Orthman AGRICULTURAL

ORTHMAN MANUFACTURING INCORPORATED
orthman.com

CUSTOM INTEGRAL PLANTERS

DEALER PREDELIVERY INSTRUCTIONS

STILL THE STRONGEST

125-005

TO THE DEALER

This instruction contains important information for unloading of custom integral planters. Read instructions carefully before attempting to unload. While the custom integral planter is considered a factory assembled product, some components may have been removed from the machine to prevent damage during shipping, or to allow for consolidated shipments. Attachment of these components is covered at the back of this manual.

DELIVERY

At the time the machine is delivered, the following checklist is a reminder of information which should be conveyed directly to the customer. Check off each item as it is fully explained to customer.

- ☐ Make the customer aware of all the safety precautions that must be exercised while using this machine.
- ☐ Give the operator's manual to the customer. Encourage customer to read entire manual.
- ☐ Explain all operating adjustments.
- ☐ Review recommended procedures for attaching and detaching planter from tractor.
- ☐ Make customer aware of safety precautions that must be observed when transporting.
- ☐ When the machine 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 regulations.
- ☐ Explain to the customer that the life expectancy of this or any other machine depends on regular lubrication as directed in the operator's manual.
- ☐ Tell the customer to use the proper tools for service.
- ☐ Have customer record serial number(s) in the Specification section.
- ☐ To the best of my knowledge, this machine has been delivered ready for field use and the customer has been fully informed as to proper operation and care.

Signed: _____ Date: _____

- ☐ After signing, remove and/or copy this page.
  Keep signed delivery checklist in machine file at the dealership.

DEALER'S RECORD

Owner's Name _____ Date Sold _____
Address _____ Serial Number _____
City _____ Model Number _____
State _____ ZIP _____

Farm Safety

Contrary to the popular image of fresh air and peaceful surroundings, a farm is not a hazard-free work setting. Every year, thousands of farm workers are injured and hundreds more die in farming accidents. According to the National Safety Council, agriculture is the most hazardous industry in the nation.

How You Can Improve Farm Safety

You can start by increasing your awareness of farming hazards and making a conscious effort to prepare for emergency situations including fires, vehicle accidents, electrical shocks from equipment and wires, and chemical exposures. Be especially alert to hazards that may affect children and the elderly. Minimize hazards by carefully selecting the products you buy to ensure that you provide good tools and equipment. Always use seat belts when operating tractors, and establish and maintain good housekeeping practices. Here are some other steps you can take to reduce illnesses and injuries on the farm:

- Read and follow instructions in equipment operator's manuals and on product labels.
- Inspect equipment routinely for problems that may cause accidents.
- Discuss safety hazards and emergency procedures with your workers.
- Install approved rollover protective structures, protective enclosures, or protective frames on tractors.
- Make sure that guards on farm equipment are replaced after maintenance.
- Review and follow instructions in material safety data sheets (MSDSs) and on labels that come with chemical products and communicate information on these hazards to your workers.

Health and Safety Hazards on Farms

Farm workers including farm families and migrant workers are exposed to hazards such as the following:

Danger	Potential Effect or Injury	Prevention
Chemicals/Pesticides	Skin and respiratory injury or death	MSDS and proper Personal Protective Equipment. Review Manufacturers data sheets
Cold	Illness, Frostbite or death	Dress properly for the day.
Dust	Respiratory injury or explosive combinations	Be aware of your surroundings and activity
Electricity	Shock, burns, fire, death	Use a qualified professional for wiring dangerous electrical devices. Never overload a circuit. Replace damaged electrical devices or cords. Electrical tape will not insulate you from injury.
Grain bins, Silos	Entrapment, Suffocation, Explosion from formation of dangerous gases and poisoning.	Make sure the bin is properly ventilated and maintained. Never walk the grain.
Hand tools	Injury including cuts abrasions, electrocution, strains, sprains and death	Make sure you hand tools are in good condition. Never leave a damaged tooling accessible for someone else to use.
Highway traffic	Collisions resulting in injury or death	Follow regulations, stay alert. Avoid alcohol and use of communication devices while driving
Lifting and lifting devices	Back injury, sprains, strains. Falling material resulting in being struck or crushed by heavy material	Use proper lifting technique. Get help when the load is too heavy. Inspect chains, straps or cables routinely to make sure they are in good condition.
Livestock handling	Serious injury or death resulting from being pinned struck or trampled.	Always make sure you have adequate room and an escape route
Machinery/Equipment	Cuts, abrasions, amputations, death.	Thoroughly read and understand your Owners Equipment Manual. Never operate the equipment without guards in place. Make sure the equipment can not be energized or otherwise put into operation while you are working on it.
Manure pits	Explosion from formation of dangerous gases. Suffocation. Poisoning	Proper maintenance.
Mud	Sprains, strains, entrapment and suffocation. Eye injury and skin irritation.	Proper Personal Protective Equipment. In some conditions a "Spotter" may be needed.
Noise	Hearing damage	Personal Protective Equipment.
Ponds	Drowning	Wear a life preserver and make sure help is readily available.
Slips/Trips/Falls	Sprains, strains, back and neck injury, bone breaks or death	Keep work area free from clutter and organized. If working on anything elevated make sure you have appropriate guarding and/or fall protection such as a harness and lanyard.
Sun/Heat	Sun burn, Heat Stroke, shock, death	Use common sense on excessively hot days, use sun screen, wear a hat and stay hydrated.
Toxic gases	Skin and respiratory injury or death. Explosion.	MSDS and proper Personal Protective Equipment. Review Manufacturers data sheets
Tractors	Cuts, abrasions, amputations, death.	Thoroughly read and understand your Owners Equipment Manual. Never operate the equipment without guards in place. Anti-roll over devices.
Wells	Electrocution, amputation, death	Avoid contact with water while working on an electrical device. Always be sure the equipment can/will not be energized during repair or maintenance. Make sure all guarding is in place.
Severe Weather	Electrocution, "struck by" injuries, death	Move to a safe place. Lightening, hail and tornadoes are unpredictable.

