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Manual # 99906494

1230 MCS Technical Specifications

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1230 MCS - Technical Specifications

Section - 1

1230 MCS - Specifications

Performance	Unit	K1	K2	K3	K4	K5
Loading group (EN12999)		HC1 / HD4	HC1 / HD4	HC1 / HD4	HC1 / HD4	HC1 / HD4
Load moment	ft-lb	85897	83009	80122	78678	76513
Hydraulic reach	ft	20'	26.9'	34.4'	41.7'	49.2'
Hydraulic telescopic movement	in	72.8"	154.7"	240.8"	326.5"	412.6"
Lifting capacity, hydraulic	lb-ft	6327 - 13'5"	6019 - 13'9"	5732 - 14'1"	5490 - 14'5"	5247 - 14'5"
		4837 - 19'8"	4101 - 19'8"	3858 - 20'	3638 - 20'3"	3439 - 20'8"
			3020 - 26'10"	2778 - 26'10"	2579 - 27'2"	2403 - 27'6"
				2161 - 34'1"	1962 - 34'5"	1808 - 34'5"
					1609 - 41'6"	1433 - 41'7"
						1213 - 48'10"
Lifting capacity, manual extensions	lb-ft		2271 - 33'8"	1698 - 41'7"	1213 - 48'9"	772 - 56'8"
Slewing torque, gross	lb-ft	2945				
Slewing angle	°	420°				
Max. heel at max. load moment	°	5				
Slewing speed	°/s	24				

Minimum Chassis Specs	
Front Axle Rating (GAWR)	8000 lb (3630 kg)
Rear Axle Rating (GAWR)	16,000 lb (7260 kg)
Resistance to Bending Moment	1,170,000 in-lb (134,800 kg-m)

1) Weights $\pm$ 5% because of tolerances for plate thickness.

1230 MCS - Specifications - Continued

Dimensions	Unit	K1	K2	K3	K4	K5
Height above chassis	in	84"				
Width	in	98.4"				
Length, no extra valves	in	29.4"				
Length, with extra valves (hose guides)	in	34.1"				
Length, with extra valves (int. hose routing)	in	29.8"				
Stabilizer spread, S1 (standard)	in	181.7"				
Stabilizer spread, S2	in	220.1"				
Weights, basic loader	Unit	K1	K2	K3	K4	K5
Standard loader 1), excl. stabilizers	lb	2381	2657	2899	3109	3296
Stabilizers, S1 fixed	lb	375				
Stabilizers, S1 swing-up	lb	386				
Stabilizers, S2 fixed	lb	430				
Stabilizers, S2 swing-up	lb	441				
Mounting kit, 4 bolts	lb	121				
Mounting kit, 8 bolts	lb	132				
Tank, excl. oil (fitted on loader)	lb	88				
Manual Extensions	lb		143	110	88	77
Oil in loader (stowing position)	lb	44	53	62	71	79

1) Weights $\pm$ 5% because of tolerances for plate thickness

1230 MCS - Specifications - Continued

Weights, equipment	Unit	K1	K2	K3	K4	K5
Stand-up controls (HS), std.	lb					
Top seat (TS)	lb					
Top seat, ladder	bl					
1 extra valve, hose routing	lb	88	121	143	165	187
1 extra valve, int. hose routing	lb	165				
2 extra valves, hose guides	lb	132	165	198	231	265
2 extra valves, int. hose routing	lb	287				
Winch (1.5 t), single snatch block	lb	386				
Winch (1.5 t), double snatch block	lb	375				
High-pressure filter	lb	15				
Oil cooler	lb	55				

Max. Load on stabilizers (per stabilizer cylinder)	Unit	K1	K2	K3	K4	K5
S1, fixed	ft-lb	16860				
S1, swing-up	ft-lb					
S2, fixed	ft-lb					
S2, swing-up	ft-lb					

Power consumption (oil capacity)	Unit	K1	K2	K3	K4	K5
Working pressure	psi	4786				
Tank capacity (fitted on loader)	gal	17.2				
Max. pump performance, Hydrocontrol, 1-circuit	g/min	10.6				

1230 MCS - Specifications - Metric

Performance	Unit	K1	K2	K3	K4	K5
Loading group (EN12999)		HCI / HD4	HCI / HD4	HCI / HD4	HCI / HD4	HCI / HD4
Load moment	tm	11.9	11.5	11.1	10.9	10.6
Hydraulic reach	m	6.0	8.2	10.4	12.6	14.9
Hydraulic telescopic movement	mm	1849	3929	6116	8292	10479
Lifting capacity, hydraulic	kg-m	2870 - 4.1	2730 - 4.2	2600 - 4.3	2490 - 4.4	2380 - 4.4
		1990 - 6.0	1860 - 6.0	1750 - 6.1	1650 - 6.2	1560 - 6.3
			1370 - 8.2	1260 - 8.2	1170 - 8.3	1090 - 8.4
				980 - 10.4	890 - 10.5	820 - 10.5
					730 - 12.6	650 - 12.7
						550 - 14.9
Lifting capacity, manual extensions			1230 - 10.	770 - 12.7	550 - 14.9	350 - 17.3
Slewing torque, gross		13.1	13.1	13.1	13.1	13.1
Slewing angle	°	400°				
Max. heel at max. load moment	°	5				
Slewing speed	°/s	24				

1230 MCS - Specifications - Continued

Dimensions	Unit	K1	K2	K3	K4	K5
Height above chassis	mm	2135				
Width	mm	2500				
Length, no extra valves	mm	747				
Length, with extra valves (hose guides)	mm	868				
Length, with extra valves (int. hose routing)	mm	757				
Stabilizer spread S1 (standard)	mm	4165				
Stabilizer spread, S2	mm	5590				

Weights, basic loader	Unit	K1	K2	K3	K4	K5
Standard loader 1), excl. stabilizers	kg	1080	1205	1315	1410	1495
Stabilizers S1 fixed	kg	170				
Stabilizers S1 swing-up	kg	175				
Stabilizer S2 fixed	kg	195				
Stabilizers S2 swing-up	kg	200				
Mounting kit, 4 bolts	kg	55				
Mounting kit, 8 bolts	kg	60				
Tank, excl. oil (fitted on loader)	kg	40				
Manual extensions	kg		65	50	40	35
Oil in loader (stowing position)	kg	20	24	28	32	36

1230 MCS - Metric Specifications - Continued

Weights, equipment	Unit	K1	K2	K3	K4	K5
Stand-up controls (HS), std.	kg					
Top seat (TS)	kg					
Top seat, ladder	kg					
1 extra valve, hose guides	kg	40	55	65	75	85
1 extra valve, int. hose routing	kg	75	75	75	80	80
2 extra valves, hose guides	kg	60	75	90	105	120
2 extra valves, int. hose routing	kg	130	130	130	130	130
Winch (1.5 t), single snatch block	kg	175	175	175	175	175
Winch (1.5 t), double snatch block	kg	170	170	170	170	170
High-pressure filter	kg	7				
Oil cooler	kg	25				

Max. Load on stabilizers (per stabilizer cylinder)	Unit	K1	K2	K3	K4	K5
S1, fixed	kN	75				
S1, swing-up	kN					
S2, fixed	kN					
S2, swing-up	kN					

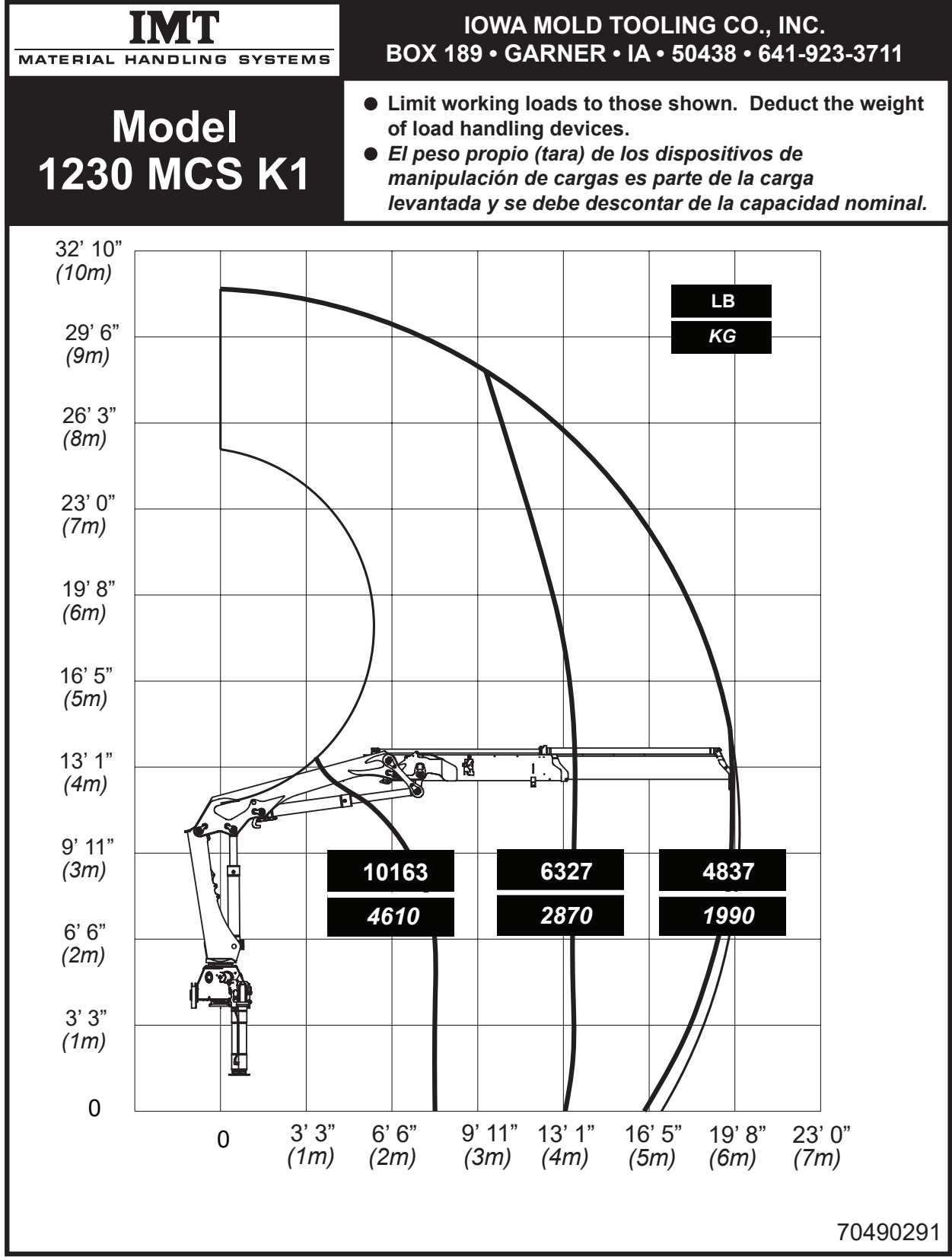
Power consumption (oil capacity)	Unit	K1	K2	K3	K4	K5
Working pressure	Bar	330				
Tank capacity (fitted on loader)	L	65				
Max. pump performance, Hydrocontrol, 1-circuit	L/min	40				

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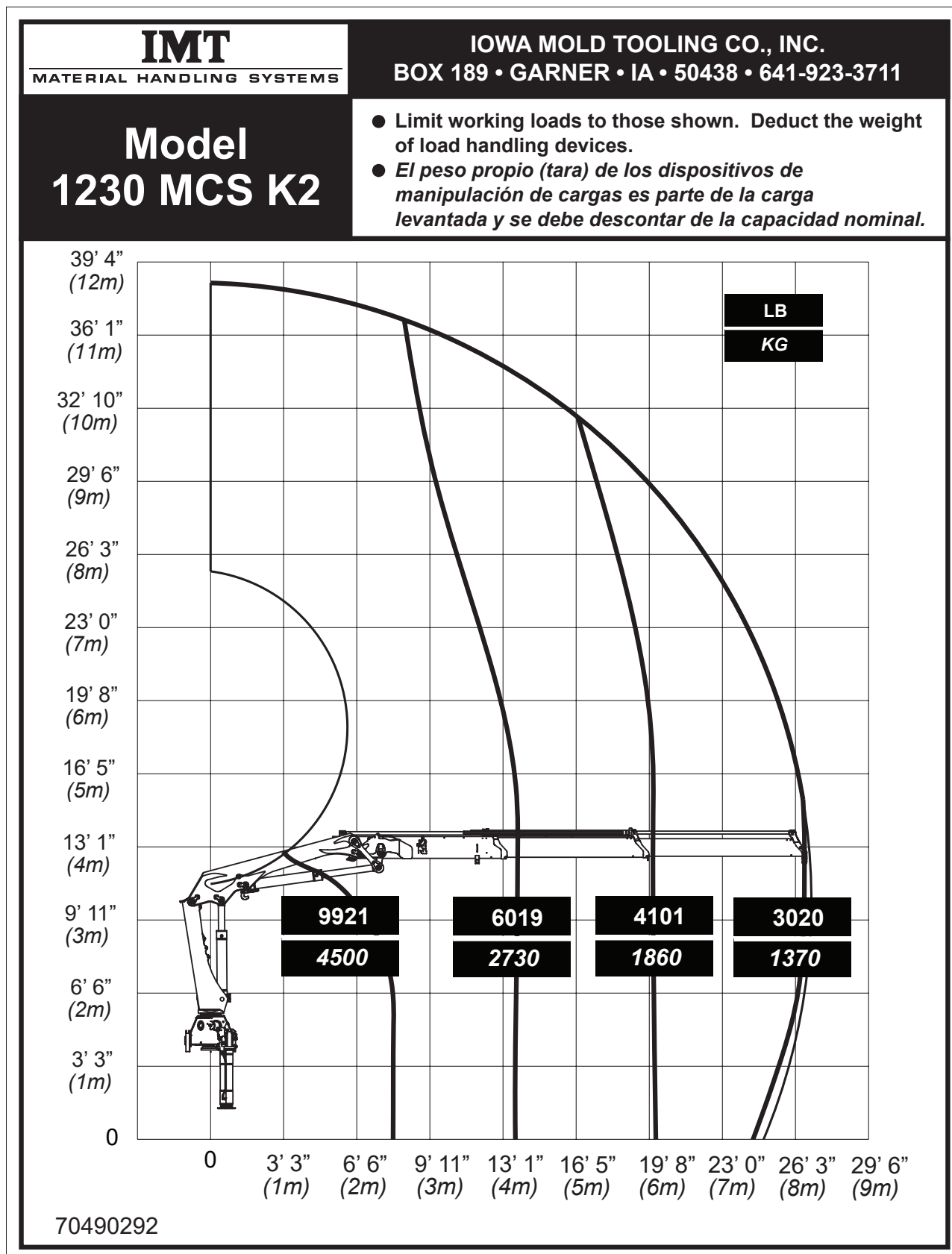
1230 MCS- K1-K5 Load Capacity Charts

