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Manual # 99904609

# 14/98SL Technical Specifications

Revision Date 20120910



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## Revisions

DATE	LOCATION	DESCRIPTION
20090813		Added swing clearance dimensions.
20100118	Geometric. configuration	Added outrigger length and extension dimensions, outrigger drawings.
20111213	Specs, Stabilizer drawings	ECN 11628 - Updated stabilizer wording.
20120503	Specifications	Revised crane weight to include tank, mtg kit.
20120910	Drawings	Added manual swing up stabilizer drawings, stowed dimension drawing. Added winch data.

## CHAPTER 1

# Technical Data and Charts

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# 14/98SL Specifications

14/98SL	1-HYDRAULIC	2-HYDRAULIC	3-HYDRAULIC	4-HYDRAULIC	5-HYDRAULIC	6-HYDRAULIC
Crane Rating*	97,645 ft lb (13.5 tm)	94,030 ft lb (13 tm)	91,135 ft lb (12.6 tm)	88,245 ft lb (12.2 tm)	85,350 ft lb (11.8 tm)	83,180 ft lb (11.5 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	11,025 lb (5,000 kg)	10,580 lb (4,800 kg)	10,580 lb (4,800 kg)	9,920 lb (4,500 kg)	9,700 lb (4,400 kg)	9,480 lb (4,300 kg)
Max Cap @ Max Reach	4,785 lb (2,170 kg)	3,395 lb (1,540 kg)	2,450 lb (1,110 kg)	1,765 lb (800 kg)	1,280 lb (580 kg)	925 lb (420 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.

14/98SL GENERAL SPECIFICATIONS	
Stabilizer Pad Diameter	6" (160 mm)
Crane Storage Height	7' 4" (2,245 mm)
Mounting Space ***	2' 8" (820 mm)
Rotational Torque	14,465 ft-lb (2.0 tm)
Rotation	400°
Optimum Pump Performance	13.2 gpm (50 L/min)
System Pressure	4,785 psi (330 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	560 lb (254 kg)
Opt. 2 (hydraulic out / hydraulic down)	21' 3" (6,470 mm)
Weight	640 lb (290 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)	12,000 lb (5,445 kg)
Rear Axle Rating (GAWR)	21,000 lb (9,525 kg)
Resistance To Bending Moment	1,850,000 in-lb (213,145 kg-m)

## 14/98SL Pressure Settings

<b>WORKING PRESSURE ON MAIN-RELIEF VALVES &amp; PORT RELIEF VALVES</b>			
<i>Function</i>	<i>Direction</i>	<i>Port</i>	<i>Pressure Setting</i>
Main-relief valve			4785 psi (330 bar)
Rotation system	Right	A	P
	Left	B	P
Boom cylinder	Down	A	1450 psi (100 bar)
	Up	B	4930 psi (340 bar)
Jib cylinder	Up	A	4930 psi (340 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)
<b>WORKING PRESSURE ON LOAD-HOLDING VALVES</b>			
<i>Function</i>	<i>Direction</i>	<i>Port</i>	<i>Opening Pressure</i>
Boom cylinder			5075 psi (350 bar)
Jib cylinder			5075 psi (350 bar)
Rotation system			2685 psi (185 bar)
Extension cylinders	Extend	A	3045 psi (210 bar)
	Retract	B	6235 psi (430 bar)
<b>PRESSURE SETTING FOR LOAD-MOMENT LIMITATION (LMB)</b>			
Load moment limitation (LMB)			4640 psi (320 bar)
HDL			4205 psi (290 bar)
<b>MAXIMUM PUMP PERFORMANCE</b>			
Pump performance			11.9 gal/min (45 l/min)

## 14/98SL Pressure Settings with Remote Control

<b>WORKING PRESSURE ON MAIN-RELIEF VALVES &amp; PORT RELIEF VALVES</b>				
Function	Direction	Port	Port-Relief Valve Pressure Setting	Load-Sense Pressure Adjustment
Main-relief valve			4785 psi (330 bar)	4785 psi (330 bar)
Rotation system	Right	A	P	2610 psi (180 bar)
	Left	B	P	2610 psi (180 bar)
Boom cylinder	Down	A	1815 psi (125 bar)	1450 psi (100 bar)
	Up	B	5075 psi (350 bar)	5075 psi (350 bar)
Jib cylinder	Up	A	5075 psi (350 bar)	5075 psi (350 bar)
	Down	B	2755 psi (190 bar)	2320 psi (160 bar)
Extension cylinders	Extend	A	P	-
	Retract	B	P	-
Rotator	Right	A	P	725 - 4350 psi (50-300 bar)
	Left	B	P	725 - 4350 psi (50-300 bar)
Grab	Open	A	P	725 - 4350 psi (50-300 bar)
	Close	B	P	725 - 4350 psi (50-300 bar)
Winch (1.5 metric T)	Lift	A	P	2320 psi (160 bar)
	Lower	B	P	2320 psi (160 bar)
Winch (2.5 metric T)	Lift	A	P	2685 psi (185 bar)
	Lower	B	P	2685 psi (185 bar)
Separate stabilizer valve		All		2175 psi (150 bar)

<b>WORKING PRESSURE ON LOAD-HOLDING VALVES</b>		
Function	Direction	Opening Pressure
Rotation System	Right	2685 psi (185 bar)
	Left	2685 psi (185 bar)
Boom cylinder	Up	5075 psi (350 bar)
	Down	-
Jib cylinder	Up	5075 psi (350 bar)
	Down	3045 psi (210 bar)
Extension cylinders	Extend	3045 psi (210 bar)
	Retract	6235 psi (430 bar)

<b>PRESSURE SETTING FOR LOAD-MOMENT LIMITATION (LMB)</b>	
Load moment limitation (LMB)	4570 psi (315 bar)
HDL	4135 psi (285 bar)
<b>MAXIMUM PUMP PERFORMANCE</b>	
Pump performance	18.5 gal/min (70 l/min)

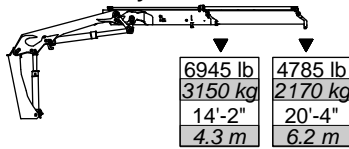


## Winch Technical Data

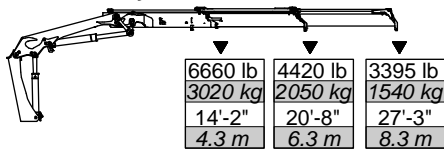
	<b>1.5 T Winch (P9)</b> <b>(3305 lb / 1500 kg)</b>	<b>2.5 T Winch (P15)</b> <b>(5510 lb / 2500 kg)</b>
<b>PERFORMANCE</b> (at 2175 psi (150 bar))		
Maximum wire pull - 1st layer	3305 lb (1500 kg)	5510 lb (2500 kg)
Maximum wire pull - 2nd layer	3020 lb (1370 kg)	5070 lb (2300 kg)
Maximum wire pull - 3rd layer	2278 lb (1260 kg)	4630 lb (2100 kg)
Maximum wire pull - 4th layer	2580 lb (1170 kg)	4300 lb (1950 kg)
<b>WIRE SPEED</b> (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)
<b>WEIGHTS</b>		
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 - 14/98SL K1-K6

