MANITEX M1768

This load chart has been adapted from the original manufacturer’s load chart for use in CCO written examinations.

It is not to be used for any other purpose.
STANDARD EQUIPMENT

- 2-Speed planetary hoist.
- 5-Ton (4.5-mt) hook and ball.
- 2-Sheave boom point.
- Anti-two-block shutoff.
- Boom hoist cylinder.
- System pressure gauge.
- 70-Gallon (265-liter) hydraulic reservoir.
- Removable boom rest.
- Finish paint in Manitex colors.
- Engine start/stop.
- Operator/service-parts manuals.
- 3-Section telescopic boom 26' to 68' (7.93m to 20.73m).

- 260 Feet (79.25m) of 9/16" (14.3mm) EIPS IWRC wire rope.
- 372° Non-continuous rotation.
- Pedestal, turret, rotation bearing and swing system.
- Dual operator control stations.
- Hydraulic capacity alert warning system (HYCAS) - audio.
- Audible outrigger/stabilizer motion alarm.
- A-frame link type outriggers.
- A-frame rear stabilizer.
- 3-Section vane type hydraulic pump.
- Signal horn.
- 18-Foot (5.49m) Subframe.
M1768 STANDARD SPECIFICATIONS AND FEATURES

BOOM — 26’ To 68’ (7.93m to 20.73m). Inverted-T cross section. 3-Section telescoping type, extended and retracted proportionally by double-acting hydraulic cylinder and cable-crowd system. Maximum tip height 79’ (24.09m).

BOOM POINT — Two high-density nylon sheaves mounted on heavy-duty roller bearings. Two removable pin-type rope guards.

HOIST — Maximum theoretical line speed 247 fpm (75.29 mpm). Maximum theoretical bottom-layer line pull 12,000 lb (5,443 kg). Two-speed planetary reducer. Spring-applied, pressure-released internal brake.

WIRE ROPE — 260’ (79.25m) of 9/16” (14.29mm) diameter 6 x 25 EIPS IWRC.

BOOM ELEVATION — Double-acting hydraulic cylinder. Working range from 13° below horizontal to 80° above.

SWING SYSTEM — Externally mounted, double-reduction planetary driven by hydraulic motor. Maximum theoretical swing speed 1.80 rpm. Wet multi-disc internal brake is spring applied, pressure released. Oversized diameter ball bearing swing circle with external gear. 372° Non-continuous rotation.

OUTRIGGERS — 20’10" (6.13m) Extended. A-frame link type. Operated independently for precise leveling. Equipped with double-acting hydraulic cylinders. 16’ x 20’ (406mm x 508mm) Pivoting pads. 8’ 1/4" (215.9mm) Maximum rise.

A-FRAME STABILIZERS — 8’ (2.44m) Retracted; 10’ (3.05m) extended. Operated independently for precise leveling. Double-acting hydraulic cylinders. 8’ x 11” (203mm x 279mm) fixed pads. 9’ (299mm) Maximum rise.

SUBFRAME — Torsionally resistant, rigid 4-plate design. Mounted under crane full length of truck frame.

REAR UNDERRIDE PROTECTION — Supplied on factory mounted cranes. Fabricated structure mounted under rear of bed.

BACK-UP ALARM — Supplied on factory-mounted cranes. Electronic audible motion alarm activated when truck transmission is in reverse gear.

MOUNTING — Pedestal and subframe are mounted to chassis by threaded rods and clamp plates. No welding, drilling, or bolting to truck.

CONTROL SYSTEM — Dual operator stations are equipped with four single-lever crane controls arranged to ANSI B30.5 standards. Fully proportional control valves and system pressure gauge. Each station also includes outrigger and stabilizer controls, engine start/stop, foot throttle, signal horn, capacity light indication, boom-angle indicator, bubble levels, load chart and range diagram.

HYDRAULIC SYSTEM — A 3-section vane pump direct mounted to power take-off on truck transmission provides 35 gpm (133 lpm) to the hoist, 8 gpm (30 lpm) to the swing circuit and 18 gpm (69 lpm) to other crane functions. 70-Gallon (265-liter) baffled reservoir includes 12-micron filter in the return line. Extensive use of SAE O-ring and face seal O-ring hydraulic fittings.

HYDRAULIC CYLINDERS — All are equipped with integral hollowing valves.

