

## ENGINE

Model	F5C E5454 C* A003
Emissions Certification	Tier 3
Type	Diesel 4-stroke, Turbo, D.I.
Cylinder	4
Bore/Stroke	3.9 x 4.1 in (99 x 104 mm)
Displacement	195 in <sup>3</sup> (3.2 L)
Fuel injection	Direct
Fuel	#2 diesel
Fuel filter	In-line strainer
Oil filtration	Spin-on – full-flow
Air intake	Turbocharged w/o waste gate
Cooling	Liquid
Engine speeds	RPM
High idle – no load	2675 +/- 75
Rated – full load	2500
Low idle	1075 +/- 75
Horsepower – SAE J1349 @ 2500 RPM:	
Gross	90 hp (67 kW)
Net	84 hp (63 kW)
Peak torque	251 lb-ft (340 N-m) @ 1400 RPM
Radiator:	
Core type	All aluminum
Core size area	412 in <sup>2</sup> (0.266 m <sup>2</sup> )
Rows of tubes	44 x 4
Cap pressure	16 +/- 2 psi (110 +/- 14 bar)
Fan:	
Diameter	20.4 in (518 mm)
Ratio	0.96:1
Water pump:	
Style	Centrifugal
Flow	29 gpm (110 L/min)
Engine lubrication:	
Pump	Rotor pump w/ deep sump pan, plate cooler, and pressurized under-piston nozzles
Pump operating angle ratings:	
Side to side	45°
Bucket up	35°
Bucket down	45°

## DRIVETRAIN

Drive pump control	Mechanical
Pump to engine ratio	1:1
Displacement	2.81 in <sup>3</sup> (46 cm <sup>3</sup> )
Flow at rated engine RPM	
@ 100% efficiency	29.4 gpm (111 L/min)
Charge pressure:	
360 +/- 10 psi (24.5 +/- 0.5 bar)	
System relief	5,220 psi (360 bar)
Drive pump control	Electro-hydraulic
Pump to engine ratio	1:1
Displacement	2.75 in <sup>3</sup> (46 cm <sup>3</sup> )
Flow at rated engine RPM	
@ 100% efficiency	28.8 gpm (109 L/min)
Charge pressure	362 psi (15 bar)
System relief	5,220 psi (360 bar)

## DRIVETRAIN (cont.)

Drive motors:	
Max. displacement	28.7 in <sup>3</sup> (470 cm <sup>3</sup> )
Optional high speed	17.2 in <sup>3</sup> (282 cm <sup>3</sup> )
Speed @ high idle engine RPM	
100% efficiency @ rated engine RPM	241
Speed @ optional high speed RPM	355
Torque @ max. displacement and relief pressure	5,003 psi (345 bar) 2,694 lb-ft (1 987 N-m)
Travel speed:	
Low range	7.0 mph (11.3 kph)
High range – optional	10.5 mph (16.9 kph)
Final drive	Single-reduction chain drive
Drive chain:	
Size	ASA #100
Tensile strength	30,000 lb (133.4 kN)
Axles:	
Torque @ max. displacement and relief pressure	6,623 lb-ft (8 980 N-m)
Diameter	2.44 in (61.94 mm)
Length	15.6 in (398.7 mm)
Parking brake:	
Type	Spring-applied, hydraulic release disc
Engagement	Depress on/off brake button on handle or instrument panel, raise seat bar, get off seat, or stop engine

## ELECTRICAL

Alternator	95 amp
Starter	4.0 kW
Battery	12-volt low-maintenance, 925 cold-cranking amps @ 0° F (-18° C)

## OPERATOR ENVIRONMENT

ROPS/FOPS level 1 canopy w/ side screens; Tilt ROPS/FOPS; Rear window w/ emergency escape; Instrument panels; Suspension vinyl seat; 2 in (51 mm) retractable seat belt; Hand throttle; Foot throttle; Alarm package; Headliner; Top window; Cup holder; Power plug socket; Foot rest; Storage tray; Low effort ergonomic hand controls; Padded seat bar w/ integral armrests; Loader control lockout system; Electric parking brake control; Floor cleanout panel.
Indicators:
Digital hourmeter; Fuel level LCD bar graph w/ alarm.
Warning lights w/ alarms:
Engine coolant temperature; Engine oil pressure; Engine malfunction; Hydraulic charge pressure; Hydraulic filter restriction; Hydraulic oil temperature.
Warning alarms
Battery voltage – plus display
Indicator light:
Engine preheat; Parking brake; Seat bar reminder.

