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The IC-200 is a self-propelled Industrial Crane designed for yard material handling and maintenance and repair of equipment, with special features of self-loading cargo decks, 4-wheel steer and front wheel drive (4-wheel drive optional). The basic unit consists of a chassis and hydraulic boom assembly. The chassis includes a frame, four hydraulic independently controlled outriggers, engine, torque converter, powershift 4-speed transmission, front planetary drive/steer axle and rear steer-only axle, fuel tank, hydraulic tank, control station, power steering and power brakes. The boom assembly includes a hydraulic powered continuous rotation turret, proportional 4-section telescopic boom, hydraulic boom elevating cylinder, hydraulic boom telescope cylinder and hydraulic powered hoist.

IC-200-3D:

4-section hydraulically extended boom with capacity of 30,000 pounds at a 6 foot load radius. Horizontal reach of 50 feet and vertical reach of 58 feet 8 inches.

General:

Weight:

Front Axle	14,606 pounds
Rear Axle	14,879 pounds
Total	29,485 pounds

Length:

Overall	22 feet 7 1/8 inches
Chassis	14 feet 7 3/4 inches

Width:

8 feet

Height:

Overall	7 feet 11 1/2 inches
Deck	3 feet 10 1/2 inches

Wheelbase:

8 feet

Ground Clearance:

13 3/4 inches

Angle of Approach:

24 degrees

Angle of Departure:

24 degrees

Outriggers:

Spread	11 feet 11 5/8 inches
Penetration	3 1/4 inches

Turning Radius:

4-Wheel Steering	12 feet 8 inches
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Aisle Width for 90° Turn:

11 feet 4 inches

Steering Modes:

Rear Steer & Round Steer

Road Speed:

19 MPH

Drawbar Pull (Calculated):

20,440 pounds*

*Calculated for GM 4.3L engine. Wheels will spin before this value is reached with 2-wheel drive.

Gradeability (Calculated):

75 percent (37 degrees)

Boom Movement:

Rotation	Continuous
Elevation	0 to 73 degrees
Extension	34 feet 6 inches

General: (Cont'd)**Boom Speeds:**

Rotation	2.2 RPM
Elevation	16 seconds
Extension	53 seconds**

**With synchronized hoist cable.

Sheave Height: (Nominal)

W/O Boom Extension	58 feet 8 inches
With Boom Extension	73 feet 8 inches

Horizontal Reach:

W/O Boom Extension	50 feet 0 inches
With Boom Extension	66 feet 0 inches

Engine:**Standard: (ET-9,10) (2WD or 4WD)****GM 4.3L V-6 EFI w/Dual Fuel: (ET-23, 24) (Compliant Exempt)**

GM Model 4.3L V-6 industrial gasoline engine with carburetor. Water cooled, 262 CI displacement, bore 4.00 in., stroke 3.48 in., 110 HP at governed speed at 2,500 RPM. Maximum torque 243 ft. lbs. at 2,200 RPM. Includes special exhaust valves, seats and valve rotators for use with LPG, 100-amp alternator. 30 gallon fuel tank.

Optional Engines:**GM 4.3L V-6 EFI w/Dual Fuel: (ET-) (Compliant Exempt)**

GM Model 4.3L V-6 industrial gasoline engine complete with throttle body electronic fuel injection, dual fuel and engine management system. Includes water cooled, 262 CI displacement, bore 4.00 in., stroke 3.48 in., 110 HP at governed speed at 2,500 RPM. Maximum torque 243 ft. lbs. at 2,200 RPM. Also includes special exhaust valves, seats and valve rotators for use with LPG, 100-amp alternator, 30 gallon fuel tank and 43 lbs. LPG tank. High temperature and low oil pressure shutdown is included in engine management system.

GM 4.3L V-6 EFI w/Dual Fuel: (ET) (Compliant Certified)

GM Model 4.3L V-6 industrial gasoline engine complete with throttle body electronic fuel injection, dual fuel and engine management system. Includes water cooled, 262 CI displacement, bore 4.00 in., stroke 3.48 in., 110 HP at governed speed at 2,500 RPM. Maximum torque 243 ft. lbs. at 2,200 RPM. Also includes special exhaust valves, seats and valve rotators for use with LPG, 100-amp alternator, 30 gallon fuel tank and 43 lbs. LPG tank. High temperature and low oil pressure shutdown is included in engine management system.

