**ENGINE**

Model ..................... Case 4-390 diesel
Type..... 4-stroke, naturally aspirated
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+50
Rated - full load ............ 2500
Low idle ..................... 950

Horsepower per SAE J1349
Gross...... 80 (59.7 kW) @ 2500 rpm
Net ........ 69 (51.5 kW) @ 2500 rpm
Peak torque
@ 1200 rpm ....... 193 lb·ft (262 N·m)

**ENGINE COOLING**

Radiator
Core type .................. Square wave serpentine
Core size area ....... 165.9 in² (.107 m²)
Rows of tubes ........... 5
Cap pressure .... 14.9 psi (103 kPa)

Fan
Diameter ................ 20.4” (518 mm)
Ratio .................... 1.1:1

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
System relief ...... 4714 psi (325 bar)

Controls ..................... Servo

Drive motors .... Fixed displacement high torque, low-speed gerotor motor with shuttle valve
Maximum displacement .... 38.8 in³ (635 cc)

Speed @ rated engine rpm @ max displacement .... 201 rpm
Torque @ max displacement and relief pressure .... 2,422 lb·ft (3284 N·m)

Travel speed .............. 0 - 7.6 mph (12.2 km/h)

Final drive ............. Single-reduction chain drive

Drive chain
Size ..................... ASA #100HS
Tensile strength ........... 30,000 lb (133,452 N)

Axles ................. One-piece, forged induction-hardened high carbon steel
Torque @ rated rpm ...... 5,302 lb·ft (7189 N·m)

Diameter ............... 2.5” (63.5 mm)
Length ............ 14.76” (375 mm)

Parking brakes .... Spring-applied, hydraulic release

Capacity .......... 3,012 lb·ft (4083 N·m)
(per side 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 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
- Seat belt reminder

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
- In-cab loader arm lock
- Rear window w/ escape provision
- Front and rear halogen floodlights
- Floor cleanout panel

CYLINDERS
- Lift cylinder
  Bore diameter ........ 2.5” (63.5 mm)
  Rod diameter ......... 1.75” (44.4 mm)
  Stroke .................. 41.3” (1.05 m)
  Closed length....... 53.03” (1.35 m)
- Bucket cylinder
  Bore diameter ...... 2.75” (69.8 mm)
  Rod diameter ....... 1.375” (34.9 mm)
  Stroke ............... 20.67” (525 mm)
  Closed length ...... 31.5” (800 mm)

OPERATING WEIGHTS
- Unit equipped with 12.00 x 16.5 Galaxy Beefy Baby tires, 73” (1.85 m)
- dirt bucket, mechanical attachment coupler, full fuel ... 8,057 lb (3655 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 .......... +256 lb (116 kg)
- System ......... +256 lb (116 kg)
- Counterweight .......... +925 lb (420 kg)

SERVICE CAPACITIES
- Fuel tank .................. 17.3 gal (65.5 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 ............... 5.7 gal (21.7 L)
  - Total .................. 16.5 gal (62.5 L)
- Chain tanks (per side) .... 8 qt (7.6 L)

TIRE SELECTION
<table>
<thead>
<tr>
<th>Size</th>
<th>Ply</th>
<th>Tread Depth</th>
<th>Tire Over</th>
<th>Tire Width</th>
<th>Tires Weight*</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>Max</td>
<td></td>
<td>Width</td>
<td>Max</td>
<td></td>
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<tr>
<td>Speed</td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Solideal Hauler SKS .......................... 12.00 x 16.5</td>
<td>10</td>
<td>0.75”</td>
<td>12.1”</td>
<td>72”</td>
<td>51 lb</td>
<td>7.7 mph</td>
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<tr>
<td></td>
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<td></td>
<td>(19 mm)</td>
<td>(333 mm)</td>
<td>(1.83 m)</td>
<td>(23.1 kg)</td>
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<tr>
<td>Galaxy Beefy Baby II ......................... 12.00 x 16.5</td>
<td>10</td>
<td>0.75”</td>
<td>12.3”</td>
<td>72”</td>
<td>81 lb</td>
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<td></td>
<td></td>
<td></td>
<td>(19 mm)</td>
<td>(312 mm)</td>
<td>(1.83 m)</td>
<td>(36.7 kg)</td>
</tr>
<tr>
<td>Galaxy Hippo ................. 33/15.50 x 16.5</td>
<td>12</td>
<td>0.81”</td>
<td>12.8”</td>
<td>80”</td>
<td>96 lb</td>
<td>7.7 mph</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(21 mm)</td>
<td>(325 mm)</td>
<td>(2.03 m)</td>
<td>(43.5 kg)</td>
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<tr>
<td>Galaxy King Kong .................. 12.00 x 16.5</td>
<td>10</td>
<td>1.25”</td>
<td>10.2”</td>
<td>72”</td>
<td>96 lb</td>
<td>7.8 mph</td>
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<td></td>
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<td></td>
<td>(32 mm)</td>
<td>(259 mm)</td>
<td>(1.83 m)</td>
<td>(43.5 kg)</td>
</tr>
<tr>
<td>Galaxy Hulk ....................... 12.00 x 16.5</td>
<td>12</td>
<td>0.81”</td>
<td>12.3”</td>
<td>72”</td>
<td>100 lb</td>
<td>7.7 mph</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(21 mm)</td>
<td>(312 mm)</td>
<td>(1.83 m)</td>
<td>(45.3 kg)</td>
</tr>
<tr>
<td>Galaxy Bulky Hulk ............... 33/15.50 x 16.5</td>
<td>14</td>
<td>0.81”</td>
<td>16.7”</td>
<td>80”</td>
<td>124 lb</td>
<td>7.7 mph</td>
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<td></td>
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<td></td>
<td>(21 mm)</td>
<td>(424 mm)</td>
<td>(2.03 m)</td>
<td>(56.2 kg)</td>
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<tr>
<td>Case Steel Tracks ................... 12.00 x 16.5</td>
<td>NA</td>
<td>1.4”</td>
<td>14.7”</td>
<td>78”</td>
<td>959 lb</td>
<td>8.1 mph</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>(36 mm)</td>
<td>(373 mm)</td>
<td>(1.98 m)</td>
<td>(435.0 kg)</td>
</tr>
</tbody>
</table>

