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BRODERSON MFG. CORP.
LENEXA, KANSAS 66215

OPERATION AND MAINTENANCE MANUAL IC-200-2G & 3G

OWNER: _____

SOLD AND SERVICED BY: _____

MODEL NO. _____ SERIAL NO. _____

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>Drawbar Pull (pounds)</u>	<u>Travel Speeds (MPH)</u>
1st	17,000*	3
2nd	8,900*	5
3rd	5,100*	10
4th	2,700*	18

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

Rear Axle:**Standard 2-Wheel Drive:**

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

Optional 4-Wheel Drive:

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.) (Net Weight: 160 pounds)

Steering:**Standard:**

Hydraulic steering unit with two 3-inch 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:**

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

Tires:**Standard 2-Wheel & 4-Wheel Drive:**

15x22.5, 16 ply rating.

Tire Options:**Non-Marking Pneumatic:**

385/65D22.5 16 ply rating (Net Weight: 20 pounds)

Foam Filling of Tires:

Foam filling of four IC-200 tires. (Net Weight: 2000 pounds)

Spare Tire and Wheel Mounted Standard Tire:

Extra wheel with standard tire (15X22.5, 16 ply) mounted, ready for service. (Net Weight: 350 pounds)

SEQUENCE OF OPERATION

DRIVING THE VEHICLE

The following procedure is recommended for driving the vehicle:

1. Perform the daily inspection and test. (See Page 3-4)
2. Apply park brake.
3. Place transmission control lever in neutral.
4. Start engine and allow a warming period.
5. While warming the engine, set up the Rated Capacity Limiter configuration.
6. Stow boom over front.
7. Pull hoist line snug.
8. Retract outriggers.
9. Step on the brake pedal.
10. Release park brake lever.
11. Shift transmission to desired gear.
12. Place forward/reverse lever in desired position.
13. Release brake and press on accelerator pedal.
14. Slow down when making turns.
15. Set park brake and lower outriggers or chock wheels to park.

OPERATING THE CRANE

The following procedure is recommended for placing the crane in operation:

1. Perform daily inspection and test. (See Page 3-4)
2. Apply park brake.
3. Place transmission control lever in neutral.
4. Start engine and allow a warming period at low RPM.
5. While warming the engine, set up the Rated Capacity Limiter configuration.
6. Move accelerator pedal to medium to full speed.
7. Set all outriggers fully down on firm, level surface. Use timber or steel plate cribbing under outrigger shoes as needed on soft or uneven surfaces. Outriggers should remain set during all crane operations except for pick and carry.
8. Meter the controls when beginning or ending movement. This prevents suddenly starting or stopping which causes unsafe load swinging and shock loads on the equipment. The control should be slightly actuated to begin movement and then slowly increased to desired speed. Metering can be improved by coordinating with the accelerator pedal.
9. You may use the throttle control switch to set the engine speed to 1200 or 1800 RPM when the park brake is on. Return to idle by releasing park brake momentarily.
10. Release accelerator during idle time and shut off engine, if practical.

NORMAL GAUGE READINGS

Level Indicator: Do not operate crane if it is not level.

Fuel: Do not allow fuel tank to become empty. The engine will be difficult to restart and may require "bleeding" of diesel injectors. Keep fuel tank full when idle to prevent condensation in tank.

FLUID VOLUME

Hydraulic reservoir – 54 gallons

Fuel tank – 30 gallons

Planetary hoist – 2.5 quarts

Front auxiliary winch – 2 pints

4x2 & 4x4 Front axle – 5.98 gallons housing, .39 gallons each hub

4x4 Rear axle – 4.68 gallons housing, .44 gallons each hub

4x2 Rear axle – 0 gallons housing, .44 gallons each hub

Transmission – 17.5 quarts

Engine cooling system – 15 to 17 quarts depending on engine and heater

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5. Insert the cable through the anchor slot and wrap it around the anchor wedge. The end of the cable should extend past the wedge by about one inch.
6. Slide the cable and wedge into the drum socket and pull firmly on the free end of the cable to set the wedge. Seat the wedge securely with a brass or rawhide mallet.
7. Slowly rotate the hoist while applying tension on the cable in front of the boom. Wear heavy leather gloves and wrap rags around the cable to wipe off any dirt from the cable. Keep hands away from the sheaves and hoist drum while the cable is moving.
8. After two turns of the hoist drum, stop the hoist and push the cable into the drum groove if it has come out.
9. Slowly rotate the drum until the first layer of cable is on the drum. If any gaps between the rope appear, back up the hoist and rewind. There must be no gaps.
10. After the first layer is on the drum, the hoist may be turned a little faster until the remainder of the cable is installed.
11. Leave about 30 feet of cable on the ground to install the sheave block. See the Operation Section for instructions on reeving and wedge socket attachment.
12. Install the cable retainer pins and cotters in the tip sheave plates.
13. For the cable preloading, extend the outriggers and attach a load of about 2,000 pounds. Extend the boom fully. Position the load at a 10-foot load radius over the right-hand side of the crane. Hoist and lower the load three times and check winding of the rope on the hoist.
14. Attach about 5,000 pounds and repeat. Be sure that the cable winds evenly on the hoist.
15. If the cable appears to twist too much, remove the sheave block and rewind the cable on the drum as in Steps 7-11.
16. Never lift more than the rated load on the Capacity Chart for the parts of line and type of wire rope being used.
17. Lubricate the cable as recommended in the "Wire Rope Lubrication" section. Inspect, maintain and replace the cable in accordance with ANSI B30.5-1982, Section 5-2.4.
18. If the cable needs to be replaced use $\frac{1}{2}$ diameter 6X25-IWRC-EIP wire rope (breaking strength 26,600 lbs).

Full Version Available

Broderson IC-200-2G and IC-200-3G Crane Operation and Maintenance Manual

Broderson IC-200-2G, IC-200-3G pick and carry crane operation and maintenance manual with lubrication, fluids and adjustments. Instant PDF download.

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