



90 Skid-Steer Loader



JOHN DEERE

TECHNICAL MANUAL

90 Skid-Steer
Loader

TM1205 (01NOV78) English

John Deere
Lawn & Grounds Care Division
TM1205 (01NOV78)

LITHO IN U.S.A.
ENGLISH



90 SKID-STEER LOADER

TECHNICAL MANUAL
TM-1205 (NOV-78)

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(All information, illustrations, and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.)

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Section 10

GENERAL

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Group 05 SPECIFICATIONS

ENGINE

Make	Onan
Model	NHC-MS3406C
Fuel	Gasoline (Regular)
Cooling System	Air
Cylinders	2
Displacement	60 cu. in. (983.2 cm ³)
Bore	3.56 in. (90.4 mm)
Stroke	3.0 in. (76.2 mm)
Horsepower	23 hp (17.1 kW)
Maximum Governed rpm	3200 rpm
Maximum Torque	41 ft-lbs (56 Nm) @ 2200 rpm
Electrical System	12-Volt with 20 amp flywheel and regulator
Battery	12-volt — 60 amp hr. Cold cranking amps rating @ 0°F — 500 @ -20°F — 380
Ignition System	
Point Gap	0.020 in. (0.58 mm)
Spark Plug	
Gap	0.025 in. (0.64 mm)
Type	Resistor

HYDRAULIC SYSTEM

Pump Capacity	7.5 gpm (28.4 L/min) @ 3600 rpm gear type
Control	
Main Valve: Dual pedal, two-spool control valve	
Auxiliary Valve: Single pedal, single-spool control valve	
Relief Valve Setting	
Main Valve: 1750 psi (120 bar) (123 kg/cm ²)	
Auxiliary Valve: 1600 psi (112.5 kg/cm ²) (110 bar)	
Filters	
Hydrostatic	10 micron
Hydraulic	100 mesh screen
Hydraulic Cylinders	
Lift (Double Acting):	
Bore Diameter	2 in. (50.8 mm)
Rod Diameter	1 in. (25.4 mm)
Stroke	22 in. (558.8 mm)
Tilt (Double Acting):	
Bore Diameter	2-1/2 in. (63.5 mm)
Rod Diameter	1-1/4 in. (31.8 mm)
Stroke	13-1/8 in. (333.4 mm)

DRIVE SYSTEM

Two hydrostatic pumps with variable angle swashplate and two hydrostatic motors with fixed angle swashplate. Forward, rearward and turning movements are controlled by a T-bar control lever.

TRAVEL

Speed 0-4 mph
(0-8 km/h)

Turning 360° in its own length

FLUID CAPACITY

Fuel Tank 8 U.S. Gallons (30.4 L)

Engine Lubricating Oil 4 U.S. Quarts (3.8 L)

Hydraulic/Hydrostatic Reservoir 11 U.S. Gallons (41.8 L)

Chain Case Reservoir 1-1/2 U.S. Gallons (5.7 L)

TIRES

Size	Operating Pressure
27x8.50-15	30 psi (2 bar) (2 kg/cm²)

ATTACHMENTS

Auxiliary hydraulic valve kit, cylinder rod stops, earth bucket, utility bucket, pallet fork, utility fork, grapple, and SMV emblem.

OPERATIONAL SPECIFICATIONS

Operating weight 2825 lbs. (1 281.4 kg)

Tipping load (SAE with 47 in. [1 194 mm] bucket) 1400 lbs. (635 kg)

Load Rating (1/2 SAE tip-up) 700 lbs. (317.5 kg)

Lift capacity to maximum height 1300 lbs (590 kg)

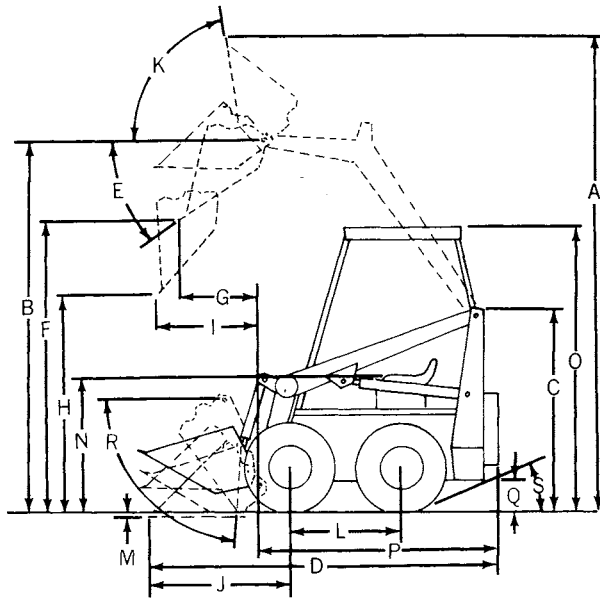
Raising time to full height (full) 5 seconds

Lowering time (empty) 3 seconds

Dumping time (full) 2.5 seconds

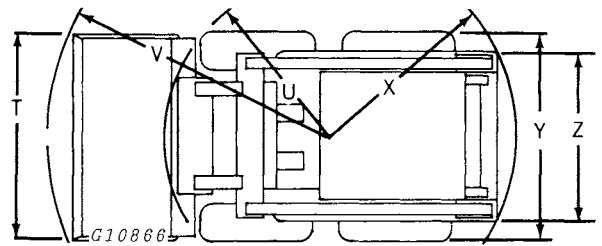
Rollback time (full rollback) 2.5 seconds

DIMENSIONS



G10865

Fig. 1-Height and Length



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Fig. 2-Width

Specifications are in accordance with IEMC Standards

Dimensions are with 27x8.50-15 Tires and 47-Inch (1 194 mm) Earth Bucket

A - Overall height (lift arms raised).....	125 in. (3 175 mm)
B - Height to hinge pin (maximum).....	98 in. (2 489.2 mm)
C - Overall height	54 in. (1 372 mm)
D - Overall length (with bucket)	102 in. (2 591 mm)
E - Dump angle	38°
F - Dump height	73 in. (1 854.2 mm)
G - Reach at maximum height	18 in. (457.2 mm)
H - Specified height	51.5 in. (1 308.1 mm)
I - Reach (specified height)	27 in. (685.8 mm)
J - Reach (bucket on ground)	26 in. (600.4 mm)
K - Maximum rollback (fully raised)	86°
L - Wheelbase	30.75 in. (781 mm)
M - Digging depth (above ground).....	9/16 in. (14.3 mm)
N - Height to seat	33.5 in. (851 mm)
O - Overall height (with operator guard)	74 in. (1 880 mm)
P - Overall length (less bucket)	80 in. (2 032 mm)
Q - Ground clearance	6.75 in. (171.45 mm)
R - Maximum grading angle (bucket)	108°
S - Angle of departure	23°
T - Bucket width	47 in. (1 194 mm)
U - Clearance circle, front (less bucket)	35 in. (889 mm)
V - Clearance circle, front (with bucket)	61 in. (1 549.4 mm)
X - Clearance circle, rear	47 in. (1 194 mm)
Y - Overall width (less bucket)	45.5 in. (1 156 mm)
Z - Tread (27x8.50-15 tires).....	37 in. (940 mm)

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