Engineering Spec



IC-80-G



P.O. Box 14770, Lenexa, KS 66285-4770 (913) 888-0606 • FAX (913) 888-8431 • www.bmccranes.com Page 1 of 10 Date: July 2003

Replaces: Form CD103F Dated: Jan. 2003

The IC-80-G is a self-propelled Industrial Crane designed for in-plant lifting and material handling applications, with special features of low height, narrow width, short length, cargo deck, and standard four-wheel steer and front-wheel drive. The chassis includes a frame, four independently controlled hydraulic outriggers, engine, torque converter, 4-speed powershift transmission, front planetary drive/steer and rear steer axles, fuel tank, hydraulic tank, control station, and full power steering. The boom assembly includes a hydraulic powered continuous rotation turret, 3-section boom, hydraulic boom elevating cylinder, hydraulic boom telescopic cylinders, and hydraulic powered hoist. Rated Capacity Limiter is standard.

IC-80-1G:

3-section hydraulically extended boom with capacity of 18,000 pounds at a 5 foot load radius. Horizontal reach of 20 feet 2 inches and vertical reach of 28 feet 2 inches.

IC-80-2G:

3-section hydraulically extended boom with capacity of 18,000 pounds at a 5 foot load radius. Horizontal reach of 24 feet and vertical reach of 31 feet 9 inches.

IC-80-3G:

3-section hydraulically extended boom with capacity of 18,000 pounds at a 5 foot load radius. Horizontal reach of 30 feet and vertical reach of 37 feet 5 inches.

General:

Length:

IC-80-1G 14 feet 6 inches IC-80-2G 15 feet 10 inches IC-80-3G 17 feet 10 inches

Width 6 feet 6 inches

Height:

Overall 7 feet 3 inches
Deck 3 feet 5 inches
Wheelbase 7 feet 2 inches

Ground Clearance:

Chassis 11 inches
Minimum (rear axle) 7 inches

Angle of Approach 22 degrees

Angle of Departure 21 degrees

Outriggers:

Spread 9 ft. 7 in.
Penetration 3 7/16 inches

Boom Movement: IC-80-1G IC-80-2G IC-80-3G Rotation Continuous Continuous Continuous 0° to 70° 0° to 70° 0° to 70° Elevation 12 ft. Hyd. 14½ ft. Hyd. 18½ ft. Hyd. Telescope

Boom Speeds:

Rotation 2 RPM 2 RPM 2 RPM
Elevation 10 seconds 10 seconds
Telescope 17 seconds 21 seconds 27 seconds



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General: (Cont'd)			
Sheave Height: (Nominal)		<u>IC-80-2G</u>	<u>IC-80-3G</u>
W/O Boom Extension	28 ft. 2 in.	31 ft. 9 in.	37 ft. 5 in.
With Boom Extension	37 ft. 5 in.	41 ft. 0 in.	46 ft. 8 in.
Horizontal Reach:			
W/O Boom Extension	20 ft. 2 in.	24 feet	30 feet
With Boom Extension	30 ft. 2 in.	34 feet	40 feet
Weight: (Nominal)			
4-Wheel Steer*	16,050 lbs.	16,250 lbs.	16,650 lbs.
Front Axle	6,950 lbs.	7,300 lbs.	8,000 lbs.
Rear Axle	9,100 lbs.	8.950 lbs.	8.650 lbs.
	,	-,	-,
4-Wheel Drive*	16,650 lbs.	16,850 lbs.	17,250 lbs.
Front Axle	7,350 lbs.	7,700 lbs.	8,400 lbs.
Rear Axle	9,300 lbs.	9,150 lbs.	8,850 lbs.
*With GM 3.0L gasoli	ne engine		

Steering:

Turning Radius 10 feet 0 in. (4-Wheel Steer)

Aisle Width for 90° Turn 9 feet 6 in.

Steering Modes Rear Steer, Round Steer, Crab Steer

	<u>STANDARD</u>	<u>4-Wheel Drive</u>
Road Speed	20 MPH	16 MPH
Drawbar Pull	10,500 lbs.*	12,300 lbs.*
Gradeability	63 percent*	71 percent*

*Calculated values based on GM 3.0L gasoline engine. (Wheels may spin before these values are reached.)

Engine:

Standard Gasoline:

GM 3.0L EFI w/Dual Fuel, CARB Compliant: (ET-44, 45, 48, 49)

GM Model 3.0L industrial gasoline engine complete with throttle body electronic fuel injection, dual fuel and engine management system. Water cooled, 4-cylinder, 181 CID, bore 4.00", stroke 3.60", 69 HP at governed speed of 2,500 RPM. Maximum torque, 163 ft. lbs. at 1,600 RPM. Also includes special exhaust valves, seats and valve rotators for use with LPG, 66 amp alternator, 20 gallon fuel tank and 33 lb LPG tank. High temperature and low oil pressure shutdown is included in engine management system.

