

<b>Date:</b>	<b>Quote #</b>
2/8/2018	

## Quotation

With offices in Houston and Dallas, Bigge Crane & Rigging Co.. is the leader in crane, rigging and hoist rental in the great state of Texas. Bigge, founded in 1916, and in its fourth generation of ownership, provides one of the most experienced crane rental teams in the country. In addition, Bigge has the newest and most technologically advanced machines while offering our clients the most versatile fleet in the region, with 50 Tower Cranes, 300 Rough Terrain Cranes, 125 Crawler Cranes and 15 Truck Cranes, ensuring that Bigge's customers have the right equipment for any job.

<p><b>Customer Information :</b></p> <p>Sundt Construction Co.          Tel: (602) 810-0087          Email: Sundt.Construction@sundt.com</p>	<p><b>Billing Address :</b></p> <p>2620 South 55th St.          Tempe AZ USA 85282          Phone: (602) 810-0087</p>
<p><b>Re:</b> Sundt Casino Project</p> <p><b>Bigge Sales Representative:</b></p>	<p><b>Job Site(s)</b></p> <ul style="list-style-type: none"> <li>Sundt Casino Project</li> </ul>

Bigge Crane and Rigging Co. hereinafter referred to as "LESSOR" is pleased to provide, the following bare equipment lease rate, to Sundt Construction Co. located at 2620 South 55th St., Tempe, AZ 85282, USA, hereinafter referred to as "LESSEE" for crane service at your jobsite. Price as follows:

**Bare Lease**

**220-Ton Crawler Crane (Quantity:1)**

Bare Rate	Monthly Rate	\$17,000.00 Month
Freight In	Lump Sum	\$10,250.00 Each
Freight Out	Lump Sum	\$10,250.00 Each

**Configuration**

Main Boom	160'		
Counterweight	179,100 lb	Carbody Counterweight	44,000 lb

**Billing Terms**

Minimum Lease Duration	7 Month(s)				
Maximum Monthly Hour	200 hrs	Maximum Weekly Hour	50 hrs	Maximum Daily Hour	10 hrs
Overtime Rate	75 %				
Start Date	2/2/2017				



**90-Ton Hydraulic Truck Crane (Quantity:1)**

Bare Rate	Monthly Rate	\$20,250.00	Month
Freight In	Lump Sum	\$8,600.00	Each
Freight Out	Lump Sum	\$8,600.00	Each

**Configuration**

Main Boom	154'
Counterweight	22000 lb

**Billing Terms**

Minimum Lease Duration	6 Month(s)	Maximum Weekly Hour	50 hrs	Maximum Daily Hour	10 hrs
Maximum Monthly Hour	200 hrs				
Overtime Rate	75 %				
Start Date	2/2/2017				

**Borrowed Servant****Technician**

Rate	Straight Time	\$120.00	Hour	8 Hour Minimum
Rate	Over Time	\$150.00	Hour	
Rate	Double Time	\$180.00	Hour	

**Borrowed Servant****Rigger (Quantity:2)**

Rate	Straight Time	\$75.00	Hour	8 Hour Minimum
Rate	Over Time	\$105.00	Hour	
Rate	Double Time	\$135.00	Hour	

**Excluded in this Proposal**

Mats/Rigging
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**Provided by Others**

Sundt will need to provide an operated assist crane for the crawler build, unless otherwise noted. Sundt may also provide the riggers with the supervision of a Bigge tech.

**1. STANDARD CLARIFICATIONS:**

- a. All leases are subject to applicable taxes.
- b. This lease subject to all terms and conditions of LESSOR's Bare Equipment Lease Agreement. No other terms and conditions will be applicable.
- c. Bare Lease Agreement to be fully executed and on file prior to delivery or release of crane.
- d. An on-rent and off-rent inspection is required. An authorized representative from your company must be present during both inspections.
- e. Weekly lease rates are based on maximum 40 hours per week.
- f. Monthly lease rates are based on maximum 160 hours per month.
- g. Rental for all overtime use in excess of the stated basic shift period shall be computed on a prorata basis at 100% of the base rate.
- h. Second shift will be computed at 100% and third shift, if applicable will be prorated per the base rate.
- i. If LESSOR is responsible for regular maintenance & repair of the leased equipment, then a signed Equipment Service Agreement is required.
- j. If a Technician is required to assist in the erection and dismantling of the equipment or an Operator is required to operate the leased equipment, then a signed Borrowed Servant Doctrine under Addendum #1 is required.
- k. Upon the execution and return of the acknowledgement below accepting this proposal and the terms and conditions contained herein

we will prepare and forward to you the Bare Equipment Lease Agreement for execution.

This proposal is based upon reaching a mutually agreeable contract, referencing this quotation letter, and containing the following additional specific conditions and LESSOR's standard terms and conditions referenced in this document.

- Our proposal and pricing are based on this submittal and all terms and conditions herein forming part of the resulting contract by inclusion.
- Equipment subject to availability and prior commitment.
- Payments: Accounts due and payable, in full, on presentation of invoice - no retention.
- This price is firm until 8/8/2018 .
- TAXES - LESSEE shall be liable for and shall pay all licenses, permits, fees, taxes and assessments, and penalties and fines, if any, assessed or levied by an public authority against the Equipment, this Quote and the transaction represented thereby, or any interest therein or any part thereof, or arising out of the ownership, use, operation or possession of the Equipment hereunder. Nothing in this paragraph is to be construed as meaning that the LESSEE is to pay the personal property tax levied against the machinery rented when said machinery is delivered within the home state of the LESSOR, as in this case the LESSOR is to pay his own personal property tax. In the event the Equipment is rented outside of the home state of the LESSOR, any and all taxes assessed against the machinery, including personal property tax, are to be paid by the LESSEE.
- In the event LESSOR has to enroll in any mandatory insurance program required by LESSEE or LESSOR, then all costs, including but not limited to, administrative and enrollment fees will be charged to and paid for by LESSEE.
- Pricing provided is net of the OCIP, CCIP, WRAP or any Controlled Insurance Program costs and no further discounts shall be provided.

LESSOR's proposal and pricing are contingent on providing a maximum of \$2 Million General Liability, \$4 Million Aggregate. A request for higher limits not included in a bid specification or advice provided prior to our bid will be subject to an increase in our pricing.



Thank you for the opportunity to be of service,

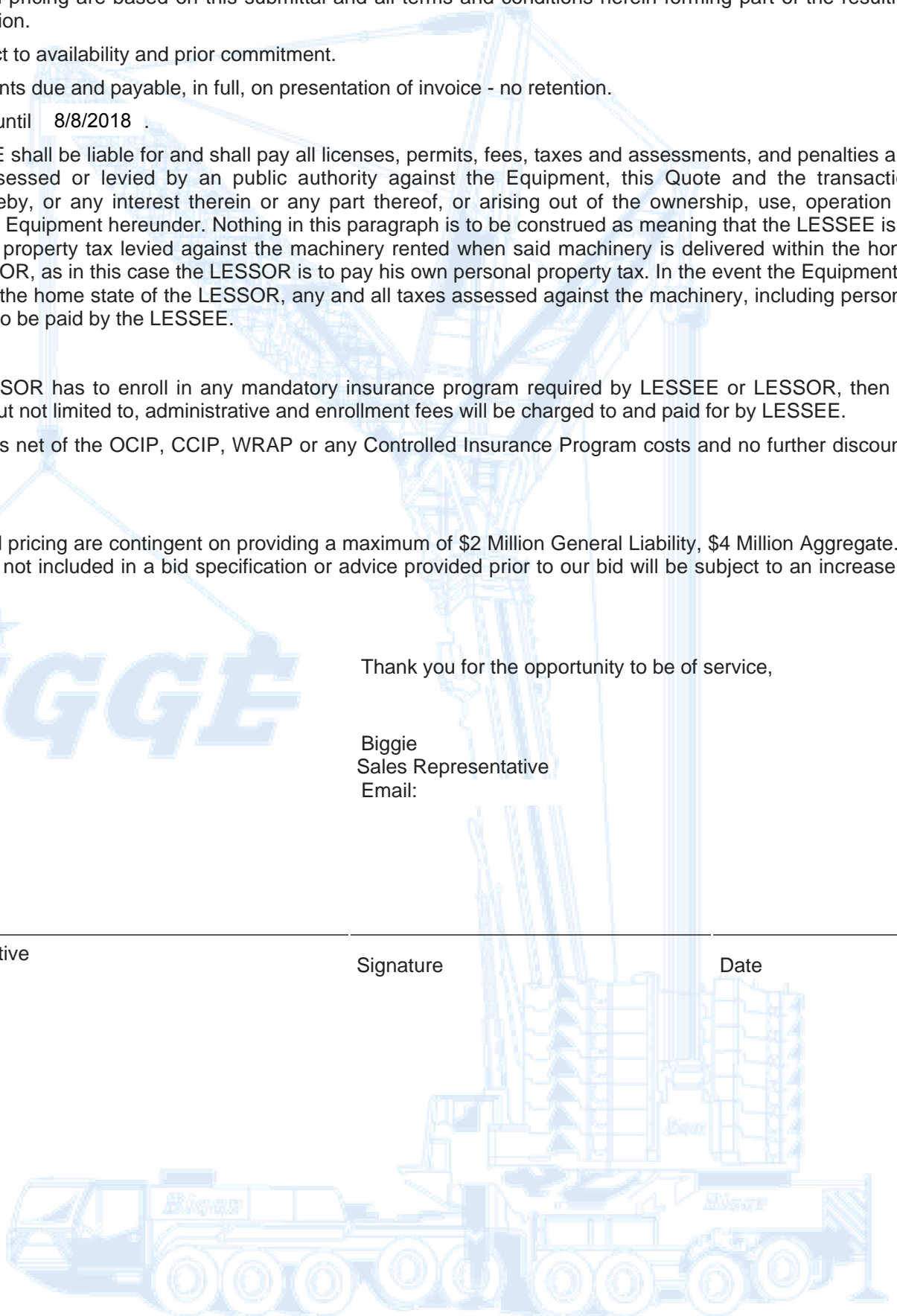
Biggie  
Sales Representative  
Email:

Accepted By:

Authorized Representative  
(please print)

Signature

Date



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## GENERAL TERMS

**1. RENTAL TERM:** The Rental Term shall start when the Equipment is loaded out for shipment and shall end when the Equipment is returned to point of origin. If LESSEE desires to continue rental of the Equipment beyond the minimum Rental Period specified, LESSEE shall request consent for such extension in writing from LESSOR sixty (60) days before expiration of the minimum Rental Period. LESSEE shall submit a written request for LESSOR's consent if LESSEE desires to change the Rental Start Date. LESSOR may, at its option, terminate this Agreement if such change is more than fourteen (14) days and/or require an Equipment Reservation Fee equal to the monthly rental charge and such other expenses incurred as a result of the change in Rental Start Date. LESSOR reserves the right to deny such request in its sole discretion. LESSOR may recall or LESSEE may return the Equipment to LESSOR on thirty (30) days' written notice to the other party after the expiration of the minimum Rental Period or agreed extension thereto. The Rental Term shall thereupon be extended to the date the Equipment is returned to LESSOR's unloading point or the expiration of such thirty (30) days' notice period, whichever is later. Any such extended rental shall be subject to all applicable terms and conditions hereof. All Rental Rates are based on the maximum hourly usage per month stated herein. If such maximum hourly usage per month is not indicated, then same shall be based on a one hundred and seventy two (172) hours per month. LESSEE shall pay for a proportionate hourly charge for all excess hours of usage. LESSEE shall not be entitled to any abatement, deduction, reduction, set-off, counterclaim, recoupment or defense against rent for any reason, including without limitation any non-working time of the Equipment except as provided otherwise herein or as the Parties may agree in writing. Rental charges shall not be reduced by any unused portion of the rental period increment stated herein (weekly or monthly).

**2. PAYMENT OF RENTAL:** LESSEE shall pay the minimum guaranteed rental as specified on the face of this Agreement and the full rental rates during any extension thereto. The rent payable shall be at the rate specified in this Agreement undiminished by any offset or credit on account of LESSEE's sooner surrender of the Equipment or the reasonable rental value thereof, whether or not thereafter LESSOR shall itself use said Equipment or shall rent any comparable Equipment it may have to others, or on account of any payment by LESSEE of additional rental for overtime use pursuant to the overtime and shift provisions on the face of this Agreement, or of any other charges, costs or damages hereunder; provided, however, that the rental payments, if any, actually received by LESSOR under a new lease for any part of the minimum term shall be credited to LESSEE, subject to repossession, reconditioning, re-leasing costs and all other charges and claims of LESSOR against LESSEE.

LESSEE shall be responsible for and pay: i) all taxes, levies, fees and other public charges against or upon any of the Equipment, including without limitation personal property taxes; ii) all fines, penalties, forfeitures, court costs, expenses and attorneys' fees arising with respect to LESSEE's possession, transportation,

use maintenance or repair of the Equipment, including without limitation, any parking, traffic or other violations assessed against the Equipment, LESSOR or LESSEE; iii) all costs of repairs to the Equipment and any related expenses.

LESSEE shall pay all rents to the offices of LESSOR at **BIGGE CRANE AND RIGGING CO. P.O. Box 205220, Dallas, TX 75320-5220** or all overnight mail by special couriers should be sent to the actual site address - **Lockbox Services 205220, BIGGE CRANE AND RIGGING CO. 2975 REGENT BLVD, IRVING, TX 75063** and should reflect **Lockbox Services and the Lockbox Number in the reference section of the air bill**, or at such other place as LESSOR may designate. If requested by LESSOR, LESSEE shall pay rentals monthly in advance; otherwise, LESSOR shall submit monthly rental invoices at the beginning of each rental period and LESSEE shall pay the same in full within ten (10) days of the invoice date.

Unpaid rentals shall bear interest from the due date until paid at 18% per annum or the highest rate allowed by law, whichever is less, and accrual or payment of such interest shall not impair LESSOR's right otherwise to repossess the Equipment or to terminate this lease or to any other remedies it may have.

Any accessories or attachments not included with the Equipment leased hereunder shall be separately furnished by and at the expense of LESSEE. If any such accessories or attachments are ordered prior to the Rental Start Date, LESSEE shall pay such costs within thirty (30) days of invoice. All mobilization and installation costs shall be paid within thirty (30) days of invoice.

**3. OPERATION, COSTS & REPAIRS:** The Equipment shall be inspected by the LESSEE at, or prior to the beginning of the rental term (on-rent inspection) and acceptance of delivery by LESSEE shall constitute acknowledgment that the Equipment received and inspected is then in good and serviceable condition, safe and fit for the use of LESSEE. LESSEE, at its own expense, shall at all times maintain the Equipment in good and safe operating condition and shall pay for all labor, fuel, lubrication, materials, parts and supplies of every nature and kind required to operate and so maintain the Equipment and to make all necessary repairs and replacements thereon including structural and mechanical failure. LESSEE shall immediately inform LESSOR of any damage, accident, or mechanical failures of or involving the Equipment or its operation. LESSEE is not authorized to incur any liability or to expend any money for LESSOR's account for any operating, maintenance or repair cost or expense without prior written authority from LESSOR. Title to any repairs or replacements, and parts and supplies furnished in connection therewith shall vest in the holder of title to the Equipment. LESSEE shall reimburse LESSOR for any third party charges for repairs plus 35% for overhead and administration costs.

**4. RETURN OF EQUIPMENT:** LESSEE shall return the Equipment to LESSOR unencumbered and in the same condition as when received by LESSEE, reasonable wear resulting from proper use alone excepted. Condition shall be determined by an off-rent



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**GENERAL TERMS**

inspection by LESSOR and LESSOR will notify LESSEE of any required repairs within forty-five (45) days of such inspection. The Rental Period will continue throughout such time required to make all necessary repairs for which LESSEE is responsible.

**5. TRANSPORTATION:** LESSEE shall pay all loading and unloading costs and all transportation costs. LESSEE shall furnish timely instructions for shipment and, absent such instructions, LESSOR may ship to railhead or shipping point which LESSOR in good faith believes to be closest to the 'location of use'. LESSOR shall furnish shipping instructions for the return. LESSEE assumes all expense and risk of loss during transportation of Equipment, same being loaded and shipped EXW LESSOR's location or other shipping point designated by LESSOR.

**6. USE OF EQUIPMENT:** LESSEE shall keep and use the Equipment at its place of designated use until LESSOR in writing permits its removal and shall use it only in the conduct of LESSEE's business. In no event will LESSEE use the Equipment to drive pile. At no time shall the Equipment be subjected to improper use, any careless or needlessly rough use or to any use in violation of any federal, state or municipal statute, ordinance or regulation, including State OSHA and FedOSHA, or to any use beyond the safe or manufacturer's rated limits or capacity of the Equipment. The Equipment shall be operated and stored free of any hazards. The Equipment shall not be altered or modified in any way or subjected to addition of any counterweight beyond that furnished with the Equipment. LESSEE shall not remove, alter, disfigure or cover up any numbering, lettering, insignia or signage, including illuminated signage, placed upon the Equipment.

LESSEE shall not, without the prior written consent of LESSOR, except as otherwise provided herein, remove the Equipment or any part thereof from its place of designated use or surrender or part with the possession, custody or control thereof. LESSEE shall, if requested, advise LESSOR of the exact location and condition of the Equipment and LESSOR shall, at reasonable times be given access thereto and afforded necessary facilities for the purpose of inspection.

LESSEE is responsible for ensuring compliance by it and its employees and/or agents, and of the Equipment itself, with all applicable laws and regulations, including without limitation, 29 C.F.R. 1926, subpart CC Cranes and Derricks in Construction and C.F.R. 1910.180 – Crawler Locomotive and Truck Cranes and all applicable ANSI Standards. LESSOR shall have no responsibility of any kind for compliance with any such laws, regulations or ordinances during the period the Equipment is in LESSEES' possession or control.

**7. OPERATORS:** LESSEE shall be solely responsible for supplying, employing, compensating and authorizing only competent and qualified personnel who are experienced, knowledgeable, trained, and, where required by law, certified and/or licensed, to operate and maintain the Equipment whether or not the operator is an employee of LESSEE. LESSEE shall comply with all applicable laws, rules, regulations and labor agreements relating to employment

of personnel on the Equipment and shall provide and pay for all workmen's compensation insurance, taxes and contributions for social security benefits, unemployment insurance, and union benefits, including any pensions and annuities imposed under any applicable law or labor agreement. LESSEE shall hold LESSOR free and harmless from any liability for any such taxes, insurance, contributions, payments and benefits under any workmen's compensation law, employer's liability or other expense.

**8. BORROWED SERVANTS:** LESSOR will make one or more Operators/Technicians available for assembly and/or operation of the Equipment. Operators/Technicians are supplied to LESSEE under the Borrowed Servant Doctrine as borrowed servants or employees of LESSEE. LESSEE shall supervise and have the right to control the work of the Operators/Technicians and shall be fully liable for any and all loss or damage, including property damage and bodily injury or death as a result of the acts or omissions of Operators/Technicians provided hereunder. The terms of the attached Borrowed Servant Addendum are incorporated into this Agreement.

**9. INDEMNITY: TO THE FULLEST EXTENT PERMITTED BY LAW, LESSEE SHALL HOLD LESSOR, ITS AGENTS, EMPLOYEES AND ASSIGNS, FREE AND HARMLESS FROM AND INDEMNIFY AND DEFEND LESSOR AGAINST ANY AND ALL SUITS, ACTIONS, PROCEEDINGS, CLAIMS, DEMANDS, LIABILITIES, COSTS AND CHARGES, LEGAL EXPENSES, DAMAGES OR PENALTIES OF ANY NATURE, ACTUALLY OR ALLEGEDLY ARISING OUT OF OR RELATED TO EQUIPMENT FURNISHED BY LESSOR OR TO ANY ALLEGED ACTIONS OR OMISSIONS BY LESSEE, INCLUDING, BUT NOT LIMITED TO, THOSE RESULTING FROM, OR CLAIMED TO RESULT FROM INJURY, DEATH OR DAMAGE TO ANY AND ALL PERSONS, EMPLOYEES OR PROPERTY IN ANY WAY ARISING OUT OF LESSEE'S WORK OR ANY PERSON ACTING FOR OR ON BEHALF OF LESSEE. THIS AGREEMENT APPLIES TO CLAIMS, DEMANDS OR LIABILITY FOR INJURY OR LOSS CAUSED OR CONTRIBUTED TO BY THE NEGLIGENCE OR OTHER MISCONDUCT OF LESSOR. LESSEE, HOWEVER, SHALL HAVE NO LIABILITY FOR THE ACTIVE NEGLIGENCE OR WILLFUL MISCONDUCT OF LESSOR. THE DUTY OF THE LESSEE HEREIN TO DEFEND AND INDEMNIFY LESSOR SHALL ARISE AS OF THE TIME OF THE TENDER OF DEFENSE.**

**10. INSURANCE:** LESSEE is obligated to procure and produce upon LESSOR's request commercial general liability insurance with limits not less than \$2,000,000 and in no event less than \$2,000,000 per occurrence and in the aggregate, or such higher amounts as, in the opinion of LESSOR, are needed to protect LESSOR and LESSEE against any and all such liability or risk of loss and to cover LESSEE's obligations herein. If the LESSEE chooses to carry insurance coverage above the minimum described herein, including excess or umbrella coverage, said additional coverage shall be endorsed to also extend to LESSOR to include all the terms and conditions set forth herein.

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LESSOR shall be named as an additional insured without limitation on LESSEE's insurance and the coverage shall include an endorsement that states that such insurance shall be primary and any insurance maintained by LESSOR, including both primary and excess insurance, shall be excess and noncontributing. The coverage shall contain an endorsement that waives subrogation against LESSOR. The deductible, if any, for the insurance shall be paid by and for the account of LESSEE, and LESSOR shall be entitled to fully recover from LESSEE's insurance carrier, and all such payments shall be made directly and solely to LESSOR.

Should LESSEE come onto LESSOR's yard to pick-up, haul and drop off the Equipment, then LESSEE shall be obligated to procure auto commercial liability insurance with a combined single limit not less than \$1,000,000 for property damage and bodily injury. Such coverage shall name LESSOR as additional insured under an endorsement and shall contain an endorsement that waives subrogation against LESSOR. In addition, LESSEE shall be obligated to procure cargo insurance covering the full stated value of the Equipment LESSEE is hauling from LESSOR's yard to another location.

LESSEE shall be obligated to procure fire and extended coverage insurance, naming LESSOR as Loss Payee, for the full stated value of the Equipment, as listed in the agreement, for any and all loss or damage to the Equipment occasioned by fire, theft, flood, explosion, overturn, accident, acts of God or any other cause that may occur during the rental term.

LESSEE shall be obligated to procure and produce upon LESSOR's request workers compensation insurance and employer's liability insurance upon all of its employees and the employees of its subcontractors. The coverage shall contain an endorsement that waives subrogation against LESSOR. LESSEE's obligations hereunder shall not be limited by the amount of insurance provided. If LESSEE is based in and the location of Equipment use is in a monopolistic state where waiver of subrogation is not obtainable, then LESSEE is not required to submit a waiver of subrogation endorsement.

The above insurance policies shall be with companies acceptable to LESSOR. LESSEE shall be obligated to procure and produce upon LESSOR's request certificates of insurance and endorsements evidencing such insurance in form acceptable to LESSOR and naming LESSOR as certificate holder prior to the Equipment being shipped, which shall provide that such insurance may not be canceled without Thirty (30) days written notice to LESSOR in advance. If LESSOR shall, for any reason, fail to enforce any requirement for any insurance as provided in this Agreement, or if LESSEE is in default of its obligation to obtain any such insurances,

the failure to provide insurance shall constitute an agreement by LESSEE to indemnify LESSOR against any and all loss which such insurance would otherwise have covered, including all special and consequential damages regardless of whether the same are foreseeable.

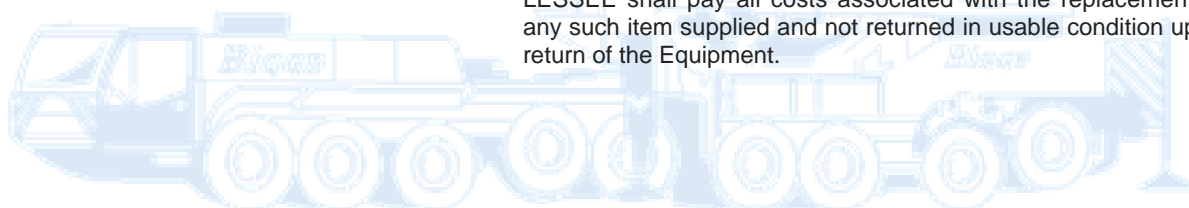
LESSOR shall not participate in any wrap-up or Owner Controlled Insurance Program and any costs related thereto shall be paid by LESSEE.

**11. DAMAGE TO EQUIPMENT:** In the event the equipment is damaged in any way or form, other than normal operating wear, LESSEE shall notify LESSOR immediately of the incident and describe the extent of the damage. Repairs to boom sections are not to be attempted without express consent of LESSOR. All repairs to the equipment shall be at the expense of LESSEE (excluding latent manufacturing defects) and LESSEE shall provide full documentation to LESSOR. The rental period will continue throughout such time required to make all necessary repairs for which LESSEE is responsible. Should Equipment not be repairable, LESSEE must pay full replacement value plus applicable taxes.

**12. PREVENTIVE MAINTENANCE:** LESSEE is responsible, at its own cost, to schedule and perform maintenance, adjustments and repairs on the Equipment in accordance with the Equipment manufacturer's specifications and applicable laws and regulations, including without limitation OSHA and DOL.

LESSEE shall be responsible for performing all normal basis service, including without limitation all filters, lubrications, protection against freezing and repair of any parts affected by exposure to the elements. LESSOR has the right but not the obligation to inspect the Equipment at any time during normal working hours. However, LESSEE agrees that LESSOR has no control over the Equipment's use, operation, maintenance and/or repair while in LESSEE's possession, control and/or supervision. LESSEE shall provide LESSOR with prompt access to the Equipment to properly maintain and/or repair the Equipment if LESSEE fails to do so or upon LESSOR's request, all at LESSEE's expense. LESSOR shall have the right to make and/or direct all repairs required due to any accident, at LESSEE's expense. All repairs shall meet manufacturer's specifications and be certified by the manufacturer and/or qualified inspector/certifier

OSHA and DOL regulations require daily, monthly (or other periodic) and annual inspections. LESSEE is solely responsible for conducting and properly documenting these inspections and for otherwise ensuring that the Equipment meets and is operated in accordance with OSHA and DOL requirements and ANSI Standards. LESSOR furnishes the following items with each crane to assist LESSEE with said compliance: i) crane logbook, ii) operator's manual; iii) fire extinguisher; and iv) load chart. LESSEE shall pay all costs associated with the replacement of any such item supplied and not returned in usable condition upon return of the Equipment.





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LESSEE shall keep a written record of all inspections and shall be responsible for keeping the crane logbook current and accurate while the Equipment is in LESSEE's possession or control and shall be solely responsible for any liability for failure to do so. If LESSEE operates the Equipment in adverse or corrosive environments, LESSEE shall take all reasonable measures to protect the Equipment from damage from those environments.

LESSOR may provide maintenance and repair services for a fixed monthly fee if agreed to under separate Repair Agreement Addendum to this contract. In such event, LESSOR's repair personnel shall be Borrowed Servant of LESSEE as stated herein.

**13. ASSIGNMENT:** Any assignment, transfer, subletting or hypothecation of this lease or any interest therein or of the Equipment or any part thereof by LESSEE without the prior written consent of LESSOR shall be void. If LESSOR shall assign this lease or any rights or the rental payable hereunder, assignee's rights shall be free and independent of any claim or offset of LESSEE against LESSOR. LESSEE upon receiving notice shall abide to the assignment and make payment as directed. In the event of such an assignment, the term "LESSOR" as used herein shall refer to LESSOR'S assignee.

**14. TAXES:** LESSEE shall be liable for and shall pay all licenses, permits, fees, taxes and assessments, and penalties and fines, if any, assessed or levied by any public authority against the Equipment, this Agreement and the transaction represented thereby, or any interest therein or any part thereof, or arising out of the ownership, use, operation or possession of the Equipment hereunder. Nothing in this paragraph is to be construed as meaning that the LESSEE is to pay the personal property tax levied against the machinery rented when said machinery is delivered within the home state of the LESSOR, as in this case the LESSOR is to pay his own personal property tax. In the event the Equipment is rented outside of the home state of the LESSOR, any and all taxes assessed against the machinery, including personal property tax, are to be paid by the LESSEE.

**15. TITLE:** Title to the Equipment shall at all times remain in LESSOR exclusively. LESSEE shall keep the Equipment free from any and all liens, claims and encumbrances and shall not do or permit any act or thing whereby LESSOR's rights, title or interest in the Equipment or in this Agreement may be encumbered or impaired.

**16. TERMINATION, REPOSSESSION AND ATTORNEY'S FEES:** LESSOR reserves the right to terminate this Agreement for its convenience at any time. LESSOR shall have the right to terminate this Agreement if: 1) LESSEE fails to make any payment as herein provided; 2) at any time during the term hereof, fails to perform any of the terms and conditions LESSEE is obligated to perform; 3) becomes insolvent or makes an assignment for the benefit of creditors or becomes the subject of any reorganization or bankruptcy proceeding; 4) LESSEE changes the Rental Start Date by more than fourteen (14) days; and/or 5) if LESSOR shall

deem it to be to its best interest to do so to protect its interests or protect the Equipment against loss or damage. Upon termination of this Agreement for whatever cause or reason, then LESSOR and its agents or representatives may, in addition to any other rights or remedies it may have hereunder or at law or in equity, without notice or demand or liability or legal process, demand LESSEE halt further operation of the Equipment, enter any premises where said Equipment is or is believed to be located and take any actions necessary to secure and protect the Equipment from further use, repossess all or any part thereof. LESSEE expressly waives all further rights to possession of the Equipment and all claims for injury suffered through or loss caused by such termination and/or repossession. If LESSOR shall repossess the Equipment or shall institute any proceeding to recover any monies due hereunder to recover possession of the Equipment or any part thereof or to enforce any term or condition hereof, LESSEE shall pay LESSOR's costs incurred therein including LESSOR's attorney's fees, expert fees, litigation expenses other than costs of suit permitted by statute and all costs of suit. LESSEE stipulates that expert fees and litigation expenses other than costs of suit may be recovered by post-judgment motion and need not be proven at trial. LESSOR's rights hereunder are cumulative and not exclusive or alternative.

