

Series 900A

product guide

features

- 103' (31.4 m) Four-Section Boom
- 26 Ton (23.6 mt) Rating
- Self-lubricating "Easy Glide" Wear Pads
- Internal Anti-two-block



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features

Why Buy a National Series 900A?

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*Product may be shown with optional equipment.

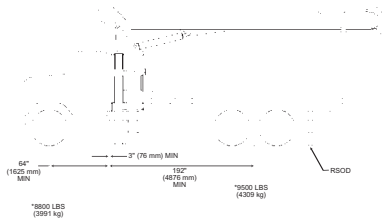
- **26-ton (23.6 mt) Rating** – The 900A provides a 26-ton (23.6 mt) capacity.
- **New 103 ft. (31.4 m) Four-section Boom** – The longest in its size range. The longer boom allows the operator to perform more lifts without the use of a jib, reducing setup time and improving efficiency.
- **Self-lubricating “Easy Glide” Wear Pads** – The self-lubricating pads, standard on the 900A reduce the conditions that cause boom chatter and vibration. The net result is smoother crane operation.
- **Internal Anti-two-block** – The patent-pending design, standard on the 900A eliminates the external reel and wire. No more snagging reel or wire on obstructions.
- **Adjustable Swing Speed** – A control knob located on the swing motor brake release valve can be easily adjusted to the crane operator’s swing speed preference.
- **Speedy-reeve Boom Tip and Sheave Blocks** – These standard features simplify rigging changes.
- **Pre-painted Components** – Painting crane components before assembly reduces the possibility of rust, improves serviceability and enhances the appearance of the machine.
- **Burst-of-Speed Winch** – Provides faster winch payout and pickup of unloaded cable.
- **Electronic versions of manuals available through Manitowoc Crane CARE.**
- **Improved Serviceability** –
 - A removable winch allows the internal telescoping cylinder to be removed quickly, without dismantling the boom.
 - Bearings on the boom extend and retract cables can be greased through access holes in the boom side plates.
 - Internal anti-two-block wire routing eliminates damage potential.
 - The boom sheave case is open, allowing access to replace the internal anti-two-block wire and to observe internal boom components.
 - Pre-paint reduces rust.
 - Internal boom parts have been reduced, decreasing service time when rebuilding the machine.
- **National Crane Is the Market Leader** – National is number one in the production of commercial truck-mounted boom trucks, with more than 35,000 units sold. National has many programs and people directly and indirectly involved to provide our customers with reliable products.
 - National has the boom truck industry’s leading test program. Every structural part of the crane is fully life cycle tested 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-millionth of an inch. The net result is that weak areas are caught in test, not on job sites where costly downtime occurs.
 - All outrigger, lift and telescoping cylinders are manufactured to National Crane Designs, so that the seals, packing glands, and end plates are traced for accurate shipment of replacement parts.
 - National has a formalized quality program and is ISO 9001 approved.
 - Parts are available for all National Crane machines for the life of the crane.
- **National Crane Is a Quality Product That Will Provide Years of Service**
 - Parts are available for all National Crane machines, even if they are over 20 years old.

- 26-ton (23.6-mt) maximum capacity
- 156 ft. (47.5 m) maximum vertical reach*
- 112 ft. (34.1 m) maximum vertical hydraulic reach*
- Hydraulic Capacity Alert system (HCA) or Load Moment Indicator System (LMI)
- Proportional boom extension
- High performance planetary winch
- Heavy-duty triple pump hydraulics
- * Maximum vertical reach is ground-level to boom tip height at maximum extension and angle with outriggers/stabilizers fully extended.

900A

mounting configurations

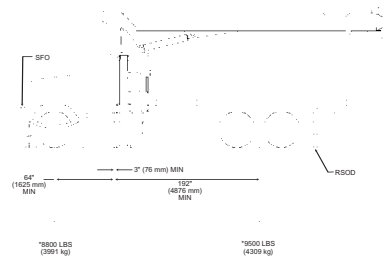
The configurations are based on the Series 900A with an 85% stability factor. The complete unit must be installed in accordance with factory requirements and a test performed to determine actual stability and counterweight requirements since individual truck chassis vary.



