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Date January 2017

The IC-100-A is a self-propelled 10 US ton rated Industrial Carry Deck Crane designed for in-plant lifting and material handling applications. It is designed to incorporate the field proven features and demonstrated reliability of the Broderon IC-80 models with 10 US ton lift capacity and a longer boom.

The IC-100-A retains the special features of low height, narrow width, short length, cargo deck, and standard 4-wheel steer and front-wheel drive. The chassis includes a frame, four independently controlled hydraulic outriggers, engine, hydraulic tank, control station, and full power steering. The boom assembly includes a three stage high strength steel, four plate boom structure; hydraulic powered, continuous rotation turret, hydraulic boom elevating cylinder, hydraulic boom telescoping cylinders and hydraulic hoist. The IC-100-A boom design balances weight and reach with the stiffness desired to make lifts in tight space constraints. Rated Capacity Limiter is standard.

IC-100-A:

3-section hydraulically extended boom with capacity of 20,000 pounds (9,000 kg) at a 5-foot load (1.5 m) radius.

GENERAL:

Length:	19 feet, 8 inches (6.0 m)
Width:	6 feet, 6 inches (198 cm)
Height:	
Overall	7 feet, 5 inches (226 cm)
Deck	41 inches (104 cm)
Wheelbase:	8 feet, 2 inches (218 cm)
Ground Clearance:	
Chassis	11.5 inches (29 cm)
Minimum (muffler)	5.75 inches (14 cm)
Angle of Approach:	22 degrees
Angle of Departure:	21 degrees
Outriggers:	
Spread	9 feet, 7 inches (290 cm)
Penetration	3.4 inches (86 mm)

BOOM MOVEMENT:

Rotation	Continuous
Elevation	0° to 70°
Telescope	20 feet (6.1 m) Hyd.

BOOM SPEEDS:

Rotation	2 RPM
Elevation	12 seconds
Telescope	30 seconds

Sheave Height: (Nominal)

W/O Boom Extension	39 feet, 8 inches (12.1 m)
With Boom Extension	49 feet, 3 inches (15 m)

Horizontal Reach:

W/O Boom Extension	33 feet (10.1 m)
With Boom Extension	43 feet (13.1 m)

Weight: (Nominal)

2-Wheel Drive*	17,520 pounds (7,950 kg)
Front Axle	8,910 pounds (4,040 kg)
Rear Axle	8,610 pounds (3,910 kg)

*With GM 3.0L gasoline engine

Steering:

Turning Radius	11 feet, 2 inches (3.40 m) (4-Wheel Steer)
Aisle Width for 90° Turn	9 feet, 7 inches (2.92 m)
Steering Modes	Rear Steer, Round Steer, Crab Steer

Road Speed

19 mph (31 km/h)

Drawbar Pull

9,500 pounds (4,300 kg)

Gradeability

57 percent¹ (30 degrees)

Grade Limit

15 percent¹ (8.5 degrees)

¹Calculated values based on GM 3.0L Gasoline Engine. (Wheels may spin before these values are reached)

ENGINE:

Standard Gasoline:

GM 3.0L EPA Tier II w/ Dual Fuel

GM Model 3.0L industrial gasoline engine with multi-port electronic fuel injection, dual fuel, catalytic converter, and engine management system. Water cooled, 4-cylinder, 181 CID (3.0 L), bore 4.00 inches (102 mm), stroke 3.60 inches (91 mm), 59 HP (44 kW) at governed speed of 2,500 RPM. Maximum torque, 138 pounds-foot (187 Nm) at 1,600 RPM. Also includes special exhaust valves, seats, and valve rotators for use with LPG, 70-amp alternator, 17.6-gallon (66.6 L) fuel tank and 33-pounds (15 kg) LPG tank. High temperature and low oil pressure shutdown is included in engine management system. Throttle control switch for setting engine speed at 1,200 or 1,800 RPM.

