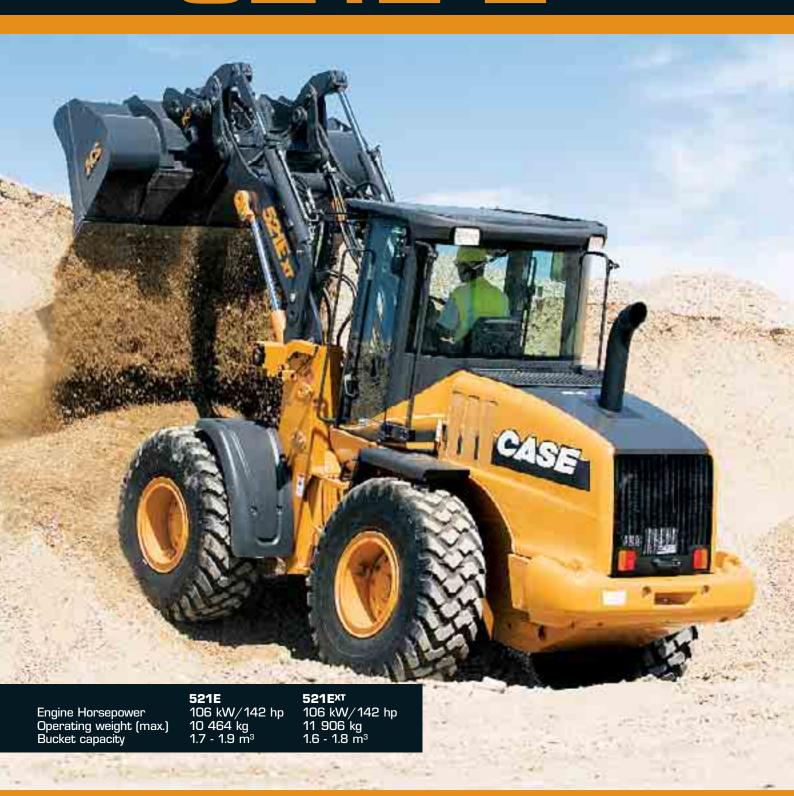


WHEEL LOADER

521E.EXT



RGONOMIC ENVIRONMENT

The Case E series cab is longer and wider, with a 15 percent increase in floor area and floor to ceiling glazing, for maximum visibility from the operator's seat. The cab is one of the quietest in the industry, featuring an adjustable seat and steering column, with standard single lever or optional dual lever loader controls. The ergonomically designed switchgear and easy to read central console reduce operator effort. Cross cab ventilation is improved, both the cab door and right hand window can be opened to 180 degrees. Increased air diffusers boost heating and ventilation for all weather comfort.

Case comfort. Operator acceptance.

ECONOMICAL POWER

Tier III compliant 4.5 litre engine offers three power curve choices, to boost productivity and ensure optimum economy in all operations. Four working modes fine tune the machine's engine and hydraulics to the application, allowing operators to use high output for loading and digging duties, while providing low fuel consumption in lighter stocking work. Auto mode automatically adjusts output to provide maximum

Reduced consumption. Increased performance.



ASE OF ACCE

All daily service checks can be carried out from ground level, with fluid sight gauges on all reservoirs, saving time and reducing risk to the operator. Remote fluid drains ensure environmentally-friendly service. High efficiency cooling pack in the centre of the machine has independent coolers with removable air conditioning condenser for easy access. Extended service intervals result in lower operating costs and increased productivity. **Total access. Minimal downtime.**

EXTRA VISIBILITY

Larger glazed area with redesigned front wheel arches and a sloping single-piece engine canopy provide a clear view all around the machine, reducing the risk of accidents and improving safety on site. The exhaust stack is mounted at the rear of the canopy. Full height glazing provides an unobstructed view to the wheels and bucket or attachment, for increased safety. Unparalleled view. Operator confidence.



EXCEPTIONAL FORCE

Sturdy Z-bar loader linkage design results in superior breakout forces and lift capacity, boosting productivity and reducing cycle times. Range of 1.6m to 1.9m rapid fill buckets available. Single loader control lever incorporates forward/reverse and transmission downshift buttons, while dual levers have additional controls at fingertips, reducing operator effort and cycle times. Robust design. Built to perform.



