

Manitex



CM350

35-ton (32 mt) TELESCOPIC CRANE
CM350 SERIES PRODUCT GUIDE

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Refer to the appropriate Operator's Manual and Load Charts for instructions on the proper use of this equipment to determine allowable crane lifting capacities, assembly and operating procedures.

Failure to follow the appropriate operator's manual or load chart(s) when using our equipment or to otherwise act irresponsibly may result in serious injury or death.

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KEY

| | |
|---|--|
|  | Operator aids |
|  | Cab |
|  | Heating / Air conditioning |
|  | Controls |
|  | Hoist speed |
|  | 1 - Main hoist 2 - Auxiliary winch 3 - Recovery winch |
|  | Rope length |
|  | Rope - standard/optional |
|  | Rope diameter |
|  | Permissible line pull |
|  | Maximum line pull |
|  | Slewing / Allowable slewing range |
|  | Slewing gears |
|  | Slewing brake |
|  | Outriggers / Lifting on outriggers |
|  | 2-Person man basket |
|  | Counterweight |
|  | Radio remote control |

| | |
|---|---------------------------------------|
|  | Hook block |
|  | Distance from hook to head sheave pin |
|  | Hook and ball |
|  | Hydraulics |
|  | Boom elevation angle |
|  | Max. boom length with extension |
|  | Boom with extension retracted |
|  | Boom angle |
|  | Telescoping mode |
|  | Working radius |
|  | Boom length |
|  | Hydraulic actuated boom |
|  | Full power mechanical synchronized |
|  | Boom head / Hook block dimension |
|  | Main boom with auxiliary head |
|  | Tip height |



THE CM350 SERIES TELESCOPIC CRANE

Maximize use and value

The CM350 series strikes the perfect balance between the three things customers tell us they care about most: features, cost and ease of use.

The CM350 offers:

- A Greer Insight™ load moment indicator, the industry’s only monitoring display that offers the feature-rich capabilities and high-resolution VGA graphics to help operators work safer and smarter
- Self-lubricating boom slider pads, to minimize maintenance costs
- A compact size; properly equipped, the unit is just 43 ft. long

Other features include:

- 35-ton capacity @ 6 ft. radius
- 100 ft. 4-Section proportional boom
- 124 ft. 5-section proportional boom
- Optional fixed & telescopic jib
- Out-and-down outriggers
- Out-and-down stabilizers

USER-FRIENDLY CONTROLS

Dual operator stations are equipped with engine start/stop, foot throttle, signal horn, boom angle indicator, load chart bubble level and range diagram.



OUTRIGGER DEPLOYMENT

Equipped with double-acting hydraulic cylinders, pivoting pads and audible alerts when outriggers/stabilizers are in motion.

TWO-SPEED PLANETARY HOIST

The two-speed planetary hoist lets you change line speed on the fly and minimize rope stacking to increase productivity and minimize downtime.