**17. LIMITATION OF WARRANTIES AND LIABILITY:** LESSOR WARRANTS THAT IT HAS THE RIGHT TO LEASE THE EQUIPMENT TO LESSEE AND THAT DURING THE RENTAL TERM, LESSEE SHALL HAVE AND ENJOY QUIET POSSESSION OF THE EQUIPMENT AGAINST ANY LAWFUL CLAIMS AGAINST THE LESSOR. **THIS EQUIPMENT IS LEASED WHERE IS, AS IS, AND LESSOR MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND THAT THE EQUIPMENT IS OR SHALL BE FIT OR SUITABLE FOR ANY SPECIFIC PURPOSE OR PURPOSES OF LESSEE, INCLUDING MERCHANTABILITY, WHETHER OR NOT DISCLOSED OR KNOWN TO LESSOR. EXCEPT AS EXPRESSLY CONTAINED HEREIN, LESSOR MAKES NO WARRANTY EXPRESS OR IMPLIED WITH RESPECT TO THE EQUIPMENT OR ANY PART THEREOF, NOR ANY REPRESENTATION, PROMISE OR AGREEMENT. LESSEE HAS RELIED SOLELY AND EXCLUSIVELY ON ITS OWN JUDGMENT, EXPERTISE AND CRITERIA IN SELECTING AND INSPECTING THE EQUIPMENT. UNLESS OTHERWISE EXPRESSLY REPRESENTED, LESSOR IS NOT THE MANUFACTURER OF THE EQUIPMENT. LESSOR EXTENDS NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, DESIGN, MATERIALS, OR OTHERWISE, EXCEPT AS SET FORTH IN THIS AGREEMENT. IN NO EVENT SHALL LESSOR OR THE MANUFACTURER (OR ITS COMPONENT SUPPLIERS) OF THE EQUIPMENT BE LIABLE FOR ANY DELAY, WORK STOPPAGE, LOSS OF USE OF EQUIPMENT, LOSS OF TIME, INCONVENIENCE, LOSS OF PROFIT, OR ANY DIRECT, INDIRECT, INCIDENTAL, LIQUIDATED, SPECIAL OR CONSEQUENTIAL DAMAGES.**

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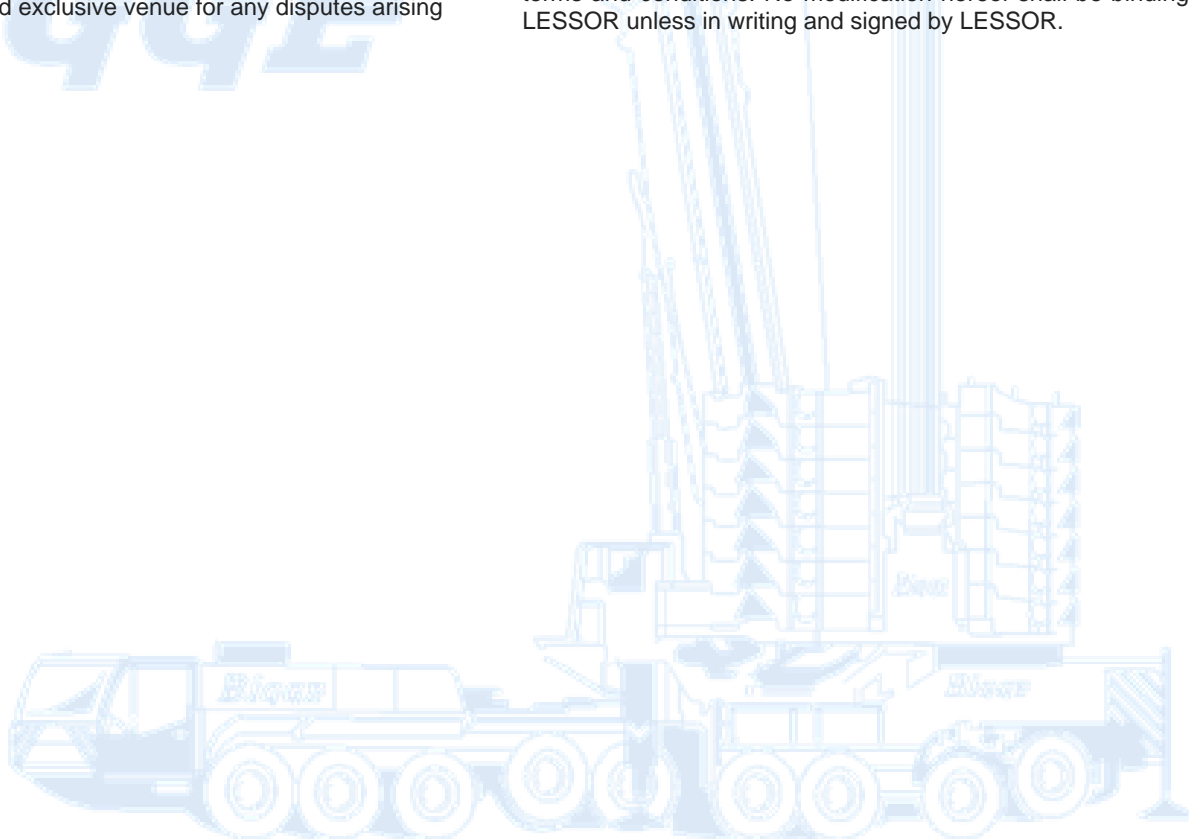
**GENERAL TERMS**

THE SOLE AND EXCLUSIVE REMEDY OF LESSEE FOR ANY BREACH, ERROR AND/OR OMISSION BY LESSOR OF THIS AGREEMENT SHALL BE THE SUSPENSION OF THE RENTAL CHARGES DURING THE PERIOD OF TIME THE EQUIPMENT IS NOT IN OPERATION OR FOR ANY DELAYS IN DELIVERING, INSTALLING, JUMPING, REPAIRING/MAINTAINING, AND/OR REMOVING THE EQUIPMENT. NOTWITHSTANDING ANYTHING TO THE CONTRARY, LESSOR SHALL NOT BE LIABLE FOR ANY DIRECT, CONSEQUENTIAL, PUNITIVE, INCIDENTAL OR LIQUIDATED DAMAGES, EXCEPT AS EXPRESSLY STATED IMMEDIATELY ABOVE. IN NO EVENT WILL LESSOR'S LIABILITY ARISING OUT OF CONTRACT OR TORT OR ANY OTHER CAUSE OF ACTION EXCEED THE RENTAL RATE FOR ONE (1) MONTH AS STATED HEREIN.

- 18. NOTICES:** All notices required to be given hereunder may be served personally on the party to be given such notice, by electronic mail, or sent by certified or registered mail with postage prepaid to the address given herein unless a different address is hereafter specified. LESSEE shall provide accurate and timely information for purposes of serving preliminary notices.
- 19. SUCCESSORS & ASSIGNS:** This Agreement and the terms and conditions hereof shall bind the parties hereto, their heirs, successors, legal representatives and assigns.
- 20. APPLICABLE LAW, NON-WAIVER, SEVERABILITY:** The interpretation of this Agreement and the execution and performance thereof shall be governed by the laws of the State of California. The sole and exclusive venue for any disputes arising

from this Agreement shall be in a court of competent jurisdiction in Alameda County, California. Time is of the essence. LESSOR's failure to require strict performance by LESSEE of any of the provisions hereof shall not constitute a waiver of LESSOR'S rights thereafter to demand strict compliance therewith or with any other provision hereof. If any provision of this Agreement is found to be invalid, the balance of the Agreement shall not be rendered invalid or unenforceable and to the greatest extent possible, the invalid provision shall be reformed to make the provision lawful and consistent with the intentions of the parties.

- 21. EXCLUSIVE AGREEMENT:** This Agreement, when duly executed by LESSOR, is the only form of Agreement LESSOR will recognize and constitutes the sole and entire Agreement between the parties hereto. No Equipment shall be shipped until this Agreement has been fully executed by both parties, but in any event shipment by LESSOR and receipt by LESSEE shall constitute acceptance by both parties of these General Conditions as applicable to the rental of the Equipment. Paragraph headings of this lease are inserted only for convenience and in no way define, limit or describe the scope or intent of this lease or affect its terms and provisions. All different or additional terms are hereby rejected and will not become part of any agreement formed by the parties. It is expressly agreed and understood that LESSOR shall not be bound by any agreement, warranty or representation, express or implied, except as contained in the Agreement. No representative, agent or employee of LESSOR, except the Contract and Risk Manager, has the authority to amend or modify this Agreement or to change or waive any of its terms and conditions. No modification hereof shall be binding on LESSOR unless in writing and signed by LESSOR.





# **Crawler Crane Product Data**

Grove Manitowoc National Crane Potain



## **Manitowoc 14000** Product Guide



### **Features**

- 200 mton (220 ton) capacity
- 865 m-ton (6,267 ft-kips) Maximum Load Moment
- 89 m (292') Heavy-Lift Boom
- 98,4 m (323') Fixed Jib on Heavy-Lift Boom
- 113,8 m (373') Luffing Jib on Heavy-Lift Boom
- 253 kW (340 HP) engine



# Features

## EPIC®

Manitowoc's field-proven Electronically Processed Independent Controls (EPIC) system delivers high productivity and precise load control by instantly matching a crane's commands to the crane function. EPIC's microprocessor and sensors also maximize a Manitowoc crane's overall reliability and simplify servicing by pinpointing any problem in the crane's engine, power transmission or other operating systems. In addition, EPIC increases versatility by easily tailoring a Manitowoc crane's operation for specialized applications, with or without attachments. EPIC is a key reason no other crane can match the performance and reliability of Manitowoc.



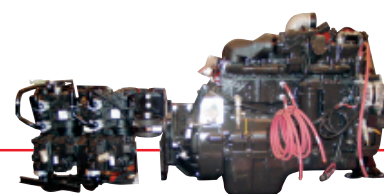
## FACT™ Connectors

Manitowoc's patented Fast Aligning Connection Technology (FACT) automatically aligns crane components for fast, easy assembly.



## Crawler Drive Shafts

These eliminate the need to disconnect hydraulic systems for shipment—simplifying crawler removal and assembly.



## Hydraulics

Our closed-loop system provides a separate hydraulic circuit to power each crane function. The result is truly independent, variable-speed operation of the swing, load hoist, boom hoist and travel functions.

## Contents

Specifications	4
Outline dimensions	7
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Boom combinations	20
Main boom range / load charts	23
Fixed Jib range / load charts	25
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Manitowoc Crane Care	32





# Specifications

## Upperworks

### Engine

Cummins Model QSL 8.9 liter diesel, 6 cylinder, 253 kW (340 BHP) @ 1800 governed RPM.

Includes engine block heater (120 V), air heater starting aid (24 V), oil heater starting aid (120 V), high silencing muffler, radiator and fan.

Multiple hydraulic pump drive transmission provides independent power for all machine functions.

Two 12 volt maintenance-free, Group 8D batteries, 1375 CCA at -18°C (0° F), 24 volt starting and 70 amp alternator.

One 568 l (150 gal) capacity diesel fuel tank, mounted on right side of upperworks, with level indicator in operator's cab.

### Controls

Modulating electronic-over-hydraulic controls provide infinite speed response directly proportional to control lever movement. Controls include Manitowoc's exclusive EPIC Electronically Processed Independent Control system providing microprocessor driven control logic, pump control, on-board diagnostics and service information.

Block-up limit control is standard for hoist and whip lines.

Rated Capacity Indicator system (RCI) is standard for main boom and upper boom point. "Function cut-out" or "warning only" operation is available via programmable configuration.

Travel and swing alarms are standard.

### Hydraulic System

Six high-pressure piston pumps are driven through a multi-hydraulic pump transmission. These six pumps provide independent "closed loop" hydraulic power for front drum, rear drum, boom hoist system, swing system, and both left and right crawler operation.

System	kg/cm2 (psi)	lpm (gpm)
Front Drum	422 (6,000)	300 (80)
Rear Drum	422 (6,000)	300 (80)
Boom Hoist	422 (6,000)	227 (60)
Swing System	422 (6,000)	227 (60)
Left Crawler	422 (6,000)	227 (60)
Right Crawler	422 (6,000)	227 (60)

Hydraulic reservoir capacity is 300 l (79.25 gal) and is equipped with breather, sight and electrical level indicator, clean out access, and internal diffuser.

Each function is equipped with relief valves to protect the hydraulic circuit from overload or shock.

Replaceable, ten micron (absolute) full flow tank filter is furnished in the hydraulic circuit. All oil is filtered prior to return to the hydraulic reservoir.

Hydraulic system also includes pump transmission disconnect clutch & hydraulic oil cooler.

### Drums

Two equal width winches are driven by independent variable displacement axial piston hydraulic motors through planetary reduction mounted on separate front and rear shafts with anti-friction bearings. Drums are grooved for 26 mm rope.

Powered hoisting/lowering operation is standard with automatic (spring applied, hydraulically released) multi-disc brakes, and drum rotation indicators.

- ▶ Optional: Free-fall operation for front and/or rear drums(s).
- ▶ Optional: Auxiliary (third) hydraulic powered drum mounted in boom butt. Includes third drum control system. Auxiliary drum is used as the luffing hoist when machine is equipped with a luffing jib.
- ▶ Optional: Auxiliary drum preparation includes electric wiring, controls, hydraulic selector valve and plumbing.

### Boom Hoist

Independent boom hoist consists of drum grooved for 22 mm diameter wire rope. Includes 22 mm diameter wire rope for 20 part line reeving.

Drum is powered by a variable displacement hydraulic motor coupled to an internal brake and planetary gearbox equipped with ratchet and pawl.

### Mast and Gantry

Moving mast is 8,2 m (27') long and connects the boom hoist reeving to the steel boom suspension strap rigging. When used with optional self-erect package, the mast is utilized for crane assembly and disassembly. It is capable of lifting and positioning the crawler assemblies, stacking the counterweights and assembling the boom and jib.

# Specifications

Gantry includes gantry raising cylinders capable of lifting the entire upperworks counterweight for removal and installation. Back hitch telescopes from storage to working position and is locked with power-actuated pins. Counterweight is suspended from gantry with straps.

Spring cushioned boom stop and automatic boom stop standard.

## Counterweight

QTY.	ITEM	UNIT WEIGHT		TOTAL WEIGHT	
		kg	lb	kg	lb
1	Upperworks Tray	9 965	22,092	9 965	22,092
6	Upper Side Box	7 938	17,500	47 628	105,000
		<b>Series 1 Total</b>		<b>57 593</b>	<b>127,092</b>
1	Upperworks Center Box	2 680	5,908	2 680	5,908
2	Upper Side Box	7 938	17,500	15 876	35,000
2	Carbody Lower Box	12 020	26,500	24 040	53,000
		<b>Optional: Add to Series 1 for Series 2 Total</b>		<b>100 189</b>	<b>221,000</b>

Series 1 and Series 2 counterweight configurations. Includes connecting pins, brackets, and stops.

## Swing System

High strength fabricated steel alloy rotating bed is mounted on 2,76 m (108-9/16") diameter turntable single-row ball bearing.

Independent swing powered by a fixed displacement hydraulic motor coupled to a planetary gearbox with internal brake.

Swing system maximum speed: 2.3 rpm.

## Operator's Cab

Fully enclosed and insulated steel module is equipped with sliding door, large safety glass windows on all sides and roof. Signal horn, cab space heater, front and roof windshield wipers, air conditioning, dome light, sun visor and shade, fire extinguisher and air circulating fan are standard.

- ▶ Optional: Tilt cab.
- ▶ Optional: Nylon protective window covers.

## Lowerworks

### Carbody

Connects rotating bed to crawler assemblies. High strength fabricated steel assembly with FACT™ connection system for fast installation and removal of crawler assemblies.

### Crawlers

Crawler assemblies are 8,3 m (27' 2") long with 1,22 m (48") wide cast steel crawler pads. Each crawler is identical and can be mounted on either side of the carbody. Each crawler is powered independently by a variable displacement hydraulic motor and includes two hydraulically powered pin actuators for fast installation and removal from carbody. Carbody mounted drive motors are connected to crawler final reduction via telescoping shafts. This permits crawlers to be removed without opening their hydraulic circuits. Crawlers provide ample tractive effort that allows counter rotation with full rated load. Maximum ground speed of 1,8 kph (1.1 mph).

- ▶ Optional: Self-Erect system includes: carbody jacking cylinders with pads, controls, 27,2 mton (30 ton) assembly block, boom-butt installation support, gantry cylinders and crawler handling chain.

## Attachments

### No. 76 Heavy-Lift Main Boom

The liftcrane is equipped with a 20 m (65.6') No. 76 basic heavy-lift tubular chord boom consisting of a 5,5 m (18') butt, 5,5 m (18') insert, and 9 m (30') top with seven 76,2 cm (30") diameter roller bearing sheaves in 3 sheave packs. Includes rope guides, boom hoist wire rope, and boom angle indicator. The No. 76 boom utilizes steel suspension straps and Manitowoc's patented, exclusive FACT™ connection system. The FACT™ connection system consists of two hooks, two horizontal connection pins and alignment pads for each boom connection location.

Powered boom hinge system including cylinder, piping, operating controls and locking device standard.

Luffing jib preparation included as standard.

# Specifications

- Optional: 3,0 m (10'), 6 m (19'), and 12 m (39') No. 76 boom inserts with steel boom suspension straps, and FACT™ connection system.

Note: Only one 3,0 m (10') insert is allowed in the boom configuration.

## No. 134 Fixed Jib

- Optional: No. 134 basic tubular chord fixed jib 9,1 m (30') in length consisting of 4,6 m (15') jib butt and 4,6 m (15') jib top with 3,7 m (12') jib strut, pendants and backstay. Includes RCI hardware. For use with boom No. 76.
- Optional: No. 134 fixed jib inserts 3,0 m (10') and 6,1 m (20') with pendants.

Utilize fixed jib inserts in combination with the No. 134 basic fixed jib for total lengths up to 24,4 m (80').

Note: Jib lengths greater than 18,3 m (60') require the use of at least one 6,1 m (20') No. 134 fixed jib insert.

## No. 135 Luffing Jib

- Optional: 21,3 m (70') basic No. 135 tubular chord luffing jib assembly with RCI hardware consisting of 8,2 m (27') butt, 6,1 m (20') insert, and 7,0 m (23') top with two 68,6 cm (27") straight roller bearing sheaves and pin connected jib sections, pendants, fixed strut, jib strut, backstay pendants, boom point wheel, 26 mm luffing jib hoist line. For use with No. 76 boom.
- Optional: 3,0 m (10'), 6,1 m (20'), and 12,2 m (40') No. 135 inserts with pendants. Utilize luffing jib inserts in combination with the No. 135 basic luffing jib for total lengths up to 57,8 m (170').

Note: Only one 3,0 m (10') insert is allowed in the luffing jib.

### Optional Equipment

- Optional: Blocks and Hooks –
  - 13,6 mton (15 ton) swivel hook and weight ball.
  - 27,2 mton (30 ton) hook block with one 76,2 cm (30") sheave for 26 mm wire rope with swivel hook, hook latch and swivel lock (assembly block).
  - 54 mton (60 ton) hook block with two 76,2 cm (30") sheaves for 26 mm wire rope with swivel hook, hook latch and swivel lock.

91 mton (100 ton) hook block with three 76,2 cm (30") sheaves for 26 mm wire rope with swivel hook, hook latch, and swivel lock.

140,6 mton (155 ton) hook block with six 76,2 cm (30") sheaves for 26 mm wire rope with swivel hook, hook latch, and swivel lock.

200 mton (220 ton) hook block with seven 76,2 cm (30") sheaves for 26 mm wire rope with swivel hook, hook latch, and swivel lock.

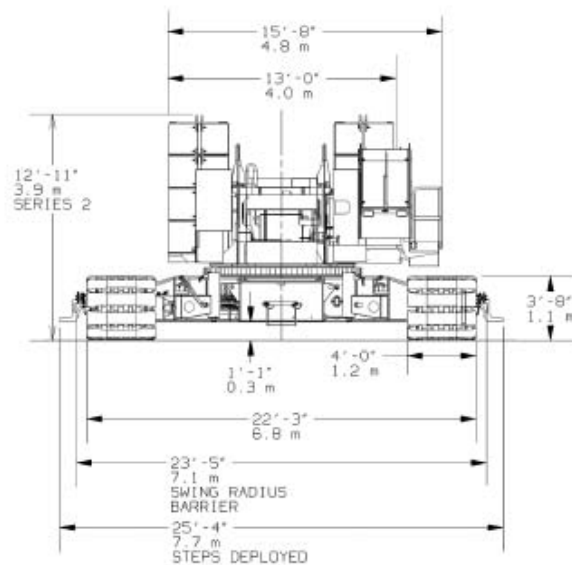
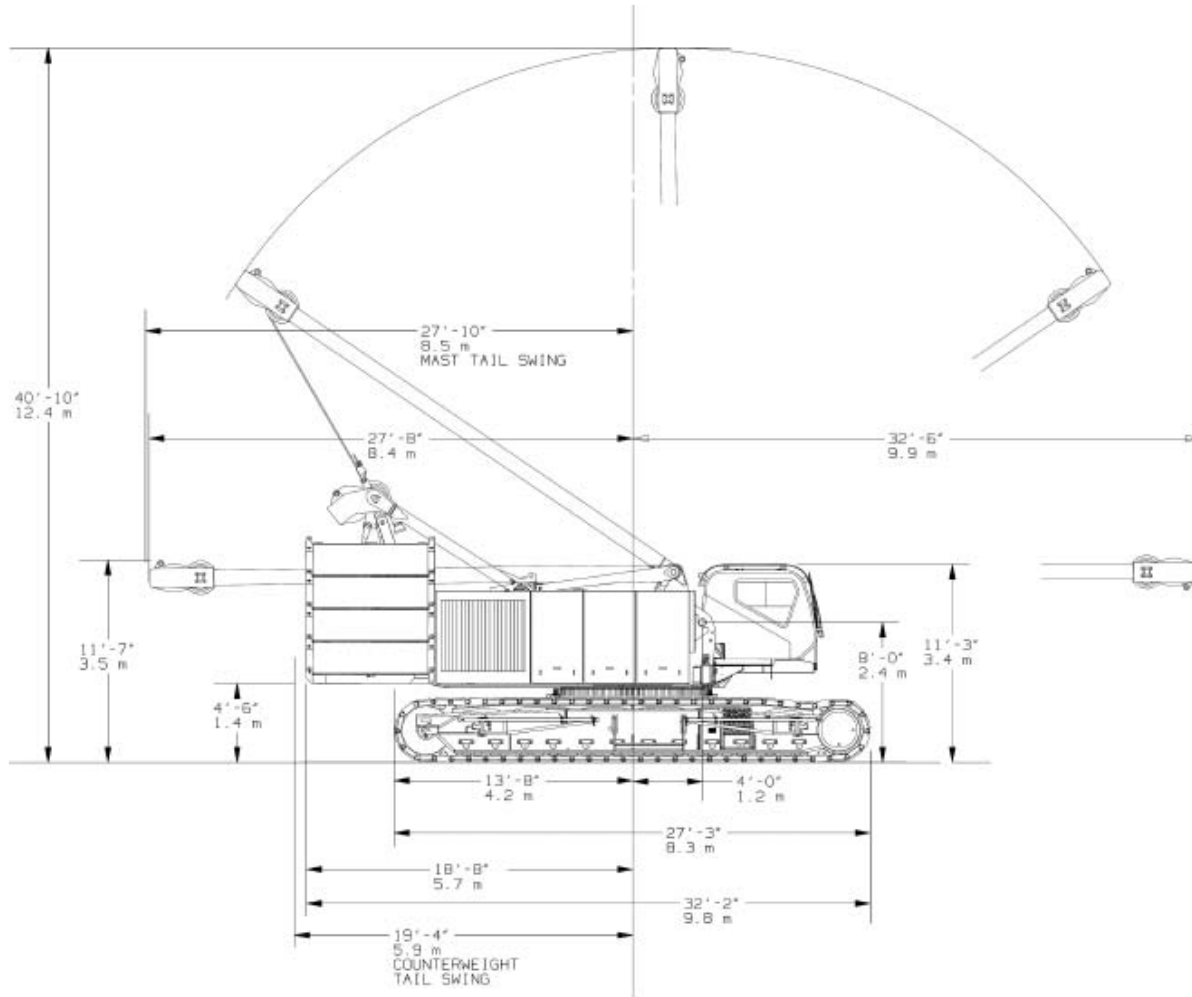
### Hoist Reeving for Main Load Block - Single Lead Line 26 mm - No. 76 Main Boom

No. Parts of Line	Maximum Load	
	kg	(lb)
1	14 290	31,500
2	28 580	63,000
3	42 860	94,500
4	57 150	126,000
5	71 440	157,500
6	85 730	189,000
7	100 020	220,500
8	114 310	252,000
9	128 590	283,500
10	142 880	315,000
11	157 170	346,500
12	171 460	378,000
13	185 750	409,500
14	200 030	441,000

- Optional Hydraulic Test Kit: required to properly analyze the performance of the EPIC® control system.
- Optional Service Interval Kits: for the regularly scheduled maintenance of general crane operations.
- Optional Special Paint: in color(s) other than Manitowoc standard red and black.
- Optional Special Customer Decals: custom vinyl decal(s) of name and/or logo from artwork supplied by customer.
- Optional Export Packaging: basic crane, boom and jib sections.



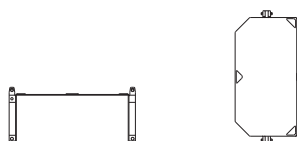
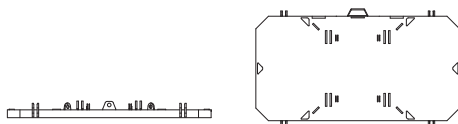
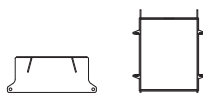
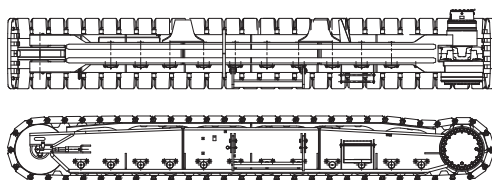
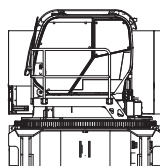
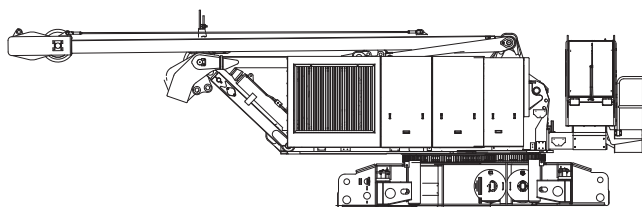
# Outline dimensions



Model 14000



# Outline dimensions



### Basic Crane

Length	11,63 m	38' 2"
Width	3,00 m	9' 10"
Height (CE pkg)	3,20 m	10' 6"
Height (non-CE pkg)	3,43 m	11' 3"
Weight	39 689 kg	87,500 lb

Note: Weight includes carbody, upperworks, operator's cab, gantry, backhitch, mast, boom-hoist wire rope, maximum hoist and whip lines on drums, optional self-assembly jacks, full hydraulic fluid reservoir, and half tank of fuel.

### Crawlers

x 2

Length	8,31 m	27' 3"
Width	1,55 m	5' 1"
Height	1,14 m	3' 9"
Weight	17 706 kg	39,000 lb

### Upper Center Counterweight

x 1

Length	1,30 m	4' 3"
Width	1,04 m	3' 5"
Height	0,56 m	1' 10"
Weight	2 680 kg	5,900 lb

### Counterweight Tray

x 1

Length	3,71 m	12' 2"
Width	2,36 m	7' 9"
Height	0,33 m	1' 1"
Weight	9 716 kg	21,400 lb

### Upper Side Counterweight

Series 1

x 6

Series 2

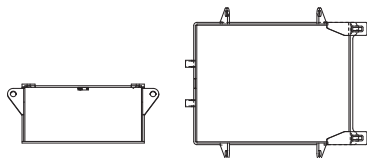
x 8

Length	2,24 m	7' 4"
Width	1,07 m	3' 6"
Height	0,69 m	2' 3"
Weight	7 938 kg	17,500 lb

### Option

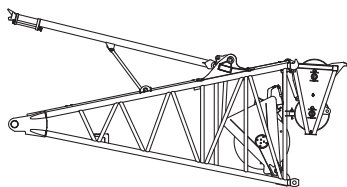


# Outline dimensions



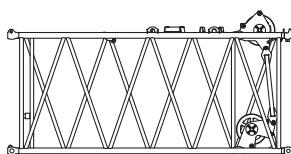
**Lower Carbody Counterweight Series 2 x 2**

Length	2,24 m	7' 4"
Width	1,85 m	6' 1"
Height	0,74 m	2' 5"
Weight	12 122 kg	26,700 lb



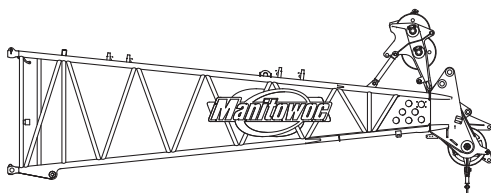
**No. 76 Boom Butt 5,5 m (18.0') & Wire Rope Guide, Boom Stop x 1**

Length	6,76 m	22' 2"
Width	2,44 m	8' 0"
Height	2,64 m	8' 8"
Weight	2 860 kg	6,300 lb



**No. 76 Boom Insert 5,5 m (18.0') w/ Sheaves x 1**

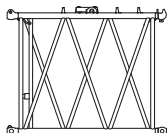
Length	5,69 m	18' 8"
Width	2,54 m	8' 4"
Height	2,59 m	8' 6"
Weight	1 634 kg	3,600 lb



**No. 76 Boom Top 9,0 m (29.5') & Wire Rope Guide, Straps x 1**

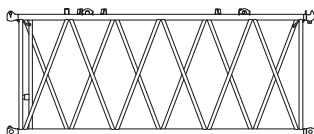
Length	9,58 m	31' 5"
Width	2,51 m	8' 3"
Height	2,97 m	9' 9"
Weight	4 495 kg	9,900 lb

# Outline dimensions



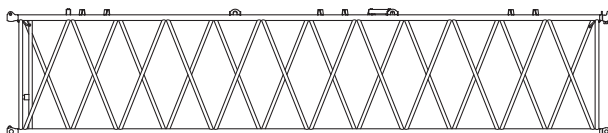
**No. 76 Main Boom 3,0 m (9.8')  
Insert & Straps x 1**

Length	3,17 m	10' 5"
Width	2,54 m	8' 4"
Height	2,59 m	8' 6"
Weight	772 kg	1,700 lb



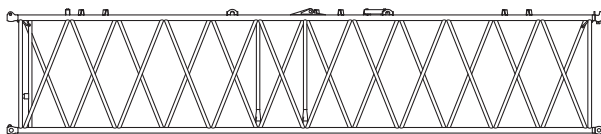
**No. 76 Main Boom 6,0 m (19.7')  
Insert & Straps x 1**

Length	6,17 m	20' 3"
Width	2,54 m	8' 4"
Height	2,59 m	8' 6"
Weight	1 126 kg	2,700 lb



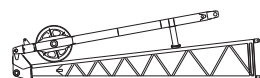
**No. 76 Main Boom 12,0 m (39.4')  
Insert & Straps x 1, 2, 3, 4**

Length	12,17 m	39' 11"
Width	2,54 m	8' 4"
Height	2,59 m	8' 6"
Weight	2 134 kg	4,700 lb



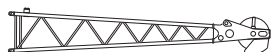
**No. 76 Main Boom 12,0 m (39.4') w/  
Backstay Insert & Straps x 1**

Length	12,17 m	39' 11"
Width	2,54 m	8' 4"
Height	2,59 m	8' 6"
Weight	2 179 kg	4,800 lb



**No. 134 Jib Butt 4,6 m (15')  
& Strut, Stop x 1**

Length	4,67 m	15' 4"
Width	0,86 m	2' 10"
Height	1,29 m	4' 3"
Weight	635 kg	1,400 lb



**No. 134 Jib Top 4,6 m (15')  
& Pendants x 1**

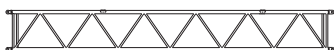
Length	4,93 m	16' 2"
Width	0,79 m	2' 7"
Height	0,79 m	2' 7"
Weight	553 kg	1,220 lb



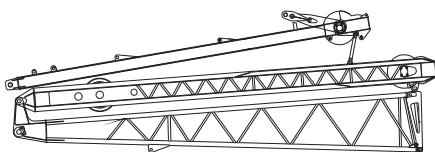
# Outline dimensions



<b>No. 134 Jib Insert 3,0 m (10') &amp; Pendants</b> x 1		
Length	3,12 m	10 3
Width	0,79 m	2 7
Height	0,79 m	2 7
Weight	218 kg	480 lb



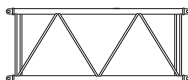
<b>No. 134 Jib Insert 6,1 m (20') &amp; Pendants</b> x 1, 2		
Length	6,17 m	20 3
Width	0,79 m	2 7
Height	0,79 m	2 7
Weight	340 kg	750 lb



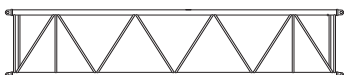
<b>No. 135 Luffing Jib 8,2 m (27') Butt &amp; Struts</b> x 1		
Length	8,81 m	28 11
Width	1,57 m	5 2
Height	2,92 m	9 7
Weight	4 477 kg	9,870 lb



<b>No. 135 Luffing Jib Top 7,0 m (23') &amp; Roller, Pendants</b> x 1		
Length	7,80 m	25' 7
Width	1,52 m	5 0
Height	2,02 m	6 8
Weight	1 984 kg	4,375 lb
Note: Includes wire rope guide.		



