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Page  
Date:

1 of 8  
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The IC-250-3A is a self-propelled Industrial Crane designed for 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 dual power brakes. The boom assembly includes a hydraulic powered continuous rotation turret, proportional 4-section telescopic boom, hydraulic boom elevating cylinders, hydraulic boom telescope cylinder and hydraulic powered hoist.

**IC-250-3A:**

4-section hydraulically extended boom with capacity of 36,000 pounds at a 6-foot load radius.  
Horizontal reach of 50 feet 1 inch and vertical reach of 60 feet 7 inches.

**General:****Length:**

Overall	23 feet 6 inches
Chassis	15 feet 6 inches

**Width:** 7 feet 10 inches

**Height:**

Overall	7 feet 11 inches
Deck	47 inches

**Wheelbase:** 100 inches

**Ground Clearance:** 13 inches

**Angle of Approach:** 25 degrees

**Angle of Departure:** 23 degrees

**Outriggers:**

Spread	14 feet 9 inches
Penetration	3 inches

**Boom Movement:**

Rotation	Continuous
Elevation	0 to 75 degrees
Telescope	34 feet 6 inches

**Boom Speeds:**

Rotation	2.0 RPM
Elevation	24 seconds
Telescope	53 seconds

**Extension:**

	<b><u>W/O Boom Extension</u></b>	<b><u>With Boom Extension</u></b>
<b>Sheave Height (Nominal):</b>	60 feet 7 inches	79 feet 6 inches
<b>Horizontal Reach:</b>	50 feet 1 inches	70 feet 1 inch

**Weight:**

Total	37,300 pounds
Front Axle	17,115 pounds
Rear Axle	20,185 pounds

**General: (Cont'd)**

<b>Turning Radius:</b> (4-Wheel Steering)	14 feet 9 inches
<b>Aisle Width for 90° Turn</b>	11 feet 11 inches
<b>Steering Modes</b>	Rear Steer & Round Steer
<b>Road Speed</b>	19 MPH
<b>Drawbar Pull</b>	18,000 pounds*
<b>Gradeability</b>	52 percent*

\*Calculated with GM 4.3L engine. Wheels spin below these values in 2-wheel drive.

**Engine:****Standard:****GM 4.3L V-6 EFI w/Dual Fuel: (ET-34, 35) (2WD or 4WD) (CARB Compliant)**

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 pound LPG tank with quick disconnects. High temperature and low oil pressure shut down are included in engine management system.

**Optional Engines and Engine Accessories:****Cummins Turbo Diesel - 4BT3.9: (ET-36, 37) (2WD or 4WD)**

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 lbs.)

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

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

**Catalytic Converter: (CC-5, 7)**

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

**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: (SS-10) (Diesel only)**

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. Rear output shaft runs faster than front by a ratio of 1.58 to 1. Rear axle has more reduction than front axle to match speed of front. Electrohydraulic control for shifting between 2WD and 4WD. This option includes the 4-wheel drive axle listed below. (Net Weight: 100 pounds)

**Transmission gear ratios:      Forward and Reverse (2WD & 4WD)**

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:**

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>Travel Speeds (MPH)</u>	<u>Gradeability</u>	<u>Drawbar Pull (pounds)</u>
1st	3	52	18,000
2nd	6	29	10,000
3rd	11	15	5,700
4th	19	8	3,000

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

**Rear Axle:****Standard 2-Wheel Drive: (AO-5)**

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

**Optional 4-Wheel Drive: (AO-6)**

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 rear output ratio to match front axle speed.) (Net Weight: 100 pounds)

**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 (round) steering.

**Optional:****Electronic Directional Steering, 3 Position: (EDS-2)**

Three steering modes instead of the standard two with the added feature of electronic realignment of the front and rear wheels when changing from one mode to another. The steering modes are round, crab and 2-wheel rear steering. (Net Weight: 15 pounds)

**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:**

385/65D22.5, 16-ply, high-traction on/off road tread.

**Tire Options:****High Traction Tread, Non-Marking: (TO-36)**

Non-Marking, 385/65D22.5, 16-ply, high-traction on/off road tread.

**Foam Filling of Tires: (FF-5)**

Foam filling of four IC-250 tires. (Net Weight: 2000 pounds)

**Spare Tire and Wheel, Mounted: (SW-29) (Specify Left or Right)**

Extra wheel with 385/65D22.5 tire mounted, ready for service. (Net Weight: 335 pounds)

**Spare Non-Marking Tire and Wheel, Mounted: (SW-34) (Specify Left or Right)**

Extra wheel with 385/65D22.5 tire mounted, ready for service. (Net Weight: 335 pounds)

**Chassis:****Standard:****Cargo Deck:**

Total Deck Area: 80 Square Feet (Front deck 94" X 62", RH side deck 182" 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.

**Headlight and Taillight Grilles:**

Steel protective grilles for headlights and taillights. Easily removable for replacing bulbs.

