NATIONAL CRANE

Series 1400H

product guide

features

- 127 ft (38.72 m) Five-Section Boom
- 33 USt (29.9 t) Rating
- Easy Glide Wear Pads
- Internal Anti-two-block

contents

Manitowoc Crane Group

www.manitowoccranegroup.com

*Product may be shown with optional equipment.

features

Why Buy a National Crane Series 1400H?

*Product may be shown with optional equipment.

- 33 USt (29.9 t) maximum capacity
- 165 ft (50.3 m) maximum vertical reach*
- 135-ft (41.15-m) maximum vertical hydraulic reach*
- Load Moment Indicator system
- Proportional boom extension
- High performance planetary winch
- 99-gallon (375L) hydraulic reservoir with 10 micron return filter.

* Maximum vertical reach is ground-level to boom tip height at maximum extension and angle with outriggers/stabilizers fully extended.

- **33 USt (29.9 t) Rating** – The 1400H is a 33 USt machine, an 18% increase in capacity over the Series 1100.
- **127-foot (38.72 m) Five-Section Boom** – The longest in its size range. The longer boom allows the operator to perform more lifts without the use of a jib, reducing setup time and improving efficiency. A 100-foot (30.5 m) four-section boom or a 110-foot (33.5 m) four-section boom is also available.
- **Overload Protection** – All National cranes are equipped with overload protection:
  - Load Moment Indicator (LMI) standard on all series 1400H machines.
  - LCD display is visible in full or low light.
  - All crane load lifting values are displayed simultaneously.
- **Easy Glide Boom Wear Pads** – Reduce the conditions that cause boom chatter and vibration. The net result is smoother crane operation.
- **Rotation** – 375˚ non-continuous rotation is standard, with an option for 360˚ continuous rotation.
- **Internal Anti-two-block Wire** – This exclusive design, standard on the Series 1400H, routes the wiring through the inside of the boom. No more snagging the wire on obstructions.
- **Crossframe Outriggers** – Mainframe outriggers are crossframe H-style, with 24'6" (7.47 m) span, with mid-span setting of 18'6" (5.64 m). Rear stabilizers are H-style with 18'6" (5.64 m) span. Removable ball-and-socket aluminum outrigger pads on mainframe outriggers.
- **Adjustable Swing Speed** – Standard on the 1400H. A control knob located on the swing motor brake release valve can be easily adjusted to the crane operator's swing speed preference.
- **Heavier-duty Torsion Box** – The stronger standard torsion box improves rigidity, reduces truck frame flex and reduces the need for counterweight.
- **Speedy-reeve Boom Tip and Sheave Blocks** – These standard features simplify rigging changes by decreasing the time needed to change line reeving.
- **Pre-painted Components** – Painting crane components before assembly reduces the possibility of rust, improves serviceability and enhances the appearance of the machine.
- **Oil Cooler** – Radiator mounted on truck frame with electric fan is standard, with an option to deduct the cooler for low duty-cycle applications.
- **Improved Serviceability** –
  - Bearings on the boom extend and retract cables can be greased through access holes in the boom side plates.
  - Number of internal boom parts has been reduced, decreasing service time when rebuilding the machine.
- **Triple Pump Hydraulics** – Direct mount triple pump hydraulics.
- **National Crane Is the Market Leader** – National is number one in the production of commercial truck-mounted boom trucks. National has many programs and people directly and indirectly involved to provide our customers reliable products.
  - National has the boom truck industry's leading test program. Every structural part of the crane is cycle tested up to 60,000 cycles at full capacity. In addition to cycle testing, each model is subjected to state-of-the-art strain gauge testing that measures metal deformation as small as one one-millionth of an inch. The net result is that any weak areas are caught in test, not on job sites where costly downtime occurs.
  - Parts are available for all National Crane models for the life of the crane.
  - National has a formalized quality program and is ISO 9001 approved.
- **National Crane's Quality Management System is ISO 9001:2000 Approved.**
  - National is number one in the production of commercial truck-mounted boom trucks and has many programs and people directly and indirectly involved to provide our customers with reliable products.
- **Electronic versions of manuals available through Manitowoc Crane CARE.**

mounting configuration

The mounting configuration shown is based on the Series 1400H with an 85% stability factor. The complete unit must be installed in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements since individual truck chassis vary. If bare truck weights are not met, counterweight will be required. The front bumper stabilizer (SFO) is required for all installations. Chassis must be equipped with a front frame extension suitable for SFO addition. Contact factory for complete chassis specifications.

Working area	360°
Gross Axle Weight Rating Front	20,000 lb (9072 kg)*
Gross Axle Weight Rating Rear	40,000 lb (18 144 kg)*
Gross Vehicle Weight Rating	60,000 lb (27 216 kg)*
Wheelbase	Minimum 268 in (681 cm)
Cab to Axle/trunnion (CA/CT)	Minimum 240 in (518 cm)
After Frame (AF)	120 in (305 cm) minimum
Frame Section Modulus (SM), front axle to end of afterframe, w/110,000 PSI (758 MPa)	30 in^3 (492 cm^3)
Stability Weight, Front	9,250 lb (4196 kg) minimum**
Stability Weight, Rear	8,100 lb (3674 kg) minimum**
Estimated Average Final Weight	51,500 lb (23 360 kg)***

The diagram shows the 360° working area that can be achieved with the front stabilizer (standard on the Series 1400H). The front stabilizer is required when extending the boom and lifting loads forward of the outriggers. A minimum of 10-in^3 (164 cm^3) section modulus at 110,000 psi (759 MPa) is required from the rear of the front spring hanger forward to the front stabilizer. Integral front frame extension required.