Optional Engines and Engine Accessories:

Diesel Engine:

Cummins-4B3.9: (ET-46, 47)

Cummins Model 4B3.9 industrial engine. Water cooled, 4-cylinder, 239 CID, bore 4.02", stroke 4.72", 80 HP at governed speed of 2,500 RPM. Maximum torque, 193 ft. lbs. at 1200 RPM. 62-amp alternator included. SAE #3 housing and flywheel machined for torque converter. (Net Weight: 180 pounds)

Spark Arrester Muffler: (SA-3, 7)

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

Catalytic Converter: (CC-6)

Catalytic converter for diesel engine. Reduces emissions. (Net weight: 10 pounds)

Engine Heater: (EH-1, 6)

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.



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Optional Engine Accessories: (Cont'd)

Ether Injection System: (EI-1)

For Cummins diesel engine. Ether starting aid, controlled by switch at operator station, injects ether directly into intake manifold.

Engine Shut Down Gauges, Diesel Only: (SS-10)

System automatically shuts engine down when high engine water temperature or low engine oil pressure occurs.

Transmission:

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.

Torque Converter:

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

		<u>STANDARD</u>		4-WHEI	EL DRIVE
	Ratios	Travel	Drawbar	Travel	Drawbar
Transmission	Forward	Speed	Pull*	Speed	Pull**
Gear	or Reverse	(MPH)	(LBS.)	(MPH)	(LBS.)
1st	5.72/1	4	10,500	3	12,300
2nd	3.23/1	6	6,000	5	7,000
3rd	1.77/1	12	3,200	10	3,800
4th	1.00/1	20	1,800	17	2,200

^{*}Drawbar pull is calculated based on GM 3.0L gasoline engine.

Front Axle:

Standard: (AO-7, 8, 9)

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

Optional 4-Wheel drive: (AO-10, 11, 12)

Planetary drive/steer axle with integral drop box input for an overall 13.76/1 ratio. Differential is "No-Spin" Only available with mining and industrial tires.

(Net Weight: 600 pounds)

Rear Axle:

Standard: (AO-7, 8, 9)

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

Optional 4-Wheel drive: (AO-10, 11, 12)

Planetary drive/steer axle with overall 13.76/1 ratio including the reduction through the front-axle-mounted drop box. Differential is "Limited Slip." Oscillation is 1 1/2 degrees in either direction. Only available with mining and industrial tires. (Net Weight: 600 pounds including front axle)

Steering:

Standard:

Hydraulic steering unit with two cylinders attached to each 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. Rear axle has drum type on 4x2. Front axle has wet disc brakes. Parking brake is disc type.

Brakes on Optional 4 Wheel Drive:

Wet disc on both axles. Parking brake is disc type.

^{**}Drawbar pull is calculated based on Cummins 4B3.9 diesel engine.



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Tires:

Standard:

10:00 x 15, load range J radial, highway type tread.

Tire Options:

Solid Rubber Tires: (TO-37)

8:25 x 15. These tires will reduce overall height and ground clearance by 1½ inches.

(Net Weight: 400 pounds)

Solid Rubber Non-Marking Tires: (TO-38)

Same as TO-37 but are non-marking. (Net Weight: 400 pounds)

Mining and Industrial Tires: (TO-28) (Standard on 4X4)

10:00 x 15, 16-ply rating pneumatic tires. (Net Weight: 120 pounds)

Mining and Industrial Tires, Non-Marking: (TO-33)

10:00 x 15, 16-ply rating pneumatic tires. (Net Weight: 120 pounds)

Foam Filling of Tires: (FF-3)

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

Spare Tire and Wheel Mounted:

Highway Tread, 10.00 x 15, Load Range G, Radial: (SW-24, 35) (Net weight: 163 pounds)

Mining and Industrial Tire: (SW-15, 36) (Net weight: 193 pounds)

Mining and Industrial Tire, Non-Marking: (SW-32, 37) (Net weight: 193 pounds)

Chassis:

Standard:

Cargo Deck:

Total Deck Area: 64 Square Feet* A maximum of 14,000 pounds may be carried on the deck when centered over or between axles.** Seven stake pockets are provided along edges of deck for 1 inch pipe stakes. Stakes furnished. Cargo decks have skid resistant coating.

