
Manual # 99905405

12/86 Technical Specifications

Revision 20120210



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CHAPTER 1

Technical Data and Charts

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12/86 Technical Specifications

12/86	1-HYDRAULIC	2-HYDRAULIC	3-HYDRAULIC	4-HYDRAULIC	5-HYDRAULIC
Crane Rating (Single Link)	86,075 ft-lb (11.9 tm)	83,180 ft-lb (11.5 tm)	80,285 ft-lb (11.1 tm)	78,840 ft-lb (10.9 tm)	76,670 ft-lb (10.6 tm)
Crane Rating (Double Link)	84,625 ft-lb (11.7 tm)	82,455 ft-lb (11.4 tm)	79,565 ft-lb (11.0 tm)	77,395 ft-lb (10.7 tm)	75,945 ft-lb (10.5 tm)
Maximum Horizontal Reach	20'-0" (6.1 m)	26'-11" (8.2 m)	34'-5" (10.5 m)	41'-8" (12.7 m)	49'-3" (15.0 m)
Maximum Vertical Reach	27'-5" (8.35 m)	34'-6" (10.5 m)	41'-10" (12.76 m)	46'-5" (15.05 m)	56'-9" (17.31 m)
Capacity - Single Link Cranes					
Maximum Capacity	10,165 lb (4610 kg)	9920 lb (4500 kg)	9325 lb (4230 kg)	8795 lb (3990 kg)	8335 lb (3780 kg)
Max Capacity @ Max Reach	4385 lb (1990 kg)	3020 lb (1370 kg)	2160 lb (980 kg)	1610 lb (730 kg)	1215 lb (550 kg)
Capacity - Double Link Cranes					
Maximum Capacity	10,230 lb (4640 kg)	9720 lb (4410 kg)	9260 lb (4200 kg)	8840 lb (4010 kg)	8445 lb (3830 kg)
Max Capacity @ Max Reach	4320 lb (1960 kg)	3000 lb (1360 kg)	2140 lb (970 kg)	1585 lb (720 kg)	1190 lb (540 kg)
Crane Weight**	2590 lb (1175 kg)	2865 lb (1300 kg)	3110 lb (1410 kg)	3320 lb (1505 kg)	3505 lb (1590 kg)
Hook Approach					
Vertical	9'-1" (2.78 m)	8'-10" (2.70 m)	8'-6" (2.60 m)	8'-3" (2.51 m)	7'-11" (2.41 m)
Horizontal	2'-7" (0.79 m)	2'-9" (0.84 m)	2'-11" (0.89 m)	3'-1" (0.94 m)	3'-3" (1.0 m)
Center of Gravity-Stored (Single Link)					
Vertical	24.5" (622 mm)	25.8" (654 mm)	26.3" (684 mm)	27.8" (706 mm)	28.5" (725 mm)
Horizontal (C/L Rotation to Bridge)	13.2" (336 mm)	13.1" (332 mm)	12.8" (324 mm)	12.2" (311 mm)	11.7" (298 mm)
Center of Gravity-Stored (Double Link)					
Vertical	25.7" (654 mm)	27" (683 mm)	28" (710 mm)	29" (731 mm)	29.3" (745 mm)
Horizontal (C/L Rotation to Bridge)	12.6" (320 mm)	12.5" (318 mm)	12.2" (311 mm)	11.8" (299 mm)	11.4" (289 mm)

* Crane rating (ft-lb) is the rated load (lb) multiplied by the respective distance (ft) from the centerline of rotation with all extensions retracted, and the inner and outer booms in a horizontal position, per ANSI B30.22.

** Crane weight is for standard single-link crane with tank & mounting kit. Does not include stabilizers, oil. Add 75 lb (35 kg) for double link.

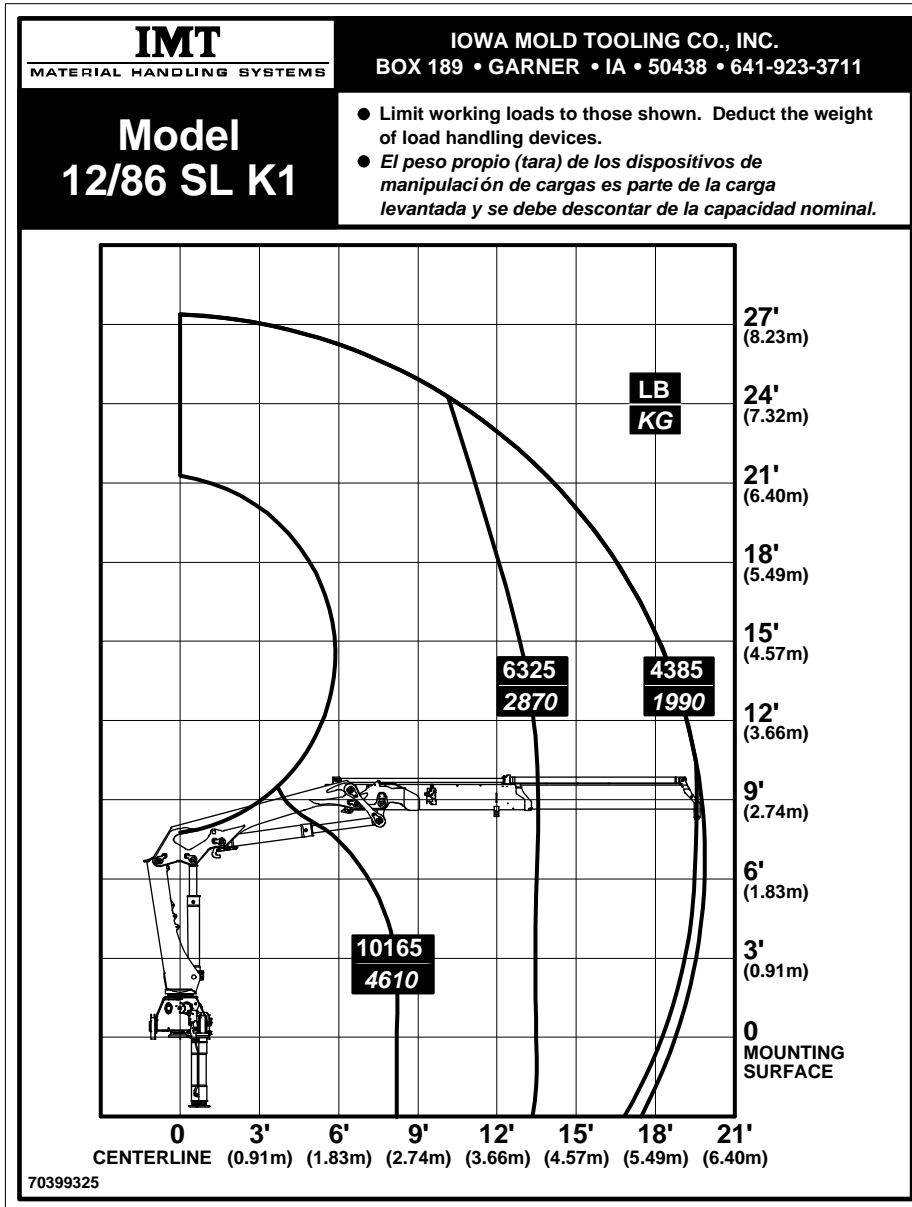
Dimensions & Performance

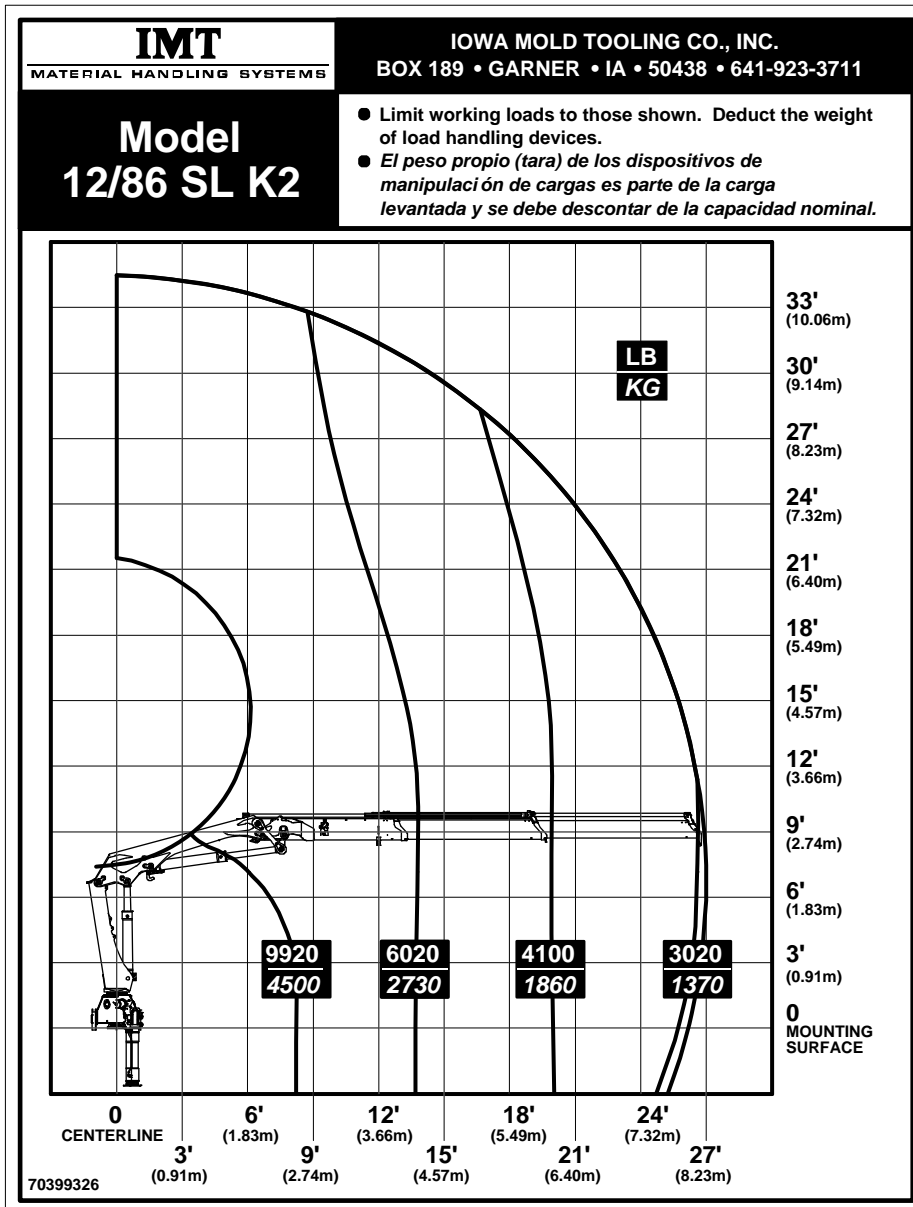
DIMENSIONS & PERFORMANCE	
Crane Storage Height	7'-0" (2135 mm)
Width	8'-2" (2500 mm)
Mounting Space	2'-5" (747 mm)
Maximum Swing Clearance (from top of chassis frame)	23.1" (587 mm) at 7'-7" (2313 mm) (Single)
Rotational Torque	9665 ft-lb (1.3 tm)
Rotation	420 degrees
Optimum Pump Performance	10.5 GPM (40 L/min)
System Pressure	4785 psi (330 bar)
Oil Reservoir Capacity	17.2 gal (65 L)