The 521E is powered by a Tier III Case 445TA/EGE diesel engine. Electronically-controlled 4.5 litre motor offers a choice of three power and torque ratings, from 110-142 hp (82-106 kW) at the touch of a button. Each rating is designed to match the requirements of the machine in specific applications, allowing the operator to tailor the 521E to the job site. This boosts productivity and reduces fuel consumption and exhaust emissions. The 521E has four Working Modes, to fine tune the hydraulic power to the application. Standard mode is set for normal operation, offering the engine's standard rated output of 129 hp (96 kW) with maximum hydraulic power and flow.

Max Power provides a 7% power boost and is intended for extreme operating conditions. For lighter duties, there is Economy mode, which drops the engine revs and power output by almost 20%, lowering fuel consumption, exhaust and noise emissions. There is also an Auto mode, which automatically matches the engine's power curve to the required digging application. The electronic engine control also permits three idle settings, 900, 1050 and 1200 rpm, improving engine warm up and further reducing fuel consumption and exhaust emissions.



The Case E Series wheeled loaders benefit from a completely new design philosophy, with a mid-mounted cooling module situated behind the cab. Separate radiator cores for engine coolant, transmission oil, the aftercooler, air conditioning condenser and hydraulic oil cooler (optional) provide the most effective cooling solution, with a hydraulically-driven cooling fan pulling air through the individual cores.

The cooling pack is unaffected by dust being thrown up at the rear of the machine, allowing the coolers to run in clean air. The positioning of the cooling pack also allows a lower engine canopy at the rear of the machine, improving visibility for the operator. The cooling fan has an optional reversing function for particularly dusty applications such as waste handling.

Easy access to the cooling module for cleaning and maintenance.



All Case E Series wheeled loaders benefit from a larger operator's cab, with up to 15% more floor area than the D series machines. The tapered design is longer and wider than previously, providing increased internal space for the driver. Reduced noise levels are among the quietest in the industry.

Floor to ceiling glass at the front and sides, offers increased visibility to the wheels and the bucket, increasing operator confidence and productivity. Redesigned front wheel arches offer improved protection for the cab and an improved view to the bucket tips.

The sloping single-piece engine canopy at the rear of the 521E provides industry-leading levels of visibility.

The full height door on the left hand side of the cab can be opened to 180° and locked in position, while the window on the right of the cab can be opened slightly for increased air flow, or opened to 180° and locked for maximum ventilation. Full cab airconditioning is available as an option, with numerous vents providing a strong flow of cooling or warming air around the cab. There is plenty of storage for the operator, including a cool box when air conditioning is fitted.





Material retention and operator comfort can be further improved with the addition of optional Ride Control, a system that allows the lift arms to float when the machine is moving. This prevents bounce in the cab and at the wheels. Ride Control permits higher travel speeds during load and carry operations, reducing fatigue for the operator and increasing productivity.

When specified the system has three operating modes, off to allow full hydraulic power during loading and digging operations, on for reduced bounce while travelling and an automatic setting, which engages Ride Control when the machine accelerates above 4.8km/h.

The Ride Control system reduces shock loadings in the chassis and in the operator's cab, extending component life and reducing operator fatigue.



The 521E wheel loaders use a torque sensing autoshift transmission with four forward gears and three reverse ratios. The operator can choose to use the transmission in manual or full auto modes. Top forward speed is 39 km/h.

Forward and reverse shifting can be controlled using a shuttle switch in the head of the main hydraulic servo lever, or on the console within the operator's reach if the machine is equipped with multi-lever controls. This allows the operator to change direction while operating the attachment lever, reducing effort, boosting productivity and cutting cycle times in loading operations. All four wheels are braked, with hydraulically-actuated maintenance-free wet disc brakes. A spring applied parking brake acts on the transmission output shaft.



The engine sits at the very rear of the machine, as the cooling pack is centrally mounted in the chassis. A single-piece engine cover provides excellent all round access to the engine for service and maintenance, while all daily checks can be easily reached from ground level, with fluid sight gauges on all reservoirs. There are remote fluid drain taps for the engine oil, coolant and hydraulic oil, ensuring environmentally-friendly service with no loss of fluids to the surrounding area. Grease points are centrally located, to reduce downtime and increase productivity. The machine's electronic control system can be accessed by trained service personnel for fault diagnosis and operating data. This system is fully compatible with the Case service tool. All of the machine's electronics are situated within the cab, providing a central location and keeping them away from dust and dirt.







