## Specifications

### Engine
- **Gross Rating:** 315 hp @ 2200 rpm, 958 ft lb Torque @ 1200-1700 rpm
- **Net Rating:** 295 hp @ 2200 rpm
- 4-cycle, inline six cylinder, liquid cooled engine
- Turbocharged air after-cooled
- Off-road certified, electronically controlled, grid heater
- Vertical canister style lube and main filters attached to engine
- Volvo remote mount vertical style fuel/water separator with water in fuel indicator, alarm and manual feed pump

### Fuel Tank Capacity
- 100 gal (378 L)
- 11.9 gal (45 L)

### Chassis Cooling Package
- Three aluminum bar-plate type coolers stacked vertically
- Air to air charge air cooler, radiator and a transmission cooler
- All coolers backed by a molded fan shroud, engine mounted fan ring and 26.8" 9-blade fan driven by a Volvo electronically controlled variable speed fan drive

### Gear Speeds

<table>
<thead>
<tr>
<th>Gear</th>
<th>MPH</th>
<th>Km/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.0</td>
<td>16.0</td>
</tr>
<tr>
<td>2</td>
<td>20.0</td>
<td>32.1</td>
</tr>
<tr>
<td>3</td>
<td>30.0</td>
<td>48.3</td>
</tr>
<tr>
<td>4</td>
<td>40.0</td>
<td>64.4</td>
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<tr>
<td>5</td>
<td>50.0</td>
<td>80.6</td>
</tr>
<tr>
<td>6</td>
<td>60.0</td>
<td>96.6</td>
</tr>
</tbody>
</table>

### Drivelines
- Four cycle, Spicer 1710 Series with “half round” yokes

### Transfer Case
- (6 x 4) Cushman Model 479-1, 1:1 ratio, pneumatic engage for remote propel

### Upperstructure Cab
- All-weather cab isolated from frame on rubber mounts
- Tinted safety glass windows
- Skylight
- Acoustical lining
- Four-way adjustable seat
- Dome light
- Filtered air heater and defroster
- AM/FM radio
- Air conditioning
- LED work light package
- Heat source provided by a fast response, closed circuit hydraulic heater with 20,000 BTU/hr. capacity
- Front window slides to overhead storage
- Mirrors on right and left sides
- Windshield wiper and washer
- Operator’s seat belt
- FRA spec 360 degree strobe light
- Dual air horn

### Boom
- Two piece triangular telescoping boom
- Adjustable boom rollers with eccentric shafts
- 220° boom tilt
- 105° boom pivot angle

### Hydraulic System

#### Pumps
- One load-sensing axial piston pump; 0-77 gpm (0-291 41L/min total)
- One gear pump (pilot and cooling) 11 gpm (41 L/min)

#### System Specifications
- Eight Double Acting Cylinders
  - One Boom Cylinder: 3.75" (95mm) bore x 2.75" (70mm) rod x 166" (4267mm) stroke
  - Two Hoist Cylinders: 4.75" (121mm) bore x 3.347" (85mm) rod x 30.5" (775mm) stroke
  - One Tool Cylinder: 5.0" (127mm) bore x 3.0" (76mm) rod x 25.8" (658mm) stroke
- Railgear cylinders

#### Thee Hydraulic Motors
- Swing, 68 Hp (51kW)
- Tilt, 21 Hp (16kW)
- Remote drive, 110 Hp (82kW) total

#### Operating Pressures
- **Hoist**.........................4,800 psi (331 BAR)
- **Tilt**.........................2,500 psi (172 BAR)
- **Swing**.........................4,500 psi (310 BAR)
- **Tool**.........................4,800 psi (331 BAR)
- **Telescope**.................4,800 psi (331 BAR)
- **Remote Propel**...........4,800 psi (331 BAR)
- **Pilot system**.............500 psi (35 BAR)

### Oil capacity
- Reservoir 50 gallons (189 L)
- System 70 gallons (265 L)

### Filtration System
- 5 micron return filter with magnet
- 10 micron pilot filter
- Fin and tube-type oil cooler with thermostatically controlled cooling fan
- Pressure-compensated, load-sensing valves with circuit reliefs in all circuits
**Undercarriage**

