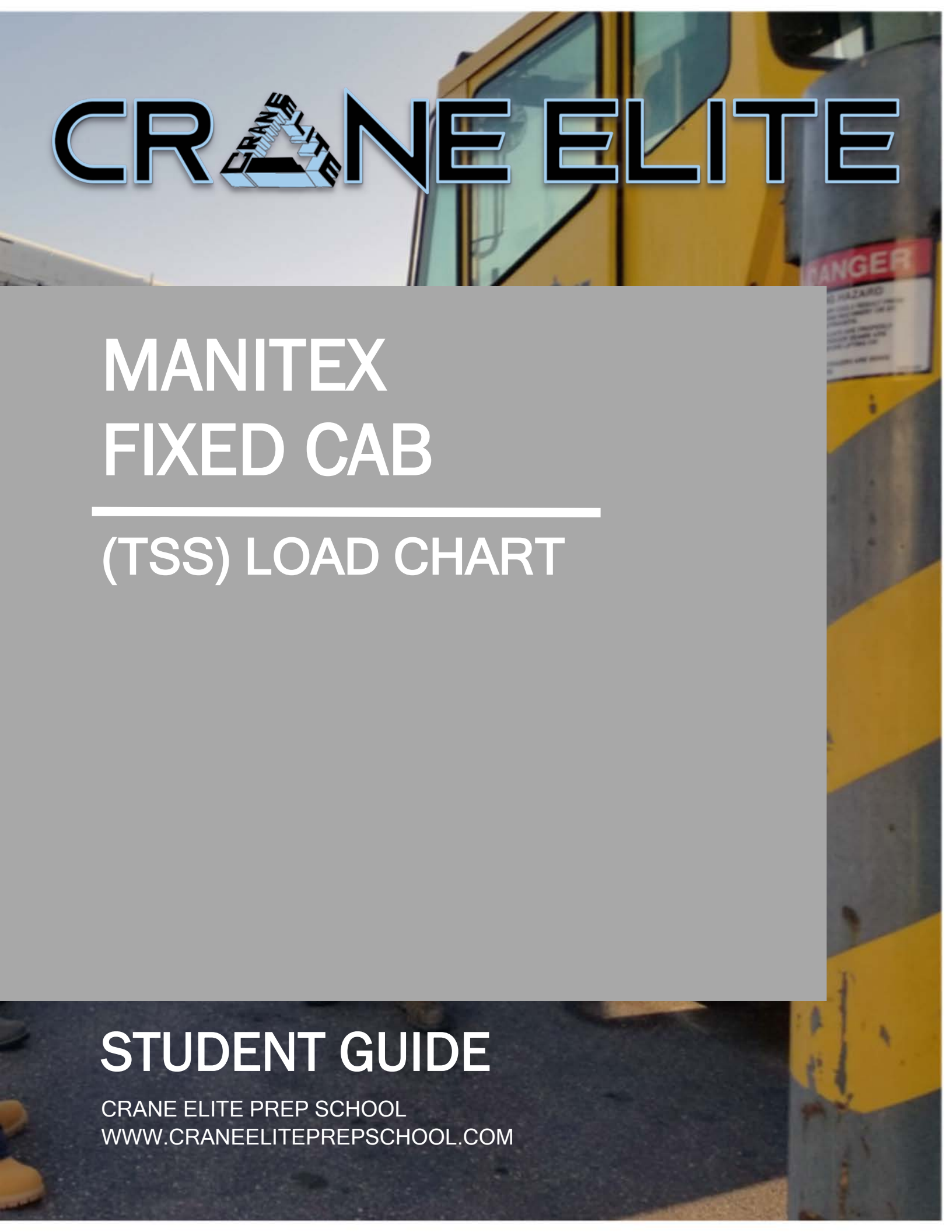


CRANE ELITE



MANITEX FIXED CAB

(TSS) LOAD CHART

STUDENT GUIDE

CRANE ELITE PREP SCHOOL
WWW.CRANEELITEPREPSCHOOL.COM



LOAD CHARTS for Use in CCO Written Examinations

MANITEX
TELESCOPIC BOOM CRANE—FIXED CAB (TSS)

These charts have been adapted from the original manufacturer's charts for use in NCCCO Written Examinations.

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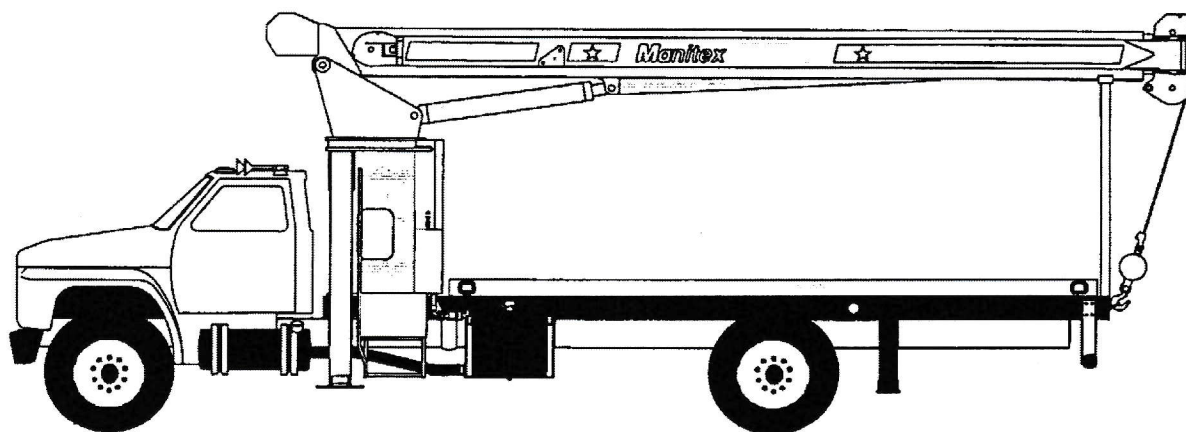
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Millennium Series™

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.

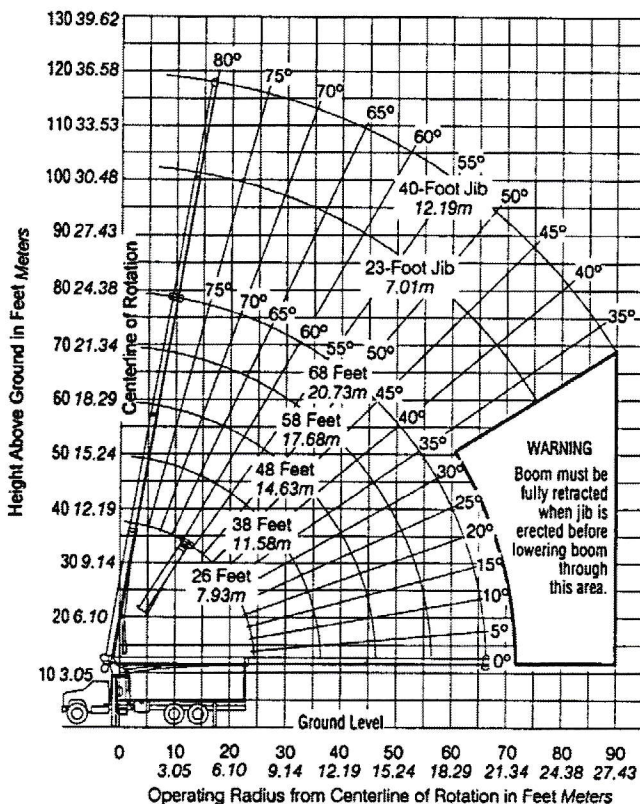
■ Roofing application.

■ Hydraulic hose reel.