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)

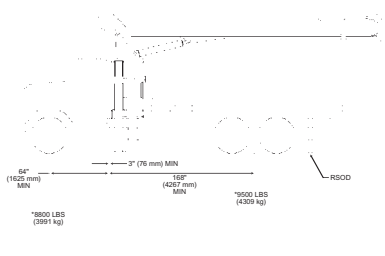
This configuration allows the installation of the Series 9103A on a chassis by using the subbase for a 22-ft (6.71-m) bed.



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)

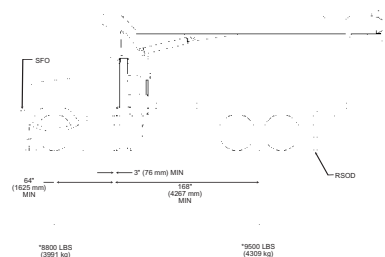
This mount requires front stabilizer for full capacity 360 around the truck. Front stabilizer gives the machine a solid base, helping the operator control loads.
This configuration requires a 22-ft (6.71-m) bed.



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)

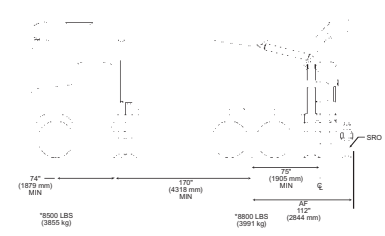
This configuration allows the installation of the Series 990A or 969A on a chassis with a small frame by using a subbase for a 20-ft (6.10-m) bed or a different subbase for a 22-ft (6.71-m) bed.



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.

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900A

specifications

Boom and Jib Combinations Data

Available in three basic models.

- 4 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.**

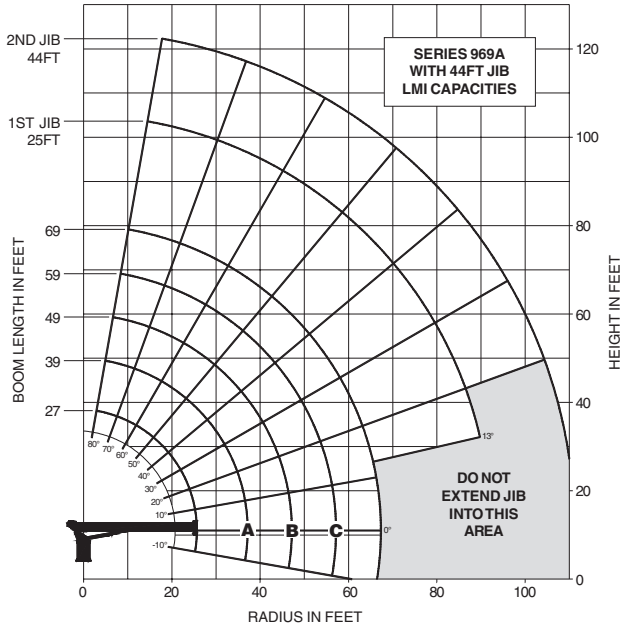
900A Winch Data			1 Part Line	2 Part Line	3 Part Line	4 Part Line	5 Part Line	6 Part Line	7 Part Line
									
			MAX. PULL 7,700 lb	MAX. PULL 15,400 lb	MAX. PULL 23,100 lb	MAX. PULL 30,800 lb	MAX. PULL 38,500 lb	MAX. PULL 46,200 lb	MAX. PULL 52,000 lb
Winch	Cable Supplied	Avg. Breaking Strength	Lift 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 rope10,200 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)

900A

Load Chart Rating: Series 969A (21.0 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 969A
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 969A (21.0 m) Boom with 44 ft. (13.4 m) Jib