Section - 2

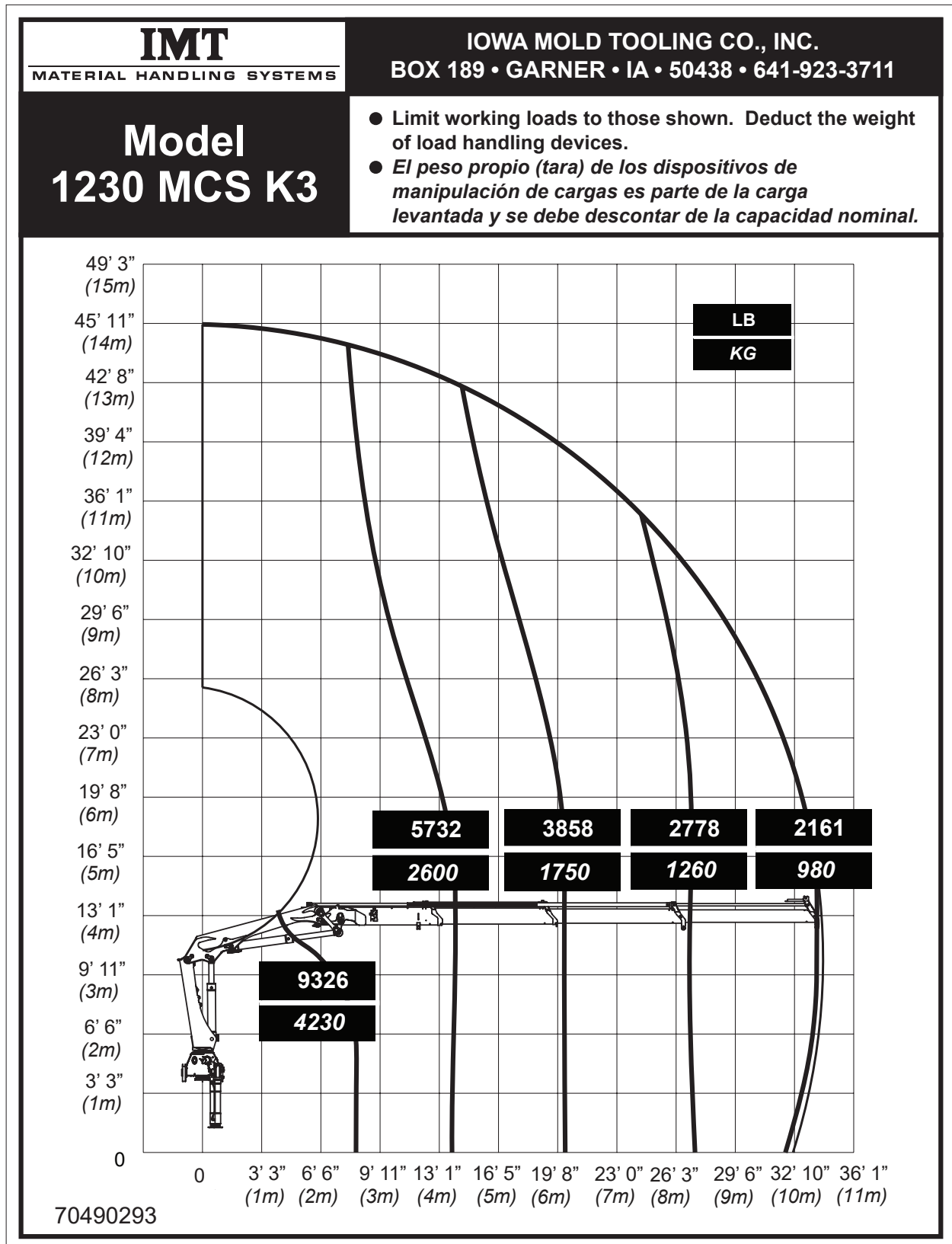
1230 MCS - Lifting Capacity Chart, K1 (70490291)



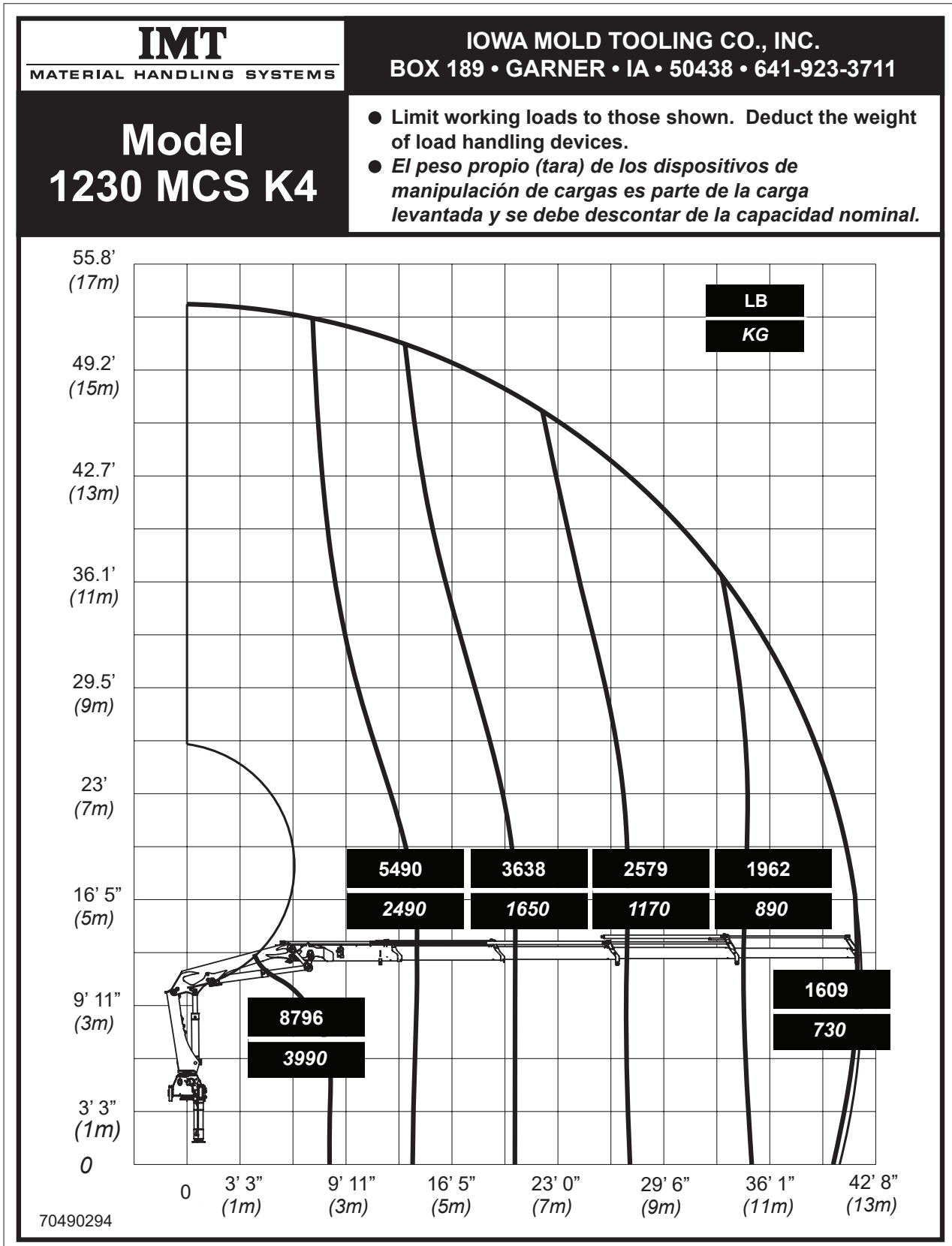
1230 MCS - Lifting Capacity Chart, K2 (70490292)



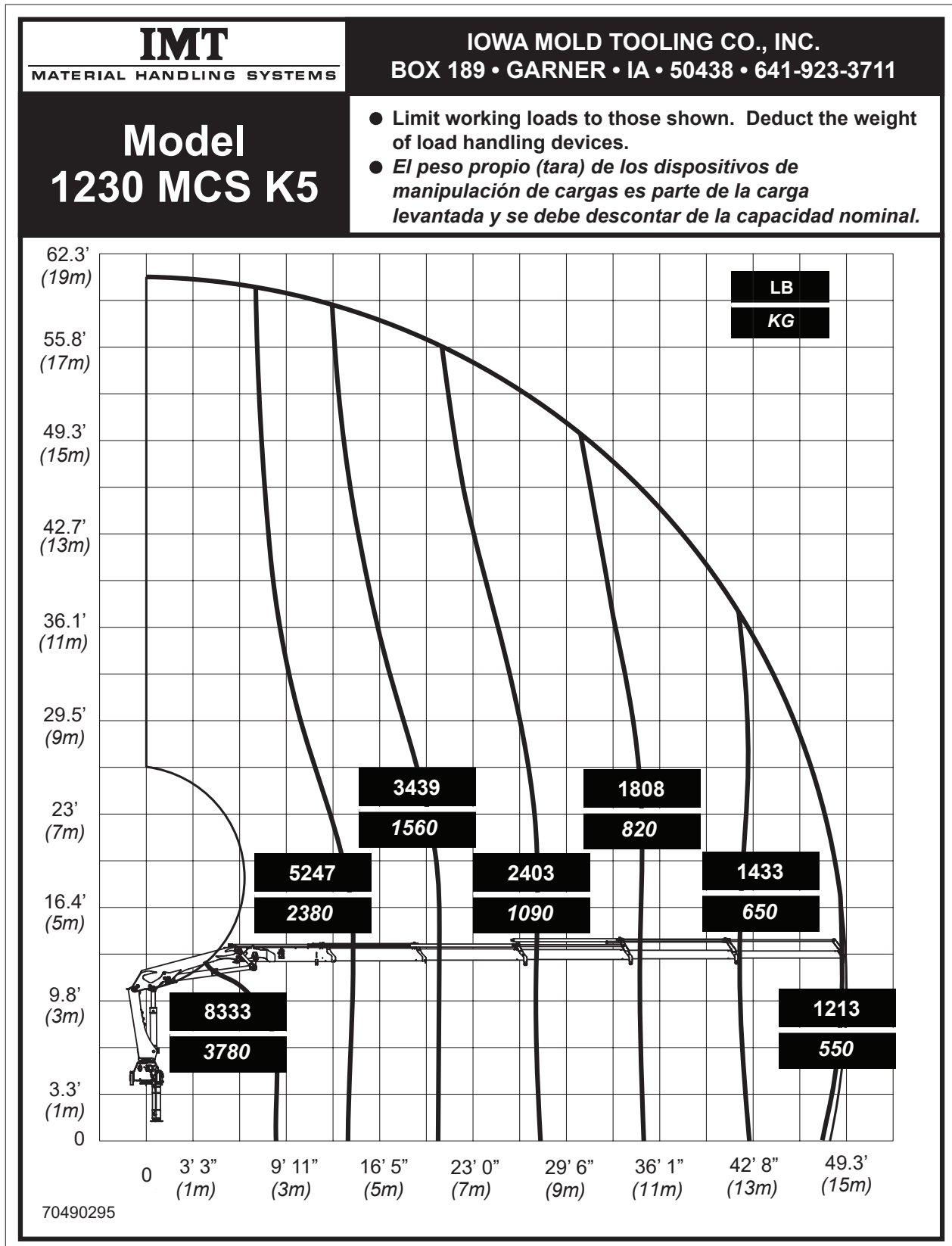
1230 MCS - Lifting Capacity Chart, K3 (70490293)



1230 MCS - Lifting Capacity Chart, K4 (70490294)

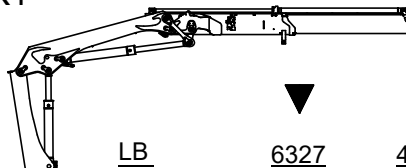


1230 MCS - Lifting Capacity Chart, K5 (70490295)



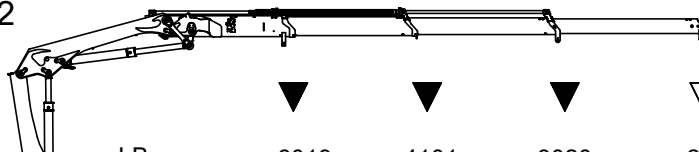
1230 MCS - Lifting Capacity Chart, K1-K5

K1



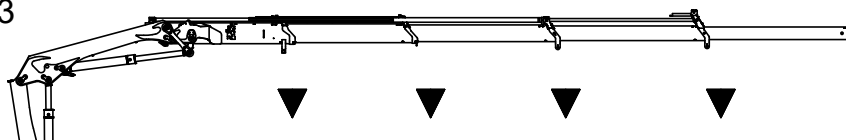
	▼	▼
LB FT	6327 13'5"	4837 19'8"
KG M	2870 4,1	1990 6,0

K2



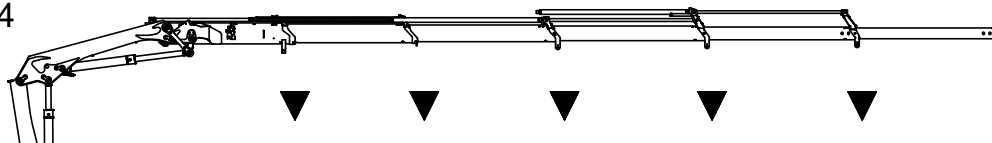
	▼	▼	▼	▽
LB FT	6019 13'9"	4101 19'8"	3020 26'10"	2271 33'8"
KG M	2730 4,2	1860 6,0	1370 8,2	1030 10,3

K3



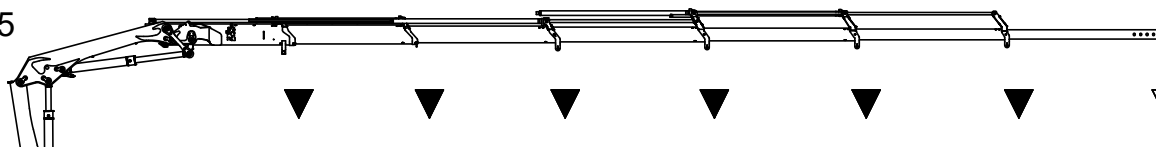
	▼	▼	▼	▼	▽
LB FT	5732 14'1"	3858 20'	2778 26'10"	2161 34'1"	1698 41'7"
KG M	2600 4,3	1750 6,1	1260 8,2	980 10,4	770 12,7

K4



	▼	▼	▼	▼	▼	▽
LB FT	5490 14'5"	3638 20'4"	2579 27'2"	1962 34'5"	1609 41'4"	1213 48'9"
KG M	2490 4,4	1650 6,2	1170 8,3	890 10,5	730 12,6	550 14,9

