

# SKID STEER LOADER

# CASE

CONSTRUCTION

SINCE 1842.

## SR220B

### ENGINE

Brand	FPT
Model	F5C E5454B*A005
Type	4-stroke, turbocharged, Tier 3 certified
Cylinders	4
Bore x Stroke	99 x 104 mm (3.9 x 4.1")
Displacement	3,200 cm <sup>3</sup> (195 in <sup>3</sup> )
Fuel injection	Direct
Fuel	Diesel
Fuel filter	In-line filter
Air inlet	Turbocharged with external EGR
Cooling system	Liquid
Motor speed (rpm)	
High - no load	2,675 ± 75
Rated - full load	2,500
Low - no load	1,075 ± 75
Power at 2,500 rpm	
Gross SAE J1995	82 hp (61 kW)
Net SAE J1349	76 hp (57 kW)
Maximum torque at 1,400 rpm	305 N.m (225 lbf.ft)

### ENGINE COOLING SYSTEM

Radiator	
Core type	Fully aluminum
Core area	0.266 m <sup>2</sup>
Rows of tubes	44
Pressure on the lid	1.1 ± 0.1 bar (16 ± 2 psi)
Fan	
Diameter	518 mm (20.4")
Ratio	0.96:1
Water pump	
Type	Centrifuge
Flow	110 l/min (29 gpm)
Engine lubrication	
Pump	Rotor pump with sump pan depth, plate cooler and pressurized nozzles under the piston
Pump Operational Angles	
Side by side	45°
Raised bucket	35°
Lowered bucket	45°
Oil filtration	Full flow cartridge

### POWERTRAIN

Drive Pump - Mechanical	
Pump / motor ratio	1:1
Displacement	46 cm <sup>3</sup> (2.81 in <sup>3</sup> )
Pump flow rate with motor at rated rotation	111 l/min (29.4 gpm)
Charging pressure	24.5 bar (360 psi)
System relief pressure	360 bar (5,220 psi)
Control	Mechanical
Drive pump - Electrohydraulic (EH)	
Pump / motor ratio	1:1
Displacement	45 cm <sup>3</sup> (2.75 in <sup>3</sup> )
Pump flow rate with motor at rated rotation	109 l/min (28.8 gpm)
Charging pressure	25 bar (363 psi)
System relief pressure	360 bar (5,220 psi)
Control	Electrohydraulic
Traction engines	
Maximum displacement	470 cm <sup>3</sup> (28.68 in <sup>3</sup> )
Speed at rated motor rotation of	241 rpm
Speed at optional high rotation	355 rpm
Torque at full flow and relief pressure	2,694 N.m (1,987 lbf.ft)
Displacement speed	
Low	11.3 km/h (7.0 mph)
High (optional)	16.9 km/h (10.5 mph)
Final reduction	Chain drive with single reduction
Drive chain	
Size	ASA #100
Tensile strength	133.4 kN (30,000 lbf)
Axles	
Maximum torque at full flow and relief pressure	8,975 N.m (6,620 lbf.ft)
Diameter	62 mm (2.44")
Length	396 mm (15.6")
Parking break	
Type	Spring applied, hydraulic disc release
Actuation	Application of the parking brakes by actuating the brake knob on the hand control or on the instrument panel, by raising the safety bar of the operator's seat, when the operator rises from the seat or by switching off the engine

### HYDRAULIC SYSTEM

Standard pump	
Type	Gear pump
Displacement	
Standard	34.1 cm <sup>3</sup> (2.08 in <sup>3</sup> )
Optional High Flow	18.3 cm <sup>3</sup> (1.1 pulg <sup>3</sup> )
Pump flow at rated motor rotation of	85 l/min (22.5 gpm)
Flow rate with optional High flow at rated motor rotation	131 l/min (34.6 gpm)
Skid Steer control valve	
3 spools / Open Center / In-line	
Relief pressure	210 bar (3,046 psi)
Relief pressures	
Arm lift	225 bar (3,263 psi)
Bucket discharge	260 bar (3,770 psi)
Bucket retraction	80 bar (1,160 psi)
Hydraulic oil cooler	
Flaps numbers	3.94 per centimeter
Number of tubes	11
Area	843 cm <sup>2</sup> (130.7 in <sup>2</sup> )

## INSTRUMENT PANEL

### Indicators

Text indicators Hour meter, engine rotation, engine cooling fluid temperature, or hydraulic oil temperature  
 LCD bar chart for hydraulic oil temperature, engine cooler temperature, and fuel level in fuel tank

### Warning lights with alarms

Immediate stop  
 Motor malfunction  
 Hydraulic system malfunction  
 Malfunction of the electronic system

### Indicator lights

Warning to lower the security bar  
 Parking brake indicator activated  
 Engine preheating light

## ELECTRIC SYSTEM

Alternator	120 A
Starting motor	3.2 kW
Battery	12 V, low maintenance, 950 CCA for cold cranking at -18 °C (0 °F)