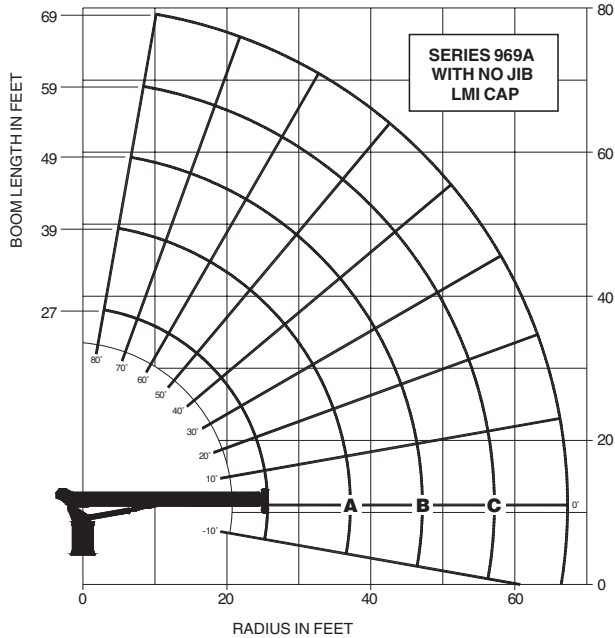
LOAD RADIUS (FEET)	LOADED BOOM ANGLE	27FT BOOM (lb)	LOADED BOOM ANGLE	A 39FT BOOM (lb)	LOADED BOOM ANGLE	B 49FT BOOM (lb)	LOADED BOOM ANGLE	C 59FT BOOM (lb)	LOADED BOOM ANGLE	69FT BOOM (lb)	LOAD RADIUS (FEET)	LOADED BOOM ANGLE	25FT JIB (lb)	LOADED BOOM ANGLE	44FT JIB (lb)
5	77	52,000									25	74.5	7,700	77.5	4,500
8	70	36,500									30	71	6,800	74.5	4,100
10	65.5	31,000									35	68	5,900	72	3,800
12	60.5	26,500	70.5	24,700	75	23,900	78	22,800			40	64.5	5,100	69.5	3,500
14	55.5	21,600	67	21,200	72.5	20,200	76	19,100	78	17,600	45	61	4,400	67	3,200
16	51	19,300	63.5	16,800	70	16,200	73.5	17,000	76.5	15,600	50	57.5	3,850	64	3,000
20	37.5	15,000	57	15,200	64.5	15,200	69.5	14,800	73	13,500	55	54	3,400	61	2,800
25			47	11,600	58	11,700	64.5	11,800	68.5	11,400	60	50	3,000	58	2,600
30			35.5	9,250	50.5	9,350	58.5	9,450	64	9,550	65	45.5	2,600	56	2,400
35			19.5	7,100	42	7,600	52.5	7,700	59.5	7,800	70	41	2,250	52	2,150
40					32.5	6,300	46.5	6,400	54.5	6,500	75	36	1,950	48.5	1,950
45					18.5	5,050	39	5,150	49	5,250	80	30	1,650	45	1,750
50							30	4,200	43	4,300	85	23	1,350	41	1,550
55							16.5	3,400	36.5	3,700	90	13	950	36.5	1,350
60									28	3,050	95			32	1,150
65									16	2,450	100			26.5	950
	0	6,500	0	3,700	0	2,400	0	1,650	0	1,050	105			20	750
ADD TO CAPACITIES WHEN NO JIB STOWED (lb)		700		500		400		300		200					

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 Chart Rating: Series 969A (21.0m) Boom

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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 969A/
NO JIB**

NOTE:

