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........... 2150±50
Rated – full load ............... 2000
Low idle...................................... 950
Horsepower per SAE J1349
Gross...... 60 (44.7 kW) @ 2000 rpm
Net ............ 56 (42 kW) @ 2000 rpm
Peak torque
@ 1200 rpm ..... 177 lb·ft (240 N·m)

ENGINE COOLING
Radiator
Core type ............... Square wave serpentine
Core size area.... 165.9 in² (.107 m²)
Rows of tubes .............................. 3
Cap pressure ..... 14.9 psi (103 kPa)
Fan
Diameter ............... 17.7” (450 mm)
Ratio.......................................... 1.1:1
Water pump
Style........................................... Integral
Flow................. 41 gpm (153 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 45°
Oil filtration .......... Replaceable, full-flow cartridge

POWERTRAIN
Drive pump .... Tandem, axial piston hydrostatic transmission w/integral charge pump driven directly off engine flywheel
Pump to engine ratio.......... 1:1
Displacement ... 0 to 2.81 in³ (46 cc)
Pump flow @ rated rpm... 24.3 gpm (92 L/min)
Flow ..................... Bi-directional
Charge pressure .......... 400 psi
(27.6 bar)
System relief ............... 5004 psi
(345 bar)
Controls......................... Servo
Drive motors .... Fixed displacement high torque, low-speed gerotor motor with shuttle valve
Maximum displacement...... 24 in³ (393 cc)
Speed @ rated engine rpm
@ max displacement...... 234 rpm
Torque @ max displacement and relief pressure........ 1,370 lb·ft (1863 N·m)
Travel speed............... 0 - 6.8 mph
(11.0 km/h)
Final drive.......... Single-reduction chain drive
Drive chain
Size ....................... ASA #80HS
Tensile strength........ 21,000 lb
(93 413 N)
Axles...................... One-piece, forged induction-hardened high carbon steel
Torque @ rated rpm ...... 4,358 lb·ft (5908 N·m)
Diameter ................ 2.0” (51 mm)
Length ................ 14.61” (371 mm)
Parking brakes ............... Pin lock
Engagement............... Raise seat bar

HYDRAULIC SYSTEM
Standard equipment
pump ............................ Gear pump
Displacement .. 2.32 in³/rev (38 cc)
Pump flow @ rated engine rpm
Total........ 19.1 gpm (72.2 L/min)
Loader control valve .......................... 2-spool open-center series with power beyond port
Relief pressure .. 3000 psi (207 bar)
Port relief pressures
#1A Lower ........ 3800 psi (262 bar)
#1B Raise........... 3100 psi (214 bar)
#2A Rollback .... 3800 psi (262 bar)
#2B Dump........... 3100 psi (214 bar)
#3A & B Auxiliary ............... None
Hydraulic lines
Tubing ................. 37° JIC Flare
Loop hoses ................. SAE 100 R12
Swing-out hydraulic oil cooler
Core type ............ Two row in-line
Hydraulic filters .................. 6-micron, spin-on replaceable element for the return line with warning indicator
Filter capacity
Return line filter ...... 0.2 oz (27 g)
**INSTRUMENTATION**
- Digital hourmeter
- Fuel level LED bar graph
- Warning lights
  - Fuel level
  - Voltage
  - Engine coolant temperature
  - Engine oil pressure
  - Air cleaner restriction
  - Hydraulic filter restriction
  - Hydraulic oil temperature
  - Systems normal
  - Seat belt reminder
- Warning alarms
  - Engine coolant temperature
  - 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**
- Tilt ROPS/FOPS canopy w/ side screens
- Water-shedding vinyl seat
- Seat presence switch
- 2” (51 mm) retractable seat belt
- Seat bar w/integral armrests
- Two servo-assist, adjustable, hands-only control levers
- Hand throttle
- Loader control lockout system
- Front and rear halogen floodlights
- Floor cleanout access