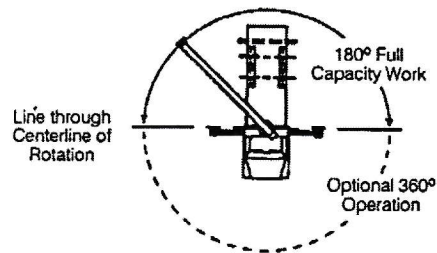
OPERATOR ASSIST FEATURES

- 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

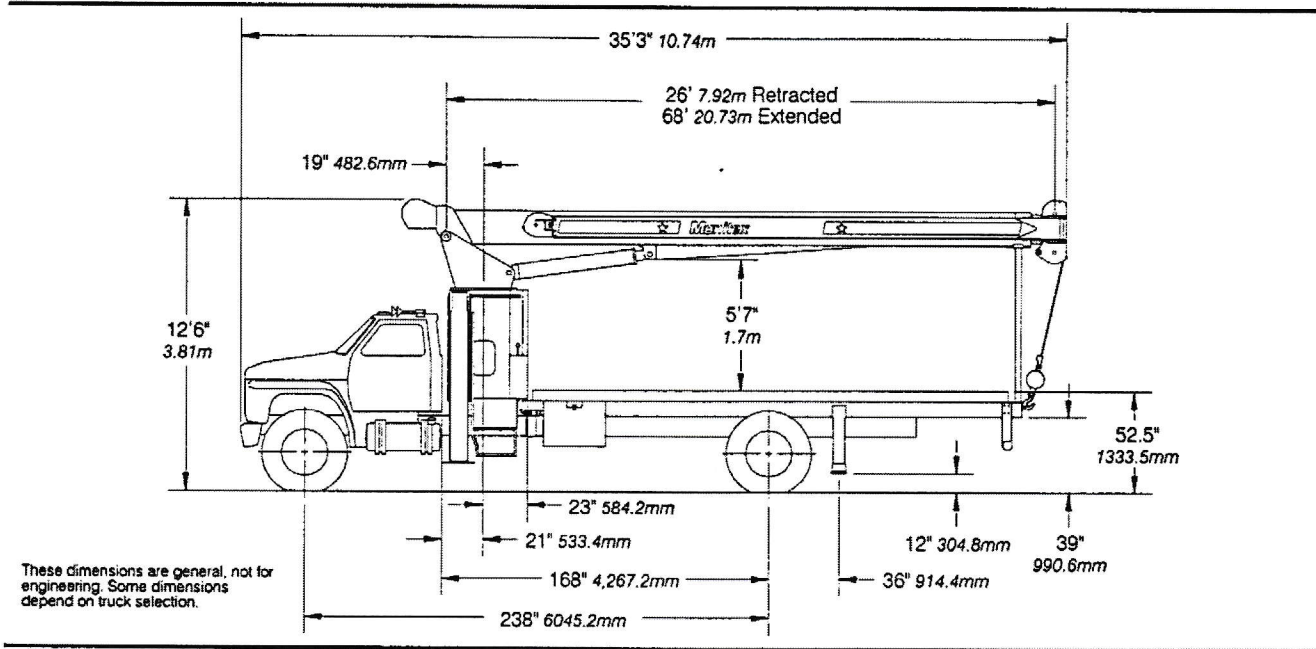
WARNING

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

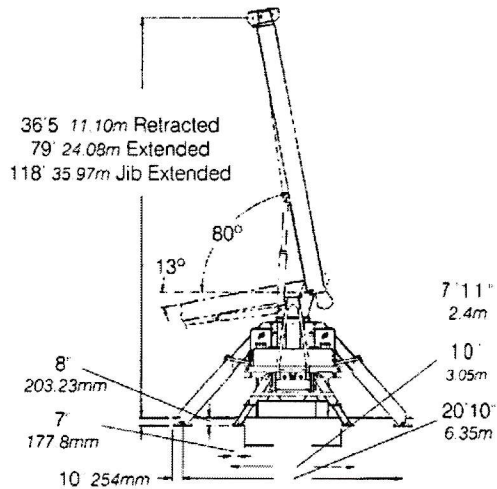


TRUCK CHASSIS DATA

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 |



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



| LOAD RATINGS IN LBS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | | | | | | JIB LOAD RATINGS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | |
|--|-------------------|----------|-------------|----------|----------|----------|---------------------------|-------|----|---|------------|--|------------|--|-------|
| OPERATING RADIUS FT | LOADED BOOM ANGLE | | BOOM LENGTH | | | | | | | OPERATING RADIUS FT | BOOM ANGLE | 23 FT. JIB FOR ALL BOOM LENGTH SEE WARNING NOTE* | BOOM ANGLE | 40 FT. JIB FOR ALL BOOM LENGTH SEE WARNING NOTE* | |
| | ∠ | 26 FT | ∠ | 38 FT | ∠ | 48 FT | ∠ | 58 FT | ∠ | | | | | | 68 FT |
| 5 | 77 | 34000 | | | | | | | | | | | | | |
| 8 | 70 | 24000 | 77 | 21500 | | | | | | | | | | | |
| 10 | 66 | 20110 | 74 | 18460 | 78 | 14600 | | | | | 10 | | | | |
| 12 | 61 | 17360 | 71 | 16010 | 76 | 12680 | 79 | 11810 | | | 12 | | | | |
| 15 | 52 | 14310 | 66 | 13320 | 72 | 10500 | 76 | 9830 | 78 | 9200 | 15 | | | | |
| 20 | 36 | 10490 | 57 | 10350 | 65 | 8160 | 70 | 7690 | 74 | 7280 | 20 | 78 | 3500 | | |
| 25 | | | 47 | 8310 | 58 | 6570 | 65 | 6240 | 70 | 5910 | 25 | 75 | 3060 | 78 | 1940 |
| 30 | | | 36 | 6610 | 51 | 5420 | 59 | 5200 | 65 | 4940 | 30 | 72 | 2700 | 75 | 1690 |
| 35 | | | 17 | 4560 | 42 | 4470 | 53 | 4390 | 60 | 4200 | 35 | 69 | 2400 | 72 | 1490 |
| 40 | | | | | 32 | 3580 | 47 | 3720 | 55 | 3610 | 40 | 65 | 2150 | 70 | 1320 |
| 45 | | | | | 16 | 2380 | 39 | 3120 | 50 | 3110 | 45 | 62 | 1950 | 67 | 1180 |
| 50 | | | | | | | 29 | 2500 | 43 | 2670 | 50 | 58 | 1770 | 64 | 1060 |
| 55 | | | | | | | 15 | 1610 | 36 | 2240 | 55 | 55 | 1550 | 61 | 960 |
| 60 | | | | | | | | | 28 | 1780 | 60 | 50 | 1350 | 58 | 870 |
| 65 | | | | | | | | | 14 | 1400 | 65 | 46 | 1160 | 55 | 790 |
| 70 | | | | | | | | | | | 70 | 41 | 1010 | 51 | 730 |
| 75 | | | | | | | | | | | 75 | 36 | 830 | 48 | 670 |
| 80 | | | | | | | | | | | 80 | | | 44 | 610 |
| 85 | | | | | | | | | | | 85 | | | 40 | 570 |
| 90 | | | | | | | | | | | 90 | | | 35 | 520 |
| 95 | | | | | | | | | | | 95 | | | | |
| 100 | | | | | | | | | | | 100 | | | | |
| | | 480 LBS. | 330 LBS. | 260 LBS. | 220 LBS. | 190 LBS. | DEDUCTIONS FOR STOWED JIB | | | | | | | | |

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 JIB RATING CHART IS FOR FULLY EXTENDED BOOM ONLY. WHEN BOOM IS NOT FULLY EXTENDED, USE ONLY LOADED BOOM ANGLE TO DETERMINE LOAD RATING OF JIB. DO NOT RELY ON CAPACITY ALERT SYSTEM WHEN LIFTING FROM JIB.
5. BOOM MUST BE FULLY RETRACTED WHEN JIB IS ERECTED, BEFORE LOWERING BOOM THRU THIS AREA.
6. FOR BOOM ANGLES NOT SHOWN ON JIB LOAD RATING CHART, USE RATING OF NEXT LOWER BOOM ANGLE.
7. FOR BOOM LENGTHS NOT SHOWN, USE RATING OF NEXT LONGER BOOM LENGTH. FOR RADII NOT SHOWN, USE RATING OF NEXT LONGER RADIUS.
8. CRANE LOAD RATINGS ON OUTRIGGERS ARE BASED ON FREELY SUSPENDED LOADS WITH THE MACHINE LEVELED AND STANDING ON A FIRM UNIFORM SUPPORTING SURFACE. NO ATTEMPT SHALL BE MADE TO MOVE A LOAD HORIZONTALLY 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 TELESCOPE ANY LOAD WITHIN THE LIMITS OF THE LOAD RATING CHART.