K5

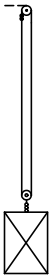
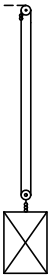


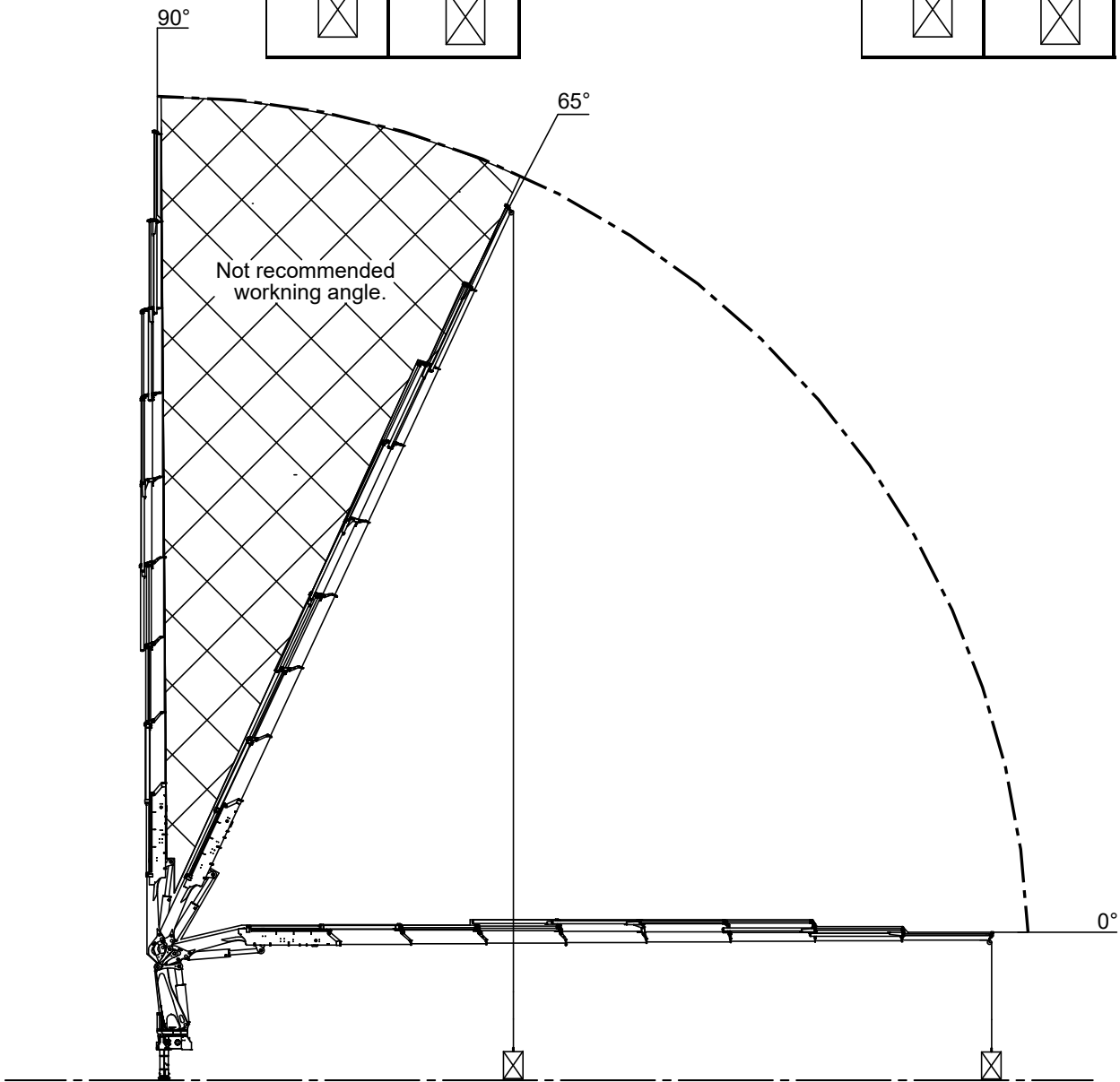
	▼	▼	▼	▼	▼	▼	▽
LB FT	5247 14'5"	3439 20'8"	2403 27'6"	1808 34'5"	1433 41'7"	1213 48'9"	772 56'8"
KG M	2380 4,4	1560 6,3	1090 8,4	820 10,5	650 12,7	550 14,9	350 17,3

▽ LIFTING CAPACITIES WITH MANUAL EXTENSIONS

▼ LIFTING CAPACITIES WITHOUT MANUAL EXTENSIONS

1230 MCS - Lifting Capacity with Winch

Hydraulic hoist type	MAXW	MAXWD	Hydraulic hoist type	MAXW	MAXWD
Dinamic P9E	1500 kg	3000 kg	Dinamic P9E	3307 lb	6614 lb
Dinamic P15E	2500 kg	5000 kg	Dinamic P15E	5512 lb	11023 lb
Dinamic S 25 Brevini 2500	3200 kg	6400 kg	Dinamic S 25 Brevini 2500	7055 lb	14110 lb
					



1230 MCS - Hydraulics

Section - 3

1230 MCS - Pressure setting diagram, MC - RS210

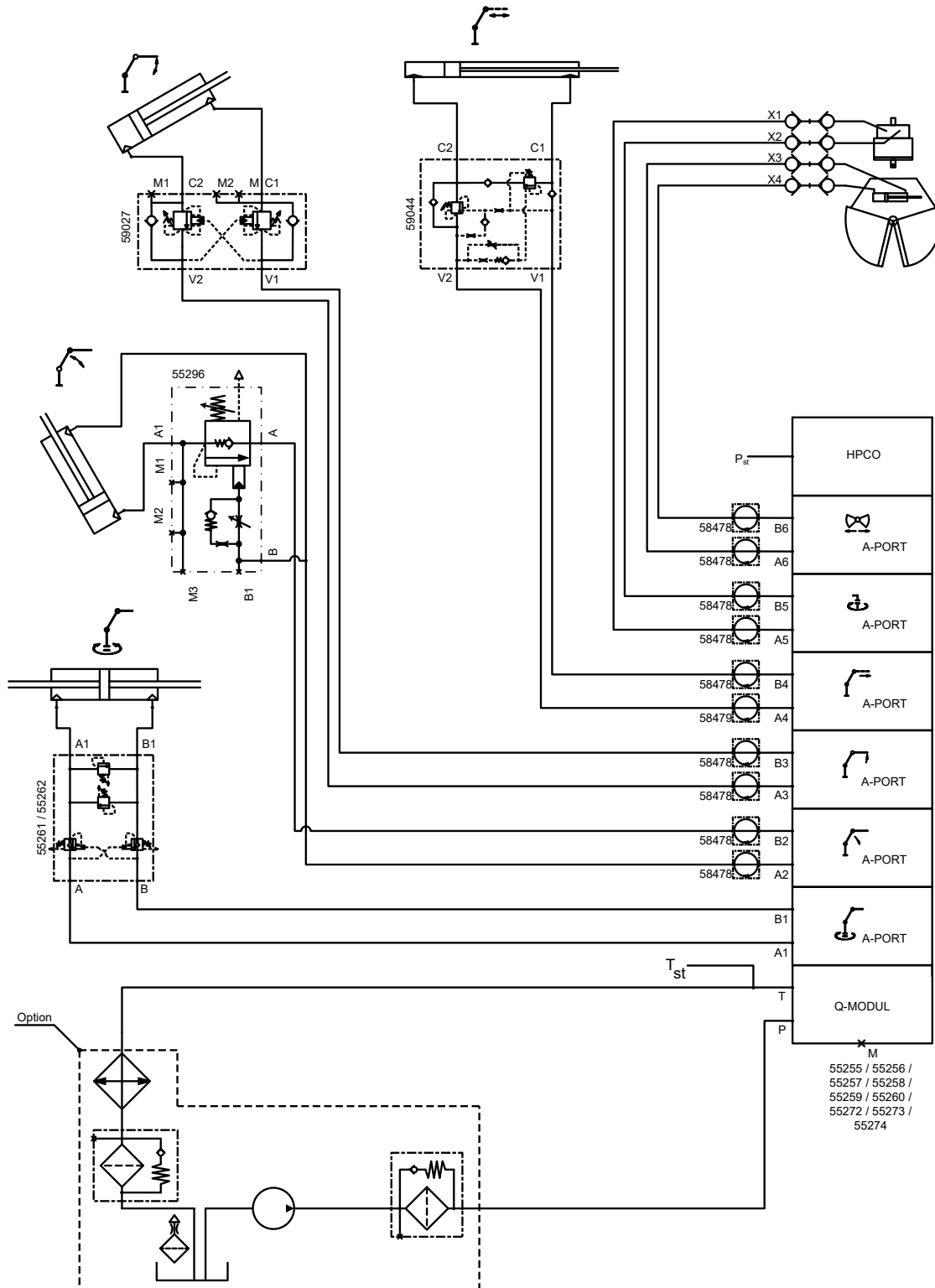
Working Pressure on Main-Relief Valve & Port- Relief Valves				
Function	Direction	Port	1230 MCS K1-K6 (PSI)	1730 MCS K1-K6 (METRIC) (BAR)
Main-relief valve			4786	330
Slewing system	Right	A	P	P
	Left	B	P	P
Boom cylinder	Up	A	1450	100
	Down	B	4931	340
Jib cylinder	Up	A	4931	340
	Down	B	2901	200
Extension cylinders	Extend	A	P	P
	Retract	B	P	P
Grab / Flyjib lift*	Up	A	2901	200
	Down	B	2901	200
Rotator / Fly-jib ext. cylinders*	Extend	A	2901	200
	Retract	B	2901	200
Separate stabilizer valve		All	2176	150

Working Pressure on Load-holding Valves				
Function	Direction	Port	Opening pressure [PSI]	Opening pressure [BAR]
Slewing system			5076	350
Boom cylinder			5076	350
Jib cylinder			3046	210
Extension cylinders	Retract	A	3046	210
	Extend	B	6237	430

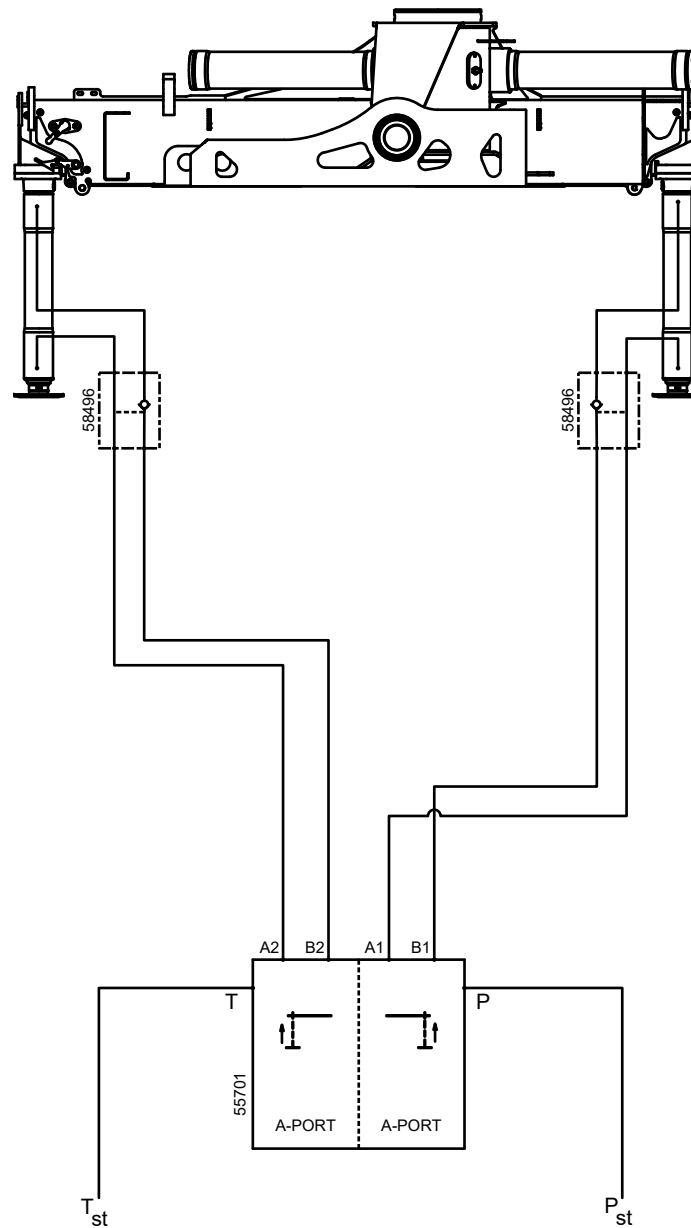
Pressure setting for Load Moment Limitation (LMB)		
Load moment limitation (LMB)	4641	320
HDL	4206	290

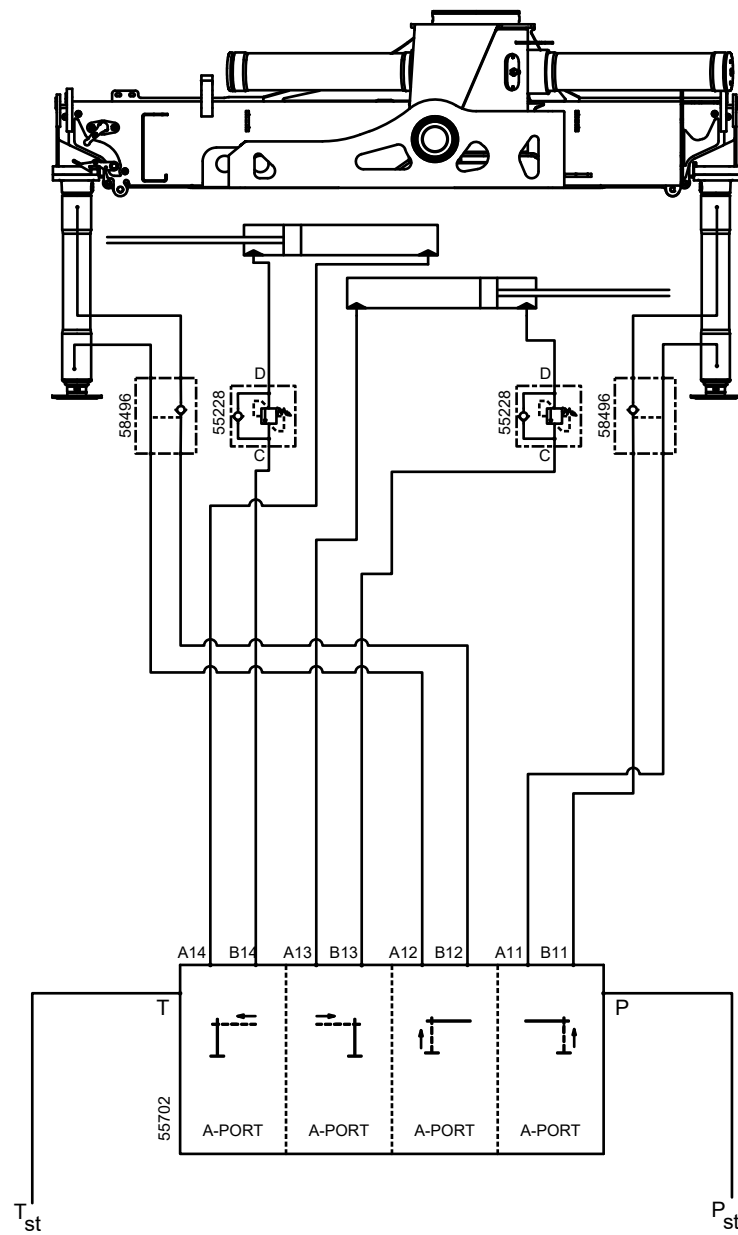
Max. pump performance		
Pump performance, 1-circuit	10.6 gpm	40 lpm

