

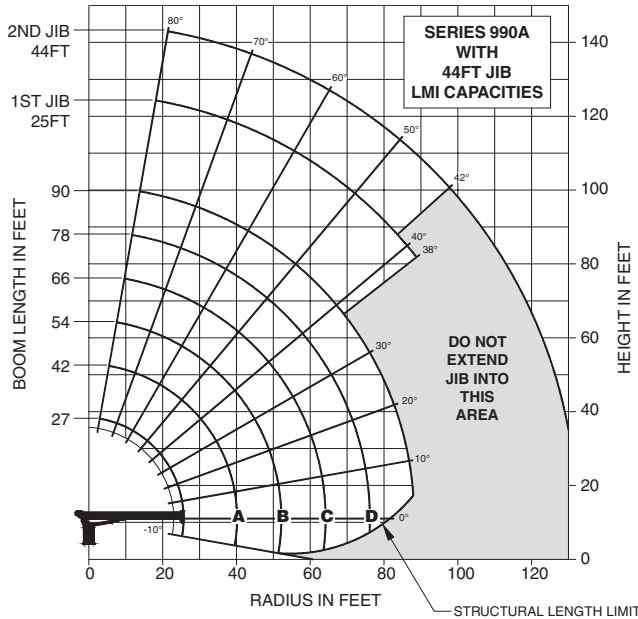
STERLING CRANE



LIFTING CHARTS - Boom Trucks

NATIONAL MODEL 990A - 26 TON CAPACITY

Load Chart Rating: Series 990A (27.4 m) Boom with 44 ft. (13.4 m) Jib



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 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 990A WITH 44' JIB

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.
3. Capacities do not exceed 85% stability.
4. Shaded areas are structurally limited capacities.

LOADLINE EQUIPMENT DEDUCT

Downhaul weight	_____	150lb. (68kg)
One sheave block	_____	305lb. (138kg)
Two sheave block	_____	355lb. (161kg)
Three sheave block	_____	575lb. (260kg)

Load Chart Rating: Series 990A (27.4 m) Boom with 44 ft. (13.4 m) Jib

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	27FT BOOM (lb)	LOADED BOOM ANGLE	A 42FT BOOM (lb)	LOADED BOOM ANGLE	B 54FT BOOM (lb)	LOADED BOOM ANGLE	C 66FT BOOM (lb)	LOADED BOOM ANGLE	D 78FT BOOM (lb)	LOADED BOOM ANGLE	90FT BOOM (lb)	LOAD RADIUS (FEET)	LOADED BOOM ANGLE	25FT JIB (lb)	LOADED BOOM ANGLE	44FT JIB (lb)
5	77	52,000											30	75	4,850	77.5	3,300
8	70.5	35,900											35	72.5	4,350	75	3,250
10	66	30,600	75	26,900	79	25,300							40	70	3,900	73	3,200
12	60.5	25,900	72	23,000	77	21,600							45	67	3,500	71	3,050
14	55.5	21,600	69	20,100	74	20,100	78	18,100					50	64.5	3,150	69	2,750
16	50	19,300	66	17,800	72.5	16,700	76	15,700	78.5	14,700			55	61.5	2,800	66.5	2,400
20	38.5	14,800	59.5	14,600	67.5	14,500	72.5	13,600	75.5	12,500	78	11,500	60	59	2,500	64	2,150
25			51.5	11,300	61.5	11,000	68	11,000	71.5	10,300	74.5	9,300	65	56	2,200	61.5	1,900
30			41.5	9,050	55	8,900	62.5	9,000	67.5	8,600	71	7,800	70	52.5	1,750	59	1,700
35			30	7,050	48.5	7,350	58	7,200	64	7,150	68	6,700	75	49	1,400	56.5	1,550
40					41	6,100	52.5	6,000	59.5	5,850	64.5	5,850	80	45.5	1,100	54	1,400
45					31.5	4,900	46.5	5,100	55	4,900	61	4,900	85	42	800	51.5	1,250
50					17.5	3,850	40	4,350	50.5	4,250	57	4,250	90	38	550	48	1,000
55							32.5	3,550	45	3,650	53	3,700	95			45	800
60							22	2,650	39.5	3,100	48.5	3,250	100			42	600
65									33	2,550	44	2,800					
70									24.5	1,950	39	2,350					
75									11	1,050	33.5	1,950					
80											26.5	1,550					
85											16.5	950					
0		6,400	0	3,000	0	1,600	0	700									
ADD TO CAPACITIES WHEN NO JIB STOWED (lb)		700		400		300		200		200		100					

