Manual # 99904607

13/88SL Technical Specifications

Revision Date 20120910

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Contents

Revisions

DATE	LOCATION	DESCRIPTION
20090813		ADDED SWING CLEARANCE DRAWING
20100118	Geometric. configuration	Added stabilizer length and extension dimensions, stabilizer drawings.
20111213	Specs, Stabilizer drawings.	ECN 11628 - Updated stabilizer wording.
20120502	Specifications	Updated weight to include mounting bolt, tank.
20120910	Drawings	Added manual swing up stabilizer drawings, stowed dimension drawing. Added winch data.

CHAPTER 1

Technical Data and Charts

In This Chapter

13/88SL Specifications

13/88SL	1-HYDRAULIC	2-HYDRAULIC	3-HYDRAULIC	4-HYDRAULIC	5-HYDRAULIC	6-HYDRAULIC
Crane Rating*	88,245 ft lb (12.2 tm)	84,625 ft lb (11.7 tm)	81,735 ft lb (11.3 tm)	78,840 ft lb (10.9 tm)	75,945 ft lb (10.5 tm)	73,055 ft lb (10.1 tm)
Maximum Horizontal Reach	20' 4" (6.2 m)	27' 3" (8.3 m)	34' 1" (10.4 m)	41' 8" (12.7 m)	48' 11" (14.9 m)	56' 5" (17.2 m)
Maximum Vertical Reach	28' 7" (8.7 m)	35' 5" (10.8 m)	42' 4" (12.9 m)	49' 10" (15.2 m)	57' 1" (17.4 m)	64' 8" (19.7 m)
Maximum Capacity	9,920 lb (4,500 kg)	9,920 lb (4,500 kg)	8,820 lb (4,000 kg)	8,820 lb (4,000 kg)	8,820 lb (4,000 kg)	8,820 lb (4,000 kg)
Max Cap @ Max Reach	4300 lb (1,950 kg)	3,020 lb (1,370 kg)	2,140 lb (970 kg)	1,520 lb (690 kg)	1,080 lb (490 kg)	750 lb (340 kg)
Crane Weight **	3,110 lb (1,410 kg)	3,415 lb (1,550 kg)	3,725 lb (1,690 kg)	4,025 lb (1,825 kg)	4,290 lb (1,945 kg)	4,495 lb (2,040 kg)
Hook Approach						
Vertical	9' 1" (2.76 m)	8' 11" (2.71 m)	8' 7" (2.62 m)	8' 4" (2.53 m)	8' 0" (2.44 m)	7' 9" (2.35 m)
Horizontal	2' 5" (0.74 m)	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						
Vertical	2' 4" (700 mm)	2' 5" (730 mm)	2' 6" (755 mm)	2' 7" (785 mm)	2' 8" (805 mm)	2' 8" (820 mm)
Horizontal (C/L RotTo Bridge)	13.4" (340 mm)	13.2" (335 mm)	12.8" (325 mm)	12" (305 mm)	11.4" (290 mm)	11" (280 mm)

* Crane rating (ft-lb) is the rated load (lb) multiplied by the respective distance (ft) from 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 crane with tank & 4-bolt mounting kit. Does not include stabilizers, oil.

13/88SL SPECIFICATIONS	
Stabilizer Pad Diameter	6" (160 mm)
Crane Storage Height	7' 5" (2,250 mm)
Mounting Space ***	2' 8" (820 mm)
Rotational Torque	10,850 ft lb (1.5 tm)
Rotation	400°
Optimum Pump Performance	13.2 gpm (50 L/min)
System Pressure	4,350 psi (300 bar)
Oil Reservoir Capacity	23.8 gal (90 L)
Stabilizer Extension Span	
Standard (manual out / hydraulic down)	15' 2" (4,615 mm)
Weight	440 lb (200 kg)
Opt. 1 (manual out / hydraulic down)	18' 4" (5,590 mm)
Weight	520 lb (235 kg)
Opt. 2 (hydraulic out / hydraulic down)	21' 3" (6,470 mm)
Weight	660 lb (300 kg)

*** Maximum swing clearance radius required is 24" (600 mm) at 7'-10" (2375 mm) from top of chassis frame.

MINIMUM CHASSIS SPECIFICATIONS	
Front Axle Rating (GAWR)	9,000 lb (4,080 kg)
Rear Axle Rating (GAWR)	18,500 lb (8,390 kg)
Resistance To Bending Moment	1,230,000 in-lb (141,710 kg-m)

13/88SL Pressure Settings

WORKING PRESSURE ON MAIN-RELIEF VALVES & PORT RELIEF VALVES			
Function	*Direction*	*Port*	*Pressure Setting*
Main-relief valve			4350 psi (300 bar)
Rotation system	Right	A	P
	Left	B	P
Boom cylinder	Down	A	1450 psi (100 bar)
	Up	B	4715 psi (325 bar)
Jib cylinder	Up	A	4715 psi (325 bar)
	Down	B	2900 psi (200 bar)
Extension cylinders	Extend	A	P
	Retract	B	P
Rotator	Right	A	2900 psi (200 bar)
	Left	B	2900 psi (200 bar)
Grab	Open	A	2900 psi (200 bar)
	Close	B	2900 psi (200 bar)
Separate stabilizer valve		All	2175 psi (150 bar)

WORKING PRESSURE ON LOAD-HOLDING VALVES			
Function	*Direction*	*Port*	*Opening Pressure*
Boom cylinder			4715 psi (325 bar)
Jib cylinder			4785 psi (330 bar)
Rotation system			2685 psi (185 bar)
Extension cylinders	Extend	A	3045 psi (210 bar)
	Retract	B	6235 psi (430 bar)

PRESSURE SETTING FOR LOAD-MOMENT LIMITATION (LMB)	
Load moment limitation (LMB)	4205 psi (290 bar)

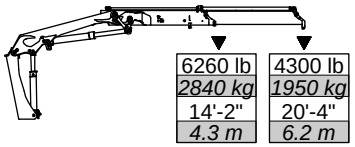
MAXIMUM PUMP PERFORMANCE	
Pump performance	11.9 gal/min (45 l/min)

Winch Technical Data

	1.5 T Winch (P9) (3305 lb / 1500 kg)	**2.5 T Winch (P15) (5510 lb / 2500 kg)**
PERFORMANCE (at 2175 psi (150 bar))		
Maximum wire pull - 1st layer	3305 lb (1500 kg)	5510 lb (2500 kg)
Maximum wire pull - 2nd layer	3020 lb (1370 kg)	5070 lb (2300 kg)
Maximum wire pull - 3rd layer	2278 lb (1260 kg)	4630 lb (2100 kg)
Maximum wire pull - 4th layer	2580 lb (1170 kg)	4300 lb (1950 kg)
WIRE SPEED (at 10.5 gpm (40 l/min))		
Maximum wire speed - 1st layer	72 ft/min (22 m/min)	79 ft/min (24 m/min)
Maximum wire speed - 2nd layer	79 ft/min (24 m/min)	85 ft/min (26 m/min)
Maximum wire speed - 3rd layer	85 ft/min (26 m/min)	92 ft/min (28 m/min)
Maximum wire speed - 4th layer	92 ft/min (28 m/min)	98 ft/min (30 m/min)
WEIGHTS		
Tare weight, winch	143 lb (65 kg)	198 lb (90 kg)
Fixed parts (valve section, brackets, hoses, etc.)	110 lb (50 kg)	110 lb (50 kg)
Wire 10 mm dia x 50 m	66 lb (30 kg)	66 lb (30 kg)
Spare parts, single snatch block	66 lb (30 kg)	66 lb (30 kg)
Spare parts, double snatch block	88 lb (40 kg)	88 lb (40 kg)