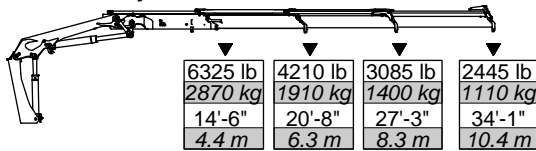
## 14/98SL - 1 Hydraulic



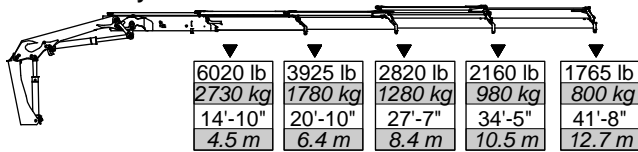
## 14/98SL - 2 Hydraulic



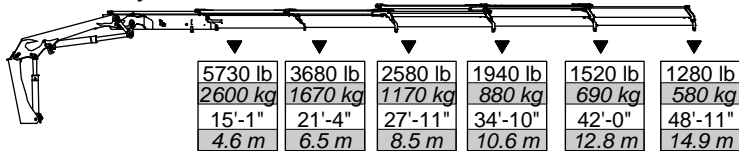
## 14/98SL - 3 Hydraulic



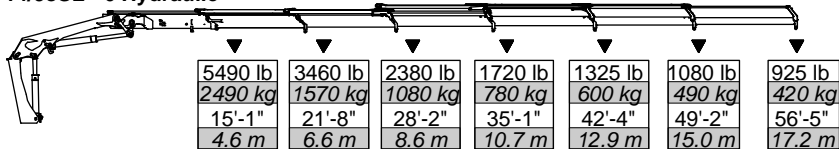