- 6 x 4
- Wheelbase: 171" (4.34m)
- Width 102" (2.6m)

**Transmission**
- Allison 3000 RDS 6-speed automatic.

**Frame**
- 48" (1.2m) wide, welded plate design
- 65 ksi material

**Gross Vehicle Axle Weight Rating:**
- 6 x 4 68,700 lbs (31,162 kg)

**Front Axles**
- 6 x 4: Meritor Model FL 941, 18,700 lbs (8,482 kg) rating

**Rear Axle**
- Meritor Model RT-50-160, 50,000 lb (22,680 kg) rating, 7.17 ratio
- Single reduction with driver controlled differential lock in front/rear
- Inter-axle differential with lock

**Suspension**
- Front: Eight leaf spring with automatic lock-out cylinders
- Rear: Hendrickson Equalizer Beam, 8" oscillation

**Brakes**
- 6 x 4 Front: Meritor "Q" Plus Series
  - Cam-Master Size: 16.5" x 5" (419 mm x 152 mm)
  - Automatic slack adjusters
- Rear: Meritor "P" Series
  - Cam-Master Size: 16.5" x 7" (419 mm x 178 mm)
  - Automatic slack adjusters
- Spring brake system incorporates emergency and parking brakes on the rear axle
- Heated air dryer

**Chassis Cab**
- One-person cab
- Left-hand mount
- Isolated from frame on rubber mounts
- Acoustical lining
- Sun visor
- FRA spec 360 degree strobe light

**Gauge Clusters**
- Oil pressure
- Coolant temperature
- Air tank pressures
- Fuel level
- DEF level
- Voltmeter
- Speedometer with odometer
- Tachometer with hour meter
- Engine and transmission monitor lights
- Engine shutdown controlled by engine electronics
- Indicator light and control for rear axle differential lock
- Park brake control
- Tinted safety glass
- Sliding side windows
- Fresh air heater and defroster
- Dome light
- Air suspension seat with seat belt
- Vent in door
- Dual air horn

**Steering**
- Ross, integral hydraulic power steering
- Gear type power steering pump
- Four-quart power steering reservoir with filter
- 10 Micron pre-filter

**Wheels**
- Hub piloted disc
- 10-stud, 11.25" (286 mm) bolt circle

**Tires**
- 6 x 4 front: 385/65R22.5 LR (U) on/off highway tread
- 6 x 4 rear: 11R24.5 LR (H) on/off highway traction tread

**Standard chassis equipment**
- LED headlights
- LED tail lights
- LED back-up lights and alarm
- LED brake lights
- LED identification lights front and rear
- LED directional lights
- LED four-way hazard lights
- Instrument panel lights
- Windshield wiper/washer
- West Coast style mirror system with plain and convex mirrors
- Front and rear tow hooks
- FRA required directional lighting and change of direction alarm

**LOAD CAPACITY**

**LOAD POINT HEIGHT**

**LOAD RADIUS**

<table>
<thead>
<tr>
<th>LOAD POINT HEIGHT</th>
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<th>LOAD CAPACITY</th>
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<tbody>
<tr>
<td>20' 0&quot; (6.1 m)</td>
<td>10' 0&quot; (3.0 m)</td>
<td>10' 0&quot; (4.6 m)</td>
<td>20' 0&quot; (6.1 m)</td>
<td>20' 0&quot; (7.6 m)</td>
<td>20' 0&quot; (7.6 m)</td>
<td>20' 0&quot; (7.6 m)</td>
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<td></td>
<td>On Tires</td>
<td>On Rails</td>
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<td>Over End</td>
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</table>

**Shaded areas**
- Rated load capacity is based on the machine being equipped with 15,500 lb (7000 kg) counterweight, standard boom and no bucket.
- Do not attempt to lift or hold any load greater than these rated values at specified load radii and heights. The weight of slings and any auxiliary devices must be deducted from the rated load to determine the net load that may be lifted.