**CYLINDERS**
- Lift cylinder
  - Bore diameter...... 2.25” (57.2 mm)
  - Rod diameter ...... 1.50” (38.1 mm)
  - Stroke .............. 35.16” (893.1 mm)
  - Closed length ... 46.18” (1173.0 mm)
- Bucket cylinder
  - Bore diameter...... 2.50” (63.5 mm)
  - Rod diameter ...... 1.375” (34.9 mm)
  - Stroke .............. 14.5” (369 mm)
  - Closed length ... 26.9” (683 mm)

**OPERATING WEIGHTS**
- Unit equipped with 10.00 x 16.5
- Solideal Hauler SKS tires,
  - 60” (1.5 m) short lip bucket, mechanical attachment coupler,
  - full fuel and 165 lb (75 kg)
- operator ............... 5,716 lb (2593 kg)
- Shipping weight... 5,148 lb (1891 kg)
- Add-on weights
  - Side cab glass .......... +70 lb (32 kg)
  - Lexan® door........... +50 lb (22.6 kg)
  - Glass door w/wiper.. +27 lb (35 kg)
  - Floor heater .......... +20 lb (9.1 kg)
  - Suspension seat ...... +10 lb (4.5 kg)

**SERVICE CAPACITIES**
- Fuel tank................... 22.0 gal (83.3 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................. 7.1 gal (32.4 L)
- Total....................... 13.3 gal (50.2 L)
- Chain tanks (per side)...... 6 qt (5.7 L)

**TIRE SELECTION**

<table>
<thead>
<tr>
<th>Size</th>
<th>Ply</th>
<th>Tread</th>
<th>Depth</th>
<th>Width</th>
<th>Max Weight*</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00 x 16.5</td>
<td>60</td>
<td>8</td>
<td>0.75”</td>
<td>11.2”</td>
<td>59”</td>
<td>63 lb</td>
</tr>
<tr>
<td>10.00 x 16.5</td>
<td>80</td>
<td>8</td>
<td>1.25”</td>
<td>12.8”</td>
<td>59”</td>
<td>91 lb</td>
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</tbody>
</table>

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**PERFORMANCE SPECS**

Operating load .......... 1,500 lb (681 kg)
Tipping load .......... 3,000 lb (1361 kg)

Breakout force
Lift cylinder .......... 3,788 lbf (16 850 N)
Bucket cylinder ........ 3,974 lbf (17 677 N)

Dig depth
w/bucket flat .......... 0” (0 mm)

Cycle time
Raise .................. 3.6 seconds
Lower .................. 2.1 seconds
Dump .................. 1.9 seconds
Rollback ............... 1.8 seconds

NOTE: SAE rated lift capacities. Breakout force and cycle time measured with rated load in D/F bucket.

**OPTIONAL BUCKETS**

<table>
<thead>
<tr>
<th>Bucket Type</th>
<th>Width (inch)</th>
<th>Weight (lb)</th>
<th>Capacity (ft³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heaped Foundry/Excavating</td>
<td>60</td>
<td>270</td>
<td>11.5</td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>370</td>
<td>15.2</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>390</td>
<td>16.7</td>
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<tr>
<td>Low Profile Foundry/Excavating</td>
<td>60</td>
<td>330</td>
<td>11.5</td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>400</td>
<td>13.2</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>425</td>
<td>14.5</td>
</tr>
<tr>
<td>Low Profile Extended</td>
<td>60</td>
<td>360</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>434</td>
<td>15.5</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>497</td>
<td>16.7</td>
</tr>
<tr>
<td>Utility/Light Material</td>
<td>60</td>
<td>(350)</td>
<td>19.7</td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>434</td>
<td>15.5</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>497</td>
<td>16.7</td>
</tr>
<tr>
<td>Manure/Slurry</td>
<td>60</td>
<td>340</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>465</td>
<td>19.1</td>
</tr>
</tbody>
</table>

