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Manual # 99904621

# 24/169DL Technical Specifications

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## Revisions

DATE	LOCATION	DESCRIPTION
20100118	Geometric configuration	Added stabilizer length and extension, stabilizer dimensions.
20111214	Specs, Stabilizer drawings.	ECN 11628 - Updated stabilizer wording.
20120502	Specifications	Updated crane weight to include mtg kit, tank.

## CHAPTER 1

# Technical Data and Charts

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## 24/169DL Technical Specifications

24/169DL	2-HYDRAULIC	3-HYDRAULIC	4-HYDRAULIC	5-HYDRAULIC	6-HYDRAULIC	7-HYDRAULIC	8-HYDRAULIC
Crane Rating*	165,635 ft lb (22.9 tm)	162,020 ft lb (22.4 tm)	157,680 ft lb (21.8 tm)	154,785 ft lb (21.4 tm)	151,170 ft lb (20.9 tm)	149,000 ft lb (20.6 tm)	145,385 ft lb (20.1 tm)
Maximum Horizontal Reach	27' 3" (8.3 m)	33' 10" (10.3 m)	41' 0" (12.5 m)	48' 7" (14.8 m)	56' 5" (17.2 m)	63' 8" (19.4 m)	71' 2" (21.7 m)
Maximum Vertical Reach	35' 1" (10.7 m)	42' 0" (12.8 m)	49' 3" (15.0 m)	56' 5" (17.2 m)	64' 4" (19.6 m)	71' 10" (21.9 m)	79' 1" (24.1 m)
Maximum Capacity	19,355 lb (8780 kg)	18,585 lb (8430 kg)	17,790 lb (8070 kg)	17,130 lb (7770 kg)	16,470 lb (7470 kg)	15,875 lb (7200 kg)	15,300 lb (6940 kg)
Max Cap @ Max Reach	6085 lb (2760 kg)	4565 lb (2070 kg)	3460 lb (1570 kg)	2600 lb (1180 kg)	1920 lb (870 kg)	1475 lb (670 kg)	1125 lb (510 kg)
Crane Weight **	4610 lb (2090 kg)	4980 lb (2260 kg)	5425 lb (2460 kg)	5755 lb (2610 kg)	6065 lb (2750 kg)	6295 lb (2855 kg)	6480 lb (2940 kg)
Hook Approach							
Vertical	7' 3" (2.21 m)	7' 6" (2.29 m)	7' 10" (2.38 m)	8' 1" (2.47 m)	8' 5" (2.56 m)	8' 8" (2.65 m)	9' 0" (2.74 m)
Horizontal	2' 3" (0.69 m)	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' 7" (795 mm)	2' 8" (820 mm)	2' 9" (840 mm)	2' 10" (855 mm)	2' 10" (870 mm)	2' 11" (890 mm)	3' 0" (905 mm)
Horizontal (C/L RotTo Bridge)	13" (330 mm)	12.8" (325 mm)	12.2" (310 mm)	11.8" (300 mm)	11.4" (290 mm)	10.8" (275 mm)	10.6" (270 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.

### 24/169DL SPECIFICATIONS

Stabilizer Pad Diameter	7" (175 mm)
Crane Storage Height	7' 6" (2295 mm)
Mounting Space ***	2' 11" (880 mm)
Rotational Torque	19,990 ft lb (2.8 tm)
Rotation	400°
Optimum Pump Performance	15.9 gpm (60 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)	18' 3" (5575 mm)
Weight	640 lb (290 kg)
Option (hydraulic out / hydraulic down)	21' 2" (6455 mm)
Weight	805 lb (365 kg)
*** Maximum swing clearance radius required is 26" (660 mm) at 8' (2445 mm) from top of chassis frame.	
<b>MINIMUM CHASSIS SPECIFICATIONS</b>	
Front Axle Rating (GAWR)	14,000 lb (6350 kg)
Rear Axle Rating (GAWR)	40,000 lb (18,145 kg)
Resistance to Bending Moment	2,700,000 in-lb (311,075 kg-m)

## 22/153DL-24/169DL Pressure Settings, Hydrocontrol HC-D4

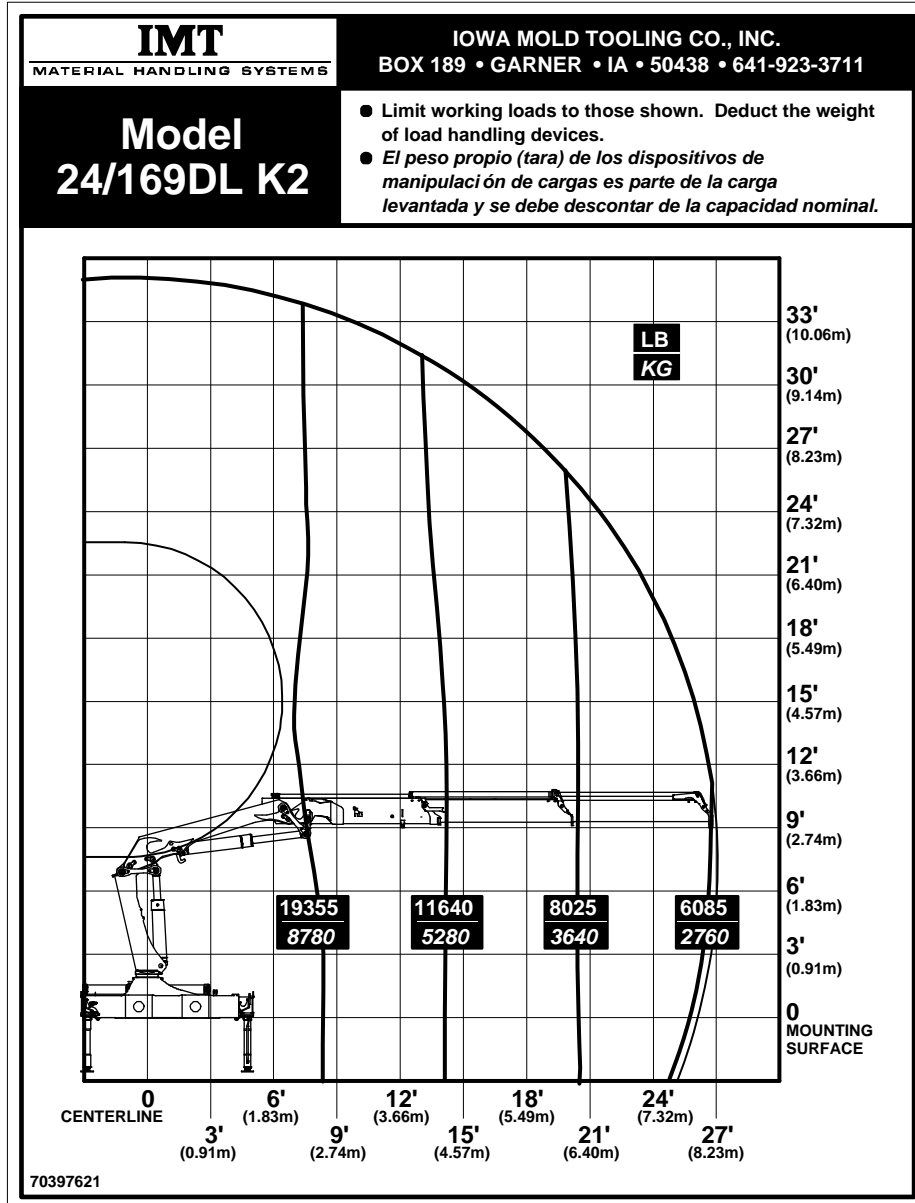
<b>WORKING PRESSURE ON MAIN-RELIEF VALVE &amp; PORT RELIEF VALVES</b>				
<b>FUNCTION</b>	<b>DIRECTION</b>	<b>PORT</b>	<b>22/153DL</b>	<b>24/169DL</b>
Main-relief valve			4350 psi (300 bar)	4785 psi (330 bar)
Slewing system	Right	A	P	P
	Left	B	P	P
Boom cylinder	Down	A	1450 psi (100 bar)	1450 psi (100 bar)
			4715 psi (325 bar)	4930 psi (340 bar)
Jib cylinder	Up	A	4715 psi (325 bar)	4930 psi (340 bar)
	Down	B	2900 psi (200 bar)	2900 psi (200 bar)
Extension cylinders	Extend	A	P	P
	Retract	B	P	P
Rotator	Right	A	2900 psi (200 bar)	2900 psi (200 bar)
	Left	B	2900 psi (200 bar)	2900 psi (200 bar)
Grab	Open	A	2900 psi (200 bar)	2900 psi (200 bar)
	Close	B	2900 psi (200 bar)	2900 psi (200 bar)
Separate stabilizer valve		All	2175 psi (150 bar)	2175 psi (150 bar)
<b>WORKING PRESSURE ON LOAD-HOLDING VALVES</b>				
Function	Direction	Port	Opening Pressure	
Boom cylinder			4715 psi (325 bar)	5075 psi (350 bar)
Jib cylinder			4785 psi (330 bar)	5075 psi (350 bar)
Slewing system			3045 psi (210 bar)	3045 psi (210 bar)
Extension cylinders	Extend	A	3045 psi (210 bar)	3045 psi (210 bar)
	Retract	B	6235 psi (430 bar)	6235 psi (430 bar)
<b>PRESSURE SETTING FOR LOAD MOMENT LIMITATION (LMB)</b>				
Load moment limitation (LMB)			4205 psi (290 bar)	4640 psi (320 bar)
HDL			-	4205 psi (290 bar)
<b>MAXIMUM PUMP PERFORMANCE</b>				
Pump performance			15.9 gpm (60 l/min)	15.9 gpm (60 l/min)

