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Manual # 99904610

# 15/105DL Technical Specifications

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# Revisions

| DATE     | LOCATION                       | DESCRIPTION                                                            |
|----------|--------------------------------|------------------------------------------------------------------------|
| 20090715 |                                | Added swing clearance information.                                     |
| 20100118 | Geometric.<br>configuration    | Added stabilizer length and extension dimensions, stabilizer drawings. |
| 20111214 | Specs, stabilizer<br>drawings. | ECN 11628 - Updated stabilizer wording.                                |
| 20120502 | Specifications                 | Updated crane weight to include tank, mtg bolts.                       |



## CHAPTER 1

# Technical Data and Charts

## In This Chapter

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## 15/105DL Technical Specifications

| 15/105DL                      | 1-HYDRAULIC                | 2-HYDRAULIC                | 3-HYDRAULIC               | 4-HYDRAULIC               | 5-HYDRAULIC               | 6-HYDRAULIC               |
|-------------------------------|----------------------------|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Crane Rating*                 | 104,880 ft-lb<br>(14.5 tm) | 101,260 ft-lb<br>(14.0 tm) | 98,370 ft-lb<br>(13.6 tm) | 95,475 ft-lb<br>(13.2 tm) | 92,580 ft-lb<br>(12.8 tm) | 90,410 ft-lb<br>(12.5 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              | 13,470 lb (6,110 kg)       | 13,115 lb (5,950 kg)       | 12,520 lb (5,680 kg)      | 11,970 lb (5,430 kg)      | 11,465 lb (5,200 kg)      | 11,000 lb (4,990 kg)      |
| Max Cap @ Max Reach           | 5,135 lb<br>(2,330 kg)     | 3,640 lb<br>(1,650 kg)     | 2,645 lb<br>(1,200 kg)    | 1,940 lb<br>(880 kg)      | 1,435 lb<br>(650 kg)      | 1,060 lb<br>(480 kg)      |
| Crane Weight **               | 3,350 lb<br>(1,520 kg)     | 3,660 lb<br>(1,660 kg)     | 3,970 lb<br>(1,800 kg)    | 4,265 lb<br>(1,935 kg)    | 4,530 lb<br>(2,055 kg)    | 4,740 lb<br>(2,150 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' 7" (785 mm)             | 2' 7" (800 mm)             | 2' 8" (820 mm)            | 2' 9" (835 mm)            | 2' 9" (850 mm)            | 2' 10" (860 mm)           |
| Horizontal (C/L RotTo Bridge) | 13.0" (330 mm)             | 12.8" (325 mm)             | 12.4" (315 mm)            | 12.0" (305 mm)            | 11.8" (300 mm)            | 11.0" (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.



| <b>15/105DL SPECIFICATIONS</b>                                                                             |                       |
|------------------------------------------------------------------------------------------------------------|-----------------------|
| Stabilizer Pad Diameter                                                                                    |                       |
| Crane Storage Height                                                                                       | 7' 5" (2,250 mm)      |
| Mounting Space ***                                                                                         | 2' 8" (820 mm)        |
| Rotational Torque                                                                                          | 12,295 ft-lb (1.7 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                                                                                                     | 518 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 25" (620 mm) at 7'-10" (2385 mm) from top of chassis frame. |                       |

| <b>MINIMUM CHASSIS SPECIFICATIONS</b> |                                |
|---------------------------------------|--------------------------------|
| 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) |



## 15/105DL 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)

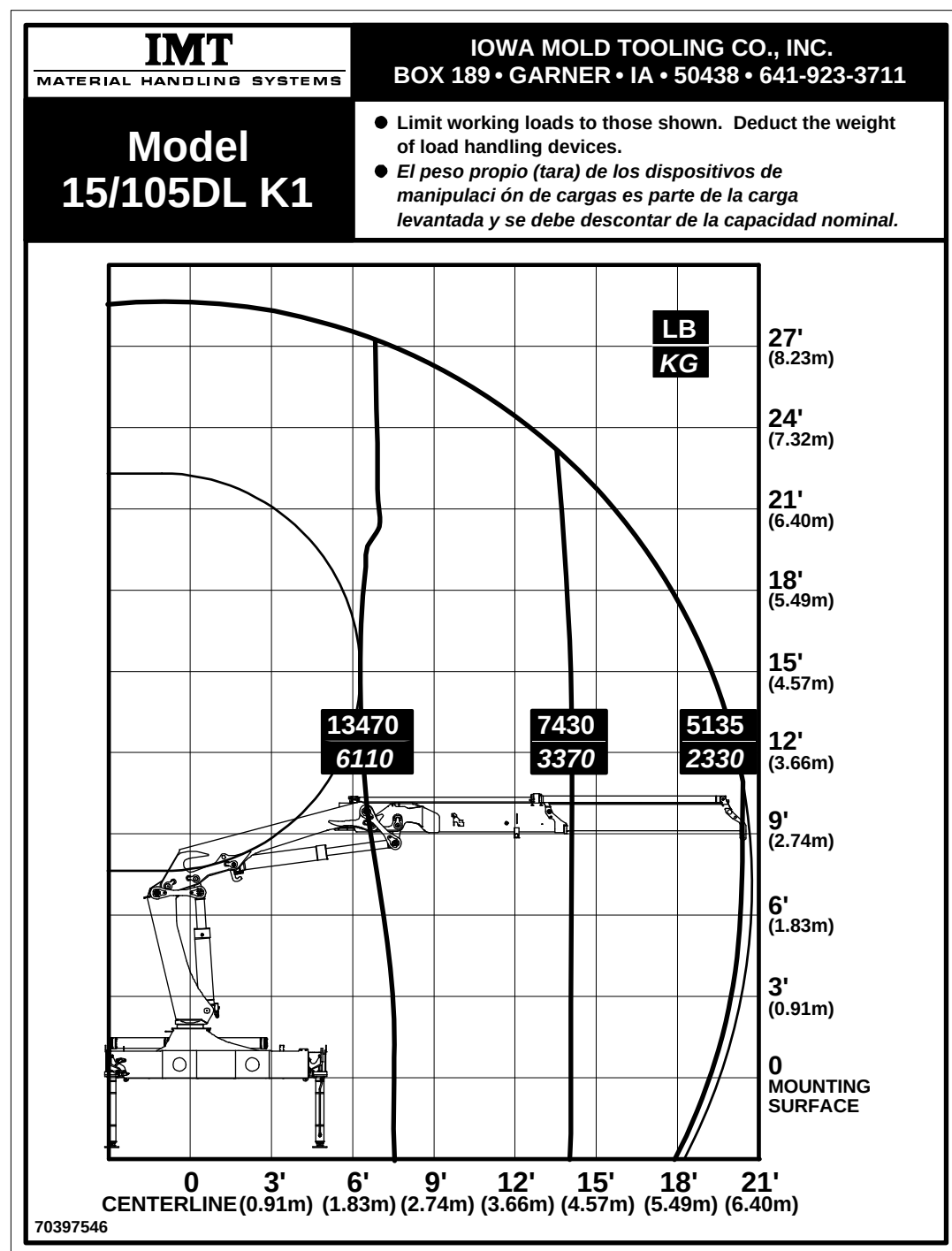
|                              |                    |
|------------------------------|--------------------|
| Load moment limitation (LMB) | 4205 psi (290 bar) |
|------------------------------|--------------------|

