

## ENGINE

Make	Case/FPT
Model	F2CFE614C Tier 2 certified
Type	4-stroke, turbocharged
Cylinders	6-cylinder in-line
Bore/Stroke	4.61 in x 5.31 in (177 X 135 mm)
Displacement	531 in3 (8.7 L)
Fuel	#2 Diesel (#1 & 2 mixture permitted for cold temperature) Does not require ultra-low sulfur fuel B5 biodiesel tolerant
Fuel injection	Direct injection (electronic)
Fuel filter	Replaceable, full flow spin-on cartridge
Fuel pump	Bosch CP 3.3
Gradeability	35° fore /aft & side to side
Air filter	2-element dry-type w/warning restriction indicator
Rear-mount cooling module	External independent mounted (non-stacked) coolers
Fan – Hydraulic driven	Style 9 blade puller Diameter 34.5 in (876 mm)
Water pump	Integral
Engine oil	Pump Deep sump plate cooler with pressurized under-piston nozzles
Pump operating angles	Side-to-side 35° Fore and aft 35°
Oil filtration	Replaceable, full flow, spin-on cartridge
Engine speeds (rpm)	Rated speed, full load 2100
Horsepower	Max Power Range – Gross @ Rated 290 hp (216 kW) @ 2100 Peak Gross 320 hp (239 kW) @ 1800 rpm Net @ Rated 262 hp (195 kW) @ 2100 rpm Peak Net 296 hp (221 kW) @ 1800 rpm
NOTE:	Gross horsepower and torque per SAE J1995 Net horsepower and torque per SAE J1349

## ENGINE (CONTD.)

Torque	
Max Power Range –	
Gross	1091 lb-ft (1479 N-m) @ 1200 rpm
Net	1059 lb-ft (1435 N-m) @ 1200 rpm
Torque rise	
Max Power Range	50%

## DRIVETRAIN

Transmission	4F/3R Proportional w/Electronic Control Module torque sensing autoshift/manual shift and modulation
Gears	Helical cut
Torque converter	Stall ratio 3.089:1
Differential	Open on front and rear axles
Rear axle oscillation	26° total
Differential ratio	Front 4.25 Rear 4.5
Planetary ratio	6.35
Final axle ratio	27.0
Special application axles (optional)	Front axle equipped with locking differential Rear axle equipped with open differential
Planetaries	Outboard
4 speed transmission travel speeds	(mph (km/h) w/26.5 x 25 XHAT tires)
	Forward Reverse
1st	4.3 (7.0) 4.3 (7.0)
2nd	7.2 (11.6) 7.2 (11.6)
3rd	10.8 (17.4) 15.3 (24.6)
4th	22.0 (35.4) –
NOTE:	Travel speeds at full engine throttle.
Parking brakes	Spring-applied hydraulic release disc on transmission output shaft

## DRIVETRAIN (CONTD.)

Service brakes	Hydraulically actuated, maintenance-free, multiple wet disc w/accumulator to all four wheels
Standard axle	
Front hub	841 in2 (0.542 m <sup>2</sup> )
Rear hub	841 in2 (0.542 m <sup>2</sup> )
Optional HD axle	
Front hub	1144 in2 (0.738 m <sup>2</sup> )
Rear hub	841 in2 (0.542 m <sup>2</sup> )

