

## ENGINE

Make	FPT
Model	F4HFE6131 Tier 2 certified
Type	4-stroke, turbocharged
Cylinders	6-cylinder in-line
Bore/Stroke	4.09 in x 5.20 in (104 X 132 mm)
Displacement	411 in <sup>3</sup> (6.7 L)
Fuel injection	Direct injection (electronic)
Fuel	#2 Diesel (#1 & 2 mixture permitted for cold temperature) B20 biodiesel tolerant
Fuel filter	Replaceable, full flow spin-on cartridge
Fuel pump	Bosch CP 3.3
Fuel cooler	
Gradeability	35° fore /aft & side to side
Air filter	Dry type element w/warning restriction indicator
Mid-mount cooling module	External independent mounted coolers
Fan – Hydraulic drive	
Style	8 blade puller
Diameter	32 in (813 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	2000
Horsepower (per SAE J1349)	
Max Power Range –	
Peak Gross HP	255 hp (190 kW) @ 1600 RPM
Net HP @ Rated RPM	225 hp (168 kW) @ 2000 RPM
Peak Net HP	242 hp (180 kW) @ 1600 RPM
Standard Power Range –	
Net HP @ Rated RPM	185 hp (138 kW) @ 2000 RPM
Peak Net HP	213 hp (159 kW) @ 1600 RPM
Economy Power Range –	
Net HP @ Rated RPM	151 hp (112 kW) @ 2000 RPM
Peak Net HP	206 hp (154 kW) @ 1400 RPM

NOTE: Gross horsepower and torque per SAE J1995  
Net horsepower and torque per SAE J134

## ENGINE (CONTD.)

Torque – Peak	
Max Power Range –	
Gross	873 lb-ft (1184 N-m) @ 1300 rpm
Net	845 lb-ft (1145 N-m) @ 1300 rpm
Standard Power Range –	
Gross	828 lb-ft (1123 N-m) @ 1300 rpm
Net	800 lb-ft (1084 N-m) @ 1300 rpm
Economy Power Range –	
Gross	828 lb-ft (1123 N-m) @ 1300 rpm
Net	800 lb-ft (1084 N-m) @ 1300 rpm
Torque rise	
Max Power Range	49%

## DRIVETRAIN

Transmission	4F/3R Proportional w/Electronic Control Module torque sensing autoshift/manual shift and modulation	
Gears	Helical cut	
Torque converter		
Stall ratio	4 speed	5 speed
	2.28:1	2.35:1
Differential	Open on front and rear axles	
Rear axle oscillation	24° total	
Front and rear axles		
Differential ratio	4.11	
Planetary ratio	6.00	
Final axle ratio	24.67	
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/23.5 x 25 L3 tires)		
	Forward	Reverse
1st	4.0 (6.4)	4.2 (6.8)
2nd	7.4 (12.0)	7.8 (12.6)
3rd	14.3 (23.1)	15.0 (24.2)
4th	22.4 (36.0)	NA
NOTE: Travel speeds at full engine throttle.		

Parking brakes  
Spring-applied hydraulic release disc on  
transmission output shaft