SPECIFICATIONS

ENGINE

| Type | Case Family IV, 445TA/EGE, Tier III certified4-stroke, turbocharged and air to air cooled |
|----------------|---|
| Displacement | 104 x 132 mm 4.5 l |
| Fuel injection | Electronic |
| Fuel filter | Replaceable, full flowspin-on cartridge |
| Air filterDry | type element w/warning restriction indicator |
| | g angle ratings |
| Side-to-side | Rated 35° |
| Fore and aft | Rated 35° |
| Oil filtration | Replaceable, full flow spin-on cartridge |
| Horsepower - F | Peak |
| Max Power | |
| Gross | |
| Net | 131 (98 kW) @ 1800 rpm |
| Standard Powe | r |
| Gross | 129 (96 kW) @ 1800 rpm |
| Net | 118 (88 kW) @ 1800 rpm |
| Economy Power | |
| Gross | 110 (82 kW) @ 1700 rpm |
| Net | |
| | |

NOTE: Gross horsepower and torque per SAE J1995. Net horsepower and torque per SAE J1349.

Torque - Peak

| Max Power | |
|----------------|--------------------------|
| Gross | 448 (608 Nm) @ 1600 rpm |
| Net | _424 (575 Nm) @ 1600 rpm |
| Standard Power | |
| Gross | _407 (552 Nm) @ 1300 rpm |
| Net | 391 (530 Nm) @ 1300 rpm |
| Economy Power | |
| Gross | _403 (547 Nm) @ 1200 rpm |
| Net | _389 (528 Nm) @ 1200 rpm |
| Torque rise | 19% |
| | |

DRIVETRAIN

Transmission

| 4F/3R Proportional w | v/Electronic Control |
|-----------------------|---|
| Module torque sensing | g autoshift/manual shift and modulation |
| Differential | Limited slip with 34% transfer |
| | on front and rear axles |

Service brakes

Hydraulically actuated, maintenance-free, multiple wet disc w/accumulator to all four wheels.

Parking brakes

Spring-applied hydraulic release disc on transmission output shaft.

Travel speeds - km/h with 20.5x25 L3 Tires

| • | ´ Forward | Reverse |
|-----|-----------|---------|
| 1st | 6.7 | 7.1 |
| 2nd | 12.2 | 12.9 |
| 3rd | 23.6 | 24.9 |
| 4th | 39 | NA |

NOTE: Travel speeds at full engine throttle.

ELECTRICAL

| Voltage | 24 Volts, negative ground |
|------------|---------------------------|
| Alternator | 70 amp |
| Batteries | (2) 12 Volt |

HYDRAULICS

Pump (steering/implement)

Closed centered pressure/flow compensated

Variable displacement____134l/min @ 2000 rpm @ 250 bar

Loader control valve

Loader auxiliary steering

Filtration

10-micron, full flow replaceable cartridges on return line, condition indicator light for filter

CYCLE TIME

| Raise w/rated bucket load | 5.6 sec |
|---------------------------|---------|
| Dump w/rated bucket load: | |
| Z-Bar | 1.1 sec |
| XT | 1.1 sec |
| Lower (empty) | |
| Power down | 3.7 sec |
| Float down | 2.7 sec |
| | |

| CAPACITIES | |
|---------------------|--------|
| Fuel tank | 189 I |
| Hydraulic system | |
| Total | 114 I |
| Reservoir | 57 I |
| Transmission | |
| Service with filter | 18.9 I |
| Front and rear axle | |
| Front axle | 221 |
| Rear axle | 22 |
| Engine oil w/filter | 12 I |
| Cooling system | 22 |
| | |

OPERATING WEIGHTS

Z-Bar

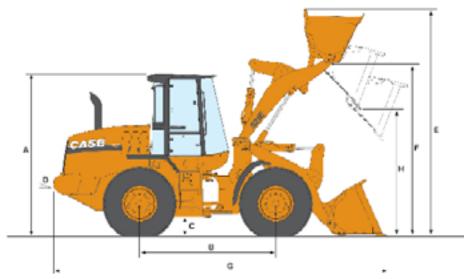
XT

Unit equipped with ROPS cab with heater and A/C, full counterweight, 17.5x25 XTLA Michelin tires, 1.52 $\rm m^3$ ACS loader bucket, standard batteries, full fuel,