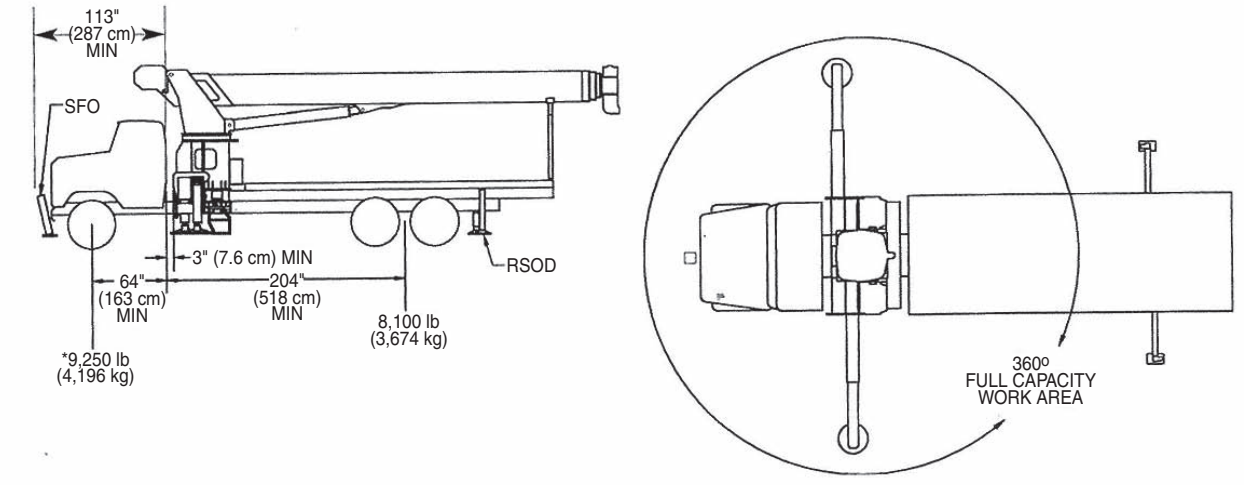
* Required to mount basic crane with 30-ft (9.15-m) jib option. Additional options or heavier bare chassis weights will require additional axles or a GVWR in excess of 60,000 lb (27 216 kg); in some states, special permits for overload are required.

** Estimated axle scale weights prior to installation of crane, stabilizers and subbase for 85% stability.

*** Includes basic crane without jib, 100-gal (379-L) fuel tank, 22' wood flatbed, hydraulic pump & PTO, rear bumper, rear stabilizer, boom rest, and two workers (300 lb, 136kg) in cab.

Note: Chassis will require integral extended front frame rails for SFO addition.

TRUCK REQUIREMENTS



Notes:

- Gross Vehicle Weight Rating (GVWR) is dependent on all components of the vehicle (axles, tires, springs, frame, etc.) meeting manufacturers' recommendations; always specify GVWR when purchasing trucks.
- Diesel engines require a variable speed governor and energize-to-run fuel solenoid for smooth crane operation. Electronic fuel-injected engines are required.
- All mounting data is based on a National Series 1400H with the standard subbase and an 85 percent stability factor.
- The complete unit must be installed in accordance with factory requirements, and a test performed to determine actual stability and counterweight requirements per SAE J765; contact the factory for details.
- Transmission neutral safety interlock switch is required.

specifications

Boom and Jib Combinations Data

Available in three basic models.

Model 1469H — Equipped with a 31 ft-69 ft five section boom.

Model 14100H — Equipped with a 30 ft 10 in to 100 ft (9.40-30.49 m) four-section boom. This model can be equipped with a 30 ft (9.15 m) single-section jib or a 30-54 ft (9.15-16.46 m) two-section jib. Maximum tip height w/30ft (9.15 m) jib is 137 ft (41.77 m), while maximum tip height w/30-54 ft (9.15-16.46 m) jib is 161 ft (49.08 m).

30'10" - 100' (9.40-30.49 m) four-section boom **14FJ30M** 30 ft (9.15 m) single-section jib

30'10" - 100' (9.40-30.49 m) four-section boom **14FJ54M** 30-54 ft (9.15-16.46 m) two-section jib

Model 14127H — Equipped with a 31 ft 7 in to 127 ft (9.63-38.72 m) five-section boom. This model can be equipped with a 30 ft (9.15 m) single-section jib. Maximum tip height w/ 30 ft (9.15 m) jib is 164 ft (50.00 m).

31'7" - 127' (9.63-38.72 m) five-section boom **14FJ30M** 30 ft (9.15 m) single-section jib

Note: *maximum tip height is measured with outriggers/stabilizers fully extended.*

1400A Winch Data

- Do not deadhead line block against boom tip when extending boom.
- Keep at least 3 wraps of loadline on drum at all times.
- Use only 5/8" diameter rotation-resistant cable with 45,400 pounds breaking strength on this machine.

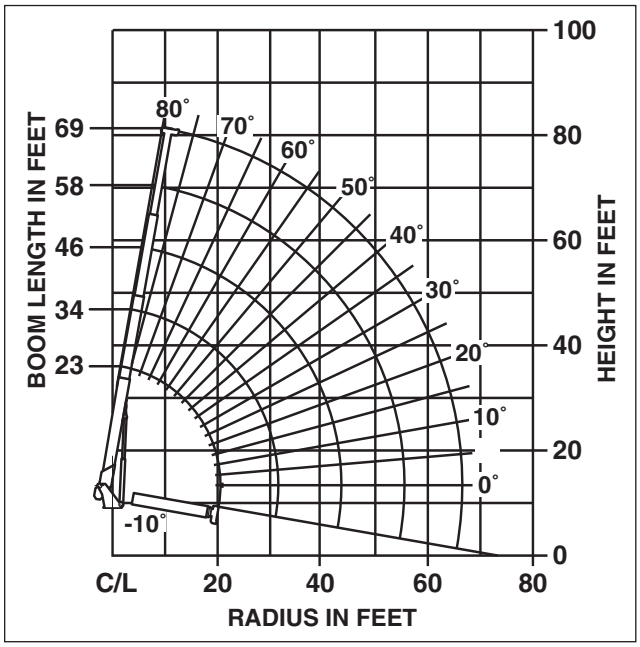
			1 Part Line	2 Part Line	3 Part Line	4 Part Line	5 Part Line	6 Part Line	7 Part Line	8 Part Line
										