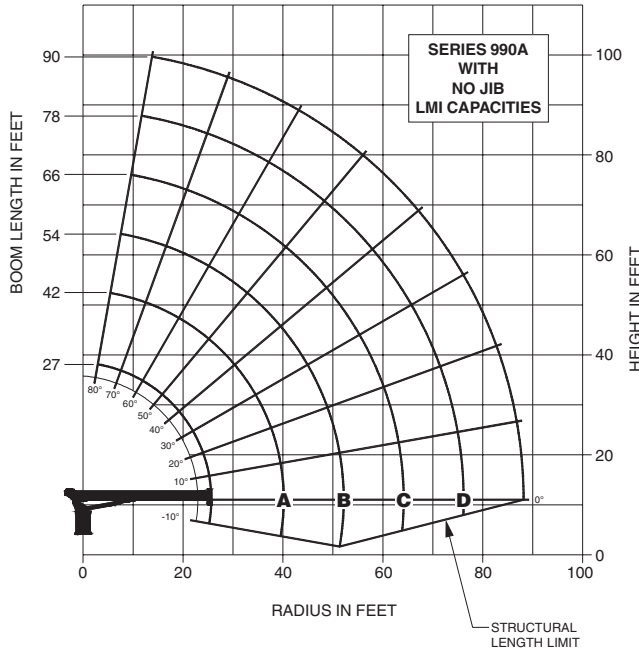
LOADLINE EQUIPMENT DEDUCT (lb)

Downhaul weight	_____	150lb. (68kg)
One sheave block	_____	305lb. (138kg)
Two sheave block	_____	355lb. (161kg)
Three sheave block	_____	575lb. (260kg)

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

Load Chart Rating: Series 990A (27.4 m) Boom



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 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 990A/
NO JIB**

LOADLINE EQUIPMENT DEDUCT

Downhaul weight	_____	150lb. (68kg)
One sheave block	_____	305lb. (138kg)
Two sheave block	_____	355lb. (161kg)
Three sheave block	_____	575lb. (260kg)

Load Chart Rating: Series 990A (27.4 m) Boom

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	27FT BOOM (lb)	LOADED BOOM ANGLE	A 42FT BOOM (lb)	LOADED BOOM ANGLE	B 54FT BOOM (lb)	LOADED BOOM ANGLE	C 66FT BOOM (lb)	LOADED BOOM ANGLE	D 78FT BOOM (lb)	LOADED BOOM ANGLE	90FT BOOM (lb)
5	77	52,000										
8	70.5	36,600										
10	66	31,300	75	27,300	79	25,600						
12	60.5	26,600	72	23,400	77	21,900						
14	55.5	22,300	69	20,500	74	20,400	78	18,300				
16	50	20,000	66	18,200	72.5	17,000	76	15,900	78.5	14,900		
20	38.5	15,500	59.5	15,000	67.5	14,800	72.5	13,800	75.5	12,700	78	11,600
25			51.5	11,700	61.5	11,300	68	11,200	71.5	10,500	74.5	9,400
30			41.5	9,450	55	9,200	62.5	9,200	67.5	8,800	71	7,900
35			30	7,450	48.5	7,650	58	7,400	64	7,350	68	6,800
40					41	6,400	52.5	6,200	59.5	6,050	64.5	5,950
45					31.5	5,200	46.5	5,300	55	5,100	61	5,000
50					17.5	4,150	40	4,550	50.5	4,450	57	4,350
55							32.5	3,750	45	3,850	53	3,800
60							22	2,850	39.5	3,300	48.5	3,350
65									33	2,750	44	2,900
70									24.5	2,150	39	2,450
75									11	1,250	33.5	2,050
80											26.5	1,650
85											16.5	1,050
	0	7,100	0	3,400	0	1,900	0	900				

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.

accessories

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 (R4 functions)

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 (1043 kg) minimum to operate this accessory.

