



For Use in CCO Written Examinations

MANITEX (Boom Truck) **LOAD CHART**

TELESCOPIC BOOM CRANE—FIXED CAB (TSS)
BOOM TRUCK—FIXED CAB (BTF)

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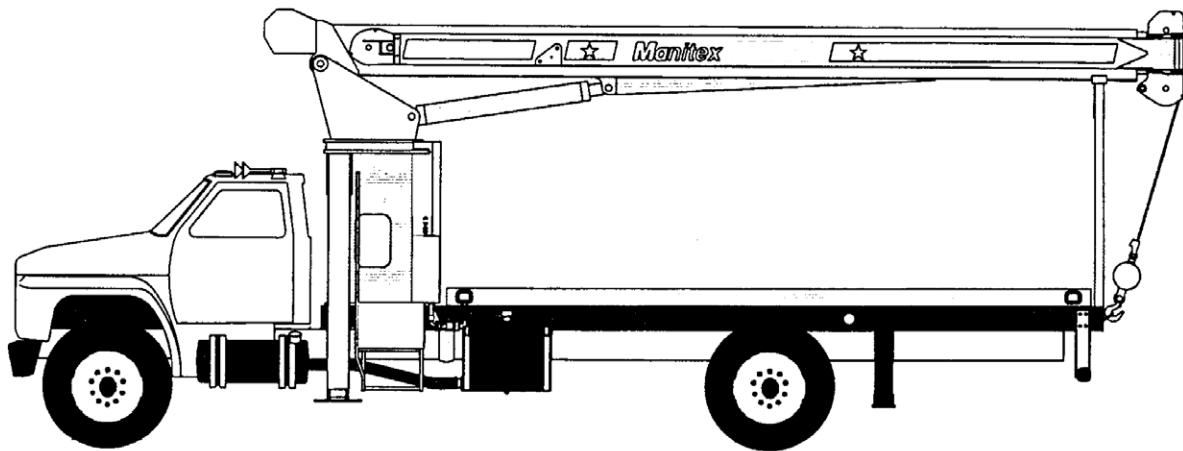
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Millennium Series™

General Specifications



Model shown with optional jib.

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' (7.93 m to 20.73 m).
- 260 Feet (79.25m) of 9/16" (14.3 mm) 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.

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 1/2" (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" (229mm) 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 (68 lpm) to other crane functions. 70-Gallon (265-liter) baffled reservoir includes 10-micron filter in the re-

turn line. Extensive use of SAE O-ring and face seal O-ring hydraulic fittings.

HYDRAULIC CYLINDERS — All are equipped with integral holding valves.

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

LOAD HOOK — 5-Ton (4.5-mt) 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.

ELECTRICAL — 12-Volt direct current. Environmentally sealed enclosure contains accessory circuit, terminal strips and relays. In-line fuse.

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, stows 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 pinned in retracted or extended position. Maximum tip height 118' (35.97m).

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

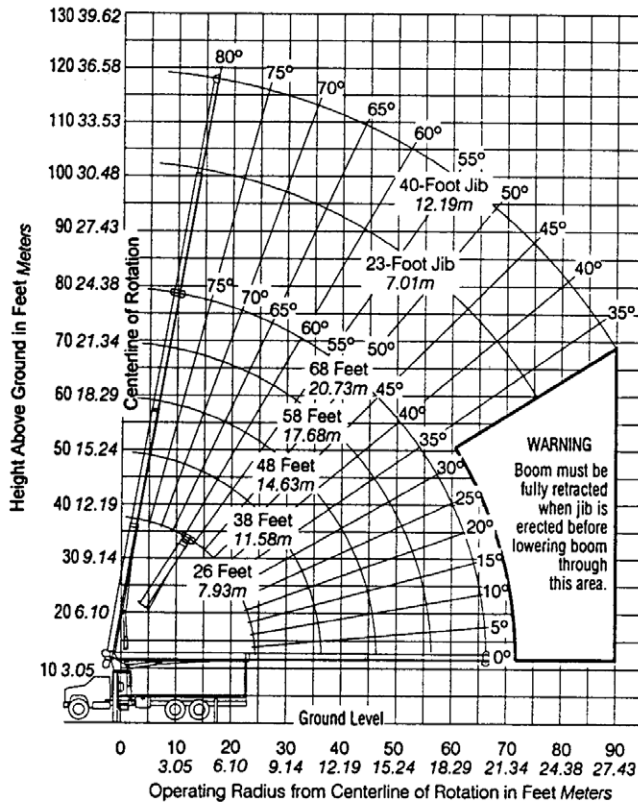
BED — Choice of 8' x 14' to 20' lengths (2.44m x 4.27m to 6.10m). Deck of high density hardwood or diamond steel tread plate. Cross sills on 12" (305mm) centers. Bolts to subframe.