## 24/169DL Pressure Settings, Danfoss RC

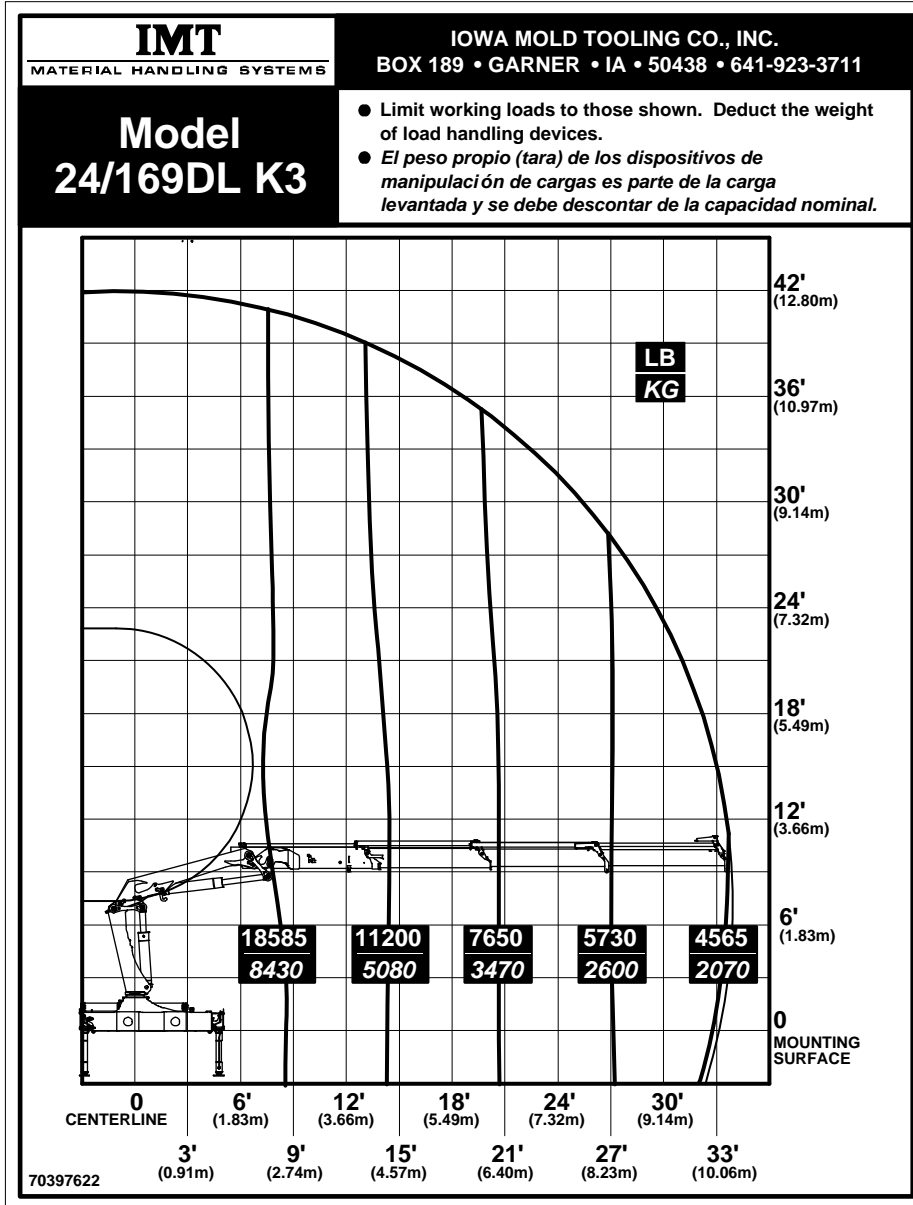
<b>WORKING PRESSURE ON MAIN-RELIEF VALVE &amp; PORT RELIEF VALVES</b>				
<b>FUNCTION</b>	<b>DIRECTION</b>	<b>PORT</b>	<b>PORT-RELIEF VALVES</b>	<b>LS-PRESSURE ADJUSTMENT</b>
Main-relief valve			4785 psi (330 bar)	4785 psi (330 bar)
Slewing system	Right	A	P	2975 psi (205 bar)
	Left	B	P	2975 psi (205 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 1.5T	Lift	A	P	2320 psi (160 bar)
	Lower	B	P	2320 psi (160 bar)
Winch 2.5T	Lift	A	P	2685 psi (185 bar)
	Lower	B	P	2685 psi (185 bar)
Separate stabilizer valve		All	2175 psi (150 bar)	2175 psi (150 bar)
<b>WORKING PRESSURE ON LOAD-HOLDING VALVES</b>				
Function	Direction	Port	Opening Pressure	
Slewing system	Right		3045 psi (210 bar)	
	Left		3045 psi (210 bar)	
Boom cylinder	Up		5075 psi (350 bar)	
	Down		-	
Jib cylinder	Up		5075 psi (350 bar)	
	Down		3045 psi (210 bar)	
Extension cylinders	Retract		6235 psi (430 bar)	
	Extend		3045 psi (210 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 (1 x fixed)			18.5 gpm (70 l/min)	