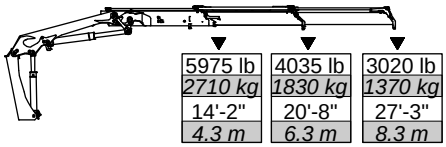
Lifting Capacities - 13/88SL K1-K6

13/88SL - 1 Hydraulic



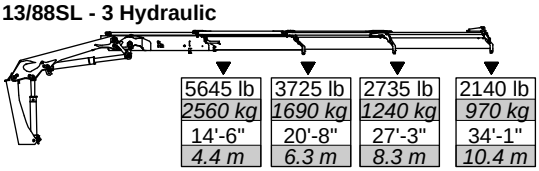
6260 lb	4300 lb
2840 kg	*1950 kg*
14'-2"	20'-4"
4.3 m	*6.2 m*

13/88SL - 2 Hydraulic



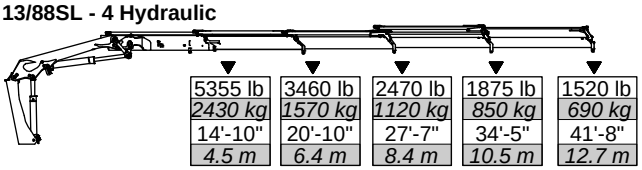
5975 lb	4035 lb	3020 lb
2710 kg	*1830 kg*	*1370 kg*
14'-2"	20'-8"	27'-3"
4.3 m	*6.3 m*	*8.3 m*

13/88SL - 3 Hydraulic



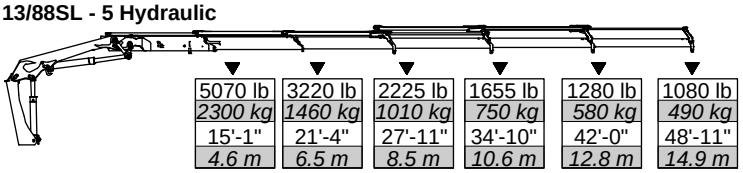
5645 lb	3725 lb	2735 lb	2140 lb
2560 kg	*1690 kg*	*1240 kg*	*970 kg*
14'-6"	20'-8"	27'-3"	34'-1"
4.4 m	*6.3 m*	*8.3 m*	*10.4 m*

13/88SL - 4 Hydraulic



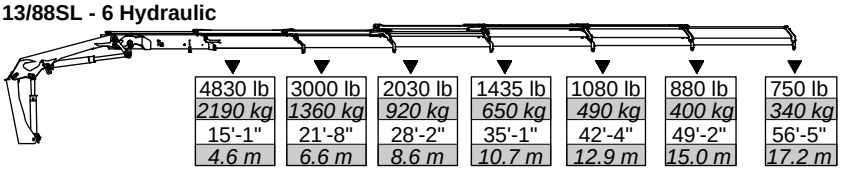
5355 lb	3460 lb	2470 lb	1875 lb	1520 lb
2430 kg	*1570 kg*	*1120 kg*	*850 kg*	*690 kg*
14'-10"	20'-10"	27'-7"	34'-5"	41'-8"
4.5 m	*6.4 m*	*8.4 m*	*10.5 m*	*12.7 m*

13/88SL - 5 Hydraulic



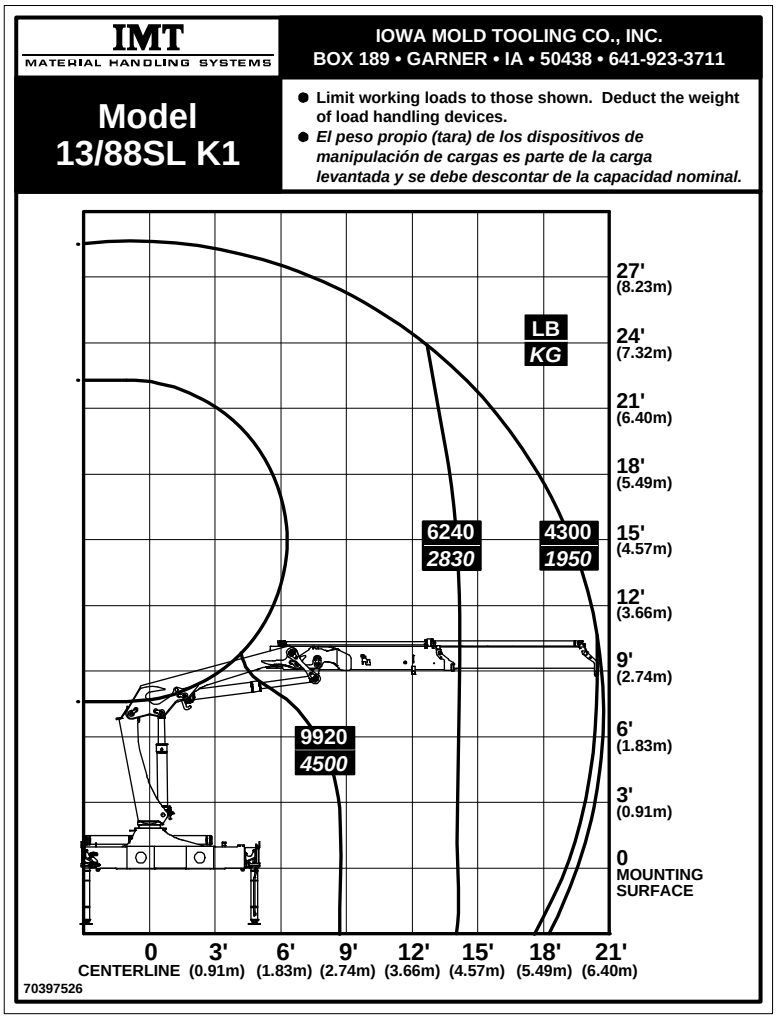
5070 lb	3220 lb	2225 lb	1655 lb	1280 lb	1080 lb
2300 kg	*1460 kg*	*1010 kg*	*750 kg*	*580 kg*	*490 kg*
15'-1"	21'-4"	27'-11"	34'-10"	42'-0"	48'-11"
4.6 m	*6.5 m*	*8.5 m*	*10.6 m*	*12.8 m*	*14.9 m*

