

**CASE**  
CONSTRUCTION

# F-SERIES WHEEL LOADERS

721F | 821F | 921F

**SCR**  
TECHNOLOGY



# FAST, PRODUCTIVE, FUEL EFFICIENT

## Be ready for the best:

- Advanced Engine Technology
- High Efficiency Transmission
- High Productivity Differential and Axles
- Low Maintenance Cooling Design
- Premium Ergonomics



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# ADVANCED ENGINE TECHNOLOGY

## New generation engine:

The extremely compact second generation common rail engine delivers top performance in load response, max torque, power and fuel economy.

The combustion is optimized for maximum efficiency, at high temperatures using 100% fresh, cool air, as the air intake is separated from the exhaust.

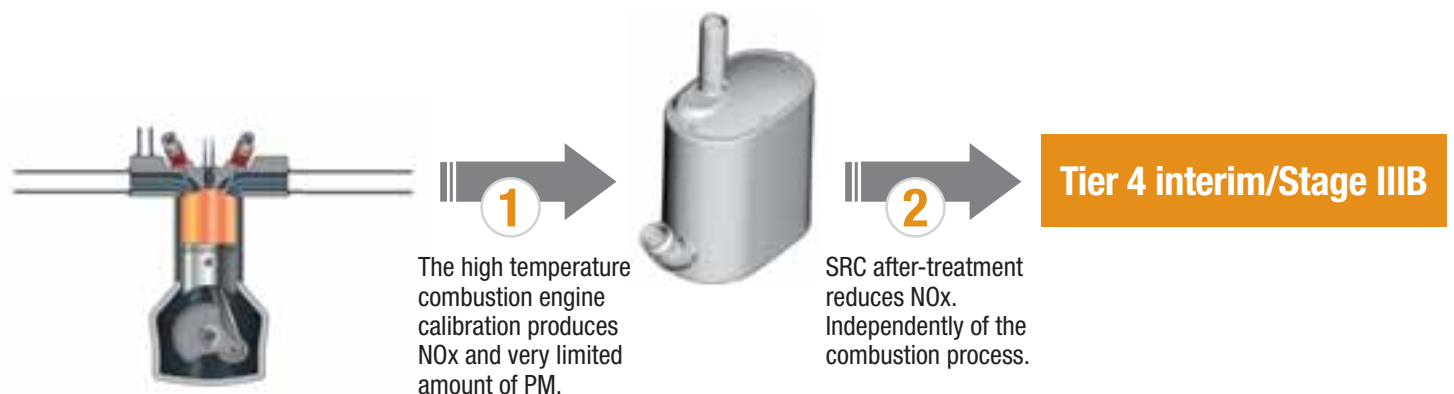
The turbocharged engine with an Air-to-Air intercooler relies on a 3-step injection technology to maximize responsiveness and fuel efficiency with reduced engine noise and vibrations.

4 working modes (max, economy, normal and auto) allow you to maximize productivity or fuel efficiency according to your needs.



## Premium Tier 4 technology: “SCR only”

The Selective Catalytic Reduction (SCR) solution meets EPA's Tier 4 interim emission standards in two simple steps:



The Case “SCR only” solution is an after-treatment system that cuts emissions levels with no limitation on engine output. The combustion at high temperature with fresh air delivers more power density with less fuel, resulting in a powerful performance with superior fuel efficiency.

The “SCR only” solution reduces PM in the engine through high combustion temperatures and uses easy to find AdBlue™ diesel exhaust fluid (DEF) to break down NOx.

Our SCR technology is a well-proven reliable solution, in use in Europe since 2004 on trucks.

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## 10% Lower fuel consumption

The high combustion temperature result in optimum engine performance. The second generation common rail engine ensures better engine control at all rpm. The multiple injection technology delivers optimum combustion control.

## Outstanding flat torque

The second generation common rail engine ensures better engine control at all rpm and the 100% fresh air input further improves engine output. The multiple injection technology ensures optimum combustion control, while the 1600 bar injection delivers best-in-class torque performance.