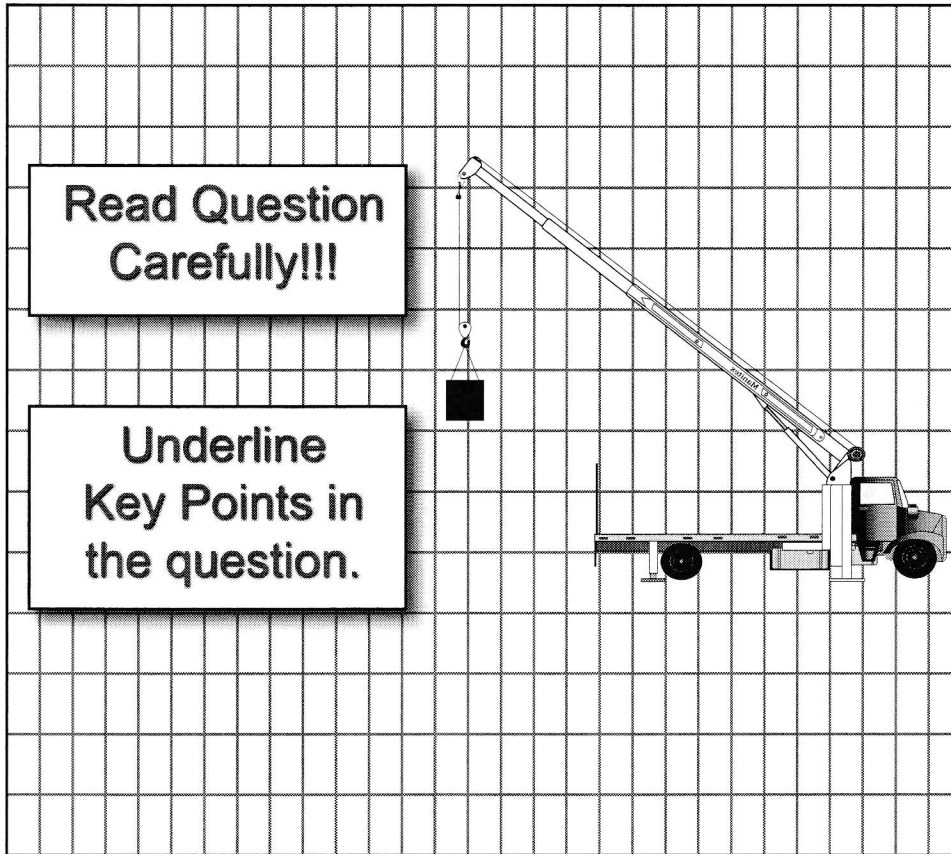
INFORMATION

1. DEDUCTIONS MUST BE MADE FROM RATED LOADS FOR STOWED JIB, OPTIONAL ATTACHMENTS, HOOKS, AND LOAD BLOCKS (SEE DEDUCTION CHART). WEIGHTS OF SLINGS AND ALL OTHER LOAD HANDLING DEVICES SHALL BE CONSIDERED A PART OF THE LOAD.
2. CRANE LOAD RATINGS WITH OUTRIGGERS ARE BASED ON OUTRIGGERS AND STABILIZERS EXTENDED AND SET WITH MACHINE LEVELED.
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 HOIST LINE OR TACKLE WITH LOAD APPLIED.
2. LOADED BOOM ANGLE AS SHOWN IN THE COLUMN HEADED BY ∠, IS THE INCLUDED ANGLE BETWEEN THE HORIZONTAL AND LONGITUDINAL AXES OF THE BOOM BASE AFTER LIFTING RATED LOAD AT RATED RADIUS.

What is the net capacity lifting off the main over the rear?



Configuration

- Main Boom: 35'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' stowed
- Block: Single Sheave. (2 Part)
- Ball: N/A
- Rigging: 100 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

IMPORTANT!!!

READ THE QUESTION CAREFULLY!!!!!!

**MAKE SURE
TO
UNDERLINE THE KEY POINTS OF THE QUESTION.**

What is the net capacity lifting off the main over the rear?



Configuration

Main Boom: 35'
 Outriggers/Stabilizers:
 Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' stowed
 Block: Single Sheave. (2 Part)
 Ball: N/A
 Rigging: 100 lbs.
 Other: Hose Reel
 Wire Rope:
 9/16" - 6x25 IWRC

| | | |
|-----------|--|---------------------|
| | | CAPACITY DEDUCTIONS |
| GROSS CAP | | |
| CAP DED | | |
| NET CAP | | |
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**Step #1
Subdivide page
into 2 sections.**

Step #1: Subdivide the grid into 2 work areas

Label the work areas as follows:

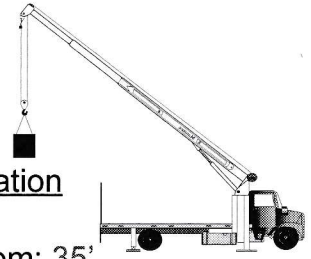
- 1. Gross Capacity
- 2. Capacity Deductions

It is important to be consistent when working out load chart problems.
 Your page should look exactly the same for every problem.

Small telescopic (TSS) have NO wire rope deductions.

**MAKE SURE
YOU'RE IN THE
RIGHT CHART!**

What is the net capacity lifting off the main over the rear?



Configuration

Main Boom: 35'
Outriggers/Stabilizers:
Extended & Set
Radius: 30'
Main Boom Angle: N/A
Jib Length: 23' stowed
Block: Single Sheave. (2 Part)
Ball: N/A
Rigging: 100 lbs.
Other: Hose Reel
Wire Rope:
9/16" - 6x25 IWRC

| CAPACITY DEDUCTIONS | |
|---------------------|-------------------|
| GROSS CAP | Block |
| CAP DED | Aux. Block |
| NET CAP | Ball |
| | Jib |
| | Rigging |
| | Other |
| | Total |
| | |
| | |
| | |
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Step #2
Write in Capacity
Deductions
(Found in Notes)

Step #2: Write in the Capacity Deductions:

Deductions must be made from rated loads for stowed jib, optional attachments, hooks, and load blocks (see deduction chart), weights of slings and all other load handling devices shall be considered a part of the load. (NO wire rope deduction)

This step is for writing what the deductions are or could be. It might be best to write all possible deductions down and then if a possible deduction does not apply then mark it with a "0". This makes sure that no deductions are forgotten.

- 1. Block (Blk)
- 2. Auxiliary Block
- 3. Ball (Bl)
- 4. Jib (Jb)
- 5. Rigging (Rg)
- 6. Other (If an auxiliary device is used add this one) (Ot)

It is important to be consistent. The best way is to write this in the same way every time.

The stowed jib deductions will be found at the bottom of the main boom chart.

What is the net capacity lifting off the main over the rear?



Configuration

- Main Boom: 35'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' stowed
- Block: Single Sheave. (2 Part)
- Ball: N/A
- Rigging: 100 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

| | | CAPACITY DEDUCTIONS |
|-----------|--|---------------------|
| GROSS CAP | | |
| CAP DED | | |
| NET CAP | | |

**Step #3
Find Gross Capacity.**

Step #3: Find the Gross Capacity

Make sure you are in the correct load chart. This is determined by what you're lifting off, main boom or jib.

1. Find correct boom length.
2. Find correct radius or boom angle, whichever one is given.
3. Find the rated capacity.
4. Do we have enough parts?
5. Write the gross capacity in the correct work area on your grid.

(Main line or auxiliary line, whichever you're lifting off).