Ford 4.2L V-6 EFI w/Dual Fuel: (ET) (Compliant Certified)

Ford Model 4.2L V-6 industrial gasoline engine complete with sequential port fuel injection, dual fuel and engine management system. Includes water cooled, 256 CI displacement, bore 3.81 in., stroke 3.74 in., 110 HP at governed speed at 2,500 RPM. Maximum torque 245 ft. lbs. at 2,500 RPM. Also includes special exhaust valves, seats and valve rotators for use with LPG, 95-amp alternator, 30 gallon fuel tank and 43 lbs. LPG tank. High temperature and low oil pressure shutdown is included in engine management system.

Cummins Turbo-4BT3.9: (ET-14, 16) (4WD or 2WD)

Cummins Model 4BT3.9 turbocharged diesel engine. Water cooled, 4-cylinder, 239 CID, bore 4.02", stroke 4.72", 110 HP at governed speed of 2,500 RPM. Maximum torque is 293 ft. lbs. at 1,500 RPM. 62-amp alternator included. 30 gallon fuel tank capacity. (Net Weight: 75 pounds)

Standard Engine Accessories:**Engine Shut Down Feature: (Gas EFI Only)**

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

Optional Engine Accessories:**Spark Arrester Muffler: (SA-6, 7)**

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

Catalytic Converter: (CC-5)

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

Optional Engine Accessories: (Cont'd)

Engine Heater: (EH-2, 3)

Heater for engine. 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.

Ether Injection System: (EI-1)

Ether starting aid is controlled by switch at operator station and 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:

Standard 2-Wheel Drive:

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 reverse, neutral, forward and speed selection. Equipped with oil cooler and filter.

Optional 4-Wheel Drive Transmission:

Same as 2WD transmission with an additional output shaft to drive the rear axle. Electro-hydraulic control for shifting between 2WD and 4WD. This option includes the 4-wheel drive axle listed below.

(Net weight 100 pounds)

<u>Transmission Gear Ratios:</u>	<u>Forward and Reverse (2WD & 4WD)</u>
1st	5.72 to 1.0
2nd	3.23 to 1.0
3rd	1.77 to 1.0
4th	1.00 to 1.0

Torque Converter:

Standard:

Stall torque ratio of 2.2:1, attached to engine flywheel.

Front Axle:

Standard: (AO-1)

Planetary drive/steer front axle with 15.78 to 1.0 ratio. Differential equipped with "limited slip" feature. Driving effort is applied to wheel that has traction. Front axle mounted rigidly to frame.

Calculated Performance:

<u>Gear</u>	<u>Drawbar Pull (pounds)</u>	<u>Travel Speeds (MPH)</u>
1st	20,440*	3
2nd	11,430*	6
3rd	6,140*	11
4th	3,350*	19

*Calculated for GM 4.3L engine. Wheels will spin in 1st or 2nd gear before these values are reached in 2-wheel drive.

Rear Axle:

Standard 2-Wheel Drive: (AO-1)

Steering axle with 1-1/2 degree oscillation in either direction.

Optional 4-Wheel Drive: (AO-2)

Planetary drive/steer axle with 24.98 to 1.0 ratio. Differential is not "limited slip" in rear axle. 1-1/2 degree oscillation in either direction. (Axle ratio compatible with 4WD transmission output for front axle match.)

Steering:

Standard:

Hydraulic steering unit with two 3-inch cylinders attached to each axle. Allows limited steering when engine is not running. A switch on the control panel is used to select rear-wheel steering or four-wheel steering.

Brakes:

Standard:

Split-system, four-wheel hydraulically-boosted multiple-plate wet disc brakes. Uses mineral oil. Hand lever actuated disc-type parking brake on transmission.

Tires:

Standard 2-Wheel & 4-Wheel Drive:

385/65R22.5, Load Range J radial, high-traction on/off road tread.

Tire Options:

Foam Filling of Tires: (FF-5)

Foam filling of four IC-200 tires. (Net Weight: 2,000 pounds)

Spare Tire and Wheel Mounted, Radial: (SW-26)

Extra wheel with high-traction radial tire mounted, ready for service. (Net Weight: 350 pounds)

Chassis:

Standard:

Cargo Deck:

Total Deck Area: 78 Square Feet (Front deck 95" X 60", RH side deck 171" X 28"). A maximum of 17,000 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.

Steps:

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

Outriggers:

Four hydraulic outriggers of box-beam construction. Independent control for each outrigger. Hydraulic cylinders are equipped with direct-connected holding valves. Pad dimensions: 11 inches x 16 inches

Standard:

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. Also for anchoring tag lines from load on hook.

Accessory Storage Box:

Consists of front deck plate with removable and lockable cover, and box for carrying sheave block and other items. Storage box is 14" deep x 10-1/2" long x 36-1/2" wide.

