**Upperstructure Engine**

VOLVO TAD571 VE, TIER 4f, 4 cycle, inline 4 cylinder, liquid cooled, electronic controlled. Vertical canister style lube filter attached to engine. Remote mount primary fuel/water separator.

Gross Rating: 173HP @ 2200 RPM (129kW)
590 ft lb Torque @ 1100-1500 RPM (800Nm)

Net Rating: 153 HP @ 2200 RPM (114kW)

Variable viscous fan clutch system. Vertical stacked hydraulic oil cooler, charge air cooler and radiator.

Maximum slope: 30°

24 volt starter, 100 amp alternator, two SAE #C31-S 1000 CCA batteries, two-stage dry type air cleaner with centrifugal pre-cleaner and safety element. Evacuator valve and service indicator.

Fuel tank capacity: 99 gallons (375 L).

**Hydraulic System**

PUMPS
One load-sensing, axial piston pump; oil flow 0-105 GPM (0-435 L/min).

Gear pump, 6 GPM (23 L/min)

SYSTEM MONITOR
Electronic monitor in cab indicates low hydraulic fluid level, high hydraulic fluid temperature, system working pressure, system pilot pressure.

SYSTEM SPECIFICATIONS
Four Cylinders (2 hoist, 2 leveling)
- 2 hoist: 5.0" ID, 3.0" rod (127 mm x 76 mm), 10.72" (272.3 mm) stroke.
- 2 leveling: 5.0" ID, 3.0" rod (127 mm x 76 mm), 25.9" (658.1 mm) stroke.

Four Hydraulic Motors
Swing, 64 hp (48 kW); 2 propel motors, 120 hp (89 kW) each; Hydraulic winch, 122 hp (91 kW).

Operating Pressures:
- Hoist: 4,900 psi (331 BAR) (290 BAR)
- Swing: 4,200 psi (290 BAR)
- Telescope: 4,900 psi (331 BAR)
- Propel: 4,900 psi (331 BAR)
- Pilot System: 550 psi (38 BAR)

Oil Capacity
Reservoir system 65 gallons (246 L), Pressurized reservoir with visual oil level gauges.

Filtration System
10 micron return filter, 10 micron pilot filter.
Fin and tube-type oil cooler with thermal by-pass and relief valves.
Pressure-compensated, load-sensing valves with circuit reliefs in all circuits.

Operator Cab
All-weather cab with tinted safety glass windows, acoustical lining, four-way adjustable operator’s seat, AM/FM radio, filtered fresh air heater, defroster and A/C. Front window has heat-resistant glass. Rearview mirrors on right and left sides. Standard equipment includes swing lights.

Crawler Drive
Dual range, high torque piston motor powers each track. Three-stage planetary drive with integral speed limiting valve and automatic spring-set/hydraulic release wet-disc parking brake.

Travel Speed: on flat, level surface:
- High Speed: 3.4 mph (5.5 km/h)
- Low Speed: 1.9 mph (3.1 km/h)

Automatic two-speed control shifts crawler drive into low speed under difficult travel conditions. Manual override switch for loading the machine for transport.

Gradeability: 58%, limited by engine lubrication requirements.

Drawbar Pull
38,324 lb (170 kN)

Individual Track Control
Tracks counter-rotate to pivot machine about the swing centerline. Electronically operated travel alarm signals crawler movement in either direction.

Controls
Two electronic joysticks, control upperstructure. Joysticks mounted on arm pods, independently adjustable for individual operator comfort and convenience.

Quick change joystick pattern switch located on instrument panel. Joysticks are self-centering when controls are released, power for movement disengages and swing and tilt brake set automatically.

Two electric foot pedals (with handles) control crawler travel speed and direction, crawler steering and crawler brakes. Toggle switch on arm pod allows selection of two crawler speed ranges.

Engine Controls and Instrumentation
Key operated ignition/starter switch, throttle and main battery disconnect switch. Air cleaner condition indicator. Electronic monitor indicates fuel level, low battery charge, lube oil pressure, high coolant temperature, engine rpm and engine hours. Fuel saving auto idle feature sends engine rpm to idle when control circuits are in neutral for seven seconds.

Swing
Priority swing circuit with axial piston motor. Planetary transmission.
Swing speed: 7.0 RPM.

Swing Brake
Automatic spring-set/hydraulic release wet-disc parking brake. Dynamic braking is provided by the hydraulic system.
### Dimensions

A. Overall machine height: 11’ 11” (3.6)
B. Overall machine length: 37’ 7” (11.5)
C. Front of upperstructure to rear of boom (boom lowered and level) 29’ 3” (8.9)
D. Boom height (boom lowered and level) 10’ 0” (3.0)
E. Minimum clearance under rear of boom: 4’ 5” (1.4)
F. Minimum height of rear of boom: 19’ 1” (5.8)
G. Boom telescope stroke: 34’ 0” (10.4)
H1. Tool height (boom raised and retracted) 7’ 3” (2.2)
H2. Tool reach (boom raised and retracted) 10’ 10” (3.3)
J1. Tool height (boom raised and extended) 15’ 8” (4.8)
J2. Tool reach (boom raised and extended) 40’ 11” (12.5)
K1. Tool height (boom lowered and retracted) 4’ 7” (1.4)
K2. Tool reach (boom lowered and retracted) 8’ 5” (2.6)
L1. Tool height (boom lowered and extended) 6’ 5” (2.0)
L2. Tool reach (boom lowered and extended) 40’ 7” (12.4)
M1. Tool C/L height (boom lowered and level) 7’ 4” (2.2)
M2. Tool C/L height (boom raised and level) 9’9” (3.0)
N1. Tool C/L to bottom of third boom section: 0’ 5” (0.1)
N2. Third boom section height: 0’ 11” (0.3)
P1. Tool C/L to bottom of second boom section: 1’ 0” (0.3)
P2. Second boom section height: 1’ 10” (0.3)
Q1. Tool C/L to bottom of first boom section: 1’ 5” (0.4)
Q2. First boom section height: 2’ 8” (0.8)

Metric units are meters (m) unless noted.

### Function Forces

**Rated Boom Force:**
11,000 lb (48.9 kN)

### Weight

Approximate working weight with fuel tank half full and no operator.

<table>
<thead>
<tr>
<th>Pad Size</th>
<th>Weight</th>
<th>Bearing Pressure</th>
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<tbody>
<tr>
<td>315° 800 mm</td>
<td>67500 lb (30,617 kg)</td>
<td>8.0 psi (55.9 kPa)</td>
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It is Gradall Policy to continually improve its products. Therefore designs, materials and specifications are subject to change without notice and without incurring any liability on units already sold. Units shown may have optional equipment.