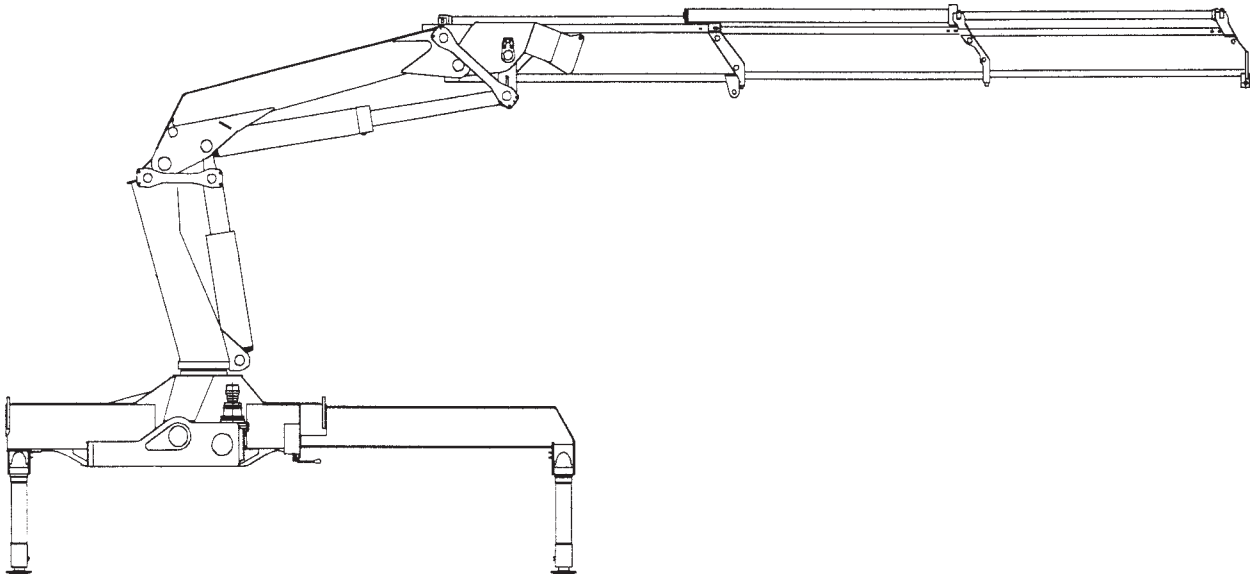
Model 25/180
Model 28/198

Instruction Manual



NOTE

Read and understand this manual, the
IMT Operators Crane Safety Manual
and Safety Manual Supplement
before operating or maintaining your crane.

IOWA MOLD TOOLING CO., INC.

BOX 189, GARNER, IA 50438-0189
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TECHNICAL SUPPORT FAX: 641-923-2424

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REVISIONS LIST

DATE	LOCATION	DESCRIPTION OF CHANGE
-	-	-
20010830	29-36	PUMP CHANGE FROM 17 GPM TO 23 GPM
20070228	COVER	UPDATED OWNERSHIP STATEMENT
20070510	11-27	ECN 9000 - UPDATED CAPACITY CHART ART FOR CONSISTENCY ACROSS MODELS
20071114	PG 11-36	ECN 9000 - ADDITIONAL UPDATES FOR CONSISTENCY - SPECS, CAP CHARTS, DIM DRAWINGS
20120305		ECN 11628 - UPDATE STABILIZER WORDING, ELECTROCUTION DECAL

1.0 INTRODUCTION

This instruction manual contains a description of the loader, instructions for operation, maintenance and repair of the loader. The instruction manual includes the following sections:

Sections 1 through 8 contain general instructions for the daily operation of the loader.

Sections 9 through 15 are primarily aimed at operators, installation and maintenance personnel and contain instructions for installation, adjustment, inspection, and maintenance.

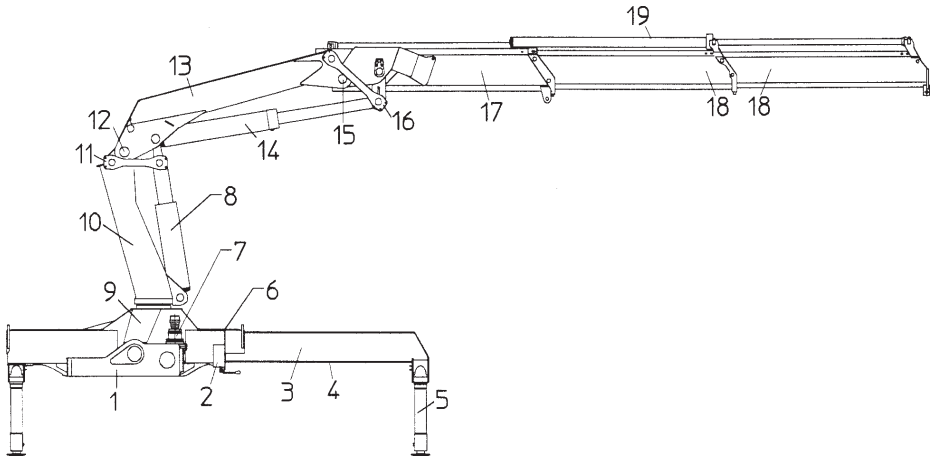
It is important that you familiarize yourself with the contents of this manual before putting the loader into operation. The same applies to any operators and maintenance personnel of the loader. Also familiarize yourself with any other manuals or instructions which accompanied the loader.

It is also important to follow the recommended service schedules. These service overhauls aid in operational safety. They will also be of importance in the event of any warranty claims since IMT will attach great importance to whether these overhauls have been carried through by an authorized service center or not.

Due to continuous development and improvements, your loader model may have been changed slightly since the printing of this instruction manual.

2.0 LOADER TERMINOLOGY

The loader is designed as a truck mounted loader and therefore stationary mounting of the loader, mounting on agricultural tractors, special purpose vehicles and the like may only be performed according to specific agreement with IMT.

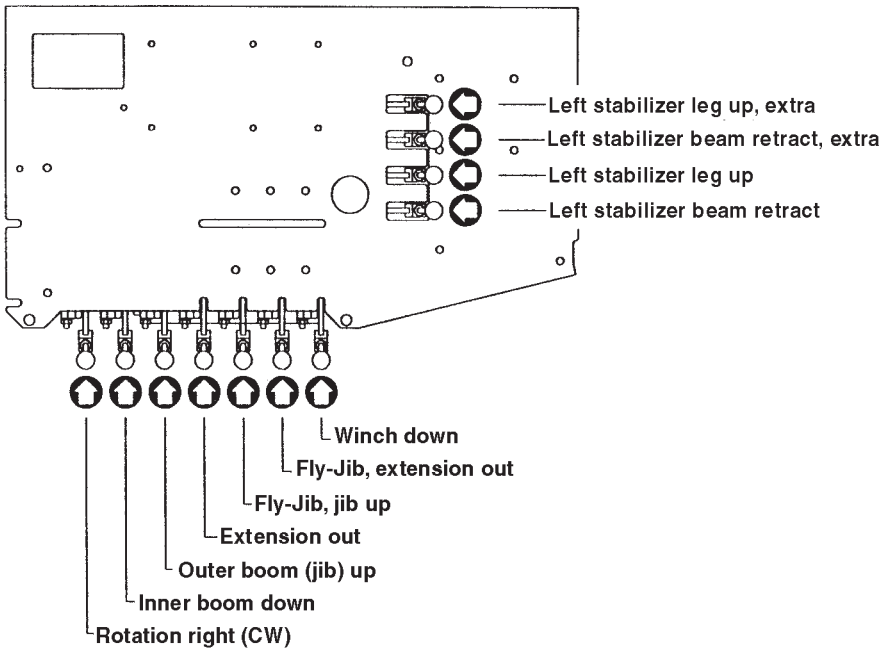


1. Suspension traverse
2. Control valve, loader
3. Stabilizer arm/beam
4. Stabilizer extension cylinder
5. Stabilizer leg
6. Control valve,stabilizer
7. Planetary gear
8. Inner Boom cylinder
9. Base
10. Mast/Column
11. Link arm, Inner boom
12. Hinge pin
13. Inner/Main boom
14. Outer/Jib cylinder
15. Outer/Jib pin
16. Link arm, outer/jib
17. Outer boom/Jib
18. Extension booms
19. Extension cylinder

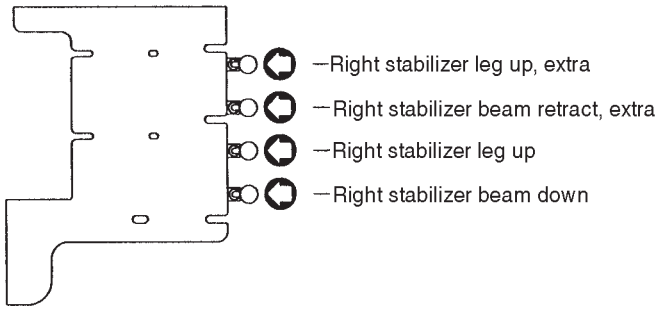
3.0 CONTROL VALVES, SYMBOLS

Each control valve is labeled showing the functions of that particular valve.

Control levers should always be operated steadily and smoothly to avoid unnecessary strain on the loader.



Control panel on right side of loader



4.0 OPERATING INSTRUCTIONS

4.1 START UP

WARNING

Prior to operation, read and understand the IMT Operators Crane Safety manual and any other safety manuals which accompanied the loader.

Before start up the operator must make sure that loader operation does not entail any unnecessary risk. Special attention must be paid to the following factors:

1. The ground must be sufficiently firm to accept the pressure from the stabilizer legs. In case of heavy lifts we recommend the use of steel plates under the stabilizer foot plates.

2. The ground must not be slippery (i.e., covered with ice, sand, etc.). After the driver has applied the parking brake, the truck must be able to accept the horizontal forces from the loader without skidding or moving.

3. The truck must be parked in such a manner that the operator has a complete and unobstructed view of the field of operation.

4. The operator must make sure that there are no electric wires or any other obstacles within the working radius of the loader.

5. The operator must inform any unauthorized persons that entry into the working area is not permitted.

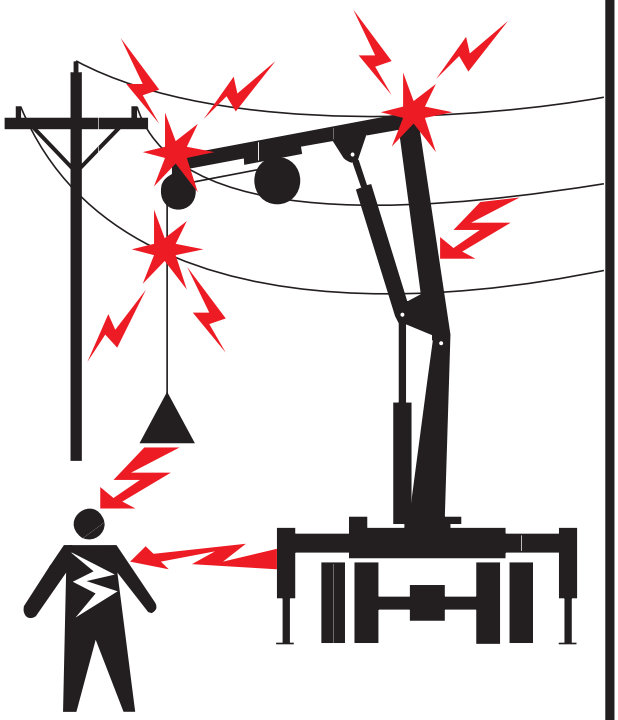
DANGER

Electrocution Hazard

Crane is not insulated

- NEVER approach or contact power lines with any part of this equipment or load.
- Keep 50 feet away from any power line if voltage is not known.
- Keep 20 feet away from any power line 350 kilovolts or less.
- Account for swaying motion of power line, equipment, and load line.
- Follow OSHA 29CFR 1926.1400.

Death or serious injury will result from approaching or contacting a power line.



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General Rules:
For all work in proximity to power supply plants or overhead wires, the following general rules apply:

1. Caution must be exercised in the planning, instruction for, and execution of such work to prevent any risk or danger to persons, equipment or goods.

2. Any power supply plant, installation or wire must be considered live until the responsible power supply authority has provided a declaration that the opposite is true.

3. Any directions or guidelines from the responsible power supply authorities or public bodies must be strictly observed.

Any person or company directly responsible for the implementation of work in the proximity of overhead wires or electric power stations must make sure that all personnel involved in the execution of such work is familiar with any laws, rules or safety regulations, national as well as local, governing such work in the relevant country, territory or zone.

Not until the operator has checked the above may loader operation start.

1. Switch the change-over valve, if any, to “loader”

2. Engage the PTO at low revolutions. The engine revolution speed is regulated by means of the hand accelerator to ensure that the oil flow from the hydraulic pump corresponds to the recommended pump flow for the loader. When starting up in the cold, the oil should circulate for a few minutes before operation starts.

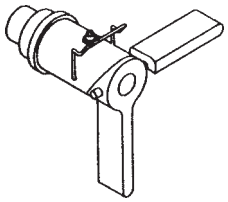
3. Apply the vehicle parking brake.

4. Starting up:
   a. Pull out the emergency stop button - remember both sides of the loader, if necessary.

   b. Push the green button once, the “RUN” diode is lit and the safety system is activated.

Stabilizer function:
   c. Push the yellow button and the “FUNC” and “F5” diodes are lit. After 10 seconds the diodes are turned off, but the stabilizer function remains activated. Now the stabilizer function is activated and items 5 through 7 below must be carried out.

Loader function:
   d. Either: Activate one of the control levers of the loader’s control valve
   or: Push the yellow button twice; “FUNC” is lit and “F5” is turned off.



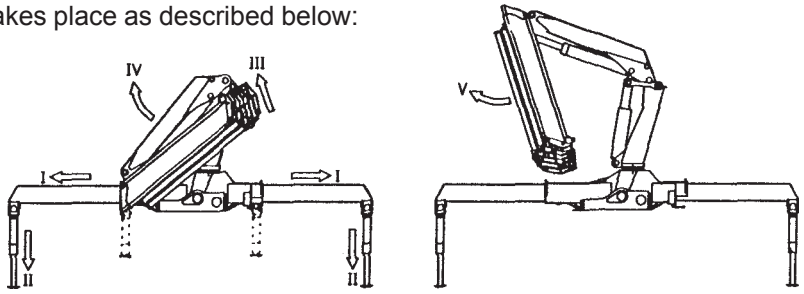
All loader functions are now activated - carry out item 8.

5. Release the stabilizer lock and extend the stabilizer beam completely, and **lock it again.** The hydraulic extension function is only for extending and retracting the stabilizer beam. The stability of the loader and the vehicle is based on the stabilizers in the fully deployed position and the loader should only be operated with the stabilizers fully extended. The operator must know whether or not the vehicle is stable in the area in front of the stabilizers (Over the cab). Lower the stabilizer legs just enough to raise the truck chassis a little in its suspension. The tires must still have full contact with the ground. During loading of the truck the stabilizer legs must be raised periodically to ensure the weight of the load is carried by the truck. The stabilizer legs are not designed to support this excessive load.

6. The vehicle must be positioned as close to horizontal as possible. Therefore, the driver should place the truck in as close a horizontal position as possible by means of the stabilizer legs before operating the loader.

7. If the ground is not firm enough to take up the pressure of the stabilizer legs, a plate, preferably steel, must be placed under the foot plates.

8.1. The unfolding of the loader takes place as described below:



I. Extend stabilizer beams fully.

II. Lower the stabilizer legs according to items 5, 6 and 7 above.

III. The outer (jib) **must** be raised (the “outer/jib down” movement of the lever), so that the outer boom (jib) is released from the bracket.

IV. Raise the inner (main) boom and thereby release it from the bracket. Raise the inner (main) boom somewhat above horizontal, so that the outer boom can be moved freely downwards.

