**ENGINE**

- **Type**: Yanmar 4TNE98 – Naturally Aspirated Direct-Injection Diesel
- **Rated power**: 55 SAE net hp (41 kW) @ 2,200 rpm
- **Cylinders**: 4
- **Displacement**: 202 cu. in. (3.3 L)
- **Maximum net torque**: 166 lb.-ft. (225 Nm) @ 1,800 rpm
- **Fuel consumption, typical**: 1.5 to 2.5 gal./hr. (5.7 to 9.5 l/hr)
- **Cooling fan**: suction-type
- **Electrical system**: 24 volt with 35-amp alternator
- **Batteries (two 12 volt)**: reserve capacity: 180 min.

**HYDRAULIC SYSTEM**

- **Main pumps**: one variable-displacement axial-piston open center
  - **Maximum rated flow**: 2 x 20.6 gpm (2 x 78 L/min.)
- **Pilot pump**: one gear
  - **Maximum rated flow**: 6.5 gpm (24.6 L/min.)
- **Pressure setting**: 540 psi (3727 kPa)
- **System operating pressure**
  - **Implement circuits**: 3,770 psi (25 988 kPa)
  - **Travel circuits**: 4,550 psi (31 380 kPa)
  - **Swing circuits**: 3,627 psi (25 007 kPa)
- **Crossover relief valve**
  - **Blade**: 3,129 psi (21 573 kPa)
- **Dozer blade pump (optional)**: one gear
- **Oil filtration**: one 10-micron full-flow return filter with by-pass
  - one pilot oil filter
  - one suction filter

**CYLINDERS**

- **Boom (1)**
  - **Bore**: 4.5 in. (115 mm)
  - **Rod diameter**: 2.6 in. (65 mm)
  - **Stroke**: 34.8 in. (885 mm)
- **Arm (1)**
  - **Bore**: 3.7 in. (95 mm)
  - **Rod diameter**: 2.4 in. (60 mm)
  - **Stroke**: 35.4 in. (900 mm)
- **Bucket (1)**
  - **Bore**: 3.3 in. (85 mm)
  - **Rod diameter**: 2.2 in. (55 mm)
  - **Stroke**: 28.7 in. (730 mm)

**SWING MECHANISM**

- **Swing speed**: 0–14 rpm

**UNDERCARRIAGE**

- **Carrier rollers (per side)**: 1
- **Track rollers (per side)**: 5
- **Idlers (per side)**: 1
- **Shoes, triple semi-grouser (per side)**: 38
- **Track guides (per side)**: front
- **Track adjustment**: hydraulic
- **Travel speed**
  - **Low**: 0–2.2 mph (0–3.5 km/h)
  - **High**: 0–2.8 mph (0–4.5 km/h)
- **Drawbar pull**: 11,817 lb. (5310 kg)
- **Off-level operating limit for oil sump**: 59% (30 deg.)

**GROUND PRESSURE DATA**

- **With 18-in. (450 mm) triple semi-grouser shoes** (recommended for rocky terrain and stumps)
  - Standard one-piece boom without dozer blade: 4.33 psi (28.85 kPa)
  - Standard one-piece boom with dozer blade: 4.71 psi (32.97 kPa)
  - Offset boom without dozer blade: 4.67 psi (32.19 kPa)
  - Offset boom with dozer blade: 5.03 psi (34.69 kPa)

- **With 24-in. (600 mm) triple semi-grouser shoes** (recommended for general/soft terrain)
  - Standard one-piece boom without dozer blade: 3.33 psi (22.95 kPa)
  - Standard one-piece boom with dozer blade: 3.61 psi (24.89 kPa)
  - Offset boom without dozer blade: 3.59 psi (24.75 kPa)
  - Offset boom with dozer blade: 3.86 psi (26.61 kPa)
CAPACITIES

Fuel tank .........................................................35.6 gal. (135 L)
Cooling system ..................................................9 qt. (8.5 L)
Engine lubrication, including filter ..........................12 qt. (10.5 L)
Hydraulic system ..................................................31.7 gal. (120 L)
Planetary propel drive (each) ..................................2.6 qt. (2.5 L)
Swing drive .......................................................1.9 qt. (1.8 L)

OPERATING WEIGHTS

With full fuel tank; 175-lb. (79 kg) operator; blade;
offset boom; counterweight for offset boom;
24-in. (600 mm) triple semi-grouser shoes; 5-ft.
4-in. (1.62 m) arm; and 0.36-cu. yd. (0.28 m³),
30-in. (760 mm), 522-lb. (237 kg) bucket .............16,600 lb. (7572 kg)