## 14/98SL - 4 Hydraulic



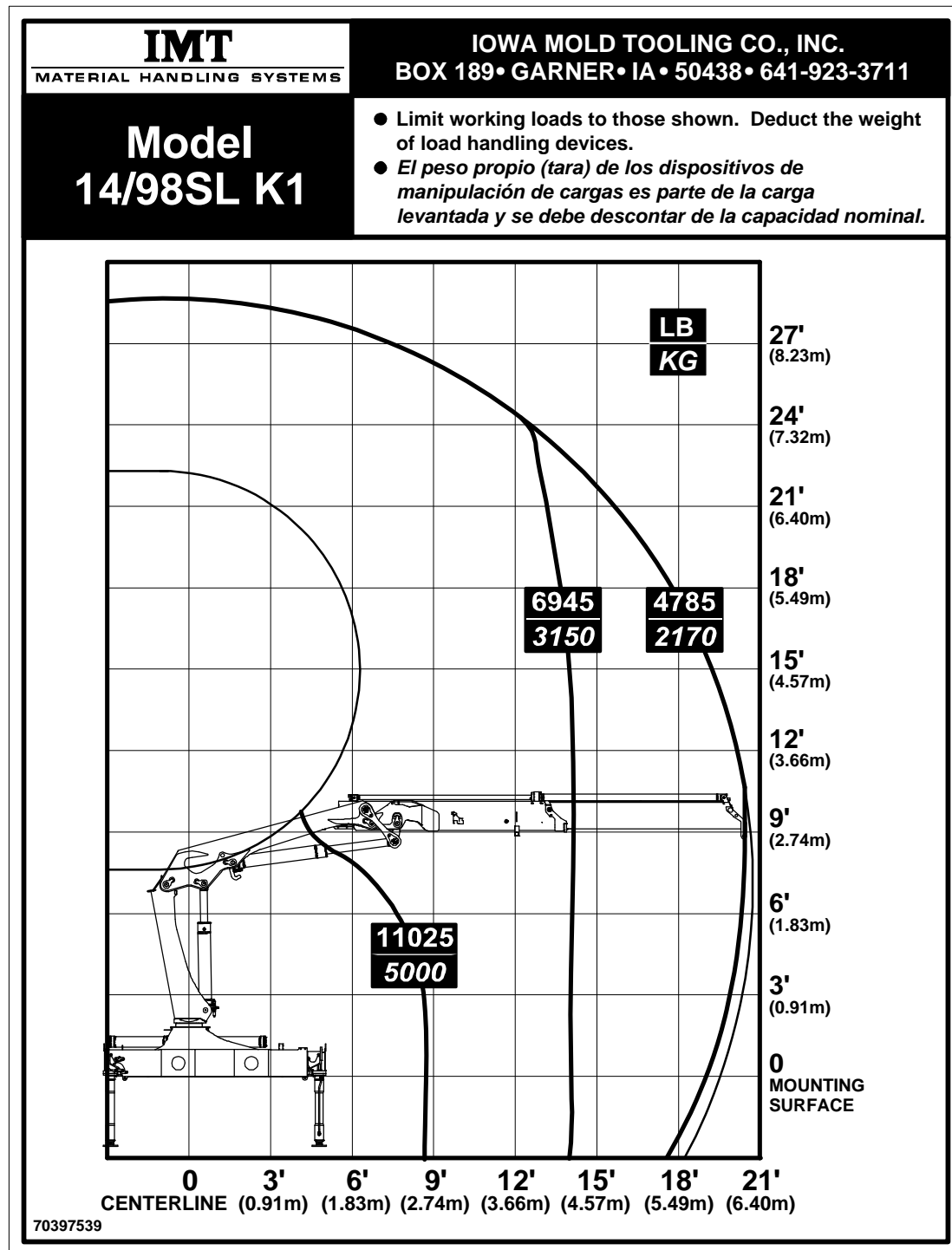
## 14/98SL - 5 Hydraulic



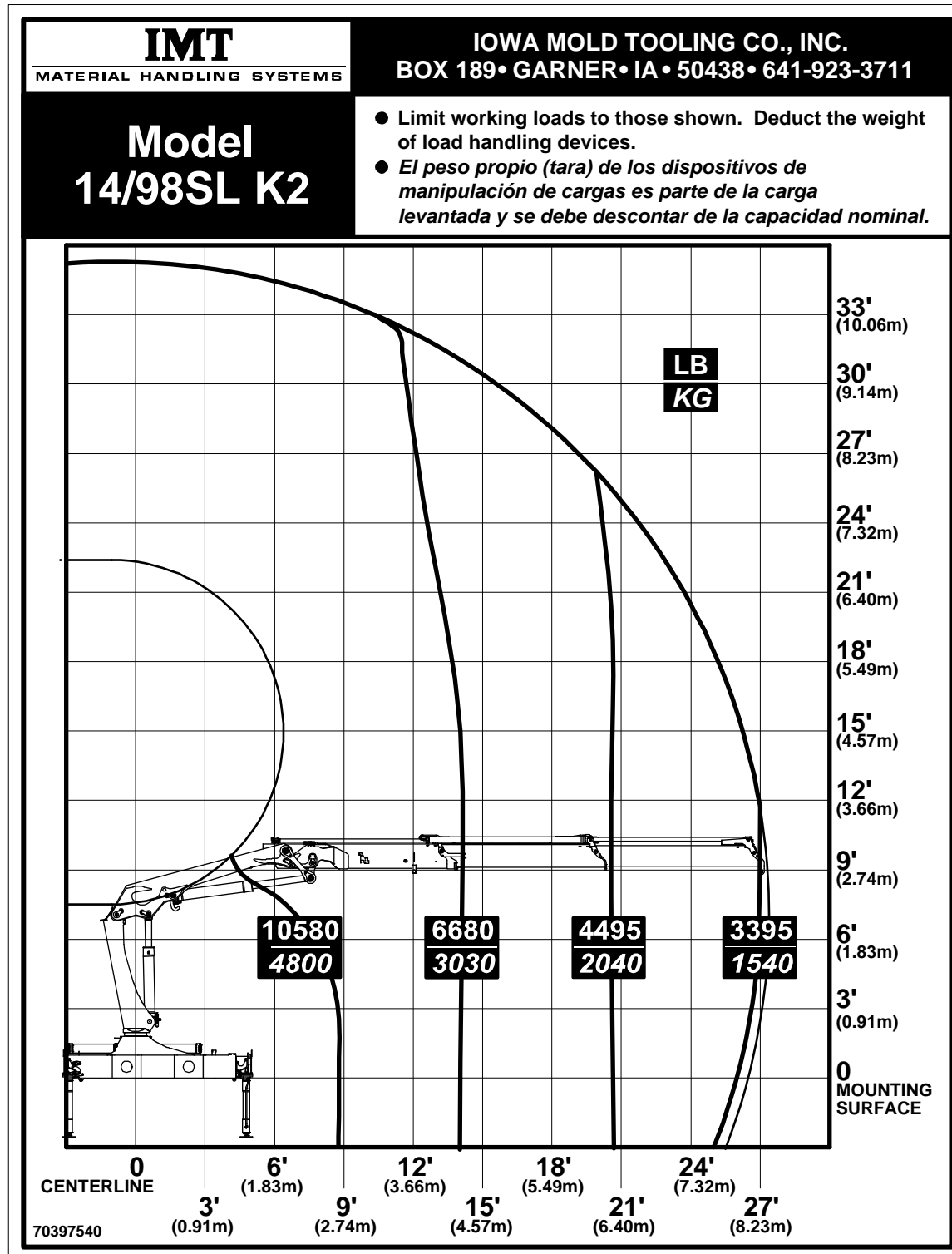
## 14/98SL - 6 Hydraulic



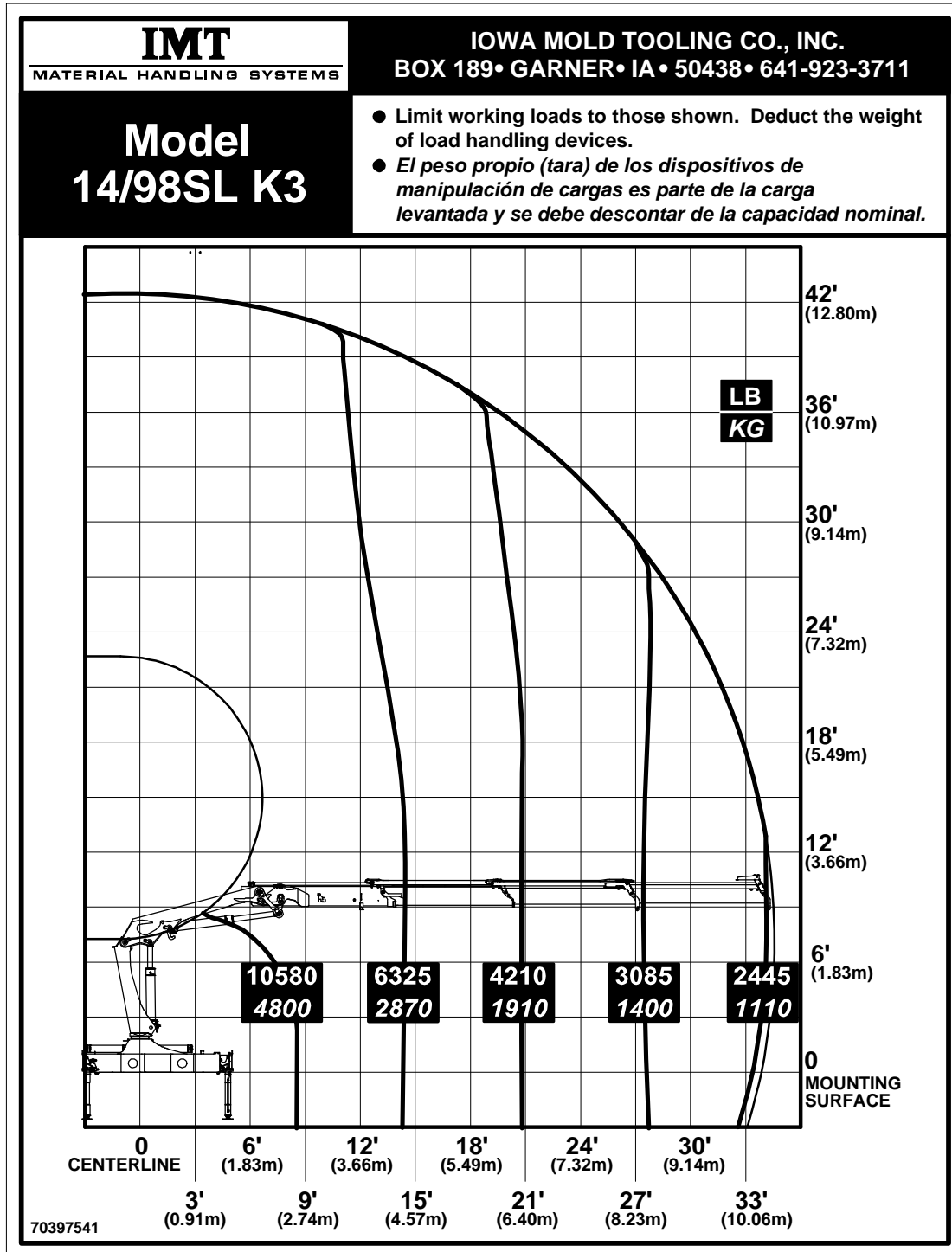
# 14/98SL K1 Capacity Chart



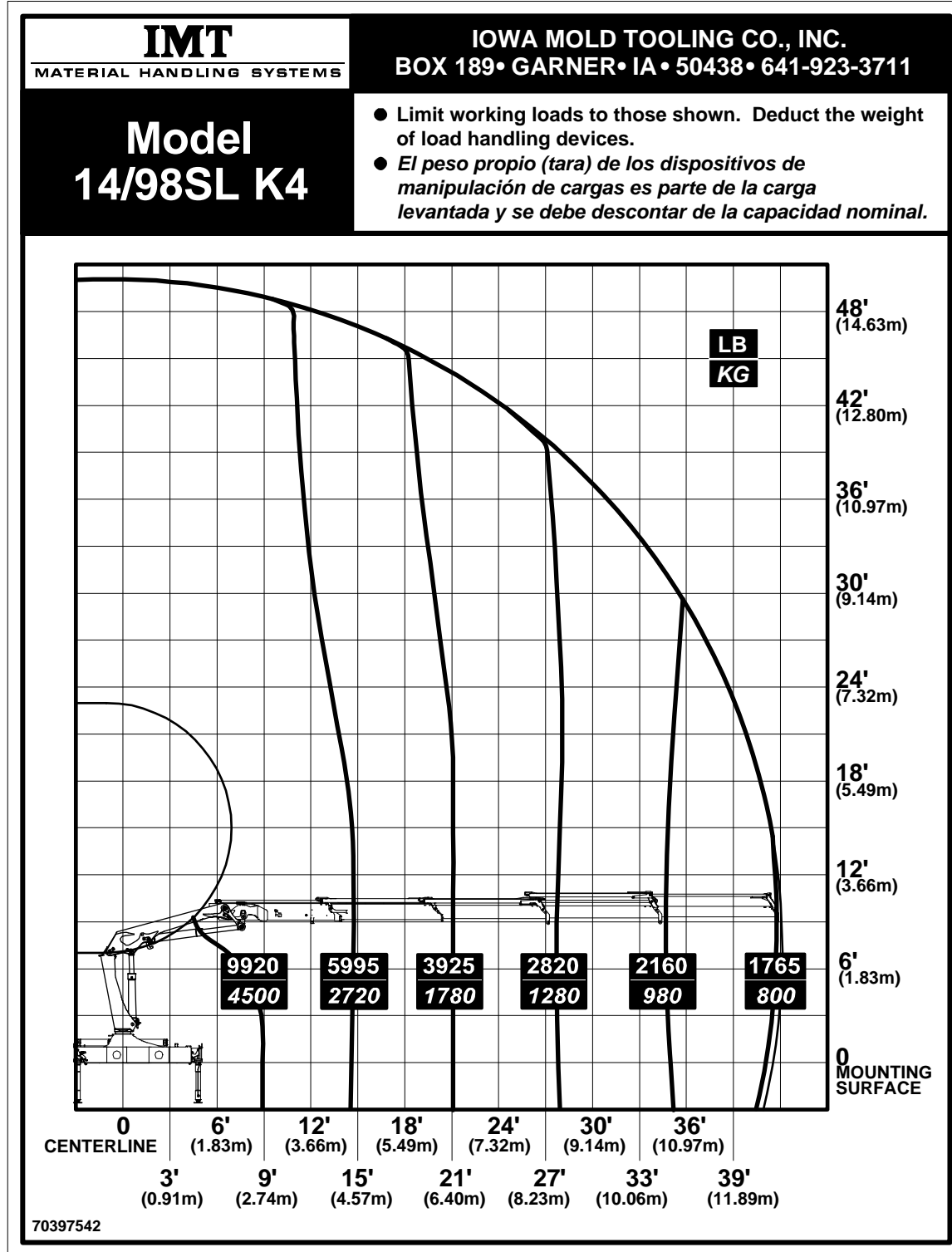
