

### Titan Yieldtrac Planter Bar 24R-22

(24 Row 22) Front Fold Trailing Planter Year 2013 Model

### **OPERATOR'S MANUAL**

Part number T0051771 1st edition English March 2013



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#### Read and Understand



READANDFOLLOWALLINSTRUCTIONSANDSAFETYPRECAUTIONSINTHIS MANUALANDALLOTHERMANUALSFORPRODUCTSASSOCIATEDWITHTHIS PLANTERASWELLASINALLON-PRODUCT WARNING DECALS. FAILURE TO DOSOCOULDRESULTINDEATHORSERIOUSINJURY, ORPROPERTYDAMAGE. CONTACTYOURTITANYIELDTRACPLANTERDEALERIFANYOFYOURMANUALS ARE MISSING OR ILLEGIBLE OR YOU HAVE QUESTIONS.

#### Preface

This manual is intended for use with the Titan Yieldtrac Planter Bar 24R22.

Revision History		
Issue	Date	Reasons for Change
T0051771	March 28 <sup>th</sup> 2013	Preliminary Release
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### **1 - GENERAL INFORMATION**

### Note to the Owner

This manual contains important information about the safe operation, adjustment and maintenance of your Yieldtrac planter. Refer to the Index at the end of this manual for locating specific items about your machine.

DO NOT operate or permit anyone to operate or service this machine until you or the other persons have read this manual. Use only trained operators who have demonstrated the ability to operate and service this machine correctly and safely.

All persons who will be operating this machine shall possess a valid local vehicle operating permit and/or other applicable local age work permits.

This planter, with standard equipment and authorized attachments, is intended to be used for planting agricultural Commodities such as corn, soybeans, edible beans, etc.

DO NOT use this machine for any purpose or in any manner other than as described in the manual, decals, or other product safety information provided with the machine. These materials define the machine's intended use. Use only approved accessories and attachments designed for your machine.

Consult your dealer on changes, additions or modifications that may be required for your machine.

Do not make any unauthorized modifications to your machine.

This operator's manual is to be stored in your tractor for reference during field operation. Make sure this manual is complete and in good condition. Contact your Yieldtrac planter dealer to obtain additional manuals and approved service parts. Your dealer has technicians with special training that know the best methods of repair and maintenance for your planter.

Your Yieldtrac planter dealer will instruct you in the general operation of your new equipment. Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your machine.

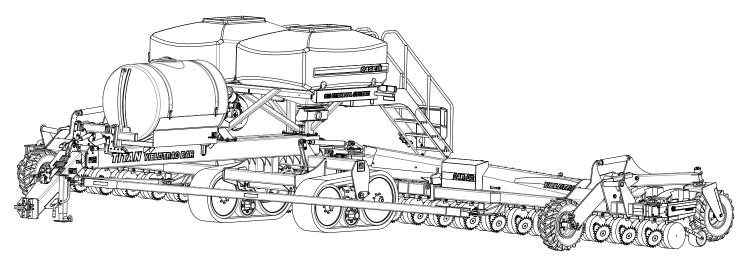


FIG. # 1-1 Titan Yieldtrac Planter

Write the Model Number and Serial Number on the lines provided. If needed, give these numbers to your dealer when you need parts or information for your machine. Make a copy of the numbers below and keep in a safe place. If the machine is stolen, report the numbers to your local law enforcement agency.

MODEL NUMBER: \_\_\_\_\_\_

#### SERIAL NUMBER: \_

#### Model Number / Serial Number Location

ALWAYS GIVE YOUR AUTHORIZED YIELDTRAC PLANTER DEALER THE MODELNUMBER AND SERIAL NUMBER OF YOUR YIELDTRAC PLANTER PRODUCTWHENORDERINGPARTS, REQUESTINGSERVICE, ORANYOTHER INFORMATION TO PROVIDE THE MOST EFFICIENT SERVICE.

THE MODEL NUMBER/SERIAL NUMBER IS LOCATED WHERE INDICATED BELOW. (SEE FIG. # 1-2)

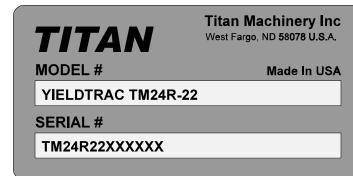


FIG. # 1-3 Model Number / Serial Number Decal

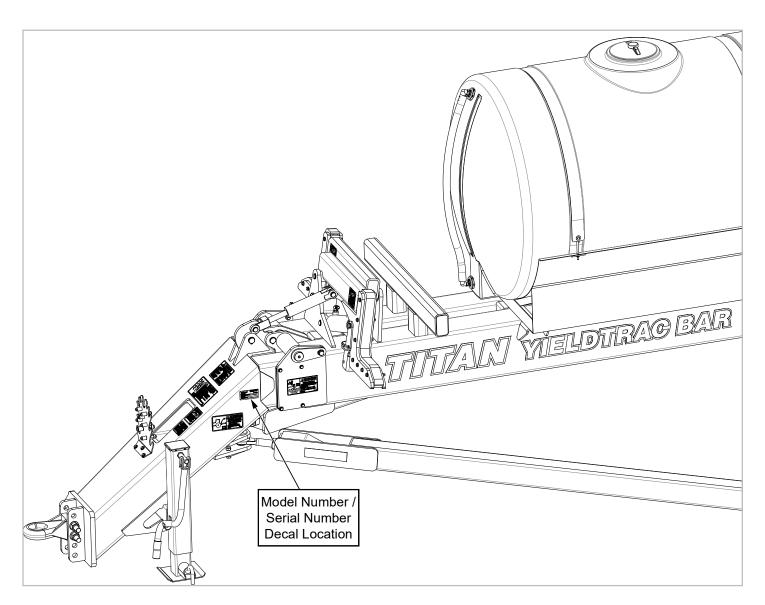


FIG. # 1-2 Model / Serial Number Decal Location

### WARNING Electro-Magnetic Compatibility (EMC)

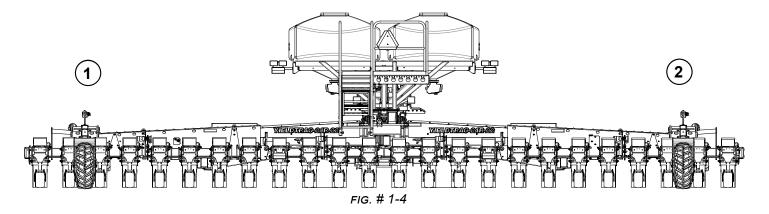
Interference may arise as a result of add-on equipment which may or may not necessarily meet the required standards. As such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

• The maximum power of emission equipment (radios, telephones, etc.) must not exceed the limits imposed by the national authorities of the country where you use the machine.

• The electro-magnetic field generated by the add-on system should not exceed 24 V/m at any time and at any location in the proximity of electronic components.

• The add-on equipment must not interfere with the functioning of the on-board electronics. Failure to comply with these rules will render the Yieldtrac planter warranty null and void.

### Determining left and right side of the machine



When you are behind the planter, looking forward toward the tractor, the left (1) and right (2) sides of the planter are the same as your left and right hand.

#### Advanced Seed Meter (ASM) Planting System

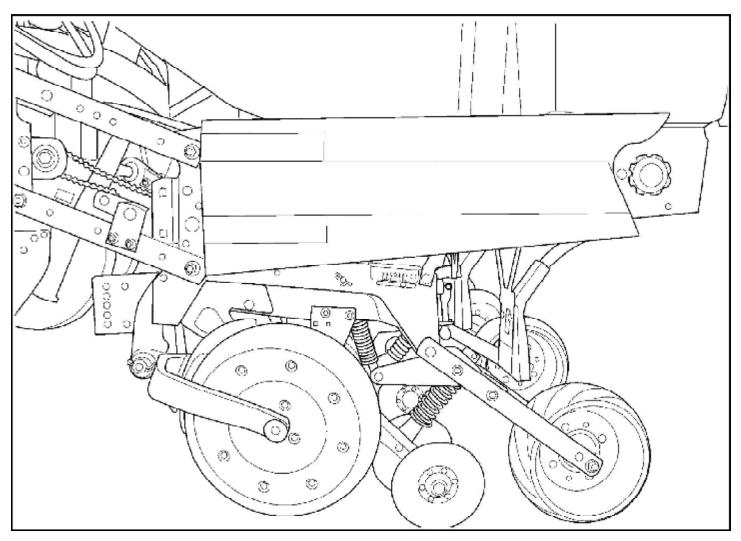


FIG. # 1-5 Advanced Seed Meter (ASM) planting system

#### Titan Yieldtrac Front Fold Planter Bar Overview

The Titan Yieldtrac Planter Bars have hydraulic a variable seed meter drive as standard equipment.

The variable drive system provides variable control of seed applied rates on the go.

The Case IH Advanced Farming System (AFS<sup>®</sup>) Pro 600/700 controls and monitors seed population and spacing as well as marker extend/retract and liquid fertilizer application (if equipped). Ground speed, individual row unit seed delivery, vacuum level and seed hopper level are also Case IH AFS<sup>®</sup> monitored.

The vacuum seed metering system, planter fold/unfold and marker extend/retract (if equipped) are hydraulically powered by the tractor through remote valves.

Row units, vacuum fans, and liquid fertilizer system are driven by hydraulic motors.

Changing product application rates or liquid fertilizer application rate without leaving the cab and enhanced control of product application rates and spacing are key benefits of direct hydraulic drive.

When the tractor is equipped with a Case IH<sup>®</sup> Global Positioning System (GPS) antenna and receiver, "prescription maps" can automatically adjust seed population according to the prescription zones you created in the preseason. "As applied" maps can also be recorded for any product applied.

The Case  $IH^{\ensuremath{\mathbb{R}}}$  AFS  $\ensuremath{\mathbb{R}}$  Pro 600/700 also controls unfolding the planter from road transport to planting position and the reverse, planter raise/lower functions as well as marker unfold/fold and alternation.

### **Base configuration**

THE TITAN YIELDTRAC PLANTER BARS ARE EQUIPPED WITH CASE IH, EARLYRISER®ROWUNITSWITHBULKSEEDHOPPERSANDADVANCED SEED METERS.

### **Bulk hopper**

Two central 2.1 m<sup>3</sup> (60 bu) bulk hoppers on the 24 row, offer the convenience and speed of single point filling or replenishing. The bulk hoppers add asecond seed delivery system, powered by an additional tractor remote valve. With the bulk hoppers, early riser® row units are equipped with mini-hoppers to feed the advanced seed meters.

BULK HOPPER SEED LEVEL AND AIR SEED DELIVERY ARE CASE  $\operatorname{IH}^{\textcircled{R}}$  AFS  $^{\textcircled{R}}$  MONITORED AND CONTROLLED.

### Liquid fertilizer

LIQUIDFERTILIZERAPPLICATION RATE ISTOTALLY INDEPENDENTOFSEED POPULATION, GROUND SPEED OR WHEEL SLIPPAGE. THE FERTILIZER SYSTEM, WITH ITS INDEPENDENT HYDRAULIC MOTOR AND VARIABLE SPEED PUMP, DELIVERS THE DESIRED APPLICATION RATE WITH THE CONVENIENCE OF IN-CAB CASE IH<sup>®</sup> AFS<sup>®</sup> CONTROL. APPLICATION RATE CAN BE CHANGED WHILE PLANTING WITHOUT CHANGING SEED POPULATION.

#### Advanced Seed Meter (ASM) components

Releasing a latch on the seed hopper provides access to the seed metering system. Releasing three latches on the seed meter cover provides access to the seed disk for changeover. Easy inspection of the meter unit can be done while in the field, thus eliminating costly down time.

### Vacuum

Consistent vacuum at each row unit firmly holds the seed on each hole of the seed disk until it reaches the cutoff, where the vacuum stops, the seed falls gently into the seed tube and into the trench. The display shows current vacuum level (inches of water). Vacuum level is determined for different seed applications during setup. Vacuum level is adjustable on the display. Refer to the Case IH<sup>®</sup> AFS<sup>®</sup> software operator manual for more information.

### Seed disks

Seed disks are available for a variety of crops and planting populations. Wear indicator slots on the seed disks offer a quick positive visual sign of wear, providing an indication of when to replace the seed disk.

### Singulator (1)

The seed singulator has a fine adjustment for various crop applications and is field-adjustable. A seed singulator ensures that only one seed is available for each hole of the seed disk. The seed singulator is adjusted with a lever, following settings in the Case IH Seed Meter Settings chart. Always follow recommended settings.

### Agitator (2)

The agitator keeps the seeds from packing in the seed meter, which is important for proper disk fill (seed on each seed hole).

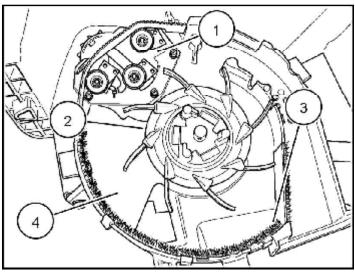


FIG. # 1-6 ADVANCED SEED METER COMPONENTS

Ref	Description
1	Singulator
2	Agitator
3	Brushes
4	Baffle

### Brushes (3)

Brushes located in the meter housing keep the seed in the meter and the disk clean. They also prevent seeds from leaking from the meter.

### Baffle (4)

The seed baffle adjustment is accessible in the field. The baffle has a closed setting allowing inspection of the meter without emptying the seed hopper. Baffle settings are found in the Seed Meter Settings chart.

#### Seed door

A seed door is located on the back of the meter assembly. It provides a place to empty the seed hopper for seed changeover.

### **Machine Components**

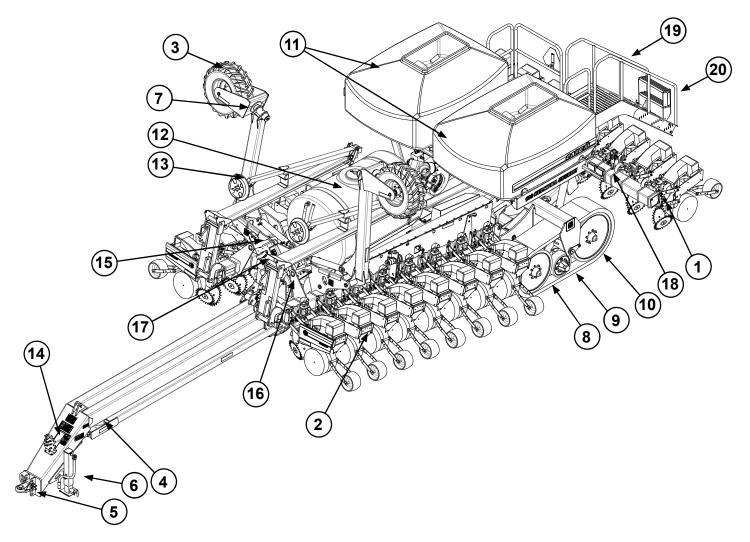


FIG. # 1-7 Machine Components, (Shown in Transport Position)

Item	Description	Item	Description
1	Center Tool Bar	11	Case IH 60 Bu. L & R Bulk Fill Tank
2	Case IH Early Riser Row Unit	12	500 Gal. Liquid Fertilizer Tank
3	Outer Wing Wheel	13	Row Marker (Optional)
4	Hitch	14	Hose Holder Tree
5	Base Hitch	15	Cradle Lift
6	Implement Jack	16	Cradle Lift Cylinder
7	Castor Wheel Assembly	17	Cradle Lift Cylinder Transport Locks
8	Front Idler	18	Amber Warning Light
9	Roller Wheel	19	Platform
10	Rear Idler	20	Rear Step

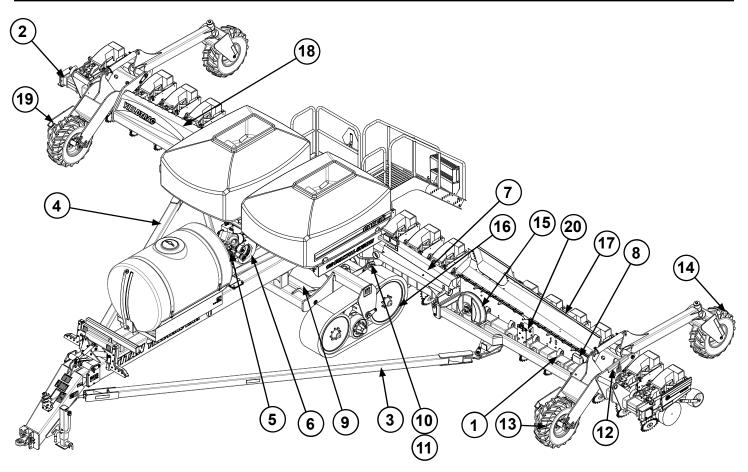


FIG. # 1-8 Machine Components, (Shown in Field Position)

Item	Description	Item	Description
1	Left Tool Bar	11	Lift Frame Cylinder Stop
2	Right Tool Bar	12	Wing Cylinder Stop
3	Left Tow Bar	13	Front Wing Wheel (Drive Wheel)
4	Right Tow Bar	14	Rear Wing Wheel
5	Liquid Fertilizer Squeeze Pump	15	Vacuum Fan
6	Bulk Fill Fan	16	Track Undercarriage
7	Left Stub Arm	17	Left Tool Bar Shield
8	Pneumatic Clutch Valve	18	Right Tool Bar Shield
9	Lift Frame	19	Wing Wheel Drive Motor
10	Lift Cylinder	20	Multi Valve Assembly

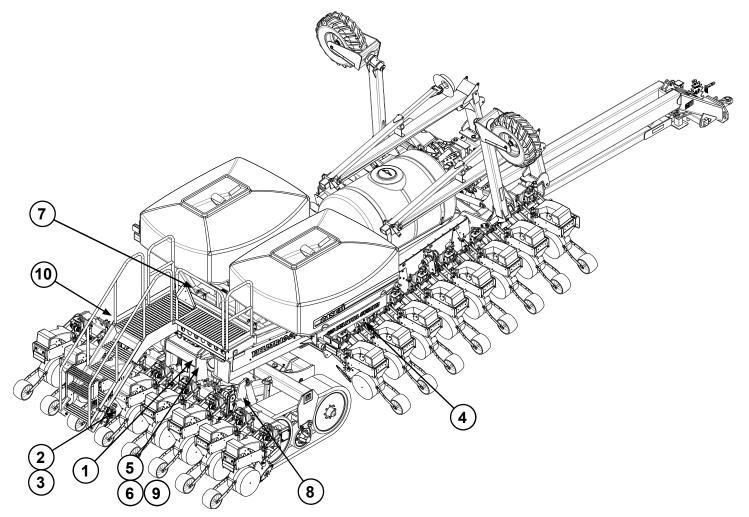


FIG. # 1-9 Machine Components, (Shown in Transport Position)

Item	Description	Item	Description
1	ECU	6	Implement Lighting Module
2	Liquid Fertilizer Fill Nozzle	7	SMV Sign
3	Calibration Switch	8	Seed Drive
4	Seed Distributor	9	Pnuematic Clutch valve
5	Lift & Fold Valve Assembly	10	Center Tool Bar Fertilizer Manifold

### 2 - SAFETY INFORMATION

#### Safety rules and signal word definitions

### **Personal safety**



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Read and understand all the safety messages in this manual and associated equipment manuals before you operate or service the machine. Obey all safety messages that follow this symbol to avoid possible death or serious injury.

Throughout this manual and on machine decals, you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury. The color associated with DANGER on the machine decals is RED.

**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury. The color associated with WARNING on the machine decals is ORANGE.

**CAUTION**, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. The color associated with CAUTION on the machine decals is YELLOW.

# FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

#### Machine safety

**NOTICE:** Notice indicates a situation which, if not avoided, could result in machine or property damage. The color associated with Notice on the machine decals is BLUE.

**IMPORTANT:** Important indicates a situation which, if not avoided, could result in machine or property damage. The color associated with Important on the machine decals is WHITE.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

### Information

**NOTE:** Note indicates additional information which clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

#### Safety rules

Read Entire Section Before Use.

#### A WARNING

**Unexpected machine movement!** 

Disengage power, shut down the tractor, and be sure that all moving parts have stopped before servicing, adjusting, cleaning, or unclogging the equipment.

Failure to comply could result in death or serious injury.

### 

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately. Failure to comply could result in death or serious injury.

Understand that your safety and the safety of other persons is measured by how you service and operate this machine. Know the positions and operations of all controls before you try to operate. MAKE SURE YOU CHECK ALL CONTROLS IN A SAFE AREA BEFORE STARTING YOUR WORK.

READ THIS MANUAL COMPLETELY AND MAKE SURE YOU UNDERSTAND THE CONTROLS. All equipment has a limit. Make sure you understand the stability and load characteristics of this machine before you start to operate.

**NOTE:** Safety messages in this section point out specific safety hazards which can be encountered during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.

The safety information given in this manual does not replace safety codes, insurance needs, federal, state and local laws. Make sure your machine has the equipment required by the local laws and regulations.

Additional safety messages are used in the text of the manual to indicate specific safety hazards. See your dealer for more information if you have any questions.

Use caution when operating the machine on slopes. Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Travel speed must be such that complete control and machine stability is maintained at all times. Reduce speed when turning, crossing slopes and when on rough, slick or muddy surfaces.

Never permit anyone to ride on any part of the machine, including the bulk hopper loader and platform.

Some illustrations in this manual will show shields or cover panels removed for purposes of clarity. DO NOT operate this machine with any of the shields or cover panels removed.

Be careful when checking singulator spools for wear. The spools have sharp edges that can cut your hands. Wear gloves and be careful when inspecting or replacing the furrow firming points. The disks are sharp and could cut or scrape hands.

Never operate the machine under the influence of alcohol, drugs or while otherwise impaired.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin, causing death or serious injury, or infection.

DO NOT use your hand to check for leaks. Use a piece of cardboard or paper.

Stop engine, remove key and relieve the pressure before connecting or disconnecting fluid lines.

Make sure all components are in good condition and tighten all connections before starting the engine or pressurizing the system.

If hydraulic fluid or diesel penetrates the skin, seek medical attention immediately.

Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.

Keep clear of moving parts. Loose clothing, jewelry, watches, long hair and other loose or hanging items should be avoided as they can become entangled in moving parts.

Wear protective equipment when appropriate.

DO NOT attempt to remove material from any part of the machine while it is being operated or components are in motion.

Make sure all guards and shields are in good condition and properly installed before operating the machine. Never operate the machine with shields removed. Always close access doors or panels before operating the machine.

Dirty or slippery steps, ladders, walkways and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment at any time.

Review this manual and any other associated manuals before each season of use.

Never allow anyone unfamiliar, untrained, or complacent to operate the implement.

Use extreme care when cleaning, filling, or adjusting the implement.

DO NOT enter tank unless another person is present.

DO NOT work around rotating equipment. Loose clothing, rings, watches, etc. may get caught and cause death or serious injury..

# Air and Air Hoses A

Compressor hoses may move unexpectedly when suddenly disconnected.

Use properly sized air nozzles. Never use compressed air to clean off clothes or otherwise direct it toward yourself.

### A General Maintenance Safety A

Keep area used for servicing the machine clean and dry. Clean up spilled fluids.

Service the machine on a firm level surface.

ReInstall guards and shields after servicing the machine.

Close all access doors and install all panels after servicing the machine and before operation.

Do not attempt to clean, lubricate, clear obstructions or make adjustments to the machine while it is in motion or while the engine is running.

Always make sure working area is clear of tools, parts, other persons and pets before you start operating the machine.

Unsupported hydraulic cylinders can lose pressure and drop the equipment causing a crushing hazard. Do not leave equipment in a raised position while parked or during service, unless securely supported.

Incorrect towing procedures can cause accidents. When towing a disabled machine, follow the procedures in this manual. Use only rigid tow bars.

Stop the engine, remove key and relieve the pressure before disconnecting or connecting fluid lines.

Stop the engine and remove key before disconnecting or connecting electrical connections.

Replace damaged or worn tubes, hoses, electrical wiring, etc.

When welding, follow the instructions in this manual. Always disconnect battery before welding on machine. Always wash your hands after handling battery components.

### $oldsymbol{A}$ Wheels and Tires $oldsymbol{A}$

### 

**Explosion hazard!** 

Welding to a wheel can create an explosive air and gas mixture. Removing air from the tire or loosening the tire on the wheel (breaking the bead) will NOT eliminate the hazard. ALWAYS remove the tire completely from the wheel before welding.

Failure to comply will result in death or serious injury.

Make sure tires are correctly inflated. Do not exceed recommended load or pressure. Follow instructions in the manual for proper tire inflation.

Tires are heavy. Handling tires without the proper equipment could cause death or serious injury.

Always have a qualified tire technician service the tires and rims. If a tire has lost all pressure, take the tire and rim to a tire shop or your dealer for service. Explosive separation of the tire can cause death or serious injury.

#### A Driving on public roads and general transportation safety (if applicable) A

The Slow Moving Vehicle (SMV) sign is located at the rear of the implement.

Comply with local laws and regulations.

Use appropriate lighting to meet local regulations.

Make sure the Slow Moving Vehicle (SMV) emblem and/or Speed Indicator Symbol (SIS) is visible.

Use safety chains for trailed equipment when provided with machine or equipment.

Lift implements and attachments high enough above ground to prevent accidental contact with road.

When transporting equipment or machine on a transport trailer, make sure it is properly secured. Be sure the SMV or SIS on the equipment or machine is covered while being transported on a trailer.

Be aware of overhead structures or power lines and make sure the machine and/or attachments can pass safely under. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Travel speed should be such that complete control and machine stability is maintained at all times.

Slow down and signal before turning.

Pull over to allow faster traffic to pass.

Follow correct towing procedure for equipment with or without brakes.

### A Reflectors and Warning Lamps A

Flashing amber warning lamps must be used when operating on the public roads.

### A Power Take-Off (PTO)(if Applicable)

PTO driven machinery can cause death or serious injury. Before working on or near the PTO shaft or servicing or clearing the driven machine, put the PTO lever in the disengage position, stop the engine and remove the key. Whenever a PTO is in operation, a guard must be in place to prevent death or injury to the operator or bystanders.

### A Fire and Explosion Prevention

Fuel or oil leaked or spills on hot surfaces or electrical components can cause a fire.

Crop materials, trash, debris, bird nests or flammable material can ignite on hot surfaces.

Always have a fire extinguisher on or near the machine.

Make sure the fire extinguisher(s) is maintained and serviced according to the manufacturer's instructions.

At least once each day and at the end of the day remove all trash and debris from the machine especially around components that get hot during operation such as engine, transmission, exhaust, battery, etc. Wait for these areas to cool down before performing any maintenance. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

At least once each day, remove debris accumulation around moving components such as bearings, pulleys, belts, gears cleaning fan, etc. Wait for these areas to cool down before performing any maintenance. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

Inspect the electrical system for loose connections or frayed insulation. Repair or replace loose or damaged parts.

Do not expose the machine to flames, burning brush or explosives.

Promptly investigate any unusual odors that may occur during operation of the machine.

### A Personal Protective Equipment (PPE)

Wear personal protective equipment such as hard hat, safety glasses or goggles, heavy gloves, hearing protection, protective clothing, protective shoes, etc.

# A Do Not Operate Tag A

Before you start servicing the machine, attach a 'Do Not Operate' warning tag to the machine in an area that will be visible.

### 🗚 Hazardous Chemicals 🗚

#### 

Chemical hazard could result in death or serious injury! Wear protective clothing and a face shield when working with chemicals. Do not allow chemicals to contact skin or eyes. Always follow the chemical manufacturer's instructions. Failure to comply could result in death or serious injury.

### 

#### Chemical hazard could result in death or serious injury!

Misuse including excessive application rate, uneven application, spray drift, and label violations can cause damage to crops, environment and injury or death to persons and livestock.. Follow all instructions on the container's labels. Always operate spray equipment according to the chemical manufacturer's instructions. Failure to comply could result in death or serious injury.

If you are exposed to or come in contact with hazardous chemicals, you can be seriously injured. The fluids, lubricants, paints, adhesives, coolant, etc. required for the function of your machine can be hazardous. They may be attractive and harmful to domestic animals as well as humans.

Material Safety Data Sheets (MSDS) provide information about the chemical substances within a product, safe handling and storage procedures, first aid measures and procedures to be taken in the event of a spill or accidental release. MSDS are available from your dealer.

Before you service your machine, check the MSDS for each lubricant, fluid, etc. used in this machine. This information indicates the associated risks and will help you service the machine safely. Follow the information in the MSDS, on manufacturer's containers, as well as the information in this manual when servicing the machine.

Dispose of all fluids, filters and containers in an environmentally safe manner according to local laws and regulations. Check with local environmental and recycling centers or your dealer for correct disposal information.

Store fluids and filters in accordance with local laws and regulations. Use only appropriate containers for the storage of chemicals or petrochemical substances. Keep out of reach of children or other unauthorized persons.

Additional precautions are required for applied chemicals. Obtain complete information from the manufacturer or distributor of the chemicals before using them.

In case of fire involving chemicals, chemical containers or equipment containing chemicals, remain upwind and avoid exposure to smoke from the fire.

### A Precautions When Using Chemicals

Agricultural chemicals can be dangerous. These chemicals include fertilizers, fungicides, herbicides and pesticides or insecticides. These may be in liquid, dust or granular form. Rubber gloves, chemical respirator, goggles and/or other protective clothing may be required for certain chemicals. Improper selection or use can injure people and animals, plants and soils. Care must be exercised to avoid damage to other people's property. Follow the chemical manufacturers instructions and safety precautions.

Chemicals can be used in one or more of the following ways:

- Treated seeds
- Added to seed in seed hopper
- Applied with granular feeding mechanisms
- Applied with dusting or spraying equipment

When adjusting, servicing, cleaning and storing machines that have chemical materials associated with them, use the same degree of care that is required for the initial handling of these chemicals.

When chemicals have been used in a machine, it is of utmost importance to inform all employees, service personnel and others of any potential chemical hazard and required safety precautions before they come in contact with the machine, its contents or the applied material.

### A Utility safety (Self-propelled machines and applicable attachments and accessories)

When digging or using ground engaging equipment, be aware of buried cables and other services. Contact your local utilities or authorities, as appropriate to determine the locations of services.

Make sure the machine has sufficient clearance to pass in all directions. Pay special attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Retract raised or extended components, if necessary. Remove or lower radio antennas or other accessories. Should a contact between the machine and an electric power source occur, the following precautions must be taken: Stop the machine movement immediately. Apply the park brake, stop the engine and remove the key. Check if you can safely leave the cab or your actual position without contacting the electrical wires. If not, stay in your position and call for help. If you can leave your position without touching lines, jump clear of the machine to make sure you do not make contact with the ground and the machine at the same time. Do not permit anyone to touch the machine until power has been shut off to the power lines.

