



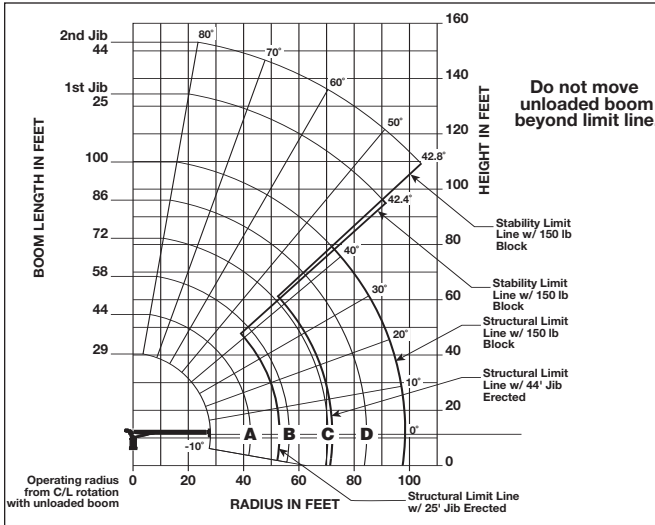
LIFTING CHARTS - Boom Trucks

NATIONAL MODEL 13100H - 30 TON CAPACITY

capacities

Load Rating Chart: Series 13100H with 25-44 ft Jib / Fullspan Outrigger & Stabilizer

Other Series 1300H 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 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 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 13100H WITH 25-44 ft JIB FULL SPAN OUTRIGGER & STABILIZER

LOADLINE EQUIPMENT DEDUCT

- Downhaul weight 150 lb (68 kg)
- One sheave block.....305 lb (139 kg)
- Two sheave block350 lb (159 kg)
- Three sheave block ...575 lb (261 kg)

NOTE:

- Operate with jib by radius when main boom is fully extended. If necessary increase boom angle to maintain loaded radius.
- 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 13100H with 25-44 ft Jib / Fullspan Outrigger & Stabilizer

29 ft – 100 ft BOOM RATED LOADS WITHOUT JIB													
LOADED RADIUS (ft)	LOADED BOOM ANGLE (deg)	29 ft BOOM (lb)	LOADED BOOM ANGLE (deg)	A 44 ft BOOM (lb)	LOADED BOOM ANGLE (deg)	B 58 ft BOOM (lb)	LOADED BOOM ANGLE (deg)	C 72 ft BOOM (lb)	LOADED BOOM ANGLE (deg)	D 86 ft BOOM (lb)	LOADED BOOM ANGLE (deg)	100 ft BOOM (lb)	
5	77.3	* 60,000											
8	70.3	44,000	77.9	29,100									
10	66.4	36,900	75.3	29,000									
12	61.8	33,450	72.7	28,600	78	28,600							
15	54.5	28,300	68.4	24,600	74.8	23,500	79	22,900					
20	40.6	21,950	60.9	21,000	69.4	19,000	74.6	17,450	78.3	16,300	79.9	10,650	
25	19.9	15,700	52.7	17,500	63.8	16,500	70.3	15,700	74.8	13,700	77.3	10,450	
30			43.5	12,800	57.9	13,200	65.8	13,500	71	11,350	74.4	10,000	
35			32.2	10,150	51.6	10,100	61.1	10,400	67.3	10,600	71.8	9,400	
40			16.3	7,850	45	8,000	56.6	8,250	63.8	8,450	68.9	8,050	
45					37	6,500	51.3	6,700	59.6	6,900	65.6	7,100	
50						26.9	5,250	45.5	5,500	55.3	5,650	5,850	
55								39.1	4,500	50.8	4,700	4,850	
60								31.7	3,700	45.9	3,800	4,000	
65								22.1	3,050	40.6	3,150	3,300	
70										34.7	2,600	2,750	
75										27.7	2,100	2,250	
80										18.2	1,700	1,800	
85												31.2	1,450
90												24.4	1,150
95												14.6	900
0		10,000	0	7,600	0	4,350	0	2,600	0	1,550	0	800	