Optional Engines and Engine Accessories:

Diesel Engine:

Cummins B 3.3L Turbo, EPA Tier IV Interim

Cummins B 3.3 turbo-charged diesel industrial engine. Water cooled, 4-cylinder, 199 CID (3.3 L), bore 3.74 inches (95 mm), stroke 4.53 inches (115 mm), 74 HP (55kW) at governed speed of 2,600 RPM. Maximum torque, 274 pounds-foot (371 Nm) at 1,600 RPM. 90-amp alternator included. 17.6-gallon (66.6 L) fuel tank. Net Weight: 180 pounds (82 kg).

Spark Arrester Muffler:

Spark arrester muffler used in addition to standard muffler. Net Weight: 10 pounds (5 kg).

Engine Heater:

Engine coolant heater installed with hoses in coolant system to circulate warm water through engine. Plugs into 120-volt AC extension cord. 1,500 watts.

TRANSMISSION:

Standard:

Powershift transmission with four speeds in forward and reverse. Provides powershifts at any engine speed in any gear. All shifting is done with a single lever electrical control mounted on the steering column. Multiple-disc clutch packs operated by solenoid valves provide forward, neutral, reverse, and speed selection. Equipped with oil cooler and filter.

STANDARD

Transmission Gear	Forward or Reverse	Travel Speed MPH (km/h)	Drawbar Pull ¹ Pounds (kg)
1st	5.72 : 1	4 (6)	9,500 (4,300)
2nd	3.23 : 1	7 (11)	5,500 (2,500)
3rd	1.77 : 1	13 (21)	3,000 (1,300)
4th	1.00 : 1	22 (35)	1,800 (800)

¹Drawbar pull is calculated based on GM 3.0L gasoline engine.

TORQUE CONVERTER:

Stall torque ratio of 2.2:1. Attached to engine flywheel.

FRONT AXLE:

Standard:

Planetary drive axle with 11.625:1 ratio. Differential is "No Spin". Front axle is mounted rigidly to frame.

REAR AXLE:

Standard:

Drop-center axle beam casting with 1½ degree oscillation in either direction.

STEERING:

Standard:

Hydraulic steering unit with one double-rod cylinder on rear axle and one double-rod cylinder on front axle. Allows limited steering when engine is not running. Rear axle is the primary steer. An electric switch in the operator's compartment is used to select rear-wheel steering, four-wheel round steering, or crab steering. Electronic sensors and control box automatically align the steering when a new mode is selected.

BRAKES:

Standard:

Four-wheel hydraulic. Wet disc brakes are on the front and rear axles. Parking brake is disc type.

TIRES:

10:00 x 15, 16-ply, highway type tread.

Tire Options:

Solid Rubber Tires:

8:25 x 15. These tires will reduce overall height and ground clearance by 1½ inches (3.8 cm). Net Weight: 400 pounds (181 kg).

Foam Filling of Tires:

10.00 x 15, All four tires foam filled. Net Weight: 900 pounds (408 kg).

Spare Tire and Wheel Mounted:

Highway Tread: 10.00 x 15, 16-ply, Bias: Net weight: 163 pounds (74 kg).

Mining and Industrial Tire: Net weight: 193 pounds (88 kg).

Mining and Industrial Tire: Non-Marking: Net weight: 193 pounds (88 kg).

CHASSIS:

Standard:

Cargo Deck:

Total Deck Area: 53 square feet (5 m²). A maximum of 14,000 pounds (6,350 kg) may be carried on the deck when centered over or between axles. Seven stake pockets are provided along edges of deck for 1.2-inch (3.1 cm) pipe stakes. Stakes furnished. Cargo decks have skid resistant coating. Heavy deck loads allowed at creep speed below 2 MPH (3.2 km/h) and less than 200 feet (61 m) in 30 minutes.

Fire Extinguisher:

1-A:10-BC, 2½ pound (1.1kg) dry chemical. Mounted in operator's compartment.

Lifting Rings:

Consists of four rings, one at each corner of the load deck, so sling can be attached for lifting crane. Rings hang below deck surface when not in use.

Tie Downs:

Two holes in the rear bumper (in conjunction with the pulling eyes) provide tie down locations for transporting crane by truck or cargo container.