- BSA-1
- BSA-R1 (provides rotation)

Hydraulic Oil Cooler –

Automatic, self-contained radiator system with electric fans, cools oil under continuous duty-cycle operations.

- OC

Continuous Rotation –

Allows rotation of turret/boom without stop.

- CR

Single Front Outrigger –

Center mount front stabilizer with 25" vertical stroke.

- SFO

Outrigger Motion Alarms –

Available for "A" frame O/R only, not stabilizers.

Available for "A" frame outriggers (Std mount only) and RSOD stabilizers.

- OMA-1
- OMA-2

Hour Meter –

Hour meter in truck cab to record crane operation hours.

- HRM

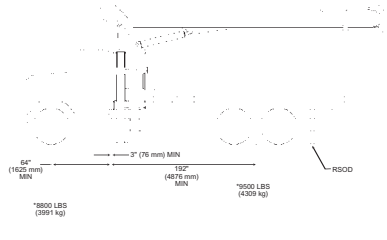
Steel Tool Box Options –

Spanish-Language Danger Decals, Control Knobs, and Operators' Manuals –

- SDD
- SOM

mounting configurations

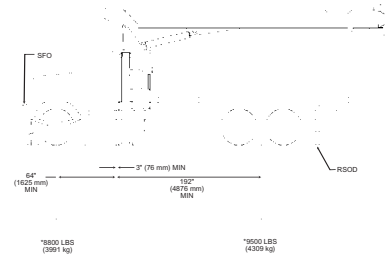
The configurations are based on the Series 900A with an 85% stability factor. The complete unit must be installed in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements since individual truck chassis vary.



Configuration 1 – 9103A

Working area	.....180
Gross Axle Weight Rating Front	.....16,000 lb (7257 kg)
Gross Axle Weight Rating Rear	.....34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	.....50,000 lb (22 679 kg)
Wheelbase	.....256 in (650 cm)
Cab to Axle/trunnion (CA/CT)	.....192 in (488 cm)
Frame Section Modulus (SM) under crane: 110,000 PSI (758 MPa)	.....20 in ³ (327 cm ³)
Frame Section Modulus (SM) over rear stabilizers: 110,000 PSI (758 MPa)	.....15 in ³ (245 cm ³)
Stability Weight, Front	.....8,800 lb (3991 kg) minimum*
Stability Weight, Rear	.....9,500 lb (4309 kg) minimum*
Estimated Average Final Weight	.....42,600 lb (19 323 kg)

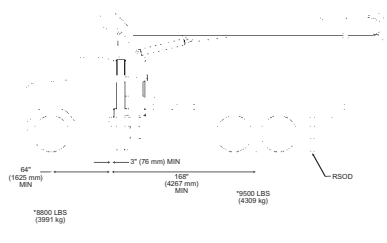
This configuration allows the installation of the Series 9103A on a chassis by using the subbase for a 22-ft (6.71-m) bed.



Configuration 2 – 9103A with SFO (Extended front frame rails required for SFO installation.)

Working area	.....360
Gross Axle Weight Rating Front	.....16,000 lb (7257 kg)
Gross Axle Weight Rating Rear	.....34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	.....50,000 lb (22 679 kg)
Wheelbase	.....256 in (650 cm)
Cab to Axle/trunnion (CA/CT)	.....192 in (488 cm)
Frame Section Modulus (SM) under crane: 110,000 PSI (758 MPa)	.....20 in ³ (327 cm ³)
Frame Section Modulus (SM) over rear stabilizers: 110,000 PSI (758 MPa)	.....15 in ³ (245 cm ³)
Stability Weight, Front	.....8,800 lb (3991 kg) minimum*
Stability Weight, Rear	.....9,500 lb (4309 kg) minimum*
Estimated Average Final Weight	.....42,900 lb (19 459 kg)

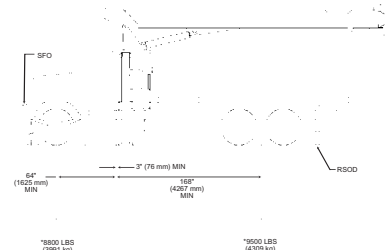
This mount requires front stabilizer for full capacity 360° around the truck. Front stabilizer gives the machine a solid base, helping the operator control loads. This configuration requires a 22-ft (6.71-m) bed.