Orthman Manufacturing, Inc. does not limit the potential effects or injuries nor prevention measures to those listed above. They are provided solely as a guideline to making your farm life safer. Always consult your Owner/Operators Manual for specific tool and equipment safety requirements.

High Risk Factors on Farms

The following factors may increase risk of injury or illness for farm workers:

• **Age** – Injury rates are highest among children age 15 and under and adults over 65.

• **Equipment and Machinery** – Most farm accidents and fatalities involve machinery. Proper machine guarding and doing equipment maintenance according to manufacturers' recommendations can help prevent accidents.

• **Protective Equipment** – Using protective equipment, such as seat belts on tractors, and personal protective equipment (such as safety gloves, coveralls, boots, hats, aprons, goggles, face shields) could significantly reduce farming injuries.

• Take precautions to prevent entrapment and suffocation caused by unstable surfaces of grain storage bins, silos, or hoppers. Never "walk the grain."

• Be aware that methane gas, carbon dioxide, ammonia, and hydrogen sulfide can form in unventilated grain silos and manure pits and can suffocate or poison workers or explode.

• Take advantage of safety equipment, such as bypass starter covers, power take-off master shields, and slow-moving vehicle emblems.

• **Medical Care** – Hospitals and emergency medical care are typically not readily accessible in rural areas near farms.

The Benefits of Improved Safety and Health Practices

Orthman Manufacturing Provides this document in the hope that everyone that has a job to do, does it SAFELY. Our goal and yours should be to end each day in the best possible health. Better safety and health practices reduce fatalities, injuries, and illnesses as well as associated costs such as workers' compensation insurance premiums, lost production, and medical expenses. A safer and more healthful workplace improves morale and productivity.

AFTER SALE

The following is a suggested list of items to be checked at a dealer-customer mutually agreeable time during the first operating season.

- ☐ Check with the customer as to the performance of the machine. Make certain the proper operating adjustments are understood.
- ☐ If possible, operate the machine to see that it is functioning properly.
- ☐ Go over entire machine for loose or missing hardware.
- ☐ Check for other broken or damaged parts.
- ☐ Inspect safety signs and other decals; they should be intact, legible and understood.
- ☐ Ask the customer if the recommended periodic lubrication has been performed.
- ☐ Review the operator's manual with the customer and stress the importance of safety precautions and proper lubrication.
- ☐ Acquaint the customer with any special attachment which will help do a better job.

Signed: _____ Date: _____

- ☐ Remove and/or copy this page after follow-up inspection and signing.
  Keep signed checklist in machine file at the dealership.

TABLE OF CONTENTS

WARRANTY

OrthmanMfg.,Inc.warrantsthewholegoodsproductsitmanufacturestobefreefromdefectsinmaterialorworkmanshipforaperiodofone(1)yearfrom thedateofsaleoftheproduct(s)totheoriginaluser.Productsnotmanufactured,butsuppliedbyOrthmanMfg.,Inc.onOrthmanproducts,aresubjectto, conform with, and are limited to the warranty of our suppliers.

OrthmanMfg.,Inc.warrantsthepartsitmanufacturestobefreefromdefectsinmaterialorworkmanshipforaperiodofninety(90)daysfromthedateof deliveryoftheproduct(s)totheoriginaluser.Productsnotmanufactured,butsuppliedbyOrthmanMfg.,Inc.onOrthmanproducts,aresubjectto,conform with, and are limited to the warranty of our suppliers.