25 – 44 ft JIB RATED LOADS				
LOADED RADIUS (ft)	LOADED BOOM ANGLE (deg)	25 ft JIB (lb)	LOADED BOOM ANGLE (deg)	44 ft JIB (lb)
35	77.9	4,900		
40	78.5	4,500		
45	73.7	4,050	75.9	2,500
50	71.2	3,700	74.3	2,500
55	68.7	3,400	72.4	2,500
60	66.2	3,150	70.2	2,300
65	63.7	3,000	68.1	2,200
70	60.7	2,700	66	2,100
75	57.5	2,250	63.8	2,000
80	53.9	1,800	61.3	1,850
85	50.2	1,350	59	1,800
90	46.2	1,000	56	1,500
95	42.4	700	52.8	1,200
100			49.5	900
105			46	600
110			42.8	500

RATED LOAD REDUCTIONS WITH STOWED JIB

BOOM LENGTH (ft)	25 – 44 ft JIB STOWED
29	Reduce load 800 lb
44	Reduce load 600 lb
58	Reduce load 450 lb
72	Reduce load 350 lb
86	Reduce load 300 lb
100	Reduce load 250 lb

*SHADED AREAS ARE STRUCTURALLY LIMITED CAPACITIES

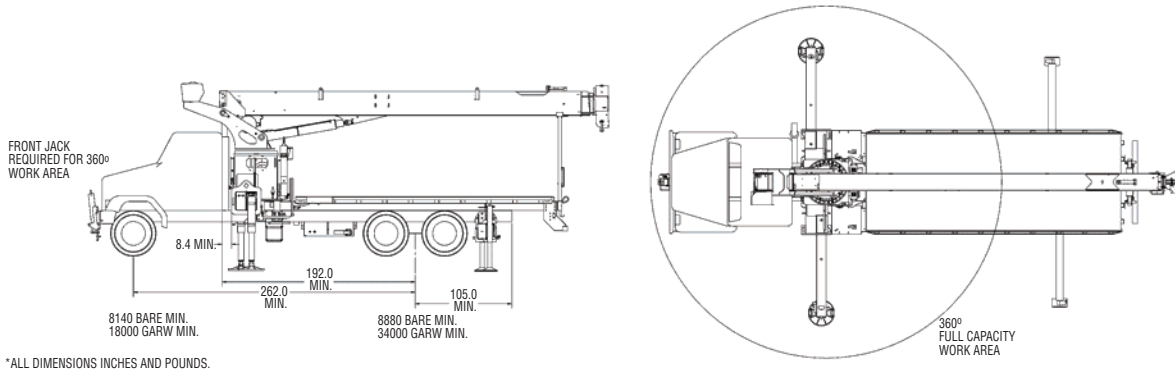
Note:

- All capacities are in pounds, angles in degrees, and radii in feet.
- Loaded boom angles are given as reference only.
- Shaded areas are structurally limited capacities.
- Handling of personnel is only permitted with full span extension of all outrigger and stabilizer beams.
- See owners manuals. The 60,000 lb load requires optional 9/16 in diameter 6x25 IWRC cable.

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.

STERLING CRANE

mounting configuration



The mounting configuration is based on an 85% stability factor. If the bare truck weight requirements are not met, counterweight will be required. The complete unit must be installed on the truck in accordance with factory requirements. Since individual truck chassis vary, a test must be performed on the unit to verify actual stability after mounting and installing counterweight (if required). A summary of mounting and truck requirements are:

For 180 degree working area –

Gross Axle Weight Rating Front (GAWR) – 18,000 lb (8,165 kg)
Gross Axle Weight Rating Rear (GAWR) – 34,000 lb (15,455 kg)
Gross Vehicle Weight Rating (GVW) – 52,000 lb (23,587 kg)
Wheelbase (WB) – 262 in (6.65m)
Cab to Axle Trunnion (CT) – 192 in (4.88m)
After Frame (AF) – 105 in (2.67m)
Frame Section Modulus (SM) from outrigger to RSOD – 20 in³ (327cm³) and 110,000 psi (759 MPa) material
Bare Chassis Weight required for stability prior to installation
Front – 8,140 lb (3692 kg)
Rear – 8,880 lb (4028 kg)

