Predelivery Manual

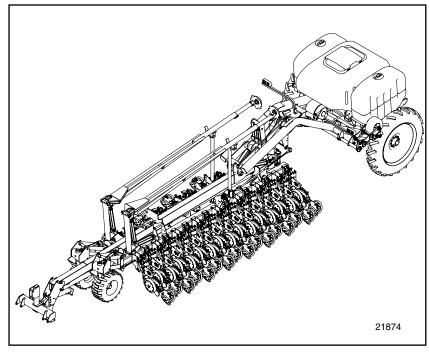
2005+ YP1225 & YP1625 Yield-Pro Planter®

www.greatplainsmfg.com

Great Plains Manufacturing, Inc.

Read the

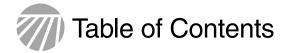
Read the operator's manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!



 $\label{thm:cover-illustration-may-show-optional-equipment-not-supplied with standard-unit.$

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Important Safety Information

Look for Safety Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.









Be Familiar with Safety Decals

- ▲ Read and understand "Safety Decals" in the operator's manual.
- ▲ Read all instructions noted on the decals.



Keep Riders Off Machinery

Riders obstruct the operator's view. Riders could be struck by foreign objects or thrown from the machine.

- ▲ Never allow children to operate equipment.
- ▲ Keep all bystanders away from machine during operation.

Shutdown and Storage

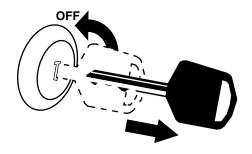
- ▲ Lower planter, put tractor in park, turn off engine, and remove the key.
- ▲ Secure planter using blocks and supports provided.
- ▲ Detach and store planter in an area where children normally do not play.

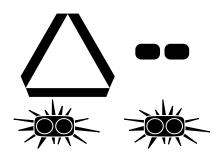
Use Safety Lights and Devices

Slow-moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.

- ▲ Use flashing warning lights and turn signals whenever driving on public roads.
- ▲ Use lights and devices provided with implement.







Transport Machinery Safely

Maximum transport speed for implement is 20 mph. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

- ▲ Do not exceed 20 mph. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.
- ▲ Comply with state and local laws.
- ▲ Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of towing vehicle.
- ▲ Do not transport sprayer when filled with chemicals.
- ▲ Carry reflectors or flags to mark boom and sprayer in case of breakdown on the road.
- ▲ Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under "Specifications and Capacities" in the operator's manual.
- ▲ Do not fold or unfold the boom while the tractor is moving.

Avoid High Pressure Fluids

Escaping fluid under pressure can penetrate the skin, causing serious injury.

- ▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
- ▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▲ If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.









Practice Safe Maintenance

- ▲ Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.
- ▲ Work in a clean, dry area.
- ▲ Lower the planter, put tractor in park, turn off engine, and remove key before performing maintenance.
- ▲ Make sure all moving parts have stopped and all system pressure is relieved.
- ▲ Allow planter to cool completely.
- ▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on sprayer.
- ▲ Inspect all parts. Make sure parts are in good condition and installed properly.
- ▲ Remove buildup of grease, oil or debris.
- ▲ Remove all tools and unused parts from planter before operation.

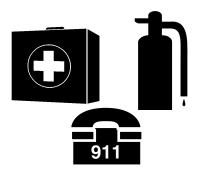
Prepare for Emergencies

- ▲ Be prepared if a fire starts.
- ▲ Keep a first aid kit and fire extinguisher handy.
- ▲ Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

Wear Protective Equipment

- ▲ Wear protective clothing and equipment.
- ▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
- ▲ Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.
- ▲ Because operating equipment safely requires your full attention, avoid wearing radio headphones while operating machinery.







Handle Chemicals Properly

Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.

- ▲ Read and follow chemical manufacturer's instructions.
- Wear protective clothing.
- ▲ Handle all chemicals with care.
- ▲ Avoid inhaling smoke from any type of chemical fire.
- ▲ Store or dispose of unused chemicals as specified by chemical manufacturer.



- ▲ Use a safety chain to help control drawn machinery should it separate from tractor
- ▲ Use a chain with a strength rating equal to or greater than the gross weight of towed machinery.
- ▲ Attach chain to tractor drawbar support or other specified anchor location. Allow only enough slack in chain to permit turning.
- ▲ Replace chain if any links or end fittings are broken, stretched or damaged.
- ▲ Do not use safety chain for towing.