**MAKE SURE
YOU'RE IN THE
RIGHT CHART!**

| LOAD RATINGS IN LBS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | | | | | | JIB LOAD RATINGS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | | |
|--|-------------------|-------------|----------|----------|----------|----------|---------------------------|-------|-------|---|--------------|---|--------------|---|----------------------|----------------------|
| OPERATING HEIGHT | LONGER BOOM ANGLE | BOOM LENGTH | | | | | | | | OPERATING HEIGHT | LBS ADMITTED | 23 FT. JIB FOR ALL BOOM LENGTHS SEE WARNING NOTE* | LBS ADMITTED | 40 FT. JIB FOR ALL BOOM LENGTHS SEE WARNING NOTE* | | |
| | | | 26 FT | 38 FT | 48 FT | 58 FT | 68 FT | 78 FT | 88 FT | | | | | | RATED LOAD IN POUNDS | RATED LOAD IN POUNDS |
| 5 | 77 | 34000 | | | | | | | | | | | | | | |
| 8 | 70 | 24000 | 77 | 21500 | | | | | | | | | | | | |
| 10 | 66 | 20110 | 74 | 18460 | 78 | 14600 | | | | | | | | | | |
| 12 | 61 | 17360 | 71 | 16010 | 76 | 12680 | 79 | 11810 | | | | | | | | |
| 15 | 52 | 14310 | 66 | 13320 | 72 | 10500 | 76 | 9830 | 78 | 9200 | | | | | | |
| 20 | 36 | 10490 | 57 | 10350 | 65 | 8160 | 70 | 7690 | 74 | 7280 | 20 | 78 | 3500 | | | |
| 25 | | | 47 | 8310 | 58 | 6570 | 65 | 6240 | 70 | 5910 | 25 | 75 | 3060 | 78 | 1940 | |
| 30 | | | 36 | 6610 | 42 | 4470 | 53 | 4390 | 60 | 4200 | 30 | 72 | 2700 | 75 | 1690 | |
| | | | 17 | 4560 | 32 | 3580 | 47 | 3720 | 55 | 3610 | 35 | 69 | 2400 | 72 | 1490 | |
| | | | | | 16 | 2380 | 39 | 3120 | 50 | 3110 | 40 | 65 | 2150 | 70 | 1320 | |
| | | | | | | | 29 | 2500 | 43 | 2670 | 45 | 62 | 1950 | 67 | 1180 | |
| | | | | | | | | 15 | 1610 | 36 | 2240 | 50 | 58 | 1770 | 64 | 1060 |
| | | | | | | | | | 28 | 1780 | 60 | 50 | 1350 | 58 | 870 | |
| | | | | | | | | | 14 | 1400 | 65 | 46 | 1160 | 55 | 790 | |
| | | | | | | | | | | 70 | 41 | 1010 | 51 | 730 | | |
| | | | | | | | | | | 75 | 36 | 830 | 48 | 670 | | |
| 80 | | | | | | | | | | | 80 | | | 44 | 610 | |
| 85 | | | | | | | | | | | 85 | | | 40 | 570 | |
| 90 | | | | | | | | | | | 90 | | | 35 | 520 | |
| 95 | | | | | | | | | | | 95 | | | | | |
| 100 | | | | | | | | | | | 100 | | | | | |
| | | 480 LBS. | 330 LBS. | 260 LBS. | 220 LBS. | 190 LBS. | DEDUCTIONS FOR STOWED JIB | | | | | | | | | |

Step #3: Find the Gross Capacity

Make sure you're in the right chart. For this problem because we are in between boom lengths we must follow the instructions in note 7.


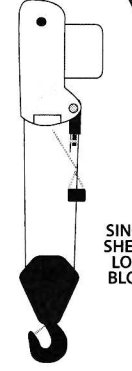

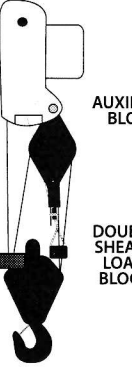
7. FOR BOOM LENGTHS NOT SHOWN, USE RATING OF NEXT LONGER BOOM LENGTH.

The next longer boom length is 38 feet.

Go to the radius column and find 30 ft.

Follow the row to the rated capacity for 38' boom length (6,610 lbs).

MAKE SURE YOU'RE IN THE RIGHT CHART!

| ALLOWABLE LINE PULL | | | | 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 |
|---|---|---|--|---|
| 1 PART OF LINE | 2 PART OF LINE | 3 PART OF LINE | 4 PART OF LINE | |
|  |  |  |  | |
| 8500 lb 3856 kg | 17000 lb 7711 kg | 11567 kg | 34000 lb 15422 kg | 9/16" (14.29 mm) 6x25 IWRC (3.5:1 SF). 29750 lb (13494 kg) Minimum breaking strength. |
| 7400 lb 3357 kg | 14800 lb 6313 kg | 22200 lb 10070 kg | 29600 lb 13426 kg | 9/16" (14.29 mm) Rot resistant (5.0:1 SF). 37000 lb (16783 kg) Minimum breaking strength. |

**ARE 2 PARTS SUFFICIENT TO LIFT THE RATED CAPACITY?
(6,610 lbs.)**

Step #3: Find the Gross Capacity

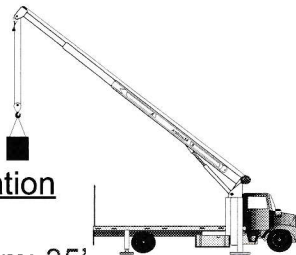
Are 2 parts enough to lift the Rated Capacity?

There must be enough parts to lift the rated capacity or line pull would be the limiting factor and would be used for the gross capacity instead of the load rating chart.

Allowable line pull chart shows with 2 parts of 6x25 IWRC wire rope, that the line pull for this configuration is 17,000 lbs.

MAKE SURE YOU'RE IN THE RIGHT CHART!

What is the net capacity lifting off the main over the rear?



Configuration

- Main Boom: 35'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' stowed
- Block: Single Sheave. (2 Part)
- Ball: N/A
- Rigging: 100 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

| | | | | | | | | | |
|-----------|---|---|---|---|---------------------|-------------------|--|--|--|
| | | | | | CAPACITY DEDUCTIONS | | | | |
| GROSS CAP | 6 | 6 | 1 | 0 | | Block | | | |
| CAP DED | | | | | | Aux. Block | | | |
| NET CAP | | | | | | Ball | | | |
| | | | | | | Jib | | | |
| | | | | | | Rigging | | | |
| | | | | | | Other | | | |
| | | | | | | Total | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |

Step #3: Write in the Gross Capacity

Write "6,610" in the gross capacity work area on your grid.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the main over the rear?



Configuration

Main Boom: 35'
 Outriggers/Stabilizers: Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' stowed
 Block: *Single Sheave. (2 Part)*
 Ball: N/A
 Rigging: 100 lbs.
 Other: Hose Reel
 Wire Rope: 9/16" - 6x25 IWRC

| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 6 6 1 0 | Block | 2 6 0 |
| CAP DED | | Aux. Block | |
| NET CAP | | Ball | |
| | | Jib | |
| | | Rigging | |
| | | Other | |
| | | Total | |

**Step #4
 Fill in Capacity
 Deductions.**

Step #4: Fill in the Capacity Deductions

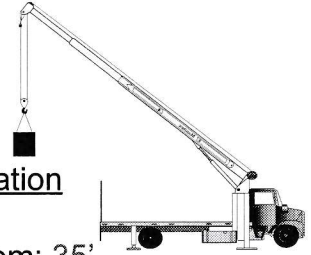
Fill in the weight for the block.

You will find this information either in the configuration section or in the load chart.

| | | DEDUCTIONS | |
|--------------------------|------------------|-------------------|--|
| Auxiliary | | 22.68 kg | Swing-Around Jib (Stowed).....See Load Rating Chart |
| Overhaul B |120 lb..... | 54.43 kg | |
| Single-Sheave Load Block |260 lb..... | 117.93 kg | WARNING |
| Double-Sheave Load Block |350 lb..... | 158.76 kg | Lifting off the main boom point while the swing-around jib is erected is not intended or approved. |
| Hose Reel |190 lb..... | 86.18 kg | |

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the main over the rear?



