90XT
Skid Steer

**ENGINE**
Model .................. Case 4T-390 diesel
Type ................... 4-stroke, turbocharged
Cylinders ....................... 4
Bore/Stroke .................. 4.02” x 4.72”
(102 x 120 mm)
Displacement ............. 239 in³ (3.9 L)
Fuel injection .............. Direct
Fuel ............................. #2 Diesel
Fuel filter ................... In-line strainer
Air intake ..................... Cross-flow
Cooling ....................... Liquid
Engine speeds (rpm)
High idle - no load .......... 2650+ rpm
Rated - full load ............ 2500 rpm
Low idle ........................ 950 rpm
Horsepower per SAE J1349
Gross...... 85 (63.4 kW) @ 2500 rpm
Net ........ 74 (55.2 kW) @ 2500 rpm
Peak torque
@ 1500 rpm ...... 239 lb·ft (324 N·m)

**ENGINE COOLING**
Radiator
Core type ............... Square wave serpentine
Core size area ......... 165.9 in² (1.07 m²)
Rows of tubes ............... 5
Cap pressure ......... 14.9 psi (103 kPa)
Fan
Diameter ............... 20.4” (518 mm)
Ratio .................... 1:1
Water pump
Style ..................... Integral
Flow .................. 50.7 gpm (192 L/min)
Engine lubrication
Pump........ Deep sump plate cooler
with pressurized under-piston nozzles
Pump operating angle ratings
Side-to-side ............ Rated 45°
Fore and aft ............ Rated 35°
Oil filtration ............. Replaceable, full-flow cartridge

**POWERTRAIN**
Drive pump .... Tandem, axial piston hydrostatic transmission driven directly off engine flywheel
Pump to engine ratio ........... 1:1
Displacement ........ 0 to 3.11 in³ (51 cc)
Pump flow @ rated rpm .... 33.7 gpm (128 L/min)
Flow ...................... Bi-directional
Charge pressure ....... 350 psi (24 bar)
System relief ..... 5004 psi (345 bar)
Controls ..................... Servo
Drive motors ........ Variable piston hydrostatic motors with shuttle valve
Maximum displacement .... 2.68 in³ (44 cc)
Speed @ rated engine rpm
@ max displacement .... 2898 rpm
Torque @ max displacement and relief pressure .......... 178 lb·ft (241 N·m)
Travel ..................... High/lowlow push-button control
Low speed ............... 0 - 7.1 mph (11.4 km/h)
High speed ............ 0 - 11.1 mph (17.86 km/h)
Final drive ........ Double-reduction planetary to chain drive
Drive chain
Size ...................... ASA #120HS
Tensile strength .......... 41,000 lb (182,384 N)
Axles ...................... One-piece, forged induction-hardened high carbon steel
Torque @ rated rpm ...... 5,994 lb·ft (8126 N·m)
Diameter ............... 2.5” (63.5 mm)
Length .................. 14.76” (375 mm)
Parking brakes ........ Spring-applied, hydraulic release
Capacity ........ 4,560 lb·ft (6182 N·m)
(perside at the axle)
Engagement ........ Depress on/off brake button at left-hand control lever, raise seat bar, get off seat, stop engine

**HYDRAULIC SYSTEM**
Standard equipment pump
Gear pump with integrated constant pressure valve
Displacement ... 2.44 in³/rev (40 cc)
Pump flow @ rated engine rpm
Total ........... 25.1 gpm (95 L/min)
To charge ...... 4.8 gpm (18.2 L/min)
Flow .............. 20.3 gpm (77 L/min)
Loader control valve ........ 2-spool open-center series with power beyond port
Relief pressure .. 3002 psi (207 bar)
Port relief pressures
#1A Lower ......... 3800 psi (262 bar)
#1B Raise ......... 3800 psi (262 bar)
#2A Rollback ....... 3800 psi (262 bar)
#2B Dump .......... 3100 psi (214 bar)
Auxiliary valve..... 1-spool open-center Hydraulic lines
Tubing ................. 2nd plated steel
Loop hoses .......... SAE 100 R12
Swing-out hydraulic oil cooler
Core type ............. Four row in-line
Hydraulic filters .... 2-micron charge, 6-micron return
spin-on replaceable elements on the return and charge lines with warning indicator
Filter capacity
Return line filter .... 0.95 oz (27 g)
Charge line filter .... 0.35 oz (10 g)
**INSTRUMENTATION**