### A Electrical Storm Safety

Do not operate machine during an electrical storm.

If you are on the ground during an electrical storm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

If an electrical storm should strike during operation, remain in the cab. Do not leave the cab or operator's platform. Do not make contact with the ground or objects outside the machine.

# A Mounting and Dismounting

Mount and dismount the machine only at designated locations that have handholds, steps or ladders.

Do not jump off the machine.

Make sure steps, ladders and platforms remain clean and clear of debris and foreign substances. Injury may result from slippery surfaces.

Face the machine when mounting and dismounting.

Maintain a three-point contact with steps, ladders and handholds.

Never mount or dismount from a moving machine.

Do not use the steering wheel or other controls or accessories as handholds when entering or exiting the cab or operator's platform.

### A Working at Heights (if applicable)

When the normal use and maintenance of the machine requires working at heights: Correctly use installed steps, ladders and railings. Never use ladders, steps or railings while the machine is moving. Do not stand on surfaces which are not designed as steps or platforms.

Do not use the machine as a lift, ladder or platform for working at heights.

# A Noise Level Safety

Planter fans operate at 80 - 85 dB, at a distance of three feet (3 ft) from the fan.

Exposure to loud noises can cause hearing damage. Always wear hearing protection when operating noisy equipment or when working in a noisy environment.

# A Decommission Safety

When the machine is taken out of service because it is damaged beyond repair or has reached the end of its useful life, disassembly, scrapping and/or recycling of components, fluids, etc. must be performed only by a qualified technician using service instructions and in compliance with local laws and regulations.

### **Chemical Safety and the Environment**

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances which are required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

**NOTICE:** The following are recommendations which may be of assistance:

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

### **Helpful Hints**

- Avoid filling tanks using cans which may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances which may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used gearbox and hydraulic oils, etc. Do not mix drained fluids with lubricants. Store drained fluids safely until they can be disposed of properly to comply with local legislation and available resources.
- Repair any leaks or defects in the hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of hydraulic fluid.

### **Transporting on Public Roads**

### 

Transport hazard!

Collision of high speed road traffic and slow moving machines can cause death or personal injury. On roads, use transport lighting according to local laws. Make sure the Slow Moving Vehicle (SMV) emblem is visible. Failure to comply could result in death or serious injury.

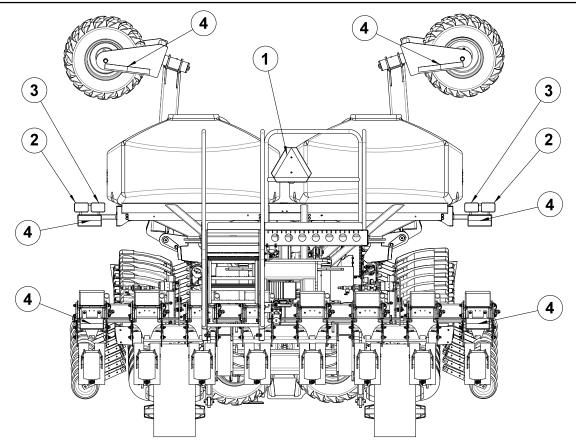


FIG. # 2-1 TRANSPORTING ON PUBLIC ROADS

Item	Description	ltem	Description
1	Slow Moving Vehicle (SMV) Sign	3	Red Warning Lamp / Brake Lamp
2	Amber Warning Light	4	Reflectors

For safe transportation of the Yieldtrac planter on public roads and to prevent damage to the planter during transport, do the following:

- 1. Comply with your state and local laws governing highway safety regulations.
- 2. Do NOT transport the planter on public highways with the tanks or the hoppers more than half full.
- 3. Maintain complete control of the tractor and planter at all times. Do not exceed 20 mph [32 km/h].
- 4. Always lock the tractor brake pedals together.
- 5. Make sure all safety lights, reflectors and SMV symbol are clean and clearly visible from the rear with the planter in towing position. Always use the flashing warning lamps on the tractor.

- 6. Make sure cradle lift, and main lift transport locks are installed before transporting.
- 7. Ensure clearance of any hydraulic, vacuum hoses, and jack.
- 8. Verify that the tractor is at least .67 x GROSS WEIGHT of the planter.
- 9. Pull over to let faster traffic pass when traveling on roads. Always signal before turning off the road.
- 10. Check clearance before going under electric lines, on bridges or into buildings.
- 11. Make sure the markers (if equipped) are in the transport position.

**NOTICE:** Do not carry bags of seed, chemicals, etc. on top of the hoppers. To do so will damage the hoppers.

### **Bulk Hopper Ladder and Platform**

WARNING Unexpected movement! Stay clear when lowering the ladder. Failure to comply could result in death or serious injury.

### 

Fall hazard!

Jumping on or off the machine could cause an injury. Always face the machine, use the handrails and steps of the ladder, and get on or off slowly. Maintain a three-point contact to avoid falling: both hands on the handrails and one foot on the step, or one hand on the handrail and both feet on the steps. Never permit anyone to ride on any part of the machine, including the bulk hopper loader and platform. Failure to comply could result in death or serious injury.

#### 

Fall hazard!

Take correct measures to make sure steps, ladders, and platforms remain clean and clear of debris or foreign substances.

Failure to comply could result in death or serious injury.

### **Bulk Hopper Step Ladder**

The hopper platform can be accessed with the folding step ladder.

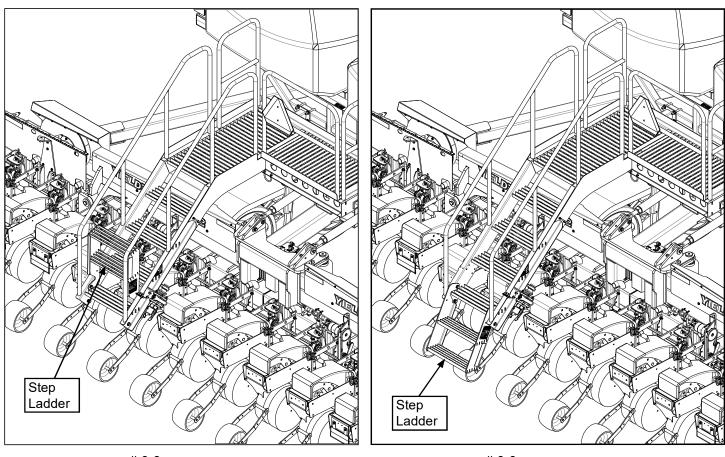


FIG. # 2-2 STEP LADDER UP

FIG. # 2-3 STEP LADDER DOWN

### **Transport Locks**

### 

Crushing hazard!

# 2-4)

If you have not installed the cylinder locks, a failure of the hydraulic lift system will cause the planter to fall rapidly. Always install the cylinder locks on the main lift cylinders before transporting, servicing, or storing the planter.

Failure to comply could result in death or serious injury.

#### Cradle Lift Cylinder Transport Locks

Cradle lift cylinder transport locks are provided for the two cradle lift cylinders on the planter track carrier assembly. The cradle lift cylinder transport locks MUST be installed on the cradle lift cylinder rods whenever the planter is transported or stored to avoid cylinder settling during transport. (See Fig.

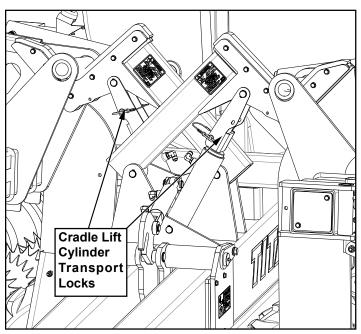


FIG. # 2-4 Cradle lift cylinder transport locks (Locked Position)

The cradle lift cylinder transport locks have a standard storage position on the cradle arms. The cradle lift cylinder transport locks MUST be returned in the storage position before the planter is unfolded. (See Fig. # 2-5)

#### IMPORTANT

Always return the locks in their storage position on the planter when not in use.

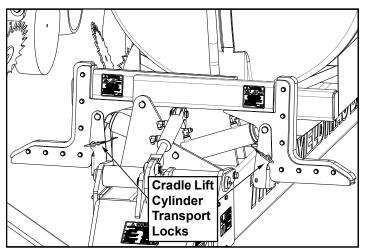


FIG. # 2-5 Cradle lift cylinder transport locks (Storage Position, Field Position)

#### Main Lift Cylinder Service / Transport Locks

Main lift cylinder transport locks are provided for the two main lift cylinders on the planter track carrier assembly. The main lift cylinder transport locks MUST be installed on the main lift cylinder rods whenever the planter is in service, or transported or stored to avoid cylinder settling during transport. *(See Fig. # 2-6)* 

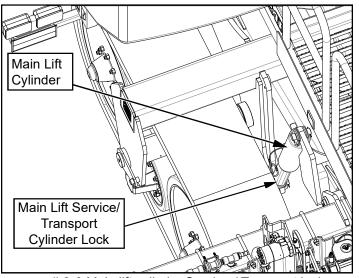


FIG. # 2-6 Main lift cylinder Service / Transport locks ( Service / Transport Position)

The main lift cylinder transport locks have a standard storage position on the track carrier assembly. The main lift cylinder transport locks MUST be returned in the storage position before the planter is unfolded. (*See Fig. # 2-7*)

#### IMPORTANT

Always return the locks in their storage position on the planter when not in use.

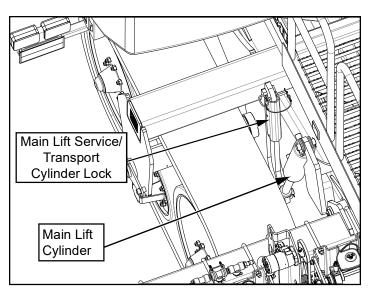


FIG. # 2-7 Main lift cylinder Service / Transport locks ( Storage / Field Position)

#### Wing Cylinder Service Locks

Wing cylinder service locks are provided for the two wing cylinders on the planter left and right toolbar wing assemblies.

The wing cylinder service locks MUST be installed on the wing cylinder rods whenever the planter is in service to avoid cylinder settling during service. (*See Fig. # 2-8*)

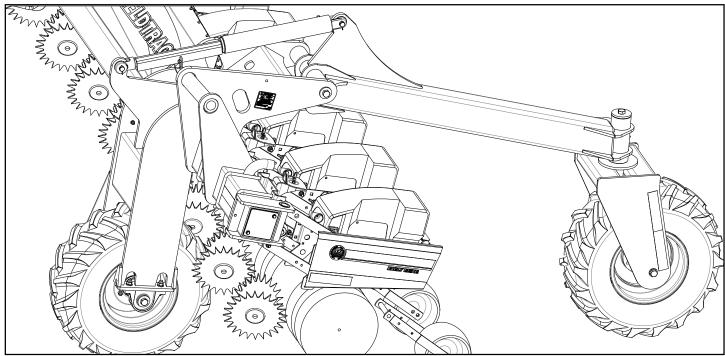


FIG. # 2-8 Wing cylinder Service locks ( Service Position)

The wing cylinder service locks have a standard storage position on the planter left and right toolbar wing assemblies. The wing cylinder service locks MUST be returned in the storage position before the planter is unfolded. (*See Fig. # 2-9*)

#### IMPORTANT

Always return the locks in their storage position on the planter when not in use.

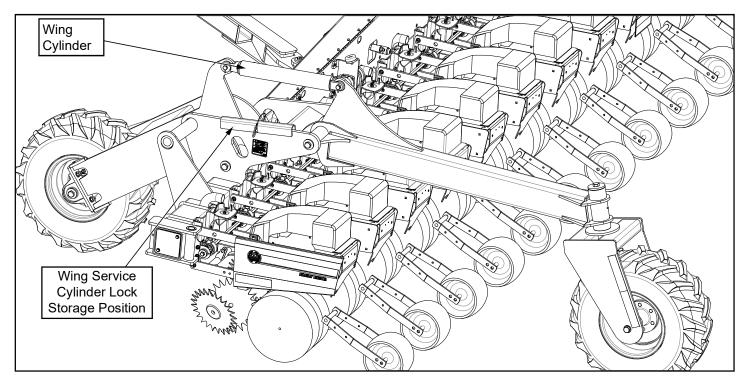


FIG. # 2-9 Wing cylinder Service locks ( Storage Position)

### **Maintenance Safety**



Improper operation or service of this machine can result in an accident. Read and understand the SAFETY INFORMATION Section before you operate or service the machine. Failure to comply could result in death or serious injury.

#### Environment

### 

Chemical hazard!

When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals. Failure to comply could result in death or serious injury.

Before you service this machine and before you dispose of the old fluids and lubricants, always remember the environment. DO NOT put oil or fluids into the ground or into containers that can leak.

Check with your local environmental or recycling center or your Yieldtrac planter dealer for correct disposal information.

### Safety Signs

The following safety signs are placed on your machine as a guide for your safety and for those working with you. Walk around the machine and note the content and location of these safety signs before operating your machine.

Keep safety signs clean and legible. Clean safety signs with a soft cloth, water, and a gentle detergent. Do not use solvent, gasoline, or other harsh chemicals. Solvents, gasoline, and other harsh chemicals may damage or remove safety signs.

Replace all safety signs that are damaged, missing, painted over, or illegible. If a safety sign is on a part that is replaced, make sure the safety sign is installed on the new part. See your dealer for replacement safety signs.



Safety signs that display the "Read Operator's Manual" symbol are intended to direct the operator to the operator's manual for further information regarding maintenance, adjustments, or procedures for particular areas of the machine. When a safety sign displays this symbol, refer to the appropriate page of the operator's manual.

NOTE: Replacement decals are available from your Yieldtrac planter dealer.

### **Safety Sign Locations**

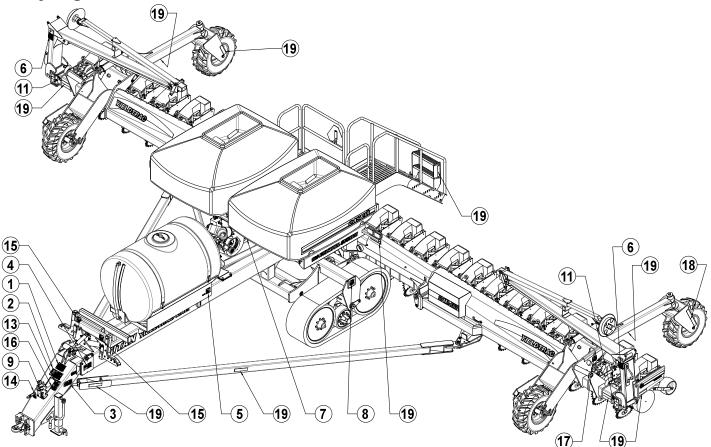
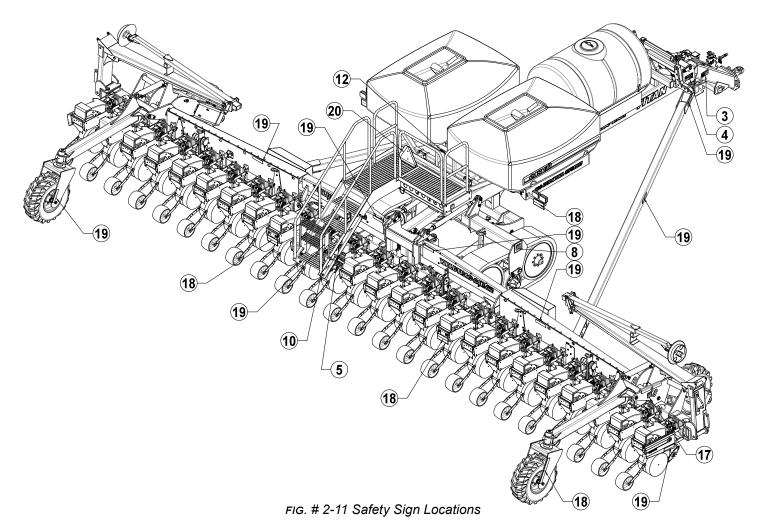


FIG. # 2-10 Safety Sign Locations

Item	Part Number	Description	Item	Part Number	Description
1	т0051573	DECAL, WARNING - MACHINE SAFETY	11	т0051788	DECAL, TORQUE BOLT-ROW MARKER
2	т0051574	DECAL, WARNING - MACHINE TRANSPORT	12	т0051653	DECAL, NO STEP
3	т0051575	DECAL, WARNING - TIPPING HAZARD	13	т0051669	DECAL, WARNING - HYD FLUID HAZARD
4	т0051588	DECAL, WARNING - CRUSH HAZARD	14	т0051678	DECAL, NOTICE - MOTOR RETURN
5	т0051589	DECAL, WARNING - CHEMICAL HAZARD	15	т0051686	DECAL, WARN - TRANS CRUSH HAZ CRADLE LIFT
6	т0051591	DECAL, DANGER - ELEC HAZ-WARNING CRUSH HAZ	16	т0051702	DECAL, IMPORTANT - CASE DRAIN MOT RET
7	т0051592	DECAL, WARNING - PRESSURIZED HAZARD	17	т0051737	DECAL, WARNING, CRUSH HAZ SERVICE WING WHEEL
8	т0051593	DECAL, WARN - TRANS CRUSH HAZ MAIN LIFT	18	T0051727	Decal, Reflector,Red,Orange-2x18
9	т0051595	DECAL, NOTICE - FAN MOTOR CASE DRAIN	19	T0051729	Decal, Reflector,Yellow-2x9
10	т0051596	Decal, Warning - Ladder Lowering	20	TA00678	Assy, SMV Sign

### Safety Sign Locations Cont.



Item	Part Number	Description	ltem	Part Number	Description
1	т0051573	DECAL, WARNING - MACHINE SAFETY	11	т0051788	DECAL, TORQUE BOLT-ROW MARKER
2	т0051574	DECAL, WARNING - MACHINE TRANSPORT	12	т0051653	DECAL, NO STEP
3	т0051575	DECAL, WARNING - TIPPING HAZARD	13	т0051669	DECAL, WARNING - HYD FLUID HAZARD
4	т0051588	DECAL, WARNING - CRUSH HAZARD	14	т0051678	DECAL, NOTICE - MOTOR RETURN
5	т0051589	DECAL, WARNING - CHEMICAL HAZARD	15	т0051686	DECAL, WARN - TRANS CRUSH HAZ CRADLE LIFT
6	т0051591	DECAL, DANGER - ELEC HAZ-WARNING CRUSH HAZ	16	т0051702	DECAL, IMPORTANT - CASE DRAIN MOT RET
7	т0051592	DECAL, WARNING - PRESSURIZED HAZARD	17	т0051737	DECAL, WARNING, CRUSH HAZ SERVICE WING WHEEL
8	т0051593	DECAL, WARN - TRANS CRUSH HAZ MAIN LIFT	18	T0051727	Decal, Reflector,Red,Orange-2x18
9	т0051595	DECAL, NOTICE - FAN MOTOR CASE DRAIN	19	T0051729	Decal, Reflector,Yellow-2x9
10	т0051596	Decal, Warning - Ladder Lowering	20	TA00678	Assy, SMV Sign



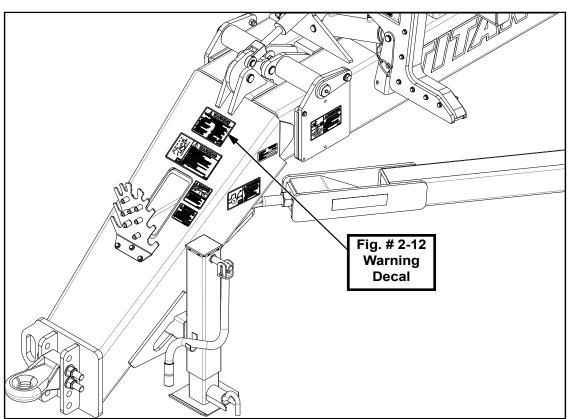


FIG. # 2-13 Safety Sign Location



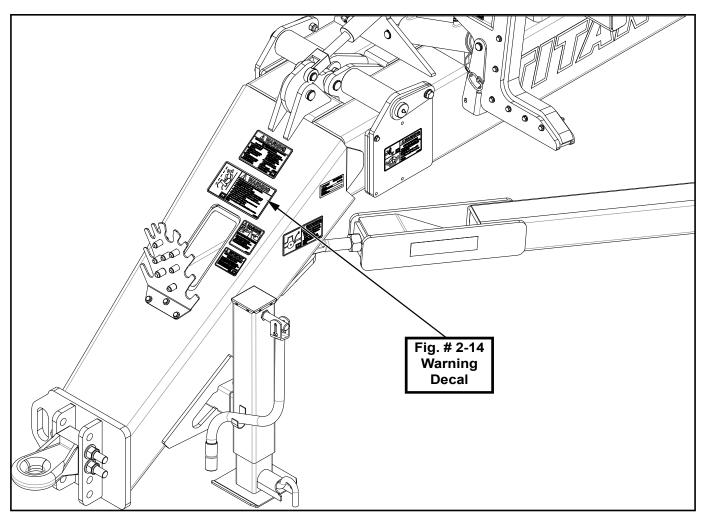
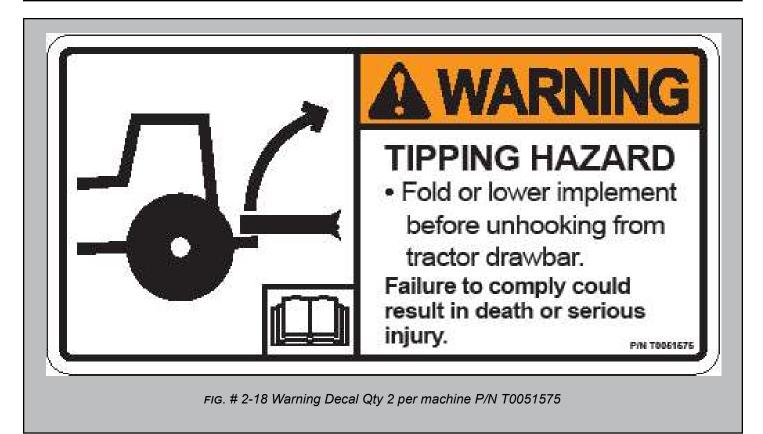


FIG. # 2-15 Safety Sign Location



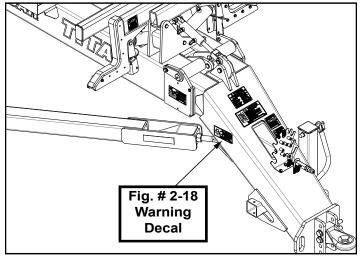


FIG. # 2-16 Safety Sign Location

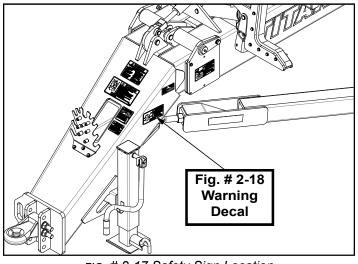
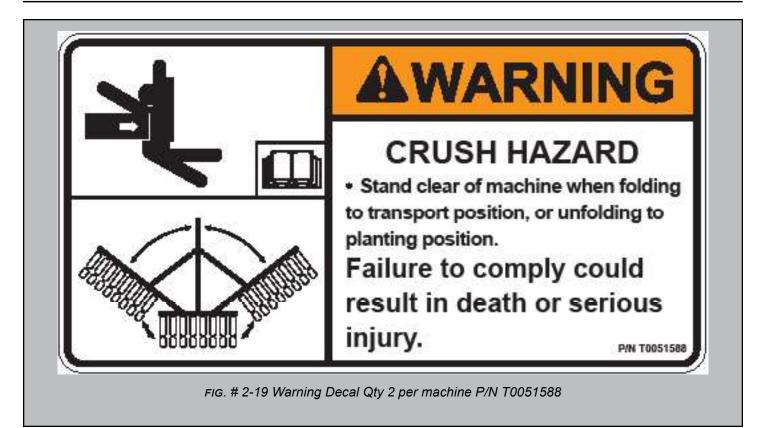


FIG. # 2-17 Safety Sign Location



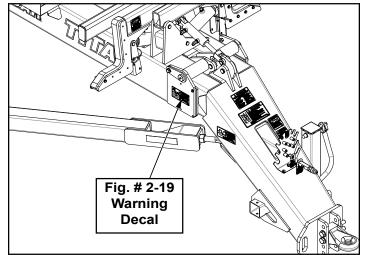


FIG. # 2-20 Safety Sign Location

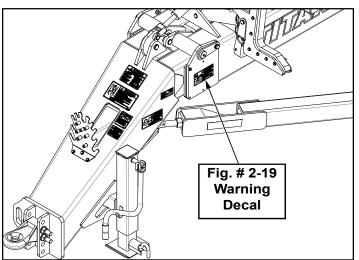


FIG. # 2-21 Safety Sign Location



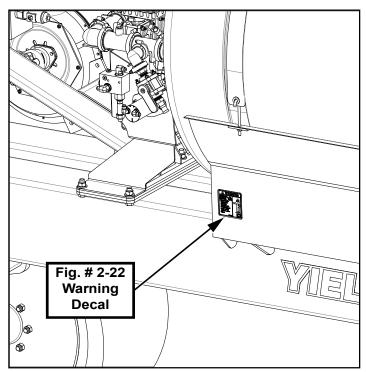


FIG. # 2-23 Safety Sign Location - Right Side, On Fertilizer Tank Saddle, Near Shutoff Valve

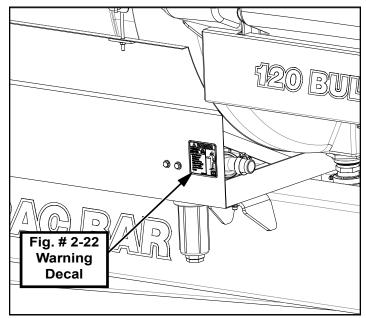


FIG. # 2-24 Safety Sign Location - Left Side On Fertilizer tank Saddle, Near Fertilizer Filter

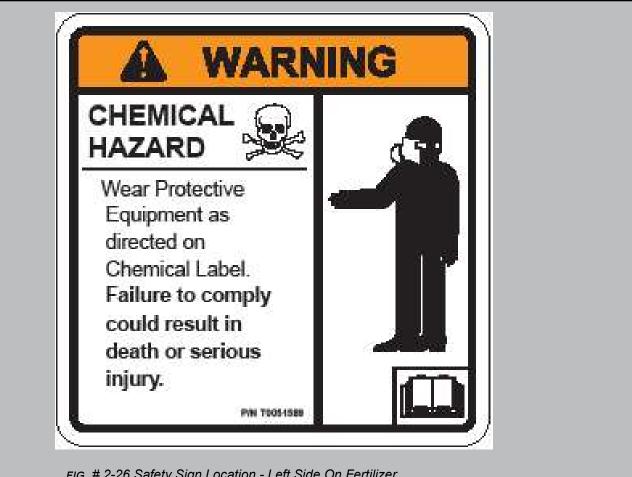


FIG. # 2-26 Safety Sign Location - Left Side On Fertilizer tank Saddle, Near Fertilizer Filter

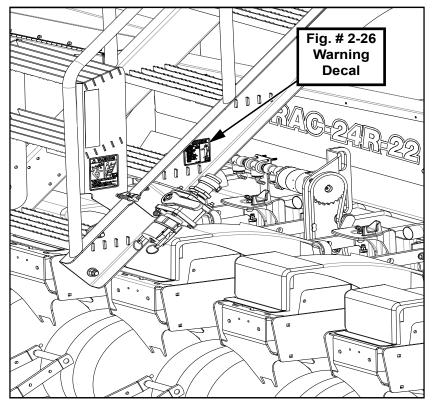
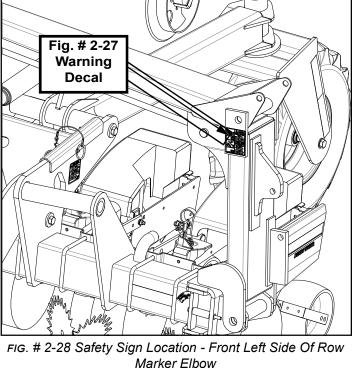


FIG. # 2-25 Safety Sign Location - Rear, Right Side On Ladder





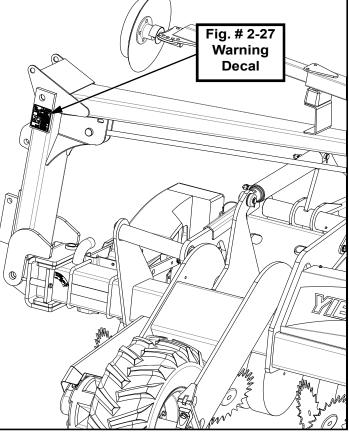


FIG. # 2-29 Safety Sign Location - Front Right Side Of Row Marker Elbow



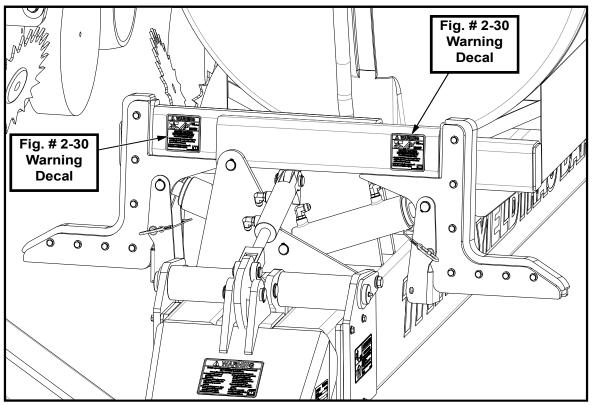


FIG. # 2-31 Warning Decal Qty 2 Per Machine P/N T0051686



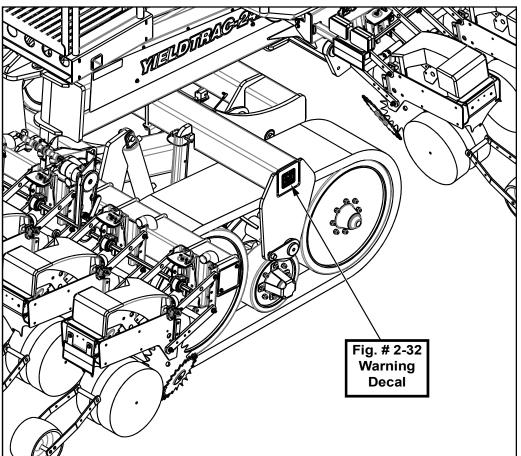
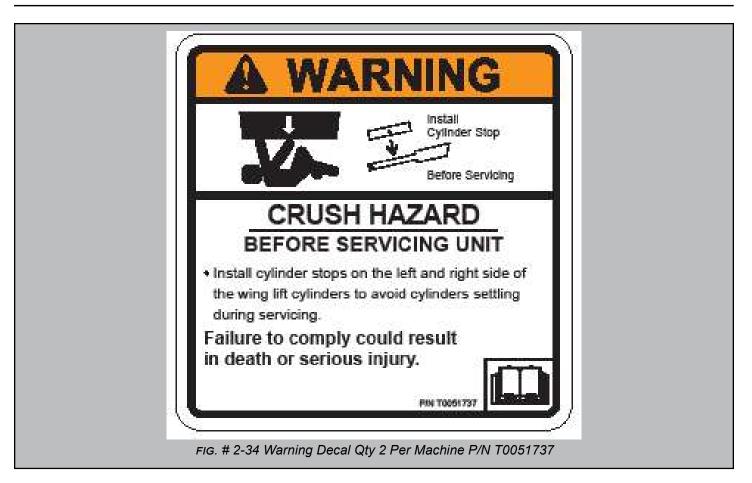