1. Capacities do not exceed 85% stability.
2. 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 969A (21.0m) Boom

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	27FT BOOM (lb)	LOADED BOOM ANGLE	A 39FT BOOM (lb)	LOADED BOOM ANGLE	B 49FT BOOM (lb)	LOADED BOOM ANGLE	C 59FT BOOM (lb)	LOADED BOOM ANGLE	69FT BOOM (lb)
5	77	52,000								
8	70	37,200								
10	65.5	31,700								
12	60.5	27,200	70.5	25,200	75	24,300	78	23,100		
14	55.5	22,300	67	21,700	72.5	20,600	76	19,400	78	17,800
16	51	20,000	63.5	17,300	70	16,600	73.5	17,300	76.5	15,800
20	37.5	15,700	57	15,700	64.5	15,600	69.5	15,100	73	13,700
25			47	12,100	58	12,100	64.5	12,100	68.5	11,600
30			35.5	9,750	50.5	9,750	58.5	9,750	64	9,750
35			19.5	7,600	42	8,000	52.5	8,000	59.5	8,000
40					32.5	6,700	46.5	6,700	54.5	6,700
45					18	5,450	39	5,450	49	5,450
50							30	4,500	43	4,500
55							16.5	3,700	36.5	3,900
60									28	3,250
65									16	2,650
	0	7,200	0	4,200	0	2,800	0	1,950	0	1,250

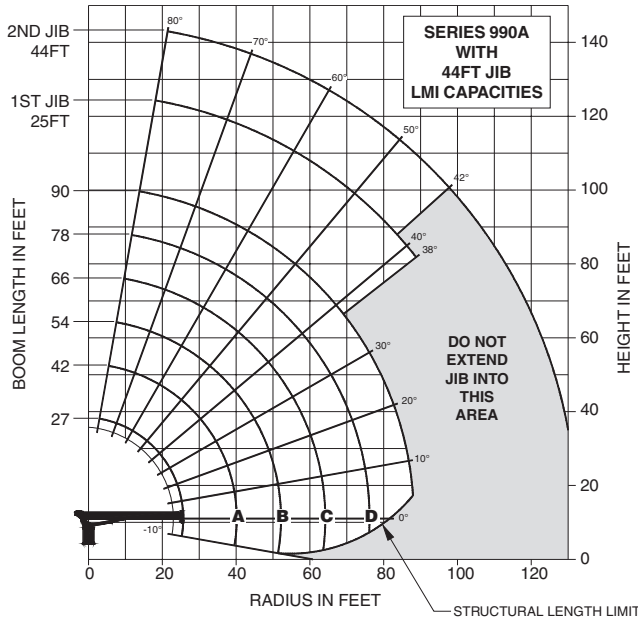
THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

900A

capacities

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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)

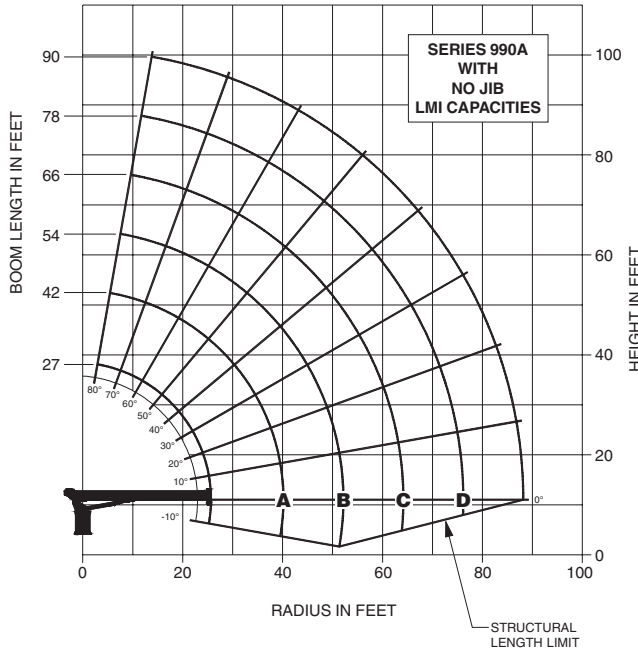
THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE. The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

990A

capacities

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

8



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)

