

## ENGINE

Model	Case 432T / M3
Type	Diesel 4-stroke, Turbo, D.I.
Cylinder	4
Bore/Stroke	3.9 x 4.1 in (99 x 104 mm)
Displacement	195 cu in (3.2 L)
Fuel injection	Direct
Fuel	#2 diesel
Fuel filter	In-line strainer
Air intake	Turbocharged w/ external EGR
Cooling	Liquid
Engine speeds	
High idle - no load (rpm)	2675 +/- 75
Rated -full load (rpm)	2500
Low idle (rpm)	1075 +/- 75
Horsepower per SAE J1349	
Gross	90 hp (67 kW) @ 2500 rpm
Net	84 hp (63 kW) @ 2500 rpm
Peak torque	251 lb-ft (340 Nm) @ 1400 rpm

## ENGINE COOLING

Radiator -	
Core type	All aluminum
Core size area	0.266 m <sup>2</sup>
Rows of tubes	42
Cap pressure	16 +/-2 psi
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°
Oil filtration	Replaceable, full-flow cartridge

## POWERTRAIN

Drive pump - Mechanical	
Pump to engine ratio	1:1
Displacement cc (cu in)	2.81 cu in (46 cc)
Flow at rated engine rpm	
@100% efficiency	30.4 gpm (115 L/min)
Charge Pressure	363 psi (25 bar)
System relief	5,220 psi (360 bar)
Control	Mechanical servo
Drive pump - Electro Hydraulic	
Pump to engine ratio	1:1
Displacement cc (cu in)	2.81 cu in (46 cc)
Flow at rated engine rpm	
@100% efficiency	30.4 gpm (115 L/min)
Charge Pressure	363 psi (25 bar)
System relief	5,220 psi (360 bar)
Control	Electro Hydraulic
Drive motors -	
Max. displacement	28.68 cu in (470 cc)
Displacement - optional	
high speed	17.21 cu in (282 cc)
Speed @ high idle engine rpm	
(100% eff. at rated engine rpm)	244
Speed @ optional high speed rpm	408
Torque @ max displacement and relief pressure (calculated)	1,987 lb-ft (2694 N-m)
Travel speed -	
Low range	7.2 mph
High range (optional)	11.9 mph
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 (calculated)	6,623 lb -ft (8980 N-m)
Diameter	2.44 in (61.94 mm)
Length	15.7 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

## HYDRAULIC SYSTEM

Standard equipment pump -	
Type	Gear
Displacement -	
Standard Aux.	2.08 cu in (34.1 cc)
High Flow Aux.	1.12 cu in (18.3 cc)
Pump flow @ rated engine rpm	
@ 100 % efficiency	22.5 gpm (85 L/min)
Optional high flow @ rated engine rpm	
@ 100 % efficiency	12.1 gpm (46 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	3,481 psi (240 bar)
Bucket curl	3,336 psi (230 bar)
Hydraulic lines -	
Tubing	37° JIC Flare
Loop hoses	SAE 100 R13
Hydraulic oil cooler -	
Number of fins	10 per inch (3.94 per cm)
Number of Tubes	11
Area	130.7 sq in (843 cm <sup>2</sup> )
Hydraulic filter	6 micron / Spin on

## INSTRUMENTATION

Indicators
Digital Hourmeter
Fuel level LCD bar graph with alarm
Warning lights with 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

## ELECTRICAL SYSTEM

Alternator 95 amp
Starter 4.0 kW
Battery
12-volt low-maintenance 1000 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

## CYLINDERS

Lift cylinder –	
Bore diameter	2.5 in (63.5 mm)
Rod diameter	1.75 in (44.5 mm)
Stroke	35 in (891.5 mm)
Closed length	47.2 in (1200 mm)
Bucket cylinders –	
Bore diameter	3.0 in (76.2 mm)
Rod diameter	1.5 in (38.1 mm)
Stroke	16.14 in (410.0 mm)
Closed length	24 in (610.0 mm)