## ELECTRICAL

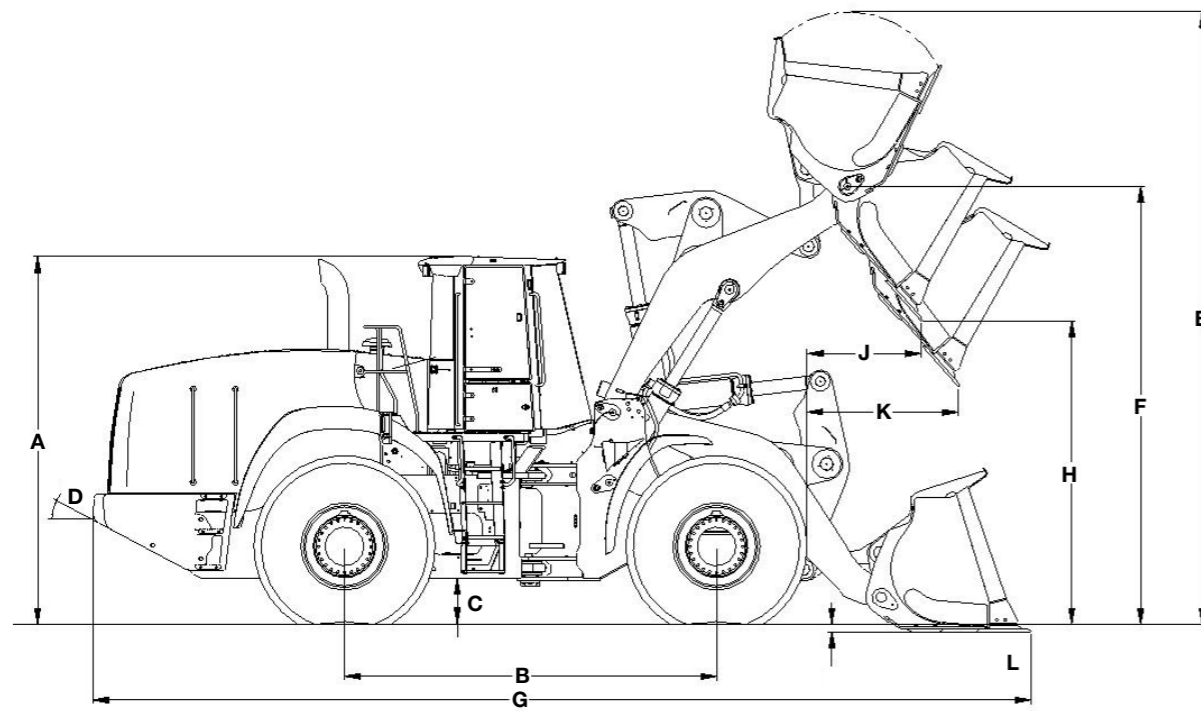
Voltage	24 Volts, negative ground
Alternator	95 amp
Batteries	(2) 12-Volt

## HYDRAULICS

Pump (steering/implement)	Closed center pressure/flow compensated
Variable displacement, load-sensing	11.29 in3/rev 93 gpm @ 2000 rpm (352 L/min @ 2000 rpm)
Loader control valve	Closed-center, sectional 2, 3 or 4-function with pilot control for lift, tilt and auxiliary hydraulics, electromagnetic detents in float, raise and rollback
Loader auxiliary steering	Hydraulic orbital center-pivot articulating w/on-demand oil flow
High pressure standby	Implement 3650 psi (25 165 kPa) Steering 3495 psi (24 097 kPa)
Filtration	10-micron, full flow replaceable cartridges on return line, condition indicator light for filter

## CYLINDERS

Lift cylinder	Bore diameter 7.00 in (177.8 mm) Rod diameter 4.50 in (114.3 mm) Stroke 30.73 in (780.6 mm)
Dump cylinder	Bore diameter 8.00 in (203.2 mm) Rod diameter 5.0 in (127.0 mm) Stroke 22.91 in (581.9 mm)



## DIMENSIONS

<b>A.</b> Height to top of ROPS cab	140.6 in (3573 mm)
<b>B.</b> Wheelbase	139.8 in (3550 mm)
<b>C.</b> Ground clearance	17.1 in (435.1 mm)
<b>D.</b> Angle of departure, rear	26°
Width –	
Overall* w/o bucket	117.7 in (2.99 m)
Centerline tread	88.6 in (2.25 m)
Turning radius* – outside	250.9 in (6.37 m)
Turning angle	
From center	40°
Total angle	80°
Rear axle oscillation, total	26°

NOTE: \*Dimensions taken with 26.5R25 Michelin XHA2 tires. Additional dimensions on pages 3 & 4.

## WEIGHT ADJUSTMENTS

Select Options	Tipping Load Weight Adjustment	Tipping Load Adjustment Straight	Adjustment 40° Turn
L3 Bias tires 26.5x25 L2 (Goodyear)	-334 kg	-499 kg	-648 kg
L4 Bias tires 26.5x25 L3 (Goodyear)	-129 kg	-58 kg	-148 kg
L5 Bias tires 26.5x25 L4 (Goodyear)	395 kg	592 kg	535 kg
L5 Radial tires 26.5x25 L5 (Goodyear)	593 kg	929 kg	920 kg

NOTE: Unit equipped with Z-Bar loader arms, 5.5 yd<sup>3</sup> (4.0 m<sup>3</sup>) pin on bucket w/bolt-on edge, 26.5R25 Michelin XHA2 tires, ROPS cab with heater/AC, full counterweight, front and rear fenders, full fuel and 175 lb (75 kg) operator. Adjust select options from rated weight.