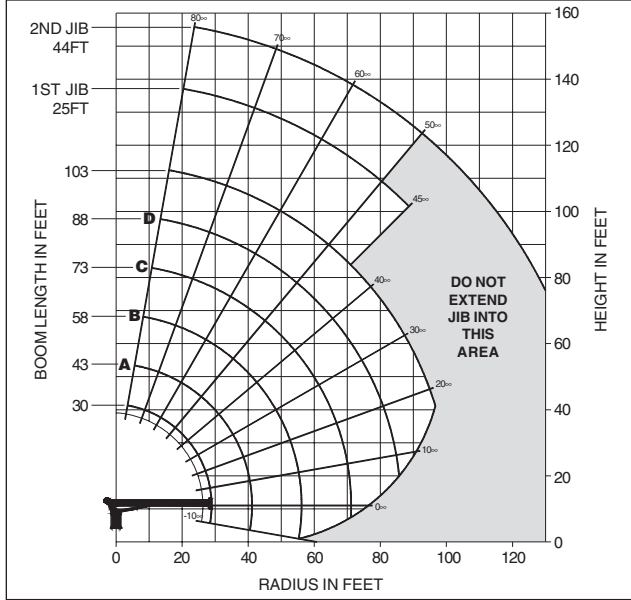
Load Chart Rating: Series 990A (27.4 m) Boom

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.

990A

Load Chart Rating: Series 9103A (31.4 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 9103A
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 9103A (31.4 m) Boom with 44 ft. (13.4 m) Jib

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT BOOM (lb)	LOADED BOOM ANGLE	A 43FT BOOM (lb)	LOADED BOOM ANGLE	B 58FT BOOM (lb)	LOADED BOOM ANGLE	C 73FT BOOM (lb)	LOADED BOOM ANGLE	D 88FT BOOM (lb)	LOADED BOOM ANGLE	103FT BOOM (lb)	LOAD RADIUS (FEET)	LOADED BOOM ANGLE	25FT JIB (lb)	LOADED BOOM ANGLE	44FT JIB (lb)
5	78.5	52,000											30	76.5	3,950		
8	72.5	34,850											35	74.5	3,450	76.5	2,550
10	68.5	29,050	75.5	26,400	80	24,950							40	72	3,050	75	2,500
12	64.5	24,750	72.5	22,500	78	21,250							45	70	2,600	73	2,450
14	60	21,250	69.5	19,600	76	19,350	79.5	17,750					50	67.5	2,250	71	2,250
16	55.5	18,950	67	17,300	74	16,350	78	15,350	80	14,300			55	65	1,950	69	1,850
20	45	14,350	60.5	14,000	69	13,750	74	12,650	77.5	11,700	80	10,550	60	62.5	1,800	67	1,650
25			52	10,800	63.5	10,550	70	10,150	74	9,400	77	9,100	65	60	1,550	64.5	1,350
30			42.5	8,500	57.5	8,500	65.5	8,350	70.5	7,750	74.5	7,150	70	57.5	1,300	62.5	1,200
35			32.5	6,500	52.5	6,900	62	6,800	67.5	6,400	71.5	6,050	75	54.5	1,100	60	1,050
40					45.5	5,650	57	5,600	64	5,450	68.5	5,150	80	51.5	900	58	950
45					38	4,500	52	4,700	60	4,600	65.5	4,500	85	48.5	700	55.5	900
50					28	3,450	46.5	3,950	56	3,950	62	3,900	90	45.5	450	53	750
55							40.5	3,150	52	3,300	59	3,350	95			50.5	600
60							34	2,550	47.5	2,750	55.5	2,900					
65									42.5	2,200	52	2,450					
70									37.5	1,750	48	2,050					
75									31	1,350	44	1,650					
80											39.5	1,250					
85											34.5	900					
	0	4,500	0	2,200	0	800											
ADD TO CAPACITIES WHEN NO JIB STOWED (lb)		850		600		450		350		300		250					