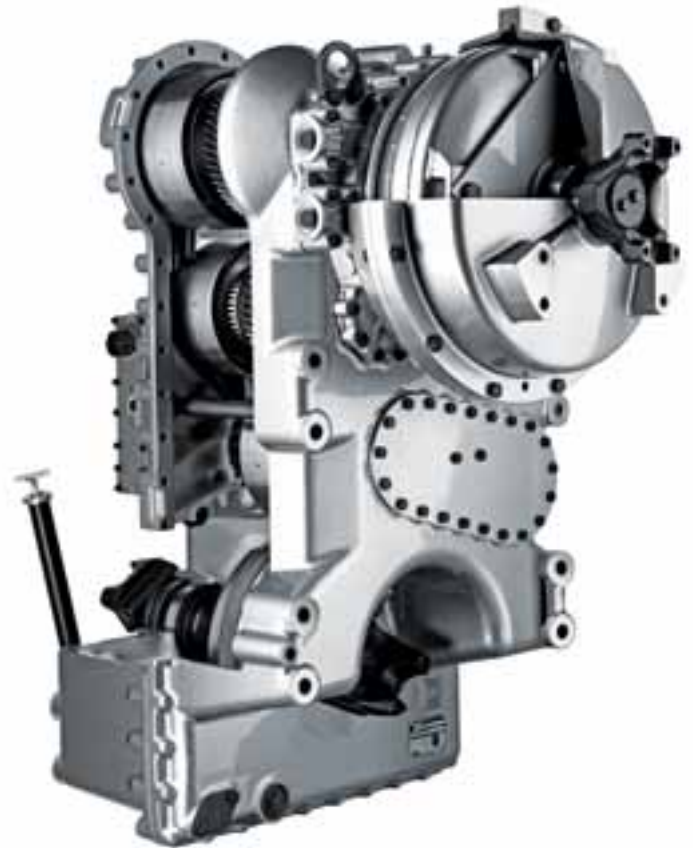
## Lower maintenance costs

The combustion chamber and high pressure injection are optimized to reduce oil dilution. The engine only breathes fresh air, so there is no oil contamination. It also has better fuel compatibility because there is no exhaust gas recirculation and it doesn't need a specific oil because with "SCR only" there is no Diesel Particulate Filter.

# EFFICIENT TRANSMISSION

## Proshift, five premium features:

- **5-speed**  
The 5-speed feature enables you to work at lower rpm and fully use the engine's outstanding torque. The big additional push in 2nd gear is useful on terrains such as sandy soil, where the first gear can slip.
- **Lock-up of torque converter:**  
The lock-up is auto-activated during traveling, eliminating friction in the torque converter, resulting in more efficiency and 12% more power available for faster travelling. It also can be activated manually.
- **Power inch:**  
With Power Inch, positioning the loader is as smooth as it is with a hydrostatic transmission, but with the pushing power of the torque converter – and there is no roll back on slopes.
- **Optimized gear shifting:**  
PROSHIFT optimizes gearshift timing and engine de-rating according to engine mode, resulting in smoother shifts and reduced fuel usage.
- **Extended transmission oil intervals:**  
Transmission oil intervals have been extended to 1500 hours, maximising uptime and lowering operating costs.



The well proven 4-speed torque converter is also available for a limited investment



*No Roll Back even on steep slopes*



*Easier Positioning during truck loading*



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## 10% Additional fuel efficiency and less maintenance

Proshift delivers 10% more fuel savings than 4-speed transmissions and lengthens the life of transmission oil from 1000 to 1500 hours, resulting in maintenance intervals being 50% longer.

The premium performance of Proshift results in a superior resale value for the 721F, 821F and 921F, as no equivalent model offers such a superior performance.

## Maximum productivity

Proshift delivers faster acceleration and, with the slightly shorter 2nd gear, more pushing power.

Power Inch enables faster positioning and ensures there is no roll back even on steep slopes, making it easier and quicker to dump into a truck.

## Superior comfort

Proshift results in a remarkably comfortable ride, with exceptionally smooth gear change and, when braking, with engine de-rating. Power Inch makes dumping into trucks easy and avoids roll back on steep slopes.

# HIGH PRODUCTIVITY DIFFERENTIAL AND AXLES



## New heavy-duty axles

The new heavy-duty axles are tougher, bigger and easier to service with the 3-piece housing design. Wet multiple disc brakes made of resistant sinter bronze are located in each wheel hub.

## Front differential with 100% Auto-lock

With 100% Auto-lock, 100% of the available torque goes to the wheel with adherence, a big step up from the 75% of a limited slip differential! There is no slippage between the wheels and no friction in the differential. The Auto-lock is activated automatically when a front wheel is about to slip, or you can easily do it manually with your left foot.

## Open differentials front and rear

With open differentials, no friction is applied to reduce wheel slip, resulting in less wear and lower energy losses.



To reduce your initial investment:

- 921F is also available without 100% auto-lock, suitable for jobs on dry, hard, flat surfaces
- 721F and 821F are also available with limited slip differentials, heavy-duty front axle and standard rear axles



# F-SERIES WHEEL LOADERS

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With L5 tyres, needed for work in very abrasive environments, we recommend heavy-duty axles. Solid tires can be retrofitted

## More productivity

100% of available torque is transmitted to the wheels, delivering optimum pushing power.

## Greater return on investment

Tyre wear is reduced by 20-30% because there is no slippage between the wheels, fuel consumption is lower because there is no friction in the differential, less maintenance is needed because there are fewer moving components with open differentials. The result: better resale value.

## Always reliable

The heavy duty axles and open differentials result in superior reliability.