INCREASE PROFITABILITY

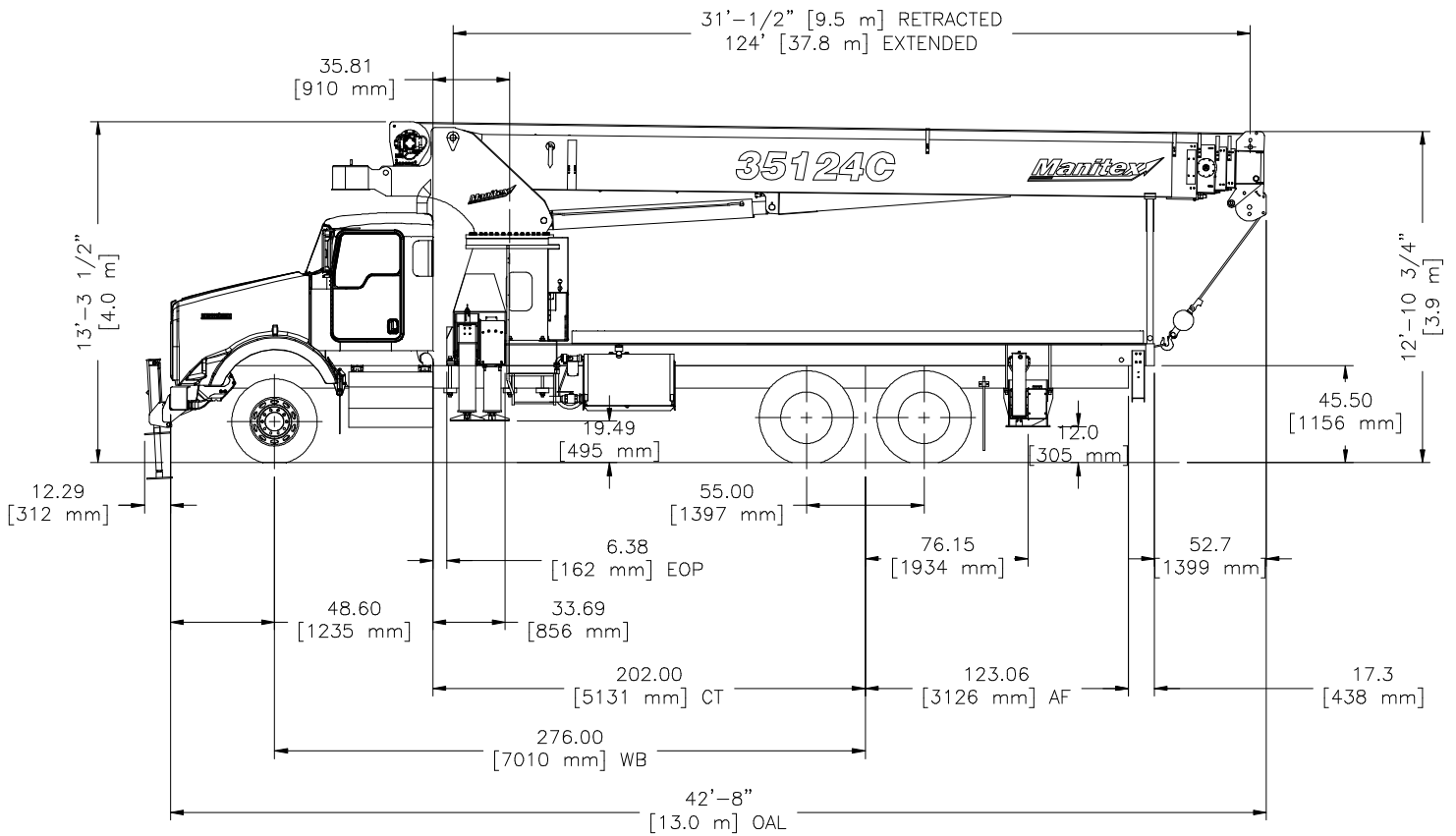
The versatile CM350 series, designed to be used with a commercial carrier, helps both owners and operators make the most of their investment.

- Travel to and between jobs at highway speed.
- Ride in comfort with a carrier suspension designed for highway driving.
- Get repairs done quickly and by qualified technicians at commercial truck centers.



35124C CHASSIS

35124C Model



CRANE WEIGHTS

| | |
|-------------------------|-------------|
| Total crane (standard): | 32,260 lbs. |
| 22' Flatbed Weight | 1980 lbs. |

TRUCK AXLE WEIGHT

| | |
|-------------------------------------|-------------------------|
| Minimum truck axle weight - Front** | 8,450 lbs. (3,674 kg) |
| Minimum truck axle weight - Rear** | 8,300 lbs. (3,765) kg |
| Front Axle Gross Weight Rating | 20,000 lbs. (8,185 kg) |
| Rear Axle Gross Weight Rating | 40,000 lbs. (18,144 kg) |

** Minimum chassis weight is required to meet 85% stability requirements. Chassis data is general - not for engineering. Some dimensions depend on truck selection.

Notes: Additional axles required for federal bridge legal configuration - consult Manitex. Manitex highly recommends addition of a front stabilizer and may be required on some installations - consult Manitex.