Configuration 3 – 990A / 969A

Working area	.....180
Gross Axle Weight Rating Front	.....16,000 lb (7257 kg)
Gross Axle Weight Rating Rear	.....34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	.....50,000 lb (22 679 kg)
Wheelbase	.....232 in (589 cm)
Cab to Axle/trunnion (CA/CT)	.....168 in (427 cm)
Frame Section Modulus (SM) under crane: 110,000 PSI (758 MPa)	.....20 in ³ (327 cm ³)
Frame Section Modulus (SM) over rear stabilizers: 110,000 PSI (758 MPa)	.....15 in ³ (245 cm ³)
Stability Weight, Front	.....8,800 lb (3991 kg) minimum*
Stability Weight, Rear	.....9,500 lb (4309 kg) minimum*
Estimated Average Final Weight	.....40,600 lb (18 415 kg)

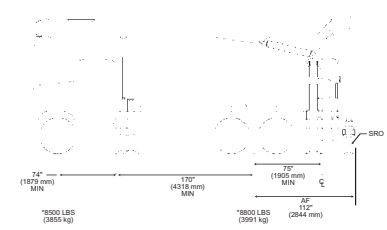
This configuration allows the installation of the Series 990A or 969A on a chassis with a small frame by using a subbase for a 20-ft (6.10-m) bed or a different subbase for a 22-ft (6.71-m) bed.



Configuration 4 – 990A / 969A with SFO (Extended front frame rails required for SFO installation.)

Working area	.....360
Gross Axle Weight Rating Front	.....16,000 lb (7257 kg)
Gross Axle Weight Rating Rear	.....34,000 lb (15 422 kg)
Gross Vehicle Weight Rating	.....50,000 lb (22 679 kg)
Wheelbase	.....232 in (589 cm)
Cab to Axle/trunnion (CA/CT)	.....168 in (427 cm)
Frame Section Modulus (SM) under crane: 110,000 PSI (758 MPa)	.....20 in ³ (327 cm ³)
Frame Section Modulus (SM) over rear stabilizers: 110,000 PSI (758 MPa)	.....15 in ³ (245 cm ³)
Stability Weight, Front	.....8,800 lb (3991 kg) minimum*
Stability Weight, Rear	.....9,500 lb (4309 kg) minimum*
Estimated Average Final Weight	.....40,900 lb (18 551 kg)

This configuration allows the installation of the 990A or 969A on a chassis by using a subbase for a 20-ft (6.10-m) bed or a different subbase for a 22-ft (6.71-m) bed. This mount requires front stabilizer for full capacity 360° around the truck. Front stabilizer gives the machine a solid base, helping the operator control loads.



Configuration 5 – Rear Mount

Working area	.....360
Gross Axle Weight Rating Front	.....16,000 lb (7257 kg)
Gross Axle Weight Rating Rear	.....40,000 lb (18 143 kg)
Gross Vehicle Weight Rating	.....56,000 lb (25 401 kg)
Wheelbase	.....244 in (620 cm)
Cab to Axle/trunnion (CA/CT)	.....MINIMUM 170 in (432 cm)
Frame Section Modulus (SM) under crane: 110,000 PSI (758 MPa)	.....15.9 in ³ (260 cm ³)
Stability Weight, Front	.....8,500 lb (3855 kg) minimum*
Stability Weight, Rear	.....7,000 lb (3991 kg) minimum*
Estimated Average Final Weight	.....43,000 lb (19 504 kg)

This configuration allows the rear-mount installation of the Series 900A. This configuration is 360° stable and allows the effective use of close working area to lift the heavier capacity loads. Maximum bed length is 16 ft (4.87 m).