LOADLINE EQUIPMENT DEDUCT (lb)	
Downhaul weight	150 lb (68 Kg)
One sheave block	305 lb (138 Kg)
Two sheave block	355 lb (161 Kg)
Three sheave block	575 lb (260 Kg)

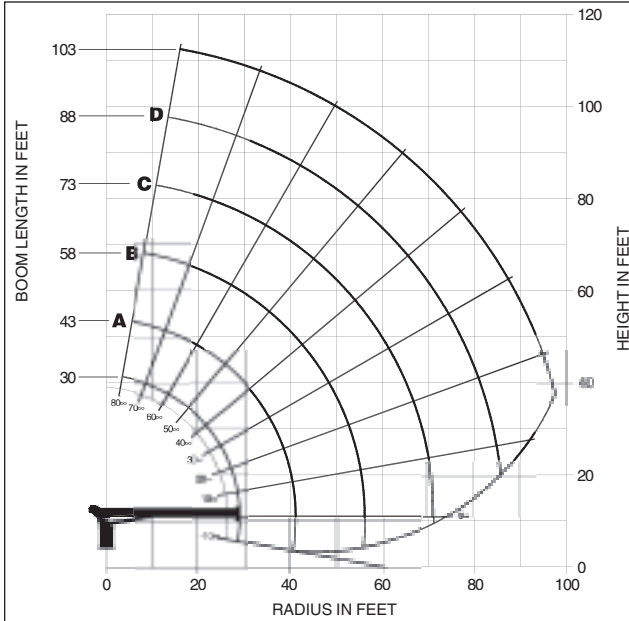
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900A

capacities

Load Chart Rating: Series 9103A (31.4 m) Boom

10



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 9103A/
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 9103A (31.4 m) Boom

LOAD RADIUS (FEET)	LOADED BOOM ANGLE	30FT BOOM (lb)	LOADED BOOM ANGLE	A 43FT BOOM (lb)	LOADED BOOM ANGLE	B 58FT BOOM (lb)	LOADED BOOM ANGLE	C 73FT BOOM (lb)	LOADED BOOM ANGLE	D 88FT BOOM (lb)	LOADED BOOM ANGLE	103FT BOOM (lb)
5	78.5	52,000										
8	72.5	35,700										
10	68.5	29,900	75.5	27,000	80	25,400						
12	64.5	25,600	72.5	23,100	78	21,700						
14	60	22,100	69.5	20,200	76	19,800	79.5	18,100				
16	55.5	19,800	67	17,900	74	16,800	78	15,700	80	14,600		
20	45	15,200	60.5	14,600	69	14,200	74	13,000	77.5	12,000	80	10,800
25			52	11,400	63.5	11,000	70	10,500	74	9,700	77	9,350
30			42.5	9,100	57.5	8,950	65.5	8,700	70.5	8,050	74.5	7,400
35			32.5	7,100	52.5	7,350	62	7,150	67.5	6,700	71.5	6,300
40					45.5	6,100	57	5,950	64	5,750	68.5	5,400
45					38	4,950	52	5,050	60	4,900	65.5	4,750
50					28	3,900	46.5	4,300	56	4,250	62	4,150
55							40.5	3,500	52	3,600	59	3,600
60							34	2,900	47.5	3,050	55.5	3,150
65									42.5	2,500	52	2,700
70									37.5	2,050	48	2,300
75									31	1,650	44	1,900
80											39.5	1,500
85											34.5	1,150
	0	5,350	0	2,800	0	1,250						

