
Manual # 99904608

14/98DL Technical Specifications

Revision Date 20120910



IOWA MOLD TOOLING CO., INC.

PO Box 189

Garner, IA 50438

Tel: 641-923-3711 FAX: 641-923-2424

Website: <http://www.imt.com>

Copyright © 2012 Iowa Mold Tooling Co., Inc.
All rights reserved

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of Iowa Mold Tooling Co., Inc.

Iowa Mold Tooling Co., Inc. is an Oshkosh Corporation company.

Contents

Revisions	ii
Technical Data and Charts	3
14/98DL Specifications	4
14/98DL Pressure Settings.....	5
14/98DL Pressure Settings with Remote Control	6
Winch Technical Data	7
Lifting Capacities - 14/98DL K1-K6	8
14/98DL K1 Capacity Chart	9
14/98DL K2 Capacity Chart	10
14/98DL K3 Capacity Chart	11
14/98DL K4 Capacity Chart	12
14/98DL K5 Capacity Chart	13
14/98DL K6 Capacity Chart	14
14/98DL Geometric Configuration	15
Stabilizer Dimensions, Fixed Legs	16
Stabilizer Dimensions, Manual Swing-Up Legs	17
Stabilizer Dimensions, Hyd Swing-Up Legs	18
Stowed Dimensions	19
14/98DL Swing Clearance.....	20
Hydraulic Schematics	21
Hydraulic Diagram-14/98DL Danfoss 6-Function Radio	22
Hydraulic Diagram - 14/98DL Danfoss 7-Function Radio	23
Hydraulic Diagram - 14/98DL Hydrocontrol 6-Function Manual.....	24
Hydraulic Diagram - 14/98DL Hydrocontrol 6-Function Radio	25

Revisions

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

CHAPTER 1

Technical Data and Charts

In This Chapter

14/98DL Specifications.....	3
14/98DL Pressure Settings	5
14/98DL Pressure Settings with Remote Control.....	5
Winch Technical Data	7
Lifting Capacities - 14/98DL K1-K6	8
14/98DL K1 Capacity Chart.....	9
14/98DL K2 Capacity Chart.....	10
14/98DL K3 Capacity Chart.....	11
14/98DL K4 Capacity Chart.....	12
14/98DL K5 Capacity Chart.....	13
14/98DL K6 Capacity Chart.....	14
14/98DL Geometric Configuration.....	15
Stabilizer Dimensions, Fixed Legs	16
Stabilizer Dimensions, Manual Swing-Up Legs.....	17
Stabilizer Dimensions, Hyd Swing-Up Legs	18
Stowed Dimensions.....	19
14/98DL Swing Clearance.....	20

14/98DL Specifications

14/98DL	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	11,885 lb (5,390 kg)	11,550 lb (5,240 kg)	11,025 lb (5,000 kg)	10,540 lb (4,780 kg)	10,095 lb (4,580 kg)	9,700 lb (4,400 kg)
Max Cap @ Max Reach	4,785 lb (2,170 kg)	3,375 lb (1,530 kg)	2,425 lb (1,100 kg)	1,765 lb (800 kg)	1,280 lb (580 kg)	925 lb (420 kg)
Crane Weight **	3,220 lb (1,460 kg)	3,525 lb (1,600 kg)	3,835 lb (1,740 kg)	4,135 lb (1,875 kg)	4,400 lb (1,995 kg)	4,610 lb (2,090 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" (710 mm)	2' 5" (735 mm)	2' 6" (760 mm)	2' 7" (785 mm)	2' 7" (805 mm)	2' 8" (820 mm)
Horizontal (C/L RotTo Bridge)	12.2" (310 mm)	12.0" (305 mm)	11.8" (300 mm)	11.2" (285 mm)	10.6" (270 mm)	10.2" (260 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 does not include stabilizers.

14/98DL 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)

14/98DL Pressure Settings

WORKING PRESSURE ON MAIN-RELIEF VALVES & PORT RELIEF VALVES			
<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)
WORKING PRESSURE ON LOAD-HOLDING VALVES			
<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)
PRESSURE SETTING FOR LOAD-MOMENT LIMITATION (LMB)			
Load moment limitation (LMB)			4640 psi (320 bar)
HDL			4205 psi (290 bar)
MAXIMUM PUMP PERFORMANCE			
Pump performance			11.9 gal/min (45 l/min)

14/98DL Pressure Settings with Remote Control

WORKING PRESSURE ON MAIN-RELIEF VALVES & PORT RELIEF VALVES				
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)

WORKING PRESSURE ON LOAD-HOLDING VALVES		
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)

PRESSURE SETTINGS FOR LOAD-MOMENT LIMITATION (LMB)	
Load moment limitation (LMB)	4570 psi (315 bar)
HDL	4135 psi (285 bar)

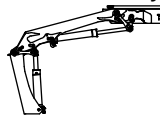
MAXIMUM PUMP PERFORMANCE	
Pump performance	18.5 gal/min (70 l/min)

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)

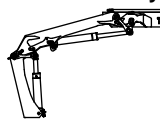
Lifting Capacities - 14/98DL K1-K6

14/98DL - 1 Hydraulic



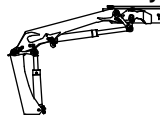
6920 lb 3140 kg 14'-2" 4.3 m	4785 lb 2170 kg 20'-4" 6.2 m
---------------------------------------	---------------------------------------

14/98DL - 2 Hydraulic



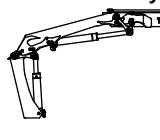
6635 lb 3010 kg 14'-2" 4.3 m	4495 lb 2040 kg 20'-8" 6.3 m	3375 lb 1530 kg 27'-3" 8.3 m
---------------------------------------	---------------------------------------	---------------------------------------

14/98DL - 3 Hydraulic



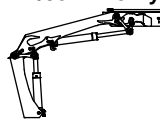
6305 lb 2860 kg 14'-6" 4.4 m	4190 lb 1900 kg 20'-8" 6.3 m	3085 lb 1400 kg 27'-3" 8.3 m	2425 lb 1100 kg 34'-1" 10.4 m
---------------------------------------	---------------------------------------	---------------------------------------	--

14/98DL - 4 Hydraulic



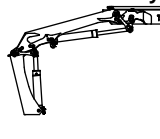
5995 lb 2720 kg 14'-10" 4.5 m	3900 lb 1770 kg 20'-10" 6.4 m	2820 lb 1280 kg 27'-7" 8.4 m	2160 lb 980 kg 34'-5" 10.5 m	1765 lb 800 kg 41'-8" 12.7 m
--	--	---------------------------------------	---------------------------------------	---------------------------------------