For 360 degree working area –

Optional Single Front Stabilizer (SFO)
Gross Axle Weight Rating Front (GAWR) – 18,000 lb (8,165 kg)
Gross Axle Weight Rating Rear (GAWR) – 34,000 lb (15,455 kg)
Gross Vehicle Weight Rating (GVW) – 52,000 lb (23,587 kg)
Wheelbase (WB) – 262 in (6.65m)
Cab to Axle Trunnion (CT) – 192 in (4.88m)
After Frame (AF) – 105 in (2.67m)
Frame Section Modulus (SM) from front spring hanger to end of after frame – 30 in³ (327cm³) and 110,000 psi (759 MPa) material
Bare Chassis Weight required for stability prior to installation
Front – 8,200 lb (3720 kg)
Rear – 8,900 lb (4037 kg)

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

For 360° stability the truck frame must have a 30.0 in³ (492 cm³) section modulus [3,300,000 in-lb (372,850 N·m) RBM] minimum under the crane frame, 18 in³ (295 cm³) section modulus [1,980,000 in-lb (223,710 N·m) RBM] at the front spring rear hanger, 12 in³ (197 cm³) section modulus [1,320,000 in-lb (149,140 N·m) RBM] through the front spring and 3 in³ (49 cm³) section modulus [330,000 in-lb (37,284 N·m) RBM] at the stabilizer attachment point on each truck frame rail.

NOTE 1: 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.

NOTE 2: Diesel engines require a variable speed governor and energize-to-run fuel solenoid for smooth crane operation; electronic fuel injection is required.

NOTE 3: All mounting data is based on a National Series 1300H with subbase and an 85% stability factor.

NOTE 4: The complete unit must be installed in accordance with factory requirements, and a test performed to determine actual stability and counterweight requirements; contact the factory for details.

NOTE 5: Transmission neutral safety interlock switch is required.

NOTE 6: 13100H with front center stabilizer will be approximate 40 ft overall length. 13110H will exceed 40 ft overall length.

STERLING CRANE

specifications

Boom and Jib Combinations Data

AVAILABLE IN THREE BASIC MODELS.

Model 1369H — Equipped with a 22 to 69 ft (6.7-21.03 m) four-section boom. Maximum tip height is 78 ft (23.77 m).

22-69 ft (6.7-21.05 m) four-section boom.



Model 13100H — Equipped with a 29 to 100 ft (8.83-30.48 m) four-section boom. This model can be equipped with a 25-44 ft (7.62-13.41 m) two section jib. Maximum tip height w/44 ft (13.41 m) jib is 153 ft (44.63 m).

29-100 ft (8.83-30.48 m) four-section boom. **13FJ44M** 25-44 ft (7.62-13.41 m) two-section jib



Model 13110H — Equipped with a 33 to 110 ft (10.05-33.52 m) four-section boom. This model can be equipped with a 25-44 ft (7.62-13.41 m) two-section jib. Maximum tip height w/44 ft (13.41 m) jib is 163 ft (49.68 m).

33-110 ft (10.05-33.52 m) four-section boom. **13FJ44M** 25-44 ft (7.62-13.41 m) two-section jib