### MAXIMUM PUMP PERFORMANCE

|                  |                         |
|------------------|-------------------------|
| Pump performance | 13.2 gal/min (50 l/min) |
|------------------|-------------------------|

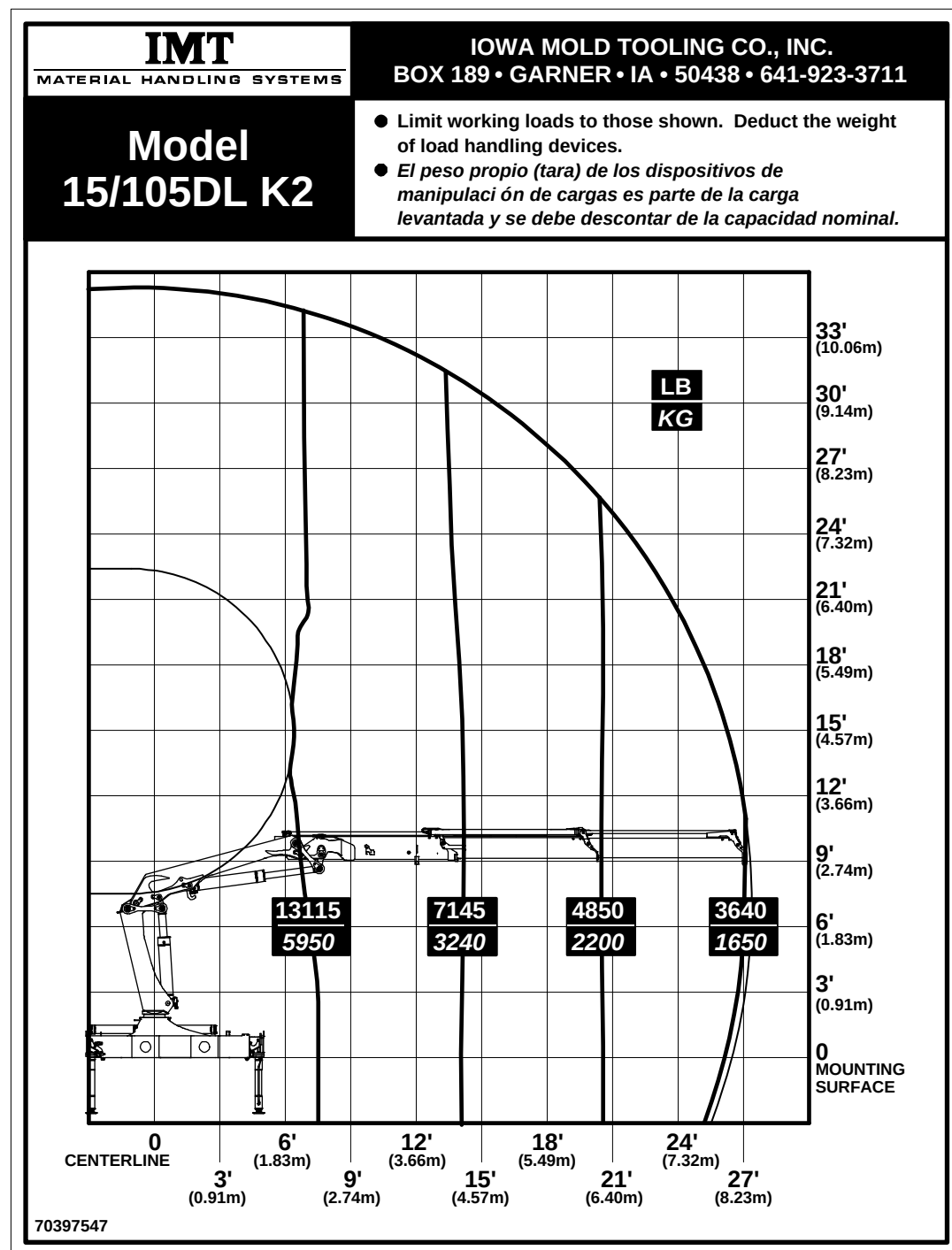