MAXIMUM BOOM LENGTH AT MAXIMUM ELEVATION WITH RIGGING SHOWN WITH LOAD BLOCK AT GROUND LEVEL			127' boom w/ 54' jib	110'	83'	64'	52'	43'	36'	31'
Winch	**Cable Supplied**	**Average Breaking Strength**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**	**Lift and Speed**
Standard Planetary Winch Low Speed	5/8" Diameter Rotation Resistant	45,400 lb (20 593 kg)	9,000 lb (4082 kg) 170 fpm (52 m/min)	18,000 lb (8165 kg) 85 fpm (26 m/min)	27,000 lb (12 247 kg) 57 fpm (17 m/min)	36,000 lb (16 329 kg) 43 fpm (13 m/min)	45,000 lb (20 412 kg) 34 fpm (10 m/min)	54,000 lb (24 494 kg) 28 fpm (9 m/min)	63,000 lb (28 576 kg) 24 fpm (7 m/min)	66,000 lb (29 937 kg) 21 fpm (6 m/min)
Standard Planetary Winch High Speed	5/8" Diameter Rotation Resistant	45,400 lb (20 593 kg)	4,400 lb (1996 kg) 340 fpm (104 m/min)	8,800 lb (3992 kg) 170 fpm (52 m/min)	13,200 lb (5987 kg) 113 fpm (34 m/min)	17,600 lb (7983 kg) 85 fpm (26 m/min)	22,000 lb (9979 kg) 68 fpm (21 m/min)	26,400 lb (11 975 kg) 57 fpm (17 m/min)	30,800 lb (13 971 kg) 49 fpm (15 m/min)	35,200 lb (15 967 kg) 43 fpm (13 m/min)

All winch pulls and speeds in this chart are shown on the fourth layer. Winch line pulls would increase on the first, second and third layers. Winch line speed would decrease on the first, second and third layers. Winch line pulls may be limited by the winch capacity or the ANSI 5 to 1 cable safety factor. These are shown below:

Winch	Full Drum Pull	Allowable Cable Pull
Standard planetary	4,400 lb. (1996 kg) (high speed) 9,000 lb. (4082 kg) (low speed)	9,080 lb. (4119 kg)

Block Type	Rating	Weight
Aux. Boom Head		100 lb (45 kg)
Downhaul Weight	5 Ton (4.53t)	180 lb (82 kg)
1 Sheave Block	15 Ton (13.60t)	375 lb (170 kg)
2 Sheave Block	25 Ton (22.67t)	640 lb (290 kg)
3 Sheave Block	35 Ton (31.74t)	870 lb (395 kg)
4 Sheave Block	36 Ton (32.65)	970 lb (440 kg)

Load Rating Chart: Series 1469H (21.03 m) Boom / Full-Span Outrigger 24 ft 6 in (7.5 m)



CAUTION:

- **Do not operate crane booms, jib extensions, any accessories or loads within 10 ft (3m) of live power lines or other conductors of electricity.**
- Jib and boom capacities shown are maximum for each section.
- Do not exceed capacities at reduced radii.
- Load ratings shown on the appropriate charts are maximum allowable loads with the crane mounted on a factory-approved truck and all outriggers at either full span or at mid span range and set on a firm level surface so that the crane is level and all tires are suspended.
- Always level the crane with the level indicator located on the crane.
- The operator must reduce load to allow for factors such as wind, ground conditions, operating speeds and their effects on freely suspended loads.
- Overloading this crane may cause structural collapse or instability.
- Weights on any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capabilities at any reduced boom lengths.
- Do not deadhead lineblock against boom tip when extending boom or winching up.
- Keep at least three wraps of loadline on drum at all times.
- Use only specified cable with this machine.

SERIES 1469H (21.03 M) NO JIB / FULL-SPAN OUTRIGGER 24 FT 6 IN (21.03 M)

LOADLINE EQUIPMENT DEDUCT

Downhaul weight.....180 lb (81.6 kg)
One sheave block .....375 lb (170 kg)
Two sheave block.....640 lb (290 kg)
Three sheave block.....870 lb (395 kg)
Four sheave block.....970 lb (440 kg)

Load Rating Chart: Series 1469H (21.03 m) Boom / Full-Span Outrigger 24 ft 6 in (7.5 m)

23 TO 69 FOOT BOOM RATED LOADS WITHOUT JIB

LOADED RADIUS (FT)	LOADED BOOM ANGLE (DEG)	23 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	A 34 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	B 46 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	C 58 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	69 FT BOOM (LB)
6	74.5	66,000								
8	69	60,050	76.5	56,300						
10	63	52,050	73	48,350	78	46,100				
12	57	46,000	69.5	42,500	75.5	40,300	79	35,600		
14	50	41,150	65.5	38,000	73	35,850	77	32,550	79.5	25,700
16	42	36,950	61.5	34,400	70	32,350	75	29,500	77.5	23,850
20	15	26,550	52.5	28,950	64.5	27,150	70.5	24,950	74.5	21,200
25			40	21,450	57	21,700	65	20,900	69.5	17,200
30			19	15,450	49	15,750	59.5	15,900	65	15,100
35					39	12,050	53	12,200	60	12,200
40					25.5	9,550	46	9,650	55	9,700
45							38.5	7,900	50	7,950
50							28.5	6,550	43.5	6,600
55							11	5,500	36.5	5,500
60									28	4,650
65									16	3,950
	0	19,750	0	12,150	0	8,350	0	5,450	0	3,750

*SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

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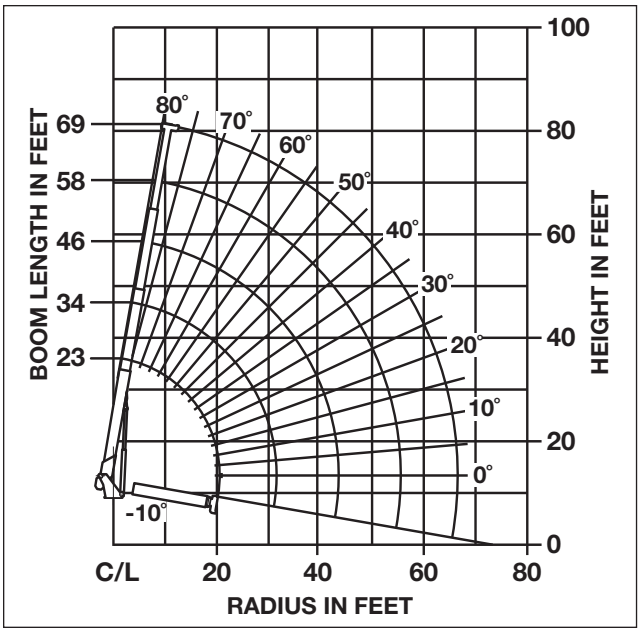
capacities

Load Rating Chart: Series 1469H (21.03 m) Boom / Mid-Span Outrigger 18 in 6 in (5.63 m)



CAUTION:

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- Jib and boom capacities shown are maximum for each section.
- Do not exceed capacities at reduced radii.
- Load ratings shown on the load rating charts are maximum allowable loads with the outriggers properly extended and the outrigger lock pins engaged on a firm, level surface and the crane leveled and mounted on a factory recommended truck.
- Always level the crane with the level indicator located on the crane.
- The operator must reduce load to allow for factors such as wind, ground conditions, operating speeds and their effects on freely suspended loads.
- Overloading this crane may cause structural collapse or instability.
- Weights on any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capabilities at any reduced boom lengths.
- Do not deadhead lineblock against boom tip when extending boom or winching up.
- Keep at least three wraps of loadline on drum at all times.
- Use only specified cable with this machine.