# 14/98SL K2 Capacity Chart



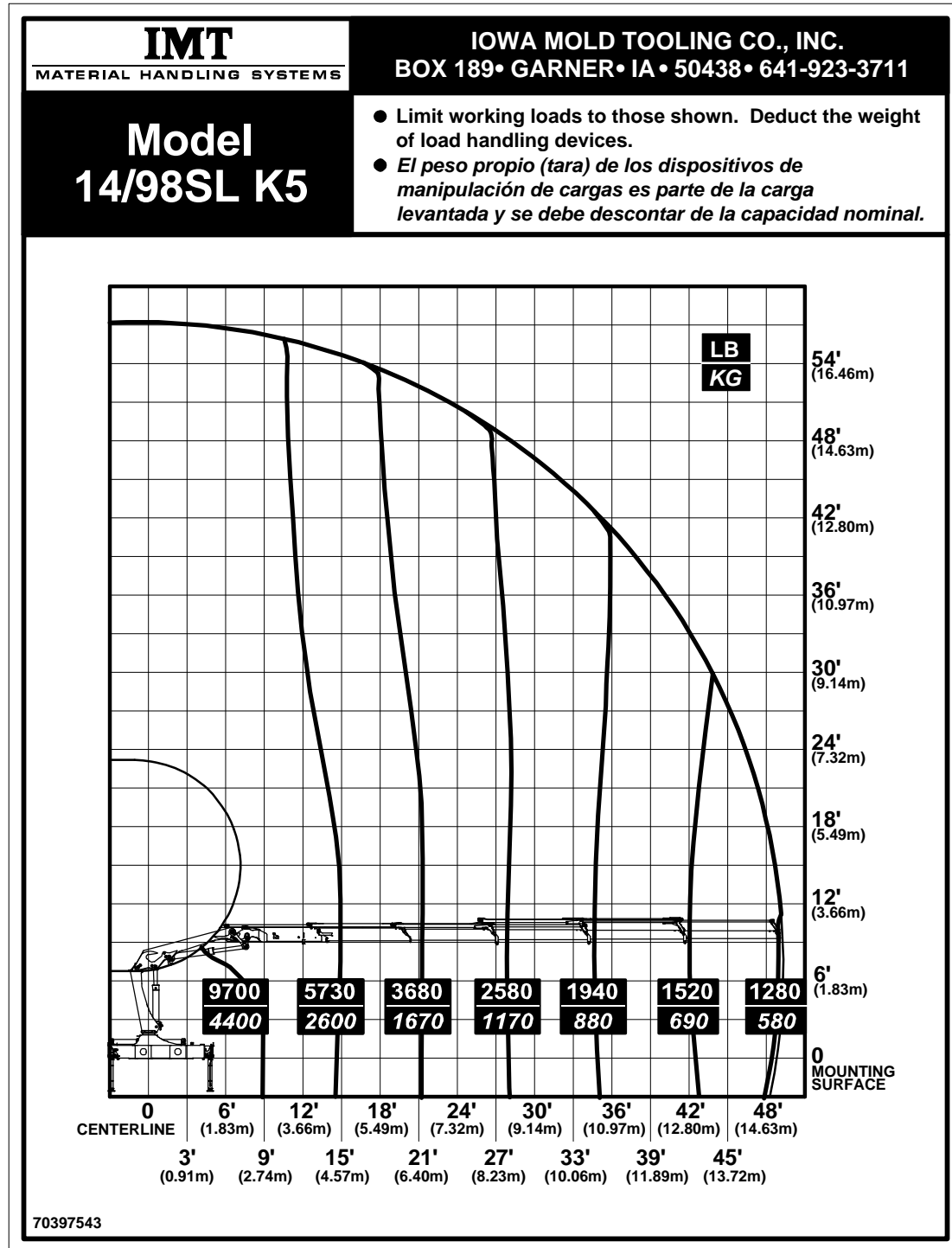
# 14/98SL K3 Capacity Chart



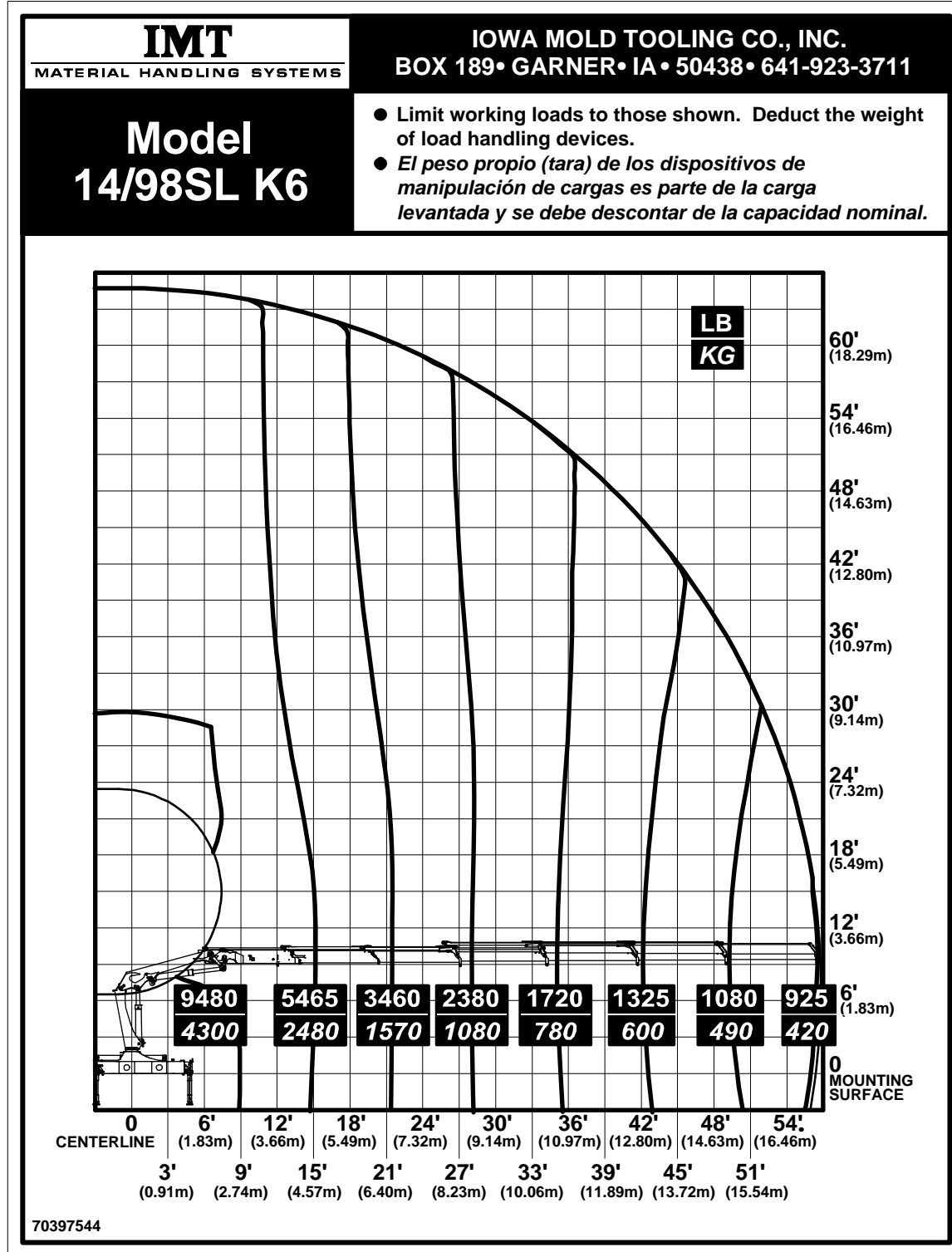
# 14/98SL K4 Capacity Chart



# 14/98SL K5 Capacity Chart

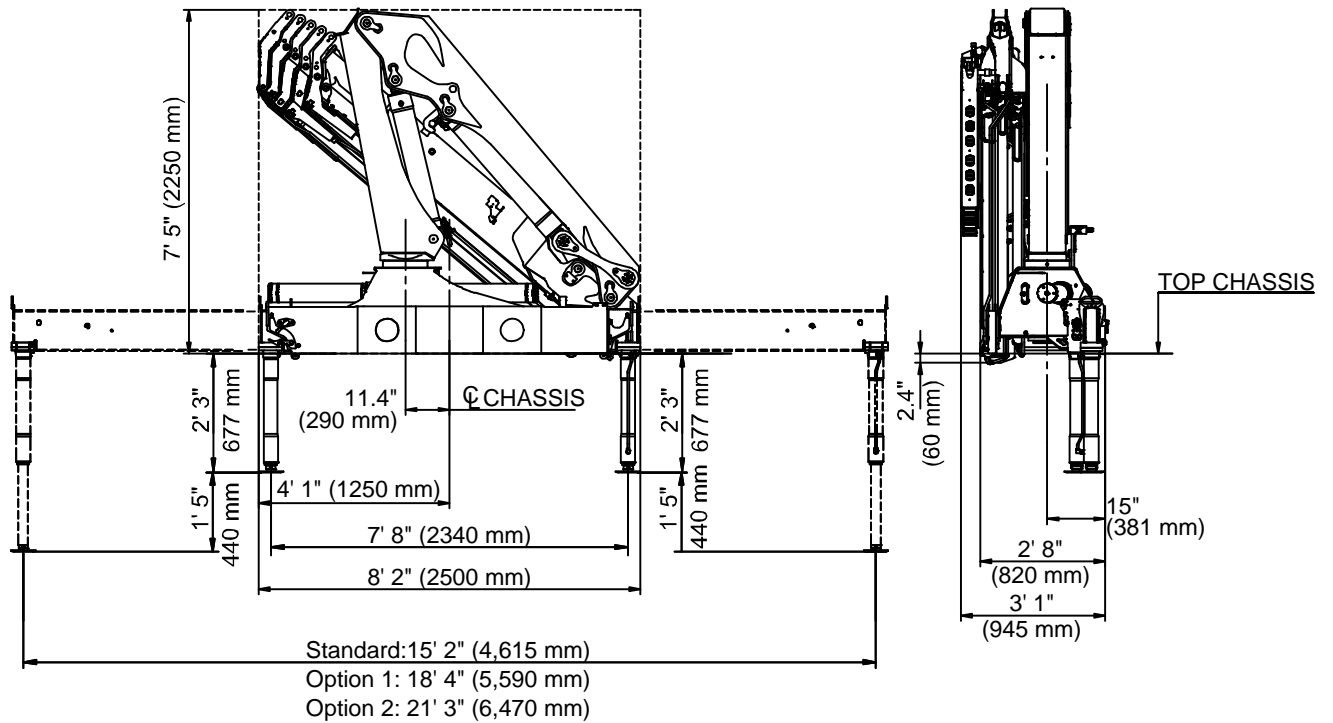
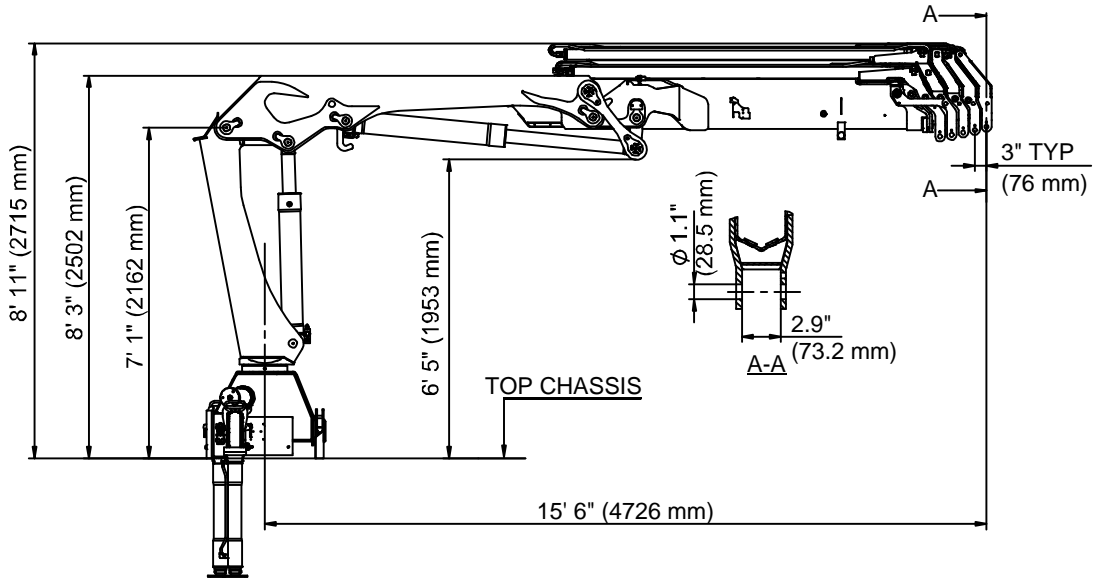


