CASE CONSTRUCTION

SR175

SKID STEER LOADER

TIER 4 FINAL CERTIFIED

ENGINE

Model	ISM N844LTA-DI-F-50
Emissions Certification	Tier 4 Final
Type	Diesel 4-stroke, Turbo. D.I.
Cylinders	4
Bore/Stroke	3.31 x 3.94 in (84 x 100 mm)
Displacement	135.2 in³ (2.2 L)
Fuel injection	Direct, high pressure common rail – HPCR
Fuel	#2 Diesel
Fuel filter:	
Pre-filter	Beta (30) = 200/spin-on
Main filter	Beta (4) = 20/spin-on
Air intake	Turbocharged w/ waste gate and intercooled w/ external EGR
Exhaust aftertreatment	Diesel Oxidation Catalyst – DOC
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	67 hp (50.0 kW)
Net	64 hp (47.7 kW)
Peak torque @ 1800 RPM	153 lb·ft (208 N·m)
Radiator:	
Core type	All aluminum
Core size area	2.05 ft² (0.191 m²)
Rows of tubes x columns	31 x 4
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 in³ (35 cm³)
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 in³ (35 cm³)
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)
Drive motors:	
Max. displacement	19.8 in³ (325 cm³)
Displacement – optional:	
High speed	12.2 in³ (200 cm³)
Motor RPM @ high idle and 97% efficiency:	
Standard 1-speed	313
Optional 2-speed	443
Motor torque @ max. displacement and relief pressure, calculated @ 5,000 psi (345 bar):	1,315 lb·ft (1 783 N·m)
Travel speed:	
Low range	7.4 mph (11.9 kph)
High range – optional	10.8 mph (17.4 kph)
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	4,381 lb·ft (5 940 N·m)
Diameter	2.0 in (50.8 mm)
Length	15.1 in (384.0 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	2.68 hp (2.0 kW)
Battery	12-volt low-maintenance 925 cold-cranking amps @ 0° F (-18° C°)

OPERATOR ENVIRONMENT

ROPS/FOPS Level 1 canopy w/ side screens; 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; 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; 66 in Dirt & Foundry bucket; full of fuel;

10 x 16.5 tires:	6,270 lb (2 842 kg)
Shipping weight	5,970 lb (2 705 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	140 lb (63.5 kg)

HYDRAULICS

Implement pump type	Gear
Displacement:	
Standard aux.	1.7 in³ (27.8 cm³)
High-flow aux.	0.84 in³ (13.8 cm³)
Standard flow @ rated engine RPM:	
@ 100% efficiency	20.6 gpm (78.0 L/min)
Optional high-flow @ rated engine RPM:	
@ 100% efficiency	30.7 gpm (116.2 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 in² (843.2 cm²)
Hydraulic filter	Beta (4) = 75/spin-on

HYDRAULICS CONT.

Lift cylinders:	
Bore diameter	2.25 in (57.2 mm)
Rod diameter	1.50 in (38.1 mm)
Stroke	31.69 in (804.9 mm)
Closed length	45.59 in (1 158 mm)
Bucket cylinders:	
Bore diameter	2.75 in (69.9 mm)
Rod diameter	1.38 in (34.9 mm)
Stroke	16.14 in (410 mm)
Closed length	24.02 in (610 mm)