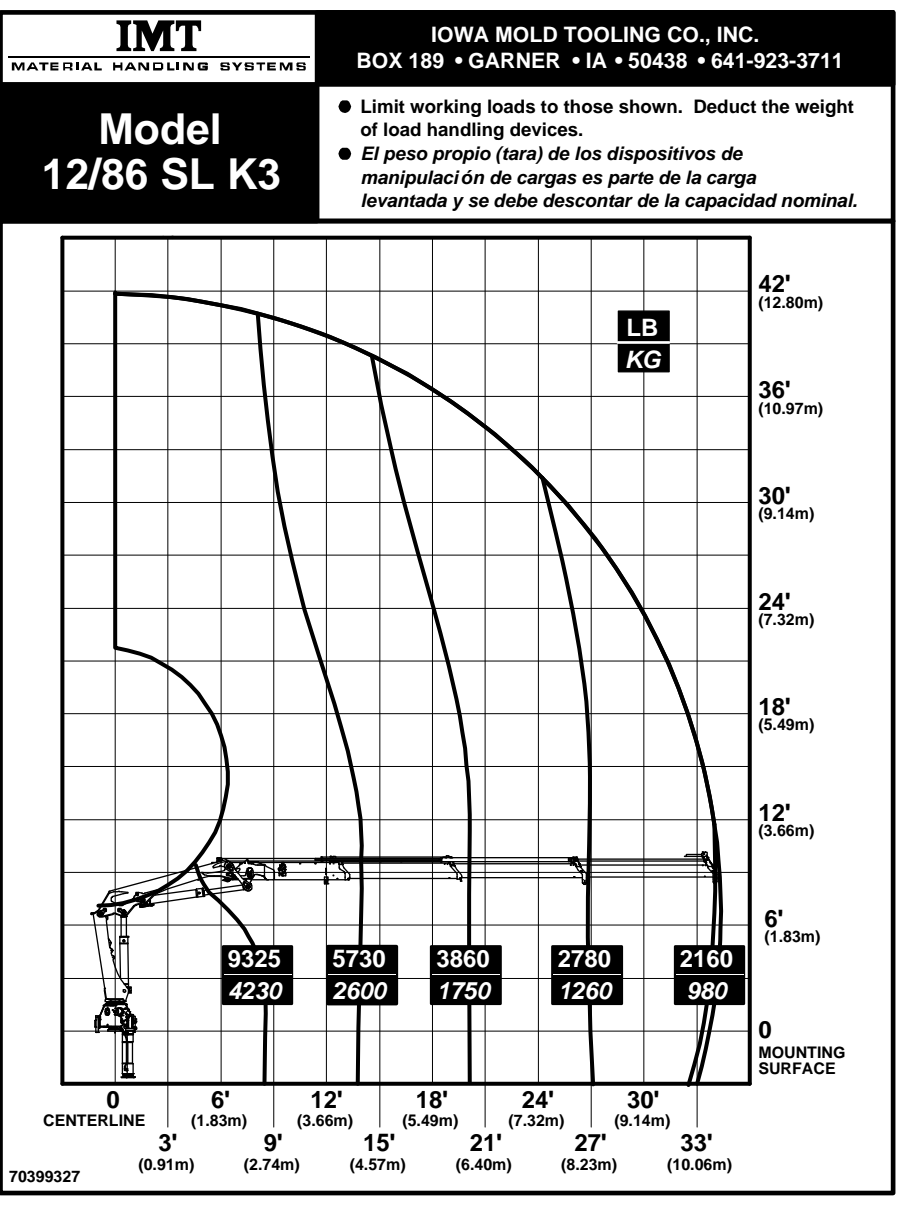
STABILIZERS	
Stabilizer Pad Diameter	6" (158 mm)
Stabilizer Weights	
Standard Man Out/Hyd Down, Fixed	375 lb (170 kg)
Standard Man Out/Hyd Down, Swing-Up	385 lb (175 kg)
Extended Reach Hyd Out/Down, Fixed	430 lb (195 kg)
Extended Reach Hyd Out/Down, Swing Up	440 lb (200 kg)
Stabilizer Spread, Standard	15'-2" (4615 mm)
Stabilizer Spread, Extended Reach	18'-4" (5590 mm)

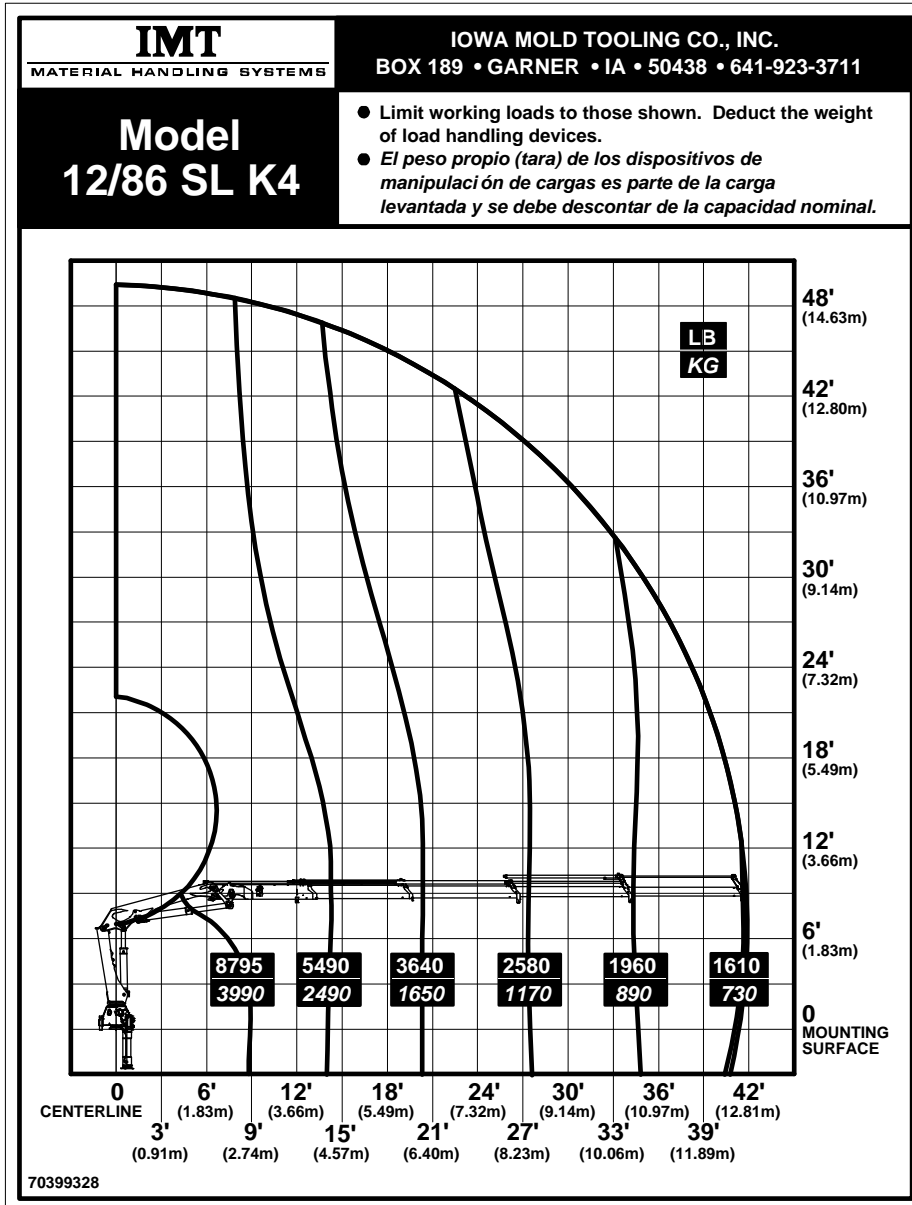
CHASSIS SPECIFICATIONS	
Front Axle Rating (GAWR)	8000 lb (3630 kg)
Rear Axle Rating (GAWR)	16,000 lb (7260 kg)
Resistance to Bending Moment	1,290,000 in-lb (148,625 kg-m)