# 14/98SL K6 Capacity Chart



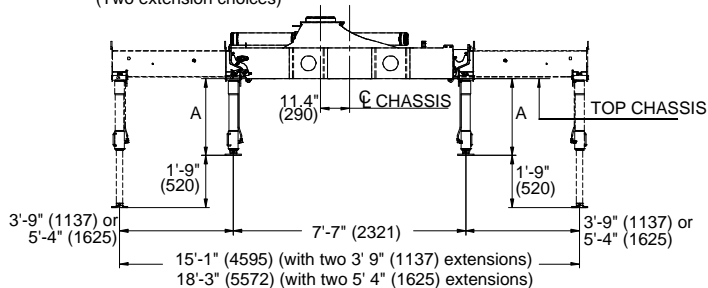


# 14/98SL Geometric Configuration

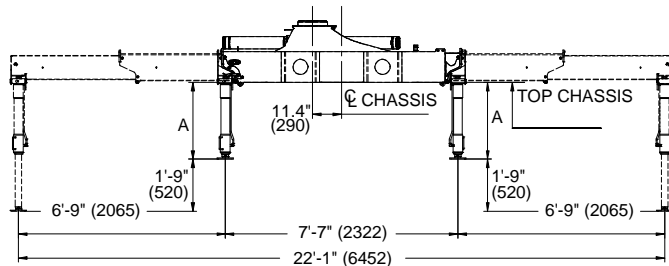


# Stabilizer Dimensions, Manual Swing-Up Legs




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



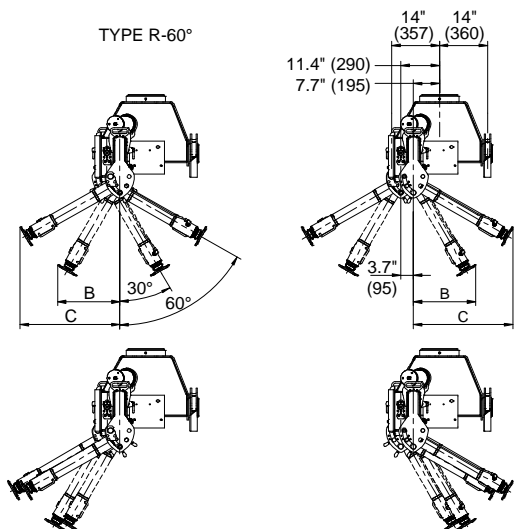
DOUBLE EXTENSION STABILIZERS WITH MANUAL SWING-UP LEGS






STABILIZER LEG EXTENSIONS

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

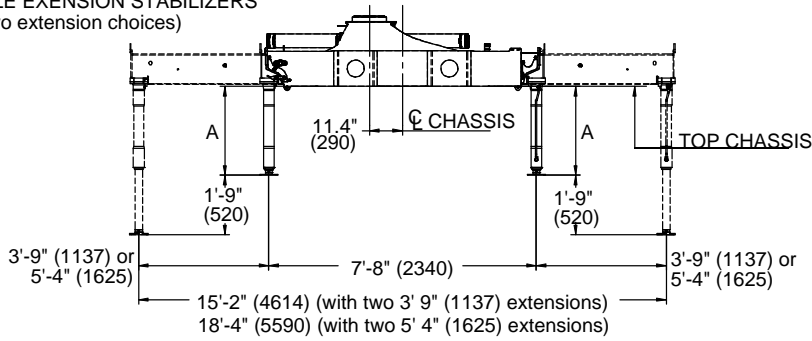
TYPE R-60°



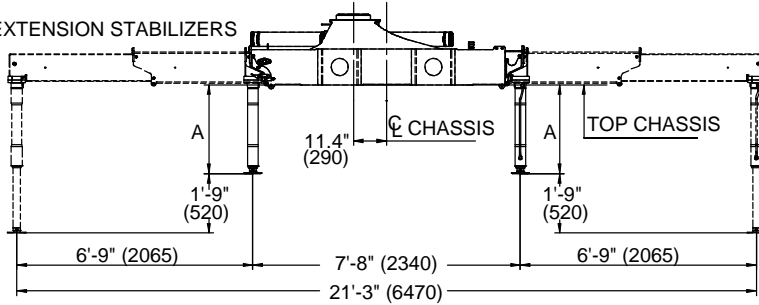
			
B	18.3" (465)	20.3" (515)	21.9" (565)
C	29.3" (744)	32.7" (831)	36.1" (918)

# Stabilizer Dimensions, Fixed Legs




## SINGLE EXTENSION STABILIZERS (Two extension choices)



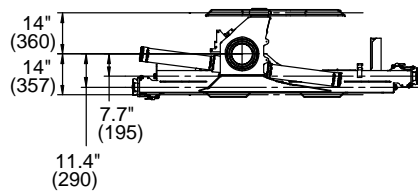
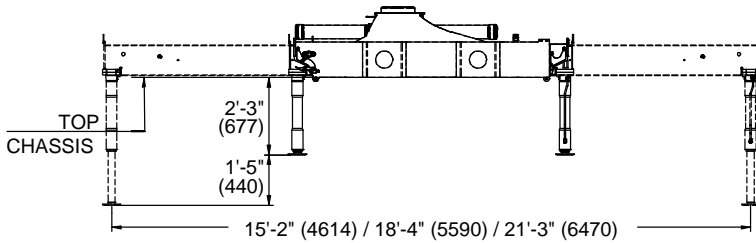
## DOUBLE EXTENSION STABILIZERS