## 15/105DL K1 Capacity Chart



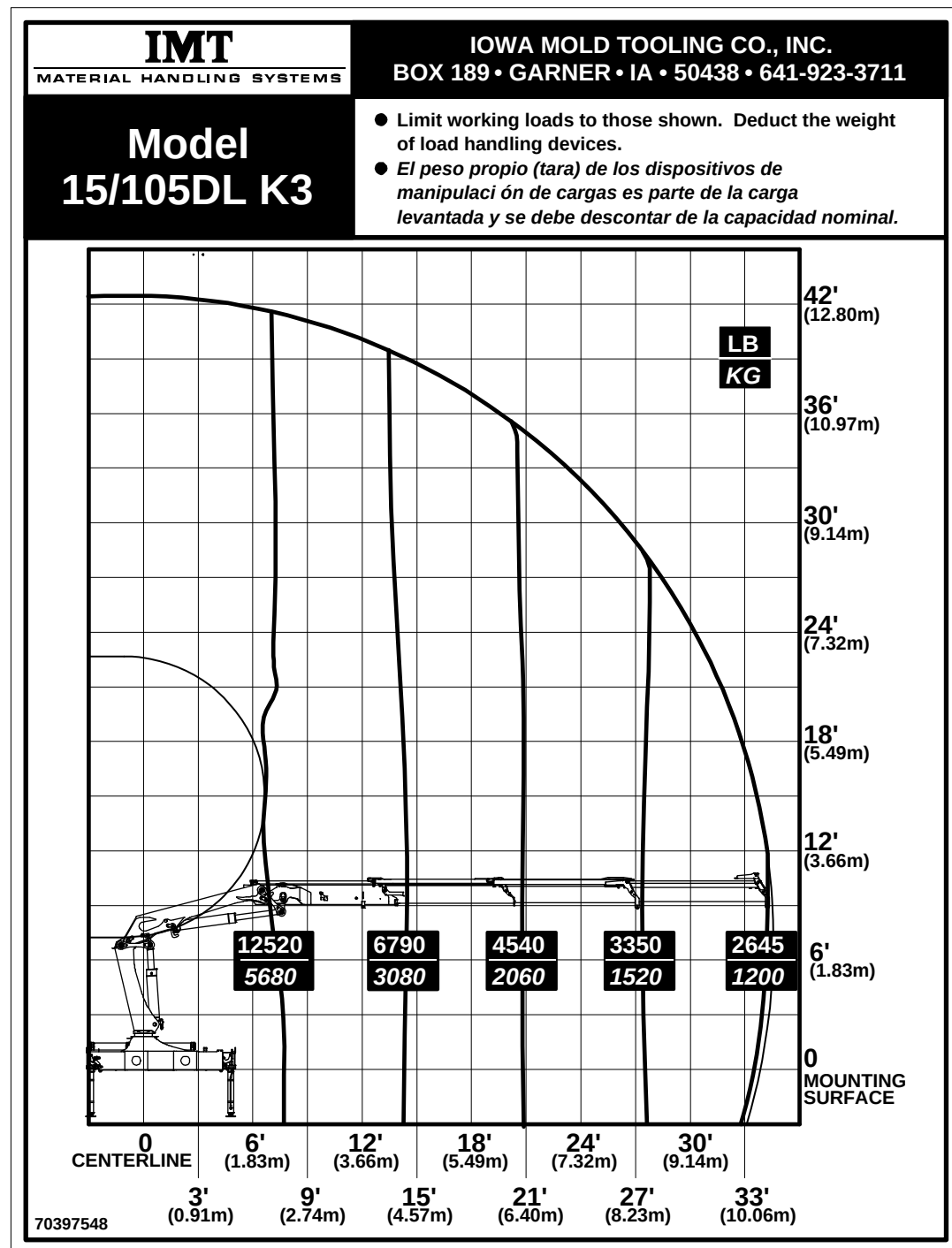


## 15/105DL K2 Capacity Chart



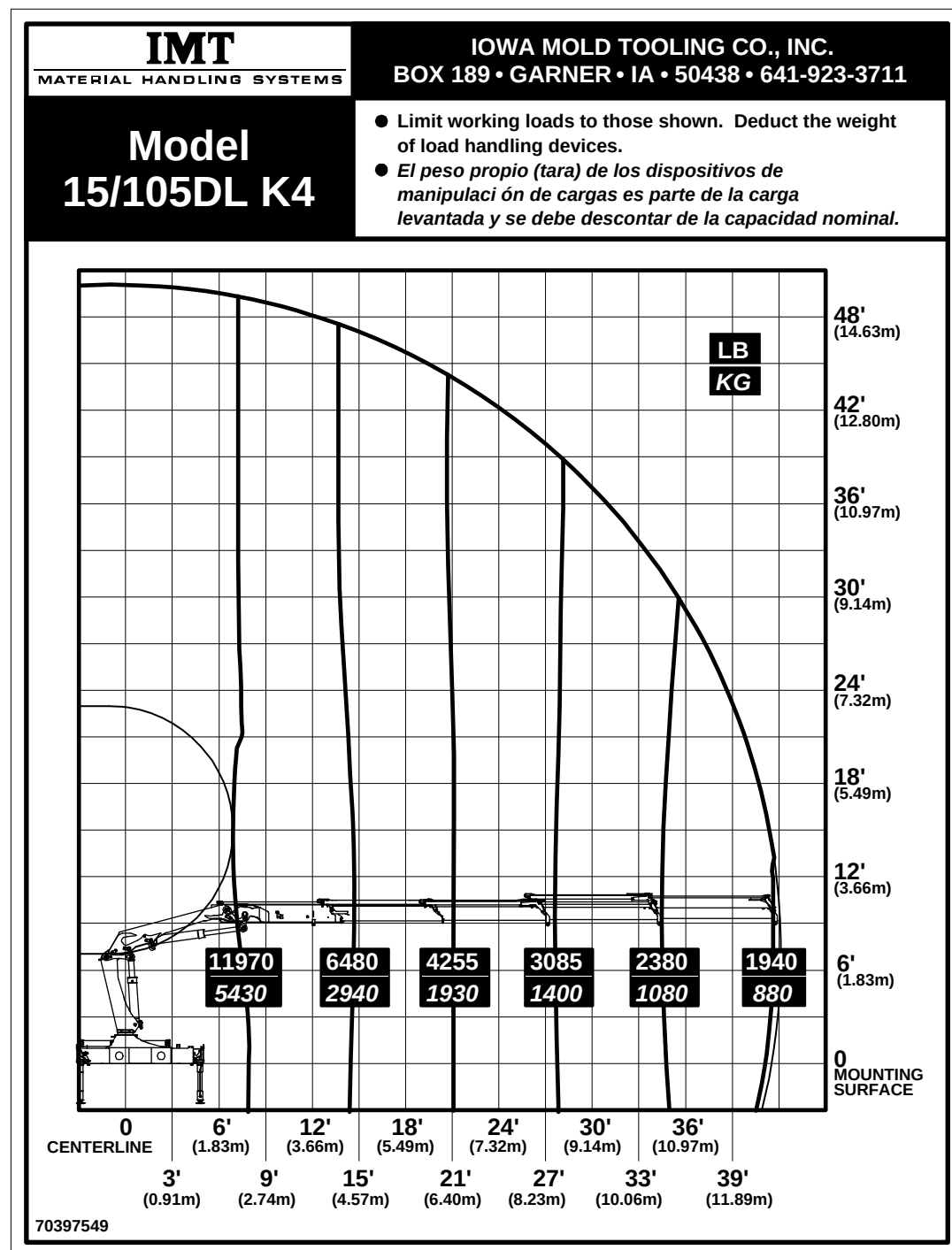


## 15/105DL K3 Capacity Chart



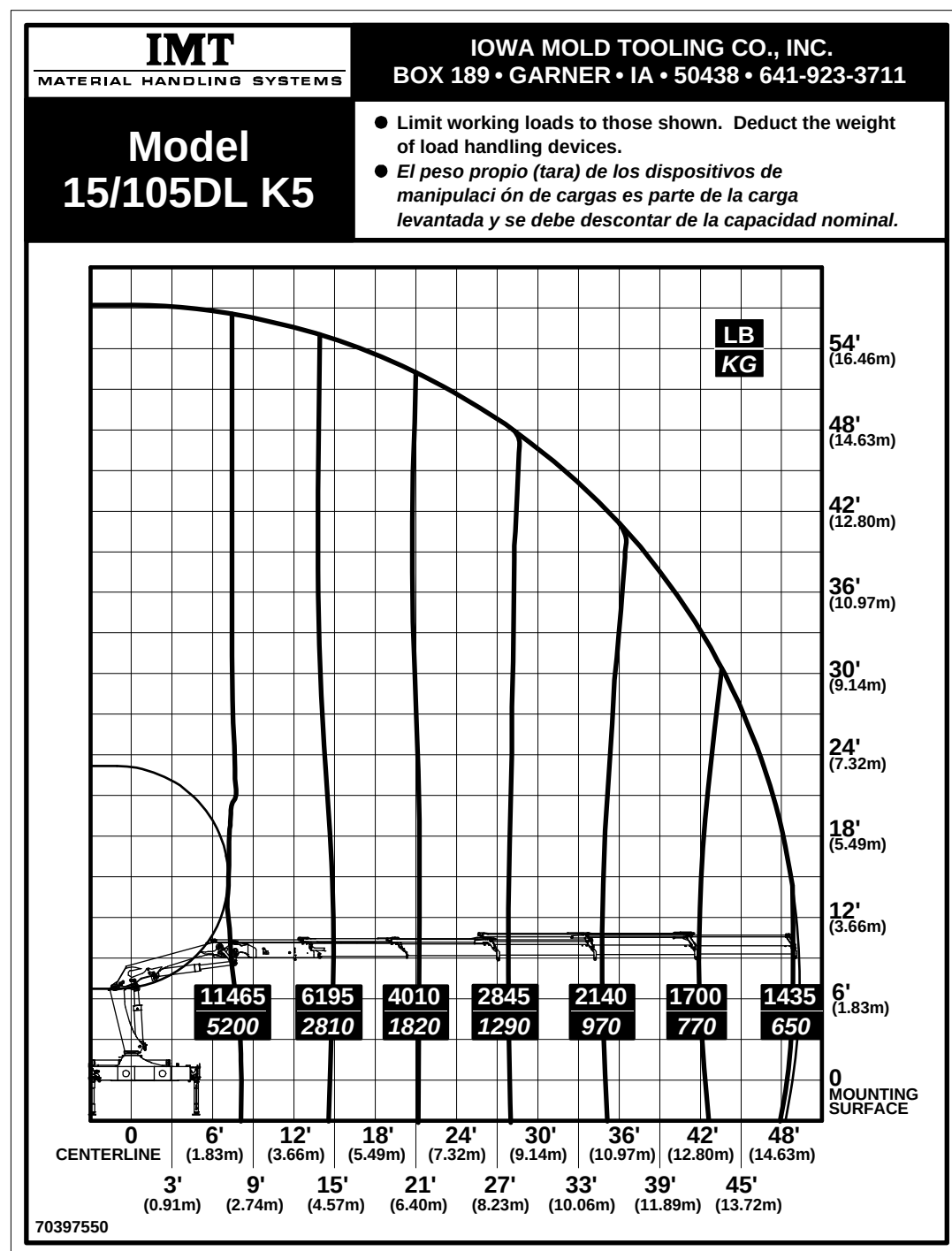