14/98DL - 5 Hydraulic



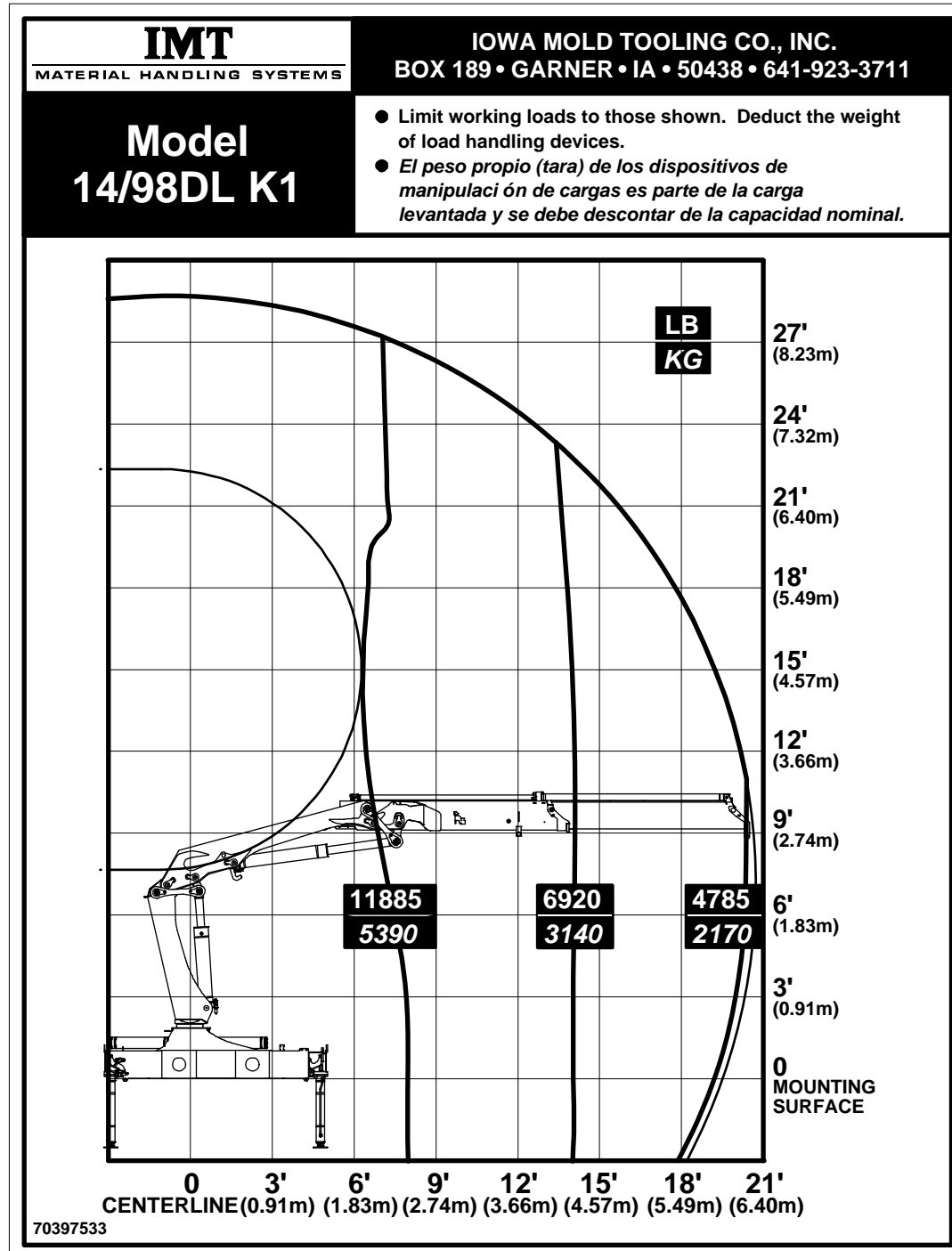
5710 lb 2590 kg 15'-1" 4.6 m	3660 lb 1660 kg 21'-4" 6.5 m	2580 lb 1170 kg 27'-11" 8.5 m	1920 lb 870 kg 34'-10" 10.6 m	1520 lb 690 kg 42'-0" 12.8 m	1280 lb 580 kg 48'-11" 14.9 m
---------------------------------------	---------------------------------------	--	--	---------------------------------------	--

14/98DL - 6 Hydraulic

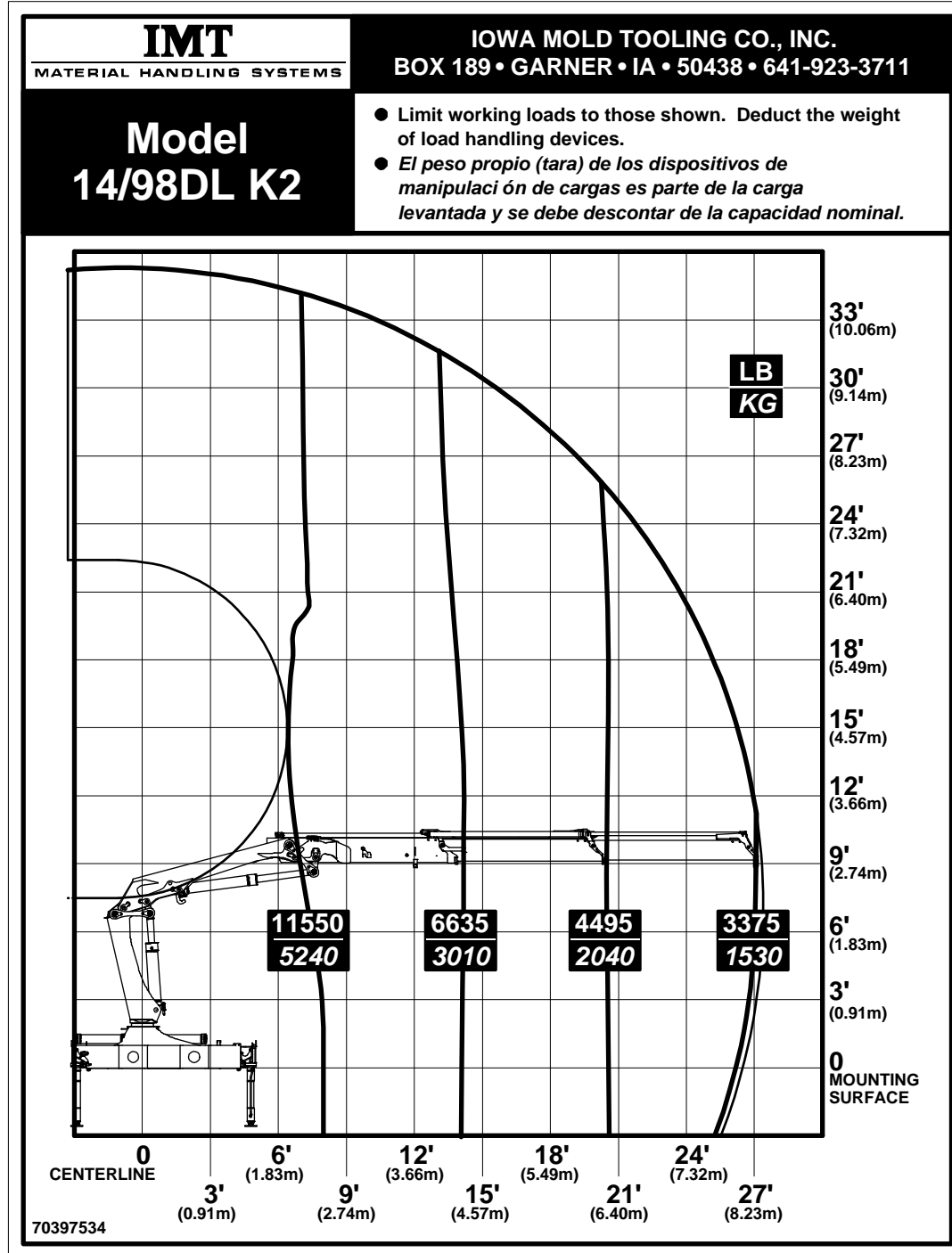


5465 lb 2480 kg 15'-1" 4.6 m	3440 lb 1560 kg 21'-8" 6.6 m	2360 lb 1070 kg 28'-2" 8.6 m	1720 lb 780 kg 35'-1" 10.7 m	1325 lb 600 kg 42'-4" 12.9 m	1080 lb 490 kg 49'-2" 15.0 m	925 lb 420 kg 56'-5" 17.2 m
---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	--------------------------------------