Tire Safety

Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.

- ▲ When inflating tires, use a clip-on chuck and extension hose long enough to you to stand to one side-not in front of or over tire assembly. Use a safety cage if available.
- ▲ When removing and installing wheels, use equipment adequate for wheel-handling weight involved.



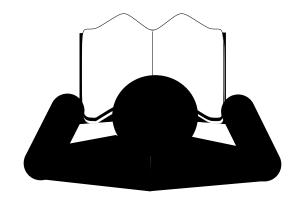




Safety at All Times

Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

- ▲ Be familiar with all planter functions.
- ▲ Operate machinery from the driver's seat only.
- ▲ Do not leave planter unattended with tractor engine running.
- ▲ Do not dismount a moving tractor. Dismounting a moving tractor could cause serious injury or death.
- ▲ Do not stand between the tractor and boom during hitching.
- ▲ Keep hands, feet and clothing away from power-driven parts.
- ▲ Wear snug-fitting clothing to avoid entanglement with moving parts.
- ▲ Watch out for wires, trees, etc., when folding and raising boom. Make sure all persons are clear of working area.
- ▲ Do not turn tractor too tightly, causing planter to ride up on wheels. This could cause personal injury or equipment damage.



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Introduction

Great Plains welcomes you to its growing family of new product owners. This implement has been designed with care and built by skilled workers using quality materials. Proper setup and maintenance along with safe operating practices will help you get years of satisfactory use from the machine.

Description of Unit

The 12 and 16 Row Yield-Pro® Planters are a pull-type planting implement for use in conventional till, minimum-till, or light no-till conditions. The 12 and 16 Row Yield-Pro® Planters can be outfitted with optional unit mounted coulters. The unit mounted coulters make it suitable for light to moderate no-till conditions only. The 12 and 16 Row Yield-Pro® Planters are outfitted with 25 series, side-depth control row-units. The 12 and 16 Row Yield-Pro® Planters fold for transport.

Intended Usage

Use the planter to seed production - agriculture crops only. Do not modify the planter for use with attachments other than Great Plains options and accessories specified for use with the planter.

Models Covered

2005+ YP1225, 2005+ YP1625

Using This Manual

This manual was written to help you assemble and prepare the new machine for the customer. The manual includes instructions for assembly and setup. Read this manual and follow the recommendations for safe, efficient and proper assembly and setup.

An operator's manual is also provided with the new machine. Read and understand "Important Safety Information" and "Operating Instructions" in the operator's manual before assembling the machine. As a reference, keep the operator's manual on hand while assembling.

The information in this manual is current at printing. Some parts may change to assure top performance.

Definitions

The following terms are used throughout this manual.

Right and left as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated.

IMPORTANT: A crucial point of information about the preceding topic. For safe and correct operation, read and follow the directions provided before continuing.

NOTE: Useful information about the preceding topic.

Assembly and Setup Assistance

To order additional copies of predelivery instructions or operator's and parts manuals, write to the following address. Include model numbers in all correspondence.

If you do not understand any part of this manual or have other assembly or setup questions, assistance is available. Contact

Product Support

Great Plains Mfg. Inc., Service Department P.O. Box 5060 Salina, KS 67402-5060

Assembly

The following headings are step-by-step instructions for assembling the planter. Begin with "Tools Required" and "Pre-Assembly Checklist" to make sure you have all necessary parts and equipment. Follow each step to make the job as quick and safe as possible and produce a properly working machine.

The planter is shipped via flat bed truck. It is the dealer's responsibility to unload the new machine. Unload all equipment before beginning assembly. Do not attempt any assembly work while the planter is on the truck.

Tools Required

Pre-Assembly Checklist

- Before assembling, read and understand "Important Safety Information," beginning on page 1.
- 2. Have at least two people on hand while assembling.
- Make sure assembly area is level and free of obstructions (preferably an open concrete area).
- 4. Have all major components.
- Have all fasteners and pins shipped with planter.

IMPORTANT: If a pre-assembled part or fastener is temporarily removed, remember where it goes. Keep the parts separated.

- Have a copy of the parts manual on hand.
 If unsure of proper placement or use of any part or fastener, refer to the parts manual.
- Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
- 8. Check for proper tension and alignment on all drive chains.
- Check that all safety decals and reflectors are located correctly and legible. Replace

- if improperly located or damaged. Refer to "Safety Decals" in the operator's manual.
- Inflate tires to recommended pressure as listed on the "Tire Inflation Chart," page 20. Tighten wheel bolts as specified on "Torque Values Chart," page 18.