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

1300H 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 9/16" diameter rotation-resistant cable with 38,500 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
MAXIMUM BOOM LENGTH AT MAXIMUM ELEVATION WITH RIGGING SHOWN WITH LOAD BLOCK AT GROUND LEVEL			69 ft boom jib	69 ft	69 ft	61 ft	51 ft	31 ft	21 ft
			144 ft boom jib	100 ft	75 ft	60 ft	50 ft	43 ft	36 ft
			154 ft boom jib	110 ft	94 ft	78 ft	62 ft	46 ft	32 ft
Winch	Average Cable Supplied	Breaking Strength	Lift and Speed	Lift and Speed	Lift and Speed	Lift and Speed	Lift and Speed	Lift and Speed	Lift and Speed
Standard Planetary Winch	9/16 in Diameter Rotation Resistant	38,500 lb (17 464 kg)	7,700 lb (3493 kg) 164 fpm (50 m/min)	15,400 lb (6986 kg) 82 fpm (25 m/min)	23,100 lb (10 478 kg) 55 fpm (16 m/min)	30,800 lb (13 971 kg) 41 fpm (12 m/min)	38,500 lb (17 464 kg) 33 fpm (10 m/min)	46200 lb (20 956 kg) 27 fpm (8 m/min)	53,900 lb (24 449 kg) 23 fpm (7 m/min)
"Burst of Speed"	9/16 in Diameter Rotation Resistant	38,500 lb (17 464 kg)	3,000 lb (1361 kg) 265 fpm (111 m/min)	6,000 lb (2722 kg) 132 fpm (40 m/min)	9,000 lb (4083 kg) 88 fpm (27 m/min)	12,000 lb (5443 kg) 66 fpm (20 m/min)	15,000 lb (6804 kg) 53 fpm (16 m/min)	18,000 lb (8 165 kg) 44 fpm (13 m/min)	21,000 lb (9 526 kg) 38 fpm (11 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	4th Layer Drum Pull	Allowable Cable Pull
Standard planetary	7,700 lb (3493 kg) (low speed) 3,000 lb (1361 kg) ("burst of speed")	7,700 lb (3492 kg)

Block Type	Rating	Weight
Downhaul Weight	5 USt (4.53t)	150 lb (68 kg)
1 Sheave Block	12 USt (10.89t)	305 lb (139 kg)
2 Sheave Block	19 USt (17.24t)	350 lb (159 kg)
3 Sheave Block	30 USt (27.22t)	575 lb (261 kg)

accessories

Radio Remote Controls –

Eliminate the handling and maintenance concerns that accompany cabled remotes. Operate to a range of about 250 ft (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)

Winch Drum Rotation Indicator

• **WDR1**

Last Wrap Indicator Option on winch with indicator on Easy Reach console.