13/88SL - 6 Hydraulic

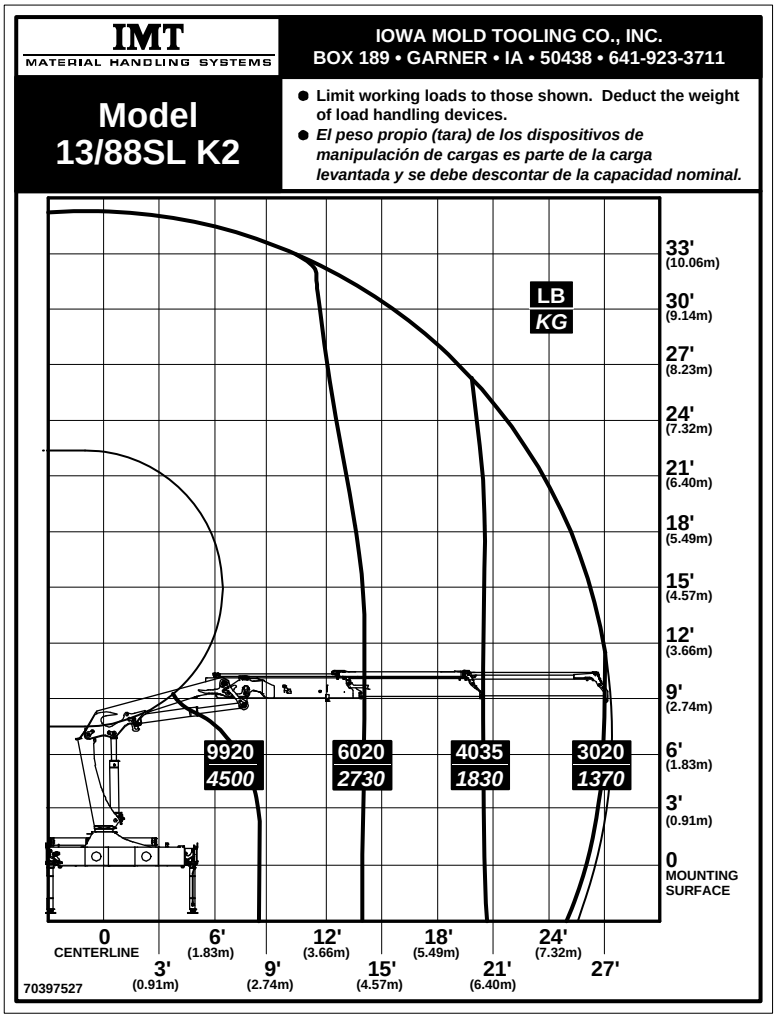


4830 lb	3000 lb	2030 lb	1435 lb	1080 lb	880 lb	750 lb
2190 kg	*1360 kg*	*920 kg*	*650 kg*	*490 kg*	*400 kg*	*340 kg*
15'-1"	21'-8"	28'-2"	35'-1"	42'-4"	49'-2"	56'-5"
4.6 m	*6.6 m*	*8.6 m*	*10.7 m*	*12.9 m*	*15.0 m*	*17.2 m*

