National Crane Series NBT50

Preliminary Product Guide

Features

- 31,1 m (102 ft) four-section full power boom and optional 39,01 m (128 ft) five-section full power boom
- 45,36 t (50 USt) at 2,44 (8 ft) and 49,90 t (55 USt) at 2,44 (8 ft) rating
- Self-lubricating Easy Glide wear pads
- Tailswing counterweight
- Outrigger design eliminates need for SFO

Features

National Crane Series NBT50

- 45,36 t (50 USt) maximum capacity
- 42,10 m (138 ft) maximum tip height (main boom)
- 55,78 m (183 ft) maximum tip height (boom with jib)

National Crane NBT55

- 49,90 t (55 USt) maximum capacity
- 42,10 m (138 ft) maximum tip height (main boom)
- 55,78 m (183 ft) maximum tip height (boom with jib)

Deluxe operator's cab

The Series NBT50 operator's cab includes all-steel construction with acoustical lining and tinted glass throughout, air conditioning, deluxe seat with arm rest mounted single-axis electric controllers, windshield and sliding skylight with electric wipers, diesel heater with defroster, circulating fan, fire extinguisher, and dual cab mounted work lights.

Outriggers

Equipped with both sides of sub frame and in-cab outrigger controls. The NBT50 Series outriggers allow quick and easy crane set-up and includes a new outrigger beam position sensing system that aids the operator in selecting the right load chart based on the crane's outrigger footprint. The new front outrigger box has a new X-shaped footprint that eliminates the need for a single front outrigger.

Dimensions:
Full span
Front: 7,09 m (23 ft 3 in)
Rear: 7,39 m (24 ft 3 in)

Mid span
Front: 4,72 m (15 ft 6 in)
Rear: 4,90 m (16 ft 1 in)

Retracted-front and rear
2,39 m(7 ft 10 in)

Overload protection

All National Crane boom trucks are equipped with overload protection. A Load Moment Indicator (LMI) is standard on all NBT50 Series machines. The LCD color display is visible in full or low light and displays all crane load lifting values simultaneously. The LMI includes Work Area Definition System (WADS).

Four or five-section boom

A four-section 31,1 m (102 ft) boom comes standard and can be equipped with a 7,9 m (26 ft) or a 13,7 m (45 ft jib). The NBT50 Series also offers a five-section (39,01 m) 128 ft optional boom which can be equipped with either a 7,9 m (26 ft) or a 13,7 m (45 ft) jib for additional lifting versatility.

Features

National Crane is proud to introduce the Series NBT50 crane

The Series NBT50 represents the pinnacle of machine performance, combining the latest in both hydraulic and electronic machine control. This new product provides premium operator comfort with the latest Manitowoc cab design, simplified machine setup with no need for an SFO and front bumper control of the hoist(s).

- The cable follower will alert operators when the last of the wire rope is being used and the Drum Rotation Indicator will keep constant tension on the rope reducing the potential for bundling.
- Speedy-reeve boom tip and sheave blocks simplify rigging changes by decreasing the time needed to change line reeving.
- Easy Glide boom wear pads reduce the conditions that cause boom chatter and vibration. The net result is smoother crane operation.
- Pressure compensated, load sensing hydraulic system

  - PTO mounted axial piston pump

  - Superstructure mounted reservoir with integral suction valve/filter, return filter, sight gauge, and temperature gauge

  - Oil cooler with 16 inch fan and integral bypass block with temperature sensor

  - Pressure transducers integral to the lift cylinder holding valve.
- LMI system features a 7 in graphical, color display. Real-time crane information is displayed with numerous operator features such as soft metric load chart conversion, hydraulic filter change reminders and an electronic hour meter.
- Both single and dual axis controls are options for superior operator comfort, along with optional AC, a diesel heater and ergonomic seats.

