



Jerrick Hernandez &lt;jhernandez@guamopa.com&gt;

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**In the Appeal of Morrigo Equipment, LLC; OPA-PA-24-001**

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**Sosanbra Salas** <ssalas@rwtguam.com>

Fri, Jul 19, 2024 at 3:17 PM

To: Jerrick Hernandez &lt;jhernandez@guamopa.com&gt;

Cc: "Joseph C. Razzano" &lt;jrazzano@rwtguam.com&gt;, "Joshua D. Walsh" &lt;jdwalsh@rwtguam.com&gt;, "Tabitha H. Madarang" &lt;tmadarang@rwtguam.com&gt;

Dear Mr. Hernandez:

Please see the attached (3) three documents submitted for filing:

1. Appellant's Exhibit List.
2. Appellant's Witness List.
3. Appellant's List of Issues.

Should you have any questions or concerns, please feel free to contact our office. Thank you.

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Regards,

**Sosanbra Santos S. Reyes****RAZZANO WALSH & TORRES, P.C.**

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**3 attachments** **PLDG - Appellant's Witness List.pdf**  
45K **PLDG - Appellant's List of Issues.pdf**  
51K **PLDG - Appellant's Exhibit List.pdf**  
2729K

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*Counsel for Appellant*  
*Morrigo Equipment, LLC*

**PROCUREMENT APPEAL OF DENIAL OF PROCUREMENT PROTEST  
IN THE OFFICE OF PUBLIC ACCOUNTABILITY**

In the Appeal of

MORRICO EQUIPMENT, LLC,

Appellant.

**DOCKET NO. OPA-PA-24-001**

**APPELLANT'S EXHIBIT LIST**

Appellant Morrigo Equipment, LLC, by and through its attorneys of record, Joshua D. Walsh, and Joseph C. Razzano, may introduce one or more of the below described exhibits at trial:

EX.	DATE	DESCRIPTION
1-001		Certification of Completed Procurement Record.
2-001-2-002		Newspaper Advertisement.
3-001-3-035		Procurement Package.

4-001-4-005		Procurement Package Distribution Log.
5-001-5-007		Amendments.
6-001-6-019		Amendment Distribution Log.
7-001		Pre-Submission Conference Minutes N/A
8-001		Pre-Submission Conference Attendance Log N/A
9-001-9-006		Bidder's Written Questions
10-001-10-005		Written Answers
11-001-11-017		Proof of Written Answers Provided to Bidders.
12-001-12-002		Bidders Package Submission Log
13-001-13-141		Procurement Packages Received
14-001-14-003		Bid Analysis
15-001-15-003		Bid Abstract
16-001-16-003		Bid Status

17-001		Memorandum of Evaluations & Negotiations N/A
18-001-18-003		Notice of Intent of Possible Award
19-001-19-130		Communication Log
20-001-20-074		Contract
21-001-21-008		Protests
22-001-22-002		Determination of Need
23-001		Rise and Fall Specifications.
24-001-24-005		Eco Drive Specifications
25-001-25-004		CAT 908K Compact Wheel Loader
26-001-26-012		244P Compact Wheel Loader
27-001-27-004		CASE 221F Compact Wheel Loader

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Appellant reserves the right to add to this list and use any exhibits listed in the Exhibit Lists of counsel for GSWA. Appellant further reserves the right to use the Procurement Record.

Respectfully submitted this 19<sup>th</sup> day of July 2024.

RAZZANO WALSH & TORRES, P.C.

By:   
\_\_\_\_\_  
JOSEPH C. RAZZANO  
JOSHUA D. WALSH  
*Attorneys for Appellant*

**RISE AND FALL  
SPECIFICATIONS**

**23-001**

Bid Specification	Ground Clearance Under Shaft	Ground Clearance Under Axle	Ground Clearance	Comments
Axle Oscillation total – 20°	17.3 inches (440 mm)	12.5 inches (317 mm)	12.5in (317mm)	To ensure that the tail of the pass ability and adapt to different conditions. The basic unit shown in degrees. A larger performance. This is a common products. Not only CASE, C have same specification de brochure for your reference
Rear Axle Oscillation - 16°			11 inches (285 mm)	
<b>Hydraulically driven, proportionally controlled fan or belt-driven fan</b>	Fan Style Direct Drive	Comments CASE has Smart ECO Mode, automatic regulation of the engine speed and to maintain the desired vehicle speed while optimizing the engine effort and cooling fans can more directly respond to the heat dissipation requirements speeds.		
Hydraulically driven, proportionally controlled fan or belt-driven fan	Fan Style Hydraulically driven, proportionally controlled	Comments It is not very clear this proportionally controlled fan switching critical point normal circumstances, it is divided into two levels according to low speed least for one thing, the hydraulic control fan will consume an additional power system power.		

**ECO DRIVE  
SPECIFICATIONS  
24-001 - 24-005**



General Business

## CASE F-SERIES CWL Evolution

### CAB CONSOLE

**Main 2023 EH product contents: the New Rubber Console**

- Consistency and **same** operator experience **as Large Wheel Loaders**
- Same features with same icon and buttons layout
- Intuitive and operator-friendly

<b>Rot. Beacon / Fr Work Lights / F&amp;R Work lights</b>	
<b>Settings RTD RTH RTT &amp; Float Position</b>	
<b>Eco/Creep Sp./Cruise C/Bkt Speed / Quick Coupler</b>	
<b>Ride Ctrl / 3rd-4th function switch / Lift Speed / Hyd Cut off</b>	

**CASE** March 23 Compact Wheel Loaders 1

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General Business

## CASE F-SERIES CWL Evolution

### ENGINE - ECO DRIVE MODE

**Smart feature : the ECO MODE**

**ADVANTAGES:** reduction of **fuel consumption and noise during traveling**

**HOW IT WORKS:** **automatic regulation** of the **engine speed** and of pump displacement in order to maintain the desired vehicle speed while **optimizing the engine effort at 1700 rpm**

**CASE** March 23 F - Series Evolution - Compact Wheel Loaders 2

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General Business

## CASE F-SERIES CWL Evolution ENGINE - ECO DRIVE MODE


### Smart feature : the ECO MODE

#### Eco Mode activation

The ECO Mode can only be activated "in rabbit".  
 If the ECO Mode is activated while working "in turtle", the machine will be switched automatically to rabbit mode and the driver will be notified on the display by the blinking ECO icon.

If it is activated:

- lower than 1700 rpm, rpm will be set not to exceed that value.  
 Below 1700 rpm the reduction will be proportional to the pressure made on the accelerator pedal
- higher than 1700 rpm, the software will reduce them to 1700 with a gradual ramp-down.



**CASE** March 23 F – Series Evolution - Compact Wheel Loaders 3

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General Business


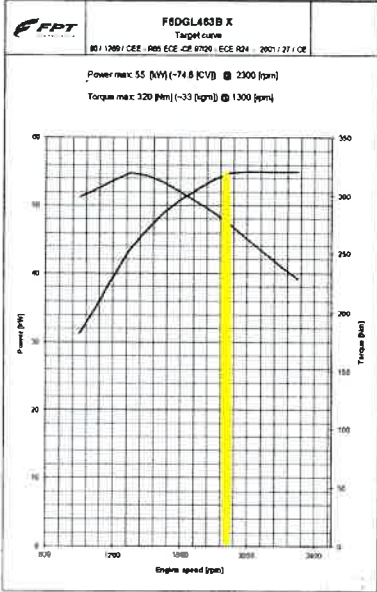
## CASE F-SERIES CWL Evolution ENGINE - ECO DRIVE MODE

### Smart feature : the ECO MODE

The ECO Mode is based on a more balanced management of the engine rpm and of the consequent torque (here on the side the engine curve).  
 When doing more demanding operations with the ECO Mode selected, the engine power will remain limited to 1700 rpm and the pushing power of the machine will be consequential, although we reckon the engine output at 1700 rpm will still guarantee a sufficient torque for the digging/lifting job a CWL regularly does.

If the operator considers the pushing power of the machine is too limited for the job, the suggestion is to disengage the ECO Mode and to reset it once the need for a higher power is no longer there.

This engine curve is the one officially measured for the engine approval.  
 Since the ECO Mode function is to limit the rpm to 1700, you can take the point of the curve at 1700 rpm in the graph. That will be the regular ECO Mode torque.


**CASE** March 23 F – Series Evolution - Compact Wheel Loaders 4

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General Business

## CASE F-SERIES CWL Evolution

### DRIVE LINE – AXLE OSCILLATION



**REAR CAB stays always vertical**  
so machine balance is intuitive for operator

**Maximum STABILITY**  
Big WL / wheel loaders design  
**Superior stability triangle**  
- front axle to center of rear axle

**CASE** March 23 Compact Wheel Loaders 5

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General Business

## CASE F-SERIES CWL Evolution

### DRIVE LINE – CREEP SPEED

# Main EH product contents: the **New Console**

**Creep speed**  
Creep speed is designed to allow the engine to run at high or full rpm while the travel speed remains low and undercontrol  
**Useful for tools requiring high hyd. power at slow travel speed like cold planers, snow blowers**



Engine rpm knob



**CASE** March 23 Compact Wheel Loaders 6

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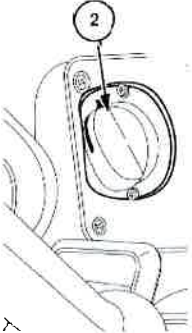


General Business

## CASE F-SERIES CWL Evolution

### DRIVE LINE – CREEP SPEED

**Creep Speed activation**

- machine in idle
- in 1<sup>st</sup> gear
- not Eco mode
- accelerator pedal released
- hand throttle down to minimum
- quick coupler disabled ( for safety reasons )
- + Icon appears on screen ( notifying drive line decoupled from the hydraulics)
- + then PEDAL drives travel speed & KNOB drive Engine rpm

For constant speed activation: press "+ Mem" button #2 on the back of the joystick ( using index finger )

Speed can be incremented by pressing the "+" (#2) and "-" (#3) buttons on joystick

**CASE** March 23 Compact Wheel Loaders

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General Business

## CASE F-SERIES CWL Evolution

### DRIVE LINE – CREEP SPEED – COMPLETE MANUAL

**CREEP SPEED**

The creep speed is activated by pressing the "snail" switch on the keypad. With its activation, the same "snail" icon appears on the display.

The creep speed is activated as follows: the machine has to be idle and in first gear (not in ECO Mode), with the accelerator pedal released, the hand throttle down to the minimum and the quick coupler disabled (for safety reasons).




With the "snail" icon appearing on the display the operator is notified that the transmission has been decoupled from the hydraulics. From that moment on, the hand throttle controls the RPM while the accelerator pedal controls the travel.

In order to set a constant speed the creep mode should be used in conjunction with the cruise control. The cruise control is activated on the keypad, the desired speed is set (or modified) with the buttons "+MEM" and "-RESUME" located on the rear side of the joystick.