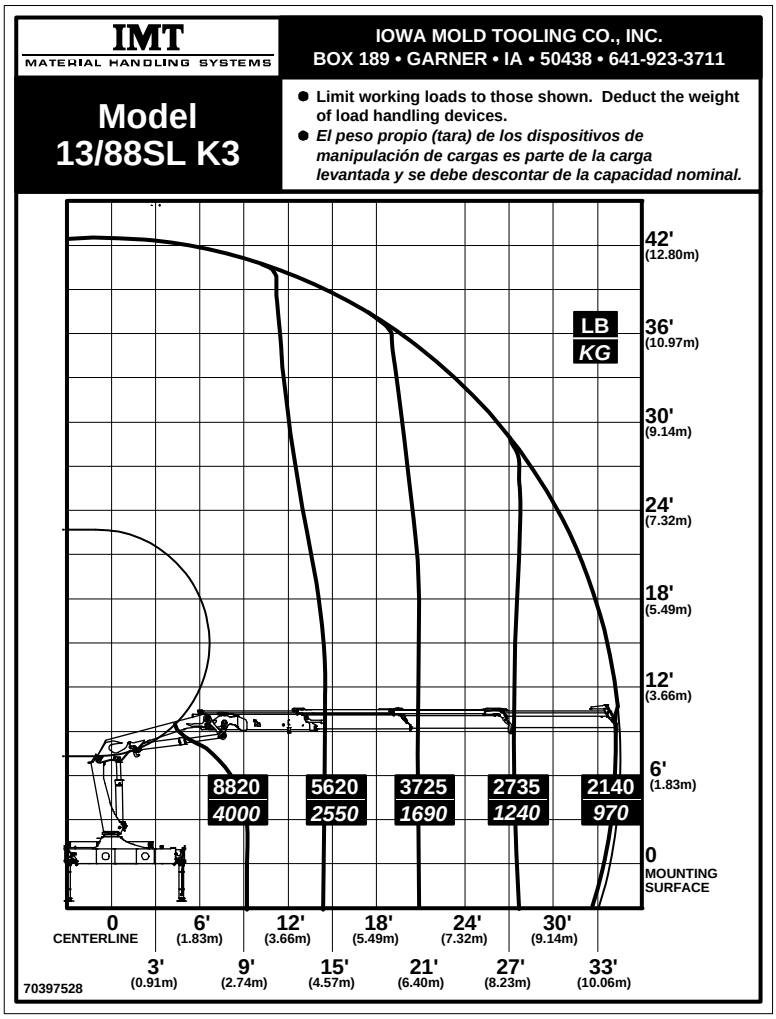
13/88SL K1 Capacity Chart



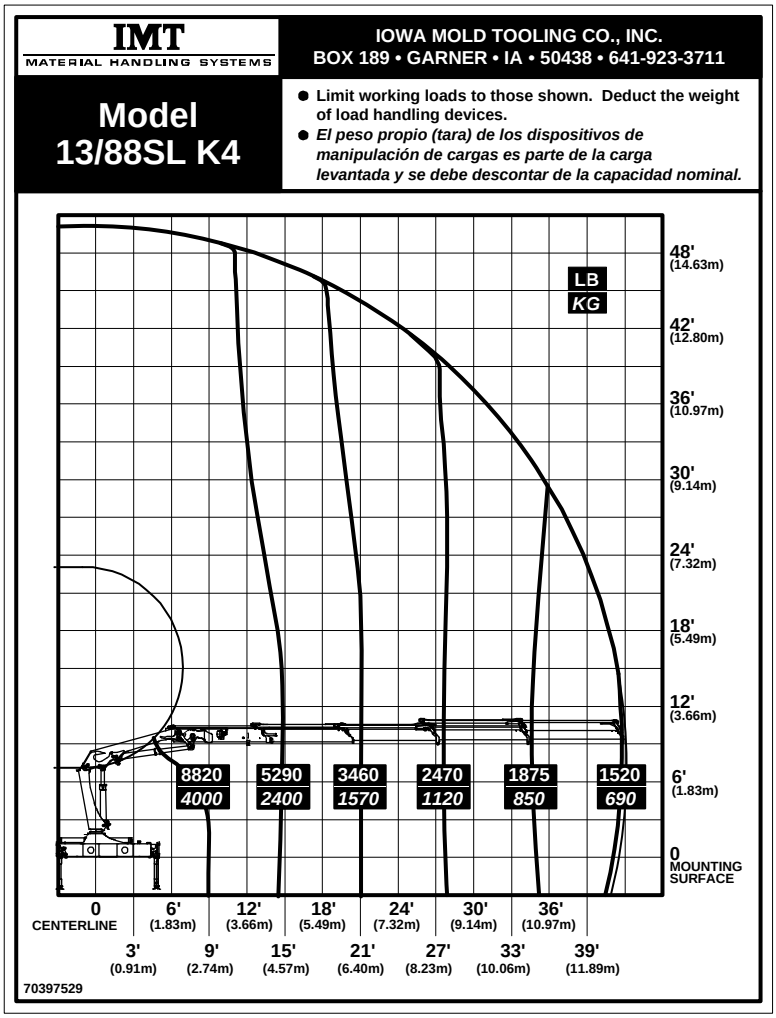
13/88SL K2 Capacity Chart



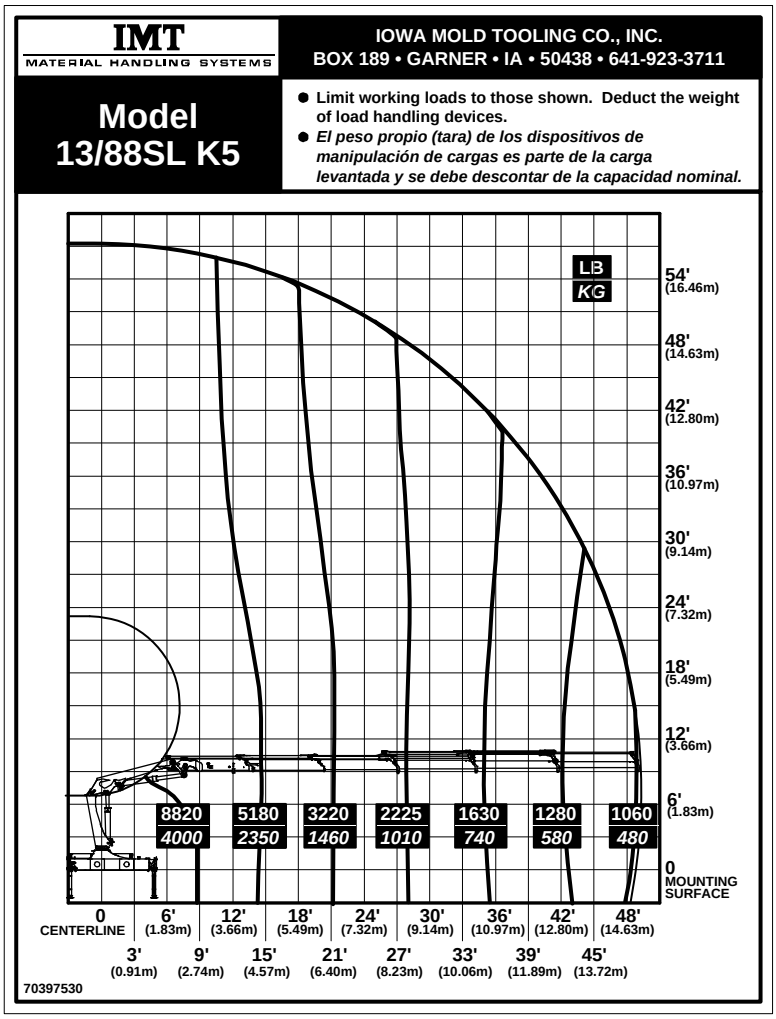
13/88SL K3 Capacity Chart



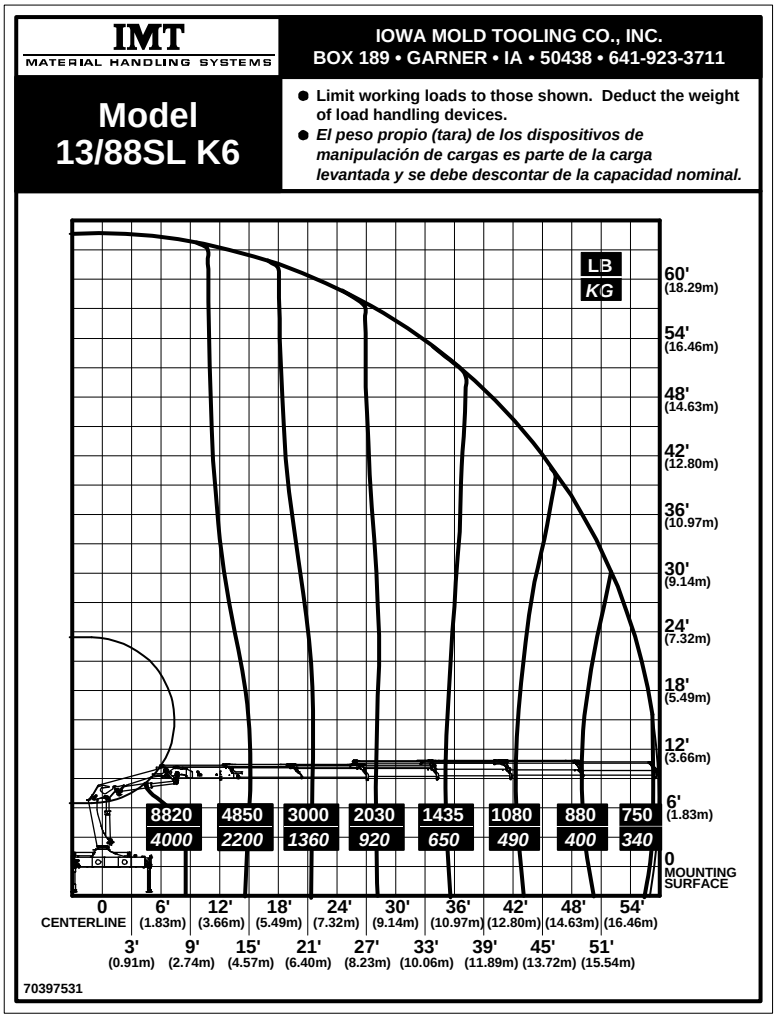
13/88SL K4 Capacity Chart



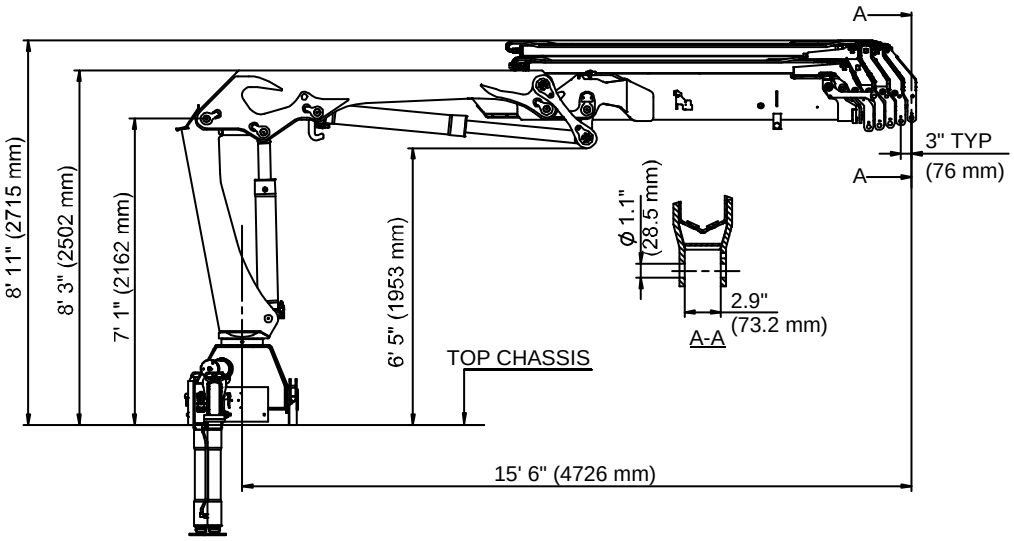
13/88SL K5 Capacity Chart

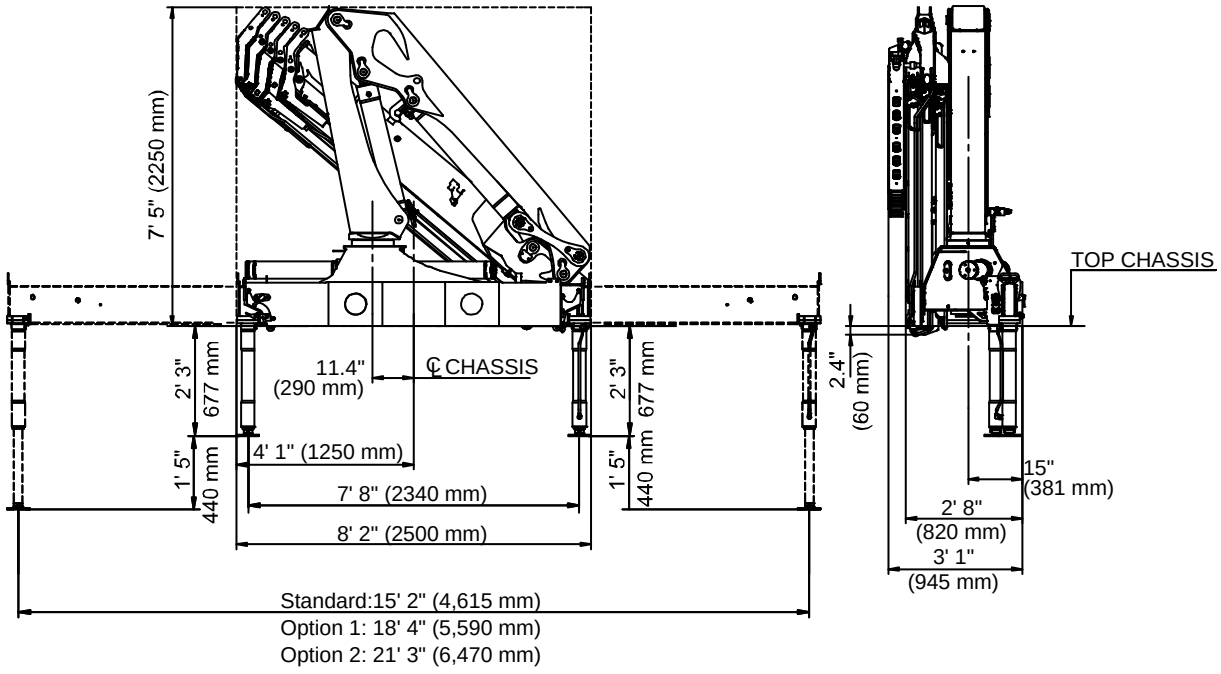


13/88SL K6 Capacity Chart



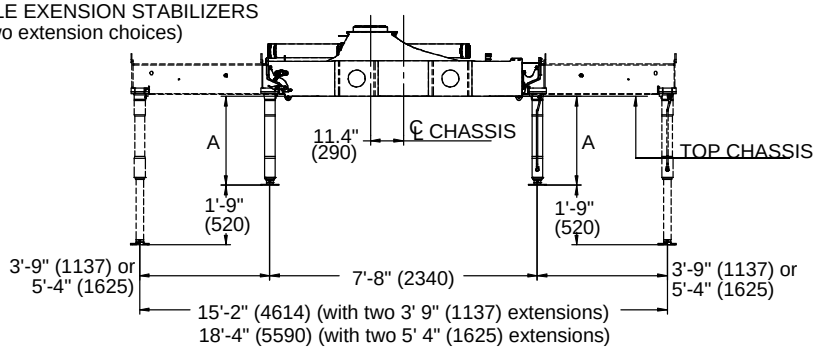
13/88SL Geometric Configuration



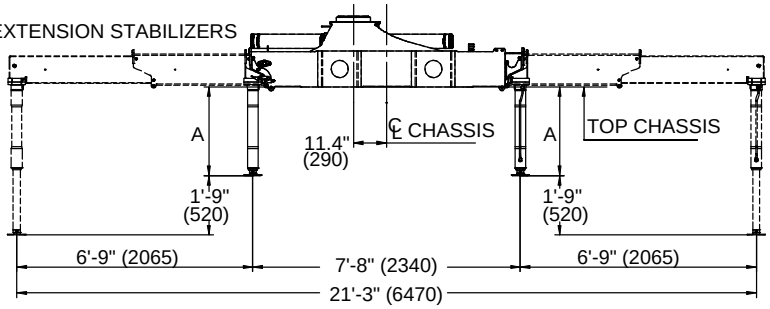


Stabilizer Dimensions, Fixed Legs

SINGLE EXENSION STABILIZERS
(Two extension choices)