## WEIGHTS

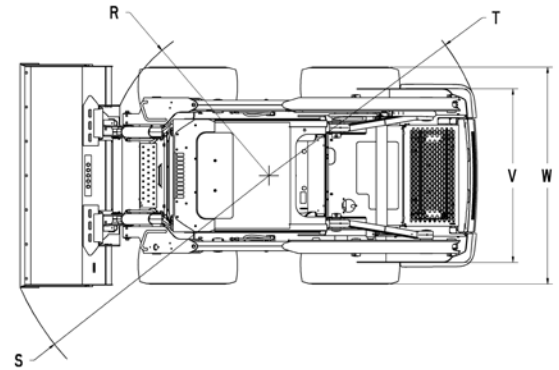
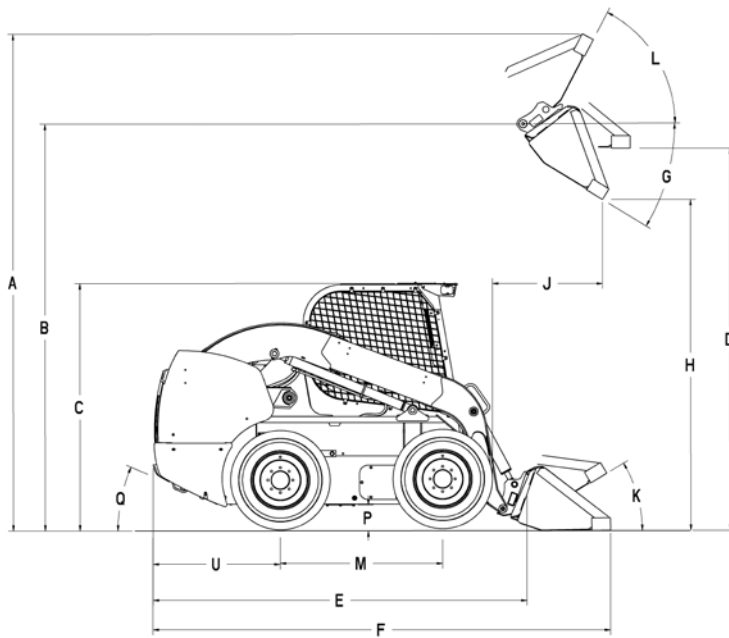
Operating weight	8,300 lb (3765 kg)
Shipping weight	7,965 lb (3610 kg)
Add-on weights –	
Side cab glass	46.9 lb (21.3 kg)
Lexan door	74 lb (33.6 kg)
Glass door with wiper	134 lb (60.8 kg)
Suspension seat	22.1 lb (10 kg)

## SERVICE CAPACITIES

Fuel tank	25.5 gal (96.5 L)
Engine oil with filter	10.5 qt (10 L)
Hydraulic system –	
Reservoir	6 gal (22.75 L)
Total	NA
Chain tanks (per side)	7.8 qt (7.4 L)

## TIRE SELECTION

	Size	Ply Rating	Tread Depth	Tire Width	Tread Width	Width Over Tires	Tire Weight*
Heavy-Duty	12 x 16.5	–	–	–	57 (1465)	70 (1785)	–
Premium	12 x 16.5	–	–	–	57 (1465)	70 (1785)	–
Premium-Lined	12 x 16.5	–	–	–	57 (1465)	70 (1785)	–
Severe Duty	12 x 16.5	–	–	–	57 (1465)	70 (1785)	–
Mining	12 x 16.5	–	–	–	57 (1465)	70 (1785)	–
Non-Pneumatic	12 x 16.5	–	–	–	57 (1465)	70 (1785)	–
Flotation	33 x 15.5	–	–	–	60 (1544)	76 (1930)	–
Premium	14 x 17.5	–	–	–	62 (1579)	76 (1930)	–