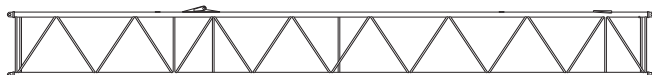
<b>No. 135 Luffing Jib Insert 3,0 m (10') &amp; Pendants</b> x 1		
Length	3,15 m	10 4
Width	1,52 m	5' 0
Height	1,30 m	4' 3
Weight	381 kg	840 lb



<b>No. 135 Luffing Jib Insert 6,1 m (20') &amp; Pendants</b> x 1, 2		
Length	6,20 m	20 4
Width	1,52 m	5 0
Height	1,30 m	4 3
Weight	612 kg	1,350 lb

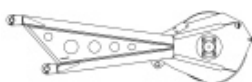


# Outline dimensions



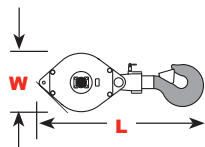
**No. 135 Luffing Jib Insert  
12,2 m (40') & Pendants x 1, 2, 3**

Length	12,29 m	40' 4"
Width	1,52 m	5' 0"
Height	1,30 m	4' 3"
Weight	1 050 kg	2,315 lb



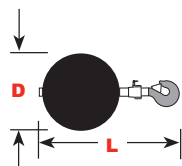
**No. 76 Upper Boom Point x 1**

Length	2,64 m	8' 8"
Width	0,41 m	1' 4"
Height	0,81 m	2' 8"
Weight	420 kg	925 lb



**Hook block for 26 mm (1") wire rope**

Capacity	200 mt	220 t	Length	2,27 m	7' 5"
Weight	2 472 kg	5,450 lb	Width	0,84 m	2' 9"
Capacity	150 mt	165 t	Length	2,11 m	6' 11"
Weight	2 730 kg	6,000 lb	Width	0,90 m	2' 11"
Capacity	91 mt	100 t	Length	1,98 m	6' 6"
Weight	1 770 kg	3,900 lb	Width	0,88 m	2' 11"
Capacity	27 mt	30 t	Length	1,50 m	4' 11"
Weight	1 724 kg	3,801 lb	Width	0,71 m	2' 4"



**Weight Ball**

Capacity/Swivel	14 mt	15 t	Diameter	0,53 m	1' 9"
Weight	594 kg	1,310 lb	Length	1,13 m	3' 9"



# Transport data

Model 14000 Load Out Summary													
Weight Each Item	No. 76 Boom 65 m (213') Series 2												
	Quantity on Trailer Load #												
	Item	kg (lb)	1	2	3	4	5	6	7	8	9	10	11
Upperworks Structure with Carbody, Gantry & Mast	39 689 (87,500)	1											
Crawler Assembly	17 690 (39,000)		1										
Crawler Assembly	17 690 (39,000)			1									
9,0 m (29'8") Boom Top	4 536 (10,000)				1								
5,5 m (18'6") Boom Butt	2 858 (6,300)											1	
Upper Side Counterweight	7 938 (17,500)				1	2	2	2				1	
12,0 m (39'5") Boom Insert	2 132 (4,700)					1	1	1		1			
5,5 m (18'6") Boom Insert	1 633 (3,600)								1				
6,0 m (19'8") Boom Insert	1 678 (3,700)								1				
3,0 m (10'0") Boom Insert	771 (1,700)										1		
Counterweight Tray	9 707 (21,400)								1				
Upper Center Counterweight	2,722 (6,000)									1			
Detachable Upper Boom Point	499 (1,100)				1								
9,2 m (30'0") #134 Jib and Strut	1,188 (2,620)		1										
3,0 m (10'0") #134 Jib Insert	140 (310)			1									
6,1 m (20'0") #134 Jib Insert	256 (565)			2									
Intermediate Frame	680 (1,500)									1			
Lower Carbody Counterweight	12 111 (26,700)										1	1	
Load Block - 91 mton (100 USt)	1 814 (4,000)												1
14 mton (15 USt) Weight Ball	2 604 (5,740)											1	
Rigging Block and Chain	600 (1,500)			1									
Miscellaneous	2 722 (6,000)												1
		39 689 (87,500)	18 878 (41,620)	19 023 (41,940)	12 972 (28,600)	18 008 (39,700)	8 008 (39,700)	8 008 (39,700)	13 018 (28,700)	5 533 (12,200)	20 820 (45,900)	17 572 (38,740)	6 668 (14,700)
		1	2	3	4	5	6	7	8	9	10	11	12

\* Note: Does not include blocking, strapping etc.

Model 14000

# Performance data

## Main and Standard Whip Drum - 140kN (31,500 lb)

Layer	Full Power Drum - Continuous Duty					
	Single Line Pull/Single Line Speed					
	m/min (ft/min)					
	1	2	3	4	5	6
<b>Single Line Pull</b> <b>kg (lb)</b>						
0 (0)	97 (318)	106 (347)	115 (377)	124 (406)	133 (435)	141 (464)
2 268 (5,000)	91 (299)	99 (324)	106 (349)	114 (374)	121 (399)	129 (423)
4 536 (10,000)	85 (279)	92 (301)	98 (322)	104 (340)	105 (344)	106 (347)
6 804 (15,000)	71 (232)	72 (236)	73 (240)	74 (243)	75 (247)	76 (250)
9 072 (20,000)	56 (184)	57 (188)	58 (191)	59 (195)	60 (198)	62 (202)
11 340 (25,000)	47 (155)	48 (158)	49 (162)	50 (166)	52 (169)	53 (173)
14 288 (31,500)	40 (131)	41 (134)	42 (138)	43 (142)	44 (145)	45 (149)

## Luffing Hoist Drum / Auxiliary Drum - 89 kN (20,000 lb)

Layer	Full Power Drum - Continuous Duty							
	Single Line Pull/Single Line Speed							
	m/min (ft/min)							
	1	2	3	4	5	6	7	8
<b>Single Line Pull</b> <b>kg (lb)</b>								
0 (0)	85 (280)	92 (303)	99 (326)	106 (349)	113 (372)	120 (395)	127 (418)	134 (441)
2 268 (5,000)	79 (260)	85 (279)	91 (298)	97 (318)	103 (336)	108 (355)	114 (373)	119 (391)
4 536 (10,000)	73 (239)	78 (255)	79 (258)	80 (261)	81 (264)	82 (267)	82 (271)	83 (274)
6 804 (15,000)	55 (180)	56 (184)	57 (187)	58 (190)	59 (193)	60 (196)	61 (199)	62 (202)
9 072 (20,000)	44 (145)	45 (148)	46 (151)	47 (154)	48 (157)	49 (161)	50 (164)	51 (167)



# Performance data

## Wire Rope Lengths - Single Hoist Line Drum - 26 mm No. 76 Main Boom

Boom or Boom and Jib Length	Whip Line - Drum 1 or 3 (Front or Auxiliary Drum)				Hoist Line - Drum 2 (Rear Drum)		Total Parts of Line
	1 Part		2 Part				
m (ft)	m (ft)	m (ft)	m (ft)	m (ft)	m (ft)		
20 (66)	58 (190)	82 (270)	335 (1100)			14	
23 (76)	64 (210)	91 (300)	366 (1200)			13	
29 (95)	76 (250)	110 (360)	373 (1225)			11	
35 (115)	88 (290)	128 (420)	411 (1350)			10	
41 (135)	101 (330)	146 (480)	434 (1425)			9	
47 (154)	113 (370)	165 (540)	450 (1475)			8	
53 (174)	125 (410)	183 (600)	450 (1475)			7	
59 (194)	137 (450)	201 (660)	450 (1475)			6	
65 (213)	149 (490)	219 (720)	450 (1475)			5	
71 (233)	162 (530)	238 (780)	450 (1475)			4	
77 (253)	174 (570)	256 (840)	450 (1475)			4	
83 (272)	186 (610)	274 (900)	450 (1475)			3	
89 (292)	198 (650)	293 (960)	450 (1475)			3	
95 (312)	210 (690)	311 (1020)	—	—		—	
98 (322)	216 (710)	—	—	—		—	

NOTE: Hoist and whip line lengths given in table will allow hook to touch ground. When block travel below ground is required, add additional rope equal to parts of line times added travel distance. Hoisting distance or line pull may be limited when block travel below ground is required.

Maximum wire rope length allowed on Drum 3 (Auxiliary Drum) is 235 m (770 ft).

## Hoist Reeving for Main Load Block - Single Lead Line 26 mm - No. 76 Main Boom

No. Parts of Line	Maximum Load	
	kg	(lb)
1	14 290	31,500
2	28 580	63,000
3	42 860	94,500
4	57 150	126,000
5	71 440	157,500
6	85 730	189,000
7	100 020	220,500
8	114 310	252,000
9	128 590	283,500
10	142 880	315,000
11	157 170	346,500
12	171 460	378,000
13	185 750	409,500
14	200 030	441,000



# Performance data

Wire Rope Lengths Boom No. 76 - or - Fixed Jib No. 134 Boom No. 76							
Boom or Boom and Jib Length	Whip Line - Drum 1 or 3 (Front or Auxiliary Drum)				Hoist Line - Drum 2 (Rear Drum)		Total Parts of Line
	1 Part		2 Part		m	(ft)	
m (ft)	m	(ft)	m	(ft)	m	(ft)	
20 (66)	58	(190)	82	(270)	335	(1100)	14
23 (76)	64	(210)	91	(300)	366	(1200)	13
26 (85)	70	(230)	101	(330)	366	(1200)	12
29 (95)	76	(250)	110	(360)	373	(1225)	11
32 (105)	82	(270)	119	(390)	381	(1250)	10
35 (115)	88	(290)	128	(420)	411	(1350)	10
38 (125)	94	(310)	137	(450)	411	(1350)	9
41 (135)	101	(330)	146	(480)	434	(1425)	9
44 (144)	107	(350)	155	(510)	434	(1425)	8
47 (154)	113	(370)	165	(540)	450	(1475)	8
50 (164)	119	(390)	174	(570)	450	(1475)	7
53 (174)	125	(410)	183	(600)	450	(1475)	7
56 (184)	131	(430)	192	(630)	450	(1475)	6
59 (194)	137	(450)	201	(660)	450	(1475)	6
62 (203)	143	(470)	210	(690)	450	(1475)	5
65 (213)	149	(490)	219	(720)	450	(1475)	5
68 (223)	155	(510)	229	(750)	450	(1475)	5
71 (233)	162	(530)	238	(780)	450	(1475)	4
74 (243)	168	(550)	247	(810)	450	(1475)	4
77 (253)	174	(570)	256	(840)	450	(1475)	4
80 (263)	180	(590)	265	(870)	450	(1475)	3
83 (272)	186	(610)	274	(900)	450	(1475)	3
86 (282)	192	(630)	283	(930)	450	(1475)	3
89 (292)	198	(650)	293	(960)	450	(1475)	3
92 (302)	204	(670)	302	(990)	—	—	—
95 (312)	210	(690)	311	(1020)	—	—	—
98 (322)	216	(710)	—	—	—	—	—

NOTE: Hoist and whip line lengths given in table will allow hook to touch ground. When block travel below ground is required, add additional rope equal to parts of line times added travel distance. Hoisting distance or line pull may be limited when block travel below ground is required.

Maximum wire rope length allowed on Drum 3 (Auxiliary Drum) is 770 ft (235).



# Performance data

## Wire Rope Lengths Luffing Jib No. 135 on Boom No. 76

Boom or Boom and Jib Length	Luffing Jib Hoist Line		Maximum Required Parts of Line
	Hoist Line Drum 2		
	m	(ft)	
20 (66)	244	(800)	4
23 (76)	259	(850)	4
26 (85)	274	(900)	4
29 (95)	290	(950)	4
32 (105)	305	(1000)	4
35 (115)	320	(1050)	4
38 (125)	320	(1050)	3
41 (135)	335	(1100)	3
44 (144)	351	(1150)	3
47 (154)	351	(1150)	3
50 (164)	351	(1150)	3
53 (174)	366	(1200)	3
56 (184)	366	(1200)	3
59 (194)	366	(1200)	3

NOTE: Hoist line lengths given in table include all luffing jib lengths. Hoist line lengths given in table will allow hook to touch ground. When block travel below ground is required, add additional rope equal to parts of line times added travel distance. Hoisting distance or line pull may be limited when block travel below ground is required.

## Wire Rope Specifications 5:1 Safety Factor Boom No. 76 - or - Fixed Jib No. 134 on Boom No. 76

Function	5:1 Safety Factor Rotation Resistant, 2 160 N/mm <sup>2</sup> Wire rope with Pad Eye		5:1 Safety Factor Rotation Resistant, 2 160 N/mm <sup>2</sup> . Wire rope
	Hoist Line	Whip Line	Auxiliary Line
Part Number	No. 719432	No. 719432	No. 719436
Size Wire Rope	26 mm —	26 mm —	— (1")
Minimum Breaking Strength	71 940 kN (158,600 lb)	71 940 kN (158,600 lb)	69 760 kN (153,800 lb)
Maximum Load Per Line	14 290 kg (31,500 lb)	14 290 kg (31,500 lb)	9 070 kN (20,000 lb)
Approximate Weight	3,56 kg/m (2.39 lb/ft)	3,56 kg/m (2.39 lb/ft)	3,36 kg/m (2.26 lb/ft)

# Performance data

Drum Capacities - Wire Rope	
	Maximum Length
	No Lagging
Front or Rear Grooved Drum 26 mm Wire Rope*	399 m (1,310 ft) 6 Layers
Auxiliary Drum (1") Wire Rope**	208 m (684 ft) 8 Layers
Boom Hoist Drum 22,23 mm (7/8") Wire Rope	323 m (1,060 ft) 6 Layers

\*5,5 m (18 ft) is deducted from maximum spooling capacities for 3 dead wraps per drum on drums 1 and 2.  
 \*\*6,1 m (20 ft) is deducted from maximum spooling capacity for 3 dead wraps on drum 3.

Maximum Length - Unassisted Raising		
	No. 134 Fixed Jib on No. 76 Main Boom Series 2	
	Main Boom	Fixed Jib
Over End of Blocked Crawlers m (ft)	*89,0 (292)	—
	86,0 (282)	—
	83,0 (272)	—
	80,0 (262)	12,2 (40)
	77,0 (253)	21,3 (70)
	74,0 (242)	24,4 (80)

NOTE: Load block(s), hook(s) and weight ball(s) on ground at start.

\*Upper boom point cannot be used on 89,0 m (292 ft) boom or over side of crawlers on 80,0 m (262 ft) boom.

Maximum Length - Unassisted Raising		
	No. 134 Fixed Jib on No. 76 Main Boom Series 2	
	Main Boom	Fixed Jib
Over Side of Crawlers m (ft)	*80,0 (262)	—
	77,0 (253)	—
	74,0 (243)	9,1 (30)
	71,0 (233)	18,3 (60)
	68,0 (223)	21,3 (70)
	65,0 (213)	24,4 (80)

NOTE: Load block(s), hook(s) and weight ball(s) on ground at start.

\*Upper boom point cannot be used on 89,0 m (292 ft) boom or over side of crawlers on 80,0 m (262 ft) boom.



# Performance data

## Maximum Length - Unassisted Raising

Boom Length m (ft)	No. 135 Luffing Jib on No. 76 Main Boom Series 2			
	In-Line Method No. 135 Luffing Jib		Jack-Knife Method No. 135 Luffing Jib	
	Over End of Blocked Crawlers	Over Side Of Crawlers	Over End of Blocked Crawlers	Over Side Of Crawlers
20,0 (66)	21,3 - 51,8 (70 - 170)	21,3 - 51,8 (70 - 170)		
23,0 (76)	21,3 - 51,8 (70 - 170)	21,3 - 51,8 (70 - 170)		
26,0 (85)	21,3 - 51,8 (70 - 170)	21,3 - 51,8 (70 - 170)		
29,0 (95)	21,3 - 51,8 (70 - 170)	21,3 - 51,8 (70 - 170)		
32,0 (105)	21,3 - 51,8 (70 - 170)	21,3 - 51,8 (70 - 170)		
35,0 (115)	21,3 - 51,8 (70 - 170)	21,3 - 48,8 (70 - 160)	— —	51,8 (170)
38,0 (125)	21,3 - 51,8 (70 - 170)	21,3 - 39,6 (70 - 130)	— —	42,7 - 51,8 (140 - 170)
41,0 (134)	21,3 - 45,7 (70 - 150)	21,3 - 33,5 (70 - 110)	48,8 - 51,8 (160 - 170)	36,6 - 51,8 (120 - 170)
44,0 (144)	21,3 - 42,7 (70 - 140)	21,3 - 27,4 (70 - 90)	45,7 - 51,8 (150 - 170)	30,5 - 51,8 (100 - 170)
47,0 (154)	21,3 - 33,5 (70 - 110)	— —	36,6 - 51,8 (120 - 170)	21,3 - 51,8 (70 - 170)
50,0 (164)	21,3 - 27,4 (70 - 90)	— —	30,0 - 51,8 (100 - 170)	21,3 - 51,8 (70 - 170)
53,0 (174)			21,3 - 51,8 (70 - 170)	— —
56,0 (184)			21,3 - 51,8 (70 - 170)	— —
59,0# (194)			21,3 - 51,8 (70 - 170)	— —

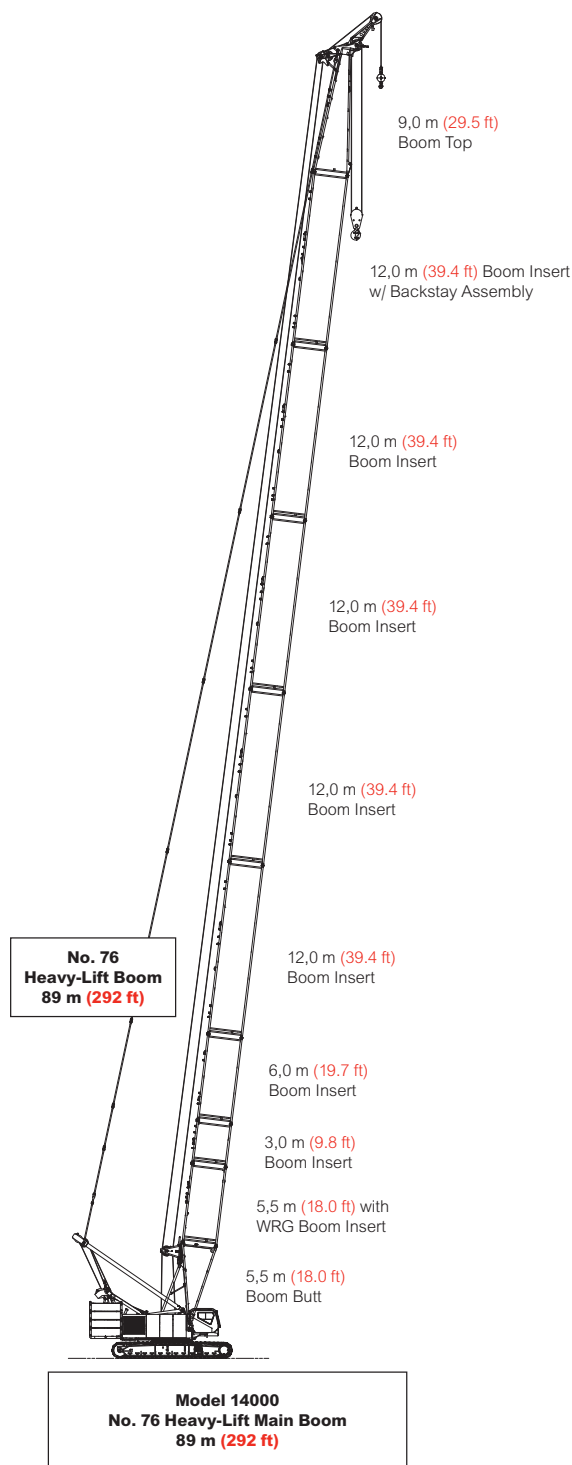
NOTE: Load block(s), hook(s) and weight ball(s) on ground until boom and luffing jib are erected. Boom lengths shown with a pound sign (#) require lower boom point and wire rope guide assembly No. 177364 to be removed.

# Boom combinations

## ANSI B30.5

No. 76 Main Boom with Heavy-Lift Top Combinations				
Boom Length m (ft)	Boom Inserts m (ft)			
	3,0 (9.8)	6,0 (9.7)	12,0 (39.4)	12,0* (39.4)
20 (65.6)	0	0	0	0
23 (75.5)	1	0	0	0
26 (85.3)	0	1	0	0
29 (95.1)	1	1	0	0
32 (105.0)	0	0	0	1
35 (114.8)	1	0	0	1
38 (124.7)	0	1	0	1
41 (134.5)	1	1	0	1
44 (144.4)	0	0	1	1
47 (154.2)	1	0	1	1
50 (164.0)	0	1	1	1
53 (173.9)	1	1	1	1
56 (183.7)	0	0	2	1
59 (193.6)	1	0	2	1
62 (203.4)	0	1	2	1
65 (213.3)	1	1	2	1
68 (223.1)	0	0	3	1
71 (233.0)	1	0	3	1
74 (242.8)	0	1	3	1
77 (252.6)	1	1	3	1
80 (262.5)	0	0	4	1
83 (272.3)	1	0	4	1
86 (282.2)	0	1	4	1
89 (292.0)	1	1	4	1

\* with backstay assembly.

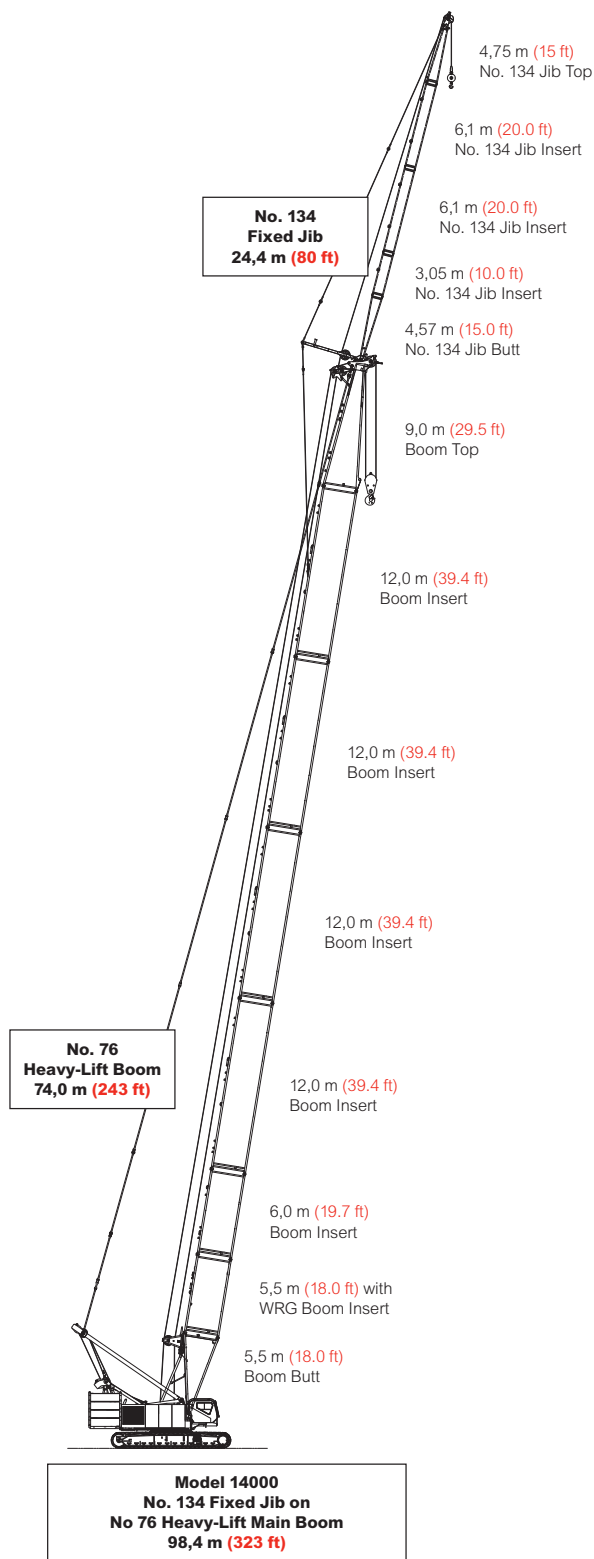




# Boom combinations

**ANSI B30.5**

Fixed Jib Length m (ft)	Fixed Jib Inserts m (ft)	
	3,05 (10.0)	6,10 (20.0)
9,14 (30)	0	0
12,19 (40)	1	0
15,27 (50)	0	1
18,29 (60)	1	1
21,33 (70)	0	2
24,38 (80)	1	2

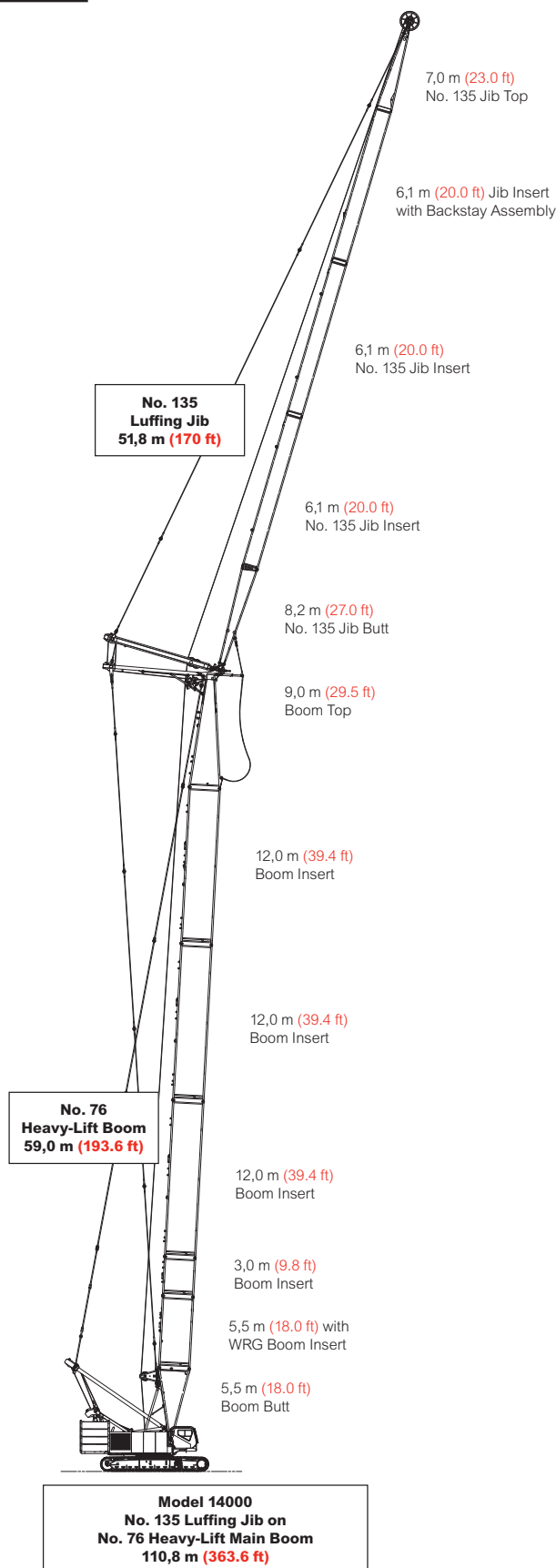


# Boom combinations

**ANSI B30.5**

<b>No. 135 Luffing Jib Combinations</b>				
<b>Luffing Jib Length m (ft)</b>	<b>Luffing Jib Inserts m (ft)</b>			
	<b>3,05 (10.0)</b>	<b>6,10 (20.0)</b>	<b>12,19 (40.0)</b>	<b>12,19 (40.0)</b>
<b>21,3 (70)</b>	0	1	0	0
<b>24,4 (80)</b>	1	1	0	0
<b>27,4 (90)</b>	0	0	1	0
<b>30,5 (100)</b>	1	0	1	0
<b>33,5 (110)</b>	0	1	1	0
<b>36,6 (120)</b>	1	1	1	0
<b>39,6 (130)</b>	0	0	1	1
<b>42,7 (140)</b>	1	0	1	1
<b>45,7 (150)</b>	0	1	1	1
<b>48,8 (160)</b>	1	1	1	1
<b>51,8 (170)</b>	0	0	2	1

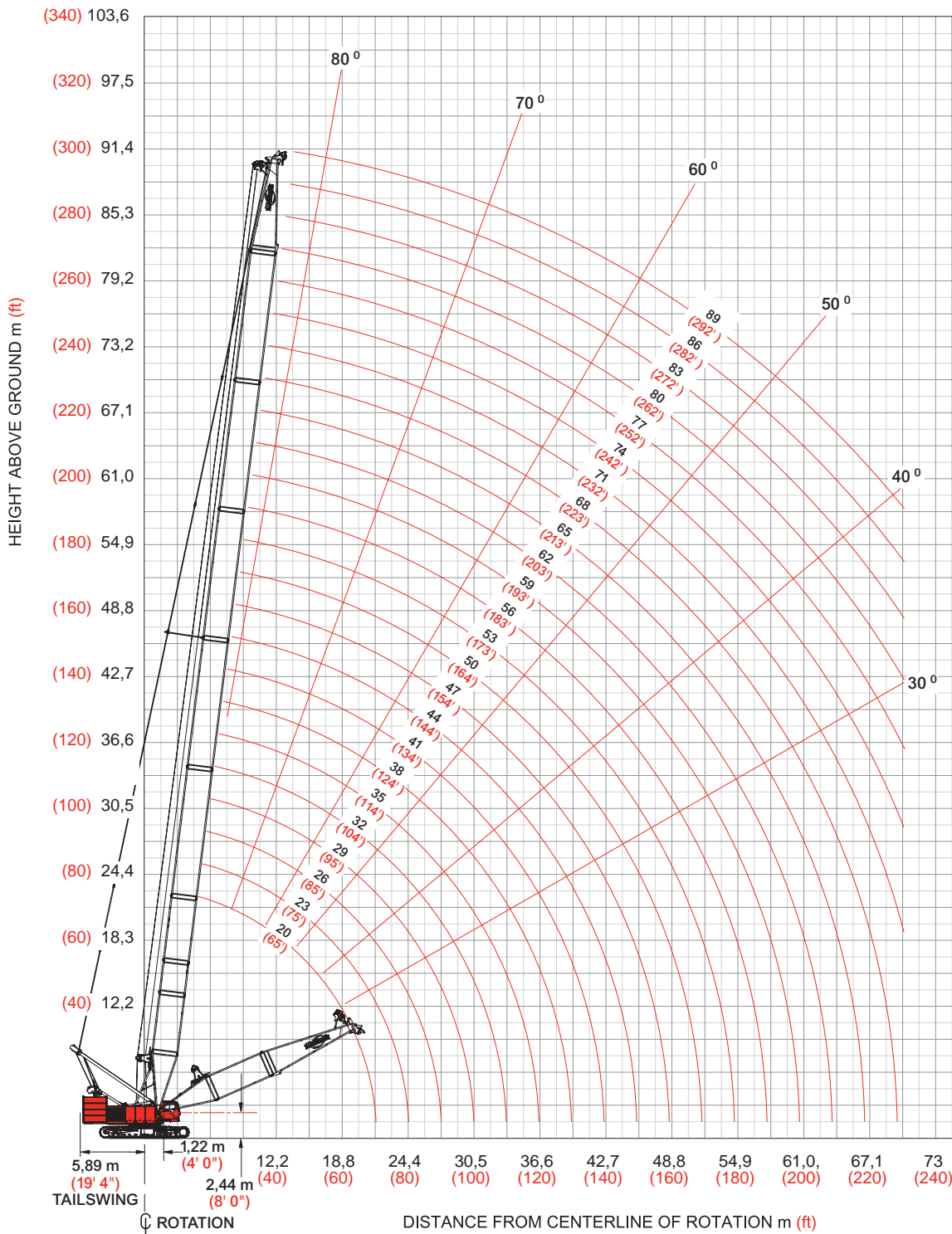
\* with backstay lug.