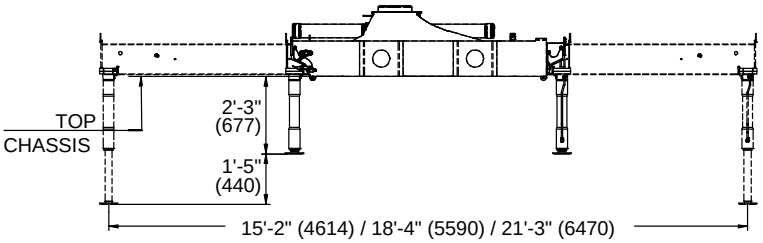
DOUBLE EXTENSION STABILIZERS

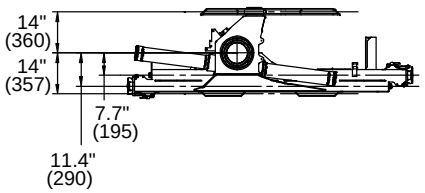


STABILIZER LEG EXTENSIONS

A	2'-6" (777)	2'-11" (877)	3'-2" (977)

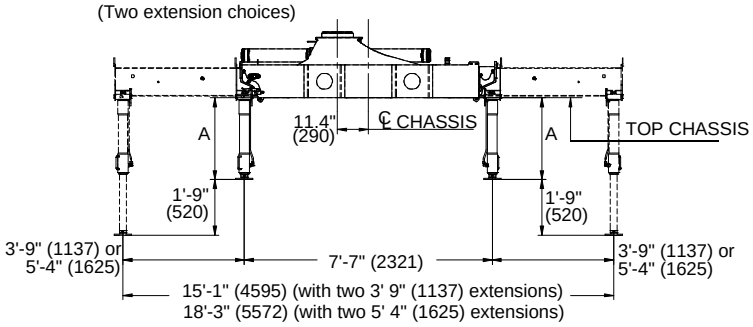
STABILIZER CYLINDER, C80-440



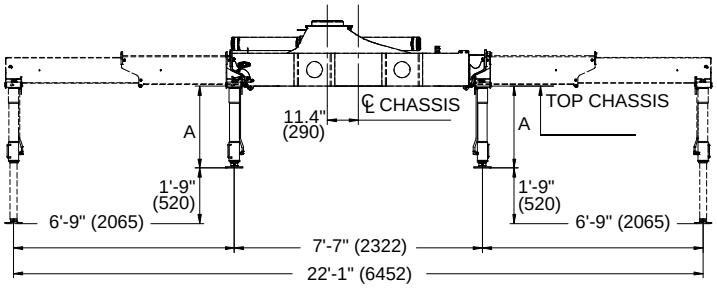


Stabilizer Dimensions, Manual Swing-Up Legs

SINGLE EXENSION STABILIZERS WITH MANUAL SWING-UP LEGS
(Two extension choices)



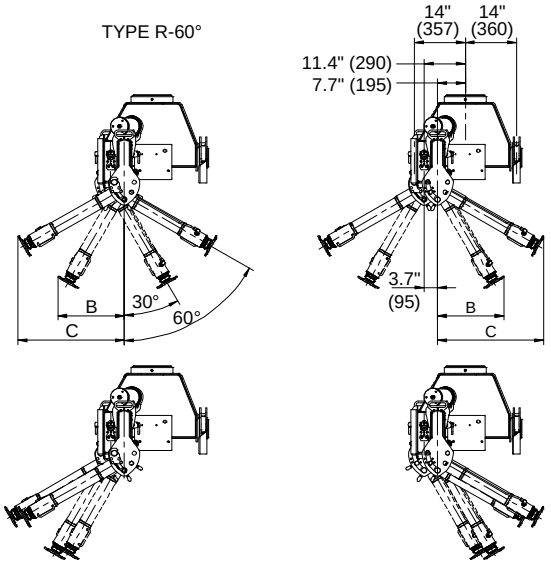
DOUBLE EXTENSION STABILIZERS WITH MANUAL SWING-UP LEGS



STABILIZER LEG EXTENSIONS

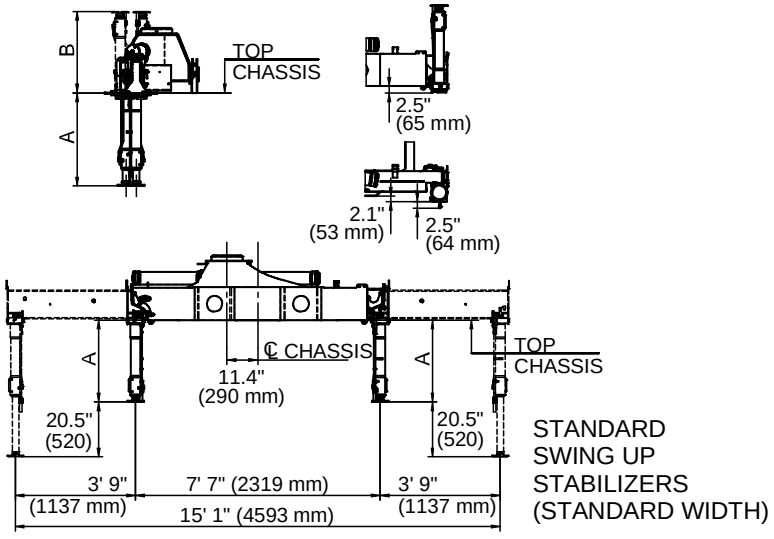
A Type R-60°	2'-6" (771)	2'-10" (871)	3'-2" (971)

