

Hydraulic Loaders

# 16000 SERIES III

Technical Specifications

Material Handling Systems



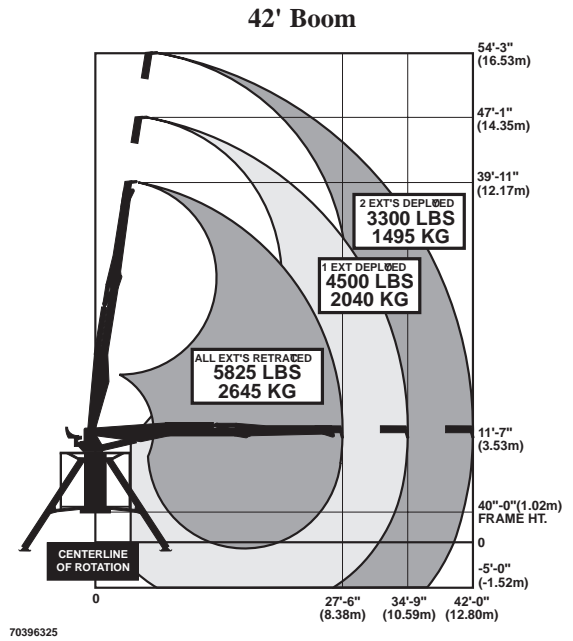


Specifications	42' Boom (2H)
<b>Crane Rating</b>	160,000 ft-lb (22.1 tm)
<b>Horizontal Reach</b> from centerline of rotation	42'0" (12.8 m)
<b>Hydraulic Extension</b>	(double) 87" + 87" (221.0 cm + 221.0 cm)
<b>Lifting Height</b> from base of crane*	54'3" (16.5 m)
<b>Crane Weight</b> base unit with platform and chair	10,500 lb (4762 kg)
<b>Outrigger Span</b> at ground level	17'6" (5.3 m)
<b>Crane Storage Height*</b>	13'2" (4.0 m)
<b>Mounting Space Required</b> crane base	36" (91 cm)
<b>Optimum Pump Capacity</b> tandem pump (each section)	16 + 16 U.S. gpm (60.5L/min + 60.5L/min)
<b>Oil Reservoir Capacity</b>	40 gallon (151 L)
<b>Center of Gravity</b> horizontal from centerline of rotation**	95" (241.3 cm)
vertical from bottom of crane base**	62" (157.5 cm)

\* Based on 40" (102 cm) truck frame height.

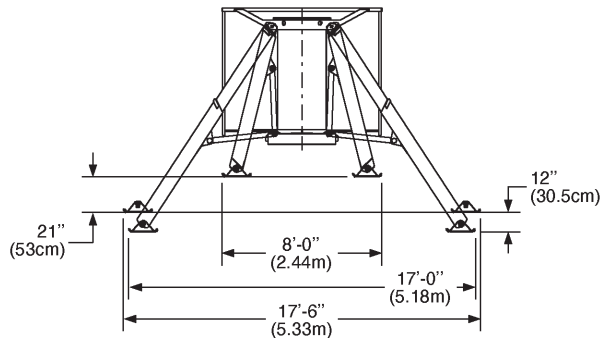
\*\* Based on crane with chair and platform in stored position and extension boom retracted with fork and rotator installed – fork, rotator and link weigh approximately 600 lb (272 kg).

### Capacity Chart



- Capacities through geometric range are limited to those shown in horizontal position.
- Loads shown are based on crane structural to hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.

### Outrigger Dimensions



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## Performance Characteristics

<b>Rotation</b>	450°	42 seconds
<b>Inner Boom Elevation</b>	-5° to +80°	21 seconds
<b>Outer Boom Articulation</b>	170°	21 seconds
<b>Outrigger Extension</b>	52 1/2" (133.4 cm)	6.5 seconds
<b>Extension Cylinder</b>		
42' Boom	87" + 87" (221.0 cm + 221.0 cm)	10 + 10 seconds

All times are theoretical and based on an optimum pump capacity of 16 gpm.

Cylinders	Bore	Stroke
<b>Inner Boom Cylinder</b>	7" (17.8 cm)	34" (86.4 cm)
<b>Outer Boom Cylinder</b>	6 1/2" (16.5 cm)	50" (127.0 cm)
<b>Outrigger Cylinders</b>	3 1/2" (8.9 cm)	52 1/2" (133.4 cm)
<b>Extension Boom Cylinder</b>		
42' Boom	3" + 3" (7.6 cm + 7.6 cm)	87" + 87" (221 cm + 221 cm)

## Power Source

Integral mounted tandem hydraulic pump and PTO application. Other standard power sources may be utilized. Minimum power required is 70 horsepower.

## Cylinder Holding Valves

The holding sides of all cylinders are equipped with integral mounted counterbalance valves or load-holding check valves to prevent sudden cylinder collapse in case of hose or other hydraulic component failure. In addition, the outer and extension cylinders feature double counterbalance valves. The outrigger cylinders feature dual load-holding check valves.