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

A. Overall operating height
   - Dirt bucket: 159.6" (4.05 m)
   - Light material bucket: 162.3" (4.12 m)

B. Bucket hinge pin: 122.4" (3.11 m)

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

D. Bottom of level bucket, loader arm fully raised: 114.6" (2.91 m)

E. Overall length
   - Without attachment with coupler: 103.1" (2.62 m)
   - With dirt bucket on ground: 135.5" (3.44 m)
   - With light material bucket on ground: 143.2" (3.64 m)

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

G. Dump height – loader arm fully raised
   - Dirt bucket: 92.3" (2.34 m)
   - Light material bucket: 90.5" (2.30 m)

H. Reach – loader arm fully raised
   - Dirt bucket: 39.5" (1.0 m)
   - Light material bucket: 47.9" (1.22 m)

I. Maximum attachment rollback
   - Bucket on ground: 27°
   - Bucket at full height: 68°

J. Wheelbase: 44.9" (1.14 m)

K. 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)

L. Angle of departure: 28°

M. Clearance circle front
   - Less bucket: 53.9" (1.37 m)
   - With 73" (1.85 m) dirt bucket on ground: 83.8" (2.13 m)
   - With 82" (2.08 m) dirt bucket on ground: 85.8" (2.18 m)
   - With 82" (2.08 m) light material bucket on ground: 92.7" (2.35 m)

N. Clearance circle rear
   - 61.1" (1.55 m)

O. Tread width, centerline to centerline: 59.7" (1.52 m)

### PERFORMANCE SPECS

Operating load: 2,400 lb (1089 kg)
   - With counterweight: 2,860 lb (1297 kg)

Tipping load: 4,800 lb (2177 kg)
   - With counterweight: 5,720 lb (2595 kg)

Breakout force
   - Lift cylinder: 4,936 lbf (21 956 N)
   - Bucket cylinder: 6,175 lbf (27 468 N)

Dig depth
   - Weld flat: 0.24" (6 mm)

Cycle time
   - Raise: 4.1 seconds
   - Lower: 3.0 seconds
   - Dump: 2.5 seconds
   - Rollback: 2.0 seconds

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

### 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 (.48)</td>
</tr>
<tr>
<td>HD Dirt</td>
<td>73 (1.9)</td>
<td>621 (282)</td>
<td>19.6 (.48)</td>
</tr>
<tr>
<td>Utility</td>
<td>73 (1.9)</td>
<td>628 (285)</td>
<td>22.4 (.63)</td>
</tr>
<tr>
<td>HD Utility</td>
<td>73 (1.9)</td>
<td>696 (316)</td>
<td>22.4 (.63)</td>
</tr>
<tr>
<td>Light Material</td>
<td>82 (2.1)</td>
<td>584 (265)</td>
<td>32.5 (.92)</td>
</tr>
</tbody>
</table>
**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
- Floor cleanout panel

**LOADERS**
- Heavy lift-and-reach linkage
- Mechanical attachment coupler

**ENGINE**
- Case 4-390 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
- Servo controls
- ASA #100HS 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

**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

**LOADERS**
- Ride Control
- Hydraulic attachment coupler
- Hydraulic two-way self-leveling

**ENGINE**
- Coolant block heater
- Thermostat start

**HYDRAULICS**
- Auxiliary high-flow 3000 psi (207 bar) - 38.3 gpm (145 L/min)

**OTHER**
- Backup alarm
- Rotating beacon
- 925 lb (420 kg) counterweight
- Lift hooks
- Drawbar

**OPTIONAL EQUIPMENT (continued)**
- Horn
- 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
- Tire options
- Galaxy Poly Soft-Super Fill
- Tyrlyner
- Factory-installed tires - see page 2

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