

**521F / 821F**  
**WHEEL LOADERS**

**CASE**  
CONSTRUCTION



**FASTER,**  
**FUEL EFFICIENT**

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**EXPERTS FOR THE REAL WORLD**  
**SINCE 1842**

# SPECIFICATIONS

## 521F

### Productivity (50 meter distance cycle)

Considering density at 1,8 t/m<sup>3</sup> and 100% II factor  
52 cycles/hour including 5 minute break \_\_\_\_\_ 52 loading cycles/h  
with 2.1 m<sup>3</sup> bucket \_\_\_\_\_ 110 m<sup>3</sup>/h or 198 t/h of material

### Engine

Make \_\_\_\_\_ F4HFE314A

Number of cylinders \_\_\_\_\_ 4 cylinders - 4,7 liters - common rail  
Max power SAE J1995 \_\_\_\_\_ 106kW / 142 hp @1800 rpm  
Maximum torque SAE J995 \_\_\_\_\_ 608 Nm @1600 rpm

### Transmission

All-wheel drive with planetary axles  
Kick-down function  
4-speed torque converter  
4-speed auto Powershift ZF type 4WG130, switchable to manual shifting  
forward speeds: 6-11-22-36 Km/h  
reverse speeds: 6.4-12-23 Km/h  
Adjustable transmission declutch

### Axles and differential

- for outstanding traction with 50% longer maintenance intervals and 30% less tire wear:

100% auto-lock differential on front axle and open rear axles  
Front and rear ZF heavy duty axles with open differential type MT-L3065-II

- for limited investment and good traction:

29% Limited slip differential on front and rear axles  
front and rear axle ZF type MT-L3065-II

### Tires

Tires \_\_\_\_\_ 17,5R25

### Brakes

Service brake \_\_\_\_\_ Maintenance free, self-adjusting wet 4-wheel disc brakes

Area \_\_\_\_\_ 0,31 m<sup>2</sup>/hub

Parking brake \_\_\_\_\_ Disc brake on transmission activated from the cab cluster

Area \_\_\_\_\_ 58 cm<sup>2</sup>

### Hydraulics

Valves \_\_\_\_\_ Rexroth Closed-center, Load sensing hydraulic system.

Main valve with 3 sections

Steering \_\_\_\_\_ The steering orbitrol hydraulically is actuated with priority valve

Type of pump \_\_\_\_\_ Variable displacement pump (134 l/min @250 bar)

Automatic hydraulic functions

- Bucket Return-to-dig

- Boom Return-to-travel

- Autolift (adjustable height)

Control type \_\_\_\_\_ Pilot control with single joystick or two levers

### Capacities

Fuel tank \_\_\_\_\_ 189 usable liters

Cooling system \_\_\_\_\_ 22 liters

Engine oil \_\_\_\_\_ 12 liters

Hydraulic oil \_\_\_\_\_ Tank: 57 liters, total system: 114 liters

Transmission oil \_\_\_\_\_ 19 liters

### Cab

Cab complies to:

protection against falling objects (FOPS) \_\_\_\_\_ ISO EN3449

protection against roll over (ROPS) \_\_\_\_\_ ISO EN13510

Air ow \_\_\_\_\_ 8.5 m<sup>3</sup> / min spread through 17 air vents

### Noise and vibration

Interior noise \_\_\_\_\_ 72 dB(A) according to ISO6595/6396/3744

Exterior noise \_\_\_\_\_ 72 dB(A) at 15 meters as per SAE J88 SEP80

103 dB(A) according to ISO6595/6396/3744

Reverse gear alarm

Vibrations \_\_\_\_\_ air-cushioned seat MSG 95A/732

### Electrical

24 V. Batteries 2 x 12V.

Alternator \_\_\_\_\_ 70 A



# 821F

## Productivity (50 meter distance cycle)

Considering: density: 1,8 t/m<sup>3</sup>, II factor: 100%, 52 cycles/hour and each hour includes a 5-minute break \_\_\_\_\_ 160 m<sup>3</sup>/h or 320 t/h  
52 loading cycles/h with standard bucket 3.4 m<sup>3</sup> or 6.2 ton

## Engine

Compliant with Tier 3 (EU stage 3a )  
FPT turbocharged engine F4HE9684E\*J with:

- 100% fresh air combustion
- Air to Air intercooler
- Common rail (1.600 bar)
- Multiple injections similar to multi-jet automotive technology to achieve best in class load response, max torque and power with the minimum fuel consumption.