SERIES 1469H (21.03 M) NO JIB / MID-SPAN OUTRIGGER 18 FT 6 IN (5.63 M)

LOADLINE EQUIPMENT DEDUCT

Downhaul weight.....180 lb (81.6 kg)
One sheave block .....375 lb (170 kg)
Two sheave block.....640 lb (290 kg)
Three sheave block.....870 lb (395 kg)
Four sheave block.....970 lb (440 kg)

Load Rating Chart: Series 1469H (21.03 m) Boom / Mid-Span Outrigger 18 in 6 in (5.63 m)

23 to 69 Foot Boom Rated Loads without Jib

LOADED RADIUS (FT)	LOADED BOOM ANGLE (DEG)	23 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	A 34 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	B 46 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	C 58 FT BOOM (LB)	LOADED BOOM ANGLE (DEG)	69 FT BOOM (LB)
6	74.5	66,000								
8	69	60,050	76.5	56,300						
10	63	52,050	73	48,350	78	46,100				
12	57	46,000	69.5	42,500	75.5	40,300	79	35,600		
14	50	41,150	65.5	38,000	73	35,850	77	32,550	79.5	25,700
16	42	34,720	61.5	34,400	70	32,350	75	29,500	77.5	23,850
20	15	21,950	53	22,450	64.5	22,800	70.5	22,950	74.5	21,200
25			39.5	14,850	57	15,100	65	15,300	70	15,350
30			19	10,650	48	10,900	59	11,050	64.5	11,100
35					39	8,100	53	8,250	60	8,350
40					26.5	6,200	46	6,350	55	6,450
45							38	5,000	49.5	5,050
50							28	3,900	43.5	4,000
55							10.5	3,100	36	3,150
60									28	2,500
65									14.5	1,950
	0	19,750	0	9,700	0	5,250	0	3,050	0	1,800

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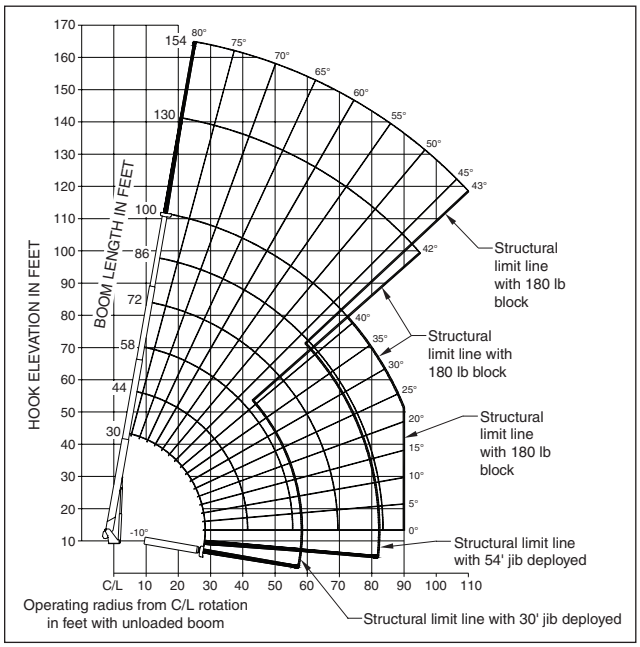
NATIONAL CRANE

Load Rating Chart: Series 14100H (30.5 m) Boom with 30-54 ft (9.1-16.45 m) Jib / Full-Span Outrigger 24 ft 6 in (7.5 m)



CAUTION:

- **Do not operate crane booms, jib extensions, any accessories or loads within 10 ft (3m) of live power lines or other conductors of electricity.**
- Jib and boom capacities shown are maximum for each section.
- Do not exceed capacities at reduced radii.
- Load ratings shown on the appropriate charts are maximum allowable loads with the crane mounted on a factory-approved truck and all outriggers at either full span or at mid span range and set on a firm level surface so that the crane is level and all tires are suspended.
- Always level the crane with the level indicator located on the crane.
- The operator must reduce load to allow for factors such as wind, ground conditions, operating speeds and their effects on freely suspended loads.
- Overloading this crane may cause structural collapse or instability.
- Weights on any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capabilities at any reduced boom lengths.
- Do not deadhead lineblock against boom tip when extending boom or winching up.
- Keep at least three wraps of loadline on drum at all times.
- Use only specified cable with this machine.

SERIES 14100H WITH 30-54 FT (9.1-16.45 M) JIB / FULL-SPAN OUTRIGGER 24 FT 6 IN (7.5 M)

NOTE:

1. Operate with jib by radius when main boom is fully extended. If necessary increase boom angle to maintain loaded radius.
2. Operate with jib by boom angle when main boom is not fully extended. Do not exceed rated jib capacities at any reduced boom lengths.