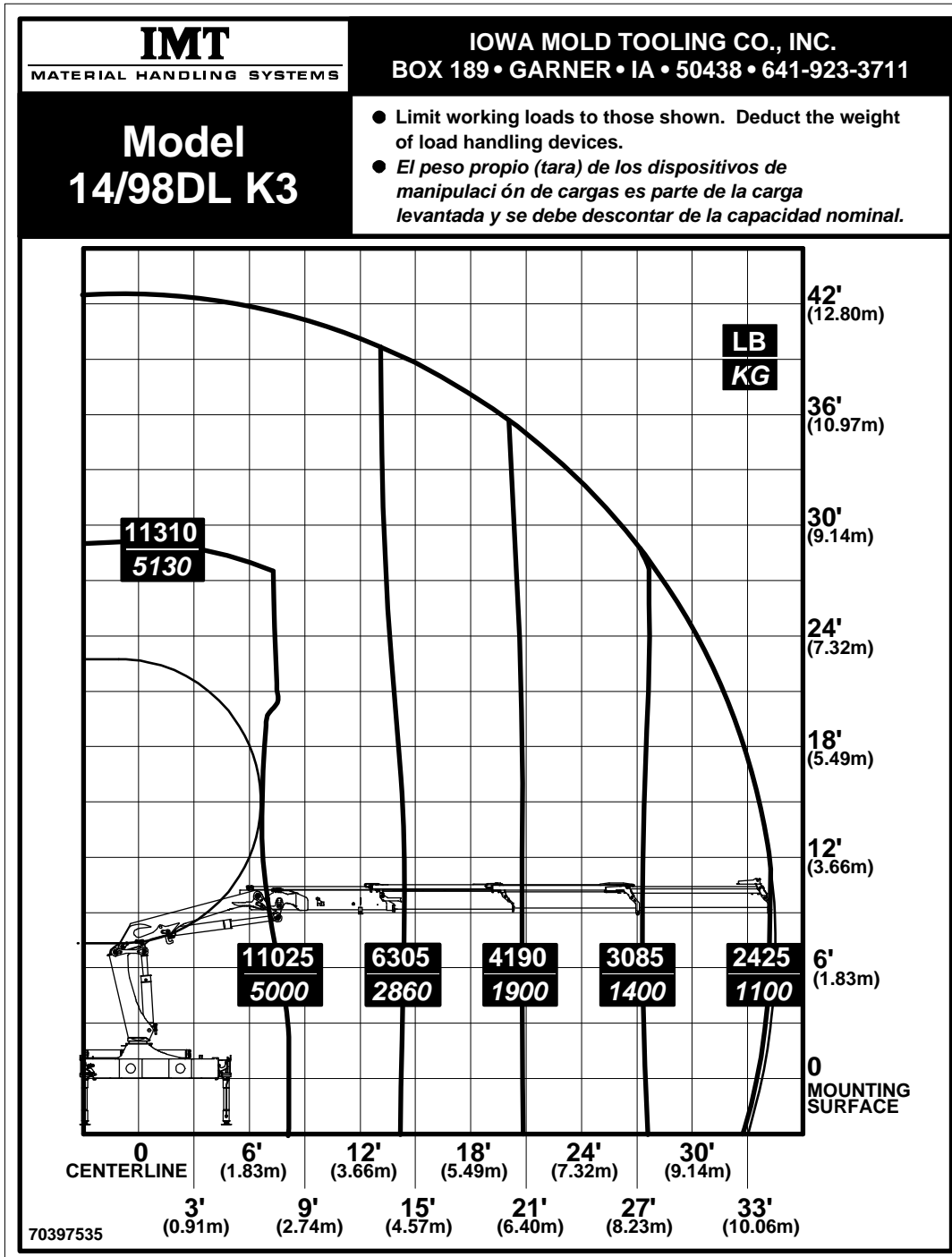
14/98DL K1 Capacity Chart



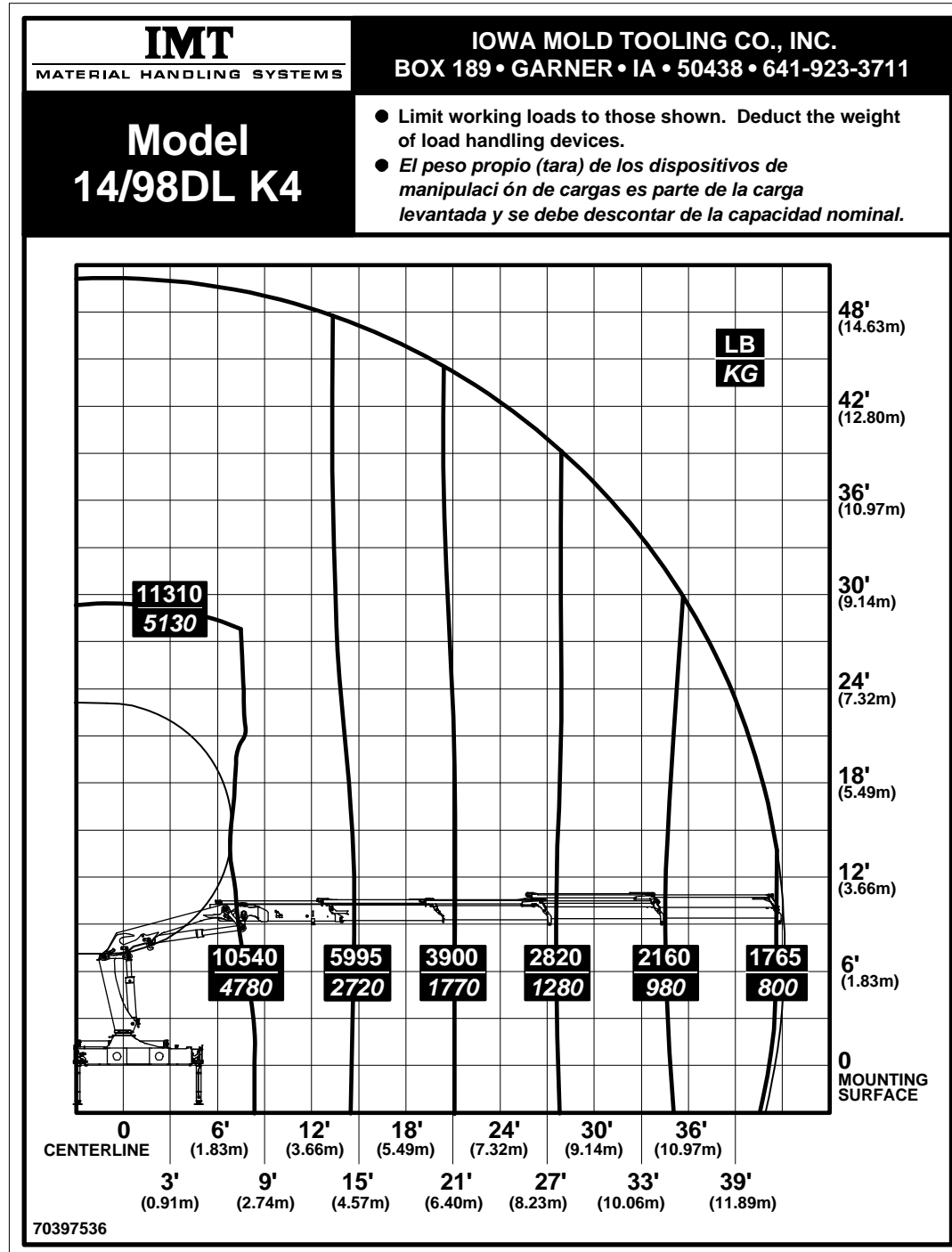
14/98DL K2 Capacity Chart



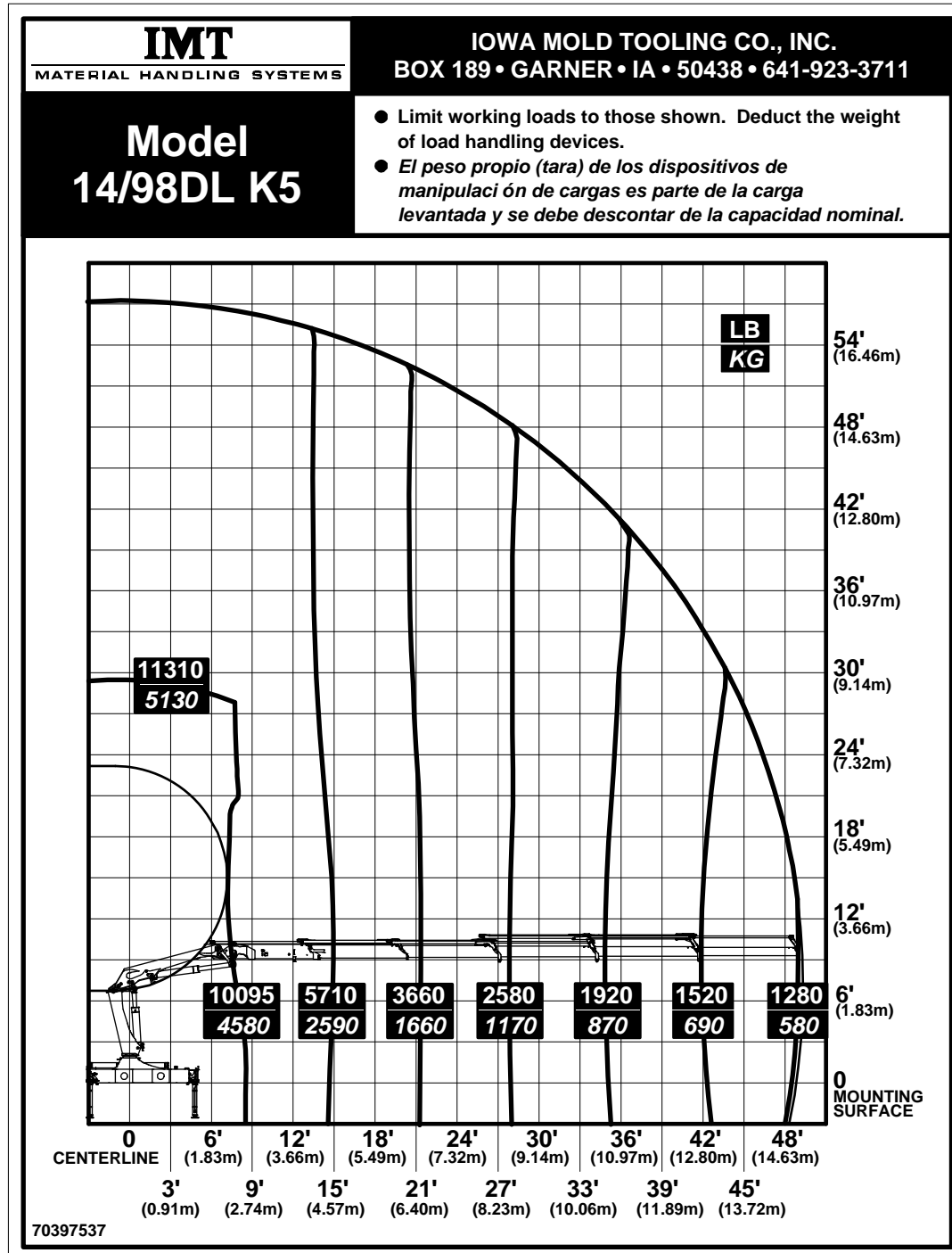