Configuration

Main Boom: 35'
 Outriggers/Stabilizers: Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' stowed
 Block: Single Sheave. (2 Part)
 Ball: N/A
 Rigging: 100 lbs.
 Other: Hose Reel
 Wire Rope: 9/16" - 6x25 IWRC

| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 6 6 1 0 | Block | 2 6 0 |
| CAP DED | → | Aux. Block | 0 |
| NET CAP | | Ball | |
| | | Jib | |
| | | Rigging | |
| | | Other | |
| | | Total | |

Step #4
 Fill in Capacity Deductions.

Step #4: Fill in the Capacity Deductions

Fill in the weight for the auxiliary block.

You will find this information either in the configuration section or in the load chart.

No auxiliary block required.

| ALLOWABLE LINE PULL | | | | WARNING |
|---------------------|---------------------|----------------------|----------------------|--|
| 1 PART OF LINE | 2 PART OF LINE | 3 PART OF LINE | 4 PART OF LINE | |
| | | | | <p>WARNING Anti-Two-Block system must be in good operating condition before operating crane. Refer to Owner's Manual.</p> <p>Keep at least three wraps on load line on drum at all times</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. |

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the main over the rear?



| | | | | CAPACITY DEDUCTIONS | | | |
|-----------|---|---|----|---------------------|---|---|---|
| GROSS CAP | 6 | 6 | 10 | Block | 2 | 6 | 0 |
| CAP DED | | | | Aux. Block | | | 0 |
| NET CAP | | | | Ball | | | 0 |
| | | | | Jib | | | |
| | | | | Rigging | | | |
| | | | | Other | | | |
| | | | | Total | | | |

Step #4
Fill in Capacity Deductions.

Configuration

- Main Boom: 35'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' stowed
- Block: Single Sheave. (2 Part)
- Ball: N/A
- Rigging: 100 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

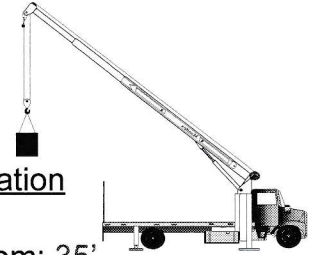
Step #4: Fill in the Capacity Deductions

Fill in the weight of the ball.

Since no ball is being used, simply enter "0" into the correct box.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the main over the rear?



Configuration

- Main Boom: 35'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' stowed
- Block: Single Sheave. (2 Part)
- Ball: N/A
- Rigging: 100 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 6 6 1 0 | Block | 2 6 0 |
| CAP DED | | Aux. Block | 0 |
| NET CAP | | Ball | 0 |
| | | Jib | 3 3 0 |
| | | Rigging | |
| | | Other | |
| | | Total | |

Step #4
Fill in Capacity Deductions.

Step #4: Fill in the Capacity Deductions

Fill in the weight of the jib capacity deduction. This is found at the bottom of the column for the boom length.

Write 330 lbs. in the correct box.

| D E P T H F E E T | LOAD RATINGS IN LBS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | JIB LOAD RATINGS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | |
|---|--|-------|-------|-------|-------|---|---|----------------------|-------|------|-----|
| | 26 FT | 38 FT | 48 FT | 58 FT | 68 FT | 23 FT. JIB FOR ALL BOOM LENGTHS SEE WARNING NOTE* | 40 FT. JIB FOR ALL BOOM LENGTHS SEE WARNING NOTE* | RATED LOAD IN POUNDS | | | |
| | | | | | | | | 26 FT | 38 FT | | |
| 5 | 77 | 34000 | | | | | | | | | |
| 8 | 70 | 24000 | 77 | 21500 | | | | | | | |
| 10 | 66 | 20110 | 74 | 18460 | 78 | 14600 | | | | | |
| 12 | 61 | 17360 | 71 | 16010 | 76 | 12680 | 79 | 11810 | | | |
| 15 | 52 | 14310 | 66 | 13320 | 72 | 10500 | 76 | 9830 | 78 | 9200 | |
| 20 | 36 | 10490 | 57 | 10350 | 65 | 8160 | 70 | 7690 | 74 | 7280 | |
| 25 | | | 47 | 8310 | 58 | 6570 | 65 | 6240 | 70 | 5910 | |
| 30 | | | 36 | 6610 | 51 | 5420 | 59 | 5200 | 65 | 4940 | |
| 35 | | | 17 | 4660 | 42 | 4470 | 53 | 4390 | 60 | 4200 | |
| 40 | | | | | 32 | 3680 | 47 | 3720 | 55 | 3610 | |
| 45 | | | | | 16 | 2380 | 39 | 3120 | 50 | 3110 | |
| 50 | | | | | | | 29 | 2500 | 43 | 2670 | |
| 55 | | | | | | | 15 | 1610 | 36 | 2240 | |
| 60 | | | | | | | | | 28 | 1780 | |
| 65 | | | | | | | | | 14 | 1400 | |
| 70 | | | | | | | | | | | |
| 75 | | | | | | | | | 75 | 36 | 830 |
| 80 | | | | | | | | | | | |
| 85 | | | | | | | | | | | |
| 90 | | | | | | | | | | | |
| 95 | | | | | | | | | | | |
| 100 | | | | | | | | | | | |

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the main over the rear?



Configuration

Main Boom: 35'
 Outriggers/Stabilizers:
 Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' stowed
 Block: Single Sheave. (2 Part)
 Ball: N/A
 Rigging: 100 lbs.
 Other: Hose Reel
 Wire Rope:
 9/16" - 6x25 IWRC

| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 6 6 1 0 | Block | 2 6 0 |
| CAP DED | | Aux. Block | 0 |
| NET CAP | | Ball | 0 |
| | | Jib | 3 3 0 |
| | | Rigging | 1 0 0 |
| | | Other | |
| | | Total | |

Step #4
Fill in Capacity
Deductions.

Step #4: Fill in the Capacity Deductions

Fill in the weight of the rigging deduction.

You will find this information in the configuration section.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the main over the rear?



Configuration

Main Boom: 35'
 Outriggers/Stabilizers: Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' stowed
 Block: Single Sheave. (2 Part)
 Ball: N/A
 Rigging: 100 lbs.
 Other: Hose Reel
 Wire Rope: 9/16" - 6x25 IWRC

| | | | | CAPACITY DEDUCTIONS | | | |
|-----------|---|---|----|---------------------|---|---|---|
| GROSS CAP | 6 | 6 | 10 | Block | 2 | 6 | 0 |
| CAP DED | | | | Aux. Block | | | 0 |
| NET CAP | | | | Ball | | | 0 |
| | | | | Jib | 3 | 3 | 0 |
| | | | | Rigging | 1 | 0 | 0 |
| | | | | Other | 1 | 9 | 0 |
| | | | | Total | | | |

Step #4
 Fill in Capacity Deductions.

Step #4: Fill in the Capacity Deductions

Fill in the weight of any additional lifting devices. You will find this information in the configuration section.

In this case we have a hose reel mounted on the crane and 190 lbs. must be deducted.

| DEDUCTIONS | | | | |
|-------------------------------|-------------|-----------|--------------------------------|-----------------------|
| Auxiliary Block..... | 50 lb..... | 22.68 kg | Swing-Around Jib (Stowed)..... | See Load Rating Chart |
| Overhaul Ball..... | 100 lb..... | 54.43 kg | | |
| Single Sheave Load Block..... | 200 lb..... | 117.93 kg | | |
| Double-Sheave Load Block..... | 350 lb..... | 158.76 kg | | |
| Hose Reel..... | 190 lb..... | 86.18 kg | | |

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

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the main over the rear?



| | | | | CAPACITY DEDUCTIONS | | | |
|-----------|---|---|----|---------------------|---|---|---|
| GROSS CAP | 6 | 6 | 10 | Block | 2 | 6 | 0 |
| CAP DED | | | | Aux. Block | | | 0 |
| NET CAP | | | | Ball | | | 0 |
| | | | | Jib | 3 | 3 | 0 |
| | | | | Rigging | 1 | 0 | 0 |
| | | | | Other | 1 | 9 | 0 |
| | | | | Total | 8 | 8 | 0 |

**Step #5
Total Capacity
Deductions.**



Configuration

Main Boom: 35'
 Outriggers/Stabilizers:
 Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' stowed
 Block: Single Sheave. (2 Part)
 Ball: N/A
 Rigging: 100 lbs.
 Other: Hose Reel
 Wire Rope:
 9/16" - 6x25 IWRC

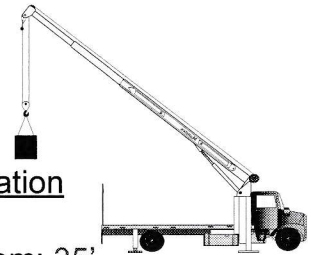
Step #5: Total the Capacity Deductions

Add all the capacity deductions.