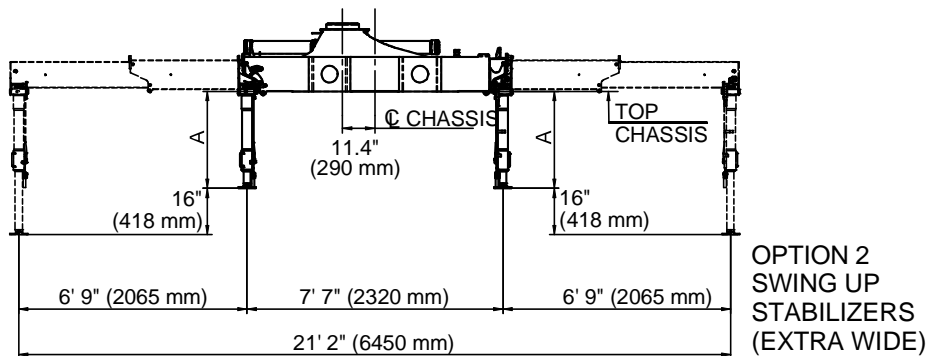
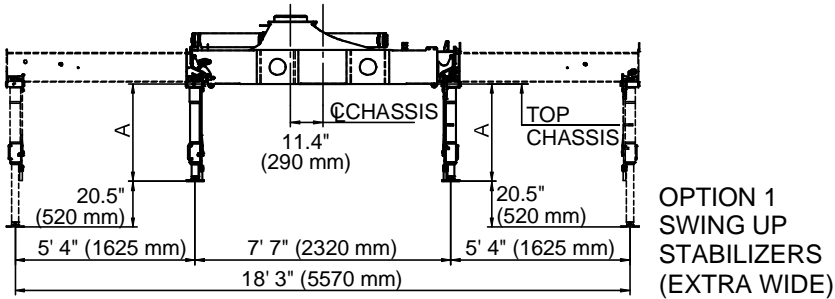
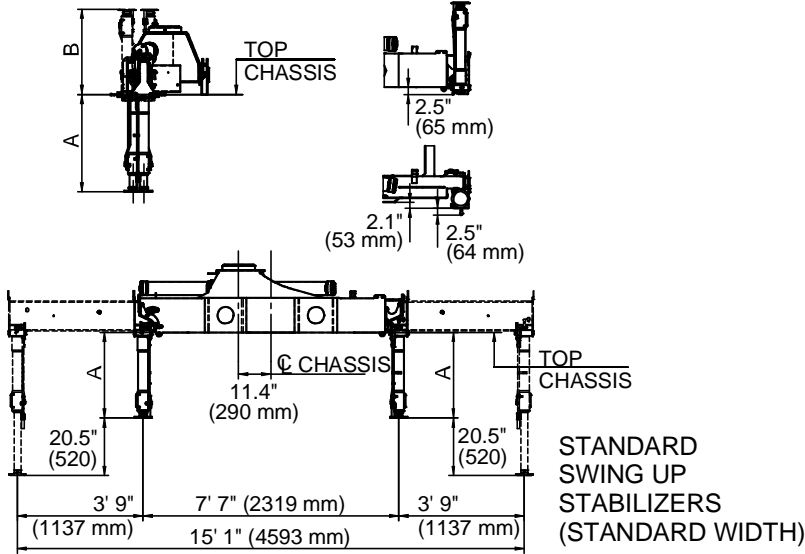
### STABILIZER LEG EXTENSIONS




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

## STABILIZER CYLINDER, C80-440

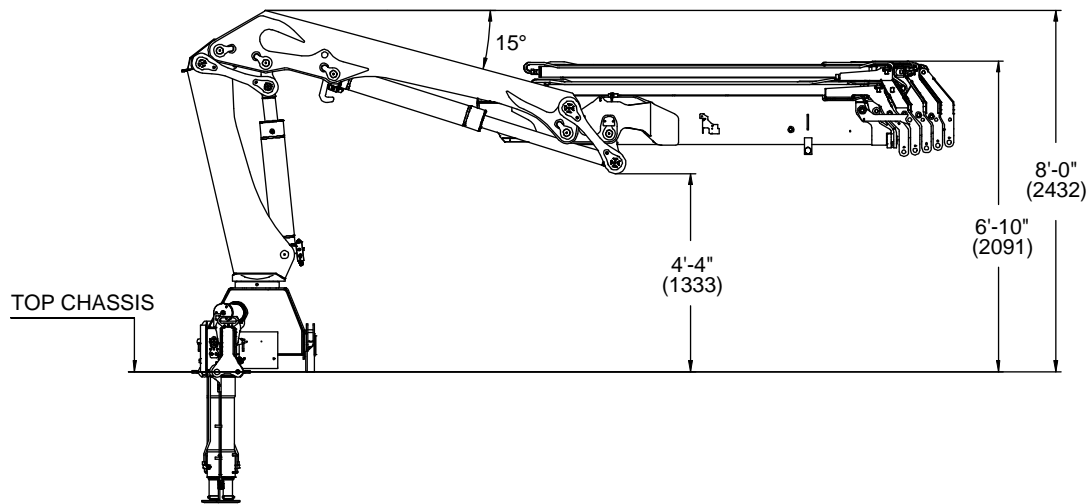
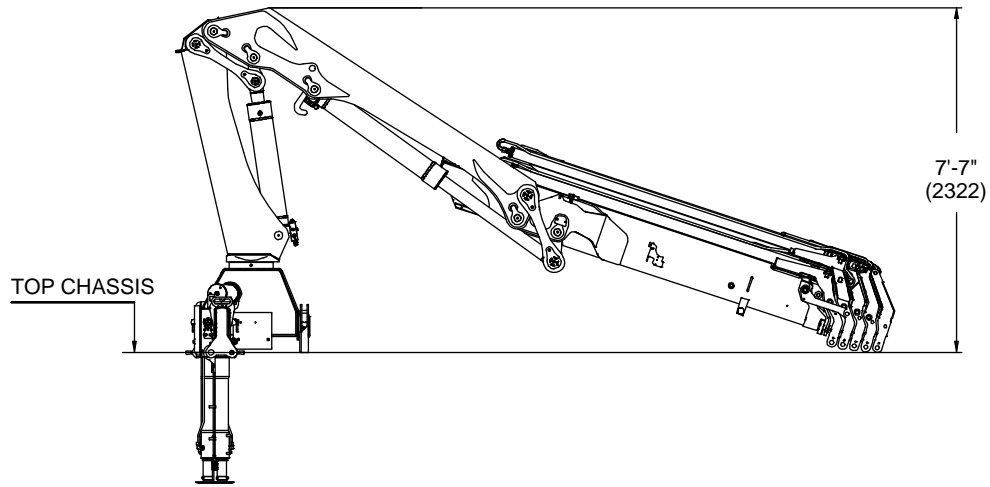


# Stabilizer Dimensions, Hyd Swing-Up Legs



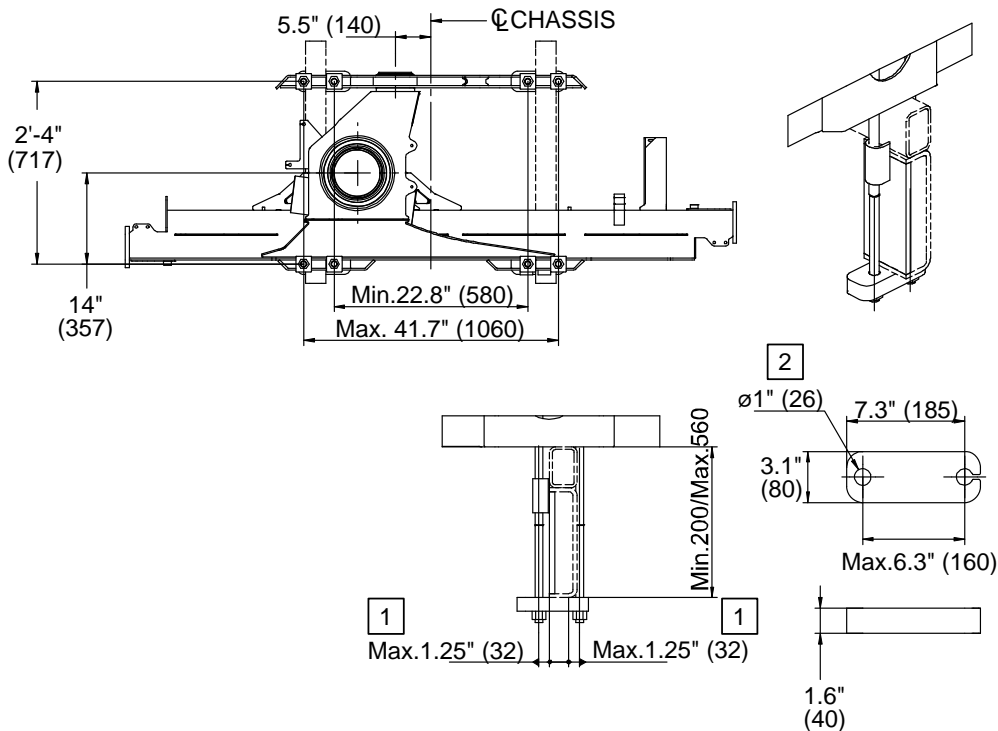
			
A	35" (881 mm)	39" (981 mm)	42.5" (1081 mm)
B	30.5" (775 mm)	34.4" (875 mm)	38.4" (975 mm)