CHASSIS DATA

| | |
|--|---|
| Wheel Base (WB) | 271 in. (6,883mm) |
| Cab to Tandem (CT) | 202 in. (4,877 mm) |
| After Frame (AF) | 114 in. (2,896 mm) |
| Nominal frame width | 34 in. (864 mm) |
| Frame Section Modulus at 180/360° area of operation* | 30 in. ³ (491.6 cm ³) 125,000 psi (861 875 kPa) |

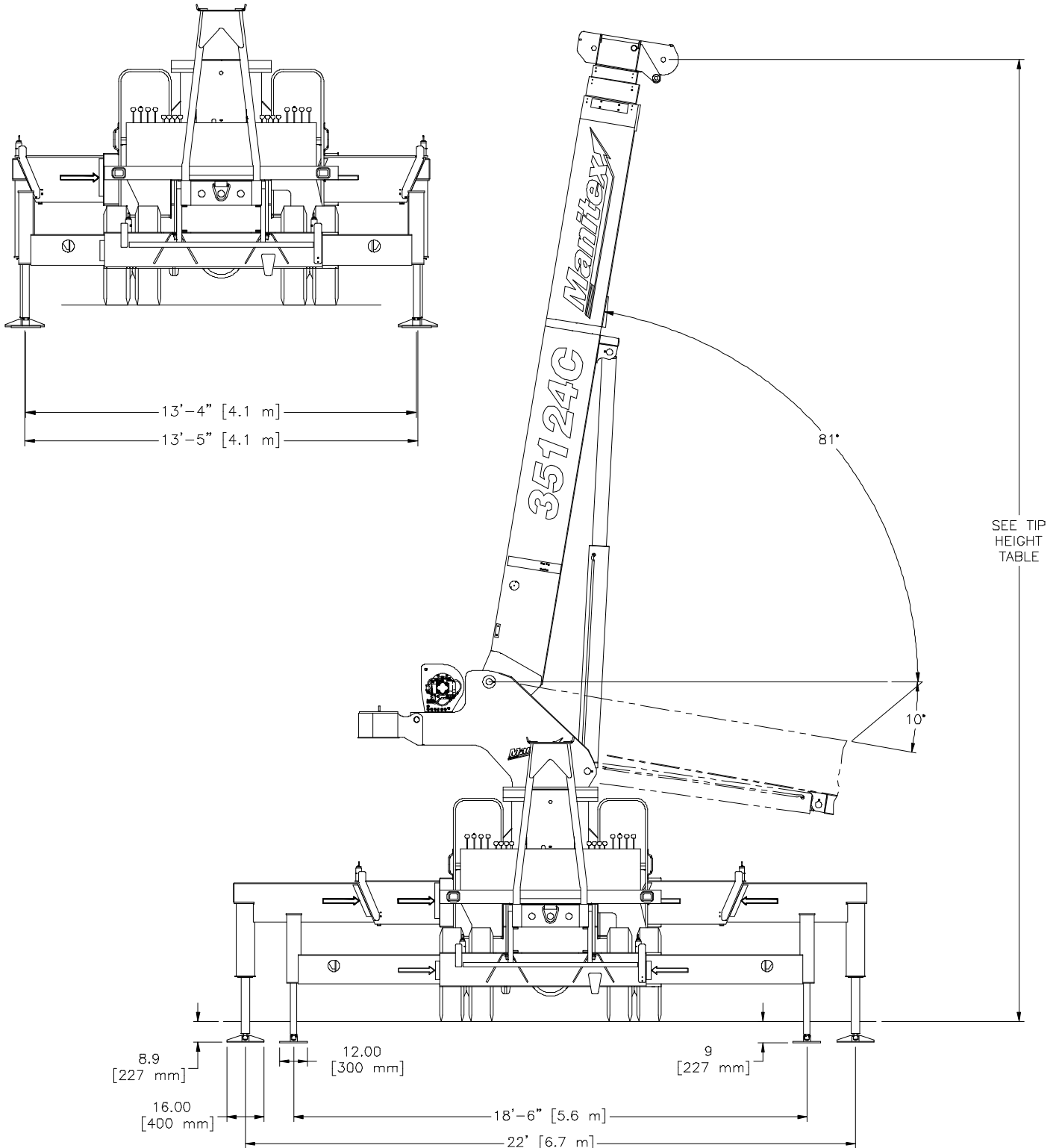
* Frame selection modulus at 360° area of operation requires front bumper stabilizer.



OUTRIGGER EXTENSION

Outrigger-Stabilizer Combination
Intermediate Extended - Imperial & Metric Units

Outrigger-Stabilizer Combination
Fully Extended (optional)



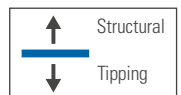
Data published herein is intended as a guide only. Crane operation is subject to machine specific load charts and information.

35124C LOAD CHART: Main Boom and Jib

Lifting Capacities 5-section Boom 31 ft. - 124 ft.
Jib 26 ft. - 46 ft.