# Heavy-lift boom range diagrams

**ANSI B30.5**

**Liftcrane Boom Capacities - Model 14000 Series 2  
No. 76 Heavy Lift Main Boom**



Model 14000



# Heavy-lift boom load charts

## ANSI B30.5

### Liftcrane Boom Capacities - Model 14000 Series 2 No. 76 Heavy Lift Main Boom

76 200 kg (168,000 lb) Counterweight    24 040 kg (53,000 lb) Carbody Counterweight

360° Rating

kg (lb) x 1 000

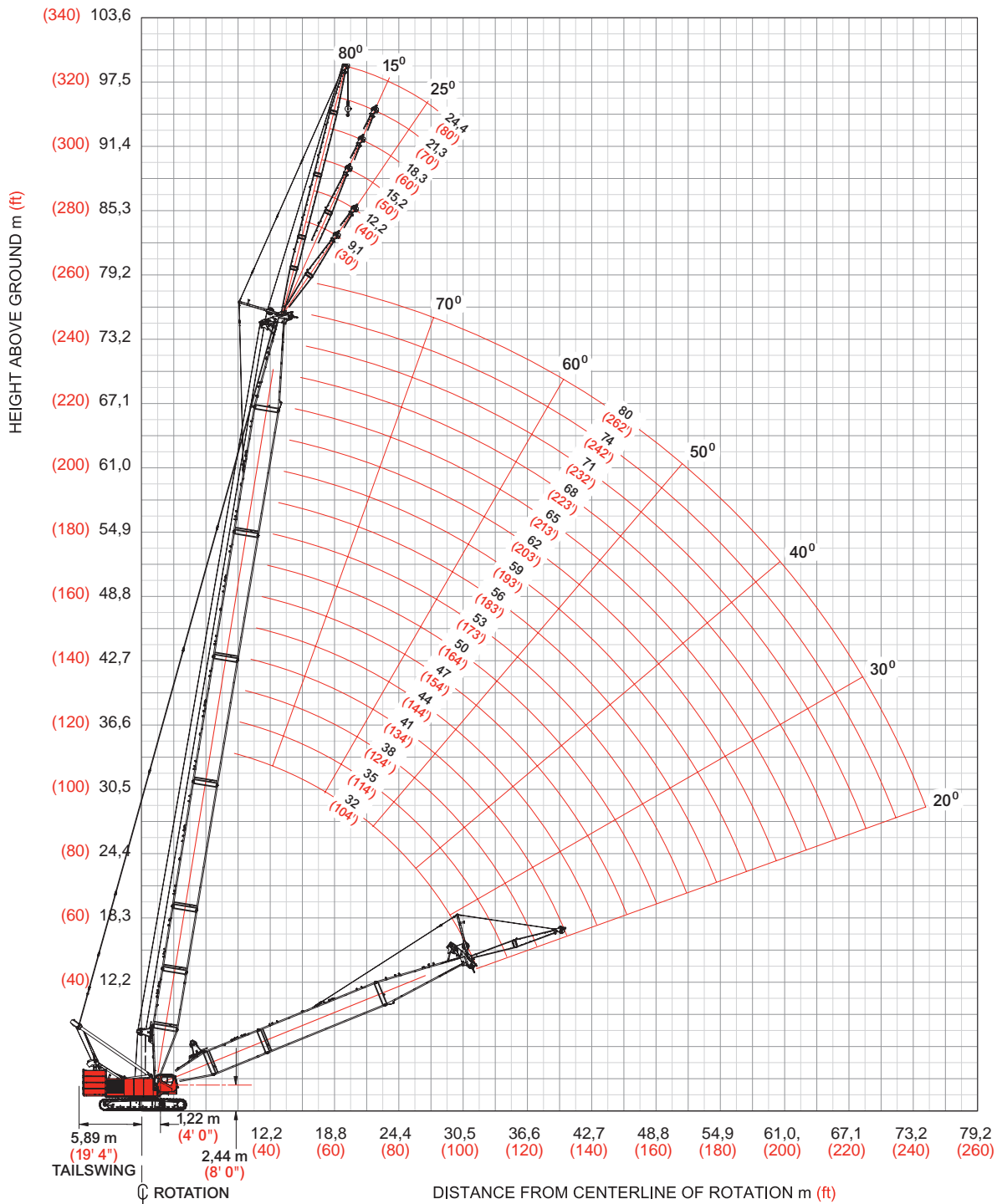
Boom m (ft)	20,0 (66)	26,0 (85)	32,0 (105)	38,0 (125)	44,0 (144)	50,0 (164)	56,0 (184)	62,0 (203)	68,0 (223)	74,0 (243)	80,0 (263)	86,0 (282)	89,0 (292)
<b>Radius</b>													
4,3 (14)	200,0 (441.0)												
8,0 (26)	109,3 (243.4)	109,0 (242.4)	108,7 (242.1)	108,5 (241.6)									
10,0 (32)	87,1 (198.0)	87,0 (197.5)	86,8 (196.9)	86,7 (196.5)	104,7 (195.7)	86,5 (195.0)	77,9 (173.4)	67,9 (150.4)					
12,0 (40)	67,0 (144.6)	67,1 (144.8)	67,1 (144.8)	67,1 (144.8)	86,4 (194.5)	66,9 (144.2)	66,8 (143.8)	65,4 (143.4)	58,8 (129.4)	50,2 (110.6)			
14,0 (46)	53,9 (118.8)	54,0 (119.0)	54,0 (118.9)	53,9 (118.8)	67,0 (118.4)	53,6 (118.0)	53,4 (117.6)	53,2 (117.2)	52,9 (116.5)	49,4 (109.0)	40,6 (9.5)	35,2 (77.6)	32,4 (71.5)
18,0 (60)	38,0 (82.2)	38,1 (82.4)	38,1 (82.3)	38,0 (82.2)	53,8 (81.7)	37,6 (81.3)	37,4 (80.7)	37,1 (80.2)	36,8 (79.4)	36,8 (79.5)	36,7 (78.9)	34,1 (75.0)	31,3 (69.0)
22,0 (70)	28,9 (66.6)	28,8 (66.5)	28,8 (66.5)	28,8 (66.4)	37,8 (65.8)	28,3 (65.4)	28,1 (64.8)	27,8 (64.3)	27,4 (63.4)	27,5 (63.5)	27,1 (62.8)	26,8 (62.1)	26,7 (61.8)
26,0 (85)			22,8 (50.6)	22,7 (50.4)	28,5 (49.9)	22,3 (49.5)	22,0 (48.8)	21,7 (48.2)	21,3 (47.4)	21,3 (47.4)	21,0 (46.7)	20,7 (46.0)	20,5 (45.6)
30,0 (100)			18,4 (39.8)	18,4 (39.7)	22,5 (39.2)	18,0 (38.8)	17,7 (38.1)	17,4 (37.5)	17,0 (36.6)	17,0 (36.6)	16,7 (35.9)	16,4 (35.2)	16,2 (34.8)
34,0 (110)				15,2 (34.3)	18,2 (33.8)	14,8 (33.4)	14,4 (32.7)	14,2 (32.2)	13,8 (31.3)	13,8 (31.2)	13,4 (30.5)	13,1 (29.8)	12,9 (29.4)
38,0 (120)					14,9 (29.4)	12,3 (29.0)	12,0 (28.3)	11,7 (27.7)	11,3 (26.8)	11,3 (26.8)	10,9 (26.0)	10,6 (25.3)	10,4 (24.9)
40,0 (130)					12,5 (25.7)	11,2 (25.3)	10,9 (24.6)	10,7 (24.1)	10,3 (23.2)	10,2 (23.1)	9,9 (22.3)	9,6 (21.6)	9,4 (21.2)
44,0 (140)					11,4 (22.5)	9,5 (22.2)	9,1 (21.5)	8,9 (20.9)	8,5 (20.0)	8,5 (20.0)	8,1 (19.2)	7,8 (18.5)	7,6 (18.1)
48,0 (155)						7,9 (18.2)	7,7 (17.6)	7,4 (17.0)	7,0 (16.1)	7,0 (16.1)	6,6 (15.3)	6,3 (14.6)	6,1 (14.2)
52,0 (170)							6,4 (14.4)	6,2 (13.8)	5,7 (12.9)	5,7 (12.9)	5,4 (12.1)	5,1 (11.4)	4,9 (11.0)
56,0 (180)								5,1 (12.0)	4,7 (11.1)	4,7 (11.1)	4,3 (10.3)	4,0 (9.6)	3,8 (9.2)
60,0 (195)								4,2 (9.6)	3,8 (8.7)	3,8 (8.7)	3,4 (7.9)	3,1 (7.2)	2,9 (6.8)
64,0 (210)									3,0 (6.7)	3,0 (6.7)	2,6 (5.9)	2,3 (5.2)	2,1 (4.8)
68,0 (220)										2,3 (5.5)	1,9 (4.7)		
70,0 (230)										2,0 (4.4)			



# Fixed jib range diagram

**ANSI B30.5**

**Liftcrane Boom Capacities  
Fixed Jib Capacities - 134 Fixed Jib on No. 76 Main Boom**





# Fixed jib load charts

ANSI B30.5

**Liftcrane Boom Capacities**  
**Fixed Jib Capacities - 134 Fixed Jib on No. 76 Main Boom**

76 200 kg (168,000 lb) Counterweight    24 000 kg (53,000 lb) Carbody Counterweight  
 360° Rating    kg (lb) x 1 000

		5° Offset					25° Offset				
Boom m (ft)	32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)	80,0 (262.5)	32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)	80,0 (262.5)	
<b>Radius</b>											
<b>Jib Length 9,1 m (30.0 ft)</b>	9,1 (30)	28,5 (63.0)									
	12,0 (40)	28,5 (63.0)	28,5 (63.0)	— (63.0)							
	16,0 (50)	27,2 (60.6)	27,9 (62.1)	27,9 (62.0)	27,2 (60.5)		19,9 (45.1)	21,6 (48.6)			
	22,0 (70)	25,2 (56.1)	26,2 (58.2)	26,4 (58.7)	26,0 (57.7)	24,8 (55.5)	17,0 (38.3)	18,8 (42.1)	20,1 (45.0)	21,2 (47.3)	22,0 (49.1)
	28,0 (90)	21,0 (47.8)	20,4 (46.4)	19,7 (45.0)	19,0 (43.4)	18,5 (42.4)	15,0 (33.6)	16,8 (37.4)	28,2 (40.5)	19,2 (43.0)	19,7 (44.6)
	36,0 (120)	14,5 (31.3)	13,9 (30.0)	13,2 (28.5)	12,5 (26.8)	12,0 (25.7)		14,3 (30.8)	13,7 (29.5)	13,1 (28.4)	12,6 (27.2)
	48,0 (150)		8,4 (20.4)	7,7 (18.9)	7,0 (17.2)	6,5 (16.2)			8,0 (19.6)	7,3 (18.1)	6,9 (17.2)
	56,0 (180)			5,4 (12.7)	4,7 (11.0)	4,2 (9.9)				4,9 (11.6)	4,5 (10.7)
	64,0 (210)				29,0 (6.6)	2,5 (5.6)					2,7 (6.1)
	70,0 (235)				1,9 (4.3)						
	76,0 (255)										

		5° Offset				25° Offset			
Boom m (ft)	32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)	32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)	
<b>Radius</b>									
<b>Jib Length 15,2 m (50.0 ft)</b>	9,1 (30)								
	12,0 (40)	20,1 (44.2)	— (44.7)						
	16,0 (50)	18,8 (42.1)	19,3 (43.0)	19,3 (42.9)					
	22,0 (70)	17,2 (38.5)	18,0 (40.0)	18,2 (40.4)	18,0 (39.9)	12,3 (27.7)	13,3 (30.0)	14,2 (31.8)	14,8 (33.2)
	28,0 (90)	15,8 (35.1)	16,8 (37.4)	17,2 (38.3)	17,2 (38.1)	10,6 (23.8)	11,7 (26.2)	12,6 (28.2)	13,3 (29.7)
	36,0 (120)	13,4 (29.2)	14,4 (30.9)	13,6 (29.4)	12,9 (27.7)	9,1 (20.0)	10,1 (22.3)	11,0 (24.2)	11,8 (25.9)
	48,0 (150)	— (22.8)	8,8 (21.4)	8,1 (19.8)	7,3 (18.1)		— (19.7)	8,6 (21.0)	8,0 (19.6)
	56,0 (180)		6,5 (15.1)	5,8 (13.5)	5,0 (11.8)			6,1 (14.3)	5,5 (12.9)
	64,0 (210)			4,1 (9.1)	3,3 (7.4)				3,6 (8.1)
	70,0 (235)				2,3 (5.1)				
	??,0 (255)								

# Fixed jib load charts

## ANSI B30.5

### Liftcrane Boom Capacities Fixed Jib Capacities - No. 134 Fixed Jib on No. 76 Main Boom

76 200 kg (168,000 lb) Counterweight    24 000 kg (53,000 lb) Carbody Counterweight  
360° Rating    kg (lb) x 1 000

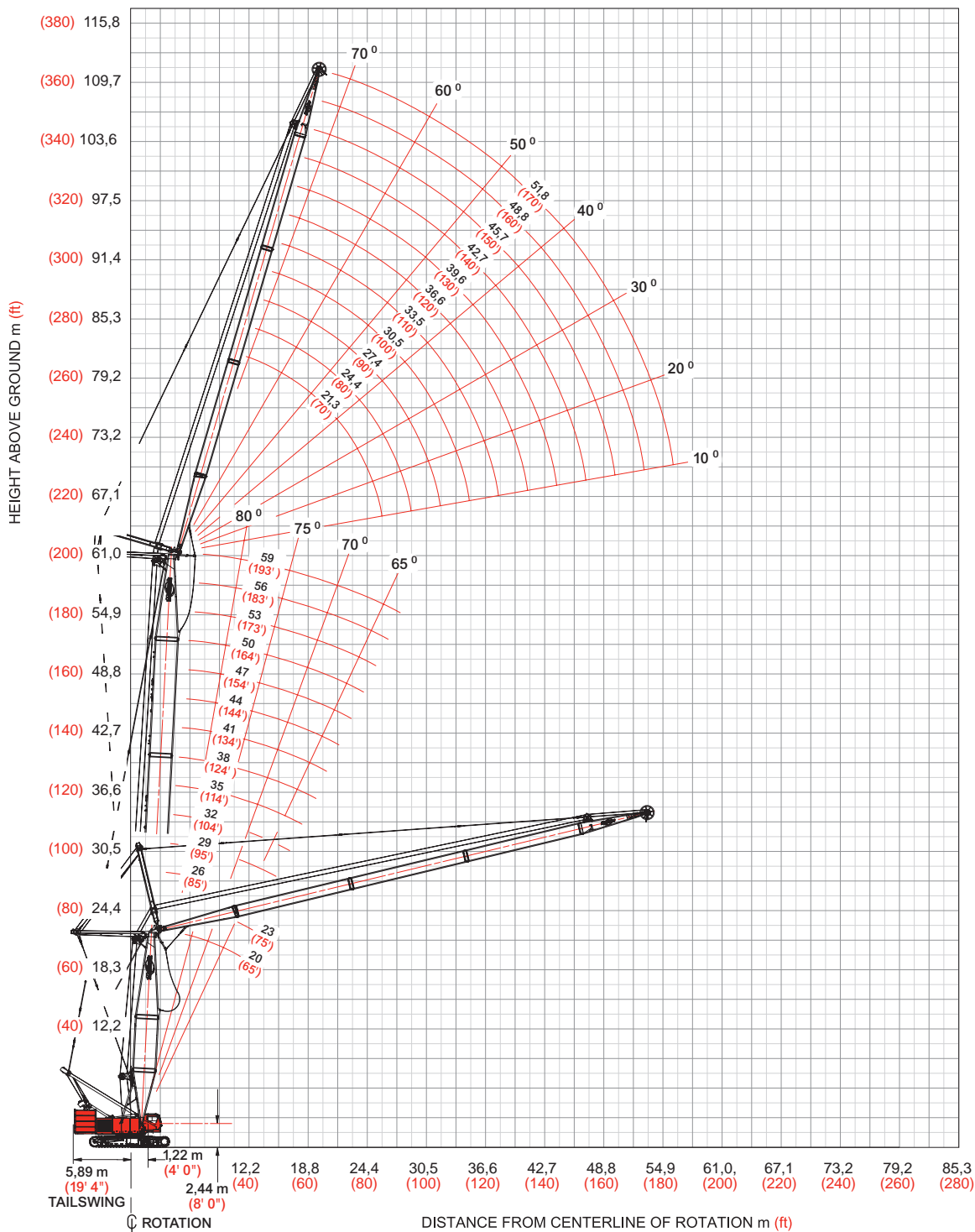
		5° Offset				25° Offset			
Boom m (ft)		32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)	32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)
Jib Length 18,3 m (60.0 ft)	Radius								
	9,1 (30)								
	12,0 (40)	17,2 (38.0)							
	16,0 (50)	16,1 (36.2)	16,5 (36.8)	16,5 (36.7)					
	22,0 (70)	14,5 (32.5)	15,3 (34.1)	15,5 (34.5)	15,3 (34.1)	11,1 (25.0)	12,0 (27.0)	12,6 (28.3)	
	28,0 (90)	13,2 (29.5)	14,1 (31.4)	14,6 (32.4)	14,6 (32.5)	9,4 (21.2)	10,4 (23.3)	11,1 (24.9)	11,8 (26.3)
	36,0 (120)	11,7 (25.4)	12,8 (28.1)	13,4 (29.5)	13,1 (27.9)	7,9 (17.4)	8,9 (19.4)	9,6 (21.1)	10,3 (22.6)
	48,0 (150)	8,6 (20.1)	9,0 (21.7)	8,2 (20.1)	7,4 (18.3)		7,4 (16.9)	8,1 (18.5)	8,3 (19.9)
	56,0 (180)		6,7 (15.4)	5,9 (13.8)	5,1 (12.0)			6,4 (14.9)	5,8 (13.5)
	64,0 (210)			4,2 (9.4)	3,4 (7.6)				3,9 (8.7)
	70,0 (235)			3,1 (7.0)	2,4 (5.3)				
	76,0 (255)								

		5° Offset				25° Offset			
Boom m (ft)		32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)	32,0 (105.0)	44,0 (144.4)	56,0 (183.7)	68,0 (223.1)
Jib Length 24,4 m (80.0 ft)	Radius								
	9,1 (30)								
	12,0 (40)	— (23.4)							
	16,0 (50)	10,2 (22.7)	10,1 (22.6)	9,9 (22.0)					
	22,0 (70)	9,4 (21.1)	9,5 (21.3)	9,5 (21.2)	9,3 (20.7)	8,9 (19.8)			
	28,0 (90)	8,8 (19.6)	8,9 (19.9)	9,0 (20.0)	8,9 (19.8)	7,5 (16.9)	8,2 (18.5)	8,6 (19.2)	8,7 (19.3)
	36,0 (120)	8,1 (17.8)	8,2 (18.2)	8,4 (18.4)	8,3 (18.4)	6,1 (13.5)	6,8 (15.0)	7,4 (16.3)	7,9 (17.4)
	48,0 (150)	6,8 (15.5)	7,4 (16.8)	7,5 (17.0)	7,5 (17.1)	4,9 (11.2)	5,5 (12.7)	6,1 (14.0)	6,6 (15.1)
	56,0 (180)	— (13.3)	6,8 (15.4)	6,1 (14.2)	5,3 (12.4)		4,9 (11.1)	5,4 (12.3)	5,9 (13.3)
	64,0 (210)		5,2 (11.5)	4,4 (9.8)	3,6 (8.0)			4,9 (10.9)	4,2 (9.4)
	70,0 (235)			3,4 (7.5)	2,6 (5.7)				3,1 (6.3)
	76,0 (255)			2,5 (5.6)					2,1 (4.2)

# Luffing jib range diagram

**ANSI B30.5**

**Liftcrane Boom Capacities**  
**Fixed Jib Capacities - 134 Fixed Jib on No. 76 Main Boom**



# Luffing jib load charts

ANSI B30.5

**Liftcrane Luffing Jib Boom Capacities - Model 14000 Series 2  
No. 59 Luffing Jib on No. 58 Heavy Lift Main Boom**

76 200 kg (168,000 lb) Counterweight    24 000 kg (53,000 lb) Carbody Counterweight  
360° Rating    kg (lb) x 1 000  
87° Boom Angle

	Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
	<b>Radius</b>					
<b>Luffing Jib Length 21,3 m (70 ft)</b>	8,5 (28)	53,7 (118.6)				
	10,0 (34)	51,7 (112.4)	48,6 (107.3)	43,0 (94.9)	— (85.0)	
	12,0 (40)	48,0 (105.3)	48,1 (105.6)	43,0 (94.9)	38,4 (84.8)	35,6 (78.5)
	16,0 (50)	42,4 (95.7)	42,7 (96.3)	37,6 (86.2)	34,9 (79.6)	31,6 (72.1)
	20,0 (65)	33,8 (75.5)	36,0 (80.4)	31,4 (69.8)	29,3 (65.2)	26,7 (59.5)
	24,0 (80)		25,6 (52.2)	26,4 (57.2)	24,9 (54.2)	22,8 (49.6)
	26,0 (85)				— (44.9)	— (46.8)
	28,0 (95)					
	32,0 (105)					
	34,0 (115)					

	Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
	<b>Radius</b>					
<b>Luffing Jib Length 30,5 m (100 ft)</b>	8,5 (28)					
	10,0 (34)					
	12,0 (40)	36,7 (80.6)	36,3 (80.0)			
	16,0 (50)	32,2 (72.8)	32,2 (72.8)	31,9 (71.6)	29,8 (65.9)	22,9 (51.1)
	20,0 (65)	28,5 (63.2)	28,6 (63.6)	28,6 (63.4)	27,2 (60.5)	21,8 (48.2)
	24,0 (80)	25,4 (55.6)	25,7 (56.3)	25,1 (54.7)	23,6 (51.4)	20,7 (45.6)
	26,0 (85)	23,9 (53.0)	24,5 (54.3)	23,4 (51.9)	22,0 (48.8)	19,6 (43.5)
	28,0 (95)	21,5 (45.4)	23,0 (48.3)	21,8 (46.8)	20,6 (44.1)	18,4 (39.5)
	32,0 (105)	16,6 (36.7)	19,1 (42.2)	19,2 (42.4)	18,1 (40.0)	16,2 (35.9)
	34,0 (115)				16,6 (31.7)	15,2 (32.6)

	Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
	<b>Radius</b>					
<b>Luffing Jib Length 42,7 m (140 ft)</b>	15,2 (50)	21,9 (48.5)	21,1 (46.7)			
	20,0 (65)	20,0 (44.4)	19,9 (44.2)	19,1 (42.2)	18,8 (40.2)	17,3 (38.2)
	24,0 (80)	17,8 (38.8)	17,9 (39.1)	17,9 (39.1)	17,5 (38.5)	16,8 (37.0)
	28,0 (95)	15,8 (34.0)	16,0 (34.5)	16,1 (34.7)	16,0 (34.6)	15,9 (34.3)
	34,0 (115)	13,3 (28.7)	13,6 (29.2)	13,8 (29.7)	13,9 (29.9)	13,8 (29.8)
	40,0 (130)	11,4 (25.4)	11,6 (26.0)	11,8 (26.4)	12,0 (26.7)	12,0 (26.8)
	44,0 (145)	9,7 (21.0)	10,6 (23.4)	10,8 (23.9)	10,9 (24.1)	10,8 (23.9)
	48,0 (160)					
	52,0 (175)					
	56,0 (185)					

	Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
	<b>Radius</b>					
<b>Luffing Jib Length 51,8 m (170 ft)</b>	15,2 (50)					
	20,0 (65)	15,6 (34.7)	15,6 (34.6)	15,3 (34.0)	14,1 (31.3)	13,6 (30.2)
	24,0 (80)	13,7 (30.0)	13,8 (30.1)	13,8 (30.1)	12,8 (28.0)	12,6 (27.7)
	28,0 (95)	12,0 (25.6)	12,2 (26.1)	12,2 (26.3)	11,5 (24.7)	11,4 (24.6)
	34,0 (115)	9,7 (20.8)	10,0 (21.3)	10,1 (21.6)	9,6 (20.5)	9,6 (20.6)
	40,0 (130)	7,9 (17.7)	8,1 (18.1)	8,3 (18.6)	7,9 (17.7)	8,0 (17.9)
	44,0 (145)	6,8 (15.0)	7,0 (15.4)	7,2 (15.8)	6,9 (15.2)	6,9 (15.3)
	48,0 (160)	5,8 (12.5)	6,0 (12.9)	6,2 (13.4)	6,0 (13.0)	6,1 (13.2)
	52,0 (175)	4,8 (10.1)	5,0 (10.4)	5,2 (10.8)	5,0 (10.5)	5,1 (10.7)
	56,0 (185)				4,1 (9.1)	4,2 (9.3)

# Luffing jib load charts

## ANSI B30.5

### Liftcrane Luffing Jib Boom Capacities - Model 1400 Series 2 No. 59 Luffing Jib on No. 58 Heavy Lift Main Boom

76 200 kg (168,000 lb) Counterweight      24 000 kg (53,000 lb) Carbody Counterweight

360° Rating

kg (lb) x 1 000

75° Boom Angle

Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
<b>Radius</b>					
<b>Luffing Jib Length 21,3 m (70 ft)</b>	18,0 (55) (96.5)				
	20,0 (65) (78.2)				
	24,0 (80) (60.4)	26,5 (57.5)			
	28,0 (95)	21,9 (46.4)	20,5 (43.5)	19,3 (40.9)	18,5 —
	32,0 (105)		17,3 (38.3)	16,3 (36.1)	15,6 (34.4)
	34,0 (115)			15,1 (32.1)	14,4 (30.6)
	38,0 (125)				12,4 (27.3)
	42,0 (135)				
	44,0 (145)				
	46,0 (155)				

Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
<b>Radius</b>					
<b>Luffing Jib Length 30,5 m (100 ft)</b>	18,0 (55)				
	20,0 (65)				
	24,0 (80) (59.7)	— (56.6)			
	28,0 (95)	22,8 (48.2)	21,5 (45.6)	20,1 (42.5)	
	32,0 (105)	19,2 (42.5)	18,2 (40.2)	17,0 (37.5)	15,8 (35.0)
	34,0 (115)	17,8 (37.8)	16,8 (35.8)	15,7 (33.3)	14,7 (31.2)
	38,0 (125)		14,6 (32.1)	13,6 (29.9)	12,7 (27.9)
	42,0 (135)			11,9 (27.0)	11,1 (25.2)
	44,0 (145)				10,4 (22.8)
	46,0 (155)				9,8 (21.7)

Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
<b>Radius</b>					
<b>Luffing Jib Length 42,7 m (140 ft)</b>	28,0 (90) (40.0)				
	34,0 (115) (32.4)	16,3 (34.9)	15,2 (32.3)	— (30.0)	
	38,0 (125) (29.8)	13,5 (31.3)	14,2 (28.9)	13,1 (26.8)	11,5 (25.4)
	44,0 (145) (25.4)	11,5 (25.7)	11,7 (23.7)	10,8 (21.9)	9,9 (20.6)
	46,0 (155) (23.7)	11,0 (23.4)	11,0 (21.6)	10,1 (19.9)	9,3 (18.8)
	50,0 (165)	9,7 (21.4)	9,0 (19.7)	8,3 (18.2)	7,8 (17.1)
	54,0 (180)		8,0 (17.3)	7,4 (15.9)	6,9 (15.0)
	60,0 (195)				— (13.1)
	64,0 (210)				
	68,0 (225)				

Boom m (ft)	20,0 (65.6)	32,0 (105.0)	44,0 (144.4)	53,0 (173.9)	59,0 (193.6)
<b>Radius</b>					
<b>Luffing Jib Length 51,8 m (170 ft)</b>	28,0 (90)				
	34,0 (115) (24.0)	11,2 (26.4)	— (26.4)		
	38,0 (125) (21.6)	9,8 (21.6)	10,9 (24.0)	— (26.1)	
	44,0 (145) (17.5)	7,9 (17.5)	8,9 (19.6)	9,9 (21.7)	9,6 (21.2)
	46,0 (155) (15.7)	7,4 (15.7)	8,3 (17.6)	9,3 (19.7)	9,0 (19.2)
	50,0 (165) (14.1)	6,4 (14.1)	7,2 (15.8)	8,1 (17.8)	8,0 (17.5)
	54,0 (180)	5,4 (11.5)	6,2 (13.3)	7,1 (15.2)	7,1 (15.3)
	60,0 (195)		4,7 (10.8)	5,5 (12.6)	5,9 (13.4)
	64,0 (210)			4,5 (10.1)	4,9 (10.8)
	68,0 (225)				4,3 (9.4)





# Luffing jib load charts

ANSI B30.5

**Liftcrane Luffing Jib Boom Capacities - Model 14000 Series 2  
No. 59 Luffing Jib on No. 58 Heavy Lift Main Boom**

76 200 kg (168,000 lb) Counterweight    24 000 kg (53,000 lb) Carbody Counterweight

360° Rating    kg (lb) x 1 000

65° Boom Angle

	20,0 m (ft) (65.6)	32,0 m (ft) (105.0)	44,0 m (ft) (144.4)	53,0 m (ft) (173.9)	59,0 m (ft) (193.6)	
Luffing Jib Length 21,3 m (70 ft)	Radius					
	26,0 (80)	23,8 (57.0)				
	28,0 (95)	21,7 (46.0)	— (41.8)			
	32,0 (105)		16,7 (36.9)			
	34,0 (115)		15,4 (32.8)	13,5 (28.7)		
	38,0 (125)			11,7 (25.8)	— (22.5)	
	42,0 (135)			— (23.1)	8,9 (20.2)	7,9 (18.1)
	44,0 (145)				8,3 (18.2)	7,4 (16.3)
	46,0 (155)					6,9 (14.7)
	52,0 (170)					
	56,0 (185)					

	20,0 m (ft) (65.6)	32,0 m (ft) (105.0)	44,0 m (ft) (144.4)	53,0 m (ft) (173.9)	59,0 m (ft) (193.6)	
Luffing Jib Length 30,5 m (100 ft)	Radius					
	26,0 (80)					
	28,0 (95)	— (45.2)				
	32,0 (105)	18,1 (39.9)				
	34,0 (115)	16,7 (35.5)	— (31.9)			
	38,0 (125)	14,4 (31.8)	13,0 (28.6)			
	42,0 (135)		11,3 (25.8)	9,7 (22.2)		
	44,0 (145)		10,6 (23.4)	9,1 (20.1)	7,8 (17.2)	
	46,0 (155)			8,6 (18.3)	7,3 (15.6)	6,4 (13.7)
	52,0 (170)				6,0 (13.7)	5,3 (11.8)
	56,0 (185)				—	4,6 (10.2)

	20,0 m (ft) (65.6)	32,0 m (ft) (105.0)	44,0 m (ft) (144.4)	53,0 m (ft) (173.9)	
Luffing Jib Length 42,7 m (140 ft)	Radius				
	38,0 (120)	14,1 (32.7)			
	42,0 (135)	12,3 (28.0)	10,9 (24.8)		
	44,0 (145)	11,5 (25.4)	10,2 (22.5)		
	46,0 (155)	10,9 (23.2)	9,6 (20.4)	— (17.2)	
	52,0 (170)	— (20.3)	8,0 (17.9)	6,7 (15.0)	5,5 (12.4)
	56,0 (185)		7,2 (15.7)	6,0 (13.1)	4,9 (10.7)
	60,0 (200)			5,3 (11.4)	4,3 (9.3)
	66,0 (215)				
	68,0 (225)				
	70,0 (235)				

	20,0 m (ft) (65.6)	32,0 m (ft) (105.0)	44,0 m (ft) (144.4)	
Luffing Jib Length 51,8 m (170 ft)	Radius			
	38,0 (120)			
	42,0 (135)			
	44,0 (145)	65,9 (19.5)		
	46,0 (155)	51,1 (17.6)	50,9 (19.7)	
	52,0 (170)	41,1 (14.9)	40,9 (17.2)	39,4 (14.2)
	56,0 (185)	31,9 (12.5)	31,8 (15.1)	31,7 (12.3)
	60,0 (200)	25,6 (10.1)	25,5 (12.8)	35,3 (10.8)
	66,0 (215)		18,3 (10.3)	18,2 (9.4)
	68,0 (225)			18,2 (8.6)
	70,0 (235)			18,2 (7.8)

# Manitowoc Crane Care

**Crane Care** is Manitowoc's comprehensive service and support program. It includes classroom and on-site training, prompt parts availability, expert field service, technical support and documentation — for every one of the more than 7,000 Manitowoc cranes currently in use throughout the world.