The creep speed is activated with the machine idle and its movement starts by pressing the accelerator pedal. Once the machine has moved forward, the operator can set a constant speed by using the "+MEM" button. The setting of the speed is confirmed by an acoustic signal and on the display with a number between 0 and 100. The speed can be incremented or reduced using the "+" and "-" buttons on the joystick. Each incremental value of 1 is equal to 0.1 kph (49 = 4.9 kph) up to 5 kph. Starting from 51 each incremental value will correspond to 0,3 kph (51 = 5,3 kph, 52 = 5,6 kph etc...).

By operating the brake pedal the cruise control is deactivated, but the memorized speed remains on the display. By pressing the "- RESUME" button at the same time as the accelerator pedal the machine will return to the previously set constant speed.

The cruise control may also be activated with the machine idle with 0 kph speed, setting the desired speed by pressing the "+ (#2) button and adjusting it by pressing the "+" (#2) or "-" (#3) buttons until the machine moves to a speed that better suits the needs of the operator and/or of the attachment used. In that case the speed will be displayed starting from 0,1 kph.

**CASE** March 23 Compact Wheel Loaders

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General Business

## CASE F-SERIES CWL Evolution

### DRIVE LINE – CRUISE CONTROL

**Smart features EH models : Cruise Control**

**ADVANTAGES:** maintains a selected constant speed without the use of the accelerator pedal. Improved comfort during **long distance traveling**. With activated Cruise Control the vehicle **can still be accelerated to a higher speed by pressing the drive pedal**. When the **drive pedal is released the Cruise Control returns to the previously set speed**

**HOW IT WORKS:** the engine speed is held constant while the displacement of the pump is automatically regulated to maintain the desired vehicle speed

**CASE** March 23 F - Series Evolution - Compact Wheel Loaders 9

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General Business

## CASE F-SERIES CWL Evolution

### DRIVE LINE – CRUISE CONTROL

**Cruise Control activation**

- with the machine moving forward at the desired speed, **press the "+ MEM" button (#2) on the rear side of the joystick**. An acoustic signal will be heard and a 4 second pop-up will appear on the display
- At that moment, the operator can release the accelerator pedal and the machine will continue to move forward at a constant speed.
- The pop-up will appear again on the display when the speed is modified or a new constant speed is memorized.
- By pressing the accelerator pedal, the operator can override the constant speed, that will however remain memorized. The operator can then decide to go back to the previously set speed (by releasing the accelerator pedal) or set a new constant speed by repeating the procedure from the beginning.
- nb : you cannot make the recorded value vary with buttons , you need to memorize it again

**CASE** March 23 Compact Wheel Loaders 10

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**CAT 908K**  
**Compact Wheel Loader**  
**25-001 – 25-004**



# Cat® 908K

## COMPACT WHEEL LOADER

### FEATURES:

The Cat® 908K delivers high performance with outstanding versatility. Spacious cab with joystick control keeps you comfortable throughout the work day, allowing you to get more done. Loader design delivers strength and durability with superior control.

- **High Performance** – With its high full turn tipping loads and breakout forces, the K Series delivers a powerful solution for all customer applications.
- **Ease of Operation** – State of the art electrohydraulic system provides low effort, fine control with fast cycle times. All-in-one joystick helps keep eyes on the work. Operator can adjust machine responsiveness with the push of a button, which allows the operator to set up the machine exactly the way they want it based on the application.
- **Cat Optimized Z-bar Loader Linkage** – The Cat optimized Z-bar loader linkage combines the digging efficiency of a traditional Z-bar with tool carrier capabilities for great performance and versatility. With parallel lift and high tilt forces throughout the working range you can safely and confidently handle loads with precise control.

- **Power Train** – Heavy duty axles and 100% diff-lock come standard on both the 20 km/h (12 mph) standard speed machine as well as the 35 km/h (22 mph) high speed option. Ride control is also available as an option, for added comfort and load retention when having to travel longer distances.
- **Versatility** – Whether using a Pin-On, ISO (wide) or Skid Steer Loader (SSL) style coupler, combined with standard flow or optional high flow hydraulics, the Cat Compact Wheel Loaders can use a large range of work tools including hydro mechanical work tools.
- **Serviceability** – The design of the K Series allows quick and easy servicing. Tilt up engine hood and side service doors give exceptional access to the major components safely from ground level. S-O-S<sup>SM</sup> oil ports and pressure test points enable easy preventative maintenance.
- **Cab** – High visibility cab increases comfort with an available deluxe seat, intuitive controls and settings. Optional soft touch pad contains new electronic functions and settings including Implement Modulation and Hystat Aggressiveness, Ride Control, Return to Dig, Lift Kickout, Engine Speed Control, and Rimpull Control. Optional built-in Machine Security System prevents machine theft.

## Specifications

### Engine

Engine Model	Cat C3.3B DIT*	
Rated Net Power @ 2,500 rpm		
SAE J1349	51 kW	68 hp
Maximum Gross Power		
ISO 14396	55 kW	73 hp
SAE J1995	55 kW	74 hp
Maximum Net Power		
ISO 9249	52 kW	69 hp
SAE J1349	51 kW	68 hp

\*The Cat C3.3B DIT engine meets U.S. EPA Tier 4 Interim/EU Stage IIIA or U.S. EPA Tier 2/EU Stage II equivalent emission standards.

### Weight

Operating Weight	6365 kg	14,032 lb
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Note: Machine with full fuel tank, ROPS/FOPS cab, 80 kg (176 lb) operator, skid steer loader coupler (SSL) and general purpose bucket (GP).

### Buckets

Bucket Capacities		
ISO Coupler	0.9-1.5 m <sup>3</sup>	
SSL Style Coupler	1.2-2.0 yd <sup>3</sup>	

### Travel Speeds

Speed 1	10 km/h	6.2 mph
Speed 2	20 km/h	12.4 mph
High Speed	35 km/h	21.7 mph

### Hydraulic System

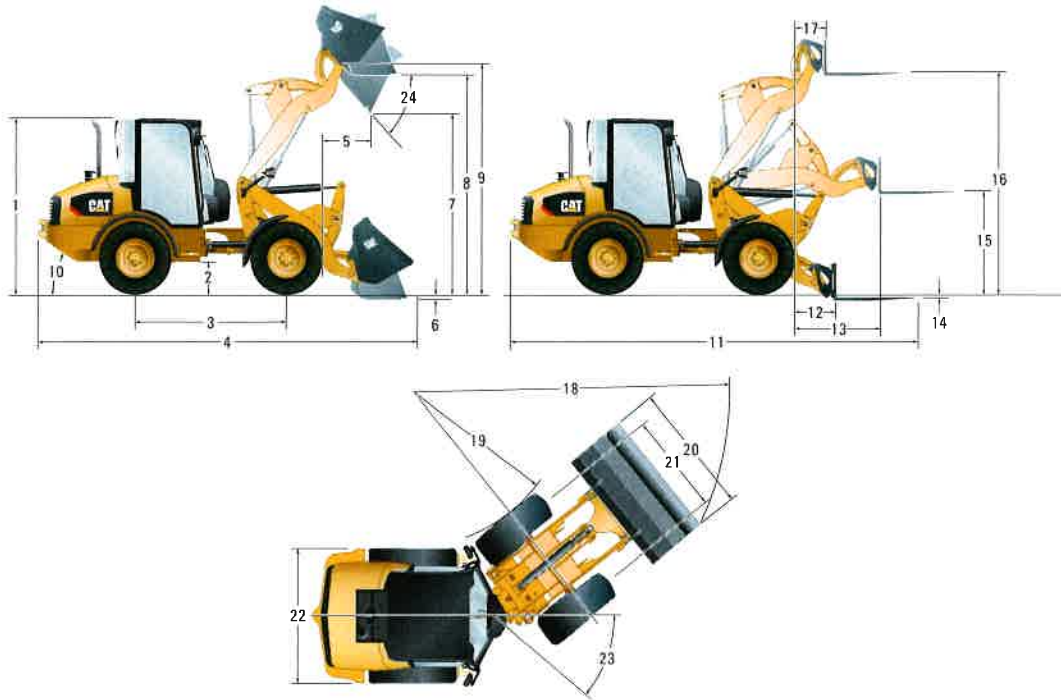
Main Relief – 3rd Aux Flow	235 bar	3,400 psi
Standard	85 L/min	22 gal/min
High Flow	130 L/min	34 gal/min
Hydraulic Cycle Time		
Lift	5.2 seconds	
Lower	3.2 seconds	
Dump	1.3 seconds	
Rack Back	2.1 seconds	

### Service Refill Capacities

Cooling System	17 L	4.5 gal
Fuel Tank	78 L	20.6 gal
Hydraulic System	70 L	18.5 gal
Engine Oil	11.2 L	3.0 gal



# 908K Compact Wheel Loader



## Dimensions

(All dimensions are approximate. Dimensions shown are based on the machine equipped with general purpose bucket and standard 405/70 SPT9 tires.)

	With ISO Coupler		With SSL Coupler	
1 Cab Height	2650 mm	8 ft 8 in	2650 mm	8 ft 8 in
2 Ground Clearance	340 mm	13 in	340 mm	13 in
3 Wheelbase	2170 mm	7 ft 1 in	2170 mm	7 ft 1 in
4 Overall Length with Bucket	5630 mm	18 ft 5 in	5760 mm	18 ft 11 in
5 Reach at Maximum Dump Height	770 mm	2 ft 6 in	855 mm	2 ft 10 in
6 Dig Depth	101 mm	3.9 in	95 mm	3.7 in
7 Maximum Dump Height	2620 mm	8 ft 7 in	2540 mm	8 ft 4 in
8 Load Over Height	3215 mm	10 ft 7 in	3215 mm	10 ft 7 in
9 Hinge Pin at Maximum Height	3410 mm	11 ft 2 in	3410 mm	11 ft 2 in
10 Departure Angle (Degrees)	33°		33°	
11 Overall Length with Forks	6016 mm	19 ft 8 in	6150 mm	20 ft 2 in
12 Reach at Ground Level	789 mm	2 ft 7 in	925 mm	3 ft
13 Maximum Reach	1309 mm	4 ft 3 in	1445 mm	4 ft 9 in
14 Fork Depth Below Ground (Above Ground)	71 mm	2.8 in	30 mm	1.2 in
15 Fork Height at Maximum Reach	1450 mm	4 ft 9 in	1525 mm	5 ft
16 Maximum Fork Height	3324 mm	10 ft 10 in	3300 mm	10 ft 10 in
17 Fork Reach at Maximum Height	460 mm	1 ft 6 in	595 mm	1 ft 11 in
18 Turning Radius Over Bucket	4530 mm	14 ft 10 in	4560 mm	15 ft
19 Turning Radius Inside Tire	2080 mm	6 ft 10 in	2080 mm	6 ft 10 in
20 Width Over Bucket	2080 mm	6 ft 10 in	2060 mm	6 ft 9 in
21 Tire Gauge	1570 mm	5 ft 2 in	1570 mm	5 ft 2 in
22 Machine Width	1985 mm	6 ft 6 in	1985 mm	6 ft 6 in
23 Articulation Angle (Degrees)	39°		39°	
24 Dump Angle at Maximum Height (Degrees)	45°		45°	



# 908K Compact Wheel Loader

## Operating Specifications

Machine with full fuel tank, ROPS/FOPS cab, 80 kg (176 lb) operator, either SSL or ISO coupler and general purpose bucket (GP).