- 9/16" (14.3mm) rotation-resistant wire rope.
- Hook blocks for 2- to 4-part load line.
- Hanger sheave for 3- or 4-part line.
- Aerial baskets, 1- or 2-person.
- Top mounted work platform.
- Radio remote-control operation.
- Front-bumper stabilizer for 360° operation.
- Hydraulic swivel for continuous rotation.
- Capacity overload shutdown system.
- Dunnage/tool boxes.
- Air throttle.
- Various mountings.
- Special paint.
- Roofing application.
- Hydraulic hose reel.
- Oil cooler for duty-cycle applications.

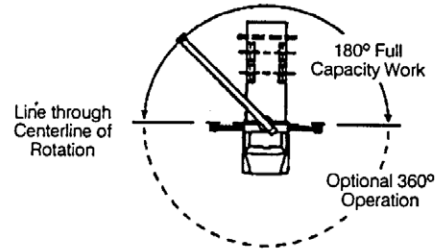
OPERATOR ASSIST FEATURES

- Anti-Two-Block Warning and Shutoff
- Capacity-Alert System, Audio Warning
- Load Chart/Range Diagram
- Boom-Angle Indicator
- Audible Outrigger/Stabilizer Motion Alarm
- Engine Start/Stop
- Signal Horn
- Back-Up Alarm

Manitex Range Diagram



AREA OF OPERATION



WEIGHTS

Total crane, including hydraulic fluid.....	13,900 lb.....	6,305 kg
23' (7.01m) Fixed length jib.....	545 lb.....	247 kg
40' (12.19m) Telescopic jib.....	820 lb.....	372 kg
15-Ton (13.6-mt) single-sheave block.....	260 lb.....	118 kg
20-Ton (18.1-mt) double-sheave block.....	350 lb.....	159 kg
Hanger sheave for 3- and 4-part line.....	50 lb.....	23 kg
20'4" (6.20m) steel or wood bed.....	1,900 lb.....	862 kg

DEDUCTIONS

Auxiliary Block.....	50 lb.....	22.68 kg
Overhaul Ball.....	120 lb.....	54.43 kg
Single-Sheave Load Block.....	260 lb.....	117.93 kg
Double-Sheave Load Block.....	350 lb.....	158.76 kg
Hose Reel.....	190 lb.....	86.18 kg