WarrantyofOrthmanwholegoodsand/orpartsappliesonlytomaterialandworkmanship.Misuse,misapplication,neglect,alteration,accident,normalwear, or acts of God affecting Orthman products are not eligible for warranty.

WarrantyofserialnumberedgoodswillonlybeconsideredifftheproducthasacompletedWarrantyRegistrationonfileatOrthman.ThisWarrantyRegistration mustbecompletedandreturnedtoOrthmanwithinthirty(30)daysofthesaleoftheproduct(s)totheoriginaluser.*Noserialnumberedgoodsorrelated partsand/orlaborwillbewarrantedwithoutaWarrantyRegistrationonfile.*Warrantyissuesfallingwithinthefirstthirtydaysofaproduct'susewillbe handledatthediscretionofOrthman.WarrantyofpartswillnotrequireaWarrantyRegistration,butproofofdateofdeliveryoftheproducttotheoriginal customer must be provided.

*WARRANTYCLAIMS:*AwarrantyclaimandrequesttoreturndefectiveproductmustbepresentedtotheOrthmanServiceDepartmentbythesellingdealer describingthedefectinmaterialorworkmanshipofanOrthmanproduct(s)withinten(10)daysofitsdiscovery.Thisclaimmaybemadeviaphone,e-mail,fax, orwrittenrequest.ClaimsforwarrantyofserialnumberedgoodsmustincludetheOrthmanproductserialnumberandmodelnumber.Claimsforwarranty ofpartswillnotrequireaproductserialnumberormodelnumber,butmustbeidentifiedbyanOrthmanpartnumber.ClaimsforwarrantyofwholegoodsOr parts must also include proof of date of sale of the product to the original customer by an Orthman dealer.

TheOrthmanServiceDepartmentwillproceedinmakingapreliminarydecisionastotheeligibilityoftheclaimforwarrantyconsideration.AftertheOrthman ServiceDepartmentdeemsitnecessarytoproceedwithwarrantyconsideration,aReturnGoodsAuthorization(RGA)willbecompletedbytheOrthman ServiceDepartmentinconjunctionwiththesellingdealer.UponcompletionoftheRGA,thedefectiveproduct(s)mustbereturnedtoOrthmantoensure warrantyconsideration.Defectiveproduct(s)mustbereturnedtoOrthmanbyeitherthesellingdealerorthecustomer.Customerdeliveryofdefective product(s)mustbeapprovedbyOrthmanandthesellingdealerpriortodelivery.Thedefectiveproduct(s)inquestionmustbesent,freightprepaid,within sixty(60)daysofthediscoveryoftheproduct(s)failureandinitialwarrantyclaim.Replacementproduct(s)maybesenttothesellingdealer,directlytothe customer,orpickedupattheOrthmanfacility.Replacementproduct(s),sentdirectlytothecustomerorpickedupmustbeapprovedbyOrthmanandthe sellingdealer.AtthediscretionoftheOrthmanServiceDepartment,replacementproduct(s)maybesentpriorto,orafter,theOrthmanServiceDepartment receives the defective product(s).

Any variation in the above procedure is at the sole discretion of the Orthman Service Department.
No products will be accepted at Orthman without all proper paperwork completed including Warranty Registration and RGA(s).
Parts returned to Orthman without proper authorization will be returned to the sender at the sender's expense.

OrthmanagreestohandleallwarrantyclaimsinatimelymannerandwillinformdealersofanyrevisionsormodificationstotheOrthmanWarrantyPolicy. EligiblewarrantyclaimswillbeprocessedbyOrthmanwithinsixty(60)daysofreceivingfailedproduct(s)oravalidserviceorrepairlaborclaim.Eligible warrantyclaimsregardingreturnedproduct(s)orserviceand/orrepairlaborwillbepaidthroughacreditmemoissuedtotheappropriatedealer'saccount as determined by the Orthman Service Department.

Ifawarrantyclaimisfoundtobeineligibleforwarrantycoverage,theOrthmanServiceDepartmentwillberesponsibletoinformthedealerinorderto determinethecourseofactiontobetaken.Orthmanreservestherighttomakechangesinspecificationanddesignwithoutnoticeandwithoutincurring any obligations to owners of products previously sold.

SAFETY

Recognize Safety Information
This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury. Follow recommended precautions and safe operating practices.

UNDERSTAND SIGNAL WORDS

A signal word—**DANGER**, **WARNING**, or **CAUTION**—is used with the safety-alert symbol. **DANGER** identifies the most serious hazards.

