

### ENGINE

Model	ISM N844LT-F
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 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°

### POWERTRAIN

Drive pump controls	Direct mechanical
Pump to engine ratio	1:1
Displacement	2.14 in <sup>3</sup> (35 cc)
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 pump controls	Electro-hydraulic
Pump to engine ratio	1:1
Displacement	2.14 in <sup>3</sup> (35 cc)
Flow @ rated engine RPM:	
@ 97% efficiency	25.1 gpm (95 L/min)
Charge pressure	362 psi (24.5 bar)
System relief pressure	5,220 psi (360 bar)

### POWERTRAIN (cont.)

Drive motors:	
Displacement	19.8 in <sup>3</sup> (325 cc)
Motor RPM @ high idle, 97% efficiency	313
Max. torque @ 5,000 psi (345 bar):	
	1,315 lb-ft (1783 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 (5940 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; Tilt ROPS/FOPS; Rear window w/ emergency escape; Instrument panel w/ hour meter, tachometer, fuel level, hydraulic oil temperature, engine coolant temperature, diagnostic features and security lockout; Non-suspension vinyl seat; 2 in (51 mm) retractable lap seat belt; Hand and foot throttles; Alarm package – back-up and horn; Headliner; Dome light; Top window; Cup holder; 12-volt 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; Proportional auxiliary hydraulic control – on joystick.

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

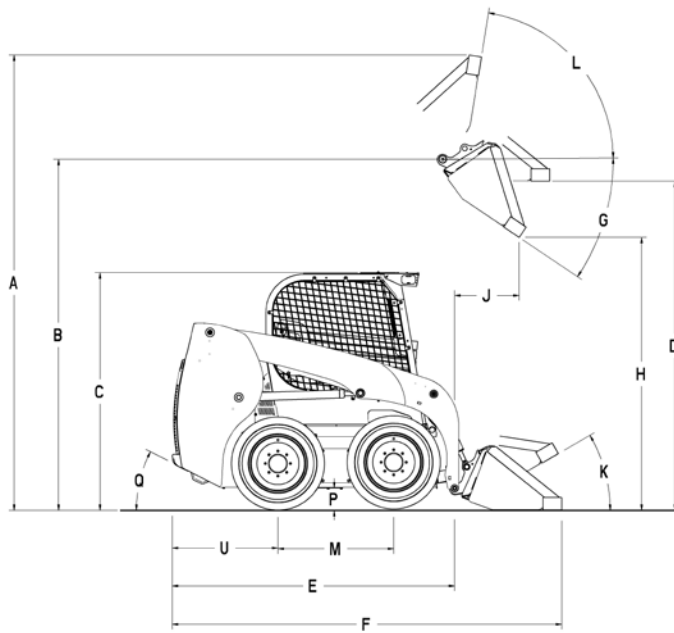
Operating weight	5,510 lb (2505 kg)
Shipping weight	5,210 lb (2370 kg)
Add-on weights:	
Side cab glass	47 lb (21.3 kg)
Polycarbonate cab door	74 lb (33.6 kg)
Glass cab door w/ wiper	134 lb (60.8 kg)
Suspension seat	22 lb (10.0 kg)
Additional counterweight	168 lb (76.2 kg)

### HYDRAULICS

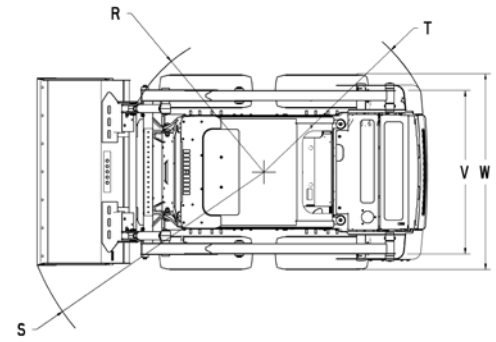
Implement pump type	Gear
Displacement	1.52 in <sup>3</sup> (24.9 cc)
Standard flow @ rated engine RPM: @ 100% efficiency	18.4 gpm (69.7 L/min)
Loader control valve:	
Type	3 spool/open center/series - series
Relief pressure	3,050 psi (210 bar)
Port relief pressures:	
Loader raise	3,263 psi (225 bar)
Bucket 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
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 CAPACITY

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 (6.25 L)



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



## PERFORMANCE SPECS

Rated operating capacity – ROC\*:

50% of tipping load	1,600 lb (726 kg)
with additional counterweight	1,700 lb (771 kg)

Tipping load\* 3,200 lb (1455 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	3.0 sec
Lower	1.9 sec
Dump	2.1 sec
Roll back	1.5 sec

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

## DIMENSIONS

A. 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. Bucket hinge pin	112.0 in (2.85 m)
C. Top of ROPS	75.5 in (1.92 m)
D. Bottom of level bucket, fully raised	105.6 in (2.68 m)

Overall length:

E. without attachment with coupler	95.9 in (2.44 m)
F. 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)

G. Maximum dump angle

40.2°

H. 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°

J. Dump reach at maximum height with low profile bucket

22.7 in (0.58 m) @ 40.2°

Maximum attachment rollback:

K. Bucket on ground	26.1°
L. Bucket at full height	95.2°

M. Wheelbase

37.0 in (0.94 m)

P. Ground clearance – bottom of belly pan

7.0 in (0.18 m)

Q. Angle of departure

22°

Clearance circle:

R. without bucket	48.7 in (1.24 m)
S. with 60 in (1.52 m) foundry/excavating bucket in carry position	73.3 in (1.86 m)
with 60 in (1.52 m) low profile bucket on ground	78.5 in (1.99 m)
with 60 in (1.52 m) extended low profile on ground	83.1 in (2.11 m)

T. Clearance circle rear

56.4 in (1.43 m)

U. Rear axle to bumper

33.8 in (0.86 m)

V. Tread gage with spec tires

49.2 in (1.25 m)

W. Over the tire width with spec tires

59.0 in (1.50 m)

## TIRE SELECTION

Type	Size	Ply Rating	Tread Depth	Tire Width	Tread Gage	Over Tires Width	Tire Weight
Heavy-Duty	10 L x 16.5	—	—	—	49.2 in (1.25 m)	59.0 in (1.50 m)	87 lb (39.5 kg)
Premium	10 L x 16.5	—	—	—	49.2 in (1.25 m)	59.0 in (1.50 m)	96 lb (44.0 kg)
Premium-Lined	10 L x 16.5	—	—	—	49.2 in (1.25 m)	59.0 in (1.50 m)	63 lb (28.5 kg)
Non-Pneumatic – Solid	10 L x 16.5	—	—	—	51.0 in (1.29 m)	61.0 in (1.55 m)	229 lb (104.0 kg)
Premium	27 L x 10.5-15	—	—	—	—	64.0 in (1.63 m)	69 lb (31.0 kg)

## 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	60 in (1.52 m)	375 lb (170 kg)	12.0 ft <sup>3</sup> (0.34 m <sup>3</sup> )
	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	60 in (1.52 m)	375 lb (170 kg)	19.4 ft <sup>3</sup> (0.55 m <sup>3</sup> )
	72 in (1.83 m)	475 lb (216 kg)	23.3 ft <sup>3</sup> (0.66 m <sup>3</sup> )
Manure & Slurry	60 in (1.52 m)	370 lb (168 kg)	15.9 ft <sup>3</sup> (0.45 m <sup>3</sup> )
	72 in (1.83 m)	480 lb (218 kg)	19.1 ft <sup>3</sup> (0.54 m <sup>3</sup> )
Heavy-Duty	66 in (1.68 m)	450 lb (205 kg)	13.1 ft <sup>3</sup> (0.37 m <sup>3</sup> )
	72 in (1.83 m)	510 lb (230 kg)	14.1 ft <sup>3</sup> (0.40 m <sup>3</sup> )
Heavy-Duty with spillguard	66 in (1.68 m)	520 lb (235 kg)	16.6 ft <sup>3</sup> (0.47 m <sup>3</sup> )
	72 in (1.83 m)	585 lb (265 kg)	18.4 ft <sup>3</sup> (0.52 m <sup>3</sup> )

## STANDARD EQUIPMENT

### OPERATOR ENVIRONMENT

See page 1

#### ENGINE

ISM N844LT-F Tier 4 diesel  
Over & under radiator and oil cooler  
Glow plugs  
Integral engine oil cooling  
Fuel filter with water trap  
Dual element air cleaner  
120 amp alternator  
925 CCA 12-volt battery  
Master electrical disconnect

### POWERTRAIN

1-speed hydrostatic four wheel drive  
Servo-assist mechanically-controlled pumps  
ASA #80HS drive chain  
SAHR disc parking brake

#### HYDRAULICS

Auxiliary hydraulics:  
@ 3,050 psi (210 bar) – 18.4 gpm (69.7 L/min)  
Auxiliary hydraulic disconnects, ISO flat-face –  
connect-under-pressure with case drain  
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

Machine protection auto shutdown  
Mounting points for add-on counterweights  
Halogen lights:  
2 front  
2 side  
2 rear flood  
Rear tail lights  
Lockable service access hood  
Single-point daily servicing  
Pre-wired for rotating beacon  
Remote oil drain  
Remote oil and fuel filters

## OPTIONAL EQUIPMENT

### OPERATOR ENVIRONMENT

Enclosed cab:  
Fully sealed and pressurized – FSP  
Glass door with wiper and washer  
Sliding side windows – removable  
3-point seat belt – 2 in (51 mm) width  
Ventilation system with integrated heater  
AM/FM radio with 2 speakers  
Keyless start ignition  
Electro-hydraulic controls:  
For drive/steering, loader functions  
Switchable between H and ISO patterns  
Adjustable sensitivity of controls  
Vinyl mechanical suspension seat  
Deluxe cloth, air suspension seat,  
with heater and lumbar support  
Interior mirror  
3 inch (76.2 mm) retractable seat belt  
Heater  
Open cab interior trim package  
Demolition cab door with polycarbonate  
FOPS level 2

### ENGINE

Coolant block heater

#### HYDRAULICS

Second auxiliary hydraulics

#### LOADER

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

### OTHER

Add-on counterweights  
Road lights  
Rotating beacon  
Four-corner LED strobe  
Lift points – four-point or single-point  
Language decals  
Factory-installed tires – see page 3  
Buckets – see page 3  
Bolt-on bucket cutting edges  
Bolt-on heavy-duty bucket spill guard  
Bolt-on heavy-duty bucket teeth – field kit  
42 in (1.07 m) and 48 in (1.22 m) pallet forks  
Rear door guard insert  
Special paint  
Hydraulic attachment coupler  
Debris reduction seal package  
Steel tire 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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