12/86 Series Single Link Capacity Charts







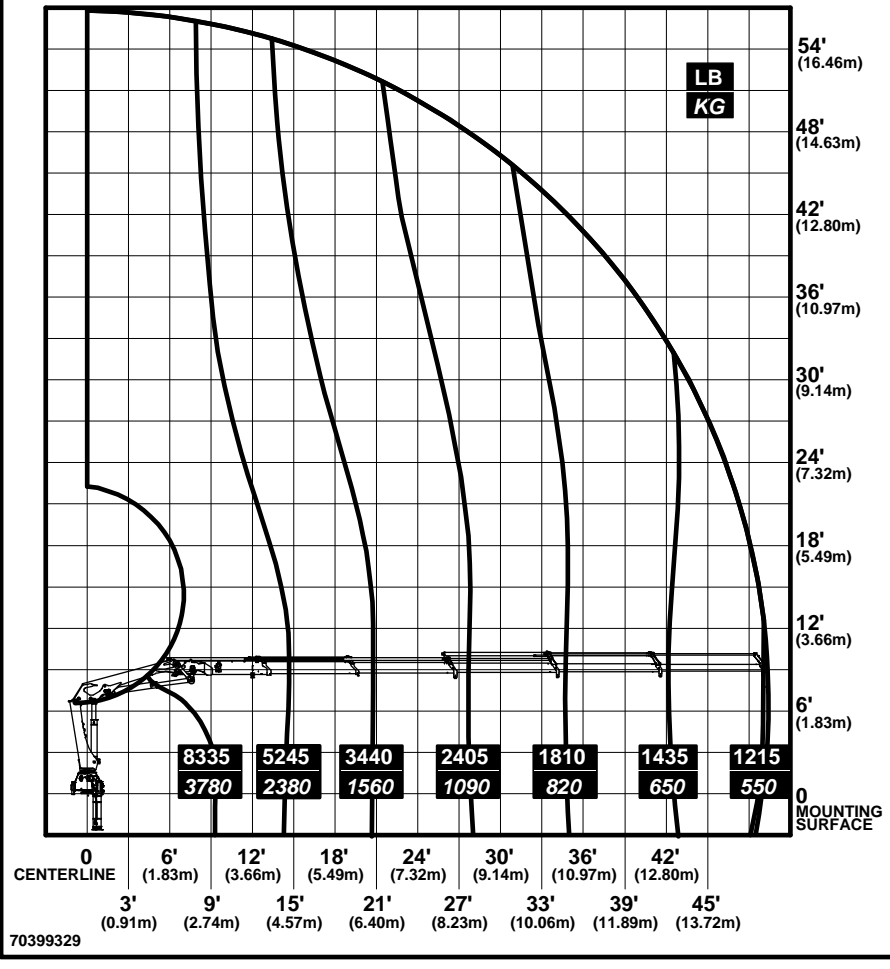


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MATERIAL HANDLING SYSTEMS

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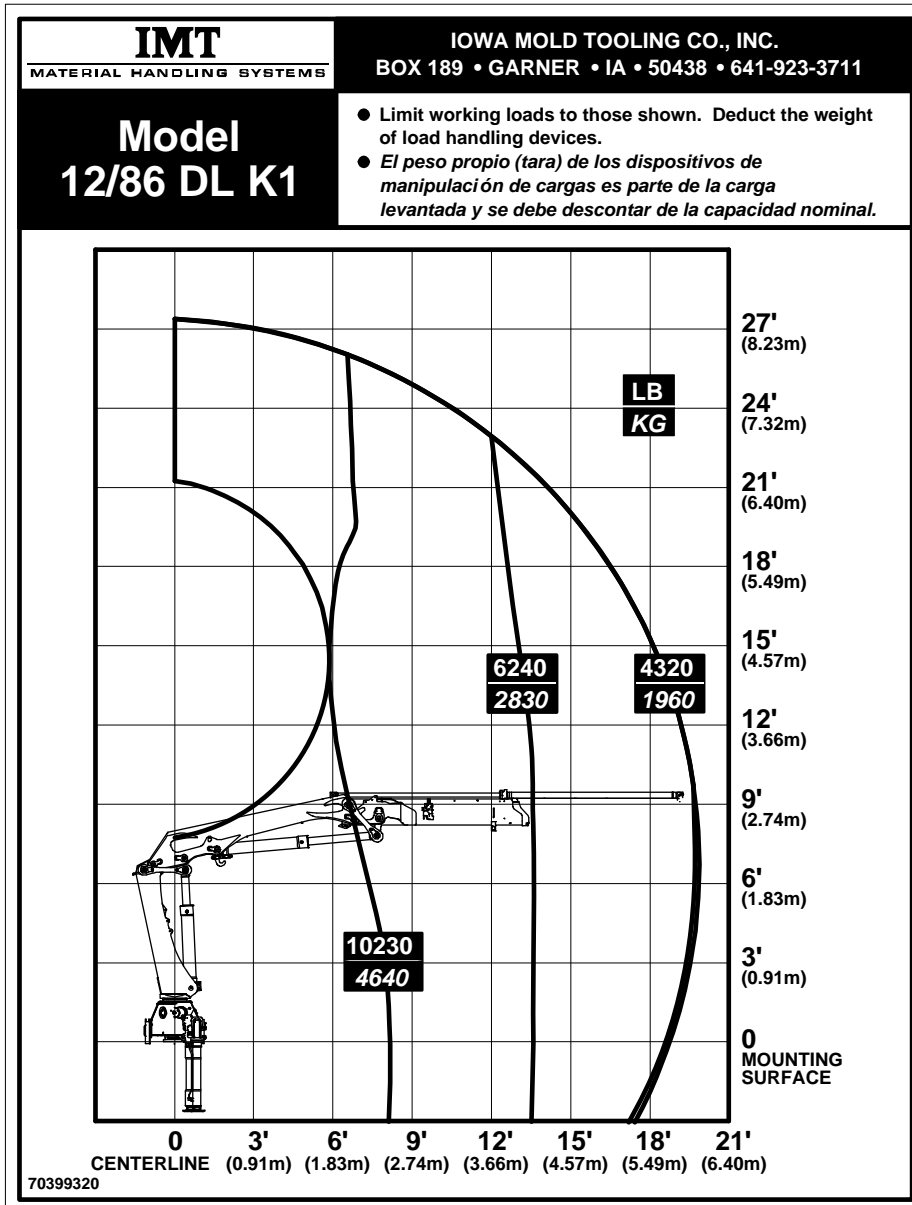
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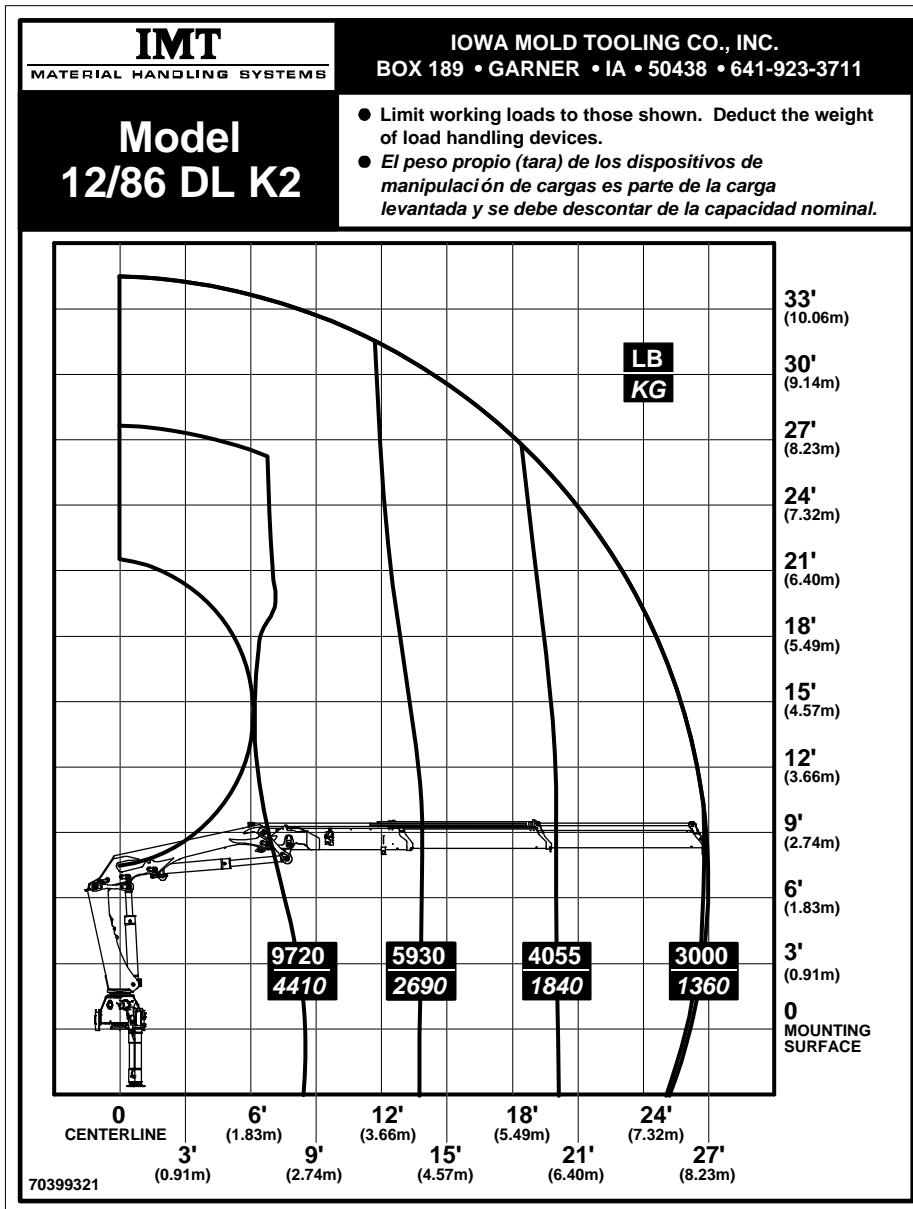
- Limit working loads to those shown. Deduct the weight of load handling devices.
- *El peso propio (tara) de los dispositivos de manipulación de cargas es parte de la carga levantada y se debe descontar de la capacidad nominal.*