Steps:

A step is located on each front corner providing access to deck area.

Battery:

Located behind door on left hand rear corner of chassis. Compartment available on right hand rear corner of chassis for second battery if necessary.

Outriggers:

Four hydraulic outriggers of box-beam construction. Independent controls for each outrigger. Hydraulic cylinders are equipped with direct-connected holding valves. Pad dimensions: 9 inches (23 cm) x 12 inches (30 cm).

Pulling Eyes:

Two heavy eyes in front bumper provide for attachment of hook block so main winch line can be used for pulling loads at or near floor level.

Vandalism Protection:

Lockable hood for protection of engine compartment.

Accessory Storage Box:

Consists of box under front deck plate for carrying sheave block and other items. Flush fitting cover is lockable. Storage box is 14 inches deep (35.6 cm) x 10.5 inches wide (26 cm) x 27 inches (68 cm) long.

Headlight and Taillight Grilles:

Consists of welded steel protective grilles for headlights and taillights. Easily removable for replacing bulbs.

Chassis Options and Accessories:

Auxiliary Winch:

Optional worm gear winch, mounted behind front bumper, with a lever control at the operator's console. Hydraulic powered to provide bare drum line pull of 5,000 pounds (2,260 kg) at 46 feet per minute (14 m/min). Winch drum is 3½ inches (90 mm) diameter by 11 inches (279 mm) long. This winch includes 75 feet (23 m) of 3/8 inch (9.5 mm) wire rope, hook and four-way roller guide. Net Weight: 100 pounds (45 kg).

Pintle Hook - Rear:

T-60-A Holland pintle hook mounted on rear frame member provides capacity for 2,000 lbs (900 kg) tongue weight and 10,000 lbs (4,530 kg) trailer weight. Net Weight: 10 pounds (5 kg).

Pintle Hook - Front:

T-60-A Holland pintle hook mounted on front frame member. Provides same capacity as rear pintle hook. Net Weight: 25 pounds (11 kg).

Rearview Mirrors:

One right-hand and one left-hand mirror, 6 inches (152 mm) wide x 16 inches (406 mm) high, mounted on deck stakes. Pivot out of way when contacted by obstacle at side of deck. Net Weight: 12 pounds (5 kg).

OPERATOR COMPARTMENT:

Standard:

Operator's control station provides one-position access to all operating functions. Includes adjustable operator's seat and retracting seat belt.

Drum Rotation Indicator:

Provides visible feedback to operator when hoist drum is rotating. Light flashes when hoist is turning. Feedback is proportional to hoist speed.

Operator's Compartment Options & Accessories:

Operator Guard (Not Available with Cab):

Tubular steel weldment with heavy expanded steel mesh top section, bolts over the operator's compartment. Net Weight: 55 pounds (25 kg).

All Weather Cab:

Consists of rigid mounted canopy section and removable hinged door with safety glass. Rugged canopy structure with laminated glass front and top. Top glass is 3/8 inch thick. Door is equipped with a keyed lock to protect operator's station. Includes defroster fan, 24,000 BTU heater with two-speed fan, and 12V electric windshield wiper. There are sliding windows in the door and right-hand side. Dome light is included for operator's convenience. Net Weight: 215 pounds (98 kg).

Cab Heater Only:

Provides 24,000 BTU heater with two-speed fan for units without All Weather Cab. Net Weight: 12 pounds (5 kg).

Windshield Washer:

Provides reservoir, pump, and nozzle for windshield washer.

Floor Mat:

Vinyl mat with foam backing covers floor, front wall, and lower portion of right hand wall of operator's compartment.

Deluxe Seat:

Deluxe seat with upholstery springs provides additional operator comfort. Net Weight: 15 pounds (7 kg).

Noise Reduction Kit - Cab:

Includes rubber floor mats and control valve cover and side panels of foam-backed perforated vinyl for noise reduction. Net Weight: 13 pounds (6 kg).