Marker Assembly

Refer to Figure 1

- Attach marker transport rest weldment (1) to wing frame using u-bolts (2) and hardware (3).
- 2. Tighten bolts (2).
- 3. Attach first section of marker arm (5) to wing frame (7). NOTE: First section marker arms come in a pair of left and right. When the correct marker arm has been attached to the correct corresponding wing frame, marker shear bolt (8) will go toward planter center. Use bolts (6) and hardware to secure marker arm to frame.

4. Secure hydraulic cylinder (4) to wing frame (7) with cylinder pin and cotter pin.

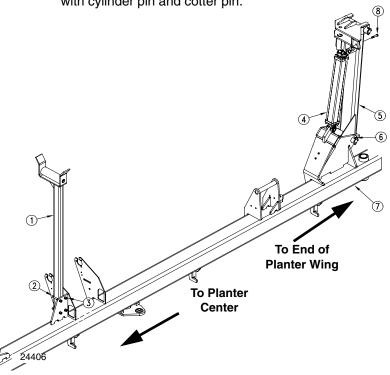


Figure 1
First Marker Arm Section

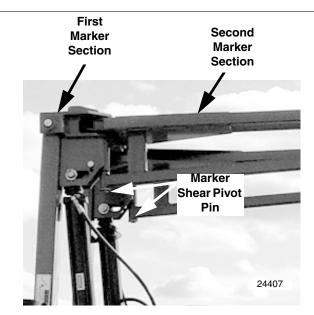
Refer to Figure 2

- Attach second section marker arm to first section marker arm.NOTE: Second section marker arms come in a pair of left and right. When the correct marker arm has been attached to the correct corresponding wing frame, marker shear bolt (8) will go toward planter front.
- 6. Partially insert second section into first section marker arm.
- Align holes in first and second section marker arms.
- 8. Insert marker shear pivot pin through holes. Slide washer over pivot pin and secure with cotter pin.
- Slide washer up from bottom of marker shear pivot pin and secure with cotter pin.
- Secure first section marker to second section marker arm using shear bolt and hardware.

Refer to Figure 3

- 11. Attach marker extension tube (1) with disc to marker arm second section.
- 12. Use u-bolt (2), 5/8 lock washer (3), and 5/8-11 hex nut (4) to secure marker extension tube (1) with disc to marker arm second section.
- 13. Tighten all bolts.
- 14. Repeat steps 1 12 on opposite planter wing to install other marker.

NOTE: Be sure to measure and adjust marker to row spacing before field use.



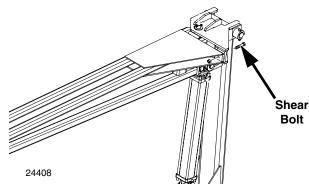


Figure 2
First and Second Marker Sections

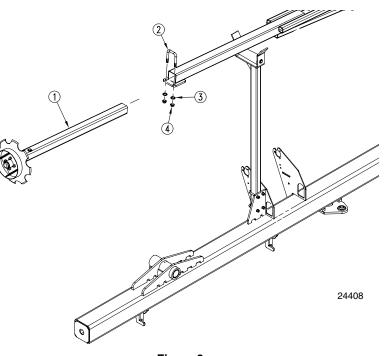


Figure 3
Marker Extension and Disc

Meter Installation

Precision Meters Refer to Figure 4

 If not done yet, disengage the drive coupler by pulling out on the pin, twisting it a quarter turn and resting it in the shallow slot.