Coupler Type	ISO		SSL	
	405/70 R20		405/70 R20	
Tire Size	405/70 R20		405/70 R20	
Operating Weight	6350 kg	13,995 lb	6365 kg	14,032 lb
Rated Bucket Capacity	1.1 m <sup>3</sup>	1.4 yd <sup>3</sup>	1.1 m <sup>3</sup>	1.4 yd <sup>3</sup>
Breakout Force, Bucket	61 kN	13,712 lb	47 kN	10,566 lb
Rated Operating Load at Full Turn, Bucket	2013 kg	4,438 lb	1885 kg	4,156 lb
Straight Tipping Load, Bucket	4940 kg	10,891 lb	4630 kg	10,207 lb
Full Turn Static Tipping Load, Bucket	4025 kg	8,874 lb	3770 kg	8,311 lb
Rack Back, Transport Position	52°		52°	
Rated Operating Load at Full Turn, Forks (EN 474-3:2006, firm and level ground, 1.25 stability and 500 mm [20 in] load center)	2523 kg	5,561 lb	2355 kg	5,192 lb

## Cab Features

Standard Cab Features	Comfort Cab	Deluxe Cab	Canopy
Cup Holder	•	•	•
Two Access Doors	•	•	
Fixed Steering Column			•
Adjustable Steering Column	•	•	
Vinyl Suspension Seat			•
Cloth Suspension Seat, Arm Rest	•		
Cloth, Electric Air Suspension, Arm/Head Rest, Lumbar Support and Heated Back Seat		•	
Left Window – Sliding	•	•	
Right Window – Sliding		•	
Heated Rear Window	•	•	
Coat Hook	•	•	•
Cabin Light	•	•	
Sun Visor	•	•	•
Radio-ready Kit (wiring, speaker, aerial and grilles)		•	
External Knock Back Mirrors	•	•	•
Lockable Storage Box	•	•	•
Adjustable Internal Mirror	•	•	•
Heater	•	•	
<b>Optional Cab Features</b>			
Air Conditioner	•	•	
Cat Radio/CD/MP3/WMA/AUX	•	•	
Rear Blind	•	•	
Machine Security System	•	•	
Radio-ready Kit (wiring, speaker, aerial and grilles)	•		

## Maximum Material Densities

Based on ISO 7546:1983, and rated operating loads at full turn.

Bucket Type	General Purpose		Multi Purpose		Light Material	
Rated Capacity	1.1 m <sup>3</sup>	1.4 yd <sup>3</sup>	0.9 m <sup>3</sup>	1.2 yd <sup>3</sup>	1.5 m <sup>3</sup>	2.0 yd <sup>3</sup>
Dump Height	2540 mm	100 in	2630 mm	104 in	2345 mm	92 in
Maximum Material Density	1549 kg/m <sup>3</sup>	2,611 lb/yd <sup>3</sup>	1929 kg/m <sup>3</sup>	3,251 lb/yd <sup>3</sup>	1034 kg/m <sup>3</sup>	1,743 lb/yd <sup>3</sup>
Bucket Width	2060 mm	81 in	2060 mm	81 in	2080 mm	82 in

# 908K Compact Wheel Loader

## STANDARD EQUIPMENT

### TRANSMISSION/HYDRAULICS

- 100% differential lock on both axles, selectable on the move
- 18° frame oscillation, 78° articulation
- Transmission, 20 km/h (12.4 mph) with heavy duty axles
- Transmission inching function
- Hydrostatic drive
- Work tool quick coupler
- Proportional auxiliary hydraulic circuit
- Loader arm float function
- Connect under pressure hydraulic quick connector
- Parallel lift Z-bar loader
- Demand based cooling fan

### ENGINE

- Cat C3.3B DIT Tier 4 Interim/Stage IIIA or Tier 2/Stage II equivalent engine
- Two stage air cleaner with visual indicator
- Cat extended life coolant
- Lockable engine compartments
- Easy quick release fuel filter/water separator

- Engine oil drain valve (non spill eco drain)
- Closed circuit breather
- Eco mode

### ELECTRICAL

- Cab mounted fuse panel
- Battery disconnect switch
- Heavy duty battery, 12V
- Engine cold starter aid
- Alternator 90 amp
- Service point connector for electronic diagnostics (Electronic Technician™)
- Reverse alarm

### GENERAL

- E-coat paint primer
- Pressure test points
- Recovery hitch and pin
- Scheduled Oil Sampling S-O-S ports

### OPERATOR ENVIRONMENT

- Cup holder
- Sun visor
- ROPS and FOPS certified canopy/cab

- Adjustable wrist rest
- Retractable seat belt
- Auxiliary power sockets
- Coat hook
- On board digital display cluster
- Sound suppression
- Multifunction joystick with direction control
- Two external knock back mirrors
- Warning indicators for major systems
- Easy clean cab floor
- Lockable storage box
- Adjustable internal mirror
- Operator station on isolation mounts
- Digital service hour meter
- Gauges: fuel hydraulic temp, coolant temp, speedometer
- Warnings: master, park brake, hydraulic oil pressure, engine oil pressure, coolant temp, electrical system, hydraulic filter bypass
- Suspended brake/accelerator pedals
- Suspension seat

## OPTIONAL EQUIPMENT

### TRANSMISSION

- Adjustable speed control (Creeper Control)
- Rimpull control
- Electronic throttle lock
- Adjustable Hystat response settings
- Ride control
- Speeder, 35 km/h (21.7 mph) with secondary steering

### LOADER

- High flow auxiliary hydraulics with pressure relieving quick disconnect manifold
- Load check valves
- Return to dig work tool positioner
- Adjustable implement modulation

### ENGINE

- Engine block heater 120V
- Precleaner for engine air filter

### ELECTRICAL

- Machine Security System (MSS)
- Magnetic rotating beacon
- Work tool wiring harness
- Working lights, two front and two rear

### GENERAL

- Custom color
- Rear light guards
- Tire options including heavy duty tires

### FLUIDS

- Cat extended life coolant (-50° C/-58° F)

### OPERATOR ENVIRONMENT

- Air conditioning
- Cat radio/CD/MP3/WMA/AUX
- Comfort cab includes: cloth suspension seat, heated rear window, sliding left window, coat hook, sun visor, radio ready and lockable storage box

- Deluxe cab includes: Comfort cab options plus heated cloth air suspension seat with lumbar support and right sliding window
- Radio ready kit including speakers (enclosed cab)
- Two doors (enclosed cab)
- Heated rear window (enclosed cab)
- Cabin light (enclosed cab)
- Pressurized cab (enclosed cab)
- Heater with window, side and feet vents (enclosed cab)
- Wiper/washer front and rear (enclosed cab)
- Rear blind

### WORK TOOLS

- For all work tools and standard/high flow options (consult your Cat dealer)

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com)

AEHQ7455 (03-15)

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

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**244P**

**Compact Wheel Loader**

**26-001 – 26-012**

# 244 P

## Compact Wheel Loader



JOHN DEERE



## 244 P-TIER COMPACT WHEEL LOADER



### ***RUN SMALL, DREAM BIG***

Your workday is usually long, your tasks can take you into tight places, and you need a multipurpose machine to get everything done. Smaller do-it-all equipment that combines head-turning maneuverability, sure-footed stability, and comfortable capability with productive power, responsive travel speed, and ease of serviceability. Meet the 244 P-Tier Compact Wheel Loader, designed to include a wide range of reliable standard features and proven options that help you imagine the big results this highly adaptable multitasker can deliver for your operation.

## FEATURES

### Turn things around

Industry-exclusive Articulation Plus™ steering system combines 30 degrees of articulation with 10 additional degrees of rear-wheel steer. Reduced articulation angle design delivers tighter turns that are more stable, especially with large loads, than comparatively sized loaders without Articulation Plus.

### On the level

Loader arm and coupler design improves the lifting path to near parallel — for better load-carrying capability than previous models. This keeps the load more level from ground to truck-bed height and helps the operator focus on the task instead of on making manual adjustments.

### Fast getaway

With a standard top speed of over 23 mph, the 244 P-Tier can make some pretty quick moves on and between jobsites.

### Smooth moves

Load-sensing AutoShift powertrain technology eliminates productivity-interrupting manual shifts between gear ranges while providing smooth direction changes.

### Control and command

Low-effort joystick controls boom and bucket, forward-neutral-reverse (F-N-R), and differential lock. Standard mini-joystick controls auxiliary hydraulic functions including optional high-flow. Adjustable-height monitor lets operators keep close watch on vital machine functions.

### Enjoy the ride

Standard ride control cushions the boom during travel over rough and uneven terrain, reducing material spillage from the bucket and minimizing site cleanup.



**MORE  
STABLE\***

+



**MORE  
MANEUVERABLE\***

+



**MORE  
CAPABLE\***

\*Compared to leading competitive articulation loaders of the same size.

### **Lighten up**

In-cab lighting activates when the door is opened to illuminate machine entrances and exits. Optional LED front and rear worklights brilliantly brighten early morning or after-daylight tasks.

### **Quick-change artist**

Equip your 244 P-Tier with an ISO coupler to quickly and easily go from bucket to forks, for maximum lift capacity. Opt for the available John Deere quick-coupler to utilize a wide array of skid-steer-compatible attachments. High-flow electro-hydraulic-controlled auxiliary hydraulics are also available.