Chassis Options and Accessories:

Auxiliary Winch: (AW-12)

Optional worm gear winch, mounted behind front bumper, with a single lever control at the operator's console. Hydraulic powered to provide bare drum line pull of 10,000 lbs. at 40 ft. per minute. Winch drum is 3-1/2" dia. by 10" long. This winch includes 115 ft. of 7/16" wire rope, hook and four-way roller guide.

(Net Weight: 250 pounds)

Pintle Hook - Rear: (PH-8)

T-60-AOL Holland pintle hook mounted on rear frame member, provides capacity of 6,000 lbs. tongue weight and 30,000 lbs. trailer weight. (Net Weight: 15 pounds)

Pintle Hook - Front: (PH-17)

T-60-AOL Holland pintle hook mounted on front frame member, provides same capacity as PH-8.

(Net Weight: 45 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)

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)

Lifting Rings: (LR-2)

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. (Net Weight: 110 pounds)

Operator Compartment:

Standard:

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

Operator Compartment Options and Accessories:

Operator Guard: (OG-11) (Not Available with Cab)

Tubular steel weldment with heavy expanded steel mesh top section, bolts over the operator's compartment.
(Net Weight: 60 pounds)

Operator Guard Cover: (OGC-3)

Clear vinyl cover goes over guard (OG-11) for inclement weather. Has zipper and velcro roll-up door.
(Net Weight: 15 pounds)

Operator Guard Door: (OGD-2)

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-36, 39)

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 key lock to protect operator's station. Includes defroster fan, dome light, 12,400 BTU heater with two-speed fan and 12V electric windshield wiper. There are sliding windows in the door and right-hand side. Also includes locking caps for fuel and hydraulic tanks. (Net Weight: 220 pounds)

Cab Heater Only: (CH-10, 11)

Provides 12,400 BTU heater with two-speed fan for units without All Weather Cab.
(Net Weight: 12 pounds)

Windshield Washer: (WA-1)

Provides reservoir, pump and nozzle for windshield washer.

Floor Mat: (FM-7)

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

Operator's Suspension Seat: (SSO-2)

Provides additional operator comfort. (Net Weight: 15 pounds)

Noise Reduction Kit - Cab: (NR-4)

Includes vinyl floor mats and control valve cover and side panels of foam-backed, perforated vinyl for noise reduction. (Net Weight: 15 pounds)

Air Conditioning:

Provides factory system using R134a refrigerant. Compact AC unit mounted in operator area, fan cooled condenser mounted under fuel tank and belt driven compressor with magnetic clutch driven by engine.

Electrical System:

Standard

12 Volt DC:

Battery:

Gas Units: Group 27 with 540 CCA rating.
Diesel Units: Group 31 with 950 CCA rating.

Lighting Group:

Consists of two 12V lamps, with high and low beams for driving; 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.

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 signals, high beams, hazard lights, parking brake and four-wheel drive.

Electrical System: (Cont'd)

Back-Up Alarm:

Provides pulsating sound from a 97 dB alarm when ignition is on and transmission is in reverse.

Optional Electrical Accessories:

Outrigger Alarm System: (OW-6)

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

Strobe Lights: (SL-1)

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

Amber Rotating Beacons: (ARB-3)

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

Boom Work Lights: (WL-1)

Two halogen 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)

Boom Worklights with Beacons: (WLB-1)

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. Amber rotating beacon mounted on each side of turret weight box. Also includes electrical slip rings. (Net Weight: 20 pounds)

Boom Worklights with Strobes: (WLS-1)

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. Two yellow strobe lights, one on each side of turret weight box, for high visibility all around crane. Flashes 60-120 times per minute. Each strobe draws only one-half amp. Includes operator controlled switch. Also includes electrical slip rings.
(Net Weight: 16 pounds)

Hydraulic System:

Standard:

Tandem pump, direct-driven by engine, delivers 29 GPM at 3,000 PSI and 34 GPM at 2,500 PSI at 2,500 RPM governed engine speed. System protected by relief valves, suction line strainer and 10 micron return line filter. 48 gallon reservoir equipped with breather and filler cap.

Boom Assembly:

Standard:

Four-section, high strength steel construction, equipped with bearing pads for efficient support and extension. Double-acting hydraulic cylinder and chain system telescopes booms proportionally. The telescope cylinder and the double-acting boom elevation cylinder are equipped with direct-connected holding valves. Boom angle indicators are on each 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 10,000 pounds at a speed of 100 feet per minute. Hoist drum 9-7/8 inch diameter by 16-1/2 inches long. The hoist includes 283 feet of 1/2 inch wire rope, 125 pound downhaul weight and swivel hook. Maximum capacity of hoist drum is 300 feet of 1/2 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" and "boom lower" circuits. No other circuits are affected. These circuits are returned to normal operation by operating the "hoist lower" or "telescope retract" control.

