

JOHN DEERE 7100 FOLDING MAX-EMERGE PLANTER



OPERATORS MANUAL JOHN DEERE 7100 FOLDING MAX-EMERGE PLANTER

OMA34000 B7 English



OMA34000 B7

LITHO IN THE U.S.A. ENGLISH



To the Purchaser

This new planter was carefully designed and manufactured to give years of dependable service. To keep it operating efficiently, read the instructions in this operator's manual. Each section is clearly identified so you can easily find the information you need—whether it is operation or service. Read "Contents" to learn where each section is located.

This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Because John Deere sells its products world-wide, U.S. units of measure are shown with their respective Metric equivalents throughout this operator's manual. These equivalents are the SI (International System) Units of Measure. "Right-hand" and "left-hand" sides are determined by facing in the direction the planter will travel when in use.

Record the serial number of your planter in the space provided on page 150. Your dealer needs this information to give you prompt, efficient service when you order parts or attachments. If your planter requires replacement parts, go to your John Deere dealer where you can obtain genuine John Deere parts—accept no substitutes.

The warranty on this planter appears on your copy of the purchase order which you should have received from your dealer when you purchased the planter.



7100 Folding Max-Emerge Planter 12-Row Narrow

7100 FOLDING MAX-EMERGE PLANTER

TO THE DEALER

Retain Your Shipping Packing List For Complete Shipping Bundle Information.

Pre-delivery service is the service John Deere recommends that a dealer perform on a machine before delivering it to a customer. This includes assembly, lubrication, adjustment, and test. The service assures that the machine will be delivered in good condition to the customer.

The John Deere Delivery Receipt, when properly filled out and signed by the dealer and customer, verifies that the predelivery and delivery services were satisfactorily performed. When delivering this machine, give the customer a copy of the delivery receipt and the operator's manual. Explain their purpose.

PREDELIVERY CHECK LIST

The following check list is a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

- □ Lubricate planter as outlined on pages 77 and 78. Replace all missing grease fittings.
- Inspect to be sure nuts on all bolts have been tightened and all cotter pins spread. See bolt torque chart on page 91.
- □ Check scrapers for correct assembly.
- Run in planter and make sure all working parts are moving freely.
- □ Inflate tires to 40 psi (2.8 bar) (2.8 kg/cm²).
- □ Adjust planter to row width desired by customer.
- Adjust markers for row width desired.
- □ Paint all parts scratched in shipment.
- This planter has been thoroughly checked and to the best of my knowledge is ready for delivery to the customer.

(Date Set Up)

(Signature of Set-Up Person)

OWNER REGISTER

Date Sold_____

DELIVERY CHECK LIST

The following check list is a reminder of very important information which should be conveyed directly to the customer at time planter is delivered. Check off each item as it is fully explained to the customer.

- Advise the customer that the life expectancy of this or any other machine is dependent on regular lubrication as directed in operator's manual.
- □ Tell the customer about all the safety precautions which must be observed while using this planter.
- When the planter is transported on a road or highway at night or during the day, accessory lights and devices should be used for adequate warning to operators of other vehicles. In this regard, tell customer to check local governmental regulation.
- Give the operator's manual to the customer and explain all operating adjustments.
- □ To the best of my knowledge this machine has been delivered ready for field use and customer has been fully informed as to proper care and operation.

(Date Delivered)

(Signature of Delivery Person)

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Contents

Page				
2	Safety Suggestions			
3-8	Preparing For Use			
0.14	Attaching and Detaching			
9-14				
15-17	Iransporting			
18-62	Operating Adjustments			
63-76	Attachments			
77-78	Lubrication			
79-86	Service			
87-90	Trouble Shooting			
91-147	Assembly			
148-151	Specifications			
150 154	Indox			
152-154	maex			

1



Safety Suggestions

GENERAL

The safety of the operator was one of the prime considerations in the minds of John Deere engineers when this planter was designed.