Swing-Around Jib (Stowed) See Load Rating Chart

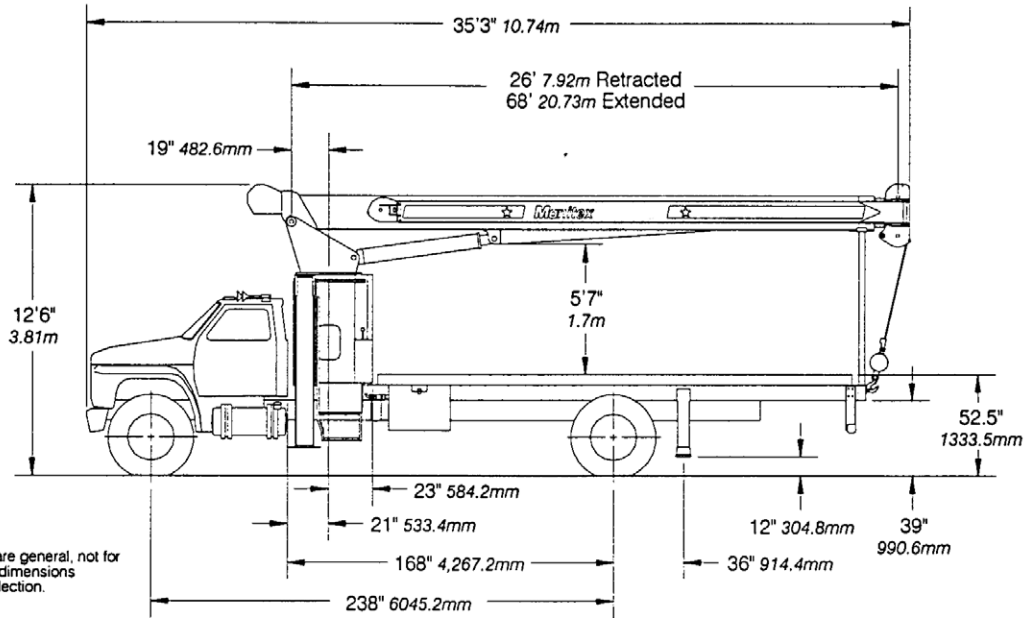
WARNING

Lifting off the main boom point while the swing-around jib is erected is not intended or approved.

ALLOWABLE LINE PULL

1 PART LINE	2 PART LINE	3 PART LINE	4 PART LINE	WARNING Anti-Two-Block system must be in good operating condition before operating crane. Refer to Owner's Manual. Keep at least three wraps on load line on drum at all times.
<p>OVERHAUL BALL</p>	<p>SINGLE SHEAVE LOAD BLOCK</p>	<p>AUXILIARY BLOCK SINGLE SHEAVE LOAD BLOCK</p>	<p>AUXILIARY BLOCK DOUBLE SHEAVE LOAD BLOCK</p>	
8500 lb 3856 kg	17000 lb 7711 kg	25500 lb 11567 kg	34000 lb 15422 kg	
7400 lb 3357 kg	14800 lb 6313 kg	22200 lb 10070 kg	29600 lb 13426 kg	9/16" (14.29 mm) 6x25 IWRC (3.5:1 SF). 29750 lb (13494 kg) Minimum breaking strength. 9/16" (14.29 mm) Rot resistant (5.0:1 SF). 37000 lb (16783 kg) Minimum breaking strength.

OUTLINE DIMENSIONS



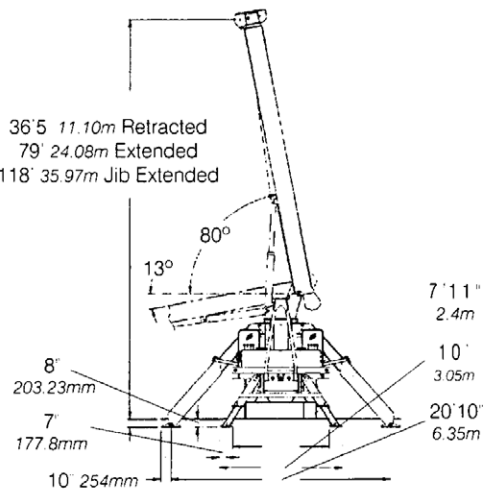
TRUCK CHASSIS DATA

Minimum Requirements

Some configurations and options may increase requirements

Wheelbase.....	238 In.....	6,045mm
Cab to Axle.....	168 In.....	4,267mm
Frame Section Modulus.....	18 In ³	3,295cc
	50,000 psi.....	344,750 kPa
Frame Section Modulus.....	15.9 In ³	260cc
	110,000 psi.....	758,450 kPa
Nominal Frame Width.....	34 In.....	864mm
Front Axle Gross Weight Rating.....	12,000 lb.....	5,443 kg
Rear Axle Gross Weight Rating.....	21,000 lb.....	9,525 kg

36'5" 11.10m Retracted
 79' 24.08m Extended
 118' 35.97m Jib Extended



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