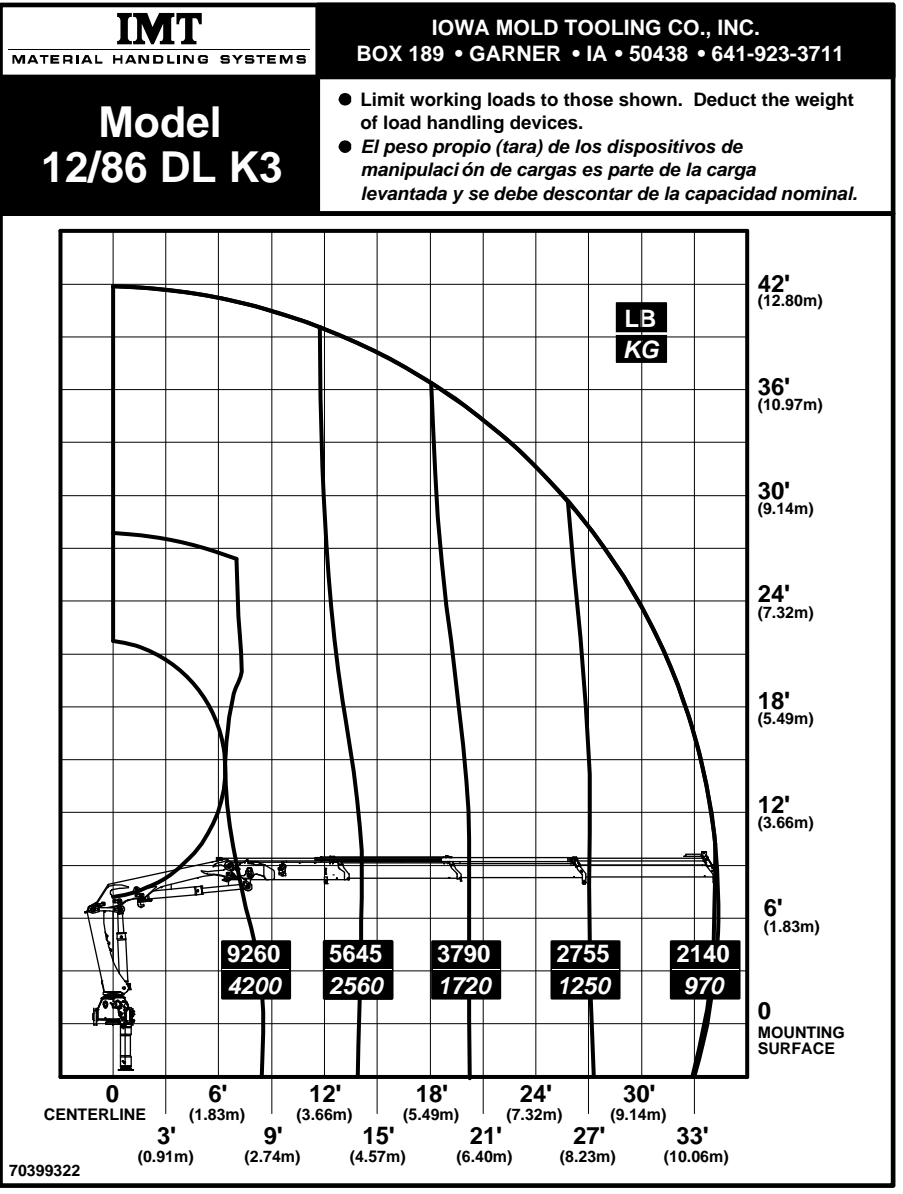


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12/86 Series Double Link Capacity Charts





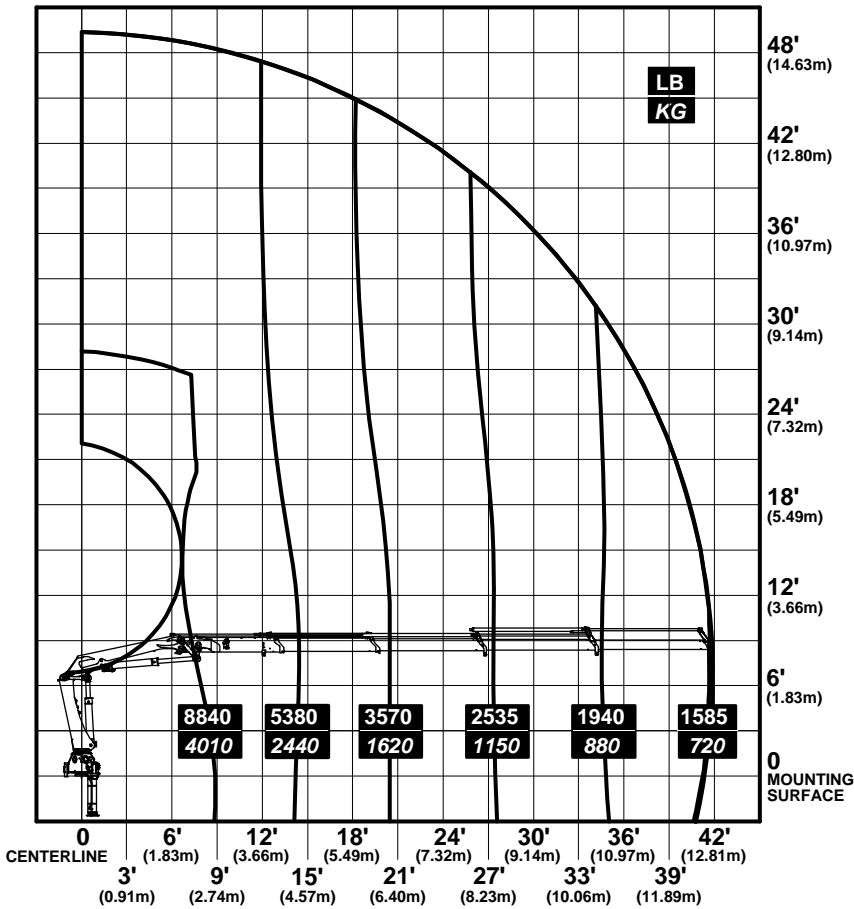


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MATERIAL HANDLING SYSTEMS

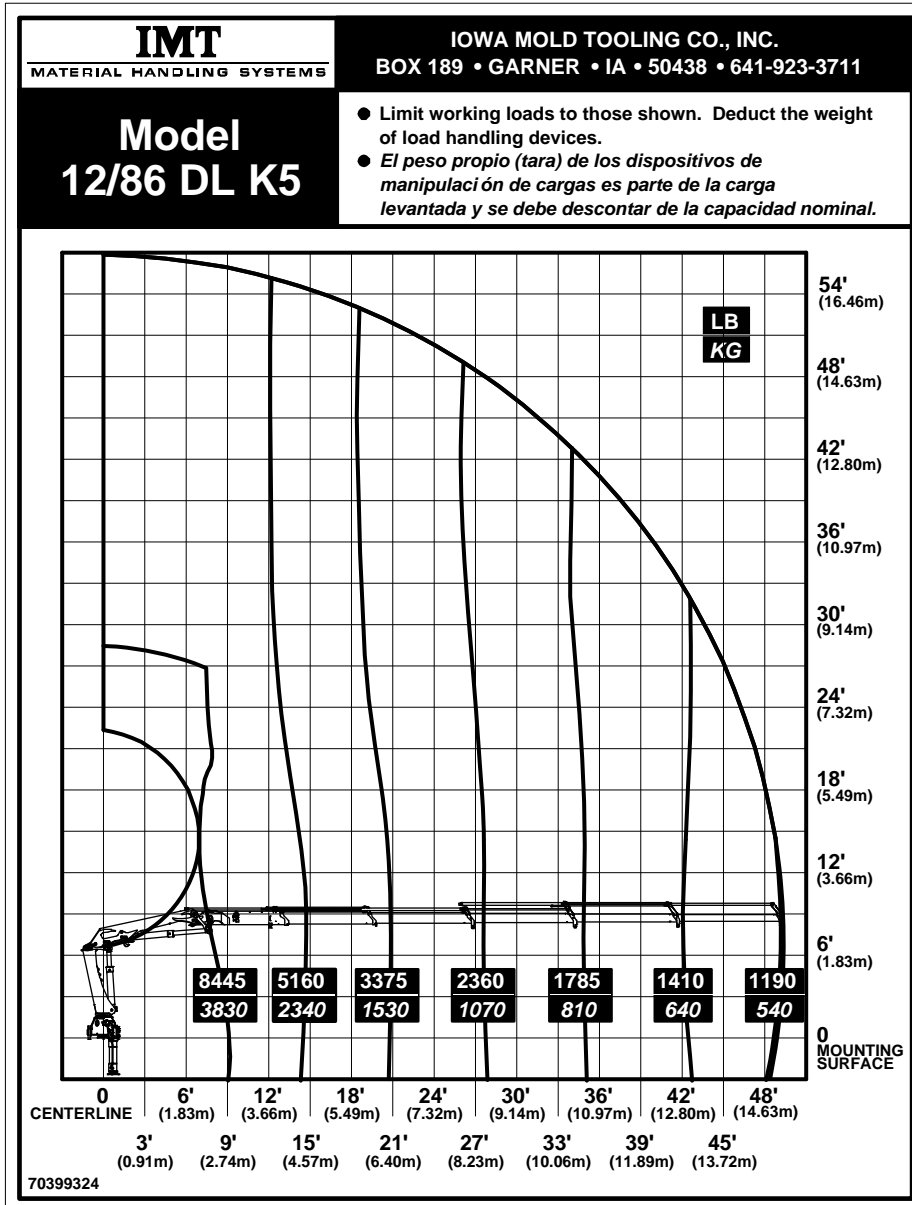
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**Model
12/86 DL K4**