6 cylinders -6,7 liters  
Max power SAE J1995 \_\_\_\_\_ 172kW / 230 hp @1800 rpm  
Maximum torque SAE J1349 \_\_\_\_\_ 1184 Nm @1300 rpm

## Transmission

All-wheel drive with planetary axles  
kick-down function  
4-speed torque converter  
4-speed auto Powershift switchable to manual shifting  
ZF , switchable to manual shifting  
forward speeds \_\_\_\_\_ 7-12-23-37 Km/h  
reverse speeds \_\_\_\_\_ 7-13-25 Km/h  
Adjustable transmission declutch

## Axles and Differential

For outstanding traction with 50% longer maintenance intervals and 30% less tire wear  
Front auto-lock differential 100% of available torque is always guaranteed on the wheel(s) with traction  
Front and rear ZF Heavy Duty axles with Open Differential  
Excellent traction:  
Limited slip differential front and rear \_\_\_\_\_ when one wheel slips 73% of the available axle torque is guaranteed on the other wheel  
Front \_\_\_\_\_ Heavy Duty axle +(ZF type MT-L3095-II)  
Rear \_\_\_\_\_ standard axle (ZF type MT-L3085-II)  
Rear axle total oscillation \_\_\_\_\_ 24

## Tyres

Tyres \_\_\_\_\_ 23,5R25

## Brakes

Service brake \_\_\_\_ Maintenance free, self-adjusting wet 4-wheel disc brakes  
Area \_\_\_\_\_ 0.39 m<sup>2</sup>/hub  
Parking brake \_\_\_\_ Disc brake on transmission activated from the cab cluster  
Area \_\_\_\_\_ 82 cm<sup>2</sup>

## Hydraulics

Valves \_\_\_\_\_ Rexroth Closed-center, Load sensing hydraulic system.  
Main valve with 3 sections  
Steering \_\_\_\_\_ The steering orbitrol hydraulically is actuated with priority valve  
Type of pump \_\_\_\_\_ Tandem Variable displacement pump (240 l/min @2000 rpm)

Automatic hydraulic functions

- Bucket Return-to-dig
- Boom Return-to-travel
- Auto.lift (to adjustable height)

Control type \_\_\_\_\_ Pilot control with single joystick or two levers

## Capacities

Fuel tank \_\_\_\_\_ 288 usable litres  
Cooling system \_\_\_\_\_ 30 litres  
Engine oil \_\_\_\_\_ 15 litres  
Hydraulic oil \_\_\_\_\_ Tank: 91 litres, total system: 180 litres  
Transmission oil \_\_\_\_\_ 34 litres

## Cab and Controls

For you safety the cab complies to:  
protection against falling objects (FOPS) \_\_\_\_\_ ISO EN3449  
protection against roll over (ROPS) \_\_\_\_\_ ISO EN13510