CAPACITY DEDUCTIONS ARE 880 lbs.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

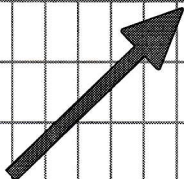
What is the net capacity lifting off the main over the rear?



Configuration

- Main Boom: 35'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' stowed
- Block: Single Sheave. (2 Part)
- Ball: N/A
- Rigging: 100 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

| | | | | CAPACITY DEDUCTIONS | | | | |
|-----------|---|---|---|---------------------|--|---|---|---|
| GROSS CAP | 6 | 6 | 1 | 0 | Block | 2 | 6 | 0 |
| CAP DED | | 8 | 8 | 0 | Step #6 Subtract Capacity Deductions from Gross Capacity. | | | |
| NET CAP | 5 | 7 | 3 | 0 | | | | |
| | | | | | Other | 1 | 9 | 0 |
| | | | | | Total | 8 | 8 | 0 |

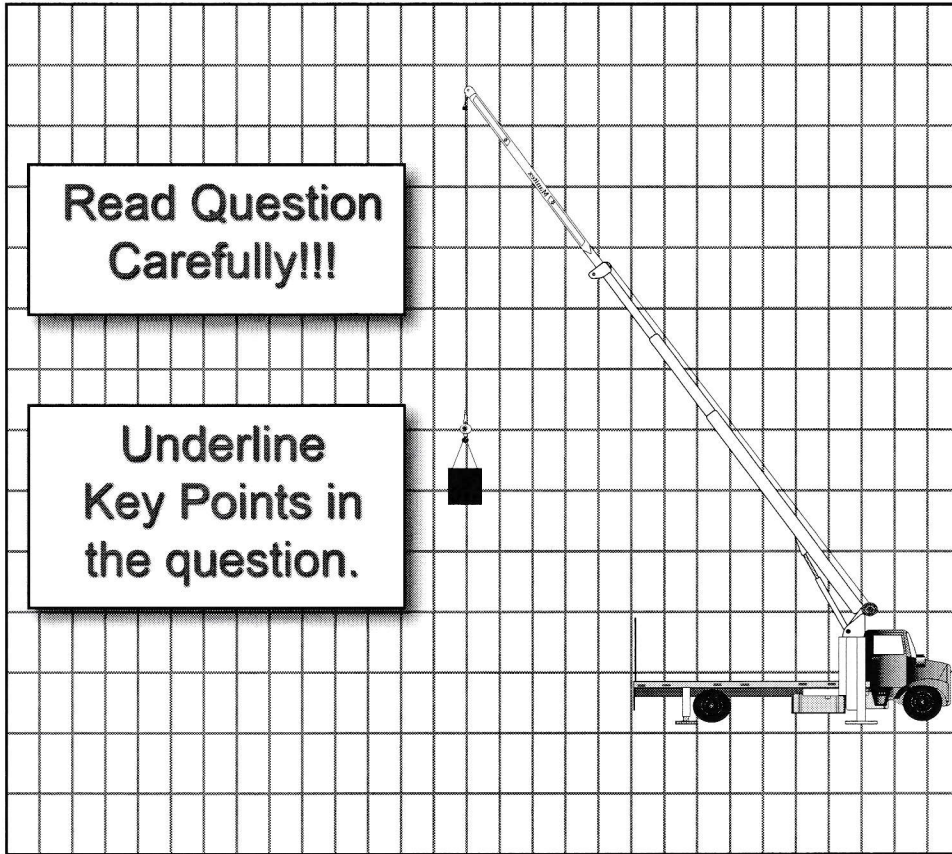


Step #6: Subtract Capacity Deductions from Gross Capacity.

NET CAPACITY IS 5,730 lbs.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



Configuration

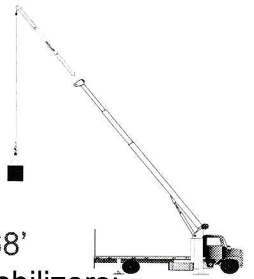
- Main Boom: 68'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' erected
- Block: N/A
- Ball: Overhaul ball
- Rigging: 120 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

IMPORTANT!!!

READ THE QUESTION CAREFULLY!!!!!!

**MAKE SURE
TO
UNDERLINE THE KEY POINTS OF THE QUESTION.**

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | | | | | | | | | |
|-----------|--|---------------------|--|--|--|--|--|--|--|--|--|
| GROSS CAP | | | | | | | | | | | |
| CAP DED | | | | | | | | | | | |
| NET CAP | | | | | | | | | | | |

Step #1
Subdivide page
into 2 sections.

Configuration ■

- Main Boom: 68'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' erected
- Block: N/A
- Ball: Overhaul ball
- Rigging: 120 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

Step #1: Subdivide the grid into 2 work areas

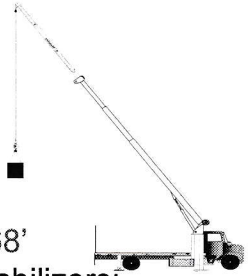
Label the work areas as follows:

1. Gross Capacity
2. Capacity Deductions

It is important to be consistent when working out load chart problems. Your page should look exactly the same for every problem.

Small telescopic (TSS) have NO wire rope deductions.

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|--|--|---------------------|--|
| GROSS CAP | | Block | |
| CAP DED | | Aux. Block | |
| NET CAP | | Ball | |
| <div style="border: 1px solid black; padding: 5px; text-align: center;"> Step #2 Write in Capacity Deductions (Found in Notes) </div> | | Jib | |
| | | Rigging | |
| | | Other | |
| | | Total | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Configuration ■

Main Boom: 68'
 Outriggers/Stabilizers:
 Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' erected
 Block: N/A
 Ball: Overhaul ball
 Rigging: 120 lbs.
 Other: Hose Reel
 Wire Rope:
 9/16" - 6x25 IWRC

Step #2: Write in the Capacity Deductions:

Deductions must be made from rated loads for stowed jib, optional attachments, hooks, and load blocks (see deduction chart). weights of slings and all other load handling devices shall be considered a part of the load. (NO wire rope deduction)

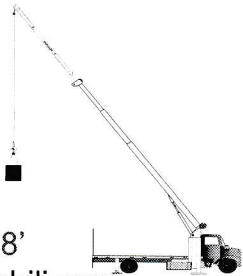
This step is for writing what the deductions are or could be. It might be best to write all possible deductions down and then if a possible deduction does not apply then mark it with a "0". This makes sure that no deductions are forgotten.

1. Block (Blk)
2. Auxiliary Block
3. Ball (Bl)
4. Jib (Jb)
5. Rigging (Rg)
6. Other (If an auxiliary device is used add this one) (Ot)

It is important to be consistent. The best way is to write this in the same way every time.

The stowed jib deductions will be found at the bottom of the main boom chart.

What is the net capacity lifting off the jib over the rear?



Configuration

- Main Boom: 68'
- Outriggers/Stabilizers:
Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' erected
- Block: N/A
- Ball: Overhaul ball
- Rigging: 120 lbs.
- Other: Hose Reel
- Wire Rope:
9/16" - 6x25 IWRC

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------|--|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | CAPACITY DEDUCTIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GROSS CAP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CAP DED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NET CAP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Step #3
Find Gross Capacity.**

Step #3: Find the Gross Capacity

Make sure you're in the correct load chart. This is determined by what you're lifting off, main boom or jib.