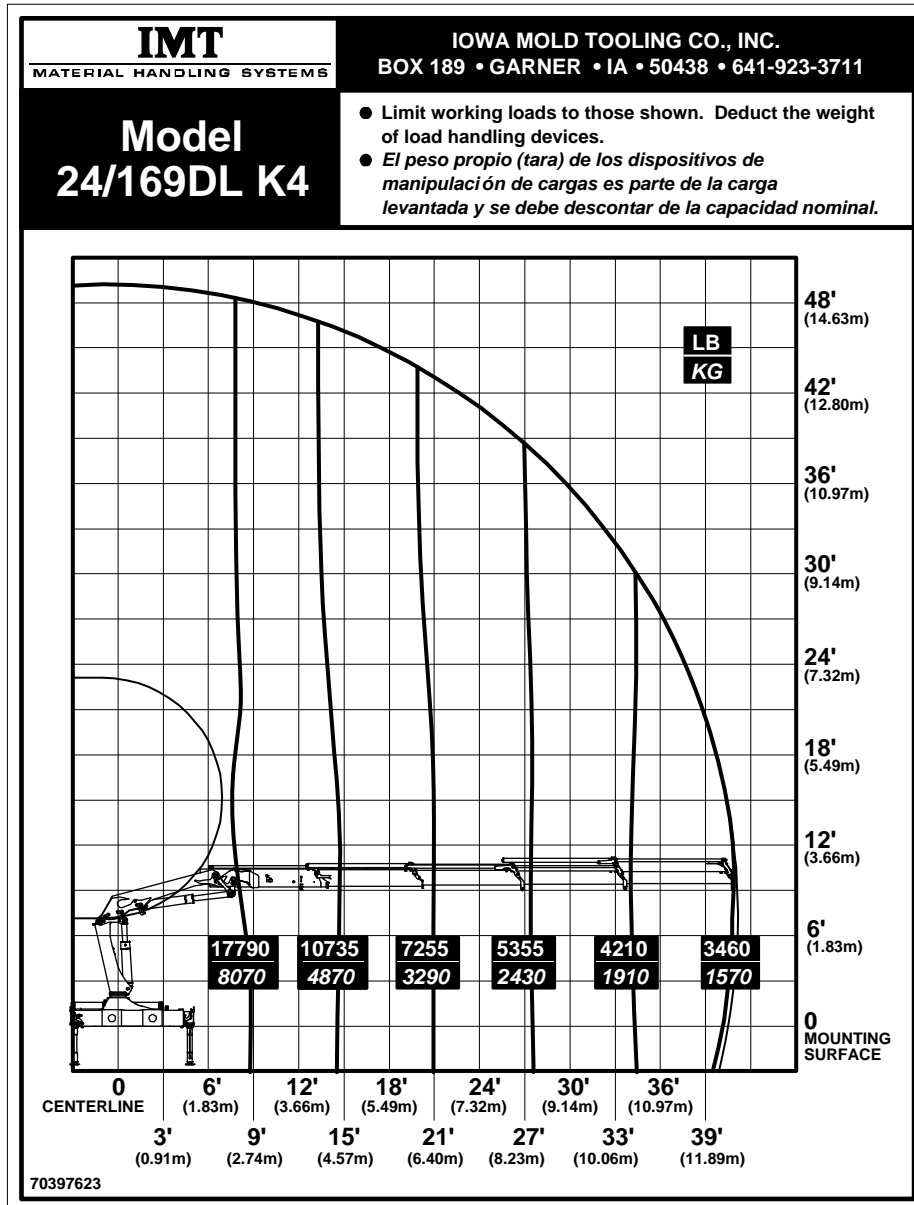
# 24/169DL K2 Capacity Chart



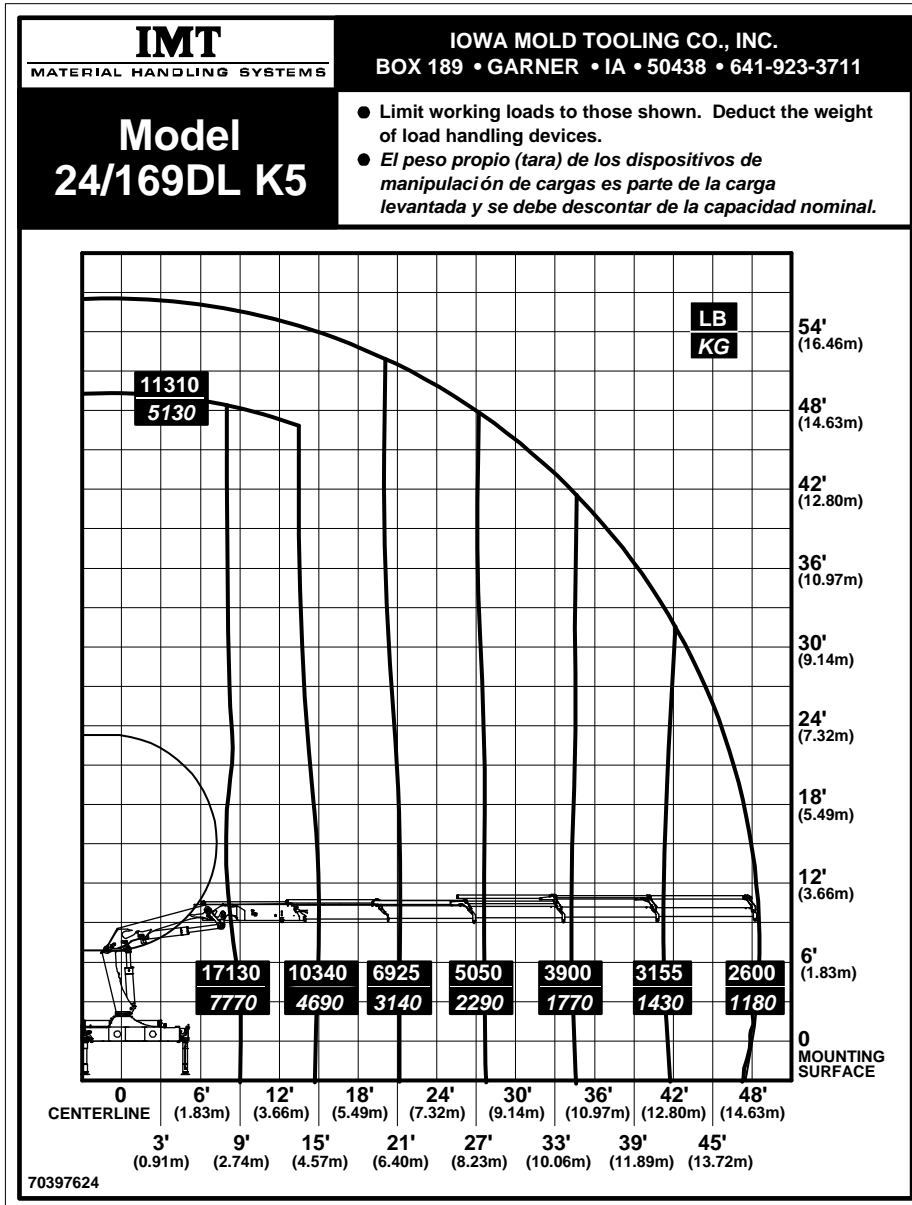
# 24/169DL K3 Capacity Chart



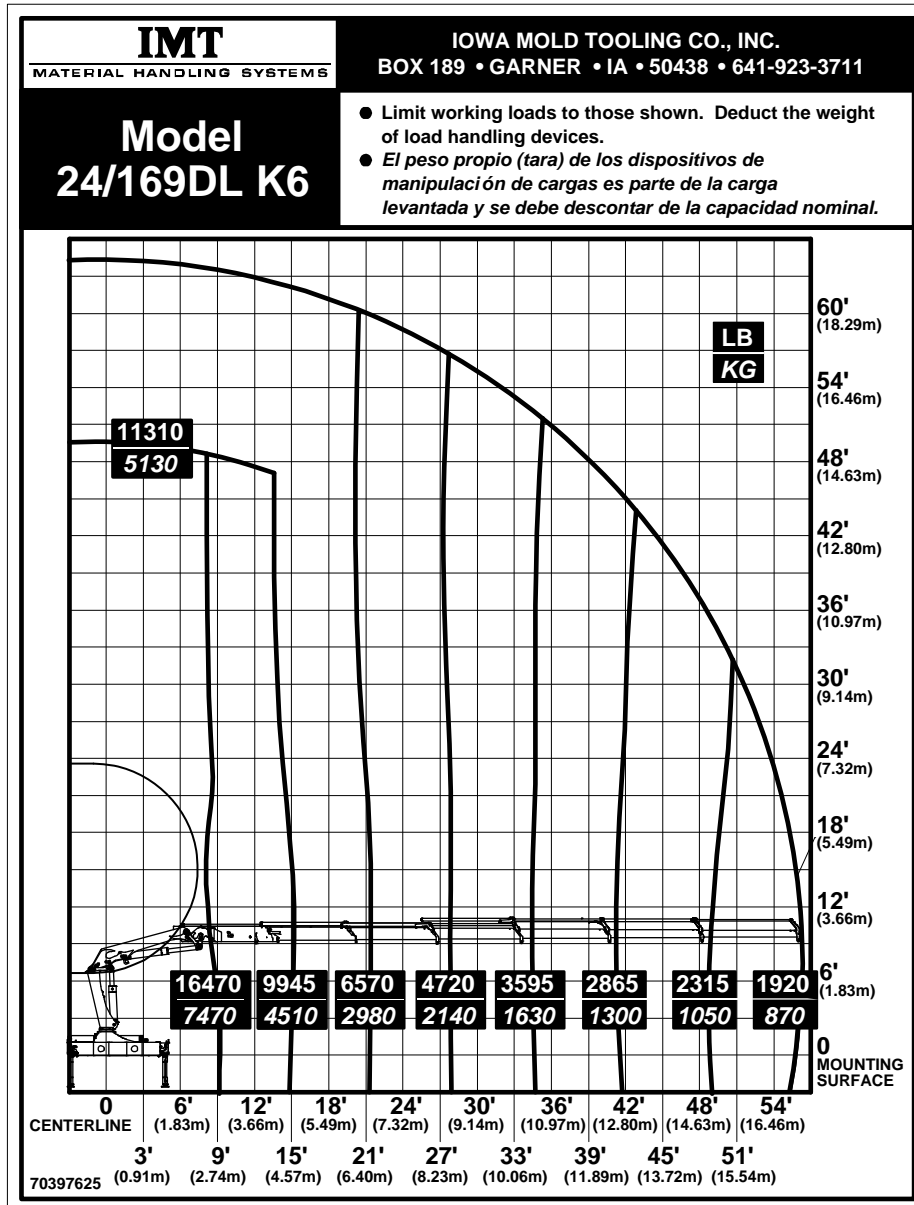