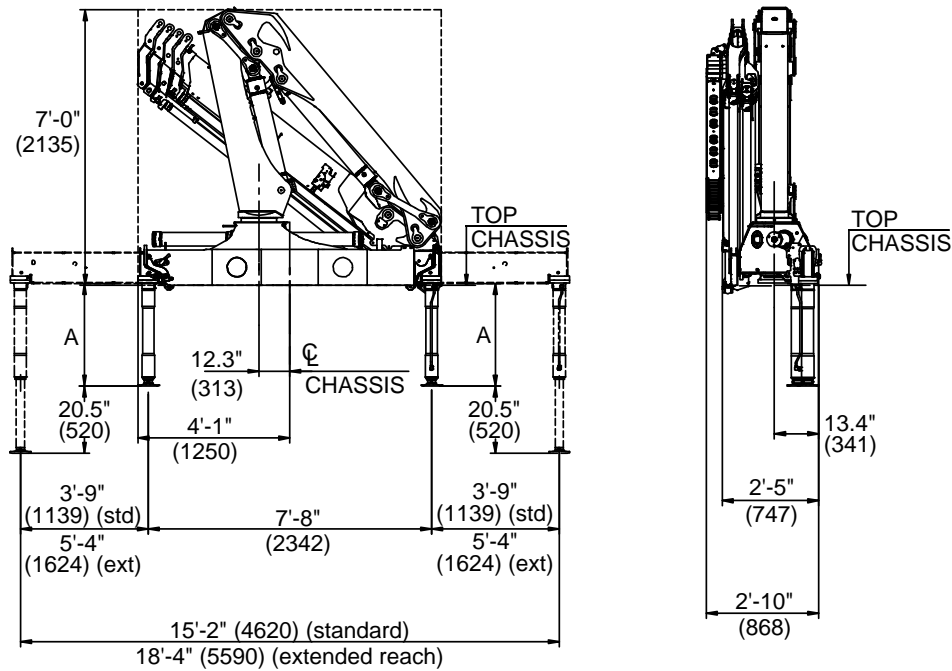
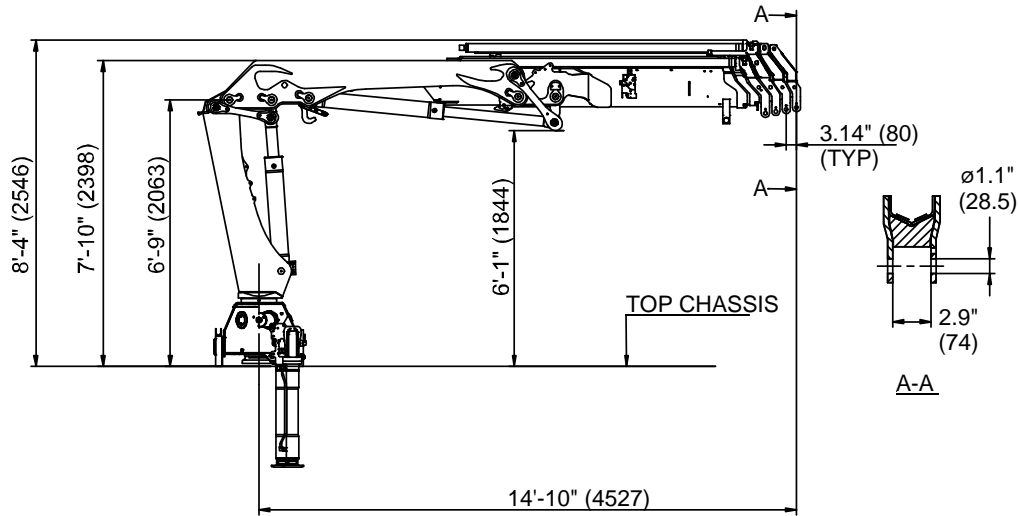
- Limit working loads to those shown. Deduct the weight of load handling devices.
- *El peso propio (tara) de los dispositivos de manipulación de cargas es parte de la carga levantada y se debe descontar de la capacidad nominal.*



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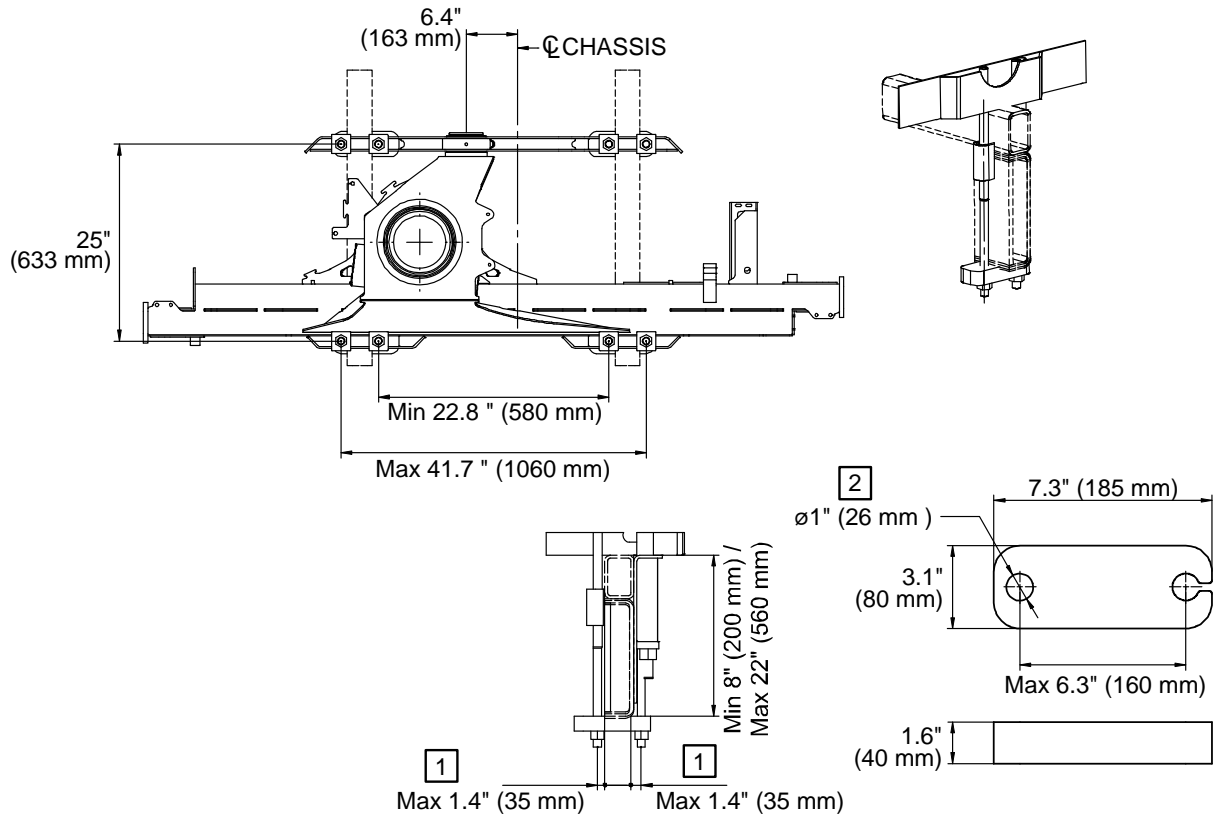
Dimensions



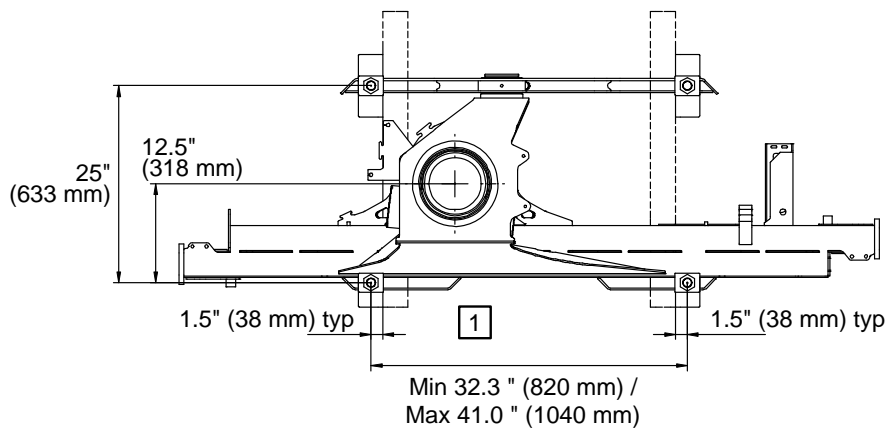
Double link crane shown. Single link dimensions are the same. Dimensions shown in ft-in (mm).

