

# National Crane Series 1400A

## Product Guide



### Features

- 29,9 t (33 USt) rating
- 38,72 m (127 ft) five-section boom
- Self-lubricating "Easy Glide" wear pads
- Internal anti-two-block
- Vision™ cab



# Mounting configuration

The mounting configuration shown is based on the Series 1400A 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.....	9072 kg (20,000 lb)*
Gross Axle Weight Rating Rear.....	15 422 kg (34,000 lb)*
Gross Vehicle Weight Rating.....	24 494 kg (54,000 lb)*
Wheelbase.....	Minimum 655 cm (258 in)
Cab to Axle/trunnion (CA/CT).....	Minimum 457 cm (180 in)
After Frame (AF).....	234 cm (92 in) minimum
Frame Section Modulus (SM), front axle to end of afterframe, with 758 MPa (110,000 PSI).....	492 cm <sup>3</sup> (30 in <sup>3</sup> )
Stability Weight, Front.....	4082 kg (9000 lb) minimum**
Stability Weight, Rear.....	3629 kg (8000 lb) minimum**
Estimated Average Final Weight.....	23 585 kg (51,880 lb)***

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

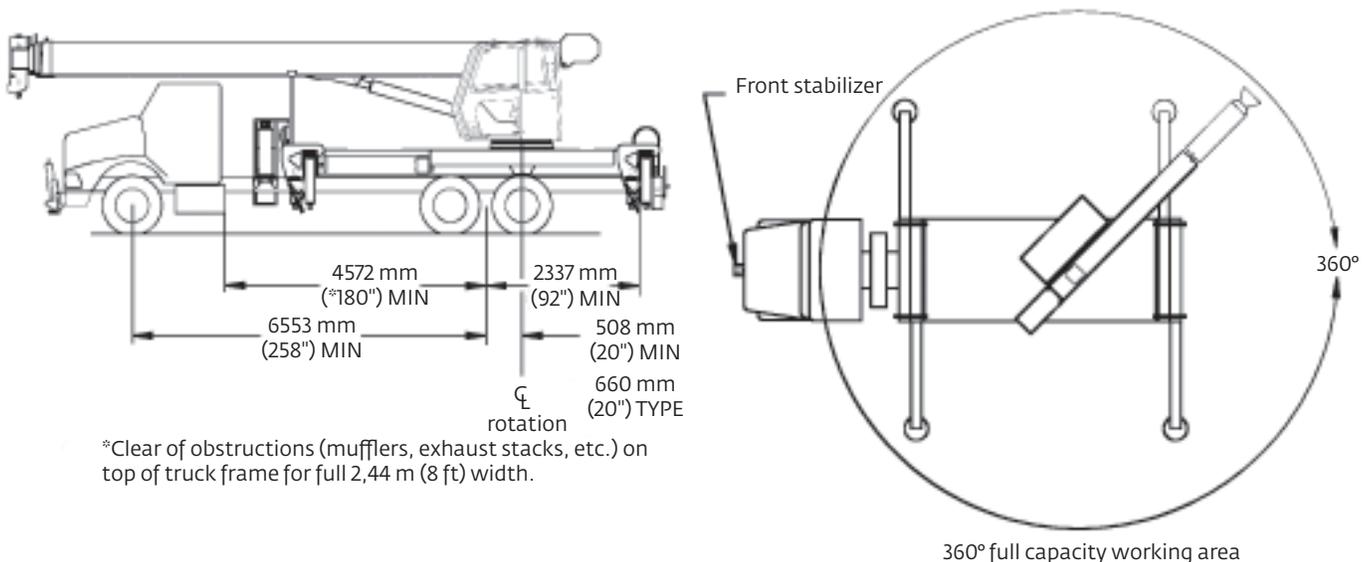
\* Required to mount basic crane with 9,15 m (30 ft) jib option. Additional options or heavier bare chassis weights will require additional axles or a GVWR in excess of 24 494 kg (54,000 lb); in some states, special permits for overload are required.

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

\*\*\* Includes basic crane without jib, 379 L (100 gal) fuel tank and two workers, 136 kg (300 lb) in cab.