- Digital hourmeter
- Fuel level LED bar graph
- Warning lights
  - Fuel level
  - Voltage
  - Engine coolant temperature
  - Transmission charge pressure
  - Engine oil pressure
  - Air cleaner restriction
  - Hydraulic filter restriction
- Engine oil pressure
- Parking brake
- Systems normal
- Seat belt reminder
- Warning alarms
  - Engine coolant temperature
  - Transmission charge pressure
  - Engine oil pressure
  - Hydraulic oil temperature

**ELECTRICAL SYSTEM**

- Alternator................................ 65 amp
- Starter ....................................... 2.5 kW
- Battery ...... 12-volt low-maintenance 610 cold-cranking amps @ 0° F (-18 C)

**OPERATOR ENVIRONMENT**

- No-tool tilt ROPS/FOPS canopy w/side screens
- Vinyl seat
- Seat presence switch
- 2” (51 mm) retractable seat belt
- Restraint bar w/integral arm rests
- Two servo-assist, adjustable, hands-only control levers
- Hand and foot throttles
- Loader control lockout system
- Rear window w/escape provision
- Front and rear halogen floodlights
- Floor cleanout panel

**CYLINDERS**

- **Lift cylinder**
  - Bore diameter........ 2.25” (57 mm)
  - Rod diameter ...... 1.75” (44.4 mm)
  - Stroke ................. 38.19” (970 mm)
  - Closed length....... 51.97” (1.32 m)

- **Bucket cylinder**
  - Bore diameter........ 2.5” (63.5 mm)
  - Rod diameter ...... 1.5” (38.1 mm)
  - Stroke ................. 20.87” (530 mm)
  - Closed length....... 47.4” (1.2 m)

**OPERATING WEIGHTS**

- Unit equipped with 15.5 x 16.5 Galaxy Hippo tires, 82” (2.08 m) dirt bucket, mechanical attachment coupler, full fuel ... 8,950 lb (4060 kg)
- Add-on weights
  - Side cab glass .............. +70 lb (32 kg)
  - Lexan® door .................... +70 lb (32 kg)
  - Glass door w/wiper ... +77 lb (35 kg)
- Auxiliary high-flow
  - 3000 psi (207 bar) .... +256 lb (116 kg)
  - Hydrostatic ............... +269 lb (122 kg)
- Heater ......................... +10 lb (4.5 kg)
- Suspension seat ........... +10 lb (4.5 kg)
- Hydraulic attachment coupler ................ +38 lb (17 kg)
- Counterweight ........... +925 lb (420 kg)

**SERVICE CAPACITIES**

- Fuel tank............... 20.7 gal (78.3 L)
- Engine oil w/filter ...... 11 qt (10.4 L)
- Engine oil w/o filter..... 10 qt (9.5 L)
- Engine cooling system... 17.5 qt (16.6 L)
- Hydraulic system
  - Reservoir.............. 6.5 gal (24.5 L)
  - Total................ 17.0 gal (64.3 L)
  - Chain tanks (per side) .. 8 qt (7.6 L)