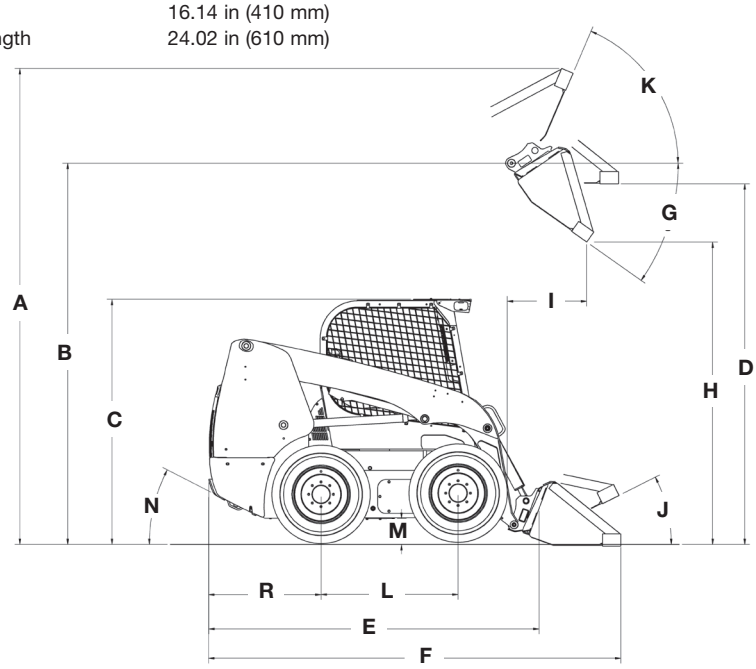
SERVICE CAPACITIES

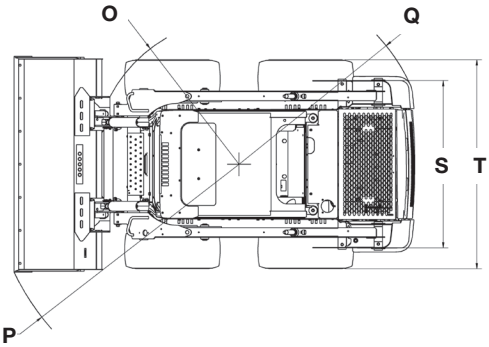
Fuel tank	19.5 gal (73.8 L)
Engine oil w/ filter	7.5 qt (7.1 L)
Hydraulic system:	
Reservoir	5.0 gal (18.9 L)
Total	8.5 gal (32.2 L)
Chain tanks – per side	1.95 gal (7.4 L)

PERFORMANCE SPECS

Rated operating capacity – ROC*:	
50% of tipping load	1,750 lb (790 kg)
w/ additional counterweight	1,850 lb (839 kg)
Tipping load*	3,500 lb (1 588 kg)
Breakout forces @ 3,150 psi (217 bar)*:	
Bucket cylinders	7,270 lb (32.3 kN)
Lift cylinders – tip limit	3,810 lb (16.9 kN)
Cycle times:	
Raise	3.4 sec
Lower	1.9 sec
Dump	2.6 sec
Roll back	1.9 sec

NOTE: *Measured using 66 in (1.68 m) foundry/excavating bucket.





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

DIMENSIONS

A. Overall operating height:	
with foundry/excavating bucket	153.4 in (3.90 m)
with low profile bucket	157.3 in (4.00 m)
with low profile extended bucket	162.2 in (4.12 m)
Height to:	
B. Bucket hinge pin	122.0 in (3.10 m)
C. Top of ROPS	77.7 in (1.97 m)
D. Bottom of level bucket, fully raised	115.2 in (2.93 m)
Overall length:	
E. without attachment with coupler	105.7 in (2.69 m)
F. with foundry/excavating bucket on ground	130.1 in (3.31 m)
with low profile bucket	134.3 in (3.41 m)
with low profile extended bucket	139.8 in (3.54 m)
G. Maximum dump angle	39.6°
H. Dump height:	
with foundry/excavating bucket	97.2 in (2.47 m) @ 39.6°
with low profile bucket	94.6 in (2.40 m) @ 39.6°
I. Dump reach at maximum height with low profile bucket	24.4 in (0.62 m) @ 39.6°
Maximum attachment rollback:	
J. Bucket on ground	31.6°
K. Bucket at full height	98.6°
L. Wheelbase	44.4 in (1.13 m)
M. Ground clearance – bottom of belly pan	7.0 in (0.18 m)
N. Angle of departure	23.0°
Clearance circle:	
O. without bucket	50.7 in (1.27 m)
P. with 66 in (1.68 m) foundry/excavating bucket in carry position	78.4 in (1.99 m)
with 66 in (1.68 m) low profile bucket on ground	81.7 in (2.07 m)
with 66 in (1.68 m) extended low profile on ground	86.3 in (2.19 m)
Q. Clearance circle rear	62.9 in (1.60 m)
R. Rear axle to bumper	36.4 in (0.92 m)
S. Tread over gauge with spec lines	53.9 in (1.37 m)
T. Over the tire width spec tires	64.0 in (1.63 m)

TIRE SELECTION

Type	Size	Tread Gauge	Over Tires Width	Each Tire Weight*
Heavy-Duty	10 L x 16.5	53.9 in (1.37 m)	64.0 in (1.63 m)	87 lb (39.5 kg)
Premium	10 L x 16.5	53.9 in (1.37 m)	64.0 in (1.63 m)	96 lb (44.0 kg)
Premium-Lined	10 L x 16.5	53.9 in (1.37 m)	64.0 in (1.63 m)	63 lb (28.5 kg)
Severe-Duty	10 L x 16.5	53.9 in (1.37 m)	64.0 in (1.63 m)	115 lb (52.5 kg)
Non-Pneumatic – Solid	10 L x 16.5	53.9 in (1.37 m)	64.0 in (1.63 m)	229 lb (104.0 kg)
Heavy-Duty	12 L x 16.5	—	70.0 in (1.78 m)	110 lb (50.0 kg)
Premium	12 L x 16.5	—	70.0 in (1.78 m)	120 lb (54.5 kg)
Premium-Lined	12 L x 16.5	—	70.0 in (1.78 m)	120 lb (54.5 kg)