V. Raise the outer (jib) until it is free from the base.

4.2 USING THE LOADER

After unfolding the loader, work may begin.

The lifting capacity of the loader is shown on the Capacity Chart on the loader and in this instruction manual. The capacity limits indicated must never be exceeded.

The loader is designed to lift loads vertically and therefore diagonal stresses must be avoided. Consequently the dragging of loads across the ground using the extension cylinders or the rotation system must be avoided. These functions should only be activated once the load is free of the ground.

When mounting a grapple, the total weight (grapple, rotator, and contents) must not exceed the lifting capacity of the loader at maximum reach. The grapple may be used to move soil only. It must not be used to excavate earth. Damage caused by improper operation of the loader will not be covered by the Waranty.

If the load is extended so far that the lifting capacity is exceeded, the load moment increasing movements will be stopped. See the RCL Safety System Instruction Manual.

WARNING

Never stand under the booms when the loader is working.

NOTES

Position the truck as closely to the load as possible to lift the load on the shortest possible boom.

The rotation system should be operated with care, especially when the inner boom is at an acute angle to the outer boom.

The stabilizers may not be activated when the loader is working.

Never drive off with a suspended load.

4.3 AFTER OPERATION

The loader is folded up by reversing the procedure described in item 8, chapter 4.1 “Starting up”.
If the boom is parked on the truck platform it must be properly secured to prevent the boom from swinging out during transport. Also, the operator must check that the total height does not exceed 157” (4000mm).
If the loader is equipped with swing-up stabilizer legs, they must also be secured in position before driving off.
Before the vehicle is started, the PTO must be disengaged; i.e. the pump must be turned off.

5. MAINTENANCE

Careful maintenance of the loader is the best way to ensure reliable loader operation.

At regular intervals, every day or every week, depending on frequency of loader application, you should check the following:

1. The oil level in tank. Oil must be visible in the oil level glass of the tank when the loader is folded. Check the oil level in the planetary gear.

2. Any defects, damage or leaks should be repaired at an authorized service center as soon as discovered.

3. Loader to truck mounting hardware.

4. Slide blocks and bushings reduce friction and therefore they are naturally subject to wear. Slide blocks should be replaced when slack is detected in the boom system. Bushings should be replaced before the metal components physically touch each other.

5. Check all hoses for defects and kinks.

6. Check that hooks, straps and safety latches are in good working order.

7. Check all lock pins and bolts for wear.

Service overhauls should be undertaken according to Section 13. In case of any warranty claims later, great importance will be attached to observance of these service overhauls.

5.1 LUBRICATION INTERVALS

Pinion of mast/Planetary gear: after 50 hours of operation/1 month (whichever occurs first)

Base bearings: after 20 hours of operation/1 week (whichever occurs first)

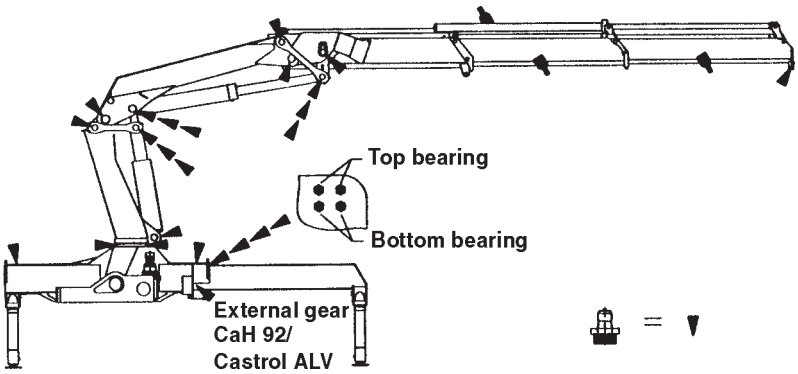
Extension system/Slide blocks: after 50 hours of operation/1 month (whichever occurs first)

Stabilizer beams: as required

Control valves and rod connections (Oil spray): as required

The loader should be lubricated according to the lubrication chart below. Also see “Recommended Lubricants”.

5.2 LUBRICATION CHART



The rotation system should be activated and the loader swung from stop to stop several times within the entire rotation area at the same time as the bearings in the base are lubricated.

Hydraulic oil and lubrication grease are chosen according to the table in Section 13.

The telescopic extensions and planetary gear are lubricated with a special grease (Statoil Grease Way CaH or Castrol ALV).

CAUTION

If the loader is not folded after use, make sure that all cylinders are completely retracted at least once a day. The protective oil coating on the piston rods is thus maintained, preventing corrosion from occuring on the chromium surface.

6.0 OPTIONS

Various options are available with the loader:

- Fly-Jib
- Manual extensions
- Winch
- Pallet fork
- Remote control
- Radio remote control

Some loaders may, as standard, be equipped with options such as manual extensions, winch and Fly-Jib.
For those loaders you will, apart from the descriptions below, also find technical data and pressure setting diagram, as well as lifting capacity diagrams for the Fly-Jib in this manual.

You should always consult your authorized dealer before mounting any optional equipment. This also applies to equipment already in your possession.

CAUTION

Welding onto or drilling into the structural components of the loader will automatically invalidate any liability on the part of IMT.

6.1 MANUAL EXTENSIONS

When working with manual extensions, please note:

The load limits indicated for manual extensions must never be exceeded.

Great care must be taken if the rotation system is to be activated during work with manual extensions.

If the loader is fitted with manual extensions or other options, the lifting capacity of the loader must be reduced by the weight of the options.

Always check that lock bolts are fitted correctly with a pin.

If the loader is fitted with several extensions and a certain lifting job requires the use of one extension only, use the extension with the largest box profile.

WARNING

Only pull out the manual extensions when the outer (jib) is as close to horizontal as possible. If the outer (jib) is pointed downwards when the lock is removed, the extensions will drop out at uncontrollable speed. This may damage the stop at the risk of resulting in personal injury.

The load must be extended from the stop; i.e. the extension lock pins must always remain in place.

7.0 LIFTING CAPACITY DIAGRAMS

7.1 CAPACITY CHARTS

From the factory, the loader is equipped with lifting capacity labels for the loader as well as for the options (manual extensions, Fly-Jib), if any. These labels must, just like any other labels on the loader, be intact and legible. If the label has been damaged or removed, you can order a new label from IMT. Use the part number used on the label or consult the parts manual, decal kit.

7.2 CAPACITY DIAGRAMS

As a supplement to the loader's lifting capacity labels, the following pages contain load and lifting capacities of the different K-versions in standard applications, i.e. special applications and customized labels and options are not taken into consideration. In these cases we refer to the supplementary documentation delivered and/or the lifting capacity labels on the loader.

WARNING

The lifting capacity limits indicated must never be exceeded.

CAPACITY CHART-25/180K2

IMT
MATERIAL HANDLING SYSTEMS

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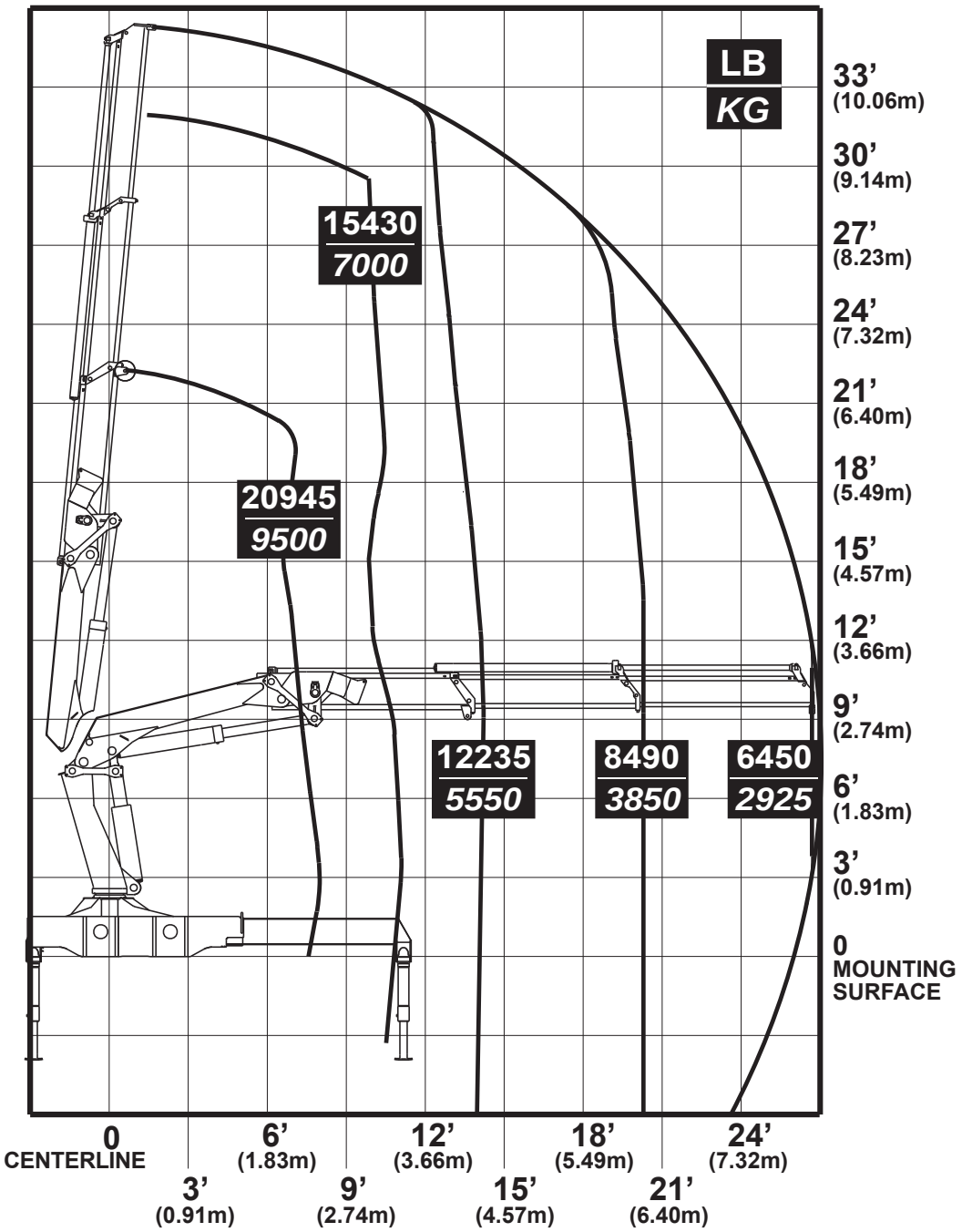
Model 25/180K2

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-25/180K3

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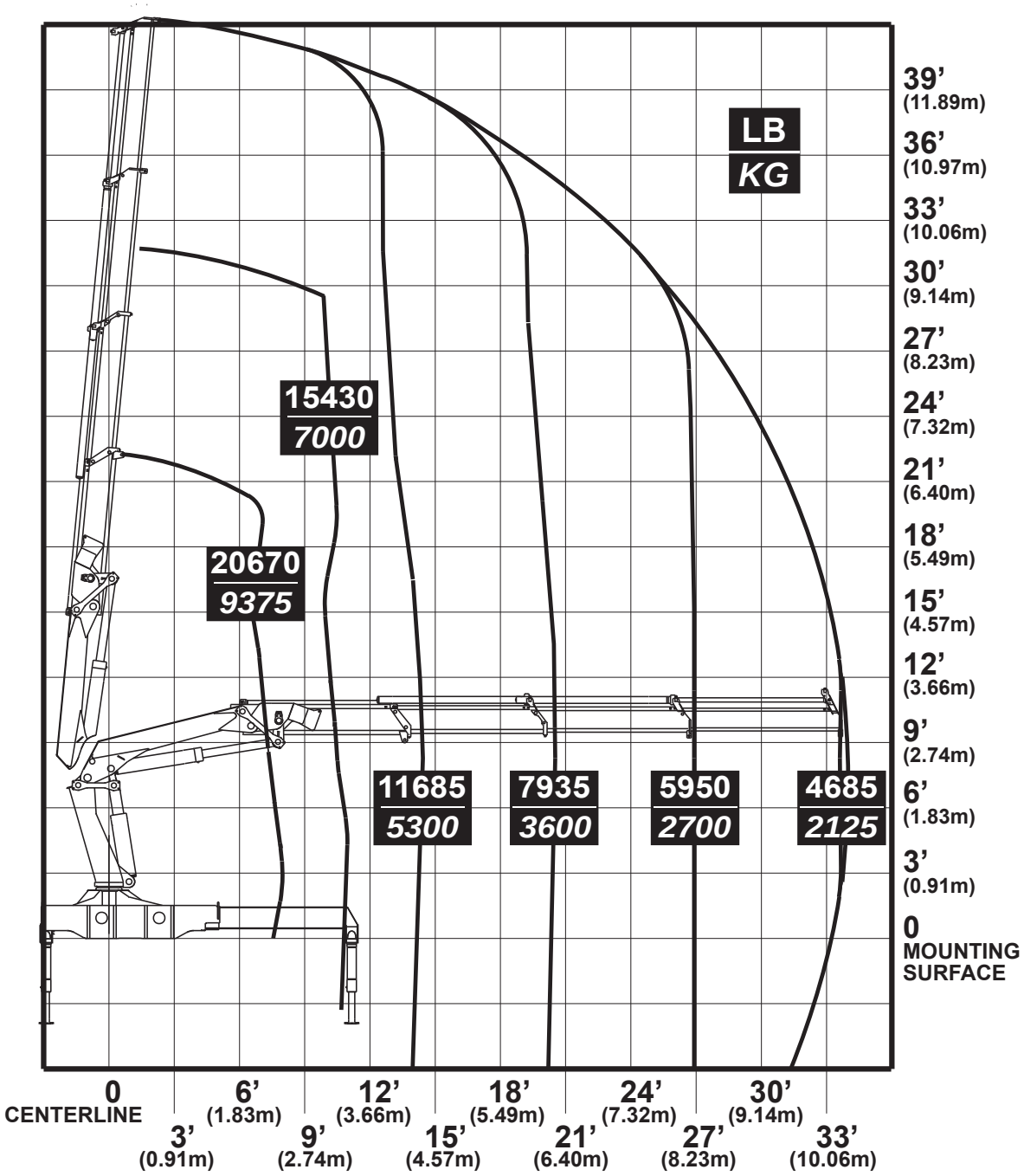
Model 25/180K3