DANGER or **WARNING** safety signs are located near specific hazards. General precautions are listed on **CAUTION** safety signs. **CAUTION** also calls attention to safety messages in this manual.

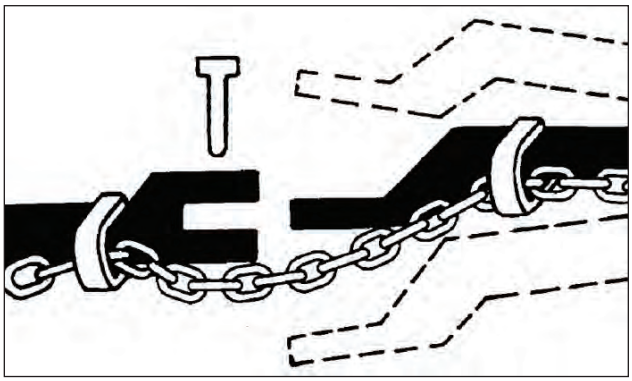
DANGER
RED

WARNING
ORANGE

CAUTION
YELLOW

DELIVER SAFELY

The best method for delivering tractors, self-propelled equipment, and most implements or attachments is on a flatbed truck or trailer. Secure loads with tie down chains, straps, and binders.



Be aware of height and width restrictions to avoid collision with overpasses, bridge abutments, or other road users. Check with local authorities regarding oversized load transport restrictions and requirements. When towing, remember that towed loads can swerve, upset or cause loss of control when towed with an oversized towing unit.

Never tow an implement behind a truck or other motor vehicle. The ability to maintain control and brake the implement and vehicle mass is compromised. The ability to properly attach the implement hitch and safety chain to the motor vehicle may be marginal. With most motor vehicles it is not possible to properly operate the warning, tail and turn signal lights on the implement, and in most cases the implement tires are not rated for highway speeds. Tow drawn implements only with a properly sized and weighted tractor equipped with a stationary drawbar. (See tractor operator's manual for ballast requirements.)

Integral and semi-integral implements should be attached to a tractor with a three-point hitch as specified in the implement operator's manual. The tractor should have the proper size rear tires and the sway blocks should be in the down position. Do not transport unless the tractor front end is ballasted to the weight levels specified in the tractor operator's manual for the correct implement code.

Before transporting, attach a properly sized safety tow chain between the implement and tractor. Stopping distance increases with speed and weight of towed loads, and when transporting on slopes.

Observe these recommended maximum road speeds, or local speed limits that may be lower:

- ☐ If towed equipment does not have brakes, do not transport at speeds above 32 km/h (20 mph) and do not tow loads that weigh more than 1.5 times the weight of the tractor.

- ☐ If the towed equipment has brakes, do not transport at speeds above 40 km/h (25 mph) and do not tow loads more than 4.5 times the weight of the tractor. Use additional caution and reduce speed when towing under adverse surface conditions, when turning, and when on inclines.

Attach the implement lighting harness to the tractor and make sure that the warning and taillights on both the tractor and implement are on and functioning properly. Make sure that the SMV and other markings on the implement are clean and visible.

UNLOAD SAFELY

CAUTION: When unloading planter, ALWAYS:

- ☐ Use a forklift that meets or exceeds specified lifting capacity.
- ☐ Be sure that ALL lifting equipment is in good working order. Replace damaged or worn equipment immediately.

- ☐ Keep bystanders away from unloading area and NEVER allow riders on forklift.
- ☐ Remove truck securement ONLY after machine is supported by lifting equipment.
- ☐ Operate forklift from the drivers seat ONLY.

PERFORM PREDELIVERY SERVICE SAFELY

Understand the predelivery procedure before doing the work.

During the assembly, test and adjustment procedures, it may be necessary to operate drives and hydraulic systems. Stay clear of machine elements when folding, unfolding, raising or lowering of wings, implement frame, wheel modules, and marker arms and during operation of fans and hydraulic motors.

Practice good communication with other service technicians. Be aware of their actions and alert them to potential hazards.

Never lubricate, service, or adjust machine while it is running. Keep hands, feet, and clothing away from power driven or hydraulically operated parts. If it is necessary to inspect the machine while it is in operation, be alert to moving parts in the immediate area.

UNLOADING

Ensure CCS lifting bracket is securely attached to the lift chassis cross tube before attempting to remove from trailer bed.

CAUTION: Equipment is heavy. The center of gravity will not be close to the lifting vehicle. Take proper precautions when transporting or moving.

Remove the lifting chassis from the truck trailer by utilizing a fork lift.

When unloading the planter bar, position the truck trailer perpendicular to a loading ramp to allow a tractor to connect to the planter. Utilizing a tractor that has at least a 14000 pound lifting capacity, connect to the planter bar 3-point hitch and unload from truck trailer.