# 24/169DL K4 Capacity Chart



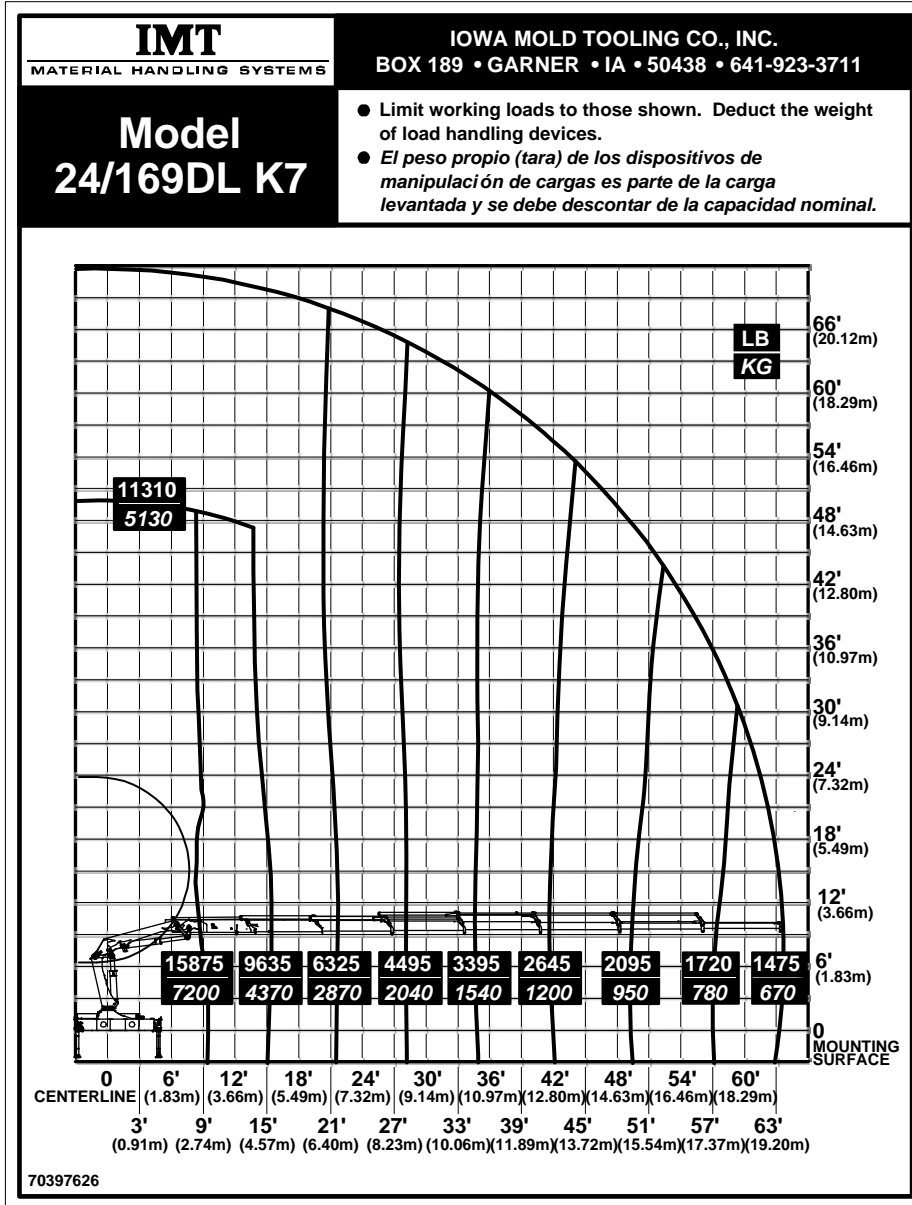
# 24/169DL K5 Capacity Chart



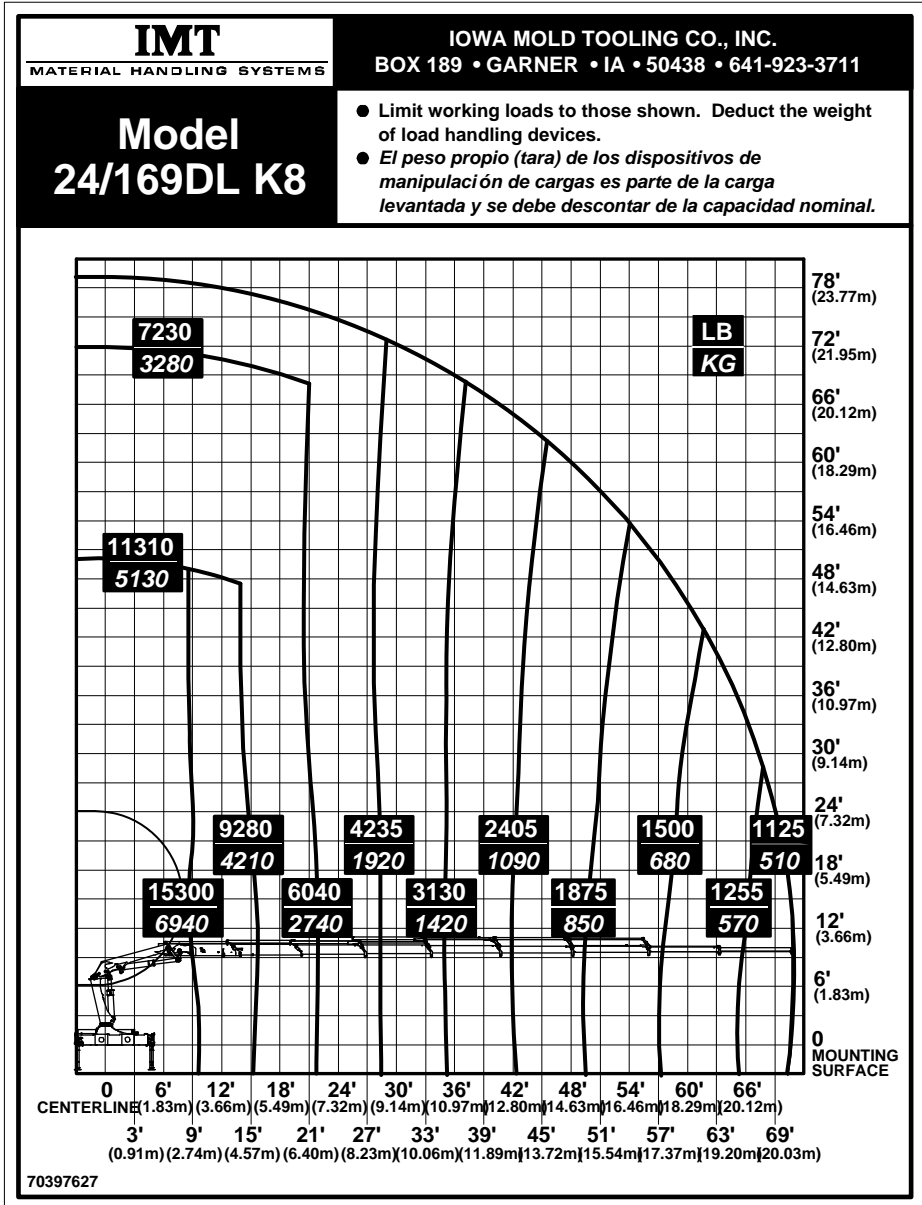