FIG. # 2-33 Warning Decal Qty 2 Per Machine, 1 for right side (Shown) 1 for left side (Not Shown) P/N T0051593



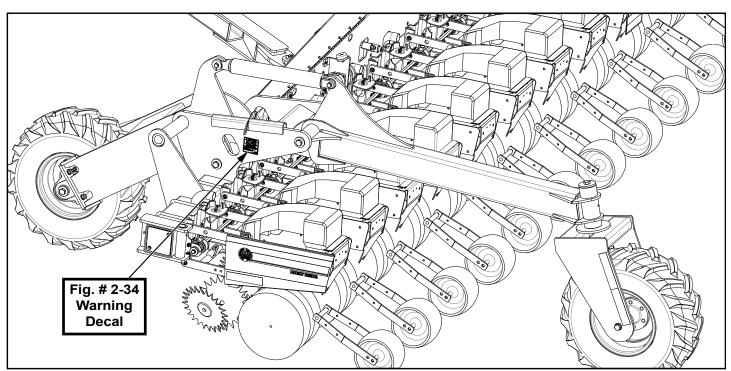


FIG. # 2-35 Warning Decal Qty 2 Per Machine, 1 for left side (Shown) 1 for right side (Not Shown) P/N T0051737



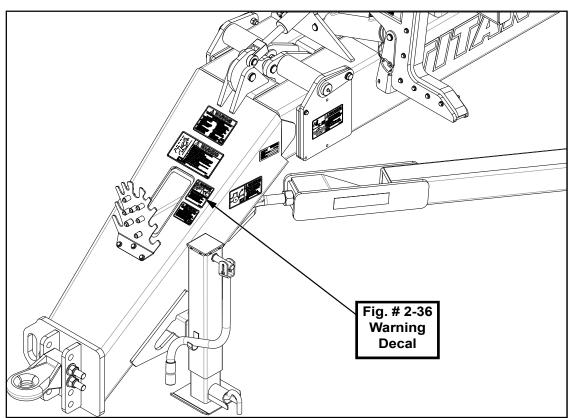
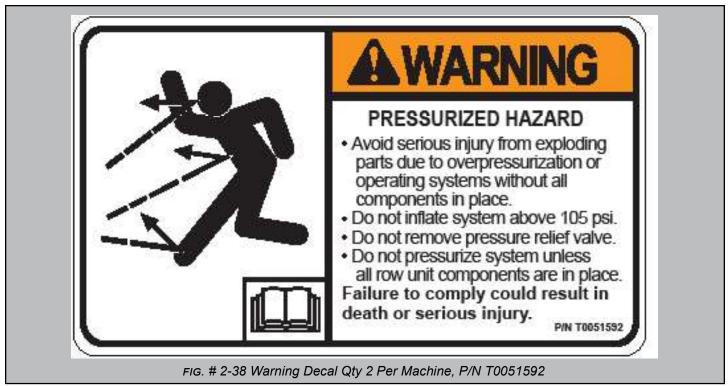


FIG. # 2-37 Warning Decal Qty 1 Per Machine, P/N T0051669



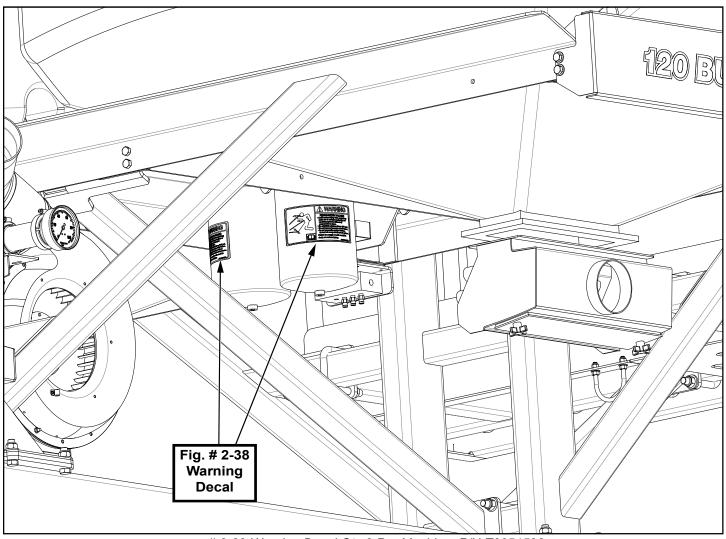


FIG. # 2-39 Warning Decal Qty 2 Per Machine, P/N T0051592



FIG. # 2-40 Warning Decal Qty 2 Per Machine, P/N T0051596

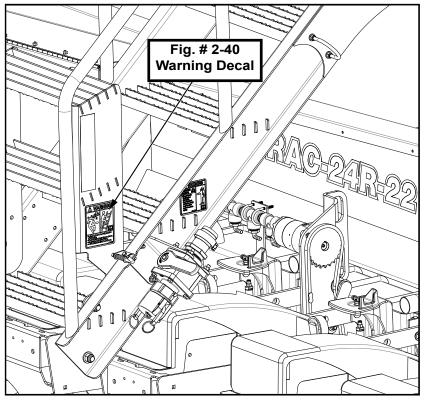


FIG. # 2-41 Warning Decal Qty 2 Per Machine, P/N T0051596

### WARNING

• No Step. Do not step or stand on this surface. This surface may be slippery.

Failure to comply could result in death or serious injury.



FIG. # 2-42 Warning Decal Qty 1 Per Machine, P/N T0051653

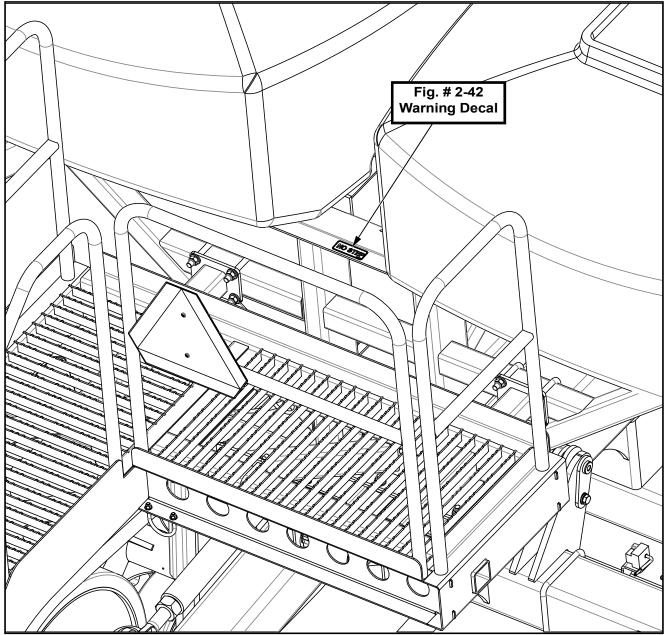


FIG. # 2-43 Warning Decal Qty 1 Per Machine, P/N T0051653



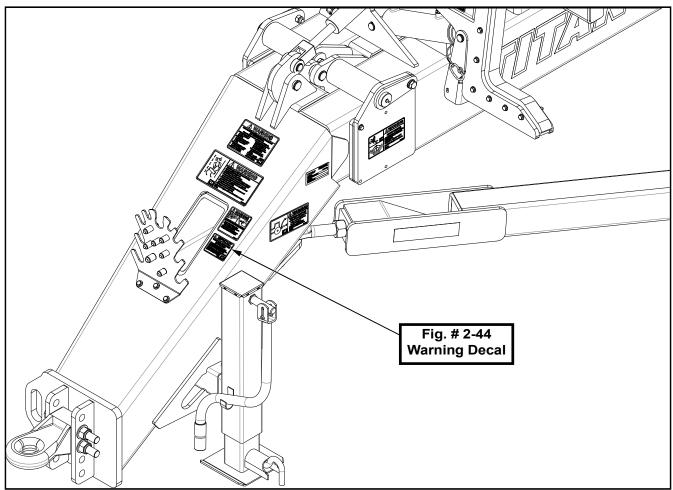


FIG. # 2-45 Important Decal Qty 1 Per Machine, P/N T0051702

### NOTICE

### FAN MOTOR

### CASE DRAIN LINE

Failure to connect this line to a case drain port with less than 25 psi (170 kPa) backpressure will result in motor failure and void the warranty.

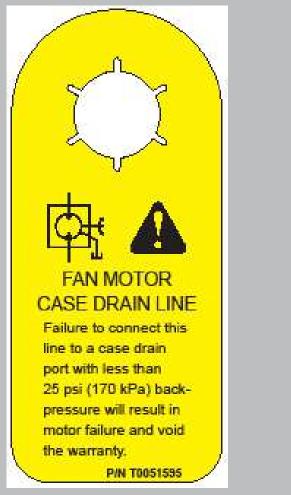


FIG. # 2-46 Notice Decal Qty 1 Per Machine, P/N T0051595



FIG. # 2-47 Notice Decal Qty 1 Per Machine, Located on the "Case Drain" hydraulic line P/N T0051595

### **NOTICE** MOTOR RETURN LINE

This line must be connected to the motor return coupler before folding/unfolding the toolbar, and before pulling the toolbar in the working position.

Failure to connect the motor return line will result in failure to the wing fold drive system and void the warranty.

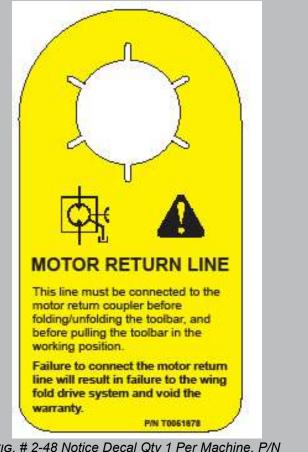


FIG. # 2-48 Notice Decal Qty 1 Per Machine, P/N T0051678



FIG. # 2-49 Notice Decal Qty 1 Per Machine, Located on the "Motor Return" Hydraulic Line.

### **NOTICE** Marker Breakaway Bolt

Breakaway bolts must be torqued to a specific range to function correctly:  $172 - 156 \text{ N} \cdot \text{m}$  (127 - 115 lb ft).

Failure to torque the breakaway bolts correctly will result in improper function and cause damage to the planter and property.

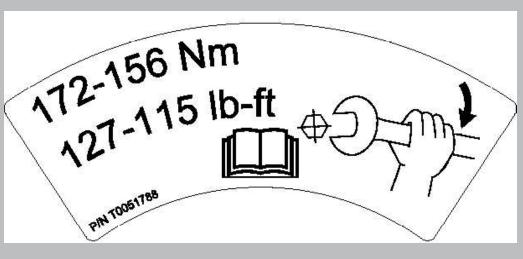


FIG. # 2-50 Notice Decal Qty 2 Per Machine, P/N T0051788, Case IH P/N 84124770

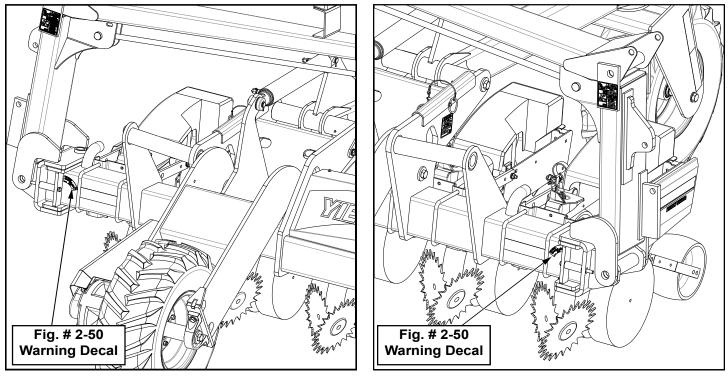


FIG. # 2-51 Notice Decal

FIG. # 2-52 Notice Decal

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2 - SAFETY INFORMATION

### **3 - TRANSPORT OPERATIONS**

### **Road Transport**

### **Transporting on Public Roads**

# 

#### TRANSPORT HAZARD!

COLLISION OF HIGH SPEED ROAD TRAFFIC AND SLOW MOVING MACHINES CAN CAUSE DEATH OR PERSONAL INJURY. ON ROADS USE TRANSPORT LIGHTING ACCORDING TO LOCAL LAWS. MAKE SURE THE SLOW MOVING VEHICLE (SMV) EMBLEM IS VISIBLE.

FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

# 

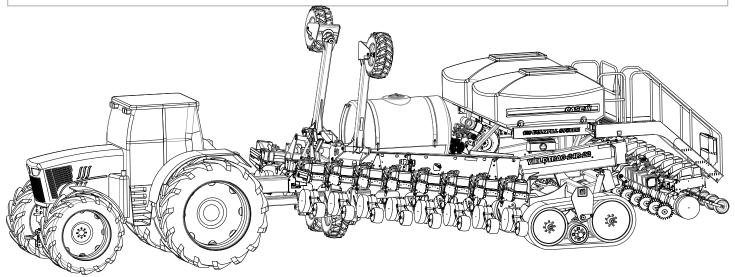
HAZARD TO BYSTANDERS! BE SURE ALL PERSONS AND PETS ARE STANDING CLEAR DURING PLANTER FOLDING AND UNFOLDING. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

# 

UNEXPECTED MOVEMENT!

WHEN CYLINDERS ARE CONNECTED TO THE MACHINE HYDRAULIC SYSTEM, CYCLE THE HYDRAULIC CIRCUITS SEVERAL TIMES TO REMOVE AIR FROM THE CYLINDER AND HOSE. AIR IN THE SYSTEM CAN CAUSE ERRATIC OPERATION OR CAN CAUSE EQUIPMENT TO DROP UNEXPECTEDLY.

FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.



For safe transportation of the Titan Yieldtrac Planter Bar on public roads and to prevent damage to the planter during transport, do the following:

- 1. COMPLYWITHYOURSTATEANDLOCALLAWSGOVERNINGHIGHWAY SAFETY REGULATIONS.
- 2. DONOTTRANSPORTTHEPLANTERWITHTHETANKSORTHEHOPPERS MORE THAN HALF FULL.
- 3. MAINTAINCOMPLETECONTROLOFTHETRACTORANDPLANTERATALL TIMES. DO NOT EXCEED 20 mph [32 km/h].
- 4. ALWAYS LOCK THE TRACTOR BRAKE PEDALS TOGETHER.
- 5. MAKESUREALLSAFETYLIGHTS, REFLECTORSANDSMVSYMBOLARE CLEANANDCLEARLYVISIBLEFROMTHEREARWITHTHEPLANTERIN TOWING POSITION. ALWAYS USE THE FLASHING WARNING LAMPS ON THE TRACTOR.
- 6. MAKESURELONGTRANSPORTLOCKSAREINSTALLEDONTHEOUTER WHEEL CYLINDERS ON THE PLANTER CENTER TOOLBAR.

- 7. RAISE THE PARKING STANDS, ENSURE CLEARANCE OF ANY HYDRAULIC AND VACUUM HOSES AND SECURE PARKING STANDS IN STORAGE POSITION WITH LOCK PIN.
- 8. TRACTORMUSTHAVEGROSSWEIGHTGREATERTHANTHEGROSS WEIGHT OF THE PLANTER.
- 9. WHENTRAVELINGONROADS, PULLOVERTOLETFASTERTRAFFICPASS. ALWAYS SIGNAL BEFORE TURNING OFF THE ROAD.
- 10. CHECK CLEARANCE BEFORE GOING UNDER ELECTRIC LINES, ON BRIDGES OR INTO BUILDINGS.
- 11. MAKE SURE THE MARKERS (IF EQUIPPED) ARE IN THE TRANSPORT POSITION.

**NOTICE:** Do not carry bags of seed, chemicals, etc. on top of the hoppers or damage to the hoppers may occur.

# **Tractor Requirements**

### **Tractor Remote Relief Pressure**

The tractor remote should have a minimum relief pressure of **19995 kPa (2900 psi).** 

Planter Configuration	Minimum Tractor Power Required
Standard Equipment with bulk hopper system and liquid fertilizer system	260 HP

### **Hydraulic Flow Requirement**

Function	Flow (gpm)
Fans and Drive Motors	35
Lift and Fold	10
Total	45

### **Case Drain Line**

The 3/8 in vacuum fan and bulk hopper fan case drain lines MUST be connected to the tractor low pressure return with back pressure less than 172 kPa (25 psi). Failure to connect to a return with less than 172 kPa (25 psi) will cause fan motor damage. Vacuum and bulk fans share the same low pressure return to the tractor.

### **Motor Return Line**

The 3/4 inch motor return line is used to return the oil flow from all the fan and meter drive motors during planting, as well as allowing the wing wheel drive system to freewheel. This line must be connected at all times.

# 

#### CASE DRAIN AND MOTOR RETURN LINES

THECASEDRAINANDMOTORRETURNLINESMUSTBE CONNECTEDBEFOREFOLDING/UNFOLDINGTHETOOLBAR ANDBEFOREPULLINGTHETOOLBARINWORKINGPOSI-TION.

FAILURETOCONNECTTHESELINESWILLRESULTIN FAILURETOTHEWINGFOLDDRIVESYSTEMANDVOID THE WARRANTY.

#### **Marker Hydraulics**

The planter routes hydraulic flow for various functions so there is no special hydraulic requirement for the marker circuit. If the tractor meets the minimum flow requirement, hydraulic flow is adequate.

### **Remote control valves**

The tractor must minimally have four remote valves.

One remote valve must have a "FLOAT" position for proper operation of the markers.

Where applicable, each remote valve MUST have its flow rate adjusted to a level slightly higher than the rate required for the hydraulic circuit it is powering.

QUICKDISCONNECTHYDRAULICCOUPLERSFORCONNECTINGTHEPLANTER TOTHETRACTORREMOTE VALVES ARE INCLUDED WITH THE PLANTER. THEHOSESFOREACHFUNCTIONARE LABELED FOR IDENTIFICATION AND PROPER CONNECTION TO THE TRACTOR REMOTE VALVES.

**NOTE:** The coast down feature eliminates the need to put the remote lever in "float" position when disengaging the fan functions.

### **Tractor Ballast**

Add front end weight for effective steering control when the planter is raised. Towing unit must weigh at least .67 x GROSS weight of towed machine, including weight of tanks or hoppers. Refer to the tractor operator's manual for proper ballast.

### **Electrical System**

The tractor must have a 12 V DC electrical system with a 7-pin connector socket for safety lighting and to power the PTO pump cooling fan (if equipped).

With the Case  $IH^{\textcircled{B}} AFS^{\textcircled{B}}$  Pro 600/700, a 9-pin implement connector is provided for Case  $IH^{\textcircled{B}} AFS^{\textcircled{B}}$  monitoring and control. A farming system harness is required to integrate your tractor with Case  $IH^{\textcircled{B}} AFS^{\textcircled{B}}$  Pro 600/700.

**Note:** The "Limit Raise" function included with the 2014 software update is only compatible with the AFS<sup>®</sup> Pro 700 display.

### **Hitch Requirements**

CAT. III OR CAT. IV HIGH CAPACITY DRAWBAR RATED TO 11,000 LBS MAXIMUM TONGUE WEIGHT IS REQUIRED TO BE USED WITH THE YIELDTRACPLANTER. ADRAWBAR HELPER KIT IS AVAILABLE FOR ANY TRACTOR WHICH LACKS THE DRAWBAR VERTICAL LOAD CAPACITY TO OPERATE THE YIELDTRAC PLANTER.

**NOTE:**THEDRAWBARMUSTBEEXTENDEDTOTHECENTERPOSITIONON MAGNUMTRACTORSANDTOTHEOUTERPOSITIONSTEIGERTRACTORS.

If the tractor is equipped with a 3-point hitch, it is required to remove the quick hitch attachment before connecting to the Yieldtrac planter. This is needed to prevent interference with the hitch frame when turning.

**Note:** Remove the Jack from the hitch if pulling with a Quadtrac tractor to prevent interference with the track when turning.

### Tractor drawbar vertical load requirements

Configuration	Weight	
24 Row 22	<b>7000 lb (3175 kg)</b> with markers and row cleaner attachments. Bulk fill and fertilizer tanks empty.	

### **Tractor Wheel Tread**

Adjust the tractor wheel tread as follows:

Row Spacing	Wheel Tread	
22 in (559 mm)	88 in (2235 mm)	

# **Planter Weights**

Configuration	Weight	Total	
WITHOUT OPTIONAL	Empty Weight	28750 lbs (13041 kg)	
ROW MARKER AND ROW	1/2 Fully Loaded Weight	35100 lbs (15921 kg)	
CLEANERS	Fully Loaded Weight	41450 lbs (18801 kg)	
WITH OPTIONAL ROW	Empty Weight	30620 lbs (13888 kg)	
MARKER AND ROW	1/2 Fully Loaded Weight	36970 lbs (16769 kg)	
CLEANERS	Fully Loaded Weight	43320 lbs (19649 kg)	

## **Hydraulic Connections**

Connect the Titan Yieldtrac Planter Bar 24R22 hydraulic system to the tractor remote hydraulic system.

The fan motor case drain hydraulic line is always tagged with this important decal. The drain line from the vacuum and bulk fan circuit labeled "**Case Drain**" MUST always be connected to a drain port on the tractor with less than **170 kPa (25 psi)** back pressure.

Failure to connect this line to a case drain port with less than 25 psi (170 kPa) back-pressure will result in motor failure and void the warranty.

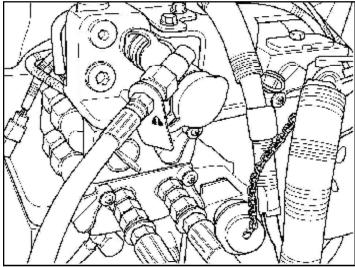
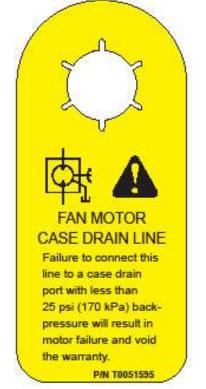


FIG. # 3-1 Connect Fan Motor Case Drain Line



The hydraulic line with the label marked "**Motor Return**" must be connected to the motor return coupler before folding/ unfolding the toolbar, and before pulling the toolbar in the working position.

Failure to connect the motor return line will result in failure to the wing fold drive system and void the warranty.



FIG. # 3-3 Motor Return Line, and Fan Motor Case Drain Line Connected

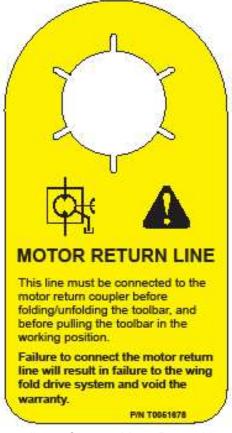


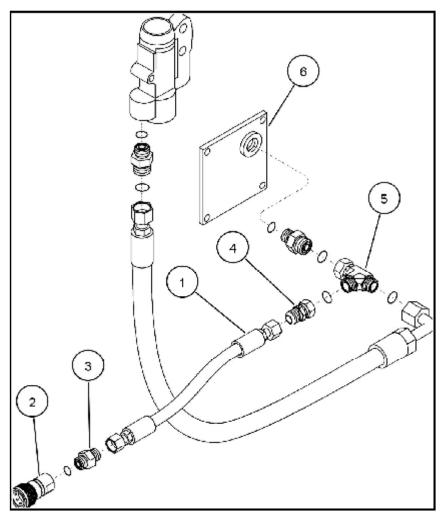
FIG. # 3-4 Connect Motor Return Line

FIG. # 3-2 Connect Fan Motor Case Drain Line

## Motor Case Drain Kits

The following kits can be used to create a low pressure return or case drain for your Case IH tractor.

### Magnum (7100, 7200, 8900) - 367010A\*





REF	PART NUMBER	DESCRIPTION
1	810139c2	HOSE, 3/8 ID X 55 IN
2	187563c1	COUPLER, QUICK CONNECT
3	218-5057	CONNECTOR, 9/16-18 ORB - 9/16-18 37° FLARED
4	201-170	CONNECTOR, 11/16-16 ORFS-9/16-1837° FLARED
5	201-422	tee, 11/16-16 orfs
6	*	PLATE

\* The plate is not part of the case drain kit for these tractors. See your Titan Yieldtrac Planter Bar 24R22 dealer for separate kit information.

1. Install the tee **(5)** at the location shown between the hydraulic remote bleed hose and the tractor connector at the drain plate **(6)**. This hose is located on the right side of the tractor near the hydraulic valve assembly. The open port on

the tee should be facing rearward after assembly.

2. Use connector (4) to attach the hose from the kit to the tee connector.

3. Use connector (3) to connect the quick disconnect coupler (2) to the opposite end of the supplied hose (1).

4. Route the hose to the rear of the tractor and attached with tie straps as needed.

5. Replace the 3/8 in male flush face case drain coupler with a 1/4 in male case drain coupler 187562C1 and connector 218–5057, if necessary.

### Magnum (MX180-270)

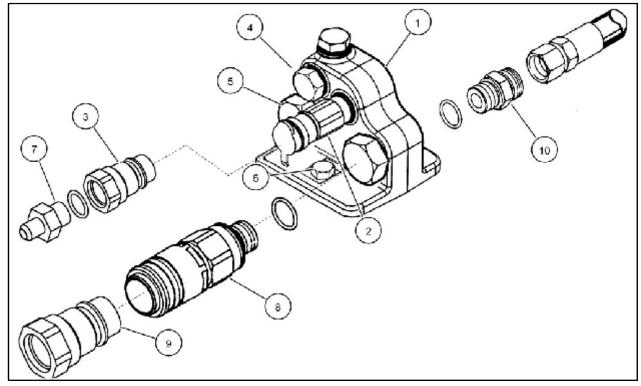


FIG. # 3-6

Ref	Part Number	Description
1	387929A1	Casting, power beyond
2	380739A1	Female coupler, 3/8 in
3	385358A1	Male coupler, 3/8 in
4	220066A1	(Qty 3) Plug, 18 mm orb*
5	220068A1	(Qty 4) Plug, 27 mm orb**
6	814-10150	(Qty 2) Bolt, M10 X 150
7	218-5058	Connector, 3/4-16 orb - 9/16-18 flare

\* May substitute with P/N 221578A1

\*\* May substitute with P/N 221580A1

Order components as needed to properly connect the planter case drain line.

If the tractor is already equipped with the motor return kit, the power beyond casting will replace the motor return casting. If the motor return feature is still desired, the following additional parts are required:

Ref	Part Number	Description
8	298291A1	Female coupler, 3/4 in
9	347755A1	Male coupler, 3/4 in
10	700-104	Connector, 27 mm orb- 3/4 in orfs

1. Pre-assemble the power beyond casting (B) with the 27 mm and 18 mm plugs **(5) (4)** and 3/8 in female coupler. This coupler must be installed in the correct port.

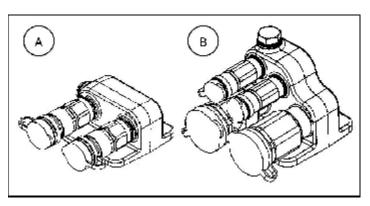


FIG. # 3-7

2. Remove the cover plate or motor return casting (A) (if equipped) from the hydraulic coupler body.

**NOTICE:** Clean the area around the hydraulic coupler to avoid contaminating the hydraulic system when the system is opened.

**NOTICE:** Work carefully to avoid damaging the gasket or the O-rings. Replace the seals if they are damaged.

- 3. INSTALL THE POWER BEYOND ASSEMBLY IN PLACE OF THE COVER PLATE WITH THE BOLTS (6).
- 4. BE AWARE THAT THE PLANTER'S FAN MOTOR CASE DRAIN LINE WITH THE 3/8 IN MALE COUPLER (3)(7) WILL MATE WITH THE LOW PRESSURE PORT FEMALE COUPLER (2).

If the motor return kit was installed and removed but its functions are still needed:

- 5. ASSEMBLETHECOUPLERANDCONNECTOR(8)(10)TOTHEPOWER BEYOND CASTING.
- 6. CONNECTTHEMOTORRETURNLINETOTHEPOWERBEYONDCASTING.
- 7. REPLACETHEORIGINALMOTORRETURNCOUPLERWITHTHE3/4IN MALE COUPLER (9).

# **Magnum Tractors**

### Motor return equipped tractors

Use the case drain (low pressure return) port on the motor return casting as the low pressure return for the vacuum fan and bulk hopper fan case drain connection.

**NOTE:** The 3/4 in ID return line from the multivalve for theplanter fan and seed drives may be connected to the motor return port (3) on the casting. Replace the 1/2 in quick disconnect coupler on the return hose with a male 3/4 in quick disconnect coupler to use the motor return port.

This reduces back pressure on the fan and seed drive hydraulic circuit. See your dealer to obtain the proper male coupler.

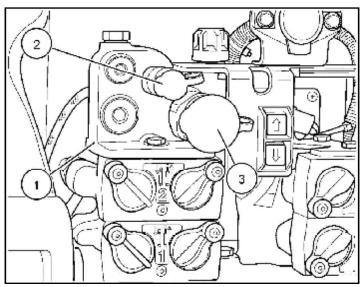


FIG. # 3-8

Ref.	Description	
1	Motor return casting	
2	Case drain port	
3	Motor return port	

## **Power Beyond Equipped Tractors**

If your tractor is equipped with the power beyond coupler, use the case drain (low pressure return) port on the casting for the vacuum fan and bulk hopper fan case drain connection.