**TIRE SELECTION**

<table>
<thead>
<tr>
<th>Size</th>
<th>Ply Rating</th>
<th>Tread Depth</th>
<th>Tire Width</th>
<th>Over Tire Travel</th>
<th>Max Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solideal Hauler SKS..........................</td>
<td>12.00 x 16.5 .. 10 .... 0.75” ......... 13.1” ....... 72” ....... 51 lb ...... 11.1 mph</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Galaxy Beefy Baby II..........................</td>
<td>12.00 x 16.5 .. 10 .... 0.75” ......... 12.3” ....... 72” ....... 81 lb ...... 11.1 mph</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Galaxy Hippo ..................................</td>
<td>33/15.50 x 16.5 ... 12 .... 0.81” ......... 12.8” ....... 80” ....... 96 lb ...... 11.1 mph</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Galaxy King Kong..............................</td>
<td>12.00 x 16.5 .. 10 .... 1.25” ......... 10.2” ....... 72” ....... 96 lb ...... 11.2 mph</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galaxy Hulk ...................................</td>
<td>12.00 x 16.5 .. 12 .... 0.81” ......... 12.3” ....... 72” ....... 100 lb ...... 11.1 mph</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galaxy Bulky Hulk ............................</td>
<td>33/15.50 x 16.5 ... 14 .... 0.81” ......... 16.7” ....... 80” ....... 124 lb ...... 11.1 mph</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Case Steel Tracks ............................</td>
<td>12.00 x 16.5 .. NA..... 1.4”∞........ 14.7”Ø ...... 78” ....... 959 lb ...... 11.8 mph</td>
<td></td>
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</tr>
</tbody>
</table>

NOTE: *Tire weight does not include wheel weight. ∞Equals grouser depth. ∆Equals track width.
**DIMENSIONS**

A. Overall operating height
   - Dirt bucket: 150.3” (3.82 m)
   - Light material bucket: 158.9” (4.04 m)

B. Bucket hinge pin: 124.5” (3.16 m)

C. Top of rollover protective structure: 80” (2.03 m)

D. Bottom of level bucket, loader arm fully raised: 116.5” (2.96 m)

E. Overall length
   - W/o attachment w/coupler: 105.5” (2.68 m)
   - W/dirt bucket on ground: 137.6” (3.49 m)
   - W/light material bucket on ground: 145.3” (3.69 m)

F. Dump angle at maximum height
   - Dirt bucket: 40°
   - Light material bucket: 35°

G. Dump height – loader arm fully raised
   - Dirt bucket: 94.5” (2.40 m)
   - Light material bucket: 93.0” (2.36 m)

H. Reach – loader arm fully raised
   - Dirt bucket: 26.7” (678 mm)
   - Light material bucket: 35.3” (896 mm)

I. Maximum attachment rollback
   - Bucket on ground: 30°
   - Bucket at full height: 55°

J. Maximum attachment rollback

K. Bucket on ground: 46.06” (1.17 m)

L. Bucket at full height: 55°

M. Wheelbase: 46.06” (1.17 m)

N. Ground clearance
   - Bottom of chain case: 9.1” (231 mm)
   - Bottom of belly pan: 11” (279 mm)
   - Bottom of optional counterweight: 9.1” (231 mm)

O. Angle of departure: 28°

Q. Clearances:
   - Front: 54.5” (1.38 m)
   - Rear: 62.2” (1.58 m)

R. Tread width, centerline to centerline: 64.5” (1.64 m)

**PERFORMANCE SPECS**

- Operating load: 2,450 lb (1111 kg)
  - W/counterweight: 2,910 lb (1320 kg)
- Tipping load: 4,900 lb (2223 kg)
  - W/counterweight: 5,820 lb (2640 kg)
- Breakout force
  - Lift cylinder: 5,290 lbf (23,531 N)
  - Bucket cylinder: 6,200 lbf (27,578 N)
- Dig depth
  - W/bucket flat: 0.24” (6 mm)
- Cycle time
  - Raise: 3.14 seconds
  - Lower: 2.44 seconds
  - Dump: 1.14 seconds
  - Rollback: 0.99 seconds