# 24/169DL K6 Capacity Chart



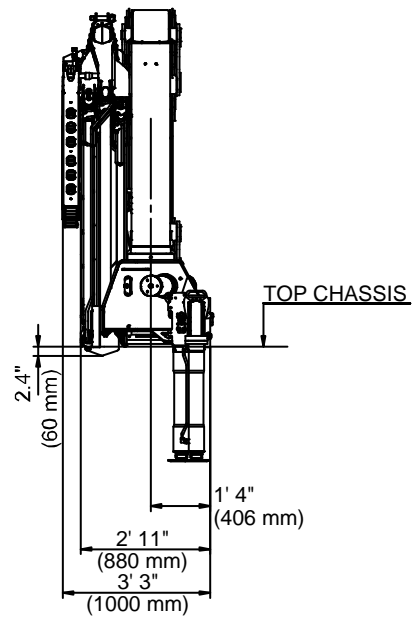
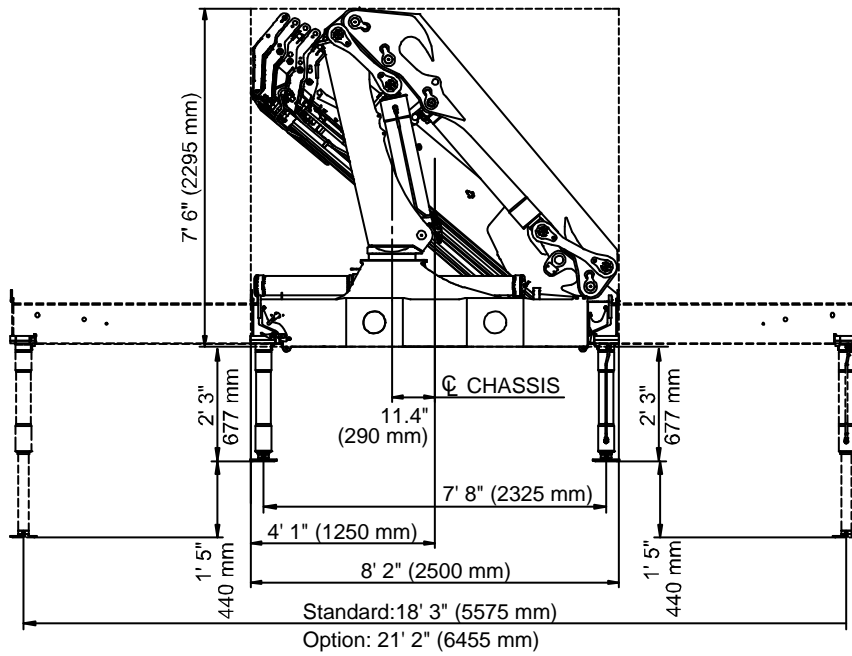
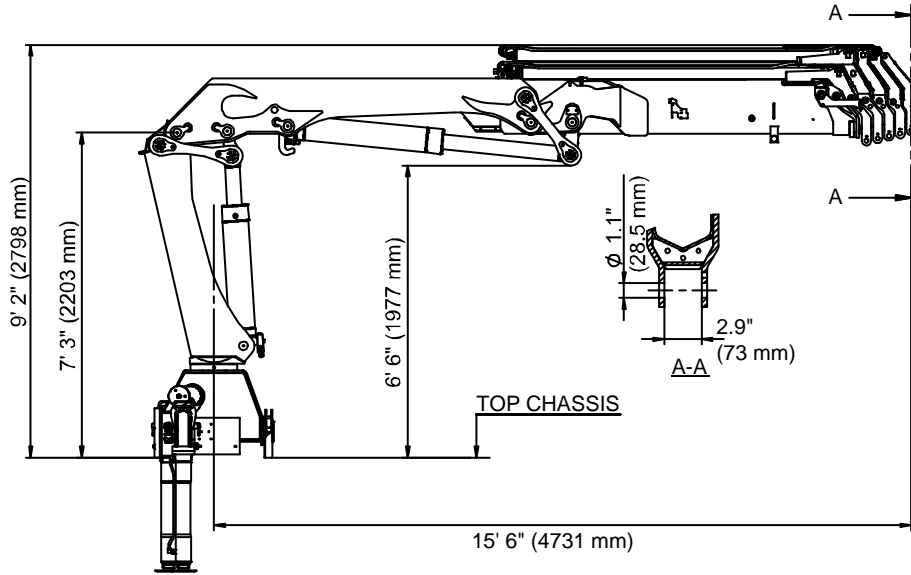
# 24/169DL K7 Capacity Chart