## DRIVETRAIN (CONTD.)

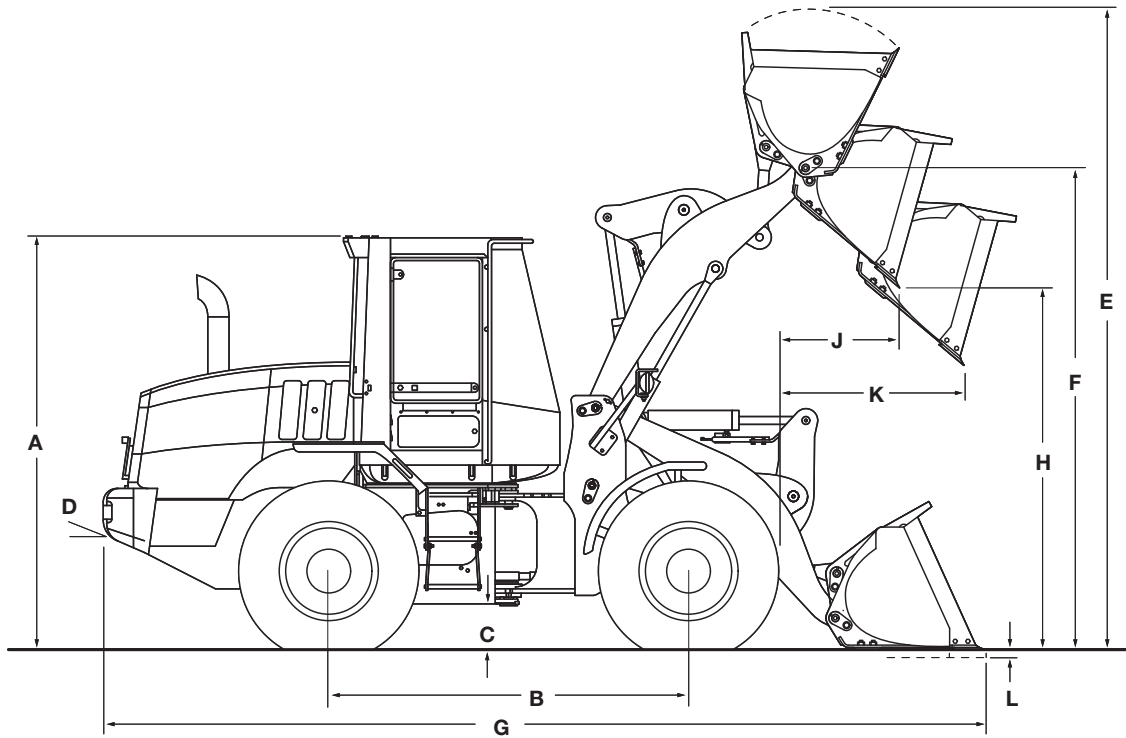
Service brakes	Hydraulically actuated, maintenance-free, multiple wet disc w/accumulator to all four wheels	
Brake surface area		
Front hub	841 in <sup>2</sup> (.542 m <sup>2</sup> )	
Rear hub	721 in <sup>2</sup> (.465 m <sup>2</sup> )	

## ELECTRICAL

Voltage	24 Volts, negative ground	
Alternator	65 amp	
Batteries	(2) 12-Volt	

## HYDRAULICS

Pump (steering/implement)	Closed center pressure/flow compensated	
Variable displacement	9.02 in <sup>3</sup> /rev 76.5 gpm @ 2000 rpm (290 L/min @ 2000 rpm)	
Loader control valve	Closed-center, sectional 2, 3 or 4-spool 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	3625 psi (25 000 kPa)	
Steering	3500 psi (24 132 kPa)	
Filtration	10-micron, full flow replaceable cartridges on return line, condition indicator light for filter	



## DIMENSIONS

<b>A.</b> Height to top of ROPS cab	135.8 in (3450 mm)
<b>B.</b> Wheelbase	131.5 in (3340 mm)
<b>C.</b> Ground clearance	16.4 in (415.8 mm)
<b>D.</b> Angle of departure	30°
Width –	
Overall* w/o bucket	113.6 in (2.89 m)
Centerline tread	87.8 in (2.23 m)
Turning radius* – outside	237.5 in (6.03 m)
Turning angle –	
From center	40°
Total angle	80°
Rear axle oscillation, total	24°

NOTE: \*Dimensions taken with 23.5R25 Michelin XHA2 tires. Additional dimensions on pages 3 & 4.

## WEIGHT ADJUSTMENTS

Load	Weight Adjustment	Tipping Load	Tipping
		Adjustment Straight	Adjustment 40° Turn
Base counterweight	-1,364 lb (-619 kg)	-3,143 lb (-1425 kg)	-2,652 lb (-1203 kg)
L2BIAS tires	-949 lb (-430 kg)	-726 lb (-329 kg)	-641 lb (-291 kg)
L3BIAS tires	-313 lb (-142 kg)	-239 lb (-109 kg)	-211 lb (-96 kg)
ROPS Canopy	-295 lb (-134 kg)	-255 lb (-116 kg)	-248 lb (-112 kg)

NOTE: Unit equipped with Z-Bar loader arms, 4.75 yd<sup>3</sup> (3.6 m<sup>3</sup>) pin on bucket w/bolt-on edge, 23.5R25 Michelin XHA2 tires, ROPS cab with heater/AC, full counterweight, heavy-duty batteries, front and rear fenders, full fuel and 175 lb (79 kg) operator. Adjust select options from rated weight.