### **It's a lock**

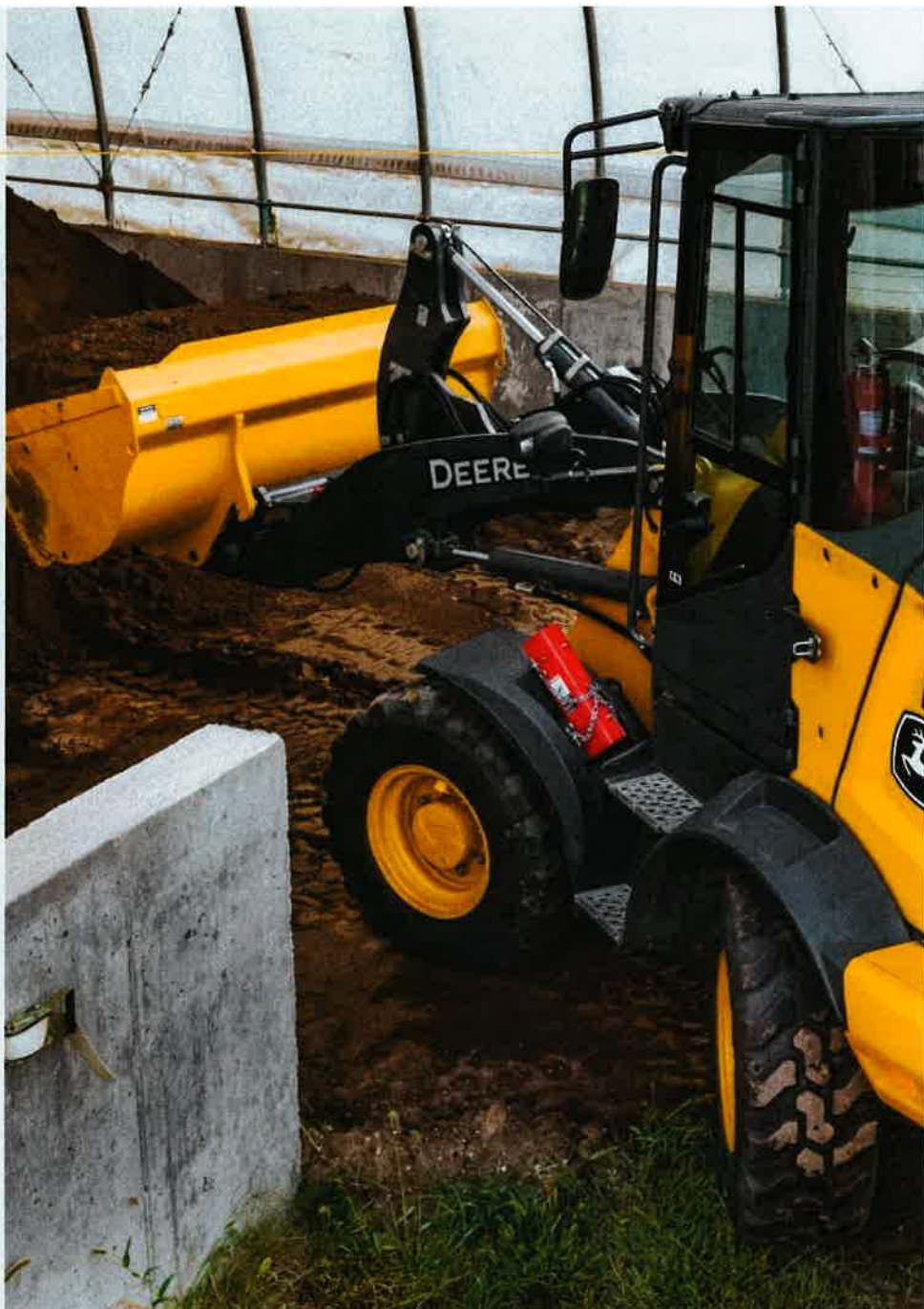
Optional throttle lock and creep control let operators set a slow ground speed while maintaining full engine power to an attachment. Now even easier to activate and adjust on the fly, these functions are perfect for work with snow blowers, cold planers, or material scrapers.

### **Get a grip**

Manual low-speed 100-percent differential lock delivers the ground-gripping tractive effort needed to dive deep into the pile and help heap the bucket. Rimpull control manages power to the wheels, allowing the operator to select the optimal setting to reduce tire and driveline wear.

### **Keep your cool**

Redesigned engine compartment and cooling package improve airflow and reduce the amount of debris entering the system compared to previous models. Access to all daily service checks and cooler cores is from ground level.



## 244 P-TIER COMPACT WHEEL LOADER



**OPTIONAL LED  
FRONT & REAR WORKLIGHTS  
ENHANCE VISIBILITY**

### **Business booster**

John Deere attachments are a great way to expand the flexibility of your operation. With more than 100 models, they'll help you broaden your abilities, work smarter, and accomplish even more.

### **Here to back you up**

Parts and service are always available at over 1,400 John Deere dealer locations throughout North America.



## 244 P-TIER WHEEL LOADER SPECIFICATIONS

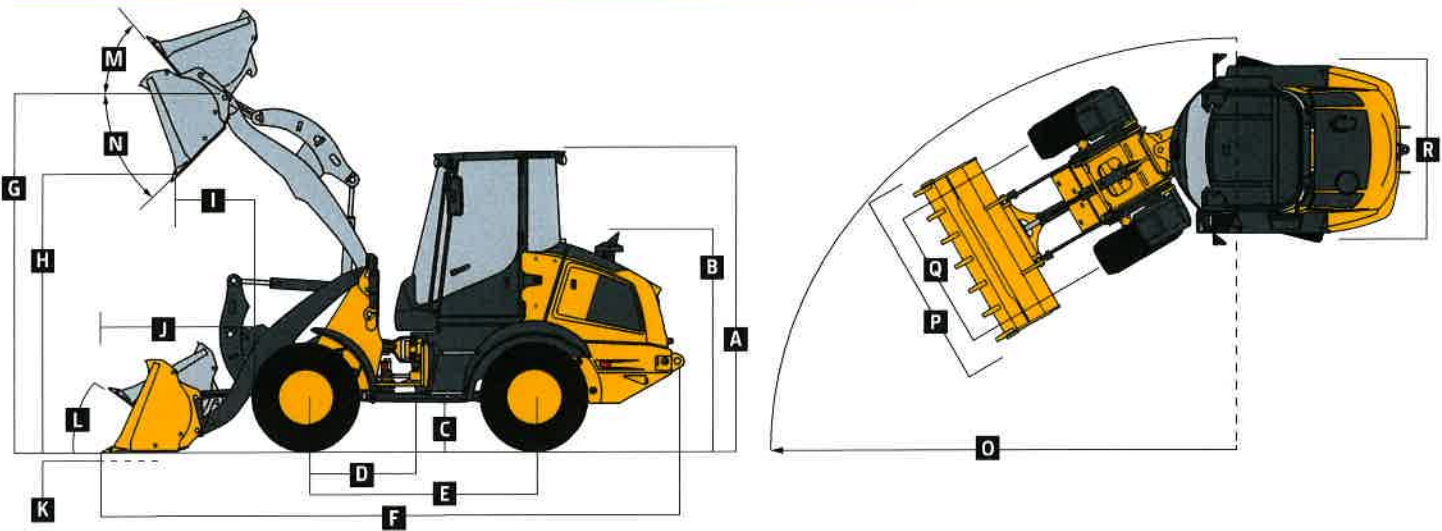
While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

<b>Engine</b>		<b>244 P-TIER</b>	
Manufacturer and Model	Yanmar 4TNV98CT	Gross Rated Power at 2,400 rpm (ISO 14396)	54 kW (73 hp)
Non-Road Emission Standard	EPA Final Tier 4/EU Stage V	Peak Torque at 1,560 rpm	280 Nm (206 lb.-ft.)
Cylinders	4	Engine Bore and Stroke	98 x 110 mm (3.89 x 4.33 in.)
Valves per Cylinder	4	Lubrication	Pressure system with full-flow spin-on filter
Displacement	3.3 L (203 cu. in.)	Aspiration	Turbocharged
Net Peak Power at 2,400 rpm (SAE J1349 / ISO 9249)	52 kW (71 hp)	Air Cleaner	Dual safety element dry type
<b>Cooling</b>			
Fan	Hydraulically driven, proportionally controlled		
Engine Coolant Rating	-37 deg. C (-34 deg. F)		
<b>Powertrain</b>			
Type	Hydrostatic (HST) with infinitely variable speed control over full range of operating speeds; 2 speed ranges; joystick-mounted F-N-R; acceleration pedal; HST inching pedal, which allows infinitely reduced travel speeds while maintaining full engine rpm and hydraulic flow		
2 Travel Speeds in Forward and Reverse (equipped with 365/70R18 tires)			
Gear 1	18 km/h (11.0 mph)		
Gear 2	38 km/h (23.5 mph)		
<b>Axles</b>			
Rear Axle Oscillation Versus Front Axle	Fixed, 100% differential, manually engaged front axle; fixed, conventional differential rear axle		
<b>Differentials</b>			
Maximum Rise and Fall, Single Wheel	16 deg. total, stop to stop		
<b>Steering</b>			
Steering Wheel Turns, Stop to Stop	Manual (push-button) 100% locking front, conventional rear		
Articulation Angle	370 mm (14.5 in.)		
<b>Final Drive</b>			
Brakes (SAE J1473 / ISO 3450)	Hydraulic power steering (SAE J1511); 30-deg. articulation left and right with mechanical-actuated rear-wheel steering		
Service Brakes	4¼ (2 left / 2¼ right)		
Parking Brake	60-deg. arc (30 deg. each direction)		
<b>Hydraulics</b>			
Main Pump (loader and steering)	Heavy-duty outboard planetary		
Standard	Fixed-displacement gear pump; open-center system	<b>Hydraulic Cycle Times</b>	
Total With High-Flow Option	70 L/m (18 gpm)	Raise	4.9 sec.
Maximum Pressure at Couplings	109 L/m (29 gpm)	Dump	1.7 sec.
System Relief Pressure	23 000 kPa (3,335 psi)	Lower	3.5 sec.
Loader	23 000 kPa (3,335 psi)	Total	10.1 sec.
Steering	18 000 kPa (2,611 psi)		
<b>Controls</b>			
Pilot-operated, 3-function valve with single-lever control for boom and bucket, standard pin disconnect and 3rd-function proportional electrohydraulic (EH) auxiliary hydraulics			
<b>Cylinders</b>			
Type	Heat-treated, chrome-plated, polished cylinder rods; hardened steel (replaceable bushings) pivot pins		
<b>Electrical</b>			
Type	Electrical load center with blade-type multi-fused circuits		
Voltage	12 volt		
Number of Batteries	1		
Battery Capacity	925 CCA		
Alternator Rating	80 amp		
Lights (SAE 99)	Driving/front working lights (2), turn signals, flashers, and stop- and taillights		
<b>Operator Station</b>			
<b>Noise Level</b>			
Operator Ear (ISO 6396)	70 dBA		
Bystander (ISO 6395)	101 dBA		
<b>Tires/Wheels</b>			
Tires on Single-Piece Rims	<i>Tread Width*</i>	<i>Width Over Tires†</i>	<i>Change in Vertical Height</i>
365/70R18 Mitas EM01 (standard)	1510 mm (4 ft. 11 in.)	1920 mm (6 ft. 4 in.)	0 mm (0 in.)
405/70R18 Firestone Duraforce (optional)	1510 mm (4 ft. 11 in.)	1960 mm (6 ft. 5 in.)	+23 mm (+0.9 in.)
400/70R20 Michelin XMCL (optional)	1510 mm (4 ft. 11 in.)	1960 mm (6 ft. 5 in.)	+44 mm (+1.7 in.)
400/70R20 Michelin Bibload (optional)	1510 mm (4 ft. 11 in.)	1950 mm (6 ft. 5 in.)	+38 mm (+0.9 in.)
400/70R20 Nokian Hakkapelitta (optional)	1510 mm (4 ft. 11 in.)	1950 mm (6 ft. 5 in.)	+48 mm (+1.9 in.)
*Also see <b>Q</b> in <b>Dimensions</b> section on pages 7 and 9. / †Also see <b>R</b> in <b>Dimensions</b> section on pages 7 and 9.			
<b>Serviceability</b>			
<b>Refill Capacities</b>		<b>Refill Capacities (continued)</b>	
Cooling System (engine and radiator)	12.1 L (12.7 qt.)	Fuel Tank	90 L (23.8 gal.)
Differential and Planetary Axle		Hydraulic/HST Reservoir With Filter	66 L (17.4 gal.)
Front	5.2 L (5.5 qt.)	HST Motor Gearbox	1.7 L (1.8 qt.)
Rear	4.7 L (5.0 qt.)	Front/Rear Axle Planetary Hubs (each)	0.8 L (1.0 qt.)
Engine Oil With Filter	10 L (10.8 qt.)		