## 15/105DL K4 Capacity Chart



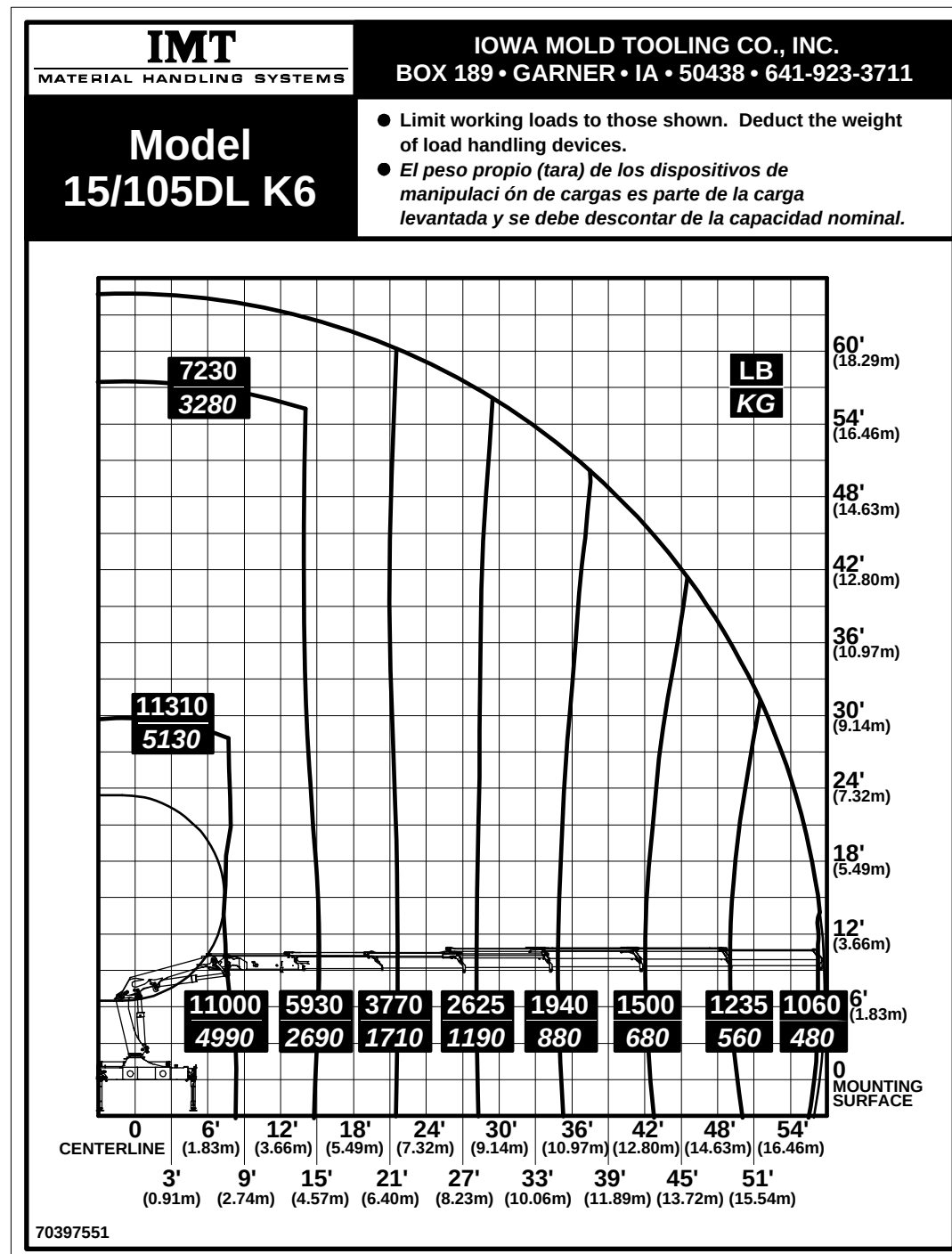


## 15/105DL K5 Capacity Chart

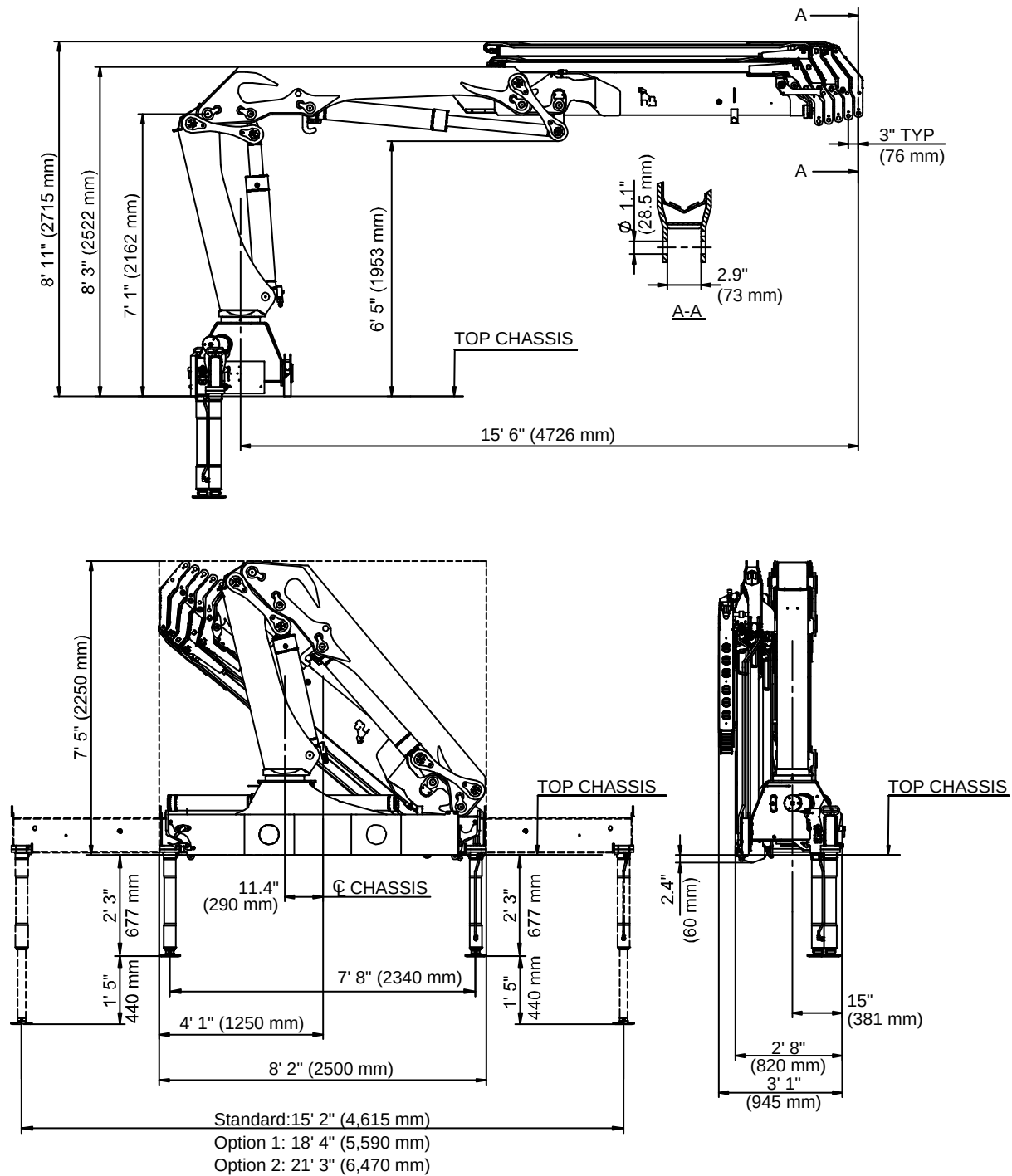




## 15/105DL K6 Capacity Chart

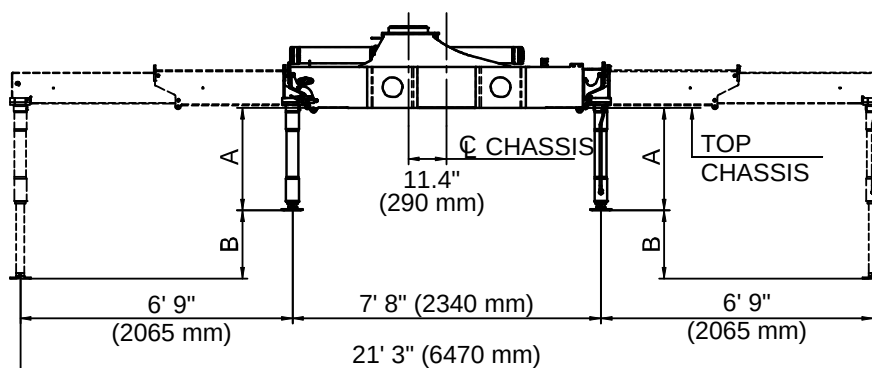
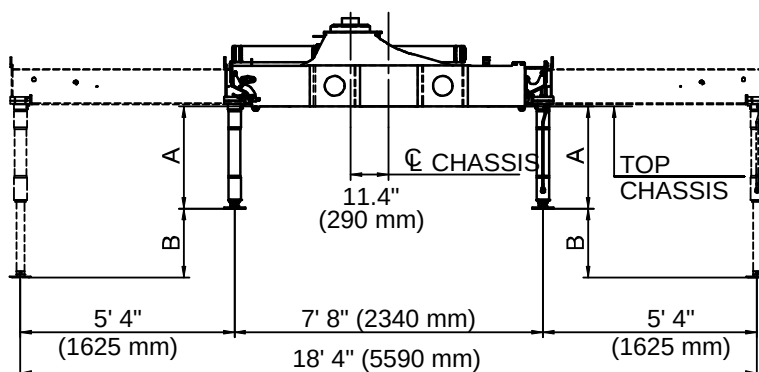