## PERFORMANCE DATA

921F Z-Bar*	4.0 yd <sup>3</sup> General Purpose	4.0 yd <sup>3</sup> General Purpose	4.75 yd <sup>3</sup> General Purpose
	Pin On (3.1 m <sup>3</sup> )	Pin On (3.1 m <sup>3</sup> )	Pin On (3.6 m <sup>3</sup> )
	Bucket w/Bolt-on Edge	Bucket w/Teeth Only	Bucket w/Bolt-on Edge
SAE bucket capacity – struck	3.41 yd <sup>3</sup> (2.61 m <sup>3</sup> )	3.26 yd <sup>3</sup> (2.49 m <sup>3</sup> )	4.08 yd <sup>3</sup> (3.12 m <sup>3</sup> )
Heaped	4.00 yd <sup>3</sup> (3.06 m <sup>3</sup> )	3.83 yd <sup>3</sup> (2.93 m <sup>3</sup> )	4.75 yd <sup>3</sup> (3.63 m <sup>3</sup> )
Bucket width – outside	119.3 in (3030 mm)	119.3 in (3030 mm)	119.3 in (3030 mm)
Bucket weight	3,619 lb (1641 kg)	3,468 lb (1573 kg)	3,932 lb (1783 kg)
<b>E.</b> Operating height – fully raised w/spillguard	213.8 in (5430 mm)	213.8 in (5430 mm)	219.8 in (5583 mm)
<b>F.</b> Hinge pin height – fully raised	162.1 in (4118 mm)	162.1 in (4118 mm)	162.1 in (4118 mm)
<b>G.</b> Overall length – bucket level on ground	308.4 in (7833 mm)	313.9 in (7973 mm)	314.0 in (7976 mm)
Dump angle – fully raised	55°	55°	55°
<b>H.</b> Dump height – fully raised, 45° dump	118.0 in (2998 mm)	114.5 in (2908 mm)	114.4 in (2906 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	42.7 in (1084 mm)	46.9 in (1192 mm)	47.0 in (1194 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	66.4 in (1687 mm)	68.9 in (1751 mm)	69.0 in (1752 mm)
Operating load – ISO	16,002 lb (7258 kg)	16,252 lb (7372 kg)	15,703 lb (7123 kg)
Maximum material density – SAE	3,672 lb/yd <sup>3</sup> (2179 kg/m <sup>3</sup> )	3,892 lb/yd <sup>3</sup> (2309 kg/m <sup>3</sup> )	3,027 lb/yd <sup>3</sup> (1796 kg/m <sup>3</sup> )
Tipping load – ISO			
Straight	37,190 lb (16 869 kg)	37,738 lb (17 118 kg)	36,551 lb (16 579 kg)
40° turn	32,003 lb (14 517 kg)	32,503 lb (14 743 kg)	31,406 lb (14 245 kg)
Lift capacity –			
Full height	26,962 lb (12 230 kg)	27,132 lb (12 307 kg)	26,638 lb (12 083 kg)
Maximum reach	36,346 lb (16 486 kg)	36,537 lb (16 573 kg)	35,994 lb (16 327 kg)
Ground	48,236 lb (21 879 kg)	48,610 lb (22 049 kg)	46,622 lb (21 148 kg)
Breakout force w/tilt cylinder	42,128 lb (19 109 kg)	45,355 lb (20 573 kg)	37,552 lb (17 034 kg)
Maximum rollback –			
Ground	42°	42°	42°
Carry position	44°	44°	44°
@ Maximum reach	54°	54°	54°
@ Full height	59°	59°	59°
<b>L.</b> Dig depth	3.1 in (80 mm)	3.1 in (80 mm)	3.1 in (80 mm)
Maximum grading angle w/bucket – back dragging	60°	61°	61°
Loader clearance circle	522.2 in (13 264 mm)	525.3 in (13 344 mm)	525.4 in (13 345 mm)
<b>921F/XR</b>	<b>4.0 yd<sup>3</sup> General Purpose</b>	<b>4.0 yd<sup>3</sup> General Purpose</b>	<b>4.75 yd<sup>3</sup> General Purpose</b>
	<b>Pin On (3.1 m<sup>3</sup>)</b>	<b>Pin On (3.1 m<sup>3</sup>)</b>	<b>Pin On (3.6 m<sup>3</sup>)</b>
	<b>Bucket w/Bolt-on Edge</b>	<b>Bucket w/Teeth Only</b>	<b>Bucket w/Bolt-on Edge</b>
<b>E.</b> Operating height – fully raised w/spillguard	231.2 in (5872 mm)	231.2 in (5872 mm)	237.2 in (6025 mm)
<b>F.</b> Hinge pin height – fully raised	179.5 in (4560 mm)	179.5 in (4560 mm)	179.5 in (4559 mm)
<b>G.</b> Overall length – bucket level on ground	327.5 in (8318 mm)	333.0 in (8458 mm)	333.1 in (8461 mm)
Dump angle – fully raised	49°	49°	49°
<b>H.</b> Dump height – fully raised, 45° dump	135.4 in (3439 mm)	131.9 in (3350 mm)	131.8 in (3347 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	47.1 in (1197 mm)	51.3 in (1304 mm)	51.4 in (1307 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	83.5 in (2122 mm)	86.3 in (2193 mm)	86.4 in (2194 mm)
Operating load – ISO	12,719 lb (5769 kg)	12,916 lb (5859 kg)	12,454 lb (5649 kg)
Maximum material density – SAE	2,957 lb/yd <sup>3</sup> (1754 kg/m <sup>3</sup> )	3,135 lb/yd <sup>3</sup> (1860 kg/m <sup>3</sup> )	2,434 lb/yd <sup>3</sup> (1444 kg/m <sup>3</sup> )
Tipping load – ISO			
Straight	29,790 lb (13 512 kg)	30,219 lb (13 707 kg)	29,229 lb (13 258 kg)
40° turn	25,437 lb (11 538 kg)	25,832 lb (11 717 kg)	24,909 lb (11 298 kg)
Lift capacity –			
Full height	24,970 lb (11 326 kg)	25,193 lb (11 403 kg)	24,650 lb (11 181 kg)
Maximum reach	31,497 lb (14 287 kg)	31,697 lb (14 378 kg)	31,135 lb (14 123 kg)
Ground	37,116 lb (16 836 kg)	37,477 lb (16 999 kg)	36,435 lb (16 527 kg)
Breakout force w/tilt cylinder	42,840 lb (19 432 kg)	46,119 lb (20 919 kg)	38,192 lb (17 324 kg)
Loader clearance circle	541.6 in (13 756 mm)	545.4 in (13 852 mm)	545.4 in (13 854 mm)

