

**ENGINE**

Model	ISM N844T / M3
Type	Diesel 4-stroke, Turbo, I.D.I.
Cylinder	4
Bore/stroke	3.31 x 3.94 in (84 x 100 mm)
Displacement	135 cu in (2.2 L)
Fuel injection	Indirect
Fuel	#2 diesel
Fuel filter	In-line strainer
Air intake	Turbocharged w/ internal EGR
Cooling	Liquid
Engine speeds	
High idle - no load (rpm)	3080 +/- 50
Rated -full load (rpm)	2900
Low idle (rpm)	1200 +/-50
Horsepower per SAE J1349	
Gross	60 hp (44.7 kW) @ 2900 rpm
Net	57 hp (42.1 kW) @ 2900 rpm
Peak torque	126 lb-ft (171 N-m) @ 1800 rpm

**ENGINE COOLING**

Radiator –	
Core type	All aluminum
Core size area	0.261 m <sup>2</sup>
Rows of tubes	43
Cap pressure	16 +/-2 psi
Fan –	
Diameter	17.7 in (450 mm)
Ratio	0.89:1
Water pump –	
Style	Centrifugal
Flow	13.2 gpm (50.1 L/min)
Engine lubrication –	
Pump	Pressure feed w/ Trichoid pump, deep sump & plate cooler
Pump operating angle ratings –	
Side to side	35°
Bucket up	35°
Bucket down	35°
Oil filtration	Replaceable, full-flow cartridge

**POWERTRAIN**

Drive Pump – Mechanical	
Pump to engine ratio	1:1
Displacement	2.14 cu in (35 cc)
Flow at rated engine rpm	
@100% efficiency	26.9 gpm (102 L/min)
Charge Pressure	363 psi (25 bar)
System relief	5,000 psi (345 bar)
Control	Direct mechanical
Drive Pump Electro Hydraulic	
Pump to engine ratio	1:1
Displacement	2.14 cu in (35 cc)
Flow at rated engine rpm	
@100% efficiency	26.9 gpm (102 L/min)
Charge Pressure	363 psi (25 bar)
System relief	5,220 psi (360 bar)
Control	Electro Hydraulic
Drive motors	
Max. displacement	19.83 cu in (325 cc)
Displacement – optional	
high speed	12.2 cu in (200 cc)
Speed @ high idle engine rpm	
(100% eff. at rated engine rpm)	313
Speed @ optional high speed rpm	509
Torque @ max. displacement and relief pressure (calculated)	1,316 lb-ft (1784 N-m)
Travel speed –	
Low range	7.4 mph
High range (optional)	11.5 mph
Final drive	Single-reduction chain drive
Drive chain –	
Size	ASA #80
Tensile strength	21,000 lb (93.4 kN)
Axles –	
Torque @ max. displacement and relief pressure (calculated)	4,868 lb-ft (6600 N-m)
Diameter	2 in (50.48 mm)
Length	15.1 in (384 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.	1.52 cu in (24.9 cc)
High flow aux.	0.76 cu in (12.5 cc)
Pump flow @ rated engine rpm	
@ 100 % efficiency	19 gpm (72 L/min)
Optional high flow @ rated engine rpm	
@ 100 % efficiency	9.5 gpm (36 L/min)
Loader control valve –	
Type	3 Spool / Open Center / Series
Relief pressure	3000 (+145/-0) 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	9
Area	137.5 sq in (887 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 2.2 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	2.25 in (57.2 mm)
Rod diameter	1.375 in (34.9 mm)
Stroke	26.8 in (681.0 mm)
Closed length	38.7 in (982.0 mm)
Bucket cylinders –	
Bore diameter in (mm)	2.5 in (63.5 mm)
Rod diameter in (mm)	1.375 in (34.9 mm)
Stroke	16.14 in (410.0 mm)
Closed length	24 in (610.0 mm)

## WEIGHTS

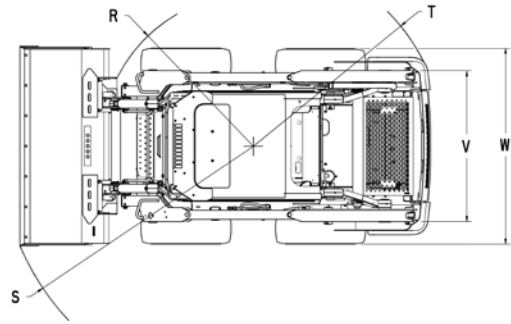
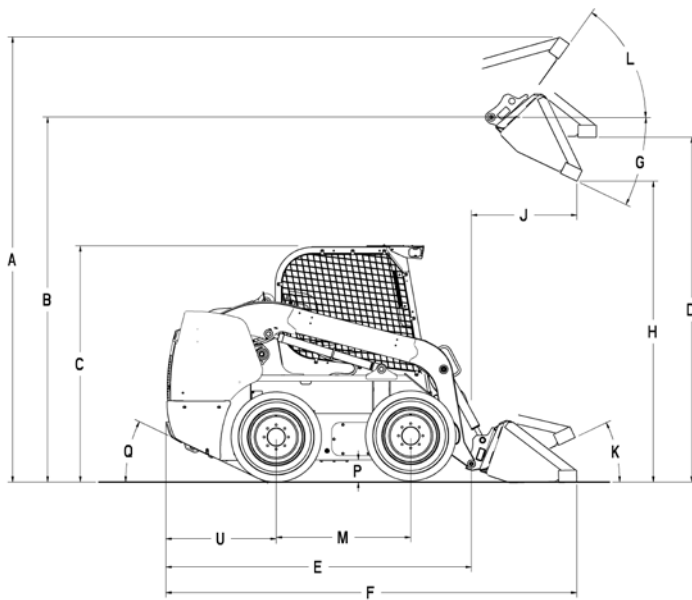
Operating weight kg (lbs)	6,500 lb (2950 kg)
Shipping weight	6,200 lb (2810 kg)
Add-on weights –	
Side cab glass	46.9 lb (21.3 kg)
Lexan door	74 lb (33.6 kg)
Glass door with wiper	134 lb (60.8 kg)
Suspension seat	22.1 lb (10 kg)

