID & machine security	•	
Application Profiles	•	
Job Aids	•	
Controls Help and eOMM	•	
Cat Advanced Payload		•
Cat Payload Printer		•
POWER TRAIN	STANDARD	OPTIONAL
Cat C13 engine	•	
Electric fuel priming pump	•	
Fuel-water separator and secondary fuel filter	•	
Engine, air precleaner	•	
Turbine, air precleaner		•
Radiator, high debris		•
Cooling fan, reversible		•
Axles, open differentials	•	
Axles, limited slip differential(s)		•
Axles, ecology drains, AOC ready, extreme temperature seals		•
Axles, oil cooler		•
Transmission, planetary, automatic powershift	•	
Torque converter with lock-up	•	
Heavy Duty transmission		•

POWER TRAIN (CONTINUED)	STANDARD	OPTIONAL
Service brakes, hydraulic, fully enclosed wet disc, wear indicators	•	
Integrated Braking System (IBS)	•	
Park brake, caliper on front axles, spring applied—pressure released	•	
HYDRAULICS	STANDARD	OPTIONAL
Implement system, load sensing with variable displacement piston pump	•	
Steering system, load sensing with dedicated variable displacement piston pump	•	
Ride control, dual accumulators		•
3 rd auxiliary function with ride control		•
Oil sampling valves, Cat XT™ hoses	•	
Quick coupler control		•
ELECTRICAL	STANDARD	OPTIONAL
Starting and charging system, 24V	•	
Starter, electric, heavy duty	•	
Cold start, 120V or 240V		•
Lights: halogen, 4 cab work lights, 2 front roading lights with turn signals, 2 rear hood work lights	•	
Lights: LED		•
Warning beacon		•
Reversing strobe lights		•
MONITORING SYSTEM	STANDARD	OPTIONAL
Front dash with analog gauges, LCD display, and warning lights	•	
Primary touchscreen monitor (Cat Payload, quad screens, machine settings & messages)	•	
LINKAGE	STANDARD	OPTIONAL
Standard lift, Z-bar	•	
High lift, Z-bar		•
Kickouts: lift and tilt	•	
ADDITIONAL EQUIPMENT	STANDARD	OPTIONAL
Cat Autolube system		•
Fenders, extensions or roading		•
Guards: power train, crankcase, cab, cylinders, rear		•
Biodegradable hydraulic oil		•
High-speed oil change system		•
Rear egress system		•
Fast fill fuel tank		•
Toolbox		•
Wheel chocks		•
Secondary steering system, electrical		•
SPECIAL CONFIGURATIONS	STANDARD	OPTIONAL
Aggregate handler		•
Waste and scrap		•
Forestry		•
Steel mill		•
Block handler		•



AEXQ3269-00
Build Number: 14A
(Afr-ME, CIS, Aus-NZ,
S Am, SE Asia, China,
India, Indonesia, Turkey)

For more complete information on Cat products, dealer services and industry solutions, visit us on the web at www.cat.com

VisionLink® is a trademark of Trimble Navigation Limited, registered in the United States and in other countries.

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

© 2021 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, Fusion, XT, Product Link, HEUI, "Caterpillar Corporate Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

www.cat.com www.caterpillar.com