You can make your farm a safer place to live and work if you observe the safety suggestions given. Study these suggestions carefully and insist that they be followed by those working with you and for you.

Finally, remember this: An accident is usually caused by someone's carelessness, neglect, or oversight.

If spray can paint is used be careful when discarding empty can. Do not incinerate or puncture can.

TRANSPORTING

When transporting the planter on a road or highway at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. In this regard, check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

Stand clear of marker disk when folding or securing marker.

Always lock markers in transport position before transporting the planter any considerable distance.

When transporting the planter on a smooth surface, do not exceed maximum tractor transport speed. Reduce speed considerably when traveling over rough ground.

SERVICE

Always lower the planter to the ground when not in use. Whenever possible, perform service work and adjustments with the planter on the ground.

Never clean, lubricate or adjust a machine that is in motion.

OPERATION

For tractor stability and operator safety, tractor front end weights may be required. See page 6.

Do not adjust the planter while it is in motion.

Never permit any person other than the operator on the tractor.

Never ride or permit others to ride on the planter.

Be careful when operating on hillsides because the tractor may tip sideways if it strikes a hole, ditch, or other irregularity.

When planter is in a raised position for attaching transport straps, be sure rockshaft and remote cylinder operating levers are not touched by anyone.

Stay clear of folding sections during raising and lowering.

Always unfold planter wings before lowering planter to the ground or detaching planter from tractor.

HYDRAULIC OIL

Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes, and hoses are not damaged. Hydraulic oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping hydraulic oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

AGRICULTURAL CHEMICALS

Agricultural chemicals can be dangerous. Improper selection or use can injure persons, animals, plants, soils, or other property. BE SAFE. Handle and apply with care. Follow instructions of the chemical manufacturer.



Preparing For Use

ALL PLANTERS PREPARING THE PLANTER

General

The 7100 Folding Max-Emerge Planters have strong 7- x 7-inch (80 x 80 mm) tubular main frames designed for use with category 2 tractors with or without Quik-Coupler and category 3 tractors with Quik-Coupler. The frame is carried and the planting units are driven by screw-adjusted drive-gauge wheels.

7100 Folding Planters are either completely integral, semi-integral with single or dual lift assist wheels, or equipped with lift assist wheel (s) and hydraulic mast.

When properly adjusted to meet the field conditions on your farm, your new planter will do a good job at a minimum of expense.

Length of life and maximum operating efficiency depend largely upon good care and proper adjustment.

Improper adjustment results in rapid wear, possible breakage of parts, and inefficient operation.

Before starting to work with a new planter or one which has been stored, check to see that all bolts and set screws are tight, and all cotter pins spread to keep them from falling out.

A good practice is to check for loose bolts, screws, or parts before attaching to the tractor. Loose bolts are easily lost or cause excessive wear on parts, resulting in possible serious damage. See page 91 for proper torque specifications.

Hydraulic Mast

If your planter is equipped with a hydraulic mast, it is essential that you understand its use.

The hydraulic mast gives you both integral and semi-integral operation.

When in transport, the planter operates in a semiintegral fashion. (Remote cylinders are extended and mast cylinder is flexible.)

By holding the tractor remote cylinder operating lever in the "automatic retract" position with a lever lock clip, the mast cylinder "floats" and becomes flexible for traveling over uneven terrain.

When planting, integral operation is assumed.

By holding the remote cylinder operating lever rearward until the mast cylinder is fully retracted and locked and the lift-assist wheels are fully raised, the planter becomes rigid (integral).

This prevents any rocking motion which might occur during operation.

Tire Inflation

Inflate 7.60-15 6 PR tires to 40 psi (2.8 bar) (2.8 kg/cm²) of air pressure.

Lubrication

Be sure your planter has been properly lubricated. Consult the lubrication charts on pages 77 and 78 for lubrication instructions.

Regular and systematic lubrication is the best assurance against breakdown and delays. It will help you get better service from your planter and save on your maintenance costs.