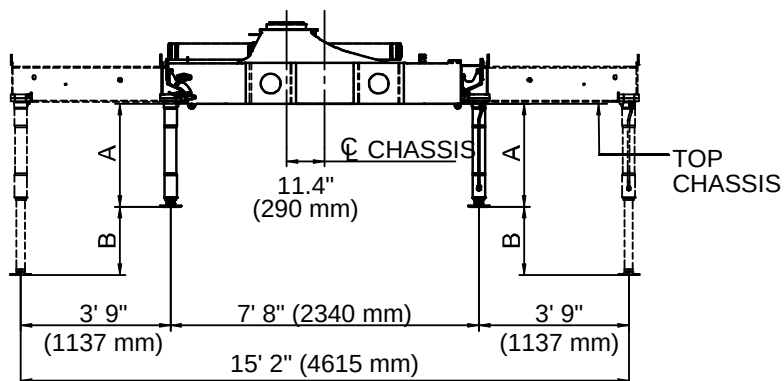


## 15/105DL Geometric Configuration





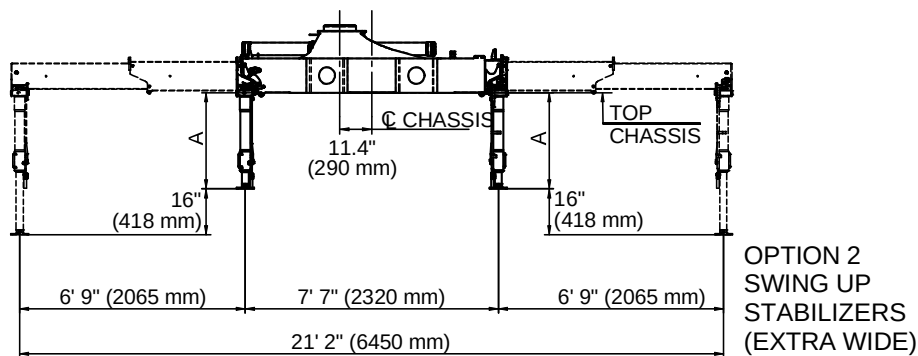
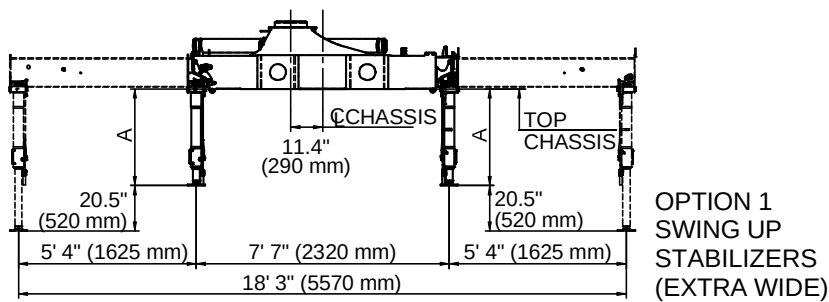
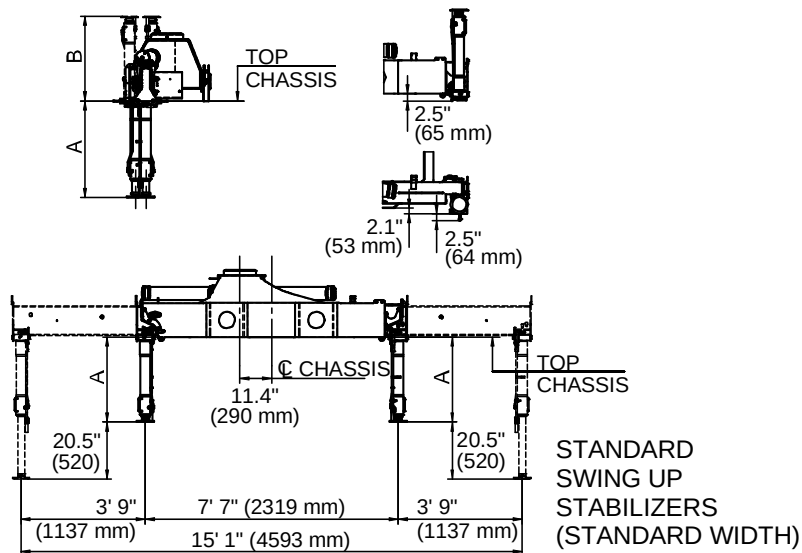
## Stabilizer Dimensions, Fixed Legs



| A | 2' 3" (677 mm) | 2' 6" (777 mm) | 2' 11" (877 mm) | 3' 2" (977 mm) |
|---|----------------|----------------|-----------------|----------------|
| B | 1' 5" (440 mm) | 1' 8" (520 mm) | 1' 8" (520 mm)  | 1' 8" (520 mm) |