# Stowed Dimensions

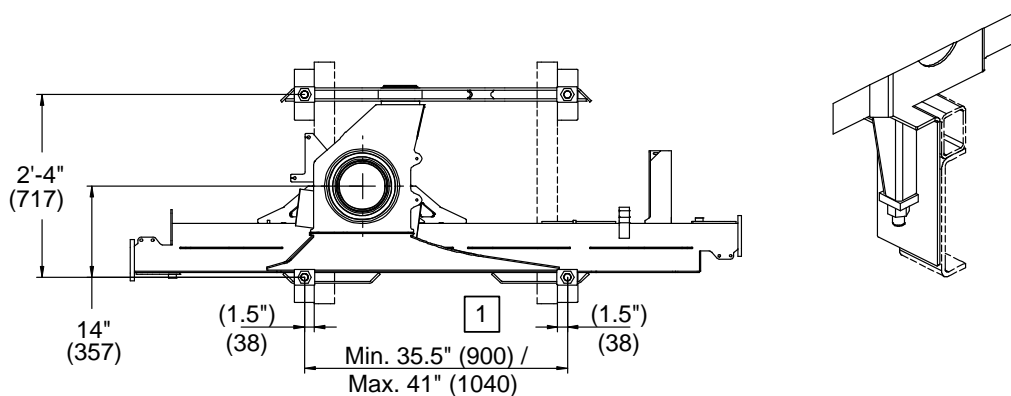


# Mounting Dimensions

## MOUNTING KIT 8 x M24x2 BOLTS



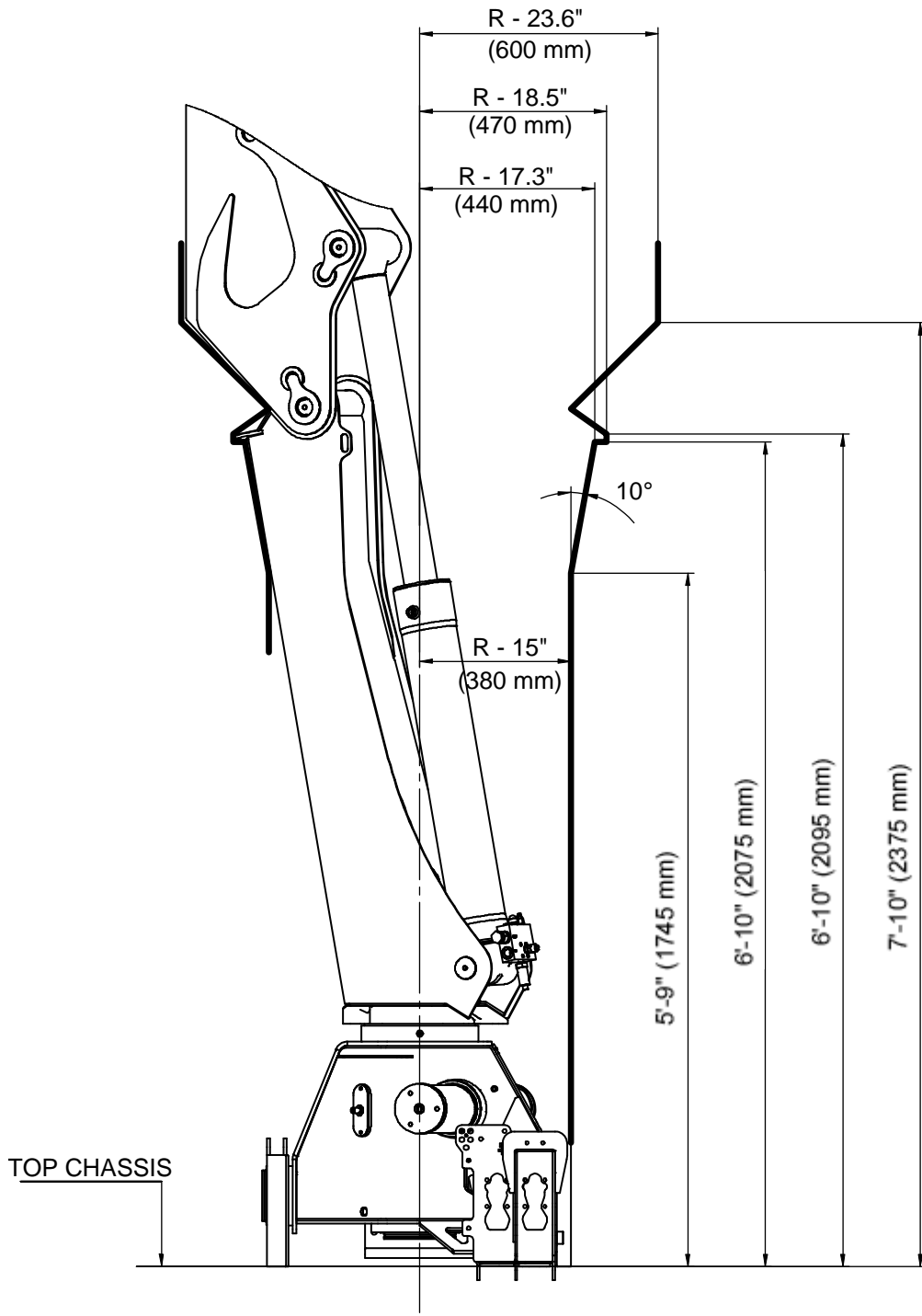
## MOUNTING KIT 4 x M30x2 BOLTS



### 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.

# 14/98SL Swing Clearance







## CHAPTER 2

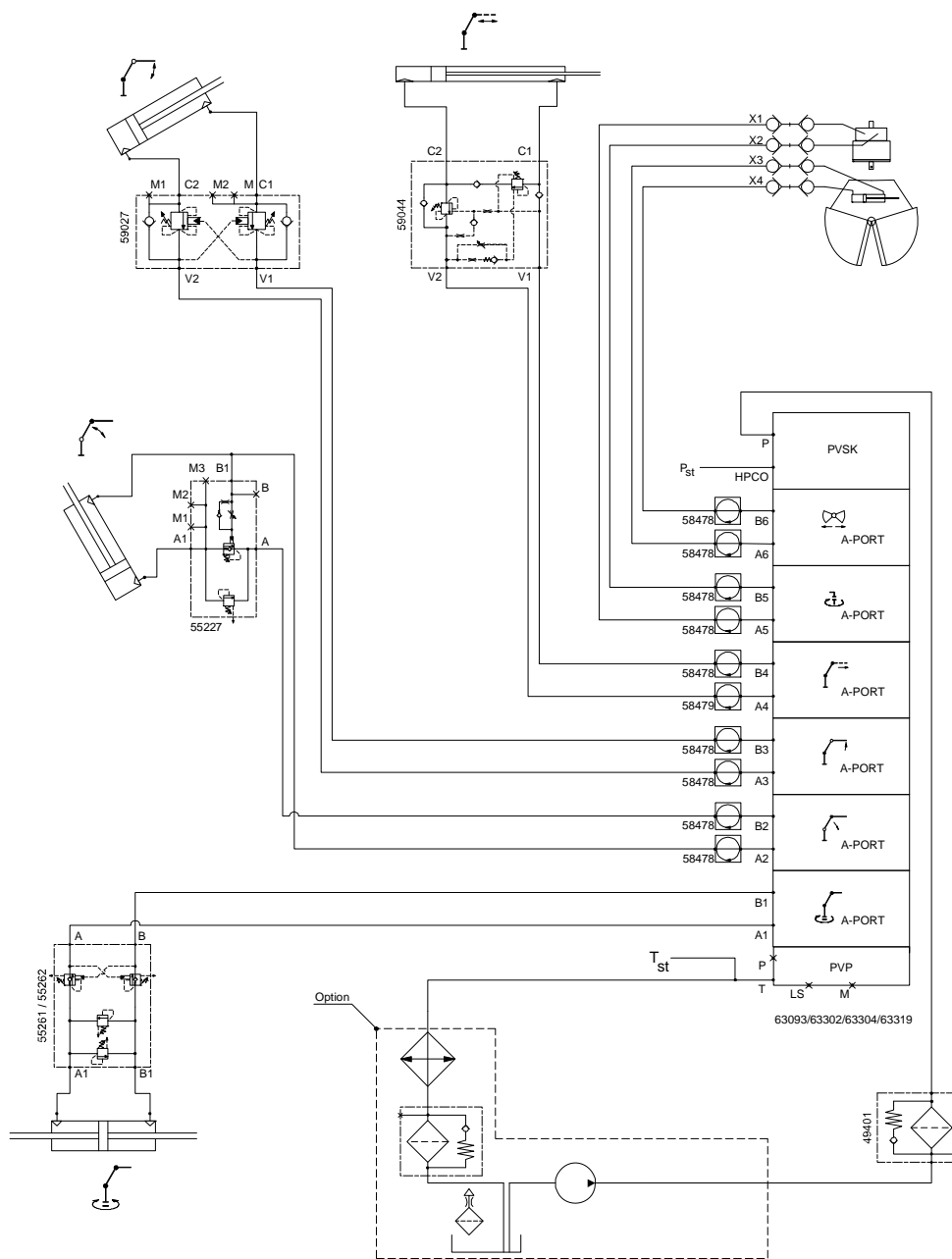
# Hydraulic Schematics

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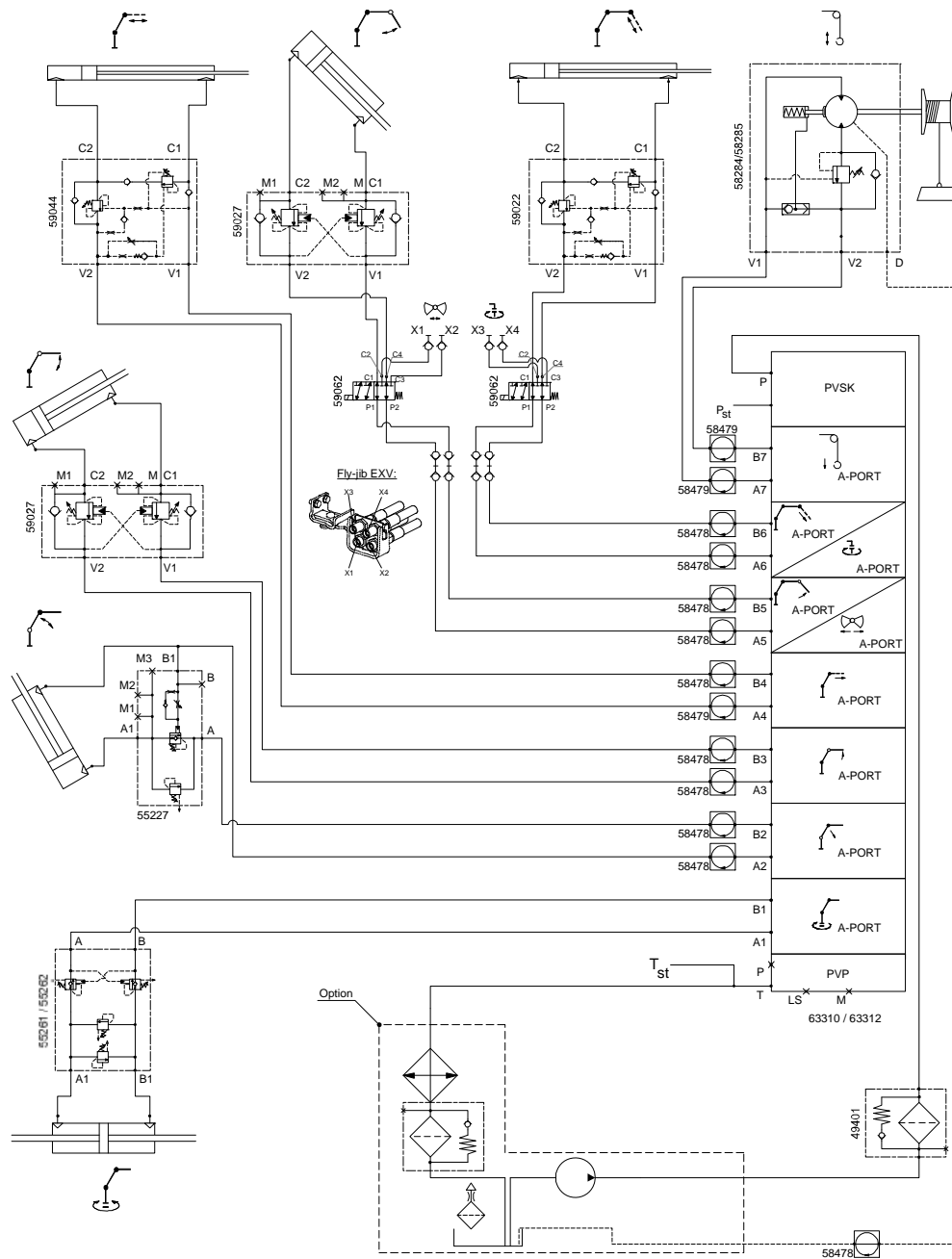
# Hydraulic Diagram - 14/98SL Danfoss 6-Function Radio

This diagram applies to a 14/98SL crane with a single-circuit fixed pump, and 6-function Danfoss radio controls.