14/98DL K3 Capacity Chart



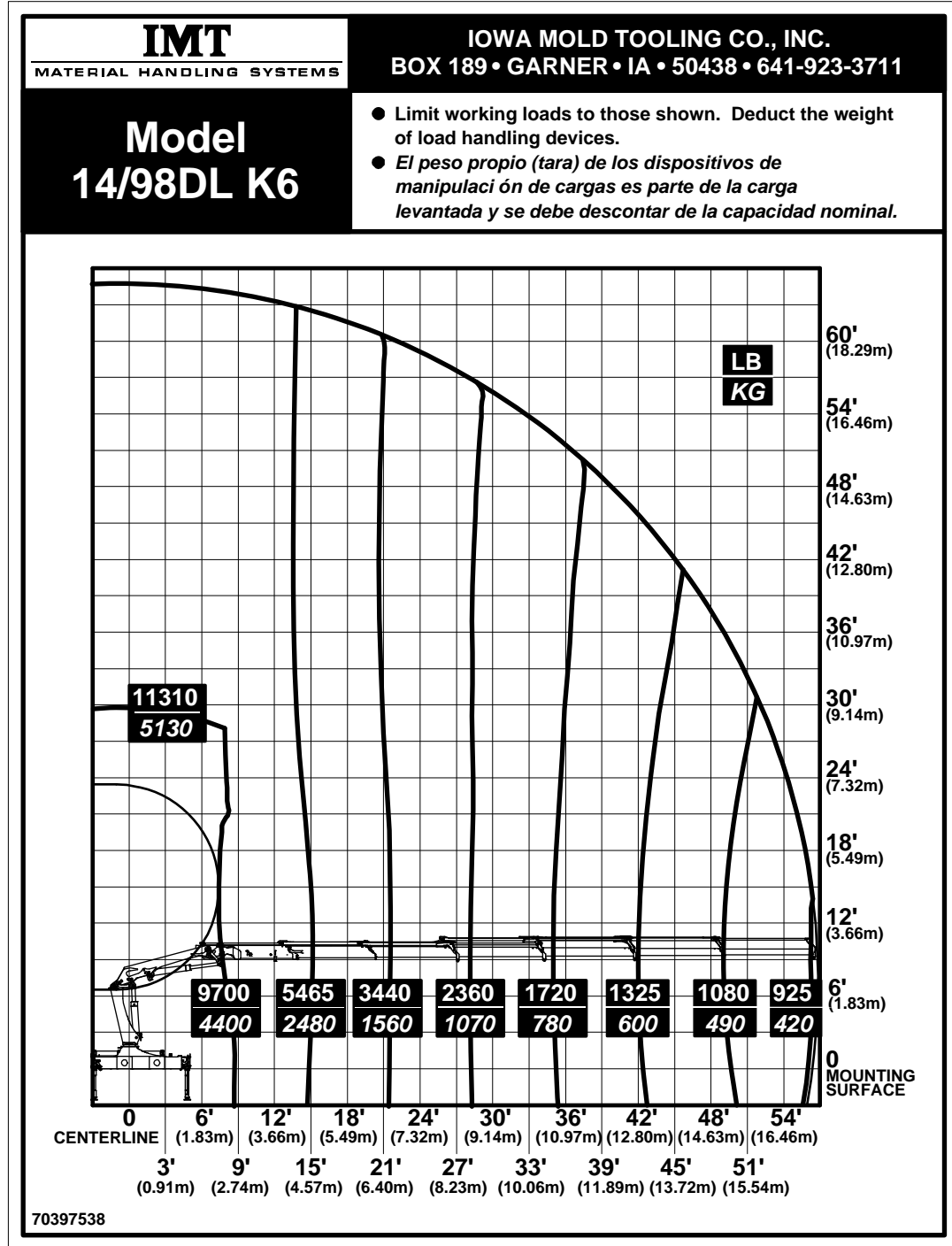
14/98DL K4 Capacity Chart



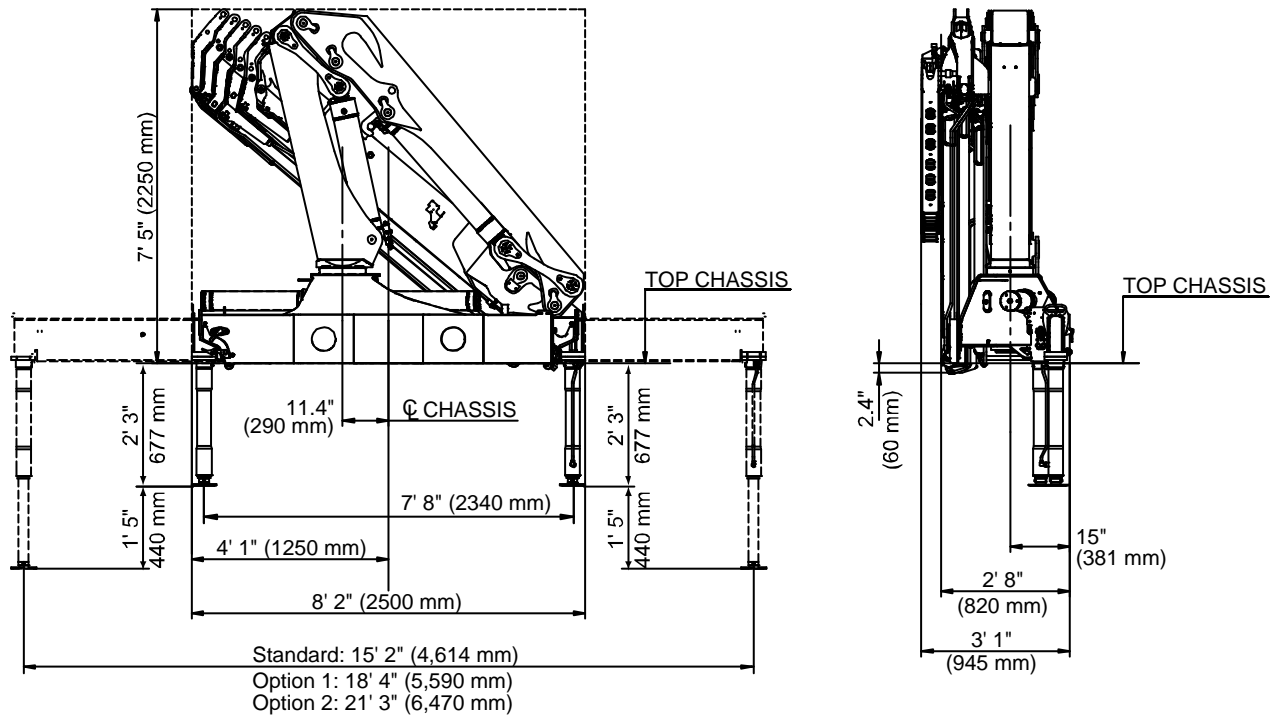
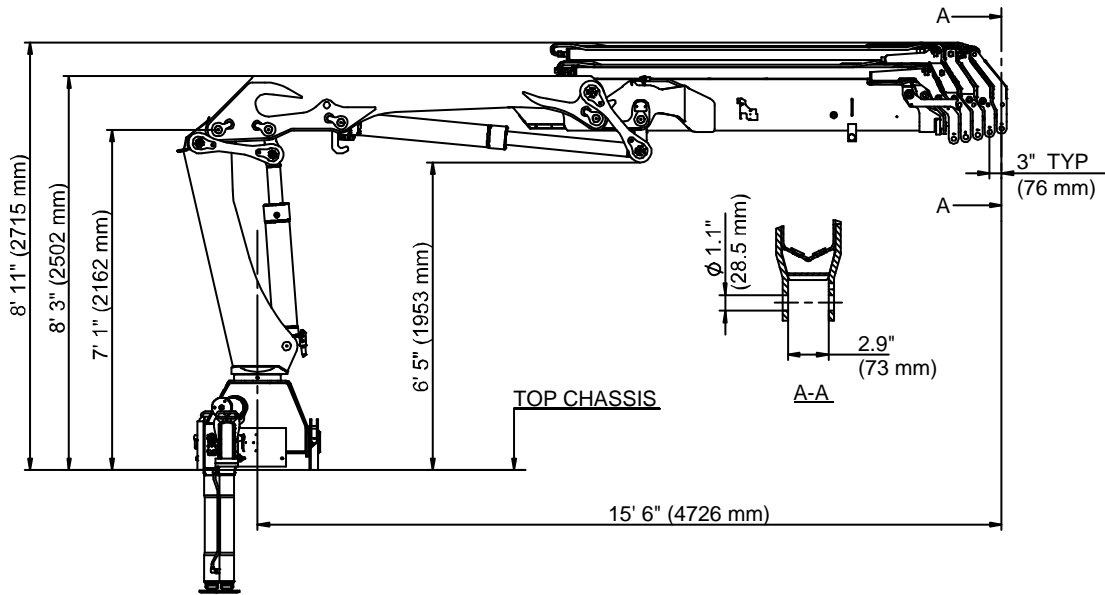
14/98DL K5 Capacity Chart