Row Widths



(Seed Hoppers Removed for Clarity)

The 7100 Folding Planters are available for planting the following row widths:

8-row wide planters - 36-inch (91 cm), 38-inch (97 cm), and 40-inch (102 cm) row widths.

12-row narrow planters - 30-inch (76 cm) row width only.

To change row widths on wide row planter, lower the planter (hoppers empty) until openers rest on the ground.

Remove drill shaft bearing bolts (A) and loosen the planter U-bolts (B). If reducing row width, slide the bearings toward the center of the planter.

Place each inside planting unit so the center of the unit is one-half the desired row width from the center of the planter frame.

Place other units at the desired row width from these units. Be certain unit mounting angles are vertical and spaced at approximately 12-1/2 inches (320 mm), outside to outside. Tighten U-bolts uniformly to 105 foot-pounds (142 Nm) (14.2 kgm) of torque.

Attach drill shaft bearings to planting units with bolts removed earlier.

Check all drive components for interference and check planting unit openers to insure seed tubes and openers are free of dirt or other foreign material.

NOTE: On wide row planters, the drive-gauge wheels are factory-set for 38-inch (97 cm) row spacing. If 36- or 40-inch (91 or 102 cm) row spacing is desired, the drive gauge wheels must be moved accordingly.



D—Bearing Set Screw E—Ratchet Carrier Bolt F—Clamp Bolts

To move the drive-gauge wheel, clean drive shaft with emery cloth, loosen bearing set screw (D), loosen clamp bolts (F), and remove ratchet carrier bolt (E). Slide wheel and drive assembly to the right or left as required to line up hole in carrier with hole in countershaft. Replace and tighten bolts.

IMPORTANT: Be certain drive chain aligns properly with ratchet sprocket on countershaft. There should be light contact between ratchet sprocket and ratchet dog carrier. Be certain (after moving wheel ratchet) sprocket turns freely.

PREPARING AND ADJUSTING THE TRACTOR

For complete tractor operating instructions, refer to your tractor operator's manual.

Rear Wheel Tread

Set tractor wheel tread (center-to-center of tires) as nearly as possible twice the width of the row spacing. For example: for 40-inch (102 cm) row widths, set the tractor wheel tread at 80 inches (2030 mm).

Rear Wheel Weighting

For rear wheel weighting recommendations see your tractor operator's manual.

For maximum ballast, refer to your tractor operator's manual.

Front Wheel Tread

On wide front end tractors, set front wheels to conform to rear wheel setting.

Tire Inflation

Inflate the tractor tires as recommended in the tractor operator's manual.

Setting the Rockshaft Selector Lever

Set the selector lever in Zero, "D" or "MIN" position, depending upon your model tractor.

Remote Cylinder Operating Lever

When planter is equipped with hydraulic mast, lever lock clip must be used on tractor console during field transport. See tractor operator's manual for instructions on installing lever lock clip.

Sway Blocks



Sway Blocks Installed to Eliminate Side Sway

Install sway blocks in the down and wide setting. This will prevent side sway when the planter is working and will also prevent side sway when the planter is being transported. See illustration above.

Lift Links

Adjust the lift links for transport clearance and lateral float. See tractor operator's manual.

PREPARING AND ADJUSTING THE TRACTOR—Continued

Front Ballast Information

Tractor front end stability is necessary for safe and efficient operation. Therefore, it is important that the proper amount of weight be installed on the front of the tractor as recommended in your tractor operator's manual. For proper front end weighting, see the following implement code tables.

CAUTION: Front-end ballast may not always maintain the required stability if the tractor is driven too fast over rough ground with planter in raised position. Be safe and drive slowly under these conditions.

Instructions

Step 1 - Find your planter model in the IMPLEMENT CODE TABLE and enter its code on line 1, right. Step 2 - Enter an implement Code for each attachment on line 2.