NOTICE: Do NOT connect the vacuum or bulk hopper fan case drain to the load sense port (LS). Fan motor damage will occur. This is not a low pressure return. The 3/8 in flush face connector on the planter case drain line properly mates with the port stamped with a "D" for drain port, also a 3/8 in coupler. This table lists the mating male couplers to the Power Beyond ports.

Port	Nom. Size	Part No.	Thread Size
Р	3/4 in	347755A *	1-1/16-12 orb
R	3/4 in	347755A *	1-1/16-12 orb
D	3/8 in	385358A *	3/4-16 orb
LS	1/4 in	347756A *	9/16-18 orb

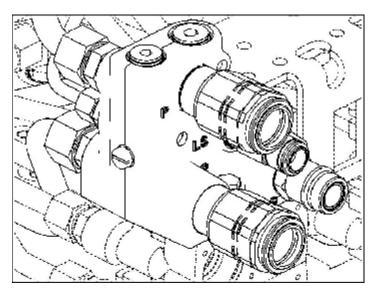


FIG. # 3-9

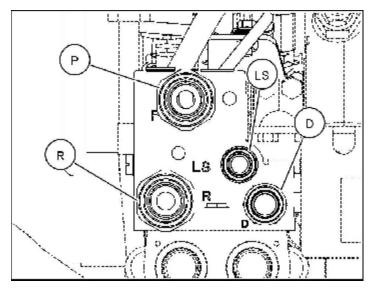


FIG. # 3-10

Ref	Description	
Р	Supply port	
R	Return port	
LS	Load sense	
D	Case drain/low pressure return	

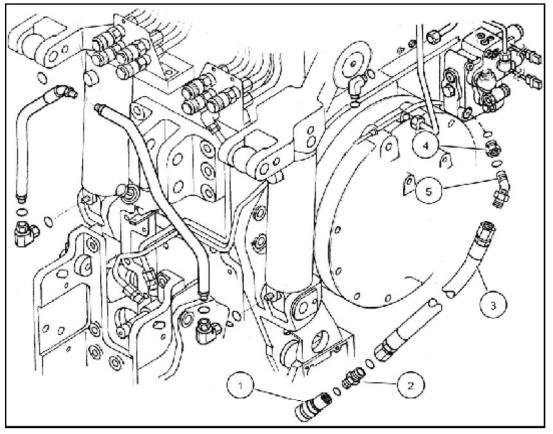


FIG. # 3-11

Ref	Part Number	Description
1	187563C1	Female coupler, quick connect
2	218-5057	Connector, 9/16-18
3	91163C1	Hose, 3/8 X 47 in
4	218-5367	Fitting, 3/4 male X 3/8 female orb
5	218-5135	Elbow, 45 adj 37 flared X 3/8 tube

Order components as needed to properly connect the planter case drain line. Or see your dealer for the standard tractor kit.

- 1. REMOVE THE 1/16–12 IN ORB PLUG FROM THE HITCH CONTROL VALVE.
- 2. INSTALL THE ORB (4) CONNECTOR FROM THE KIT TO THE HITCH CONTROL VALVE.

- 3. INSTALL THE 45° (5) ELBOW CONNECTOR FROM KIT TO THE ORB FITTING.
- 4. INSTALLTHEHOSE**(3)**FROMTHEKITTOTHE45°ELBOWANDROUTE THEHOSETOTHEREAROFTHETRACTOR.SECURETHEHOSEWITH TIE STRAPS AS REQUIRED.
- 5. INSTALLTHEQUICKDISCONNECTCOUPLER(1)ONTHEHOSEWITH THE CONNECTOR (2).
- 6. REPLACE THE 3/8 IN MALE FLUSH FACE DRAIN COUPLER WITH A 1/4 IN MALE CASE DRAIN COUPLER 187562c1 AND CONNECTOR 218-5057.

# Steiger 9100, 9200, 9300 - 367011A\*

- 1. INSTALLTHESTANDARDMOTORRETURNKITFORASTEIGERTRACTOR.
- 2. REMOVETHEQUICKDISCONNECTCOUPLERANDTHECONNECTOR FROM THE PLANTER'S FAN CASE DRAIN LINE.
- 3. INSTALLTHESUPPLIEDCONNECTORANDQUICKDISCONNECTCOU-PLER FROM THE KITTO THE PLANTER'S FAN CASE DRAINLINE AND CONNECTTO THE ZEROPRESSURE PORTON THE MOTOR RETURN CASTING.

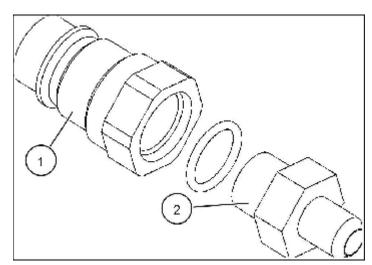


FIG. # 3-12

Ref	Part Number	Description			
1	1285718C2	Male coupler, quick connect			
2	218-5058	Connector, 3/4-16 ORB - 9/16-18 37 flared			
3	*	Motor return kit			
* Consult your Case IH dealer for the proper kit for your tractor.					

# **Steiger Tractors**

- 1. INSTALLTHESTANDARDMOTORRETURNKITFORASTEIGERTRACTOR.
- 2. INSTALLTHEFEMALEQUICKDISCONNECTCOUPLERTOTHEMOTOR RETURNZEROPRESSUREPORT, AND CONNECTTHE DRAINHOSE.

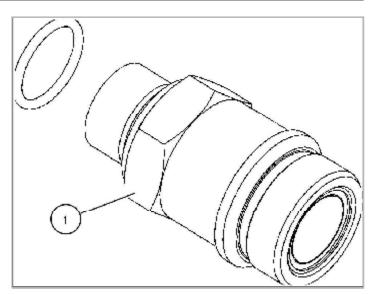


FIG. # 3-13

Ref	Part Number	Description			
1	380739A1	Female coupler, quick connect			
2	*	Motor return kit			
* Consult your Case IH dealer for the proper kit for your tractor.					

**NOTICE:** DO NOT CONNECT THE PLANTER FAN CASE DRAIN HOSE TO THE LOAD SENSE (3) OR PILOT SUPPLY (4) PORTS. FAN MOTOR DAMAGEWILLOCCUR.NEITHERPORTISALOWPRESSURERETURN.THE 3/8INFLUSHFACECONNECTORONTHEPLANTERCASEDRAINLINE PROPERLY MATES WITH THE CASE DRAIN PORT (1) SHOWN.

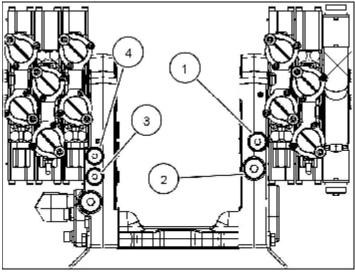


FIG. # 3-14

Ref	Description				
1	Case drain port				
2	Return				
3	Load sense port				
4	Pilot supply port				

# **Electrical Connections**

### Safety lighting equipment

Connect the 7-pin planter lighting connector (1) to the auxiliary power outlet at the rear of the tractor.

### Implement connectors

Connect the 9-pin connector (2) from the planter harness to the tractor electrical system and the  $AFS^{(i)}$  harness to the display. Refer to the  $AFS^{(i)}$  software manual.

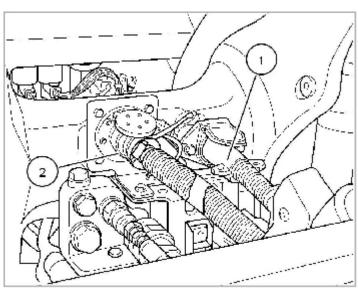


FIG. # 3-15

Ref	Description					
1	7-Pin Planter Lighting Connector					
2	9-Pin Connector					

# Advanced Farming System (AFS®) Display

Connect the Case IH<sup>®</sup> Advanced Farming System (AFS<sup>®</sup>) Pro 600/700 display to the 1250 Front Fold planter through the AFS<sup>®</sup> wiring harness. Refer to the AFS<sup>®</sup> software manual for setup and complete operating instructions.

**Note:** The "Limit Raise" function included with the 2014 software update is only compatible with the  $AFS^{\textcircled{R}}$  Pro 700 display.

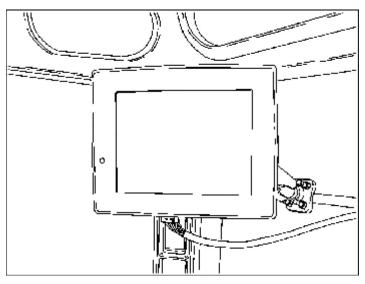


FIG. # 3-16

# **Planter lighting**

The planter turn signal, brake and warning lamp system is compatible with enhanced tractor brake lighting: When the tractor brake pedal is depressed, the planter's brake lamps illuminate along with the tractor's.

If your tractor is not equipped with enhanced brake lighting, the planter brake lamps will illuminate continuously. To disable this feature:

1. Locate the tab, labelled "BRAKE JUMPER" (1), as shown in detail (A) in *(Fig. # 3-17)* on the hitch harness behind the 7-pin lighting connector (2).

2. Within the harness conduit is the brake jumper plug, as shown. Disconnect this plug.

Planter lighting should follow the pattern indicated in the table below. The Titan Yieldtrac Planter Bar 24R22 Front Fold planters feature a combined tail light and brake light with two filaments: the bright light is the brake, the normal light is the tail light. If planter lighting does not follow the pattern from the table, contact your Titan Yieldtrac Planter Bar 24R22 dealer.

# Brake Jumper

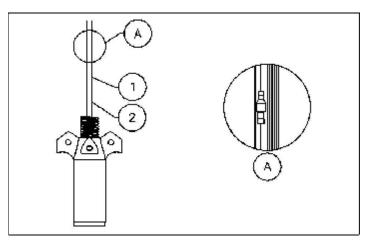


FIG. # 3-17

Tractor Function	Lights OFF	Road Lights ON							
Signal Lamps		None	Left Turn		Brakes Only	Right Turn		Warning Lights	
Brake Lamps		None	No Brakes	With Brakes		No Brakes	With Brakes	No Brakes	With Brakes
Left Amber	OFF	Pulse	Pulse	Pulse	Pulse	ON	ON	Pulse	Pulse
Left Tail Light	OFF	ON	ON	ON	ON	ON	ON	ON	ON
Left Red Signal/ Brake*	OFF	OFF	Pulse	Pulse	ON	OFF	ON	OFF	ON
Right Amber	OFF	Pulse	ON	ON	Pulse	Pulse	Pulse	Pulse	Pulse
Right Tail Light	OFF	ON	ON	ON	ON	ON	ON	ON	ON
Red Right Signal/ Brake*	OFF	OFF	OFF	ON	ON	Pulse	Pulse	OFF	ON

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# 4 - WORKING OPERATIONS GENERAL INFORMATION

### **Planter Preparation**

# 

Unexpected machine movement! AIR IN THE HYDRAULIC SYSTEM COULD CAUSE UNEXPECTED MACHINE MOVEMENT. PURGETHE AIR FROM THE HYDRAULIC SYSTEM AFTER ANY HYDRAULIC SYSTEM MAINTENANCE OR REPAIR. FAILURE TO COMPLY WILL RESULT IN DEATH OR SERIOUS INJURY.

Before planter preparation can be started the planter will need to be un-folded. Proceed to 4-2 for instructions to un-fold and fold your planter. After un-folding your planter, proceed to 4-15 to label the row units, or confirm that the row units are labeled and then, level the planter.

# **Planter Preparation Frame Control**

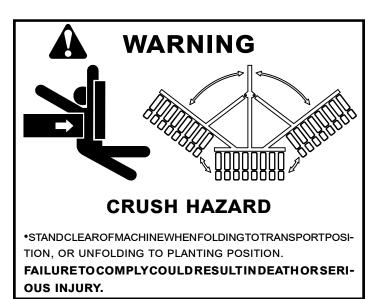
# Unfolding and Folding the Planter

# IMPORTANT

### CASE DRAIN AND MOTOR RETURN LINES

THECASEDRAINANDMOTORRETURNLINESMUSTBE CONNECTEDBEFOREFOLDING/UNFOLDINGTHETOOLBAR ANDBEFOREPULLINGTHETOOLBARINWORKINGPOSI-TION.

FAILURETOCONNECTTHESELINESWILLRESULTIN FAILURE TO THE WING FOLD DRIVE SYSTEM AND VOID THE WARRANTY.



Unfolding the Planter



CASE DRAIN AND MOTOR RETURN LINES

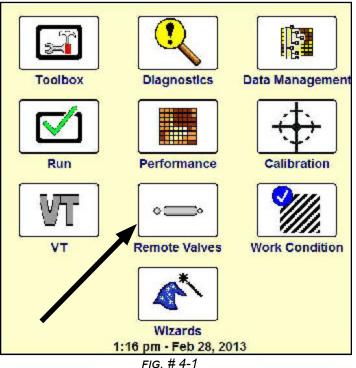
THE CASE DRAIN AND MOTOR RETURN LINES MUST BE CONNECTEDBEFOREFOLDING/UNFOLDINGTHETOOLBARAND BEFORE PULLING THE TOOLBAR IN WORKING POSITION. FAILURE TO CONNECT THE SELINES WILL RESULT IN FAIL-URE TO THE WING FOLD DRIVE SYSTEM AND VOID THE WARRANTY.

•THEPLANTERCANNOTBEMOVING(NOGROUNDSPEEDSENSED)TO BEGIN THE UNFOLD PROCEDURE.

# 

Before unfolding the planter, consult pages 2-12 and 2-13 to properly store the cradle lift cylinder transport locks, and the main lift cylinder service/ transport locks.

1. FROM THE HOME SCREEN OF THE CASE IH<sup>®</sup> AFS<sup>®</sup> PRO 600/700 MONITOR DISPLAY, (*SEE FIG. #4-1*), NAVIGATE TO THE "PLANTER FRAME CONTROL" SCREEN BY PRESSING THE "**REMOTE VALVES**" BUTTON.



2. YOURSCREENSHOULDNOWLOOKLIKETHEFIGUREBELOW. (SEE FIG. # 4-2)

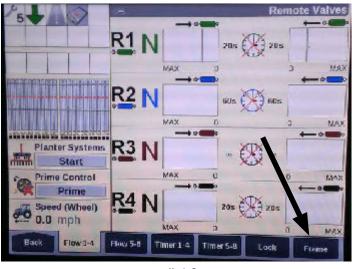


FIG. # 4-2

3. Press the "Frame" **Examp** button on the navigation bar to display the Planter Frame Control screen.

4. Press the "Planter Frame Operation" Off button to access the pop-up options window. Press "Unfold" to access the planter unfold functions. (See Fig. # 4-3)

Planter Frame Operation Off
Planter Frame Operation
Off
Plant
Fold
Fold

FIG. # 4-6

5. The blank buttons of the Planter Frame Control screens are not used for the Titan Yieldtrac Planter.

**NOTE:** The frame control functions can also be placed on any available Run screen at the operator's discretion.

6.	After	pressing	"Unfold",	the	following	screen	appears.
(Se	e ⊢ıg.	# 4-4)					

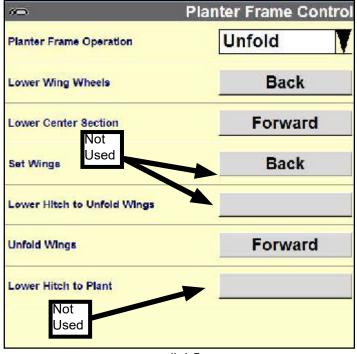


FIG. # 4-5

7. Press the "Lower Wing Wheels" **Back** Back button to activate the "Wing Wheel" function. *(See Fig.* # 4-5)

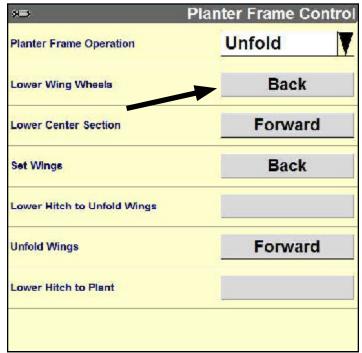


FIG. # 4-3

8.PULLBACKTHECORRESPONDINGREMOTELEVERFORTHELIFT&FOLD FUNCTION TO LOWER THE WING WHEELS. *(SEE FIG. # 4-6)* 

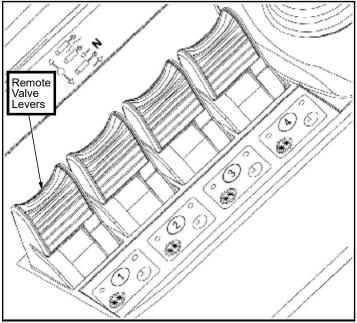


FIG. # 4-4

9. The Wing Wheel assemblies now rotate from the transport position to a lowered position. (See Fig. # 4-7 & 4-8)

**4 - WORKING OPERATIONS** 

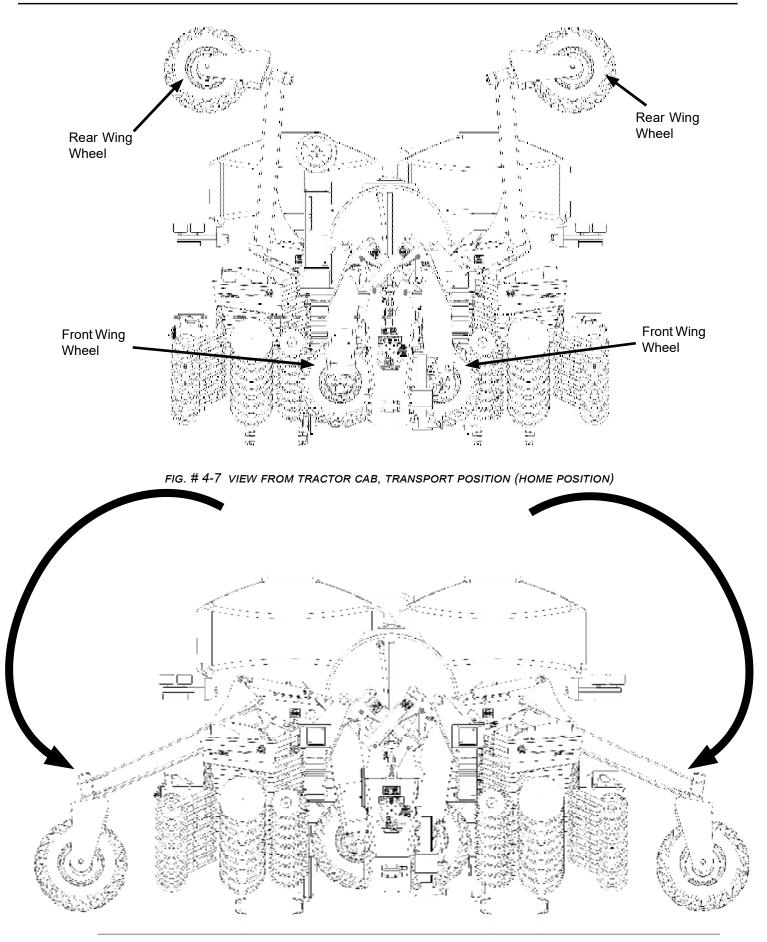


FIG. # 4-8 VIEW FROM TRACTOR CAB, REAR WING WHEEL ROTATED TO THE DOWN POSITION (STEP 1)

10.NEXTPRESSTHE"LOWERCENTERSECTION" **Forward** BUTTONTOactivate the "LOWERCENTERSECTION" function. (*SEE* FIG. # 4-9)

( <b>C</b> )	Planter Frame Contro
Planter Frame Operation	Unfold
Lower Wing Wheels	Back
Lower Center Section	Forward
Set Wings	Back
Lower Hitch to Unfold Wings	
Unfold Wings	Forward
Lower Hitch to Plant	

FIG. # 4-9

11. PUSHTHECORRESPONDINGREMOTELEVERFORWARDFORTHE LIFT&FOLDFUNCTIONTOLOWERTHECRADLELIFTANDLOWERTHEWING WHEELS TO THE GROUND. (*SEE FIG. # 4-9 & 4-10*)

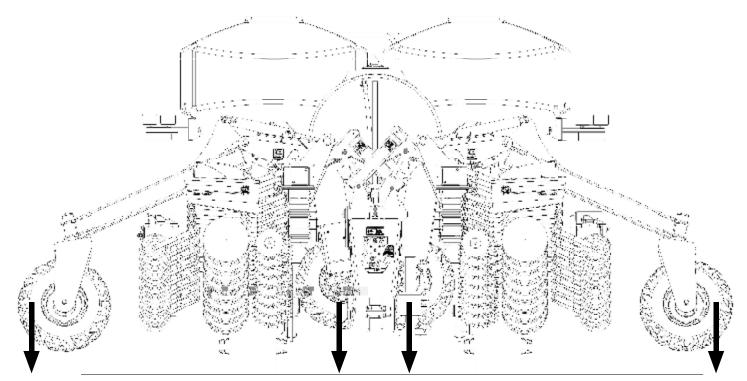


FIG. # 4-10 VIEW FROM TRACTOR CAB, WING WHEELS DOWN POSITION

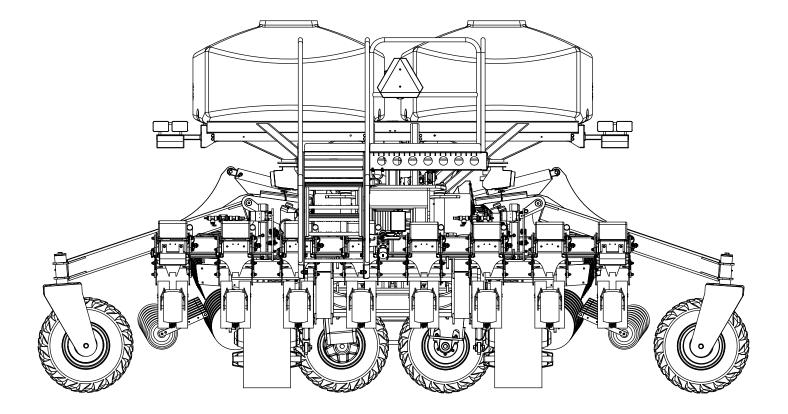


FIG. # 4-11 UNFOLDING - WING WHEELS ON THE GROUND WITH ROW UNITS UP (STEP # 2)

12. Place the gear shifter lever in the **"Neutral"** position OR **"REVERSE"** DEPENDINGONTHETERRAIN.NEXTPRESSTHE"UNFOLD WINGS" **Forward** BUTTONTOACTIVATETHE"LOWERCEN-TER SECTION". (SEE FIG. # 4-12).

• <del>••</del>	Planter Frame Contro
Planter Frame Operation	Unfold
Lower Wing Wheels	Back
Lower Center Section	Forward
Set Wings	Back
Lower Hitch to Unfold Wings	
Unfold Wings	Forward
Lower Hitch to Plant	

FIG. # 4-12

13. PUSHTHECORRESPONDINGREMOTELEVERFORWARDFORTHELIFT AND FOLD FUNCTION TO UNFOLD THE LEFT AND RIGHT TOLL BARS.

14. The left and right unfold as shown in (Fig. # 4-13 & 4-14).

15. Refer to the Planting section to lower the row units and begin the planting sequence.

4 - WORKING OPERATIONS

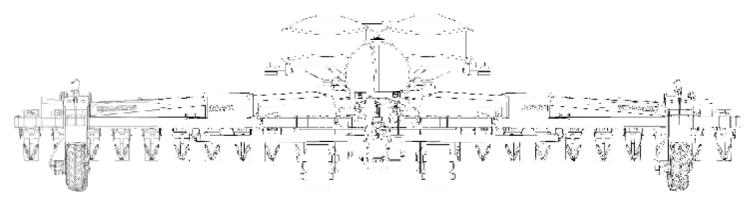


FIG. # 4-13 UNFOLDED FIELD POSITION WITH ROW UNITS UP (STEP 3)

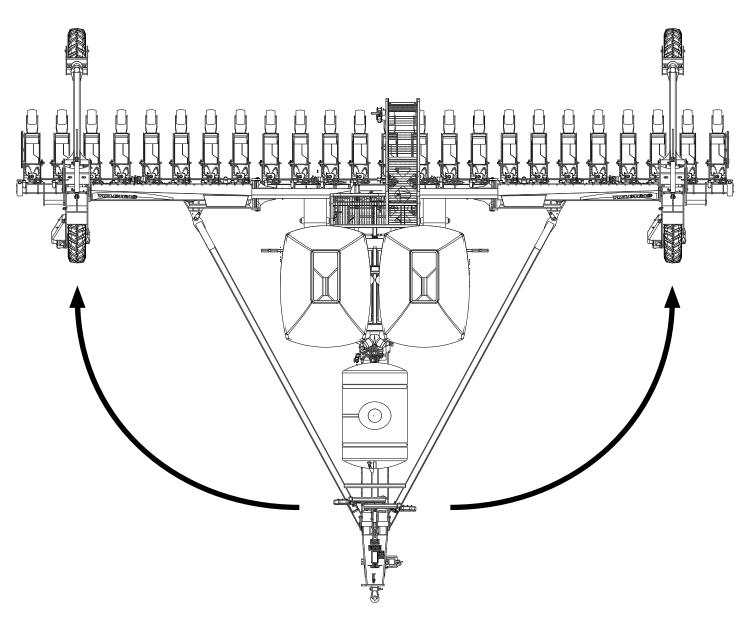


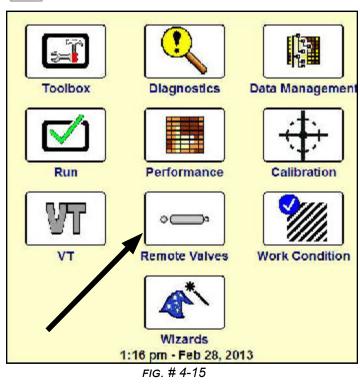
FIG. # 4-14 UNFOLDING - LEFT AND RIGHT WINGS UNFOLDED (STEP # 3)

#### Folding the Planter

### 

Before folding the planter, consult pages 2-12 and 2-13 to properly store the cradle lift cylinder transport locks, and the main lift cylinder service/ transport locks.

1. FROM THE HOME SCREEN OF THE CASE IH<sup>®</sup> AFS<sup>®</sup> PRO 600/700 MONITOR DISPLAY, (SEE FIG. #4-15), NAVIGATE TO THE PLANTER FRAME CONTROL SCREEN BY PRESSING THE **"REMOTE VALVES"** BUTTON.



2. YOUR SCREEN SHOULD NOW LOOK LIKE (FIG. # 4-16).

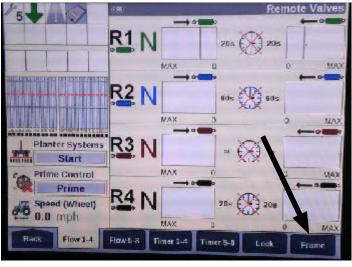


FIG. # 4-16

3. Press the "Frame" button on the navigation bar to display the Planter Frame Control screen.

4. Your display should now look like (Fig. # 4-17).

24		*= Planter Frame Control
		Planter Frame Operation Off
46	Speed (Wheel) km/h	
0	Product Master	
ш	Apply	
	Seed Row Avg 0.00 ksds/ha	-
6	Prime Control Prime	
	Inn.	4
Ba	ck Frame	FIG. # 4-17
		FIG. # <del>1</del> -11
		nter Frame Operation" Off he pop-up options window. Press "Fold" to
		r fold functions. (See Fig. # 4-18)
80	2	Planter Frame Control
Plan	ter Frame Oper	Off
3		
	Disates	
	Planter I	Frame Operation
	Planter I o <del>rr</del>	Frame Operation X
	Off	Frame Operation X
	-	Frame Operation X
	Off	Frame Operation X

FIG. # 4-18

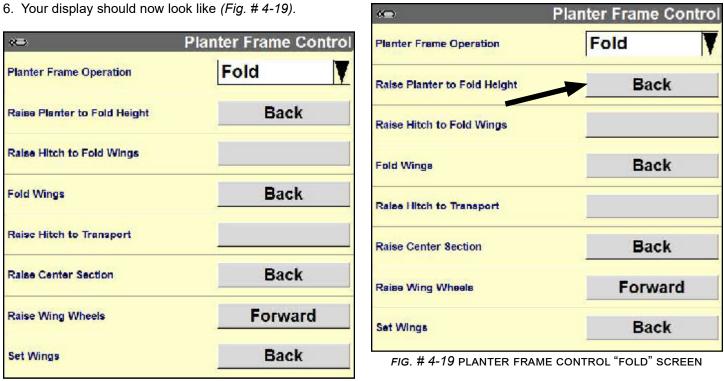


FIG. # 4-21 PLANTER FRAME CONTROL "FOLD" SCREEN

7. Next, if the row units are in the planting position ("Down Position"), you will need to raise the toolbars before folding.
Press the "Raise Planter to Fold Height" Back button to activate the "Raise Planter to Fold Height" function. (See Fig. # 4-20)

8.PULLTHECORRESPONDINGREMOTELEVERBACKFORTHELIFTAND FOLD FUNCTION TO RAISE THE PLANTER TO FOLD HEIGHT.

9. The planter's row units should now be in the Field "Up" position. (See Fig. # 4-21)

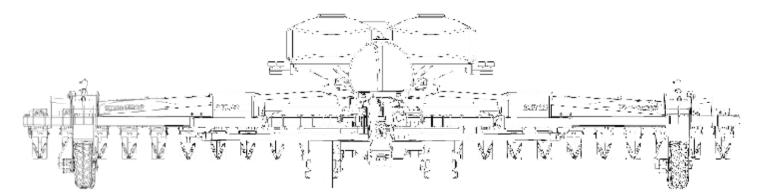


FIG. # 4-20 Unfolded Field Position with Row Units Up (Step # 1)

#### NOTICE

Before performing the next step, verify that the cradle lift cylinder transport locks are stored correctly, consult page 2-12 to properly store the cradle lift cylinder transport locks.

Failure to comply could result in equipment damage.

10. Next press the "Fold Wings"

Back button

to activate the "Fold Wings" function. (See Fig. # 4-22) Place the gear shifter lever in the "**Neutral**" position OR "**FORWARD**" DEPENDING ON THE TERRAIN.