Figure 4

Refer to Figure 5

2. Attach precision meter to opener.

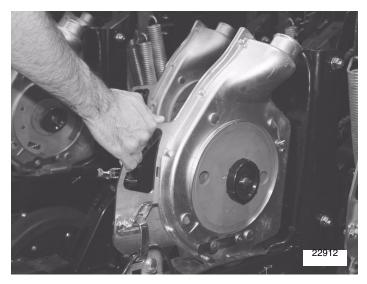


Figure 5

Refer to Figure 6

3. Secure the upper latch.

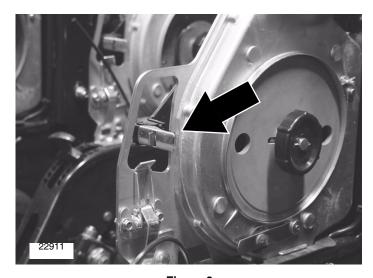


Figure 6

Refer to Figure 7

4. Secure the lower latch.

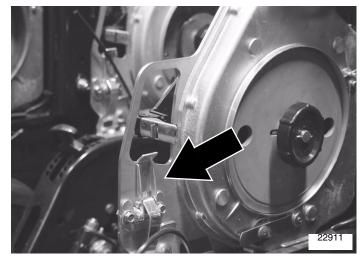


Figure 7

Refer to Figure 8

5. Re-engage the drive coupler. It will automatically snap back into engagement when planting begins.





Figure 8

Refer to Figure 9

- 6. Attach seed hose to meter secure with retaining ring.
- 7. Before starting to plant, fill meters by running the fan while stationary.

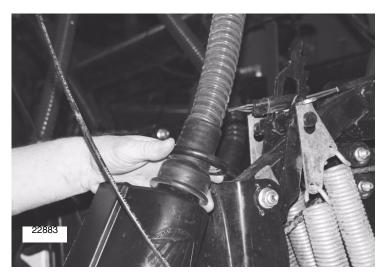


Figure 9

Finger Pickup Meter Refer to Figure 10

1. If not done yet, disengage the drive coupler by pulling out on the pin, twisting it a quarter turn and resting it in the shallow slot.





Figure 10

Refer to Figure 11

2. Install the finger pickup meter.

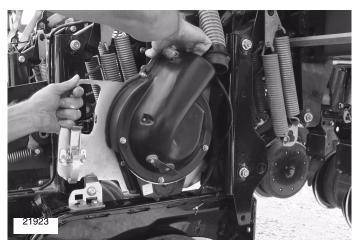


Figure 11

Refer to Figure 12

3. Engage the upper latch.



Figure 12

Refer to Figure 13

- Engage the lower latch.
- 5. Re-engage the drive coupler. It will automatically snap back into engagement when planting begins.



Figure 13

Refer to Figure 14

- 6. Place seed hose over the meter opening and slide retaining ring down to secure in place.
- 7. Before starting to plant, fill meters by running the fan while stationary.



Choose the correct seed meter wheel for the type of seed you will be using. Be sure to use the same wheel type on all meters.

Important: Seed meter wheels for the interchangeable meter 25 series row unit are made of a green color material and are not interchangeable with the other Great Plains seed meter wheels for other machines. Use only green wheels in interchangeable meter 25 series row units.

Refer to Figure 15

1. Push in spring-loaded wheel retainer and turn. Pull off wheel retainer and spring.

Refer to Figure 16

- 2. Remove seed meter wheel.
- 3. Place new wheel on meter shaft and replace spring-loaded wheel retainer.



Figure 14

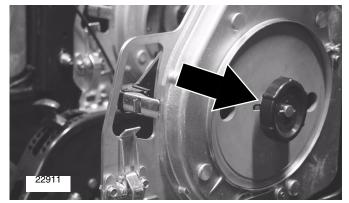


Figure 15



Figure 16

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Press Wheel Assembly

NOTE: For shipping purposes, the press wheel assemblies have been removed from the openers.

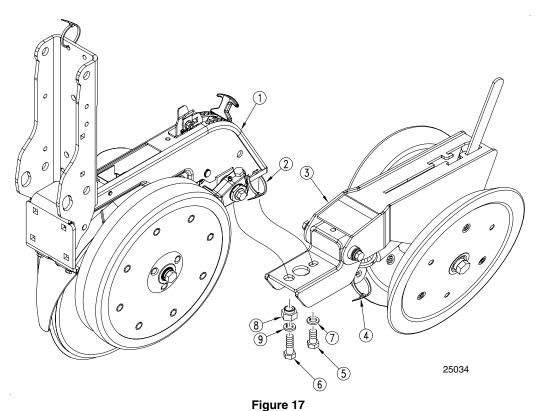
Refer to Figure 17

- Locate all press wheel assemblies with cable ties.
- 2. Match the color of cable tie (4) on each press wheel assembly (3) to the color of cable tie (2) on the opener body (1).
- 3. All press wheel assemblies without cable ties will match up with all openers without cable ties.
- 4. Secure each press wheel assembly (3) to opener (1) using 1/2-13 x 1 1/2 bolt (6), 1/2 lock washer (9), 1 x 12 pw adjuster (8), 1/2-13 x 1 bolt (5), and 1/2 lock washer (7).
- 5. Attach all press wheel assemblies to all openers.