14/98DL K6 Capacity Chart

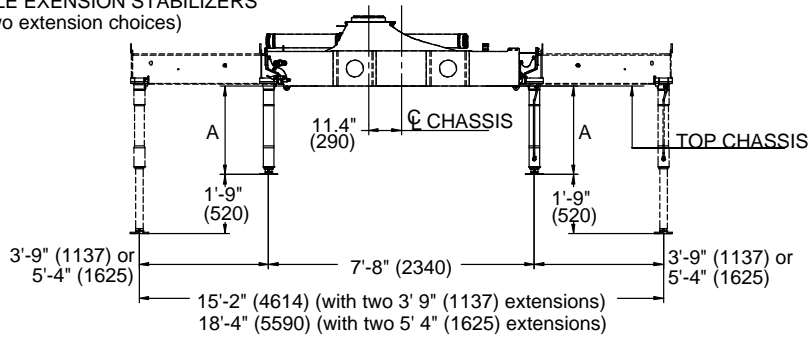


14/98DL Geometric Configuration

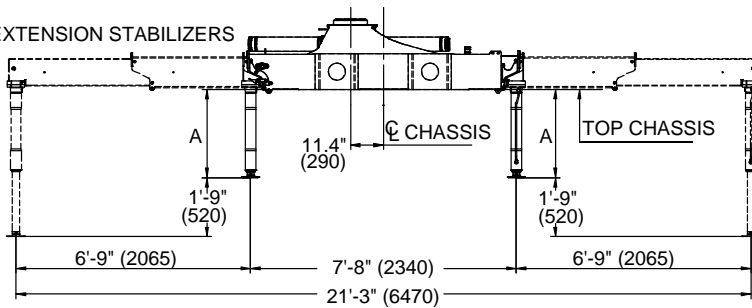


Stabilizer Dimensions, Fixed Legs




SINGLE EXTENSION STABILIZERS (Two extension choices)



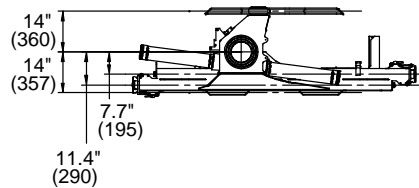
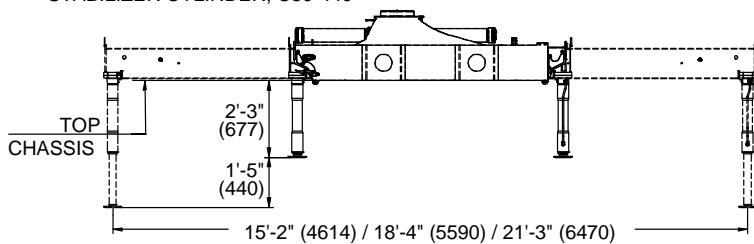
DOUBLE EXTENSION STABILIZERS



STABILIZER LEG EXTENSIONS

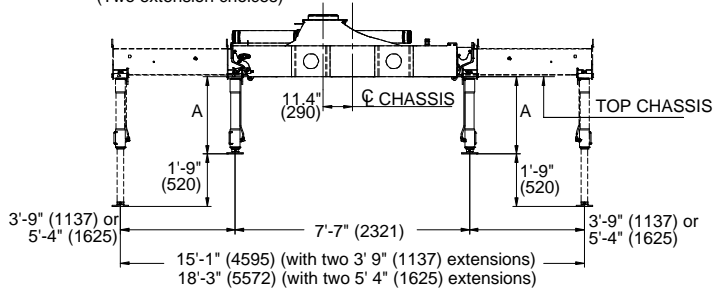
			
	2'-6"	2'-11"	3'-2"
A	(777)	(877)	(977)

STABILIZER CYLINDER, C80-440

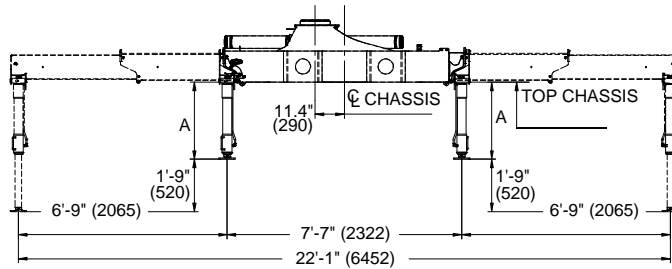


Stabilizer Dimensions, Manual Swing-Up Legs




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



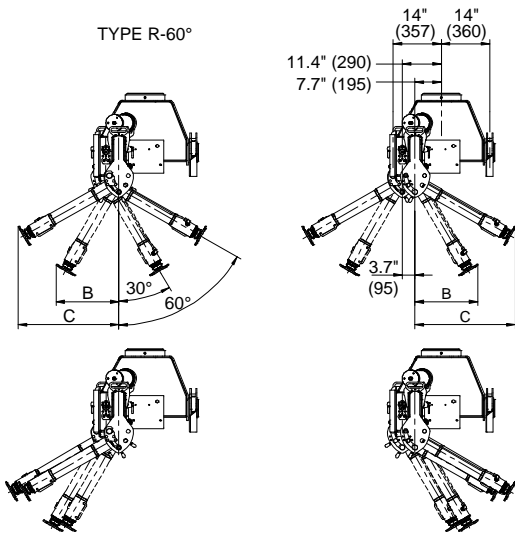
DOUBLE EXTENSION STABILIZERS WITH MANUAL SWING-UP LEGS






STABILIZER LEG EXTENSIONS

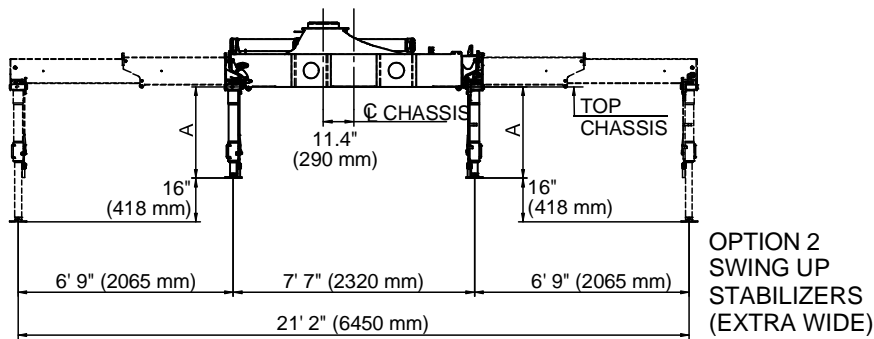
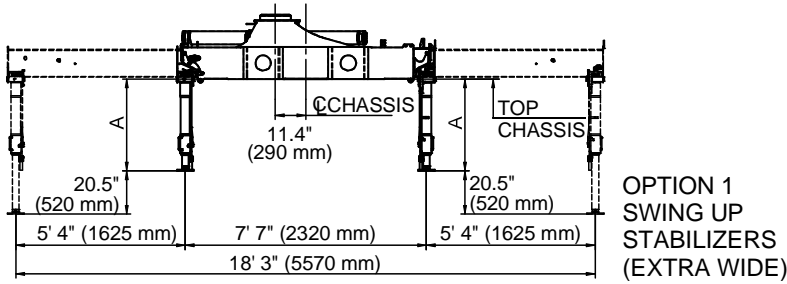
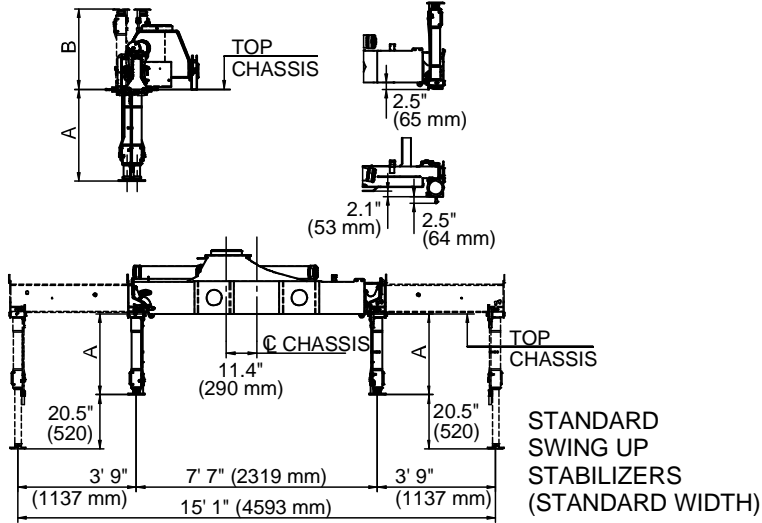
			