TYPE R-60°

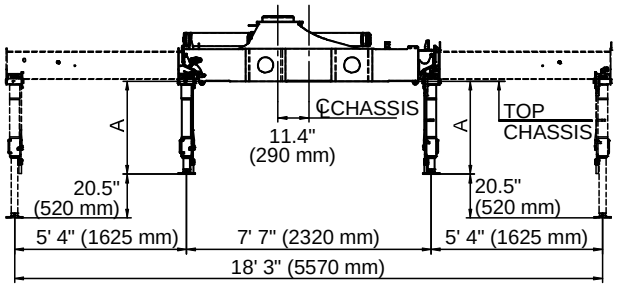


B	18.3" (465)	20.3" (515)	21.9" (565)
C	29.3" (744)	32.7" (831)	36.1" (918)

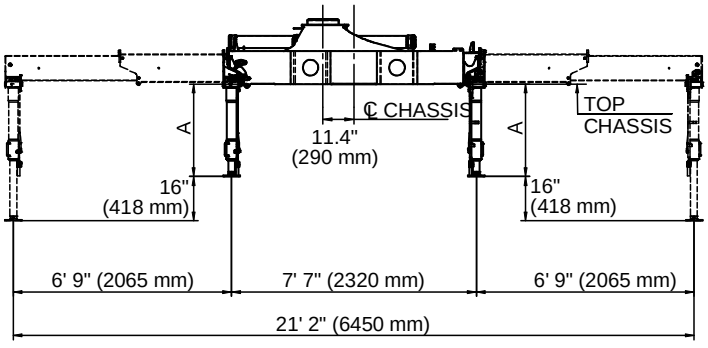
Stabilizer Dimensions, Hyd Swing-Up Legs



STANDARD
SWING UP
STABILIZERS
(STANDARD WIDTH)



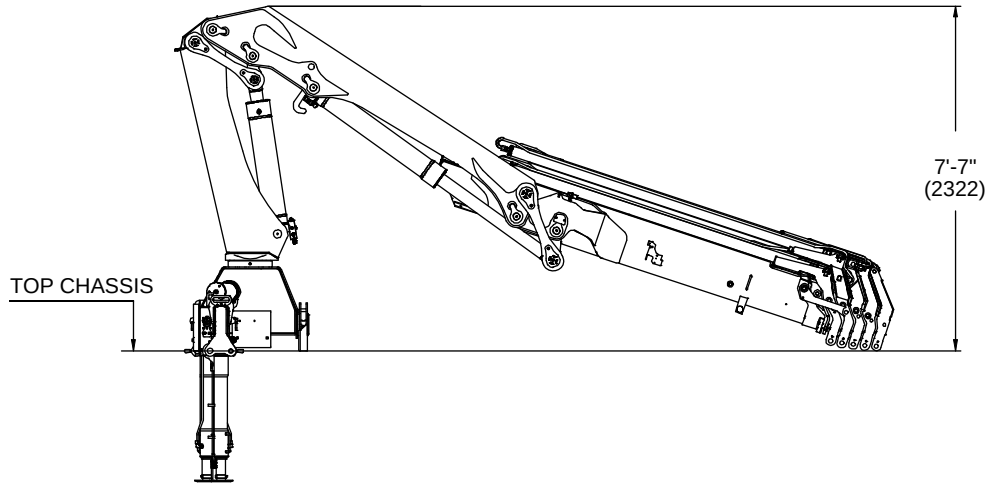
OPTION 1
SWING UP
STABILIZERS
(EXTRA WIDE)

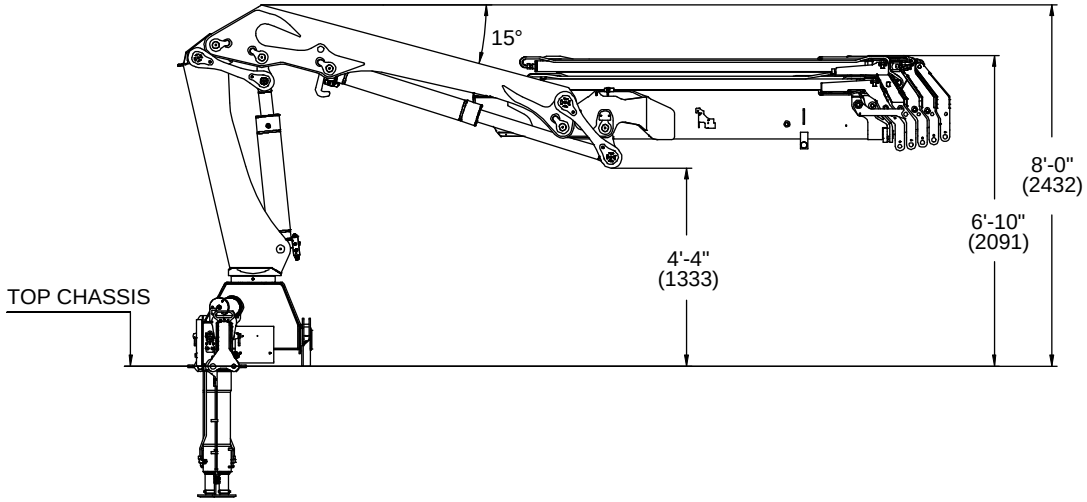


OPTION 2
SWING UP
STABILIZERS
(EXTRA WIDE)

A	35" (881 mm)	39" (981 mm)	42.5" (1081 mm)
B	30.5" (775 mm)	34.4" (875 mm)	38.4" (975 mm)