BOOM REST — Heavy-duty fabrication. Easily removed to simplify loading and unloading.

LOAD HOOK — 5-Ton (4.57m) capacity hook with heavy-duty swivel and weight is provided for single-line operation.

HYDRAULIC CAPACITY ALERT SYSTEM (HYCAS) — Hydraulically senses boom hoist cylinder pressures and indicates an overload condition with an audible alarm. Optional shutdown prevents continuing overload.

ANTI-TWO-BLOCK SYSTEM — Audible warning and shutoff functions prevent hook from contacting boom point.


DESIGN/WELDING — Design conforms to ANSI B30.5. Welding conforms to AWS D1.1.

MANUALS — Operator, service and parts manuals depict correct crane operation, maintenance procedures and parts listing.

WARRANTY — 12-Month warranty covers parts and labor resulting from defects in material or workmanship.

OPTIONS

ELECTRONIC CAPACITY ALERT SYSTEM (ECAS) — Electronically senses boom hoist cylinder pressures. Color-coded gauge at each operator station and audible alarm indicate approaching overload. Optional shutdown system hydraulically prevents continuing overload.

FIXED SWING-AROUND JIB — 23’ (7.01m) Fixed length, swivels along boom base. Maximum tip height 101’ (30.79m).

TELESCOPIC SWING-AROUND JIB — Working lengths 23’ (7.01m) and 40’ (12.19m). Stows along boom base. Telescopic section stows inside jib base. Manually retracted or extended position. Maximum tip height 108’ (32.97m).

H-STYLE STABILIZERS — Two vertical double-acting hydraulic cylinders - 18” (457.2mm) stroke with 12” (304.8mm) diameter pivoting pads.

BED — Choice of 8’ x 14’ to 20’ lengths (2.44m x 4.27m to 6.10m). Deck of high density hardwood or diamond steel tread plate. Cross sills on 12” (305mm) centers. Bolts to subframe.

\[ 9/16" (14.3mm) \] rotation-resistant wire rope.

\[ \text{Hook blocks for 2- to 4-part load line.} \]

\[ \text{Hanger sheave for 3- or 4-part line.} \]

\[ \text{Aerial baskets, 1- or 2-person.} \]

\[ \text{Top mounted work platform.} \]

\[ \text{Radio remote-control operation.} \]

\[ \text{Front-bumper stabilizer for 360° operation.} \]

\[ \text{Hydraulic swivel for continuous rotation.} \]

\[ \text{Capacity overload shutdown system.} \]

\[ \text{Dunnage/tool boxes.} \]

\[ \text{Air throttle.} \]

\[ \text{Various mountings.} \]

\[ \text{Special paint.} \]

\[ \text{Roofing application.} \]

\[ \text{Hydraulic hose reel.} \]

\[ \text{Oil cooler for duty-cycle applications.} \]
M1768 OUTLINE DIMENSIONS

These dimensions are general, not for engineering. Some dimensions depend on truck selection.

TRUCK CHASSIS DATA

Minimum Requirements
Some configurations and options may increase requirements

Wheelbase ................................................... 238 in......... 6045mm
Cab to Axle ............................................... 168 in......... 4267mm
Frame Section Modulus ......................... 18 In³ .......... 3295cc
Frame Section Modulus ......................... 15.9 In³ .......... 260cc
Nominal Frame Width ................................. 34 In........... 864mm
Front Axle Gross Weight Rating ............ 12,000 lb........ 5443 kg
Rear Axle Gross Weight Rating ............. 21,000 lb........ 9525 kg

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Due to continuing improvements, Manitex reserves the right to change product specifications without notice.

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LOAD RATINGS IN LBS WITH OUTRIGGERS AND STABILIZERS EXTENDED

<table>
<thead>
<tr>
<th>BOOM ANGLE</th>
<th>26 FT</th>
<th>38 FT</th>
<th>48 FT</th>
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JB LOAD RATINGS WITH OUTRIGGERS AND STABILIZERS EXTENDED

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<tr>
<th>BOOM ANGLE</th>
<th>23 FT JB FOR ALL BOOM LENGTHS SEE WARNING NOTE 4</th>
<th>40 FT JB FOR ALL BOOM LENGTHS SEE WARNING NOTE 4</th>
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<td>RATED LOAD IN POUNDS</td>
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<td>1076</td>
</tr>
<tr>
<td>4TH</td>
<td>2300</td>
<td>2300</td>
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</tbody>
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480 LBS, 330 LBS, 260 LBS, 220 LBS, 190 LBS, DEDUCTIONS FOR STOWED JB