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Operating Weights		244 P-TIER	
With standard equipment, 365/70R18 tires, standard counterweight, cab, 79-kg (175 lb.) operator, and full fuel tank			
<b>ISO Quick-Coupler</b>			
With 0.8-m <sup>3</sup> (1.0 cu. yd.) General-Purpose (GP) Bucket With Bolt-On Edge	5560 kg (12,258 lb.)	<b>Quik-Tatch Quick-Coupler (continued)</b>	
With 1.1-m <sup>3</sup> (1.4 cu. yd.) GP Bucket With Bolt-On Edge	5680 kg (12,522 lb.)	With Fork	5500 kg (12,125 lb.)
With Fork	5455 kg (12,026 lb.)	<b>Optional Components</b>	
<b>Quik-Tatch™ Quick-Coupler</b>		<b>ISO Quick-Coupler</b>	
With 0.8-m <sup>3</sup> (1.0 cu. yd.) GP Bucket With Bolt-On Edge	5690 kg (12,544 lb.)	0.8-m <sup>3</sup> (1.0 cu. yd.) Bucket With Bolt-On Edge	337 kg (743 lb.)
With 1.1-m <sup>3</sup> (1.4 cu. yd.) GP Bucket With Bolt-On Edge	5800 kg (12,787 lb.)	1.1-m <sup>3</sup> (1.4 cu. yd.) Bucket With Bolt-On Edge	457 kg (1,008 lb.)
		Fork and Tines	232 kg (511 lb.)
		<b>Quik-Tatch Quick-Coupler</b>	
		0.8-m <sup>3</sup> (1.0 cu. yd.) Bucket With Bolt-On Edge	467 kg (1,030 lb.)
		1.1-m <sup>3</sup> (1.4 cu. yd.) Bucket With Bolt-On Edge	577 kg (1,272 lb.)
		Fork and Tines	277 kg (611 lb.)

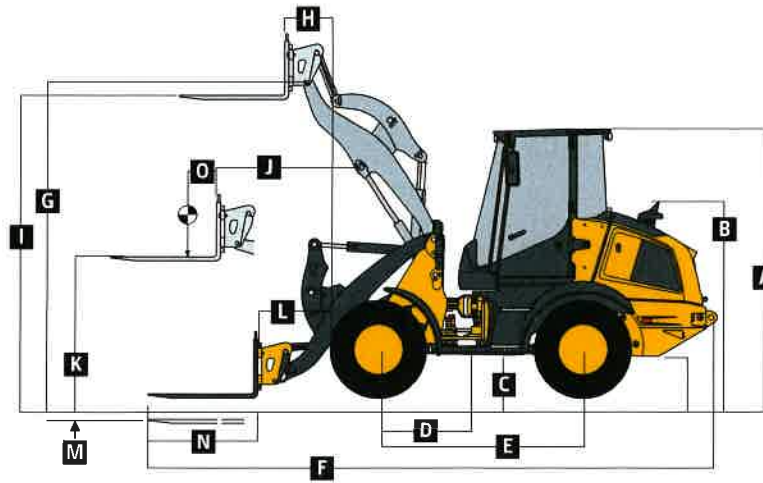
### Dimensions and Specifications With ISO Quick-Coupler and Bucket



244 P-TIER Z-BAR LOADER WITH ISO QUICK-COUPLER AND BUCKET

Dimensions With ISO Quick-Coupler and General-Purpose (GP) Bucket With Bolt-On Edge	Standard Linkage	
	0.8-m <sup>3</sup> (1.0 cu. yd.)	1.1-m <sup>3</sup> (1.4 cu. yd.)
A Height to Top of Cab	2.75 m (9 ft. 0 in.)	2.75 m (9 ft. 0 in.)
B Height to Top of Exhaust	1.98 m (6 ft. 6 in.)	1.98 m (6 ft. 6 in.)
C Ground Clearance	285 mm (11 in.)	285 mm (11 in.)
D Length From Centerline to Front Axle	750 mm (30 in.)	750 mm (30 in.)
E Wheelbase	2.15 m (7 ft. 1 in.)	2.15 m (7 ft. 1 in.)
F Overall Length, Bucket on Ground	5.41 m (17 ft. 9 in.)	5.47 m (17 ft. 11 in.)
G Height to Hinge Pin, Fully Raised	3.22 m (10 ft. 7 in.)	3.22 m (10 ft. 7 in.)
H Dump Clearance, 40-deg. Full Height	2.52 m (8 ft. 3 in.)	2.48 m (8 ft. 2 in.)
I Reach, 40-deg. Dump, Full Height	810 mm (32 in.)	860 mm (34 in.)
J Maximum Dump Reach, 42-deg. Dump	1.52 m (5 ft. 0 in.)	1.56 m (5 ft. 1 in.)
K Maximum Digging Depth	95 mm (4 in.)	95 mm (4 in.)
L Maximum Rollback at Ground Level	39 deg.	39 deg.
M Maximum Rollback at Full Height	55 deg.	55 deg.
N Bucket Dump at Full Height	42 deg.	42 deg.
O Turning Circle Radius Over Outside of Bucket Edge	3.82 m (12 ft. 6 in.)	3.97 m (13 ft. 0 in.)
P Bucket Width	1.90 m (6 ft. 3 in.)	2.20 m (7 ft. 3 in.)
Q Tread Width (standard) <sup>§</sup>	1510 mm (4 ft. 11 in.)	1510 mm (4 ft. 11 in.)
R Width Over Tires (standard) <sup>§</sup>	1920 mm (6 ft. 4 in.)	1920 mm (6 ft. 4 in.)
Loader Clearance Circle, Bucket Carry Position	7.64 m (25 ft. 1 in.)	7.94 m (26 ft. 1 in.)
<sup>§</sup> Also see <i>Tires/Wheels</i> section on page 6.		
<b>Specifications With ISO Quick-Coupler and Bucket</b>		
Capacity, Heaped (SAE)	0.8 m <sup>3</sup> (1.0 cu. yd.)	1.1 m <sup>3</sup> (1.4 cu. yd.)
Capacity, Struck (SAE)	0.66 m <sup>3</sup> (0.86 cu. yd.)	0.9 m <sup>3</sup> (1.18 cu. yd.)
Breakout Force (SAE J732C)	4895 kg (10,792 lb.)	4410 kg (9,722 lb.)
Tipping Load, Straight	4060 kg (8,951 lb.)	3930 kg (8,664 lb.)
Tipping Load, Full Turn (SAE)	3700 kg (8,157 lb.)	3580 kg (7,893 lb.)
Rated Operating Load, 50% of Full-Turn Tipping Load (conforms to ISO 14397-1)*	1850 kg (4,079 lb.)	1790 kg (3,946 lb.)

\*Rated operating capacity based on Deere attachments only.



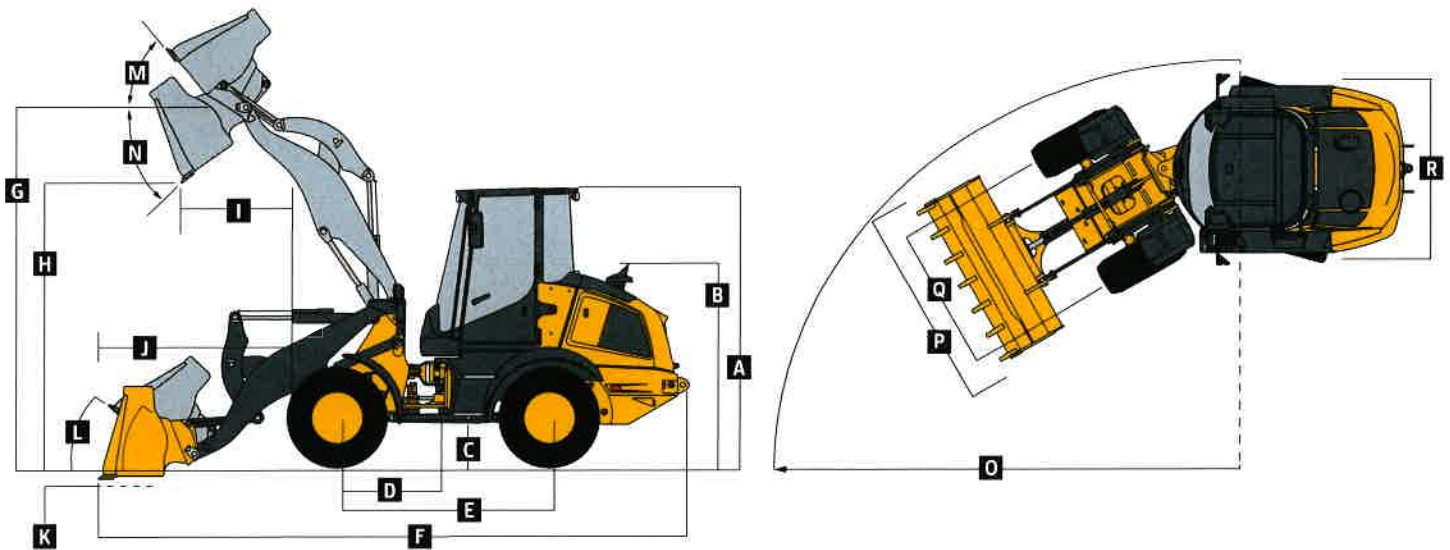
244 P-TIER Z-BAR LOADER WITH ISO QUICK-COUPLER AND FORK

Dimensions With ISO Quick-Coupler and Fork	Standard Linkage
A Height to Top of Cab	1.20-m (48 in.) tine length
B Height to Top of Exhaust	2.75 m (9 ft. 0 in.)
C Ground Clearance	1.98 m (6 ft. 6 in.)
D Length From Centerline to Front Axle	285 mm (11 in.)
E Wheelbase	750 mm (30 in.)
F Overall Length, Forks on Ground	2.15 m (7 ft. 1 in.)
G Height to Hinge Pin, Fully Raised	5.99 m (19 ft. 8 in.)
H Reach, Fully Raised	3.22 m (10 ft. 7 in.)
I Fork Height, Fully Raised	525 mm (21 in.)
J Maximum Reach, Fork Level	3.05 m (10 ft. 0 in.)
K Fork Height, Maximum Reach	1.24 m (4 ft. 1 in.)
L Reach, Ground Level	1.45 m (4 ft. 9 in.)
M Depth Below Ground	740 mm (29 in.)
N Tine Length	50 mm (2 in.)
O Load Position, 50% Tine Length	1.20 m (48 in.)
Specifications With ISO Quick-Coupler and Fork	600 mm (24 in.)
Tipping Load, Straight	As measured with fork level, centered on tine
Tipping Load, Full Turn (SAE)	3215 kg (7,088 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load (conforms to SAE J1197 / ISO 14397-1)*	2930 kg (6,460 lb.)
Rated Operating Load, Rough Terrain, 60% Full-Turn Tipping Load (conforms to EN474-3)*	1465 kg (3,230 lb.)†
Rated Operating Load, Firm and Level Ground, 80% Full-Turn Tipping Load (conforms to EN474-3)*	1820 kg (4,012 lb.)†
	2300 kg (5,071 lb.)†

\*Rated operating capacity based on Deere attachments only. / †Payload on forks is limited by tilt cylinder.