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

## Truck requirements



### Notes:

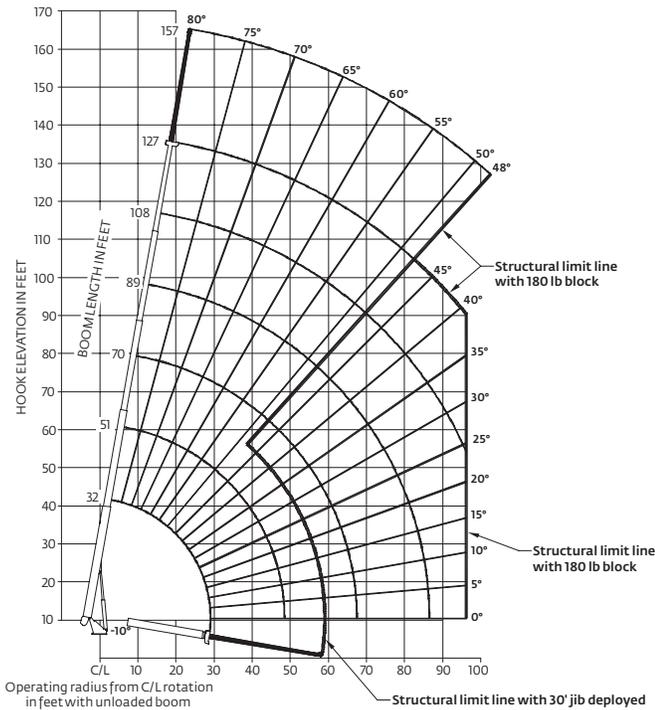
- Gross Vehicle Weight Rating (GVWR) is dependent on all components of the vehicle (axles, tires, springs, frame, etc.) meeting manufacturers' recommendations; always specify GVWR when purchasing trucks.
- Diesel engines require a variable speed governor for smooth crane operation. Electronic fuel-injected engines are required.

- All mounting data is based on a National Crane Series 1400A with the standard subbase and 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 per SAE J765; contact the factory for details.
- Transmission neutral safety interlock switch is required.

# Capacities

## 127 ft boom with 30 ft jib, full-span outrigger

Other Series 1400A Load Rating Charts are available. National Crane will send you a chart on request – or you may secure needed load rating information through your nearest National Crane dealer.



### CAUTION:

- Do not operate crane booms, jib extensions, any accessories or loads within 3 m (10 ft) 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.

### 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 chart

32 ft - 127 ft BOOM RATED LOADS WITHOUT JIB

LOAD RADIUS (ft)	LOADED BOOM ANGLE	32 ft BOOM (lb)	LOADED BOOM ANGLE	A 51 ft BOOM (lb)	LOADED BOOM ANGLE	B 70 ft BOOM (lb)	LOADED BOOM ANGLE	C 89 ft BOOM (lb)	LOADED BOOM ANGLE	D 108 ft BOOM (lb)	LOADED BOOM ANGLE	127 ft BOOM (lb)
6	76.5	66,000										
8	72.3	48,050										
10	68.2	41,250	77.6	33,000								
12	64	36,300	75.6	30,050								
15	57.4	30,700	71.7	26,200	77.5	22,800						
20	45.2	24,550	65.5	20,750	73.3	19,200	77.7	16,800				
25	29.2	19,900	59	17,050	68.9	15,600	74.5	14,400	78	12,400		
30			51.9	14,600	64.3	13,100	71	12,050	75.3	10,700	77.9	8000
35			44	12,550	59.5	10,900	67.4	9900	72.7	9200	75.9	7700
40			34.6	10,100	54.5	9400	64.1	8500	69.9	8000	73.7	7300
45			23.4	8050	49.6	8250	60.4	7400	66.9	6900	71.4	6500
50					43.7	7050	56.4	6350	63.8	5650	68.8	5650
55					36.9	5900	52.3	5700	60.7	4950	66.2	4700
60					28.9	4800	48	5100	57.4	4350	63.3	3600
65					17.5	3850	43.1	4200	54.1	3900	60.7	3200
70							37.8	3400	50.6	3450	58	2800
75							31.7	2700	46.8	2850	55.2	2500
80							24.2	2150	42.8	2300	52.3	2200
85							12.8	1600	38.4	1800	49.3	1950
90									33.4	1350	46	1500
95									27.7	950	42.4	1100
100									20.6	600	38.7	750
	0	12,800	0	5400	0	2600	0	1100				