**OPTIONAL BUCKETS**

<table>
<thead>
<tr>
<th>Type</th>
<th>Width inch (m)</th>
<th>Weight lb (kg)</th>
<th>Capacity ft³ (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dirt</td>
<td>73 (1.9)</td>
<td>553 (251)</td>
<td>16.8 (0.48)</td>
</tr>
<tr>
<td>HD Dirt</td>
<td>73 (1.9)</td>
<td>621 (291)</td>
<td>16.8 (0.54)</td>
</tr>
<tr>
<td>Utility</td>
<td>73 (1.9)</td>
<td>628 (285)</td>
<td>22.4 (0.63)</td>
</tr>
<tr>
<td>HD Utility</td>
<td>73 (1.9)</td>
<td>696 (316)</td>
<td>22.4 (0.63)</td>
</tr>
<tr>
<td>Light Material</td>
<td>82 (2.1)</td>
<td>584 (265)</td>
<td>32.5 (0.92)</td>
</tr>
</tbody>
</table>

NOTE: SAE rated lift capacities. Cycle time measured with rated load in bucket.

**NOTE:** Equipped with 15.5 x 16.5 tires.
STANDARD EQUIPMENT

OPERATOR’S COMPARTMENT
- ROPS/FOPS canopy w/ side screens
- No-tools tilt ROPS/FOPS
- Instrument panels
- Vinyl seat
- 2” (51 mm) retractable seat belt
- Hand & foot throttles
- Ergonomic hand controls
- Restraint bar w/ integral arm rests
- Loader control lockout system
- Fingertip brake control
- Rear window w/ escape provision
- Horn
- Floor cleanout panel

ENGINE
- Case 4T-390 turbocharged diesel
- Automatic fan belt tensioner
- Integral engine oil cooling
- Fuel filter w/ water trap
- Dual element air cleaner
- 65 amp alternator
- 610 CCA 12 volt battery
- Heavy-duty radiator

POWERTRAIN
- Hydrostatic four wheel drive
- High/Low range
- Servo controls
- Double reduction planetary final drive
- ASA #120HS drive chain
- Disc parking brakes

HYDRAULICS
- Auxiliary hydraulics 3000 psi (207 bar) - 20.3 gpm (77 L/min),
- hydraulic circuit pedal lock,
- loader arm mounted ISO flat face couplers
- Loader function lockout system
- Loader lift lockout override
- 2-spool loader control valve
- 1-spool auxiliary valve
- Heavy-duty swing-out oil cooler
- Loader arm float position

OTHER
- Integral bumper counterweight
- Heavy-duty louvered rear grille
- Lockable service access hood
- Single-point daily servicing
- Halogen lights, 2-front, 1-rear
- Rear tail lights and reflectors

OPTIONAL EQUIPMENT

OPERATOR’S COMPARTMENT
- Vinyl suspension seat w/ 2” (51 mm) retractable seat belt
- Vinyl suspension seat w/ 3” (76 mm) retractable seat belt
- Auxiliary front electric controls
- Chassis options harness
- Lexan® front door
- Glass front door w/ wiper & washer
- Sliding side windows
- Heater (floor)
- Heater (deluxe)
- Accessory power outlet

LOADER
- Ride Control
- Hydraulic attachment coupler

ENGINE
- Coolant block heater
- Thermostart

HYDRAULICS
- Auxiliary high-flow
  - 3000 psi (207 bar) - 40.9 gpm (155 L/min)
- Hydrostatic high-flow
  - 5000 psi (345 bar) - 30.4 gpm (115 L/min)

OTHER
- Backup alarm
- Rotating beacon
- 925 lb (420 kg) counterweight
- Front lift hooks

OTHER (continued)
- Drawbar
- Special paint
- Manual brake release
- Buckets - see page 3
- 42” (1.07 m) / 48” (1.22 m) pallet forks
- Model 560 trencher
- Model D125 backhoe
- Bolt-on bucket cutting edges
- Catalytic muffler
- Aspirator
- Battery disconnect switch
- Automatic engine shutdown system
- Steel tracks
- ECI proportional fan drive
- Tire options
- Galaxy Poly Soft-Super Fill
- Tyrlyner
- Factory-installed tires - see page 2

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