1230 MCS - Hydraulic Diagram - MC - RS210, single-circuit fixed 6 fcts. Std./HS, std. HDL (2 EXV: Grab + Rotator)

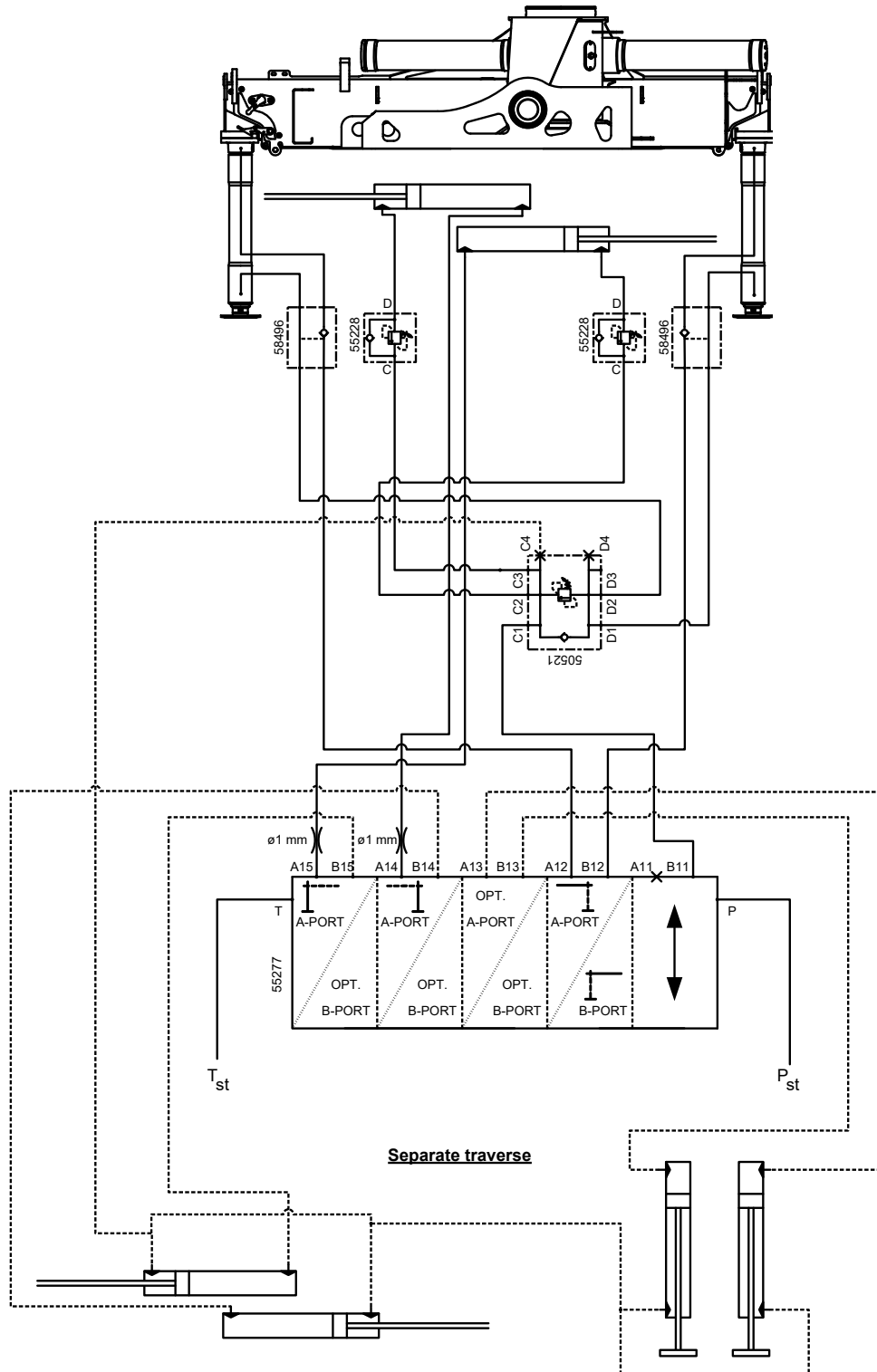


1230 MCS - Hydraulic Diagram - Stabilizer circuit – 2 fcts.



1230 MCS - Hydraulic Diagram - Stabilizer circuit – 4 fcts.

1230 MCS - Hydraulic Diagram - Stabilizer circuit – 4 fcts. + 4 available fcts.



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1230 MCS - Service Information

Section - 4

1230 MCS - Lubrication Instructions

Please read and follow the instructions for recommended oil and greasing in this section

The 1730 MCS K1-K6 are mainly equipped with maintenance-free composite bearings; however, for a limited number of bearings, regular greasing is required.

The crane has to be greased in the following areas:

1. Central greasing on the base
2. The push rods at the boom and jib cylinders.
3. Sliding surfaces in the boom system.

Central Lubrication on the Base:

The base is equipped with a central greasing point where all lubrication of moving parts in the slewing system is carried out.

The central greasing point is placed on the cross beam of the base and is indicated in the figure below.

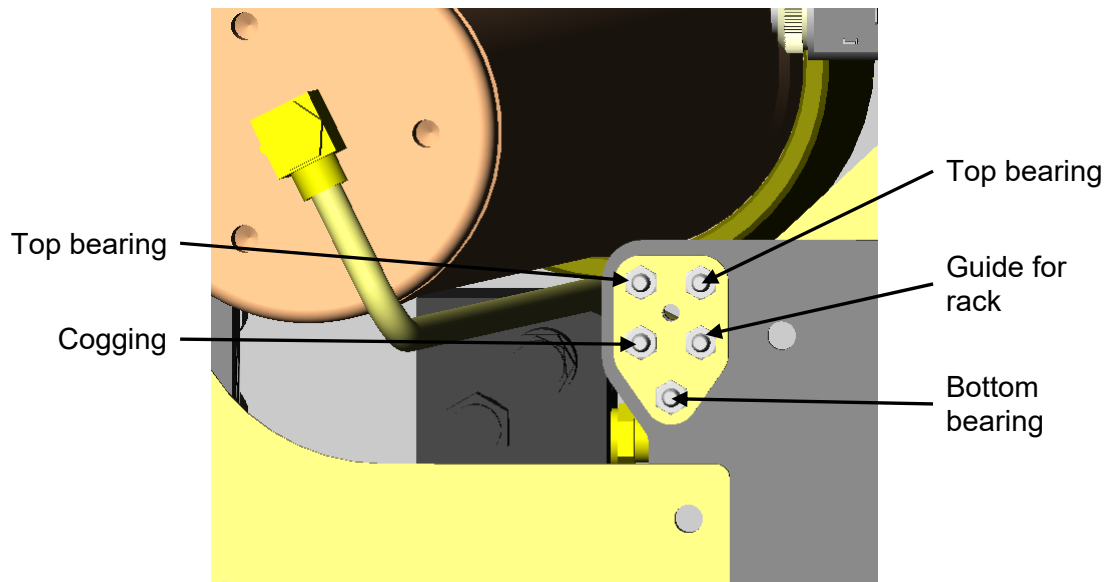


Figure 1 - Central greasing point on the base

Greasing has to be carried out at the greasing points indicated above, while the crane is swung from stop to stop. Repeat the lubrication of the cogging twice. The crane has to be lubricated again after 50 hours of operation or as a minimum every month. Furthermore the crane has to be lubricated right before a longer period of standstill.

Below is indicated where the central greasing points are connected on the central part of the base.

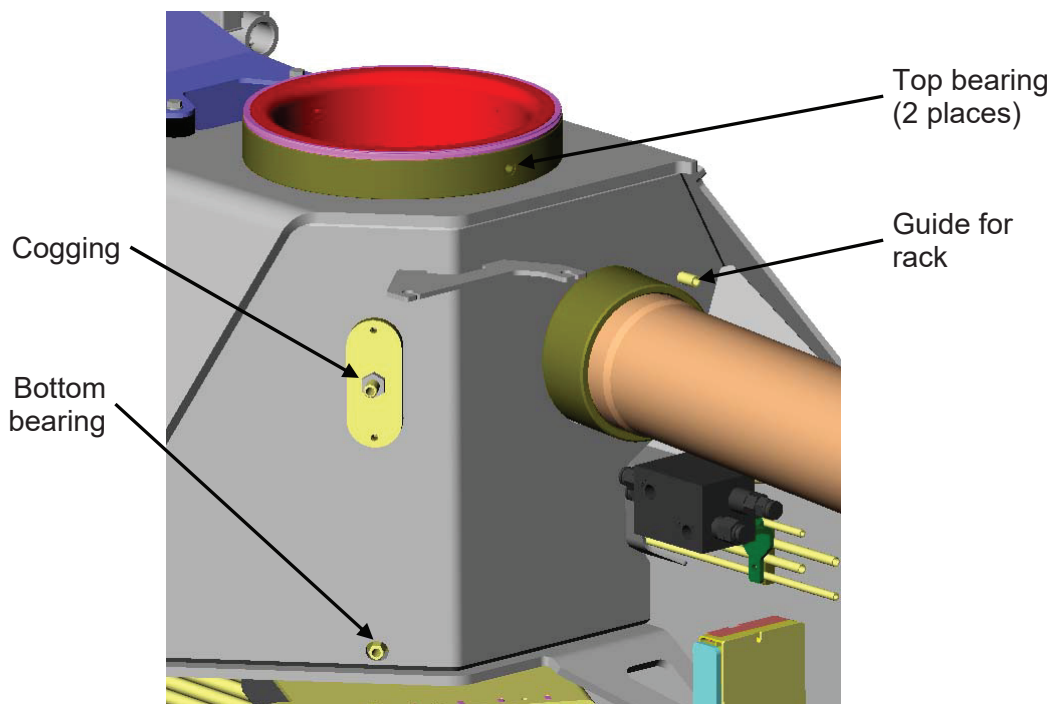


Figure 2 – Connection points on the central part of the base.

Push Rods at the Boom and Jib Cylinders:

Lubricate the crane's push rods at the boom cylinder at the points indicated below. They have to be greased after 250 hours of operation or every third month as a minimum.

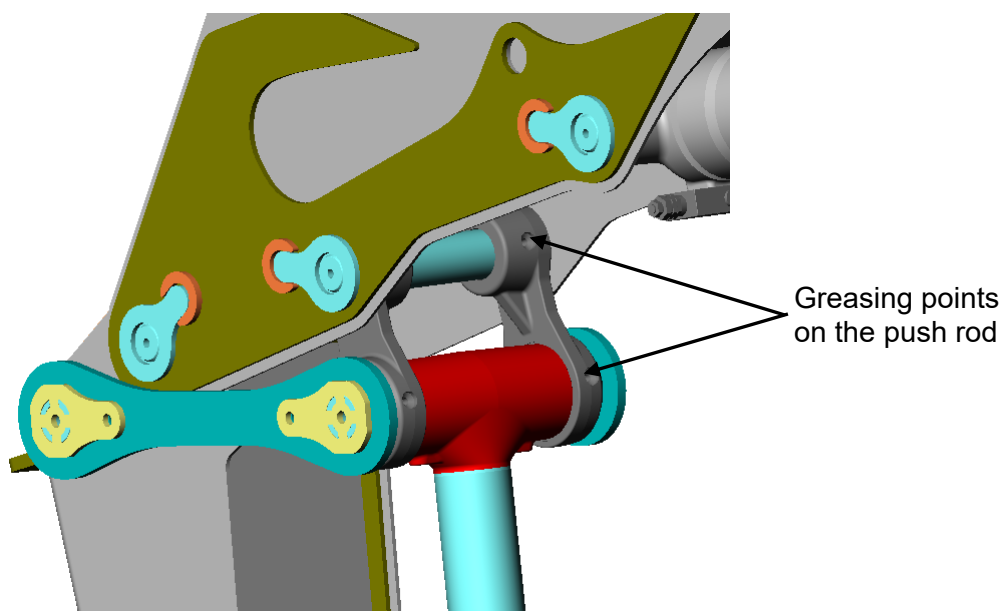


Figure 3 - Greasing points on inner push rods at the boom cylinder

NOTE:

The 1310K, 1430K, 1530K, 1510K, 1730K, 1830K, 1810K, 2030K, 2130, 2210K, 2430K, 2630K Series only have a push rod at the jib cylinder.

Lubricate the crane's outer push rod at the jib cylinder at the points indicated below. They have to be greased after 250 hours of operation or every third month as a minimum.