# LOW MAINTENANCE COOLING DESIGN



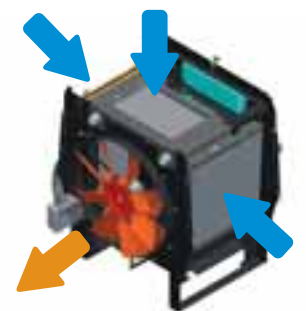
## Better weight distribution with the rear mounted engine

### The cooling cube

The unique design, with the five radiators mounted to form a cube instead of overlapping, ensures that each radiator receives fresh air and that clean air enters from the sides and the top, maintaining constant fluid temperatures. The high efficiency of the cooling system lengthens the life of the coolant to 1500 hours.

The standard reversible fan can be activated from the cab and is very effective thanks to the cooling cube

The engine is mounted at the rear of the machine. This, together with the lower fan speed (just 1200 rpm), results in lower noise and vibration levels in the cab.



### Designed for dusty environment

The cooling system is mounted behind the cab, far from the rear of the machine and from the ground - away from the dust.





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## Less maintenance

The radiators are easy to clean with the reversible fan, which is activated from the cab. The cube design of the cooling system results in more effective cleaning of the radiators, and additional cleaning can be easily done manually, with separate access to each radiator. The efficient cube design also results in a longer life for the cooling fluid, which lasts 500 hours more, so that change intervals are 1500 hours.

## Increased reliability

The constant temperature of the fluid maximises its cooling performance and protects the axles, resulting in greater reliability. This is further enhanced by the easy maintenance and longer service intervals.

The better weight distribution means that a smaller counterweight or dead weight is needed, which reduces stress on the axles and the brakes.

## Upper class bucket payload

Don't be surprised to notice our wheel loader has the same payload as a competitive model of the upper class of weight: this happens because the rear engine position allows to reduce significantly the amount of dead weight in the machine



# PREMIUM ERGONOMICS

## Protected cab

Our reinforced cab guarantees protection against roll over (ROPS) and falling objects (FOPS)



## Low operator vibrations

Engine noise and vibrations are reduced by 3-step injection: pre-, main- and post-injection. To further increase the operator comfort the rear mounted engine is distant from the cab and standard the seat air suspended. Heated seat is optional.



## All controls at your fingertips



## Outstanding all-round visibility

You'll feel more confident and work faster with the great all-round visibility provided by the very low shape of the curved rear hood and the ample glazed surfaces.

17 air vents ensure your comfort and prevent the windshields from steaming up.



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# PREMIUM ERGONOMICS



## Hydraulic functions that add to your comfort

To maximise your focus on the job and reduce your stress levels, you can activate the following functions from the ergonomically positioned control panel under your right hand:

- Auto-shift : ensures the machine always operates in the most suitable gear according to speed, kick down and engine braking
- Reverse button on the joystick: activates front, neutral or reverse
- Return to dig : brings back the bucket in the right position for loading again
- Return to travel : lowers the boom to carry position, which can be adjusted
- Auto-lift : lifts the boom to the max height you have set
- Auto-Ride Control: reduces loader arm bounce during travel, maintaining maximum material retention. It activates from 8 km/h
- Auto-diff lock : The 100% differential lock can be activated manually with your left foot or automatically for greater focus on the job
- Auxiliary circuit lever: For hydraulic attachments such as high tip bucket, you can order the optional auxiliary circuit controlled by a lever next to the joystick for your ease of use.



## Joystick steering

Long days of repetitive cycles go faster with joystick steering (optional) because your sitting position is better. The steering wheel is maintained for a better handling. You will appreciate it during transfers on uneven terrains, on a descending slope and in case of emergency



## Levers controls

Depending on your habits you may prefer the optional 2-lever control to the standard joystick control. The optional 3rd lever controls the attachment auxiliary circuit. It can also be retrofitted as a kit.



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# FAST AND EASY MAINTENANCE

## One-piece electric hood

The positioning of the engine at the rear and the easy-to-open electric hood ensure fast access to the service points. Jumper cables are available as standard for jump starting the engine if the battery is low.

## Ground level maintenance design

Don't be surprised if you don't see any safety handrails around the hood or steps behind the rear wheels, all service points are easily accessible at ground level. You can do a fast visual check of the hydraulic and transmission oil levels. The three drains are grouped together on the left side, below the hood and battery switches, so that fluids are easy and quick to replace.

## Less maintenance, more uptime

You can maximise the working time with these wheel loaders, with the long service intervals of 1500 hours for the transmission oil and filter, the axle oil and filter, and the coolant. The positioning of the cooling system behind the cab means that it needs less cleaning, and the cooling cube design enables you to clean very efficiently with the reversible fan as well as manually. Both pumps and engine distributions rely on one belt only for faster maintenance

## Greater Safety

All the main service points are easily accessible from the ground, so you can carry out your daily maintenance safely and efficiently.