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-25/180K4

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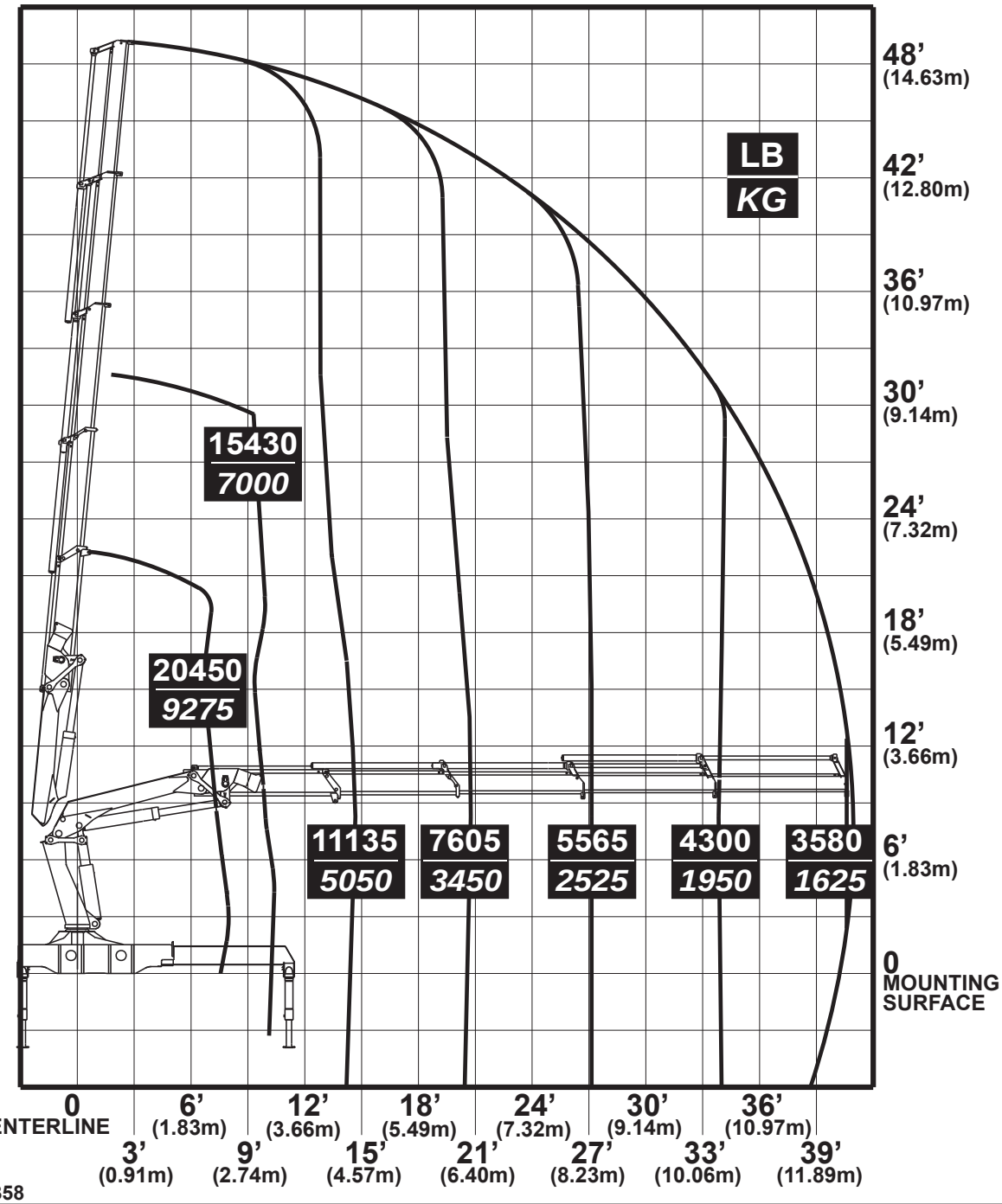
Model 25/180K4

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-25/180K5

IMT
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Model 25/180K5

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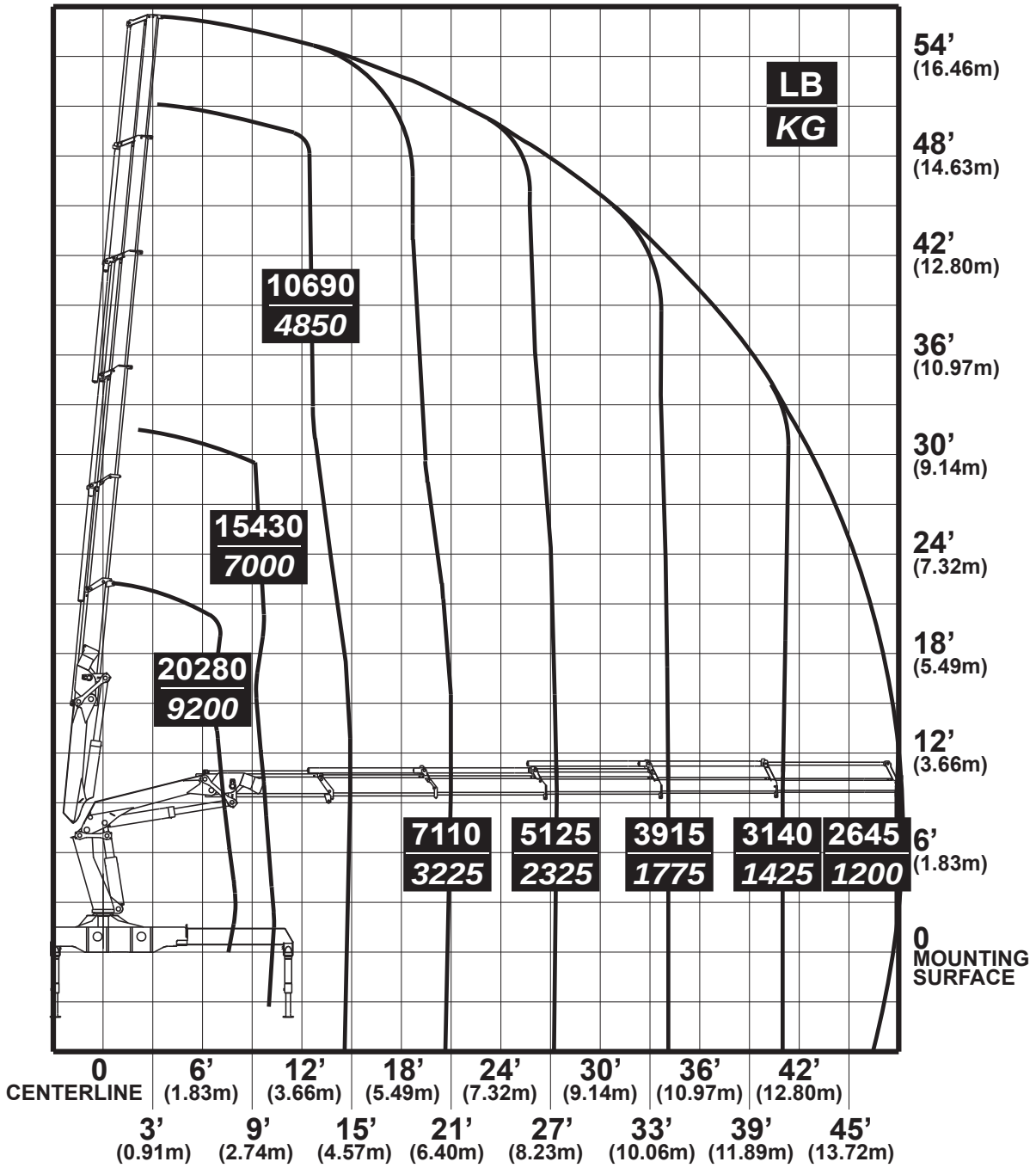
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-25/180K6

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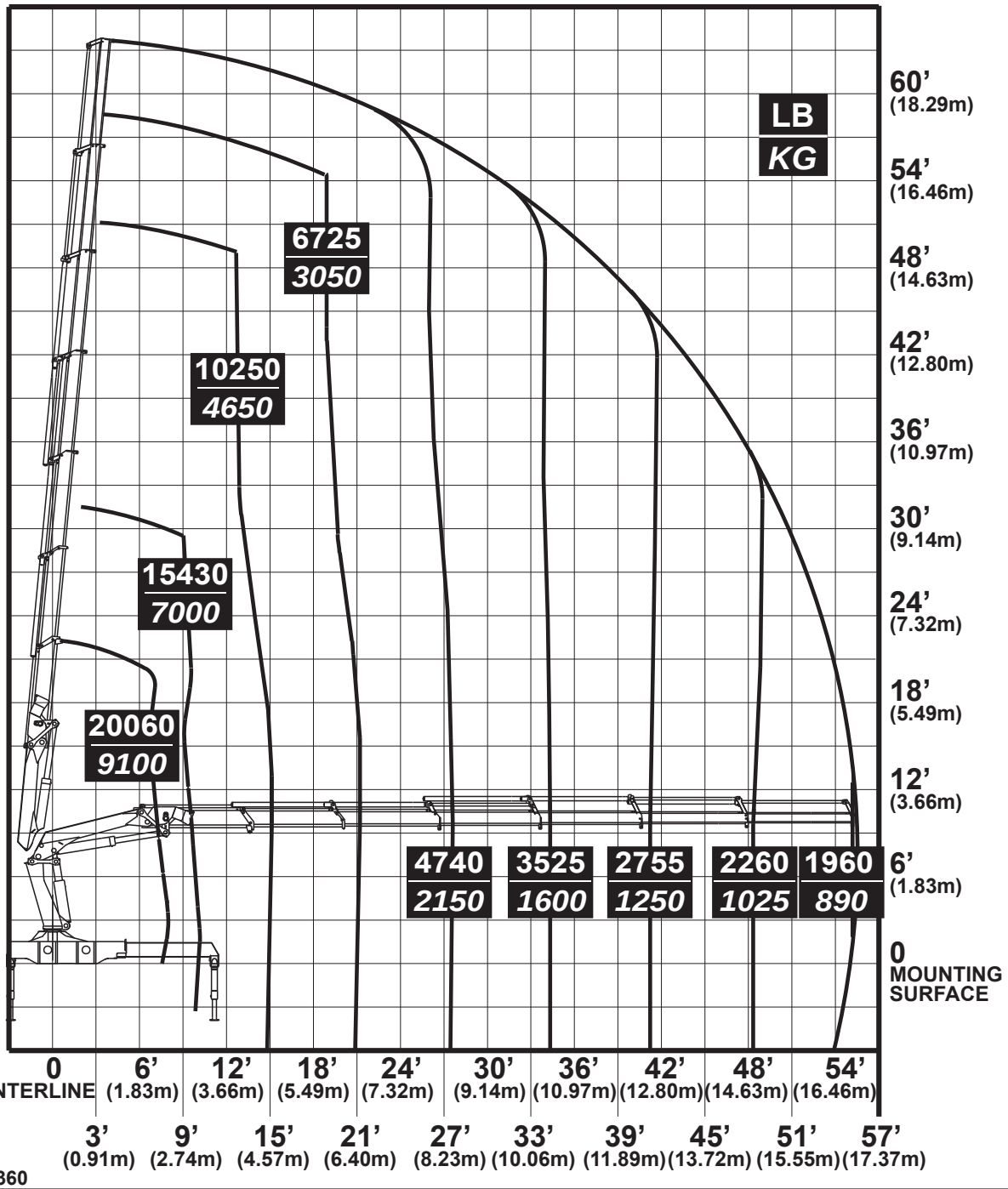
Model 25/180K6

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-25/180K7

IMT
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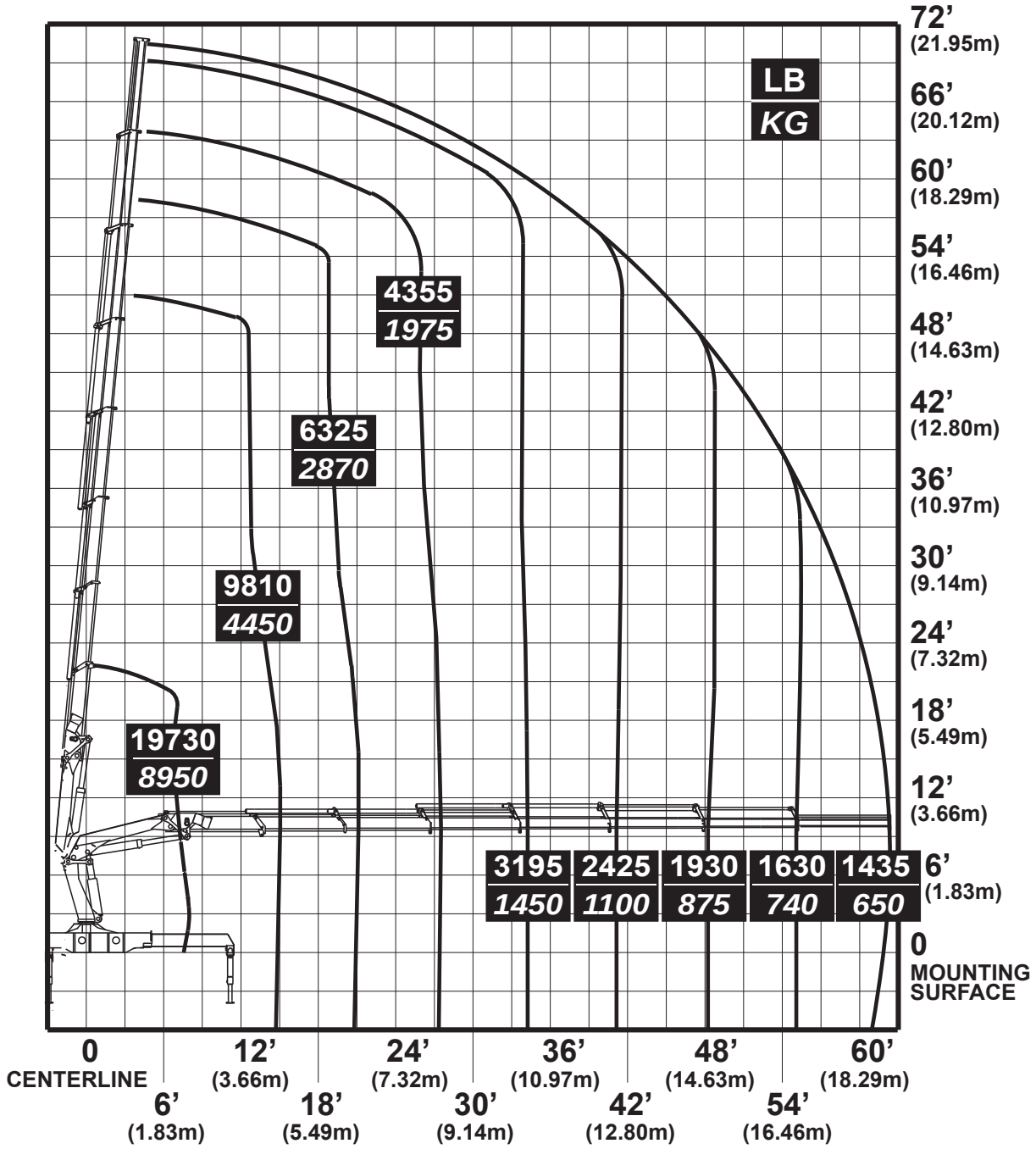
Model 25/180K7

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-25/180K8

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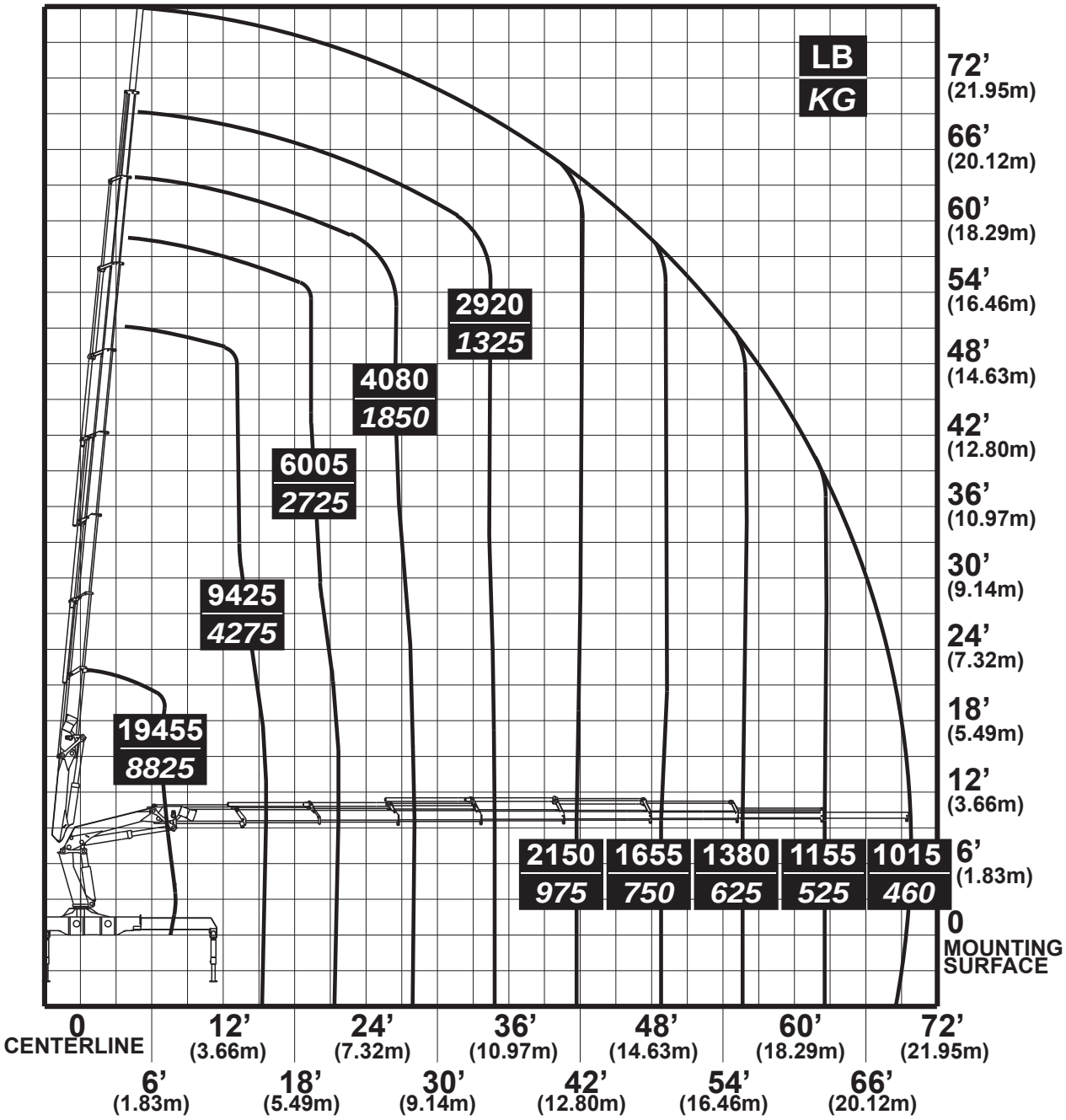
Model 25/180K8