Four-Part-Line Sheave Block:

Double sheave block for four-part-line requirements. 10 inch O.D. sheaves for 1/2 inch diameter wire rope. Swivel hook with safety latch. 210 pound weight provides positive overhaul. Includes bar on top to actuate trip arm of Anti-Two-Block Device.

Optional Boom Attachments:

Boom Extension - 16 Ft. Offset: (BE-30)

Provides 16 feet of additional length for lifting loads with load line. Boom extension may be stowed along side base boom section when not in use. Tip sheave, attaching brackets and pins included. Deduct 400 pounds from Capacity Chart when boom extension is in the stowed position. Includes trip arm for Anti-Two-Block Device. Boom extension will tilt through three positions, in line, 15 degree offset and 30 degree offset (Net Weight: 504 pounds)

Two-Part-Line Sheave Block: (SB-8)

Single sheave block 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" and 1/2" rope. Swivel hook with safety latch. Includes bar on top to actuate trip arm of Anti-Two-Block Device.
(Net Weight: 124 pounds)

Searcher Hook: (Nose Mount) (SH-6)

5,000 pound capacity hook bracket is attached to the front of the boom tip with two pins through the upper attachment lugs. A swivel hook with latch is pinned to the tip of the bracket.
(Net Weight: 95 pounds)

Searcher Hook, Link Under Tip: (SH-7)

5,000 pound capacity swivel hook with spring latch is attached to lug under boom tip with two pins.
(Net Weight: 15 pounds)

Load Moment Indicator: (LMI)

Warns operator of impending overload with audible and visual signals. Prevents overload by stopping boom functions that cause overload. Readouts for load, boom angle, boom length and load radius. Includes sensors and special electrical slip rings. (Net Weight: 50 pounds)

Load Indicator: (LI)

Three-sheave load sensor on top of boom. Special electrical collector rings in turntable. Readout box on top of instrument panel shows load for 1-part, 2-part and 4-part lines.
(Net Weight: 30 pounds)

Should you, as the end user, require an option or special equipment on your IC-200-3D that is not listed on our sales literature, please contact your dealer salesperson or the factory to receive a special quoted price.

***** Specifications subject to change without notice *****

LOAD RADIUS FEET	CAPACITIES IN POUNDS FOR OPERATION ON FIRM LEVEL SURFACE							
	MAIN BOOM ONLY				BOOM EXTENSION			
	ON RUBBER		ON OUTRIGGERS		ON RUBBER		ON OUTRIGGERS	
	360°	FRONT	360°	FRONT	360°	FRONT	360°	FRONT
6	16000	16000	30000	30000	---	---	---	---
8	12500	12500	22400	22400	---	---	---	---
10	10000	10000	18500	18500	7500	7500	7500	7500
12	8040	8170	15700	15700	7500	7500	7500	7500
14	6500	6730	13500	13500	7500	7500	7500	7500
16	5330	5700	10800	10800	6140	7500	7500	7500
18	4450	4980	9560	9560	5010	6440	7500	7500
20	3720	4380	8550	8550	4200	5430	7500	7500
22	3140	3870	7700	7700	3580	4650	6850	6850
24	2680	3440	6980	6980	3080	4030	6250	6250
26	2300	3060	6300	6350	2660	3530	5750	5750
28	1980	2730	5550	5800	2290	3100	5300	5300
30	1700	2410	4930	5320	1990	2710	4920	4920
32	1470	2120	4410	4900	1730	2400	4580	4580
34	1260	1850	3960	4520	1510	2130	4270	4270
38	920	1300	3230	3870	1140	1680	3530	3760
42	640	950	2660	3340	840	1320	2960	3340
46	390	650	2210	2890	600	1040	2440	2980
50	0	550	1850	2520	410	800	2040	2630
54	---	---	---	---	0	600	1710	2290
58	---	---	---	---	0	430	1430	2000
62	---	---	---	---	0	290	1190	1740
66	---	---	---	---	0	0	980	1500

BOOM EXT. ANGLE	BOOM EXTENSION - STRAIGHT OR OFFSET						
	MAIN BOOM ANGLE						
	0°	15°	30°	40°	50°	60°	70°
* 0°	3000	3100	3450	3900	4650	6000	7500
15°	---	3000	3000	3000	3000	3700	5000
30°	---	---	2500	2500	2600	3100	3800

* USE 0° FOR STRAIGHT BOOM EXTENSION.

USE SINGLE PART
LOAD LINE FOR
LOADS TO 7500
LBS. (WT. 125 LBS.)



USE FOUR PART
LOAD LINE FOR
LOADS TO 30000
LBS. (WT. 210 LBS.)