## OPERATING WEIGHT

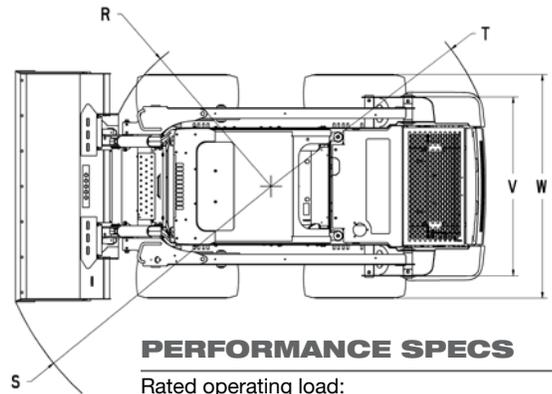
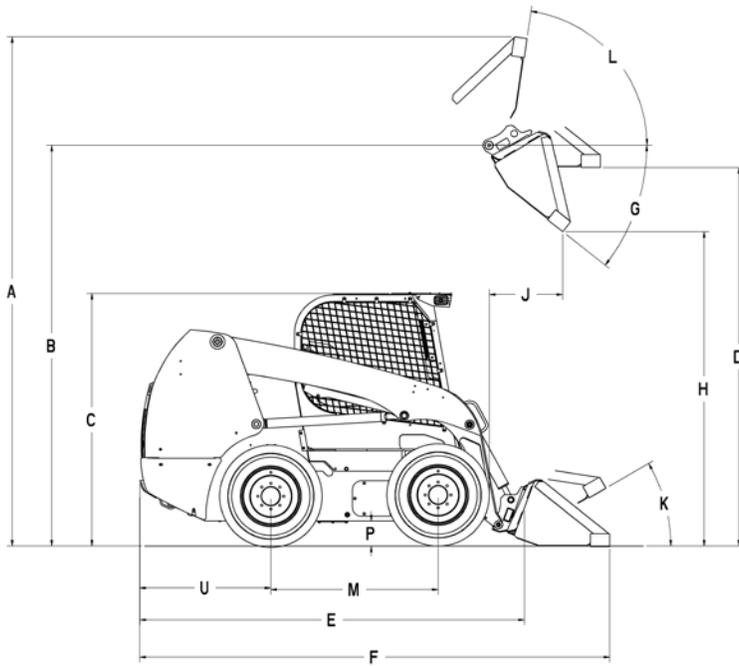
Shipping weight	7,365 lb (3 340 kg)
Operating weight	7,700 lb (3 490 kg)
Add-on weights:	
Side cab glass	47 lb (21.3 kg)
Lexar® door	74 lb (33.6 kg)
Glass door w/ wiper	134 lb (60.8 kg)
Suspension seat	22 lb (10 kg)

## HYDRAULICS

Standard equipment pump type	Gear
Displacement:	
Standard aux.	2.08 in <sup>3</sup> (34.1 cm <sup>3</sup> )
High flow aux.	1.1 in <sup>3</sup> (18.3 cm <sup>3</sup> )
Pump flow @ rated engine RPM:	
@ 100% efficiency	22.5 gpm (85 L/min)
Optional high flow @ rated engine RPM:	
@ 100% efficiency	34.6 gpm (131 L/min)
Loader control valve:	
Type	3 Spool/Open center/Series
Relief pressure	3,000 psi (207 bar)
Port relief pressures:	
Loader raise	3,263 psi (225 bar)
Bucket dump	3,770 psi (260 bar)
Bucket curl	1,160 psi (80 bar)
Hydraulic lines:	
Tubing	37° JIC Flare
Loop hoses	SAE 100 R13
Hydraulic oil cooler:	
Number of fins	10 per in (0.394 per mm)
Number of tubes	11
Area	130.7 in <sup>2</sup> (843 cm <sup>2</sup> )
Hydraulic filter	6 micron/Spin on
Lift cylinder:	
Bore diameter	2.5 in (63.5 mm)
Rod diameter	1.75 in (44.5 mm)
Stroke	32.2 in (817.9 mm)
Closed length	45.6 in (1 158.0 mm)
Bucket cylinders:	
Bore diameter	3.0 in (76.2 mm)
Rod diameter	1.5 in (38.1 mm)
Stroke	16.1 in (410.0 mm)
Closed length	24 in (610.0 mm)