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900A

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

dimensions specifications

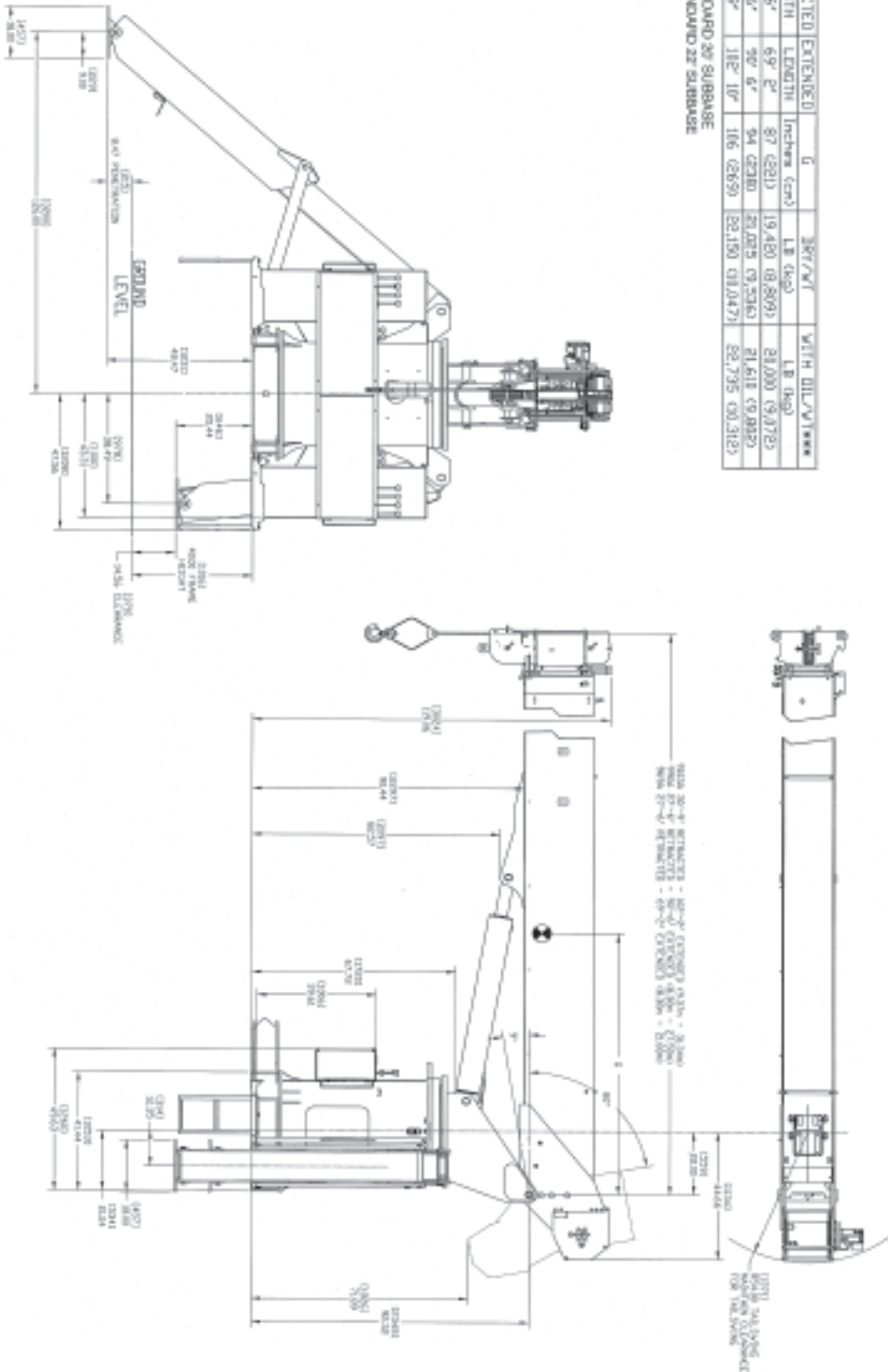
Dimensions Specifications

12

ALL DIMENSIONS IN INCHES (MM)
UNLESS OTHERWISE SPECIFIED

SERIES	RETRACTED LENGTH	EXTENDED LENGTH	G	3877x1	WITH DILVA1000
	INCHES	INCHES	(CM)	LB (KG)	LB (KG)
9690A	27'-6"	69'-2"	87 (221)	19,480 (8,809)	21,000 (9,572)
9190A	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
INCLUDES STANDARD 2X SUBBASE



900A

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