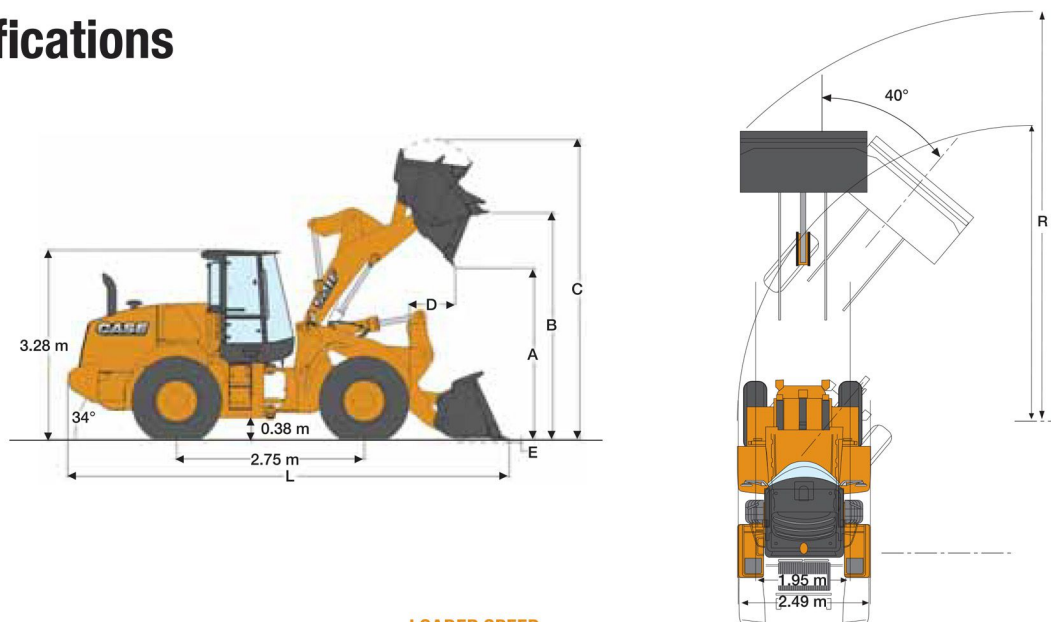
## Noise and Vibration

Driving noise in dB (A) 82 to SAE J88 @ 15 meters  
Interior noise \_\_\_\_\_ 72 LpA as per ISO6395/6396/3744  
Exterior noise \_\_\_\_\_ 71 dB(A) at 15 meters as per SAE J88 SEP80  
103 LwA according to ISO6395/6396/3744  
Switchable reverse gear alarm  
Vibrations \_\_\_\_\_ air-cushioned seat MSG 95A/732  
average 1.4m/s<sup>2</sup> as per ISO/TR 25398:2006

## Electrical System

24V. Batteries 2 x 12V.  
Alternator \_\_\_\_\_ 65A

# Specifications



## LOADER SPEED:

Raising time (loaded)	5.4 sec
Dump time (loaded)	1.2 sec
Lowering time (empty, power down)	3.9 sec
Lowering time (empty, oat down)	3.9 sec

## LOADER SPEED

Raising time (loaded)	6.2 sec
Dump time (loaded)	1.2 sec
Lowering time (empty, power down)	2.9 sec
Lowering time (empty, oat down)	2.5 sec

		Z-bar						
		2.1 m³ bucket		1.7 m³ bucket with quick coupler		821F  3.4 m³		
	521F  Bucket with bolt on :	edge	teeth + segment	edge	teeth	Bucket with bolt on :	edge	teeth
Bucket volume (heaped)	m³	2.07	2.07	1.70	1.70	m³	3.42	3.24
Bucket Payload	kg	3478	3475	3535	3584	kg	6146	6268
Maximum material density	ton/m³	1.7	1.7	2.1	2.1	ton/m³	1.80	1.94
Bucket outside width	m	2.49	2.54	2.44	2.44	m	2.95	2.95
Bucket weight	kg	857	877	1137	1065	kg	1550	1460
Tipping load - straight	kg	8150	8145	8317	8415	kg	14203	14465
Tipping load - Articulated at 40	kg	6957	6949	7069	7167	kg	12293	12536
Breakout force	kg	7591	7781	7104	6959	kg	15076	16133
Lift capacity from ground	kg	8889	8979	10620	10700	kg	17976	18137
A - Dump height at 45 at full height	m	2.62	2.55	2.58	2.56	m	2.94	2.86
B - Hinge pin height	m	3.61	3.61	3.61	3.61	m	4.12	4.12
C - Overall height	m	4.75	4.75	4.77	4.77	m	5.49	5.49
D - Bucket reach at full height	m	1.12	1.19	1.18	1.22	m	1.17	1.13
E - Dig depth	cm	8	8	7	5	cm	7	5
L - Overall length with bucket on the ground	m	6.83	6.94	6.90	6.92	m	7.94	8.06
R - Turning radius to front corner of the bucket	m	5.5	5.6	5.5	5.5	m	6.6	6.7
Bucket rollback in carry position		43	43	48	48		44	44
Dump angle at full height		55	55	50	50		55	55
Machine operating weight	kg	10448	10468	10728	10656	kg	17694	17604

Note: bucket specification can slightly differ according to plant source. More bucket choice is available, please contact your local dealer.



WORLD-CLASS  
EQUIPMENT

Luzon : 0917-6349476  
Visayas : 0917-6331734  
Mindanao : 0917-7162122



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