## SERVICE CAPACITIES

Fuel tank	25.5 gal (96.5 L)
Engine oil w/ filter	10 qt (9.5 L)
Hydraulic system:	
Reservoir	7 gal (26 L)
Total	47 qt (44.5 L)
Chain tanks – per side	29.5 qt (27.9 L)



### PERFORMANCE SPECS

Rated operating load:	
50%	2,500 lb (1 135 kg)
Tipping load	
	5,000 lb (2 270 kg)
Breakout forces @ 3,150 psi (217 bar):	
Lift cylinder	5,680 lb (25.3 kN)
Bucket cylinder	7,480 lb (33.3 kN)
Cycle times:	
Raise	3.7 sec
Lower	1.9 sec
Dump	2.7 sec
Roll back	2.0 sec

### DIMENSIONS

<b>A.</b> Overall operating height:	
with foundry/excavating bucket short lip	156.3 in (3 969 mm)
with low profile/standard lip bucket	160.3 in (4 071 mm)
with low profile extended/long lip bucket	165.3 in (4 198 mm)
Height to:	
<b>B.</b> Bucket hinge pin	125.1 in (3 178 mm)
<b>C.</b> Top of ROPS	78.8 in (2 002 mm)
<b>D.</b> Bottom of level bucket, fully raised	123.3 in (3 124 mm)
Overall length:	
<b>E.</b> without attachment with coupler	117.4 in (2 981 mm)
<b>F.</b> with foundry excavation bucket on ground	142.2 in (3 611 mm)
with low profile bucket	146.2 in (3 714 mm)
with low profile extended bucket	151.3 in (3 843 mm)
<b>G.</b> Dump angle	38.1°
<b>H.</b> Dump height:	
with foundry/excavating bucket short lip	100.9 in (2 562 mm) @ 38.1°
with low profile/standard lip bucket	98.3 in (2 497 mm)
<b>J.</b> Dump reach – max. height	95.2 in (2 419 mm)
Maximum attachment rollback:	
<b>K.</b> Bucket on ground	30.7°
<b>L.</b> Bucket at full height	99.7°
<b>M.</b> Wheelbase	52 in (1 322 mm)
<b>P.</b> Ground clearance – bottom of belly pan	8 in (203 mm)
<b>Q.</b> Angle of departure	23.5°
Clearance circle:	
<b>R.</b> without bucket	55.1 in (1 400 mm)
<b>S.</b> with 72 in (1.8 m) foundry bucket in carry position	83.5 in (2 122 mm)
with 72 in (1.8 m) low profile bucket on ground	87.2 in (2 215 mm)
with 72 in (1.8 m) extended low profile on ground	91.9 in (2 333 mm)
<b>T.</b> Clearance circle rear	70.4 in (1 789 mm)
<b>U.</b> Rear axle to bumper	40.7 in (1 034 mm)
Rolling radius	
<b>V.</b> Tread width with spec tires	56.9 in (1 448 mm)
<b>W.</b> Over the tire width with spec tires	69.6 in (1 708 mm)

## TIRE SELECTION

	Size	Ply Rating	Tread Depth	Tire Width	Tread Width	Width Over Tires	Tire Weight*
Heavy-Duty	12 x 16.5	—	—	—	57 in (1 465 mm)	70 in (1 785 mm)	—
Premium	12 x 16.5	—	—	—	57 in (1 465 mm)	70 in (1 785 mm)	—
Premium-Lined	12 x 16.5	—	—	—	57 in (1 465 mm)	70 in (1 785 mm)	—
Severe Duty	12 x 16.5	—	—	—	57 in (1 465 mm)	70 in (1 785 mm)	—
Mining	12 x 16.5	—	—	—	57 in (1 465 mm)	70 in (1 785 mm)	—
Non-Pneumatic	12 x 16.5	—	—	—	57 in (1 465 mm)	70 in (1 785 mm)	—
Flotation	33 x 15.5	—	—	—	60 in (1 544 mm)	76 in (1 930 mm)	—
Premium	14 x 17.5	—	—	—	62 in (1 579 mm)	76 in (1 930 mm)	—

NOTE: \*Tire weight does not include the wheel weight.