*The layout of the components under the hood is optimized and results in easier maintenance.*



*Hood opening and battery on/off switches. In case of flat battery, hood opening can be done externally with remote jump start*



*Grouped drains*



*Only one AdBlue fill is need every 3 fuel fill*

# F-SERIES WHEEL LOADERS

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# THE DNA OF YOUR 721F

## Productivity (50-meter distance cycle)

Considering: density: 1,8 t/m<sup>3</sup>, fill factor: 100%, 52 cycles/hour and each hour includes a 5-minute break \_\_\_\_\_ 140 m<sup>3</sup>/h or 280 t/h  
52 loading cycles/h with standard bucket 2.7 m<sup>3</sup> or 5.4 tonnes

## Engine Tier 4 interim

Compliant with Tier 4 interim (EU stage IIIB regulations)

FPT turbocharged engine FAHFE613Y with:

- 100% fresh air combustion
- Air to Air intercooler
- Second generation 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 \_\_\_\_\_ 145 kW / 195 hp @1800 rpm

Maximum torque SAE J1349 \_\_\_\_\_ 950 Nm @1300 rpm

Nox emission \_\_\_\_\_ 1,53 g/kWh

HC emission \_\_\_\_\_ 0,02 g/kWh

CO emission \_\_\_\_\_ 0,23 g/kWh

PM emission \_\_\_\_\_ 0,0106 g/kWh

## Transmission

All-wheel drive with planetary axles

Kick-down function

### 5-speed powershift with lock up (proshift)

5-speed transmission. Lock-up eliminates torque converter friction as from 8 km/h.

Power inch \_ proportional declutching depending on braking intensity  
forward speeds \_\_\_\_\_ 7-13-19-30-40 Km/h

reverse speeds \_\_\_\_\_ 8-14-31 Km/h

### 4-speed torque converter

4-speed auto Powershift switchable to manual shifting

ZF , switchable to manual shifting

forward speeds \_\_\_\_\_ 8-13-25-37 Km/h

reverse speeds \_\_\_\_\_ 8-13-26 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 (options) 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-L3085-II)

Rear \_\_\_\_\_ standard axle (ZF type MT-L3075-II)

Rear axle total oscillation \_\_\_\_\_ 24°

## Tyres

Tyres \_\_\_\_\_ 20,5R25

## 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>

## Hydraulic

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  
(206 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 \_\_\_\_\_ 246 usable litres

AdBlue tank \_\_\_\_\_ 41.3 usable litres

Cooling system \_\_\_\_\_ 28 litres

Engine oil \_\_\_\_\_ 15 litres

Hydraulic oil \_\_\_\_\_ Tank: 91 litres, total system: 180 litres

Transmission oil \_\_\_\_\_ 34 litres

## Cab and controls

For your 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

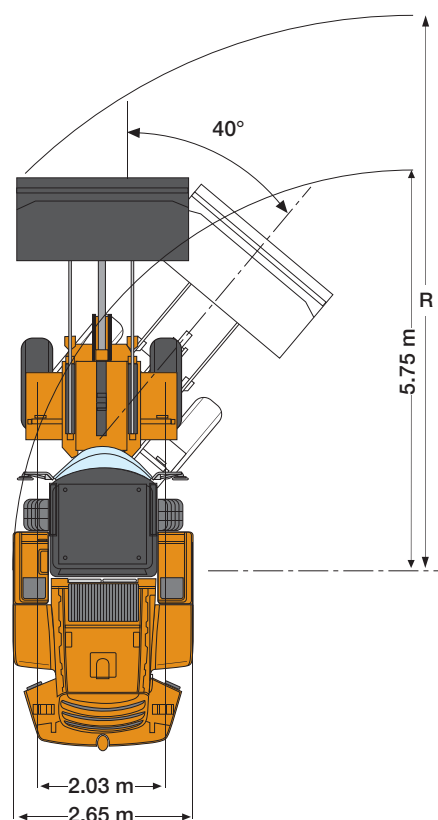
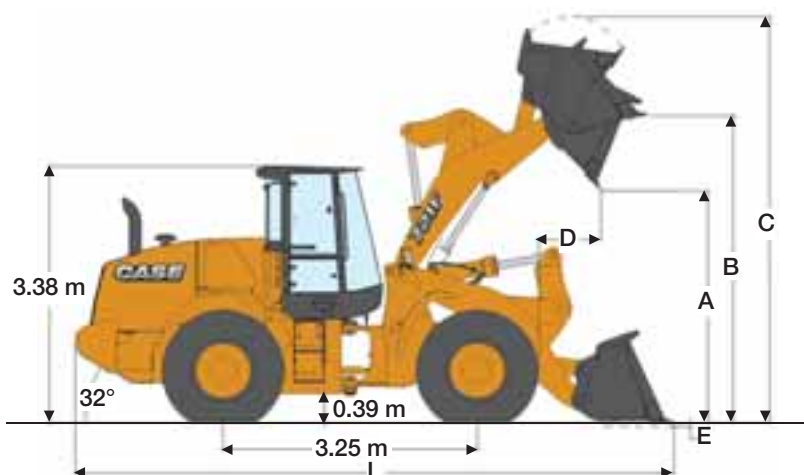
Vibrations \_\_\_\_\_ air-cushioned seat MSG 95A/732  
average 1.4m/s<sup>2</sup> as per ISO/TR 25398:2006

## Electrical system

24V. Batteries 2 x 12V.