Mounting Dimensions

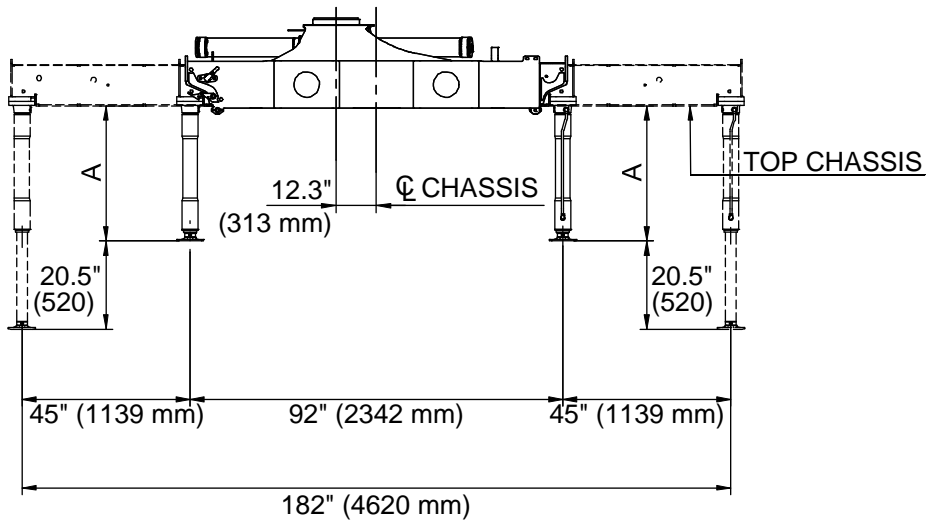
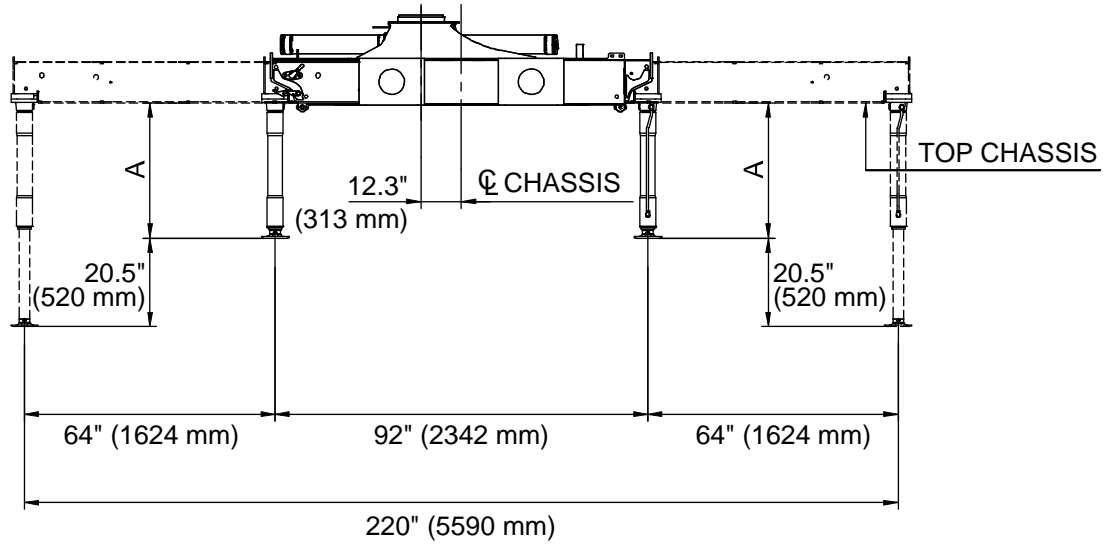
8 mounting holes - M24 x 2 bolt






4 mounting holes - M30 x 2 bolt

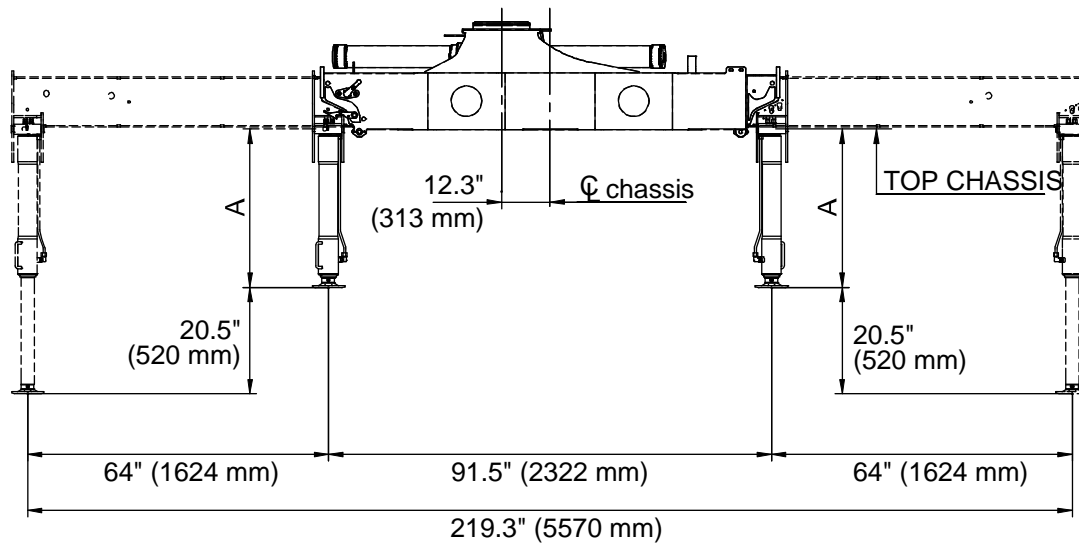
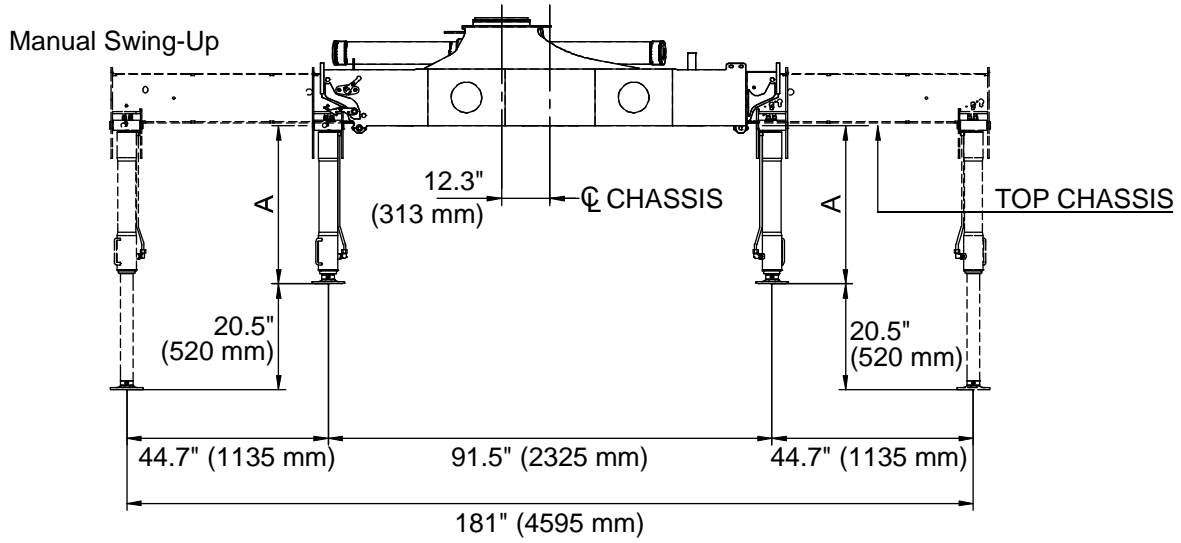





Dimensions, Fixed Stabilizer Legs



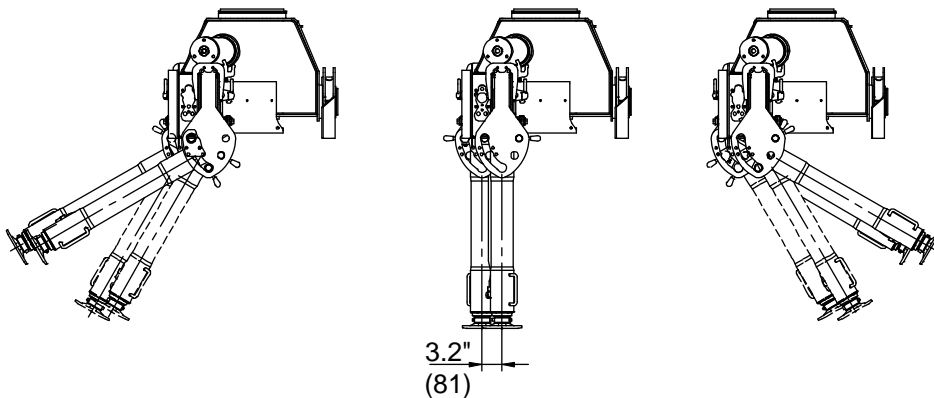
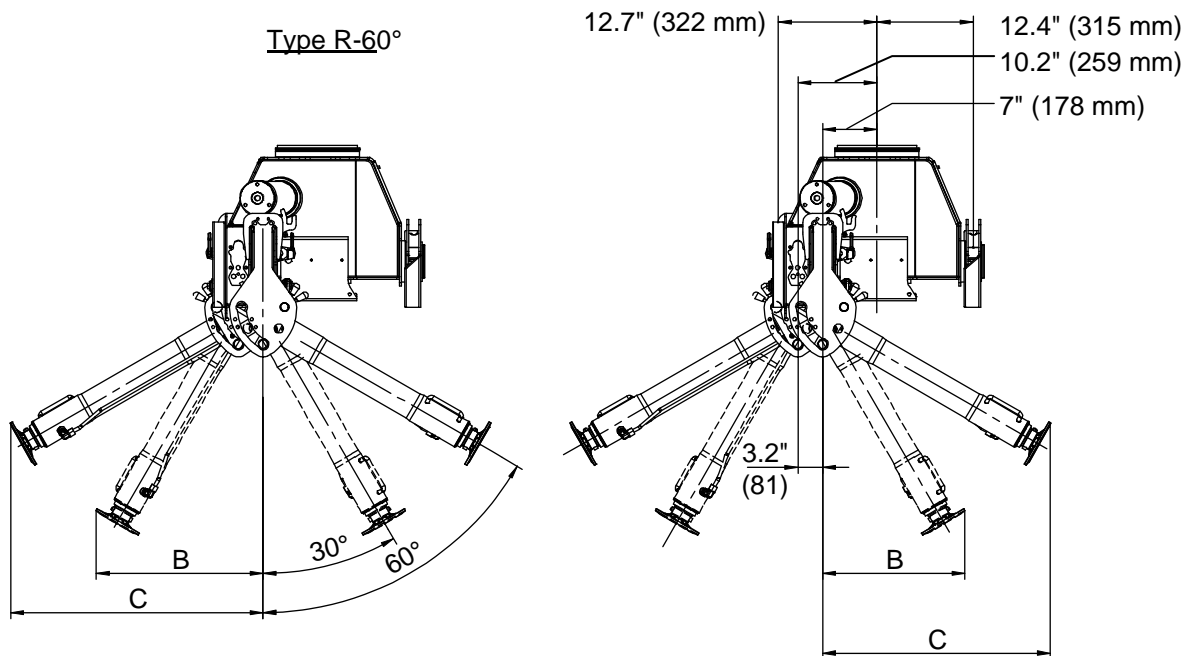
			