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-28/198K2

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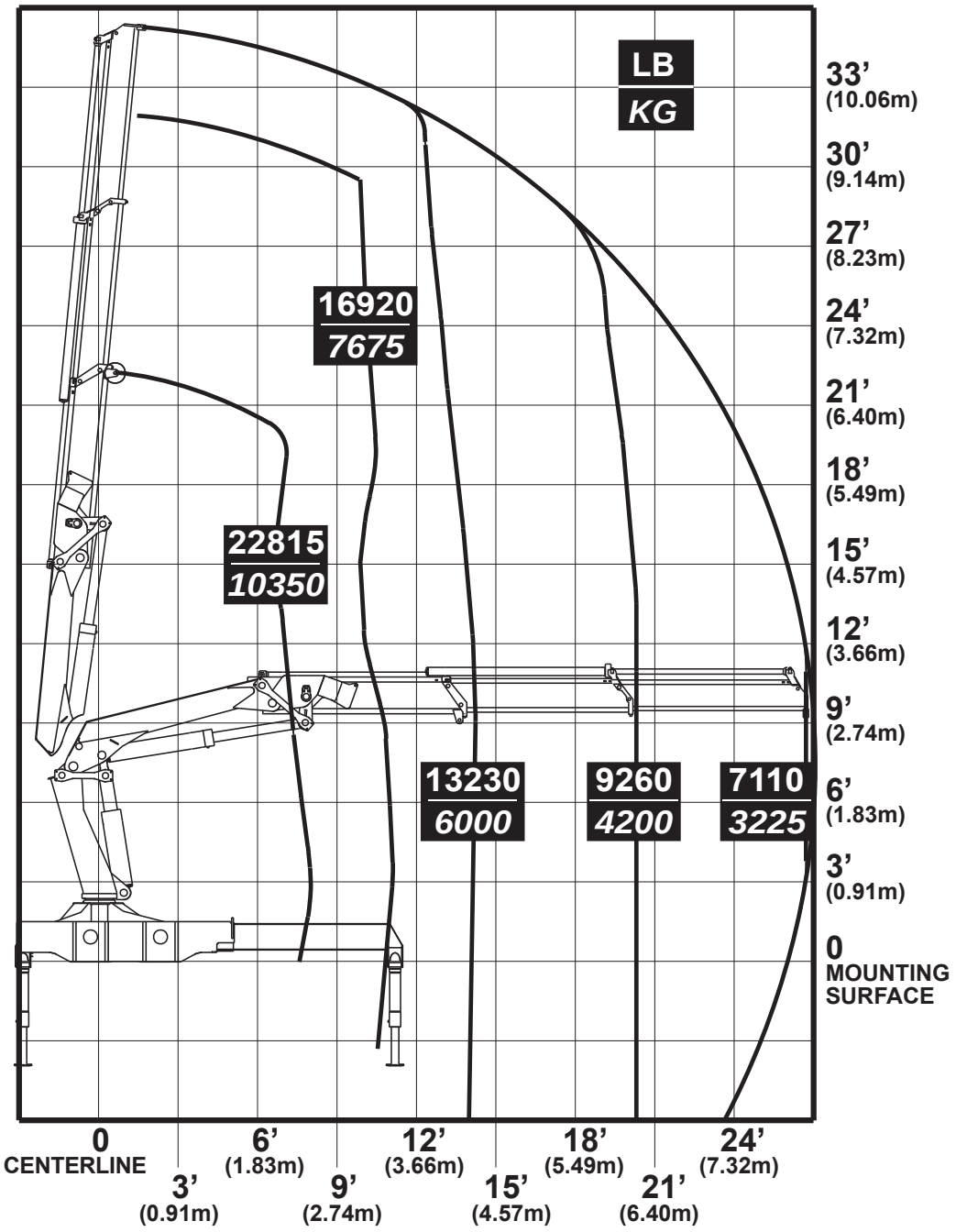
Model 28/198K2

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-28/198K3

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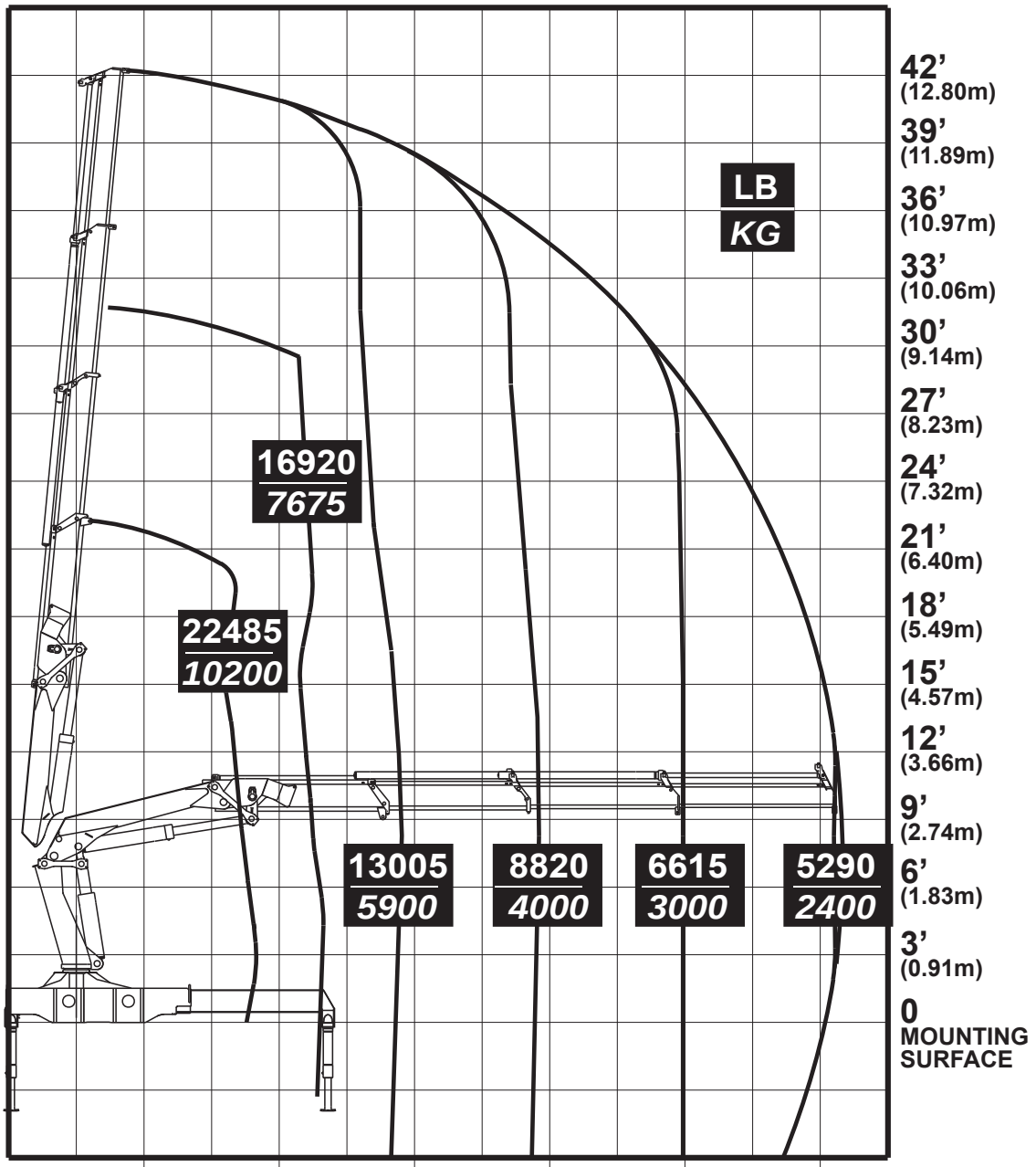
Model 28/198K3

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



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CAPACITY CHART-28/198K4

IMT
MATERIAL HANDLING SYSTEMS

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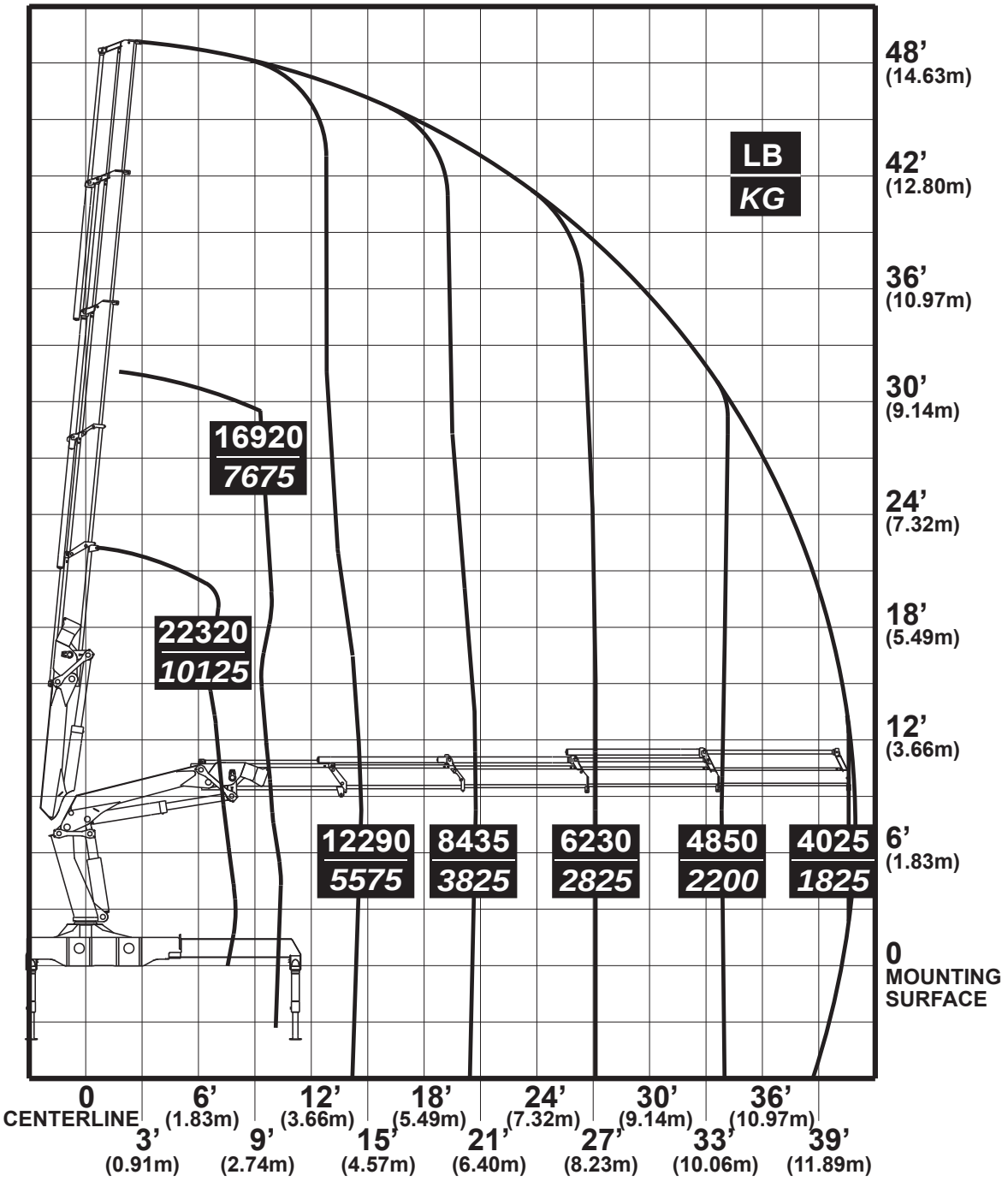
Model 28/198K4