Step 3—Add these codes to obtain Total Implement Code.

Step 4 - Select additions or subtractions from tractor operator's manual.

Step 5 - Refer to tractor operator's manual to determine required tractor front ballast.

Example Your Code Step 1 180 Step 1____ Step 2 49 Step 2_____ 10 12 Step 3 251 (sub total) Step 3_____ Step 4 Step 4_____ Step 5 (total) Step 5___

Our example is an eight row wide planter with a semi-integral hitch with one lift assist wheel (180), insecticide (49), furrowers (10) and markers (12). Refer to your tractor operator's manual for steps 4 and 5 and for your recommended front end ballast.

IMPORTANT: Refer to tractor operator's manual: 1. If the total implement code exceeds the maximum implement code listed for a particular tractor model, the implement-attachment combination is not recommended for that tractor. 2. The total load on any tractor wheel due to the weight of the implement-attachment combination and tractor equipment, should not exceed the carrying capacity of the tractor tires.

IMPLEMENT CODE TABLE

Size of Planter	Basic Code*	Add for Insecticide and/or Herbicide Attachments	Add for Furrowers, V-Wing, Coulters, or Tine-Tooth Tillage Attachments	Add for Markers
			-	
8-Row Wide				
(Integral - no lift assist wheels)	249	75	15	18
(Semi-integral - one lift assist wheel)	180	49	10	12
12-Row Narrow				
(Integral - no lift assist wheels)	335	112	23	18
(Semi-integral) - two lift assist wheels)	244	73	15	12
*Ropio machina cada includas pla	ntor framo dri	ve and gauge wheel as	complian units with cood	honnore and

*Basic machine code includes planter frame, drive and gauge wheel assemblies, units with seed hoppers, and parking stands.

Converting Tractor Hydraulic System For Simultaneous Control of Rockshaft and Lift Assist Wheels

NOTE: This conversion unit cannot be used with hydraulic center mast.

CAUTION: Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Hydraulic oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping hydraulic oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

If lift assist wheels are used, see pages 104-121 for hydraulic hose layout. If simultaneous control of rockshaft and lift assist wheels is desired, proceed as follows:

4230 and 4430 Tractors



B-

A-Drop Adjustment Valve Assembly -Rockshaft Piston Cover

1. Remove rockshaft piston cover.



A-Drop Adjustment Valve Assembly

2. Install new piston cover and transfer drop adjustment valve assembly from old cover to new cover.



3. Install hoses and fittings for lift assist wheel.

Converting Tractor Hydraulic System For Simultaneous Control of Rockshaft and Lift Assist Wheels—Continued

4630 Tractor



Install new piston cover similar to steps 1 and 2 on page 7; then install hoses and fittings.

6030 Tractor



NOTE: Left-hand housing cover removed for illustration purposes.

Using directions provided with hydraulic parts bundle, mark holes as shown; then remove housings and drill holes.

Remove hydraulic tube and install hoses and fittings by routing through housings. Install housings.



Attaching and Detaching

ATTACHING TO TRACTOR

Position hitch pins and spacers as shown in the following diagrams for your type of tractor hitch.

Lower Pins



- A-Lower Pins Positioned for Category 2 without Quik-Coupler or Category 3 with Quik-Coupler
- B—Lower Pins Positioned for Category 2 with Quik-Coupler

Upper Pin and Spacer (Integral)



Pin and Ball Positioned for Category 2 without Quik-Coupler



Pin and Spacer Positioned for Category 2 with Quik-Coupler



Pin and Spacer Positioned for Category 3 with Quik-Coupler

AI3671

9-14

Upper Pin and Spacer (Hydraulic Mast)



A—Hydraulic Cylinder

Pin and Spacer

9-14

A13672

-Pin and Spacer for

Category 2 with Quik-Coupler



Pin and Spacer for Category 3 with Quik-Coupler

IMPORTANT: Hydraulic mast can be used only with Category 2 or Category 3 Quik-Coupler and closed center hydraulic systems.