Air Conditioning:

Complete system using R134a coolant has combination cooling and heating unit in cab. Net Weight: 125 pounds (57 kg).

ELECTRICAL SYSTEM:

Standard:

12-Volt Battery:

Gas Units: Group 27 with 540 CCA rating.

Diesel Units: Group 31 with 950 CCA rating.

Instrument Group:

Located at operator's station and includes fuel gauge, hourmeter and bubble level. Hourmeter records hours only during actual engine operation. Also included are: warning lights for low oil and transmission pressure, turn signal, high beams, hazard lights, parking brake, hydraulic oil temperature, battery, check engine, stop engine, coolant temperature, engine oil pressure, transmission temperature, and outriggers.

Lighting Group:

Consists of two 12V lamps, with high and low beams for driving; integral tail, brake and turn signal lights and

backup lights in rear; front turn signals and emergency flasher switch at operator's station. 12V horn actuated by button located on shifting control.

Back-Up Alarm:

Provides pulsating sound from a 102 dB alarm when ignition is on and transmission is in reverse. Conforms to SAE J994b.

Outrigger Alarm System:

102 dB alarm with alternating two-tone sound is actuated by a switch when the OUTRIGGER DOWN controls are operated.

Optional Electrical Accessories:

Strobe Lights:

Two yellow strobe lights, one on each side of turret weight box, for high visibility all around crane. Flash 60-120 times per minute. Each strobe draws only one-half amp. Includes operator controlled switch.

Boom Work Lights:

Two work lights, one on left side of boom to light boom tip, and one on right side of the turret to light ground under boom tip. Includes switch at operator's station. Net Weight: 10 pounds (5 kg)

Work Light Rear:

Two work lights recessed into rear bumper. Provides lighted work area to rear of machine.

HYDRAULIC SYSTEM:

Standard:

Tandem pump, direct-driven by engine crankshaft, delivers 16 GPM (61 L/min) at 3,000 PSI (207 bar) and 32 GPM (121 L/min) at 3,000 PSI (207 bar) at 3,000 RPM governed engine speed. System protected by relief valves, suction line strainer and 10-micron full-flow return line filter. 25-gallon (95 L) reservoir equipped with filler cap and breather element..

BOOM ASSEMBLY:

Standard:

Three-section, high strength steel construction, equipped with bearing pads for efficient support and extension. Double-acting hydraulic cylinders extend boom sections. Telescope cylinder and the boom elevation cylinder are equipped with direct-connected holding valves. Boom angle indicator on side of boom.

BOOM ROTATION:

Standard:

Heavy-duty bearing rotation gear with external teeth supports boom. Rotation is powered by hydraulic motor and worm gear drive. Rotation gearbox may be adjusted as wear occurs to minimize backlash. Boom is attached by high strength steel weldment.

BOOM HOIST:

Standard:

Turret-mounted, planetary gear hoist, is hydraulically powered to provide a bare-drum line pull of 11,500 lbs (5,200 kg) at a speed of 100 ft per minute (30.5 m/min). Hoist drum 11.65 inch (296 mm) diameter by 12.9 inches (227 mm) long. Provides even pull and long cable life. The hoist includes 140 feet (43 m) of 9/16-inch (14 mm) wire rope.

BOOM ATTACHMENTS:

Standard:

Anti-Two-Block Device:

Prevents damage to hoist rope and/or machine components from accidentally pulling sheave block or downhaul weight against boom tip. Consists of trip arm at boom tip which is moved upward by sheave block or downhaul weight as hook approaches boom tip. Trip arm actuates electric switch which is connected through cable reel mounted on boom to solenoid dump valve in the hydraulic circuit. This valve will dump

the HOIST RAISE, TELESCOPE EXTEND, BOOM LOWER, SWING LEFT, and SWING RIGHT circuits. No other circuits are affected. These circuits are returned to normal operation by operating the HOIST LOWER or TELESCOPE RETRACT control.