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

OPTIONAL BUCKETS

Type	Width	Weight	Heaped Capacity
Dirt & Foundry	66 in (1.68 m)	385 lb (175 kg)	14.8 ft^3 (0.42 m^3)
	72 in (1.83 m)	420 lb (190 kg)	16.2 ft^3 (0.46 m^3)
	78 in (1.98 m)	440 lb (200 kg)	17.7 ft^3 (0.50 m^3)
Low Profile	66 in (1.68 m)	440 lb (200 kg)	13.4 ft^3 (0.38 m^3)
	72 in (1.83 m)	480 lb (218 kg)	14.8 ft^3 (0.42 m^3)
Low Profile Extended	66 in (1.68 m)	470 lb (214 kg)	15.9 ft^3 (0.45 m^3)
	72 in (1.83 m)	510 lb (232 kg)	17.7 ft^3 (0.50 m^3)
	78 in (1.98 m)	540 lb (245 kg)	19.1 ft^3 (0.54 m^3)
	84 in (2.13 m)	575 lb (262 kg)	20.5 ft^3 (0.58 m^3)
Light Material	72 in (1.83 m)	475 lb (216 kg)	23.3 ft^3 (0.66 m^3)
	84 in (2.13 m)	540 lb (245 kg)	27.5 ft^3 (0.78 m^3)
Manure & Slurry	72 in (1.83 m)	480 lb (218 kg)	19.1 ft^3 (0.54 m^3)
	84 in (2.13 m)	545 lb (248 kg)	22.6 ft^3 (0.64 m^3)
Heavy-Duty	66 in (1.68 m)	450 lb (205 kg)	13.1 ft^3 (0.37 m^3)
	72 in (1.83 m)	510 lb (230 kg)	14.1 ft^3 (0.40 m^3)
	78 in (1.98 m)	530 lb (240 kg)	15.5 ft^3 (0.44 m^3)
	84 in (2.13 m)	550 lb (250 kg)	17.0 ft^3 (0.48 m^3)
Heavy-Duty with spillguard	66 in (1.68 m)	520 lb (235 kg)	16.6 ft^3 (0.47 m^3)
	72 in (1.83 m)	585 lb (265 kg)	18.4 ft^3 (0.52 m^3)
	78 in (1.98 m)	605 lb (275 kg)	19.8 ft^3 (0.56 m^3)
	84 in (2.13 m)	640 lb (290 kg)	21.5 ft^3 (0.61 m^3)

STANDARD EQUIPMENT

OPERATOR ENVIRONMENT

See page 1

ENGINE

ISM N844LTA-DI-F-50 diesel
135.2 CID (2.2 L) Turbo
Tier 4 Final Certified
Spark Arresting Diesel Oxidation Catalyst (DOC) muffler
Charged Air Cooler (CAC)
High Pressure Common Rail (HPCR) fuel injection
Horsepower:
- Gross: 67 hp (50.0 kW)
- Net: 64 hp (47.7 kW)
- Peak torque: 153 lb·ft (208 N·m)

120 amp alternator
Dual element air cleaner
Organic Acid Technology (OAT)
Anti-freeze solution to -34° F
Fuel tank - 20 gal (U.S.)
Over and under radiator and oil cooler
3-stack after cooler/radiator/oil cooler configuration
Glow plugs
Integral engine oil cooler
Fuel filter with water trap
925 CCA 12V battery
Master electrical disconnect

DRIVETRAIN

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

HYDRAULICS

Auxiliary hydraulics:
- @ 3,050 psi (210 bar) – 20.6 gpm (78.0 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
Hydraulic one-way self-leveling
Ride control

LOADER

Manual attachment coupler
Radial lift geometry
Loader lift arm support strut
SAE operating load: 1,750 lbs
Tipping load: 3,500 lbs

TIRES

10 X 16.5 Heavy duty

OTHER STANDARD FEATURES

Halogen lights - 2 front, 2 side, 2 rear flood
Heavy duty front lights
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 ingression sealing
Mounting points for add-on counterweights
Heavy duty rear door

OPTIONAL EQUIPMENT

OPERATOR ENVIRONMENT

Enclosed cab:
- Fully sealed and pressurized – FSP
- Glass door with wiper and washer
- Sliding side windows – removable
- Ventilation system with integrated heater
- Heater and air conditioner
- 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

Mechanical hand controls
Hand and foot controls:
- Hand controls the loader drive function and foot controls the bucket and boom

Non suspension seat
Deluxe cloth, air suspension seat, with heater and lumbar support
Open cab interior trim package
Demolition cab door with polycarbonate
FOPS level 2
Heavy duty rear door

HYDRAULICS

High-flow auxiliary hydraulics – combined:
- @ 3,050 psi (210 bar) – 30.7 gpm (116.2 L/min)

Second auxiliary hydraulics

LOADER

Auxiliary front electric control
Hydraulic attachment coupler

DRIVETRAIN

1-speed hydrostatic four wheel drive

OTHER

Language decals
Factory-installed tires – see page 3
Buckets – see page 3
Bolt-on bucket cutting edges
Bolt-on heavy-duty bucket spill guard
Special paint
Offsite service arrangement
Telematics

FACTORY SUPPLIED ATTACHMENTS

Interior mirror
Add-on counterweights
Road lights
Rotating beacon
Four-corner LED strobe
Bolt-on heavy-duty bucket teeth
48 in (1.22 m) pallet forks

SERVICE PARTS

3 inch (76.2 mm) retractable seat belt

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