LOADLINE EQUIPMENT DEDUCT

Downhaul weight.....180 lb (81.6 kg)
One sheave block .....375 lb (170 kg)
Two sheave block.....640 lb (290 kg)
Three sheave block.....870 lb (395 kg)
Four sheave block.....970 lb (440 kg)

Load Rating Chart: Series 14100H (30.5 m) Boom with 30-54 ft (9.1-16.45 m) Jib / Full-Span Outrigger 24 ft 6 in (7.5 m)

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT BOOM (lb)	LOADED BOOM ANGLE	A 44FT BOOM (lb)	LOADED BOOM ANGLE	B 58FT BOOM (lb)	LOADED BOOM ANGLE	C 72FT BOOM (lb)	LOADED BOOM ANGLE	D 86FT BOOM (lb)	LOADED BOOM ANGLE	100FT BOOM (lb)
6	79.1	66,000										
8	74.9	49,200										
10	70.6	42,200	77.2	37,900								
12	66.3	38,600	74.9	33,400	79.2	29,550						
14	61.7	34,200	72.1	29,400	77.1	26,550	80	23,050				
16	56.8	30,350	69.2	26,900	75.1	24,550	78.6	21,050				
20	46	23,550	63.3	21,400	70.8	19,250	75.3	18,050	78.4	16,800	80	11,600
25	27.4	16,700	55.2	17,400	65.3	16,050	71	14,650	74.9	13,700	77.3	10,950
30			46.1	13,900	59.5	13,550	66.7	12,550	71.3	11,450	74.5	10,550
35			35	10,350	53.1	10,650	61.9	10,550	67.7	9,900	71.8	9,150
40			20	8,000	46.8	8,250	57.6	8,400	64.3	8,550	68.4	8,050
45					38.8	6,500	52.4	6,650	60.1	6,750	65.3	6,850
50					29	5,150	46.7	5,300	55.9	5,400	61.9	5,500
55					12.3	4,150	40.4	4,250	51.5	4,400	58.3	4,450
60							33.2	3,400	46.7	3,550	54.6	3,600
65							23.8	2,750	41.5	2,850	50.7	2,900
70									35.7	2,250	46.6	2,300
75									28.8	1,750	42.2	1,800
80									19.6	1,350	37.3	1,400
85											31.8	1,050
90											25.2	700
	0	11,400	0	7,300	0	4,000	0	1850	0	900		
ADD TO CAPACITIES WHEN NO JIB STOWED (lb)		800		600		450		350		300		250

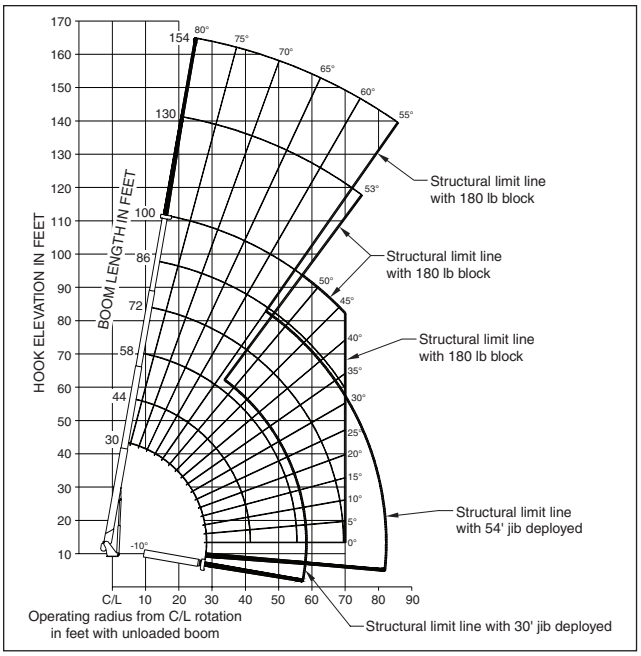
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT JIB (lb)	LOADED BOOM ANGLE	54FT JIB (lb)
30	78.4	5,500		
35	76.5	5,450	78.5	2,650
40	74.6	5,400	76.9	2,600
45	72.4	5,100	75.2	2,500
50	70.1	4,600	73.4	2,400
55	67.8	4,250	71.6	2,300
60	65.5	3,900	69.8	2,200
65	62.7	3,200	67.9	2,100
70	59.9	2,600	66	2,000
75	57.1	2,050	64	1,850
80	54.1	1,650	61.8	1,750
85	51.1	1,250	59.6	1,600
90	47.9	950	57.4	1,500
95	44.5	650	54.8	1,200
100			52.2	950
105			49.4	700
110			46.6	500

*SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

capacities

Load Rating Chart: Series 14100H (33.5 m) Boom With 30-54 ft (9.1-16.45 m) Jib / Mid-Span Outrigger 18 ft 6 in (5.63 m)



CAUTION:

- **Do not operate crane booms, jib extensions, any accessories or loads within 10 ft (3m) of live power lines or other conductors of electricity.**
- Jib and boom capacities shown are maximum for each section.
- Do not exceed capacities at reduced radii.
- Load ratings shown on the load rating charts are maximum allowable loads with the outriggers properly extended and the outrigger lock pins engaged on a firm, level surface and the crane leveled and mounted on a factory recommended truck.
- Always level the crane with the level indicator located on the crane.
- The operator must reduce load to allow for factors such as wind, ground conditions, operating speeds and their effects on freely suspended loads.
- Overloading this crane may cause structural collapse or instability.
- Weights on any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capabilities at any reduced boom lengths.
- Do not deadhead lineblock against boom tip when extending boom or winching up.
- Keep at least three wraps of loadline on drum at all times.
- Use only specified cable with this machine.

SERIES 14100H BOOM WITH 30-54 FT (9.1-16.45 M) JIB / MID-SPAN OUTRIGGER 18 FT 6 IN (5.63 M)

LOADLINE EQUIPMENT DEDUCT

Downhaul weight	180 lb (81.6 kg)
One sheave block	375 lb (170 kg)
Two sheave block	640 lb (290 kg)
Three sheave block	870 lb (395 kg)
Four sheave block	970 lb (440 kg)

NOTE:

1. Operate with jib by radius when main boom is fully extended. If necessary increase boom angle to maintain loaded radius.
2. Operate with jib by boom angle when main boom is not fully extended. Do not exceed rated jib capacities at any reduced boom lengths.