## PERFORMANCE DATA

1021F Z-Bar*	4.75 yd <sup>3</sup> General Purpose Pin On (3.6 m <sup>3</sup> )	4.75 yd <sup>3</sup> General Purpose Pin On (3.6 m <sup>3</sup> )	5.5 yd <sup>3</sup> General Purpose Pin On (4.0 m <sup>3</sup> )
	Bucket w/Bolt-on Edge	Bucket w/Teeth Only	Bucket w/Bolt-on Edge
SAE bucket capacity – struck	4.07 yd <sup>3</sup> (3.11 m <sup>3</sup> )	3.87 yd <sup>3</sup> (2.96 m <sup>3</sup> )	4.75 yd <sup>3</sup> (3.63 m <sup>3</sup> )
Heaped	4.75 yd <sup>3</sup> (3.63 m <sup>3</sup> )	4.56 yd <sup>3</sup> (3.49 m <sup>3</sup> )	5.49 yd <sup>3</sup> (4.20 m <sup>3</sup> )
Bucket width – outside	125.8 in (3195 mm)	125.8 in (3195 mm)	125.8 in (3195 mm)
Bucket weight	4,762 lb (2160 kg)	4,725 lb (2143 kg)	5,040 lb (2286 kg)
<b>E.</b> Operating height – fully raised w/spillguard	223.4 in (5676 mm)	223.4 in (5676 mm)	228.4 in (5800 mm)
<b>F.</b> Hinge pin height – fully raised	167.1 in (4243 mm)	167.1 in (4243 mm)	167.1 in (4243 mm)
<b>G.</b> Overall length – bucket level on ground	345.4 in (8774 mm)	352.5 in (8955 mm)	350.1 in (8892 mm)
Dump angle – fully raised	53°	53°	53°
<b>H.</b> Dump height – fully raised, 45° dump	124.1 in (3151 mm)	119.5 in (3035 mm)	121.1 in (3075 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	46.2 in (1175 mm)	51.7 in (1313 mm)	49.8 in (1265 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	72.0 in (1828 mm)	75.5 in (1918 mm)	74.3 in (1887 mm)
Operating load – SAE	17,661 lb (8011 kg)	17,803 lb (8076 kg)	17,500 lb (7938 kg)
Maximum material density – SAE	3,720 lb/yd <sup>3</sup> (2207 kg/m <sup>3</sup> )	3,904 lb/yd <sup>3</sup> (2317 kg/m <sup>3</sup> )	3,186 lb/yd <sup>3</sup> (1890 kg/m <sup>3</sup> )
Tipping load – SAE			
Straight	42,293 lb (19 184 kg)	42,627 lb (19 335 kg)	41,989 lb (19 046 kg)
40° turn	35,321 lb (16 021 kg)	35,607 lb (16 151 kg)	35,001 lb (15 876 kg)
Lift capacity –			
Full height	31,180 lb (14 143 kg)	31,151 lb (14 130 kg)	30,924 lb (14 027 kg)
Maximum reach	44,580 lb (20 221 kg)	44,650 lb (20 253 kg)	44,300 lb (20 094 kg)
Ground	52,679 lb (23 898 kg)	53,256 lb (24 156 kg)	51,617 lb (23 413 kg)
Breakout force w/tilt cylinder	49,860 lb (22 616 kg)	53,807 lb (24 406 kg)	51,617 lb (23 413 kg)
Maximum rollback –			
Ground	45°	45°	45°
Carry position	49°	49°	49°
@ Maximum reach	69°	69°	69°
@ Full height	65°	65°	65°
<b>L.</b> Dig depth	5.0 in (126 mm)	5.0 in (126 mm)	5.0 in (126 mm)
Maximum grading angle w/bucket – back dragging	61°	60°	60°
Loader clearance circle	555.8 in (14 117 mm)	559.6 in (14 213 mm)	558.2 in (14 179 mm)