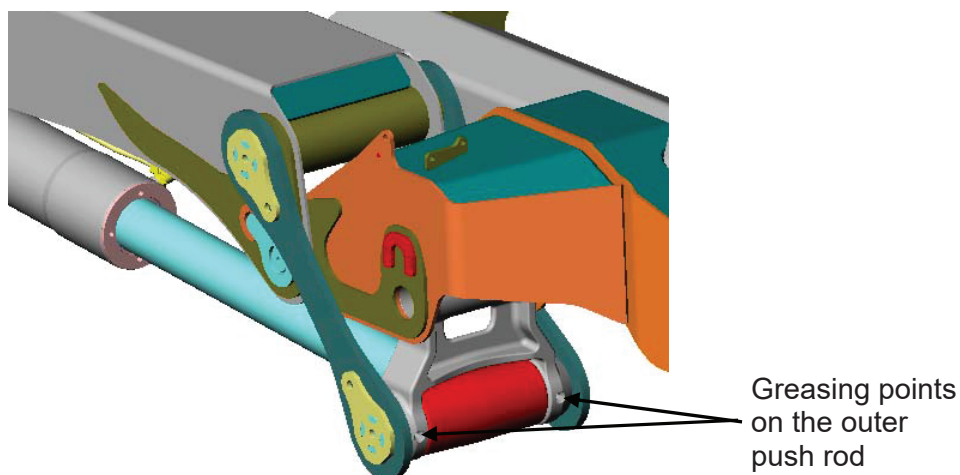
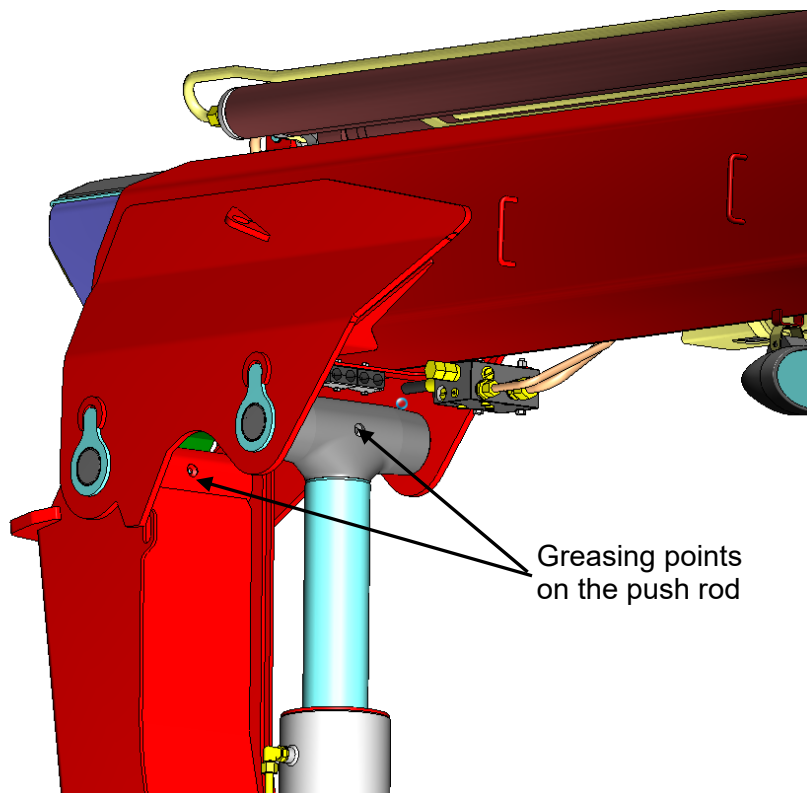


Figure 4 – Greasing points on outer push rod at the jib cylinder

Pins on the Main Boom:

Lubricate the pins of the crane on the main boom at the points indicated below. They have to be greased after 250 hours of operation or every third month as a minimum.



Pins on the Main Boom:

Grease the boom system on all surfaces where the bearing slide blocks are running. I.e. grease the extensions externally on the underside and internally on the upper side.

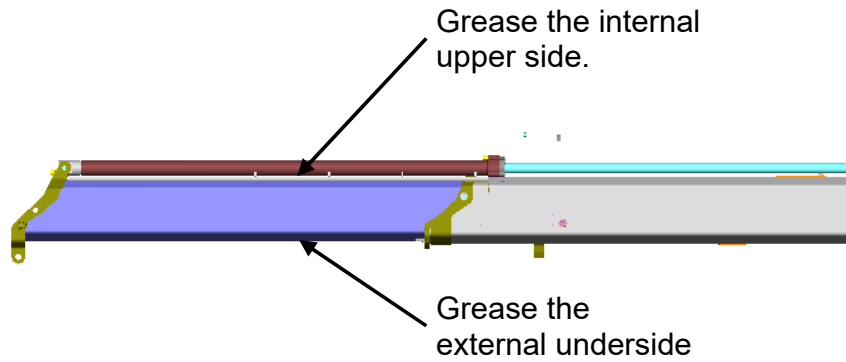


Figure 5 - Boom system with indication of greasing points

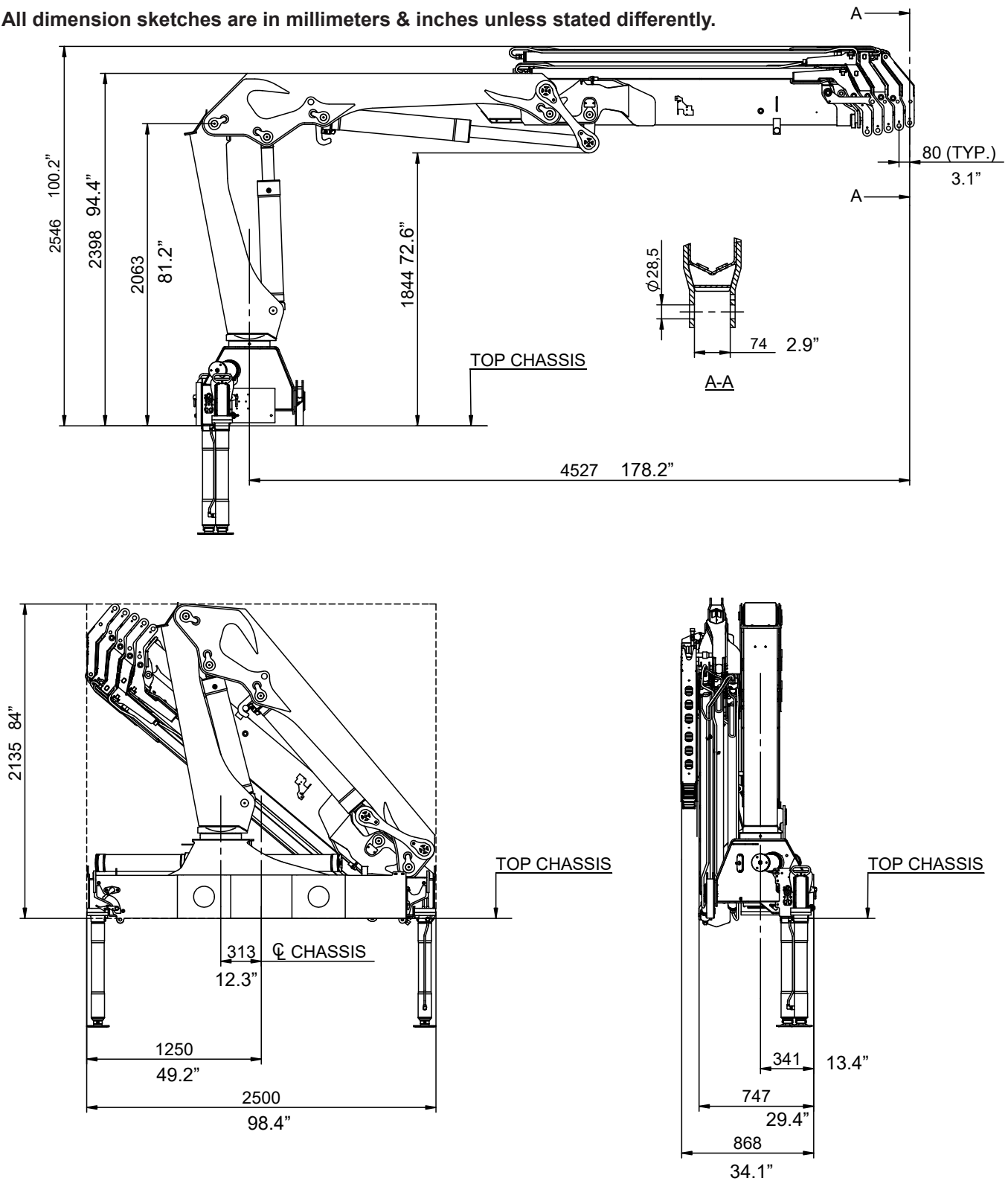
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1230 MCS - Dimension Drawings

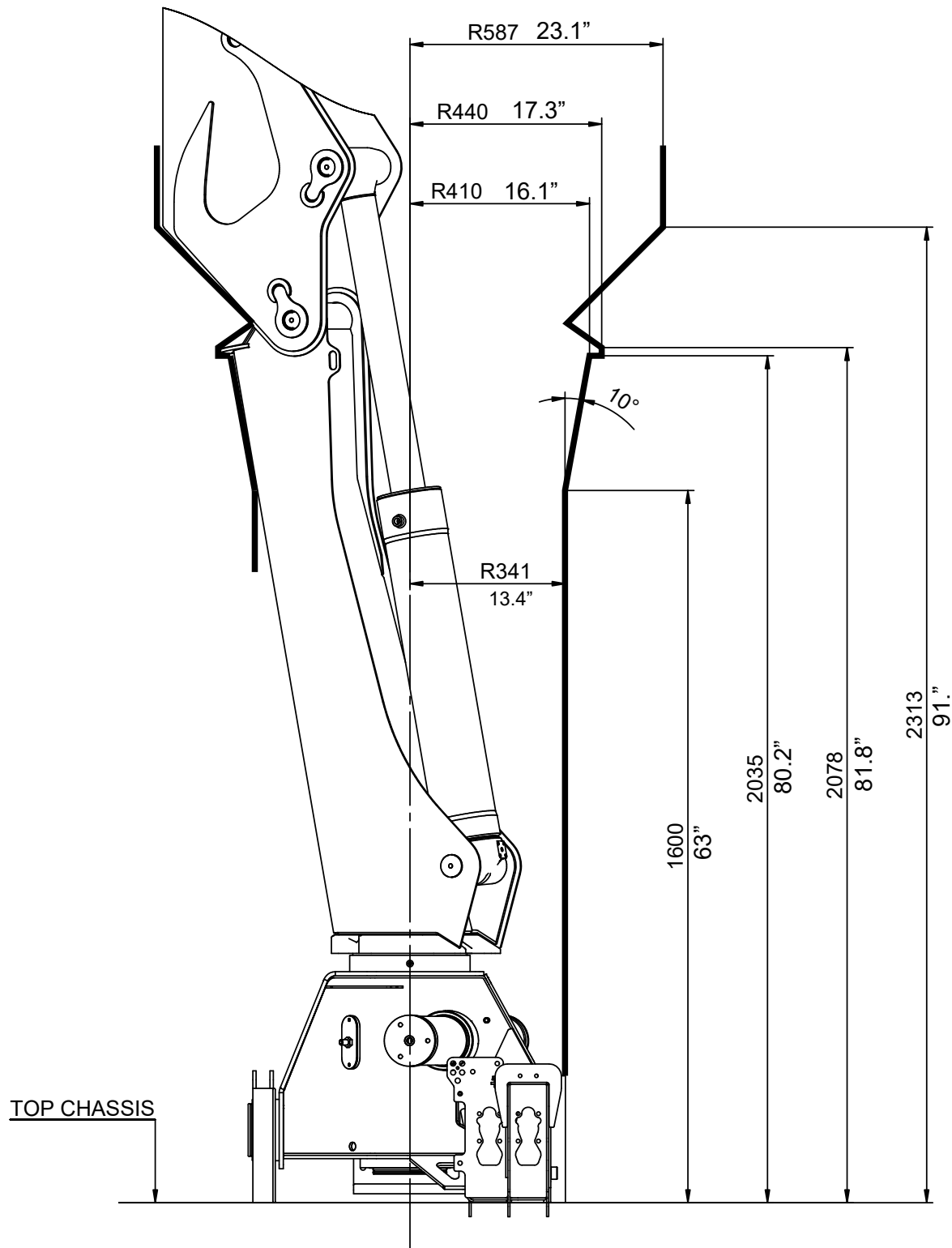
Section - 5

1230 MCS - Dimension Sketch

All dimension sketches are in millimeters & inches unless stated differently.