That's commitment you won't find anywhere else.

That's **Crane Care**.

## Service Training

Manitowoc specialists work with you in our training center and in the field to make sure you know how to get maximum performance, reliability and life from your cranes.

Manitowoc Cranes Technical Training Center provides valuable multi-level training, which is available for all models and attachments, in the following format:

- **Basic** – Provides technicians with the basic skills required in our Level I and II classes covering hydraulic and electrical theory and schematics, pump, motor, control, and LMI operation and the use of meters and gauges.
- **Level 1** – This model-specific class covers theory and offers hands-on training and trouble shooting on all crane systems.
- **Level 2** – This model-specific class provides in-depth coverage of all crane systems and components, and advanced troubleshooting of simulated faults. (Requires Level 1.)
- **Level 3 / Master** – Covering all EPIC models and the 4100W, this class stresses high level system knowledge and trouble shooting of simulated faults. (Requires Level 2.)

## Parts Availability

Genuine Manitowoc replacement parts are accessible through your distributor 24 hours a day, 7 days a week, 365 days a year.

## Service Interval Kits

Provides all the parts required by Manitowoc's Preventative Maintenance Checklist.

## Hydraulic Filter Kit

- Consists of the following:
- Filter Element - Hydraulic in Tank (4)

## Cummins Model QSL 8.9 Liter Diesel

### – Service Interval Kits

## 200 Hour Kit

Consists of the following:

### Engine

- Filter Oil (1)
- Filter Water (1)
- Filter Fuel (1)

## 1,000 Hour Kit

Consists of the following:

### Engine

- Filter Air Cleaner - Primary (1)
- Filter Oil (1)
- Filter Water (14)
- Filter Fuel (1)

### Hydraulic

- Filter Element - Hydraulic in Tank (4)
- Element - Hydraulic Tank Breather (1)

## 2,000 Hour Kit

Consists of the following:

### Engine

- Filter, Air Cleaner - Primary (1)
- Filter, Air Cleaner - Safety (1)
- Filter, Oil (1)
- Filter, Water (1)
- Filter, Fuel (1)
- Ether, (Bottle) (1)
- Sensor, Coolant Level (10)
- Belt, Fan (1)
- Belt, Alternator (set of two) (1)
- Filter, Element (1)

### Hydraulic

- Filter Element - No substitutions allowed
- Filter - Hydraulic In-Tank Suction (4)

## Kit, Engine Coolant Additive (SCA) Test (1) Kit, Seal (for hydraulic in tank filter) (1) Seal, Radial (for air cleaner) (1)

## Hydraulic Test Kit

Protect your investment by demanding Genuine Manitowoc Parts Service Kits. The Hydraulic Service Kit consist of the following:

- All hydraulic fittings to access all pressures and flows
- Hydraulic flow meters and pressure gauges to record hydraulic data.
- Electrical "Break out" harnesses to access voltages on all electrical circuits on all machines.
- Fluke® Digital volt ohm meter, as used in all Manitowoc service literature.



# Manitowoc Crane Care

## Hydraulic Test Kit with case

The above kit plus a custom heavy-duty carrying case.

## U.S. Standard Tools Kit

All standard tools needed to properly maintain and service your crane. (Does not include torque wrench.)

## Field Service

Factory-trained service experts are always ready to help maintain your crane's peak performance.

For a worldwide listing of dealer locations, please consult our website at:

[www.manitowoc.com](http://www.manitowoc.com)

## Technical Support

Manitowoc's dealer network and factory personnel are available 24 hours a day, 7 days a week, 365 days a year to answer your technical questions and more, with the help of computerized programs that simplify crane selection, lift planning and ground-bearing calculations.

For a worldwide listing of dealer locations, please consult our website at:

[www.manitowoc.com](http://www.manitowoc.com)

## Technical Documentation

Manitowoc has the industry's most extensive documentation, and the easiest to understand, available in major languages and formats that include print, disk and videotape.

Additional copies available through your Authorized Maniowoc Distributor.

- **Crane Operator's Manual**
- **Crane Parts Manual**
- **Crane Capacity Manual**
- **Crane Vendor Manual**
- **Service Manual (EPIC)**
- **Luffing Jib Operator's/Parts Manual**
- **Capacity Chart Manual - Attachments**

CD rom versions of the Operator's and Parts Manuals are shipped with each crane.

Also available are the following CDs:

- Crane Care Owner CD –
- Ground Bearing Pressure Estimator CD
- Crane Selection and Planning Software (CompuCRANE®)
- EPIC® Crane Library CD consisting of capacity charts, range diagrams, wire rope specifications, travel specifications, crane weights, counterweight arrangements, luffing jib raising procedures, operating range diagrams, drum and lagging charts, boom rigging drawings, jib rigging drawings, outline dimensions and wind condition charts.

Available from your Authorized Maniowoc Cranes Distributor, these VHS videos are available in NTSC, PAL and SECAM formats.

- Your Capacity Chart Video
- Respect the Limits Video
- Crane Safety Video
- Boom Inspection/Repair Video

## Crane Care Package

Manitowoc has assembled all of the available literature, CD's and videos listed above plus several Maniowoc premiums into one complete Crane Care Package.





## Notes



# Notes



Grove Manitowoc National Crane Potain



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Fax: +63 2 844 4712

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Alphaville

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Zhangjiagang

#### France

Charlieu  
La Clayette  
Moulins

#### Germany

Wilhelmshaven

#### India

Calcutta  
Pune

#### Italy

Niella Tanaro

#### Portugal

Baltar

Fânzeres

#### Slovakia

Saris

#### U.S.A.

Manitowoc  
Port Washington  
Shady Grove

## Bigge Crane and Rigging Co.

10700 Bigge Avenue  
San Leandro, CA 94577  
Phone: (888) 337-BIGGE or (510) 638-8100  
Fax: (510) 639-4053  
Email: info@bigge.com  
Web site: www.bigge.com

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment and price changes without notice. Illustrations shown may include optional equipment and accessories, and may not include all standard equipment.





# **Hydraulic Truck Crane Product Data**

# 8690

## 90-ton (81.65 mt) Hydraulic Truck Crane

- 90 tons (81.65 mt) at 8 ft (2.44 m) radius
- 38-140 ft (11.6-42.7 m) five section, full power latching boom with no charted capacity deductions for telescoping loads
- 35-58 ft (10.7-17.7 m) two-piece, bi-fold, on-board lattice attachment with 2°, 15°, 30°, and 45° offsets - optional
- Two 16 ft (4.9 m) lattice inserts provide a total attachment length of 90 ft (27.4 m) - optional
- 237 ft (72.2 m) maximum tip height
- Modular style counterweights
- 16,880 lbs (7 656.6 kg) maximum winch line pull
- 480 fpm (146.3 m/min) maximum winch line speed
- Next generation operator's cab with improved visibility and ergonomics
- 445 hp (331.8 kW) Detroit Diesel engine with 1,450 ft-lbs (1966 J) of torque
- ZF AS Tronic 12 speed automated manual transmission
- 62.3 mph (100.3 km/hr) travel speed
- Front and rear air ride suspension
- Anti-lock (ABS) brakes
- Four lockable storage boxes available
- "Stow 'n Go" steel pontoons

**Link-Belt**  
CRANES



# HTC 8690

90-ton (81.65 mt) Hydraulic Truck Crane

# HTT 8690

90-ton (81.65 mt) Truck Terrain Crane



The HTT's all-wheel steer provides outstanding on-site mobility.

- 90 tons (81.65 mt) at 8 ft (2.44 m) radius
- 38-140 ft (11.6-42.7 m) five section, full power latching boom with no charted capacity deductions for telescoping loads
- 35-58 ft (10.7-17.7 m) two-piece, bi-fold, on-board lattice attachment with 2°, 15°, 30°, and 45° offsets - optional
- Two 16 ft (4.9 m) lattice inserts provide a total attachment length of 90 ft (27.4 m) - optional
- 237 ft (72.2 m) maximum tip height
- Modular style counterweights
- 16,880 lbs (7 656.6 kg) maximum winch line pull
- 480 fpm (146.3 m/min) maximum winch line speed
- Next generation operator's cab with improved visibility and ergonomics
- Automated Manual Transmission
- Front and rear air ride suspension
- Anti-lock (ABS) brakes
- Four lockable storage boxes available
- "Stow 'n Go" steel pontoons



**Link-Belt**  
C R A N E S



# HTC 8690

90-ton (81.65 mt) Hydraulic Truck Crane

# HTT 8690

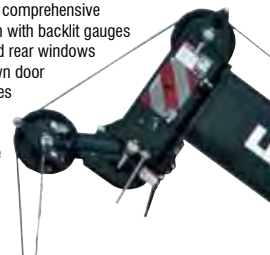
90-ton (81.65 mt) Truck Terrain Crane

- 5-section full power latching boom with attachment flexibility
- Big, wide cab with outstanding visibility
- Winches deliver impressive numbers of line pull and line speed
- Counterweight flexibility, big engine and transmission power, along with air ride promise incredible mobility on the road or on the job

□ All counterweight configurations can be raised and lowered by hydraulic cylinders from the comfort of the operator's cab for ease of installation and removal.



- Comfortable carrier :**
- Dash-mounted comprehensive instrumentation with backlit gauges
  - Sliding side and rear windows and roll up/down door window provides excellent ventilation
  - Fully adjustable air-ride fabric seat
  - Suspended pedals



35-58 ft (10.7-17.7 m) two-piece bi-fold lattice attachment with 2°, 15°, 30° and 45° offsets



## Outstanding mobility on the road and on the job site

- Cruise control
- Three stage engine compression brake
- Ether injection system – optional
- Automated transmission (no clutch pedal) — 12 speeds forward, 2 speeds reverse with two modes of operation: fully automatic and semi-automatic
- Job site travel is permissible with all 39,500 lbs (17 917.2 kg) of counterweight for exceptional job site versatility:
  - HTC: 1.3 mph (2.1 km) job site travel
  - HTT: 1.2 mph (1.9 km) job site travel
- Highway speeds unmatched in the industry today:
  - HTC: up to 62.3 mph (100.3 km/hr)
  - HTT: up to 56.1 mph (90.2 km/hr)



- **Boom dolly/trailer ready** when equipped with optional boom float kit and rear electrical and air connections
- **Optional rear electrical and air connections**



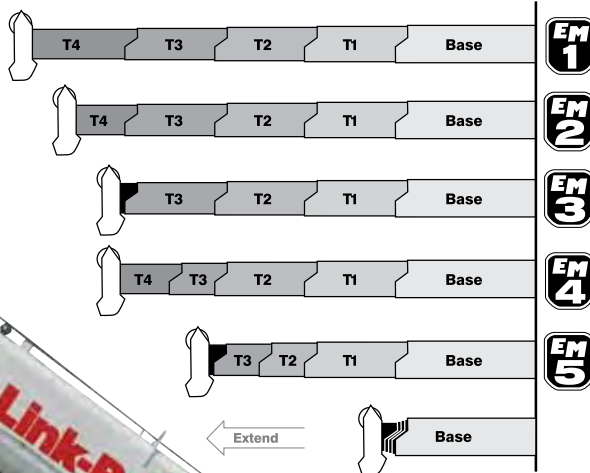
□ There are two standard **locking storage boxes** with options for up to four boxes.



□ **Raydan™ air-ride suspension** front and rear provides a smooth ride and precise handling. Optional air-ride lift system holds the rear suspension retracted while the crane is on outriggers.

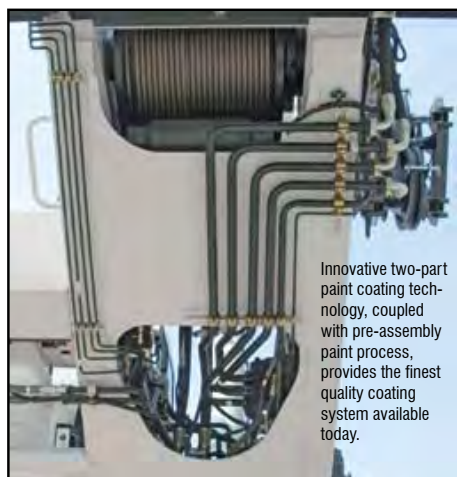






### 5-section full power latching boom with attachment flexibility

- 38-140 ft (11.6-42.7 m) latching boom with five boom modes for superior capacities throughout the extension range
- No charted capacity reductions for telescoping loads
- Boom requires no greasing because of ingenious Teflon wear pucks impregnated in the full contact wear pads
- No minimum boom angle for extending or retracting the boom sections
- 35-58 ft (10.7-17.7 m) two-piece, bi-fold, on board lattice attachment with 2°, 15°, 30°, and 45° offsets
- Two 16 ft (4.9 m) lattice inserts provide a total attachment length of 90 ft (27.4 m)
- 237 ft (72.2 m) maximum tip height



Innovative two-part paint coating technology, coupled with pre-assembly paint process, provides the finest quality coating system available today.

Mechanical boom angle indicator - standard

Optional integrated air conditioning

Folding viewing mirror for travel

Pull-out CabWalk™ slides out from secured travel position underneath operator's cab

Optional hoist drum cable follower and optional third wrap indicators

Winch viewing mirror

Large engine doors allow for easy access

Non-slip surface strips on carrier deck

Optional daytime running lights

Self-storing fifth outrigger pontoon

Large west coast-style rear viewing mirrors

Integrated air conditioning (not a roof-mounted system)

Full air, S-cam anti-lock (ABS) brakes

Aluminum wheels and radial tires

Standard 11,500 lbs (5 216 kg) counterweight

Stow 'n Go outrigger pontoons

Carrier-mounted outrigger controls located on each side of carrier, include an engine throttle-up switch for fast outrigger deployment. For fine level adjusting of the carrier, throttle can be taken down to idle.

### Powerful and responsive hydraulics

- Six pump, pressure compensated hydraulic system allows simultaneous and precise function of boom hoist, winch, and swing.
- Two-speed hydraulic piston motor hoist system delivers superior hoisting. Matched size optional front and rear winches provide equal max line pulls of 16,880 lbs (7 657 kg) and max line speeds of 480 fpm (143 m/min) on 16" (41 m) root diameter grooved drums.
- Drum rotation indicators - standard.
- Bi-directional hydraulic swing motor mounted to a planetary reduction unit for 360° continuous smooth swing. Spring applied hydraulic released 360° swing park brake provides infinite swing park positions as well as free swing when control is in neutral position.

**CALC** — Outrigger beams have three different stages (retracted, intermediate, and fully extended) providing lifting capacities in confined areas.

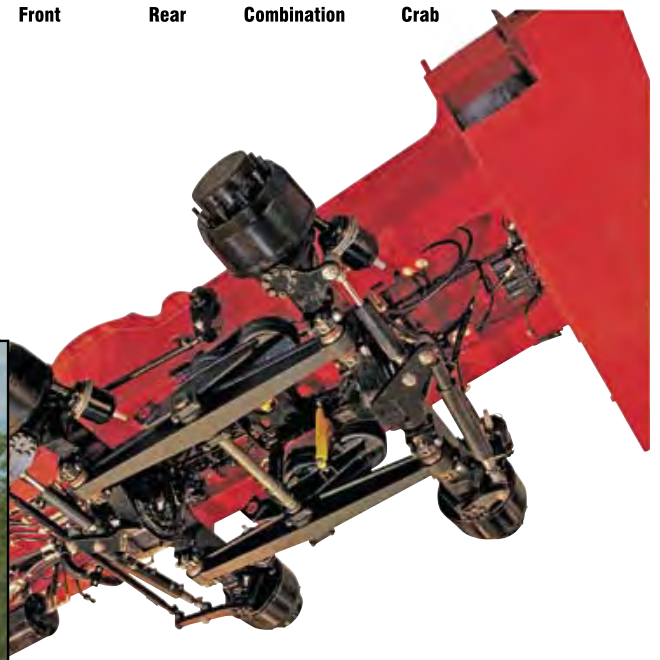
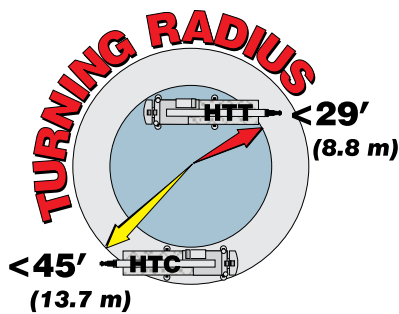
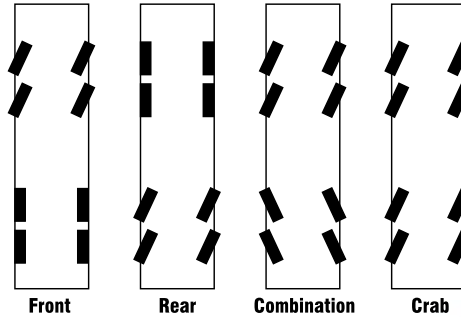






**Steerable all wheel axes, in conjunction with super single tires, makes the HTT even harder to beat on the job-site. And NO changes to the on-outrigger capacity charts.**

- Drive and steer capabilities for the rear axes
- Four steering modes:
  - Independent front
  - Independent rear
  - Combination
  - Crab
- Rear axes self-center and lock in the straight ahead position for high speed travel.
- Turning radius under 29 ft (8.8 m) at the edge of the tire
- 445/65R22.5 tires front and rear that are interchangeable
- Only one spare rim and tire combination is needed.
- Transverse (cross-axle) differential locks that greatly improve traction on unimproved job-site conditions.







**Roomier and quieter operator's cab**

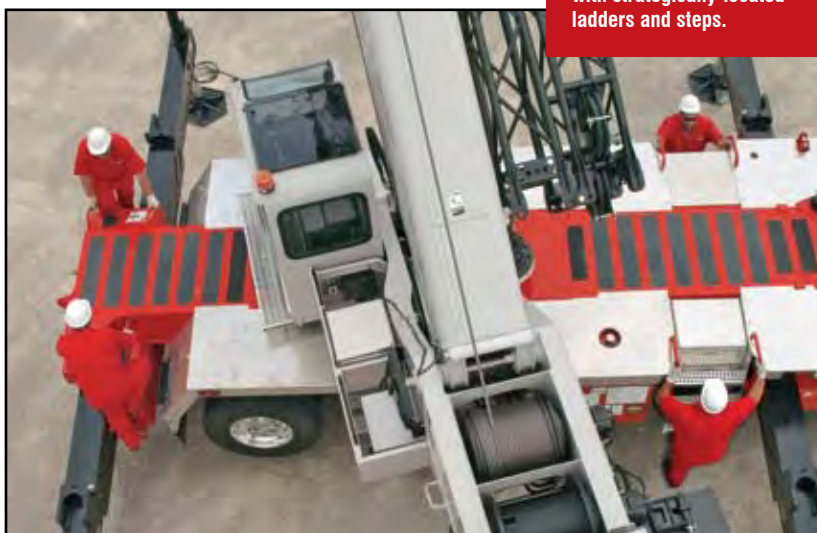
- Extra large front window almost seamlessly merges into the roof window
- Sliding left side door, right and rear windows, and swing up top window provide excellent ventilation
- All gauges, switches, indicators, and controls are placed in the operators forward line of sight for excellent ergonomics
- All gauges and switches are backlit for excellent visibility when the cab working lights are switched to the on position
- Available — Integrated air conditioning utilizes the same ventilation outlets as the standard heating system



Integrated Microguard rated capacity limiter with color graphic display, for excellent contrast even in direct sunlight, aids the operator in safe and efficient operation by continuously monitoring a multitude of crane conditions. Optional external and internal light bars inform the operator and/or ground crew of the percentage of capacity.



Access to the engine compartments and the operator's cab is superb with strategically-located ladders and steps.



**Multiple counterweight configurations give you capacities for any size job**

- Standard – Total of 11,500 lbs (5 216 kg) of removable counterweights. Capacities for five different counterweight configurations.
- Optional – Up to 39,500 lbs (17 917.2 kg) of removable counterweights. Capacities for up to thirteen different counterweight configurations.
- All configurations can be raised and lowered by hydraulic cylinders from the comfort of the operator's cab for ease of installation and removal.

**Your crane investment is always protected ... with your Link-Belt distributor.**

When you invest in a Link-Belt crane, you invest in a legacy of outstanding customer support dating back to 1874. The ultimate value of a machine begins with state-of-the-art design and quality manufacturing, but it is the excellent Link-Belt distributor product support that determines its long term value. This philosophy has earned Link-Belt cranes the enviable position of traditionally commanding some of the highest resale prices in the industry.

*"... to be recognized as a leader in customer service & satisfaction."*  
 — The Link-Belt Vision

**Link-Belt**  
*Preferred*

As a member of Link-Belt Cranes user's group, you will have access to:

- Online access to a comprehensive library of all parts, service and operator manuals for YOUR crane
- Interactive, live groundbearing calculations for YOUR crane
- Plus a vast array of information on new products, services and special offerings



Link-Belt Parts Distribution Center



Link-Belt headquarters - Lexington, Kentucky

**Master Technician TRAINING PROGRAM**

Link-Belt's investment in the highly acclaimed Master Technician Training Program is further testimony to its commitment to highly trained, experienced service personnel.

Technical schools are specifically designed to establish proficiency in three phases: fundamentals, machine systems, and diagnostics/repair. To further support these highly trained distributor personnel, Link-Belt has dedicated, full time factory technical advisors available with comprehensive machine records, drawings and technical publications to quickly isolate and resolve service issues.



No one knows your Link-Belt crane better than our trained technical specialists and coupled with the energy of our customer parts representatives, no one in the crane industry provides faster, more efficient customer service.

With state of the art computer information systems, distributors order Genuine Link-Belt Parts 24 hours a day, 7 days a week.

Our dedicated 72,000 sq. ft. (6 689 m<sup>2</sup>) Parts Distribution Center is an integral part of our product support commitment where we invest in an extensive and well planned parts inventory. And all parts in stock ship the same business day.

Link-Belt Construction Equipment Company is a leader in the design, manufacture and sales of telescopic and lattice boom cranes, with headquarters in Lexington, Kentucky.

In the recent decade, a dynamic and highly focused Link-Belt has emerged as a market leader in crane design and product quality standards by focusing on continuous improvement and employee empowerment.

Link-Belt's core production base and center for worldwide operations is its 500,000 sq. ft. (46 451.5 m<sup>2</sup>) manufacturing facility in Lexington, Kentucky.

With major expansions over the last ten years, along with continuous improvement philosophies, this facility has emerged as the most modern crane facility in North America.

**Link-Belt**  
 C R A N E S

LINK-BELT CONSTRUCTION EQUIPMENT COMPANY

Lexington, Kentucky | www.linkbelt.com

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We are constantly improving our products and therefore reserve the right to change designs and specifications.

Litho in U.S.A. 11/07 #4344 (supersedes #4331)



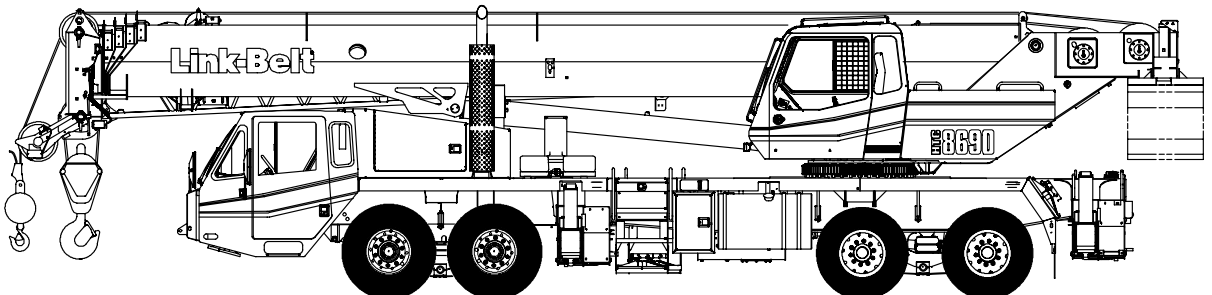
5460 (supersedes 5424) –0506–N3

# Technical Data

## Specifications & Capacities

# HTC 8690

Telescopic Boom Truck Crane  
90 ton (81.6 metric ton)



**CAUTION:** This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual and Operator's Manual to determine allowable crane lifting capacities and assembly and operating procedures.



5460 (supersedes 5424)–0506–N3

HTC-8690

Link-Belt Cranes



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## Boom, Attachments, and Upper Structure

### ■ Boom

**Design** – Five section, formed construction of extra high tensile steel consisting of one base section and four telescoping sections. The two plate design of each section has multiple longitudinal bends for superior strength. Each telescoping section extends independently by means of one double-acting, single stage hydraulic cylinder with integrated holding valves.

#### Boom

- 38–140 ft (11.6–42.7m) five section boom
- Integral boom dolly connection
- Five boom extend modes (EM1 through EM5), controlled from the operator's cab, provide superior capacities by varying the extension of the telescoping sections:
  - EM1 extends to 140.0 ft (42.7m)
  - EM2 extends to 127.3 ft (38.8m)
  - EM3 extends to 115.8 ft (35.3m)
  - EM4 extends to 102.0 ft (31.1m)
  - EM5 extends to 76.5 ft (23.3m)
- Mechanical boom angle indicator
- Maximum tip height for each extend mode is:
  - EM1 is 148 ft (45.1m)
  - EM2 is 135 ft (41.1m)
  - EM3 is 124 ft (37.8m)
  - EM4 is 110 ft (33.5m)
  - EM5 is 84 ft (25.6m)

#### Boom Wear Pads

- Wear pads with Teflon inserts that self-lubricate the boom sections
- Bottom wear pads are universal for all boom sections
- Top wear pads are universal for all boom sections

#### Boom Head

- Five 16.5 in (41.9cm) root diameter nylon sheaves to handle up to ten parts of line
- Easily removable wire rope guards
- Rope dead end lugs on each side of the boom head
- Boom head is designed for quick-reeve of the hook block

#### Boom Elevation

- One double acting hydraulic cylinder with integral holding valve
- Boom elevation:  $-3^{\circ}$  to  $80^{\circ}$

#### Auxiliary Lifting Sheave – Optional

- Single 16.5 in (41.9m) root diameter nylon sheave
- Easily removable wire rope guards
- Does not affect erection of the fly or use of the main head sheaves

#### Hook Blocks and Balls – Optional

- 40 ton (36.3mt) 4 sheave quick-reeve hook block with safety latch
- 60 ton (54.4mt) 4 sheave quick-reeve hook block with safety latch
- 90 ton (81.6mt) 6 sheave quick-reeve hook block with safety latch
- 8.5 ton (7.7mt) swivel and non-swivel hook balls with safety latch
- 10 ton (9.1mt) swivel and non-swivel hook balls with safety latch

#### Fly – Optional

- 35 ft (10.7m) one piece lattice fly, stowable, offsettable to  $2^{\circ}$ ,  $15^{\circ}$ ,  $30^{\circ}$ , and  $45^{\circ}$ . Maximum tip height is 182 ft (55.5m).
- 35 ft–58 ft (10.7–17.7m) two piece bi-fold lattice fly, stowable, offsettable to  $2^{\circ}$ ,  $15^{\circ}$ ,  $30^{\circ}$ , and  $45^{\circ}$ . Maximum tip height is 205 ft (62.5m).

#### Fly Extensions – Optional

- One 16 ft (4.9m) lattice extension, equipped with two 16.5 in (41.9cm) root diameter nylon sheaves, to be mounted between the boom head and fly options. Maximum tip height is 221 ft (67.4m).
- Two 16 ft (4.9m) lattice extensions, one equipped with two 16.5 in (41.9cm) root diameter nylon sheaves, to be mounted between the boom head and fly options. Maximum tip height is 237 ft (72.2m). Minimum of 14,500 lb (6 577.1kg) of counterweight required.



## ■ Upper Operator's Cab and Controls

**Environmental Cab** – Fully enclosed, one person cab of galvaneal steel structure with acoustical insulation.

Equipped with:

- Tinted and tempered glass windows
- Extra – large fixed front window with windshield wiper and washer
- Swing up roof window with windshield wiper
- Sliding left side door with large fixed window
- Sliding rear and right side windows for ventilation
- Six way adjustable, cushioned seat with seat belt and storage compartment
- Engine dependent warm – water heater with air ducts for front windshield defroster and cab floor
- Defroster fan for the front window
- Bubble level
- Circulating fan
- Adjustable sun visor
- Dome light
- Cup holder
- Fire extinguisher
- Left side viewing mirror
- Pull – out cabwalk
- Two position travel swing lock

**Air Conditioning – Optional** – Integral with cab heating system utilizing the same ventilation outlets

**Armrest Controls** – Two dual axis hydraulic joystick controllers or optional single axis hydraulic controllers for:

- Swing
- Boom hoist
- Main rear winch
- Auxiliary front winch – optional
- Drum rotation indication
- Drum rotation indicator activation switch
- Winch high/low speed and disable switch(es)
- Third wrap selector switch – optional
- Counterweight handling switch
- Telescopic override switches
- Warning horn button

**Outrigger Controls** – Hand held control box with umbilical cord gives the operator the freedom to view operation while setting the outriggers.