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



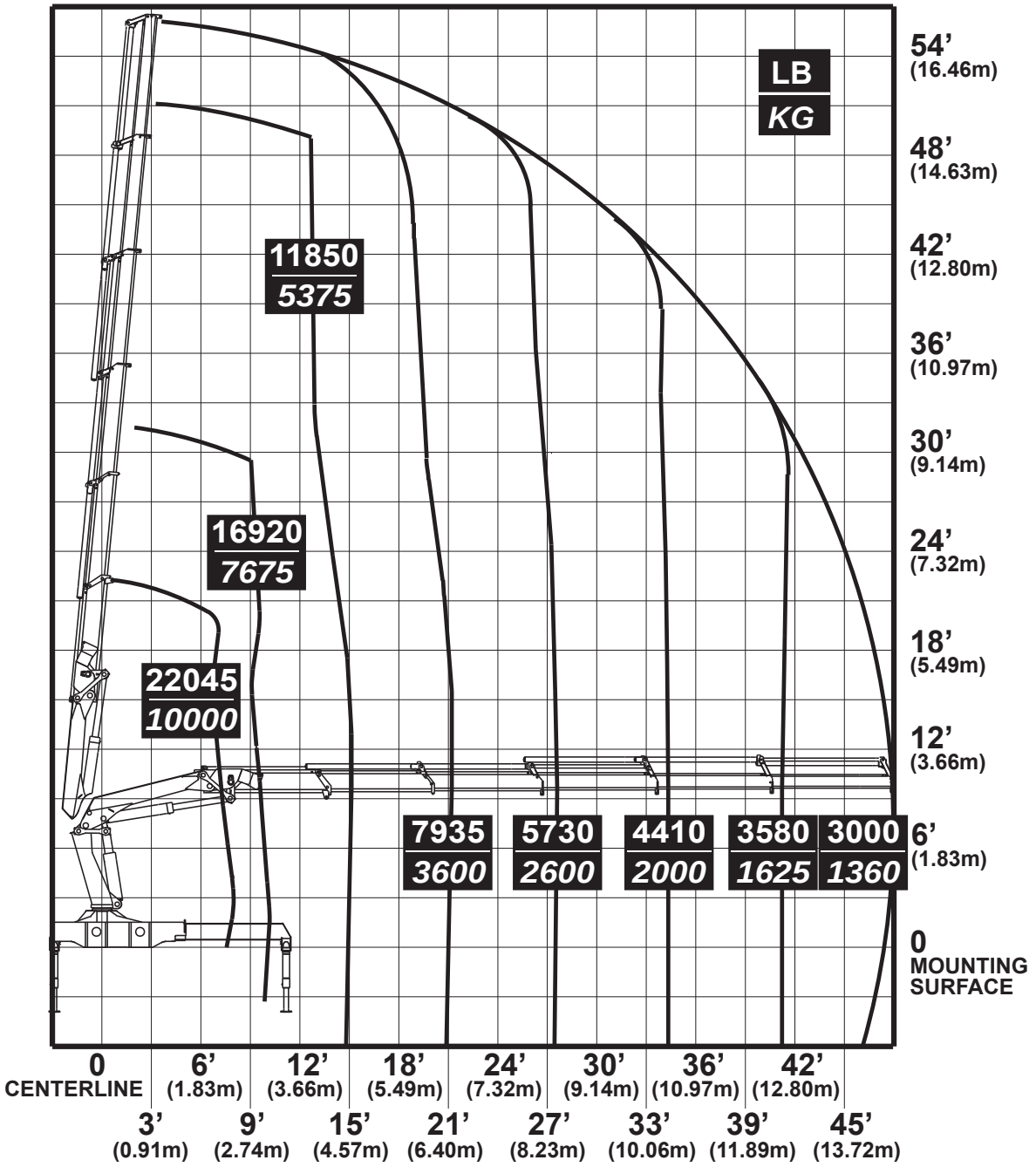
CAPACITY CHART-28/198K5

IMT
MATERIAL HANDLING SYSTEMS

IOWA MOLD TOOLING CO., INC.
BOX 189 • GARNER • IA • 50438 • 641-923-3711

Model 28/198K5

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



70395366

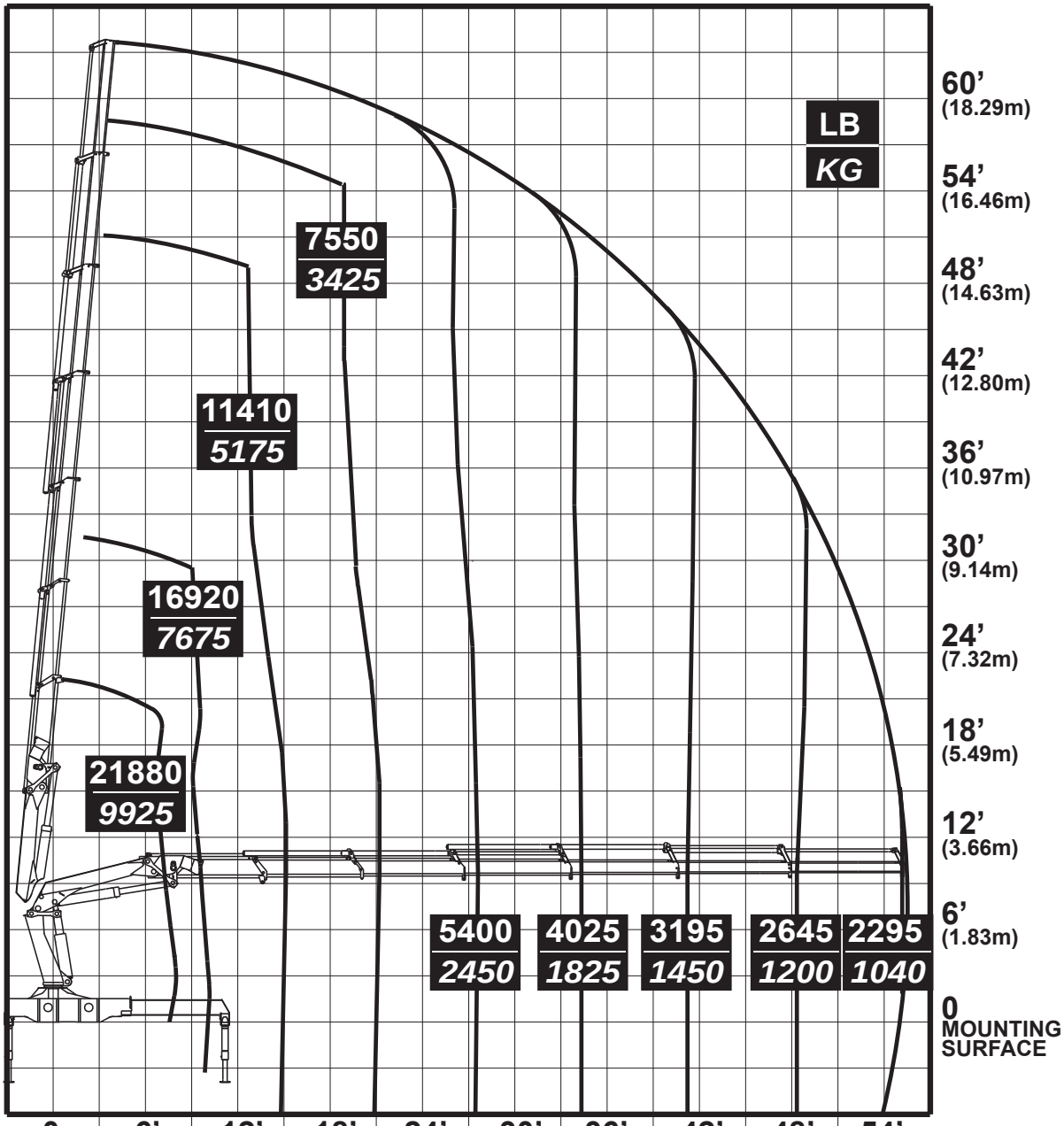
CAPACITY CHART-28/198K6

IMT
MATERIAL HANDLING SYSTEMS

IOWA MOLD TOOLING CO., INC.
BOX 189 • GARNER • IA • 50438 • 641-923-3711

Model 28/198K6

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



70395367

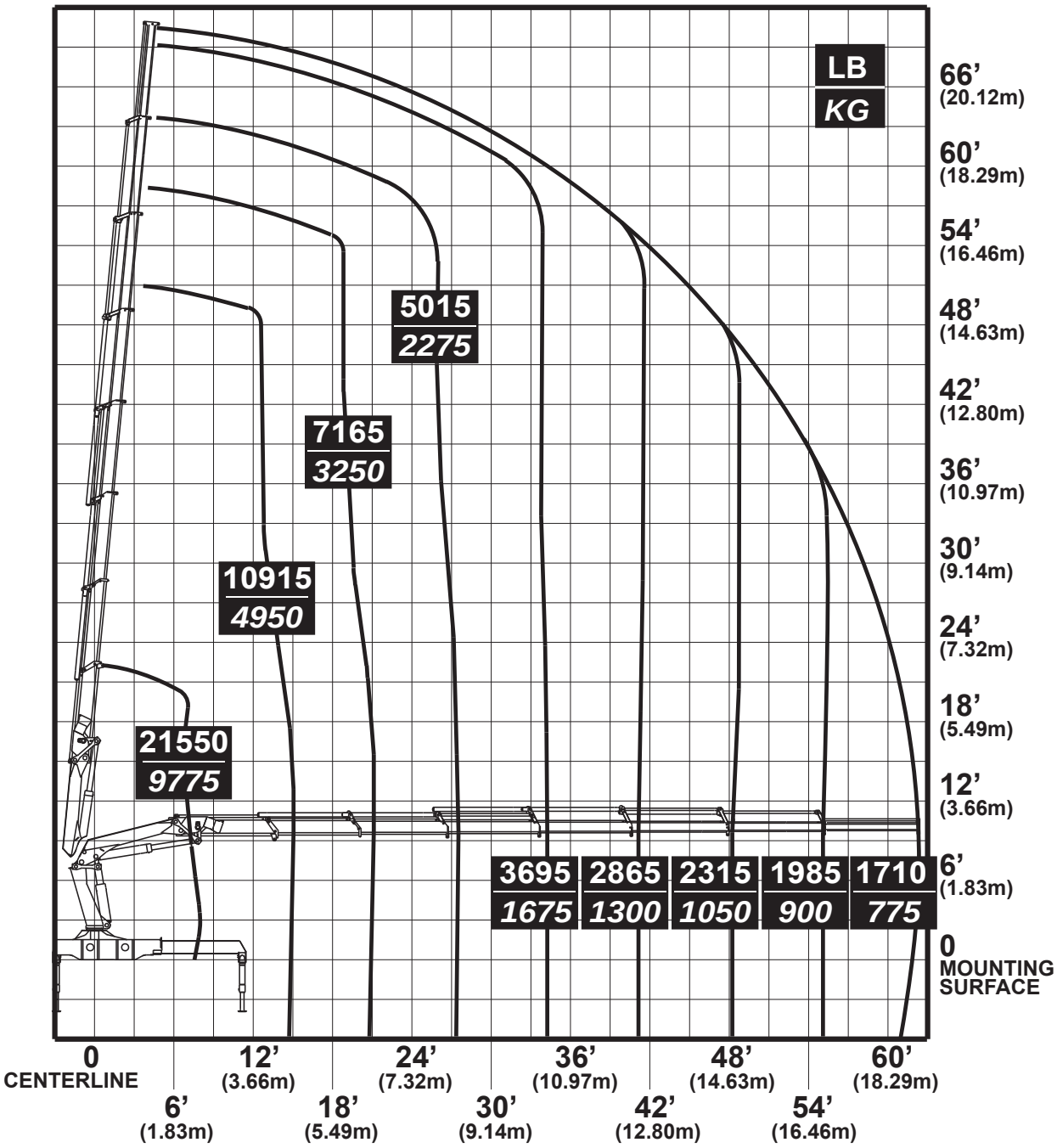
CAPACITY CHART-28/198K7

IMT
MATERIAL HANDLING SYSTEMS

IOWA MOLD TOOLING CO., INC.
BOX 189 • GARNER • IA • 50438 • 641-923-3711

Model 28/198K7

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



70395368

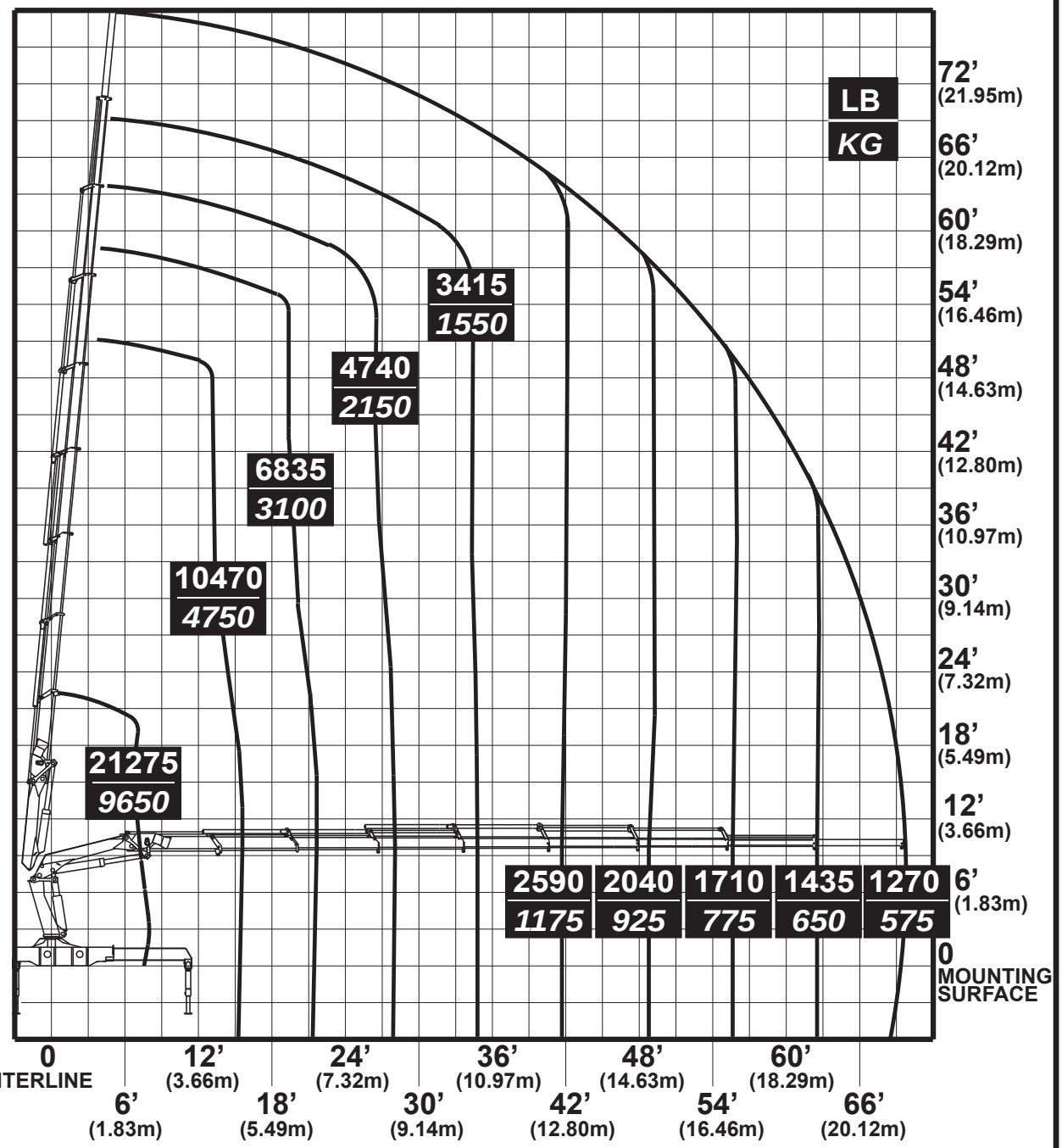
CAPACITY CHART-28/198K8

IMT
MATERIAL HANDLING SYSTEMS

IOWA MOLD TOOLING CO., INC.
BOX 189 • GARNER • IA • 50438 • 641-923-3711

Model 28/198K8

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



70395369

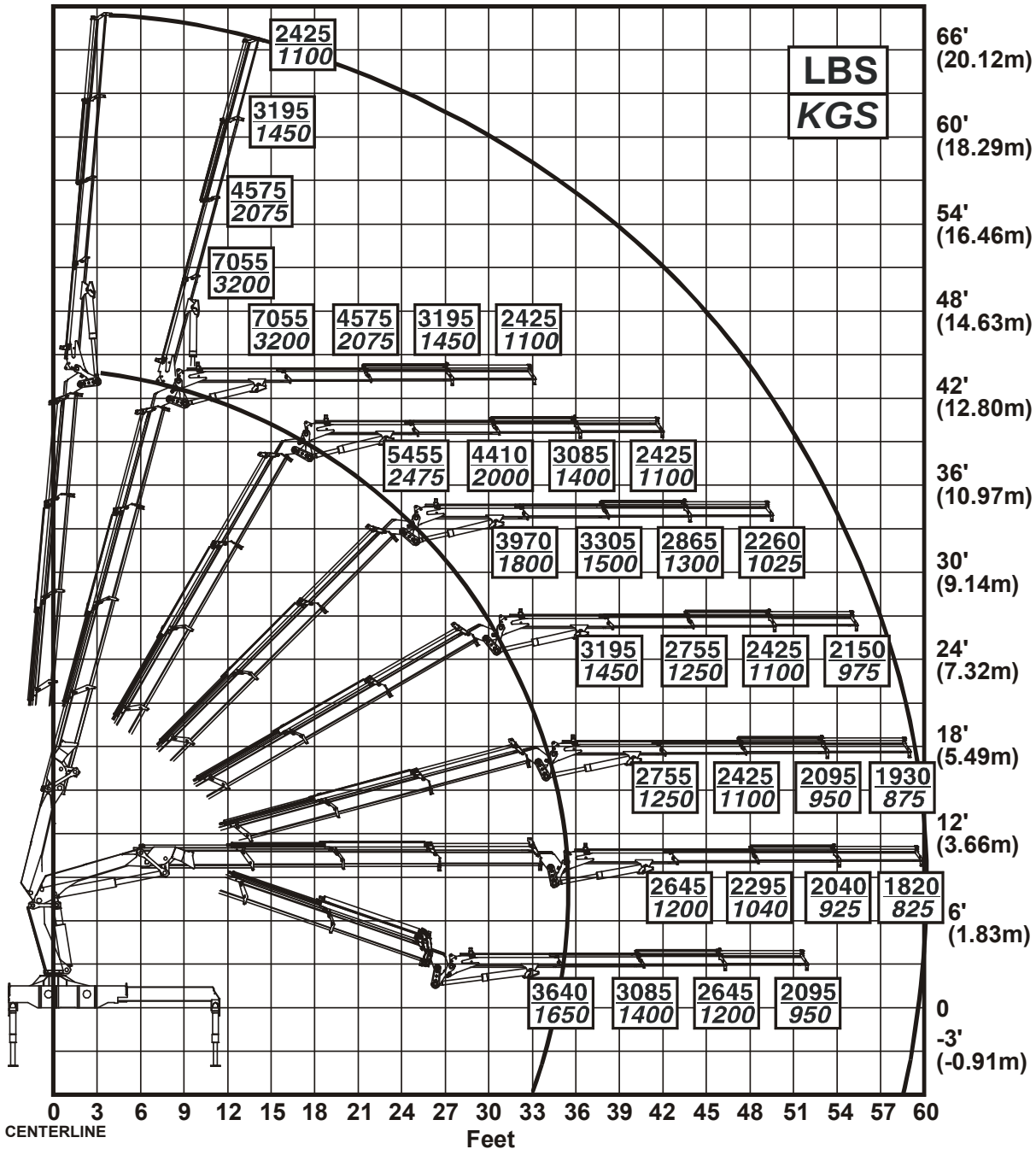
CAPACITY CHART-28/198K3-J9K3

IMT
MATERIAL HANDLING SYSTEMS

IOWA MOLD TOOLING CO., INC.
BOX 189 ● GARNER ● IA ● 50438 ● 641-923-3711

Model 28/198 K3 / J9K3

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



70395790

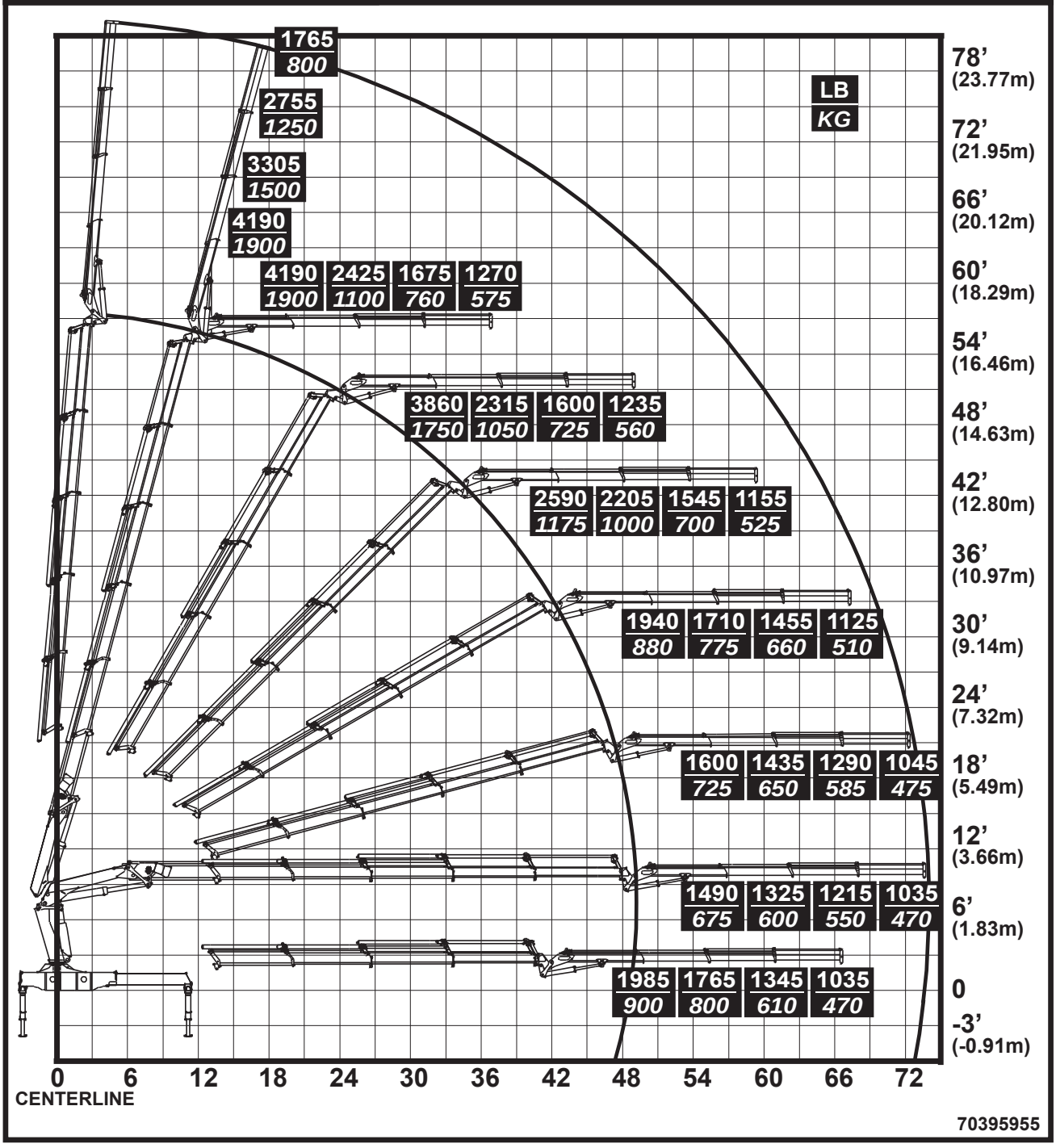
CAPACITY CHART-28/198K5-J5K3

IMT
MATERIAL HANDLING SYSTEMS

IOWA MOLD TOOLING CO., INC.
BOX 189 □ GARNER □ IA □ 50438 □ 641-923-3711

Model 28/198 K5 / J5K3

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



70395955

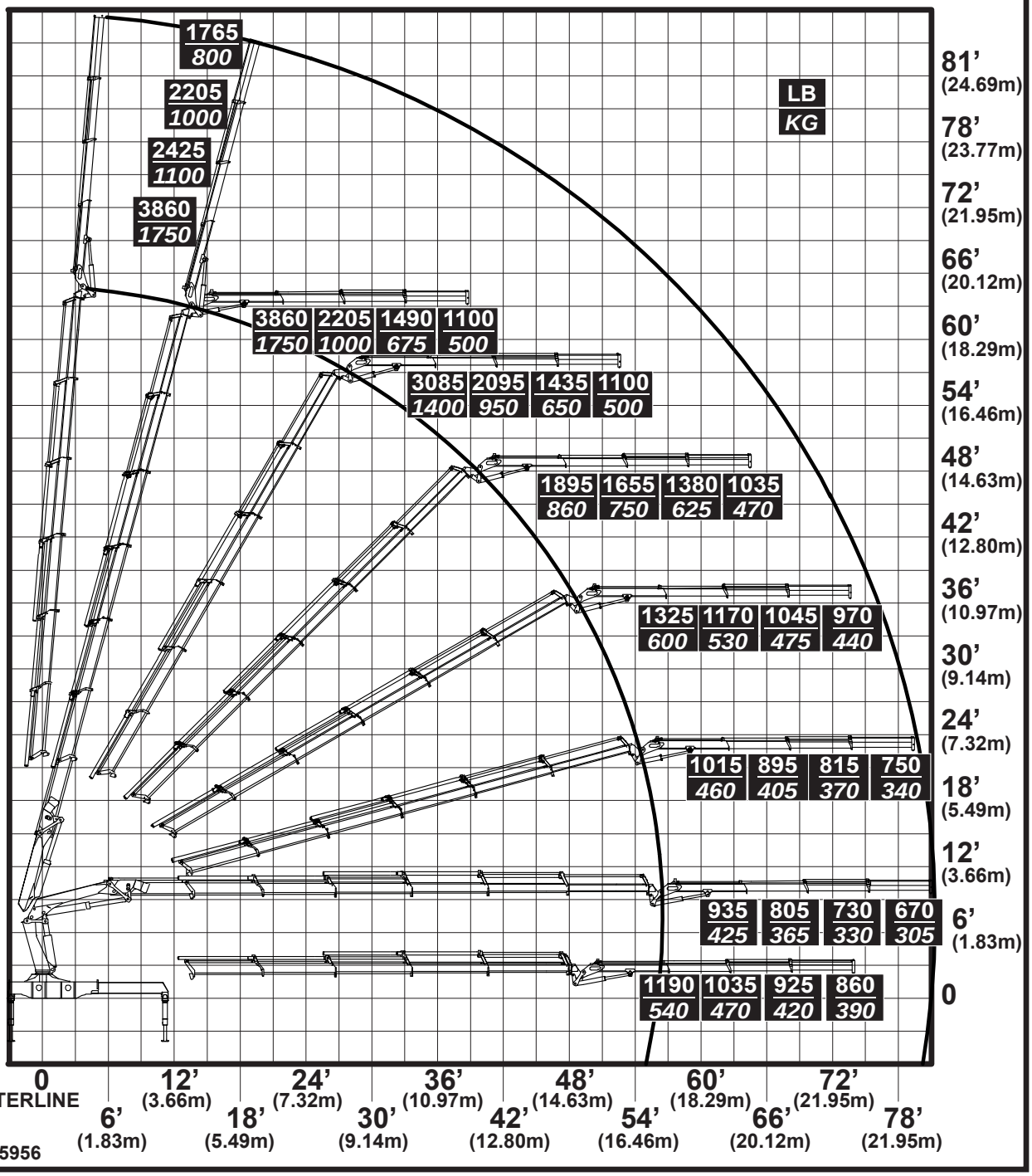
CAPACITY CHART-28/198K6-J5K3

IMT
MATERIAL HANDLING SYSTEMS

IOWA MOLD TOOLING CO., INC.
BOX 189 • GARNER • IA • 50438 • 641-923-3711

Model 28/198 K6 / J5K3

- **Working loads will be limited to those shown. Deduct the weight of load handling devices.**
- **Before lift is made, stability must be checked per SAE J765A.**



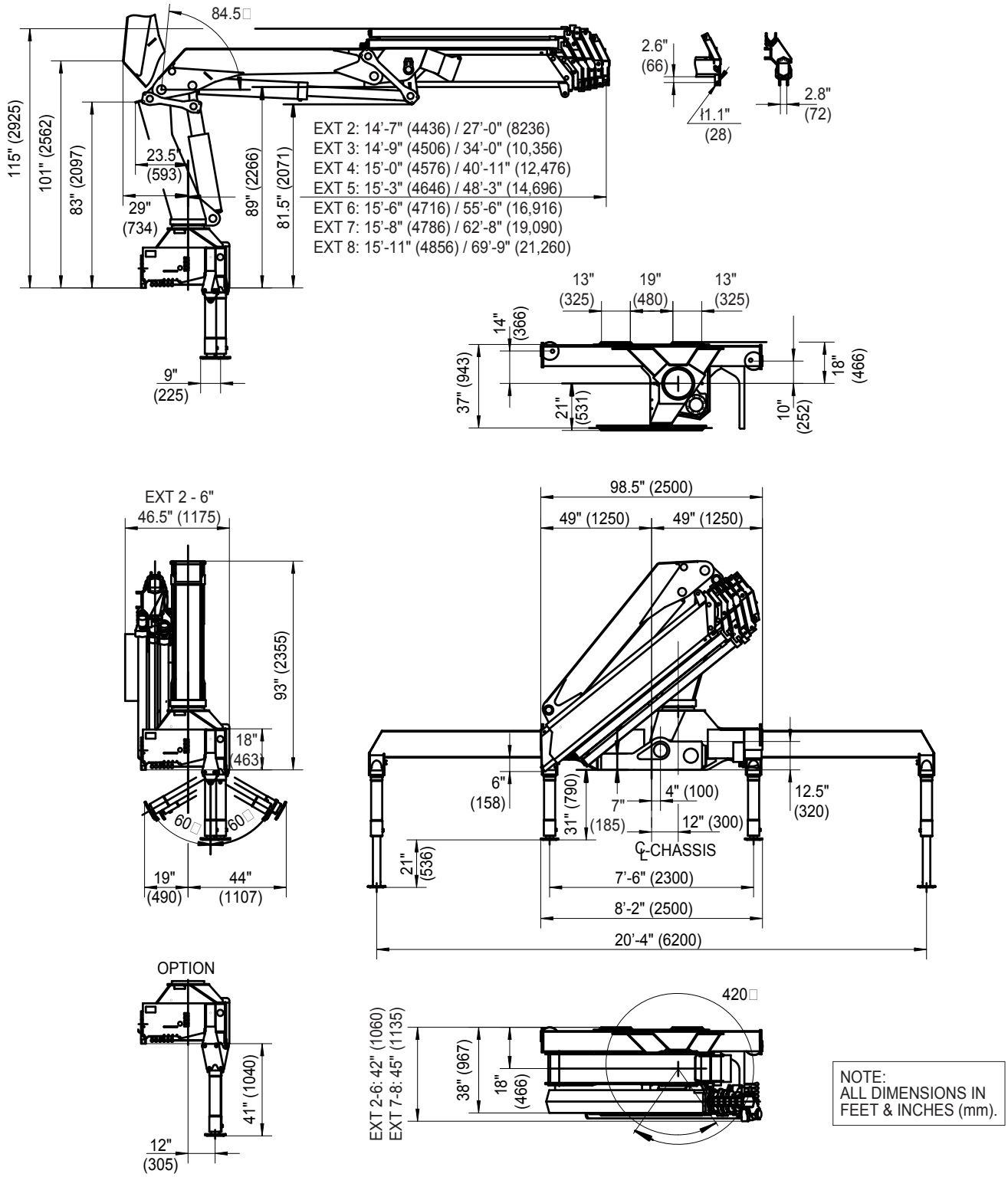
70395956

8.0 TECHNICAL DATA

The following pages contain tables with technical data on loader and Fly-Jib respectively, if a Fly-Jib is available as standard.