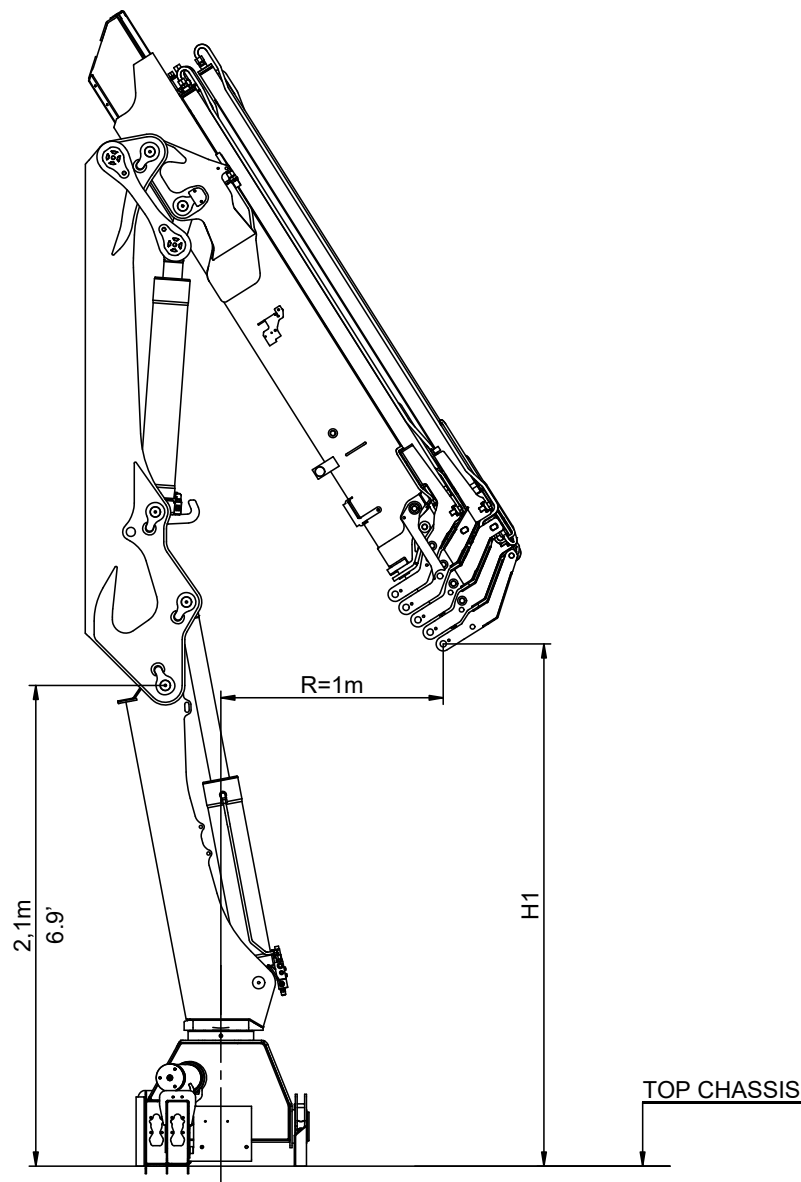


1230 MCS - Slewing Radius



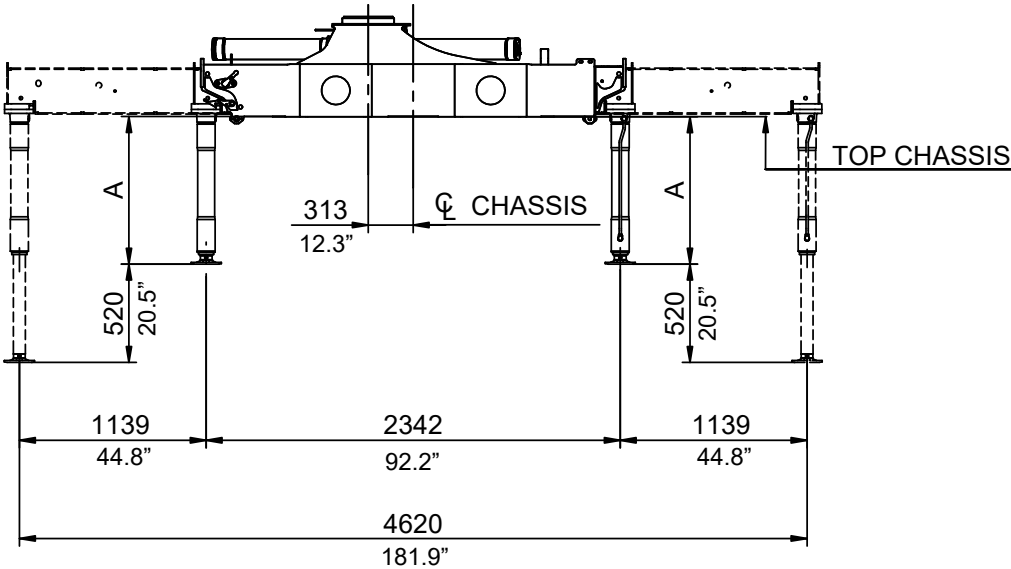
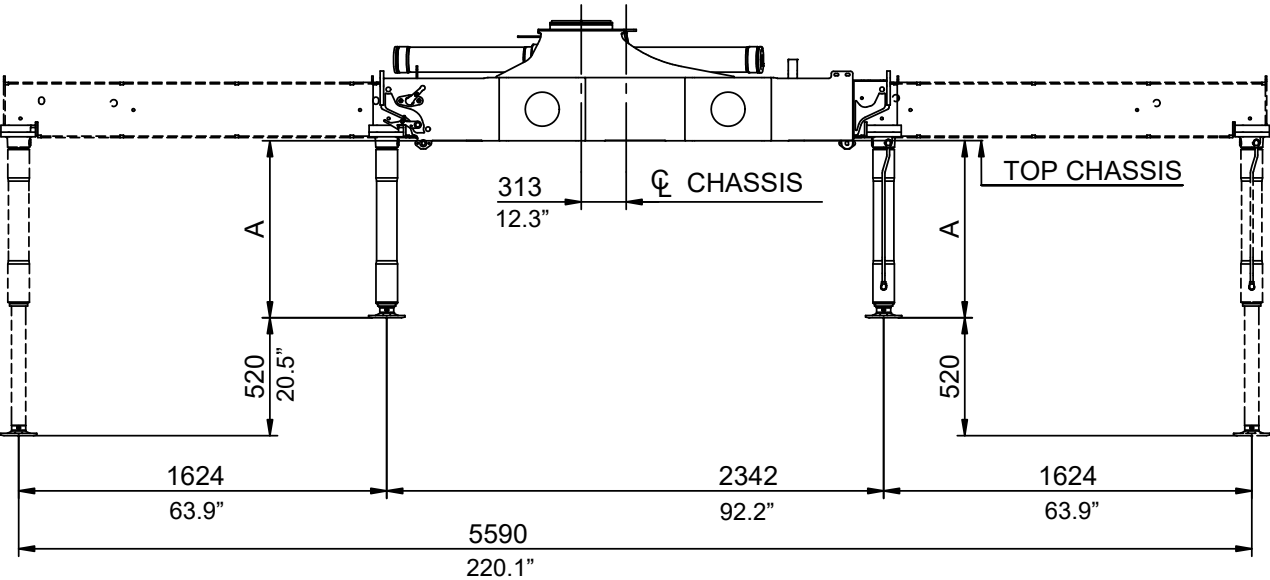
1230 MCS - Lifting Height at Column

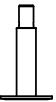
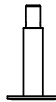
Dimensions: Meters and Feet



	Feet		Meters
	H1		H1
K1	9.1'	K1	2,78m
K2	8.9'	K2	2,70m
K3	8.5'	K3	2,60m
K4	8.2'	K4	2,51m
K5	7.9'	K5	2,41m

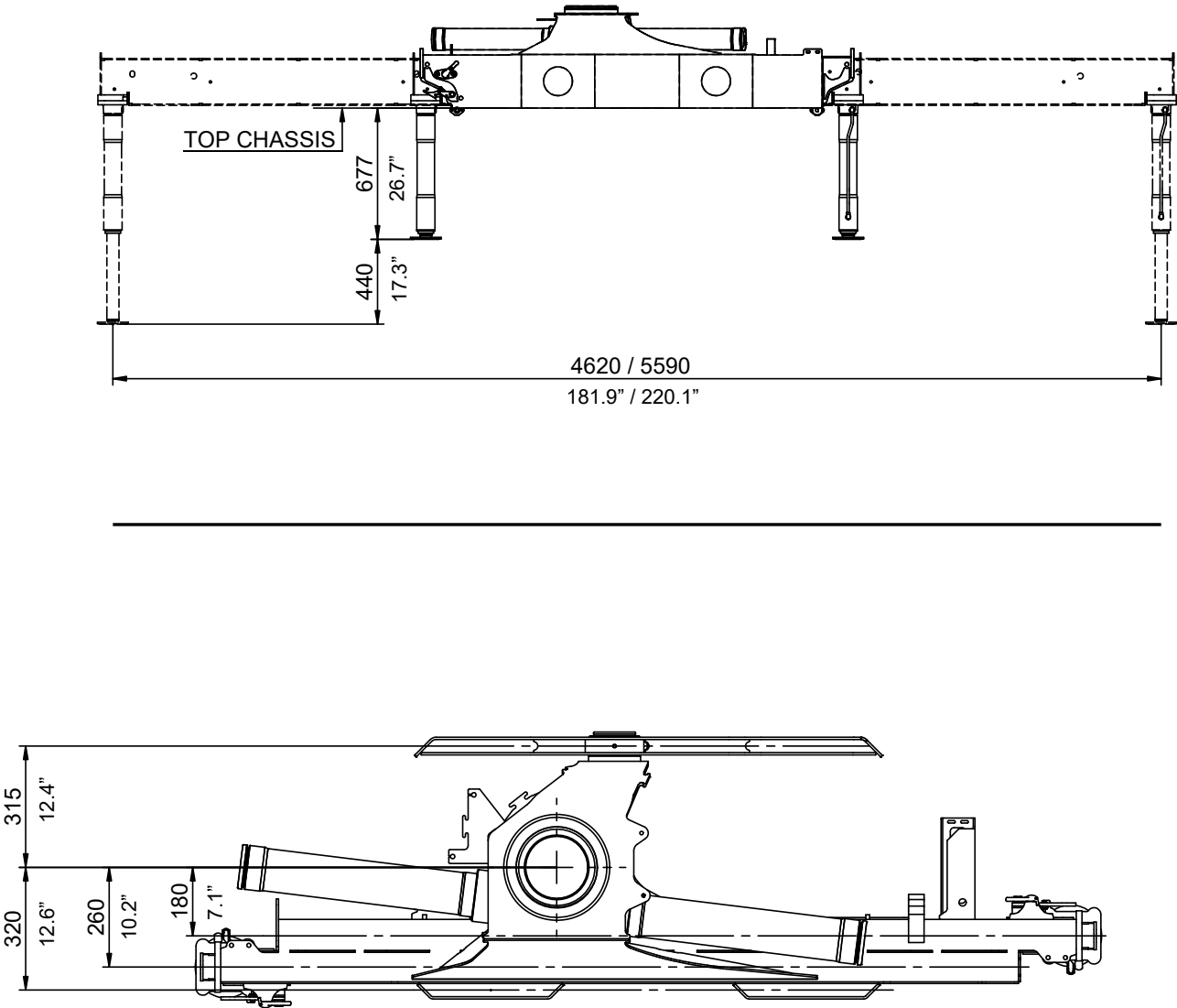
1230 MCS - Fixed Stabilizer Legs



Inches				Millimeters			
							
A	30.7"	34.7"	38.6"	A	781	881	981

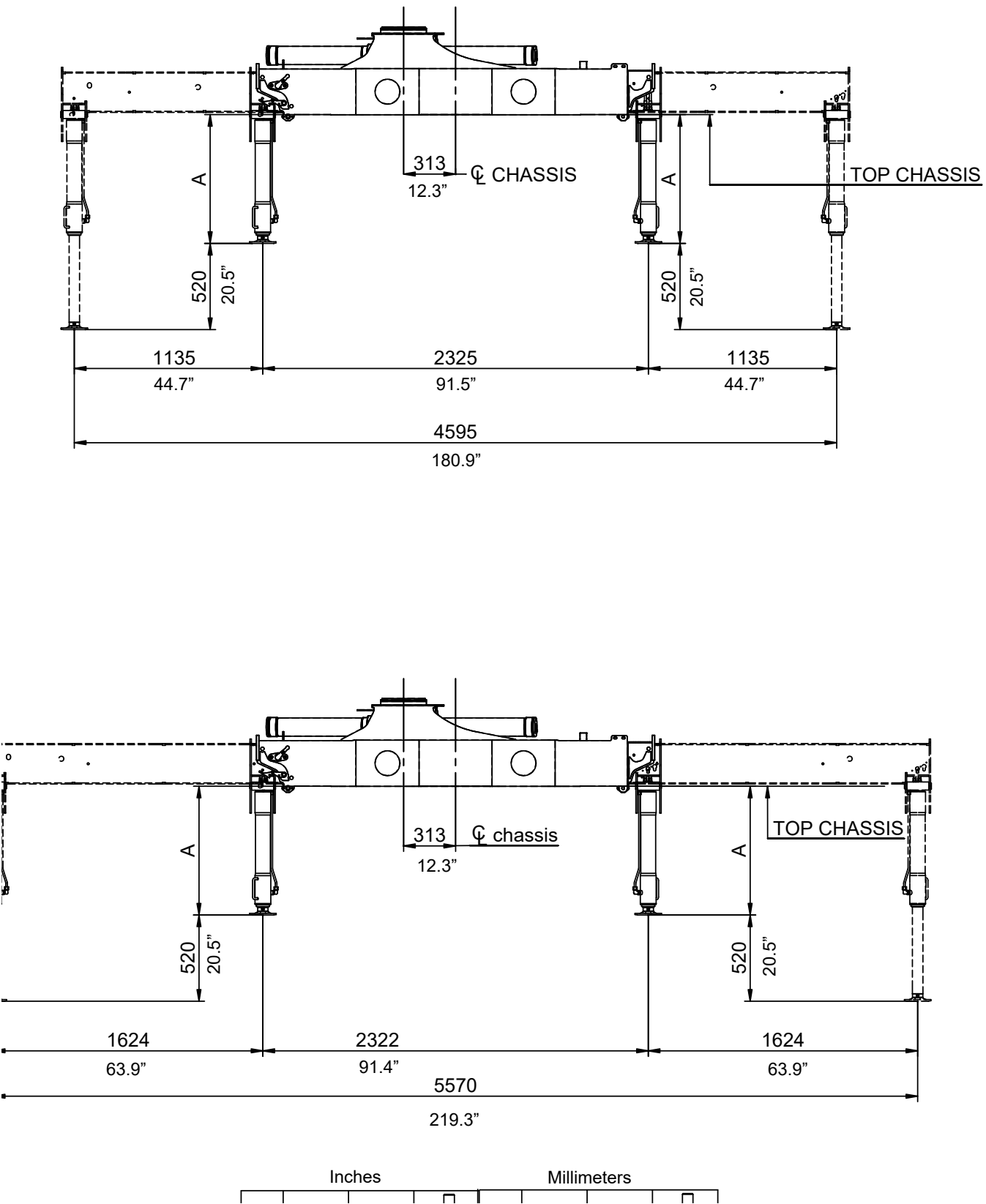
1230 MCS - Fixed Stabilizer Legs (continued)

Stabilizer cylinder, C80-440



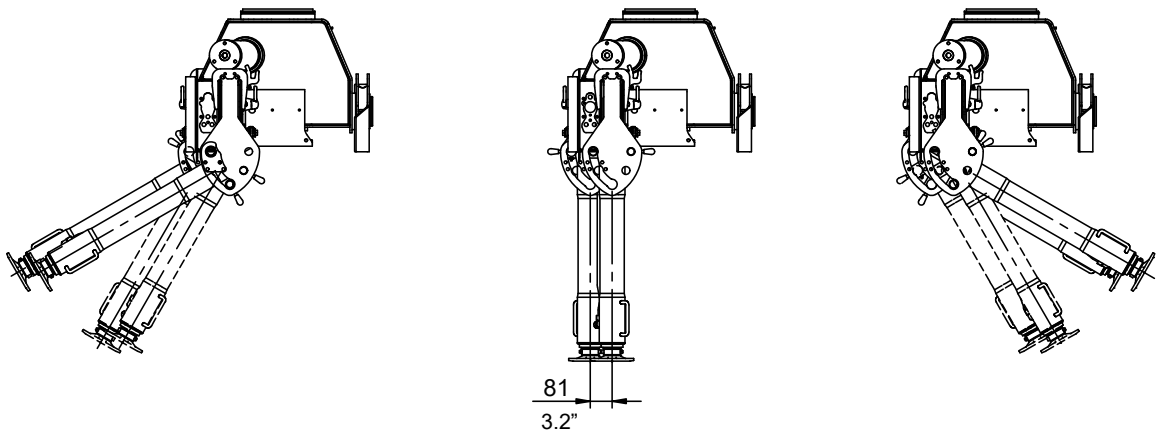
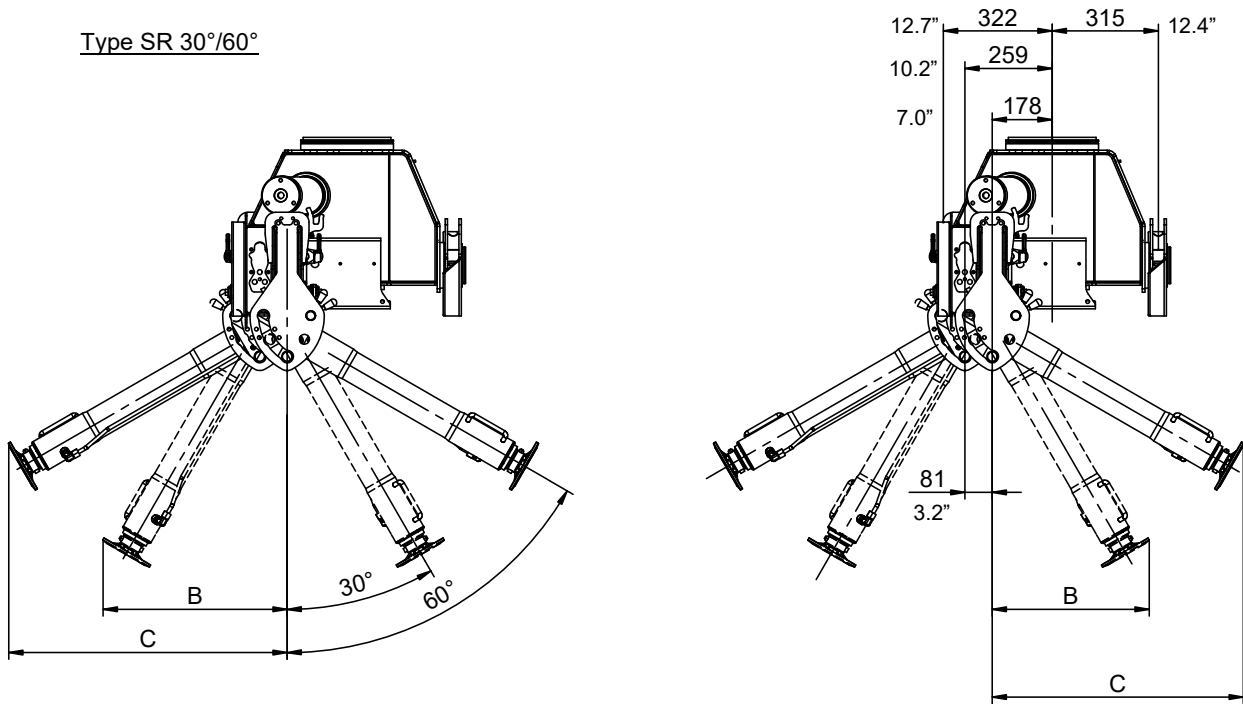
1230 MCS - Swing-Up Stabilizer Legs, Manual