COMPONENT WEIGHTS

Undercarriage equipped with triple semi-grouser shoes
18-in. (450 mm)
Without blade ..................................................4,171 lb. (1892 kg)
With blade ......................................................5,351 lb. (2427 kg)
24-in. (600 mm) (add) ..........................................361 lb. (164 kg)
Without blade ..................................................4,532 lb. (2056 kg)
With blade ......................................................5,712 lb. (2591 kg)
Upperstructure for standard one-piece boom with
full fuel tank (less 1,543-lb. [700 kg] counter-
weight and front attachments) ................................4,813 lb. (2183 kg)
Upperstructure for offset boom with full fuel tank
(less 1,763-lb. [800 kg] counterweight and front
attachments) .....................................................4,813 lb. (2183 kg)
Standard one-piece boom (with boom and arm
cylinders) .......................................................1,076 lb. (488 kg)
Offset boom (with boom and arm cylinders) ..............2,196 lb. (996 kg)
boom cylinder only .............................................196 lb. (89 kg)
Arm with bucket cylinder and linkage
5 ft. 4 in. (1.62 m) ..............................................540 lb. (245 kg)
6 ft. 11 in. (2.12 m) ...........................................617 lb. (280 kg)
Leveling blade ..................................................972 lb. (800 kg)
Counterweight only
For standard one-piece boom ................................1,543 lb. (700 kg)
For offset boom ..................................................1,764 lb. (800 kg)
0.36-cu. yd. (0.28 m³), 30-in. (760 mm) bucket ........522 lb. (237 kg)

OPERATING INFORMATION

Arm Length
5 ft. 4 in. (1.62 m) ......................................Arm Length
6 ft. 11 in. (2.12 m) ......................................

Arm force with 0.36-cu. yd. (0.28 m³), 30-in.
(760 mm), 522-lb. (237 kg) heavy-duty bucket ..........8,500 lb. (37.8 kN)
Bucket tangential force with 0.36-cu. yd. (0.28 m³),
30-in. (760 mm), 522-lb. (237 kg) heavy-duty
bucket .......................................................11,220 lb. (49.9 kN)
Lifting capacity over front @ ground level 15-ft.
(4.57 m) reach ..............................................2,948 lb. (1337 kg)
Maximum reach ..............................................20 ft. 6 in. (6251 m)
Maximum reach @ ground level .........................20 ft. (6097 m)
Maximum digging depth ...................................13 ft. 5 in. (4091 m)
Maximum digging depth @ 8-ft. (2.44 m) flat
bottom .......................................................12 ft. 3 in. (3741 m)
Maximum cutting height ..................................23 ft. 3 in. (7091 m)
Maximum dumping height ................................16 ft. 10 in. (5129 m)
Minimum front swing radius ............................5 ft. 7 in. (1700 m)
Maximum vertical wall ....................................11 ft. 4 in. (3461 m)
Tail swing radius ..........................................5 ft. 9 in. (1750 m)
DIMENSIONS

A With 5 ft. 4 in. (1.62 m) arm ..........................19 ft. 11 in. (6.08 m)
   With 6 ft. 11 in. (2.12 m) arm ..........................20 ft. 1 in. (6.12 m)
B With 5 ft. 4 in. (1.62 m) arm ..........................8 ft. 4 in. (2.55 m)
   With 6 ft. 11 in. (2.12 m) arm ..........................9 ft. 5 in. (2.88 m)
C With 18-in. (450 mm) triple semi-grouser shoes ..........................7 ft. 3 in. (2.20 m)
   With 24-in. (600 mm) triple semi-grouser shoes ..........................7 ft. 8 in. (2.35 m)

D With 18-in. (450 mm) triple semi-grouser shoes
   No blade ..........................................7 ft. 8 in. (2.34 m)
   With blade ..........................................7 ft. 11 in. (2.42 m)
   With 24-in. (600 mm) triple semi-grouser shoes
   No blade ..........................................7 ft. 11 in. (2.42 m)
   With blade ..........................................7 ft. 11 in. (2.42 m)

DIMENSIONS FOR OFFSET BOOM

With 5 ft. 4 in. (1.62 m) arm (not available with long arm)

With No
Boom Offset

Maximum digging depth* ...........................................13 ft. 7 in. (4.09 m)
Maximum digging depth with 8-ft. (2.44 m) flat
   bottom* ...............................................12 ft. 2 in. (3.7 m)
Maximum reach @ ground level ...................................20 ft. 10 in. (6.1 m)
Maximum dumping height .........................................15 ft. 10 in. (4.8 m)
Maximum cut outside of track with 18-in. (450 mm)
   triple semi-grouser shoes and 0.36-cu. yd. (0.28
   m³), 30-in. (760 mm), 522-lb. (237 kg) bucket ..............................9 in. (230 mm)

*Maximum digging depth will be less in applications where offset boom interferes with edge of trench.