## PERFORMANCE DATA

### 921F Z-Bar\*

#### 4.75 yd<sup>3</sup> General Purpose Pin On (3.6 m<sup>3</sup>) Bucket w/Teeth Only

SAE bucket capacity – struck	3.98 yd <sup>3</sup> (3.04 m <sup>3</sup> )
Heaped	4.59 yd <sup>3</sup> (3.51 m <sup>3</sup> )
Bucket width – outside	119.3 in (3030 mm)
Bucket weight	3,780 lb (1715 kg)
<b>E.</b> Operating height – fully raised w/spillguard	219.8 in (5584 mm)
<b>F.</b> Hinge pin height – fully raised	162.1 in (4118 mm)
<b>G.</b> Overall length – bucket level on ground	319.5 in (8117 mm)
Dump angle – fully raised	55°
<b>H.</b> Dump height – fully raised, 45° dump	110.8 in (2815 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	51.2 in (1302 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	71.4 in (1813 mm)
Operating load – ISO	15,945 lb (7233 kg)
Maximum material density – SAE	3,180 lb/yd <sup>3</sup> (1887 kg/m <sup>3</sup> )
Tipping load – ISO	
Straight	37,081 lb (16 820 kg)
40° turn	31,890 lb (14 465 kg)
Lift capacity –	
Full height	26,808 lb (12 160 kg)
Maximum reach	36,185 lb (16 413 kg)
Ground	47,926 lb (21 739 kg)
Breakout force w/tilt cylinder	40,130 lb (18 203 kg)
Maximum rollback –	
Ground	42°
Carry position	44°
@ Maximum reach	54°
@ Full height	59°
<b>L.</b> Dig depth	3.1 in (80 mm)
Maximum grading angle w/bucket – back dragging	62°
Loader clearance circle	528.7 in (13 428 mm)

### 921F/XR

#### 4.75 yd<sup>3</sup> General Purpose Pin On (3.6 m<sup>3</sup>) Bucket w/Teeth Only

<b>E.</b> Operating height – fully raised w/spillguard	237.2 in (6025 mm)
<b>F.</b> Hinge pin height – fully raised	179.5 in (4560 mm)
<b>G.</b> Overall length – bucket level on ground	338.7 in (8602 mm)
Dump angle – fully raised	49°
<b>H.</b> Dump height – fully raised, 45° dump	128.2 in (3257 mm)
<b>J.</b> Bucket reach – fully raised, 45° dump	55.7 in (1414 mm)
<b>K.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	89.1 in (2262 mm)
Operating load – ISO	12,647 lb (5737 kg)
Maximum material density – SAE	2,557 lb/yd <sup>3</sup> (1517 kg/m <sup>3</sup> )
Tipping load – ISO	
Straight	29,647 lb (13 448 kg)
40° turn	25,294 lb (11 473 kg)
Lift capacity –	
Full height	24,818 lb (11 257 kg)
Maximum reach	31,334 lb (14 213 kg)
Ground	36,784 lb (16 685 kg)
Breakout force w/tilt cylinder	40,811 lb (18 511 kg)
Loader clearance circle	549.3 in (13 953 mm)