*54 Square feet with Cummins engine.

**14,000 Lbs. allowed at creep speed below 2 MPH and less than 200 feet in 30 minutes.

Fire Extinguisher:

1-A:10-BC, 2½ pound 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.

Stane

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 x 12 inches

Pulling Eyes:

Heavy eyes on front bumper provided for attachment of hook block so main hoist 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" deep x 10 1/2" wide x 27" long.



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Chassis Options and Accessories:

Auxiliary Winch: (AW-16)

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 at 46 feet per minute. Winch drum is 3½" diameter by 11" long. This winch includes 75 feet of 3/8" wire rope, hook and four-way roller guide. (Net Weight: 100 pounds)

Pintle Hook - Rear: (PH-5)

T-60-A Holland pintle hook mounted on rear frame member provides capacity for 2000 lbs. tongue weight and 10,000 lbs. trailer weight. (Net Weight: 10 pounds)

Pintle Hook - Front: (PH-18)

T-60-A Holland pintle hook mounted on front frame member. Provides same capacity as PH-5. (Net Weight: 25 pounds)

Headlight and Taillight Grilles: (HTG-3)

Consists of welded steel protective grilles for headlights and taillights. Easily removable for replacing bulbs. (Net Weight: 40 pounds)

Rear Worklight Grille: (WLG-1)

Same as above for rear worklight (WLR-2).

Rearview Mirrors: (RM-3)

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

Operator's Compartment:

Standard:

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

Operator's Compartment Options and Accessories:

Operator's Guard: (OG-12) (Not Available with Cab)

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

Operator's Guard Cover: (OGC-4)

Clear vinyl cover goes over guard (OG-12) for inclement weather. Has zipper and velcro roll-up door. (Net Weight: 15 Pounds)

Operator's Guard Door: (OGD-4)

Hinged door covers operator compartment side opening. Has latch handle outside and knob inside. Rubber gasket contacts chassis. (Net Weight: 40 pounds)

All Weather Cab: (WC-43,44)

Consists of rigid mounted canopy section and removable hinged door with safety glass. Rugged canopy structure with laminated glass front and top. 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 wind shield wiper. There are sliding windows in the door and right-hand side. Dome light is included for operator's convenience. Also includes locking caps for fuel and hydraulic tanks.

(Net Weight: 215 pounds)

Cab Heater Only: (CH-6,13)

Provides 24,000 BTU heater with two-speed fan for units without All Weather Cab.

(Net Weight: 12 pounds)
Windshield Washer: (WA-3)

Provides reservoir, pump and nozzle for windshield washer.

Floor Mat: (FM-10)

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



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Operator's Compartment Options and Accessories: (Cont'd)

Operator's Suspension Seat: (SSO-2)

Grammer seat provides additional operator comfort. (Net Weight: 15 pounds)

Noise Reduction Kit - Cab: (NR-7)

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

Air Conditioning:

Complete system using 134a coolant. Has combination cooling and heating unit in cab.

(Net Weight: 125 pounds)

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, ammeter, oil pressure, water temperature and transmission oil temperature gauges. Hourmeter records hours only during actual engine operation. Also included are warning lights for low transmission pressure, turn signal, high beams, hazard lights, parking brake and 4-wheel drive.

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 97 dB alarm when ignition is on and transmission is in reverse. Conforms to SAE J994b.

Outrigger Alarm System:

112 dB alarm with alternating two-tone sound is actuated by a switch when the "outrigger down" controls are operated.

Optional Electrical Accessories:

Strobe Lights: (SL-6)

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.

Amber Rotating Beacons: (ARB-5)

Amber rotating beacon mounted on each side of turret weight box. (Net Weight: 10 pounds)

Boom Work Lights: (WL-6)

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)

Work Light Rear: (WLR-2)

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 at 2,600 PSI and 32 GPM at 2,500 PSI at 2,500 RPM governed engine speed. System protected by relief valves, suction line strainer and 10-micron full-flow return line filter. 25 gallon 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.

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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 10,000 lbs. at a speed of 110 ft. per minute. Hoist drum 9¾ inch diameter by 13 inches long. Provides even pull and long cable life. The hoist includes 125 feet of 9/16 inch 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 turret 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:

Warns operator of impending overload with audible and visual signals. Has read-outs for load, boom angle, boom length and load radius. Prevents overload by dumping boom functions that cause over load: 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 sheave block is provided for two-part line requirements. Block is shorter than normal, 21 1/2" from top to saddle of load hook. 10" O.D. sheave for 9/16" rope. Has swivel hook with safety latch. A 90 pound downhaul weight and swivel hook are also provided for single-part line.