• <b>•</b>	Planter Frame Co	ntro
Planter Frame Operation	Fold	
Raise Planter to Fold Height	Back	
Raise Hitch to Fold Wings		
Fold Wings	Back	
Raise Hitch to Transport		
Raise Center Section	Back	
Raise Wing Wheels	Forward	
Set Wings	Back	

FIG. # 4-22 PLANTER FRAME CONTROL "FOLD" SCREEN

11.PULLTHECORRESPONDINGREMOTELEVERBACKFORTHELIFTAND FOLD FUNCTION TO FOLD THE WINGS INWARD.

12. The planter's wings should now be folded (See Fig. # 4-23)

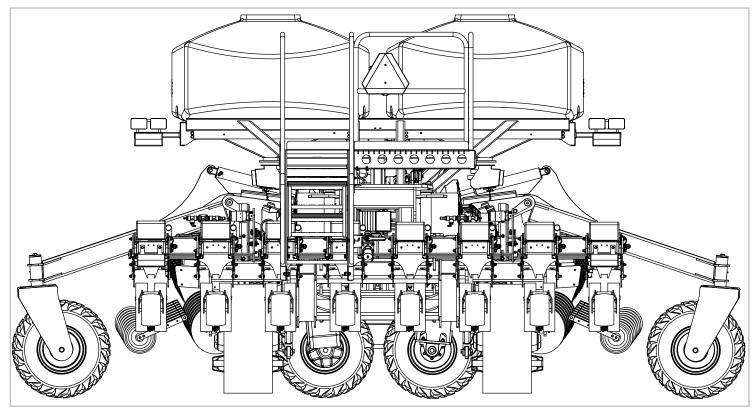


FIG. # 4-23 FOLDING - WING WHEELS ON THE GROUND WITH ROW UNITS UP (STEP # 2)

13. Next , press the "Raise Center Section" Back button to activate the "Raise Center Section" function. *(See Fig. # 4-24)* 

Planter Frame Control 00 Fold Planter Frame Operation Back Raise Planter to Fold Height Raise Hitch to Fold Wings Back Fold Wings **Raise Hitch to Transport Raise Center Section** Back Forward Raise Wing Wheels Back Set Wings

FIG. # 4-24 PLANTER FRAME CONTROL "FOLD" SCREEN

FIG. # 4-25 VIEW FROM TRACTOR CAB, RAISING THE CENTER SECTION (STEP # 3)

14.PULLTHECORRESPONDINGREMOTELEVERBACKFORTHELIFTAND FOLDFUNCTIONTORAISETHECENTERSECTIONFROMTHEGROUND. (See Fig. # 4-25)

Planter Frame Control 0 Fold Planter Frame Operation Back Raise Planter to Fold Height Raise Hitch to Fold Wings Back Fold Wings **Raise Hitch to Transport** Back **Raise Center Section** Forward **Raise Wing Wheels** Back Set Wings

FIG. # 4-26 PLANTER FRAME CONTROL "FOLD" SCREEN

15. Next, press the "Raise Wing Wheels" button to activate the "Raise Wing Wheels" function (See Fig. # 4-27)

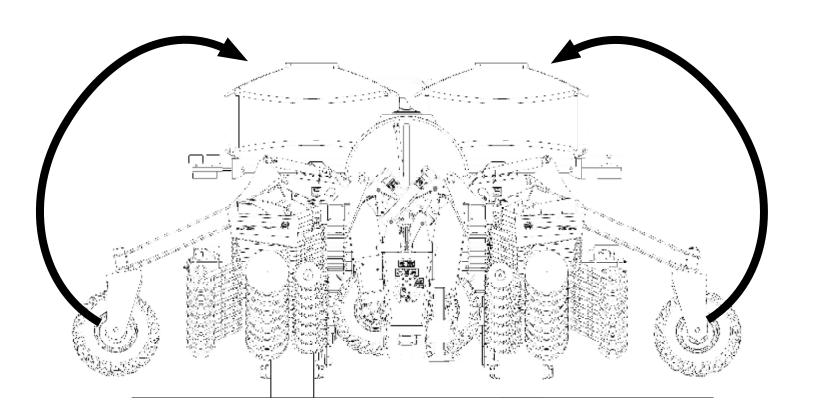


FIG. # 4-27 View From Tractor Cab, Rear Wing Wheel Rotating to the up Position (Step 3)

4-13

14.PULLTHECORRESPONDINGREMOTELEVERBACKFORTHELIFTAND FOLD FUNCTION TO raise the wing wheels. (See Fig. # 4-26)

Forward

13. The planter should now be in the transport position. (See Fig. # 4-28)

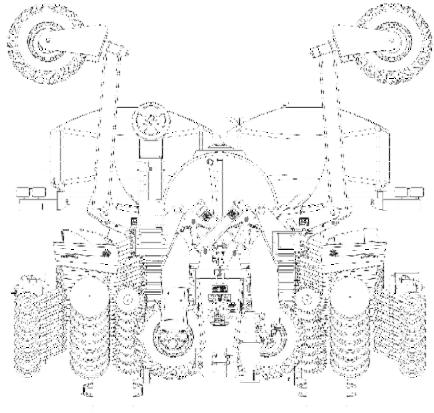


FIG. # 4-28 VIEW FROM TRACTOR CAB, TRANSPORT POSITION (HOME POSITION)

14. Next, press the "Planter Frame Operation" **Fold** button, then select off to turn off the frame control solenoids. *(See Fig. # 4-29)* 

o <b></b> 1	Planter Frame Contro
Planter Frame Operation	Fold
Raise Planter to Fold Height	Back
Planter Frame	Operation X
Plant	
Unfold	
Fold	
Ralac wing wincers	- I OIWalu
Set Wings	Back
FIG.	# 4-29

15. Yourdisplay SHOULD LOOK LIKE THE FOLLOWING. (SEE FIG. # 4-30)

VT A	0 <b>2</b> )	Planter Frame Control
	Flanter Freme Operation	Off
Speed (Wheel)		
🕐 Product Master		
Apply		
seed Hi Row 1		
BBB 0.00 ksds/ha		
Prime Control		
Prime		
Back Frame		

FIG. # 4-30

#### IMPORTANT

After the folding operation is completed, consult pages 2-12 and 2-13 to properly install the cradle lift cylinder transport locks, and the main lift cylinder service/ transport locks.

### Labeling Row Unit Components

Over time, row unit components wear in together. Labeling the components by row unit position keeps these components together, extending the life of the equipment.

Row units are referenced from left to right on all Titan Yieldtrac Planter Bar 24R22 Front Fold planters. From the factory, the row unit frame, and the seed meter are labeled as shown in (*Fig. # 3-31 & 3-32*). Additionally the end user may label the seed disk and the agitator (*Fig. # 3-33*) with the appropriate row unit number - row 1, row 2, row 3, etc.



FIG. # 4-31 Row Unit Frame Labeled

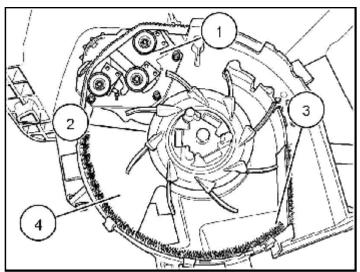


FIG. # 4-33 ADVANCED SEED METER COMPONENTS

Ref	Description
1	Singulator
2	Agitator
3	Brushes
4	Baffle



FIG. # 4-32 Row Unit Seed Meter Labeled

#### Leveling the Planter

The planter row units must be parallel to the ground when the planter is operating in the field. A level toolbar adjusted to the correct height will guarantee that the row units are level to the ground.

Connect the planter to the tractor. Set tractor hitch sway limiters for 'No Sway' operation. Check the tractor and planter for correct tire pressure and adjust as necessary.

Pressure springs must be set for field conditions on the individual row units. Toolbar height and level adjustment should be performed in the field on level ground prepared for planting.

### **Track Carrier Main Frame Leveling**

- Lower the planter to the ground in the planting position. The track carrier main frame (1) should be level from the front hitch to the front of the center toolbar. (See Fig. # 4-34 & 4-35)
- 2. If the track carrier main frame is not level as show in (Fig. 4-34 & 4-35), then adjust the clevis position on the hitch tongue. See (Fig. 4-36 & 4-37) on the following page to adjust the clevis.

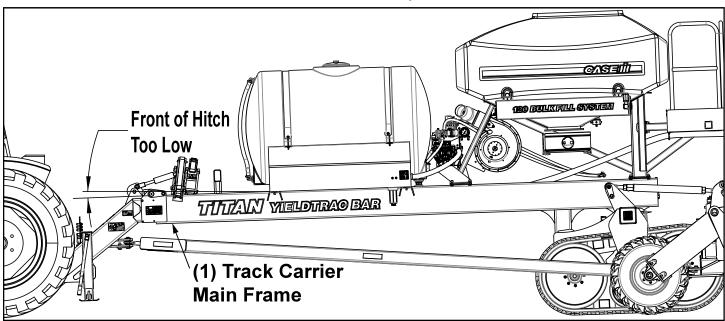


FIG. # 4-34 PLANTER SHOWN NOT LEVEL (HITCH END TOO LOW)

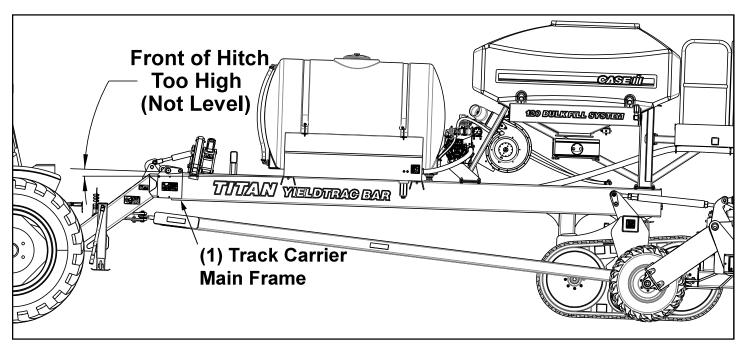


FIG. # 4-35 PLANTER SHOWN NOT LEVEL (HITCH END TOO HIGH)

 The planter hitch is equipped with a clevis which can be adjusted as needed to level the track carrier main frame which creates level row units. The clevis can be installed on the planter tongue in four different positions. (See Fig. # 4-36) **NOTE:** Row unit down pressure may affect toolbar leveling. Recheck toolbar height after changing down pressure.

Use the tractor hitch controls to level the toolbar, and set this position with the hitch controls for easy recall.

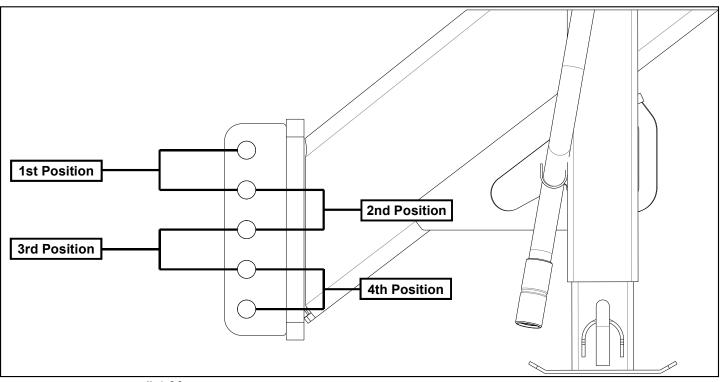


FIG. # 4-36 CLEVIS INSTALLATION LOCATIONS FOR FOUR POSITION PLANTER TONGUE

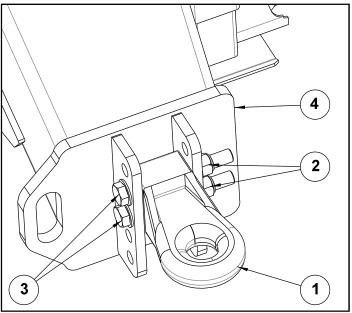


FIG. # 4-37 FIG. #Adjusting the Hitch C	levis on the Four
Position Planter Tongu	ie

ITEM	PART NUMBER	DESCRIPTION	QTY.
1	T0051260	Clevis, Hitch, Base - CAT 4	1
2	NLNut-1.0000-8-YZ8	NLNut-1.0000-8-YZ8	2
3	HBolt-1.0000-8x8.500-YZ8	HBolt-1.0000-8x8.500-YZ8	2

#### **Adjusting The Clevis**

**NOTE:**THEPLANTERWASLEVELEDATTHEFACTORYAT"POSITION 2"

- 1. USE A 1-1/2" WRENCH TO SECURE THE (QTY. 2) 1.00-8 x 8.50 HEX HEAD BOLTS (3), AND USE A 1-7/16" SOCKET TO LOOSEN THE QTY. 2 NYLOCK NUTS (2)
- 2. IFTHEHITCHENDOFTHEPLANTERISTOOLOW, THENMOVETHE HITCHCLEVISTOALOWERPOSITION. (THE DEFAULT LOCATION FROM THE FACTORY IS IN "POSITION 2".)
- 3. IFTHEHITCHENDOFTHEPLANTERISTOOHIGH, THENMOVETHE HITCH CLEVIS TO A HIGHER POSITION.
- 4. ONCE THE TRACK CARRIER MAIN FRAME IS LEVEL, TIGHTEN THE HARDWARESECURING THE HITCH CLEVISTOTHE PLANTERTONGUE.
- 5. PROCEED TO TOOLBAR LEVELING

### **Toolbar Leveling**

1. Place a level on the center toolbar as shown in (Fig. # 4-38).

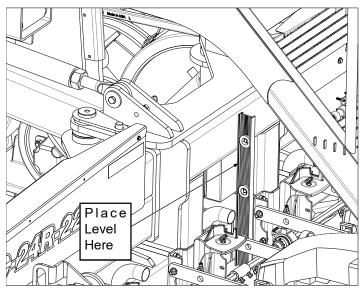


FIG. # 4-38 Place Level Here

2. Use a 2-1/4" open end wrench to loosen the locknuts on the Upper Link Assemblies. (*See Fig. # 4-39*)

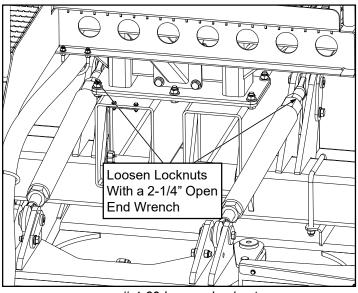


FIG. # 4-39 Loosen Locknuts

3. Depending on the location of the bubble on the level, you will need to either raise, or lower the pitch of the toolbar.

#### **Raising the Toolbar Pitch**

4. Use a 2-1/2" open end wrench to turn the turnbuckle in a counter clockwise rotation, which shortens the turnbuckle, and raises the pitch of the toolbar. Perform this at each upper link assembly.

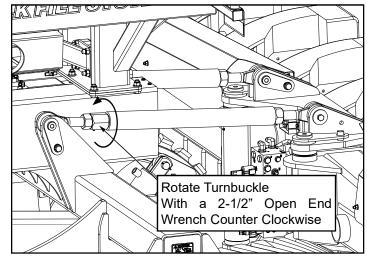


FIG. # 4-40 Rotate Turnbuckle Counter Clockwise to Raise Toolbar Pitch

#### Lowering the Toolbar Pitch

5. Use a 2-1/2" open end wrench to turn the turnbuckle in a clockwise rotation, which lengthens the turnbuckle, and lowers the pitch of the toolbar. Perform this at each upper link assembly.

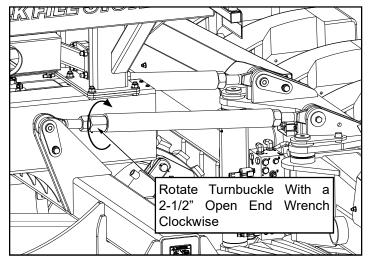


FIG. # 4-41 Rotate Turnbuckle Counter Clockwise to Raise Toolbar Pitch

6. Once the toolbar is level, tighten both locknuts with a 2-1/4" open end wrench.

#### **Track Operational Techniques**

#### IMPORTANT

PLEASEREADBEFOREOPERATINGYOURPLANTER. TECHNIQUESAND PRACTICES TO MAXIMIZE YOUR TRACK SYSTEM INVESTMENT

#### MAINTAIN CORRECT TRACK TENSION

Proper tension is critical for best track performance. Tension can change during service. Improper tension can result in drivewheel slippage, increase the potential for derailing or untracking, or reduced life of bearings and rolling components.

#### KEEP MATERIAL OUT OF THE UNDERCARRIAGE

Track systems will allow some material to pass through them, but sharp non-compressible objects cause high localized loads to both track and wheels, which if severe enough can result in track and wheel damage. Use guarding (if available) to deflect material out of the track, and you can reduce the chance of track damage. Inspect and clean material from the undercarriage before starting work.

#### **CROSSING DITCHES OR DIAGONAL TRANSITIONS**

During transitions from sloped to flat areas (or vice versa), the front and rear of the track may be in contact with the ground while the midsection is unsupported. If turning is attempted at this time, the risk is higher for derailing or untracking to occur.

#### Follow Track Break-In Procedures

The four basic rules for maximizing track life are:

- Follow track break-in procedures
- Verify and maintain alignment
- Understand ways to maximize tread life
- Use correct operational techniques

By understanding these rules, you learn operational techniques and methods which help achieve years of trouble-free service

Guide lug life benefits from correct break-in procedures. Correct break-in reduces initial guide lug and midroller edge wear. During the break-in period, rolling components undergo a polishing-in process to achieve a smooth steel to rubber interface with the guide lug. Rubber surfaces use dust and dirt as a dry lubricant during break-in to minimize heat and reduce rubber stickiness, and new tracks or tracks lacking a coating of dust should be exposed to dry and dusty soil conditions as soon as possible. Operation without dust or soil in the system, especially during high speed roading, generates excessive amounts of damaging heat. If roading must be done, a dry lubricant such as soil, talc powder, or oil-dry absorbent should be applied to the guide lugs periodically during roading until exposure to the field commences.

#### TRACK BREAK-IN

Expose new or clean tracks to dry and dusty soil conditions as soon as possible. Avoid high speed roading with new or clean tracks without use of a dry lubricant.

#### Maximize Tread Life

Several operational factors influence tread and rubberized wheel component wear:

- Amount of roading, (roading increases wear)
- Field soil conditions (abrasive increases wear)
- Operator techniques

Tread life decreases with high amounts of roading. Tread wear rates can be minimized by staying off pavement, reducing transport weight and speed. The greatest rate of tread wear occurs on a hot day with a poorly balanced, heavy machine. Always transport during cooler parts of the day and at reduced travel speeds and weight, as this will lower temperatures of the treads, guide lugs, and rolling components.

### Liquid Fertilizer System

The application rate for the liquid fertilizer is totally independent of seed population. The fertilizer system, with its independent hydraulic motor and variable speed pump, will deliver the desired application rate with the convenience of in-cab AFS<sup>®</sup> control. The application rate can be changed on the AFS<sup>®</sup> monitor while planting without changing seed population.

#### Liquid Fertilizer Tank Capacity

The liquid fertilizer option for the Titan Yieldtrac Planter Bar 24R22 comes with a 500 US gal (1892 litre) capacity tank.

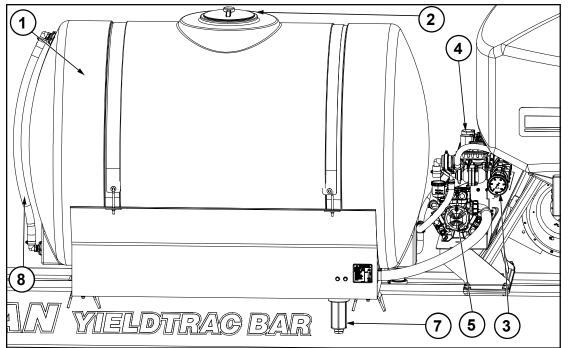


FIG. # 4-42 Liquid Fertilizer System

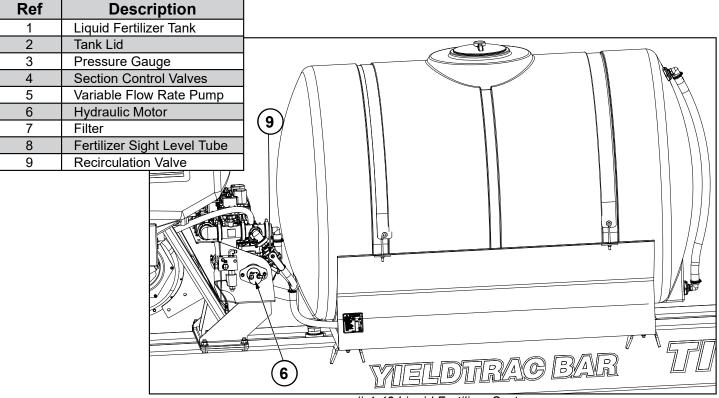


FIG. # 4-43 Liquid Fertilizer System

### Fertilizer System Valves

There are four valves located on the fertilizer system.

- The main fill valve (1) (See Fig. # 4-44) located at the rear of the planter, is for filling the fertilizer tank.
- NOTE: This valve needs to be closed after filling.

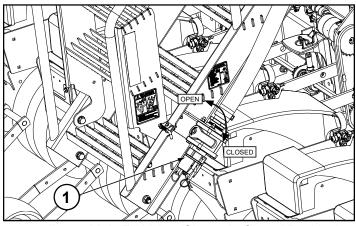


FIG. # 4-44 Main Fill Valve (Shown In Closed Position)

• A tank shutoff valve (2) is located on the supply line between the tank and the filter, (*See Fig. # 4-46*) and is used to stop the flow of fertilizer from the tank to the pump. **NOTE:** This valve needs to be open during operation. • A secondary tank shutoff valve (3) is located on the recirculation / bypass line, (See Fig. # 4-46) and is used to stop the flow of fertilizer from the pump to the tank.

NOTE: This valve needs to be open during operation.

• The recirculation valve (4) is located near the fertilizer hydraulic pump (*See Fig. # 4-45*) The recirculation valve can be positioned incrementally between fully open, or fully closed as required to meet the desired application rate / pressure.

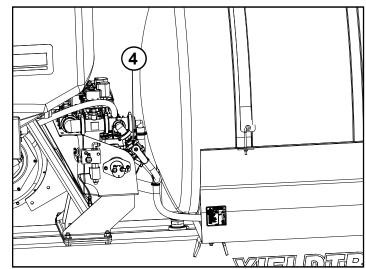


FIG. # 4-45 Recirculation Valve

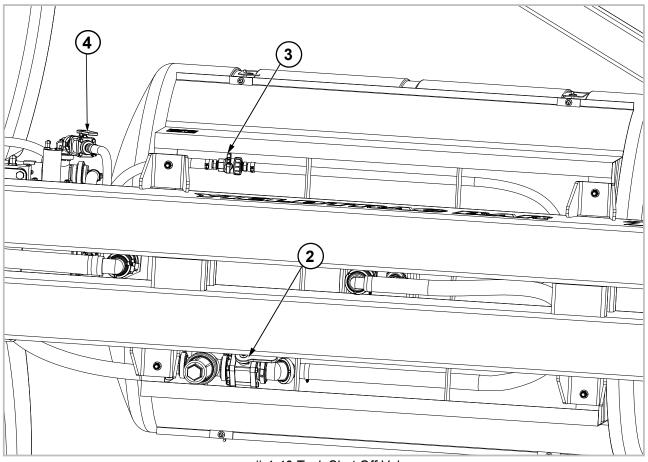
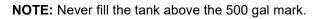
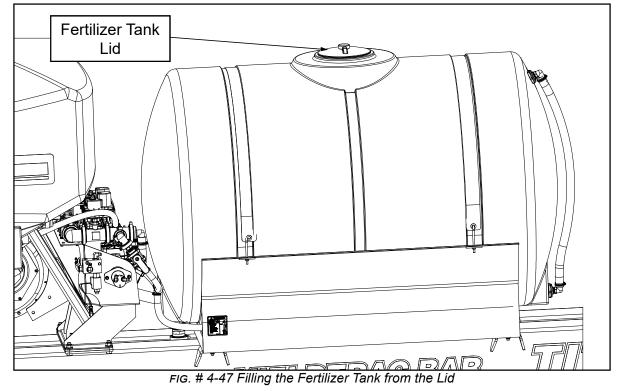


FIG. # 4-46 Tank Shut Off Valves

### Filling The Liquid Fertilizer Tank

The fertilizer tank can be filled at the top, through the open lid, with a hose or gravity fill system. (See Fig. # 4-47)





The tank can also be filled by connecting a pressurized supply hose to the main fill valve (1). When filling through the main fill valve (1), turn the valve to the open position.

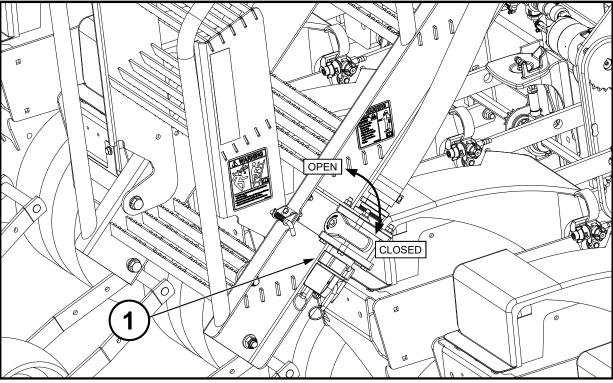


FIG. # 4-48 Main Fill Valve (Shown In Closed Position)

### Liquid Fertilizer System Operation

The key components of the liquid fertilizer system are:

- INLINE FILTER BETWEEN THE TANK AND THE PUMP,
- THE HYDRAULICALLY-DRIVEN VARIABLE FLOW RATE PUMP,
- THE PRESSURE GAUGE,
- THE FLOWMETER,
- THE TWO SECTIONAL CONTROL VALVES,
- AND A CHECK VALVE.

With the fertilizer tank shutoff valve ON, liquid fertilizer isdrawn through the inline filter (1) and then into the intake port (2) on the variable flow rate pump. The pump supplies sufficient flow (gpm, litre's/min) to supply the needs of the flowmeter. Pump flow rate is controlled by the AFS<sup>®</sup> system, based on the desired application rate input by the operator. Inline filter

The dampener in the fertilizer pump must be charged with an air pressure of 10 psi (about 20% of the normal operating pressure). Use a tire pressure gauge to check the pressure at the air valve (4) on the pump. If required, recharge with shop air to the required psi. Do NOT overcharge the dampener.

**NOTICE:** Do not mix different fertilizer types (10-34-0, 9-18-9, etc.) or fertilizer with water in the system tanks. Dissimilar concentrations and fertilizer/water mixtures cause salt crystals to precipitate throughout the system and plug the orifices and distribution hoses. When water is used to flush the system at the end of the day, drain the water from the system and leave the system open to aid evaporation.

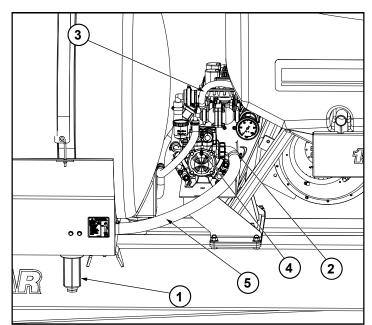


FIG. # 4-49 Variable Flow Pump

Ref	Description
1	Inline Filter
2	Supply From The Fertilizer Tank
3	To The Applicators
4	Air Valve

#### **Flowmeter and Section Control Valves**

Flow continues through the flowmeter (1) and to the sectional control valves (2) and pressure gauge (3). Readouts from the pressure gauge are useful for monitoring system pressure.

The flowmeter (1) measures fertilizer flow - volume/time - for the  $AFS^{\textcircled{R}}$  system so it can achieve the rate of application input by the operator. For example, an operator needs to apply 7 gallons per acre while travelling at a speed of 6 mph. Based on the rate measured at the flowmeter, the  $AFS^{\textcircled{R}}$  system adjusts pump speed to deliver the desired rate of application to the total number of row units on the planter automatically.

Ref.	Description	
1	Flow Meter	
2	Sectional Valves	
3	Pressure Gauge	
4	Pressure Valve	

**NOTE:** For optimal performance, do not allow fertilizer to settle in the flowmeter when the system is not used regularly. Disconnect the flowmeter, and clean with soap and water until all material is removed. Reinstall the flowmeter after cleaning.

The operator controls the sectional control valves (2) from the AFS<sup>®</sup> Display. The valves can be independently turned ON or OFF, or both valves can be set to ON or OFF at the same time. Refer to the AFS<sup>®</sup> operating manual.

The two valves turn ON or OFF flow to the right and left halves of the planter, split at the centerline

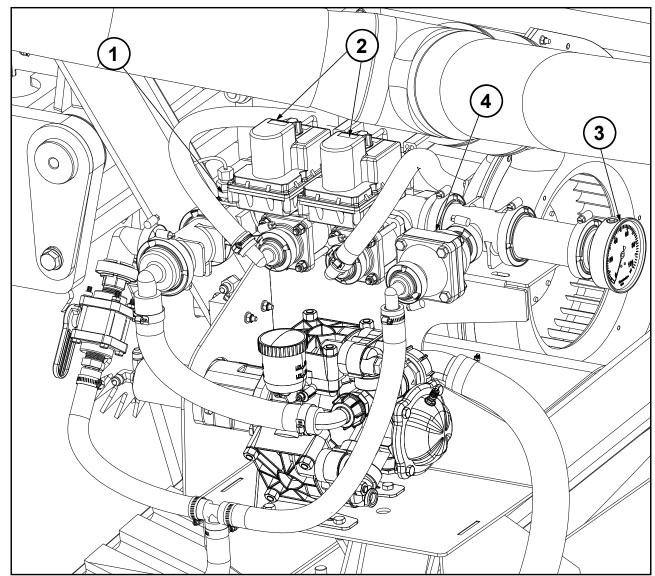


FIG. # 4-50 Flowmeter and Section Control Valves

#### Liquid Fertilizer Check Valve Orifices

A check valve and orifice are installed at each row unit. The check valve cuts off fertilizer flow whenever the planter is raised out of planting position.

Orifices perform the final adjustment of fertilizer flow to the individual coulter/opener applicator.

**NOTE:** Orifices are not included. See your Titan Machinery dealer.

**NOTE:** Orifices must be installed with the side stamped with the number facing the outlet.

**NOTE:** 29X, 35X, 40X, 52X, 65X and 89X orifices are also available as options. See your Case IH dealer.

When injectors are used on the applicators, orifices are removed. The check valve cuts off fertilizer flow whenever the row unit is raised out of planting position and is installed in the same location for injectors and orifices. Refer to the table on the following pages to select the correct orifice for your application rate and planting speed.

**NOTE:** 100 mesh screens are available from your Titan Machinery Dealer, IF orifice plugging occurs. The liquid fertilizer system must be recalibrated if the mesh screens are added.