BEFORE RELEASING CARRIER

1. Check the delivery against your packing slip.
2. Check for overages, shortages and/or damages and record them on your freight bill immediately.
3. Product destined for subsequent stops must be secured in a manner that will allow proper transportation and unloading.

WASH MACHINE(S) AFTER UNLOADING

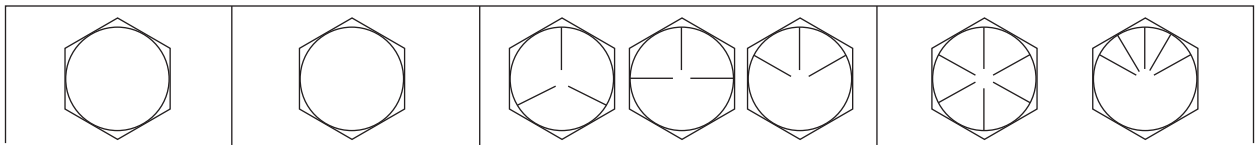
IMPORTANT: Road transport during winter months may expose equipment to corrosive materials. As soon as possible after transporting on treated roads, thoroughly wash and rinse machine(s) to avoid corrosion.

IMPORTANT: To avoid damage to tank open indicator gauges. Do not spray with high pressure water.

IMPORTANT: Do not to hit the tank decals with warm or hot pressure washer water.
If a decal to this effect is found on machine, it should be replaced before delivering machine to customer.

ASSEMBLY

Unified Inch Bolt and Screw Torque Values



Boltor Screw Size	SAE Grade 1				SAE Grade 2[a]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]	
	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N•m	lb-ft	N•m	lb-ft
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N•m	lb-ft	N•m	lb-ft				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N•m	lb-ft	N•m	lb-ft	N•m	lb-ft								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N•m	lb-ft														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	308	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

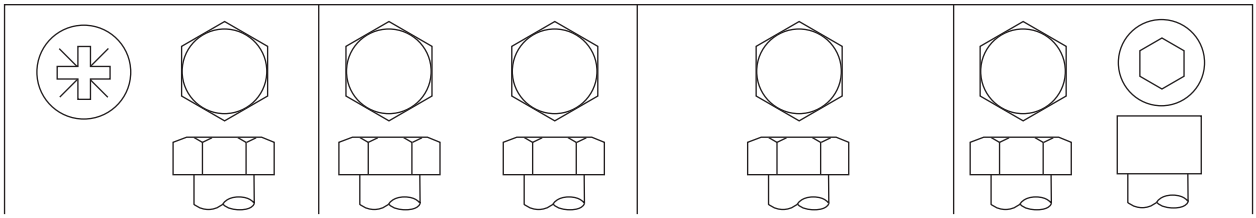
[a] *Grade 2 applies for hex cap screws (not hex bolts) up to 6. in (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.*

[b] *"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C zinc flake coating.*

[c] *"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B zinc flake coating.*

ASSEMBLY

Metric Bolt and Screw Torque Values



Boltor Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]	
	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	195	172
									N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N•m	lb-ft	N•m	lb-ft	N•m	lb-ft								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N•m	lb-ft														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	580	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] *"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C zinc flake coating.*

[b] *"Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B zinc flake coating.*

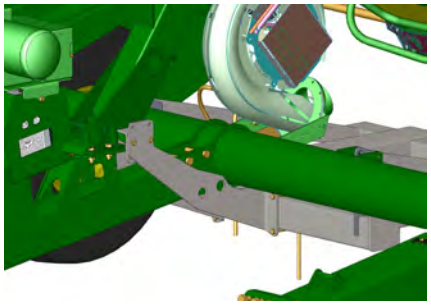
ASSEMBLY

The planter may be equipped with bolt on mounts or welded on mounts (images below). If equipped with bolt on mounts, it may be necessary to loosen hardware to allow for proper alignment when connecting the lifting chassis arms. Mount lifting chassis wheel arms to the planter using 1 x 3.25 bolts that are provided/stored in the lift arms. Once the lifting chassis arms have been mounted, tighten clamp and mounting arm bolts. Torque all bolts at 760ft/lbs. Follow steps below to mount the chassis arms to the planter toolbar.

1. Lift the chassis assembly with the shipping frame for assembly to the toolbar.
2. Front plates of the chassis are connected to the mounts on the toolbar using the hardware provided in the arms.

3. The chassis center arm is shipped with the planter. Connect the center arm to the chassis cross tube using the four bolts shipped with the cross tube.

4. The front of the CCS Cradle is supported by the shipping frame. When the chassis is placed correctly, the front of the cradle will rest on the center arm. (hardware is shipped with the center arm, when it is stable remove the front support)



INSTALL ALL HARDWARE BEFORE TIGHTENING.