**Foot Controls**

- Boom telescope
- Swing brake
- Engine throttle

**Right Front Console** – Controls and indicators for:

- Engine ignition
- Engine throttle lock
- Pump enable
- Function disable
- Swing park brake
- Front windshield wiper and washer
- Cab floodlights
- Warning horn
- Heating controls
- Console dimmer switch
- Bubble level
- 12 volt power connection
- Air conditioning – optional
- Boom floodlight – optional
- Rotating beacon/Strobe light – optional

**Cab Instrumentation** – Ergonomically positioned, analog instrumentation for crane operation including:

- Check and stop engine indicators
- Engine coolant temperature with warning indicator
- Hydraulic oil temperature with warning indicator
- Low air pressure warning indicator
- Fuel level with warning indicator
- Tachometer

**Rated Capacity Limiter** – Microguard 540 color graphic audio – visual warning system integrated into the dash with anti – two block and function limiter. Operating data available includes:

- Crane configuration
- Boom length and angle
- Boom head height
- Allowed load and % of allowed load
- Boom angle
- Radius of load
- Actual load
- Counterweight removal
- Operator settable alarms (include):
  - Maximum and minimum boom angles
  - Maximum and minimum tip height
  - Maximum boom length
  - Left/right swing positions
  - Operator defined area (imaginary plane)

**Integrated Third Wrap Indicator – Optional** – Micro-guard color display visually and audibly warns the operator when the wire rope is on the first/bottom layer and when the wire rope is down to the last three wraps.

**Internal RCL Light Bar – Optional** – Visually informs the operator when crane is approaching maximum load capacity with a series of green, yellow, and red lights.

**External RCL Light Bar – Optional** – Visually informs the ground crew when crane is approaching maximum load capacity with a series of green, yellow, and red lights.



## ■ Swing

**Motor/Planetary** – Bi-directional hydraulic swing motor mounted to a planetary reducer for 360° continuous smooth swing at 1.7 rpm.

**Swing Park Brake** – 360°, electric over hydraulic, (spring applied/hydraulic released) multi-disc brake mounted on the speed reducer. Operated by a switch from the operator's cab.

**Swing Brake** – 360°, foot operated, hydraulic applied disc brake mounted to the speed reducer.

**Swing Lock** – Two-position swing lock (boom over front or rear) operated from the operator's cab.

**360° Positive Swing Lock – Optional** – Meets New York City requirement.

## ■ Electrical

**Swing Alarm** – Audio warning device signals when the upper is swinging.

### Lights

- Two working lights on front of the cab
- One rotating amber beacon on top of the cab – optional
- One amber strobe beacon on top of the cab – optional
- Boom floodlight – optional

## ■ Additional Equipment

- Left side aluminum storage box

## ■ Load Hoist System Load Hoist Performance

Main (Rear) and Auxiliary (Front) Winches – 3/4 in (19mm) Rope										
Layer	Maximum Line Pull		Normal Line Speed		High Line Speed		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	ft	m	ft	m
1	16,880	7 656.6	179	54.6	356	108.5	114	34.7	114	34.7
2	15,519	7 039.3	195	59.4	387	118.0	124	37.8	238	72.5
3	14,362	6 514.5	211	64.3	418	127.4	134	40.8	372	113.4
4	13,365	6 062.3	226	68.9	449	136.9	144	43.9	516	157.3
5	12,497	5 668.5	242	73.8	480	146.3	154	46.9	670	204.2
6	---	---	---	---	---	---	164	50.0	834	254.2

Wire Rope Application		Diameter		Type	Maximum Permissible Load	
		in	mm		lb	kg
Main (Rear) Winch	Standard	3/4	19	18x19 rotation resistant – right regular lay (Type RB)	12,920	5 860.5
	Optional	3/4	19	36x7 rotation resistant – right regular lay (Type ZB)	15,600	7 076.2
Auxiliary (Front) Winch	Standard	3/4	19	18x19 rotation resistant – right regular lay (Type RB)	12,920	5 860.5
	Optional	3/4	19	36x7 rotation resistant – right regular lay (Type ZB)	15,600	7 076.2

### 2M Main and Optional Auxiliary Winches

- Axial piston, full and half displacement (2-speed) motors driven through planetary reduction unit for positive control under all load conditions.
- Grooved lagging
- Power up/down mode of operation
- Hoist drum cable follower – optional

- Drum rotation indicator
- Drum diameter: 16 in (40.6cm)
- Rope length:
  - Main: 730 ft (222.5m)
  - Auxiliary: 600 ft (182.9m) or 730 ft (222.5m)
- Maximum rope storage: 834 ft (254.2m)
- Terminator style socket and wedge

**Third wrap indicator – optional** – Visually and audibly warns the operator when the wire rope is on the bottom layer and when the wire rope is down to the last three wraps.



## ■ Hydraulic System

All circuits of the hydraulic system are pressure compensated.

**Counterbalance Valves** – All hoist motors, boom extend cylinders, and boom hoist cylinders are equipped with counterbalance valves to provide load lowering and to prevent accidental load drop if hydraulic power is suddenly reduced.

**Hydraulic Oil Coolers** – Two carrier mounted coolers remove heat from the hydraulic oil. One is integral to the engine radiator/charge air cooler and the other is mounted in left side access ladder.

**Boom Hoist Float Valves (Optional)** – For transporting the boom over the rear of the crane with a boom dolly. Allows hydraulic oil within the boom hoist cylinder to flow between piston side and case side, allowing the boom to float while on the boom dolly.

**Swing Brake Release** – For transporting the boom over the rear of the crane with a boom dolly. Holds the 360° swing park brake in the released position allowing free rotation of the upper structure.

## ■ Counterweight

**Standard** – Total of 11,500 lb (5 216kg) of total counterweight consisting of three, hydraulically removable counterweights. Assembled and disassembled by hydraulic cylinders controlled from the operator's cab with capacities for:

- 0 lb (0kg) counterweight
- 2,500 lb (1 134.0kg) counterweight
- 5,500 lb (2 494.8kg) counterweight
- 8,500 lb (3 855.5kg) counterweight
- 11,500 lb (5 216.3kg) counterweight

**Optional** – 15,000 lb (6 803.9kg) in addition to standard counterweight for a total of 26,500 lb (12 020.2kg) with additional capacities for:

- 14,500 lb (6 577.1kg) counterweight
- 20,500 lb (9 298.6kg) counterweight
- 23,500 lb (10 659.4kg) counterweight
- 26,500 lb (12 020.2kg) counterweight

**Optional** – 21,000 lb (9 525.4kg) in addition to standard counterweight for a total of 32,500 lb (14 741.8kg) with additional capacities for:

- 14,500 lb (6 577.1kg) counterweight
- 17,500 lb (7 937.9kg) counterweight
- 20,500 lb (9 298.6kg) counterweight
- 23,500 lb (10 659.4kg) counterweight
- 26,500 lb (12 020.2kg) counterweight
- 29,500 lb (13 381.0kg) counterweight
- 32,500 lb (14 741.8kg) counterweight

**Optional** – 28,000 lb (12 700.6kg) in addition to standard counterweight for a total of 39,500 lb (17 916.9kg) with additional capacities for:

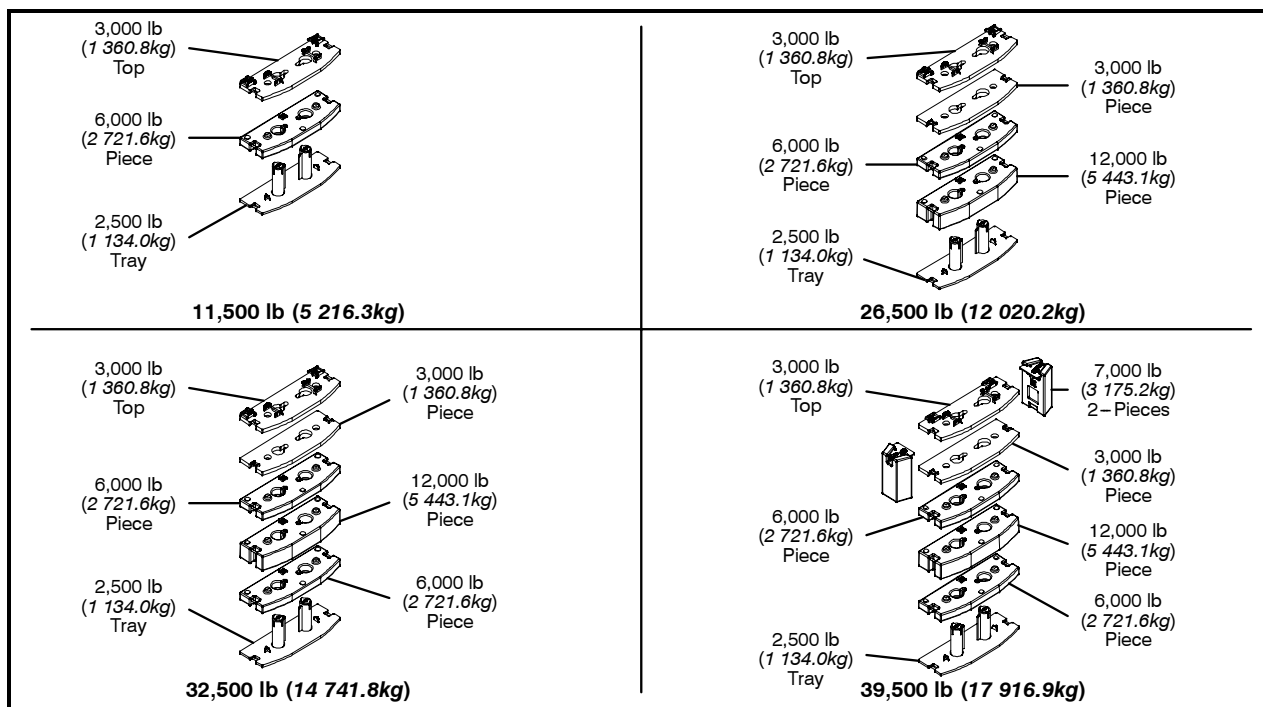
- 14,500 lb (6 577.1kg) counterweight
- 17,500 lb (7 937.9kg) counterweight
- 20,500 lb (9 298.6kg) counterweight
- 23,500 lb (10 659.4kg) counterweight
- 26,500 lb (12 020.2kg) counterweight
- 29,500 lb (13 381.0kg) counterweight
- 32,500 lb (14 741.8kg) counterweight
- 39,500 lb (17 916.9kg) counterweight\*

Low speed jobsite travel is offered for these optional counterweight configurations and a boom dolly or boom trailer may be required for on-highway travel.

\* Overall width of the crane increases to 11 ft (3.4m) for this counterweight configuration







Counterweight Packages		11,500 lb (5 216.3kg) – Standard						
		26,500 (12 020.2kg) – Optional						
Counterweight Modules		32,500 (14 741.8kg) – Optional						
		39,500 (17 916.9kg) – Optional						
		2,500 lb (1 134.0kg) Tray	6,000 lb (2 721.6kg) Piece	3,000 lb (1 360.8kg) Top	3,000 lb (1 360.8kg) Piece	12,000 lb (5 443.1kg) Piece	6,000 lb (2 721.6kg) Piece	7,000 lb (3 175.2kg) 2-Pieces
Counterweight Usage Configurations	0 lb (0kg)							
	2,500 lb (1 134.0kg)	X						
	5,500 lb (2 494.8kg)	X		X				
	8,500 lb (3 855.5kg)	X	X					
	11,500 lb (5 216.3kg)	X	X	X				
	14,500 lb (6 577.1kg)	X	X	X	X			
	17,500 lb (7 937.9kg)	X	X	X			X	
	20,500 lb (9 298.6kg)	X	X	X	X		X	
	23,500 lb (10 659.4kg)	X	X	X		X		
	26,500 (12 020.2kg)	X	X	X	X	X		
	29,500 lb (13 381.0kg)	X	X	X		X	X	
	32,500 (14 741.8kg)	X	X	X	X	X	X	
39,500 (17 916.9kg)	X	X	X	X	X	X	X	



## Carrier

### ■ General

- 8 ft 6 in (2.6 m) wide
- 23 ft 10 in (7.26m) wheelbase (centerline of first axle to centerline of fourth axle)
- **Frame** – Box-type, torsion resistant, welded construction made of high tensile steel. Equipped with front and rear towing and tie-down lugs, tow connections, and access ladders.

### ■ Outriggers

**Boxes** – Two double box, front and rear welded to the carrier frame

**Beams and Jacks** – Four dual stage beams with Confined Area Lifting Capacities (CALC) provide selectable outrigger extensions of full, intermediate, and retracted positions. Jacks with integral check valves, hydraulically controlled from the operator’s cab and on both sides of carrier. A fifth front bumper outrigger with integral check valves is hydraulically controlled from the operator’s cab and at the front bumper of carrier.

**Pontoons** – Four lightweight, stow’n go, 23.5” x 27.25” (59.7 x 69.2cm) hexagonal steel pontoons with a contact area of 485 in<sup>2</sup> (3 129cm<sup>2</sup>) can be stored for road travel in either the storage racks on the carrier or under the outrigger boxes.

**Main Jack Reaction** – 106,000 lb (48 080.8kg) force and 217 psi (1 496.2kPa) ground bearing pressure

### ■ Steering and Axles

- Sheppard full integral master gear/slave gear steering system provides hydraulic assisted steering with mechanical link between steering wheel and wheels
- **Drive** – 8 x 4 for on/off –highway travel
- **Axle 1 & 2** – Tandem steered, non-driven
- **Axle 3 & 4** – Tandem non-steered, driven with reduction: 5.38 to 1
- **Inter-Axle Differential Lock** – Traction adding device that locks axle 3 with axle 4. Operated by a switch from the carrier cab.

### ■ Suspension

**Front** – Raydan Air Link walking beam air suspension

**Rear** – Raydan Air Link walking beam air suspension

- **Axle Lift System – Optional** – Improves rear tire ground clearance when the crane is up on outriggers. The rear tandem axles are raised and lowered with a switch in the carrier cab. The axle lift system can be controlled with a switch on both sides of the carrier.

### ■ Tires and Wheels

**Front** – Four (single) 445/65R22.5 tires on aluminum disc wheels

- **Rear** – Eight (dual) 12R22.5 tires on aluminum disc wheels
- Spare tires and wheels – optional
- Tire inflation kit – optional

### ■ Brakes

**Service** – Full air anti-lock (ABS) brakes on all wheel ends. Dual circuit compressed air system with air dryer.

**Parking/Emergency** – Spring loaded type, acting on 3rd and 4th axles automatically apply when air pressure drops below 40 psi (275.8kPa) in both circuits.

### ■ Electrical

**Battery** – Three batteries provide 12 volt starting and operation

#### Lights

- Front lighting includes two main headlights, two high beam lights, two parking/directional indicators, and three cab marker lights.
- Side lighting includes three parking/directional indicators per side.
- Rear lighting includes two parking/directional indicators, two parking/brake lights, two reverse lights, three marker lights, and a license plate light.
- Other equipment includes hazard/warning system, cab light, instrument panel light, and signal horn.
- One amber strobe beacon on top of the cab – optional
- Daytime running lights – optional

### ■ Engine

Specification	Detroit Diesel Series 60
Numbers of cylinders	6
Cycle	4
Bore and Stroke: inch (mm)	5.12 x 6.30 (130x160)
Piston Displacement: in <sup>3</sup> (L)	778 (12.7)
Max. Brake Horsepower: hp (kW)	445 (331.8) @ 1,800 rpm 430 (320.7) @ 2,100 rpm
Peak Torque: ft lb (J)	1,450 (1 966.1) @ 1,200 rpm
Alternator: volts – amps	12 – 130
Crankcase Capacity: qt (L)	32 (30.3)
<ul style="list-style-type: none"> <li>• Cruise control</li> <li>• Three-stage engine compression brake</li> <li>• Thermostatically controlled, hydraulically driven radiator fan</li> <li>• 120 volt engine block heater</li> <li>• Ether injection system – optional</li> </ul>	

### ■ Transmission

**Automated** – ZF AS-TRONIC (no clutch pedal) manual transmission with 12 forward gears and 2 reverse gears.



## ■ Carrier Speeds and Gradeability

ZF Astronic		Governed Speed		Gradeability (@ Peak Torque Except Creep @ Idle)
Gear	Ratio	mph	km/h	% Grade
12th	0.778	62.3	100.3	2.1
11th	1.000	48.5	78.1	3.1
10th	1.267	38.3	61.6	4.2
9th	1.629	29.8	48.0	5.8
8th	2.101	23.1	37.2	7.8
7th	2.700	18.0	29.0	10.2
6th	3.552	13.7	22.0	13.7
5th	4.565	10.6	17.1	17.8
4th	5.784	8.4	13.5	22.8
3rd	7.435	6.5	10.5	29.5
2nd	9.590	5.1	8.2	38.2
1st	12.326	3.9	6.3	49.3
Reverse (Low)	11.413	4.3	6.9	45.6
Reverse (High)	8.880	5.5	8.9	35.3
1st @ 700 rpm	12.326	1.3	2.1	20.9
Rev. (Low) @ 700 rpm	11.413	1.4	2.3	19.3
Rev. (High) @ 700 rpm	8.880	1.8	2.9	14.9

Based on a gross vehicle weight of 95,000 lb (43 091.3kg)

## ■ Fuel Tank

One 95 gal (359.6L) capacity tank

## ■ Hydraulic System

All functions are hydraulically powered allowing positive, precise control with independent or simultaneous operation of all functions.

### Main Pumps

- Three fixed displacement gear pumps with automatic disconnect for the main and auxiliary winches, swing, boom hoist, control circuit, and telescope for use when pick & carry switch is in travel mode.
- One fixed displacement gear pump for steering and the front bumper outrigger
- Two fixed displacement gear pumps for engine cooling fan and main outriggers. These pumps also provide flow to the winches and boom hoist for "pick & carry" mode. Operated by a switch in the carrier cab.
- Combined pump capacity of 188 gpm (711.7Lpm)

**Hydraulic Reservoir** – 144 gal (545.1L) capacity equipped with sight level gauge. Diffusers built in for deaeration.

**Filtration** – One 10 micron, full flow, return line filter. All oil is filtered prior to return to reservoir. Accessible for easy filter replacement.

## ■ Pump Drive

All pumps are mechanically driven by the diesel engine. Main and auxiliary winches, swing, boom hoist, control circuit, and telescope pumps are mounted to an automatic pump disconnect on the rear of the transmission to aid in cold weather starting as well as to reduce pump wear while traveling.



## ■ Lower Cab and Controls

**Environmental Cab** – Fully enclosed, one person cab of composite structure with acoustical insulation. Equipped with:

- Tinted and tempered glass windows
- Roll down left side window for ventilation
- Sliding rear and right side windows for ventilation
- Windshield wiper and washer
- Six way adjustable and air suspended driver's seat with seat belt
- Two adjustable rear view mirrors
- Engine dependent warm-water heater with air ducts for windshield defroster and cab floor
- Adjustable sun visor
- Dome light
- 12 volt connection
- Fire extinguisher

**Air Conditioning – Optional** – Integral with cab heating system utilizing the same ventilation outlets

**Cab Instrumentation** – Ergonomically positioned analog instrumentation for driving including:

- Speedometer with odometer, hourmeter, trip odometer, and clock
- Front and rear air pressure with warning indicator
- Engine coolant temperature with warning indicator
- Engine oil pressure with warning indicator
- Voltage indicator with warning indicator
- Fuel level
- Tachometer

**Right Side Console** – Controls and indicators for:

- Transmission gear shifting
- Transmission digital readout
- Cruise controls
- Engine compression brake controls

### Dash Mounted Controls For:

- Windshield wiper and washer
- Carrier lights
- Carrier/upper throttle control
- Engine cooling fan override
- Cab heater/air conditioning
- Console dimmer switch
- Engine diagnostic switch
- Park brake
- Engine ignition
- Pick & carry switch

### Dash Mounted Indicator For:

- Check and stop engine
- Turn signal indication
- Park brake
- Cruise activation
- High beam headlights
- Check anti-lock brake system

### Foot Controls For:

- Carrier service brakes
- Engine throttle

## ■ Additional Equipment

### Standard:

- Aluminum full deck fenders with mud flaps
- Left and right bubble levels
- Air hose connection ports
- Clearance flags

### Optional:

- Pneumatic and electrical quick disconnect connectors mounted on the rear for trailer or boom dolly brakes and lights
- Left side aluminum storage box
- Rear mounted pintle hook



# Axle Loads

Base crane with full tank of fuel and no counterweight	Gross Vehicle Weight <sup>(1)</sup>		Front Axles		Rear Axles	
	lb	kg	lb	kg	lb	kg
	79,206	35 927	34,938	15 848	44,268	20 080
Driver in carrier cab	250	113	315	143	-65	-29
Rear pintle hook	13	6	-6	-3	19	8
Pneumatic and electrical connectors for trailer or boom dolly	11	5	-4	-2	15	7
Carrier aluminum storage box	59	27	28	13	31	14
Air ride lift system – rear axles	48	22	0	0	48	22
Ether injection	13	6	12	5	1	1
Air conditioning – carrier	45	20	55	25	-10	-4
Hoist drum follower – main	69	31	-35	-16	104	47
Auxiliary winch with 600 ft (182.9m) of 3/4" (19mm) type "RB" rope	731	332	-239	-108	970	440
Hoist drum follower – auxiliary	69	31	-21	-10	90	41
Substitute 600 ft (182.9m) of rope with 730 ft (222.5m) of rope – auxiliary	163	74	-54	-24	217	98
Remove 730 ft (222.5m) of rope from rear (main) winch	-931	-422	373	169	-1,304	-591
Remove 600 ft (182.9m) of rope from front (auxiliary) winch	-768	-348	252	114	-1,020	-463
Upper aluminum storage box	42	19	-4	-2	46	21
Air conditioner – operator's cab	220	100	-7	-3	227	103
360° mechanical swing lock	140	64	21	9	119	54
2,500 lb (1 134.0kg) counterweight tray on upper	2,544	1 154	-1,255	-569	3,799	1 723
3,000 lb (1 360.8kg) counterweight on upper	2,981	1 352	-1,471	-667	4,452	2 019
6,000 lb (2 721.6kg) counterweight on upper	6,000	2 722	-2,961	-1 343	8,961	4 065
6,000 lb (2 721.6kg) counterweight on upper	6,000	2 722	-2,961	-1 343	8,961	4 065
12,000 lb (5 443.1kg) counterweight on upper	12,050	5 466	-5,947	-2 697	17,997	8 163
3,000 lb (1 360.8kg) top counterweight on upper	3,009	1 365	-1,485	-674	4,494	2 038
Floodlight to the front of boom base section	7	3	6	3	1	1
Fly mounting brackets to boom base section for fly options	176	80	136	62	40	18
35 ft (10.7m) offsettable, one-piece lattice fly – stowed	1,591	722	1,539	698	52	24
35–58 ft (10.7–17.7m) offsettable, two-piece (bi-fold) lattice fly – stowed	2,263	1 026	1,886	855	377	171
Auxiliary lifting sheave	110	50	200	91	-90	-41
40 ton (36.3mt) 4-sheave hook block at front bumper	900	408	1,570	712	-670	-304
60 ton (54.4mt) 4-sheave hook block at front bumper	1,109	503	1,935	878	-826	-375
90 ton (81.6mt) 6-sheave hook block at front bumper	1,554	705	2,711	1 230	-1,157	-525
8.5 ton (7.7mt) hook ball at front bumper	360	163	628	285	-268	-122
10 ton (9.1mt) hook ball at front bumper	580	263	1,012	459	-432	-196

Counterweight Load Transfer	Front Axles		Rear Axles	
	lb	kg	lb	kg
Transfer 2,500 lb (1 134.0kg) counterweight tray to carrier deck	3,194	1 449	-3,194	-1 449
Transfer 3,000 lb (1 360.8kg) counterweight to carrier deck	3,742	1 697	-3,742	-1 697
Transfer 6,000 lb (2 721.6kg) counterweight to carrier deck	7,532	3 416	-7,532	-3 416
Transfer 6,000 lb (2 721.6kg) counterweight to carrier deck	7,532	3 416	-7,532	-3 416
Transfer 12,000 lb (5 443.1kg) counterweight to carrier deck	15,128	6 862	-15,128	-6 862
Transfer 3,000 lb (1 360.8kg) top counterweight to carrier deck	3,778	1 714	-3,778	-1 714

Axle	Maximum Load @ 65 mph (105km/h)
Front	46,400 lb (21 047kg) – aluminum disc wheels with 445/65R22.5 tires
Rear	52,000 lb (23 587kg) – aluminum disc wheels with 12R22.5 tires

<sup>(1)</sup> Adjust gross vehicle weight and axle loading according to component weight. All weights are ±3%.



## Axle Loads with 2–Axle or 3–Axle Boom Dolly

Base crane with full tank of fuel and no counterweight	Gross Vehicle Weight (1)		Front Axles		Rear Axles		Dolly Axles	
	lb	kg	lb	kg	lb	kg	lb	kg
	79,206	35 927	29,457	13 361	35,680	16 184	14,069	6 382
Nelson 2–axle boom dolly	6,000	2 722	0	0	0	0	6,000	2 722
Nelson 3–axle boom dolly	9,000	4 082	0	0	0	0	9,000	4 082
Driver in carrier cab	250	113	315	143	–65	–29	0	0
Rear pintle hook	13	6	–6	–3	19	8	0	0
Pneumatic and electrical connectors for trailer or boom dolly	11	5	–4	–2	15	7	0	0
Carrier aluminum storage box	59	27	28	13	31	14	0	0
Air ride lift system – rear axles	48	22	0	0	48	22	0	0
Ether injection	13	6	12	5	1	1	0	0
Air conditioning – carrier	45	20	55	25	–10	–4	0	0
Hoist drum follower – main	69	31	53	24	16	7	0	0
Auxiliary winch with 600 ft (182.9m) of 3/4" (19mm) type "RB" rope	731	332	435	197	296	134	0	0
Hoist drum follower – auxiliary	69	31	40	18	29	13	0	0
Substitute 600 ft (182.9m) of rope with 730 ft (222.5m) of rope – auxiliary	163	74	97	44	66	30	0	0
Remove 730 ft (222.5m) of rope from rear (main) winch	–931	–422	–623	–282	–308	–140	0	0
Remove 600 ft (182.9m) of rope from front (auxiliary) winch	–768	–348	–458	–208	–310	–140	0	0
Upper aluminum storage box	42	19	15	7	27	12	0	0
Air conditioner – operator's cab	220	100	66	30	154	70	0	0
360° mechanical swing lock	140	64	17	8	123	56	0	0
2,500 lb (1 134.0kg) counterweight tray on carrier deck	2,544	1 154	1,938	879	606	275	0	0
3,000 lb (1 360.8kg) counterweight on carrier deck	2,981	1 352	2,271	1 030	710	322	0	0
6,000 lb (2 721.6kg) counterweight on carrier deck	6,000	2 722	4,571	2 074	1,429	648	0	0
6,000 lb (2 721.6kg) counterweight on carrier deck	6,000	2 722	4,571	2 074	1,429	648	0	0
12,000 lb (5 443.1kg) counterweight on carrier deck	12,050	5 466	9,181	4 164	2,869	1 301	0	0
3,000 lb (1 360.8kg) top counterweight on upper	3,009	1 365	2,293	1 040	716	325	0	0
Flood light to the front of boom base section	7	3	1	1	1	1	5	2
Fly mounting brackets to boom base section for fly options	176	80	30	14	30	14	116	53
35 ft (10.7m) offsettable, one–piece lattice fly – stowed	1,591	722	168	76	170	77	1,253	568
35–58 ft (10.7–17.7m) offsettable, two–piece (bi–fold) lattice fly – stowed	2,263	1 026	339	154	342	155	1,583	718
Two 16 ft (4.9m) lattice inserts (stowed on 3–axle boom dolly)	1,584	718	0	0	0	0	1,584	718
Auxiliary lifting sheave	110	50	–19	–9	–19	–9	149	67
40 ton (36.3mt) 4–sheave hook block at boom head	900	408	–134	–61	–135	–61	1,169	530
60 ton (54.4mt) 4–sheave hook block at boom head	1,109	503	–165	–75	–167	–76	1,441	654
90 ton (81.6mt) 6–sheave hook block at boom head	1,554	705	–231	–105	–233	–106	2,019	916
8.5 ton (7.7mt) hook ball at boom head	360	163	–54	–24	–54	–25	468	212
10 ton (9.1mt) hook ball at boom head	580	263	–87	–39	–87	–39	754	342

Counterweight Load Transfer	Front Axles		Rear Axles		Dolly Axles	
	lb	kg	lb	kg	lb	kg
Transfer 3,000 lb (1 360.8kg) counterweight to the boom dolly	–2,271	–1 030	–710	–322	2,981	1 352
Transfer 6,000 lb (2 721.6kg) counterweight to the boom dolly	–4,571	–2 074	–1,429	–648	6,000	2 722
Transfer 6,000 lb (2 721.6kg) counterweight to the boom dolly	–4,571	–2 074	–1,429	–648	6,000	2 722
Transfer 12,000 lb (5 443.1kg) counterweight to the boom dolly	–9,181	–4 164	–2,869	–1 301	12,050	5 466
Transfer 3,000 lb (1 360.8kg) top counterweight to the boom dolly	–2,293	–1 040	–716	–325	3,009	1 365

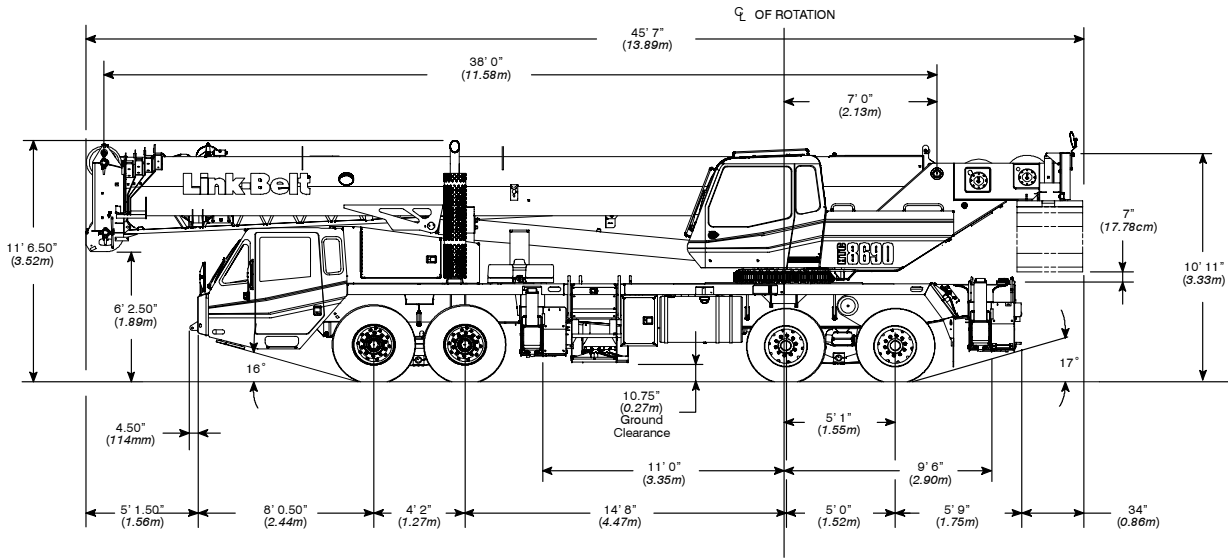
Axle	Maximum Load @ 65 mph (105km/h)
Front	46,400 lb (21 047kg) – aluminum disc wheels with 445/65R22.5 tires
Rear	52,000 lb (23 587kg) – aluminum disc wheels with 12R22.5 tires

(1) Adjust gross vehicle weight and axle loading according to component weight. All weights are ±3%.