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 injection requires EET engine remote throttle
- All mounting data is based on a National Series 900A with 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 with optional remote control

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

specifications

Boom and Jib Combinations Data

Available in three basic models.

Model 969A – Equipped with a 27 ft 6 in - 69 ft 2 in (8.38-21.08m) three-section boom. Maximum tip height 78 ft (24 m). This model can be equipped with a 25-44 ft (7.62-13.41m) two-section jib. Maximum tip height w/44 ft (13.41m) jib is 123 ft 9 in. (37.71m).

27'6" - 69'2" (8.38-21.08 m) three-section boom **9FJ44M** 25-44 ft (7.62-13.41 m) two-section jib



Model 990A – Equipped with a 27 ft 6 in - 90 ft 6 in (8.38-27.58 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 143 ft (43.58 m).

27'6" - 90'6" (8.38-27.58 m) four-section boom **9FJ44M** 25-44 ft (7.62-13.41 m) two-section jib



Model 9103A – Equipped with a 30 ft 9 in - 102 ft 10 in (9.37-31.34 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 155 ft (47.24 m).

30'9" - 102'10" (9.37-31.34 m) four-section boom **9FJ44M** 25-44 ft (7.62-13.41 m) two-section jib










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

900A Winch Data

900A Winch Data

- 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
- Hook blocks are rated at maximum capacity for the block. **Do not exceed rated cable pull with any block.**

900A Winch Data			1 Part Line	2 Part Line	3 Part Line	4 Part Line	5 Part Line	6 Part Line	7 Part Line
									
			MAX. PULL 7,700 lb	MAX. PULL 15,400 lb	MAX. PULL 23,100 lb	MAX. PULL 30,800 lb	MAX. PULL 38,500 lb	MAX. PULL 46,200 lb	MAX. PULL 52,000 lb
Winch	Cable Supplied	Avg. 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" Diameter Rotation Resistant	38,500 lb (17,463 kg)	7,700 lb (3,492 kg) 135 fpm (41 m/m)	15,400 lb (6,985 kg) 68 fpm (20 m/m)	23,100 lb (10,477 kg) 45 fpm (13 m/m)	30,800 lb (13,970 kg) 34 fpm (10 m/m)	38,500 lb (17,463 kg) 27 fpm (8 m/m)	46,200 lb (20,955 kg) 23 fpm (7 m/m)	52,000 lb (23,586 kg) 19 fpm (5 m/m)
With "Burst-of-Speed"	Same as corresponding cable data shown above		3,000 lb (1,360 kg) 206 fpm (62 m/m)	6,000 lb (2,721 kg) 103 fpm (31 m/m)	9,000 lb (4,082 kg) 64 fpm (19.51 m/m)	12,000 lb (5,443 kg) 51 fpm (15 m/m)	15,000 lb (6,803 kg) 41 fpm (12 m/m)	18,000 lb (8,164 kg) 34 fpm (10 m/m)	21,000 lb (9,525 kg) 29 fpm (8 m/m)

Winch	Bare Drum Pull	Allowable Cable Pull
With standard rotation resistant rope	10,200 lb (4627 kg)	7,700 lb (3493 kg)

Block Type	Rating	Weight
Downhaul Weight	3.85 ton (3.49 t)	150 lb (68 kg)
1 Sheave Block	11.55 ton (10.48 t)	305 lb (138 kg)
2 Sheave Block	19.25 ton (17.46 t)	355 lb (161 kg)

STERLING CRANE

dimensions specifications

Dimensions Specifications

ALL DIMENSIONS IN INCHES (MM)
UNLESS OTHERWISE SPECIFIED

SERIES	RETRACTED LENGTH	EXTENDED LENGTH	G	3877/41	WITH DILLV/1000
	INCHES (CM)	INCHES (CM)		LB (KG)	LB (KG)
9690A	27'-6"	69'-2"	87 (221)	19,480 (8,899)	21,000 (9,572)
9100A	27'-6"	90'-6"	94 (238)	20,025 (9,236)	21,618 (9,802)
9103A	30'-5"	118'-10"	116 (296)	22,150 (10,047)	22,735 (10,312)

**INCLUDES STANDARD 2X SUBBASE

