

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

**CASE**  
CONSTRUCTION



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# 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 de-clutch

### 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 flow \_\_\_\_\_ 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 adjustableheight)

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

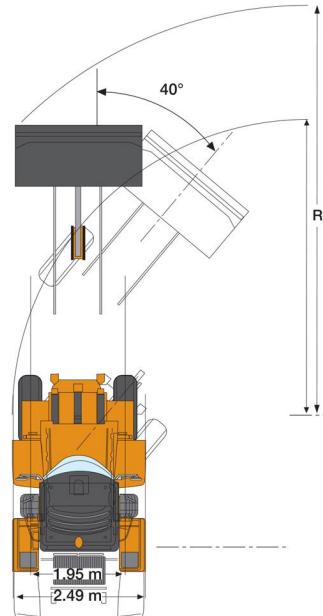
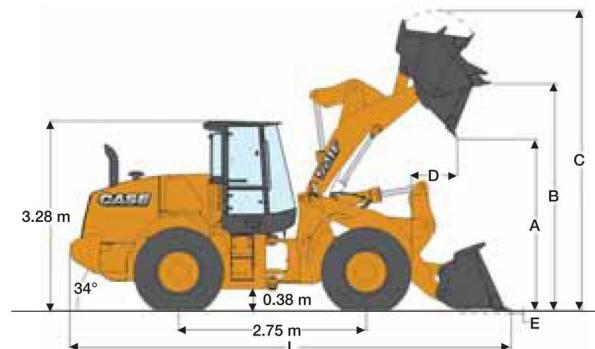
Vibrations \_\_\_\_\_ air-cushioned seat MSG 95A/732  
average 1.4m/s<sup>2</sup> as per ISO/TR 25398:2006

## 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, out 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, out down)	2.5 sec

	521F		Z-bar		821F	
	Bucket with bolt on :	Bucket with bolt on :	2.1 m <sup>3</sup> bucket	1.7 m <sup>3</sup> bucket with quick coupler	Bucket with bolt on :	Bucket with bolt on :
Bucket volume (heaped)	m <sup>3</sup>	2.07	2.07	1.70	1.70	m <sup>3</sup>
Bucket Payload	kg	3478	3475	3535	3584	kg
Maximum material density	ton/m <sup>3</sup>	1.7	1.7	2.1	2.1	ton/m <sup>3</sup>
Bucket outside width	m	2.49	2.54	2.44	2.44	m
Bucket weight	kg	857	877	1137	1065	kg
Tipping load - straight	kg	8150	8145	8317	8415	kg
Tipping load - Articulated at 40	kg	6957	6949	7069	7167	kg
Breakout force	kg	7591	7781	7104	6959	kg
Lift capacity from ground	kg	8889	8979	10620	10700	kg
A - Dump height at 45 at full height	m	2.62	2.55	2.58	2.56	m
B - Hinge pin height	m	3.61	3.61	3.61	3.61	m
C - Overall height	m	4.75	4.75	4.77	4.77	m
D - Bucket reach at full height	m	1.12	1.19	1.18	1.22	m
E - Dig depth	cm	8	8	7	5	cm
L - Overall length with bucket on the ground	m	6.83	6.94	6.90	6.92	m
R - Turning radius to front corner of the bucket	m	5.5	5.6	5.5	5.5	m
Bucket rollback in carry position		43	43	48	48	
Dump angle at full height		55	55	50	50	
Machine operating weight	kg	10448	10468	10728	10656	kg

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



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