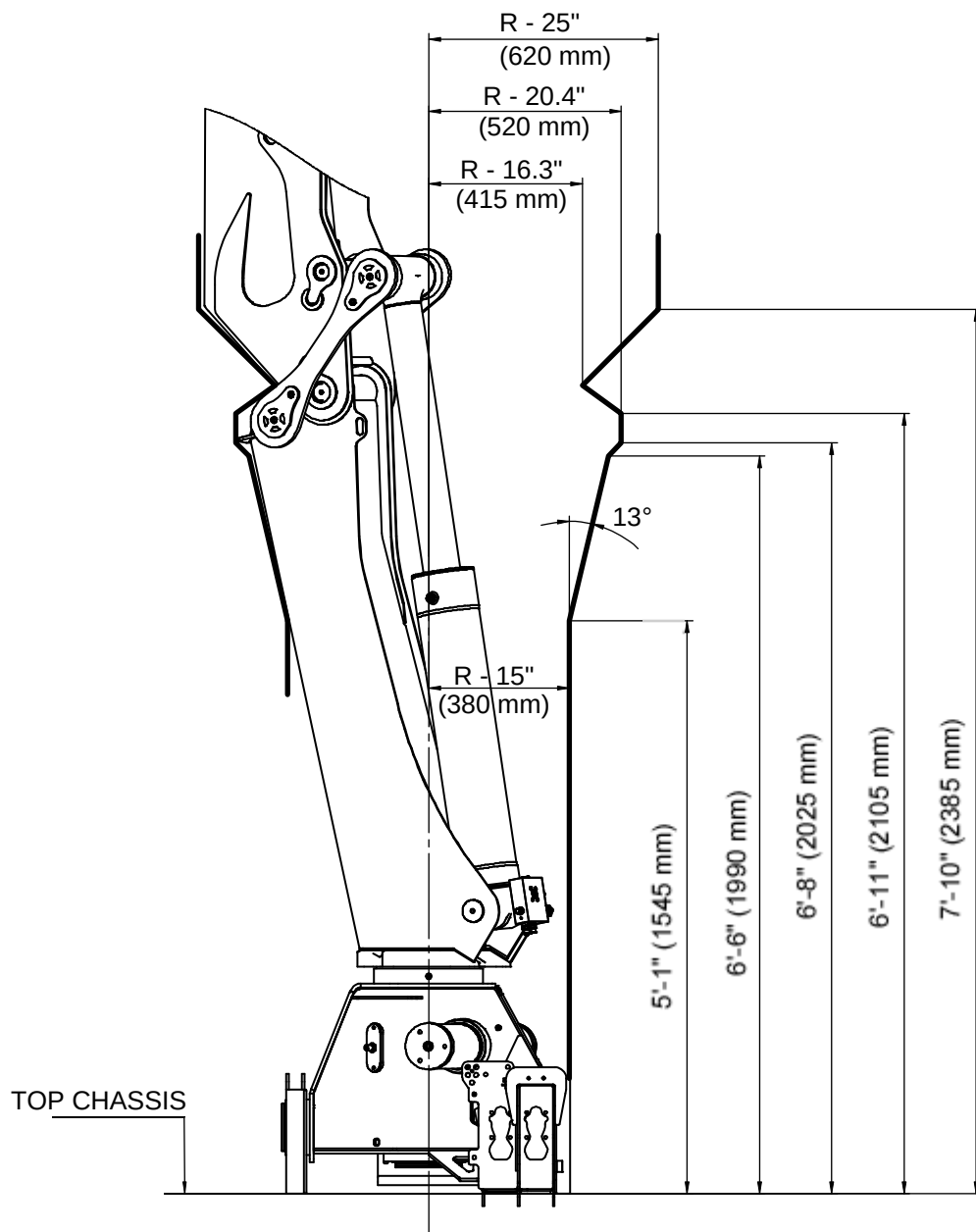
## Stabilizer Dimensions, Hyd Swing-Up Legs