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Specifications

Boom and jib combinations data

Available in two basic models:

NBT 50 - 102: Equipped with a 9,55 m - 31,1 m (31.3 ft - 102 ft) four-section boom. This model can be equipped with an optional 7,9 m (26 ft) fixed offsettable jib, offering a vertical reach of 39,01 m (134 ft) and a 7,9 m - 13,7 m (26 ft- 45 ft) jib, providing a vertical reach of 44,80 m (153 ft).

9,5 m - 31,1 m (31.3 ft - 102 ft) four-section full power boom

FJ-OS 7,9 m (26 ft) fixed offsettable at 0° and 30° manual jib

9,55 m - 31,1 m (31.3 ft - 102 ft) four-section boom

FJM-OS 7,9 m - 13.7 m (26 ft - 45 ft) two-section offsettable at 0° and 30° manual jib

NBT50-128: Equipped with a 9,7 m - 39,01 m (32 ft - 128 ft) five-section boom. This model can be equipped with an optional 7,9 m (26 ft) fixed offsettable jib offering a vertical reach of 46,9 m (160 ft) and a 7,9 m - 13,7 m (26 ft - 45 ft) two-section offsettable jib, providing a vertical reach of 52,7 m (179 ft)

9,7 m - 39,01 m (32 ft - 128 ft) five-section full-power boom

FJ-OS 7,9 m (26 ft) fixed offsettable at 0° and 30°

9,7 m - 39,01 m (32 ft - 128 ft) five-section full power boom

FJM-0S 7,9 m - 13,7 m (26 ft - 45 ft) two-section offsettable 0° and 30° manual jib

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

Specifications

NBT50 Series preliminary winch data

Standard planetary winch	Cable supplied	Average breaking strength	1 part line max. pull	2 part line max. pull	3 part line max. pull	4 part line max. pull	5 part line max. pull	6 part line max. pull	7 part line max. pull	8 part line max. pull	9 part line max. pull	10 part line max. pull
Low speed	16 mm (5/8 in) diameter rotation resistant IWRC	25 583 kg (56,400 lb)	5103 kg (11,250 lb) 58,2 m/min (191 fpm)	10 206 kg (22,500 lb) 28,9 m/min (95 fpm)	15 309 kg (33,750 lb) 14,2 m/min (63 fpm)	20 412 kg (45,000 lb) 17,3 m/min (47 fpm)	25 515 kg (56,250 lb) 11,6 m/min (38 fpm)	30 618 kg (67,500 lb) 9,4 m/min (31 fpm)	35 721 kg (78,750 lb) 8,2 m/min (27 fpm)	40 824 kg (90,000 lb) 7,0 m/min (23 fpm)	45 359 kg (100,000 lb) 6,4 m/min (21 fpm)	48 895 kg (110,000 lb) 5,8 m/min (19 fpm)
High speed	16 mm (5/8 in) diameter rotation resistant IWRC	25 583 kg (56,400 lb)	2540 kg (5600 lb) 116,7 m/min (383 fpm)	5080 kg (11,200 lb) 58,2 m/min (191 fpm)	7620 kg (16,800 lb) 38,7 m/min (127 fpm)	10 160 kg (22,400 lb) 28,9 m/min (95 fpm)	12 700 kg (28,000 lb) 23,2 m/min (76 fpm)	15 240 kg (33,600 lb) 19,2 m/min (63 fpm)	17 780 kg (39,200 lb) 16,5 m/min (54 fpm)	20 320 kg (48,000 lb) 14,3 m/min (47 fpm)	22 861 kg (50,400 lb) 12,8 m/min (42 fpm)	25 401 kg (56,000 lb) 11,6 m/min (38 fpm)

- All winch pulls and speeds 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.