# 24/169DL K8 Capacity Chart

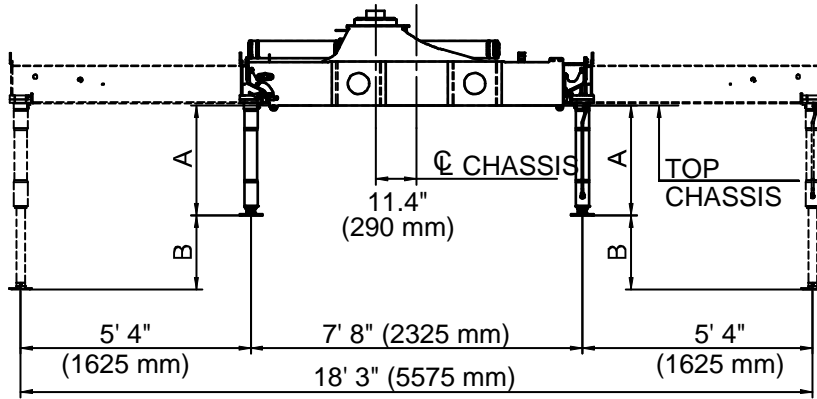


# 24/169DL Dimensional Drawing

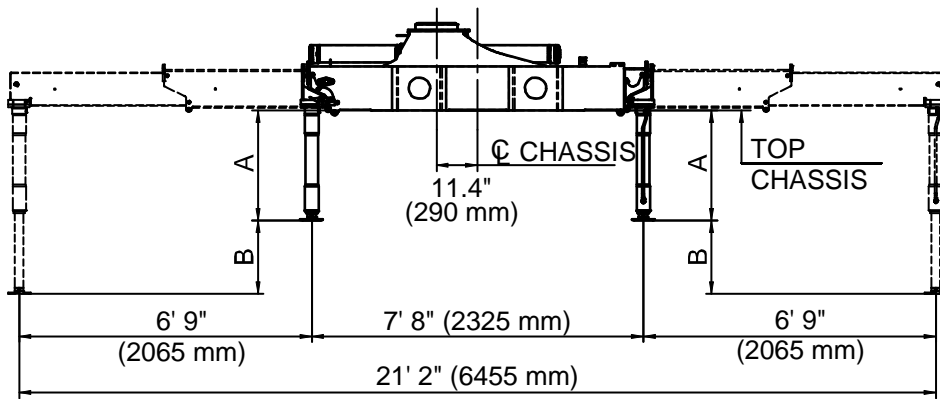








# Stabilizer Dimensions, Fixed Legs, 18 tm up



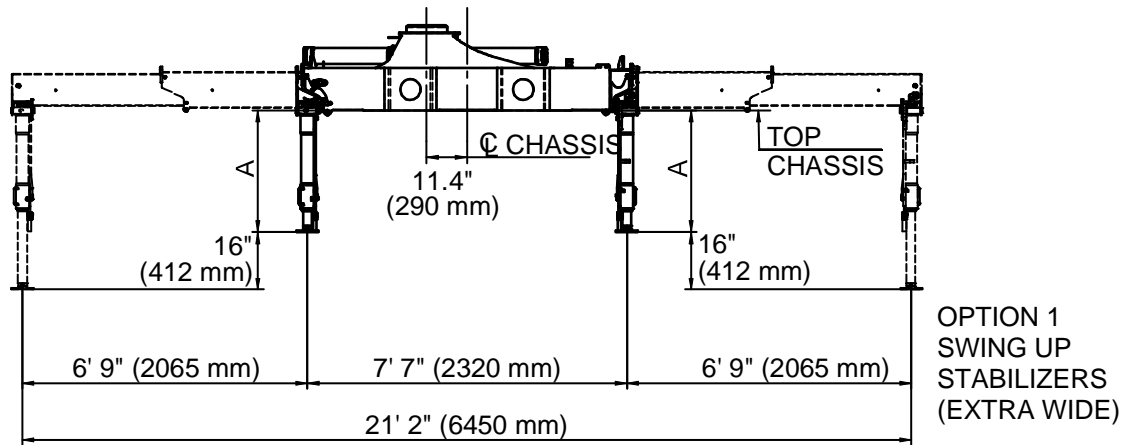
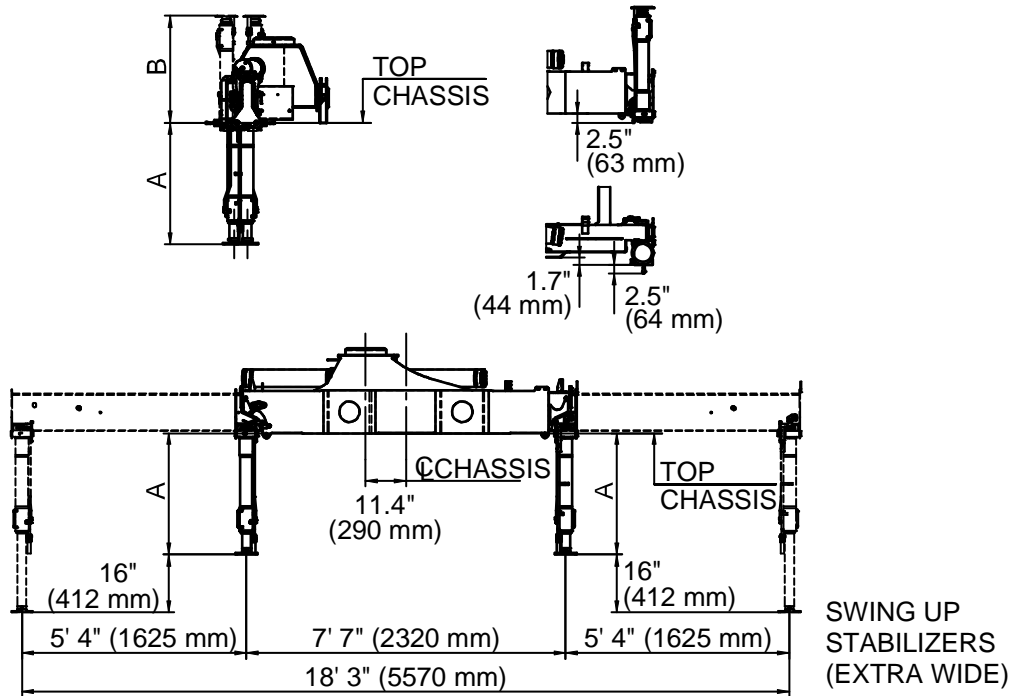
STANDARD  
(Hydraulic Out /  
Hydraulic Down)






OPTION 1  
(Extra Wide  
Hydraulic Out /  
Hydraulic Down)