As standard the 25/180 K3 loader designation describes a loader with a 25 ton-meter/180000 foot-pound load moment and utilizes 3 hydraulic extensions. The 28/198 K3 loader designation describes a loader with a 28 ton-meter/198000 foot-pound load moment and utilizes 3 hydraulic extensions.

REFERENCE DIMENSIONS



NOTE:
ALL DIMENSIONS IN
FEET & INCHES (mm).

TECHNICAL DATA-25/180K2-K5 (Domestic)

Performance	Unit	2 hyd ext	3 hyd ext	4 hyd ext	5 hyd ext
Crane Rating*	ft-lb	176,485	168,529	164,189	161,296
Max Horiz Reach	ft & in	27’-3”	34’-1”	41’-0”	48’-3”
Max Vert Reach	ft & in	35’-5”	42’-4”	49’-2”	56’-5”
Max. Capacity	lb	20945	20670	20450	20285
Max Cap@Max Reach	lb	6450	4685	3580	2645
Crane Weight**	lb	5800	6280	6750	7190
Hook Approach					
Vertical	ft & in	8’-8”	8’-5”	8’-2”	7’-10”
Horizontal	ft & in	1’-9”	2’-0”	2’-3”	2’-6”
Center of Gravity (Stored)					
Vertical	inches	33.0”	33.5”	34.1”	35.0”
Horiz (C/L Rot-Bridge)	inches	2.5”	3.0”	3.5”	4.0”
Stabilizer Pad Diameter	inches	8.0”	8.0”	8.0”	8.0”
Crane Storage Height	ft & in	7’-9”	7’-9”	7’-9”	7’-9”
Mounting Space***	inches	42.0”	42.0”	42.0”	42.0”
Rotation Torque	ft-lb	24590	24590	24590	24590
Rotation Angle	degrees	420	420	420	420
Optimum Pump Capacity	gpm (US)	23	23	23	23
System Pressure	psi	4130	4130	4130	4130
Oil Reservoir Capacity	gal	42.3	42.3	42.3	42.3
Stabilizer Extension Span					
Std-hyd out/hyd dn	ft & in	20’-4”	20’-4”	20’-4”	20’-4”
Weight	lb	1050	1050	1050	1050
Minimum Chassis Specifications					
Front Axle Rating (GAWR)	lb	16000	16000	16000	16000
Rear Axle Rating (GAWR)	lb	40000	40000	40000	40000
RBM	in-lb	2,700,000	2,700,000	2,700,000	2,700,000
Measures					
Height above chassis when folded	in	92.7	92.7	92.7	92.7
Width when folded	in	98.4	98.4	98.4	98.4
Length, without extra valves	in	41.7	41.7	41.7	41.7
Length, with extra valves	in	46.25	46.25	46.25	46.25

* Maximum Crane Rating (ft-lbs) is defined as that rated load (lbs) which when multiplied by its respective distance (ft) from centerline of rotation gives the greatest ft-lb value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 11” will be required to provide crane rotational clearance.