## Dimensions and Specifications With Quik-Tatch™ Coupler and Bucket

244 P-TIER



244 P-TIER Z-BAR LOADER WITH QUIK-TATCH COUPLER AND BUCKET

	Standard Linkage	Standard Linkage
<b>Dimensions With Quik-Tatch Coupler and General-Purpose (GP) Bucket With Bolt-On Edge</b>		
A Height to Top of Cab	2.75 m (9 ft. 0 in.)	2.75 m (9 ft. 0 in.)
B Height to Top of Exhaust	1.98 m (6 ft. 6 in.)	1.98 m (6 ft. 6 in.)
C Ground Clearance	285 mm (11 in.)	285 mm (11 in.)
D Length From Centerline to Front Axle	750 mm (30 in.)	750 mm (30 in.)
E Wheelbase	2.15 m (7 ft. 1 in.)	2.15 m (7 ft. 1 in.)
F Overall Length, Bucket on Ground	5.61 m (18 ft. 5 in.)	5.68 m (18 ft. 7 in.)
G Height to Hinge Pin, Fully Raised	3.22 m (10 ft. 7 in.)	3.22 m (10 ft. 7 in.)
H Dump Clearance, 40-deg. Full Height	2.52 m (8 ft. 3 in.)	2.45 m (8 ft. 0 in.)
I Reach, 40-deg. Dump, Full Height	1.09 m (3 ft. 7 in.)	1.15 m (3 ft. 9 in.)
J Maximum Dump Reach, 42-deg. Dump	1.71 m (5 ft. 7 in.)	1.76 m (5 ft. 9 in.)
K Maximum Digging Depth	55 mm (2 in.)	55 mm (2 in.)
L Maximum Rollback at Ground Level	50 deg.	50 deg.
M Maximum Rollback at Full Height	58 deg.	58 deg.
N Bucket Dump at Full Height	40 deg.	40 deg.
O Turning Circle Radius Over Outside of Bucket Edge	3.87 m (12 ft. 8 in.)	4.02 m (13 ft. 2 in.)
P Bucket Width	1.90 m (6 ft. 3 in.)	2.20 m (7 ft. 3 in.)
Q Tread Width (standard) <sup>a</sup>	1510 mm (4 ft. 11 in.)	1510 mm (4 ft. 11 in.)
R Width Over Tires (standard) <sup>a</sup>	1920 mm (6 ft. 4 in.)	1920 mm (6 ft. 4 in.)
Loader Clearance Circle, Bucket Carry Position	7.73 m (25 ft. 4 in.)	8.03 m (26 ft. 4 in.)
<sup>a</sup> Also see <i>Tires/Wheels</i> section on page 6.		
<b>Specifications With Quik-Tatch Coupler and Bucket</b>		
Capacity, Heaped (SAE)	0.8 m <sup>3</sup> (1.0 cu. yd.)	1.1 m <sup>3</sup> (1.4 cu. yd.)
Capacity, Struck (SAE)	0.66 m <sup>3</sup> (0.86 cu. yd.)	0.9 m <sup>3</sup> (1.18 cu. yd.)
Breakout Force (SAE J732C)	3645 kg (8,036 lb.)	3295 kg (7,264 lb.)
Tipping Load, Straight	3620 kg (7,981 lb.)	3500 kg (7,716 lb.)
Tipping Load, Full Turn (SAE)	3310 kg (7,297 lb.)	3200 kg (7,055 lb.)
Rated Operating Load, 50% of Full-Turn Tipping Load (conforms to ISO 14397-1)*	1655 kg (3,649 lb.)	1600 kg (3,527 lb.)

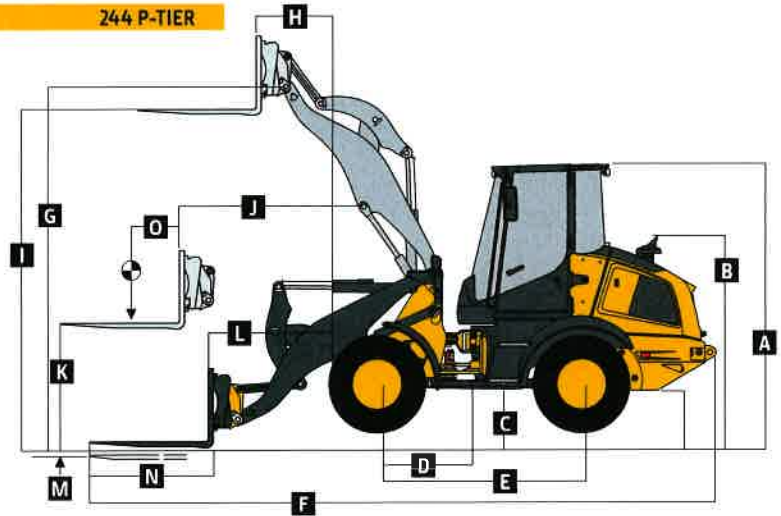
\*Rated operating capacity based on Deere attachments only.

# 244 P-TIER

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## Dimensions and Specifications With Quik-Tatch Coupler and Fork

## 244 P-TIER

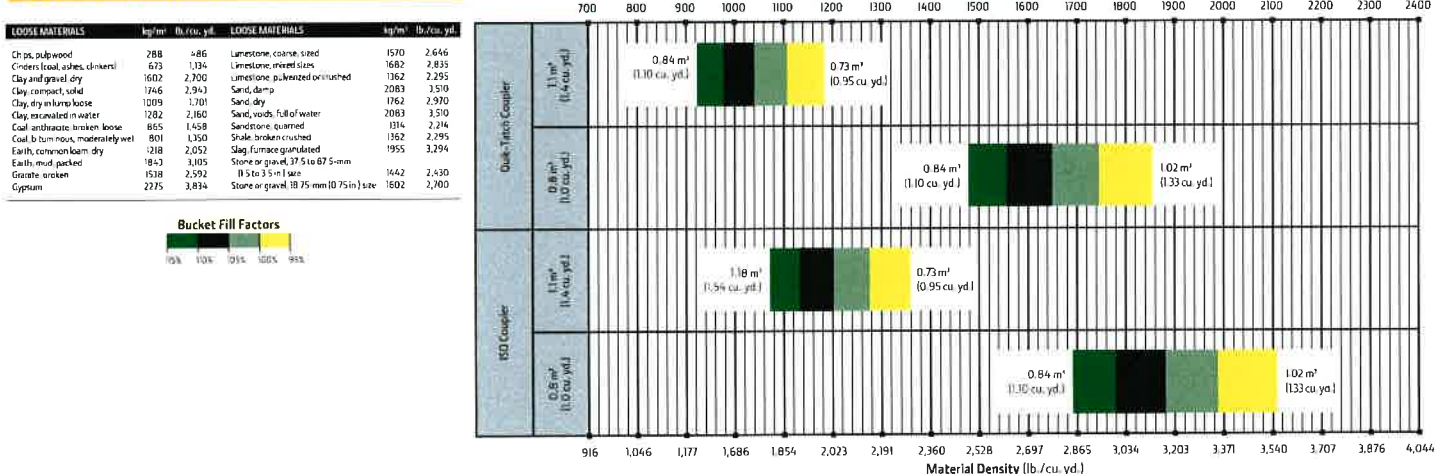


### 244 P-TIER Z-BAR LOADER WITH QUIK-TATCH COUPLER AND FORK

Dimensions With Quik-Tatch Coupler and Fork	Standard Linkage
A Height to Top of Cab	2.75 m (9 ft. 0 in.)
B Height to Top of Exhaust	1.98 m (6 ft. 6 in.)
C Ground Clearance	285 mm (11 in.)
D Length From Centerline to Front Axle	750 mm (30 in.)
E Wheelbase	2.15 m (7 ft. 1 in.)
F Overall Length, Forks on Ground	6.08 m (19 ft. 11 in.)
G Height to Hinge Pin, Fully Raised	3.22 m (10 ft. 7 in.)
H Reach, Fully Raised	570 mm (22 in.)
I Fork Height, Fully Raised	3.03 m (9 ft. 11 in.)
J Maximum Reach, Fork Level	1.28 m (4 ft. 2 in.)
K Fork Height, Maximum Reach	1.42 m (4 ft. 8 in.)
L Reach, Ground Level	785 mm (31 in.)
M Depth Below Ground	75 mm (3 in.)
N Tine Length	1.20 m (48 in.)
O Load Position, 50% Tine Length	600 mm (24 in.)
Specifications With Quik-Tatch Coupler and Fork	As measured with fork level, centered on tine
Tipping Load, Straight	3060 kg (6,746 lb.)
Tipping Load, Full Turn (SAE)	2800 kg (6,173 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load (conforms to SAE J1197 / ISO 14397-1)*	1400 kg (3,086 lb.) <sup>†</sup>
Rated Operating Load, Rough Terrain, 60% Full-Turn Tipping Load (conforms to EN474-3)*	1680 kg (3,704 lb.) <sup>†</sup>
Rated Operating Load, Firm and Level Ground, 80% Full-Turn Tipping Load (conforms to EN474-3)*	2160 kg (4,762 lb.) <sup>†</sup>

\*Rated operating capacity based on Deere attachments only. / <sup>†</sup>Payload on forks is limited by tilt cylinder.

### Bucket Selection Guide



# Additional equipment

Key: ● Standard ▲ Optional or special

See your John Deere dealer for further information.