5. Tighten all hardware to recommended torque.

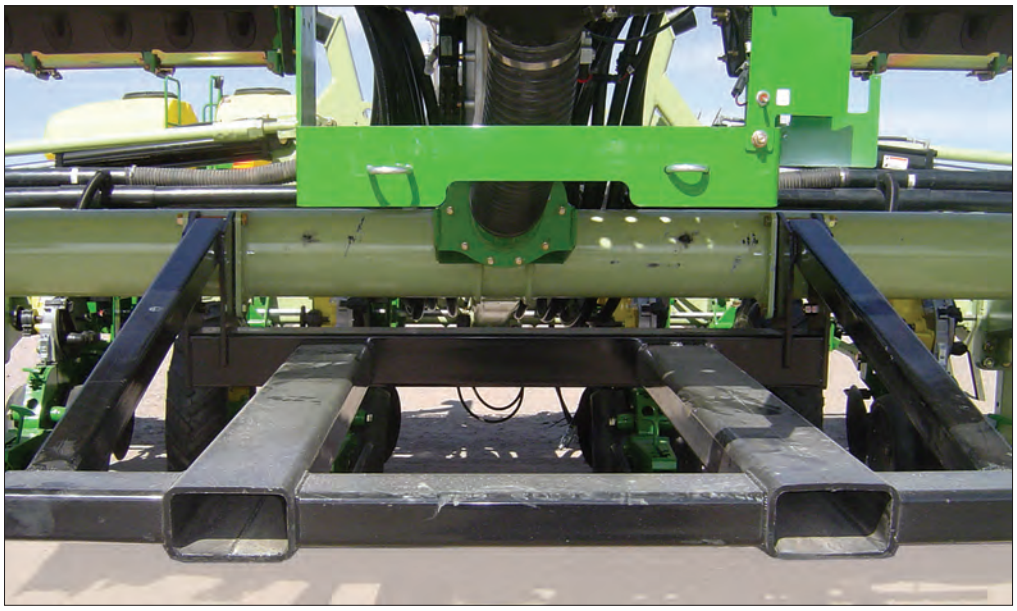
NOTE: DURING ASSEMBLY THE CLAMPS AND/OR CROSS TUBE FLANGES MAY NEED TO BE LOOSENED (ONLY LOOSEN, DO NOT REMOVE) TO PROPERLY ALIGN MATING COMPONENTS. IF HARDWARE IS LOOSENED, MAKE SURE TO RETIGHTEN ONCE CHASSIS IS CONNECTED.

ASSEMBLY (continued)

6. Install wheels and tighten axle bolts to torque setting. (1200 ft/lbs)

7. Remove shipping frame.

Obtain RMA from Orthman Service Department in order to return to Orthman for credit.



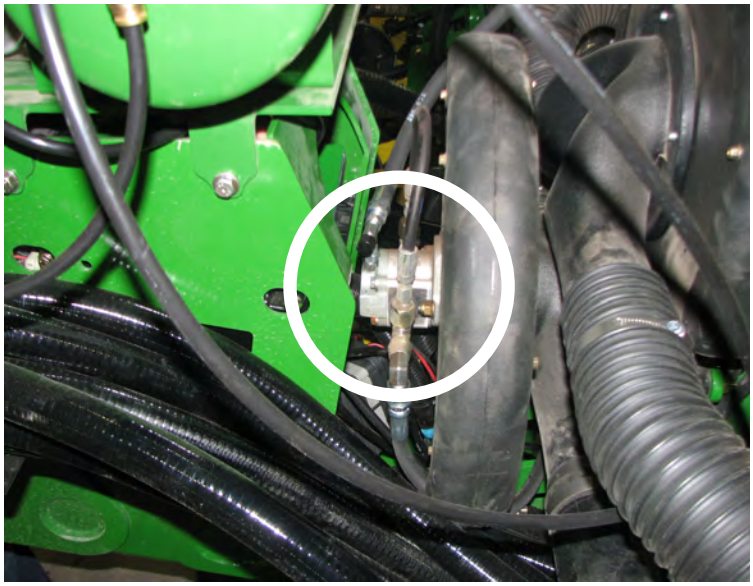
ASSEMBLY (continued)

8. Connect cradle harness cable on the back side of the upright for the CCS tank.

CONNECT HYDRAULIC LINES

9. Hydraulic hoses for the CCS blower are shipped connected to the blower. The hoses are routed down the center arm and through the middle of the bar towards the tractor. The return hose will have six holes in the tractor tip.