A	30.6" (777)	34.5" (877)	38.5" (977)




Swing-Up Stabilizer Legs

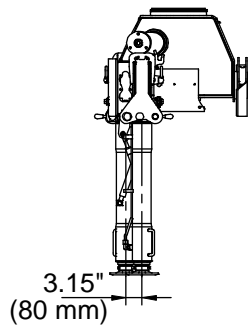
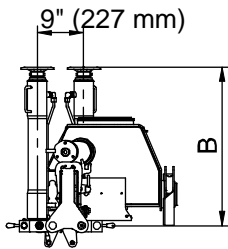
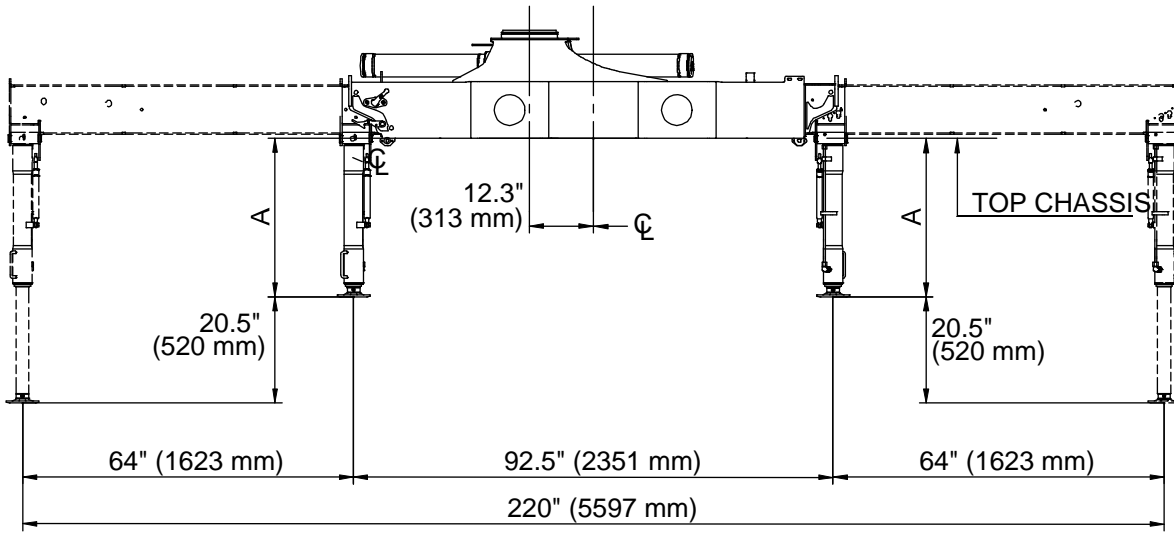
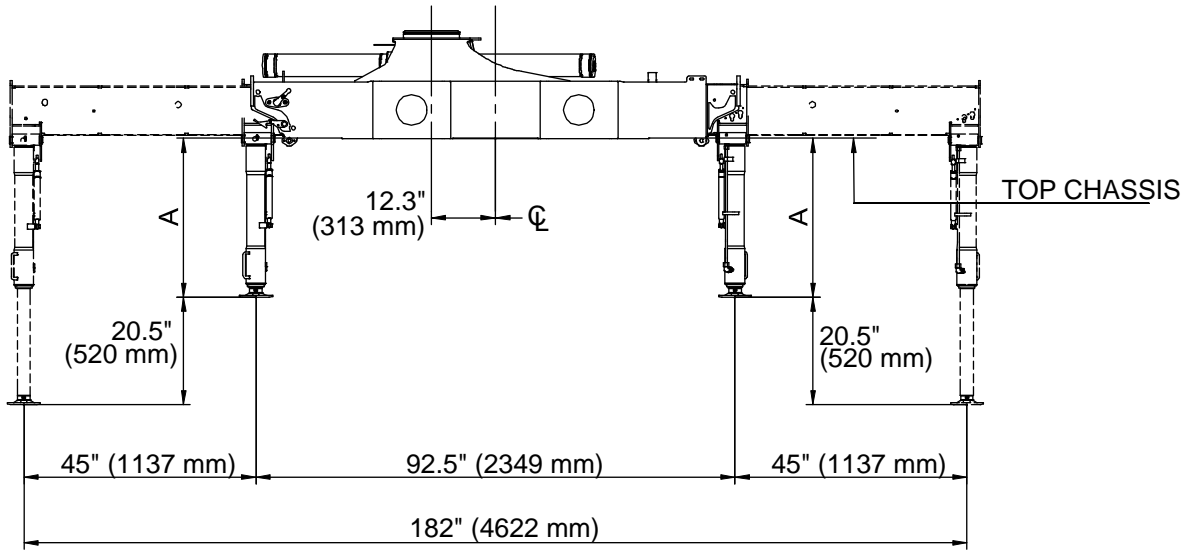





			
A	30.6" 775	34.5" 875	38.5" 975

Type R-60°



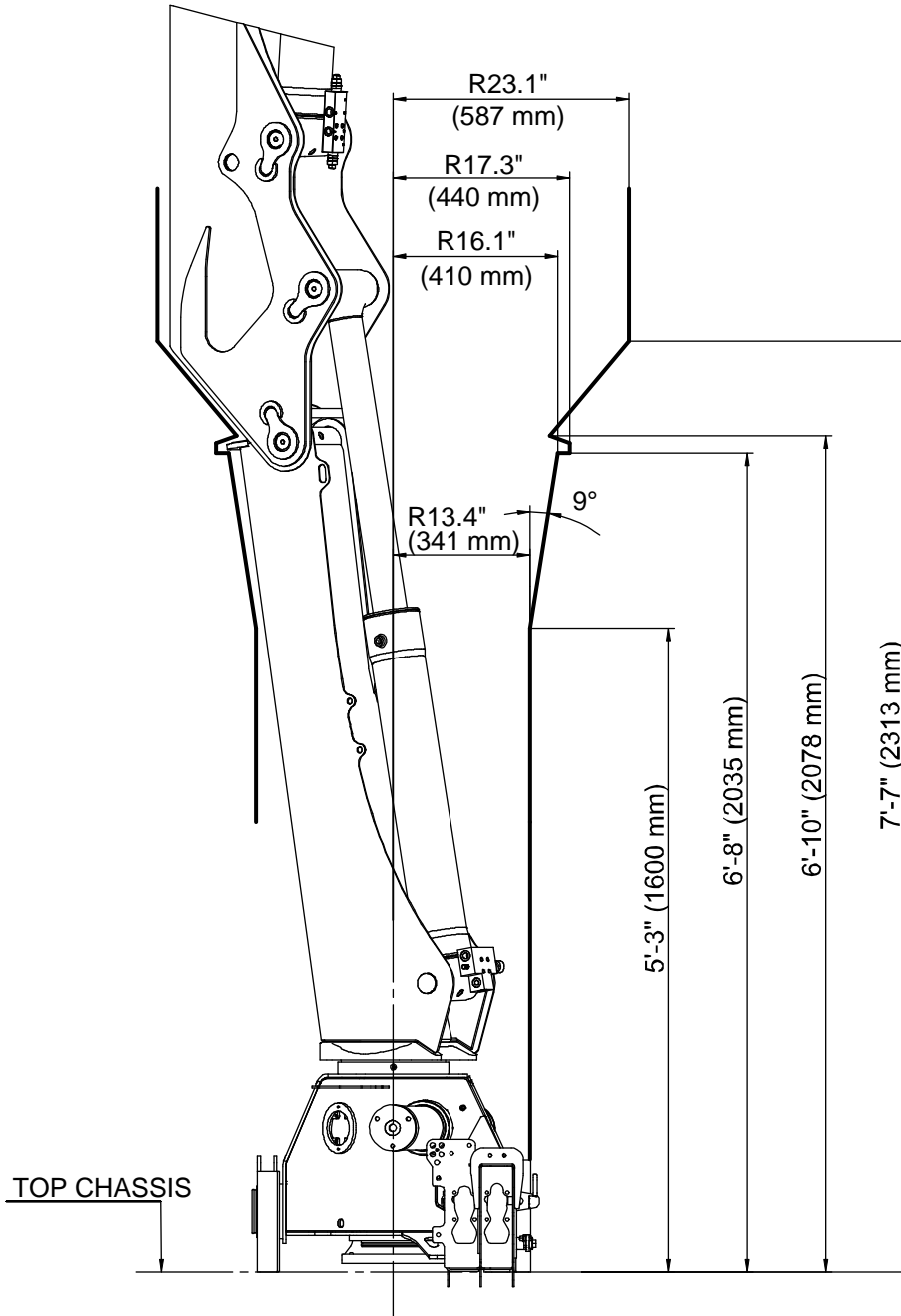
			
B	18.3" (465)	20.3" (515)	22.2" (565)
C	29.3" (745)	32.7" (831)	36.1" (918)