1021F/XR	4.75 yd <sup>3</sup> General Purpose Pin On (3.6 m <sup>3</sup> )	4.75 yd <sup>3</sup> General Purpose Pin On (3.6 m <sup>3</sup> )	5.5 yd <sup>3</sup> General Purpose Pin On (4.0 m <sup>3</sup> )
	Bucket w/Bolt-on Edge	Bucket w/Teeth Only	Bucket w/Bolt-on Edge
<b>E.</b> Operating height – fully raised w/spillguard	246.4 in (6258 mm)	246.4 in (6258 mm)	251.3 in (6382 mm)
<b>F.</b> Hinge pin height – fully raised	190.0 in (4825 mm)	190.0 in (4825 mm)	190.0 in (4825 mm)
<b>G.</b> Overall length – bucket level on ground	365.1 in (9274 mm)	372.3 in (9455 mm)	369.8 in (9393 mm)
Dump angle – fully raised	50°	50°	50°
<b>H.</b> Dump height – fully raised, 45° dump	147.0 in (3733 mm)	142.4 in (3617 mm)	144.0 in (3657 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	46.7 in (1187 mm)	52.2 in (1326 mm)	50.3 in (1277 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	90.3 in (2294 mm)	94.1 in (2391 mm)	92.8 in (2357 mm)
Operating load – SAE	14,745 lb (6688 kg)	14,858 lb (6739 kg)	14,550 lb (6600 kg)
Maximum material density – SAE	3,106 lb/yd <sup>3</sup> (1843 kg/m <sup>3</sup> )	3,258 lb/yd <sup>3</sup> (1933 kg/m <sup>3</sup> )	2,650 lb/yd <sup>3</sup> (1573 kg/m <sup>3</sup> )
Tipping load – SAE			
Straight	35,504 lb (16 104 kg)	35,771 lb (16 225 kg)	35,086 lb (15 915 kg)
40° turn	29,491 lb (13 377 kg)	29,715 lb (13 479 kg)	29,099 lb (13 199 kg)
Lift capacity –			
Full height	27,613 lb (12 525 kg)	27,600 lb (12 519 kg)	27,348 lb (12 405 kg)
Maximum reach	37,955 lb (17 216 kg)	38,040 lb (17 255 kg)	37,666 lb (17 805 kg)
Ground	41,867 lb (18 990 kg)	42,273 lb (19 175 kg)	41,000 lb (18 597 kg)
Breakout force w/tilt cylinder	50,343 lb (22 835 kg)	54,328 lb (24 643 kg)	45,535 lb (20 654 kg)
Maximum rollback –			
Ground	42°	42°	42°
Carry position	48°	48°	48°
@ Maximum reach	67°	67°	67°
@ Full height	66°	66°	66°
<b>L.</b> Dig depth	5.1 in (129 mm)	5.1 in (129 mm)	5.1 in (129 mm)
Maximum grading angle w/bucket – back dragging	63°	62°	62°
Loader clearance circle	575.3 in (14 613 mm)	579.8 in (14 726 mm)	578.2 in (14 687 mm)



## PERFORMANCE DATA

1021F Z-Bar*	5.5 yd <sup>3</sup> General Purpose Pin On (4.0 m <sup>3</sup> ) Bucket w/Teeth Only	
	SAE bucket capacity – struck	4.56 yd <sup>3</sup> (3.49 m <sup>3</sup> )
Heaped	5.31 yd <sup>3</sup> (4.06 m <sup>3</sup> )	
Bucket width – outside	125.8 in (3195 mm)	
Bucket weight	5,000 lb (2268 kg)	
<b>E.</b> Operating height – fully raised w/spillguard	228.4 in (5800 mm)	
<b>F.</b> Hinge pin height – fully raised	167.1 in (4243 mm)	
<b>G.</b> Overall length – bucket level on ground	357.2 in (9073 mm)	
Dump angle – fully raised	53°	
<b>H.</b> Dump height – fully raised, 45° dump	116.5 in (2959 mm)	
<b>J.</b> Bucket reach – fully raised, 45° dump	55.3 in (1404 mm)	
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	77.7 in (1974 mm)	
Operating load – SAE	17,639 lb (8001 kg)	
Maximum material density – SAE	3,322 lb/yd <sup>3</sup> (1971 kg/m <sup>3</sup> )	
Tipping load – SAE		
Straight	42,313 lb (19 193 kg)	
40° turn	35,278 lb (16 002 kg)	
Lift capacity –		
Full height	30,300 lb (14 016 kg)	
Maximum reach	44,370 lb (20 126 kg)	
Ground	52,160 lb (23 659 kg)	
Breakout force w/tilt cylinder	48,329 lb (21,922 kg)	
Maximum rollback –		
Ground	45°	
Carry position	49°	
@ Maximum reach	69°	
@ Full height	65°	
<b>L.</b> Dig depth	5.0 in (126 mm)	
Maximum grading angle w/bucket – back dragging	60°	
Loader clearance circle	562.1 in (14 278 mm)	