A Type R-60°	2'-6" (771)	2'-10" (871)	3'-2" (971)




TYPE R-60°



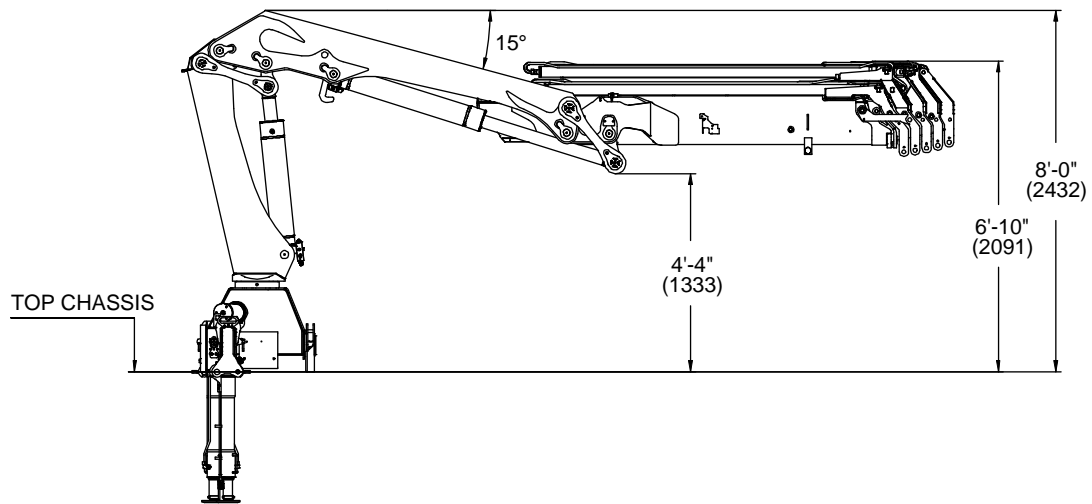
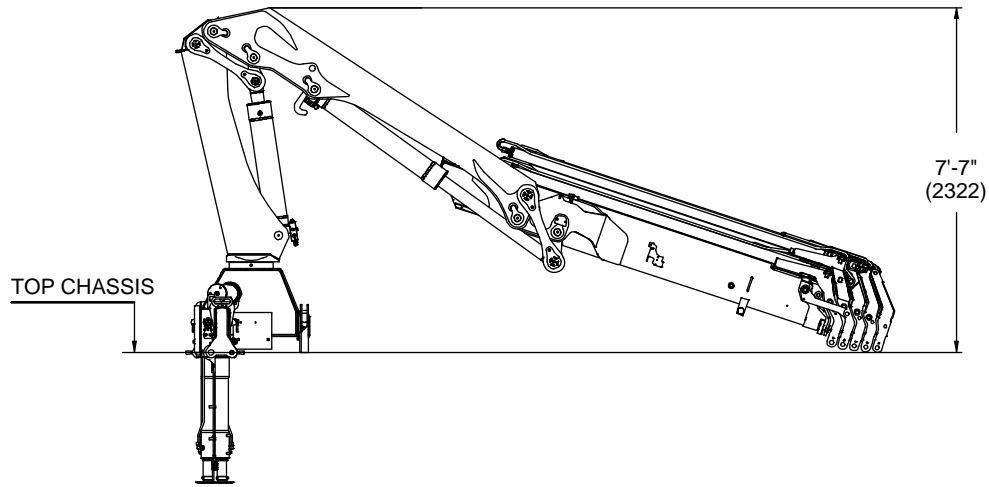
			
B	18.3" (465)	20.3" (515)	21.9" (565)
C	29.3" (744)	32.7" (831)	36.1" (918)

Stabilizer Dimensions, Hyd Swing-Up Legs



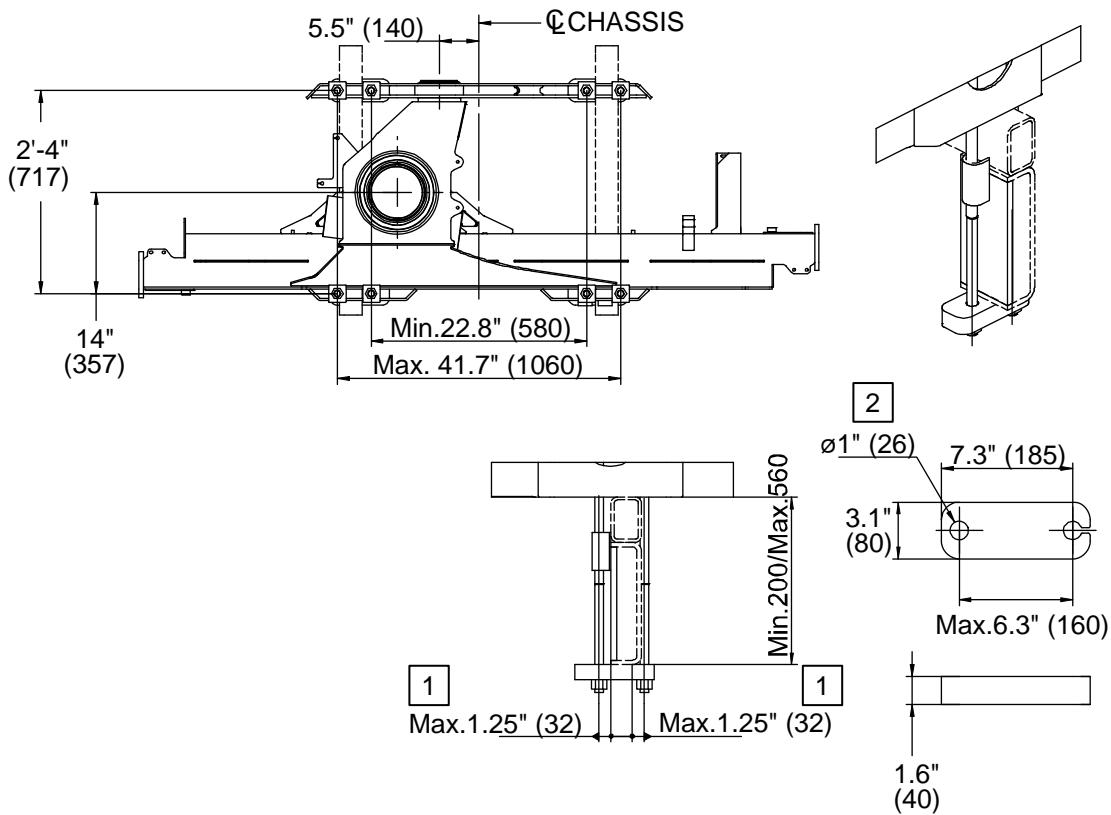
			
A	35" (881 mm)	39" (981 mm)	42.5" (1081 mm)
B	30.5" (775 mm)	34.4" (875 mm)	38.4" (975 mm)