## OPERATOR ENVIRONMENT

ROPS / FOPS cab with side screens

Tilting ROPS / FOPS frame

Rear window with emergency exit

Instrument panel

Retractable seat belt

Manual throttle

Alarm package

Cabin roof lining

Solar roof

Cup holder

Power outlet

Foot rest

Storage tray

Ergonomic low effort manual controls

Padded safety bar with integrated armrest

Controls locking system of the loader

Electric parking brake control

Rubber mat for floor protection / cleaning

Suspension vinyl seat

## CYLINDERS

### Lift cylinder

Cylinder diameter	63.5 mm (2.5")
Stem diameter	44.5 mm (1.75")
Stroke	817.9 mm (32.2")
Closed length	1,158.0 mm (45.6")

### Bucket cylinders

Cylinder diameter	76.2 mm (3.0")
Stem diameter	38.1 mm (1.5")
Stroke	410.0 mm (16.1")
Closed length	610.0 mm (24")

## OPERATIONAL WEIGHTS

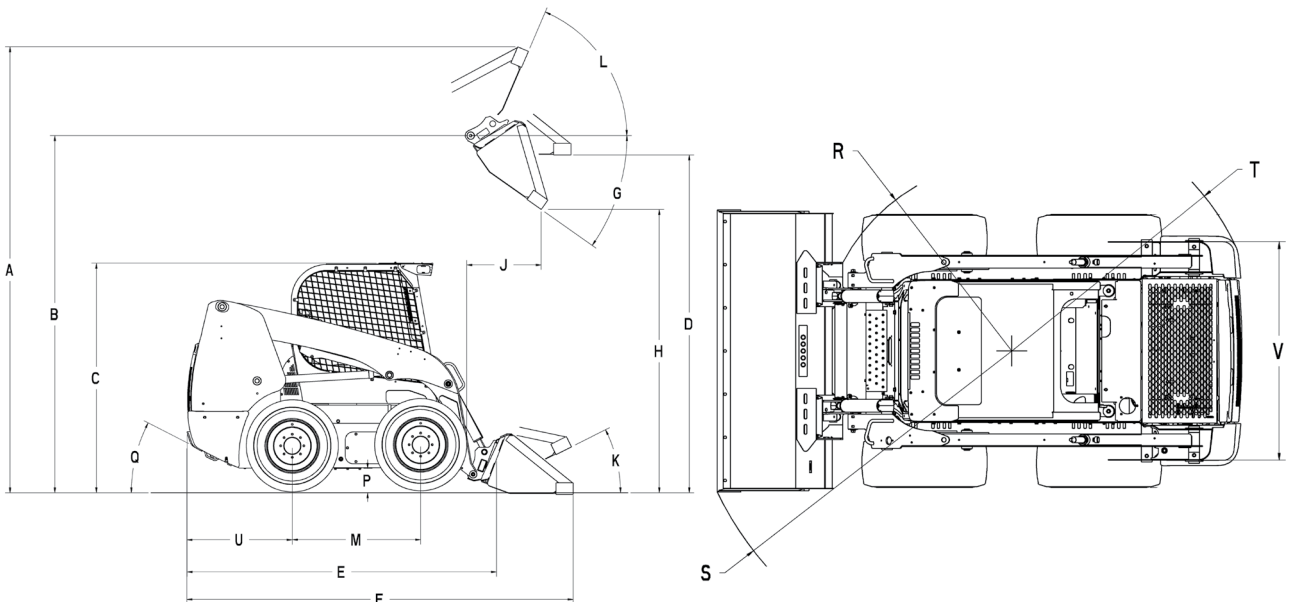
Operational weight	3,350 kg (7,400 lb)
Transport weight	3,200 kg (7,065 lb)
Cabin side windows	21.3 kg (46.9 lb)
Lexan@Door	34 kg (75 lb)
Glass door with windshield wiper	34 kg (75 lb)
Suspension seat	10 kg (22.0 lb)

## SERVICE CAPACITIES

Fuel tank	96.5 l (25.5 gal)
Engine oil (with filter)	9.5 l (10.0 qt)
Hydraulic system Storage	26.5 l (7.0 gal)
Storage for chains (on each side)	22.2 l (5.9 gal)

## TIRE SELECTION

	Size	Overall width
Galaxy XD 2002 (12x16.5 Heavy Duty (70 OTW))	12x16.5	1,778 mm (5' 10")
TWEEL All Terrain (12X16.5 TWEEL 70 OTW)	12x16.5	1,778 mm (5' 10")
Galaxy Beef Baby III (14x17.5 Premium (76 OTW))	14x17.5	1,930 mm (6' 4")