#### NOTE:

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

Performance data unit equipped with 23.5R25 Michelin XHA2 tires, ROPS cab w/heater and A/C, full counterweight, standard batteries, front and rear fenders, 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
- Warning prompts
- Diff. lock\*
- 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

Indicator lights –

- Low fuel
- Turn signals
- Four-way flashers
- High beam lights
- Grid heater\*
- Brake pressure
- Master indicator
- Secondary steering\*
- 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

Key start

Articulated power steering w/tilt column

Fully adjustable, suspension seat

Foot throttle

Single lever 2-spool loader control w/wrist rest

Cup holder

Coat hook

(1) Interior rearview mirror

2 in (51 mm) retractable seat belt

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

## LOADER

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

## CYCLE TIME

Raise w/rated bucket load 6.2 sec

Dump w/rated bucket load 1.4 sec

Lower (empty)

Power down 3.8 sec

Float down 3.1 sec

## SERVICE CAPACITIES

Fuel tank 76 gal (288 L)

Hydraulic system

Total 53 gal (200 L)

Reservoir 29 gal (110 L)

Transmission

Service w/filter 36 qt (34.1 L)

Front and rear axle

Front axle 44.4 qt (42 L)

Rear axle 42.3 qt (40 L)

Engine oil w/filter

16 qt (15.1 L)

Cooling system

32 qt (30 L)

## OPERATING WEIGHTS

### Z-Bar

Unit equipped with ROPS cab with heater and A/C, full counterweight, 23.5R25 XHA2 tires, wide front and rear fenders, 4.75 yd<sup>3</sup> (3.6 m<sup>3</sup>) pin on w/bolt on edge, full fuel, 175 lb (79 kg) operator

43,778 lb (19 857 kg)

### XR

Unit equipped with ROPS cab with heater and A/C, full counterweight, 23.5R25 XHA2 tires, wide front and rear fenders, 4.75 yd<sup>3</sup> (3.6 m<sup>3</sup>) pin on w/bolt on edge, full fuel, 175 lb (79 kg) operator

44,090 lb (19 999 kg)

## STANDARD EQUIPMENT

### OPERATOR'S ENVIRONMENT

ROPS/FOPS cab structure  
See page 5

### ENGINE

FPT F4HFE6131  
Tier 2 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 dry-type air cleaner  
Hydraulic-driven cooling fan  
65 amp alternator  
(2) 700 CCA 12-volt batteries  
Liquid-cooled radiator  
Mid-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  
Greaseable rear axle trunnion

### HYDRAULICS

Single lever 2-spool loader control valve  
Low-effort steering  
Hydraulic driven fan  
(8) Diagnostic quick couplers  
Split flange hydraulic connections (1 inch or greater)  
Hydraulic cooler

### ELECTRICAL

Alternator and voltage regulator  
Electrical disconnect  
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) LED Stop/tail lights  
(2) Rear flood  
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

## OPTIONAL EQUIPMENT

### OPERATOR'S COMPARTMENT

Heated cloth-covered air-suspension seat  
Sound Shield noise suppression package  
Cab air-conditioning w/heater  
Radio  
Radio-ready (12 or 24-volt) with auxiliary power (12-volt)  
Cab convenience package  
RH steps and platform  
Rotating beacon  
Second brake pedal  
Open ROPS  
Joystick steering  
External rear view mirrors  
Rear view camera with accessory mount  
Extra front-facing work lights

### DRIVETRAIN

Special application axles with locking front differential  
Cold weather package  
Heavy-duty (2) 950 CCA 12V batteries  
Fuel heater  
Hydraulic oil cooler bypass  
Low temperature hydraulic oil  
Grid heater  
Full-view or ejector type pre-cleaner  
Remote jump start receptacle

### HYDRAULICS

Auxiliary hydraulics  
Ride Control  
Secondary steering  
3 or 4-spool 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

23.5 x 25 L3 Bias  
23.5 R25 L2 Radial  
23.5 R25 L3 Radial

### OTHER

Special paint  
Full coverage fenders  
Belly pan  
Tool box  
Full counterweight - Z-Bar  
Fire extinguisher  
Spare wheels and tires  
Side guards for rear frame  
License plate bracket  
20 kph Max speed control



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