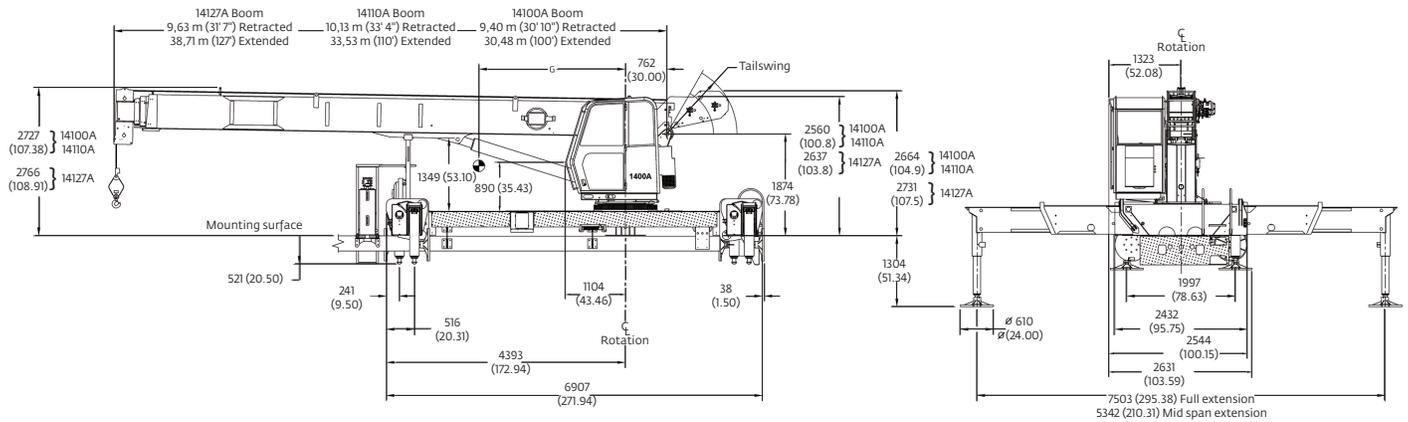
30 ft JIB RATED LOADS

LOAD RADIUS (ft)	LOADED BOOM ANGLE	30 ft JIB (lb)
35	78.6	3850
40	77.1	3700
45	75.4	3550
50	73.8	3400
55	72.1	3250
60	70.3	3100
65	68.5	2950
70	66.5	2700
75	64.5	2550
80	62.4	2300
85	60.2	2100
90	58	1850
95	55.6	1650
100	53.2	1300
105	50.6	950
110	47.8	650

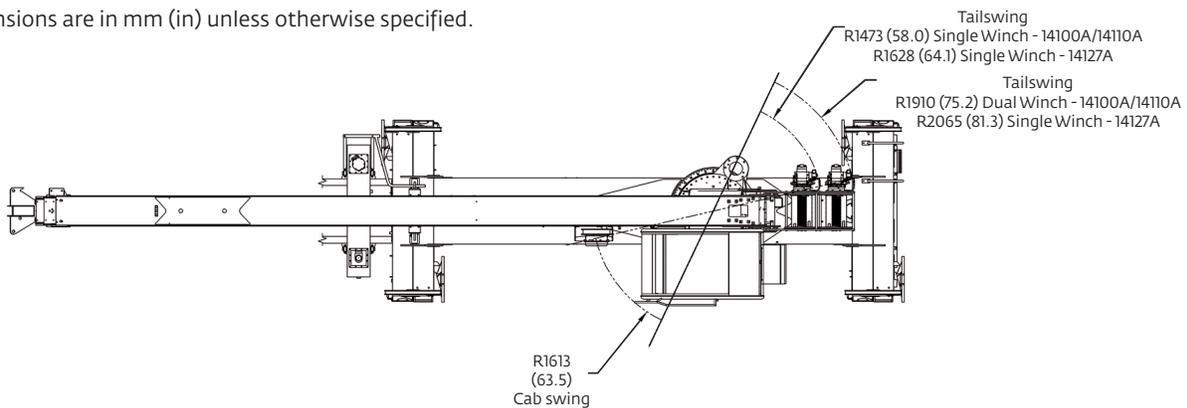
THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

# Dimensions



Dimensions are in mm (in) unless otherwise specified.



G center of gravity from centerline		
Series	G	w/oil weight <sup>2*</sup>
14100A	2032 mm (80 in)	13 473 kg (29,640 lb)
14110A	2083 mm (82 in)	13 868kg (30,510 lb)
14127A	2159 mm (85 ft)	14 718 kg (32,380 lb)

\*Weight includes all items including complete HO outriggers, 82 kg (180 lb) downhaul weight, reservoir, decks, ladders and SFO. Booms fully retracted. Pump, and PTO not included.