Rated Capacity Limiter:

Operator's aid that warns operator of impending overload with audible and visual signals. Has read-outs for load, boom angle, boom length and load radius. In the event of an overload, dumps the following boom functions: HOIST RAISE, TELESCOPE EXTEND, BOOM LOWER, SWING LEFT, and SWING RIGHT. These circuits are returned to normal by lowering load to a safe resting place with hoist or by retracting or raising boom to a shorter load radius. There is also an override switch under the dashboard.

Sheave Block and Downhaul Weight:

A 124-pound (56 kg) sheave block is provided for two-part line requirements. Block is shorter than normal, 21.5 inches (546 mm) from top to saddle of load hook. 10 inch (254 mm) O.D. sheave for 9/16 inch (14 mm) rope. Has swivel hook with safety latch. A 90-pound (41 kg) downhaul weight and swivel hook are also provided for single-part line.

Optional Boom Attachments:

Boom Extension - 10 Ft (3 m):

Provides 10 feet (3 m) of additional length for lifting loads with load line. Boom extension may be stowed alongside base boom section when not in use. Tip sheave, attaching brackets and pins included. Deduct 100 pounds (45 kg) from Capacity Chart when boom extension is in the stowed position. Includes switch for Anti-Two-Block. Net Weight: 300 pounds (136 kg).

Boom Extension - 10 Ft (3m) Offset:

Provides 10 feet of additional length for lifting loads with load line. Boom extension may be stowed alongside base boom section when not in use. Tip sheave, attaching brackets and pins included. Deduct 100 pounds (45 kg) from Capacity Chart when boom extension is in the stowed position. Includes switch for Anti-Two-Block device. Boom extension will tilt through three positions, in line, 15 degree offset and 30 degree offset. Net Weight: 350 pounds (189 kg).

Searcher Hook: (Nose Mount)

5,000 pound capacity hook bracket is attached to the front of the boom tip with 4 pins through the boom extension attachment lugs. A hook with latch is pinned to the tip of the bracket. Net Weight: 41 pounds (19 kg).

Specifications subject to change without notice.

For additional options or special equipment not listed, please consult your dealer salesperson or contact **Broderson Manufacturing Corp.**

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Dimensions and
values shown
are for reference
purposes only.
Specifications
subject to change.



CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE					
LOAD RADIUS FEET	MAIN BOOM OR EXTENSION CAPACITIES IN POUNDS				
	360° ROTATION		OVER FRONT		
	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS	
MAIN BOOM	5	9400	17000	11200	20000
	6	8000	14800	9900	15600
	8	6000	11200	7900	11200
	10	4500	8700	6600	8700
	12	3400	6900	5300	6900
	14	2700	5900	4100	5900
	16	2100	5100	3200	5100
	18	1700	4400	2600	4500
	20	1400	3700	2200	4000
	22	1100	3100	1900	3500
	24	1000	2700	1600	3200
	26	800	2500	1400	2900
	30	600	2000	1100	2400
	33	500	1700	1000	1900
10' BOOM EXT.	34	400	1600	800	1900
	36	300	1400	700	1800
	38	200	1300	600	1700
	40	200	1100	600	1600
	43	---	900	500	1500
	10-FOOT BOOM EXTENSION - STRAIGHT OR OFFSET				
	MAIN BOOM ANGLE				
	ANGLE	0°	30°	45°	60°
*1 0°	2250	2600	3200	5000	7000
15°	---	2400	2700	3500	4200
30°	---	2250	2500	3000	3300

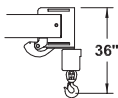
* USE 0° FOR STRAIGHT BOOM EXTENSION,† USE 0°, 15° OR 30° FOR OFFSET BOOM EXTENSION.

LOAD RADIUS IS THE HORIZONTAL DISTANCE FROM THE CENTER OF ROTATION OF THE UNLOADED CRANE TO THE VERTICAL LOAD LINE WITH THE LOAD APPLIED.

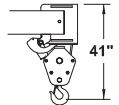
EXCEEDING CAPACITY RATINGS OR APPLYING SIDE LOADS TO THE BOOM OR BOOM EXTENSION IS MISUSE, IS HAZARDOUS, AND VOIDS WARRANTY.