See your tractor operator's manual for instructions on connecting the tractor Quik-Coupler to the planter hitch pins.

Secure hitch pins with cotter pins and Quik-Lock pins.

Hydraulic Hoses

CAUTION: To avoid injury from escaping hydraulic oil under pressure, relieve the pressure in the system by shutting off tractor and moving remote cylinder operating levers in both directions before attaching hoses to or detaching hoses from the breakaway couplers.

Integral

The folding planter and marker hydraulic hoses are connected to the tractor breakaway couplers in the same manner whether your planter is equipped with an electric marker control or mechanical latch.



A—Folding Toolbar Hoses B—Marker Hose

Install marker hose (B) into left side of right-hand breakaway coupler and install folding planter hoses (A) into left-hand breakaway coupler. Install hose so hydraulic cylinders extend, raising the markers and folding the planter when moving the remote cylinder operating lever rearward. The folding planter and marker remote operating lever should be in the float position if a flexible planter is desired. See your tractor operator's manual for setting remote cylinder operating lever in float position.

Semi-Integral - Simultaneous Marker and Lift Assist Control (Independent Rockshaft Control)

To raise the markers simultaneously with the lift-assist wheels while maintaining separate control of the tractor rockshaft, attach the hydraulic hoses as shown below for the following:

Dual Lift Assist Wheels with Mechanical Latch Dual Lift Assist Wheels with Electric Marker Control



-Wing-Fold Hydraulic A--Hoses

8 -Lift Assist and Marker Hoses

IMPORTANT: Be certain all hoses are secured clear of any points which may pinch or cut hoses when raising or lowering planter.

Semi-Integral - Independent Marker Control (Independent Rockshaft Control)

NOTE: Attaching hydraulic hoses in this manner is recommended for tractors with triple breakaway couplers.

To raise the markers separately from the lift-assist wheels while maintaining separate control of the tractor rockshaft and the lift-assist wheel(s), attach the hydraulic hoses as shown below for the following:

Single List Assist Wheel with Mechanical Latch Single Lift Assist Wheel with Electric Marker Control

Dual Lift Assist Wheels with Mechanical Latch Dual Lift Assist Wheels with Electric Marker Con- 9-14 trol



A-Lift-Assist Wheel Hoses C--Wing Fold Hydraulic B-Marker Hose Hoses

IMPORTANT: Be certain all hoses are secured clear of any points which may pinch or cut hoses when raising or lowering planter.

Hydraulic Hoses—Continued

Semi-Integral - Simultaneous Marker, Lift-Assist and Rockshaft Control

To raise the markers and rockshaft simultaneously with the lift-assist wheel(s), attach the hydraulic hoses as shown below for the following:

Dual Lift Assist Wheels with Mechanical Latch Dual Lift Assist Wheels with Electric Marker Control





A-Wing Fold Hydraulic Hoses B—Lift-Assist Wheel(s) and Marker Hose

IMPORTANT: Be certain all hoses are secured clear of any points which may pinch or cut hoses when raising or lowering planter.

Semi-Integral - Independent Marker Control (Simultaneous Rockshaft and Lift-Assist Control)

To raise the markers separately from the lift-assist wheels while maintaining simultaneous control of the tractor rockshaft and the lift-assist wheel(s), attach the hydraulic hoses as shown below for the following:

Single Lift Assist Wheel with Mechanical Latch Single Lift Assist Wheel with Electric Marker Control

Dual Lift Assist Wheels with Mechanical Latch Dual Lift Assist Wheels with Electric Marker Control



A—Wing-Fold Hydraulic Hoses B—Marker Hose

C—Lift-Assist Wheel Hose

IMPORTANT: Be certain all hoses are secured clear of any points which may pinch or cut hoses when raising or lowering planter.