## 244 P Engine

- Antifreeze, -37 deg. C (-34 deg. F)
- Coolant recovery tank
- Fan safety guard
- Fan, suction type, hydraulically driven, proportional speed
- Environmentally friendly engine oil drain
- Spin-on engine oil and fuel filter
- Engine oil cooler
- Quick-release fuel filter and water separator
- Under-hood dual-element air cleaner with restriction indicator with dust-evacuator valve
- Prescreened air intake
- Automatic glow plugs for cold start
- ▲ Engine coolant heater, 110 volts

## Electrical

- Starter switch with electric fuel cutoff
- 12-volt system
- Electrical load center with blade-type fuses behind operator's seat
- Standard 925-CCA battery
- Master electrical disconnect switch
- Alternator, 12 volts, 80 amps
- Horn (conforms to SAE J994 / J1446)
- Lights (conform to SAE 99): Driving / Front working (2) / Turn signals / Flashers / Stop / Taillights
- Worklights, rear (2)
- Reverse warning alarm (conforms to SAE J994 / J1446)
- Multifunction monitor with audible and visual warnings: Low engine oil pressure, engine coolant temperature, hydraulic oil temperature warning light, and parking brake indicator / Gauge and indicator: Engine coolant temperature gauge, fuel level gauge, speedometer, clock, and hour meter
- Indicator lights: Engine air filter / Parking brake actuated / Forward/reverse travel / 1st- or 2nd-speed range / Turn signal and hazard lights / High-beam driving lights indicator / Battery voltage
- Pre-wired for roof beacon

## Powertrain/Brakes

- Smooth AutoShift technology up to 38 km/h (23 mph)

## 244 P Powertrain/Brakes (continued)

- Hydrostatic (HST) transmission: Electric shift control / Single-lever joystick F-N-R / HST oil cooler / Inching pedal / 2 speeds forward and reverse / Infinitely variable speed control
- Rimpull control
- Service brakes, hydraulically actuated, self-adjusting internal wet-disc brake and driveline drum brake
- Parking brake, spring applied, hydraulically released, switch operated
- Conventional-type rear differentials, 100% locking front differential

## Hydraulic System

- Hydraulic fan for demand-based cooling
- Hydraulic system oil cooler
- Automatic bucket return-to-dig control
- Boom float detent
- Reservoir sight gauge for hydraulic/HST oil
- Fine-micron hydraulic filters, vertical mounting
- Hydraulic function lockout
- 3-function hydraulic valve with pilot joystick control including auxiliary electrohydraulic (EH) proportional control for 3rd function
- ▲ 109-L/m (29 gpm) high-flow option
- Quick-coupler diagnostic ports: Priority pressure / Hydraulic pump pressure / Control valve pressure / HST pressure

## Operator's Station

- Cab (conforms to SAE J1040, SAE J231, ISO 3471, and ISO 3449): ROPS/FOPS / Heater/defroster / Rubber-plane isolation mounted for noise/vibration reduction / Intermittent front and rear windshield wipers and washers / Tinted safety glass / Adjustable sun visor / Mid-back cloth seat with mechanical suspension / 51-mm (2 in.) retractable seat belt / Full swing-out left and right doors with sliding window in left door
- ▲ Premium air-ride high-back heated seat with headrest and dual lumbar control
- Radio-ready cab, fused 12-volt radio electrical lead and speakers, and power port
- ▲ AM/FM/Weather-Band (WB) radio

## 244 P Operator's Station (continued)

- Air conditioning
- Storage compartment for operator's manual and other items located under operator seat and 2 options left of operator seat
- Rubber floor mat
- Dual tilt and telescoping steering column
- Rearview mirrors, outside (2) and inside (1) (conform to SAE J985)
- Handholds and steps, ergonomically located and slip resistant (conform to SAE J185)
- ▲ 76-mm (3 in.) retractable seat belt

## Loader Linkage

- Z-Bar loader linkage provides high bucket breakout
- Loader boom service locking bar (conforms to SAE J38)

## Buckets and Attachments

- ▲ Full line of buckets with bolt-on cutting edges
- ▲ ISO-style quick-coupler
- ▲ Quik-Tatch™ coupler
- ▲ Full line of construction utility forks, pallet forks, and other John Deere attachments\*

## Tires

- 365/70R18 Mitas EM-01
- ▲ 405/70R18 Firestone Duraforce
- ▲ 400/70R20 Michelin XMCL
- ▲ 400/70R20 Michelin Bibload
- ▲ 400/70R20 Nokian Hakkapeliitta

## Other

- ▲ LED worklights (spot or flood)
- ▲ Hydraulic reversing fan
- ▲ Front window guard
- Fenders, front and rear
- Articulation locking bar (conforms to SAE J276)
- Vandal protection, includes lockable engine enclosure and fuel fill
- Cast rear counterweight
- Drawbar, with locking pin
- Lift eyes
- Tie-downs
- Ride control
- ▲ Creep control/throttle lock
- ▲ Fire extinguisher

\*See your John Deere dealer for further information.

While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 70 020, using No. 2-D fuel at 35 API gravity. No derating is required up to 1500-m (5,000 ft.) altitude. Gross power is without cooling fan. Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a unit with all standard equipment, ROPS cab, 365/70R18 Mitas EM-01 tires, full fuel tank, air conditioning off, and 79 kg (175 lb.) operator.



MW244PAU (23-05)



**JOHN DEERE**

**CASE 221F**  
**Compact Wheel Loader**  
**27-001 – 27-004**





## ENGINE

Model	FPT F5H FL463 A
Emissions Certification	Tier 4 Final
Type	4-stroke
Cylinders	4
Bore/Stroke	3.9 x 4.3 in (99 x 110 mm)
Displacement	207 in <sup>3</sup> (3.4 L)
Fuel injection	High pressure, common rail injection
Fuel	Diesel
Fuel filter	Spin on, Beta (4) = 20
Air filter	Dry type element w/ warning restriction indicator
Exhaust aftertreatment:	Cooled Exhaust Gas Recirculation (CEGR) w/ Diesel Oxidation Catalyst (DOC)
Radiator:	
Core type	All aluminum
Fan:	
Style	Direct drive
Lubrication/cooling oil pump:	
Style	Integral
Engine oil:	
Pump:	Rotor Pump w/ deep sump pan, plate cooled & pressurized under piston nozzles
Pump operating angle ratings:	
Side-to-side	Rated 35°
Fore and aft	Rated 35°
Oil filtration	Spin on, full flow
Engine speeds	RPM
Rated – full load	2500
Low idle	950
High idle – no load	2500
Horsepower @ 2500 RPM:	
Gross	74 hp (55 kW)
Net	70 hp (52 kW)
Peak torque @ 1400 RPM:	
Gross	232 lb-ft (314 N-m)
Net	227 lb-ft (308 N-m)

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

## DRIVETRAIN

Transmission	Hydrostatic transmission	
Pump relief	6,092 psi (42 000 kPa)	
Pump flow @ 2500 RPM	37.0 gpm (140 L/min)	
Differential:	Open standard/limited slip or 100% lock opt.	
Front axles:		
Differential ratio	3.67	
Planetary ratio	6.00	
Final axle ratio	22.00	
Gear box:		
1st ratio	2.46	
Gear box HS:		
1st ratio	2.75	
2nd ratio	1.16	
Planetaries	Outboard	
Service brakes:	Master cylinder hydraulically actuated, wet disc on front axle	
Parking brake:	Mechanical, caliper on front axle	
Travel speeds	Forward	Reverse
	mph (kph)	mph (kph)
1st Low	3.3 (5.3)	3.3 (5.3)
2nd High	11.4 (18.3)	11.4 (18.3)
Travel speeds – HS	Forward	Reverse
	mph (kph)	mph (kph)
1st Low	3.0 (4.8)	3.0 (4.8)
2nd High	8.1 (13.0)	8.1 (13.0)
3rd High	18.6 (30.0)	18.6 (30.0)

NOTE: Travel speeds at full engine throttle  
w/ 365/80 R18 tires.

## ELECTRICAL

Voltage	12 Volts
Alternator	120 amp
Batteries	95 AHR, 900 CCA

## OPERATOR ENVIRONMENT

ROPS: ISO 3471: 2,008 lb (6 800 kg); Base and Deluxe Cab w/ heater and A/C; Key start; Articulated power steering w/ tilt column; Full adjustable, cloth suspension seat; Foot throttle; Single joystick w/ electronic speed shift control F/N/R switch and proportional loader control; Cup holder; Retractable seat belt; Storage tray on Deluxe Cab; Sun screen – front; Opening side window; Dome light; Wipers – front and rear; 12-volt auxiliary power; Lighter cigar and ashtray; Pocket cellular phone; Coat hook; External rearview mirrors; Loader control lockout.

Electronic information center  
Displays/Gauges:  
Vehicle speed; Hourmeter; Floating functionality on; High flow functionality on; Clock; Vehicle directions; Gear number engaged; PM Catalyst icons.

## Indicator lights:

Diff. lock; Main hydraulic enabled; Turn light – left and right; Rear work lamps; Work lamps; Main high beam; Side lights; Stop; Warning signal; Rabbit; Hand brake; Brake fluid level; Quick coupler on; Ride Control on; Creep speed; PM Catalyst; Low fuel level; Clogging air filter; Engine oil pressure; Glow plug; Alternator changing.

## Audible alarms:

Caution alarm; Critical alarm; Backup alarm.

## Horn

NOTE: If equipped w/ option.

## OPERATING WEIGHT

### Z-Bar:

Unit equipped w/ ROPS/FOPS cab w/ heater, standard counterweight, 365/70 R18 Dunlop Tires, front and rear fenders, 1.2 yd<sup>3</sup> (0.9 m<sup>3</sup>) general purpose bucket w/ edge, full fuel, 165 lb (75 kg) operator:  
12,547 lb (5 691 kg)

## HYDRAULICS

### Pump – steering/implement:

Open-centered pressure/flow compensated

### Fixed gear type:

Standard flow:

Max. 22.5 gpm @ 3,336 psi  
(Max. 85 L/min @ 230 bar)

### Optional high flow:

Max. 34.3 gpm @ 2,901 psi  
(Max. 130 L/min @ 230 bar)

### Loader control valve:

Open-center, Hydraulic Loader Control w/ single lever includes: Forward/Neutral/Reverse switch, Floating switch, Low/High Travel mode switch, Auxiliary Function Roller

### Loader auxiliary steering:

Hydraulic orbital center-pivot articulating w/ on-demand oil flow

Main relief pressure 3,336 psi (23 000 kPa)

### Filtration:

15-micron, full flow replaceable cartridges on return line

## SERVICE CAPACITIES

Fuel tank	22.7 gal (86.0 L)
Hydraulic system:	
Reservoir	10.6 gal (40.0 L)
Total	14.0 gal (53.0 L)
Front and rear axle:	
Front axle	2.3 gal (8.7 L)
Rear axle	2.6 gal (10.0 L)
Rear axle HS	2.5 gal (9.45 L)
Engine oil w/ filter	1.8 gal (7.0 L)
Cooling*	3.4 gal (13.0 L)

NOTE: \*1.72 gal (6.5 L) antifreeze + 1.72 gal (6.5 L) water.