Winch	Fourth layer pull	Allowable cable pull
Standard planetary and auxiliary planetary	2540 kg (5600 lb) high speed 5103 kg (11,250 lb) low speed	5117 kg (11,280 lb) 5117 kg (11,280 lb)

Loadline deduct		
	Aux boom head	36 kg (80 lb)
7 USt	Downhaul weight	78 kg (171 lb)
20 USt	1-sheave block	149 kg (328 lb)
30 USt	2-sheave block	227 kg (500 lb)
40 USt	3-sheave block	271 kg (596 lb)
50 USt	4-sheave block	361 kg (794 lb)
55 USt	5-sheave block	498 kg (1098 lb)

Capacities

NBT50-102: 31,1 m boom (102 ft) main boom, full span outriggers, without jib, 360°

National Crane will provide you a chart on request – or you may secure needed load rating information through your nearest National Crane dealer.

	Retracted 31.17 ft	A 38 ft	B 46 ft	C 54 ft	D 62 ft	E 70 ft	F 78 ft	G 86 ft	H 94 ft	Extended 102 ft
RADIUS (ft)	RATED LOAD (lb) BOOM ANGLE (deg)									
--										
8	100,000 68.3°									
10	93,351 64.2°	51,200 69.2°	50,350 73.1°							
12	80,982 59.9°	52,950 65.8°	51,700 70.5°	51,350 73.7°						
15	64,410 53.0°	58,300 60.7°	54,050 66.4°	53,300 70.4°	52,160 73.3°	45,832 75.6°				
20	47,299 39.8°	47,686 51.3°	47,971 59.3°	48,175 64.5°	46,474 68.4°	41,039 71.3°	34,380 73.7°	30,000 75.6°		
25	31,500 20.0°	37,088 40.3°	37,413 51.4°	37,632 58.3°	37,804 63.2°	35,972 66.9°	30,145 69.7°	26,797 72.2°	23,842 74.2°	20,000 75.7°
30		29,000 25.7°	29,854 42.6°	30,077 51.6°	30,243 57.7°	30,379 62.2°	26,760 65.7°	23,800 68.6°	21,252 71.0°	18,988 72.9°
35			23,605 31.9°	23,904 44.2°	24,116 51.8°	24,285 57.3°	23,740 61.5°	21,250 64.9°	18,971 67.7°	17,030 69.9°
40			16,000 15.1°	18,720 35.6°	18,929 45.4°	19,087 52.0°	19,230 57.0°	19,100 61.1°	17,124 64.3°	15,360 66.9°
45				15,053 24.4°	15,263 38.2°	15,411 46.4°	15,537 52.3°	15,657 57.0°	15,554 60.8°	13,970 63.7°
50					12,554 29.5°	12,700 40.1°	12,815 47.2°	12,920 52.6°	13,017 56.9°	12,735 60.5°
55					10,549 18.5°	10,717 33.7°	10,838 42.3°	10,943 48.5°	11,037 53.3°	11,125 57.3°
60						9047 24.8°	9171 36.2°	9270 43.6°	9356 49.2°	9435 53.6°
65						6400 9.9°	7813 29.0°	7911 38.2°	7992 44.7°	8065 49.8°
70							6680 19.3°	6783 32.1°	6862 39.9°	6930 45.7°
75								5830 24.6°	5910 34.6°	5975 41.4°
80								5005 13.2°	5095 28.3°	5160 36.6°
85									4387 20.1°	4455 31.1°
90										3837 24.6°
95										3288 15.3°
97										2000 8.7°
	12,450 0.0°	9250 0.0°	6750 0.0°	5000 0.0°	3700 0.0°	2700 0.0°	1950 0.0°	1300 0.0°	700 0.0°	350 0.0°

NOTE:
1. All capacities are in pounds, angles in degrees, radius in feet.
2. Loaded boom angles are given as reference only.
3. Capacities above line indicate structural strength

PRELIMINARY

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

NBT55-102: 31,1 m boom (102 ft) main boom, full span outriggers, without jib, 360°

National Crane will provide you a chart on request – or you may secure needed load rating information through your nearest National Crane dealer.