Hydraulic Mast - Simultaneous Marker and Lift-Assist Wheel Control

NOTE: Attaching hydraulic hoses in this manner is recommended for tractors with closed-center hydraulic system and only triple breakaway couplers.

To raise the markers simultaneously with the liftassist wheel(s), attach the hydraulic hoses as shown below for the following:

Single Lift Assist Wheel with Mechanical Latch Single Lift Assist Wheel with Electric Marker Control

Dual Lift Assist Wheels with Mechanical Latch Dual Lift Assist Wheels with Electric Marker Control



A---Lift Assist Hoses B---Marker Hose

C—Wing-Fold Hydraulic Hoses

IMPORTANT: Be certain all hoses are secured clear of any points which may pinch or cut hoses when raising or lowering planter.

Electric Marker Control



1. Install one lead wire from top of electric marker control into female Y-connector and other lead wire from top of electric marker control into straight female connector on wiring harness.

2. Install one lead wire from bottom of electric marker control into female Y-connector and other lead wire from bottom of electric marker control into straight female connector on wiring harness.

3. Install male connector from wiring harness into female Y-connector.

NOTE: Instructions for attaching wiring harness and relay switch to tractor can be found in relay switch bundle.

Parking Stand



Raise parking stand to field storage position. Secure with pin and spring locking pin.

CHECKING HYDRAULIC SYSTEM

After attaching planter to tractor for the first time, check all hydraulic connections, lines and hoses for leaks.

CAUTION: Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes, and hoses are not damaged.

Hydraulic oil escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping hydraulic oil, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

DETACHING FROM TRACTOR

With planter and tractor on firm, level ground, lower planter to ground.

Relieve hydraulic pressure from system by shutting off tractor and moving remote cylinder operating lever in both directions.



Secure parking stand in lowered position with pin and spring locking pin (bold arrow).

Remove hoses from the breakaway couplers and unplug electric marker control harness from tractor.



Transporting

STRAIGHT OR FOLDING HYDRAULIC MARKERS



A13680

Before transporting the planter, remove marker transport locking pins (bold arrow) from storage position.



Fold markers and install locking pin (bold arrow).

Folding Markers Only



A131267

If less transport height is required when wings are folded, disconnect marker chain from chain connecting straps and secure marker disk blade to marker arm as shown above.

15-17

FIELD TRANSPORTING

Integral

To transport the integral planter in the field, raise the tractor hitch.

Semi-Integral

To transport the semi-integral planter in the field, first lift the rear of the planter by extending the lift-assist wheel remote hydraulic cylinder(s) with remote cylinder operating lever.

Raise the front of the planter by raising the tractor rockshaft.

Semi-Integral With Hydraulic Mast

IMPORTANT: Your tractor must have a closed center hydraulic system when using a hydraulic mast.

See "Hydraulic Mast" on page 3.

To transport a planter equipped with a hydraulic mast in the field, first lift the rear of the planter by extending the lift-assist wheel remote hydraulic cylinder(s).

NOTE: See page 20 for lift-assist wheel adjustment instructions.

Next, secure the remote hydraulic cylinder operating lever in the forward position with the lever lock clip. This will keep the lift-assist wheel cylinder(s) extended.

IMPORTANT: A remote cylinder operating lever lock clip must be used with the hydraulic mast to prevent damage to the hitch when the planter is in transport position.

Lift the front of the planter with the tractor rockshaft control lever.

ROAD TRANSPORTING

CAUTION: When transporting the planter on a road or highway at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. In this regard, and for maximum permissible transport widths, check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

When transporting your planter with an integral hitch on a smooth surface road, do not exceed maximum tractor transport speed. Reduce speed considerably when traveling over rough ground.

If your planter is equipped with a semi-integral hitch do not transport faster than 10 mph (16 km/h) on a smooth surface road. Reduce speed when traveling over rough ground. During transport, drive slowly and carefully. Lift-assist wheels may make tractor less maneuverable.

15-17

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