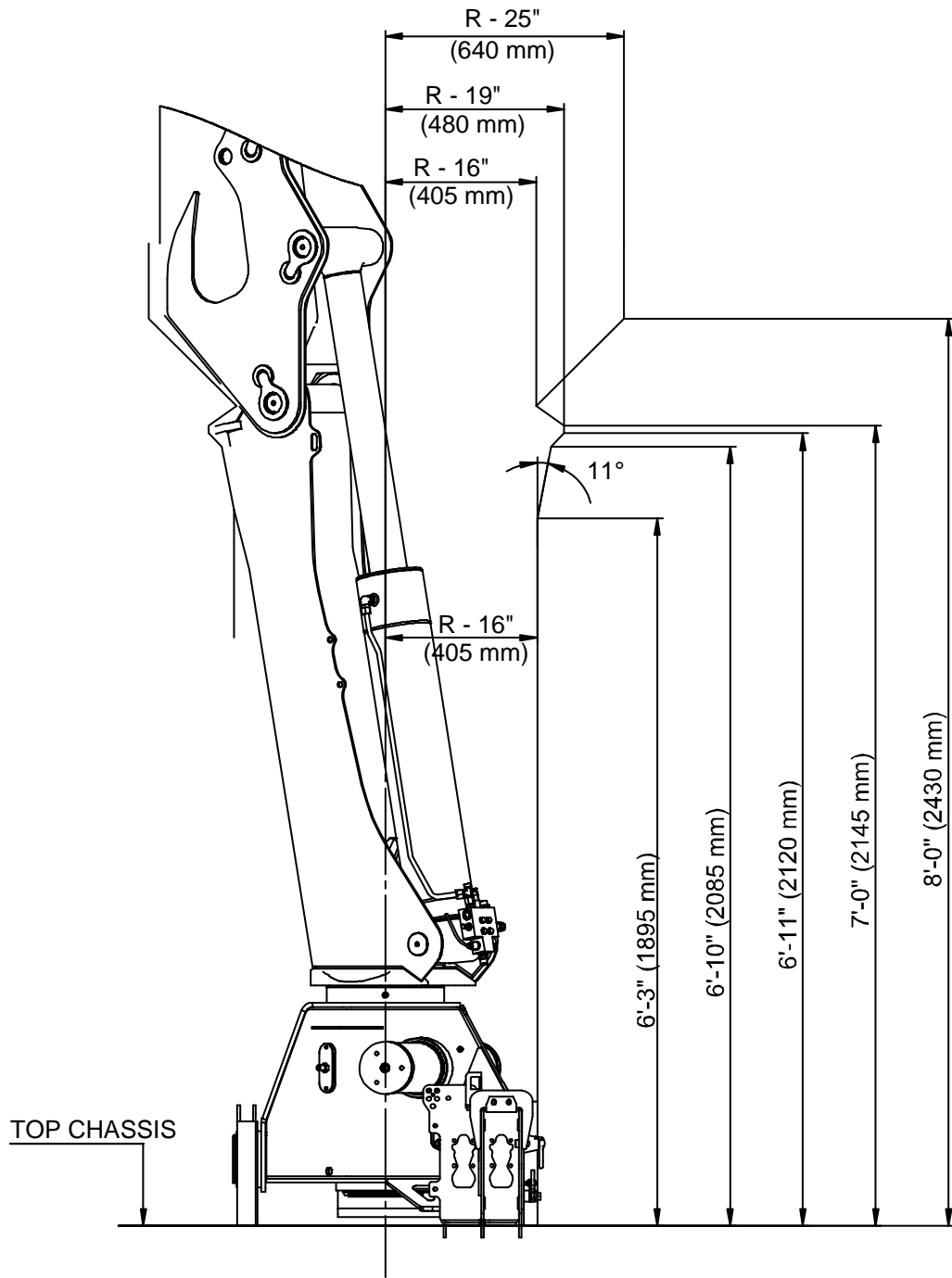
				
A	2' 3" (677 mm)	2' 6" (777 mm)	2' 11" (877 mm)	3' 2" (977 mm)
B	1' 5" (440 mm)	1' 8" (515 mm)	1' 8" (515 mm)	1' 8" (515 mm)

# Stabilizer Dimensions, Swing-up, 18 tm up



			
A	35" (879 mm)	39" (979 mm)	42.5" (1079 mm)
B	30.5" (777 mm)	34.4" (877 mm)	38.4" (977 mm)