**Outriggers:**

Four hydraulic out-and-down outriggers of box-beam construction. Independent controls for each outrigger. Both beam and jack hydraulic cylinders are equipped with direct-connected holding valves. Pad dimensions: 9 inches x 9 inches.

**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 12-1/2" long x 36-1/2" wide.

**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.

**Chassis Options and Accessories:****Auxiliary Winch: (AW-15)**

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. Rated load on the wire rope is 6,800 pounds. (Net Weight: 250 pounds)

**Pintle Hook - Rear: (PH-19)**

T-60-AOL Holland pintle hook mounted on rear frame member, provides capacity for 6,000 pound tongue weight and 30,000 pound 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-19. (Net Weight: 45 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)

**Chassis Options and Accessories: (Cont'd)****Outrigger Shoes: (OS-1)**

Steel outrigger shoes, 18 X 18 inch octagonal shape with storage posts on rear bumper.  
(Net Weight: 170 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 keyed lock to protect operator's station. Includes defroster fan, dome light, 24,000 BTU heater with 2-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 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-9)**

Vinyl mat with foam backing covers floor, front wall and lower portion of right hand wall of operator's compartment. (Net Weight: 5 pounds)

**Operator's Suspension Seat: (SSO-2)**

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

**Noise Reduction Kit - Cab: (NR-6)**

Includes vinyl floor mats, 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's area, fan cooled condenser mounted under fuel tank and belt driven compressor with magnetic clutch driven by engine. (Net Weight: 125 pounds)

**Electrical System:****Standard****12 Volt DC:****Battery:**

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

**Electrical System: (Cont'd)****Standard****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.

**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" or "outrigger out" 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. (Net Weight: 6 pounds)

**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. 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. 54 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 sections proportionally. The telescope cylinder and the double-acting boom elevation cylinders are equipped with cylinder-mounted 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 steel weldment.

**Boom Hoist:****Standard:**

Turret-mounted planetary gear hoist, is hydraulically powered to provide a bare-drum line pull of 12,000 pounds and a speed of 100 feet per minute. Hoist drum is 9-7/8 inch diameter by 16-1/2 inches long. The hoist includes 320 feet of 9/16 inch wire rope, 170 pound downhaul weight and swivel hook. Maximum length of loadline that can be used on the crane is 390 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" 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 OD sheaves for 9/16 inch diameter wire rope. Swivel hook with safety latch. 300 pound weight provides positive overhaul. Includes bar on top to actuate trip arm of Anti-Two-Block Device.

**Optional Boom Attachments:****Boom Extension - 20 Ft. Offset: (BE-31)**

Provides 20 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 500 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: 680 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" OD 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 four pins through the 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 link 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: 50 pounds)

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

CAPACITIES ARE IN POUNDS AND APPLY TO OPERATION ON FIRM LEVEL SURFACE								
LOAD RADIUS FEET	MAIN BOOM		MAIN BOOM OR BOOM EXTENSION					
	ON RUBBER 360° ROTATION	ON RUBBER OVER FRONT	O/R'S IN & DOWN 360° ROTATION	O/R'S IN & DOWN OVER FRONT	O/R'S OUT & DOWN 360° ROTATION			
6	16400	18500	30000	36000	36000			
8	13000	15000	25050	30400	30400			
10	10800	12350	20300	25000	25000			
12	9000	10450	15600	20800	20800			
14	7550	9000	12100	18700	18700			
16	6450	7800	9700	16700	16700			
18	5600	6850	8050	14900	14900			
20	4800	6100	6800	13500	13500			
22	4150	5400	5800	12100	12100			
24	3600	4650	5000	10900	10900			
26	3100	4000	4350	9850	9850			
28	2700	3500	3800	8950	8950			
30	2350	3050	3350	8200	8200			
32	2000	2650	2850	7500	7500			
34	1750	2300	2500	6900	6900			
38	1300	1750	1950	5700	5700			
42	900	1400	1500	4800	4800			
46	600	1100	1150	4100	4100			
50	350	900	900	3500	3500			
54	---	---	---	---	3200			
58	---	---	---	---	2800			
62	---	---	---	---	2400			
66	---	---	---	---	2100			
70	---	---	---	---	1800			
BOOM EXT. ANGLE	BOOM EXTENSION CAPACITY- STRAIGHT OR OFFSET							
	MAIN BOOM ANGLE							
	0°	15°	30°	40°	50°	60°	70°	75°
0°	2600	2750	3000	3400	4100	5100	6200	7000
15°	---	2500	2600	2700	2900	3300	4300	4800
30°	---	---	2300	2400	2500	2700	3200	3400

BOOM EXTENSION MAY ONLY CARRY LOADS WITH OUTRIGGERS DOWN.  
BOOM EXTENSION LOADS MUST NOT EXCEED MAIN BOOM CAPACITY.

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.