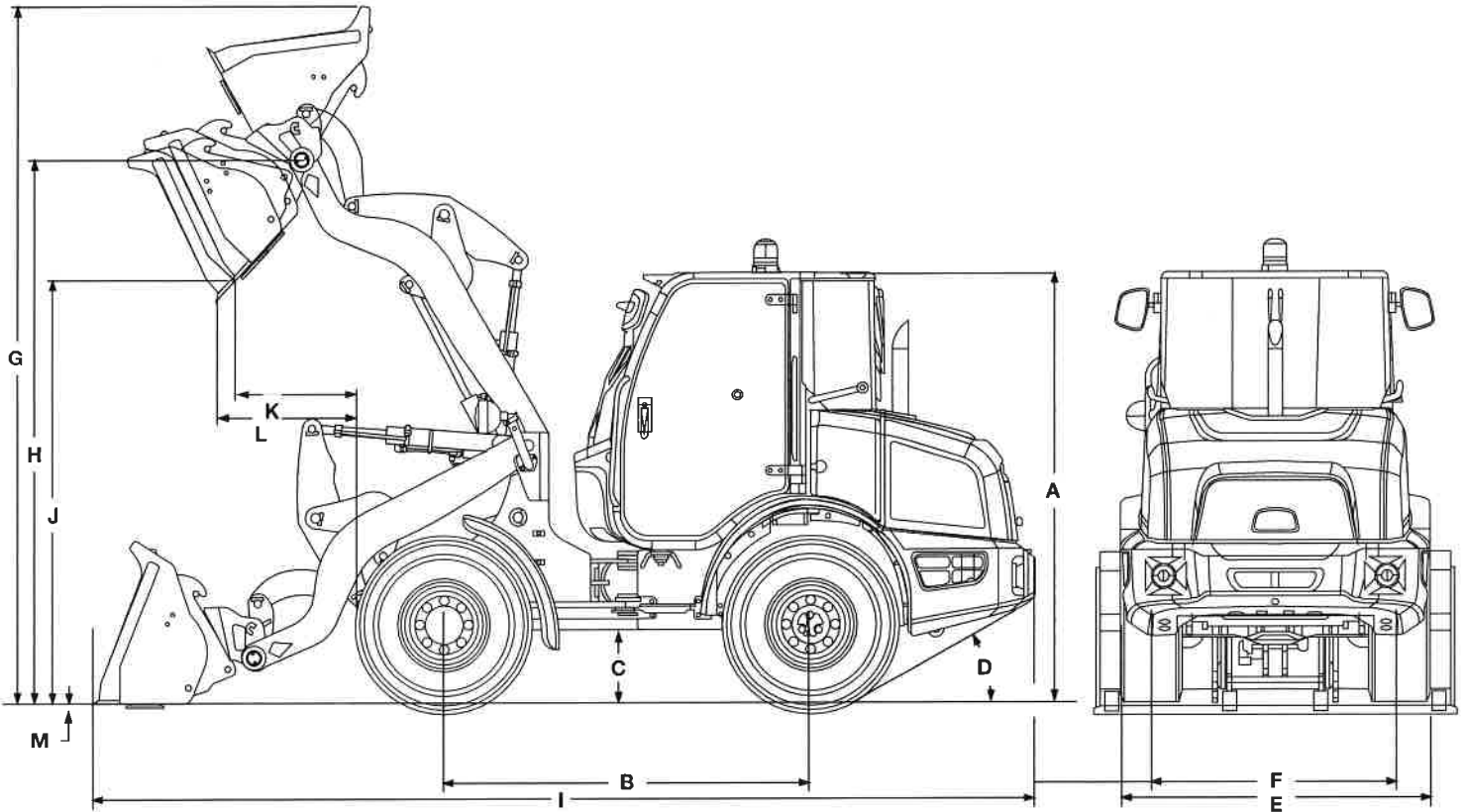
## OTHER SPECIFICATIONS

Lift cylinders	Two (2)
Bore diameter	3.25 in (82.5 mm)
Rod diameter	1.97 in (50.0 mm)
Stroke	29.57 in (751.0 mm)

Tilt cylinder:	
Bore diameter	3.49 in (88.7 mm)
Rod diameter	2.25 in (57.1 mm)
Stroke	19.96 in (507.0 mm)

Loader:  
 Z-Bar:  
 Z-Bar loader linkage  
 Single control for lift and tilt  
 Positive hold float  
 Hydraulic attachment coupler:  
 Skid steer compatible/horizontal  
 pin compatible

Cycle time:	
Z-Bar:	
Raise w/ rated bucket load	5.8 sec
Dump w/ rated bucket load	1.7 sec
Lower – empty	3.8 sec



Line drawings are for illustrative purpose only and may not be exact representation of unit.

## DIMENSIONS

A. Height to top of ROPS cab	103.4 in (2 627 mm)
B. Wheelbase	87.6 in (2 225 mm)
C. Ground clearance under shaft	17.3 in (440 mm)
Ground clearance under axles	12.5 in (317 mm)
D. Angle of departure	27°
Width:	
E. Overall without bucket	73.2 in (1 860 mm)
F. Centerline tread	59.1 in (1 500 mm)
Turning radius – outside	157.0 in (3 987 mm)
Turning angle:	
From center	40°
Total angle	80°
Rear axle oscillation – total	20°

## PERFORMANCE SPECS

221F Z-Bar	1.2 yd <sup>3</sup> GP (0.9 m <sup>3</sup> ) GP Bucket with Bolt-on Edge	1.56 yd <sup>3</sup> GP (1.2 m <sup>3</sup> ) LM Bucket with Bolt-on Edge
ISO bucket capacity – struck	0.92 yd <sup>3</sup> (0.7 m <sup>3</sup> )	1.31 yd <sup>3</sup> (1.0 m <sup>3</sup> )
Heaped	1.18 yd <sup>3</sup> (0.9 m <sup>3</sup> )	1.57 yd <sup>3</sup> (1.2 m <sup>3</sup> )
Bucket width – outside	80.7 in (2 050 mm)	82.7 in (2 100 mm)
Bucket weight – includes coupler and added components	1,060 lb (481 kg)	1,160 lb (526 kg)
<b>G.</b> Operating height – fully raised with spillguard	170.4 in (4 327 mm)	176.0 in (4 470 mm)
<b>H.</b> Hinge pin height – fully raised	129.5 in (3 290 mm)	129.5 in (3 289 mm)
<b>I.</b> Overall length – bucket level on ground	231.1 in (5 869 mm)	234.8 in (5 964 mm)
Dump angle – fully raised	48°	48°
<b>J.</b> Dump height – fully raised, 45° dump	95.5 in (2 425 mm)	92.8 in (2 358 mm)
<b>K.</b> Bucket reach – fully raised, 45° dump	40.2 in (1 020 mm)	42.8 in (1 087 mm)
<b>L.</b> Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump	51.5 in (1 309 mm)	51.9 in (1 318 mm)
<b>M.</b> Dig depth	3.9 in (98 mm)	3.9 in (98 mm)
Operating Load (ROC) - ISO	4,007 lb (1 818 kg)	3,984 lb (1 807 kg)
Maximum material density – ISO	3,404 lb/yd <sup>3</sup> (2 020 kg/m <sup>3</sup> )	2,538 lb/yd <sup>3</sup> (1 506 kg/m <sup>3</sup> )
Tipping load – ISO:		
Straight	9,318 lb (4 227 kg)	9,287 lb (4 212 kg)
40° turn	8,014 lb (3 635 kg)	7,968 lb (3 614 kg)
Lift capacity:		
Full height	8,317 lb (3 773 kg)	8,217 lb (3 727 kg)
Maximum reach	10,597 lb (4 807 kg)	10,497 lb (4 761 kg)
Ground	12,975 lb (5 886 kg)	12,796 lb (5 804 kg)
Breakout force with tilt cylinder	10,959 lb (4 971 kg)	9,109 lb (4 132 kg)
Maximum rollback:		
@ Ground	40°	40°
@ Carry position	46°	46°
@ Maximum reach	62°	62°
@ Full height	62°	62°
Maximum grading angle with bucket – back dragging	58°	60°
Loader clearance circle with bucket	368.9 in (9 371 mm)	373.4 in (9 484 mm)

## FORKS

221F Z-Bar	
Fork length	47.2 in (1 200 mm)
Fork weight – includes coupler	880 lb (399 kg)
Operating load – level ground	5,002 lb (2 269 kg)
Operating mass	12,364 lb (5 608 kg)
Tipping load – straight	6,898 lb (3 129 kg)
Tipping load – 40° turn	6,252 lb (2 836 kg)
Fork load center	19.7 in (500 mm)

## STANDARD EQUIPMENT

### OPERATOR ENVIRONMENT

See page 1

### ENGINE

FPT F5H FL463 A  
Fuel filter with water trap  
Dual element air cleaner

### LOADER

See page 2

### DRIVETRAIN

4-wheel drive  
Open – front and rear axles  
Hydrostatic transmission  
Single joystick with electronic speed shift control F/N/R switch and proportional loader control  
Outboard planetary axles  
Hydraulic wet disc brakes  
Mechanical parking brake

### HYDRAULICS

3-spool loader control valve  
3 Diagnostic quick couplers  
Adjustable electro hydraulic (EH) loader controls  
Smooth, moderate & aggressive settings for both lift and tilt responsiveness:  
Return to Dig  
Hydraulic skid steer compatible coupler  
Connect under pressure connectors  
Remote drain of hydraulic oil  
Aux. Hydraulic drain line coupling  
Auxiliary flow 22.5 gpm @ 3,336 psi  
(85 l/min @ 230 bar)

### OTHER

Front and rear fenders  
Lights:  
2 Front driving headlights – high/low beam  
2 Rear flood lights  
2 Stop tail lights and backup light  
Front and rear turn signal/flash  
Drawbar pin  
Articulation locking pin  
Tie-down and Lift-up point – front and rear  
Backup alarm  
Tool box  
Rotating beacon  
Wired for radio  
Bucket position indicator  
Front electrical socket for powered attachments

## OPTIONAL EQUIPMENT

### OPERATOR ENVIRONMENT

Creep speed 0 – 3.1 mph (5 kph)  
TeleScop adjustable steering column on Deluxe Cab  
Canopy cab  
Limited slip – front and rear axles  
100% lock – front and open rear axles  
Horizontal pin coupler  
Radio, antenna, and speakers

### LOADER

Optional High flow:  
Max. 34.3 gpm @ 2500 RPM @ 2,901 psi  
(Max. 130 L/min @ 2500 RPM @ 20 000 kPa)  
Buckets – see performance data:  
General purpose standard  
General purpose light material  
STD forks  
Auto Ride Control  
Cold weather with Block Heater - Two 680  
CCA batteries and Low-temp Hytran oil

### TIRES

14.5-20MPT-04 MITAS  
365/80 R20 SPT9 L2(DL.)  
365/70 R18 SPT9 L2 DUNL. – Standard  
12.5-20 10PRMPT04TBL MITAS  
365/80 R20 EM MITAS  
365/70 R18 EM MITAS  
550/45 R22.5 Flotation Tire  
360/80 Nokian Tri 2 Snow

### OTHER

CASE SiteWatch Telematics  
LED work lights, 2 front and 2 Rear

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