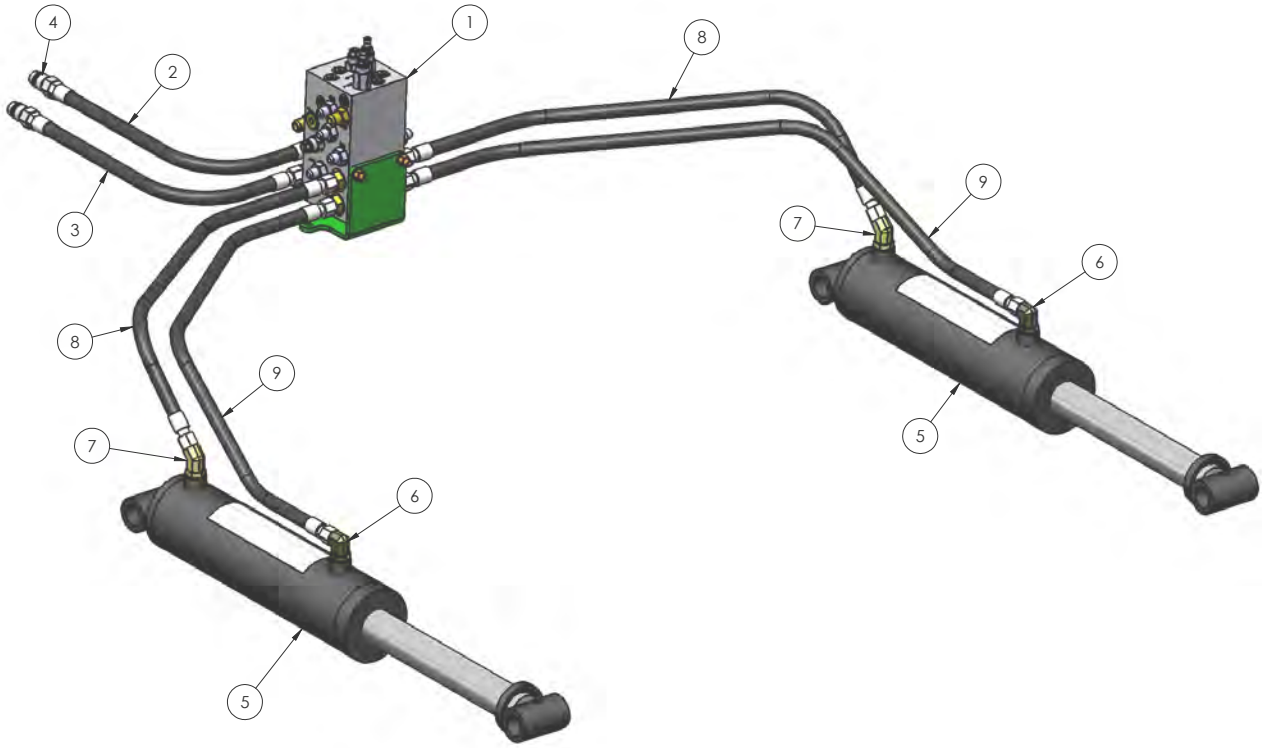
10. Remove dust caps from case drain on CCS blower hose and the Tee on the vac blower. Connect the CCS blower case drain hose to the Tee on the vac blower.



ASSEMBLY (continued)

Connect lift wheel hoses using the information below.