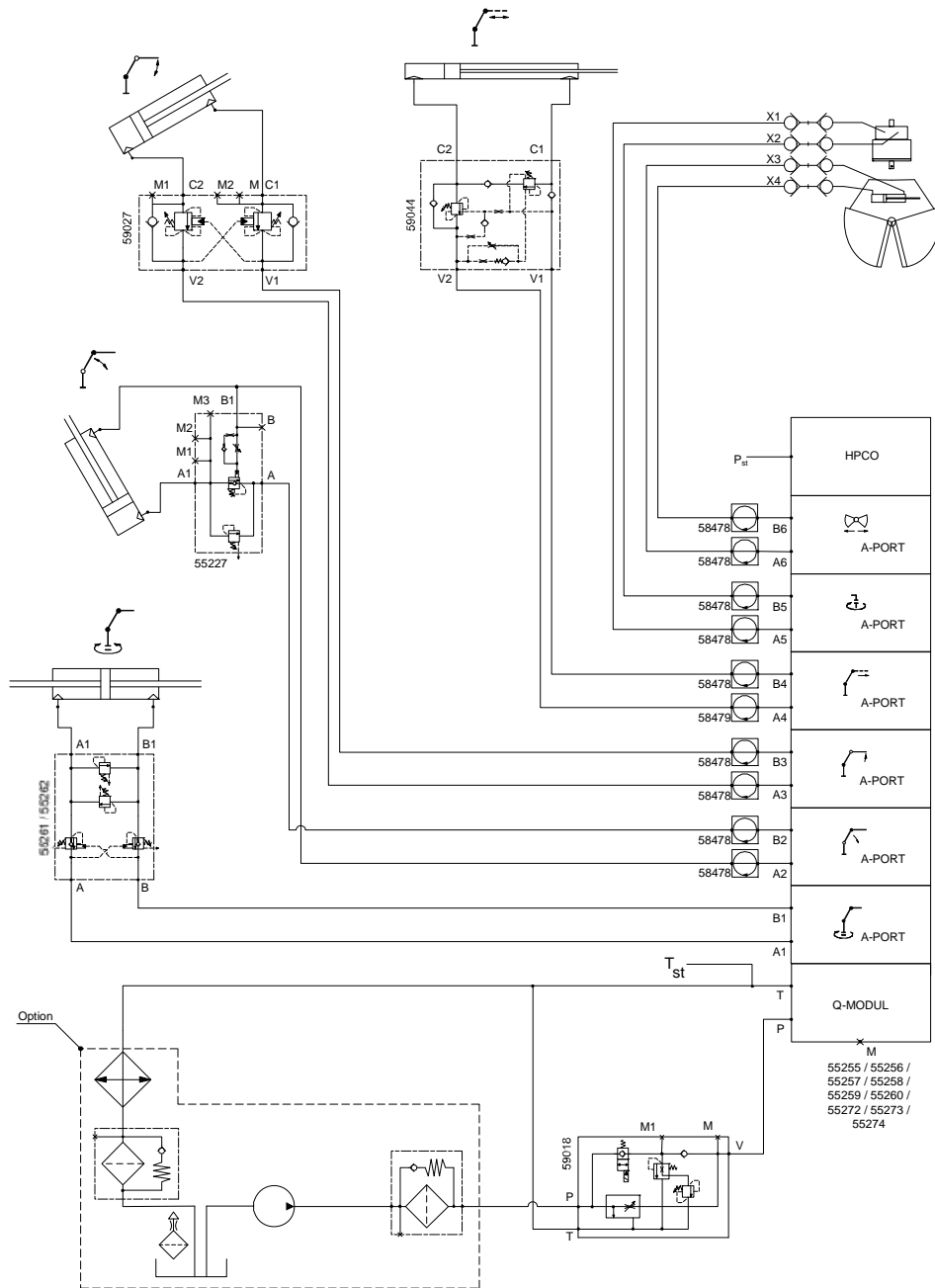
# Hydraulic Diagram - 14/98SL Danfoss 7-Function Radio

This diagram applies to a 14/98SL crane with a single-circuit fixed pump, and 7-function Danfoss radio controls.



# Hydraulic Diagram - 14/98SL Hydrocontrol 6-Function Manual

This diagram applies to a 14/98SL crane with a single-circuit fixed pump, and 6-function Hydrocontrol manual controls.



# Hydraulic Diagram - 14/98SL Hydrocontrol 6-Function Radio

This diagram applies to a 14/98SL crane with a single-circuit fixed pump, and 6-function Hydrocontrol radio controls.