Load Rating Chart: Series 14100H (33.5 m) Boom With 30-54 ft (9.1-16.45 m) Jib / Mid-Span Outrigger 18 ft 6 in (5.63 m)

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT BOOM (lb)	LOADED BOOM ANGLE	A 44FT BOOM (lb)	LOADED BOOM ANGLE	B 58FT BOOM (lb)	LOADED BOOM ANGLE	C 72FT BOOM (lb)	LOADED BOOM ANGLE	D 86FT BOOM (lb)	LOADED BOOM ANGLE	100FT BOOM (lb)
6	79.1	58,600										
8	74.9	49,200										
10	70.6	42,200	77.2	37,900								
12	66.3	38,600	74.9	33,400	79.2	29,550						
14	61.7	34,200	72.1	29,400	77.1	26,550	80.2	23,050				
16	56.8	30,350	69.2	26,900	75.1	24,550	78.6	21,050				
20	45.9	19,650	63.2	20,400	70.8	19,250	75.3	18,050	78.4	16,800	80	11,600
25	27.4	12,450	54.9	13,150	65.1	13,450	70.9	13,600	74.9	13,700	77.3	10,950
30			45.8	9,150	59.5	9,450	66.3	9,550	71.1	9,700	74.2	9,850
35			35.7	6,550	53	6,850	62	7,000	67.5	7,100	71.4	7,250
40			19.4	4,850	46.6	5,150	57.1	5,300	63.6	5,400	68	5,450
45					38.7	3,850	51.9	4,000	59.5	4,100	64.6	4,150
50					28.8	2,850	46.2	3,000	55.3	3,100	61.1	3,150
55					12	2,050	40	2,200	50.9	2,300	57.6	2,350
60							32.7	1,550	46.1	1,650	53.9	1,700
65							23.4	1,050	41	1,150	50.1	1,200
70									35.2	700	46	750
	0	10,000	0	4,650	0	1,850	0	850				
ADD TO CAPACITIES WHEN NO JIB STOWED (lb)		800		600		450		350		300		250

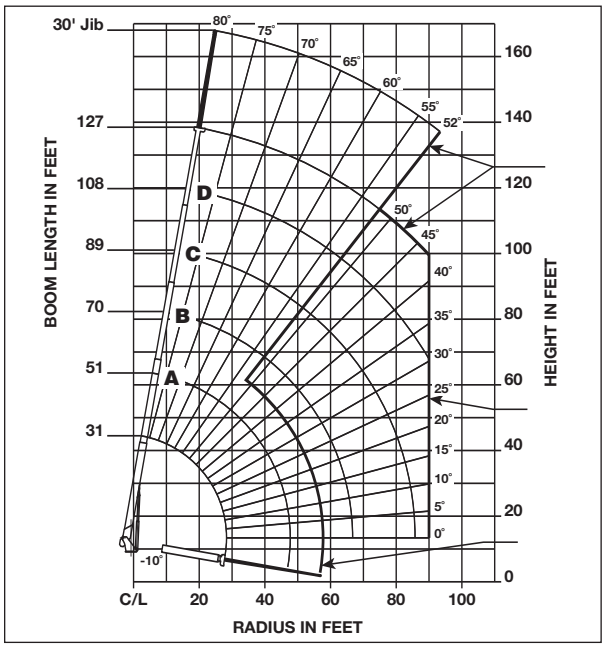
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT JIB (lb)	LOADED BOOM ANGLE	54FT JIB (lb)
30	78.4	5,500		
35	76.5	5,450	78.5	2,650
40	74.6	5,400	76.9	2,600
45	72.1	4,450	75.2	2,500
50	69.5	3,450	73.4	2,400
55	66.8	2,650	71.6	2,300
60	64.2	1,950	69.8	2,200
65	61.5	1,400	67.9	2,050
70	58.7	950	65.5	1,600
75	55.8	600	63	1,200
80			60.6	850
85			58.1	550

*SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

NATIONAL CRANE

Load Rating Chart: Series 14127H (38.7 m) Boom With 30-54 ft (9.1-16.45 m) Jib / Full-Span Outrigger 24 ft 6 in (7.5 m)



CAUTION:

- **Do not operate crane booms, jib extensions, any accessories or loads within 10 ft (3m) of live power lines or other conductors of electricity.**
- Jib and boom capacities shown are maximum for each section.
- Do not exceed capacities at reduced radii.
- Load ratings shown on the appropriate charts are maximum allowable loads with the crane mounted on a factory-approved truck and all outriggers at either full span or at mid span range and set on a firm level surface so that the crane is level and all tires are suspended.
- Always level the crane with the level indicator located on the crane.
- The operator must reduce load to allow for factors such as wind, ground conditions, operating speeds and their effects on freely suspended loads.
- Overloading this crane may cause structural collapse or instability.
- Weights on any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capabilities at any reduced boom lengths.
- Do not deadhead lineblock against boom tip when extending boom or winching up.
- Keep at least three wraps of loadline on drum at all times.
- Use only specified cable with this machine.

SERIES 14127H (38.7 M) BOOM WITH 30-54 FT (9.1-16.45 M) JIB / FULL-SPAN OUTRIGGER 24 FT 6 IN (7.5 M)

NOTE:

1. Operate with jib by radius when main boom is fully extended. If necessary increase boom angle to maintain loaded radius.
2. Operate with jib by boom angle when main boom is not fully extended. Do not exceed rated jib capacities at any reduced boom lengths.

LOADLINE EQUIPMENT DEDUCT

Downhaul weight.....180 lb (81.6 kg)
One sheave block .....375 lb (170 kg)
Two sheave block.....640 lb (290 kg)
Three sheave block.....870 lb (395 kg)
Four sheave block.....970 lb (440 kg)

Load Rating Chart: Series 14127H (38.7 m) Boom With 30-54 ft (9.1-16.45 m) Jib / Full-Span Outrigger 24 ft 6 in (7.5 m)

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	31FT BOOM (lb)	LOADED BOOM ANGLE	A 51FT BOOM (lb)	LOADED BOOM ANGLE	B 70FT BOOM (lb)	LOADED BOOM ANGLE	C 89FT BOOM (lb)	LOADED BOOM ANGLE	D 108FT BOOM (lb)	LOADED BOOM ANGLE	127FT BOOM (lb)
6	79.9	66,000										
8	76	47,550										
10	71.9	40,750	79.7	32,700								
12	67.7	35,800	77.4	29,750								
15	61.1	30,200	72.8	25,900	78.1	22,550						
20	49.5	23,950	67.7	20,450	74.8	18,950	78.8	16,600				
25	33.1	17,700	61.2	16,750	70.4	15,350	74.7	14,200	78.1	12,250	80.3	8,200
30			54.1	14,000	65.9	12,850	72.2	11,850	76.1	10,550	78.5	7,900
35			46.2	10,550	61.1	10,650	68.6	9,700	73.6	9,050	76.4	7,600
40			36.5	8,100	55.2	8,350	64.3	8,300	69.8	7,850	73.8	7,200
45			25.7	6,250	50.9	6,500	61.5	6,700	67.8	6,750	71.5	6,400
50					45	5,100	57.4	5,300	64.6	5,400	69.5	5,500
55					38.3	4,000	53.2	4,200	61.4	4,300	66.8	4,400
60					29.8	3,150	48.1	3,300	57.4	3,400	63.6	3,500
65					19.1	2,400	44	2,600	54.6	2,700	61.3	2,800
70							38.7	2,000	51.1	2,100	58.4	2,150
75							32.6	1,450	47.3	1,550	55.5	1,650
80							24.5	1,000	43.2	1,100	52.2	1,200
85							14	650	38.9	750	49.4	800
90											45.6	500
	0	12,150	0	4,800	0	2,000	0	500				
ADD TO CAPACITIES WHEN NO JIB STOWED (lb)		500		300		250		200		150		100