Stowed Dimensions

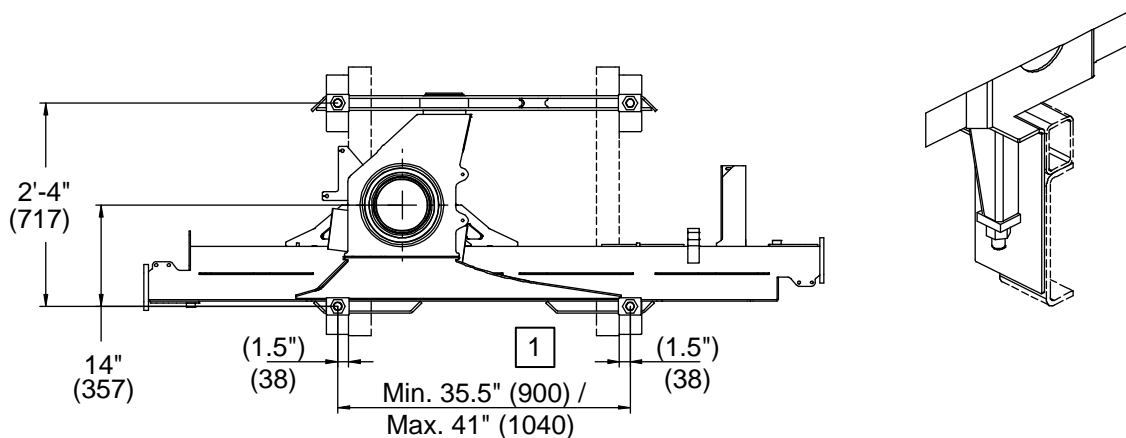


Mounting Dimensions

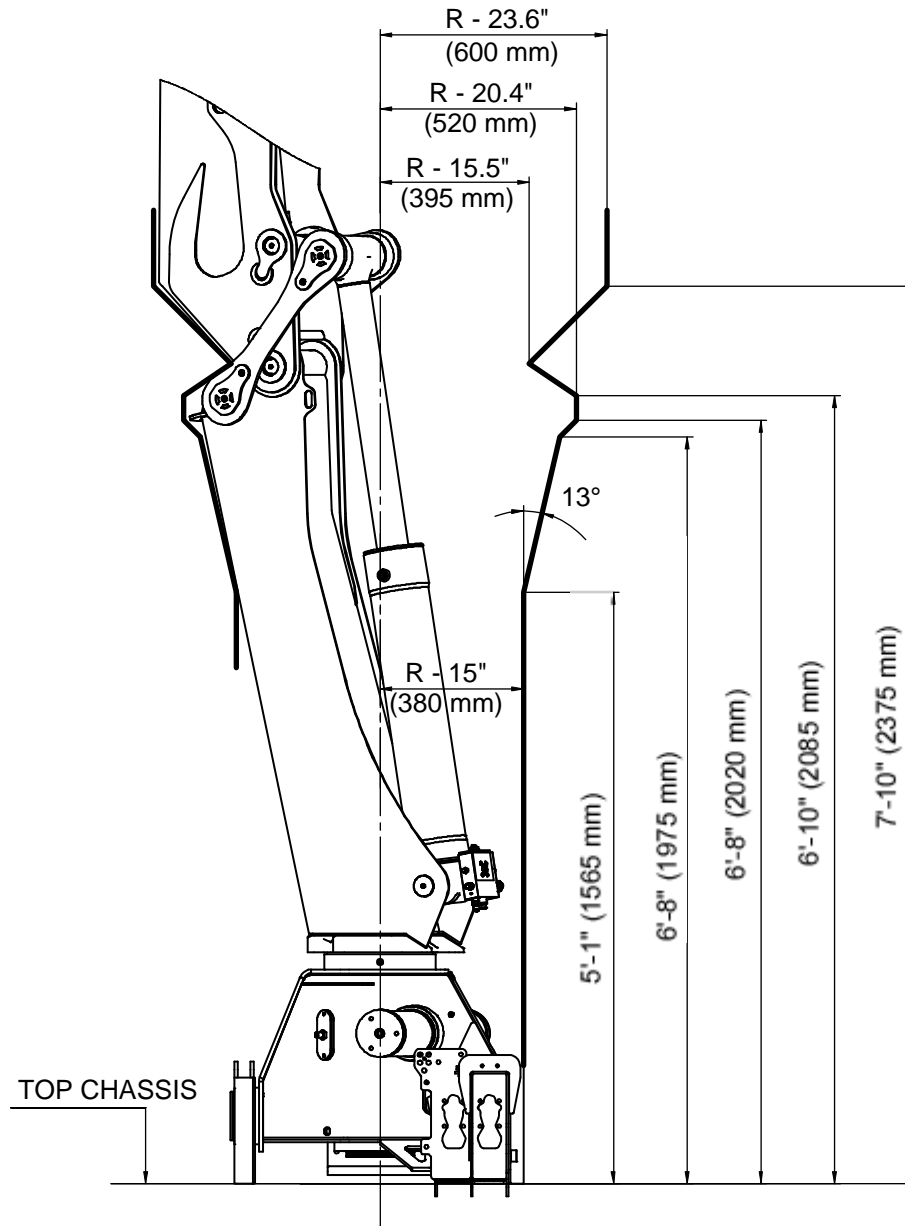
MOUNTING KIT 8 x M24x2 BOLTS



MOUNTING KIT 4 x M30x2 BOLTS



14/98DL Swing Clearance



CHAPTER 2

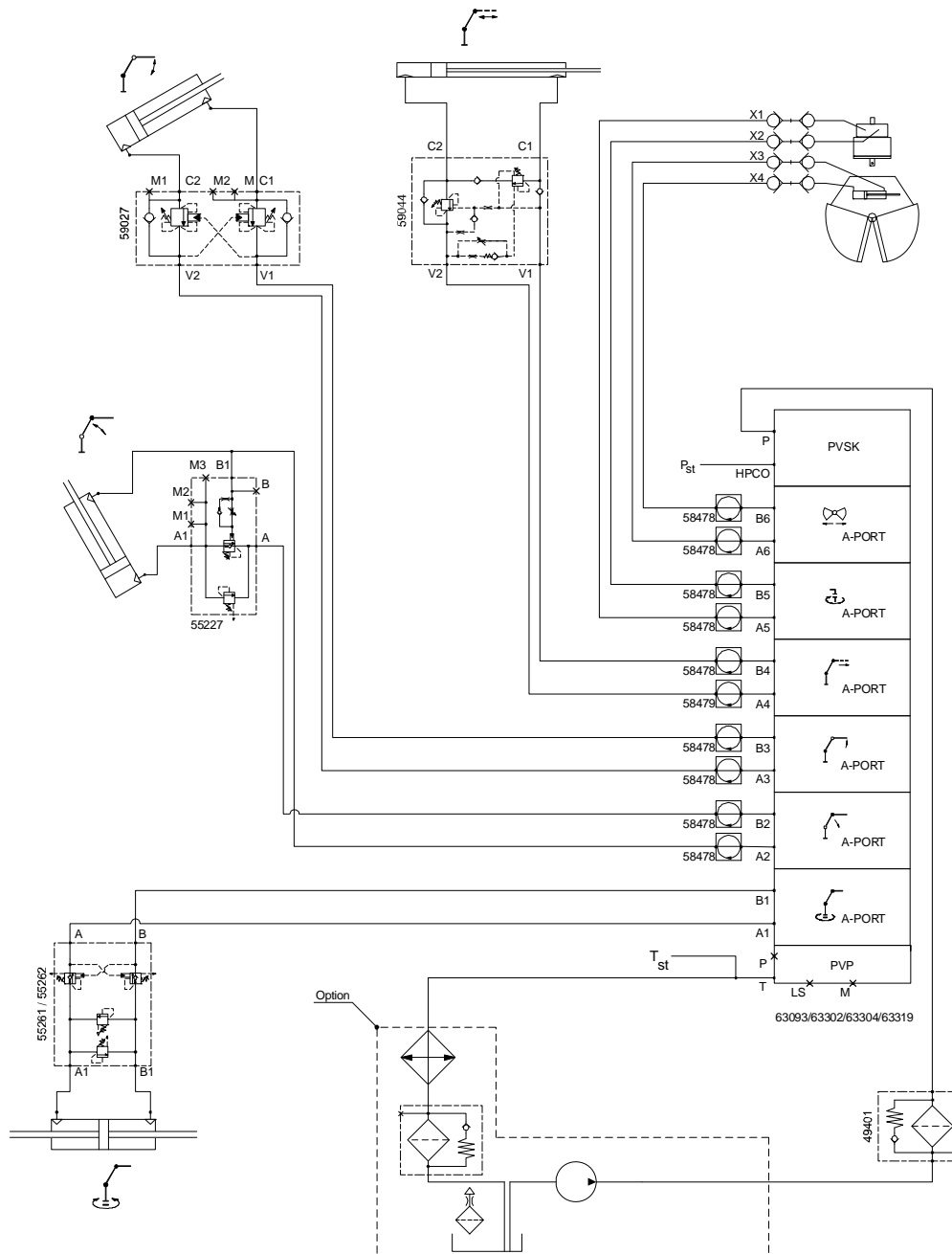
Hydraulic Schematics

In This Chapter

Hydraulic Diagram-14/98DL Danfoss 6-Function Radio	24
Hydraulic Diagram - 14/98DL Danfoss 7-Function Radio	25
Hydraulic Diagram - 14/98DL Hydrocontrol 6-Function Manual.....	26
Hydraulic Diagram - 14/98DL Hydrocontrol 6-Function Radio	27