Alternator \_\_\_\_\_ 65A

# 721F Specifications



## LOADER SPEED

Raising time (loaded)	5.2 sec
Dump time (loaded)	1.2 sec
Lowering time (empty, power down)	2.5 sec
Lowering time (empty, float down)	2.4 sec

721F	Z-BAR buckets				XR buckets				XT buckets		
	Bucket with bolt on:	2.7 m <sup>3</sup>		2.4 m <sup>3</sup> w/QC		2.7 m <sup>3</sup> bucket		2.4 m <sup>3</sup> w/QC		2.4 m <sup>3</sup> w/QC	
		edge	teeth	edge	teeth	edge	teeth	edge	teeth	edge	teeth
Bucket volume (heaped)	m <sup>3</sup>	2.7	2.7	2.4	2.4	2.7	2.7	2.4	2.4	2.4	2.4
Bucket Payload	kg	5440	5369	5299	5325	4533	4464	4385	4409	4924	4946
Maximum material density	tonnes/m <sup>3</sup>	2.0	2.0	2.2	2.2	1.7	1.7	1.8	1.8	2.1	2.1
Bucket outside width	m	2.73	2.73	2.47	2.47	2.73	2.73	2.47	2.47	2.47	2.47
Bucket weight	kg	1237	1344	1656	1619	1237	1344	1656	1619	1627	1590
Tipping load - straight	kg	12435	12292	11356	11405	10419	10280	10129	10177	11280	11326
Tipping load - Articulated at 40°	kg	10881	10738	10599	10649	9066	8927	8770	8818	9847	9893
Breakout force	kg	14236	12885	12185	11284	14160	12817	12040	11151	12016	11193
Lift capacity from ground	kg	13607	13480	13419	13462	11302	11177	11072	11115	13096	13111
A - Dump height at 45° at full height	m	2.93	2.86	2.82	2.74	3.33	3.26	3.21	3.14	2.77	2.69
B - Hinge pin height	m	3.98	3.98	3.98	3.98	4.37	4.37	4.37	4.37	4.16	4.16
C - Overall height	m	5.52	5.52	5.51	5.51	5.91	5.91	5.90	5.90	5.67	5.66
D - Bucket reach at full height	m	1.13	1.21	1.28	1.36	1.13	1.21	1.28	1.36	1.27	1.36
E - Dig depth	cm	7.4	7.4	6.2	6.7	7.6	7.7	6.5	6.9	21	21.3
Overall length without bucket	m	6.53	6.53	6.53	6.53	6.85	6.85	6.85	6.85	6.52	6.52
L - Overall length with bucket on the ground	m	7.65	7.76	7.83	7.95	7.65	7.76	8.18	8.30	8.12	8.24
R - Turning radius to front corner of the bucket	m	6.3	6.4	6.3	6.3	6.5	6.5	6.5	6.5	6.2	6.3
Bucket rollback in carry position	°	43	43	38	38	41	41	36	36	58	58
Dump angle at full height	°	55	55	61	61	55	55	61	61	54	54
Machine operating weight	kg	14225	14532	14844	14807	14644	14751	15063	15026	14915	14878



# THE DNA OF YOUR 821F

## Productivity (50-meter distance cycle)

Considering: density: 1,8 t/m<sup>3</sup>, fill 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 tonnes

## Engine Tier 4 interim

Compliant with Tier 4 interim (EU stage IIIB regulations)

FPT turbocharged engine FAHFE613X with:

- 100% fresh air combustion
- Air to Air intercooler
- Second generation 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

Nox emission \_\_\_\_\_ 1,53 g/kWh

HC emission \_\_\_\_\_ 0,02 g/kWh

CO emission \_\_\_\_\_ 0,23 g/kWh

PM emission \_\_\_\_\_ 0,0106 g/kWh

## Transmission

All-wheel drive with planetary axles

kick-down function

### 5-speed powershift with lock up (proshift)

5-speed transmission. Lock-up eliminates torque converter friction as from 8 km/h.