Outriggers 22 ft. (100%) Stabilizers 18 ft. 6 in. (100%) 360° Non-continuous

| MAIN BOOM LMI CODE 1 | | | | | | | | | | | IB LOAD CAPACITIES LMI CODE 2 | |
|---|-------------------------|----------------------|-------------------------|----------------------|-------------------------|----------------------|-------------------------|----------------------|-------------------------|----------------------|-------------------------------|----------------------|
| 31 ft. | | | 58 ft. (A) | | 80 ft. (B) | | 102 ft. (C) | | 123.7 ft. (D) | | 31 ft. Jib | |
| | Loaded Boom Angle (deg) | Load Capacity (lbs.) | Loaded Boom Angle (deg) | Load Capacity (lbs.) | Loaded Boom Angle (deg) | Load Capacity (lbs.) | Loaded Boom Angle (deg) | Load Capacity (lbs.) | Loaded Boom Angle (deg) | Load Capacity (lbs.) | Loaded Boom Angle (deg) | Load Capacity (lbs.) |
| 6 | 81 | 70,000 | | | | | | | | | | |
| 8 | 76 | 53,390 | | | | | | | | | | |
| 10 | 72 | 45,380 | | | | | | | | | | |
| 12 | 68 | 39,420 | 79 | 25,000 | | | | | | | | |
| 15 | 61 | 33,110 | 76 | 25,000 | 81 | 21,500 | | | | | | |
| 20 | 49 | 23,710 | 71 | 22,870 | 78 | 19,700 | 81 | 14,500 | | | | |
| 25 | 34 | 17,680 | 65 | 18,280 | 74 | 17,420 | 79 | 13,500 | 81 | 8,450 | | |
| 30 | | | 60 | 14,150 | 70 | 14,320 | 76 | 12,820 | 79 | 8,150 | 81 | 4,000 |
| 35 | | | 53 | 11,080 | 66 | 11,270 | 73 | 11,370 | 76 | 7,800 | 79 | 3,850 |
| 40 | | | 47 | 8,590 | 62 | 8,770 | 69 | 8,870 | 74 | 7,280 | 77 | 3,700 |
| 45 | | | 39 | 6,780 | 57 | 6,960 | 66 | 7,050 | 72 | 6,780 | 75 | 3,550 |
| 50 | | | 29 | 5,400 | 52 | 5,580 | 63 | 5,660 | 69 | 5,710 | 73 | 3,400 |
| 55 | | | 13 | 4,320 | 47 | 4,490 | 59 | 4,570 | 66 | 4,620 | 71 | 3,250 |
| 60 | | | | | 42 | 3,620 | 56 | 3,700 | 64 | 3,740 | 69 | 3,080 |
| 65 | | | | | 36 | 2,890 | 52 | 2,970 | 61 | 3,020 | 67 | 2,910 |
| 70 | | | | | 28 | 2,290 | 48 | 2,370 | 58 | 2,410 | 66 | 2,740 |
| 75 | | | | | 18 | 1,770 | 44 | 1,850 | 55 | 1,900 | 64 | 2,220 |
| 80 | | | | | | | 39 | 1,410 | 52 | 1,450 | 62 | 1,770 |
| 85 | | | | | | | 34 | 1,030 | 49 | 1,070 | 60 | 1,390 |
| 90 | | | | | | | 28 | 690 | 45 | 730 | 57 | 1,050 |
| 95 | | | | | | | | | | | 55 | 750 |
| DEDUCTIONS FROM MAIN BOOM CAPACITIES FOR STOWED JIB | | | | | | | | | | | | |
| | 450 lbs. | | 240 lbs. | | 180 lbs. | | 140 lbs. | | 120 lbs. | | | |



NOTES:

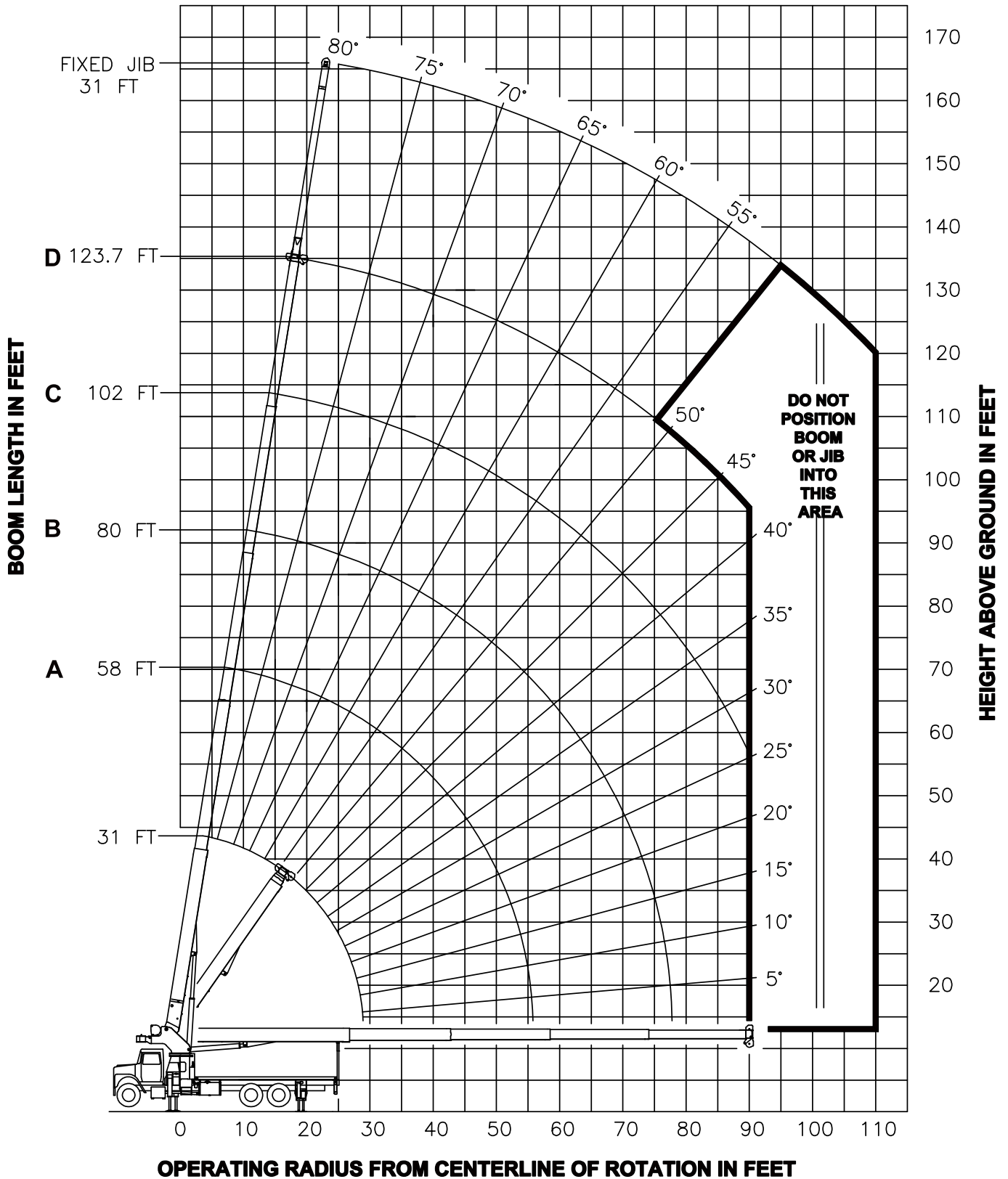
- All loads rated at 360° pick
- Loads based on crane on fully extended outriggers and stabilizers
- All "on outriggers" loads are based on 85% tipping
- Loads above heavy line are based on structural rating
- Loads below heavy line are based on tipping rating

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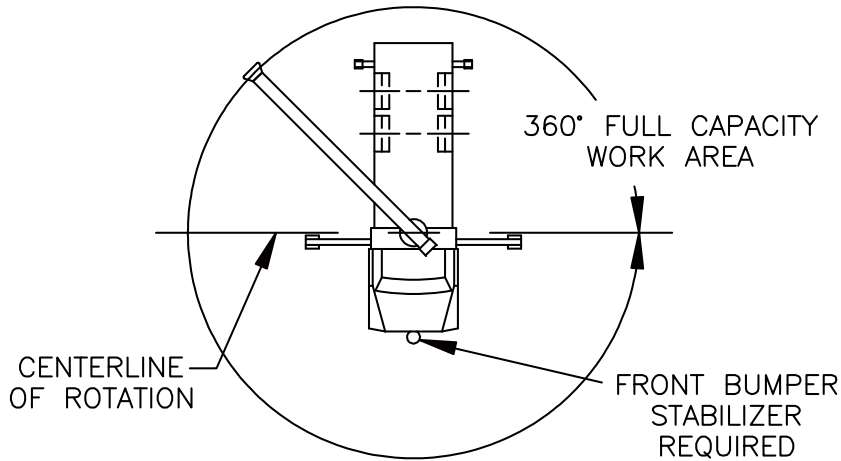
35124C BOOM DIAGRAM