#### **Changing/Replacing Applicator Orifices**

To change or replace applicator orifices:

- 1. Open the orifice connector. Do not lose the 100 mesh screen if used.
- 2. Remove the retaining gasket, and carefully remove the orifice.
- 3. Insert a replacement or different size orifice with the side stamped with the number facing outward.
- 4. Reinstall the retaining gasket. Reseat the 100 mesh screen (if used) and close the orifice connector.

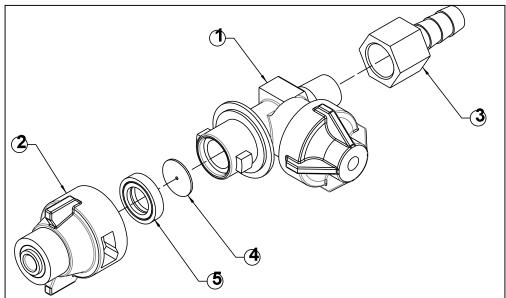


FIG. # 4-51 Liquid Fertilizer Check Valve Orifices

ITEM	PART NUMBER	DESCRIPTION	QTY
1	T0051529	TEE JET CHECK VALVE ASSY	1
2	T0051530	TEEJET 1/4 INCH HOSE ADAPTOR	1
3	T0051544	HOSE BARB 1/4" FPT X 3/8" HB	1
4	CP4916-29	ORIFICE029	1
4	CP4916-35	ORIFICE035	1
4	CP4916-40	ORIFICE040	1
4	CP4916-47	ORIFICE047	1
4	CP4916-52	ORIFICE052	1
4	CP4916-65	ORIFICE065	1
4	CP4916-89	ORIFICE089	1
5	T0051532	ORIFICE SEAL	1

\* NOTE: Item # 4 is not Installed so that the end user may pick the prefereed size orifice.

#### **Orifice Selection**

To choose the correct orifice size, four parameters are needed:

- Average Planting Speed e.g., 10 km/h (6 mph)
- Spacing between Applilcators e.g., 762 mm (30 in)
- Desired Application Rate e.g., 93 l/ha (10 gal/ac)
- Fertilizer Type e.g., 28-0-0

Different fertilizers have different weights, specific gravities and viscosities which affect their flow through the fertilizer system. The simplest way to adjust for these variations in fertilizer types is to determine the weight of one gallon.

1. Determine the weight of one gallon of your selected fertilizer as it will be applied. Some manufacturers supply this information on their packaging. If not, weigh exactly one gallon on a reliable scale, subtracting the weight of the container to be precise.

2. Use the chart below to determine the conversion factor for your fertilizer solution. If your fertilizer falls between weight categories, approximate the difference between the two factors given.

Fertilizer Weight Ibs/gallon	Specific Gravity	Conversion Factor
7.0	0.84	0.92
8.0	0.96	0.98
8.34 (water)	1.00	1.00
9.0	1.08	1.04
10.0	1.20	1.10
10.65 (28% nitrogen)	1.28	1.13
11.0	1.32	1.15
12.0	1.44	1.20
14.0	1.68	1.20

3. CALCULATE YOUR ADJUSTED GPA (GALLONS/ACRE) USING THE FORMULATION BELOW:

DESIRED GPA (GALLONS/ACRE) X CONVERSION FACTOR - ADJUSTED GPA (GALLONS/ACRE) *EXAMPLE:* DESIRED APPLICATION RATE - **10 G/AC** WEIGHT OF ONE GALLON = **10.65 LB** CONVERSION FACTOR FROM CHART = 1.1310 GPA X 1.13 = 11.3 ADJUSTED GPA

4.GOTOTHEORIFICECHARTSONTHEFOLLOWINGPAGEANDLOCATETHECOLUMNFORYOURPLANTINGSPEED.PROCEEDDOWNTHECOLUMN UNTIL YOU LOCATE A FLOW RATE (GALLONS/ACRE) CLOSE TO YOUR ADJUSTED GPA.

- The column at the far left of this value indicates the orifice to use.
- The column at the far right of the value indicates the amount of fertilizer in ounces which should be collected in one minute at each nozzle during the fertilizer calibration procedure.
- When selecting an orifice for your adjusted GPA, select one from the shaded areas of the chart.

### Orifice Table

### Liquid Fertilizer Application Guide - Orifices

#### 22 in spacing

Orifice	Pres (PSI)*		G	allons/Ac	re		Per l	Nozzle
Size		4 MPH	5 MPH	6 MPH	7 MPH	8 MPH	GPM	Oz/Min.
CP4916-29	20	5.1	4.1	3.4	2.9	2.6	0.076	10
	30	6.3	5.1	4.2	3.6	3.2	0.094	12
	40	7.3	5.8	4.9	4.2	3.6	0.108	14
	60	8.9	7.1	6.0	5.1	4.5	0.132	17
	80	10.3	8.2	6.9	5.9	5.2	0.153	20
CP4916-35	20	7.5	6.0	5.0	4.3	3.7	0.111	14
	30	9.2	7.3	6.1	5.2	4.6	0.136	17
	40	10.6	8.5	7.1	6.1	5.3	0.157	20
	60	13.0	10.4	8.7	7.4	6.5	0.193	25
	80	15.0	12.0	10.0	8.6	7.5	0.222	28
CP4916-40	20	9.7	7.8	6.5	5.6	4.9	0.144	18
	30	11.9	9.6	8.0	6.8	6.0	0.177	23
	40	13.8	11.0	9.2	7.9	6.9	0.204	26
	60	16.9	13.5	11.2	9.6	8.4	0.250	32
	80	19.5	15.6	13.0	11.1	9.7	0.289	37
CP4916-52	20	16.0	12.8	10.7	9.1	8.0	0.237	30
01 1010 02	30	19.6	15.7	13.1	11.2	9.8	0.290	37
	40	22.6	18.1	15.1	12.9	11.3	0.335	43
	60	27.7	22.2	18.5	15.8	13.9	0.411	53
	80	32.0	25.6	21.3	18.3	16.0	0.474	61
CP4916-65	20	24.9	19.9	16.6	14.2	12.5	0.369	47
	30	30.5	24.4	20.3	17.4	15.3	0.452	58
	40	35.2	28.2	23.5	20.1	17.6	0.522	67
	60	43.1	34.5	28.8	24.7	21.6	0.639	82
	80	49.8	39.9	33.2	28.5	24.9	0.738	94
CP4916-89	20	46.8	37.4	31.2	26.7	23.4	0.693	89
	30	57.3	45.8	38.2	32.7	28.7	0.849	109
	40	66.2	52.9	44.1	37.8	33.4	0.980	125
	60	81.0	64.8	54.0	46.3	40.5	1.200	154
	80	93.6	74.8	62.4	53.5	46.8	1.386	177

\* System operating pressure may vary +/- 5 psi from value indicated. Use chart value as a guide. Shaded areas of tables represent Recommended Operating Range.

### **In-Furrow Fertilizer Applicators**

Applying low rates of in-furrow liquid fertilizer and/or insecticide may create seed spacing problems depending on the attachment used. Many attachments are connected to the seed shoe in an attempt to drop liquid product directly into the seed furrow before the closing disks seal it. The placement of the attachment can cause seed spacing problems:

- If the attachment causes residue to accumulate around the seed shoe (1) area which drag seeds off target. (See Fig. # 4-52)
- If liquid product from the attachment creates a moist environment at the firming point and inside the seed shoe which interferes with accurate placement of the seed. (See Fig. # 4-53)

**NOTE:** The display cannot detect interference from an in-furrow attachment. The problem can only be detected by digging up seeds behind the row unit and checking spacing accuracy.

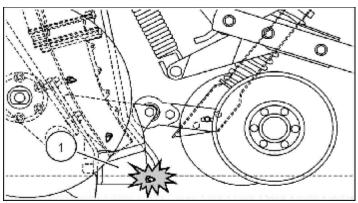


FIG. # 4-52 SEED BEING DRAGGED OUT OF POSITION BY SEED SHOE RESIDUE

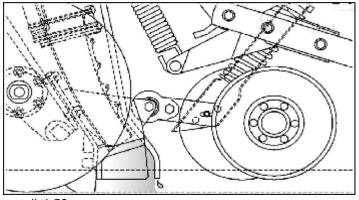


FIG. # 4-53 PLACEMENT OF SEED CAN BE CHANGED BY BUILD-UP AROUND FIRMING POINT AND SEED SHOE

Use the following guidelines to choose the correct in-furrow applicator for your planter:

- Avoid any attachment which allows liquid to collect inside the seed shoe or seed tube.
- Avoid any attachment which interferes with seed delivery to the furrow.
- Seed shoe applicator: Keep the tip of the product delivery tube at least 1.5 in (38 mm) (A) above the bottom of the seed shoe and at least 0.75 in (19 mm) (B) behind the rear edge of the seed shoe.
- Spring tube applicator: Install the applicator behind the indicated pin in the closing disk spring tube so that it extends no more than **1.00 in (25.4 mm) (A)** beyond the bottom edge of the tube.
- Never use a spray applicator tip when placing liquid product in-furrow.

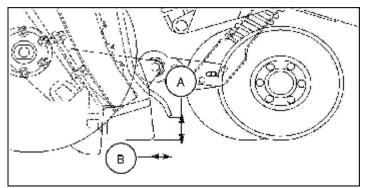


FIG. # 4-54 Placement of Product Delivery Tube

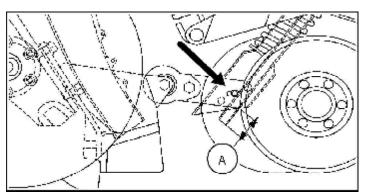


FIG. # 4-55 Spring Tube Applicator

• CENTER THE TIP OF THE APPLICATOR TUBE (1) OVER THE SEED TRENCH (2).

**NOTE:** Following these guidelines should eliminate most seed spacing interference, but cannot guarantee success in all field conditions and circumstances. Manually dig seeds to determine if seed placement is acceptable.

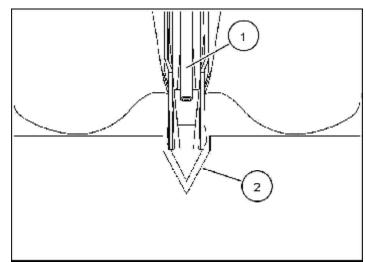


FIG. # 4-56 Center the Tip of the Applicator

### Planting

#### **Bulk Hopper System Components**

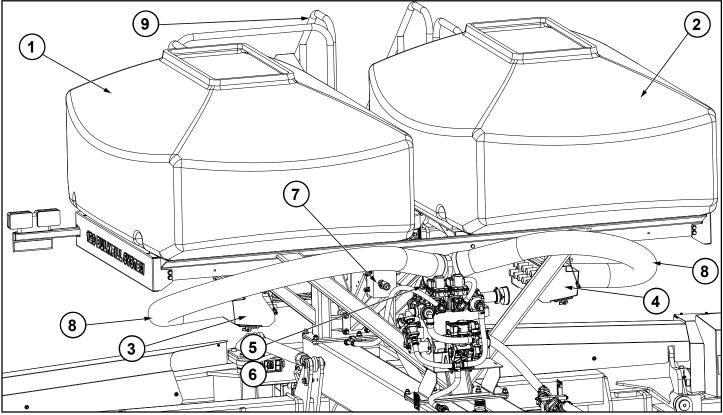


FIG. # 4-57 Bulk Hopper System Components

Ref	Description			
1	RH Bulk Hopper			
2	LH Bulk Hopper			
3	RH Seed Box			
4	LH Seed Box			
5	Bulk Fan			

RefDescription6Bulk Fan Motor7Bulk Fan Valve8Air Delivery Hose to Seed Box9Platform/Ladder

Your Titan Yieldtrac Planter Bar 24R22 is equipped with two central **2.1 m<sup>3</sup> ( 60 Bu)** bulk hoppers. Bulk hoppers offer the convenience and speed of single point filling or replenishing.

The bulk hoppers feature a seed delivery fan system, powered by a tractor remote valve. With bulk hoppers, Early Riser® row units are equipped with mini-hoppers to feed the Advanced Seed Meters (ASM). Bulk hopper level and air seed delivery are  $\mbox{AFS}^{\mbox{$\mathbb{R}$}}$  monitored and controlled.

The right-hand hopper supplies the row units, 1-12 on the left-hand side of the planter (seed section 1). The left hand hopper supplies row units, 13-24 on the right-hand side of the planter (seed section 2).

The bulk hoppers are accessed from the rear of the planter with a platform and folding ladder.

#### **Bulk Hopper Platform Ladder**

WARNING Unexpected movement! Stay clear when lowering the ladder. Failure to comply could result in death or serious injury.

The hopper platform can be accessed with the folding step ladder. The step ladder has a operating position, and a storage position.

The step ladder can be folded or unfolded depending on the position of the planter. Use the folded position when the planter is lowered to the planting position.

Use the unfolded position when the planter is raised from the planting position and in the field transport position.

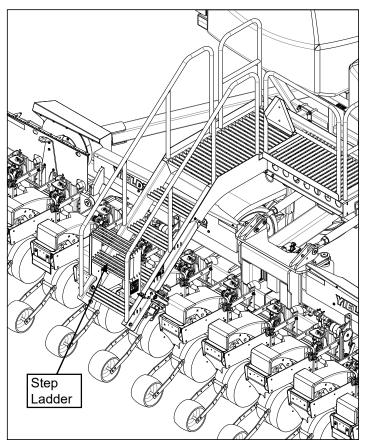


FIG. # 4-58 TEP LADDER UP (STORAGE POSITION)

### Step Ladder Spring Loaded Latch

Pull the latch handle outward to disengage the latch and unfold the step ladder. When the ladder is folded, to the storage position, the latch automatically engages to secure the step ladder in position. (See Fig. # 4-60)

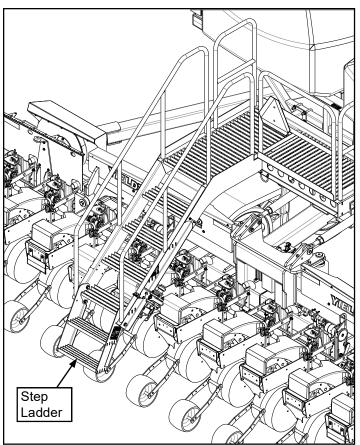


FIG. # 4-59 STEP LADDER DOWN (OPERATING POSITION)

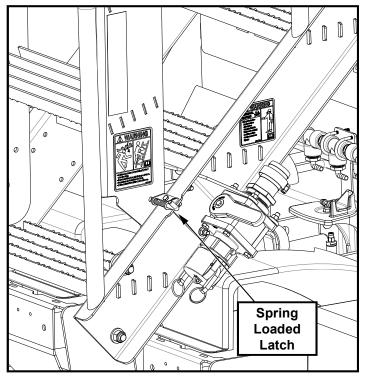


FIG. # 4-60 Step Ladder Spring Loaded Latch

### Seed Population/Spacing Chart

Use this table to determine the expected seed spacing for different populations and row widths:

Seed	Seed Population
Spacing	Seed/Acre
(Inch/seed)	22 inch rows
0.25	1,140,480
0.50	570,240
0.75	380,160
1.00	285,120
1.25	228,096
1.50	190,080
1.75	162,926
2.00	142,560
2.25	126,720
2.50	114,048
2.75	103,680
3.00	95,040
3.25	87,729
3.50	81,463
3.75	76,032
4.00	71,280
4.25	67,087
4.50	63,360
4.75	60,025
5.00	57,024
5.25	54,309
5.50	51,840
5.75	49,586
6.00	47,520
6.25	45,619
6.50	43,865
6.75	42,240
7.00	40,731
7.25	39,327
7.50	38,016

Seed	Seed Population
Spacing	Seed/Acre
(Inch/seed)	22 inch rows
7.75	36,790
8.00	35,640
8.25	34,560
8.50	33,544
8.75	32,585
9.00	31,680
9.25	30,824
9.50	30,013
9.75	29,243
10.00	28,512
10.25	27,817
10.50	27,154
10.75	26,523
11.00	25,920
11.25	25,344
11.50	24,793
11.75	24,266
12.00	23,760
12.25	23,275
12.50	22,810
12.75	22,362
13.00	21,932
13.25	21,518
13.50	21,120
13.75	20,736
14.00	20,366
14.25	20,008
14.50	19,663
14.75	19,330
15.00	19,008

#### **5 - MAINTENANCE**

#### **GENERAL INFORMATION**

#### **Maintenance Safety**

#### Environment

#### 

Improper operation or service of this machine can result in an accident. Read and understand the SAFETY INFORMATION Section before you operate or service the machine. Failure to comply could result in death or serious injury.



Chemical hazard! When handling fuel, lubricants, and other service chemicals, follow the manufacturer's instructions. Wear Personal Protective Equipment (PPE) as instructed. Do not smoke or use open flame. Collect fluids in proper containers. Obey all local and environmental regulations when disposing of chemicals. Failure to comply could result in death or serious injury.

Before you service this machine and before you dispose of the old fluids and lubricants, always remember the environment. DO NOT put oil or fluids into the ground or into containers that can leak.

Check with your local environmental or recycling center or your Yieldtrac Planter dealer for correct disposal information.

#### **Plastic and resin parts**

Avoid using gasoline, kerosene, paint thinner, etc. when cleaning. Use ONLY water, mild soap and a soft cloth when you clean these parts.

Using gasoline, kerosene, thinners, etc., will cause decolorization, cracking or deformation of the part being cleaned.

#### Planter Checks and Maintenance

### 

Improper operation or service of this machine can result in an accident. Read and understand the SAFETY INFORMATION Section before you operate or service the machine. Failure to comply could result in death or serious injury.

## 

#### Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately. Failure to comply could result in death or serious injury.

Crushing hazard!

If you have not installed the cylinder locks, a failure of the hydraulic lift system will cause the planter to fall rapidly. Always install the cylinder locks on the main lift cylinders before transporting, servicing, or storing the planter.

Failure to comply could result in death or serious injury.

## 

**Crushing hazard!** 

If you have not installed the wing wheel safety stands, a failure of the hydraulic lift system will cause the planter wing to fall rapidly. Always install the wing wheel safety stands on the wing wheels before transporting, servicing, or storing the planter.

Failure to comply could result in death or serious injury.

Make sure your planter is ready to go to the field when you are. Perform the service and maintenance procedures that are recommended in this section to prepare for the planting season. Careful maintenance preparation will save time and expense as you enter the busy planting season.

Service your planter at the intervals and locations shown in this manual. Local operating conditions and your environment may increase the need for service for the planter and reduce service intervals on various components. See the chart in this section for recommended lubricants.

**NOTE:** Other planter adjustments are included in the Working Operations section in this manual.

### **MAINTENANCE CHART**

									Re	place
								Cle	aning	]
						Ch	ange	Fluid		
						Α	djust			
					Drain	Fluid				
				C	Check	I				
			G	rease						
Interval	Page #	Maintenance Action	# of Pts.							
FIRST 1 HOUR	5-5	Track Wheel Lug Nut Torque	96		Х					
	5-5	Wing Wheel Lug Nut Torque	24		Х					
	5-9	Initial Track Adjustment			Х					
<b>EVERY 10 HOURS</b>	*5-5	Drive Chain Lubrication		Х						
OR EACH DAY	*5-7	Marker Breakaway Bolt (If Equipped)			Х					
	*5-8	Lighting Operation			X					
	5-6	Track Wheel Lug Nut Torque			Х					
	5-6	Wing Wheel Lug Nut Torque			Х					
	*5-10	Seed Hose Couplers			Х					
	*5-14	Pneumatic Air Compressor Filter							Х	
	*5-14	Pneumatic Air Tanks				Х				
	*5-14	Liquid Fertilizer Pump Air Pressure			Х					
	5-7	Liquid Fertilizer System Maintenance				Х				
	5-8	Track Tension Air Bag Pressure	2		Х					
40 HOURS	*5-18	Liquid Fertilizer Pump						Х		
<b>EVERY 50 HOURS</b>	*5-19	Drive Chain Adjustment					Х			
	*5-21	Marker Lubrication (if equipped)		Х						
	*5-21	Marker Wheel Arm Mounting Bolts			Х					
	*5-25	Bulk Hopper Seed Box and Clean-Out Hatch							Х	
	5-9	Track Alignment			Х					
	5-14	Rear Wing Wheel Caster Hub	2	Х						
	5-15	Wing Flex Pivots	2	Х						
	5-15	Stub Arm Pivots	2	X						
	5-15	Wing Wheel Pivots	4	Х						
	5-16	Rear Wing Wheel Caster Pivot	2	Х						
	5-16	Main Lift Pivot	4	X						
	5-16	Track Hub Assembly	12	X						
	5-17	Track Walking Pivot	4	Х						
	5-17	Track Remote Grease Line	6	Х						
	5-17	Telescoping Hitch Rollers	2	Х						
	5-18	Cradle Lift Pivots	2	Х						
	5-18	Implement Jack	2	Х						
EVERY 75 HOURS	*5-28	Air Clutches		Х						
	0.70					l				

#### \* Consult your CASE IH 1250 Planter Operator's Manual

							Re	place
						Cle	aning	
					Change			
					Adjus	-		
				Drain Fl				
				Check				
			Grea					
			# of					
Interval	Page #	Maintenance Action	Pts.					
EVERY 100 HOURS	*5-35	Marker bearing (ASN Y9S007000) - Disassemble		X				
	*5-37	Marker bearing (ASN Y9S007000) - Reassemble		Х				
	*5-40	Granular chemical hopper level sensor					Х	
	*5-41	Bulk hopper seed level sensor					Х	
	*5-42	Seed box door and hatch foam seal inspection		X				
	*5-47	Hydraulic hoses, cylinder rods and sprockets				1		
	*5-48	AccuRow control air clutch system						
EVERY 200 HOURS	*5-50	Pneumatic down pressure (if equipped)				1	Х	
	*5-50	AccuRow air compressor					Х	
	5-19	Wing wheel drive chain case				Х		
-	*5-51	Seed meter inspection		Х				
	*5-57	Singulator spool replacement procedure						Х
	*5-58	Singulator replacement						Х
	*5-58	Seed disk replacement						Х
	*5-59	Meter curved brush replacement						Х
	*5-61	Straight brush removal/replacement						Х
	*5-62	Seed tube cleaning					Х	
	*5-63	Seed tube / seed sensor replacement						X
	*5-65	Row unit tie strap location		X				
	*5-69	Opener disk inspection and replacement						Х
	*5-72	Disk scrapers						Х
AS REQUIRED	*5-72	Inspect closing disk		Х				
MAINTENANCE	*5-73	Furrow firming point		X				
	*5-74	Replace firming point						Х
	*5-74	Seed shoe		X				
	*5-75	Check depth control		X				
	*5-76	Adjust depth control			X			
	*5-78	Ground speed sensor			X			
	*5-79	Bulk fan speed sensor adjustment/replacement			X			
	*5-83	Bulk hopper system inspection/cleaning					Х	
	*5-85	Fold cylinder			X			
	*5-86	Vacuum gauge zero adjustment			X			
	*5-87	Vacuum sensor					Х	
	*5-88	Hub bearings - residue/tillage attachments		X				
	*5-89	AccuRow control air clutch system					Х	

\* Consult your CASE IH 1250 Planter Operator's Manual

### First 1 Hour Track Wheel Lug Nut Torque

 Check after the first 1 hour of use. If lug nut torque is not at the specified torque, re-torque all lug nuts. (See Fig. # 5-1)

Location	Track Wheel Size	Torque	Number of Lug Nuts
Front Idler	Ø28.0	175 ft-lbs (162.7 N-m)	32
Rear Idler	Ø32.0	175 ft-lbs (162.7 N-m)	32
Mid Roller Wheel	Ø15.0	175 ft-lbs (162.7 N-m)	32

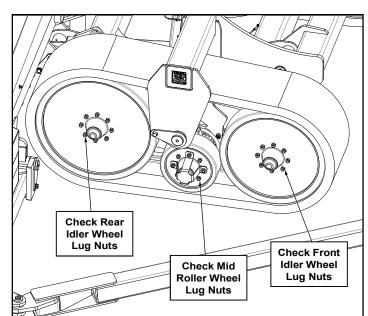


FIG. # 5-1 Checking For Correct Lug Nut Torque

### Wing Wheel Lug Nut Torque

 Check after the first 1 hour of use. If lug nut torque is not at the specified torque, re-torque all lug nuts. (See Fig. #5-2)

Location	Torque	Number of Lug Nuts
Front Wing Wheel	120 ft-lbs (162.7 N-m)	12
Rear Wing Wheel	120 ft-lbs (162.7 N-m)	12

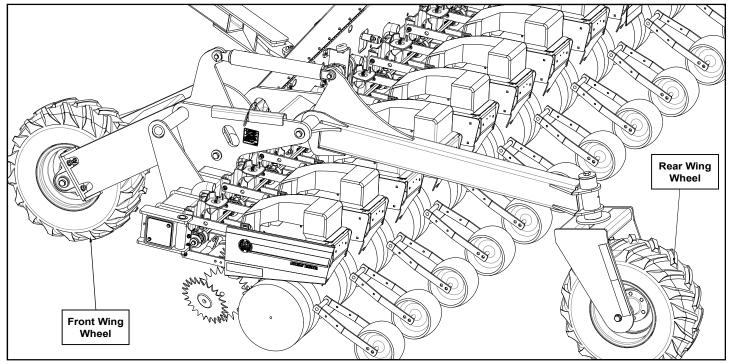


FIG. # 5-2 Check For Correct Lug Nut Torque (6 Lug Nuts Each Wheel)

### Every 10 Hours or Daily Track Wheel Lug Nut Torque

1. Check at the beginning of the season, and at 10 hour intervals (daily). If bolt torque is stable, check at 50 hour intervals. If lug nut torque is not at the specified torque, re-torque all lug nuts. (See Fig. #5-3)

Location	Track Wheel Size	Torque	Number of Lug Nuts
Front Idler	Ø28.0	175 ft-lbs (162.7 N-m)	32
Rear Idler	Ø32.0	175 ft-lbs (162.7 N-m)	32
Mid Roller Wheel	Ø15.0	175 ft-lbs (162.7 N-m)	32

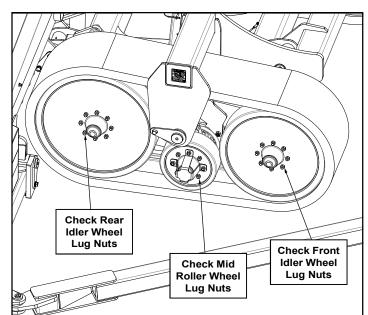


FIG. # 5-3 Checking For Correct Lug Nut Torque

### Wing Wheel Lug Nut Torque

 Check at the beginning of the season, and at 10 hour intervals (daily). If bolt torque is stable, check at 50 hour intervals. If lug nut torque is not at the specified torque, re-torque all lug nuts. (See Fig. #5-4)

Location	Torque	Number of Lug Nuts
Front Wing Wheel	120 ft-lbs (162.7 N-m)	12
Rear Wing Wheel	120 ft-lbs (162.7 N-m)	12

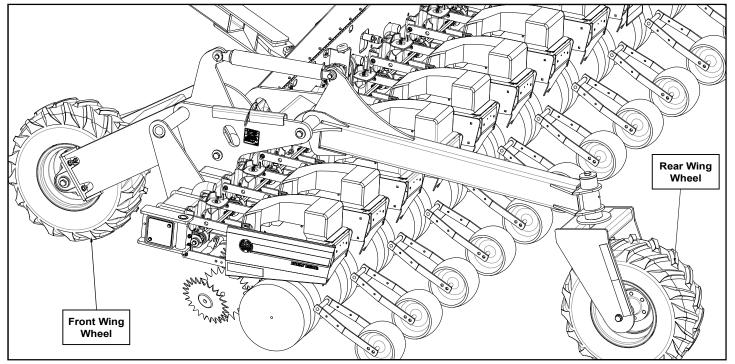


FIG. # 5-4 Check For Correct Lug Nut Torque (6 Lug Nuts Each Wheel)

# Every 10 Hours or Daily

### Liquid Fertilizer System Maintenance

 Drain all liquid fertilizer from the tanks. Remove the plug (2) from the filter (1) and flush the entire liquid fertilizer system with water after daily use. Inspect all hoses for wear, twists or cracks and repair or replace as necessary.

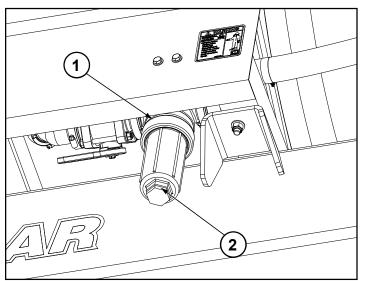


FIG. # 5-5 Filter and Plug

2. Inspect the orifice on the applicator and flush or clean as necessary if flow is diminished.

**NOTICE:** Do NOT allow water-diluted fertilizers to remain in the fertilizer system overnight or longer. The salts will separate from the liquid and clog the system.

**NOTE:** Refer to Storage pages in this section for instructions for end of season storage requirements for the fertilizer system.