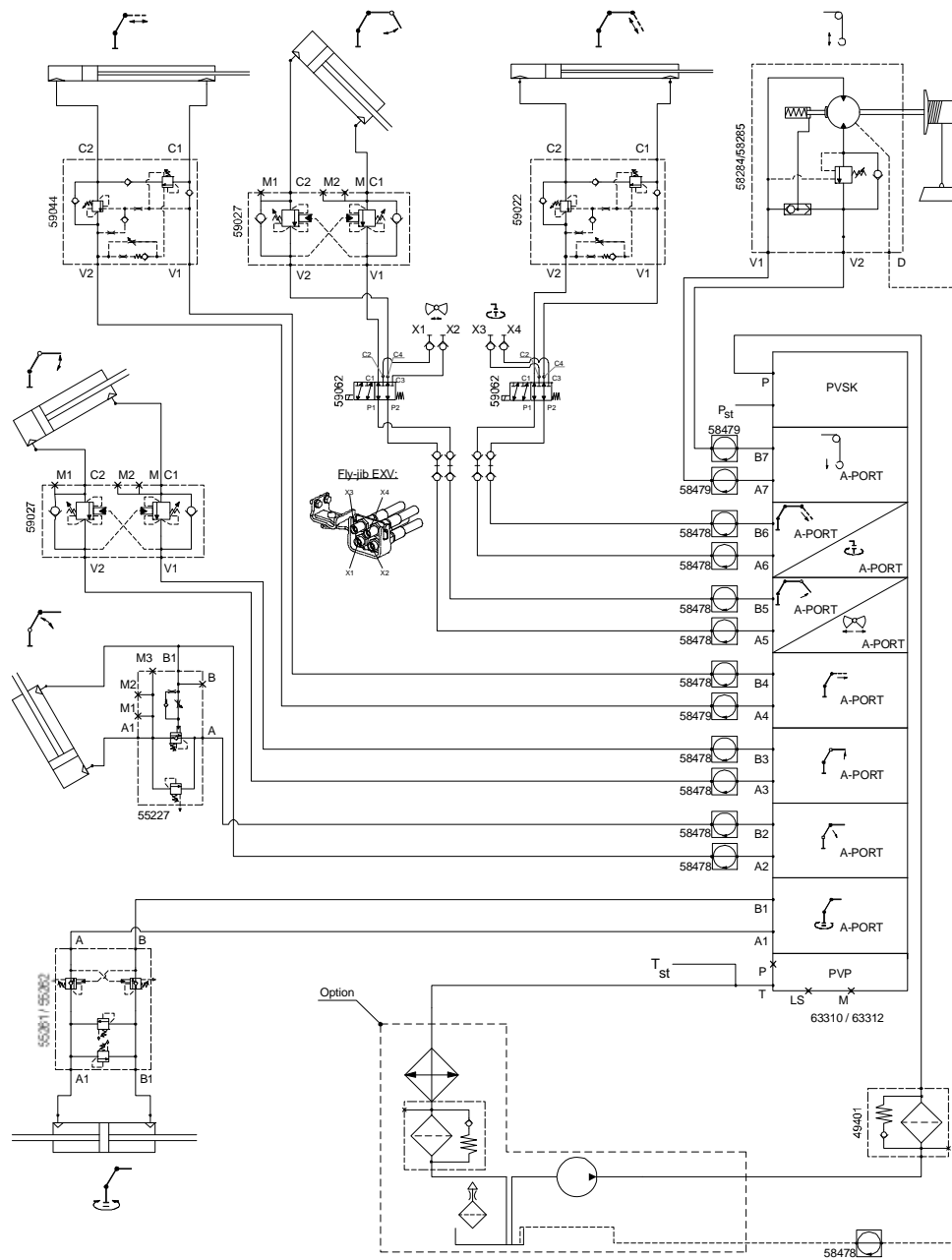
Hydraulic Diagram-14/98DL Danfoss 6-Function Radio

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



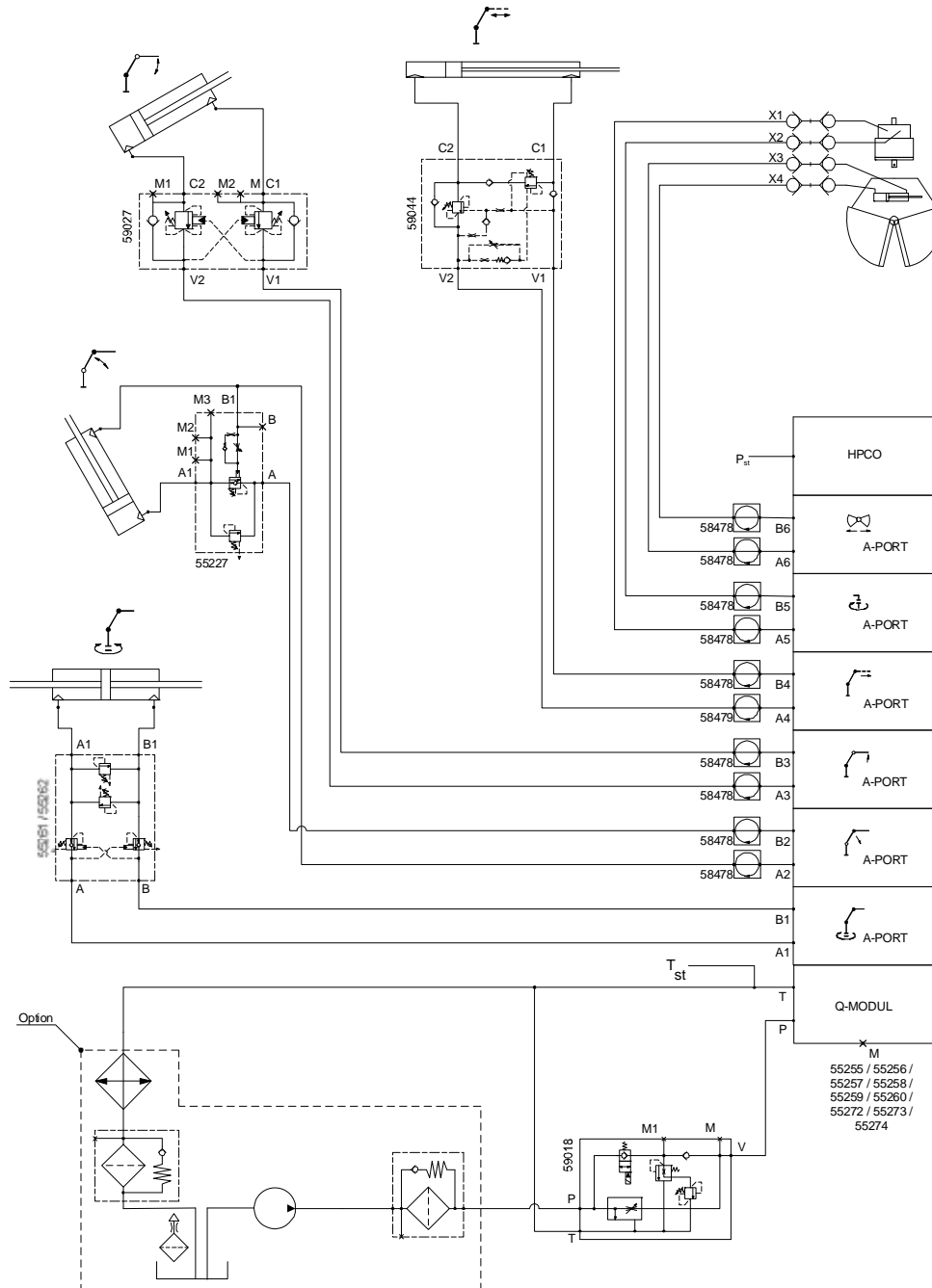
Hydraulic Diagram - 14/98DL Danfoss 7-Function Radio

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



Hydraulic Diagram - 14/98DL Hydrocontrol 6-Function Manual

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



Hydraulic Diagram - 14/98DL Hydrocontrol 6-Function Radio

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