CAUTION BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY. DO NOT PICK & CARRY WITH LOADS ON BOOM EXTENSION.

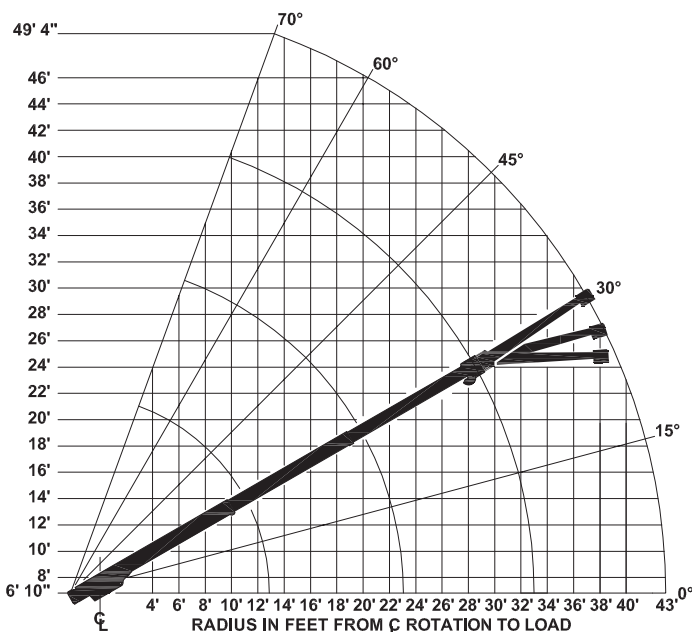
CAPACITIES ON OUTRIGGERS ARE 85% OF TIPPING LOADS. CAPACITIES ON RUBBER ARE 75% OF TIPPING LOADS. CAPACITIES BELOW BOLD LINE ARE LIMITED BY TIPPING. OTHER CAPACITIES ARE LIMITED BY STRUCTURAL OR HYDRAULIC CAPABILITY.



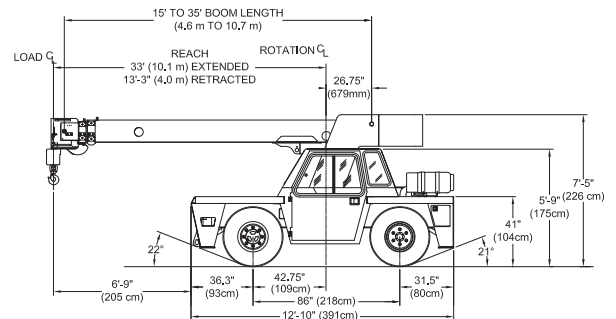
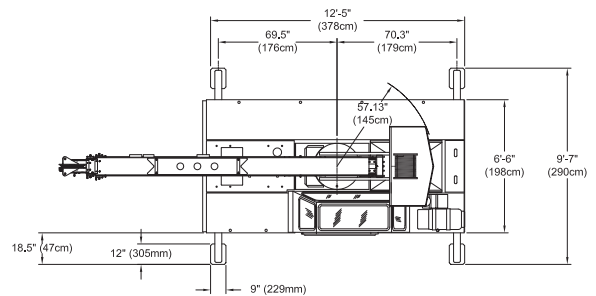
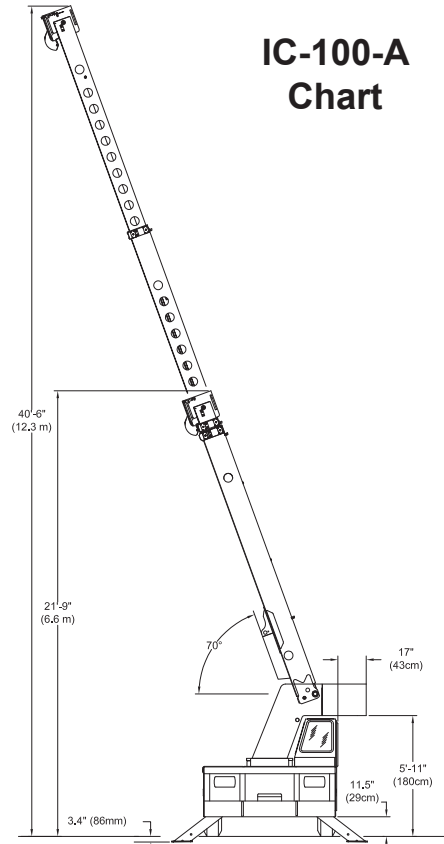
USE SINGLE-PART
LOAD LINE FOR
LOADS TO 10000
LBS.
(WT. 90 LBS.)