TECHNICAL DATA-25/180K6-K8 (Domestic)

Performance	Unit	6 hyd ext	7 hyd ext	8 hyd ext
Crane Rating*	ft-lb	157,679	151,893	148,277
Max Horiz Reach	ft & in	55’-5”	62’-8”	69’-7”
Max Vert Reach	ft & in	63’-7”	70’-10”	78’-0”
Max. Capacity	lb	20060	19730	19455
Max Cap@Max Reach	lb	1960	1435	1015
Crane Weight**	lb	7610	7940	8210
Hook Approach				
Vertical	ft & in	7’-7”	7’-7”	7’-2”
Horizontal	ft & in	2’-9”	3’-0”	3’-3”
Center of Gravity (Stored)				
Vertical	inches	35.5”	36.0”	36.4”
Horiz (C/L Rot-Bridge)	inches	4.5”	5.0”	5.5”
Stabilizer Pad Diameter	inches	8.0”	8.0”	8.0”
Crane Storage Height	ft & in	7’-9”	7’-9”	7’-9”
Mounting Space***	inches	42.0”	45.0”	45.0”
Rotation Torque	ft-lb	24590	24590	24590
Rotation Angle	degrees	420	420	420
Optimum Pump Capacity	gpm (US)	23	23	23
System Pressure	psi	4130	4130	4130
Oil Reservoir Capacity	gal	42.3	42.3	42.3
Stabilizer Extension Span				
Std-hyd out/hyd dn	ft & in	20’-4”	20’-4”	20’-4”
Weight	lb	1050	1050	1050
Minimum Chassis Specifications				
Front Axle Rating (GAWR)	lb	16000	16000	16000
Rear Axle Rating (GAWR)	lb	40000	40000	40000
RBM	in-lb	2,700,000	2,700,000	2,700,000
Measures				
Height above chassis when folded	in	92.7	92.7	92.7
Width when folded	in	98.4	98.4	98.4
Length, without extra valves	in	41.7	44.7	44.7
Length, with extra valves	in	46.25		

* Maximum Crane Rating (ft-lbs) is defined as that rated load (lbs) which when multiplied by its respective distance (ft) from centerline of rotation gives the greatest ft-lb value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 11” will be required to provide crane rotational clearance.

TECHNICAL DATA-25/180K2-K5 (Metric)

Performance	Unit	2 hyd ext	3 hyd ext	4 hyd ext	5 hyd ext
Crane Rating*	ton-m	24.4	23.3	22.7	22.3
Max Horiz Reach	m	8.3	10.4	12.5	14.7
Max Vert Reach	m	10.8	12.9	15.0	17.2
Max. Capacity	kg	9500	9375	9275	9200
Max Cap@Max Reach	kg	2925	2125	1625	1200
Crane Weight	kg	2630	2850	3060	3260
Hook Approach					
Vertical	m	2.6	2.6	2.5	2.4
Horizontal	m	0.53	0.60	0.68	0.76
Center of Gravity (Stored)					
Vertical	mm	838	850	865	890
Horiz (C/L Rot-Bridge)	mm	64	76	89	102
Stabilizer Pad Diameter	mm	200	200	200	200
Crane Storage Height	m	2.4	2.4	2.4	2.4
Mounting Space	mm	1060	1060	1060	1060
Rotation Torque	ton-m	3.4	3.4	3.4	3.4
Rotation Angle	degrees	420	420	420	420
Optimum Pump Capacity	liters/min	87	87	87	87
System Pressure	bar	285	285	285	285
Oil Reservoir Capacity	liters	160	160	160	160
Stabilizer Extension Span					
Std-hyd out/hyd dn	m	6.2	6.2	6.2	6.2
Weight	kg	475	475	475	475
Minimum Chassis Specifications					
Front Axle Rating (GAWR)	kg	7260	7260	7260	7260
Rear Axle Rating (GAWR)	kg	18145	18145	18145	18145
RBM	kg-m	31120	31120	31120	31120
Measures					
Height above chassis when folded	mm	2355	2355	2355	2355
Width when folded	mm	2500	2500	2500	2500
Length, without extra valves	mm	1060	1060	1060	1060
Length, with extra valves	mm	1175	1175	1175	1175

* Maximum Crane Rating (ton-m) is defined as that rated load (ton) which when multiplied by its respective distance (m) from centerline of rotation gives the greatest ton-m value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 280mm will be required to provide crane rotational clearance.

TECHNICAL DATA-25/180K6-K8 (Metric)

Performance	Unit	6 hyd ext	7 hyd ext	8 hyd ext
Crane Rating*	ton-m	21.8	21.0	20.5
Max Horiz Reach	m	16.9	19.1	21.2
Max Vert Reach	m	19.4	21.6	23.8
Max. Capacity	kg	9100	8950	8825
Max Cap@Max Reach	kg	890	650	460
Crane Weight	kg	3450	3600	3725
Hook Approach				
Vertical	m	2.3	2.3	2.2
Horizontal	m	0.84	0.92	1.00
Center of Gravity (Stored)				
Vertical	mm	900	915	925
Horiz (C/L Rot-Bridge)	mm	114	127	140
Stabilizer Pad Diameter	mm	200	200	200
Crane Storage Height	m	2.4	2.4	2.4
Mounting Space	mm	1060	1135	1135
Rotation Torque	ton-m	3.4	3.4	3.4
Rotation Angle	degrees	420	420	420
Optimum Pump Capacity	liters/min	87	87	87
System Pressure	bar	285	285	285
Oil Reservoir Capacity	liters	160	160	160
Stabilizer Extension Span				
Std-hyd out/hyd dn	m	6.2	6.2	6.2
Weight	kg	475	475	475

Minimum Chassis Specifications				
Front Axle Rating (GAWR)	kg	7260	7260	7260
Rear Axle Rating (GAWR)	kg	18145	18145	18145
RBM	kg-m	31120	31120	31120

Measures				
Height above chassis when folded	mm	2355	2355	2355
Width when folded	mm	2500	2500	2500
Length, without extra valves	mm	1060	1135	1135
Length, with extra valves	mm	1175		

* Maximum Crane Rating (ton-m) is defined as that rated load (ton) which when multiplied by its respective distance (m) from centerline of rotation gives the greatest ton-m value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 280mm will be required to provide crane rotational clearance.

TECHNICAL DATA-28/198K2-K5 (Domestic)

Performance	Unit	2 hyd ext	3 hyd ext	4 hyd ext	5 hyd ext
Crane Rating*	ft-lb	193,845	185,890	182,270	178,655
Max Horiz Reach	ft & in	27'-3"	34'-1"	41'-0"	48'-3"
Max Vert Reach	ft & in	35'-5"	42'-4"	49'-2"	56'-5"
Max. Capacity	lb	22815	22485	22320	22045
Max Cap@Max Reach	lb	7110	5290	4025	3000
Crane Weight**	lb	5800	6280	6745	7190
Hook Approach					
Vertical	ft & in	8'-6"	8'-6"	8'-2"	7'-10"
Horizontal	ft & in	1'-9"	2'-0"	2'-3"	2'-6"
Center of Gravity (Stored)					
Vertical	inches	33.7"	33.5"	34.1"	34.6"
Horiz (C/L Rot-Bridge)	inches	2.2"	3.0"	3.5"	4.1"
Max Jib Reach					
Vertical	ft&in				(K3)82'-4"
Horizontal	ft&in				74'-2"
Max Cap @ Max Reach	lbs				1035
Jib Weight	lbs				1100
Stabilizer Pad Diameter	inches	8.0"	8.0"	8.0"	8.0"
Crane Storage Height	ft & in	7'-10"	7'-10"	7'-10"	7'-10"
Mounting Space***	inches	42.0"	42.0"	42.0"	42.0"
Rotation Torque	ft-lbs	24590	24590	24590	24590
Rotation Angle	degrees	420	420	420	420
Optimum Pump Capacity	gpm (US)	23	23	23	23
System Pressure	psi	4500	4500	4500	4500
Oil Reservoir Capacity	gal	42	42	42	42
Stabilizer Extension Span					
Std-hyd out/hyd dn	ft & in	20'-4"	20'-4"	20'-4"	20'-4"
Weight	lbs	1050	1050	1050	1050
Minimum Chassis Specifications					
Front Axle Rating (GAWR)	lbs	16000	16000	16000	16000
Rear Axle Rating (GAWR)	lbs	40000	40000	40000	40000
RBM	in-lb	2,700,000	2,700,000	2,700,000	2,700,000
Measures					
Height above chassis when folded	in	92.7	92.7	92.7	92.7
Width when folded	in	98.4	98.4	98.4	98.4
Length, without extra valves	in	41.7	41.7	41.7	41.4
Length, with extra valves	in	46.25	46.25	46.25	46.25

* Maximum Crane Rating (ft-lbs) is defined as that rated load (lbs) which when multiplied by its respective distance (ft) from centerline of rotation gives the greatest ft-lb value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 11" will be required to provide crane rotational clearance.

TECHNICAL DATA-28/198K6-K8 (Domestic)

Performance	Unit	6 hyd ext	7 hyd ext	8 hyd ext
Crane Rating*	ft-lb	175690	169975	164910
Max Horiz Reach	ft & in	55'-5"	62'-8"	69'-7"
Max Vert Reach	ft & in	63'-7"	70'-10"	78'-0"
Max. Capacity	lb	21880	21550	21275
Max Cap@Max Reach	lb	2295	1710	1270
Crane Weight**	lb	7605	7935	8210
Hook Approach				
Vertical	ft & in	7'-6"	7'-6"	7'-2"
Horizontal	ft & in	2'-9"	3'-0"	3'-3"
Center of Gravity (Stored)				
Vertical	inches	35.4"	36.0"	36.6"
Horiz (C/L Rot-Bridge)	inches	4.7"	5.1"	5.5"
Max Jib Reach				
Vertical	ft&in	(K3)89'-7"		
Horizontal	ft&in	81'-4"		
Max Cap @ Max Reach	lb	670		
Jib Weight	lb	1060		
Stabilizer Pad Diameter	inches	8.0"	8.0"	8.0"
Crane Storage Height	ft & in	7'-10"	7'-10"	7'-10"
Mounting Space***	inches	42.0"	45.0"	45.0"
Rotation Torque	ft-lb	24590	24590	24590
Rotation Angle	degrees	420	420	420
Optimum Pump Capacity	gpm (US)	23	23	23
System Pressure	psi	4500	4500	4500
Oil Reservoir Capacity	gal	42	42	42
Stabilizer Extension Span				
Std-hyd out/hyd dn	ft & in	20'-4"	20'-4"	20'-4"
Weight	lb	1050	1050	1050
Minimum Chassis Specifications				
Front Axle Rating (GAWR)	lb	16000	16000	16000
Rear Axle Rating (GAWR)	lb	40000	40000	40000
RBM	in-lb	2,700,000	2,700,000	2,700,000
Measures				
Height above chassis when folded	in	92.7	92.7	92.7
Width when folded	in	98.4	98.4	98.4
Length, without extra valves	in	41.7	44.7	44.7
Length, with extra valves	in	46.25		

* Maximum Crane Rating (ft-lbs) is defined as that rated load (lbs) which when multiplied by its respective distance (ft) from centerline of rotation gives the greatest ft-lb value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 11" will be required to provide crane rotational clearance.

TECHNICAL DATA-28/198K2-K5 (Metric)

Performance	Unit	2 hyd ext	3 hyd ext	4 hyd ext	5 hyd ext
Crane Rating*	ton-m	26.8	25.7	25.2	24.7
Max Horiz Reach	m	8.3	10.4	12.5	14.7
Max Vert Reach	m	10.8	12.9	15.0	17.2
Max. Capacity	kg	10350	10200	10125	10000
Max Cap@Max Reach	kg	3225	2400	1825	1360
Crane Weight	kg	2630	2850	3060	3260
Hook Approach					
Vertical	m	2.6	2.6	2.5	2.4
Horizontal	m	0.52	0.60	0.68	0.76
Center of Gravity (Stored)					
Vertical	mm	830	850	865	880
Horiz (C/L Rot-Bridge)	mm	55	75	90	105
Max Jib Reach					
Verical	m				(K3)25.1
Horizontal	m				22.6
Max Cap @ Max Reach	kg				470
Jib Weight	kg				500
Stabilizer Pad Diameter	mm	200	200	200	200
Crane Storage Height	m	2.4	2.4	2.4	2.4
Mounting Space	mm	1060	1060	1060	1060
Rotation Torque	ton-m	3.4	3.4	3.4	3.4
Rotation Angle	degrees	420	420	420	420
Optimum Pump Capacity	liters/min	87	87	87	87
System Pressure	bar	310	310	310	310
Oil Reservoir Capacity	liters	160	160	160	160
Stabilizer Extension Span					
Std-hyd out/hyd dn	m	6.2	6.2	6.2	6.2
Weight	kg	475	475	475	475

Minimum Chassis Specifications					
Front Axle Rating (GAWR)	kg	7260	7260	7260	7260
Rear Axle Rating (GAWR)	kg	18145	18145	18145	18145
RBM	kg-m	31120	31120	31120	31120

Measures					
Height above chassis when folded	mm	2355	2355	2355	2355
Width when folded	mm	2500	2500	2500	2500
Length, without extra valves	mm	1060	1060	1060	1060
Length, with extra valves	mm	1175	1175	1175	1175

* Maximum Crane Rating (ton-m) is defined as that rated load (ton) which when multiplied by its respective distance (m) from centerline of rotation gives the greatest ton-m value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 280mm will be required to provide crane rotational clearance.

TECHNICAL DATA-28/198K6-K8 (Metric)

Performance	Unit	6 hyd ext	7 hyd ext	8 hyd ext
Crane Rating*	ton-m	24.3	23.5	22.8
Max Horiz Reach	m	16.9	19.1	21.2
Max Vert Reach	m	19.4	21.6	23.8
Max. Capacity	kg	9925	9775	9650
Max Cap@Max Reach	kg	1040	775	575
Crane Weight	kg	3450	3600	3725
Hook Approach				
Vertical	m	2.3	2.3	2.2
Horizontal	m	0.84	0.92	1.00
Center of Gravity (Stored)				
Vertical	mm	900	915	930
Horiz (C/L Rot-Bridge)	mm	120	130	140
Max Jib Reach				
Verical	m	(K3)27.3		
Horizontal	m	24.8		
Max Cap @ Max Reach	kg	305		
Jib Weight	kg	480		
Stabilizer Pad Diameter	mm	200	200	200
Crane Storage Height	m	2.4	2.4	2.4
Mounting Space	mm	1060	1135	1135
Rotation Torque	ton-m	3.4	3.4	3.4
Rotation Angle	degrees	420	420	420
Optimum Pump Capacity	liters/min	87	87	87
System Pressure	bar	310	310	310
Oil Reservoir Capacity	liters	160	160	160
Stabilizer Extension Span				
Std-hyd out/hyd dn	m	6.2	6.2	6.2
Weight	kg	475	475	475

Minimum Chassis Specifications				
Front Axle Rating (GAWR)	kg	7260	7260	7260
Rear Axle Rating (GAWR)	kg	18145	18145	18145
RBM	kg-m	31120	31120	31120

Measures				
Height above chassis when folded	mm	2355	2355	2355
Width when folded	mm	2500	2500	2500
Length, without extra valves	mm	1060	1135	1135
Length, with extra valves	mm	1175		

* Maximum Crane Rating (ton-m) is defined as that rated load (ton) which when multiplied by its respective distance (m) from centerline of rotation gives the greatest ton-m value.