Type SR 30°/60°



1230 MCS - Swing-Up Stabilizer Legs, Manual

Type SR 30°/60°



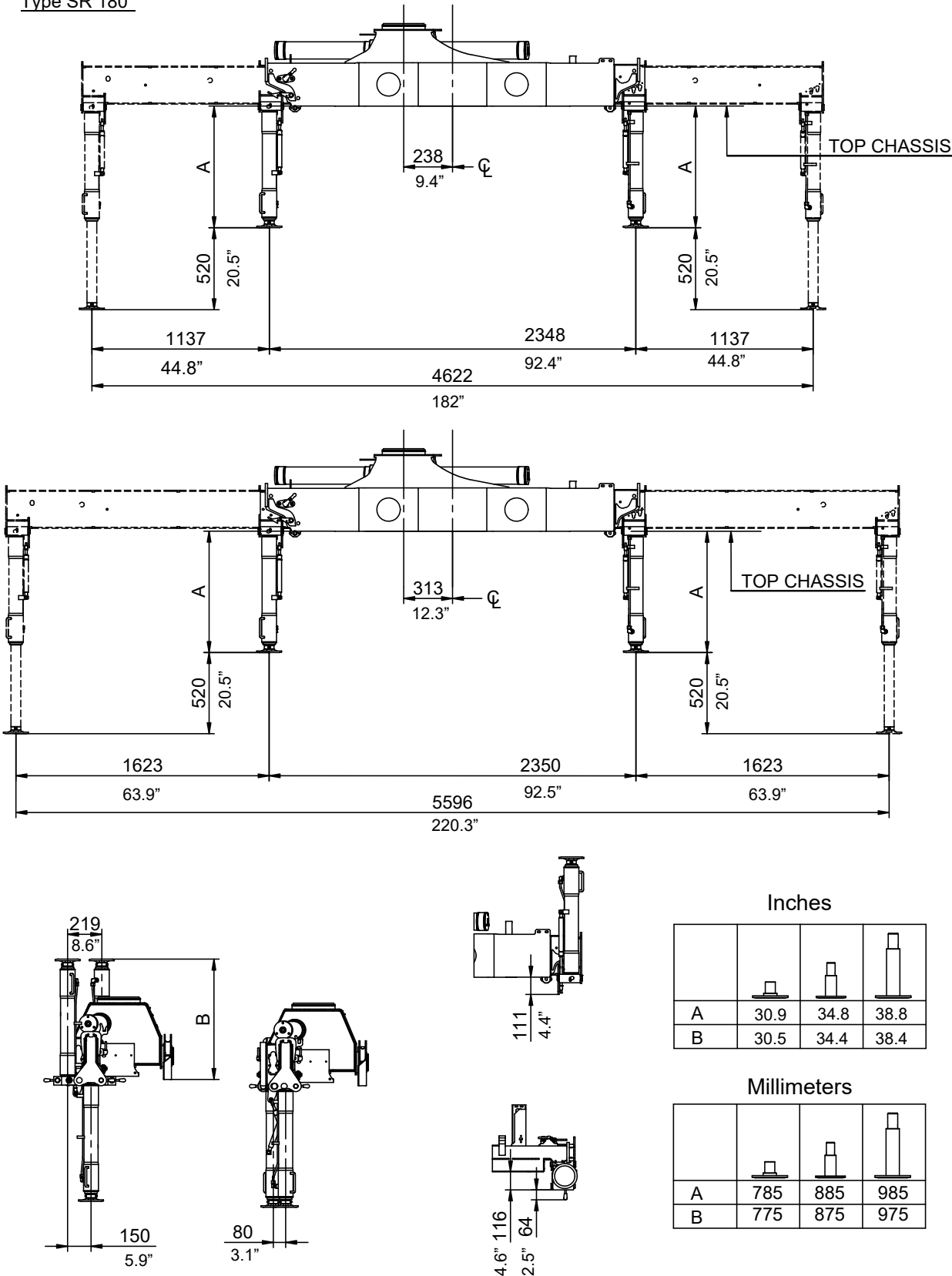
Inches

Millimeters

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

1230 MCS - Dimension Sketch, Swing-Up Stabilizer Legs, Manual

Type SR 180°



1230 MCS - Technical Data, Winch

Performance (at 2176 lb):	Unit	1,5T winch
Max. wire pull – 1st layer	lb	3307
Max. wire pull – 2nd layer	lb	3020
Max. wire pull – 3rd layer	lb	2778
Max. wire pull – 4th layer	lb	2579

Wire speed (at 10.6 ft / min.):	Unit	1,5T winch
Max. wire speed – 1st layer	ft/min	72.1
Max. wire speed – 2nd layer	ft/min	78.7
Max. wire speed – 3rd layer	ft/min	85.3
Max. wire speed – 4th layer	ft/min	91.8

Weights:	Unit	1,5T winch
Tare weight, winch (CE)	lb	143
Fixed parts (valve section, brackets, hoses etc.)	lb	110
Wire Ø10 x 164 ft	lb	66
Spare parts, single snatch block	lb	66
Spare parts, double snatch block	lb	88

1230 MCS - Technical Data, Winch Metric

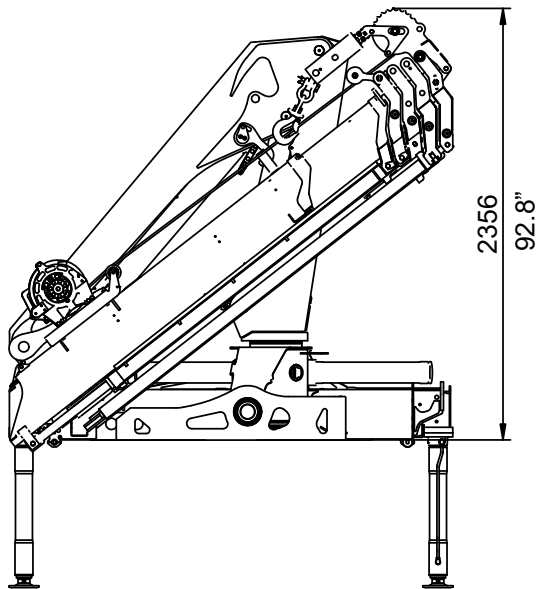
Performance (at 150 bar):	Unit	1,5T winch
Max. wire pull – 1st layer	kg	1500
Max. wire pull – 2nd layer	kg	1370
Max. wire pull – 3rd layer	kg	1260
Max. wire pull – 4th layer	kg	1170

Wire speed (at 40 l/min.):	Unit	1,5T winch
Max. wire speed – 1st layer	m/min	22
Max. wire speed – 2nd layer	m/min	24
Max. wire speed – 3rd layer	m/min	26
Max. wire speed – 4th layer	m/min	28

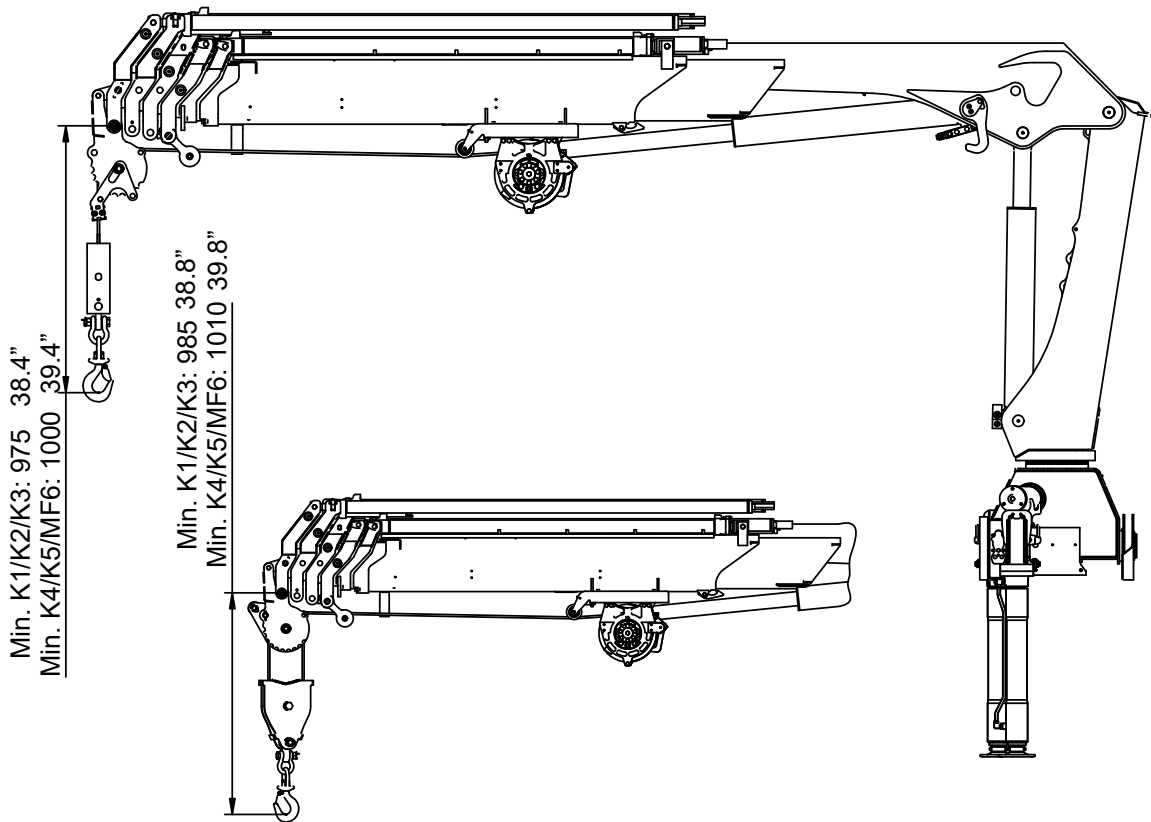
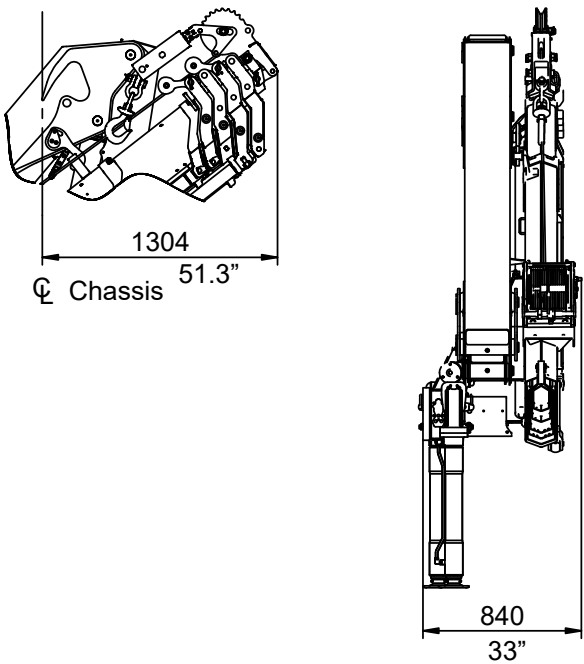
Weights:	Unit	1,5T winch
Tare weight, winch (CE)	kg	65
Fixed parts (valve section, brackets, hoses etc.)	kg	50
Wire Ø10 x 50 m	kg	30
Spare parts, single snatch block	kg	30
Spare parts, double snatch block	kg	40

1230 MCS - Dimension Sketch, Winch

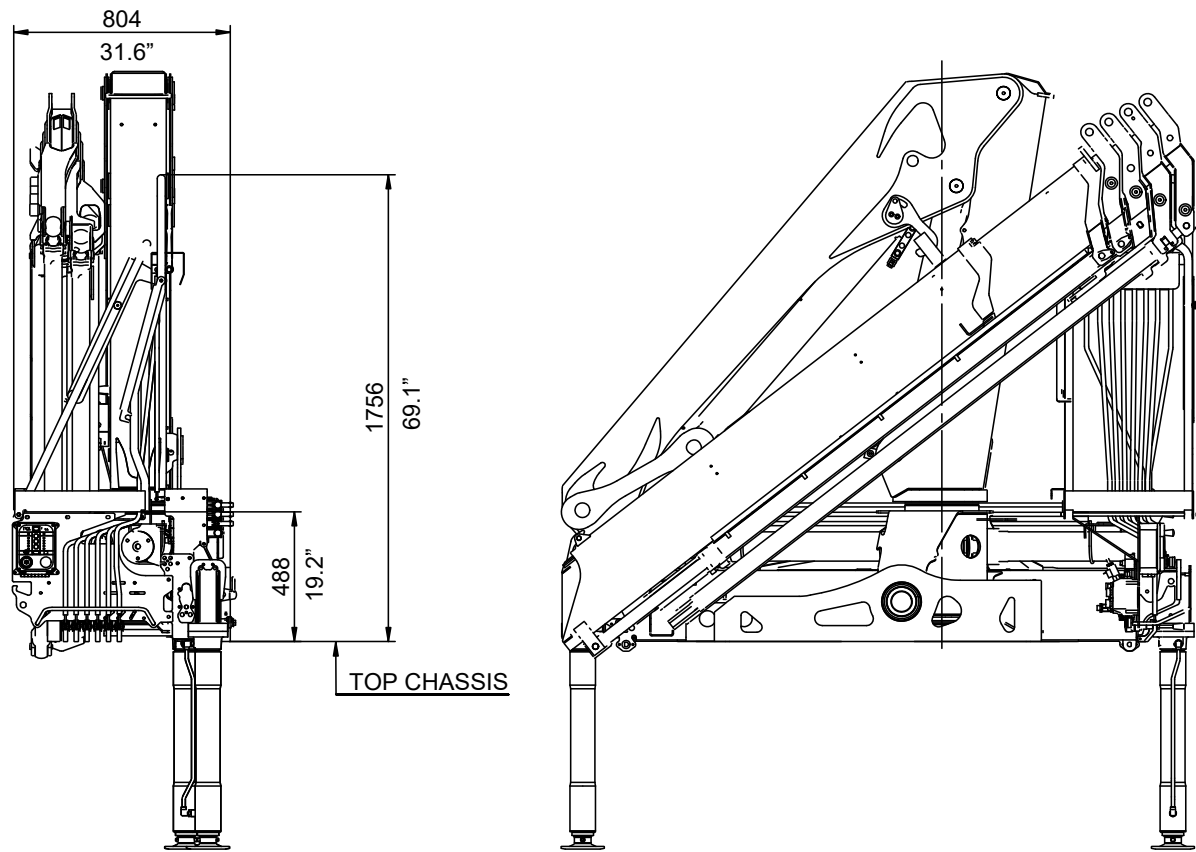
K5 armsystem.