HYDRAULIC COMPONENT IDENTIFICATION - 925 TOOLBARS

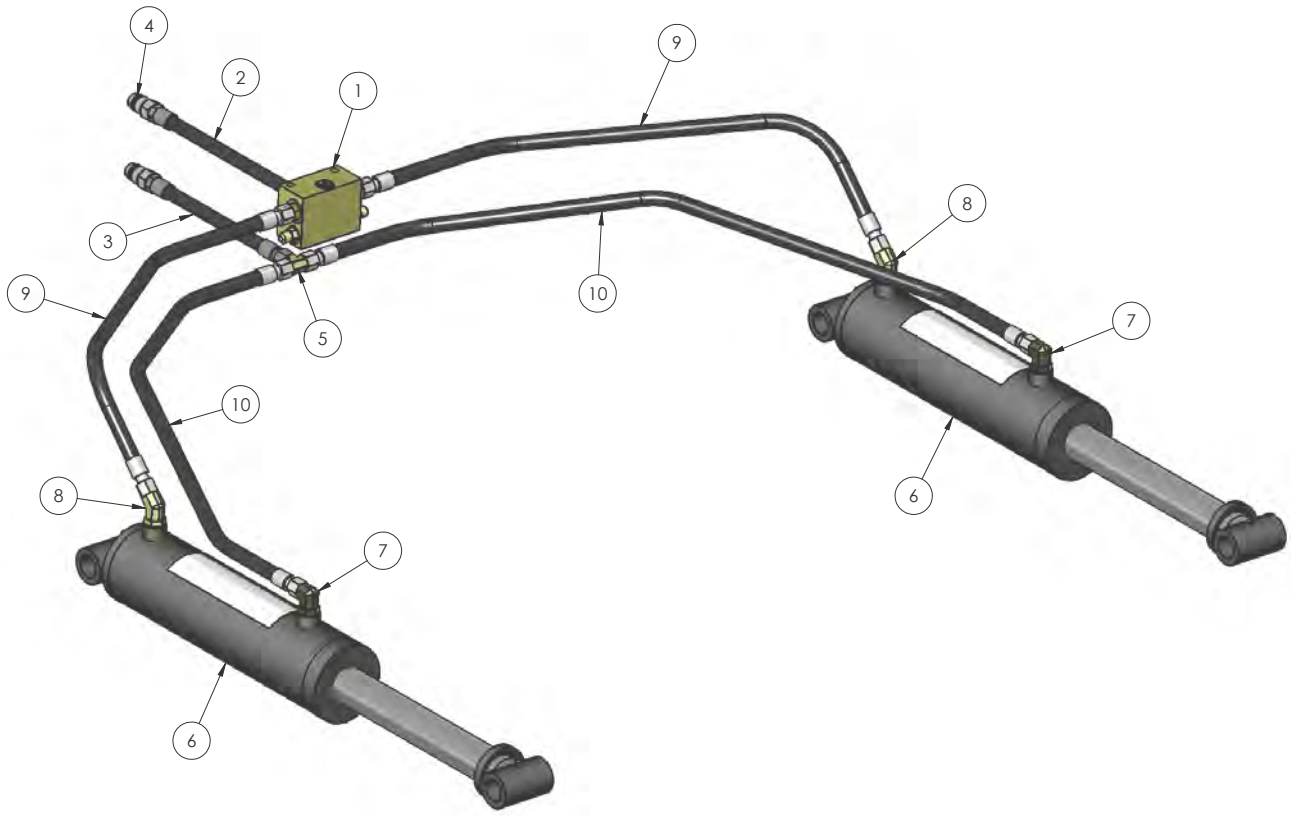


1. Toolbar Manifold
2. Supply Hose - Pressure (1/2 Hose 3/4 MORB x 3/4 FJX)
3. Supply Hose - Return (1/2 Hose 3/4 MORB x 3/4 FJX)
4. ISO Tip (2)
5. Lift Cylinder (4 x 12 Welded Cylinder)
6. Elbow (7/8 MORB x 3/4 MJ 90 DEG)
7. Elbow (7/8 MORB x 3/4 MJ 45 DEG)
8. Cylinder Hose - Base (1/2 Hose 3/4 FJX x 3/4 FJX)
9. Cylinder Hose - Rod (1/2 Hose 3/4 FJX x 3/4 FJX)

ASSEMBLY (continued)

Connect lift wheel hoses using the information below.

HYDRAULIC COMPONENT IDENTIFICATION - 905, 910 AND 915 TOOLBARS



1. Lift Chassis Manifold
2. Supply Hose - Pressure (3/8 Hose 3/4 MORB x 3/4 MORB)
3. Supply Hose - Return (3/8 Hose 3/4 MORB x 3/4 FJX)
4. ISO Tip (2)
5. Tee (3/4 MJ x 3/4 MJ x 3/4 MJ)
6. Lift Cylinder (4 x 12 Welded Cylinder)
7. Elbow (7/8 MORB x 3/4 MJ 90 DEG)
8. Elbow (7/8 MORB x 3/4 MJ 45 DEG)
9. Cylinder Hose - Base (1/2 Hose 3/4 FJX x 3/4 FJX)
10. Cylinder Hose - Rod (1/2 Hose 3/4 FJX x 3/4 FJX)

ASSEMBLY *(continued)*

NOTE: Ensure there is enough slack in the hose to allow for raising and lowering of the lift wheels. See picture below.

(Photo indicates appearance with wheels in lowered position)

NOTE: Cylinders are banded in retracted position for shipment. Ensure that the planter is stable and in the lowered position with lift wheels on the ground before removing bands.

NOTE: Cylinders are also shipped without oil. Use caution raising and lowering the planter until the air has worked out of the system.

ASSEMBLY (continued)

11. Connect labeled seed tube hoses.

NOTE: Various planters have gauge wheels removed for shipping purposes.

1. Remove the planter drive shaft only enough that the gauge wheels can be mounted.
2. It is always recommended that gauge wheel pairs are mounted symmetrically on the implement.
3. Mount gauge wheels with hardware supplied in the mount.