1021F/XR	5.5 yd <sup>3</sup> General Purpose Pin On (4.2 m <sup>3</sup> ) Bucket w/Teeth Only	
	<b>E.</b> Operating height – fully raised w/spillguard	251.3 in (6382 mm)
<b>F.</b> Hinge pin height – fully raised	190.0 in (4825 mm)	
<b>G.</b> Overall length – bucket level on ground	377.6 in (9581 mm)	
Dump angle – fully raised	50°	
<b>H.</b> Dump height – fully raised, 45° dump	139.4 in (3541 mm)	
<b>J.</b> Bucket reach – fully raised, 45° dump	55.8 in (1416 mm)	
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	96.5 in (2451 mm)	
Operating load – SAE	14,942 lb (6778 kg)	
Maximum material density – SAE	2814 lb/yd <sup>3</sup> (1670 kg/m <sup>3</sup> )	
Tipping load – SAE		
Straight	95930 lb (16 238 kg)	
40° turn	29885 lb (13 556 kg)	
Lift capacity –		
Full height	27804 lb (12 612 kg)	
Maximum reach	38362 lb (17 401 kg)	
Ground	41904 lb (19 031 kg)	
Breakout force w/tilt cylinder	48814 lb (22 142kg)	
Maximum rollback –		
Ground	42°	
Carry position	48°	
@ Maximum reach	67°	
@ Full height	66°	
<b>L.</b> Dig depth	5.1 in (129 mm)	
Maximum grading angle w/bucket – back dragging	62°	
Loader clearance circle	582.7 in (14 801 mm)	

### NOTE:

\*Z-Bar performance data shown w/standard counterweight.  
Performance data unit equipped with 26.5R25 Michelin XHA2 tires, ROPS cab w/heater and A/C, standard counterweight, full fuel and 175 lb (75 kg) operator. Specifications per SAE J732, J1234, J695, J742, and J818.

## INSTRUMENTATION

Electronic Information Center
Displays/Gauges –
Analog –
Engine coolant temperature
Fuel level
Transmission oil temperature
Hydraulic oil temperature
LCD screen –
Hour meter
Time
FNR indication
Trip computer
Metric/english
Differential lock*
Joystick steering indicator*
Engine speed
Automatic trans indication
DeClutch indication
Fuel consumption
Engine diagnostics
Error reporting
Travel speed
Current gear selection
Engine mode indication
Multiple languages
Transmission diagnostics
Engine oil temperature
Oil pressure
Coolant temperature
Transmission oil temperature
Transmission sump oil temperature
Hydraulic oil temperature
System voltage
Turbocharger air temperature
Fuel level percentage
Warning prompts
Warning lamps –
Main warning
Low fuel
Turn signals
Four-way flashers
High beam lights
Grid heater*
Low brake pressure
Low steering pressure
Parking brake
Audible/Visual alarms –
Caution alarm -
Parking brake
Coolant temperature
Hydraulic oil temperature
Transmission oil temperature
Air filter
Transmission filter
Hydraulic filter
Alternator
Low fuel
Critical alarm -
Engine oil pressure
Brake pressure
Steering pressure (w/aux steering)*
Coolant temperature
Hydraulic oil temperature
Transmission oil temperature
Backup alarm
Horn

NOTE: \*If equipped with option.

## OPERATOR ENVIRONMENT

ROPS cab w/ heat and air conditioning	
Key start	
Articulated power steering w/tilt column	
Fully adjustable, suspension seat, cloth-covered	
2 in (51 mm) retractable seat belt	
Foot throttle	
Single lever 2-function loader control w/wrist rest	
Cup holder	
Coat hook	
(1) Interior rearview mirror	
Storage tray behind seat	
Lunch box compartment	
Single brake pedal	
F/N/R shuttle switch	
Glove 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	
<b>LOADER</b>	
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	
<b>CYCLE TIME</b>	
Raise w/rated bucket load	6.2 sec
Dump w/rated bucket load	1.3 sec
Lower (empty)	
Power down	2.8 sec
Float down	2.6 sec