## DIMENSIONS

<b>A.</b>	Total operational height	
	With foundry / excavation bucket	4.0 m (156.3")
	With low profile extended bucket	4.2 m (165.3")
	Height up to:	
<b>B.</b>	Bucket hinge pin	3.2 m (125")
<b>C.</b>	Cabin top	2.0 m (78.8")
<b>D.</b>	Leveled bucket bottom with fully raised loader arm	3.0 m (118")
	Total length:	
<b>E.</b>	Without accessories, with coupling device	3.0 m (117.4")
<b>F.</b>	With foundry / excavation bucket at ground level	3.6 m (142.2")
	With low-profile extended bucket at ground level	3.8 m (151.3")
<b>G.</b>	Dump angle at maximum height	38.1°
<b>H.</b>	Dump height - fully raised loader arm	
	With foundry / excavation bucket	2.6 m (100.9")
	With low profile extended bucket	2.4 m (95.2")
<b>J.</b>	Reach - fully raised loader arm	0.7 m (26.7")
	Attachment maximum retraction angle:	
<b>K.</b>	Bucket at ground level	30.7°
<b>L.</b>	Bucket at maximum height	99.7°
<b>M.</b>	Wheelbase	1.3 m (52")
<b>P.</b>	Ground clearance (bottom of protection plate)	0.2 m (8")
<b>Q.</b>	Output angle	23.5°
	Front turning radius:	
<b>R.</b>	Without the bucket	1.4 m (55.1")
<b>S.</b>	With foundry / excavation bucket at ground level	2.1 m (83.5")
	With low-profile extended bucket at ground level	2.3 m (91.9")
<b>T.</b>	Rear turning radius	1.8 m (70.4")
<b>U.</b>	Rear axle to bumper	1.0 m (40.7")
<b>V.</b>	Machine gauge, measure between the wheel centers	1.5 m (56.9")

## SPECIFICATIONS

Operational load	1,000 kg (2,200 lb)
Dump load	2,000 kg (4,400 lb)
Tear force	
Lifting arm	24.4 kN (5,490 lbf)
Bucket	38.7 kN (8,700 lbf)
Cycle times (in seconds)	
To raise arms	3.7
To lower arms	1.9
To unload attachment	2.7
To retract attachment	2.0

## OPTIONAL BUCKETS

Type	Width m (in)	Weight kg (lb)	Heaped capacity m <sup>3</sup> (yd <sup>3</sup> )
Foundry / excavation	1,83 (72)	190 (420)	0,46 (0,60)
	1,83 (72)	232 (510)	0,50 (0,65)
Extended low profile	1,98 (78)	245 (540)	0,54 (0,71)
	2,13 (84)	262 (575)	0,58 (0,76)
Heavy Duty	1,83 (72)	230 (510)	0,40 (0,52)

## STANDARD EQUIPMENT

### Operator environment

ROPS / FOPS cab with side screens  
Tilting ROPS / FOPS frame  
Rear window with emergency exit  
Instrument panel  
Retractable seat belt  
Manual and foot throttle  
Alarm package  
Cabin roof lining  
Suspension vinyl seat  
Solar roof  
Cup holder  
Power outlet  
Foot rest  
Storage tray  
Ergonomic low effort manual controls  
Padded safety bar with integrated armrest  
Loader controls locking system  
Electric parking brake control  
Rubber mat for floor protection/ cleaning

### Loader

Loader arm radial design  
Mechanical device of attachment coupling  
Lift arm support beam of the loader

### Engine

FPT F5C E5454B\*A005 diesel  
Overlapped oil heat exchanger and radiator  
Gow plug  
Integrated oil cooling system of the engine  
Fuel filter with water separator  
Dual element air filter  
120 A alternator  
12V 950 CCA battery

### Power train

Hydrostatic four-wheel drive  
Servo controls  
ASA #100HS Drive chain  
SAHR parking disc brakes

### Hydraulic system

210 bar hydraulic system  
(3,046 psi) – 85 l/min (22.5 gpm)  
Hydraulic circuit pedal lock  
ISO flat face couplers mounted on loader arm  
Cancellation of auxiliary functions  
Operational blocking system of the loader  
Loader lift neutralizer  
Loader 3-spool control valve  
Heavy Duty oil heat exchanger  
Loader arm fluctuation position

### Others

Lockable maintenance access hood  
Single point daily maintenance  
Halogen lights, 2 frontal, 2 lateral, 2 rear  
Rear lights  
Remote oil drain  
2 speed drive  
Heavy Duty rear door

## OPTIONAL EQUIPMENT

### Operator environment

Suspension seat Deluxe coated with special fabric, with lumbar support and heating system  
Internal mirror  
Front auxiliary electric control  
Front glass door with windshield wiper and washer  
Sliding side windows  
Air conditioning and heating  
Bluetooth radio  
Door for demolition purposes

### Loader

*Ride Control*  
Electrohydraulic controls (EH)  
Attachment coupling hydraulic device  
One-way hydraulic self-leveling (climb)

### Hydraulic system

High flow hydraulic system (*High Flow*)  
of 210 bar (3,046 psi) – 131 l/min (34.6 gpm)  
Crankcase drain pipe fittings

### Engine

Engine block heater  
Battery disconnect key

### Others

Deluxe instrument panel  
Headlights for highway traffic  
Giroflex  
Lifting hooks  
Special paint  
Stickers  
Factory installed tires - refer to page 2  
Buckets - refer to page 3  
Bolt-On bucket cutting blades  
Forks for 1.22 m (48") pallets



**SiteWatch™**

Fleet management and monitoring system by satellite or cell phone tracking.

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