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



## 15/105DL Swing Clearance







CHAPTER 2

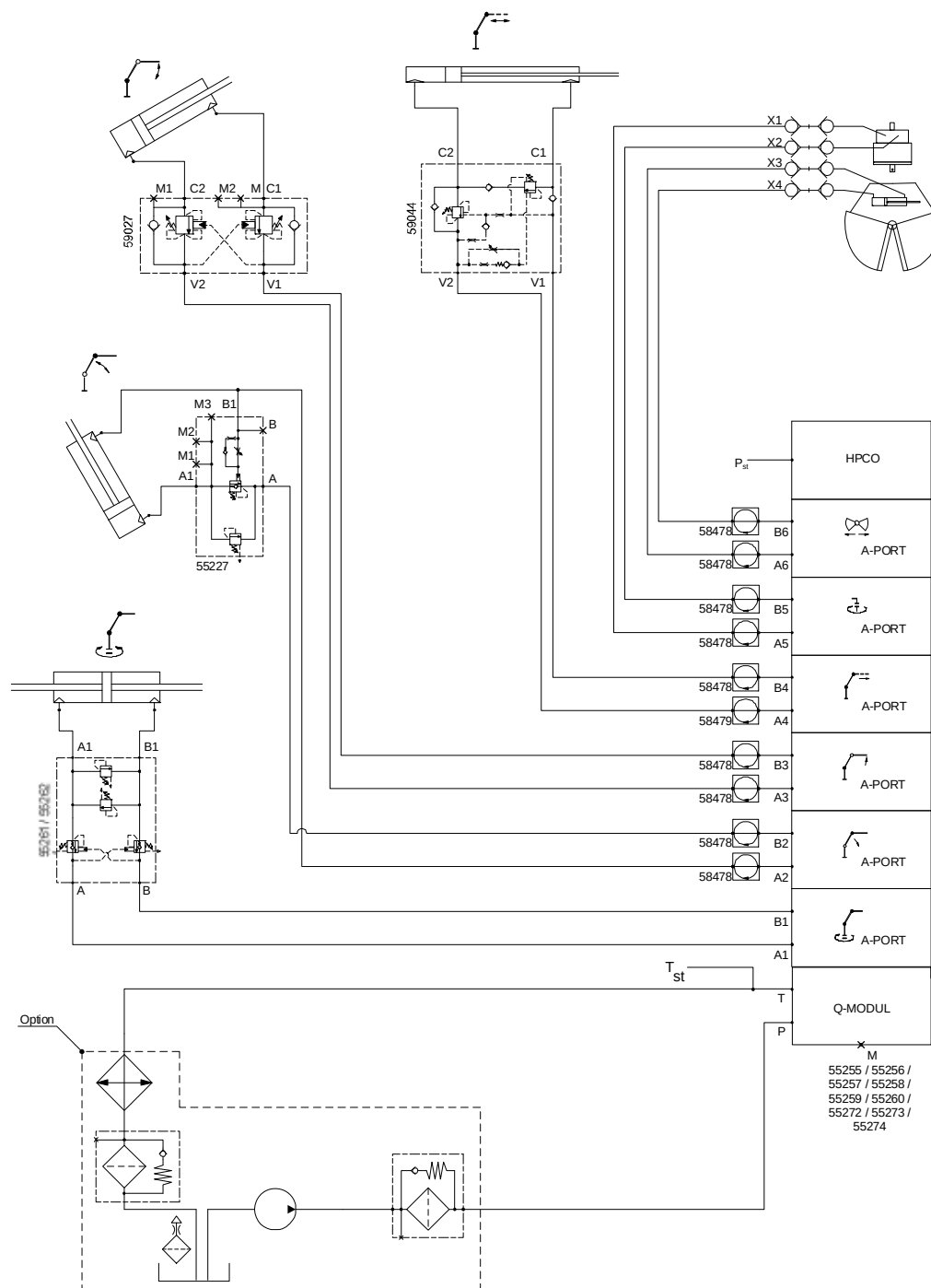
# Hydraulic Schematics

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## Hydraulic Diagram - 15/105DL Manual Control

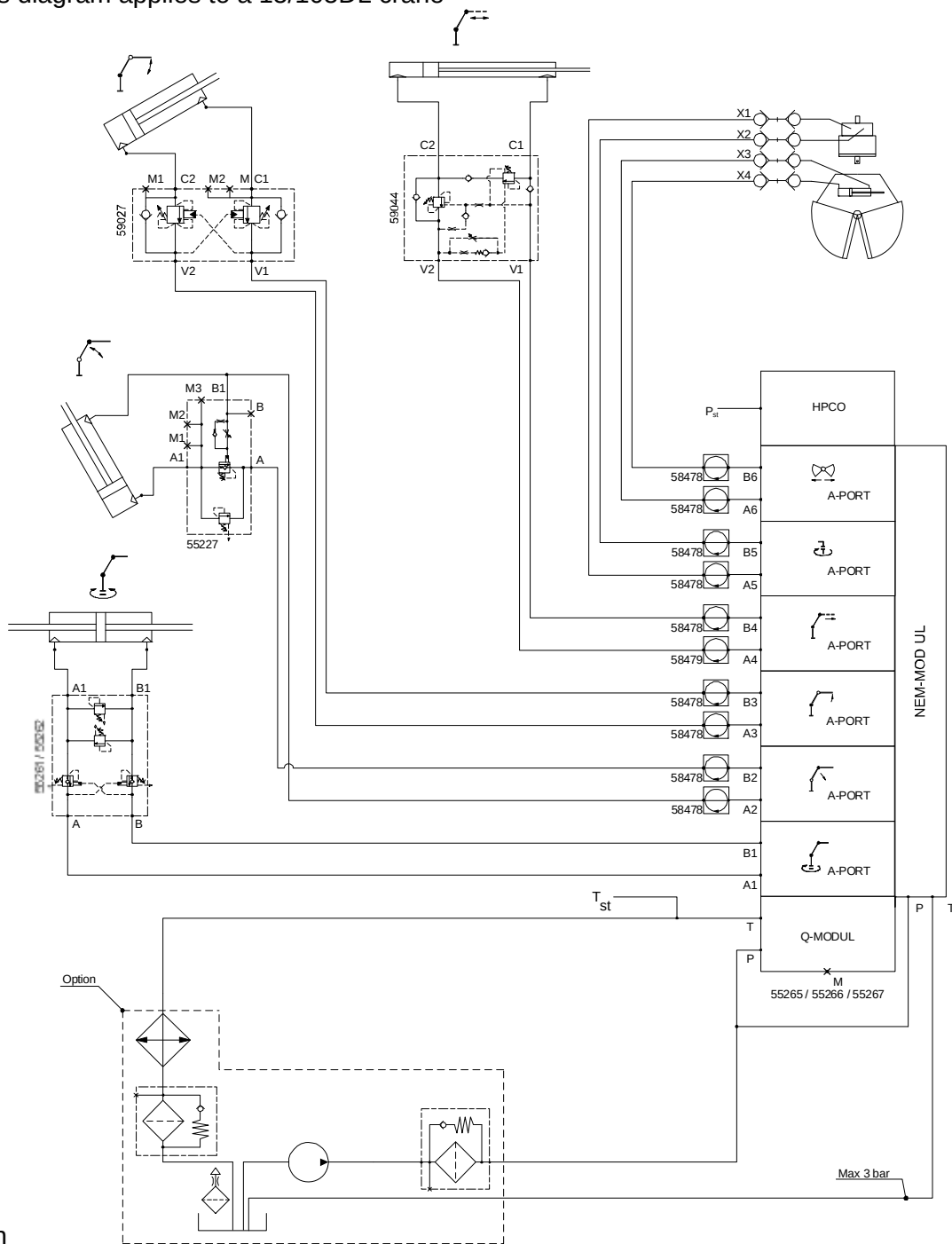
This diagram applies to a 15/105DL crane with a single-circuit fixed pump and 6-function manual controls.





## Hydraulic Diagram - 15/105DL Radio Control

This diagram applies to a 15/105DL crane



with  
circuit fixed pump and 6-function radio controls.

a single-

## Hydraulic Diagram - 15/105DL Top Seat Control

This diagram applies to a 15/105DL crane with a single-circuit fixed pump and 6-function top seat controls.