Power inch \_ proportional declutching depending on braking intensity  
forward speeds \_\_\_\_\_ 6,6-11-17-26-40 Km/h

reverse speeds \_\_\_\_\_ 7-12-28 Km/h

### 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

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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>

## Hydraulic

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

AdBlue tank \_\_\_\_\_ 41.3 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 your 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

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Exterior noise \_\_\_\_\_ 71 dB(A) at 15 meters as per SAE J88 SEP80  
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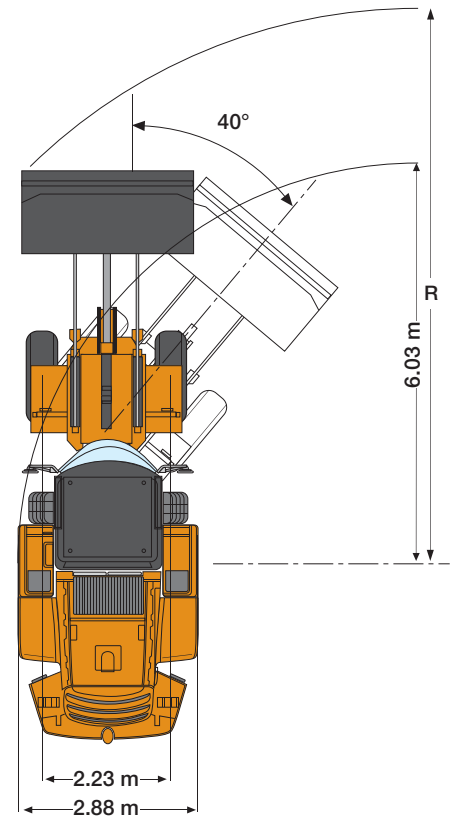
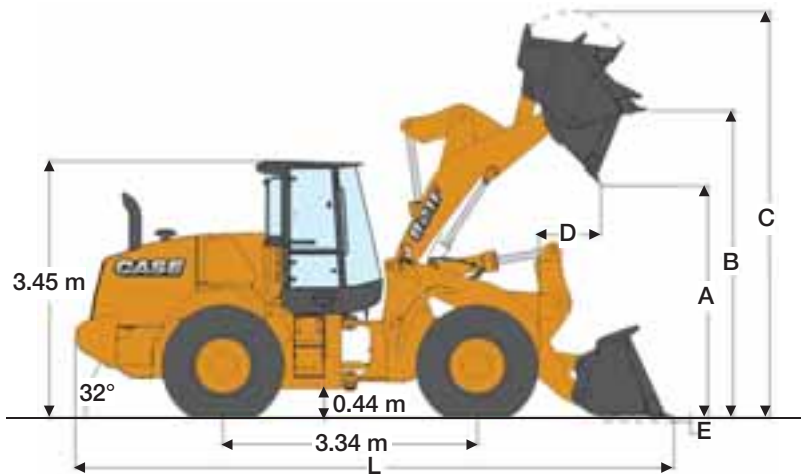
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average 1.4m/s<sup>2</sup> as per ISO/TR 25398:2006

## Electrical system

24V. Batteries 2 x 12V.

Alternator \_\_\_\_\_ 65A

# 821F Specifications



## 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, float down)	2.5 sec

821F		Z-BAR buckets				XR buckets						
		3.4 m <sup>3</sup>		3.2 m <sup>3</sup>		2.8 m <sup>3</sup>		3.2 m <sup>3</sup>		2.8 m <sup>3</sup>		
	Bucket with bolt on:	edge	teeth	edge	teeth	edge	teeth	edge	teeth	edge	teeth	
	Bucket volume (heaped)	m <sup>3</sup>	3.42	3.24	3.20	3.10	2.8	2.5	3.2	3.1	2.8	2.5
	Bucket Payload	kg	6146	6268	6184	6295	6274	6478	4878	4970	4968	5123
	Maximum material density	tonnes/m <sup>3</sup>	1.80	1.94	1.93	2.03	2.24	2.59	1.53	1.60	1.77	2.05
	Bucket outside width	m	2.95	2.95	2.94	2.94	2.95	2.94	2.95	2.94	2.95	2.94
	Bucket weight	kg	1550	1460	1520	1430	1366	1276	1520	1430	1366	1276
	Tipping load - straight	kg	14203	14465	14284	14523	14465	14917	11366	11562	11547	11889
	Tipping load - Articulated at 40°	kg	12293	12536	12367	12590	12547	12955	9756	9941	9936	10246
	Breakout force	kg	15076	16133	15473	16676	17751	19180	15721	16953	18032	19496
	Lift capacity from ground	kg	17976	18137	18055	18201	18263	18559	13725	13885	13938	14237
	A - Dump height at 45° at full height	m	2.94	2.86	2.96	2.88	3.06	2.99	3.34	3.33	3.50	3.43
	B - Hinge pin height	m	4.12	4.12	4.12	4.12	4.12	4.12	4.56	4.56	4.56	4.56
	C - Overall height	m	5.49	5.49	5.45	5.45	5.29	5.29	5.89	5.89	5.73	5.73
	D - Bucket reach at full height	m	1.17	1.13	1.15	1.27	1.02	1.14	1.26	1.38	1.14	1.26
	E - Dig depth	cm	7	5	7	5	7	5	14	11	14	11
	L - Overall length with bucket on the ground	m	7.94	8.06	7.90	8.03	7.74	7.86	8.39	8.52	8.23	8.35
	Overall length without bucket	m	6.78	6.78	6.78	6.78	6.78	6.78	7.24	7.24	7.24	7.24
	R - Turning radius to front corner of the bucket	m	6.6	6.7	6.6	6.6	6.6	6.6	6.9	6.9	6.8	6.8
	Bucket rollback in carry position	°	44	44	44	44	44	44	43	43	43	43
	Dump angle at full height	°	55	55	55	55	55	55	49	49	49	49
	Machine operating weight	kg	17694	17604	17664	17574	17510	17420	18046	17956	17892	17802