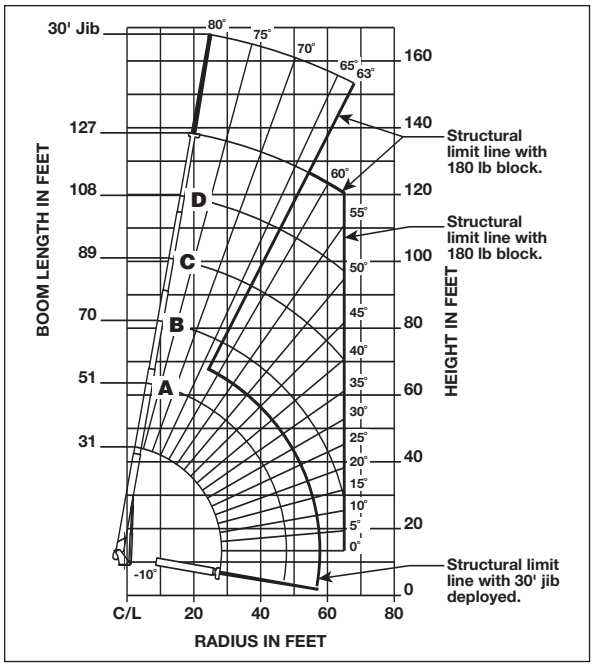
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT JIB (lb)
30	79.9	3,900
35	79.1	3,850
40	77.5	3,700
45	75.9	3,550
50	74.2	3,400
55	72.5	3,250
60	70.7	3,100
65	68.9	2,950
70	66.4	2,600
75	64.4	2,050
80	62.1	1,600
85	59.7	1,200
90	57.3	850
95	54.8	550

*SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

capacities

Load Rating Chart: Series 14127H (38.7 m) Boom With 30-54 ft (9.1-16.45 m) Jib / Mid-Span Outrigger 18 ft 6 in (5.63 m)



CAUTION:

- **Do not operate crane booms, jib extensions, any accessories or loads within 10 ft (3m) of live power lines or other conductors of electricity.**
- Jib and boom capacities shown are maximum for each section.
- Do not exceed capacities at reduced radii.
- Load ratings shown on the load rating charts are maximum allowable loads with the outriggers properly extended and the outrigger lock pins engaged on a firm, level surface and the crane leveled and mounted on a factory recommended truck.
- Always level the crane with the level indicator located on the crane.
- The operator must reduce load to allow for factors such as wind, ground conditions, operating speeds and their effects on freely suspended loads.
- Overloading this crane may cause structural collapse or instability.
- Weights on any accessories attached to the boom or loadline must be deducted from the load chart capacities.
- Do not exceed jib capabilities at any reduced boom lengths.
- Do not deadhead lineblock against boom tip when extending boom or winching up.
- Keep at least three wraps of loadline on drum at all times.
- Use only specified cable with this machine.

SERIES 14127H (38.7 M) BOOM WITH 30-54 FT (9.1-16.45 M) JIB / MID-SPAN OUTRIGGER 18 FT 6 IN (5.63 M)

LOADLINE EQUIPMENT DEDUCT

Downhaul weight	180 lb (81.6 kg)
One sheave block	375 lb (170 kg)
Two sheave block	640 lb (290 kg)
Three sheave block	870 lb (395 kg)
Four sheave block	970 lb (440 kg)

NOTE:

1. Operate with jib by radius when main boom is fully extended. If necessary increase boom angle to maintain loaded radius.
2. Operate with jib by boom angle when main boom is not fully extended. Do not exceed rated jib capacities at any reduced boom lengths.

Load Rating Chart: Series 14127H (38.7 m) Boom With 30-54 ft (9.1-16.45 m) Jib / Mid-Span Outrigger 18 ft 6 in (5.63 m)

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	31FT BOOM (lb)	LOADED BOOM ANGLE	A 51FT BOOM (lb)	LOADED BOOM ANGLE	B 70FT BOOM (lb)	LOADED BOOM ANGLE	C 89FT BOOM (lb)	LOADED BOOM ANGLE	D 108FT BOOM (lb)	LOADED BOOM ANGLE	127FT BOOM (lb)
6	80.1	58,800										
8	76	47,550										
10	71.9	40,750	79.7	32,700								
12	67.8	35,800	77.4	29,750								
15	61.2	30,200	73.8	25,900	79	22,550						
20	48.9	20,100	67.7	20,450	74.8	18,950	78.8	16,600				
25	33	12,550	61	13,450	70.3	13,800	75.5	14,000	78.8	12,250	80.4	8,200
30			53.8	9,250	65.5	9,550	71.8	9,750	76	9,900	78.5	7,900
35			46.6	6,600	61	6,850	68.4	7,050	73.1	7,200	76.4	7,350
40			37.5	4,800	55.9	5,050	64.7	5,250	70.1	5,400	73.7	5,500
45			25.4	3,450	50.5	3,700	60.8	3,900	67	4,000	71.1	4,100
50					44.5	2,650	56.8	2,850	63.9	2,950	68.4	3,050
55					37.9	1,800	52.6	2,000	60.7	2,100	65.8	2,200
60					29.9	1,100	48.2	1,300	57.4	1,400	63.1	1,500
65					18.7	550	43.4	750	53.9	850	60.4	950
	0	8,200	0	2,900								
ADD TO CAPACITIES WHEN NO JIB STOWED (lb)		500		300		250		200		150		100

