



## ENGINE

Model	Perkins/ISM N844LT-F-45SL
Emissions Certification	Tier 4 Final
Type	Diesel 4-stroke, turbocharged
Cylinders	4
Bore/Stroke	3.31 x 3.94 in (84 x 100 mm)
Displacement	135.2 in <sup>3</sup> (2.2 L)
Fuel injection	Indirect
Fuel	#2 Diesel
Fuel filter:	
Pre-filter	14 micron/in line
Main filter	10 micron/spin-on
Air intake	Turbocharged w/ waste gate and external cooled EGR
Exhaust aftertreatment	Diesel Particulate Filter – DPF
Cooling	Liquid
Engine speeds	RPM
High idle – no load	2825 +/- 25
Rated – full load	2800
Low idle	1200 +/- 50
Horsepower @ 2800 RPM – SAE J1349:	
Gross	60 hp (44.7 kW)
Net	57 hp (42.4 kW)
Peak torque @ 1800 RPM	139 lb-ft (188 N-m)
Radiator:	
Core type	All aluminum
Core size area	2.77 ft <sup>2</sup> (0.257 m <sup>2</sup> )
Rows of tubes x columns	43 x 3
Cap pressure	16 +/- 2 psi (1.10 +/- 0.14 bar)
Fan:	
Diameter	17.7 in (450 mm)
Ratio	0.89:1
Water pump:	
Style	Centrifugal
Flow	14.7 gpm (55.5 L/min)
Engine lubrication pump	Pressure feed w/ Trichoid pump
Pump operating angle ratings:	
Side to side	35°
Bucket up	35°
Bucket Down	35°

## LIFT GEOMETRY

Radial Lift

## DRIVETRAIN

Drive pump controls	Direct mechanical
Pump to engine ratio	1:1
Displacement	2.14 in <sup>3</sup> (35 cm <sup>3</sup> )
Flow @ rated engine RPM:	
@ 97% efficiency	25.1 gpm (95 L/min)
Charge pressure	360 psi (24.5 bar)
System relief pressure	5,000 psi (345 bar)

Drive motors:

Displacement	19.8 in <sup>3</sup> (325 cm <sup>3</sup> )
Motor RPM @ high idle and 97% efficiency	313
Max. torque @ 5,000 psi (345 bar):	1,315 lb-ft (1 783 N-m)

Travel speed	7.4 mph (11.9 kph)
Final drive	Single-reduction chain drive

Drive chain:

Size	ASA #80
Tensile strength	21,000 lb (93.4 kN)

Axles:

Torque	4,381 lb-ft (5 940 N-m)
Diameter	2.0 in (50.8 mm)
Length	13.2 in (346.0 mm)

Parking brake:

Type	Spring-applied, hydraulic release multiple disc.
Engagement	Depress on/off brake button on handle or instrument panel, raise seat bar, get off seat or stop engine.

## ELECTRICAL

Alternator	120 amp
Starter	2.95 hp (2.2 kW)
Battery	12-volt low-maintenance 925 cold-cranking amps @ 0° F (-18° C°)

## OPERATOR ENVIRONMENT

ROPS/FOPS Level 1 canopy w/ side screens; Keyed start ignition; Tilt ROPS/FOPS; Rear window w/ emergency escape; Suspension Seat, vinyl w/ 2 in (51 mm) retractable 3 point lap seat belt; Hand and foot throttle; Alarm package – back-up and horn; Rearview mirror; Headliner; Dome Light; Top window; Cup holder; 12V Power plug socket; Foot rest; Seat pocket; Padded seat bar w/ integral armrests; Loader control lockout system; Electric parking brake control; Operator's compartment floor cleanout; Proportional auxiliary hydraulic control – on joystick; Advanced Instrument Cluster w/ digital hour meter, tachometer, fuel level LCD bar graph w/ alarm, diagnostic features and security lockout.

Warning lights with alarms:

Engine coolant temperature; Engine oil pressure; Engine malfunction; Hydraulic charge pressure; Hydraulic filter restriction; Hydraulic oil temperature; Critical system stop, Engine system, Hydraulic system, Electrical and diagnostic system.

Warning alarms:

Battery voltage – plus display; Oil service.

Indicator light:

Engine preheat; Parking brake;  
Seat bar reminder.