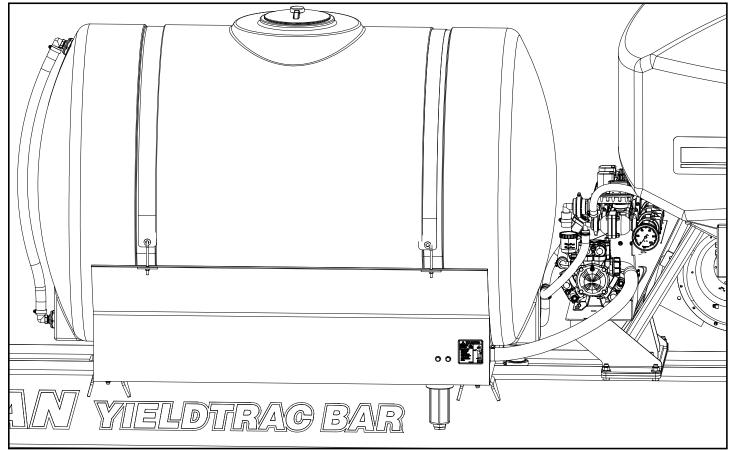


FIG. # 5-6 500 US gal (1892 litre) Capacity Fertilizer Tank

### **Every 10 Hours or Daily**

#### Track Tension Air Bag Pressure

 Check the track air bag pressure (1). The air pressure to maintain proper tension = 90 psi (620.5 kPa) (See Fig. # 5-7)

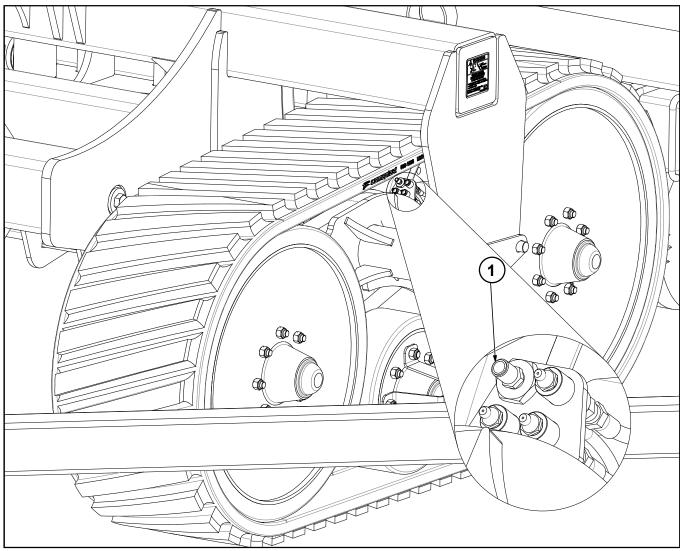


FIG. # 5-7 Check Air Bag Pressure For Setting Correct Track Tension

### First 1 Hour

#### Rubber Track Alignment

#### **Checking Alignment**

Track alignment is the most important periodic check that can be made on a track system. Alignment can change due to component wear, track damage, or after tread width adjustment or track replacement. Misalignment causes wear to guide lugs and rubberized wheels, so periodic alignment checks are important.

Track alignment is checked at the factory, but due to the track break in period, this process needs to be done again to verify alignment:

**Remember:** Side lug wear due to misalignment is not covered under warranty.

### First 1 Hour

#### Seasoning the Track

- A. Inject one shovel of dusty yard gravel / dirt into each track assembly.
  - i. The silicates in the road dust act as a lubricant and embed into the face of the rubber to provide a good lubricated bearing surface.
  - ii. This also lubricates the surface of the rollers and idlers, making the adjustment process easier. (After the unit is in the field, this process occurs naturally due to the silicate dust in the field dirt).

### First 1 Hour

#### **Initial Track Adjustment**

A. Check alignment during pre-delivery.

- i. Feel if there is clearance to the front idler and the drive lug if there is clearance, no adjustment is necessary. (See Fig. # 5-7)
- ii. Adjust until there is some clearance to one side of the track guide lug and the front idler.
- iii. One simple way to check alignment is to drive without any steering or braking input on a flat surface for at least 150 feet. After stopping, observe if there is clearance with the (1) on both sides of the guide lugs (2) (See Fig. # 5-8). If no clearance is evident on one side, the track may be out of alignment.
- iv. See "Alignment Method".

**Note:** The track will not likely center, what is important is that the track is not running hard to one side or the other. Tracks are difficult to center and may not always have clearance. Minimizing guide lug inner / outer temperature difference, due to rubbing, is the best way to achieve correct alignment.

- B. During the first roading of the unit during delivery. (After 2-3 Miles)
  - i. Do a visual inspection of the track lugs to see if clear signs of rubbing is occurring either by rubber that is obviously peeling off, or the surface of the track lug is smeared clean on one side vs. the other.
  - ii. Feel to see if there is a temperature difference from side to side (Note that track guide lug rubber can reach 200 degrees so approach carefully) – an alternate method may be to use a heat gun for temperature comparison.
  - iii. If there is a definite temperature difference from side to side on the drive lug adjustment is required.
  - iv. See "Alignment Method".

#### **Every 50 Hours**

### **Customer Checks**

- A. Every 50 hours during the roading process from field to field; check the track for obvious track drive lug wear, heating, & misalignment. If a problem is present, follow the alignment method.
- B. Again, the track does not need to be perfectly centered, in fact, perfectly centering the track is very difficult to accomplish. The track guide lugs to should not be rubbing hard on the sides of the idler wheels.

#### **Alignment Method**

1. The first step to checking alignment is to make sure both the inner and outer adjustment screws are tightened on each track undercarriage. (See Fig. # 5-9 thru. Fig. # 5-12 for alignment adjustment screw locations).

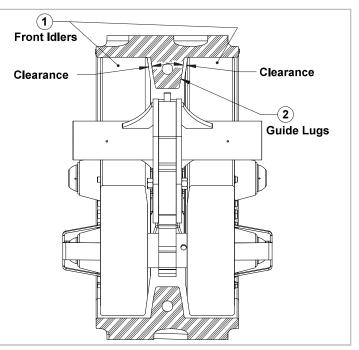


FIG. # 5-8 Section View Showing Undercarriage Components

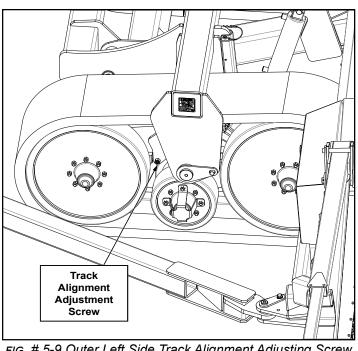


FIG. # 5-9 Outer Left Side Track Alignment Adjusting Screw location

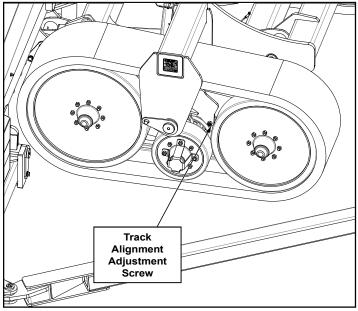


FIG. # 5-10 Outer Right Side Track Alignment Adjusting Screw location

2. Use a 3/8" Allen Wrench to tighten the screw and a 1-1/8" wrench or socket to tighten the locknut.

3. Pull the planter in the transport position in a straight line on a flat firm surface for about 1200 ft. (366 m).

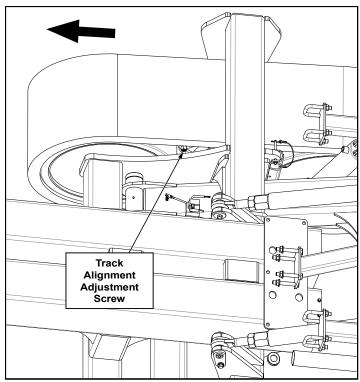


FIG. # 5-11 Inner Right Side Track Alignment Adjusting Screw location

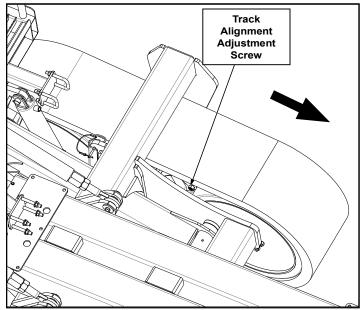
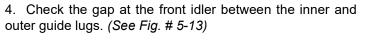


FIG. # 5-12 Inner Left Side Track Alignment Adjusting Screw location



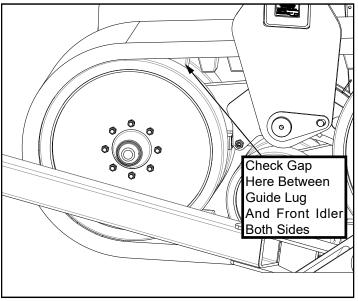


FIG. # 5-13 Checking Gaps at Front Idler

5. If difference in dimensions are measured, and / or improper wearing or tearing of rubber on the guide lugs is noticed, see "Adjusting Method".

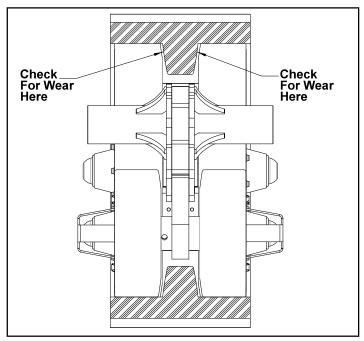


FIG. # 5-14 Checking Guide Lug Gap and Wear

6. Alternatively, use a infrared thermometer to check the temperature on both inner and outer guide lug surfaces approximately 1.0 in (25 mm) below belt carcass (See Fig. # 5-15). When the temperature is measured, the inner and outer guide lug surface measurements should be approximately the same.

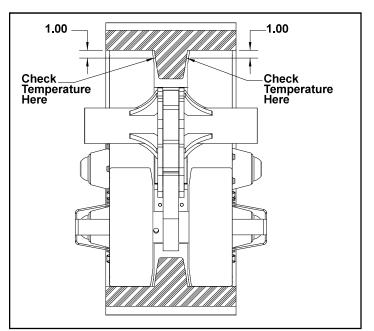


FIG. # 5-15 CHECKING GUIDE LUG TEMPERATURE

#### Alignment Method

#### Adjusting Alignment By Gap At Front Idler

**Note:** While performing the following steps, please refer to the illustration on the next page. (See Fig. # 5-16)

#### **Right Side Undercarriage**

- 1. Check both sides for gap at front idler, If guide lugs are rubbing the outer side and exhibit higher temperature, then the track needs to be adjusted inward.
  - A. Loosen both lock nuts.
  - B. Loosen outer adjusting screw 1/2 turn.
  - C. Then tighten inside adjusting screw 1/2 turn
  - D. Tighten both lock nuts.

**Note:** Do not adjust screws by more than 1/2 turn at a time. Re-tighten lock nuts before driving tractor.

- 2. Check both sides for gap at front idler, If guide lugs are rubbing on the inner side and exhibit higher temperature, then the track needs to be adjusted outward.
  - A. Loosen both lock nuts.
  - B. Loosen inner adjusting screw 1/2 turn.
  - C. Then tighten outer adjusting screw 1/2 turn
  - D. Tighten both lock nuts.

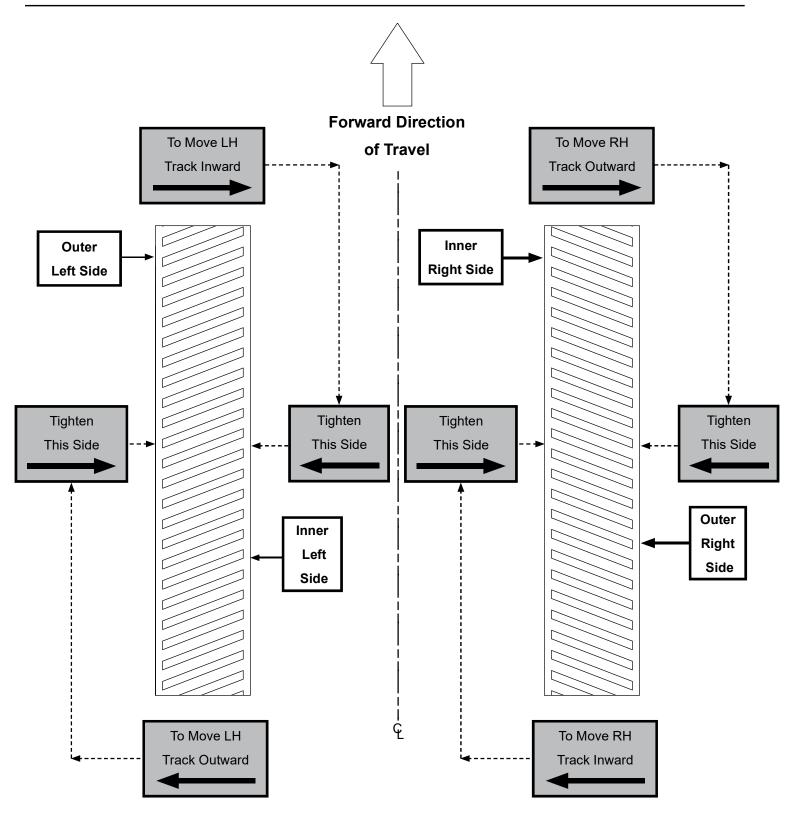
#### Left Side Undercarriage

- 1. Check both sides for gap at front idler, If guide lugs are rubbing the outer side and exhibit higher temperature, then the track needs to be adjusted outward.
  - A. Loosen both lock nuts.
  - B. Loosen inner adjusting screw 1/2 turn.
  - C. Then tighten outer adjusting screw 1/2 turn
  - D. Tighten both lock nuts.

**Note:** Do not adjust screws by more than 1/2 turn at a time. Re-tighten lock nuts before driving tractor.

- 2. Check both sides for gap at front idler, If guide lugs are rubbing inner side and exhibit higher temperature, then the track needs to be adjusted inward.
  - A. Loosen both lock nuts.
  - B. Loosen outer adjusting screw 1/2 turn.
  - C. Then tighten inner adjusting screw 1/2 turn
  - D. Tighten both lock nuts.

- 3. Pull the planter in the transport position in a straight line on a flat firm surface for about 1200 ft. (366 m).
- Recheck alignment and repeat Step # 1, & # 2 above for both undercarriages until gap on both sides of guide lugs have sufficient gap





## Every 50 Hours Rear Wing Wheel Caster Hub Bearing

Grease 1 points (2 points total) (1) on the rear wing wheel hub every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Approx. 3 Pumps).

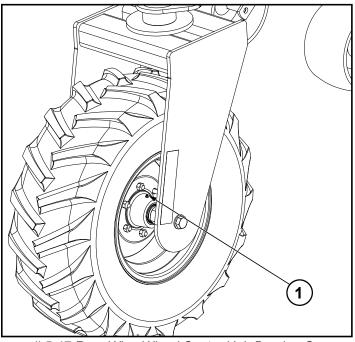


FIG. # 5-17 Rear Wing Wheel Caster Hub Bearing Grease Point

### Wing Flex Pivots

Grease the point **(1)** on the left and right wing flex rotation pins every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible).

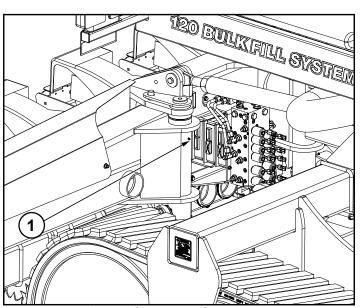


FIG. # 5-18 Grease the Stub Arm Pivots

### **Stub Arm Pivots**

Grease the point **(1)** on the left and right stub arm rotation pins every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible).

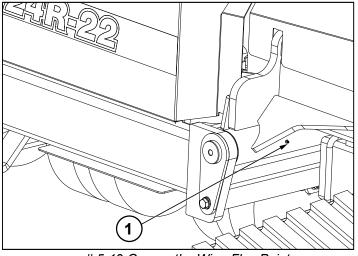


FIG. # 5-19 Grease the Wing Flex Points

### Wing Wheel Pivots

Grease the 2 point (4 Points Total) on the left and right wing wheel rotation pins (1) every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible).

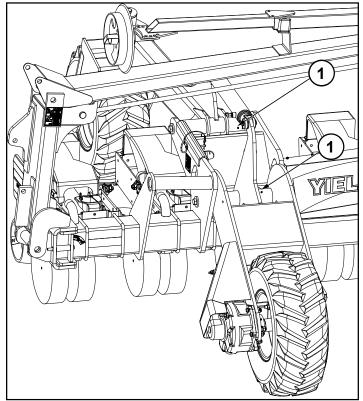


FIG. # 5-20 Wing Wheel Pivots

### **Rear Wing Wheel Caster Pivot**

Grease the point (2 Points Total) on the left and right rear wing wheel caster pivot **(1)** every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible).

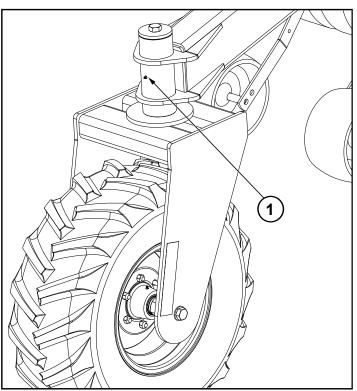


FIG. # 5-21 Rear Wing Wheel Caster Hub Bearing Grease Point

### Main Lift Pivot

Grease the 4 points on the left and right side of the main lift pivots **(1)** every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible).

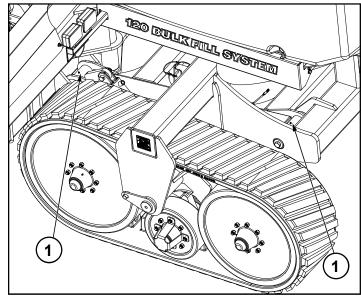


FIG. # 5-22 Main Lift Pivot

### **Track Hub Lubrication**

Grease the 12 grease zerk points on the track hub's located on the inner and outer sides of the track assemblies (1) every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Approx. 3 Pumps).

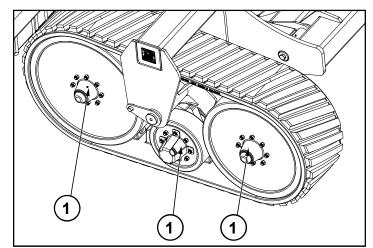


FIG. # 5-23 Main Lift Pivot

### **Track Walking Pivot**

Grease the 4 grease zerk points on the track's walking pivot located on the inner and outer sides of the track assemblies (1) every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible). (See Fig. # 5-24 & 5-25)

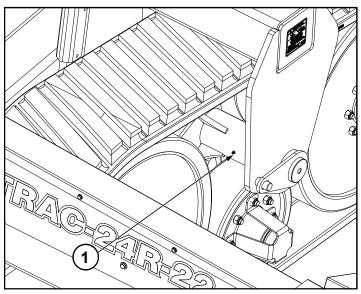


FIG. # 5-24 Track Walking Pivot Grease Zerk Point

### **Track Remote Grease Lines**

Grease the 3 grease zerk points (6 total) on the track's remote grease line bracket located in the center of the track assemblies **(1)** every 50 hours of use. Use Case IH Akce-IA Multi-Purpose Grease 251H EP or equivalent (Approx. 3 Pumps).

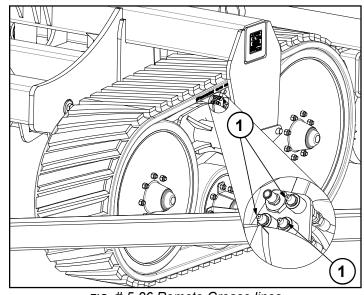


FIG. # 5-26 Remote Grease lines

### **Telescoping Hitch Rollers**

Grease the 2 grease zerk points on the telescoping hitch rollers located as shown below **(1)** every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible).

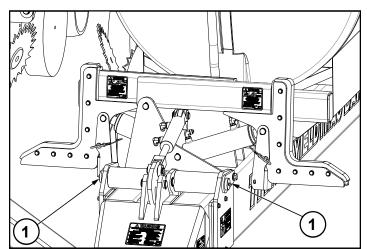


FIG. # 5-27 Telescoping Hitch Rollers Grease Points

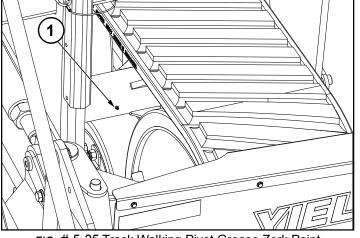


FIG. # 5-25 Track Walking Pivot Grease Zerk Point

## **Cradle Lift Pivots**

Grease the 2 grease zerk points on the cradle lift pivots located as shown below **(1)** every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Pump until grease becomes visible).

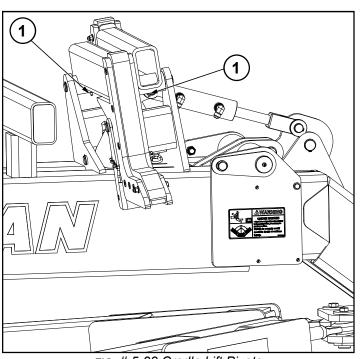


FIG. # 5-28 Cradle Lift Pivots

### **Implement Jack Grease Points**

Grease the 2 grease zerk points on the implement jack located as shown below **(1)** every 50 hours of use. Use Case IH AkcelA Multi-Purpose Grease 251H EP or equivalent (Approx. 3 Pumps).

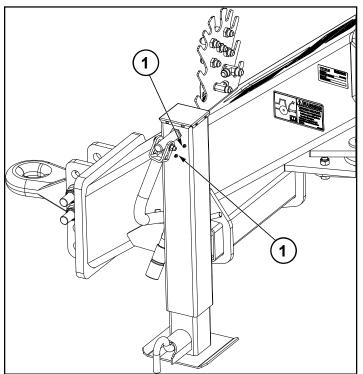


FIG. # 5-29 Implement Jack Grease Points

### Every 200 Hours

### Wing Wheel Drive Chain Case

1. Change gear lube every 200 hours of use. Use a 5/16" allen wrench to remove the 3/8" NPT drain plug at the bottom of the wing wheel drive. (*See Fig. #5-32*)

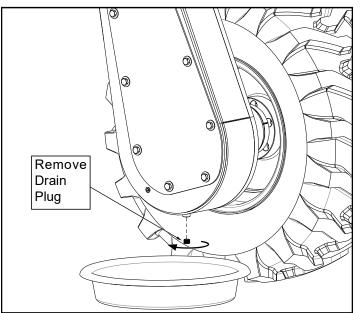


FIG. # 5-30 Remove 3/8 NPT Drain Plug and Drain Gear Lube

- 2. Drain fluid.
- 3. Use a a 5/16" allen wrench to remove the 3/8 NPT fill plug on the side of the wing wheel drive.

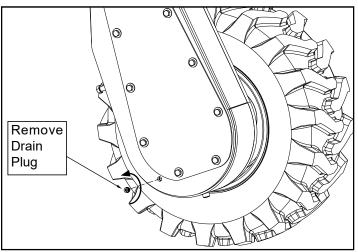


FIG. # 5-31 Remove 3/8 NPT Fill Plug and Refill Gear Lube

4. Add (Approx. 68 oz) of 80W-90 gear lube until the level reaches the bottom of the threads of the fill plug.

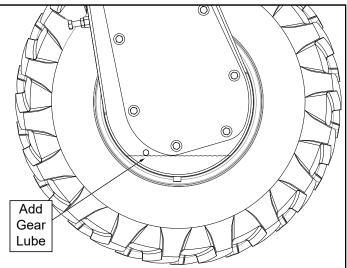


FIG. # 5-32 Fill Gear Lube Until it Reaches the Bottom of the Fill Plug Threads

Gear Lube 80W-90				
Ounces	68.78			
Quarts	2.15			
Pints	4.29			

### STORAGE

### **Preparing For Storage**

#### WARNING Crushing Hazard!

If you have not installed the cylinder locks, a failure of the hydraulic lift system will cause the planter to fall rapidly. Always install the cylinder locks on the main lift cylinders before transporting, servicing, or storing the planter.

Failure to comply could result in death or serious injury.

## 

Equipment Rolling Hazard! Always try to park the machine on firm level ground. Avoid parking on slopes. Block the wheels in both directions. Failure to comply could result in death or serious injury.

- 1. Store the planter inside for protection from the weather. If the planter must be stored outside, put boards under the wheels and parking stands to prevent sinking into the soil.
- 2. Fold the markers (if equipped) to transport position.
- Fold the planter and install the two main lift cylinder transport locks, and the two cradle lift cylinder transport locks. Secure with the locks with pins. Lower the planter so the weight of the planter rests on the storage locks. (See Fig. # 5-35 & 5-36) (For additional Information, See Pages # 2-12 # 2-13)

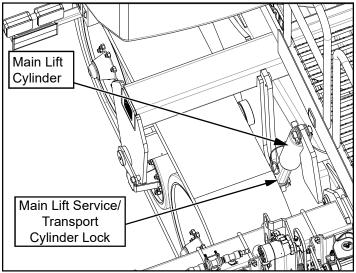


FIG. # 5-33 Main Lift Cylinder Service / Transport locks (Service / Transport Position)

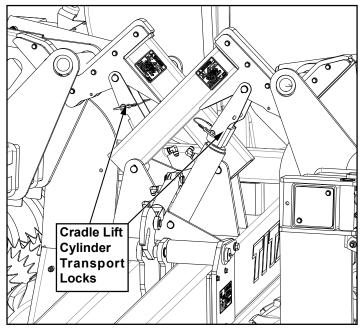


FIG. # 5-34 Cradle lift cylinder transport locks (Locked Position)

4. Install the rear wing wheel arm storage locks that are provided for the two rear wing wheel arms on the planter's left and right toolbar wing assemblies. Remove the hitch pin and allow the storage lock to rotate downward into the locking position. Replace the hitch pin back to it's original location. (See Fig. # 5-37 & 5-38)

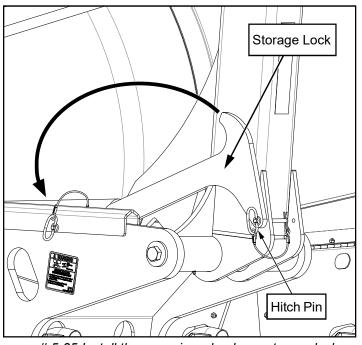


FIG. # 5-35 Install the rear wing wheel arm storage locks (Shown in the Unlocked Position)

#### IMPORTANT

The wing wheel arm storage locks MUST be installed whenever the planter is in storage to avoid the cylinder settling during storage.

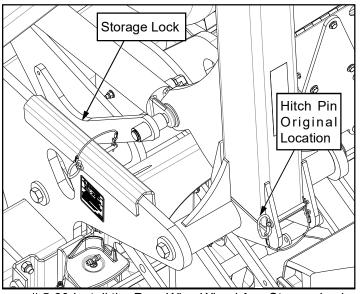


FIG. # 5-36 Install the Rear Wing Wheel Arm Storage Locks (Shown in the Locked Position)

#### IMPORTANT

The wing wheel arm storage locks MUST be returned to the unlocked position before the planter is unfolded. 5. Lower the implement jack. (See Fig. # 5-39)

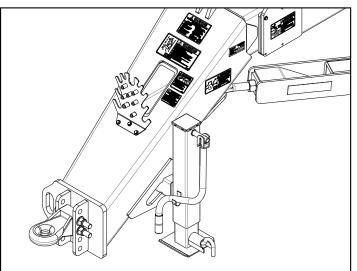


FIG. # 5-37 Lower Implement Jack

6. Disconnect all hydraulic lines and electrical harnesses, and disengage the tractor hitch from the planter.

**NOTICE:** Be sure that the water is not released on any electrical components or on any other equipment that may be sensitive or damaged due to water and/or high pressure. Equipment damage may result.

### Liquid Fertilizer System

 Drain all liquid fertilizer from the tanks. Remove the plug (2) from the filter (1), turn the system ON and thoroughly flush with water. (See Fig. # 5-40)

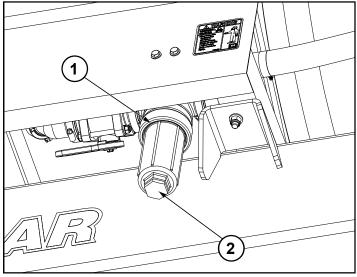


FIG. # 5-38 Filter and Plug

2. Reinstall the filter plug (2), and continue flushing to clean the hose lines and applicators. When clean, operate the system until it is drained. (See Fig. # 5-40)

 Disconnect the supply hoses (3) from the tee jet assembly leading to the applicators, remove and clean the mesh screens (4) (*Not Shown*), if used, orifices (5), and orifice seals (7) with soap and water. Dry the screens (*Not Shown*) and orifices (5). Disconnect the caps to the check valves (6). Store the screens, if used, orifices, orifice seals and caps for use in the spring.



FIG. # 5-39 Tee Jet Valve Assy

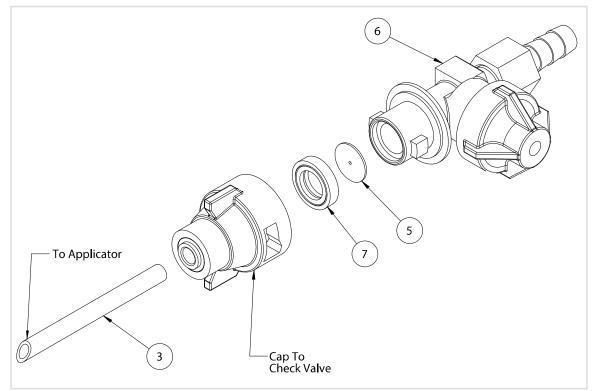


FIG. # 5-40 Tee Jet Valve Assy

4. Disconnect the flowmeter assembly (8), and clean with soap and water until all material is removed. Reinstall the flowmeter.

**NOTE:** Leave the applicator lines and check valves open to aid evaporating moisture from the system.

For winter storage where a freezing condition is expected, the fertilizer system - pump, valves, flowmeter, - must be filled with a 50/50 mixture of water and a non-toxic, noncorrosive antifreeze (propylene-glycol base). Do NOT use ethylene-glycol based solutions. **NOTE:** Follow the manufacturer's instructions for system preparation and proper concentration for your winter conditions.

**NOTE:** To remove the antifreeze in the Spring, dilute the mixture with additional water and flush the mixture from the system. Follow the manufacturer's instructions for proper disposal.