## 22/153DL - 24/169DL Swing Clearance





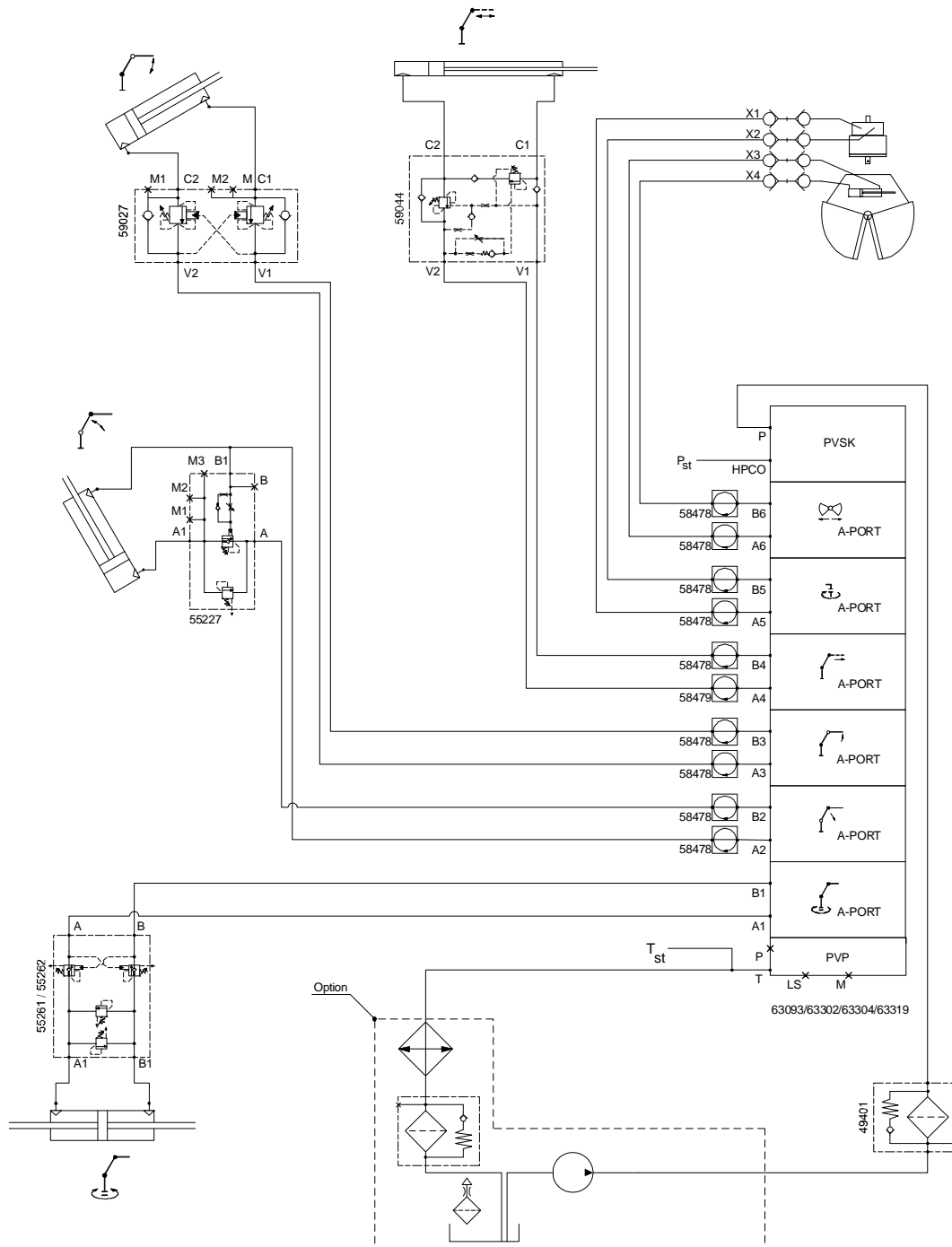
## CHAPTER 2

# Hydraulic Schematics

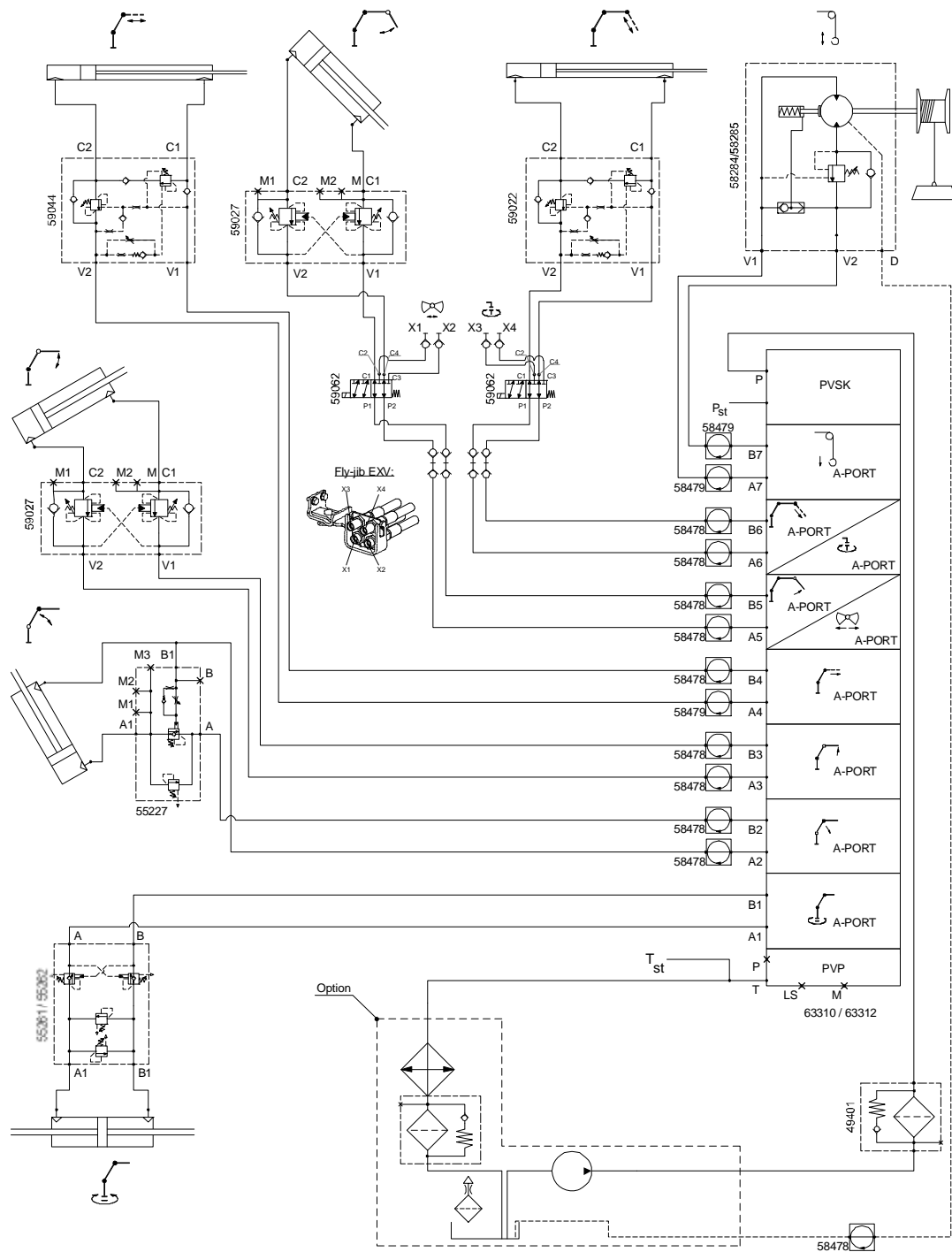
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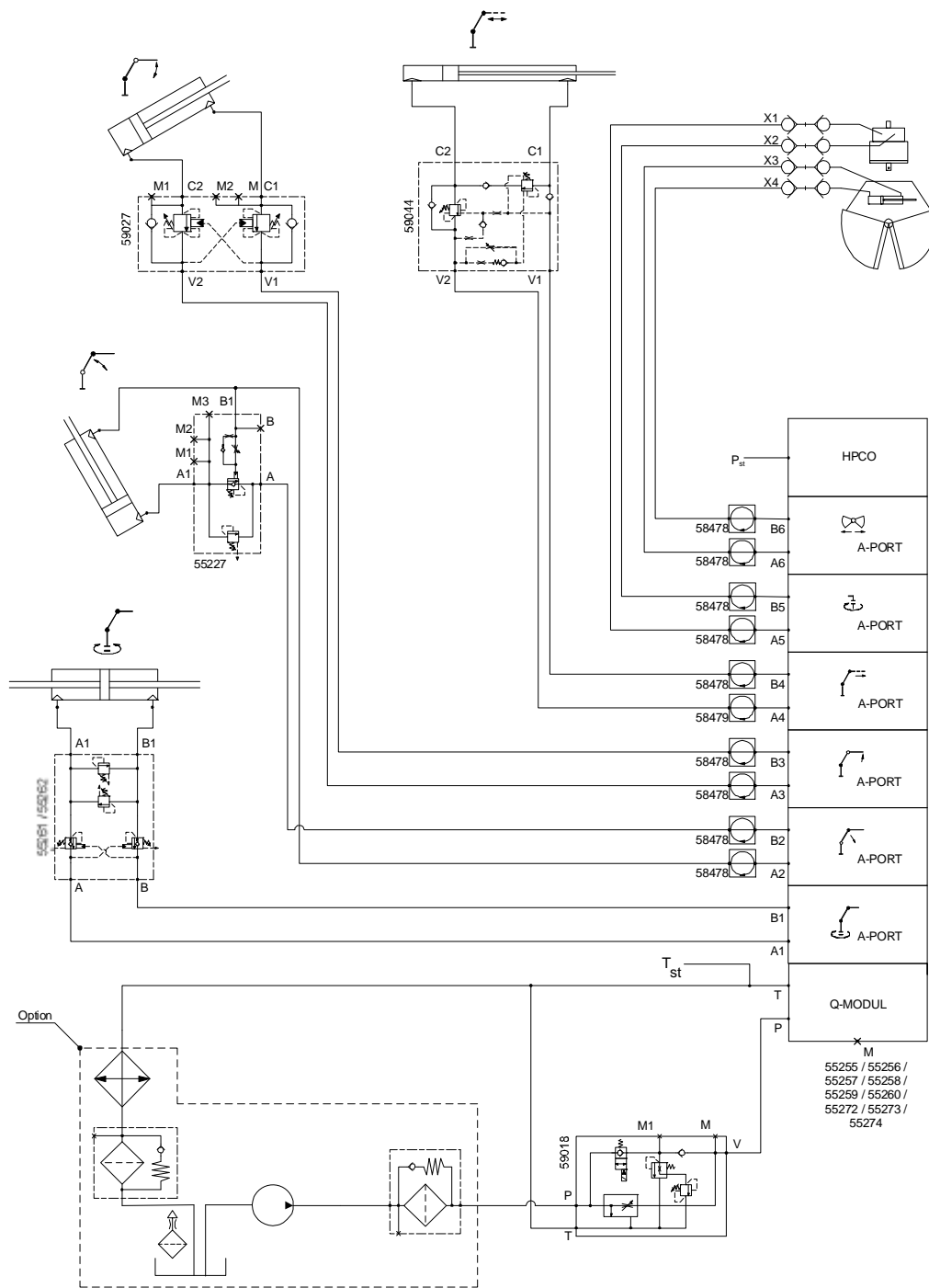
# Hydraulic Diagram - 24/169DL Danfoss 6-Function Radio



# Hydraulic Diagram - 24/169DL Danfoss 7-Function Radio



# Hydraulic Diagram - 24/169DL Hydrocontrol 6-Function Manual





# Hydraulic Diagram - 24/169DL Hydrocontrol 6-Function Radio