## OPERATING WEIGHT

Unit equipped w/ open cab; 165 lb operator; 60 in Dirt & Foundry bucket; full of fuel;	
10 x 16.5 tires:	5,645 lb (2 560 kg)
Shipping weight	5,210 lb (2 370 kg)

Add-on weights:

Side cab glass	47 lb (21.3 kg)
Polycarbonate cab door	74 lb (33.6 kg)
Glass cab door w/ wiper	134 lb (60.8 kg)
Suspension seat	22 lb (10.0 kg)
Additional counterweight	168 lb (76.2 kg)

## HYDRAULICS

Implement pump type	Gear
Displacement	1.52 in <sup>3</sup> (24.9 cm <sup>3</sup> )

Standard flow @ rated engine RPM:

@ 100% efficiency	18.4 gpm (69.7 L/min)
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Loader control valve:

Type	3 spool/open center/series - series
Relief pressure	3,050 psi (210 bar)

Port relief pressures:

Loader raise	3,263 psi (225 bar)
Bucket curl	3,770 psi (260 bar)
Bucket dump	1,160 psi (80 bar)

Hydraulic lines:

Tubing	37° JIC Flare
Loop hoses	SAE 100 R19

Hydraulic oil cooler:

Number of fins	10 per inch (3.94 per cm)
Number of tube rows x columns	9 x 1
Area	130.7 in <sup>2</sup> (843.2 cm <sup>2</sup> )

Hydraulic filter	Beta (4) = 75/spin-on
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Lift cylinders:

Bore diameter	2.25 in (57.2 mm)
Rod diameter	1.38 in (34.9 mm)
Stroke	25.40 in (645.0 mm)
Closed length	38.94 in (989.0 mm)

Bucket cylinders:

Bore diameter	2.50 in (63.5 mm)
Rod diameter	1.38 in (35.0 mm)
Stroke	14.57 in (370.1 mm)
Closed length	23.38 in (594.0 mm)

## SERVICE CAPACITIES

Fuel tank	16.0 gal (60.5 L)
Engine oil w/ filter	7.5 qt (7.1 L)
Hydraulic system:	
Reservoir	4.0 gal (15.1 L)
Total	7.71 gal (29.2 L)
Chain tanks – per side	1.65 gal (6.5 L)