# THE DNA OF YOUR 921F

## Productivity (50-meter distance cycle)

Considering: density: 1,8 t/m<sup>3</sup>, fill factor: 100%, 52 cycles/hour and each hour includes a 5-minute break \_\_\_\_\_ 210 m<sup>3</sup>/h or 375 t/h  
52 loading cycles/h with standard bucket 4.0 m<sup>3</sup> or 7.2 tonnes

## Engine Tier 4 interim

compliant with Tier 4 interim (EU stage IIIB regulations)

FPT turbocharged engine FAHFE6131 with:

- 100% fresh air combustion

- Air to Air intercooler

- 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 \_\_\_\_\_ 190kW / 255 hp @1800 rpm

Maximum torque SAE J1349 \_\_\_\_\_ 1300 Nm @1300 rpm

Nox emission \_\_\_\_\_ 1,53 g/kWh

HC emission \_\_\_\_\_ 0,02 g/kWh

CO emission \_\_\_\_\_ 0,23 g/kWh

PM emission \_\_\_\_\_ 0,0106 g/kWh

## Transmission

All-wheel drive with planetary axles

kick-down function

### 5-speed powershift with lock up (proshift)

5-speed transmission. Lock-up eliminates torque converter friction as from 8 km/h.

Power inch \_ proportional declutching depending on braking intensity  
forward speeds \_\_\_\_\_ 6,4-11-17-26-40 Km/h

reverse speeds \_\_\_\_\_ 7-12-28 Km/h

### 4-speed torque converter

4-speed auto Powershift switchable to manual shifting

ZF , switchable to manual shifting

forward speeds \_\_\_\_\_ 7-12-23-36 Km/h

reverse speeds \_\_\_\_\_ 7-13-24 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 (options) 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 and rear \_\_\_\_\_ Heavy Duty axle +(ZF type MT-L3095-II)

Rear axle total oscillation \_\_\_\_\_ 24°

## Tyres

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

## Brakes

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

Area \_\_\_\_\_ 0.47 m<sup>2</sup>/hub

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

Area \_\_\_\_\_ 82 cm<sup>2</sup>

## Hydraulic

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 (282 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

AdBlue tank \_\_\_\_\_ 41.3 usable litres

Cooling system \_\_\_\_\_ 30 litres

Engine oil \_\_\_\_\_ 15 litres

Hydraulic oil \_\_\_\_\_ Tank: 110 litres, total system: 200 litres

Transmission oil \_\_\_\_\_ 34 litres

## Cab and controls

For your 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 ISO6595/6396/3744

Exterior noise \_\_\_\_\_ 71 dB(A) at 15 meters as per SAE J88 SEP80  
103 LwA according to ISO6395/6396/3744