## OPTIONAL BUCKETS

Type	Width	Weight	Heaped Capacity
Dirt & Foundry	72 in (1.83 m)	420 lb (190 kg)	16.2 ft <sup>3</sup> (0.46 m <sup>3</sup> )
	78 in (2.0 m)	440 lb (200 kg)	18.4 ft <sup>3</sup> (0.52 m <sup>3</sup> )
Low Profile	72 in (1.83 m)	420 lb (190 kg)	14.8 ft <sup>3</sup> (0.42 m <sup>3</sup> )
Low Profile Extended	72 in (1.83 m)	420 lb (190 kg)	17.7 ft <sup>3</sup> (0.66 m <sup>3</sup> )
	78 in (2.0 m)	440 lb (200 kg)	18.6 ft <sup>3</sup> (0.53 m <sup>3</sup> )
	84 in (2.1 m)	575 lb (262 kg)	20.2 ft <sup>3</sup> (0.57 m <sup>3</sup> )
Light Material	72 in (1.83 m)	420 lb (190 kg)	23.3 ft <sup>3</sup> (0.66 m <sup>3</sup> )
	84 in (2.1 m)	575 lb (262 kg)	27.9 ft <sup>3</sup> (0.79 m <sup>3</sup> )
Manure & Slurry	72 in (1.83 m)	420 lb (190 kg)	19.1 ft <sup>3</sup> (0.54 m <sup>3</sup> )
	84 in (2.1 m)	575 lb (262 kg)	22.5 ft <sup>3</sup> (0.64 m <sup>3</sup> )
Heavy-Duty	72 in (1.83 m)	420 lb (190 kg)	14.1 ft <sup>3</sup> (0.40 m <sup>3</sup> )
	78 in (2.0 m)	440 lb (200 kg)	15.9 ft <sup>3</sup> (0.45 m <sup>3</sup> )
	84 in (2.1 m)	575 lb (262 kg)	19.4 ft <sup>3</sup> (0.55 m <sup>3</sup> )

## STANDARD EQUIPMENT

### OPERATOR COMPARTMENT

ROPS/FOPS level 1 canopy with side screens  
Tilt ROPS/FOPS  
Rear window with emergency escape  
Instrument panels  
2 in (51 mm) retractable seat belt  
Hand throttle  
Foot throttle  
Alarm package  
Headliner  
Top window  
Cup holder  
Power plug socket  
Foot rest  
Storage tray  
Low effort ergonomic hand controls  
Padded seat bar with integral armrests  
Loader control lockout system  
Electric parking brake control  
Floor cleanout panel

### ENGINE

Case/Iveco 432T/M3 diesel  
No maintenance belt  
Over & under radiator and oil cooler  
Glow plug  
Integral engine oil cooling  
Fuel filter with water trap  
Dual element air cleaner  
95 amp alternator  
925 CCA 12-volt battery

### DRIVETRAIN

Hydrostatic four wheel drive  
Servo controlled pumps  
ASA #100HS drive chain  
SAHR disc parking brakes

### HYDRAULICS

Auxiliary hydraulics:  
3,050 psi (210 bar) – 23.8 gpm (90 L/min)  
Hydraulic circuit pedal lock  
Loader arm-mounted ISO flat face connectors  
Auxiliary function lockout override  
Loader function lockout system  
Loader lift lockout override  
3-spool loader control valve  
Heavy-duty oil cooler  
Loader arm float position

### LOADER

Radial loader arm design  
Mechanical attachment coupler  
Loader lift arm support strut

### OTHER

2 speed transmission  
Add-on counterweights  
Lockable service access hood  
Single-point daily servicing  
Halogen lights, 2-front, 2 side,  
2-rear – halogen  
Rear tail lights  
Remote oil drain

## OPTIONAL EQUIPMENT

### OPERATOR COMPARTMENT

Vinyl suspension seat  
Deluxe cloth suspension seat with heater and lumbar support  
Interior mirror  
Electric auxiliary hydraulic control  
Glass front door with wiper & washer  
Sliding side windows  
3 in retractable seat belt  
Heater and AC  
Radio  
Demolition door

### ENGINE

Coolant block heater  
Battery disconnect switch

### HYDRAULICS

High-flow auxiliary hydraulics:  
3,050 psi (210 bar) – 33.2 gpm (126 L/min)  
Second auxiliary hydraulics  
Attachment case drain plumbing

### LOADER

Auxiliary front electric control  
Ride control  
Switchable EH controls  
Hydraulic attachment coupler  
Hydraulic one-way self-leveling

### OTHER

Deluxe instrument panel  
Road lights  
Rotating beacon  
Lift hooks  
Special paint  
Language decals  
Factory-installed tires – see page 2  
Buckets – see page 3  
Bolt-on bucket cutting edges  
42 in (1.07 m) and 48 in (1.22 m) pallet forks  
Steel tracks



NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

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