## DIMENSIONS

<b>A.</b> Overall operating height - in (m) – with foundry/excavating bucket short lip	164.4 (4.2)
with low profile/standard lip bucket	164.4 (4.2)
with low profile extended / long lip bucket	169.5 (4.3)
Height to - in (m) –	
<b>B.</b> Bucket hinge pin	130 (3.3)
<b>C.</b> Top of ROPS	78.8 (2.0)
<b>D.</b> Bottom of level bucket, fully raised	123.2 (3.1)
Overall length - in (m) –	
<b>E.</b> without attachment with coupler	117.7 (3.0)
<b>F.</b> with foundry excavation bucket on ground	141.9 (3.6)
with low profile bucket	146 (3.7)
with low profile extended bucket	151 (3.8)
<b>G.</b> Dump angle	53.5°
<b>H.</b> Dump height - in (m) – with foundry/excavating bucket short lip	102.9 (2.6)
with low profile/standard lip bucket	100.6 (2.6)
<b>J.</b> Dump reach (max. height) - in (m)	29.3 (0.7)
Maximum attachment rollback –	
<b>K.</b> Bucket on ground	35°
<b>L.</b> Bucket at full height	86°
<b>M.</b> Wheelbase - in (m)	52 (1.3)
<b>P.</b> Ground clearance (bottom of belly pan) - in (m)	8 (0.2)
<b>Q.</b> Angle of departure	23.5°
Clearance circle - in (m) –	
<b>R.</b> without bucket	56.2 (1.4)
<b>S.</b> with 72-inch (1.8 m) foundry bucket in carry position	83.8 (2.1)
with 72-inch (1.8 m) low profile bucket on ground	87.2 (2.2)
with 72-inch (1.8 m) extended low profile on ground	91.9 (2.3)
<b>T.</b> Clearance circle rear - in (m)	70.4 (1.8)
<b>U.</b> Rear axle to bumper - in (m)	40.7 (1.0)
Rolling radius - in (m)	16.1 (0.4)
<b>V.</b> Tread width with spec tires - in (m) –	56.9 (1.4)
<b>W.</b> Over the tire width with spec tires - in (m) –	69.6 (1.7)

## PERFORMANCE SPECS

Rated Operating Load –	
50%	3,000 lb (1361 kg)
Tipping load	6,000 lb (2722 kg)
Breakout forces (calculated @ 3150 psi) –	
Lift cylinder	5,090 lb (22.6 kN)
Bucket cylinder	8,585 lb (38.2 kN)
Cycle Times (seconds)–	
Raise	4.1
Lower	2.6
Dump	2.7
Roll back	2.0

## OPTIONAL BUCKETS

Type	Width inch (m)	Weight lb (kg)	Heaped Capacity ft <sup>3</sup> (m <sup>3</sup> )
Dirt & Foundry	72	390	16.7
	(1.8)	(177)	(0.47)
	78	435	18.4
	(2.0)	(197)	(0.52)
Low Profile	72	425	14.5
	(1.8)	(193)	(0.41)
Low Profile Extended	72	477	17.1
	(1.8)	(216)	(0.48)
	78	502	18.6
	(2.0)	(228)	(0.53)
	84	607	20.2
	(2.1)	(275)	(0.57)
Light Material	72	434	23.7
	(1.8)	(197)	(0.67)
	84	497	27.9
	(2.1)	(225)	(0.79)
Manure & Slurry	72	465	19.1
	(1.8)	(211)	(0.54)
	84	535	22.5
	(2.1)	(243)	(0.64)
Heavy Duty	72	501	14.6
	(1.8)	(227)	(0.41)
	78	527	15.9
	(2.0)	(239)	(0.45)
	84	550	19.4
	(2.1)	(249)	(0.55)

## STANDARD EQUIPMENT

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### OPERATOR'S COMPARTMENT

ROPS/FOPS level 1 canopy w/side screens  
Tilt ROPS/FOPS  
Rear window w/ 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 w/integral armrests  
Loader control lockout system  
Electric parking brake control  
Floor cleanout panel

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### LOADER

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

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### ENGINE

Case/Iveco 432T/M3 diesel  
No maintenance belt  
Over & under radiator and oil cooler  
Glow plug  
Integral engine oil cooling  
Fuel filter w/water trap  
Dual element air cleaner  
95 amp alternator  
1000 CCA 12-volt battery

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### POWERTRAIN

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

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### HYDRAULICS

Auxiliary hydraulics 3050 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

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### 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

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## OPTIONAL EQUIPMENT

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### OPERATOR'S COMPARTMENT

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

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### LOADER

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

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### HYDRAULICS

High-flow auxiliary hydraulics  
3050 psi (210 bar) – 33.2 gpm (126 L/min)  
Second auxiliary hydraulics  
Attachment case drain plumbing

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### ENGINE

Coolant block heater  
Battery disconnect switch

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### 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

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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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SV300 • Page 4 of 4



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