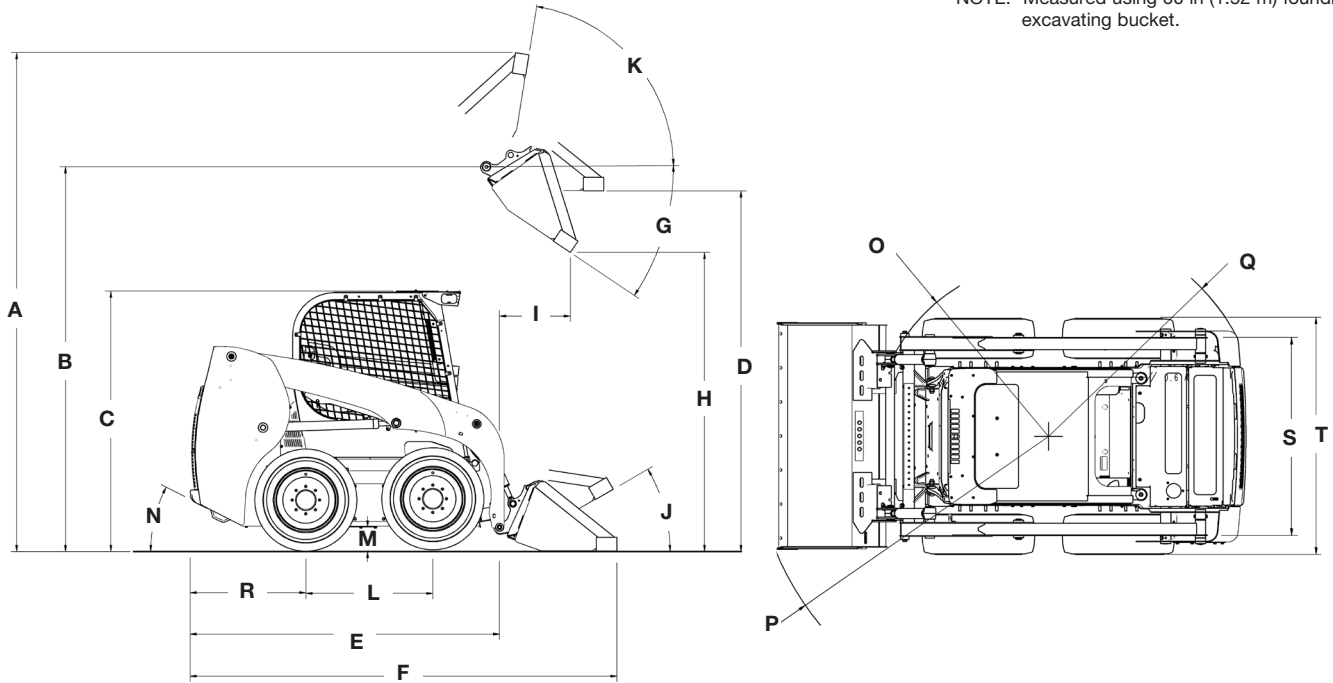
## PERFORMANCE SPECS

Rated operating capacity – ROC*:	
50% of tipping load	1,600 lb (726 kg)
w/ additional counterweight	1,700 lb (771 kg)
Tipping load*	3,200 lb (1 455 kg)

Breakout forces @ 3,150 psi (217 bar)*:	
Bucket cylinders	5,270 lb (23.4 kN)
Lift cylinders – tip limit	3,310 lb (14.7 kN)

Cycle times:	
Raise	3.5 sec
Lower	2.2 sec
Dump	2.0 sec
Roll back	1.4 sec

NOTE: \*Measured using 60 in (1.52 m) foundry/ excavating bucket.



Line drawings are for illustrative purpose only and may not be exact representation of unit.

## DIMENSIONS

<b>A.</b> Overall operating height:	
with foundry/excavating bucket	141.4 in (3.59 m)
with low profile bucket	146.9 in (3.73 m)
with low profile extended bucket	152.0 in (3.86 m)
Height to:	
<b>B.</b> Bucket hinge pin	112.0 in (2.85 m)
<b>C.</b> Top of ROPS	75.5 in (1.92 m)
<b>D.</b> Bottom of level bucket, fully raised	105.6 in (2.68 m)
Overall length:	
<b>E.</b> without attachment with coupler	95.9 in (2.44 m)
<b>F.</b> with foundry/excavating bucket on ground	119.2 in (3.03 m)
with low profile bucket	125.0 in (3.18 m)
with low profile extended bucket	129.8 in (3.30 m)
<b>G.</b> Maximum dump angle	40.2°
<b>H.</b> Dump height:	
with foundry/excavating bucket	88.4 in (2.25 m) @ 40.2°
with low profile bucket	84.8 in (2.15 m) @ 40.2°
<b>I.</b> Dump reach at maximum height with low profile bucket	22.7 in (0.58 m) @ 40.2°
Maximum attachment rollback:	
<b>J.</b> Bucket on ground	26.1°
<b>K.</b> Bucket at full height	95.2°
<b>L.</b> Wheelbase	37.0 in (0.94 m)
<b>M.</b> Ground clearance – bottom of belly pan	7.0 in (0.18 m)
<b>N.</b> Angle of departure	22.0°
Clearance circle:	
<b>O.</b> without bucket	48.7 in (1.24 m)
<b>P.</b> with 60 in (1.52 m) foundry/excavating bucket in carry position	73.3 in (1.86 m)
with 60 in (1.52 m) extended low profile on ground	83.1 in (2.11 m)
<b>Q.</b> Clearance circle rear	56.4 in (1.43 m)
<b>R.</b> Rear axle to bumper	33.8 in (0.86 m)
<b>S.</b> Tread over gauge with spec lines	49.2 in (1.25 m)
<b>T.</b> Over the tire width spec tires	59.8 in (1.52 m)