**ATTENTION:** All rated loads are based on the machine being stationary and level on a firm supporting surface. For safe working loads, the user must make allowance for his particular job conditions such as soft or uneven ground, out of level conditions, side loads, hazardous conditions, experience of personnel, etc. The operator and other personnel must be fully trained and understand the Operators Manual and Safety Manuals furnished by the manufacturer before operating this machine. Rules for safe operation of equipment must be adhered to at all times.

**Swing**
- Internal swing gear
- Priority swing circuit with axial piston motor
- Planetary transmission

**Swing Speed:** 8.0 rpm

**Swing Brake:**
- Automatic spring-set/hydraulic release wet-disc parking brake
- Dynamic braking provided by hydraulic system
Hydraulic Remote Control
- Upperstructure powered by chassis hydraulics through hydraulic motor and transfer case
- Travel and steering pedals in upperstructure cab
- Digging brakes and front axle lockout cylinders set automatically with travel pedal in neutral
- Parking brake controlled by toggle
- Electrically operated alarm mounted on undercarriage signals remote control movement in either direction, reverse movement when driven from undercarriage cab

Function Forces
Rated Boom Force: 24,500 lbs (109 kN)
Rated Bucket Breakout Force: 24,900 lbs (111 kN)

Weight
- Approximate working weight, fuel tank half full
  - 6 x 4: 62,500 lb (28,350 kg)

Rail Gear
Guide wheel rail gear system allows the excavator to be propelled by the drive system of the machine
- DMF 1650 (50,000 lbs. each) Hi-Rail axle assemblies
- Railgear frame assemblies welded to main chassis frame
- 16’ guide wheels (custom profile available)
- High-strength alloy steel axles
- Wheel brakes work in conjunction with excavator braking system
- Rear axles have 3’ slotted suspension
- Rail sweeps front and rear
- Tow bar plates front and rear

Optional Equipment
- Vandalism protection kit including window covers
- Block heater
- Tilt steering column
- Auxiliary hydraulics, with additional hosing and piping for hydraulic powered attachments.
  - Maximum pressure 4000 psi (207 BAR)
  - Maximum flow 30 gpm (114 L/min)

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.

Attachments
- Quick change and reversible buckets fabricated using steel plate with high strength, low alloy cutting edges and wear strips
- Standard attachments available for wide range of applications
- Capacities shown are in heaped cubic yard
- Excavating Buckets
  - Trenching Buckets
  - Pavement Removal Buckets
  - Ditching Buckets
  - Boom Extensions
  - Tree Limb Sheer
  - Fixed Thumb Grapple
  - Sleeper Changer
  - Sleeper Layer
  - Ballast Tamper
  - Ballast Bucket
  - Ballast Broom
  - Ballast Blade
  - Flail Mower
  - Kinshofer NOX Rotator
  - Single Tooth Ripper - 8065-5023

Weight

<table>
<thead>
<tr>
<th>Function Forces</th>
<th>Excavating Bucket</th>
<th>Pavement Removal Bucket</th>
<th>Ditching Bucket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Boom Force: 24,500 lbs (109 kN)</td>
<td>24’ (610mm) 603 lbs (274 kg)</td>
<td>40’ (10 m) 1262 lbs (573 kg)</td>
<td></td>
</tr>
<tr>
<td>Rated Bucket Breakout Force: 24,900 lbs (111 kN)</td>
<td>30’ (762mm) 660 lbs (300 kg)</td>
<td>48’ (1.22m) 959 lbs (435 kg)</td>
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<tr>
<td></td>
<td>36’ (914mm) 741 lbs (336 kg)</td>
<td>42’ (1.07m) 841 lbs (382 kg)</td>
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<tr>
<td></td>
<td>48’ (1.22m) 957 lbs (434 kg)</td>
<td>48’ (1.22m) 1148 lbs (521 kg)</td>
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<tr>
<td></td>
<td>5/8 0.54</td>
<td>3/4 0.64</td>
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<tr>
<td></td>
<td>1262 lbs (573 kg)</td>
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<tr>
<td></td>
<td>957 lbs (434 kg)</td>
<td>1148 lbs (521 kg)</td>
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<td></td>
<td>3/8 0.31</td>
<td>1/2 0.41</td>
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