Alignment

If one press wheel is running in the seed trench or the wheels are not centered over the seed trench, adjust the press wheels as follows:

- 1. Raise planter slightly to remove weight from press wheels.
- 2. Loosen two 1/2" bolts (5 and 6).
- 3. Turn press wheel adjuster (8) left or right to center the wheels over the seed trench.
- 4. Tighten the 1/2" bolts (5 and 6) to the correct torque values. Refer to "Torque Values Chart," on page 18.



Press Wheel Assembly

DICKEY-john® Monitor Installation

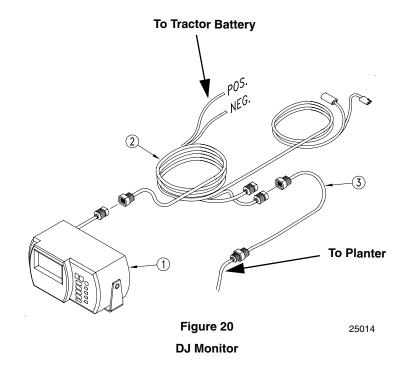
Refer to Figure 20

- 1. If not done, attach DICKEY-john® monitor console (1) to primary wire harness (2).
- 2. Connect lead in right-hand pullbar (3) to primary wire harness (2).

NOTE: Optional 82 bu. and 150 bu. hoppers are equipped with an extra bin level sensor. Place this sensor at the level that suits your operation. To use extra bin level sensor, disconnect sensor in manifold and attach lead to extra sensor.

WHEN REMOVING HOPPER, BE **SURE TO DISCONNECT SEN-SOR IN HOPPER FROM HAR-NESS BEFORE REMOVING** HOPPER.

3. Attach power leads from primary harness (2) to tractor's battery.



Veris Drive Monitor Installation (If Equipped)

Refer to Figure 21

- 1. Place the Veris Drive Monitor (1) in the cab of the tractor.
- 2. If not done already, attach the 55' cable (5) to the external control.
- 3. Attach the other end of the 55' cable to the to veris monitor communication cable (4).
- 4. Connect the power port adapter (3) to the power lead on the remaining cable (2).

NOTE: For more information, refer to the "Veris Drive Operating Instructions," in the Operator's Manual.

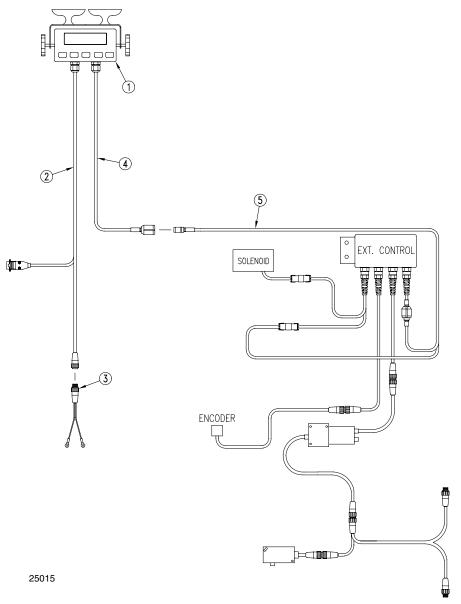


Figure 21 Veris Monitor

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Monitor Mounting Plate Installation (Optional)

The Yield-Pro Planter® is supplied with an optional mounting plate that may be used to mount the Point-Row Monitor, the Electrohydraulic Control Valve (Fasse Switch), the Veris Monitor, and the DICKEY-john® Monitor.