With Offset To Left
4 ft. 1 in. (1.23 m)
11 ft. 11 in. (3.6 m)
10 ft. 10 in. (3.31 m)
18 ft. 7 in. (5.7 m)
15 ft. 8 in. (4.8 m)

With Offset To Right
3 ft. 7 in. (1.08 m)
11 ft. 11 in. (3.6 m)
10 ft. 10 in. (3.31 m)
18 ft. 7 in. (5.7 m)
15 ft. 8 in. (4.8 m)

With 20-ft. 4 in. (6.2 m) with
   5 ft. 4 in. (1.62 m) arm
### LIFT CAPACITIES

*Boldface italic* type indicates hydraulic-limited capacities; lightface type indicates stability-limited capacities, in lb. (kg). Ratings at bucket lift hook, machine equipped with 18-in. (450 mm) shoes; 0.26-cu. yd. (0.20 m³), 30-in. (760 mm), 522-lb. (237 kg) bucket; and situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine.

<table>
<thead>
<tr>
<th>Load Point Height</th>
<th>5 ft. (1.52 m)</th>
<th>10 ft. (3.05 m)</th>
<th>15 ft. (4.57 m)</th>
<th>20 ft. (6.10 m)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Over Front</td>
<td>Over Side</td>
<td>Over Front</td>
<td>Over Side</td>
</tr>
<tr>
<td>5 ft. (1.52 m)</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Ground Line</td>
<td>8,522 (3866)</td>
<td>8,522 (3866)</td>
<td>5,230 (2372)</td>
<td>5,190 (2354)</td>
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<tr>
<td>-5 ft. (-1.52 m)</td>
<td>5,230 (2372)</td>
<td>4,066 (1844)</td>
<td>2,728 (1217)</td>
<td>2,150 (975)</td>
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<tr>
<td>-10 ft. (-3.05 m)</td>
<td>4,223 (1916)</td>
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<td>With standard one-piece boom, 5 ft. 4 in. (1.62 m) arm, and no blade</td>
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<td></td>
<td></td>
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<tr>
<td>5 ft. (1.52 m)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ground Line</td>
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<td>8,513 (3861)</td>
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<td>-5 ft. (-1.52 m)</td>
<td>5,214 (2365)</td>
<td>4,533 (2056)</td>
<td>2,715 (1232)</td>
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<tr>
<td>-10 ft. (-3.05 m)</td>
<td>4,691 (2128)</td>
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<tr>
<td>With offset boom, 5 ft. 4 in. (1.62 m) arm, and blade off ground</td>
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<tr>
<td>5 ft. (1.52 m)</td>
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</tr>
<tr>
<td>Ground Line</td>
<td>8,515 (3861)</td>
<td>8,515 (3861)</td>
<td>5,219 (2367)</td>
<td>5,184 (2350)</td>
</tr>
<tr>
<td>-5 ft. (-1.52 m)</td>
<td>5,219 (2367)</td>
<td>4,533 (2056)</td>
<td>2,715 (1232)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With standard one-piece boom, 6 ft. 11 in. (2.12 m) arm, and blade off ground</td>
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<td></td>
<td></td>
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<tr>
<td>5 ft. (1.52 m)</td>
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<tr>
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<td>4,691 (2128)</td>
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<tr>
<td>With offset boom, 5 ft. 4 in. (1.62 m) arm, and blade off ground</td>
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</tbody>
</table>

### BUCKETS

A full line of buckets is offered to meet a wide variety of applications. Tooth selection includes either the John Deere Fangs® tooth or Tiger, Twin Tiger, Hare, Star, or Long Rock tooth. Replaceable cutting edges are available through John Deere parts.

<table>
<thead>
<tr>
<th>Type Bucket</th>
<th>Bucket Width in. (mm)</th>
<th>Bucket Capacity</th>
<th>Weight in lb. (kg)</th>
<th>Bucket Dig Force in lb. (kN)</th>
<th>Arm Dig Force 5 ft. 4 in. (1.62 m) in lb. (kN)</th>
<th>Arm Dig Force 6 ft. 11 in. (2.12 m) in lb. (kN)</th>
<th>Bucket Tip Radius in. (mm)</th>
<th>No. Teeth</th>
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<tbody>
<tr>
<td>Heavy-Duty</td>
<td>18 460</td>
<td>0.18 0.14</td>
<td>376 171</td>
<td>11,185 49.8</td>
<td>8,500 37.8</td>
<td>7,190 32.0</td>
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<td>Plate Lip</td>
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<td>450 204</td>
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<td>8,500 37.8</td>
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<tr>
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<tr>
<td></td>
<td>36 915</td>
<td>0.45 0.34</td>
<td>484 220</td>
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<td>8,845 39.3</td>
<td>7,435 33.1</td>
<td>350 889</td>
<td>0</td>
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</tbody>
</table>

*All capacities are SAE heaped ratings.*