## SERVICE CAPACITIES

Fuel tank	125 gal (473 L)
Hydraulic system	
Total	66 gal (250 L)
Reservoir	34 gal (1304 L)
Transmission	
Service w/filter	48 qt (45.4 L)
Front and rear axle (standard)	
Front axle	44.4 qt (42 L)
Rear axle	48.3 qt (45.7 L)
Engine oil w/filter	28 qt (26.5 L)
Cooling system	15 gal (56.8 L)

## OPERATING WEIGHTS

### Z-Bar

Unit equipped with ROPS cab with heater and A/C, standard counterweight, 23.5R25 XHA2 tires, 5.5 yd<sup>3</sup> (4.0 m<sup>3</sup>) pin on w/bolt on edge, full fuel, 175 lb (79 kg) operator

53,791 lb (24 399 kg)

### XR

Unit equipped with ROPS cab with heater and A/C, full counterweight, 26.5R25 XHA2 tires, 5.5 yd<sup>3</sup> (4.0 m<sup>3</sup>) pin on w/bolt on edge, full fuel, 175 lb (79 kg) operator

56,633 lb (25 688 kg)

## STANDARD EQUIPMENT

### OPERATOR'S ENVIRONMENT

ROPS/FOPS cab structure

See page 5

### ENGINE

Case/FPT F2CFE614C

Tier 2 certified

Selectable work modes

Max power

Auto power

Standard power

Economy power

Auto shutdown (idle reduction device)

Turbocharger

Charge air cooling

Automatic fan belt tensioner

Integral engine oil cooling

Fuel filter w/water trap

Dual-element dry-type air cleaner

Hydraulic-driven cooling fan

Liquid-cooled radiator

Rear-mounted cooling module

Common rail electronic fuel injection

### LOADER

See page 5

### DRIVETRAIN

4-wheel drive

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

Transmission oil cooler

Brake pedal transmission disconnect

Hydraulic wet disc brakes

Spring-applied hydraulic release parking brake

Limp-Home Mode

Greasable rear axle trunnion

### HYDRAULICS

Single lever 2-function loader control valve

Low-effort steering

Hydraulic driven fan

(8) Diagnostic quick couplers

Split flange hydraulic connections (1 inch or greater)

Hydraulic oil cooler

### ELECTRICAL

95 amp alternator and voltage regulator

Electrical disconnect switch

(2) 900 CCA 12-volt batteries

Electric starter

Front and rear halogen flood lights

Tail lights and stop lights combined

(2) Front driving headlights (high/low beam)

(2) Front flood

(2) Rear flood

(2) LED Stop/tail lights

Front and rear turn signal/flash

Key start/stop switch

Centrally located fuse box with all electrical circuits protected

### OTHER

Electric hood lift

Front and rear fenders

Standard counterweight

Drawbar hitch

Articulation locking bar

Lift arm locking bar

Lift and tie-down points – front/rear

Backup alarm

Remote drain points

3-piece rims

## OPTIONAL EQUIPMENT

### OPERATOR'S COMPARTMENT

Heated cloth-covered air-suspension seat

Sound Shield noise suppression package

Radio, 12V AM/FM with auxiliary input

Radio-ready (12 or 24-volt) with

2 auxiliary power (12-volt) outlets

Cab convenience package

Rotating beacon

Second brake pedal

Joystick steering, w/ extra FNR,

kickdown buttons

External rear view mirrors

Rear view camera with accessory mount

Extra front-facing work lights

### DRIVETRAIN

Special application axles with locking front differential

Axle oscillation stops

Cold weather package

Engine block heater

Fuel heater

Hydraulic oil cooler bypass

Low temperature hydraulic oil

Grid heater

Ejector type pre-cleaner

Remote jump start receptacle

### HYDRAULICS

Auxiliary hydraulics

Ride Control

Secondary steering

3 or 4-function loader valves with 2 or 3-lever loader control

Variable speed hydraulic reversing fan

### LOADER

Extended reach XR

Attachment auxiliary hydraulics

Buckets (see pages 3 & 4)

### TIRES

26.5 x 25 L3 Bias

26.5 R25 L3 Radial

26.5 x 25 L5 Bias

26.5 R25 L5 Radial

### OTHER

Full coverage fenders

Tool box

Fire extinguisher

Side guards for rear frame

License plate brackets, front and rear

12 mph (20 kph) Max speed control

Wheel chocks



INTERNATIONAL

### CNH INTERNATIONAL SA

Riva Paradiso, 14

6902 Paradiso

SWITZERLAND



NOTE: Standard and optional fittings can vary according to the demands and specific 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 

**CASE**  
CONSTRUCTION