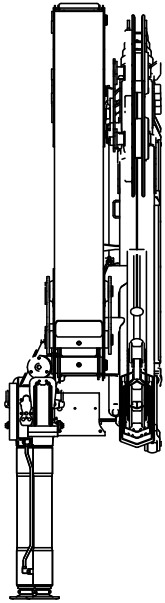
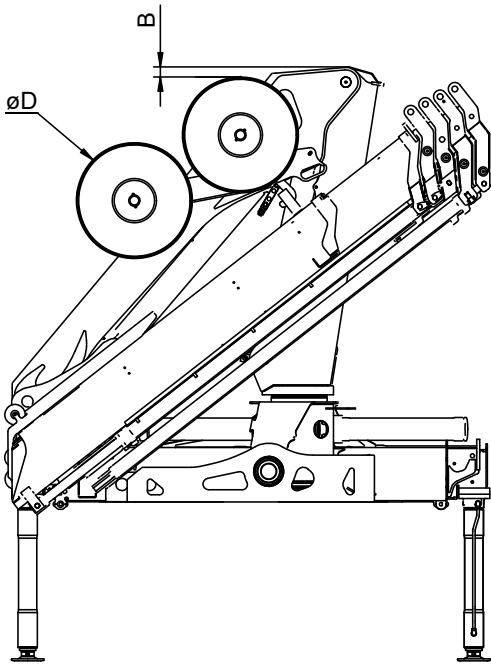
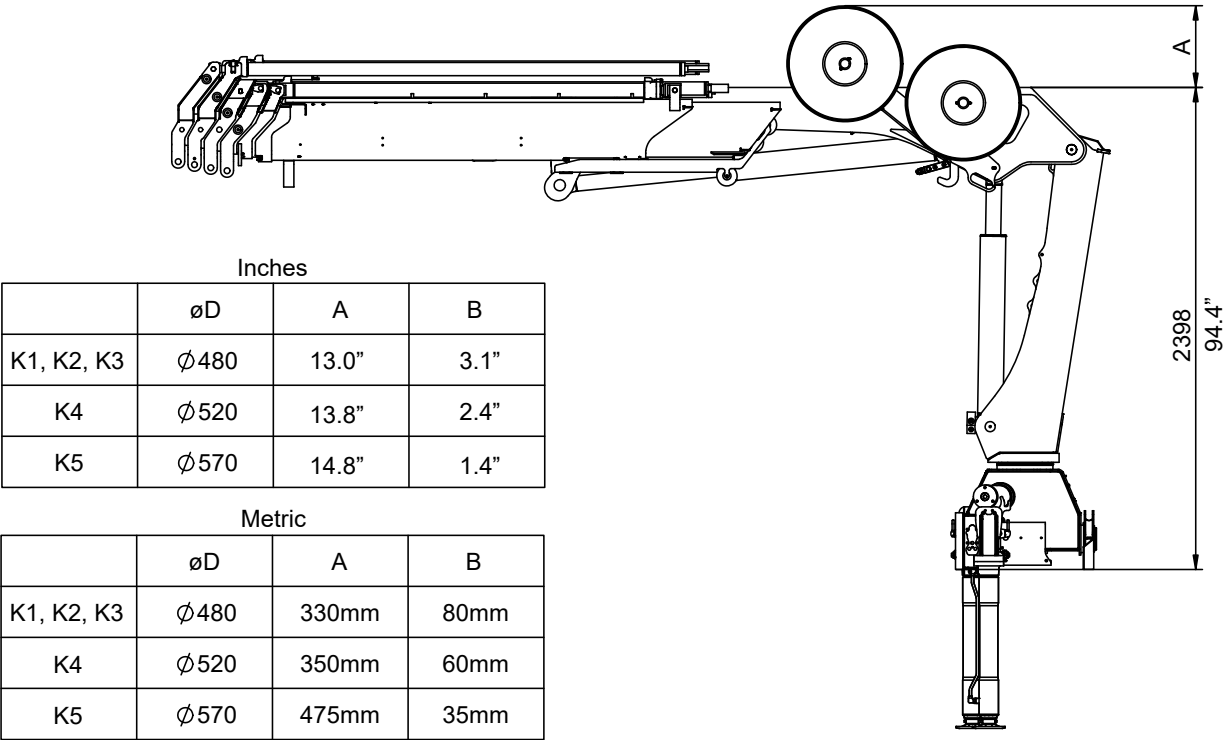
K5/MF6 armsystem.



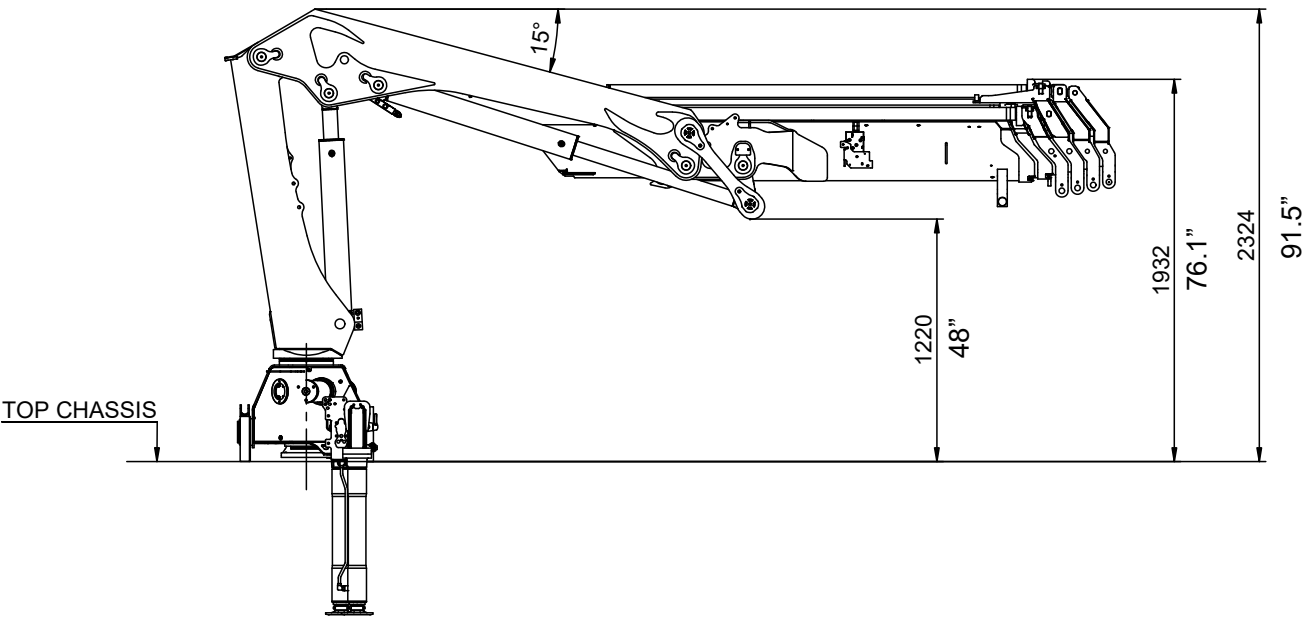
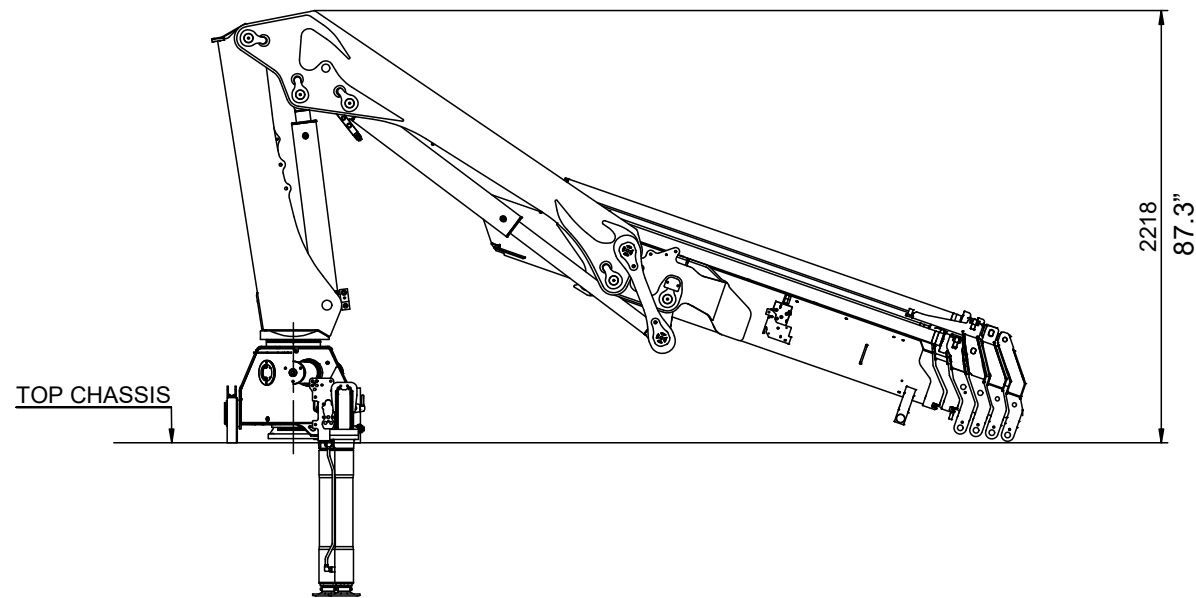
1230 MCS - Dimension Sketch, Stand-Up Platform (STD.)



1230 MCS - Dimension Sketch, Internal Hose Routing



1230 MCS - Stowed In Truck Body

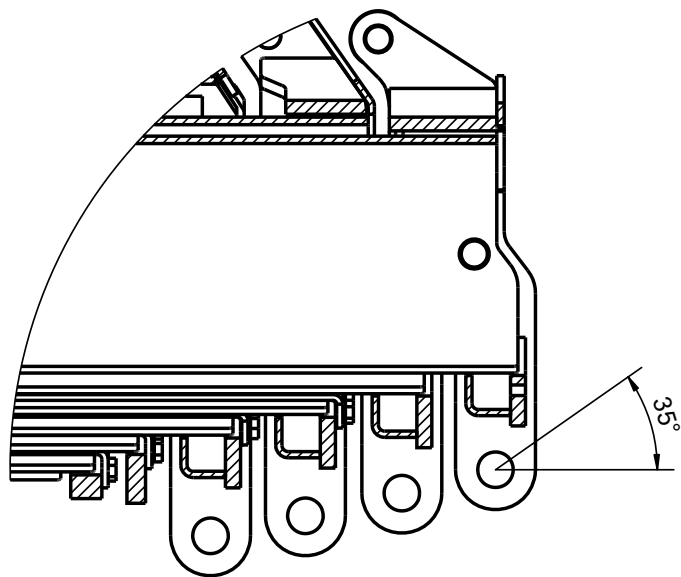


1230 MCS - Dimension Sketch for Connecting Link

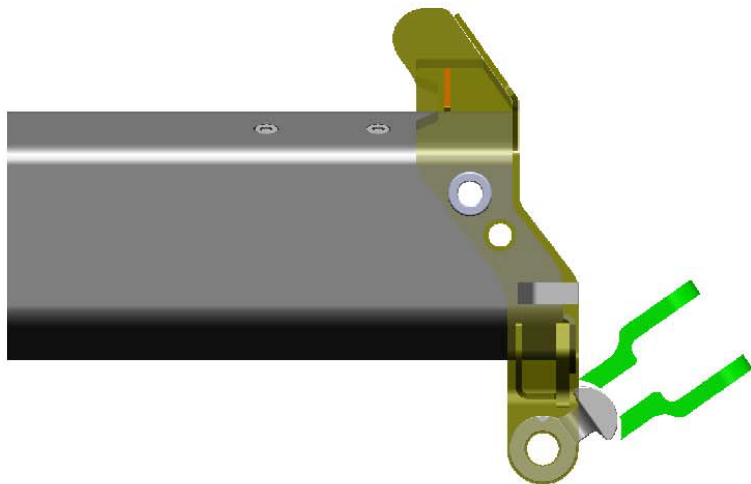
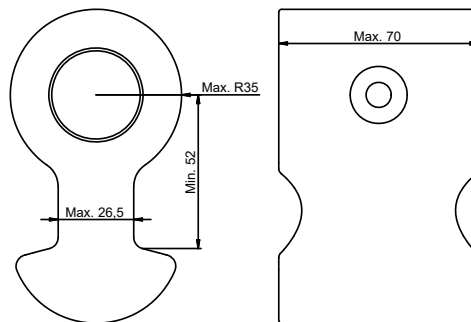
Manufacturing of connecting links for crane equipment:

The following design considerations are recommended to ensure that the connecting link can swing sufficiently when using the equipment connected and when stowing in truck body and/or folding.

In general, we recommend that the connecting link can move freely in an angle of minimum 35° in both directions in relation to the longitudinal direction of the jib extension. This is to minimize the risk of damage to the hook suspension when placing crane equipment in the truck body.



Recommended dimensions for connecting link





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