	RETRACTED 31,17 ft BOOM	A 38 ft BOOM	B 46 ft BOOM	C 54 ft BOOM	D 62 ft BOOM	E 70 ft BOOM	F 78 ft BOOM	G 86 ft BOOM	H 94 ft BOOM	EXTENDED 102 ft BOOM
RADIUS (ft)	RATED LOAD (lb) LOADED BOOM ANGLE (deg)									
--										
8	110,000 68.3°									
10	93,351 64.2°	51,200 69.2°	50,350 73.1°							
12	82,356 59.9°	52,950 65.8°	51,700 70.5°	51,350 73.7°						
15	66,356 53.0°	58,300 60.7°	54,050 66.4°	53,300 70.4°	52,160 73.3°	45,832 75.6°				
20	48,780 39.8°	49,167 51.3°	49,453 59.3°	49,658 64.6°	46,474 68.4°	41,039 71.3°	34,380 73.7°	30,000 75.6°		
25	31,500 20.0°	38,381 40.4°	38,680 51.4°	38,881 58.3°	39,039 63.2°	35,972 66.9°	30,145 69.7°	26,797 72.2°	23,842 74.2°	20,000 75.7°
30		29,000 25.7°	31,125 42.6°	31,349 51.6°	31,517 57.7°	31,435 62.3°	26,760 65.7°	23,800 68.6°	21,252 71.0°	18,988 72.9°
35			25,563 31.9°	25,793 44.2°	25,954 51.9°	26,082 57.3°	23,700 61.5°	21,250 64.9°	18,971 67.7°	17,030 69.9°
40			16,000 15.1°	20,814 35.6°	21,026 45.5°	21,191 52.1°	21,150 57.1°	19,100 61.1°	17,124 64.3°	15,360 66.9°
45				16,830 24.4°	17,042 38.2°	17,195 46.4°	17,327 52.4°	17,050 57.1°	15,554 60.8°	13,970 63.7°
50					14,099 29.5°	14,247 40.2°	14,368 47.3°	14,478 52.8°	14,198 57.1°	12,735 60.5°
55					11,150 18.6°	11,982 33.0°	12,096 41.8°	12,196 48.2°	12,285 53.1°	11,686 57.1°
60						10,271 24.9°	10,397 36.3°	10,500 43.7°	10,590 49.3°	10,673 53.8°
65						6400 9.8°	8922 29.0°	9024 38.4°	9108 44.9°	9185 50.0°
70							7693 19.4°	7799 32.2°	7881 40.1°	7952 45.9°
75								6764 24.7°	6847 34.7°	6915 41.6°
80								5200 13.2°	5962 28.4°	6030 36.8°
85									5194 20.3°	5264 31.3°
90										4594 24.7°
95										3997 15.5°
97										2200 8.7°
	12,450 0.0°	9250 0.0°	6750 0.0°	5000 0.0°	3700 0.0°	2700 0.0°	1950 0.0°	1300 0.0°	700 0.0°	350 0.0°

NOTE:
1. All capacities are in pounds, angles in degrees, radius in feet.
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The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

Capacities

NBT55-128: 39,01 m boom (128 ft) main boom, full span outriggers, without jib, 360°

National Crane will provide you a chart on request – or you may secure needed load rating information through your nearest National Crane dealer.