• **LLI**

Single Front Outrigger

Center front stabilizer with a 25 in vertical stroke

• **SFO**

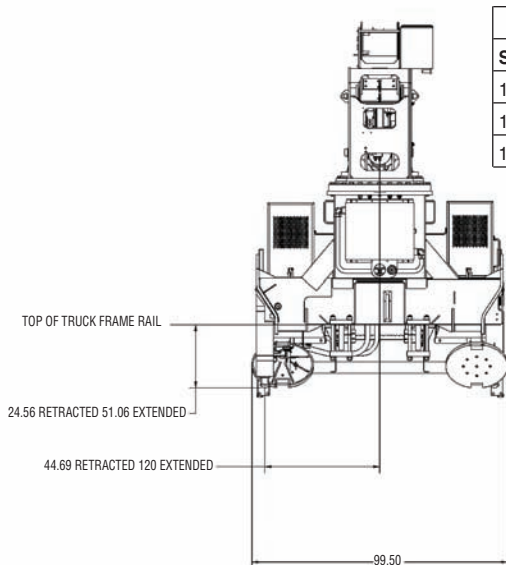
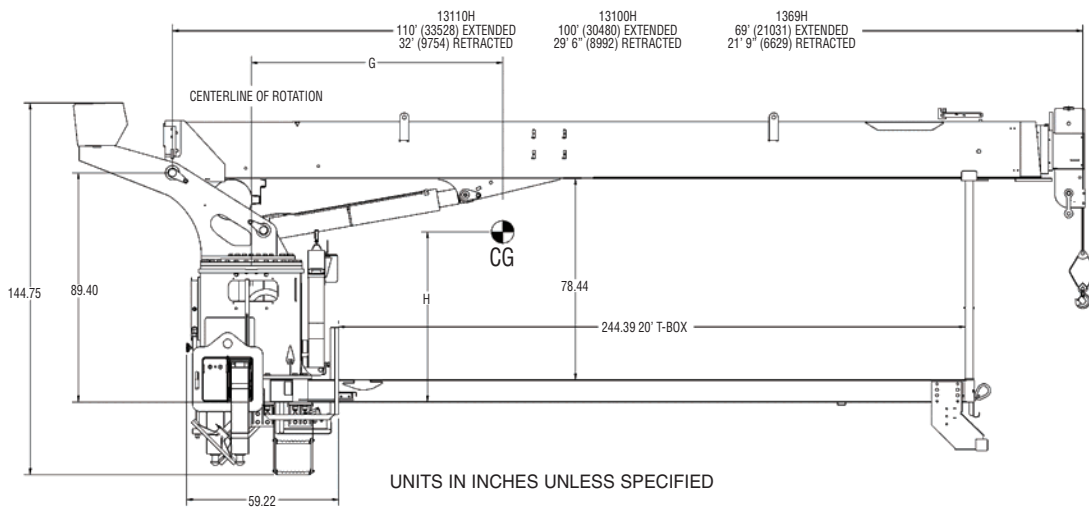
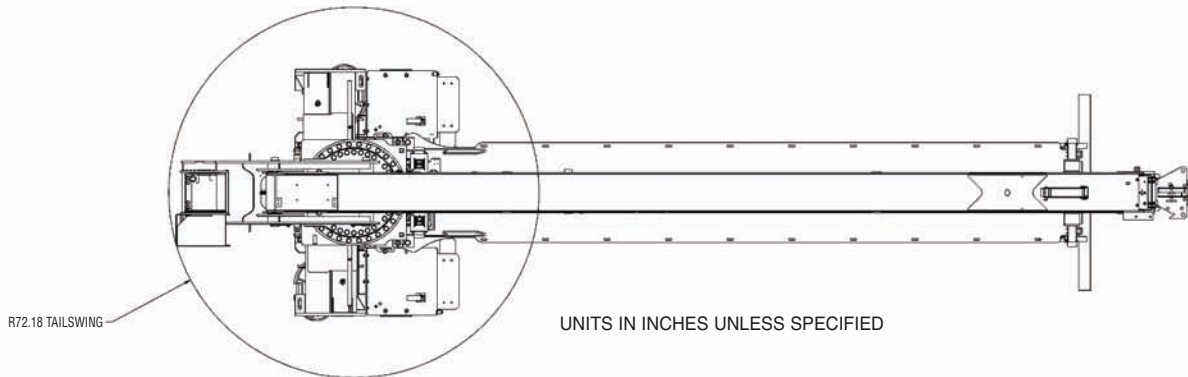
Steel Tool Box Options

Bulkhead-steel for super-duty beds

• **BHSD**

STERLING CRANE

dimensions



G CENTER OF GRAVITY FROM CENTERLINE				
Series	G	H	DRY WEIGHT*	W/OIL WEIGHT*
1369H	61.2 in [155 cm]	59.8 in [152 cm]	18,462 lb [8,374 kg]	19,196 lb [8,707 kg]
13100H	89.1 in [226 cm]	64.1 in [163 cm]	20,608 lb [9,348 kg]	21,342 lb [9,681 kg]
13110H	98.7 in [251 cm]	65.4 in [166 cm]	21,346 lb [9,682 kg]	22,080 lb [10,015 kg]

* ABOVE WEIGHTS DO NOT INCLUDE RESERVOIR, RSOD, JIB, PTO, PUMP, BED

** WEIGHT INCLUDES BOOM, WINCH, ROPE, TURRET, LIFT CYLINDER, FRAME, CONTROLS, OUTRIGGERS, PLATFORMS, TORQUE BOX, BOOM REST, BUMPER, DOWNHAUL WEIGHT

UNITS IN INCHES UNLESS SPECIFIED