Optional Boom Attachments:

Boom Extension - 10 Ft.: (BE-35)

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 from Capacity Chart when boom extension is in the stowed position. Includes switch for Anti-Two-Block. (Net Weight: 300 pounds)

Boom Extension - 10 Ft. Offset: (BE-37)

Same as BE-35 except has three settings: 0 degrees (in-line), 15 degrees offset and 30 degrees offset. (Net Weight: 350 pounds)

Searcher Hook - Nose Mount: (SH-4)

5,000 pound capacity. Swivel hook with spring latch hangs from support structure projecting outward from boom tip. (Net Weight: 41 pounds)

Specifications subject to change without notice.



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	CAPACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE								
	LOAD		M OR EXTE						
	RADIUS	360° F	ROTATION			OVER	FRO	NT	
	FEET	ON RUBBER	ON OUTRIC	GERS	ON F	ON RUBBER		OUTRIGGERS	
	5	9600	1700	0	11	11700		18000	
Σ	6	7900	1450	0	10	0400		14500	
0	8	5750	1025	0	8	400		10250	
0	10	4150	770	0	6	300		7700	
<u> </u>	12	3100	6550	0	4	650		6550	
Z	14	2425	5550	0	3750		5550		
⊴	16	2000	465	4650 4100 3550		3100 2650 2300		4650 4150 3800	
Į≥	18	1700	410						
	20	1450	3550						
	22	1275	320	0	2	000		3000	
١.	24	1075	280	0	1725 1500		2800		
×	26	925	250	0				2600	
lш	28	775	220	0	1	1300		2400	
Σ	30	675	200	0	1	1150		2250	
0	BOOM	10-FOOT BOOM EXTENSION - STRAIGHT OR OFFSET							
0	EXTENSION	MAIN BOOM ANGLE							
0	ANGLE	0°	30°	45	5°	60°		70°	
0 -	*† 0°	2250	2600	32	00	0 5000		7000	
-	†15°		2400	27	00	3500		4200	
	†30°		2250	25	00	3000		3300	

^{*} USE 0° FOR STRAIGHT BOOM EXTENSION.

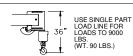
USE 0°, 15° OR 30° FOR OFFSET BOOM EXTENSION.

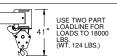
CAUTION

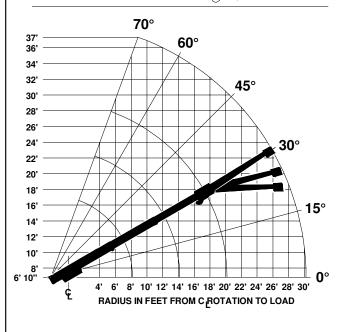
BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY.

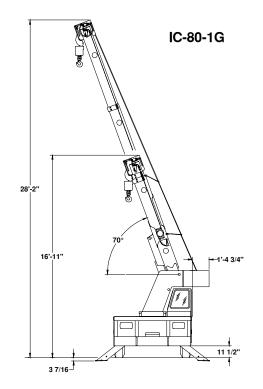
DO NOT PICK & CARRY WITH LOADS ON BOOM EXTENSION.

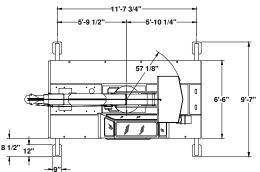
CAPACITIES ON OUTRIGGERS ARE 85% OF TIPPING LOADS. CAPACITIES ON RUBBER ARE 75% OF TIPPING LOADS. CAPACITIES BELOW BOLD LINE ARE LIMITED BY TIPPING. OTHER CAPACITIES ARE LIMITED BY STRUCTURAL OR HYDRAULIC CAPABILITY.