RANGE DIAGRAM - FULL SPREAD CONFIGURATION -



Data published herein is intended as a guide only. Crane operation is subject to machine specific load charts and information.

AREA OF OPERATION



Deductions from rated loads for load handling devices supplied by Manitex

| | |
|------------------|----------------------------------|
| Auxiliary block | 50 lbs. (22,7 kg) |
| Auxiliary sheave | 50 lbs. (22,7 kg) |
| Overhaul ball | See overhaul ball mfr. nameplate |
| Load blocks | See block mfr. nameplate |
| Hose reel | 260 lbs. (117,9 kg) |
| Swing around jib | See load chart |

WARNING: Lifting off the main boom point while the jib is erected is not intended nor approved.

REEVING DIAGRAM

| ALLOWABLE LINE PULL | | | | | | | | WARNING |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|
| 1 PART LINE | 2 PART LINE | 3 PART LINE | 4 PART LINE | 5 PART LINE | 6 PART LINE | 7 PART LINE | 8 PART LINE | |
| | | | | | | | | |
| 9080 LBS | 18160 LBS | 27240 LBS | 36320 LBS | 45400 LBS | 54480 LBS | 63560 LBS | 70000 LBS | ANTI-TWO-BLOCK SYSTEM MUST BE IN GOOD OPERATING CONDITION BEFORE OPERATING CRANE. REFER TO THE OWNER'S MANUAL. KEEP AT LEAST 3 WRAPS OF LOAD LINE ON THE DRUM AT ALL TIMES. |
| 9500 LBS | 19000 LBS | 28500 LBS | 38000 LBS | 47500 LBS | 57000 LBS | 66500 LBS | 70000 LBS | |

5/8" ROT RESISTANT (5.0:1 SF) - 45400 LBS MIN BREAKING STRENGTH

5/8" 6 X 25 IWRC (3.5:1 SF) - 33250 LBS MIN BREAKING STRENGTH

LMI OPERATING CODES

| Code | Crane Configuration | Outrigger Configuration |
|------|---|-------------------------|
| #1 | Main Boom | Fully Extended |
| #2 | Fixed Jib | Fully Extended |
| #3 | Telescopic Jib - Retracted | Fully Extended |
| #4 | Telescopic Jib - Extended | Fully Extended |
| #5 | Personnel lifting platform on main boom | Fully Extended |
| #6 | Personnel lifting platform on fixed jib | Fully Extended |
| #7 | Personnel lifting platform on tele. jib - Retracted | Fully Extended |
| #8 | Personnel lifting platform on tele. jib - Extended | Fully Extended |
| #9 | Main Boom | Intermediate |
| #10 | Fixed Jib | Intermediate |
| #11 | Telescopic Jib - Retracted | Intermediate |
| #12 | Telescopic Jib - Extended | Intermediate |

Warning

1. The operator must read and understand the owner's manual before operating the crane.
2. Positioning or operation of crane beyond areas shown on these charts 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.
5. For boom angles not shown on jib load rating chart, use rating of next lower boom angle.
6. For boom lengths not shown, use rating of next shorter or longer boom length, whichever is less. For radii not shown, use rating of next longer radius.
7. 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.
8. 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.
9. 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.
10. Lifting off the main boom point while the swing around jib is erected is not intended or approved.
11. 360° area of operation is only valid with the use of a front bumper stabilizer.

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 head, is the included angle between the horizontal and longitudinal axes of the boom base after lifting rated load at rated radius.