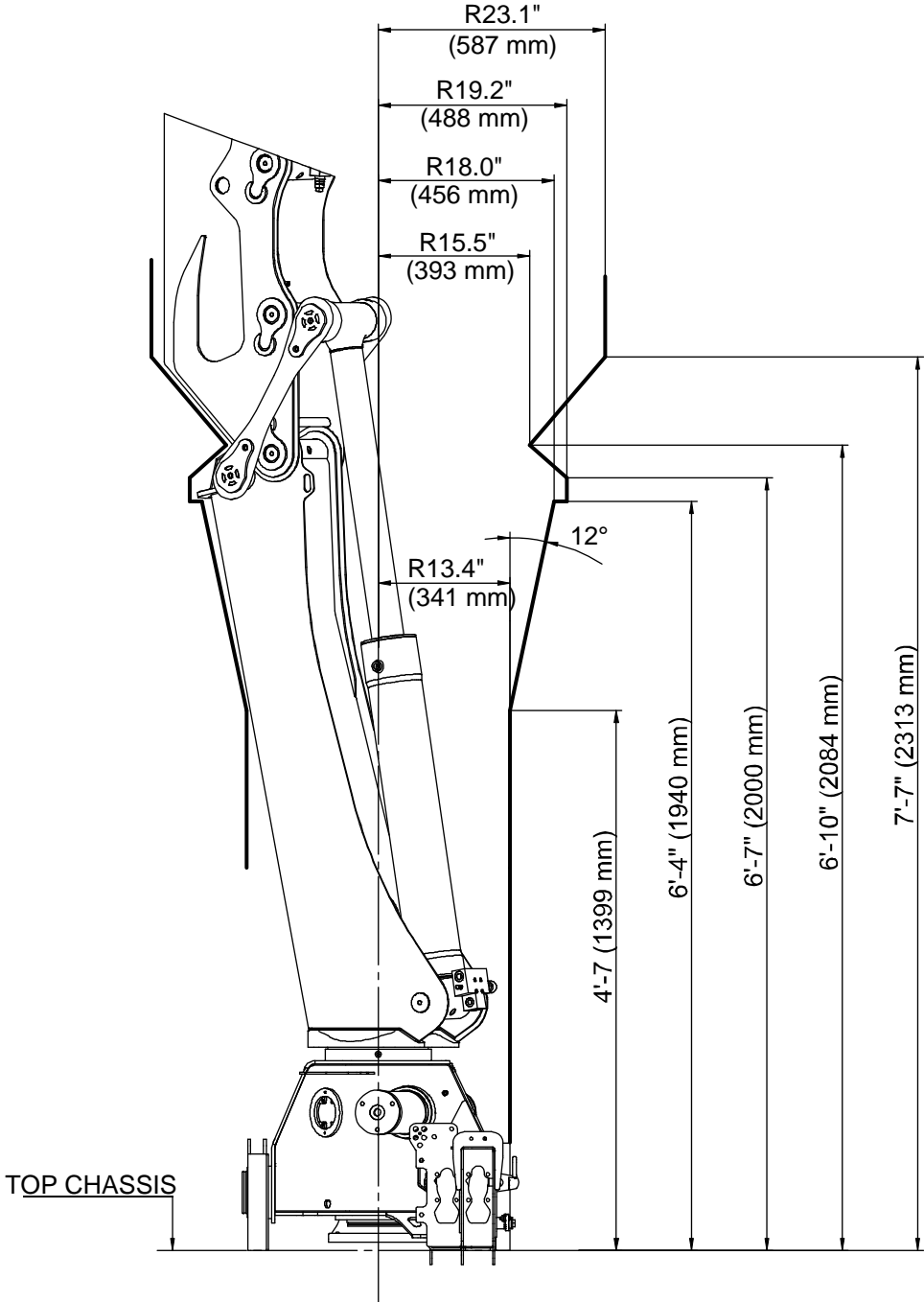
			
A	30.9" (785)	34.8" (885)	38.8" (985)
B	30.6" (775)	34.5" (875)	38.5" (975)

Swing Clearance Drawings

Single Link Swing Clearance



Double Link Swing Clearance



CHAPTER 2

Pressure Settings & Hydraulic Schematics

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Pressure Settings, Hydrocontrol Controls

Working Pressure on Main-Relief Valve & Port-Relief Valves			
Function	Direction	Port	Pressure psi (bar)
Main-relief valve			4785 (330)
Slewing system	Right	A	P
	Left	B	P
Boom cylinder	Down	A	1450 (100)
	Up	B	4930 (340)
Jib cylinder	Up	A	4930 (340)
	Down	B	2900 (200)
Extension cylinders	Extend	A	P
	Retract	B	P
Rotator	Right	A	2900 (200)
	Left	B	2900 (200)
Grab	Open	A	2900 (200)
	Close	B	2900 (200)
Separate stabilizer valve		All	2175 (150)

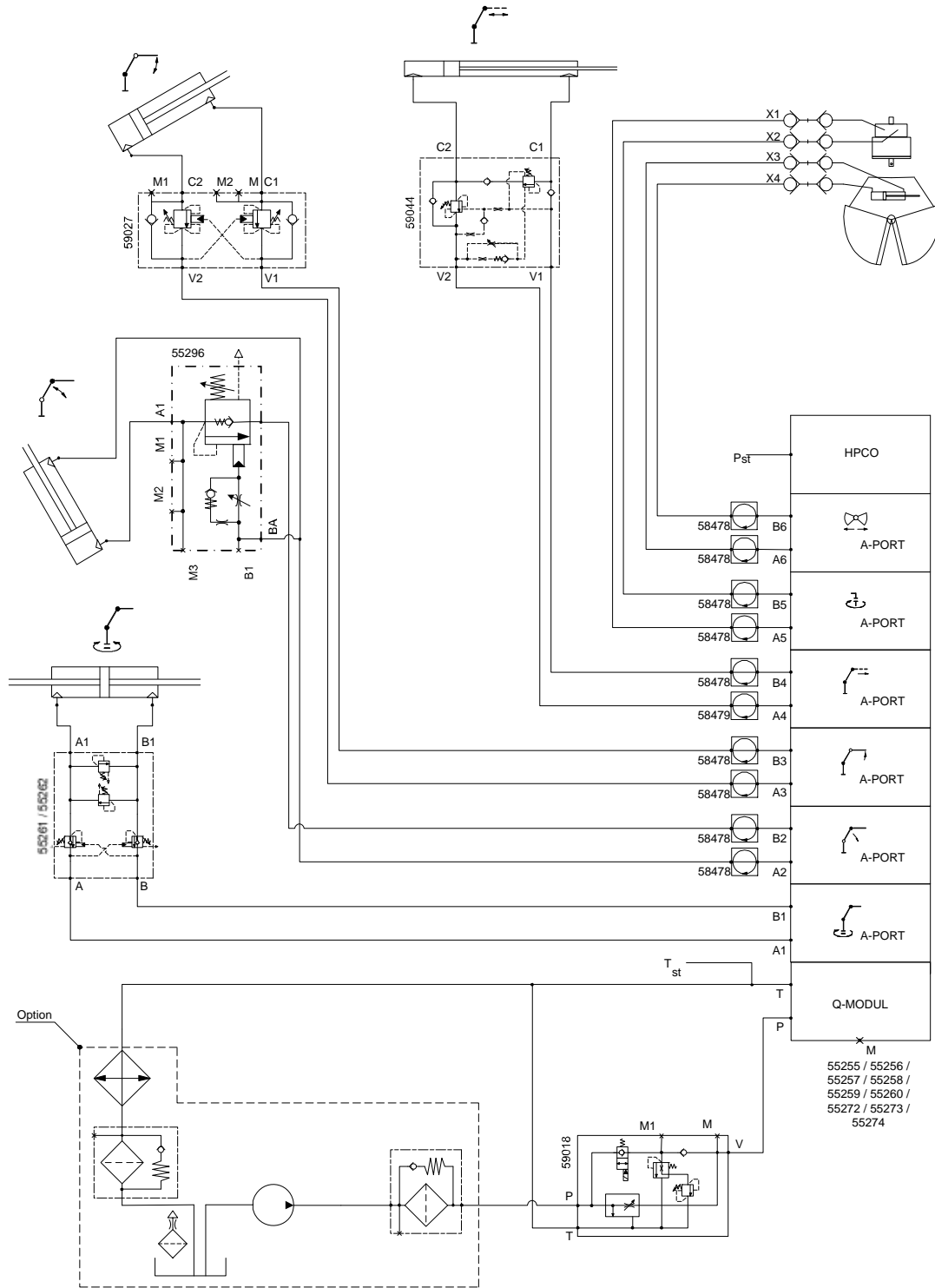
Working Pressure on Load-Holding Valves			
Function	Direction	Port	Opening Pressure psi (bar)
Boom cylinder			5075 (350)
Jib cylinder	Up	A	5075 (350)
	Down	B	
Slewing system			3045 (210)
Extension cylinders	Extend	A	3045 (210)
	Retract	B	6235 (430)

Pressure Setting for HDL Valve	
HDL	4640 (290)

Pressure Setting for Load Moment Limitation (LMB)	
Load moment limitation (LMB)	4205 (320)

Maximum Pump Performance	
Pump performance, 1-circuit	10.5 gpm (40 l/min)

Hydraulic Schematic, Hydrocontrol Controls



Pressure Settings, Danfoss Controls

Working Pressure on Main-Relief Valve & Port-Relief Valves				
Function	Direction	Port	Port-relief valves psi (bar)	LS-pressure adjustment psi (bar)
Main-relief valve			4785 (330)	4785 (330)
Slewing system	Right	A	P	2975 (205)
	Left	B	P	2975 (205)
Boom cylinder	Down	A	1815 (125)	1450 (100)
	Up	B	5075 (350)	5075 (350)
Jib cylinder	Up	A	5075 (350)	5075 (350)
	Down	B	3625 (250)	3335 (230)
Extension cylinders	Extend	A	P	-
	Retract	B	P	-
Rotator	Right	A	P	725 - 4350 (50-300)
	Left	B	P	725 - 4350 (50-300)
Grab	Open	A	P	725 - 4350 (50-300)
	Close	B	P	725 - 4350 (50-300)
Winch	Lift	A	P	2320 (160)
	Lower	B	P	2320 (160)
Separate stabilizer valve		All		2175 (150)

Working Pressure on Load-Holding Valves			
Function	Direction	Port	Opening Pressure psi (bar)
Slewing system	Right		3045 (210)
	Left		3045 (210)
Boom cylinder	Up		5075 (350)
	Down		-
Jib cylinder	Up		5075 (350)
	Down		3625 (250)
Extension cylinders	Extend		3045 (210)
	Retract		6235 (430)

Pressure Setting for Load Moment Limitation (LMB)	
Load moment limitation (LMB)	4570 (315)
HDL	4135 (285)

Maximum Pump Performance	
Pump performance	18.5 gpm (70 l/min)

Hydraulic Schematic, Danfoss Controls