Refer to Figure 22

- 1. If equipped with Veris, remove suction cups and mounting bracket from veris monitor. Keep suction cups and bracket for reuse.
- 2. Attach large suction cup included with mounting plate to the top hole on the plate using bolt and lock washer.
- 3. If not equipped with Veris, skip this step and continue with step 4. If equipped with Veris, using lock washers and nuts secure suction cups removed in Step 1 to plate. Secure suction cups to holes directly above the bottom two holes on the plate.
- Place DICKEY-john® mounting bracket on mounting plate. Secure bracket to plate in bottom two holes directly below the suction cups. Use bolts and nuts to install.
- If equipped with Veris, attach Veris Drive mounting bracket above DICKEY-john® mounting bracket using the included bolts and nuts.
- Remove mounting bracket from electrohydraulic valve control. Install mounting bracket to mounting plate.
- Attach point-row monitor to mounting plate with 10-32 x 5/8 machine screws, lock washers, and nuts. Let wires fall in the front of the plate.
- Secure electrohydraulic valve control to mounting bracket on plate using 10-32 x 5/8 machine screws, lock washers, and nuts. Let wires fall in the front of the plate.
- Mount veris drive monitor to mounting bracket on plate. Secure veris drive monitor to bracket using 1/4-20 x 5/8 bolts, 1/4 lock washers, and 1/4-20 nuts. Wires should fall in the front of the mounting plate.
- 10. Attach DICKEY-john® Monitor to DICKEYjohn® mounting bracket on plate. Thread monitor wires through slot in plate. Trap all other wires between DICKEY-john® monitor and mounting plate.



Figure 22 **Optional Monitor Mounting Plate**



Torque Values Chart for Common Bolt Sizes

	Bolt Head Identification					Bolt Head Identification							
Bolt Size (Inches)	Grad)	Gra	de 5	G	rade 8	Bolt Size (Metric)	Class	s 5.8	\	8.8 ss 8.8	\	10.9 ss 10.9
in-tpi ¹	$N \cdot m^2$	ft-lb ³	N⋅m	ft-lb	N⋅m	ft-lb	mm x pitch ⁴	N⋅m	ft-lb	N⋅m	ft-lb	N⋅m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16 - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1 1/4" - 12	750	555	1680	1240	2730	2010							
1 3/8" - 6	890	655	1990	1470	3230	2380	¹ in-tpi = nominal thread diameter in inches-threads per inch						
1 3/8" - 12	1010	745	2270	1670	3680	2710	² N⋅ m = newton-meters						
1 1/2" - 6	1180	870	2640	1950	4290	3160	³ ft-lb= foot pounds						
1 1/2" - 12	1330	980	2970	2190	4820	3560	⁴ mm x pitch = nominal thread diameter in millimeters x thread pitch						

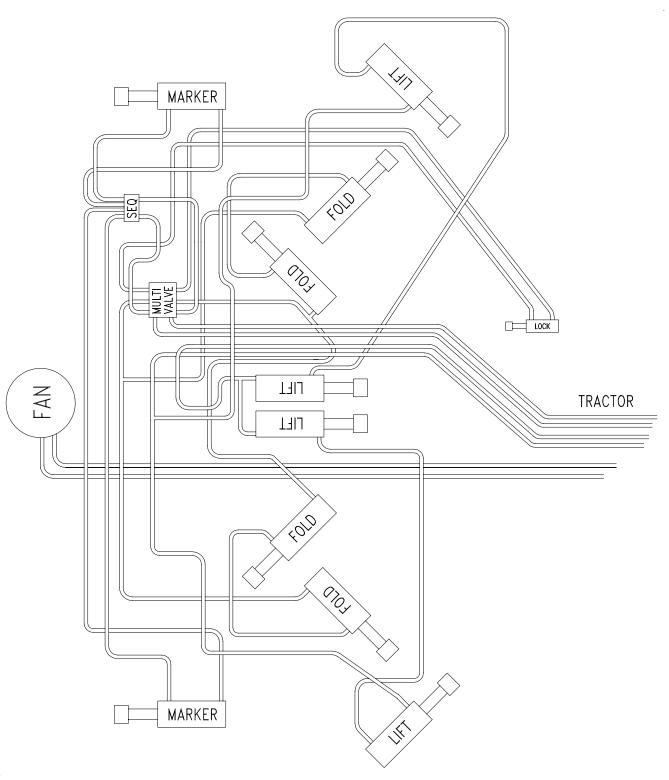
Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

Tire Inflation Chart

Tire Size	Inflation PSI
395/55B 16.5 NHS Skid Steer	60
14.9 x 46 8 Star-Planters with fert. tanks and bean hopper	60
14.9 x 46 8 Star-Planters without fert. tanks and bean hopper	30
18 x 9.50-8 4 Ply	12 - 15
20 x 8.00-10 Turf Tire	16

401-226Q 8/15/2006

Hydraulic Schematic



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