1. Find correct boom length.
2. Find correct radius or boom angle which ever one is given.
3. Find the rated capacity.
4. Do we have enough parts?
5. Write the gross capacity in the correct work area on your grid.

**MAKE SURE
YOU'RE IN THE
RIGHT CHART!**

| LOAD RATINGS IN LBS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | | | | | | JIB LOAD RATINGS WITH OUTRIGGERS AND STABILIZERS EXTENDED | | | | | |
|--|-------------------|-------------|------------|----------|----------|----------|----------|---------------------------|----|---|------------------|--|--|----|------|
| OPERATING HEIGHT | LOADED BOOM ANGLE | BOOM LENGTH | BOOM ANGLE | | | | | | | OPERATING HEIGHT | LOADING POSITION | 23 FT. JIB FOR ALL BOOM LENGTH SEE WARNING NOTE* | 40 FT. JIB FOR ALL BOOM LENGTH SEE WARNING NOTE* | | |
| | | | 26 FT | 38 FT | 48 FT | 58 FT | 68 FT | 10 | 12 | | | | | 15 | 20 |
| 5 | 77 | 34000 | | | | | | | | | | | | | |
| 8 | 70 | 24000 | 77 | 21500 | | | | | | | | | | | |
| 10 | 66 | 20110 | 74 | 18460 | 78 | 14600 | | | | 10 | | | | | |
| 12 | 61 | 17360 | 71 | 16010 | 76 | 12680 | 79 | 11810 | | | | | | | |
| 15 | 52 | 14310 | 66 | 13320 | 72 | 10500 | 76 | 9830 | 78 | 9200 | 15 | | | | |
| 20 | 36 | 10490 | 57 | 10350 | 65 | 8160 | 70 | 7690 | 74 | 7280 | 20 | 78 | 3500 | | |
| 25 | | | 47 | 8310 | 58 | 6570 | 65 | 6240 | 70 | 5910 | 25 | 75 | 3060 | 78 | 1940 |
| 30 | | | 36 | 6610 | 51 | 5420 | 59 | 5200 | 65 | 4940 | 30 | 72 | 2700 | | |
| 35 | | | 17 | 4560 | 42 | 4470 | 53 | 4390 | 60 | 4200 | 35 | 69 | 2400 | 72 | 1490 |
| 40 | | | | | 32 | 3580 | 47 | 3720 | 55 | 3610 | 40 | 65 | 2150 | 70 | 1320 |
| 45 | | | | | 16 | 2380 | 39 | 3120 | 50 | 3110 | 45 | 62 | 1950 | 67 | 1180 |
| 50 | | | | | | | 29 | 2500 | 43 | 2670 | 50 | 58 | 1770 | 64 | 1060 |
| 55 | | | | | | | 15 | 1610 | 36 | 2240 | 55 | 55 | 1550 | 61 | 960 |
| 60 | | | | | | | | | 28 | 1780 | 60 | 50 | 1350 | 58 | 870 |
| 65 | | | | | | | | | 14 | 1400 | 65 | 46 | 1160 | 55 | 790 |
| 70 | | | | | | | | | | | 70 | 41 | 1010 | 51 | 730 |
| 75 | | | | | | | | | | | 75 | 36 | 830 | 48 | 670 |
| 80 | | | | | | | | | | | 80 | | | 44 | 610 |
| 85 | | | | | | | | | | | 85 | | | 40 | 570 |
| 90 | | | | | | | | | | | 90 | | | 35 | 520 |
| 95 | | | | | | | | | | | 95 | | | | |
| 100 | | | | | | | | | | | 100 | | | | |
| | | | 480 LBS. | 330 LBS. | 260 LBS. | 220 LBS. | 190 LBS. | DEDUCTIONS FOR STOWED JIB | | | | | | | |

Step #3: Find the Gross Capacity


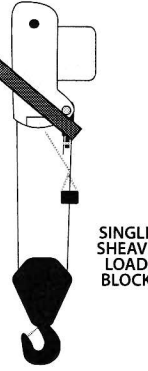
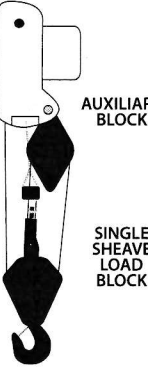
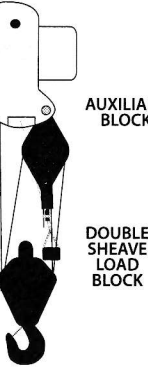
Make sure you're in the right chart. For this problem we are using a 23 foot jib.

Go to the radius column and find 30 ft.

Go to the column for the 23' jib.

Follow the row to the rated capacity (2,700 lbs)

MAKE SURE YOU'RE IN THE RIGHT CHART!

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

**IS 1 PART SUFFICIENT TO LIFT THE RATED CAPACITY?
(2,700 lbs.)**

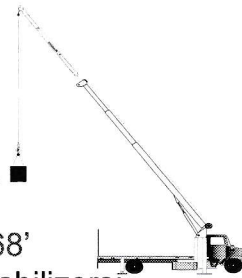
Step #3: Find the Gross Capacity

Is 1 part enough to lift the Rated Capacity?

There must be enough parts to lift the rated capacity or line pull would be the limiting factor and would be used for the gross capacity instead of the load rating chart.

Allowable line pull chart shows with 1 part of 6x25 IWRC wire rope, that the line pull for this configuration is 8,500 lbs.

What is the net capacity lifting off the jib over the rear?



Configuration ■

- Main Boom: 68'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' erected
- Block: N/A
- Ball: Overhaul ball
- Rigging: 120 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

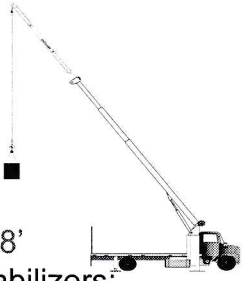
| | | | CAPACITY DEDUCTIONS | |
|-----------|------|--|---------------------|--|
| GROSS CAP | 2700 | | Block | |
| CAP DED | | | Aux. Block | |
| NET CAP | | | Ball | |
| | | | Jib | |
| | | | Rigging | |
| | | | Other | |
| | | | Total | |

Step #3: Write in the Gross Capacity

Write "2,700" in the gross capacity work area on your grid.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|-----------|------|---------------------|---|
| GROSS CAP | 2700 | Block | 0 |
| CAP DED | | Aux. Block | |
| NET CAP | | Ball | |
| | | Jib | |
| | | Rigging | |
| | | Other | |
| | | Total | |

Step #4
Fill in Capacity
Deductions.

Configuration ■
 Main Boom: 68'
 Outriggers/Stabilizers:
 Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' erected
 Block: N/A
 Ball: Overhaul ball
 Rigging: 120 lbs.
 Other: Hose Reel
 Wire Rope:
 9/16" - 6x25 IWRC

Step #4: Fill in the Capacity Deductions

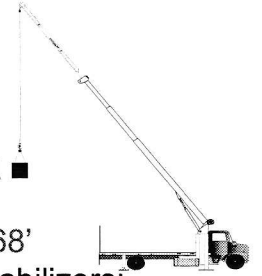
Fill in the weight for the block.

Since only 1 part of line is used, NO block is used.

Simply enter "0" into the correct box.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



Configuration ■

Main Boom: 68'
 Outriggers/Stabilizers:
 Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' erected
 Block: N/A
 Ball: Overhaul ball
 Rigging: 120 lbs.
 Other: Hose Reel
 Wire Rope:
 9/16" - 6x25 IWRC

| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|---|
| GROSS CAP | 2 7 0 0 | Block | 0 |
| CAP DED | → | Aux. Block | 0 |
| NET CAP | | Ball | |
| | | Jib | |
| | | Rigging | |
| | | Other | |
| | | Total | |

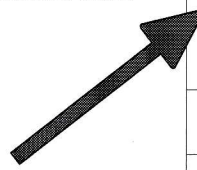
Step #4
 Fill in Capacity
 Deductions.