	RETRACTED 31,72 ft BOOM	A 43 ft BOOM	B 54 ft BOOM	C 64 ft BOOM	D 75 ft BOOM	E 86 ft BOOM	F 97 ft BOOM	G 107 ft BOOM	H 118 ft BOOM	EXTENDED 128 ft BOOM
RADIUS (ft)	RATED LOAD (lb) LOADED BOOM ANGLE (deg)									
--										
8	110,000 68.1°									
10	92,044 64.0°	39,750 71.3°								
12	80,986 59.8°	40,850 68.5°	40,050 73.3°							
15	65,243 53.1°	42,900 64.0°	41,500 69.9°	41,200 73.5°						
20	47,568 40.3°	48,337 56.2°	46,850 64.2°	41,544 68.8°	34,839 72.5°	26,015 75.0°				
25	31,308 21.8°	37,493 47.5°	37,926 58.0°	37,224 63.9°	30,716 68.4°	23,129 71.6°	20,000 74.3°			
30		29,989 37.3°	30,466 51.3°	30,763 58.6°	27,696 64.2°	20,851 68.0°	18,162 71.2°	16,263 73.6°		
35		22,004 23.6°	24,852 43.9°	25,138 53.1°	25,129 59.8°	18,903 64.3°	16,636 68.1°	15,000 70.9°	13,157 73.3°	11,700 75.1°
40			20,065 35.2°	20,419 47.0°	20,776 55.1°	17,445 60.5°	15,413 64.9°	13,936 68.0°	12,279 70.8°	11,050 73.1°
45			16,050 24.0°	16,401 40.3°	16,674 50.0°	16,089 56.6°	14,250 61.5°	12,810 65.1°	11,513 68.3°	10,411 70.9°
50				13,429 32.4°	13,688 44.6°	13,891 52.3°	13,098 58.0°	11,930 62.1°	10,845 65.9°	9835 68.5°
55				11,132 23.4°	11,391 38.6°	11,580 47.7°	11,764 54.3°	11,164 59.3°	10,161 63.2°	8750 66.0°
60					9676 32.4°	9872 43.3°	10,051 50.7°	10,213 56.0°	9554 60.4°	7850 63.4°
65					8176 23.8°	8373 37.9°	8541 46.6°	8687 52.4°	8844 57.5°	7000 60.7°
70					4348 9.2°	7128 31.8°	7289 42.1°	7423 48.6°	7565 54.3°	6300 57.9°
75						6075 24.3°	6234 37.1°	6360 44.7°	6490 50.9°	5700 55.1°
80						4066 12.8°	5331 31.5°	5452 40.4°	5573 47.4°	5200 52.2°
85							4549 24.8°	4667 35.7°	4781 43.7°	4650 49.0°
90							3507 15.2°	3981 30.4°	4091 39.7°	4180 45.8°
95								3375 24.0°	3483 35.4°	3568 42.2°
100								2479 14.8°	2943 30.4°	3025 38.4°
105									2459 24.6°	2540 34.2°
110									2020 16.7°	2104 29.4°
115										1708 23.7°
120										1266 16.0°
125	12,575 2.0°	7304 1.6°	4525 1.5°	3393 2.7°	1912 2.5°	833 2.4°				

NOTE:

1. All capacities are in pounds, angles in degrees, radius in feet.
2. Loaded boom angles are given as reference only.
3. Capacities above line indicate structural strength