79 kg operator ______11 906 kg



GENERAL DIMENSIONS 521E



| A Height to top of ROPS cab mm | 3277 |
|--------------------------------|------|
| B Wheelbase mm | 2750 |
| C Ground clearance mm | 377 |
| Angle of departure | 34° |
| Width | |
| - overall* w/o bucket mm | 2489 |
| - centerline tread mm | 2000 |
| Turning radius* - outside mm | 4022 |
| Turning angle | |
| - from center | 40° |
| - total angle | 80° |
| Rear axle oscillation (total) | 24° |

| WEIGHT ADJUSTMENTS Select Options | weight | Tipping Load Adj. Straight (kg) | Tipping Load Adj. 40° Turn (kg) |
|--------------------------------------|--------|---------------------------------------|---------------------------------------|
| 17.5x25 12 ply L2 tires | -116 | -73 | -64 |
| 17.5x25 12 ply L3 tires | -22 | -14 | -12 |
| 17.5R25 XHA TL tires | 49 | 31 | 27 |
| 20.5R25 XHA TL | 450 | 281 | 249 |
| Base counterweight | - 476 | - 1075 | - 905 |

NOTE: **Unit equipped with Z-Bar loader arms, 1.72 m³ general purpose pin on bucket w/bolt-on edge, 17.5R25 XTLA Michelin tires, ROPS cab with heater and A/C, full counterweight, standard batteries, front and rear fenders, full fuel and 79 kg operator. Adjust select options from rated weight.

NOTE: *Dimensions taken with 17.5x25 L2/L3/XTLA TL tires.

| PERFORMANCE DATA 521E Z-Bar* | | 1.91 m ³ Bucket w/Bolt-on Edge | 1.72 m ³ Bucket w/Bolt-on Edge | 1.72 m ³ Bucket w/Teeth & segments | 1.50 m ³ Bucket w/Bolt-on Edge | 1.50 m ³ Bucket w/Teeth & segments |
|---|-------|---|---|---|---|---|
| SAE bucket capacity - heaped | m³ | 1.91 | 1.72 | 1.72 | 1.53 | 1.53 |
| Bucket width - outside | mm | 2490 | 2490 | 2490 | 2468 | 2468 |
| Bucket weight | kg | 934 | 899 | 749 | 705 | 736 |
| ■ Operating height - fully raised w/spillguard | mm | 4735 | 4673 | 4673 | 4599 | 4599 |
| F Hinge pin height - fully raised | mm | 3608 | 3608 | 3608 | 3603 | 3603 |
| G Overall lenght - bucket level on ground | mm | 6834 | 3762 | 6891 | 6568 | 6717 |
| Dump angle - fully raised | | 55° | 55° | 55° | 55° | 55° |
| H Dump height - fully raised, 45° dump | mm | 2616 | 2664 | 2578 | 2757 | 2659 |
| J Bucket reach - fully raised, 45° dump | mm | 1116 | 1071 | 1154 | 963 | 1064 |
| K Bucket reach - 2.13 m height, 45° dump | mm | 1492 | 1476 | 1507 | 1421 | 1496 |
| Operating load - SAE | kg | 3191 | 3512 | 3545 | 3634 | 3614 |
| Maximum material density - SAE k | cg∕m³ | 1542 | 1869 | 1927 | 2377 | 2364 |
| Tipping load - SAE | | | | | | |
| - straight | kg | 7554 | 8091 | 8155 | 8357 | 8318 |
| - 40° turn | kg | 6382 | 7025 | 7089 | 7268 | 7229 |
| Breakout force w/ tilt cylinder | kg | 7518 | 8019 | 8366 | 9503 | 9473 |
| Maximum rollback | | | | | | |
| - Ground | | 40° | 40° | 40° | 40° | 40° |
| - Carry position | | 43° | 43° | 43° | 43° | 43° |
| - @ Maximum reach | | 52° | 52° | 52° | 52° | 52° |
| - @ full height | | 54° | 54° | 54° | | |
| L Dig depth | mm | 79 | 71 | 83 | 70 | 80 |
| Maximum grading angle w/ bucket - back dragging | | 61° | 60° | 62° | 60° | 61° |
| Loader clearance circle (to front corner of bucket) | mm | 11024 | 10981 | 11059 | 10872 | 10958 |
| Unit Operating mass | kg | 10672 | 10637 | 10587 | | |

NOTE:

* Z-Bar performance data shown w/full counterweight.