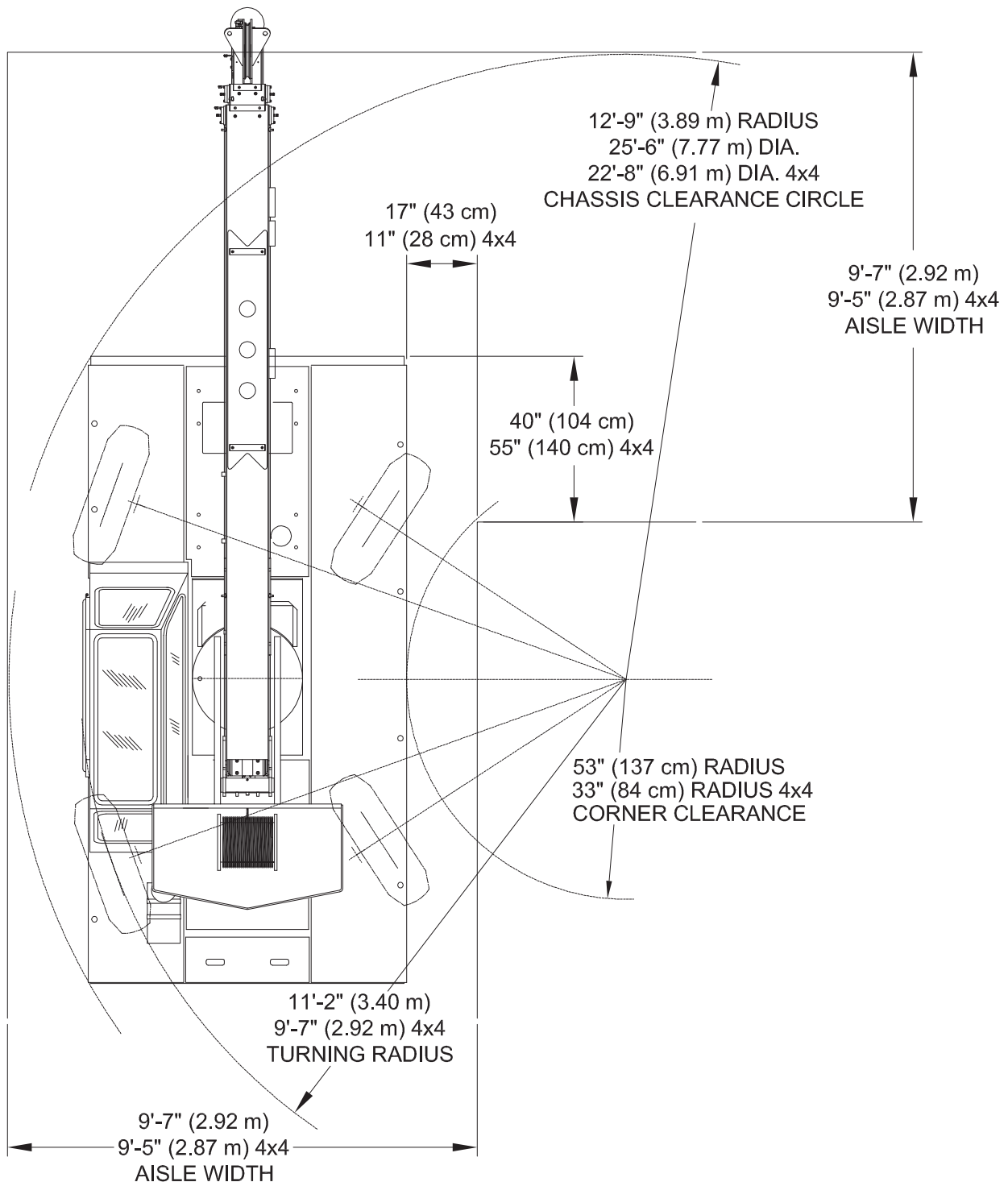
USE TWO-PART
LOAD LINE FOR
LOADS TO 20000
LBS.
(WT. 124 LBS.)