TECHNICAL DESCRIPTIONS

Boom



- Boom length: Proportional boom
- 4 –section 100 ft. (30,5 m)
 - 5 –section 124 ft. (37,8 m)

2 upper & 3 lower quick reeve boom point
Self lubricating slider pads



- 35100C:
- Boom max. tip height 111 ft. 4 in. (33.9 m)
 - Boom min. tip height 100 ft. (30.5 m)

- 35124C:
- Boom max. tip height: 134 ft. 8 in. (40.8 m)
 - Boom min. tip height: 124 ft. (37.8 m)



Boom angle (min/max): -9° / 80.6°

Rotation



Ball-bearing swing circle with external gear
Double-reduction planetary gearbox driven by hydraulic motor



Slewing brake: Spring-applied pressure released parking brake



Slewing speed: 0 - 1.5 rpm
Boom rotation: 372° non-continuous

Outriggers



Outriggers: Out and Down Style
FBS - Front Bumper Stabilizer (optional)
Outriggers fully extended:

- 22 ft. (6.7 m)

Stabilizers fully extended:

- 18 ft. 6 in. (5.6 m)

Hoist, Rope and Hook



Maximum theoretical line-speed:
453 fpm (138 mpm)



Maximum theoretical bottom-layer line pull:
14,500 lbs. (6,577 kg)



Main winch cable diameter: 5/8 in.
(16 mm) rotation resistant



Line length: 380 ft. (115.8 m)



Main winch: Bent axis 2-speed hydraulic motor (activated electrically)



Hook & ball: 5 T (4.5 mt) capacity hook with heavy-duty swivel and weight is provided for single line operation.

Hydraulics



8-Bolt direct mounted PTO and SAE B input and SAE BB output
3-Section Gear Pump standard CCW Rotation
Hydraulic reservoir capacity:
115 Gallons (435 liter)
Pump sections @ 2000 rpm with 100 psi

- Shaft end pump: 38.4 GPM (145 lpm)
- Center pump: 27.4 GPM (104 lpm)
- Cover end pump: 11.2 GPM (42 lpm)

Operator aids



External Wired LMI with crane function cut-offs for overload protection
Wired anti-two block system

TECHNICAL DESCRIPTIONS



Control System



Dual operating stations are equipped with four single-lever crane controls arranged in accordance with ANSI B30.5 standards.

Fully proportional control valves

Each station includes:

- Individual control levers for each outrigger and stabilizer
- Engine start and stop
- Electronic foot throttle
- Signal horn
- Boom angle indicator
- Beverage holder
- Load chart with range diagram and mount for removable LMI display

Electrical System

State-of-the-art, weather-resistant components throughout

Hermetically sealed enclosure includes power in relays and circuit status LEDs

Mounting System

Pedestal sub-frame and stabilizers are mounted to chassis by threaded rods and clamp plates

Sub-frame: Torsion resistant, rigid 4-plate design mounted under crane full length of truck frame

Rear under-ride protection: Standard on factory mounted cranes.

Boom rest: Heavy-duty fabrication, easily removed

Options

Flatbeds

- 22 in. (6.7 m) wood bed
- 22 in. (6.7 m) steel bed
- 22 in. (6.7 m) Heavy Hauler Flatbed 3/16 in. Steel

Options

Jib

35100C:

- 1 section fixed jib 30 ft. 6 in. (9.3 m)
- 2 section telescopic jib 30 ft. 6 in. – 55 ft. 6 in.

35124C:

- 1 section fixed jib 31 ft. (9.4 m)

Max. Tip Height with Extension



35100C:

- Max. tip height with extension: 166 ft. 8 in.
- Max. tip height with extension retracted: 142 ft. 1 in.



35124C:

- Max. tip height with extension: 165 ft. 11 in.
- Max. tip height with extension retracted: 142 ft. 1 in.

Hoist, Rope and Hook



5/8 in. (15.9 mm) diameter 6 x 25 EIPS IWRC wire rope

Hydraulics



3 Section Vane Pump, CCW or CW
 FBS – Front Bumper Stabilizer
 Hydraulic Oil cooler
 Hose Reel

2-Person Baskets



2-person man basket - Aluminum or steel - consult Manitex

- Non-rotating (600 lbs. cap.) - Steel
- Rotating Quick Attached Aluminum - Main Boom Only

Operator Aids



4-Function radio remote crane control system

Tool Box & Bulkhead

24 in. L x 18 in. W x 18 in. H - Steel (610 mm L x 457 mm W x 457 mm H)

48 in. L x 24 in. W x 24 in. H - Aluminum (1219 mm L x 610 mm W x 610 mm H)

Bulkhead: 24 in. (610 mm)

Manitex



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UPTime is the Manitex commitment
to complete support of thousands
of units working every day.

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