** Crane weight excluding stabilizers.

*** Additional mounting space of 280mm will be required to provide crane rotational clearance.

9. WORKING PRESSURE/PERFORMANCE

The working pressure should be set with a pressure gauge and the limits stated in the tables below must be kept.

The working pressure must be checked during the annual service overhaul and in the event of any major repairs.

The procedure for checking and setting of load-holding valves is described in Service Information. All adjustable valves must be resealed after pressure setting adjustment.

Please note that any warranty obligations on the part of IMT will be invalidated if the conditions stated in this manual are not complied with.

WORKING PRESSURE (Domestic units)

Working pressure on main-relief valve & port-relief valves (in psi)

Function		Port	25/180		28/198	
Main-relief valve			4135		4495	
Rotation system	right	A-port	P	2320 LS	P	2320 LS
	left	B-port	P	2320 LS	P	2320 LS
Inner boom cylinder	down	A-port	914	725 LS	914	725 LS
	up	B-port	P		P	
Outer boom cylinder	up	A-port	4640		4640	
	down	B-port	3045	2610 LS	3045	2610 LS
Extension cylinders	extend	A-port	P		P	
	retract	B-port	P		P	
Rotator		A-port	1812		2538	
		B-port	1812		2538	
Grapple		A-port	1812		2538	
		B-port	1812		2538	
Separate stabilizer valve			1812		1812	

Opening pressure on load holding valves

Planetary gear		A/B	2175		2175	
Inner boom cylinder C2-T			4568		4568	
Outer boom cylinder C2-V2			4640		4930	
Extension cyl C1-C2	retract	B-port	6235		6235	
Extension cyl C2-V2	extend	A-port	3045		3045	

Pressure setting for load moment limitation

LMB			3988		4350	

Working Pressure for Fly-Jib 5 (in psi)

Function		Port	28/198			
			K5		K6	
Port relief valves for jib cylinder	up	A-port	4640	4350 LS	4640	4060 LS
	down	B-port	2755	2175 LS	2755	2175 LS
Port relief valves for extension cylinders	extend	A-port	2755		2755	
	retract	B-port	P		P	
Load holding valve on jib cylinder	up	C2-V2	4858		4495	
	down	C1-V2	2900		2900	
Load holding valve on extension cylinders	extend	C2-V2	2900		2900	
	retract	C1-V2	4350		4350	

Working Pressure for Winch (in psi)

Function		Port	28/198		
P9E	down	A-port	P	2320 LS	
	up	B-port	P	2972 LS	
P15E	down	A-port	P	2320 LS	
	up	B-port	P	2900 LS	

WORKING PRESSURE (Metric units)

Working pressure on main-relief valve & port-relief valves (in Mpa)

Function		Port	25/180		28/198	
Main-relief valve			28.5		31.0	
Rotation system	right	A-port	P	16.0 LS	P	16.0 LS
	left	B-port	P	16.0 LS	P	16.0 LS
Inner boom cylinder	down	A-port	6.3	5.0 LS	6.3	5.0 LS
	up	B-port	P		P	
Outer boom cylinder	up	A-port	32.0		32.0	
	down	B-port	21.0	18.0 LS	21.0	18.0 LS
Extension cylinders	extend	A-port	P		P	
	retract	B-port	P		P	
Rotator		A-port	12.5		17.5	
		B-port	12.5		17.5	
Grapple		A-port	12.5		17.5	
		B-port	12.5		17.5	
Separate stabilizer valve			12.5		12.5	

Opening pressure on load holding valves

Planetary gear		A/B	15.0		15.0	
Inner boom cylinder C2-T			31.5		33.5	
Outer boom cylinder C2-V2			32.0		34.0	
Extension cyl C1-C2	retract	B-port	43.0		43.0	
Extension cyl C2-V2	extend	A-port	21.0		21.0	

Pressure setting for load moment limitation

LMB			27.5		30.0	

Working Pressure for Fly-Jib 5 (in Mpa)

Function		Port	28/198			
			K5		K6	
Port relief valves for jib cylinder	up	A-port	32.0	30.0 LS	32.0	28.0 LS
	down	B-port	19.0	15.0 LS	19.0	15.0 LS
Port relief valves for extension cylinders	extend	A-port	19.0		19.0	
	retract	B-port	P		P	
Load holding valve on jib cylinder	up	C2-V2	33.5		31.0	
	down	C1-V2	20.0		20.0	
Load holding valve on extension cylinders	extend	C2-V2	20.0		20.0	
	retract	C1-V2	30.0		30.0	

Working Pressure for Winch (in Mpa)

Function		Port	28/198		
P9E	down	A-port	P	16.0 LS	
	up	B-port	P	20.5 LS	
P15E	down	A-port	P	16.0 LS	
	up	B-port	P	20.0 LS	

1 Mpa = 10 bar

10. HYDRAULIC SYSTEM

10.1 DESCRIPTION

The valve block of the loader is of the “stack” type, i.e., it is made up of a number of separate control valves. This ensures great flexibility and low maintenance costs.

A main relief valve is fitted in the inlet section of the valve block to ensure that the oil pressure in the pump line does not exceed the permissible limit. This valve is adjustable and must always remain sealed.

Port relief valves are mounted at the ports of the individual control valves to limit the pressure in the individual circuits. Normally the port relief valves will be pre-set and not adjustable.

The inner, outer, and extension cylinders are mounted with load holding valves with the following functions:

1. Protection of cylinders against excessive pressure.

2. Checking of the lowering speed of the boom.

3. Maintain the boom in position during operations where a fixed boom position is required.

4. To lock the boom and maintain the load in position in case of hose or pipe rupture.

The stabilizer cylinders are equipped with a piloted check valve that locks the cylinder in case of damage to the hydraulic system.

CAUTION

The main relief valve, the load holding valves, the dump valve and the external relief valve are sealed. If these seals are broken or removed the warranty will automatically be invalidated. Therefore, it is in your own interest to have the seals checked from time to time and to make sure that they are replaced by an authorized IMT service center should they be damaged.

Any modification or alteration to the hydraulic system must be in accordance to specific agreement with IMT and such alterations should always take place at an IMT service center.

10.2 HYDRAULIC DIAGRAMS

Hydraulic diagrams are a great help when troubleshooting and repairing the hydraulic system.

The following page contains the hydraulic diagram for the loader in standard application, as well as for options, if any.

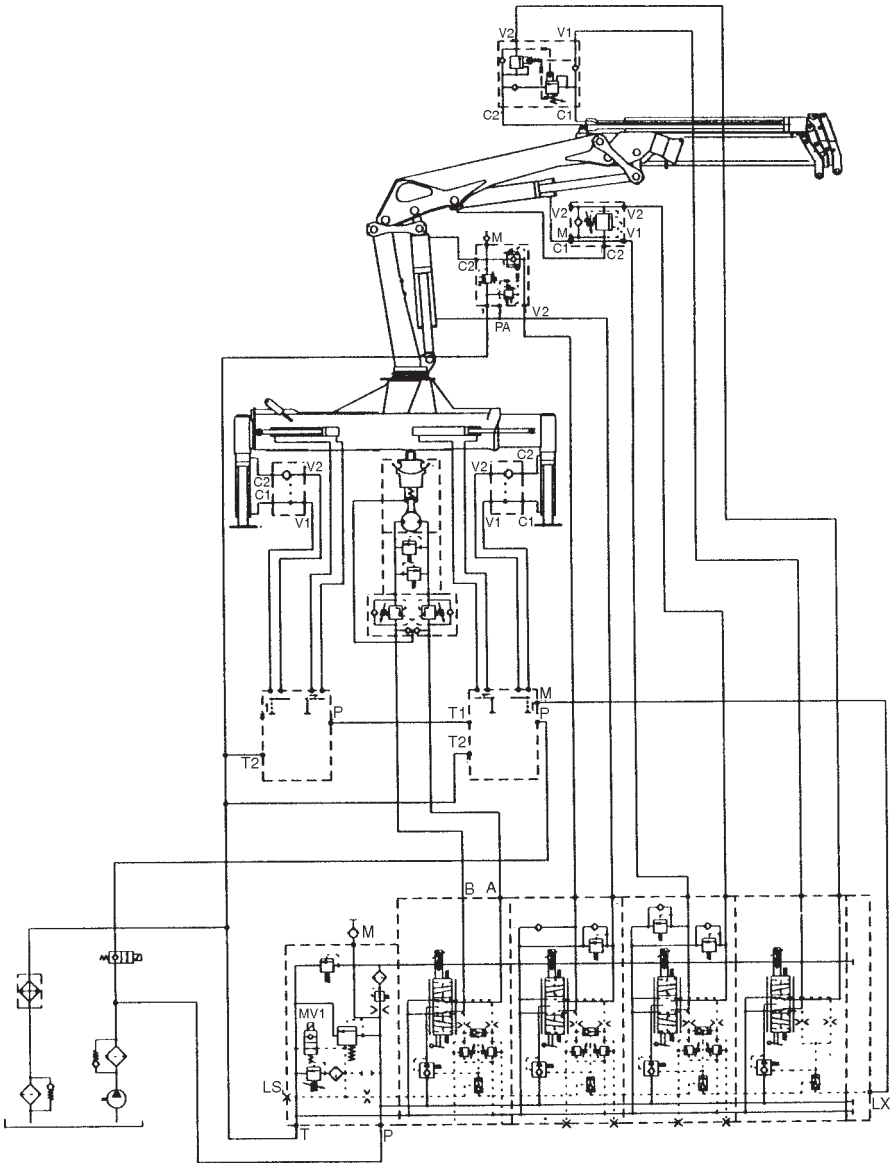
There may be changes in design of the hydraulic system when applied to special and/or customized loaders. In these cases refer to the supplementary documentation.

10.3 LOAD MOMENT LIMITATION

The loader is equipped with a load moment limitation system (LMB). This system ensures that the permissible load moment is never exceeded, irrespective of operator action. However, it is important to remember that the LMB system does not necessarily ensure sufficient vehicle stability. Before beginning work with the loader, the operator must always make sure that the vehicle is stable in the entire rotation area of the loader.

Description of the LMB system may be found in the RCL manual. It is of great importance that the operator is familiar with the safety system.

STANDARD HYDRAULIC DIAGRAM



11. WINCH

The winch is fitted with a spring-loaded brake. During lowering movements the oil pressure will loosen the brake so that the load may be lowered. A buil-in safety device prevents overload of the cable when the telescopic jib is extended with the hook against stop on the winch drum. During telescopic movement “out”, always ease the winch, ensuring a free piece of cable between the stop at the hook and the winch drum.

If the load is suspended from the cable, the lifting capacity of the SWL label on the swivel hook must not be exceeded. If attempting to lift a load heavier than stated on the SWL label, the safety system of the loader (LMB) is activated and interrupts all load moment increasing movements. When the LMB system cuts in, the hoisting movements of the winch are also interrupted.

12. FLY-JIB

The Fly-Jib, FJ5 is equipped with 3 hydraulic extensions and can be mounted with 2 manual extensions that can remain in the loader in stowed position. The Fly-Jib is protected against overload by the RCL system within the entire lifting area.

WARNING

The load on the manual extensions must not exceed the load limits indicated on the capacity chart.

When the Fly-Jib is dismounted, all quick release couplings must be equipped with dust caps in order to avoid penetration of dirt into the hydraulic system. Also, carefully fit dummy plug into the socket on the loader, otherwise the safety system will indicate an error. Avoid damaging the plug when mounting and dismounting.. Keep the dummy plug in the vehicle cab when not in use. When the Fly-Jib is mounted, always check check that lock bolt is fitted correctly with a pin.

Always operate the loader in a calm and considered manner when working with a Fly-Jib. Special care should be taken when rotating the loader.

13. BLEEDING OF AIR

If air has entered the hydraulic system, the loader is bled as follows:

1. Raise and lower each stabilizer leg twice.

2. Extend and retract the inner boom cylinder twice.

3. Extend and retract the outer cylinder twice with the inner boom pointing downward, and twice with the inner boom pointed upward.

4. Extend and retract the extension cylinder twice with the outer boom pointed almost vertically upward, and twice with the outer boom pointed almost vertically downward.

14. REPAIR

If defects, damage or leaks are found, repair them immediately. Always have your repairs performed by an authorized IMT service center. Repairs to the hydraulic system must be made only at an authorized service center.

When ordering parts for your loader, please state:

- Loader model
- Loader serial number (found on serial number placard on loader)

15. SERVICE

15.1 FIRST SERVICE OVERHAUL

We recommend that the first service overhaul takes place at an authorized IMT service center after the first 20 hours of service or after one month of loader use at the latest. This service check is rather important since the loader will be properly run in after 20 hours of use.

The first service overhaul should include the following:

1. Change of return filter element and high pressure filter cartridge, if any.

2. The oil level in tank and rotation system. Oil must be visible between maximum and minimum lubrication on the oil level rod, when the loader is in the folded position. The oil level in the slewing system should also be visible in the inspection tube.

3. Overall lubrication according to the lubrication chart in this manual.

4. Leak check and tightening of fittings, if required.

5. Checking of working pressure and lead seals. The correct working pressures are stated in relevant Technical Information sheets.

6. Test of all functions under load.

7. Checking and, if required, tightening of mounting bolts and pin connections.

8. Checking of all lock bolts and pins.

15.2 ANNUAL SERVICE OVERHAUL

Once a year the loader should be given a main service overhaul at an authorized IMT service center. The loader should be thoroughly checked and special attention should be paid to the following items:

1. Change of hydraulic oil in tank and rotation system, if any.
2. Change of return filter element and high pressure filter cartridge.
3. Cleaning or replacement of air filter.
4. Checking of working pressure and valve lead seals.
5. Idling pressure check.
6. Test of all functions under load.
7. Checking of slide blocks and bearing bushings for wear and, if required, replacement of the same.
8. Check of hydraulic hoses.
9. Leak check and tightening of all connections.
10. Check of pump and transmission.
11. Check of loader base to chassis mounting hardware.
12. Checking of all bolt connections and tightening, if required.
13. Overall checking of loader structure for damage. Any damage found should be repaired immediately.
14. Checking of all bolts and lock plates.

15.3 RECOMMENDED HYDRAULIC OIL TYPES

Oil Brand	Oil Type	Low Temp Oil Type
BP	Bartran HV 32	Bartran HV 22
Castrol	Hyspin AWS 32	Hyspin AWH 32
ESSO	Nuto H 32	Univis N 22
Kuwait petroleum Q8	Harmony 32 AW	Hydraulic L 32
Mobil	DTE 13	DTE 11
Shell	Tellus S 32	Tellus T 32
Statoil	Hydra Way HM 32	Hydra Way HV 22
Texaco	Rando HD 32	Rando HDZ 32

15.4 RECOMMENDED LUBRICANTS

Grease Brand	Grease for Bearings
BP	Energrease L52
Castrol	LM Grease
ESSO	MP Grease I Beacon EP 2
Mobil	Mobilux EP 2 or Mobilgrease HP
Shell	Retinox MS
Statoil	Uni Way EP 2
Texaco	Multifak All Purpose EP 2

Grease containing molybdenum disulphide must not be used.

Grease Brand	Grease for Telescopic Extensions
Statoil	Grease Way CaH 92
Castrol	ALV

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