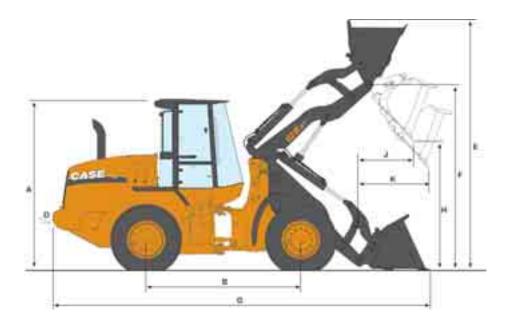
* XT lift arm with buckets for ACS Pro Series 2000® size 30 HD coupler.

** XT lift arm with bucket for JRB 300HV coupler Coupler Coupler Series and Couple Coupler Coupl





GENERAL DIMENSIONS 521EXT



DIMENSIONS

| A Height to top of ROPS cab mm | 3277 |
|--------------------------------|------|
| B Wheelbase mm | 2750 |
| C Ground clearance mm | 377 |
| Angle of departure | 34° |
| Width | |
| - overall* w/o bucket mm | 2489 |
| - centerline tread mm | 2000 |
| Turning radius* - outside mm | 4022 |
| Turning angle | |
| - from center | 40° |
| - total angle | 80° |
| Rear axle oscillation (total) | 24° |

| NOTE: *Dimensions taken with 17.5x25 L2/L3/XTLA TL tire: | S. |
|--|----|
| | |

| WEIGHT ADJUSTMENTS Select Options | Weight Adj. (kg) | Tipping Load Adj. Straight (kg) | Tipping Load Adj. 40° Turn (kg) | |
|--------------------------------------|---------------------|---------------------------------------|---------------------------------------|--|
| 17.5x25 12 ply L2 tires | -116 | -73 | -64 | |
| 17.5x25 12 ply L3 tires | -22 | -14 | -12 | |
| 17.5R25 XHA TL tires | 49 | 31 | 27 | |
| 20.5R25 XHA TL | 450 | 450 281 | | |
| Base counterweight | - 476 | - 1075 | - 905 | |

NOTE: **Unit equipped with Z-Bar loader arms, 1.72 m3 general purpose pin on bucket w/bolt-on edge, 17.5R25 XTLA Michelin tires, ROPS cab with heater and A/C, full counterweight, standard batteries, front and rear fenders, full fuel and 79 kg operator. Adjust select options from rated weight.

| PERFORMANCE DATA 521EXT | | 1.50 m ³ ACS Bucket w/Edge** | 1.50 m ³ ACS Bucket w/Teeth & segments** | 1.50 m ³ JRB Bucket w/Edge*** | 1.50 m ³ JRB Bucket w/Edge & segment |
|--|-------|---|---|--|---|
| E Operating height - fully raised w/spillguard | mm | 4972 | 4972 | 4886 | 4886 |
| F Hinge pin height - fully raised | mm | 3739 | 3739 | 3740 | 3740 |
| G Overall lenght - bucket level on ground | mm | 6715 | 6860 | 6857 | 7004 |
| Dump angle - fully raised | | 57° | 57° | 57° | 57° |
| H Dump height - fully raised, 45° dump | mm | 2734 | 2640 | 2609 | 2512 |
| J Bucket reach - fully raised, 45° dump | mm | 1122 | 1218 | 1005 | 1106 |
| K Bucket reach - 2.13 m height, 45° dump | mm | 1570 | 1613 | 1381 | 1420 |
| Operating load - ISO | kg | 3095 | 3082 | 2941 | 2928 |
| Maximum material density - ISO | kg/m³ | 2035 | 2026 | 1934 | 1925 |
| Tipping load - ISO | | | | | |
| - straight | kg | 7218 | 7191 | 6846 | 6820 |
| - 40° turn | kg | 6190 | 6163 | 5883 | 5856 |
| Lift capacity | | | | | |
| - full height | kg | 4833 | 4807 | 4812 | 4787 |
| - maximum reach | kg | 6622 | 6596 | 6763 | 6740 |
| - ground | kg | 11183 | 11125 | 10301 | 10228 |
| Breakout force with tilt cylinder | kg | 9947 | 8883 | 10158 | 9022 |
| Loader clearance circle | mm | 10871 | 10935 | 10984 | 11054 |

NOTE:

* Z-Bar performance data shown w/full counterweight.