WARNING
1. THE OPERATOR MUST READ AND UNDERSTAND THE OWNER'S MANUAL BEFORE OPERATING THIS CRANE.
2. POSITIONING OR OPERATION OF CRANE BEYOND AREAS SHOWN ON THIS CHART IS NOT INTENDED OR APPROVED EXCEPT WHERE SPECIFIED IN OWNER'S MANUAL.
3. LOADED BOOM ANGLES AT SPECIFIED BOOM LENGTHS GIVE ONLY AN APPROXIMATION OF THE OPERATING RADIUS. THE BOOM ANGLE BEFORE LOADING SHOULD BE GREATER TO ACCOUNT FOR DEFLECTIONS. DO NOT EXCEED THE OPERATING RADIUS FOR RATED LOADS.
4. THE OPERATING RADIUS SHOWN IN THE JB RATING CHART IS FOR FULLY EXTENDED BOOM ONLY. WHEN BOOM IS NOT FULLY EXTENDED, USE ONLY LOADED BOOM ANGLE TO DETERMINE LOAD RATING OF JB. DO NOT RELY ON CAPACITY ALERT SYSTEM WHEN LIFTING FROM JB.
5. BOOM MUST BE FULLY RETRACTED WHEN JB IS ERECTED, BEFORE LOWERING BOOM THRU THIS AREA.
6. FOR BOOM ANGLES NOT SHOWN ON JB LOAD RATING CHART, USE RATING OF NEXT LOWER BOOM ANGLE.
7. FOR BOOM LENGTHS NOT SHOWN, USE RATING OF NEXT LONGER BOOM LENGTH. FOR RADI NOT SHOWN, USE RATING OF NEXT LONGER RADIUS.
8. CRANE LOAD RATINGS ON OUTRIGGERS ARE BASED ON FREELY SUSPENDED LOADS WITH THE MACHINE LEVELLED AND STANDING ON A FIRM UNIFORM SUPPORTING SURFACE. NO ATTEMPT SHALL BE MADE TO MOVE A LOAD HORIZONTALLY OR ON THE GROUND IN ANY DIRECTION.
9. PRACTICAL WORKING LOADS DEPEND ON SUPPORTING SURFACE, WIND, AND OTHER FACTORS AFFECTING STABILITY SUCH AS HAZARDOUS SURROUNDINGS, EXPERIENCE OF PERSONNEL, AND PROPER HANDLING. ALL OF WHICH MUST BE TAKEN INTO ACCOUNT BY THE OPERATOR.
10. THE MAXIMUM LOAD WHICH MAY BE TELESCOPED IS LIMITED BY HYDRAULIC PRESSURE, BOOM ANGLE, AND BOOM LUBRICATION. IT IS SAFE TO ATTEMPT TO TELESCOP ANY LOAD WITHIN THE LIMITS OF THE LOAD RATING CHART.

INFORMATION
2. CRANE LOAD RATINGS ON OUTRIGGERS ARE BASED ON OUTRIGGERS AND STABILIZERS EXTENDED AND SET WITH MACHINE LEVELLED.
3. LOAD RATINGS ABOVE THE HEAVY LINE ARE STRUCTURALLY LIMITED CAPACITIES. LOAD RATINGS BELOW THE HEAVY LINE ARE STABILITY LIMITED CAPACITIES AND DO NOT EXCEED 85% OF TIPPING.

DEFINITIONS
1. OPERATING RADIUS IS THE HORIZONTAL DISTANCE FROM THE AXIS OF ROTATION TO THE CENTER OF THE VERTICAL HOST LINE OR TACKLE WITH LOAD APPLIED.
2. LOADED BOOM ANGLE AS SHOWN IN THE COLUMN HEADED BY a, IS THE INCLUDED ANGLE BETWEEN THE HORIZONTAL AND LONGITUDINAL AXES OF THE BOOM BASE AFTER LIFTING RATED LOAD AT RATED RADIUS.

![Diagram](180' FULL CAPACITY WORK AREA)

**MODEL M1768**

MANITEX INC.

CRANE MEETS ANSI B30.5 REQUIREMENTS

DWC NO. 7300048-001 REV. [A]

AREA OF OPERATION