Switchable reverse gear alarm

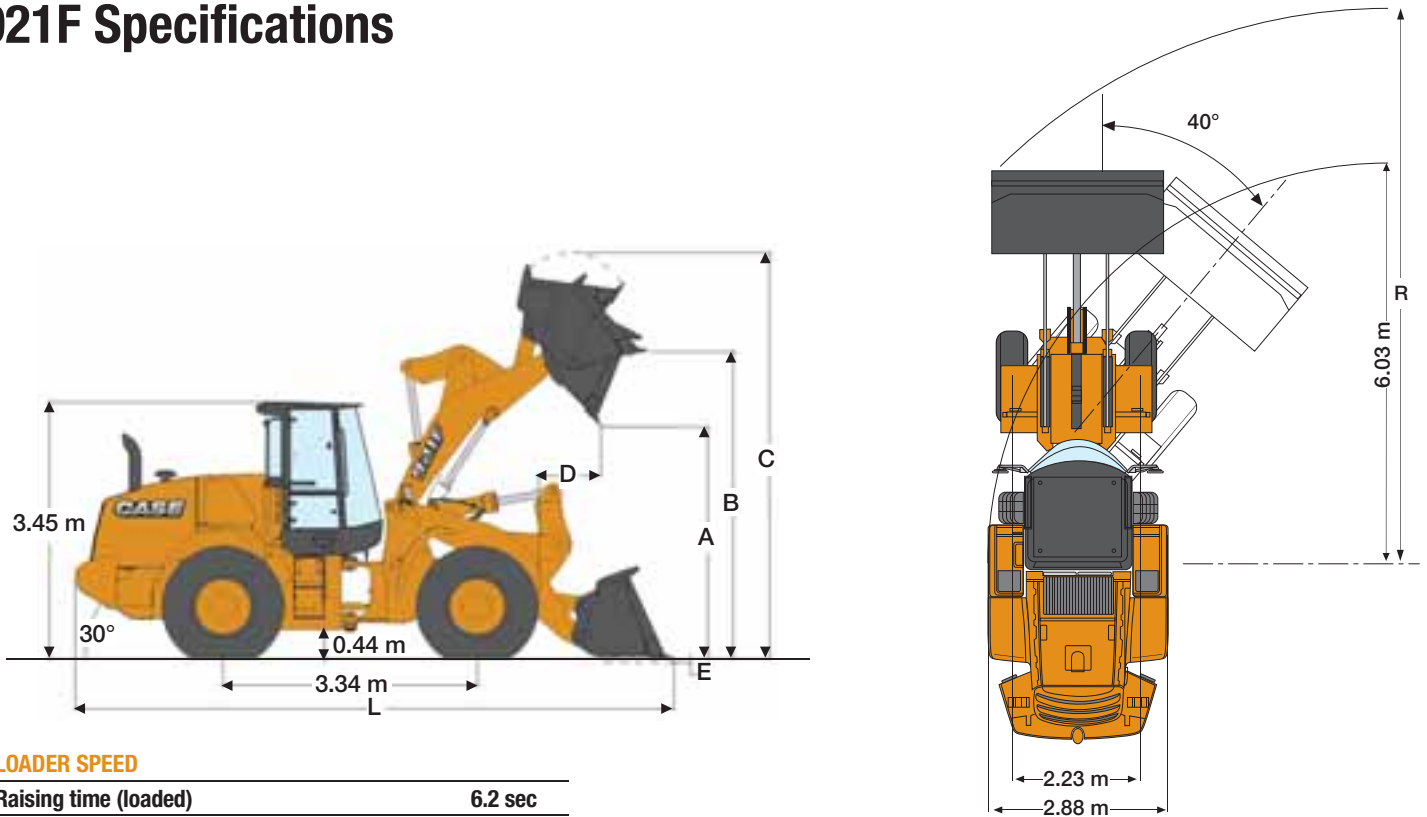
Vibrations \_\_\_\_\_ air-cushioned seat MSG 95A/732  
average 1.4m/s<sup>2</sup> as per ISO/TR 25398:2006

## Electrical system

24V. Batteries 2 x 12V.

Alternator \_\_\_\_\_ 65A

# 921F Specifications



## LOADER SPEED

Raising time (loaded)	6.2 sec
Dump time (loaded)	1.4 sec
Lowering time (empty, power down)	3.8 sec
Lowering time (empty, float down)	3.1 sec

921F		Z-BAR buckets		XR buckets	
		4.0 m <sup>3</sup>		4.0 m <sup>3</sup>	
	Bucket with bolt on:	edge	teeth	edge	teeth
Bucket volume (heaped)	m <sup>3</sup>	3.98	3.82	3.98	3.80
Bucket Payload	kg	7205	7245	5695	5735
Maximum material density	tonnes/m <sup>3</sup>	1.8	1.9	1.4	1.5
Bucket outside width	m	2.98	2.98	2.98	2.98
Bucket weight	kg	1922	1807	1922	1807
Tipping load - straight	kg	16765	16867	13361	13463
Tipping load - Articulated at 40°	kg	14409	14491	11389	11471
Breakout force	kg	17738	18886	18061	19209
Lift capacity from ground	kg	21587	21735	16739	16887
A - Dump height at 45° at full height	m	2.86	2.86	3.22	3.22
B - Hinge pin height	m	4.12	4.12	4.56	4.56
C - Overall height	m	5.71	5.71	6.15	6.15
D - Bucket reach at full height	m	1.05	1.16	1.19	1.3
E - Dig depth	cm	7	7	14	14
L - Overall length with bucket on the ground	m	7.92	8.07	8.41	8.56
Overall length without bucket	m	6.78	6.78	7.24	7.24
R - Turning radius to front corner of the bucket	m	6.6	6.7	6.6	6.7
Bucket rollback in carry position	°	44	44	43	43
Dump angle at full height	°	50	50	44	44
Machine operating weight	kg	20068	19953	20210	20095





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The call is free from a land line. Check in advance with your Mobile Operator if you will be charged.

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 2006/42/EC



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