** XT lift arm with buckets for ACS Pro Series 2000® size 30 HD coupler.

** XT lift arm with bucket for JRB 300HD size 30 HD coupler.

** XT lift arm with bucket for JRB 300HV coupler.

Performance data unit equipped with 20.5R25 XTLA tires, ROPS cab w/heater and A/C, full counterweight, standard batteries, front and rear fenders, full fuel and 79 kg operator. Specifications per SAE J732, J1234, J695, J742 and J818.



STANDARD EQUIPMENT & OPTIONS

- ROPS cab w/ heat
- Kev start
- Articulated power steering w/tilt column
- Fully adjustable, suspension seat
- Foot throttle
- 1-Lever loader control w/wrist rest
- Cup holder
- Coat hook
- (1) Interior rearview mirror 2 in (51 mm) retractable seat belt
- Storage tray behind seat
- Cooled lunch box
- Single brake pedal
- F/N/R shuttle switch
- External rear view mirrors
- Lock box
- Pressurized air filtering
- Anti-glare window strip
- Defroster
- Side window, partial/fully open
- Dome light
- Wipers, rear and intermittent front
- Windshield washers, front and rear
- Rubber floor mat.

- Engine Case Family IV 445TA/EGE
- Tier III certified
- Selectable work modes
- Max power Auto power
- Standard power
- Economy power
- Turbocharger
- Charge air cooling
- Automatic fan belt tensioner

- Integral engine oil cooling
- Fuel filter w/water trap
- Dual element air cleaner
- 70 amp alternator
- (2) 700 CCA 12-volt batteries
- Liquid-cooled radiator Non spark-arresting muffler
- Mid-mounted cooling module
- Common rail electronic fuel injection

- Z-bar loader linkage
- Single control for lift and tilt
- Positive hold float
- Automatic return-to-dig
- Automatic height control
- Automatic return-to-travel
- Brake pedal transmission disconnect
- Bucket position indicator on bucket

- 4F/3R Selectable autoshift/manual shift transmission
- Electronic Control Module -Programmable, computer controlled proportional shifting with
- programmable gear selection Onboard diagnostics
- Single lever electronic shift control
- F/N/R switch in loader control handle
- Downshift button
- Torque converter
- Outboard planetary axles
- Limited-slip differentials
- Transmission oil cooler
- Brake pedal transmission disconnect
- Hydraulic wet disc brakes
- Spring-applied hydraulic release parking

- Limp-Home Mode
- Lubed-for-life drive shaft

- Single lever 2-spool loader control valve
- Low-effort steering
- Hydraulic driven fan
- (8) Diagnostic quick couplers

Othe

- Front and rear fenders
- - (2) Front driving headlights (high/low beam)
 - (2) Front flood
 - (2) LED stop and tail lights
 - (2) Rear flood
- Front and rear turn signal/flash Standard counterweight
- Drawbar hitch
- Articulation locking bar
- Lift arm locking bar
- Lift and tie-down points front/rear
- Backup alarm
- Remote drain points

OPTIONS

Operator compartment

- Cloth-covered air-suspension seat
- Sound Shield noise suppression package
- Cab air-conditioning w/heater
- Radio
- Radio-ready (12 or 24-volt)
- Auxiliary power (12-volt)
- Cab convenience package
- RH steps
- Rotating beacon
- Second brake pedal

Engine

- Cold weather package
- Fuel heater
- Hydraulic oil cooler bypass
- Low temperature hydraulic oil

Loader

- Hydraulic attachment coupler
- Attachment auxiliary hydraulicsBuckets (see page 3 & 4)
- Loader coupler systems
- XR Linkage

Hydraulics

- Auxiliary hydraulics
- Ride Control
- Secondary steering
- 3 or 4-spool loader valves with 2 or 3lever loader control
- Hydraulic reversing fan
- Hýdraulic cooler

- 17.5 tire options
- 20.5-25 12 PR L3 bias (rock)
 20.5 R25 radial (dirt/traction)
 20.5 R25 radial (rock)

Other

- Special paint Full coverage fenders
- Belly pan
- Tool box
- Full counterweight Z-Bar
- Temperature controlled fan

Standard and optional equipment shown can vary by country.

Worldwide Case Construction Equipment Contact Information

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The call is free from a land line. Check in advance with your Mobile Operator if you will be charged

NOTE: Standard and optional fittings can vary regulations of each country. The illustrations may include optional rather than standard fittings - consult your Case dealer. Furthermore, CNH reserves the right to modify machine specifications without incurring any obligation relating to such changes.



Conforms to directive 98/37/CE

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