Step #4: Fill in the Capacity Deductions

Fill in the weight for the auxiliary block.

Since only 1 part of line is used, NO auxiliary block is required.

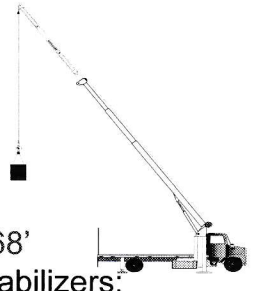
Simply enter "0" into the correct box.



| ALLOWABLE LINE PULL | | | | WARNING |
|---------------------|---------------------|----------------------|----------------------|--|
| 1 PART OF LINE | 2 PART OF LINE | 3 PART OF LINE | 4 PART OF LINE | |
| | | | | <p>WARNING Anti-Two-Block system must be in good operating condition before operating crane. Refer to Owner's Manual.</p> <p>Keep at least three wraps on load line on drum at all times</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. |

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 2 7 0 0 | Block | 0 |
| CAP DED | | Aux. Block | 0 |
| NET CAP | → | Ball | 1 2 0 |
| | | Jib | |
| | | Rigging | |
| | | Other | → |
| | | Total | |

Step #4
Fill in Capacity Deductions.

Configuration ■

- Main Boom: 68'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' erected
- Block: N/A
- Ball: Overhaul ball
- Rigging: 120 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

Step #4: Fill in the Capacity Deductions

Fill in the weight of the ball.

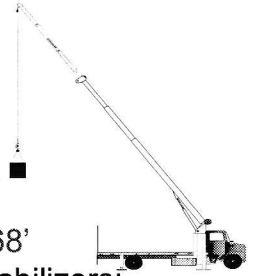
| | | DEDUCTIONS | | |
|-------------------------------|-------------|-------------------|--------------------------------|-----------------------|
| Auxiliary Block..... | lb..... | 22.68 kg | Swing-Around Jib (Stowed)..... | See Load Rating Chart |
| Overhaul Ball..... | 120 lb..... | 54.43 kg | | |
| 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 | | |

WARNING

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

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 2 7 0 0 | Block | 2 6 0 |
| CAP DED | | Aux. Block | 5 0 |
| NET CAP | | Ball | 1 2 0 |
| | | Jib | 0 |
| | | Rigging | |
| | | Other | |
| | | Total | |

Step #4
Fill in Capacity Deductions.

Configuration

Main Boom: 68'
 Outriggers/Stabilizers: Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' erected
 Block: N/A
 Ball: Overhaul ball
 Rigging: 120 lbs.
 Other: Hose Reel
 Wire Rope: 9/16" - 6x25 IWRC

Step #4: Fill in the Capacity Deductions

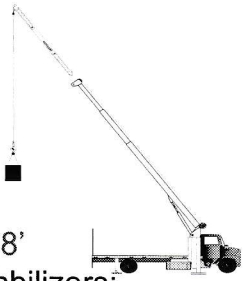
Fill in the weight of the jib capacity deduction.

Since the jib is being used, NO deduction is required.

Simply write "0" in the correct box.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 2 7 0 0 | Block | 0 |
| CAP DED | | Aux. Block | 0 |
| NET CAP | | Ball | 0 |
| | | Jib | 1 2 0 |
| | | Rigging | 1 2 0 |
| | | Other | |
| | | Total | |

Step #4
Fill in Capacity
Deductions.

Configuration ■

Main Boom: 68'
 Outriggers/Stabilizers:
 Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' erected
 Block: N/A
 Ball: Overhaul ball
 Rigging: 120 lbs.
 Other: Hose Reel
 Wire Rope:
 9/16" - 6x25 IWRC

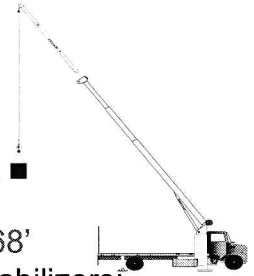
Step #4: Fill in the Capacity Deductions

Fill in the weight of the rigging deduction.

You will find this information in the configuration section.

WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 2 7 0 0 | Block | 0 |
| CAP DED | | Aux. Block | 0 |
| NET CAP | | Ball | 1 2 0 |
| | | Jib | 0 |
| | | Rigging | 1 2 0 |
| | | Other | 1 9 0 |
| | | Total | |

Step #4
Fill in Capacity Deductions.

Configuration

Main Boom: 68'
 Outriggers/Stabilizers: Extended & Set
 Radius: 30'
 Main Boom Angle: N/A
 Jib Length: 23' erected
 Block: N/A
 Ball: Overhaul ball
 Rigging: 120 lbs.
 Other: Hose Reel
 Wire Rope: 9/16" - 6x25 IWRC

Step #4: Fill in the Capacity Deductions

Fill in the weight of any additional lifting devices. You will find this information in the configuration section.

In this case we have a hose reel mounted on the crane and 190 lbs. must be deducted.

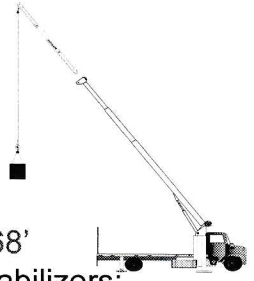
| | | DEDUCTIONS | | |
|-------------------------------|-------------|-------------------|--------------------------------|-----------------------|
| Auxiliary Block..... | 50 lb..... | 22.68 kg | Swing-Around Jib (Stowed)..... | See Load Rating Chart |
| Overhaul Ball..... | 100 lb..... | 54.43 kg | | |
| Single-Sheave Load Block..... | 200 lb..... | 117.93 kg | | |
| Double-Sheave Load Block..... | 350 lb..... | 158.76 kg | | |
| Hose Reel..... | 190 lb..... | 86.18 kg | | |

WARNING

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

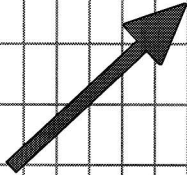
WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 2 7 0 0 | Block | 0 |
| CAP DED | | Aux. Block | 0 |
| NET CAP | | Ball | 1 2 0 |
| | | Jib | 0 |
| | | Rigging | 1 2 0 |
| | | Other | 1 9 0 |
| | | Total | 4 3 0 |

**Step #5
Total Capacity
Deductions.**



Configuration ■

- Main Boom: 68'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' erected
- Block: N/A
- Ball: Overhaul ball
- Rigging: 120 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

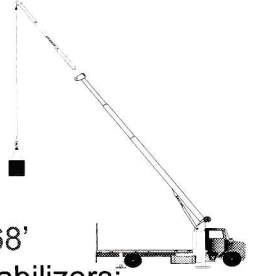
Step #5: Total the Capacity Deductions

Add all the capacity deductions.

CAPACITY DEDUCTIONS ARE 430 lbs.

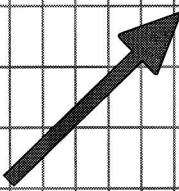
WRITE THE NUMBERS IN THE GRID SPACES!!!!

What is the net capacity lifting off the jib over the rear?



| | | CAPACITY DEDUCTIONS | |
|-----------|---------|---------------------|-------|
| GROSS CAP | 2 7 0 0 | Block | 0 |
| CAP DED | 4 3 0 | | |
| NET CAP | 2 2 7 0 | | |
| | | Total | 4 3 0 |

Step #6
Subtract Capacity
Deductions from
Gross Capacity.



Configuration ■

- Main Boom: 68'
- Outriggers/Stabilizers: Extended & Set
- Radius: 30'
- Main Boom Angle: N/A
- Jib Length: 23' erected
- Block: N/A
- Ball: Overhaul ball
- Rigging: 120 lbs.
- Other: Hose Reel
- Wire Rope: 9/16" - 6x25 IWRC

Step #6: Subtract Capacity Deductions from Gross Capacity.

NET CAPACITY IS 2,270 lbs.

WRITE THE NUMBERS IN THE GRID SPACES!!!!