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT JIB (lb)
30	80.6	3,900
35	79.1	3,850
40	77.5	3,700
45	75.9	3,550
50	74.2	3,400
55	72	2,650
60	69.7	1,950
65	67.4	1,350
70	65.1	850

*SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

NATIONAL CRANE

Radio Remote Controls –
Eliminate the handling and maintenance concerns that accompany cabled remotes. Operate to a range of about 250 feet (76 m), varying with conditions. • ***NB4R***

One-Person Basket –
Strong but lightweight steel basket with 300-lb. (139-kg) capacity, gravity hung with swing lock and full body harness. • ***B1-S*** • ***2B1-S*** (for dual locking baskets)

Heavy-duty Personnel Basket –
1,200-lb. (544-kg) capacity steel basket with safety loops for four passengers. Gravity leveling 72- x 42-inch (183- x 107-cm) platform. Fast attachment and secure locking systems. Load chart must show 2,300 lb. (1043 kg) minimum to operate this accessory. • ***BSA-1*** • ***BSA-R1*** (provides rotation)

Air Conditioning –
Back of cab mounted – self contained modular unit with in-cab cool air outlets. Requires 130+ amp. chassis alternator. • ***AC***

Last Layer Indicator Option on winch with indicator in cab. • ***LLI***

Winchdown Rotation Indicator –
Has "thumper" in the cab winch lever to indicate to the operator that the winch is in motion. • ***WDRJ***

Outrigger Controls at operator's seat in addition to ground controls. • ***ICORC***

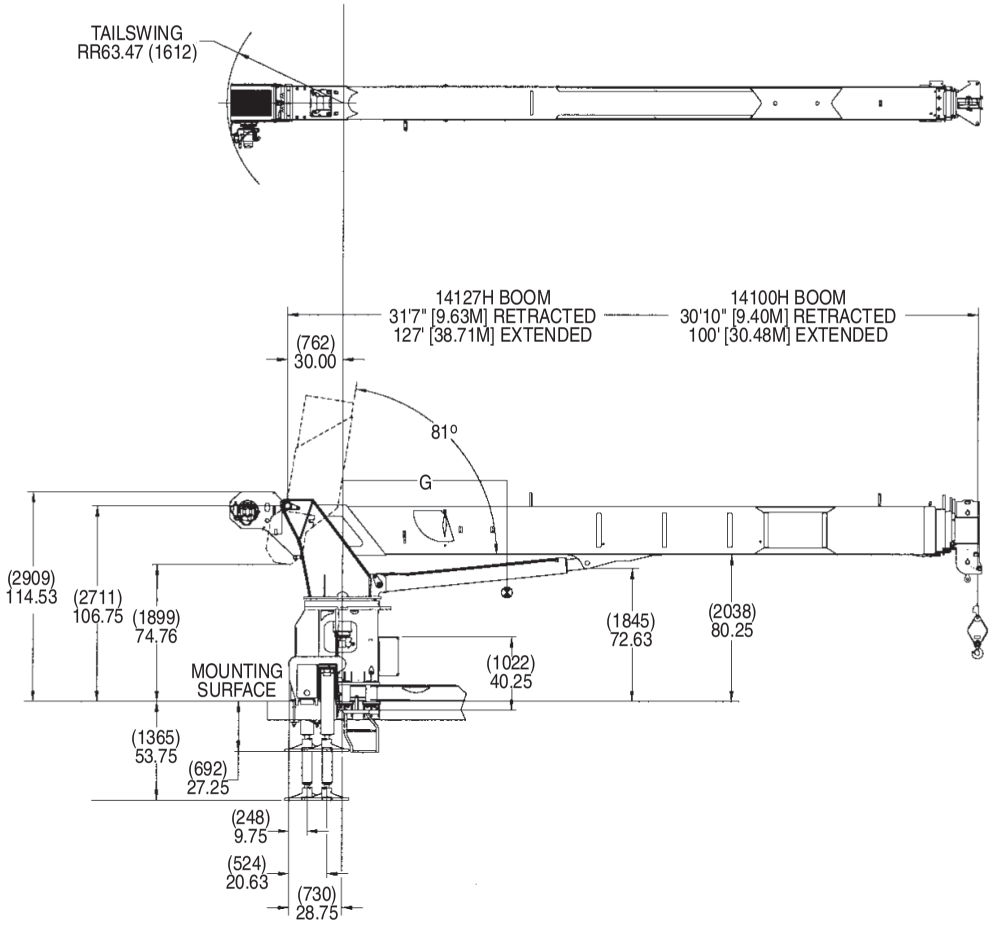
Hour Meter
Hour meter in truck cab to record crane operation hours. • ***HRM***

Steel Tool Box Options

Spanish-Language Danger Decals, Control Knobs, and Operators' Manuals • ***SDD*** • ***SOM***

Dimensions Specifications:

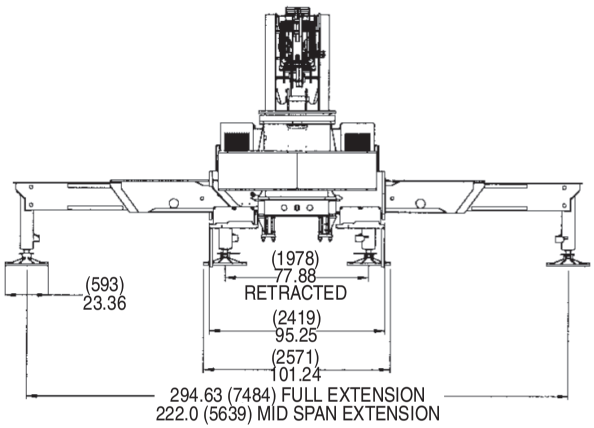
All dimensions are in inches (mm) unless otherwise specified.



*Weight includes boom w/winch, loadline, 180lb downhaul weight, frame, turret, complete console, hoses, mounting hardware, outriggers, platforms, lift cylinder and torsion box for 22' bed. Booms fully retracted.

Series	G inches (cm)	With Oil/Wt* lb (kg)
14100H	111 (282)	25,142 (11,404)
14127H	119 (302)	27,726 (12,576)

(RSOD-18 weight = 1800 lb).



notes

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Printed in USA
Form No. 1400H
Part No. 1400H / 1007 / 2M

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