## SERVICE CAPACITIES

Fuel tank	20 gal (75.5 L)
Engine oil with filter	9 qt (8.5 L)
Hydraulic system –	
Reservoir	4.3 gal (16.2 L)
Total	NA
Chain tanks (per side)	7.1 qt (6.7 L)

## TIRE SELECTION

	Size	Ply Rating	Tread Depth	Tire Width	Tread Width	Width Over Tires	Tire Weight*
Heavy-Duty	10 x 16.5	–	–	–	53 (1348)	64 (1627)	–
Premium	10 x 16.5	–	–	–	53 (1348)	64 (1627)	–
Premium - Lined	10 x 16.5	–	–	–	53 (1348)	64 (1627)	–
Severe Duty	10 x 16.5	–	–	–	53 (1348)	64 (1627)	–
Non-Pneumatic	10 x 16.5	–	–	–	53 (1348)	64 (1627)	–
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)	–



## DIMENSIONS

<b>A.</b> Overall operating height - in (m) –	
with foundry/excavating bucket short lip	150.4 (3.82)
with low profile/standard lip bucket	154.6 (3.9)
with low profile extended / long lip bucket	159.6 (4.1)
Height to - in (m) –	
<b>B.</b> Bucket hinge pin	120 (3.05)
<b>C.</b> Top of ROPS	77.7 (1.97)
<b>D.</b> Bottom of level bucket, fully raised	113.3 (2.9)
Overall length - in (m) –	
<b>E.</b> without attachment with coupler	106.7 (2.71)
<b>F.</b> with foundry excavation bucket on ground	131.7 (3.3)
with low profile bucket	135.8 (3.5)
with low profile extended bucket	140.9 (3.6)
<b>G.</b> Dump angle	51.9°
<b>H.</b> Dump height - in (m) –	
with foundry/excavating bucket short lip	93.6 (2.38)
with low profile/standard lip bucket	88.6 (2.3)
with low profile extended bucket	NA
<b>J.</b> Dump reach (max. height) - in (m)	30.8 (0.78)
Maximum attachment rollback –	
<b>K.</b> Bucket on ground	35°
<b>L.</b> Bucket at full height	87.6°
<b>M.</b> Wheelbase - in (m)	44.4 (1.13)
<b>P.</b> Ground clearance (bottom of belly pan) - in (m)	7 (0.18)
<b>Q.</b> Angle of departure	23°
Clearance circle - in (m) –	
<b>R.</b> without bucket	50.7 (1.3)
<b>S.</b> with 66-inch (1.68 m) foundry bucket in carry position	79.6 (2.0)
with 66-inch (1.68 m) low profile bucket on ground	83.9 (2.1)
with 66-inch (1.68 m) extended low profile on ground	88.6 (2.3)
<b>T.</b> Clearance circle rear - in (m)	62.9 (1.60)
<b>U.</b> Rear axle to bumper - in (m)	36.4 (0.92)
Rolling radius - in (m)	15.2 (0.39)
<b>V.</b> Tread width with spec tires - in (m) –	53.1 (1.35)
<b>W.</b> Over the tire width with spec tires - in (m) –	64.07 (1.63)

## PERFORMANCE SPECS

Rated operating load –	
50%	1850 lb (840 kg)
Tipping load	3,700 lb (1678 kg)
Breakout forces –	
Lift cylinder	2,740 lb (12.2 kN)
Bucket cylinder	5,435 lb (24.2 kN)
Dig depth with bucket flat	0
Cycle times (seconds) –	
Raise	3.0
Lower	2.4
Dump	2.2
Roll back	1.5

## OPTIONAL BUCKETS

Type	Width inch (m)	Weight lb (kg)	Heaped Capacity ft <sup>3</sup> (m <sup>3</sup> )
Dirt & Foundry	60	270	11.5
	(1.5)	(122)	(0.33)
	66	370	15.2
	(1.6)	(168)	(0.43)
Low Profile	72	390	16.7
	(1.8)	(177)	(0.47)
	60	330	11.5
	(1.5)	(150)	(0.33)
Low Profile Extended	66	400	13.2
	(1.6)	(181)	(0.37)
	72	425	14.5
	(1.8)	(193)	(0.41)
Light Material	60	360	14.3
	(1.5)	(163)	(0.40)
	66	434	15.5
	(1.6)	(197)	(0.44)
Manure & Slurry	72	477	17.1
	(1.8)	(216)	(0.48)
	60	350	19.7
	(1.5)	(159)	(0.56)
Heavy Duty	72	434	23.7
	(1.8)	(197)	(0.67)
	60	340	16.7
	(1.5)	(154)	(0.47)
	72	465	19.1
	(1.8)	(211)	(0.54)
	66	474	13.3
	(1.6)	(215)	(0.37)
	72	501	14.6
	(1.8)	(227)	(0.41)

## 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

ISM N844T / M3 diesel  
Integral engine oil cooling  
Fuel filter w/water trap  
Dual element air cleaner  
120 amp alternator  
1000 CCA 12-volt battery  
Glow plug  
Over & under radiator and oil cooler  
Spark arresting muffler

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### POWERTRAIN

Hydrostatic four wheel drive  
Servo controlled pumps  
ASA #80HS 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

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

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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)  
Attachment case drain plumbing

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### ENGINE

Coolant block heater  
Battery disconnect switch

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### OTHER

2 speed ground drive  
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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