The counter-balance valve serves several functions. First, it is a holding valve. Second, it is constructed so that it will control the lowering function and allow that motion to be feathered while under load. Finally, if a hose breaks the only oil loss will be that in the hose. The dual load-holding check valves in the outrigger cylinders prevent the cylinders from drifting down during transport and prevent the cylinders from collapsing should a hose break when the outriggers are set.

## Rotation System

Rotation of the loader is accomplished through a turntable bearing, powered by a high-torque hydraulic motor through a heavy-duty gear box equipped with a heat-treated pinion. The pinion runs on the external teeth of the turntable bearing to accomplish the rotation function. Standard rotation is 450°. Total gear reduction is 137.5:1.

## Hydraulic System

Open-centered, full-pressure system with tandem pump requiring 16 + 16 U.S. gpm (60.5 L/min + 60.5 L/min) optimum oil flow at 3000 psi (206.9 bar). Control valve consists of two stack-type valve banks. All crane (excluding outriggers) and wallboard functions are operated either by joy sticks or foot throttles via a pilot source of oil from the valve banks. Outrigger controls – located at the base of the crane – are of the push/pull type, connected directly to the valve bank. System includes hydraulic oil reservoir, pressure-filters, return-filter and control valve bank.

## Capacity Alert System

A pressure sensor mounted on the inner boom cylinders and connected hydraulically to the down side of the inner boom, the lift side of the outer boom and extend side of the extension boom provides a capacity alert system. If the operator tries to lift a load in excess of crane capacity, the inner boom lift and lower, the outer boom lift and the extension out functions will not operate. To relieve the condition, the outer boom can be lowered or the extension retracted.

## Minimum Chassis Specifications

<b>Chassis Style</b>	Conventional Cab
<b>Front Axle Rating (GAWR)</b>	16,000 lb
<b>Rear Axle Rating (GAWR)</b>	40,000 lb
<b>Wheelbase</b>	269"
<b>Cab-To-Axle</b>	210"
<b>Frame Section Modulus</b>	30 in <sup>3</sup>
<b>Resistance To Bending Moment</b>	3,300,000 in-lb

In addition to these specifications, heavy-duty electrical and cooling systems and tandem rear axles with dual wheels are required. It is recommended that the vehicle be equipped with an electric engine tachometer and auxiliary brake locks.

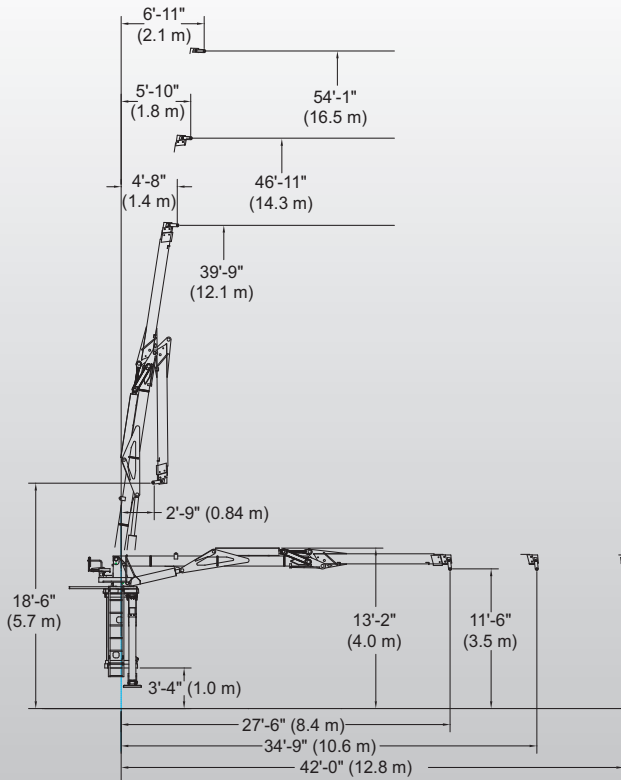
## NOTES

1. GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, wheels, springs, brakes, steering and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.
2. Minimum axle requirements may increase with use of diesel engines or longer wheelbase. Contact the factory for further information.
3. Weight distribution calculations are required to determine final axle loading.
4. All chassis, crane and body combinations must be stability-tested to ensure stability per ANSI B30.22.

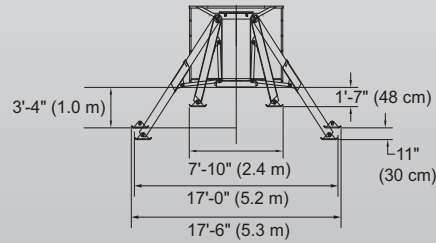


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## Geometric Configuration



## 42' Boom



Iowa Mold Tooling Co., Inc.

500 Highway 18 West  
 P.O. Box 189  
 Garner, Iowa 50438-0189  
 (641) 923-3711  
 Fax: (641) 923-6063  
 www.imt.com

(800) 247-5958

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### Manufacturer's Limited Warranty Coverage

Products manufactured by IMT are warranted to be free from defects in material and workmanship, under proper use, application and maintenance in accordance with IMT's written recommendations, instructions and specifications as follows:

1. One (1) year: labor on IMT workmanship.
2. One (1) year: original IMT parts.
3. Three (3) years: crane structural.

For policy details please refer to the IMT warranty policy.

IMT reserves the right to change specifications and design without notice.