PRELIMINARY

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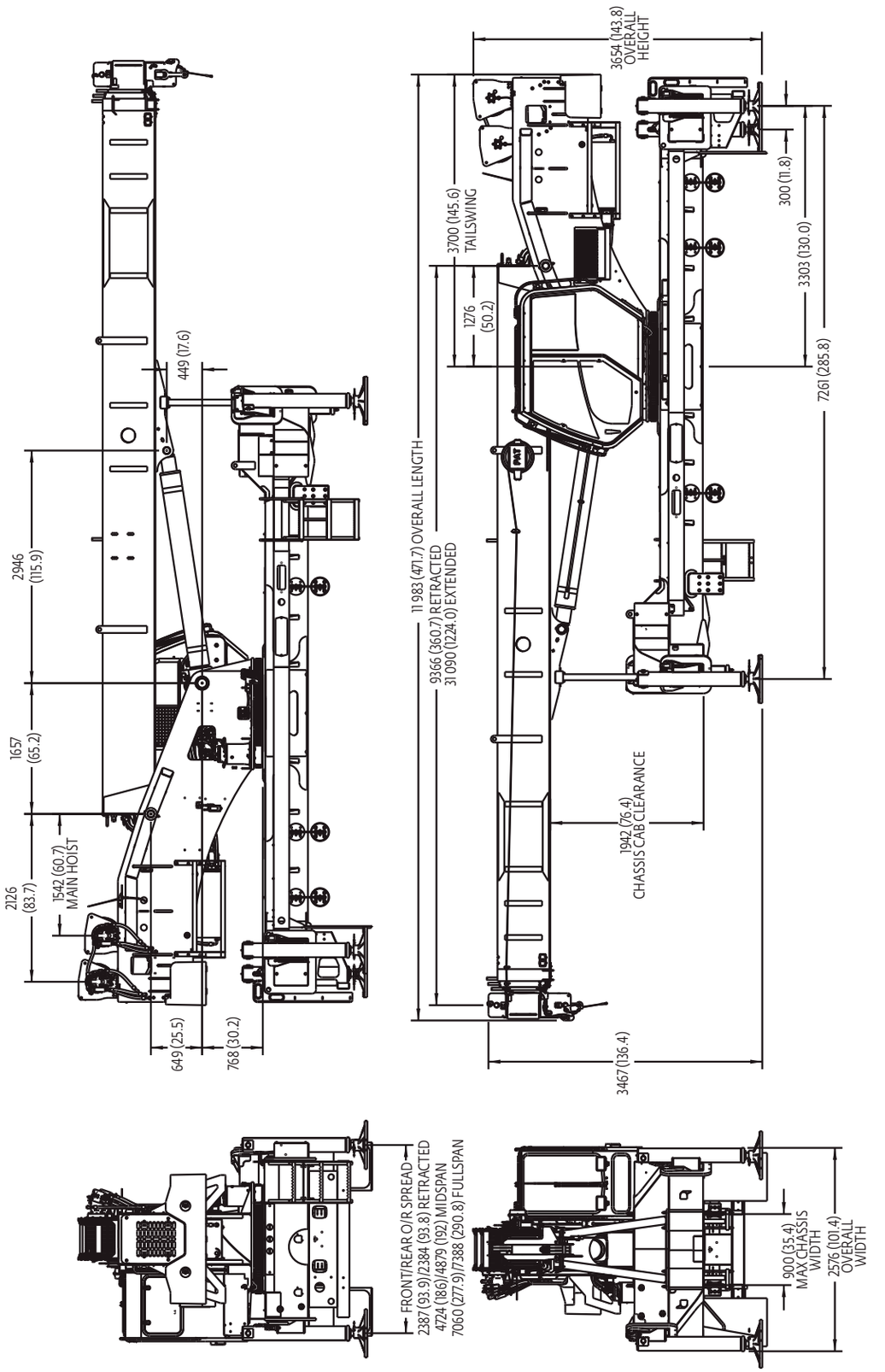
Dimensions



PRELIMINARY

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Accessories

Radio Remote Controls – **• NB6R**

Eliminate the handling and maintenance concerns that accompany cabled remotes. Operate to a range of about 76 m (250 ft), varying with conditions. Remote transmitter displays LMI information on LCD screen.

Personnel Baskets –
One and two person baskets, gravity hung with swing lock and full body harness. Fast attachment and secure locking systems. Ratings from 139 kg (300 lb) to 544 kg (1200 lb)

• B1-S
• 2B1-S
• BSA-1
• BSA-R1
• BSAY-1
• BSAY-2

Auxiliary Winch –
Second winch redundant to the main, 15,000 lb gear set, two-speed piston motor, cable packer, grooved drum, DRI/LLI standard with 5/8 in Dyform 34LR wire rope **• AW**

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

Back Up Alarm

Electronic Back Up Alarm (included on factory mounts and shipouts) **•BUA**

Outrigger Motion Alarm **•OMA**

Rotation Bearing Lock **•MRL**

Manual applied lock on rotation bearing (360° positioning)

Metric Capacity Charts **•MCC**

Dual-Axis Electronic Joysticks **•DAJS**

In place of single-axis joysticks

Special Paint **•SPECIAL PAINT**

One color in lieu of standard paint color-non metallic

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