**DIMENSIONS**

A. Overall operating height
   - w/foundry/excavating bucket – short lip ................. 145.3” (3.69 m)
   - w/low profile bucket – standard lip ..................... 150.9” (3.83 m)
   - w/low profile extended bucket – long lip .............. 155.9” (3.96 m)

B. Bucket hinge pin ............................................... 114.6” (2.91 m)
C. Top of rollover protective structure ....................... 75.5” (1.92 m)
D. Bottom of level bucket, loader arm fully raised .......... 107.3” (2.73 m)

E. Overall length
   - w/attachment w/coupler .......................................... 100” (2.54 m)
   - w/foundry/excavating bucket on ground ................... 123.2” (3.13 m)
   - w/low profile bucket on ground ......................... 129” (3.28 m)
   - w/low profile extended bucket on ground ............... 133.9” (3.40 m)

F. Dump angle at maximum height .................................. 40°

G. Dump height – loader arm fully raised
   - w/foundry/excavating bucket .............................. 89.4” (2.27 m)
   - w/low profile bucket ......................................... 85.9” (2.18 m)
   - w/low profile extended bucket ......................... 82.7” (2.10 m)

H. Reach – loader arm fully raised
   - w/foundry/excavating bucket .............................. 23.6” (0.60 m)
   - w/low profile bucket ......................................... 28.1” (0.71 m)
   - w/low profile extended bucket ......................... 31.9” (0.81 m)

K. Bucket on ground ..................................................... 32°

L. Bucket at full height ............................................. 80°

M. Wheelbase .................................................................. 41.2” (1.05 m)

P. Bottom of belly pan ..................................................... 8” (203 mm)

Q. Angle of departure ..................................................... 27°

R. Ground Clearance
   - Clearance circle front ......................................... 48.1” (1.22 m)

S. Clearance circle rear .................................................. 57.6” (1.46 m)

T. Rear axle to bumper .................................................. 35.4” (0.90 m)

U. Tread width, centerline to centerline ....................... 49” (1.25 m)

NOTE: *Equipped with 10.00 x 16.5 Solideal Hauler SKS tires.
### STANDARD EQUIPMENT

**OPERATOR’S COMPARTMENT**
- ROPS/FOPS canopy w/ side screens
- Tilt ROPS/FOPS
- Instrument panels
- Water-shedding vinyl seat
- 2” (51 mm) retractable seat belt
- Hand throttle
- Ergonomic hand controls
- Seat bar w/ integral armrests
- Loader control lockout system
- Floor cleanout panel

**LOADER**
- Radial loader arm design
- 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 #80HS drive chain
- Parking brakes

**HYDRAULICS**
- Auxiliary hydraulics 3000 psi (207 bar) – 19.1 gpm (72.2 L/min)
- Hydraulic circuit pedal lock

**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 (deluxe)
- Rear window w/ emergency escape feature
- Top window
- Foot throttle
- Accessory power outlet

**LOADER**
- Ride control
- Hydraulic attachment coupler
- Hydraulic two-way self-leveling

**ENGINE**
- Coolant block heater
- Thermostat

**HYDRAULICS**
- High-flow auxiliary hydraulics
  - 3000 psi (207 bar)
  - 31.4 gpm (119 L/min)

**FIELD-INSTALLED OPTIONS**
- Floor heater
- Auto-engine shutdown

**OTHER**
- Backup alarm
- Rotating beacon
- Lift hooks
- Horn
- Special paint
- Language decals
- Factory-installed tires – see page 2
- Buckets – see page 3
- Bolt-on bucket cutting edges
- 42” (1.07 m) and 48” (1.22 m) pallet forks
- Model D125 backhoe
- Auxiliary front electric
- Remote jump start
- Battery disconnect switch
- Automatic engine shutdown system
- 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.

**IMPORTANT:** CNH America LLC reserves the right to change these specifications without notice and without incurring any obligation relating to such change. CNH America LLC does not warrant the safety or reliability of attachments from other manufacturers.

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