5460 (supersedes 5424)–0506–N3

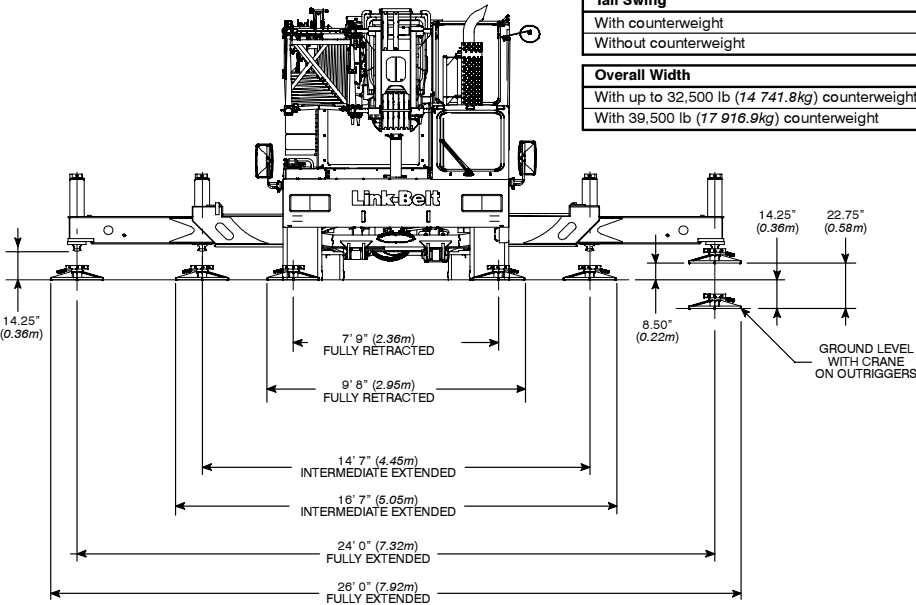
# General Dimensions



Turning Radius	English	Metric
Wall to wall over carrier	48' 4"	14.7m
Wall to wall over boom	49' 2"	15.0m
Wall to wall over boom attachment	51' 0"	15.5m
Curb to curb	44' 1"	13.4m
Centerline of tire	43' 4"	13.2m

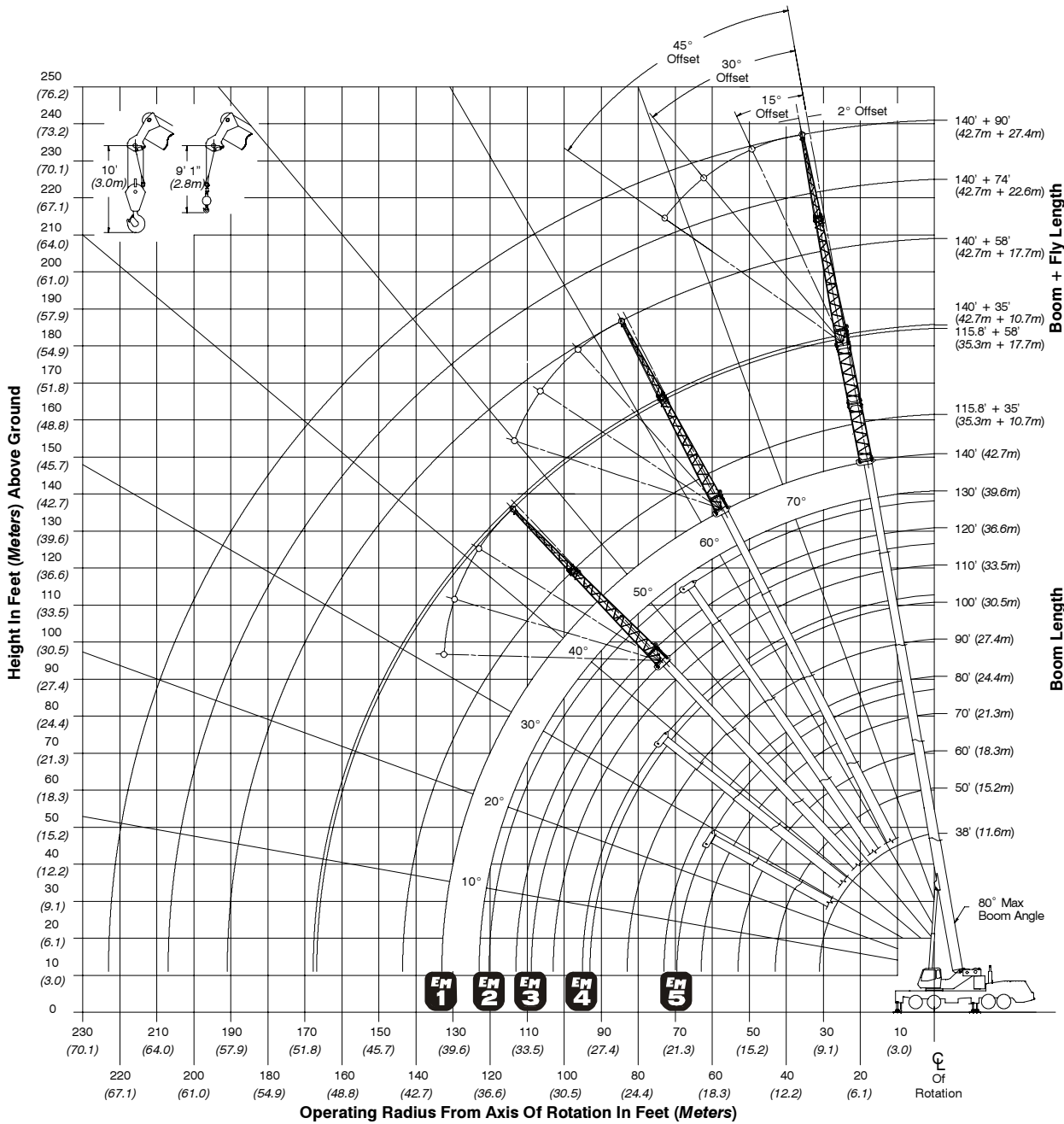
Tail Swing	English	Metric
With counterweight	13' 8"	4.2m
Without counterweight	13' 1"	4.0m

Overall Width	English	Metric
With up to 32,500 lb (14 741.8kg) counterweight	8' 6"	2.6m
With 39,500 lb (17 916.9kg) counterweight	11' 0"	3.4m



Not To Scale

# Working Range Diagram



## Boom Extend Modes

Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	50%			
60	18.3	91%			
70	21.3	100%	31%		
80	24.4	100%	71%		
90	27.4	100%	100%	11%	
100	30.5	100%	100%	49%	
110	33.5	100%	100%	88%	
120	36.6	100%	100%	100%	25%
130	39.6	100%	100%	100%	63%
140	42.7	100%	100%	100%	100%

Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	48%	2%		
60	18.3	48%	42%		
70	21.3	48%	82%		
80	24.4	48%	100%	21%	
90	27.4	48%	100%	60%	
100	30.5	48%	100%	98%	
110	33.5	48%	100%	100%	35%
120	36.6	48%	100%	100%	73%
127.3	38.8	48%	100%	100%	100%

Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	0%	48%		
60	18.3	0%	88%		
70	21.3	0%	100%	27%	
80	24.4	0%	100%	65%	
90	27.4	0%	100%	100%	4%
100	30.5	0%	100%	100%	41%
115.8	35.3	0%	100%	100%	100%

Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	48%	2%		
60	18.3	48%	42%		
70	21.3	48%	51%	30%	
80	24.4	48%	51%	50%	18%
90	27.4	48%	51%	50%	55%
102	31.1	48%	51%	50%	100%

Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50.7	15.5	0%	51%		
63.7	19.4	0%	51%	50%	
76.5	23.3	0%	51%	50%	48%

**EM 1**

**EM 2**

**EM 3**

**EM 4**

**EM 5**



## Main Boom Lift Capacity Charts – Standard

8,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)												
Radius (ft)	Boom Length (ft)											Radius (ft)
	38	50	60	70	76.5/80	90	100	110	120	130	140	
9	164,400*											9
10	154,600*	152,100*	117,900	89,700								10
12	129,300*	131,300*	108,800	85,000	85,100**							12
15	102,500	104,600	104,900	78,800	78,400**	57,700						15
20	74,700	77,000	77,400	70,300	76,500**	56,200	49,100	42,500				20
25	54,700	57,900	59,400	60,100	59,700	55,300	45,800	42,500	33,700	29,700		25
30	39,600	43,300	44,400	44,600	44,300	43,800	43,200	38,300	31,200	29,400	24,400	30
35		33,100	34,100	34,900	34,100	35,000	33,500	34,500	30,900	29,100	24,100	35
40		26,100	27,200	27,900	28,100	28,000	28,000	27,500	28,100	26,900	24,000	40
45			22,800	23,500	23,900	23,300	24,000	23,800	23,500	23,100	22,700	45
50			18,900	19,600	20,000	20,200	20,100	19,900	19,600	19,100	18,800	50
55				16,500	16,900	17,100	16,900	16,800	16,400	16,000	15,700	55
60				14,000	14,400	14,600	14,500	14,300	14,000	13,600	13,200	60
65					12,500	12,700	12,500	12,400	12,100	11,700	11,400	65
70					10,800	11,000	10,900	10,800	10,400	10,100	9,700	70
75						9,600	9,500	9,400	9,100	8,700	8,400	75
80						8,400	8,300	8,200	7,900	7,500	7,200	80
85							7,300	7,200	6,800	6,500	6,200	85
90							6,300	6,300	6,000	5,600	5,300	90
95								5,500	5,200	4,800	4,500	95
100								4,800	4,500	4,100	3,800	100
105									3,900	3,500	3,200	105
110									3,300	3,000	2,700	110
115										2,500	2,200	115
120										2,000	1,700	120
125											1,300	125
130											900	130

\* Special Conditions Or Wire Rope Required  
\*\* 76.5 EM5 mode

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



8,500 lb Counterweight – On Tires – Stationary – Boom Centered Over Rear (All Capacities Are Listed In Pounds)								
Radius (ft)	Boom Length (ft)						Radius (ft)	
	38	50	60	70	80	90		100
10	32,200							10
12	29,000	30,400						12
15	25,000	26,500	22,300					15
20	19,700	21,400	22,300	17,700				20
25	13,100	15,700	17,100	17,700	13,600			25
30	8,800	11,400	12,700	13,300	13,600	10,800	8,900	30
35		8,400	9,600	10,200	10,600	10,800	8,900	35
40		6,100	7,400	8,000	8,400	8,600	8,500	40
45			5,600	6,200	6,600	6,800	6,800	45
50			4,300	4,900	5,200	5,400	5,400	50
55				3,800	4,100	4,300	4,300	55
60				2,900	3,200	3,400	3,400	60
65					2,400	2,600	2,600	65
70					1,800	2,000	1,900	70
75						1,400	1,400	75
80						900	900	80

8,500 lb Counterweight – On Tires – Pick & Carry (1 mph) – Boom Centered Over Rear (All Capacities Are Listed In Pounds)								
Radius (ft)	Boom Length (ft)						Radius (ft)	
	38	50	60	70	80	90		100
10	22,200							10
12	19,800	21,100						12
15	16,600	18,100	18,900					15
20	12,500	14,200	15,100	15,500				20
25	9,300	11,200	12,200	12,600	12,800			25
30	6,800	8,800	9,800	10,300	10,600	10,800	8,900	30
35		6,900	7,900	8,400	8,800	8,900	8,900	35
40		5,300	6,400	6,900	7,200	7,400	7,400	40
45			5,100	5,600	6,000	6,100	6,100	45
50			3,900	4,500	4,900	5,100	5,000	50
55				3,600	3,900	4,100	4,100	55
60				2,700	3,100	3,300	3,300	60
65					2,400	2,600	2,500	65
70					1,800	2,000	1,900	70
75						1,400	1,400	75
80						900	900	80

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.





11,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)												
Radius (ft)	Boom Length (ft)											Radius (ft)
	38	50	60	70	76.5/80	90	100	110	120	130	140	
9	165,000*											9
10	155,400*	152,100*	117,900	89,700								10
12	131,900*	133,900*	108,800	85,000	85,100**							12
15	104,600	106,700	106,500	78,800	78,400**	57,700						15
20	76,400	78,600	79,000	70,300	76,500**	56,200	49,100	42,500				20
25	57,800	61,000	61,500	63,000	62,700	55,300	45,800	42,500	33,700	29,700		25
30	42,300	46,000	47,100	47,300	47,000	46,500	45,200	38,300	31,200	29,400	24,400	30
35		35,300	36,300	36,500	36,300	36,200	35,700	35,100	30,900	29,100	24,100	35
40		27,900	29,000	29,700	29,900	29,900	29,800	29,300	28,800	28,700	24,000	40
45			23,900	24,500	25,100	24,700	24,900	25,400	25,000	24,600	23,800	45
50			20,300	21,100	21,500	21,400	21,500	21,400	21,000	20,600	20,300	50
55				17,900	18,300	18,500	18,400	18,200	17,900	17,500	17,100	55
60				15,300	15,700	15,900	15,700	15,600	15,300	14,900	14,500	60
65					13,600	13,700	13,600	13,500	13,100	12,700	12,500	65
70					11,800	12,100	11,900	11,800	11,500	11,100	10,800	70
75						10,600	10,500	10,400	10,000	9,700	9,300	75
80						9,300	9,200	9,100	8,800	8,400	8,100	80
85							8,100	8,000	7,700	7,300	7,000	85
90							7,100	7,100	6,700	6,400	6,100	90
95								6,200	5,900	5,600	5,200	95
100								5,500	5,200	4,800	4,500	100
105									4,500	4,200	3,900	105
110									3,900	3,600	3,300	110
115										3,100	2,800	115
120										2,600	2,300	120
125											1,800	125
130											1,400	130

\* Special Conditions Or Wire Rope Required  
\*\* 76.5 EM5 mode

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



11,500 lb Counterweight – On Tires – Stationary – Boom Centered Over Rear (All Capacities Are Listed In Pounds)								
Radius (ft)	Boom Length (ft)						Radius (ft)	
	38	50	60	70	80	90		100
10	31,600							10
12	28,500	29,900						12
15	24,600	26,100	21,900					15
20	19,400	21,100	21,900	18,600				20
25	14,600	17,200	18,100	18,600	14,800			25
30	10,000	12,600	13,800	14,400	14,800	11,800	9,400	30
35		9,400	10,600	11,200	11,600	11,800	9,400	35
40		7,000	8,200	8,800	9,200	9,400	9,400	40
45			6,400	7,000	7,400	7,600	7,500	45
50			5,000	5,600	5,900	6,100	6,100	50
55				4,400	4,800	4,900	4,900	55
60				3,400	3,800	4,000	3,900	60
65					3,000	3,200	3,100	65
70					2,300	2,500	2,400	70
75						1,900	1,800	75
80						1,400	1,300	80

11,500 lb Counterweight – On Tires – Pick & Carry (1 mph) – Boom Centered Over Rear (All Capacities Are Listed In Pounds)								
Radius (ft)	Boom Length (ft)						Radius (ft)	
	38	50	60	70	80	90		100
10	21,600							10
12	19,300	20,600						12
15	16,200	17,700	18,400					15
20	12,100	13,800	14,700	15,100				20
25	9,000	10,900	11,800	12,300	12,600			25
30	6,500	8,500	9,500	10,000	10,300	10,500	8,600	30
35		6,600	7,700	8,200	8,500	8,700	8,600	35
40		5,000	6,100	6,700	7,000	7,200	7,100	40
45			4,800	5,400	5,700	5,900	5,900	45
50			3,700	4,300	4,700	4,800	4,800	50
55				3,400	3,700	3,900	3,900	55
60				2,600	2,900	3,100	3,100	60
65					2,200	2,400	2,400	65
70					1,600	1,800	1,800	70
75						1,300	1,200	75
80						800	700	80

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



## Main Boom Lift Capacity Charts – Optional

32,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)												
Radius (ft)	Boom Length (ft)											Radius (ft)
	38	50	60	70	76.5/80	90	100	110	120	130	140	
8	180,000*											8
9	167,100*											9
10	158,300*	152,100*	117,900	89,700								10
12	142,700*	138,700*	108,800	85,000	85,100**							12
15	119,300	121,400	106,500	78,800	78,400**	57,700						15
20	87,600	89,800	90,200	70,300	76,500**	56,200	49,100	42,500				20
25	68,000	70,300	70,800	63,600	70,300**	55,300	45,800	42,500	33,700	29,700		25
30	54,700	57,100	57,600	58,100	58,700	54,500	45,200	38,300	31,200	29,400	24,400	30
35		47,500	49,100	49,400	49,200	48,800	42,500	35,500	30,900	29,100	24,100	35
40		40,500	41,600	41,800	41,600	41,100	38,200	33,400	30,600	28,800	24,000	40
45			34,600	34,900	34,600	34,200	33,700	30,300	29,900	28,600	23,800	45
50			29,300	29,600	29,400	28,900	28,800	27,900	27,800	26,800	23,700	50
55				25,500	25,300	26,000	24,800	24,700	25,300	24,800	23,600	55
60				22,500	22,400	22,800	21,500	22,300	22,000	21,900	22,100	60
65					20,000	20,100	20,000	19,600	19,300	20,000	19,600	65
70					17,700	17,800	17,800	17,700	18,100	17,700	17,400	70
75						15,800	16,500	16,500	16,200	15,800	15,500	75
80						14,200	14,900	14,800	14,500	14,100	13,800	80
85							13,500	13,400	13,100	12,700	12,500	85
90							12,200	12,200	11,900	11,600	11,300	90
95								11,100	10,800	10,500	10,200	95
100								10,100	9,800	9,500	9,200	100
105									8,900	8,600	8,300	105
110									8,100	7,800	7,500	110
115										7,100	6,800	115
120										6,400	6,100	120
125											5,500	125
130											5,000	130

\* Special Conditions Or Wire Rope Required  
\*\* 76.5 EM5 mode

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.

32,500 lb Counterweight – On Tires – Stationary – Boom Centered Over Rear (All Capacities Are Listed In Pounds)								
Radius (ft)	Boom Length (ft)						Radius (ft)	
	38	50	60	70	80	90		100
10	28,300							10
12	25,400	26,900						12
15	21,800	23,400	24,300					15
20	16,700	18,000	19,300	20,100				20
25	13,000	14,900	15,700	16,100	16,300			25
30	10,100	12,100	13,100	13,500	13,800	13,900	13,800	30
35		9,900	10,900	11,400	11,800	11,900	11,800	35
40		8,000	9,100	9,600	10,000	10,100	10,100	40
45			7,600	8,100	8,500	8,700	8,600	45
50			6,300	6,900	7,200	7,400	7,300	50
55				5,700	6,100	6,300	6,200	55
60				4,800	5,200	5,300	5,300	60
65					4,300	4,500	4,500	65
70					3,600	3,800	3,700	70
75						3,100	3,100	75
80						2,500	2,500	80
85							1,900	85
90							1,500	90

32,500 lb Counterweight – On Tires – Pick & Carry (1 mph) – Boom Centered Over Rear (All Capacities Are Listed In Pounds)								
Radius (ft)	Boom Length (ft)						Radius (ft)	
	38	50	60	70	80	90		100
10	18,200							10
12	16,000	17,500						12
15	13,200	14,800	15,600					15
20	9,500	11,300	12,200	12,700				20
25	6,700	8,600	9,600	10,000	10,400			25
30	4,400	6,500	7,500	8,000	8,300	8,500	8,500	30
35		4,700	5,800	6,300	6,700	6,900	6,800	35
40		3,300	4,400	5,000	5,300	5,500	5,500	40
45			3,300	3,900	4,200	4,400	4,400	45
50			2,300	2,800	3,200	3,400	3,300	50
55				2,000	2,400	2,600	2,500	55
60				1,300	1,700	1,900	1,800	60
65					1,100	1,200	1,200	65

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



39,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)												
Radius (ft)	Boom Length (ft)											Radius (ft)
	38	50	60	70	76.5/80	90	100	110	120	130	140	
8	180,000*											8
9	167,600*											9
10	158,800*	152,100*	117,900	89,700								10
12	143,600*	138,700*	108,800	85,000	85,100**							12
15	123,700	122,600	106,500	78,800	78,400**	57,700						15
20	91,300	93,500	93,800	70,300	76,500**	56,200	49,100	42,500				20
25	71,000	73,300	73,800	63,600	73,300**	55,300	45,800	42,500	33,700	29,700		25
30	57,200	59,600	60,100	58,100	61,100	54,500	45,200	38,300	31,200	29,400	24,400	30
35		49,700	50,300	51,400	51,200	50,900	42,500	35,500	30,900	29,100	24,100	35
40		42,200	43,700	44,000	43,800	43,400	38,200	33,400	30,600	28,800	24,000	40
45			37,900	38,200	38,100	37,700	34,600	30,300	29,900	28,600	23,800	45
50			32,400	32,700	32,500	32,000	31,500	27,900	27,800	26,800	23,700	50
55				28,200	28,000	27,600	27,300	25,600	25,800	24,800	23,600	55
60				24,600	24,500	24,100	24,100	23,600	24,200	23,000	22,100	60
65					21,500	22,300	21,100	21,400	21,600	21,300	20,600	65
70					19,700	19,900	18,700	19,500	19,100	19,200	19,200	70
75						17,700	17,500	17,400	17,000	17,700	17,400	75
80							16,000	16,000	15,600	15,900	15,600	80
85								14,600	14,600	14,800	14,400	85
90								13,800	13,700	13,400	13,000	90
95									12,500	12,300	11,900	95
100									11,500	11,200	10,900	100
105										10,200	9,900	105
110										9,400	9,000	110
115											8,300	115
120											7,500	120
125												125
130												130

\* Special Conditions Or Wire Rope Required  
\*\* 76.5 EM5 mode

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.





## Fly Attachment Lift Capacity Charts – Optional

8,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)					
140 ft Main Boom Length 2° Fly Offset			140 ft Main Boom Length 15° Fly Offset		
Radius (ft)	Fly Length (ft)		Radius (ft)	Fly Length (ft)	
	35	58		35	58
35	12,100		35		
40	12,100		40		
45	12,100	8,500	45	11,500	
50	12,100	8,400	50	11,400	
55	12,100	8,300	55	11,200	
60	12,100	8,100	60	11,000	7,200
65	11,900	8,000	65	10,800	7,000
70	10,400	7,800	70	10,600	6,800
75	9,000	7,700	75	9,700	6,700
80	7,800	7,500	80	8,500	6,500
85	6,800	7,300	85	7,400	6,300
90	5,900	6,400	90	6,400	6,200
95	5,100	5,600	95	5,600	6,000
100	4,400	4,900	100	4,800	5,600
105	3,700	4,200	105	4,200	4,900
110	3,200	3,600	110	3,600	4,300
115	2,700	3,100	115	3,000	3,700
120	2,200	2,600	120	2,500	3,200
125	1,800	2,200	125	2,100	2,700
130	1,400	1,800	130	1,700	2,300
135	1,100	1,500	135	1,300	1,900
140			140	900	1,500
145			145		1,200

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



8,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)					
140 ft Main Boom Length 30° Fly Offset			140 ft Main Boom Length 45° Fly Offset		
Radius (ft)	Fly Length (ft)		Radius (ft)	Fly Length (ft)	
	35	58		35	58
35			35		
40			40		
45			45		
50			50		
55	10,000		55		
60	9,800		60		
65	9,700		65	8,800	
70	9,500		70	8,800	
75	9,400	5,700	75	8,700	
80	9,100	5,600	80	8,600	
85	8,000	5,500	85	8,400	4,900
90	7,000	5,400	90	7,400	4,900
95	6,100	5,300	95	6,400	4,800
100	5,300	5,200	100	5,600	4,800
105	4,600	5,100	105	4,800	4,700
110	3,900	4,900	110	4,200	4,700
115	3,300	4,300	115	3,500	4,700
120	2,800	3,700	120	3,000	4,100
125	2,300	3,200	125	2,500	3,600
130	1,900	2,700	130	2,000	3,100
135	1,500	2,300	135	1,500	2,600
140	1,100	1,900	140		2,100
145		1,500	145		1,700
150		1,200	150		1,300
155			155		1,000

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



11,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)							
140 ft Main Boom Length 2° Fly Offset				140 ft Main Boom Length 15° Fly Offset			
Radius (ft)	Fly Length (ft)			Radius (ft)	Fly Length (ft)		
	35	58	74		35	58	74
35	12,100			35			
40	12,100			40			
45	12,100	8,500		45	11,500		
50	12,100	8,400	6,600	50	11,400		
55	12,100	8,300	6,600	55	11,200		
60	12,100	8,100	6,600	60	11,000	7,200	
65	11,900	8,000	6,600	65	10,800	7,000	6,300
70	11,500	7,800	6,600	70	10,600	6,800	6,000
75	10,000	7,700	6,600	75	10,400	6,700	5,700
80	8,700	7,500	6,400	80	9,400	6,500	5,400
85	7,600	7,300	6,000	85	8,200	6,300	5,100
90	6,700	7,100	5,700	90	7,200	6,200	4,900
95	5,800	6,300	5,400	95	6,300	6,000	4,600
100	5,100	5,500	5,100	100	5,500	5,900	4,400
105	4,400	4,900	4,800	105	4,800	5,600	4,200
110	3,800	4,300	4,200	110	4,200	4,900	4,100
115	3,300	3,700	3,600	115	3,600	4,300	3,900
120	2,800	3,200	3,100	120	3,100	3,800	3,600
125	2,300	2,800	2,700	125	2,600	3,300	3,100
130	1,900	2,300	2,200	130	2,200	2,800	2,700
135	1,600	2,000	1,900	135	1,800	2,400	2,300
140	1,200	1,600	1,500	140	1,400	2,000	1,900
145	900	1,300	1,200	145	1,100	1,700	1,500
				150		1,300	1,200
				155		1,000	

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



11,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)							
140 ft Main Boom Length 30° Fly Offset				140 ft Main Boom Length 45° Fly Offset			
Radius (ft)	Fly Length (ft)			Radius (ft)	Fly Length (ft)		
	35	58	74		35	58	74
35				35			
40				40			
45				45			
50				50			
55	10,000			55			
60	9,800			60			
65	9,700			65	8,800		
70	9,500			70	8,800		
75	9,400	5,700	4,600	75	8,700		
80	9,200	5,600	4,400	80	8,600		
85	8,800	5,500	4,200	85	8,600	4,900	3,700
90	7,700	5,400	4,100	90	8,100	4,900	3,500
95	6,800	5,300	3,900	95	7,200	4,800	3,400
100	6,000	5,200	3,700	100	6,300	4,800	3,300
105	5,200	5,100	3,600	105	5,500	4,700	3,200
110	4,500	5,000	3,500	110	4,800	4,700	3,100
115	3,900	4,900	3,300	115	4,100	4,700	3,000
120	3,400	4,300	3,200	120	3,500	4,600	2,900
125	2,900	3,800	3,100	125	3,000	4,100	2,800
130	2,400	3,300	3,000	130	2,500	3,600	2,700
135	2,000	2,800	2,700	135	2,000	3,100	2,700
140	1,600	2,400	2,300	140		2,600	2,600
145	1,200	2,000	1,900	145		2,200	2,200
150	900	1,600	1,600	150		1,800	1,800
155		1,300	1,200	155		1,400	1,400
160		1,000	900	160		1,000	1,100
				165			800

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



32,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)									
140 ft Main Boom Length 2° Fly Offset					140 ft Main Boom Length 15° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35	12,100				35				
40	12,100				40				
45	12,100	8,500			45	11,500			
50	12,100	8,400	6,600		50	11,400			
55	12,100	8,300	6,600	5,200	55	11,200			
60	12,100	8,100	6,600	5,200	60	11,000	7,200		
65	11,900	8,000	6,600	5,200	65	10,800	7,000	6,300	
70	11,700	7,800	6,600	5,200	70	10,600	6,800	6,000	4,800
75	11,500	7,700	6,600	5,100	75	10,400	6,700	5,700	4,500
80	11,300	7,500	6,400	4,800	80	10,200	6,500	5,400	4,200
85	11,000	7,300	6,000	4,500	85	10,000	6,300	5,100	4,000
90	10,500	7,100	5,700	4,200	90	9,700	6,200	4,900	3,700
95	10,100	6,900	5,400	4,000	95	9,400	6,000	4,600	3,500
100	9,700	6,700	5,100	3,700	100	9,000	5,900	4,400	3,300
105	8,800	6,500	4,900	3,500	105	8,700	5,700	4,200	3,100
110	8,000	6,300	4,700	3,300	110	8,400	5,600	4,100	3,000
115	7,300	6,000	4,500	3,200	115	7,600	5,500	3,900	2,800
120	6,600	5,800	4,300	3,000	120	6,900	5,300	3,700	2,700
125	6,000	5,600	4,100	2,800	125	6,300	5,100	3,600	2,500
130	5,500	5,300	3,900	2,700	130	5,700	4,900	3,500	2,400
135	5,000	5,200	3,800	2,500	135	5,200	4,700	3,300	2,300
140	4,500	4,900	3,600	2,400	140	4,700	4,600	3,200	2,200
145	4,100	4,400	3,500	2,300	145	4,200	4,400	3,100	2,100
150	3,700	4,000	3,400	2,200	150	3,800	4,300	3,000	2,000
155	3,300	3,700	3,200	2,100	155	3,400	4,000	2,900	1,900
160	2,900	3,300	3,100	2,000	160	3,000	3,600	2,900	1,800
165	2,500	2,900	2,700	1,900	165	2,600	3,200	2,800	1,700
170		2,600	2,400	1,800	170		2,800	2,700	1,600
175		2,300	2,100	1,800	175		2,500	2,300	1,600
180		2,000	1,800	1,700	180		2,100	2,000	1,500
185		1,700	1,500	1,400	185		1,800	1,700	1,500
190			1,200	1,200	190			1,400	1,400
195			1,000	900	195			1,100	1,100
200			800		200			800	900

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.