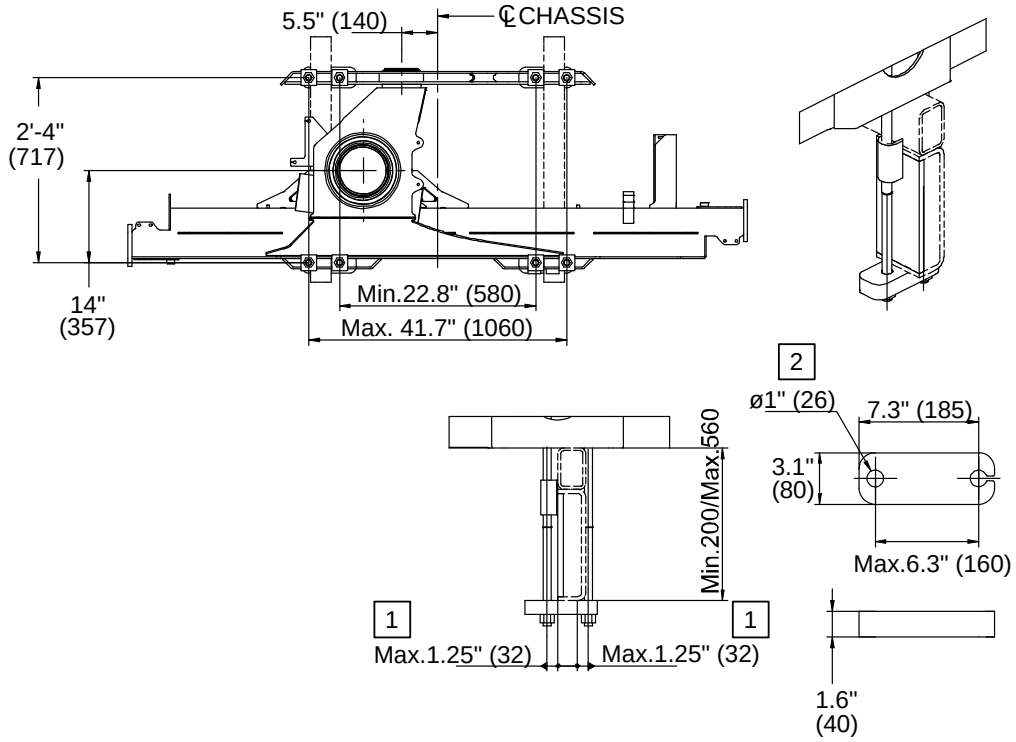
Stowed Dimensions



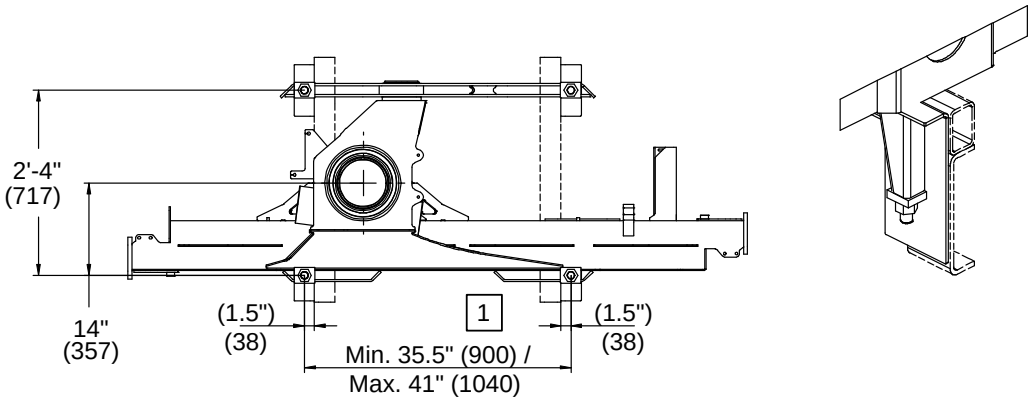


Mounting Dimensions

MOUNTING KIT 8 x M24x2 BOLTS



MOUNTING KIT 4 x M30x2 BOLTS



NOTES (SEE REFERENCE NUMBER IN BOX):

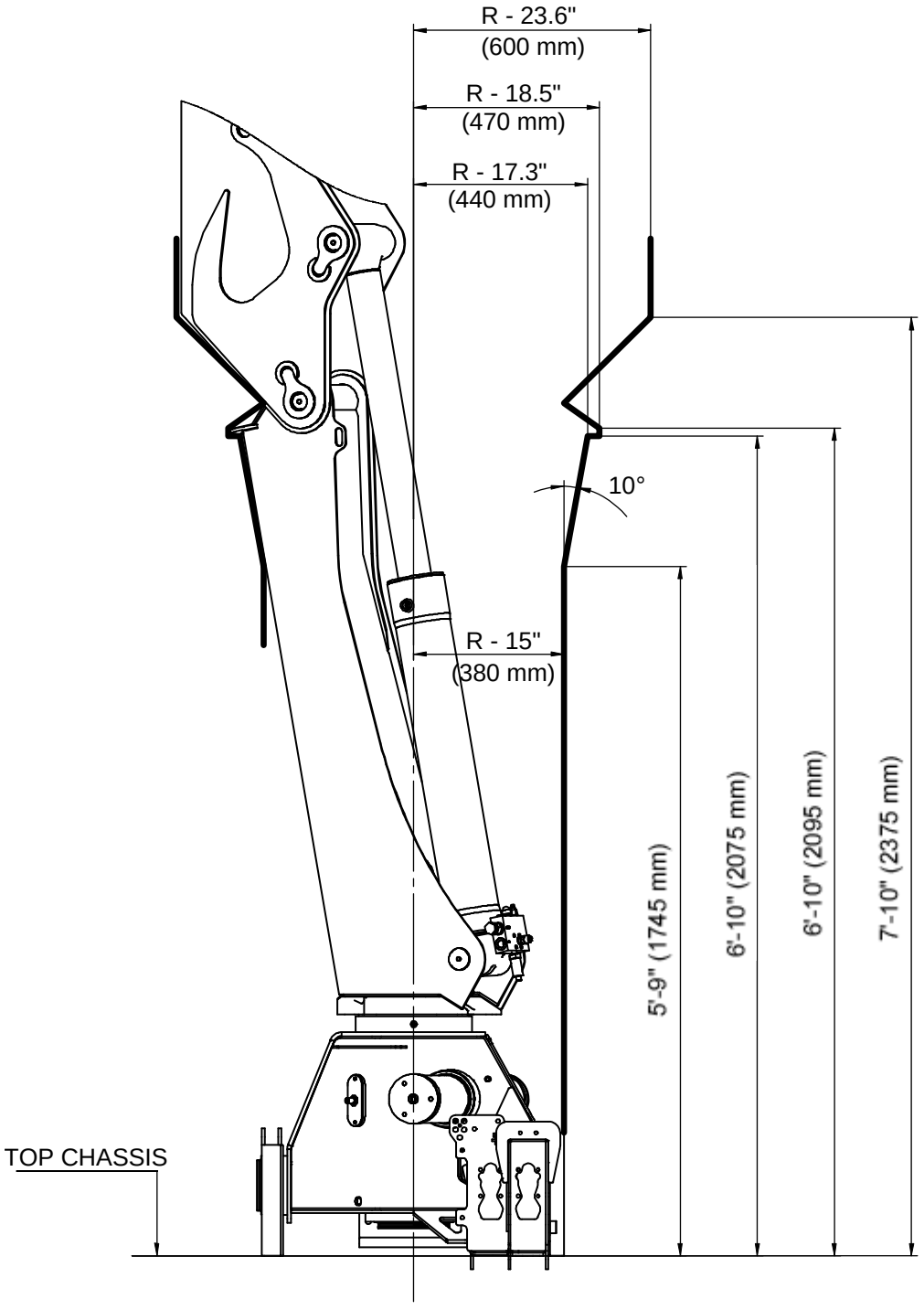
1 VALUES DICTATED BY STRENGTH CONSIDERATIONS.