IC-100-A Chart



IC-100-A Turn Chart



CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE						
LOAD RADIUS METERS	MAIN BOOM OR EXTENSION CAPACITIES IN KILOGRAMS					
	360° ROTATION		OVER FRONT			
	ON RUBBER	ON OUTRIGGERS	ON RUBBER	ON OUTRIGGERS		
MAIN BOOM	1.5	4200	7700	5100	9000	
	2.0	3300	6200	4200	6400	
	2.5	2600	4900	3500	4900	
	3.0	2100	4000	3000	4000	
	3.5	1600	3300	2500	3300	
	4.0	1300	2800	2100	2800	
	5.0	900	2200	1400	2200	
	5.5	700	2000	1200	2000	
	6.0	600	1700	1000	1800	
	7.0	400	1300	800	1500	
	7.5	400	1200	700	1400	
3 m BOOM EXT.	8.0	300	1100	600	1300	
	9.0	300	900	500	1100	
	10.1	200	700	400	800	
	10.5	100	700	300	800	
	11.0	100	600	300	800	
	11.5	100	600	200	700	
	12.0	---	500	200	700	
	13.1	---	400	200	700	
	BOOM EXTENSION	3 METER BOOM EXTENSION - STRAIGHT OR OFFSET				
	ANGLE	MAIN BOOM ANGLE				
		0°	30°	45°	60°	70°
*1 0°	1000	1200	1400	2200	3200	
15°	---	1100	1200	1600	1900	
30°	---	1000	1100	1300	1500	

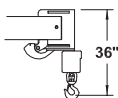
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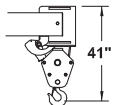
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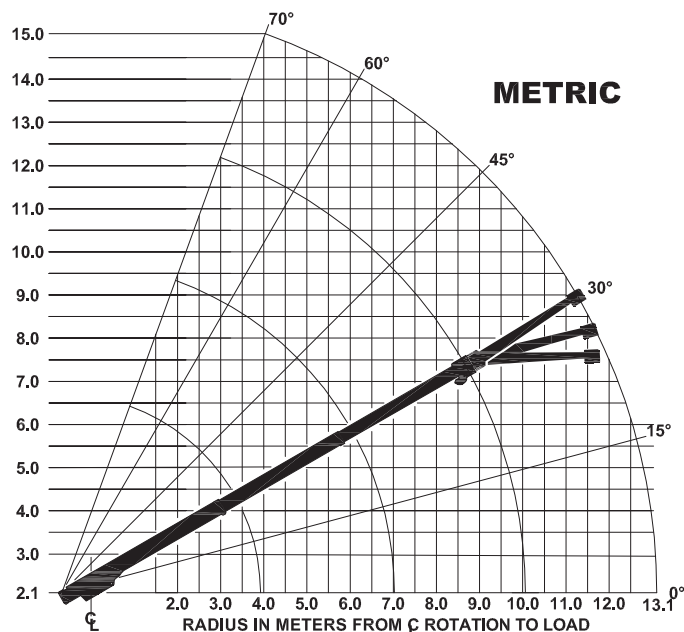
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USE SINGLE-PART
LOAD LINE FOR
LOADS TO 4500
kg
(WT. 40 kg)



USE TWO-PART
LOAD LINE FOR
LOADS TO 9000
kg
(WT. 56 kg)



IC-100-A Metric Chart