32,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)									
140 ft Main Boom Length 30° Fly Offset					140 ft Main Boom Length 45° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35					35				
40					40				
45					45				
50					50				
55	10,000				55				
60	9,800				60				
65	9,700				65	8,800			
70	9,500				70	8,800			
75	9,400	5,700	4,600		75	8,700			
80	9,200	5,600	4,400	3,600	80	8,600			
85	9,100	5,500	4,200	3,400	85	8,600	4,900	3,700	
90	9,000	5,400	4,100	3,200	90	8,500	4,900	3,500	2,900
95	8,800	5,300	3,900	3,000	95	8,400	4,800	3,400	2,700
100	8,500	5,200	3,700	2,900	100	8,200	4,800	3,300	2,600
105	8,200	5,100	3,600	2,700	105	8,000	4,700	3,200	2,400
110	8,000	5,000	3,500	2,600	110	7,800	4,700	3,100	2,300
115	7,700	4,900	3,300	2,400	115	7,600	4,700	3,000	2,200
120	7,200	4,800	3,200	2,300	120	7,400	4,600	2,900	2,100
125	6,500	4,700	3,100	2,200	125	6,700	4,500	2,800	2,000
130	5,900	4,500	3,000	2,100	130	6,000	4,400	2,700	1,900
135	5,400	4,400	2,900	2,000	135	5,400	4,300	2,700	1,800
140	4,800	4,300	2,800	1,900	140		4,200	2,600	1,800
145	4,400	4,200	2,800	1,800	145		4,100	2,600	1,700
150	3,900	4,100	2,700	1,700	150		4,000	2,500	1,600
155	3,500	4,000	2,600	1,700	155		4,000	2,500	1,600
160		3,800	2,600	1,600	160		3,900	2,500	1,500
165		3,400	2,500	1,500	165			2,500	1,500
170		3,000	2,500	1,500	170			2,500	1,400
175		2,600	2,500	1,400	175			2,500	1,400
180		2,200	2,200	1,400	180				1,400
185			1,800	1,400	185				1,400
190			1,500	1,300	190				1,400
195			1,200	1,300					
200				1,000					

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.

39,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)									
140 ft Main Boom Length 2° Fly Offset					140 ft Main Boom Length 15° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35	12,100				35				
40	12,100				40				
45	12,100	8,500			45	11,500			
50	12,100	8,400	6,600		50	11,400			
55	12,100	8,300	6,600	5,200	55	11,200			
60	12,100	8,100	6,600	5,200	60	11,000	7,200		
65	11,900	8,000	6,600	5,200	65	10,800	7,000	6,300	
70	11,700	7,800	6,600	5,200	70	10,600	6,800	6,000	4,800
75	11,500	7,700	6,600	5,100	75	10,400	6,700	5,700	4,500
80	11,300	7,500	6,400	4,800	80	10,200	6,500	5,400	4,200
85	11,000	7,300	6,000	4,500	85	10,000	6,300	5,100	4,000
90	10,500	7,100	5,700	4,200	90	9,700	6,200	4,900	3,700
95	10,100	6,900	5,400	4,000	95	9,400	6,000	4,600	3,500
100	9,700	6,700	5,100	3,700	100	9,000	5,900	4,400	3,300
105	9,300	6,500	4,900	3,500	105	8,700	5,700	4,200	3,100
110	8,900	6,300	4,700	3,300	110	8,400	5,600	4,100	3,000
115	8,500	6,000	4,500	3,200	115	8,100	5,500	3,900	2,800
120	7,800	5,800	4,300	3,000	120	7,900	5,300	3,700	2,700
125	7,100	5,600	4,100	2,800	125	7,400	5,100	3,600	2,500
130	6,500	5,300	3,900	2,700	130	6,800	4,900	3,500	2,400
135	6,000	5,200	3,800	2,500	135	6,200	4,700	3,300	2,300
140	5,500	5,000	3,600	2,400	140	5,700	4,600	3,200	2,200
145	5,000	4,800	3,500	2,300	145	5,200	4,400	3,100	2,100
150	4,500	4,700	3,400	2,200	150	4,700	4,300	3,000	2,000
155	4,100	4,500	3,200	2,100	155	4,300	4,200	2,900	1,900
160	3,700	4,100	3,100	2,000	160	3,800	4,100	2,900	1,800
165	3,400	3,700	3,100	1,900	165	3,400	4,000	2,800	1,700
170		3,400	3,000	1,800	170		3,600	2,700	1,600
175		3,000	2,800	1,800	175		3,200	2,700	1,600
180		2,700	2,500	1,700	180		2,900	2,600	1,500
185		2,400	2,200	1,600	185		2,500	2,400	1,500
190			1,900	1,600	190			2,100	1,400
195			1,700	1,500	195			1,800	1,400
200			1,400	1,300	200			1,500	1,400
205				1,100	205				1,300
210				900	210				1,000
					215				800

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



39,500 lb Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Pounds)									
140 ft Main Boom Length 30° Fly Offset					140 ft Main Boom Length 45° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35					35				
40					40				
45					45				
50					50				
55	10,000				55				
60	9,800				60				
65	9,700				65	8,800			
70	9,500				70	8,800			
75	9,400	5,700	4,600		75	8,700			
80	9,200	5,600	4,400	3,600	80	8,600			
85	9,100	5,500	4,200	3,400	85	8,600	4,900	3,700	
90	9,000	5,400	4,100	3,200	90	8,500	4,900	3,500	2,900
95	8,800	5,300	3,900	3,000	95	8,400	4,800	3,400	2,700
100	8,500	5,200	3,700	2,900	100	8,200	4,800	3,300	2,600
105	8,200	5,100	3,600	2,700	105	8,000	4,700	3,200	2,400
110	8,000	5,000	3,500	2,600	110	7,800	4,700	3,100	2,300
115	7,700	4,900	3,300	2,400	115	7,600	4,700	3,000	2,200
120	7,500	4,800	3,200	2,300	120	7,400	4,600	2,900	2,100
125	7,300	4,700	3,100	2,200	125	7,200	4,500	2,800	2,000
130	7,000	4,500	3,000	2,100	130	7,100	4,400	2,700	1,900
135	6,400	4,400	2,900	2,000	135	6,400	4,300	2,700	1,800
140	5,800	4,300	2,800	1,900	140		4,200	2,600	1,800
145	5,300	4,200	2,800	1,800	145		4,100	2,600	1,700
150	4,800	4,100	2,700	1,700	150		4,000	2,500	1,600
155	4,300	4,000	2,600	1,700	155		4,000	2,500	1,600
160		3,900	2,600	1,600	160		4,000	2,500	1,500
165		3,900	2,500	1,500	165		4,000	2,500	1,500
170		3,700	2,500	1,500	170			2,500	1,400
175		3,300	2,500	1,400	175			2,500	1,400
180		2,900	2,500	1,400	180				1,400
185			2,500	1,400	185				1,400
190			2,200	1,300	190				1,400
195			1,900	1,300					
200				1,300					
205				1,300					
210				1,100					

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads and on tires do not exceed 75% of the tipping loads.



## Main Boom Lift Capacity Charts – Optional (Metric)

3 856kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)												
Radius (m)	Boom Length (m)											Radius (m)
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6	42.67	
3	70 800*	69 550*	53 450	40 850								3
3.5	61 350*	62 250*	50 350	39 100								3.5
4	53 500	54 450	48 900	37 450	37 400							4
4.5	47 250	48 250	48 350	35 950	35 750	26 150						4.5
5	42 200	43 200	43 400	34 600	35 250	26 150						5
6	34 500	35 550	35 750	32 150	34 700	25 450	22 250	19 250				6
7	26 600	27 850	28 200	28 850	28 700	25 200	21 150	19 250				7
8	20 500	22 000	22 450	22 550	22 450	22 200	20 650	18 800	14 950	13 400		8
9	16 350	17 800	18 250	18 500	18 200	18 150	17 950	17 550	14 200	13 300	11 050	9
10		14 850	15 250	15 550	15 600	15 600	15 600	15 400	14 050	13 200	10 950	10
12		10 750	11 450	11 700	11 850	11 700	11 850	11 800	11 650	11 500	10 850	12
14			8 800	9 100	9 250	9 300	9 250	9 200	9 050	8 900	8 750	14
16			6 850	7 150	7 350	7 400	7 350	7 300	7 150	6 950	6 850	16
18				5 800	5 950	6 000	5 950	5 900	5 750	5 650	5 500	18
20					4 900	4 950	4 900	4 850	4 750	4 600	4 450	20
22					4 050	4 150	4 100	4 050	3 900	3 750	3 650	22
24						3 450	3 400	3 400	3 250	3 100	2 950	24
26							2 850	2 850	2 700	2 550	2 450	26
28							2 400	2 400	2 250	2 100	2 000	28
30								2 000	1 850	1 700	1 600	30
32								800	1 550	1 400	1 250	32
34									1 250	1 100	1 000	34
36										850	750	36
38											500	38
40											350	40

\* Special Conditions Or Wire Rope Required

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



3 856kg Counterweight – On Tires – Stationary – Boom Centered Over Rear (All Capacities Are Listed In Kilograms)								
Radius (m)	Boom Length (m)							Radius (m)
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	
3	14 600							3
3.5	13 500							3.5
4	12 450	13 100						4
4.5	11 500	12 150	10 100					4.5
5	10 600	11 300	10 100					5
6	8 000	9 100	9 650	8 000				6
7	6 100	7 100	7 650	7 900				7
8	4 700	5 700	6 200	6 450	6 150			8
9	3 600	4 600	5 100	5 350	5 550	4 850	4 000	9
10		3 750	4 250	4 500	4 650	4 750	4 000	10
12		2 500	3 000	3 200	3 350	3 450	3 450	12
14			2 100	2 350	2 500	2 550	2 550	14
16			1 450	1 700	1 800	1 900	1 900	16
18				1 150	1 300	1 400	1 350	18
20					900	1 000	950	20
22					600	650	650	22
24						400	400	24

3 856kg Counterweight – On Tires – Pick & Carry (1.6 km/h) – Boom Centered Over Rear (All Capacities Are Listed In Kilograms)								
Radius (m)	Boom Length (m)							Radius (m)
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	
3	10 050							3
3.5	9 250							3.5
4	8 400	9 050						4
4.5	7 650	8 350	8 550					4.5
5	6 950	7 650	8 050					5
6	5 750	6 550	6 900	7 000				6
7	4 750	5 600	6 000	6 200				7
8	3 900	4 800	5 200	5 450	5 550			8
9	3 150	4 100	4 550	4 750	4 900	4 850	4 000	9
10		3 450	3 950	4 200	4 300	4 400	4 000	10
12		2 450	2 950	3 200	3 350	3 450	3 400	12
14			2 100	2 350	2 500	2 550	2 550	14
16			1 450	1 700	1 800	1 900	1 900	16
18				1 150	1 300	1 400	1 350	18
20					900	1 000	950	20
22					600	650	650	22
24						400	400	24

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



5 216kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)													
Radius (m)	Boom Length (m)										Radius (m)		
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6		42.67	
3	71 100*	69 550*	53 450	40 850								3	
3.5	62 600*	63 450*	50 350	39 100								3.5	
4	54 600	55 550	48 900	37 450	37 400							4	
4.5	48 250	49 200	48 350	35 950	35 750	26 150						4.5	
5	43 100	44 100	44 250	34 600	35 250	26 150						5	
6	35 250	36 250	36 450	32 150	34 700	25 450	22 250	19 250				6	
7	28 250	29 450	29 700	30 000	29 400	25 200	21 150	19 250				7	
8	21 800	23 300	23 750	23 850	23 700	23 450	20 650	18 800	14 950	13 400		8	
9	17 450	18 900	19 350	19 450	19 300	19 100	19 050	17 550	14 200	13 300	11 050	9	
10		15 800	16 200	16 500	16 150	16 550	15 950	16 300	14 050	13 200	10 950	10	
12		11 500	12 000	12 200	12 600	12 250	12 450	12 350	12 350	11 800	10 850	12	
14			9 400	9 700	9 850	9 900	9 850	9 800	9 650	9 500	9 350	14	
16			7 450	7 750	7 900	8 000	7 950	7 900	7 750	7 600	7 450	16	
18				6 300	6 450	6 500	6 450	6 400	6 250	6 100	5 950	18	
20					5 350	5 400	5 400	5 350	5 200	5 050	4 900	20	
22					4 450	4 550	4 500	4 450	4 350	4 150	4 050	22	
24							3 850	3 800	3 750	3 600	3 450	3 350	24
26								3 200	3 150	3 050	2 900	2 750	26
28								2 700	2 700	2 550	2 400	2 300	28
30									2 250	2 150	2 000	1 900	30
32									1 050	1 800	1 650	1 550	32
34										1 500	1 350	1 250	34
36											1 100	950	36
38												750	38
40												550	40

\* Special Conditions Or Wire Rope Required

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.





5 216kg Counterweight – On Tires – Stationary – Boom Centered Over Rear (All Capacities Are Listed In Kilograms)								
Radius (m)	Boom Length (m)							Radius (m)
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	
3	14 300							3
3.5	13 300							3.5
4	12 200	12 850						4
4.5	11 300	11 950	9 900					4.5
5	10 400	11 150	9 900					5
6	8 750	9 700	9 900	8 400				6
7	6 700	7 750	8 250	8 400				7
8	5 200	6 200	6 750	7 000	6 700			8
9	4 050	5 100	5 600	5 800	5 950	5 350	4 250	9
10		4 200	4 650	4 900	5 050	5 150	4 250	10
12		2 850	3 350	3 550	3 700	3 800	3 800	12
14			2 400	2 650	2 750	2 850	2 850	14
16			1 700	1 950	2 100	2 150	2 150	16
18				1 400	1 550	1 600	1 600	18
20					1 100	1 200	1 150	20
22					800	850	850	22
24						550	550	24

5 216kg Counterweight – On Tires – Pick & Carry (1.6 km/h) – Boom Centered Over Rear (All Capacities Are Listed In Kilograms)								
Radius (m)	Boom Length (m)							Radius (m)
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	
3	9 750							3
3.5	9 000							3.5
4	8 200	8 800						4
4.5	7 450	8 100	9 300					4.5
5	6 750	7 500	7 850					5
6	5 600	6 350	6 750	6 800				6
7	4 600	5 450	5 850	6 000				7
8	3 750	4 650	5 050	5 300	5 400			8
9	3 000	3 950	4 400	4 600	4 750	4 750	3 900	9
10		3 350	3 800	4 050	4 200	4 250	3 900	10
12		2 350	2 850	3 100	3 250	3 350	3 300	12
14			2 100	2 350	2 500	2 600	2 550	14
16			1 450	1 750	1 900	2 000	1 950	16
18				1 250	1 400	1 500	1 450	18
20					950	1 050	1 050	20
22					600	700	700	22
24						400	350	24

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.

14 742kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)													
Radius (m)	Boom Length (m)										Radius (m)		
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6		42.67	
2.4	81 600*											2.4	
3	72 400*	69 550*	53 450	40 850								3	
3.5	66 550*	64 300*	50 350	39 100								3.5	
4	61 000*	59 950*	48 900	37 450	37 400							4	
4.5	55 050	55 950	48 350	35 950	35 750	26 150						4.5	
5	49 250	50 200	47 000	34 600	35 250	26 150						5	
6	40 450	41 400	41 600	32 150	34 700	25 450	22 250	19 250				6	
7	34 000	35 050	35 250	30 000	34 700	25 200	21 150	19 250				7	
8	29 150	30 200	30 400	28 150	30 200	24 950	20 650	18 800	14 950	13 400		8	
9	25 150	26 300	26 500	26 550	27 000	24 700	20 500	17 550	14 200	13 300	11 050	9	
10		22 100	22 800	22 900	22 750	22 550	19 750	16 450	14 050	13 200	10 950	10	
12		16 650	17 100	17 200	17 050	16 900	16 700	15 200	13 850	13 050	10 850	12	
14			13 400	13 500	13 400	13 450	13 200	13 000	13 350	12 750	10 750	14	
16			10 850	11 150	11 250	11 200	11 000	11 050	10 900	11 050	10 700	16	
18				9 250	9 350	9 350	9 300	9 350	9 450	9 300	9 150	18	
20					8 150	7 900	8 200	8 150	8 000	7 850	7 700	20	
22					7 000	7 000	7 050	7 000	6 850	6 700	6 600	22	
24							6 150	6 100	6 100	5 950	5 800	5 750	24
26								5 350	5 350	5 250	5 100	4 950	26
28								4 700	4 700	4 600	4 450	4 350	28
30									4 150	4 050	3 900	3 800	30
32									2 800	3 550	3 400	3 300	32
34										3 150	3 000	2 900	34
36											2 650	2 550	36
38												2 200	38
40												1 950	40

\* Special Conditions Or Wire Rope Required

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



14 742kg Counterweight – On Tires – Stationary – Boom Centered Over Rear (All Capacities Are Listed In Kilograms)								
Radius (m)	Boom Length (m)							Radius (m)
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	
3	12 800							3
3.5	11 800							3.5
4	10 850	11 550						4
4.5	10 000	10 750	11 000					4.5
5	9 350	10 000	10 400					5
6	7 700	8 200	8 950	9 200				6
7	6 550	7 300	7 700	7 750				7
8	5 550	6 400	6 800	7 000	7 100			8
9	4 700	5 600	6 050	6 250	6 350	6 300	6 250	9
10		4 900	5 350	5 600	5 750	5 750	5 750	10
12		3 750	4 250	4 450	4 600	4 700	4 650	12
14			3 300	3 550	3 750	3 800	3 800	14
16			2 600	2 850	3 000	3 100	3 050	16
18				2 250	2 400	2 500	2 450	18
20					1 900	2 000	2 000	20
22					1 500	1 550	1 550	22
24						1 200	1 200	24
26							850	26
28							600	28

14 742kg Counterweight – On Tires – Pick & Carry (1.6 km/h) – Boom Centered Over Rear (All Capacities Are Listed In Kilograms)								
Radius (m)	Boom Length (m)							Radius (m)
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	
3	8 250							3
3.5	7 500							3.5
4	6 750	7 450						4
4.5	6 050	6 800	7 050					4.5
5	5 450	6 200	6 600					5
6	4 400	5 200	5 600	5 750				6
7	3 500	4 350	4 800	5 000				7
8	2 750	3 650	4 100	4 300	4 450			8
9	2 100	3 000	3 450	3 700	3 850	3 850	3 850	9
10		2 450	2 950	3 200	3 350	3 400	3 400	10
12		1 550	2 100	2 350	2 500	2 550	2 550	12
14			1 400	1 650	1 850	1 900	1 900	14
16			850	1 100	1 250	1 350	1 300	16
18				650	800	900	900	18
20					450	550	500	20

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



17 917kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)												
Radius (m)	Boom Length (m)										Radius (m)	
	11.58	15.2	18.3	21.3	24.4	27.4	30.5	33.5	36.6	39.6		42.67
2.4	81 600*											2.4
3	72 650*	69 550*	53 450	40 850								3
3.5	66 800*	64 300*	50 350	39 100								3.5
4	61 600*	59 950*	48 900	37 450	37 400							4
4.5	56 750	56 100	48 350	35 950	35 750	26 150						4.5
5	51 250	52 250	47 000	34 600	35 250	26 150						5
6	42 100	43 100	43 300	32 150	34 700	25 450	22 250	19 250				6
7	35 450	36 500	36 700	30 000	34 700	25 200	21 150	19 250				7
8	30 450	31 450	31 700	28 150	31 500	24 950	20 650	18 800	14 950	13 400		8
9	26 450	27 550	27 750	26 550	28 000	24 700	20 500	17 550	14 200	13 300	11 050	9
10		24 250	24 450	25 000	24 900	24 650	19 750	16 450	14 050	13 200	10 950	10
12		18 300	18 750	18 850	18 750	18 550	17 550	15 200	13 850	13 050	10 850	12
14			14 800	14 900	14 800	14 600	14 450	13 550	13 400	12 750	10 750	14
16			12 000	12 150	12 050	12 200	11 850	11 650	12 000	11 700	10 700	16
18				10 250	10 300	10 350	9 900	10 150	10 050	10 050	10 100	18
20					8 800	8 800	8 800	8 600	8 700	8 750	8 650	20
22					7 700	7 550	7 700	7 800	7 700	7 550	7 400	22
24						6 550	6 850	6 800	6 700	6 550	6 400	24
26							6 000	6 000	5 850	5 750	5 650	26
28							5 350	5 300	5 200	5 050	4 950	28
30								4 700	4 600	4 450	4 350	30
32									3 350	4 100	3 950	32
34										3 650	3 500	34
36											3 100	36
38												38
40												40

\* Special Conditions Or Wire Rope Required

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



## Fly Attachment Lift Capacity Charts – Optional (Metric)

3 856kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)					
42.67m Main Boom Length 2° Fly Offset			42.67m Main Boom Length 15° Fly Offset		
Radius (ft)	Fly Length (m)		Radius (ft)	Fly Length (m)	
	10.67	17.68		10.67	17.68
12	5 500		12		
14	5 500	3 850	14	5 200	
16	5 500	3 750	16	5 100	
18	5 500	3 700	18	5 000	3 300
20	4 750	3 600	20	4 900	3 150
22	3 900	3 500	22	4 200	3 050
24	3 250	3 400	24	3 500	2 950
26	2 650	2 900	26	2 900	2 850
28	2 200	2 400	28	2 400	2 750
30	1 800	2 000	30	2 000	2 300
32	1 500	1 650	32	1 650	1 950
34	1 200	1 350	34	1 350	1 600
36	950	1 100	36	1 050	1 350
38	700	900	38	850	1 100
40	500	700	40	600	850
42		500	42	400	650
44			44		500

42.67m Main Boom Length 30° Fly Offset			42.67m Main Boom Length 45° Fly Offset		
Radius (ft)	Fly Length (m)		Radius (ft)	Fly Length (m)	
	10.67	17.68		10.67	17.68
18	4 450		18		
20	4 350		20	3 950	
22	4 300		22	3 950	
24	3 750	2 550	24	3 900	
26	3 150	2 500	26	3 350	2 250
28	2 650	2 400	28	2 800	2 200
30	2 200	2 350	30	2 300	2 150
32	1 800	2 250	32	1 900	2 150
34	1 500	1 850	34	1 550	2 050
36	1 200	1 550	36	1 250	1 750
38	950	1 300	38	1 000	1 450
40	700	1 050	40	750	1 150
42	500	800	42		900
44		600	44		700
46		450	46		500

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



5 216kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)							
42.67m Main Boom Length 2° Fly Offset				42.67m Main Boom Length 15° Fly Offset			
Radius (ft)	Fly Length (m)			Radius (ft)	Fly Length (m)		
	10.67	17.68	22.56		10.67	17.68	22.56
12	5 500			12			
14	5 500	3 850		14	5 200		
16	5 500	3 750	3 000	16	5 100		
18	5 500	3 700	3 000	18	5 000	3 300	
20	5 200	3 600	3 000	20	4 900	3 150	2 850
22	4 300	3 500	3 000	22	4 600	3 050	2 650
24	3 600	3 400	2 950	24	3 850	2 950	2 450
26	3 000	3 200	2 700	26	3 250	2 850	2 300
28	2 500	2 700	2 550	28	2 750	2 750	2 150
30	2 100	2 300	2 250	30	2 300	2 600	2 050
32	1 750	1 950	1 900	32	1 900	2 200	1 900
34	1 450	1 600	1 600	34	1 600	1 850	1 800
36	1 150	1 350	1 300	36	1 300	1 550	1 500
38	950	1 100	1 050	38	1 050	1 300	1 250
40	700	900	850	40	800	1 050	1 000
42	550	700	650	42	600	850	800
44	350	500	450	44	450	650	600
46				46		500	450

42.67m Main Boom Length 30° Fly Offset				42.67m Main Boom Length 45° Fly Offset			
Radius (ft)	Fly Length (m)			Radius (ft)	Fly Length (m)		
	10.67	17.68	22.56		10.67	17.68	22.56
18	4 450			18			
20	4 350			20	3 950		
22	4 300			22	3 950		
24	4 150	2 550	2 050	24	3 900		
26	3 500	2 500	1 900	26	3 650	2 250	1 650
28	2 950	2 400	1 800	28	3 100	2 200	1 550
30	2 450	2 350	1 700	30	2 600	2 150	1 500
32	2 050	2 300	1 600	32	2 200	2 150	1 450
34	1 750	2 100	1 550	34	1 800	2 100	1 400
36	1 400	1 800	1 500	36	1 500	1 950	1 350
38	1 150	1 500	1 400	38	1 200	1 650	1 300
40	900	1 250	1 200	40	950	1 350	1 250
42	700	1 000	1 000	42		1 100	1 100
44	500	800	800	44		900	900
46		600	600	46		650	700
48		450	400	48		450	500

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.





14 742kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)									
42.67m Main Boom Length 2° Fly Offset					42.67m Main Boom Length 15° Fly Offset				
Radius (ft)	Fly Length (m)				Radius (ft)	Fly Length (m)			
	10.67	17.68	22.56	27.43		10.67	17.68	22.56	27.43
12	5 500				12				
14	5 500	3 850			14	5 200			
16	5 500	3 750	3 000		16	5 100			
18	5 500	3 700	3 000	2 350	18	5 000	3 300		
20	5 400	3 600	3 000	2 350	20	4 900	3 150	2 850	
22	5 300	3 500	3 000	2 350	22	4 750	3 050	2 650	2 100
24	5 150	3 400	2 950	2 200	24	4 650	2 950	2 450	1 950
26	5 000	3 300	2 700	2 050	26	4 550	2 850	2 300	1 800
28	4 550	3 200	2 550	1 850	28	4 350	2 750	2 150	1 650
30	4 000	3 100	2 350	1 750	30	4 150	2 700	2 050	1 550
32	3 500	2 950	2 200	1 600	32	3 650	2 600	1 900	1 400
34	3 100	2 800	2 100	1 500	34	3 250	2 550	1 800	1 300
36	2 750	2 650	1 950	1 400	36	2 850	2 400	1 700	1 250
38	2 400	2 550	1 850	1 300	38	2 500	2 300	1 650	1 150
40	2 100	2 300	1 750	1 200	40	2 200	2 200	1 550	1 050
42	1 850	2 000	1 650	1 100	42	1 950	2 100	1 500	1 000
44	1 650	1 800	1 600	1 050	44	1 700	1 950	1 400	950
46	1 450	1 550	1 500	1 000	46	1 500	1 700	1 350	900
48	1 250	1 400	1 300	900	48	1 300	1 500	1 300	850
50	1 100	1 200	1 150	850	50	1 100	1 300	1 250	800
52		1 050	1 000	800	52		1 100	1 050	750
54		900	850	800	54		950	900	700
56		750	700	700	56		800	750	700
58			550	500	58			600	600
60			400		60			450	450

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



14 742kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)									
42.67m Main Boom Length 30° Fly Offset					42.67m Main Boom Length 45° Fly Offset				
Radius (ft)	Fly Length (m)				Radius (ft)	Fly Length (m)			
	10.67	17.68	22.56	27.43		10.67	17.68	22.56	27.43
18	4 450				18				
20	4 350				20	3 950			
22	4 300				22	3 950			
24	4 200	2 550	2 050	1 650	24	3 900			
26	4 150	2 500	1 900	1 550	26	3 900	2 250	1 650	
28	4 050	2 400	1 800	1 400	28	3 850	2 200	1 550	1 250
30	3 900	2 350	1 700	1 300	30	3 750	2 150	1 500	1 200
32	3 700	2 300	1 600	1 250	32	3 600	2 150	1 450	1 100
34	3 350	2 250	1 550	1 150	34	3 450	2 100	1 400	1 050
36	2 950	2 200	1 500	1 050	36	3 050	2 100	1 350	950
38	2 600	2 150	1 400	1 000	38	2 650	2 050	1 300	900
40	2 300	2 050	1 350	950	40	2 350	1 950	1 250	850
42	2 000	1 950	1 300	900	42	2 050	1 900	1 200	800
44	1 750	1 900	1 250	850	44		1 850	1 150	750
46	1 500	1 800	1 200	800	46		1 800	1 150	750
48		1 600	1 200	750	48		1 600	1 150	700
50		1 400	1 150	700	50			1 100	650
52		1 200	1 150	650	52			1 100	650
54		1 000	1 000	650	54				600
56			800	600	56				600
58			650	600	58				600
60				550	60				
62				350	62				

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



17 917kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)									
42.67m Main Boom Length 2° Fly Offset					42.67m Main Boom Length 15° Fly Offset				
Radius (ft)	Fly Length (m)				Radius (ft)	Fly Length (m)			
	10.67	17.68	22.56	27.43		10.67	17.68	22.56	27.43
12	5 500				12				
14	5 500	3 850			14	5 200			
16	5 500	3 750	3 000		16	5 100			
18	5 500	3 700	3 000	2 350	18	5 000	3 300		
20	5 400	3 600	3 000	2 350	20	4 900	3 150	2 850	
22	5 300	3 500	3 000	2 350	22	4 750	3 050	2 650	2 100
24	5 150	3 400	2 950	2 200	24	4 650	2 950	2 450	1 950
26	5 000	3 300	2 700	2 050	26	4 550	2 850	2 300	1 800
28	4 700	3 200	2 550	1 850	28	4 350	2 750	2 150	1 650
30	4 450	3 100	2 350	1 750	30	4 150	2 700	2 050	1 550
32	4 050	2 950	2 200	1 600	32	3 950	2 600	1 900	1 400
34	3 600	2 800	2 100	1 500	34	3 750	2 550	1 800	1 300
36	3 200	2 650	1 950	1 400	36	3 300	2 400	1 700	1 250
38	2 850	2 550	1 850	1 300	38	2 950	2 300	1 650	1 150
40	2 550	2 400	1 750	1 200	40	2 650	2 200	1 550	1 050
42	2 250	2 300	1 650	1 100	42	2 350	2 100	1 500	1 000
44	2 000	2 150	1 600	1 050	44	2 100	2 000	1 400	950
46	1 800	1 950	1 500	1 000	46	1 850	1 950	1 350	900
48	1 600	1 700	1 450	900	48	1 650	1 850	1 300	850
50	1 400	1 550	1 400	850	50	1 450	1 650	1 250	800
52		1 350	1 300	800	52		1 450	1 250	750
54		1 200	1 150	800	54		1 250	1 200	700
56		1 050	1 000	750	56		1 100	1 050	700
58			850	700	58			900	650
60			700	700	60			750	650
62			550	550	62			600	600
64				400	64				450

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



17 917kg Counterweight – Fully Extended Outriggers – 360° Rotation (All Capacities Are Listed In Kilograms)									
42.67m Main Boom Length 30° Fly Offset					42.67m Main Boom Length 45° Fly Offset				
Radius (ft)	Fly Length (m)				Radius (ft)	Fly Length (m)			
	10.67	17.68	22.56	27.43		10.67	17.68	22.56	27.43
18	4 450				18				
20	4 350				20	3 950			
22	4 300				22	3 950			
24	4 200	2 550	2 050	1 650	24	3 900			
26	4 150	2 500	1 900	1 550	26	3 900	2 250	1 650	
28	4 050	2 400	1 800	1 400	28	3 850	2 200	1 550	1 250
30	3 900	2 350	1 700	1 300	30	3 750	2 150	1 500	1 200
32	3 700	2 300	1 600	1 250	32	3 600	2 150	1 450	1 100
34	3 550	2 250	1 550	1 150	34	3 500	2 100	1 400	1 050
36	3 450	2 200	1 500	1 050	36	3 400	2 100	1 350	950
38	3 050	2 150	1 400	1 000	38	3 100	2 050	1 300	900
40	2 700	2 050	1 350	950	40	2 750	1 950	1 250	850
42	2 400	1 950	1 300	900	42	2 450	1 900	1 200	800
44	2 150	1 900	1 250	850	44		1 850	1 150	750
46	1 900	1 850	1 200	800	46		1 800	1 150	750
48		1 800	1 200	750	48		1 800	1 150	700
50		1 700	1 150	700	50		1 700	1 100	650
52		1 500	1 150	650	52			1 100	650
54		1 300	1 100	650	54				600
56			1 100	600	56				600
58			950	600	58				600
60				600	60				
62				600	62				
64				450	64				

This information is not for crane operation. Operator must refer to the in-cab information for crane operation. Rated lifting capacities shown on fully extended outriggers do not exceed 75% of the tipping loads and on tires do not exceed 65% of the tipping loads.



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