2 DRILL HOLE WHEN ASSEMBLING.

3 SEE INSTALLATION MANUAL # 99901230 REGARDING INSTALLATION.

4 MOUNTING KIT AND REPLACEMENT PART NUMBERS ARE IN THE CRANE PARTS MANUALS.

13/88SL Swing Clearance



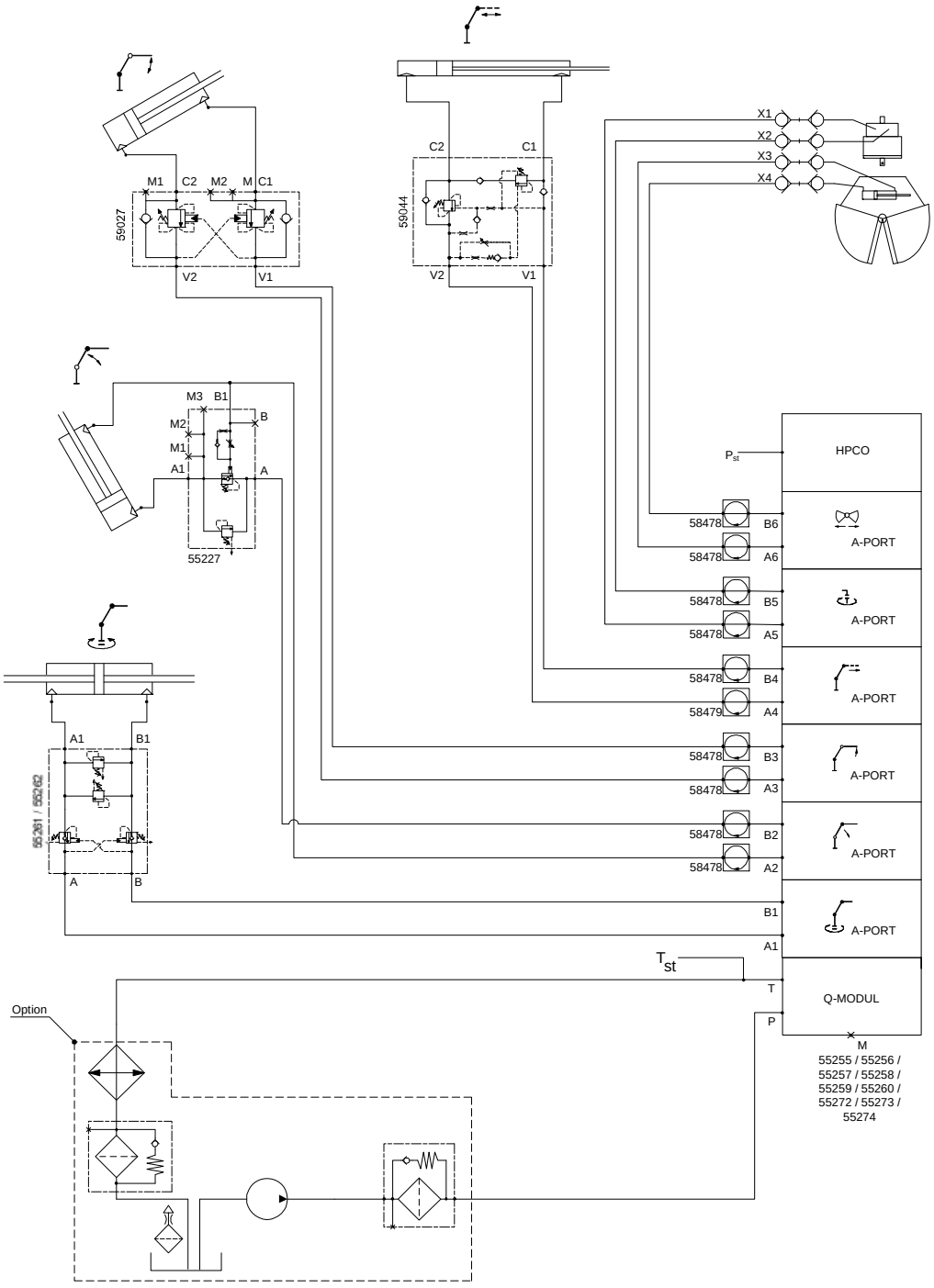
CHAPTER 2

Hydraulic Schematics

In This Chapter

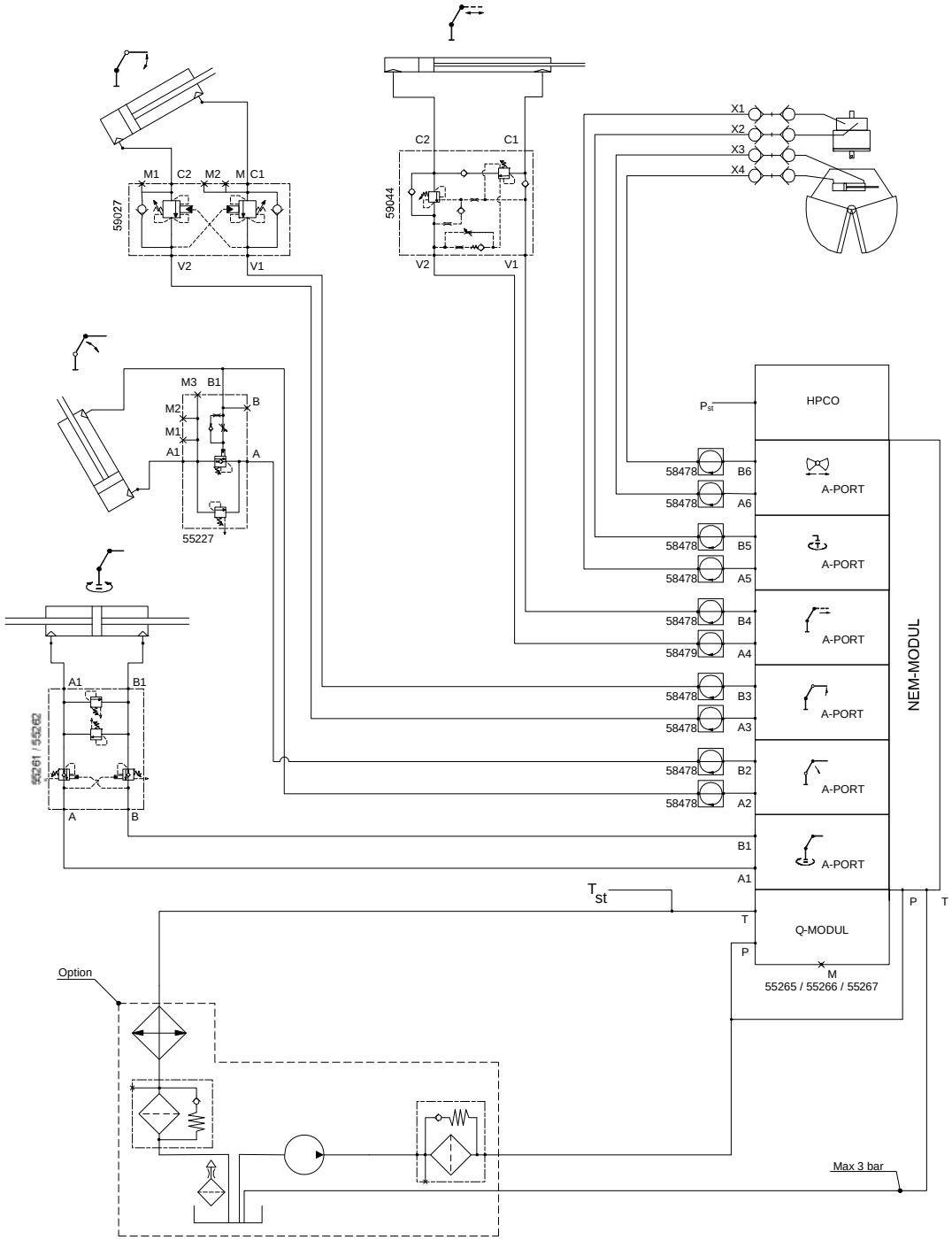
Hydraulic Diagram - 13/88SL Manual Control

This diagram applies to a 13/88SL crane with a single-circuit fixed pump and 6-function manual controls.



Hydraulic Diagram - 13/88SL Radio Control

This diagram applies to a 13/88SL crane with a single-circuit fixed pump and 6-function radio controls.



Hydraulic Diagram- 13/88SL Top Seat Control

This diagram applies to a 13/88SL crane with a single-circuit fixed pump and 6-function top seat controls.