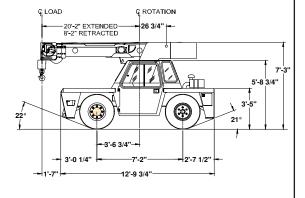














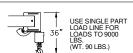
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		CITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE							
	LOAD		MAIN BOOM OR EXTENSION CAPACITIES IN POUNDS						
	RADIUS	360° R	OTATION		OVER FF			RONT	
	FEET	ON RUBBER	ON OUTRIC	GERS	ON F	ON RUBBER		ON OUTRIGGERS	
	5	9500	1700	17000		11600		18000	
l_	6	7800	1450	14500		0200	14500		
≥	8	5650	1025	0	8	250		10250	
١۵	10	4000	770	0	6	200		7700	
l 🛎	12	3000	6550	0	4	650		6550	
z	14	2350	5550	0	3	650		5550	
l —	16	1900	4550	0	2950		4550		
ĮΣ	18	1600	3950	3950 3350 2950		2500 2150 1850		4050	
-	20	1350	3350					3650	
	22	1150	2950					3300	
	24	1000	2550	0	1650		3100		
	26	850	2450	2450		1450		2750	
١.	28	725	217	5	1275		2500		
😾	30	625	1900	0	1125 1000		2300		
<u>@</u>	32	525	172	5			2100		
lΣ	34	425	1500	1500		900		1950	
اة ا	BOOM	10-FOOT E	SOOM EXTE	NSIO	N - STI	RAIGHT ()R	OFFSET	
0	EXTENSION		MAIN BOOM ANGLE						
0	ANGLE	0°	30°	45	5°	60°		70°	
6	*† 0°	2250	2600	32	00	5000		7000	
_	†15°		2400	2700		3500		4200	
	†30°		2250	25	00	3000		3300	

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

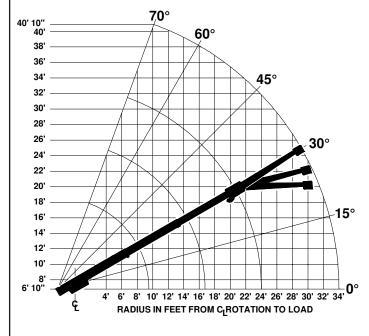
CAUTION BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY. DO NOT PICK & CARRY WITH LOADS ON BOOM EXTENSION.

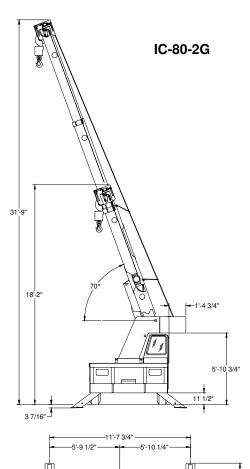
CAPACITIES ON OUTRIGGERS ARE 85% OF TIPPING LOADS. CAPACITIES ON RUBBER ARE 75% OF TIPPING LOADS. CAPACITIES BELOW BOLD LINE ARE LIMITED BY TIPPING. OTHER CAPACITIES ARE LIMITED BY STRUCTURAL OR HYDRAULIC CAPABILITY.

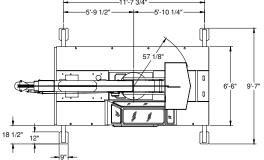


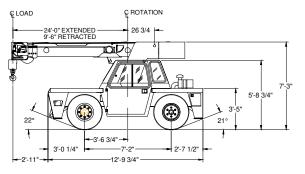


USE TWO PART LOADLINE FOR LOADS TO 18000 LBS. (WT. 124 LBS.)











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	CAPA	PACITIES APPLY TO OPERATION ON FIRM LEVEL SURFACE							
	LOAD	MAIN BOOM OR EXTENSION CAPACITIES IN POUNDS							
	RADIUS	360 ROTATION OVER FRONT					TNC		
	FEET	ON RUBBER	ON OUTRI	GGERS	ON RUBBER		ON	OUTRIGGERS	
	5	9400	1700	00	11	400	18000		
	6	7550	1400	00	1(0000		14000	
	8	5600	1000			100		10000	
_	10	4300	770	-		100		7700	
≥	12	3200	610	-	4	450		6100	
0	14	2550	520			400		5200	
m	16	2050	440	0	2	700		4400	
z	18	1650	390	0	2	200		3900	
₹	20	1350	340	3400 3050 2750 2450		1800		3400	
Σ	22	1150				1550 1350 1200		3050	
-	24	1000	_					2800	
	26	850	245					2550	
	28	750	220	0	1100			2350	
	30	650		1950		1000		2150	
	32	450	175	-	900			1950	
١,٠	34	350	160	_	800			1800	
×	36	250	145	_	700			1650	
Ш	38	200	130	_	600			1500	
Σ	40	150	115	1150		500		1400	
0	BOOM	10-FOOT BOOM EXTENSION - STRAIGHT OR OFFSET						OFFSET	
1 -	EXTENSION		MAIN BOOM ANGLE						
<u>m</u>	ANGLE	0°	30°	30° 45 2600 320				70°	
0,	*† 0°	2250						7000	
[†15°			270	00 3500			4200	
	†30°		2250	250	00	3000		3300	

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

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 9000 LBS. (WT. 90 LBS.)



USE TWO PART LOADLINE FOR LOADS TO 18000 LBS. (WT. 124 LBS.)