**OPTIONAL BUCKETS**

Type	Width	Weight	Heaped Capacity
Dirt & Foundry	60 in (1.52 m)	300 lb (138 kg)	11.3 ft <sup>3</sup> (0.32 m <sup>3</sup> )
	66 in (1.68 m)	385 lb (175 kg)	14.8 ft <sup>3</sup> (0.42 m <sup>3</sup> )
	72 in (1.83 m)	420 lb (190 kg)	16.2 ft <sup>3</sup> (0.46 m <sup>3</sup> )
Low Profile	66 in (1.68 m)	440 lb (200 kg)	13.4 ft <sup>3</sup> (0.38 m <sup>3</sup> )
	72 in (1.83 m)	480 lb (218 kg)	14.8 ft <sup>3</sup> (0.42 m <sup>3</sup> )
Low Profile Extended	60 in (1.52 m)	400 lb (182 kg)	14.1 ft <sup>3</sup> (0.40 m <sup>3</sup> )
	66 in (1.68 m)	470 lb (214 kg)	15.9 ft <sup>3</sup> (0.45 m <sup>3</sup> )
	72 in (1.83 m)	510 lb (232 kg)	17.7 ft <sup>3</sup> (0.50 m <sup>3</sup> )
Light Material	72 in (1.83 m)	475 lb (216 kg)	23.3 ft <sup>3</sup> (0.66 m <sup>3</sup> )
Manure & Slurry	72 in (1.83 m)	480 lb (218 kg)	19.1 ft <sup>3</sup> (0.54 m <sup>3</sup> )
Heavy-Duty	72 in (1.83 m)	510 lb (230 kg)	14.1 ft <sup>3</sup> (0.40 m <sup>3</sup> )
Heavy-Duty Extended with SmartFit Teeth	72 in (1.83 m)	667 lb (303 kg)	17.4 ft <sup>3</sup> (0.49 m <sup>3</sup> )

## STANDARD EQUIPMENT

### OPERATOR ENVIRONMENT

See page 1

### ENGINE

Perkins/ISM N844LT-F-45SL diesel  
135.2 CID (2.2 L) Turbo  
Tier 4 Final Certified  
Spark Arresting Diesel Particulate Filter (DPF) muffler  
Charged Air Cooler (CAC)  
Indirect fuel injection  
Horsepower:  
Gross: 60 hp (44.7 kW)  
Net: 57 hp (42.4 kW)  
Peak torque: 139 lb·ft (188 N·m)  
120 amp alternator  
Dual element air cleaner  
Organic Acid Technology (OAT)  
Anti-freeze solution to -34° F  
Fuel tank - 16 gal (U.S.)  
Over and under radiator and oil cooler  
Single plane, top and bottom oil cooler/  
radiator configuration  
Glow plugs

Integral engine oil cooler  
Fuel filter with water trap  
925 CCA 12V battery  
Master electrical disconnect

### DRIVETRAIN

1-speed hydrostatic four wheel drive  
ASA #80 drive chain  
SAHR disc parking brake

### HYDRAULICS

Auxiliary hydraulics:  
@ 3,050 psi (210 bar) – 18.4 gpm  
(69.7 L/min)  
6 micron oil filtration system  
3-spool loader control valve  
Auxiliary hydraulic disconnects, ISO  
flat-face – connect-under-pressure  
with case drain  
Hydraulic circuit pedal lock  
Auxiliary function lockout override  
Loader lift lockout override  
Heavy-duty hydraulic oil cooler  
Loader arm float position  
Loader function lockout system

### LOADER

Manual attachment coupler  
Radial lift geometry  
Loader lift arm support strut

### TIRES

10 X 16.5 Heavy duty

### OTHER STANDARD FEATURES

Halogen lights – 2 front, 2 side, 2 rear flood  
Pre-wired for rotating beacon  
Lockable service access hood  
Single-point daily service  
Rear tail lights  
Remote oil drain  
Remote oil and fuel filters  
Block heater  
Debris ingress sealing  
Mounting points for add-on counterweights

## OPTIONAL EQUIPMENT

### OPERATOR ENVIRONMENT

Enclosed cab:  
Fully sealed and pressurized – FSP  
Glass door with wiper and washer  
Sliding side windows – removable  
AM/FM Bluetooth radio with 2 speakers  
Keyless start ignition  
Control lockout system  
Mechanical hand controls  
Hand and foot controls:  
Hand controls the loader drive function  
and foot controls the bucket and boom  
Deluxe cloth, air suspension seat, with heater  
and lumbar support  
Demolition cab door with polycarbonate  
FOPS level 2

### HYDRAULICS

Second auxiliary hydraulics  
Hydraulic one-way self-leveling  
Ride control

### LOADER

Hydraulic attachment coupler

### OTHER

Language decals  
Buckets – see page 3  
Bolt-on bucket cutting edges  
Special paint  
Offsite service arrangement  
Telematics

### FACTORY SUPPLIED ATTACHMENTS

Add-on counterweights  
Road lights  
Rotating beacon  
Four-corner LED strobe

### SERVICE PARTS

3 inch (76.2 mm) retractable seat belt  
Bolt-on heavy-duty bucket teeth

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