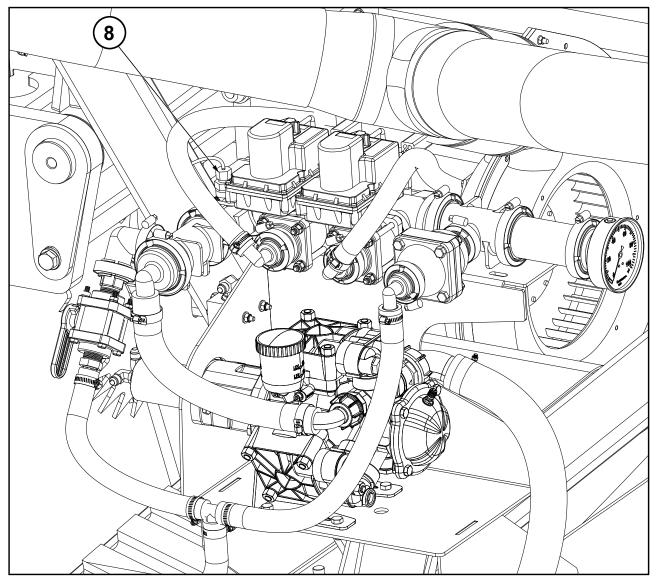


FIG. # 5-41 Flowmeter Location

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### 6 - TROUBLESHOOTING

## SYMPTOM(S)

Problem	Possible Cause	Correction		
Low vacuum or "Vacuum at Max	Tractor output less than required.	Check hydraulic performance and capacity.		
Flow" alarm.	Incorrect hydraulic connections.	Connect as recommended.		
	Flow control improperly adjusted.	Set as recommended.		
	Worn fan motor.	Replace motor.		
	Row unit vacuum hose(s) damaged.	Repair or replace as required.		
	Manifold hoses kinked or pinched.	Replace as required.		
	Manifold system clogged with dust.	Clean air manifold system. Purge air system.		
	Loose vacuum manifold connections.	Inspect and tighten as required.		
	Vacuum hose, cover or fittings plugged or components damaged.	Unplug or replace as required.		
	Vacuum manifold O-rings missing or damaged.	Add or replace O-rings.		
	Worn seed disk(s) or cover seals.	Replace as required.		
	No seed on disk.	Rotate meter drive shaft. Set vacuum level with seed on disk.		
	Seeds too large for holes in the seed disk.	Use a seed disk matched to seed size.		
	Warped meter cover or seed disk.	Replace as required.		
	Improper Seed Disc Selection. Too many holes on seed disc.	Select proper seed disc based on row spacing, population, seed size, and seeding speed.		
	Improper Singulator Setting.	Set as recommended.		
Erratic Lift Operation.	Low tractor hydraulic fluid level.	Fill with hydraulic fluid to normal operating level.		
	Air in the hydraulic system circuit.	Cycle the system several times to remove air.		
Unable to lower	Tractor not running.	Start tractor.		
planter. Remains fully	Tractor remote lever in NEUTRAL position.	Move lever to LOWER position.		
raised	Quick couplers not fully engaged in remote coupler.	Insert couplers fully into tractor remote coupler.		
	Hydraulic hoses incorrectly connected to remote coupler.	Connect hoses correctly.		
	Cylinder safety stops on lift cylinders.	Remove safety stops to lower machine.		
	Raise/lower solenoids not energized.	Check electrical connections for the raise/ lower solenoids.		
	Plant mode/Raise position not selected on the display.	Correct settings on the display.		

Problem	Possible Cause	Correction		
Planter frame does not raise to full up position.	Tractor engine RPM too low reducing pump	Increase engine speed to increase hy-		
	output.	draulic pump output.		
	Tractor hydraulic system not operating cor-	Tractor hydraulic system needs to be ser-		
	rectly.	viced.		
	Remote valve lever detent set too low or	The tractor must be equipped with <b>2500</b> psi		
	deflective.	relief valve.		
	Planter overloaded or equipped with non-Case IH equipment.	Remove excess weight.		
	Tractor remote timer set too short.	Increase timer setting.		
	Improper Start/Stop plant height calibration.	Calibrate frame sensor. Start plant height calibration must be higher than stop plant height.		
Planter frame does not raise to	Internal leakage in lift cylinder or cylinders.	Replace or rebuild cylinder or cylinder.		
level position.	Insufficient tractor hydraulic flow.	Tractor hydraulic system needs repair.		
Planter does not Fold/Unfold	Fold/Unfold mode not selected on the display.	Correct settings on the display.		
Folu/offiolu	Planter not fully raised.	Fully raise planter to the unfold height.		
	Planter frame sensor unfold height calibration set too low.	Calibrate frame sensor.		
	Improper Start/Stop plant height calibration.	Calibrate frame sensor. Start plant heigh calibration must be higher than stop plan height.		
	Rough/Hilly terrain.	Relocate to alternate position in field.		
	Faulty wing drive system.	Repair or replace as required.		
Planter hydraulic	Air in hydraulic system.	Cycle the planter several times.		
operation sluggish or slow.	Insufficient flow from tractor.	Tractor hydraulic system needs to be serviced.		
	Fan connected to priority remote valve.	Reconnect fan to non-priority remote.		
Hitch latch mechanism does	Hitch position switch requires adjusting.	Adjust hitch position switch.		
mechanism does not latch/un-latch. Wing wheel(s) hesitate or lock	Hitch latch solenoid not energized.	Check electrical connections/fuse for the hitch latch solenoid.		
	Motor return line not connected to tractor.	Connect motor return line to tractor.		
up in the field.	Motor return line backpressure too high.	Check motor return line quick coupler for proper engagement and check hydraulic lines for pinched or blocked lines. Check backpressure at tractor.		

Problem	Possible Cause	Correction		
Wing arms settle when in transport	Low tractor hydraulic fluid level.	Fill with hydraulic fluid to normal operating level.		
position.	Air in the hydraulic system circuit.	Cycle the system several times to remove air.		
	Leaky wing lift cylinder.	Repair or replace wing lift cylinder(s).		
	Faulty solenoid valve.	Repair or replace solenoid valve.		
Erratic fertilizer	Fertilizer gain set too high.	Correct settings on the display.		
system operation.	Faulty liquid flowmeter	Repair or replace liquid flowmeter.		
	Improper bypass valve setting.	Set as recommended.		
Wing wheels create berms on headland turns.	Frame fully raised for turning.	Reduce height planter frame is raised for turning, only need to raise frame high enough to lift row unit out of the ground.		
neadland turns.	Operator making too tight of turns.	Make wider turn at headland.		
	Improper wing tire inflation pressure.	Set as recommended.		

### Electronics

The new electronics on the Titan Yieldtrac Planter Bar 24R22 uses ISOBUS hardware. The three Electronic Control Units (ECU's), Rate (2), Frame (3), and Clutch ECU's (1) are located behind the lift and fold value on the center bar.

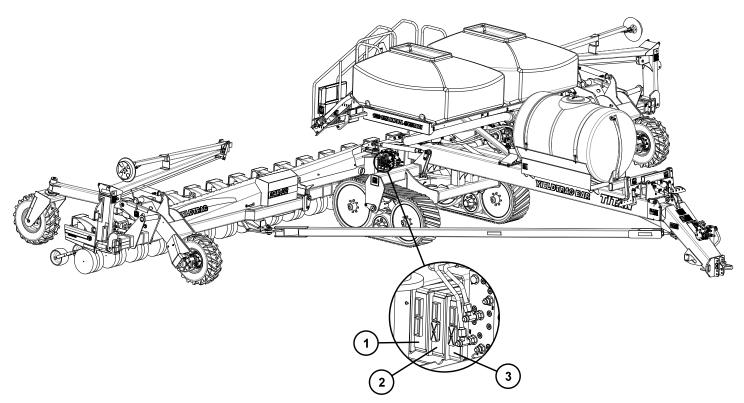


FIG. # 6-1 ECU locations shown

The planter power and control harnesses are connected to the ECUs:

- Hitch harness connects to both ECUs via the frame control and toolbar harnesses.
- Frame control harness connects to the frame ECU.
- Toolbar harness connects to the rate ECU.

The electronics on the Titan Yieldtrac Planter Bar 24R22 use Electronic Control Units (ECUs) as the primary components of the planter control system, rather than the modules, fuses and relays. These ECUs, rate, frame and clutch have over-current protected outputs thus reducing the number of fuses required.

#### **Hitch Harness**

The hitch harness distributes power from the tractor to the planter and links the operator's display with the planter control system through the databus. The seven-pin light connector and the lighting module are also on this harness.

#### **Frame Control Harness**

The frame control harness links the lift and fold valves and the marker valves with the planter control system. The control signals for raising and lowering the planter, folding the planter to or from transport position and unfolding and folding the markers are passed through this harness. Planter lighting warning lamps and tail lights - and the ground speed sensors are also linked to the system with the harness. This harness is connected to the frame control Electronic Control Unit (Frame ECU).

#### **Toolbar Harness**

The toolbar harness links the planting controllers with the seed section drive motors, the vacuum fans, the seed sensors on the individual row units and row unit hopper level sensors. The harness also links the main electronic and electrical components of the planter control system - controllers and databus - with the other harnesses and the display. The toolbar position sensor also interacts with the controllers through this harness. The calibration tether is also connected to this harness. This harness is connected to the rate Electronic Control Unit (Rate ECU).

#### **Bulk Hopper Harness**

The bulk hopper harness (if equipped) links the fan valve, motorized fan, fan speed sensor and bulk hopper level sensors with the planter control system.

#### Liquid Fertilizer Harness

The liquid fertilizer harness (if equipped), links the fertilizer valve, motorized pump, section valves and flowmeter with the planter control system.

#### 7-Pin Extension Harness

The 7-Pin extension harness (if equipped) extends power from the tractor to the rear hitch on the planter for any trailed cart.

#### **Air Clutch Harness**

The air clutch harness (if equipped) links the clutch Electronic Control Unit (ECU) with the planter control system. The harness connects the clutch ECU to the row clutch control modules.

**NOTE:** Refer to the AccuRow operator's manual for more information.

### 7 - SPECIFICATIONS

### **Planter specifications**

# Planter Type: Titan Yieldtrac Planter Bar 24R22 - Front Fold Trailing Planter

- Number of Rows: 24
- Row Spacing: 22 in (558.8 mm)

# Wing Wheels (Qty. 4) Titan TRAC-LOADER 12-16.5NHS 6 Ply (Tubeless)

- Wing Wheel Tire Inflation Pressure: 35 psi recommended 40 psi Max (241 kPa 275 kPa)
- Wing Wheel Lug Bolt Torque: 120 ft lbs (162.7 N-m)
- Overall Dia Ø33.6"
- Overall Width 12.1 in (307.34 mm)

#### **Row Units:**

• Parallel linkage, individually mounted for maximum flexibility to follow ground contour

#### **Row Unit Empty Weight:**

• 120 kg (265 lb)

#### Seed Openers:

• Staggered 356 mm (14 in) diameter double disks with precision bearings with internal and external scrapers.

#### **Covering Disks:**

• Adjustable 203 mm (8 in) diameter inverted, spring loaded staggered double disks.

#### **Press Wheels:**

• Adjustable, 165 x 305 mm (6.5 x 12 in) center rib, chevron tread, semi-pneumatic rubber tires

#### Planter Depth:

• Controlled by equalizer gauge wheel system that equalizes soil pressure on both 102 x 406 mm (4 x 16 in) grooved semi-pneumatic rubber gauge wheel tires

#### Planting Depth:

• Adjustable, (0.0 - 4 in) (0.0 - 102 mm)

#### **Granular Chemical Hopper:**

- Hopper Weight (Empty): 5.4 kg (12 lb)
- Hopper Weight (Full): 37 kg (82 lb)
- Hopper Lid: Closed handling or non-closed handling (as equipped)

#### Planter Drive: Hydraulic drive

# Bulk Hopper Seed Delivery: Remote valve hydraulically driven air system

#### **Bulk Hopper Capacity:**

• (Qty. 2) 2.1 m<sup>3</sup> ( 60 Bu) Hoppers (120 Bu total)

#### Markers, Flat Fold:

• Disk type, three section hydraulic folding marker with 40.6 cm (16 in) precision bearing disk, breakaway bolt protection and adjustable disk angle; manually or automatically selected, raises and lowers hydraulically, controlled by remote valves and Display.

#### Safety Equipment:

- SMV (SLOW MOVING VEHICLE) EMBLEM
- SAFETY REFLECTORS
- SAFETY WARNING LAMPS

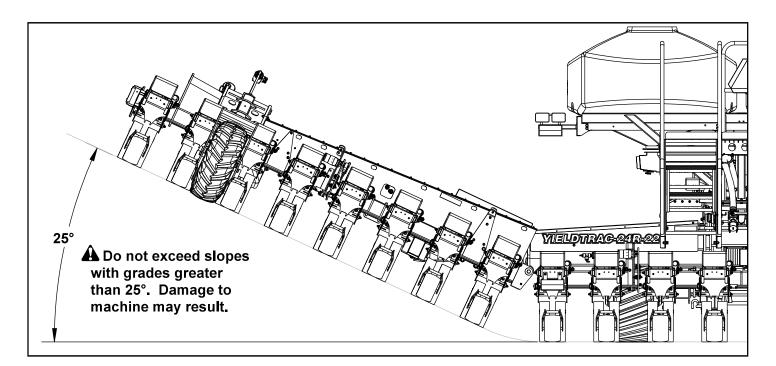
#### Monitor

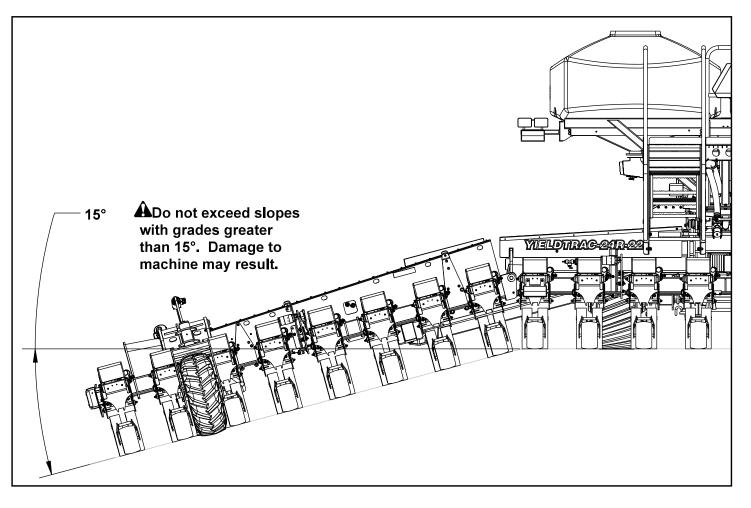
• AFS<sup>®</sup> Pro 600/700: Optional. Controls raise/lower, fold/ unfold and marker functions (with remote valves), controls and monitors planting performance, and if GPS equipped, features prescription planting and fertilizing with as applied mapping. Refer to display and software operator's manuals for additional information.

**Note:** The "Limit Raise" function included with the 2014 software update is only compatible with the  $AFS^{\textcircled{B}}$  Pro 700 display.

#### Wing Float:

• Three section flex frame with wing flex of 25° upward and 15° downward.





#### Transport Position Dimensions With Row Markers:

#### **Planter Height:**

• (Transport position with markers): 13 ft 11.6 in (4.24 m) (See Fig. # 7-1) (Dimension is the same with or without Row Markers)

#### Planter Width:

• (Transport position with markers): 14 ft 9 in (4.5 m) (See Fig. # 7-2) (Dimension is the same with or without Row Markers)

#### Transport Length:

• (From quick hitch pin center to rear of ladder platform (step ladder folded up): 42'-8.7" (13.02 m) (See Fig. # 7-1) (Dimension is the same with or without Row Markers)

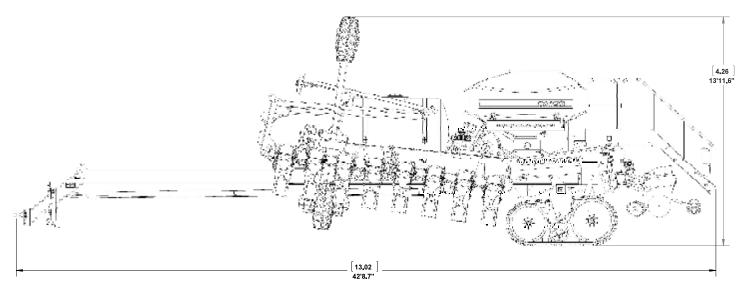


FIG. # 7-1 TRANSPORT POSITION PLANTER HEIGHT AND LENGTH

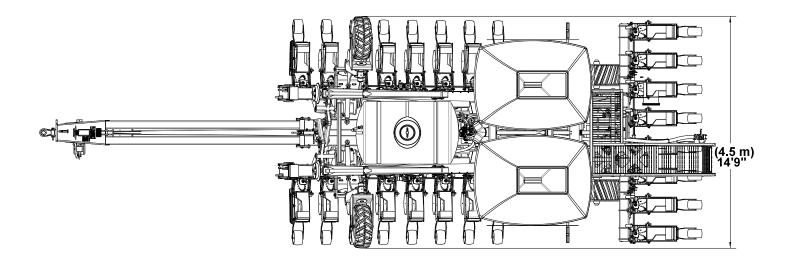


FIG. # 7-2 TRANSPORT POSITION PLANTER WIDTH

#### Field Position Dimensions With Row Markers:

#### Planter Width:

- (Field or planting position with markers): 45 ft 10 in (13.96
- m) (Field or planting position without markers): 44 ft 1-1/2
- in (13.45 m) (See Fig. # 7-3)

#### Field Position Length:

• (From quick hitch pin center to rear of wing wheel: 35 ft 2-1/2 in (10.73 m) (See Fig. # 7-3)

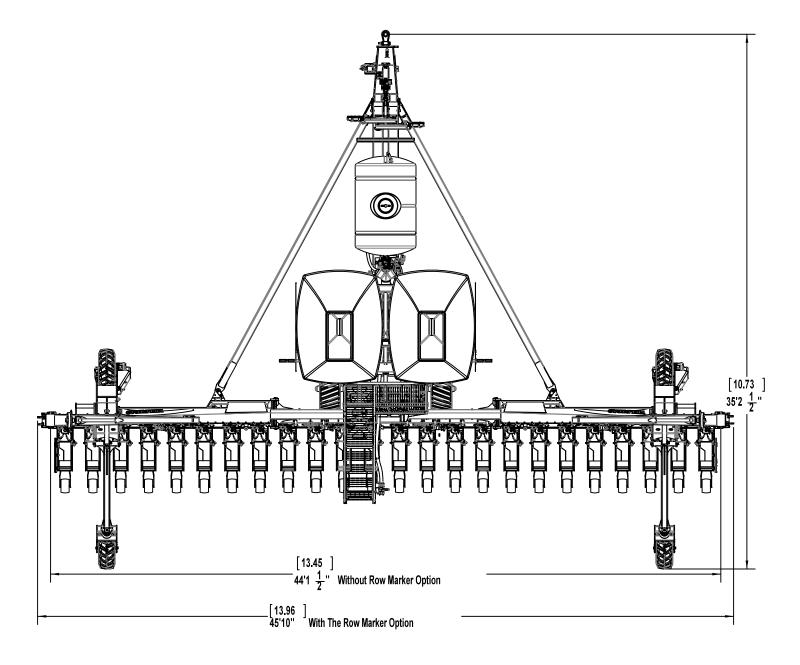


FIG. # 7-3 FIELD OR PLANTING POSITION PLANTER WIDTH

### Planter Height:

• (Field position with row markers): 10 ft 8-1/2 in (3.26 m) (See Fig. # 7-4) (Dimension is the same with or without Row Markers)

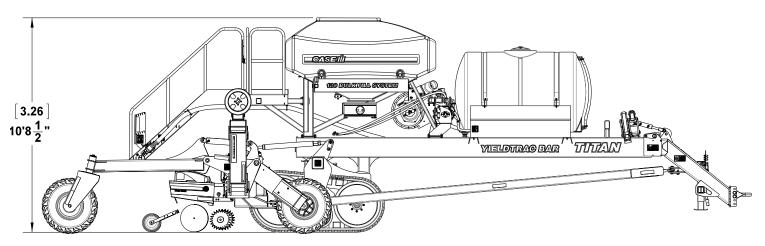


FIG. # 7-4 FIELD OR PLANTING POSITION PLANTER HEIGHT

#### **Planter Weight:**

Configuration	Weight	Total
WITHOUT OPTIONAL	Empty Weight	28750 lbs (13041 kg)
ROW MARKER AND ROW	1/2 Fully Loaded Weight	35100 lbs (15921 kg)
CLEANERS	Fully Loaded Weight	41450 lbs (18801 kg)
WITH OPTIONAL ROW	Empty Weight	30620 lbs (13888 kg)
MARKER AND ROW	1/2 Fully Loaded Weight	36970 lbs (16769 kg)
CLEANERS	Fully Loaded Weight	43320 lbs (19649 kg)

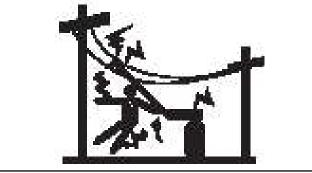
#### Planter Height (With Row Marker Partially

#### Extended):

• (Field position with row markers, shown with row marker partially unfolded): 11 ft 10-1/2 in (3.62 m)(See Fig. # 7-5)

# A WARNING

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.



# A WARNING CRUSH HAZARD

KEEP CLEAR

• Markers actuate automatically. Failure to comply could result in death or serious injury.



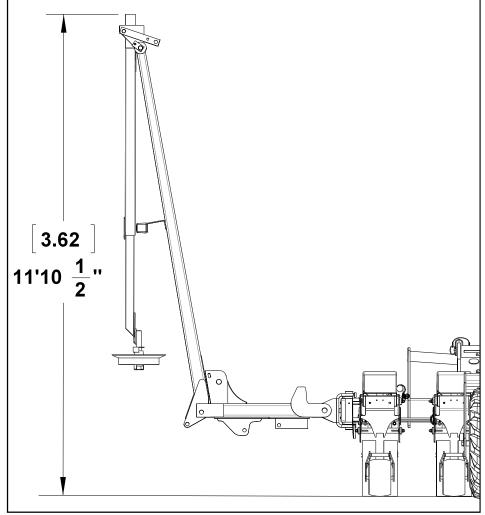


FIG. # 7-5 FIELD OR PLANTING POSITION ROW MARKER HEIGHT WHILE UNFOLDING

#### Planter Undercarriage (center to center)

• Track center to center = 88 in. (See Fig. # 7-6)

#### Track Undercarriage (2)

- Track width 16.50 in (420 mm) (See Fig. # 7-6)
- Track Length 189.45 in (4812 mm)
- Air pressure to maintain proper tension = 90 psi (620.5 kPa)

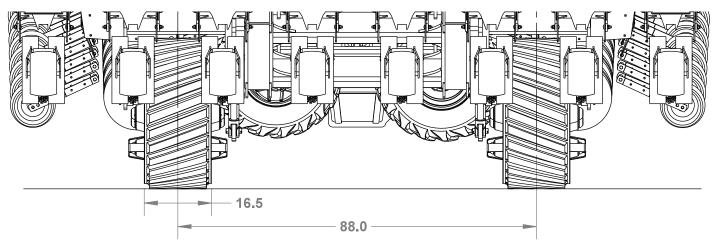


FIG. # 7-6 UNDERCARRIAGE CENTER TO CENTER AND WIDTH

### Torque – Hydraulic Tubes and Fittings

Standard torque data for hydraulic tubes and fittings

Tube Nuts for 37° Flared Fittings								O-Ring Fitting	Lock Nu	ugs, Adji its, Swive Seats	ustable el JIC -
0:	Tubin	g OD	Thursday Oliver	ft-	lbs	N	m	ft-	lbs	N	m
Size	Inches	mm	Thread Size	Min	Max	Min	Max	Min	Max	Min	Max
4	1/4	6.4	7/16-20	9	12	12	16	6	10	8	14
5	5/16	7.9	1/2-20	12	15	16	20	10	15	14	20
6	3/8	9.5	9/16-18	21	24	29	33	15	20	20	27
8	1/2	12.7	3/4-18	35	40	47	54	25	30	34	41
10	5/8	15.9	7/8-14	53	58	72	79	35	40	47	54
12	3/4	19.1	1-1/6-12	77	82	104	111	60	70	81	95
14	7/8	22.2	1-3/16-12	90	100	122	136	70	80	95	109
16	1	25.4	1-5/16-12	110	120	149	163	80	90	108	122
20	1-1/4	31.8	1-5/8-12	140	150	190	204	95	115	129	156
24	1-1/2	38.1	1-7/8-12	160	175	217	237	120	140	163	190
32	2	50.8	2-1/2-12	225	240	305	325	250	300	339	407

THEABOVETORQUEFIGURES ARE RECOMMENDED FOR PLAIN, CADMIUMORZINC PLATED FITTINGS, DRYORWETINS TALLATIONS AND SWIVEL NUTS EITHER SWAGGED OR BRAZED. THESE TORQUES ARE NOT RECOMMENDED FOR TUBES 12.7 MM (0.5 IN) OD AND THICKER WITH WALL THICKNESS OF 0.889 MM (0.035 IN) OR LESS. THE TORQUE IS SPECIFIED FOR 0.889 MM (0.035 IN) WALL TUBES ON EACH APPLICATION INDIVIDUALLY.

### **Torque – Fasteners**

#### SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) FASTENER TORQUE

USE THESE TORQUES, UNLESS SPECIAL TORQUES ARE SPECIFIED. VALUES ARE FOR UNIFIED COARSE (UNC) AND UNIFIED FINE (UNF) THREAD FASTENERS, PLATED OR UNPLATED, AS RECEIVED FROM SUPPLIER. FASTENERS CAN BE DRY OR LUBRICATED WITH NORMALENGINE OIL. VALUES DO NOT APPLY IF GRAPHITE, MOLY DISULPHIDE OR OTHER EXTREME PRESSURE LUBRICANT IS USED.

SAE Grade No.	Grade 2					Grade 5			Grade 8 (See Note below.)			
Bolt Head Identification (See Note below.)				$\left \begin{array}{c} \hline \\ \hline $								
Balt Size	ft-	lbs	N	m	ft-	lbs	N	lm	ft-	lbs	N	lm
Bolt Size	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	5	6	7	8	9	11	12	15	12	15	16	20
5/16	10	12	14	16	17	20.5	23	28	24	29	33	39
3/8	20	23	27	31	35	42	48	57	45	54	61	73
7/16	30	35	41	47	54	64	73	87	70	84	95	114
1/2	45	52	61	70	80	96	109	130	110	132	149	179
9/16	65	75	88	102	110	132	149	179	160	192	217	260
5/8	95	105	129	142	150	180	203	244	220	264	298	358
3/4	150	185	203	251	270	324	366	439	380	456	515	618
7/8	160	200	217	271	400	480	542	651	600	720	814	976
1	250	300	339	406	580	696	787	944	900	1080	1220	1464
1-1/8					800	880	1085	1193	1280	1440	1736	1953
1-1/4					1120	1240	1519	1681	1820	2000	2468	2712
1-3/8					1460	1680	1980	2278	2380	2720	3227	3688
1-1/2					1940	2200	2631	2983	3160	3560	4285	4827

**NOTE:** BOLT HEAD IDENTIFICATION MARKS AS PER GRADE. MANUFACTURING MARKS WILL VARY. **NOTE:** THICK NUTS MUST BE USED WITH GRADE 8 BOLTS.

#### Metric International Standards Organization (ISO) Fastener Torque

Use these torques, unless special torques are specified. Values are for coarse thread fasteners, plated or unplated, as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, molydisulphide or other extreme pressure lubricant is used.

ISO Class No.		8	.8		10.9			12.9				
Bolt Head Identification (See Note below.)		8	8.8			(10	).9		12.9			
	ft-l	lbs	N	m	ft-	lbs	Nm		ft-lbs Nm			m
Bolt Size	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
M4	2	3	3	4	3	4	4	5				
M5	5	6	7	8	7	8.0	10	11				
M6	8	9	11	12	11	13	15	18	Beca	use of the	e low duct	tilitv
M8	19	23	26	31	27	32	37	43			ers, the t	-
M10	38	45	52	61	54	64	73	87			determine	
M12	66	79	90	107	93	112	125	150			each app	
M14	106	127	144	172	149	179	200	245			ule, the to	
M16	160	200	217	271	230	280	310	380	ranges specified for Grade 10.9 fasteners can be used satisfactorily on 12.9 fasteners.			
M20	320	380	434	515	450	540	610	730				
M24	500	600	675	815	780	940	1050	1275				
M30	920	1100	1250	1500	1470	1770	2000	2400				
M36	1600	1950	2175	2600	2580	3090	3500	4200				

NOTE: Bolt head identification marks as per grade. Manufacturing marks will vary.

### 8 - FORMS AND DECLARATIONS

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# Delivery check sheet - Customer copy

Model Number:

Serial Number:

DEALER NOTE: Inspection times for these checks are not reimbursable as warranty. Shipping damage claims must be filed with the carrier. Shortages must be reported within 30 days from the date of receipt. Repairs that are determined to be necessary due to defects in material or workmanship are reimbursable under warranty. Keep a copy of this signed checklist on file at the dealership.

#### Dealer to inspect the following items and adjust if necessary:

- □ Install wing wheel casters and torque retaining bolt to **600 ft-lbs (813 N·m**).
- □ Check that the planter is complete as ordered.
- □ Check mounting/routing of hydraulic lines and electrical harnesses.
- □ If bulk hopper equipped, check seed hose connections at seed boxes and at mini-hoppers.
- □ Check for interference at pivot points.
- Adjust marker to proper length for row spacing.
- □ Label the row number on the seed disk, meter, meter cover, and row unit for each row unit.
- □ Lubricate and adjust drive chains as needed.
- □ Inspect seed meter components.
- □ Check vacuum hose connections.
- □ Install and adjust attachments as needed.
- □ Verify that correct seed disks are with the planter. (Sourced separately from CNH)
- □ Zero row unit depth adjustment.
- □ Check the tightness of bolts/fasteners.

#### **Tractor Configuration:**

- Equipped with HD (11,000 lbs) Drawbar or Drawbar Helper Kit
- Equipped with Case Drain and Motor Return Couplers
- Minimum Hydraulic Flow of 45 GPM with (4) Remote Valves
- Pro 600/700 Display with Planter Software Installed - Ver.27 or Later

- □ Inspect all decals for proper mounting and location.
- □ Check the SMV sign orientation or remove protective covering as required.
- □ Inspect paint and touch up as required.
- Check and inflate wing wheel tires to proper pressure - 35 psi recommended 40 psi Max (241 kPa - 275 kPa).
- Check track air bag pressure 90 psi (620.5 kPa).
- □ Check track alignment.
- □ Level toolbar once connected to tractor.
- □ Calibrate ground speed sensors (distance check).
- □ Check Display/Controller(s) for proper operation.
- □ Check planter lighting operation.
- □ Check planter for proper operation.
- □ Review the operation of the planter with the owner, using the Operator's Manual as a reference.
- Explain the purpose of the serial number for parts ordering and record the serial number on this sheet and in the Operator's Manual.
- □ Manuals & Operator's Package given to customer.
- Install Tractor Air Compressor Harness Direct to Battery
- □ If Equipped, Remove Quick Hitch from 3-pt
- Move Drawbar to Center Position (Magnum), Outer Position (Steiger)
- □ Remove Jack if pulling with Quadtrac

#### SERVICE PERFORMED:

Owner's signature:	Date:
Dealer's signature:	Date:
	T0051790 11Jul2013

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# Delivery check sheet - Dealer copy

Model Number:

Serial Number:

DEALER NOTE: Inspection times for these checks are not reimbursable as warranty. Shipping damage claims must be filed with the carrier. Shortages must be reported within 30 days from the date of receipt. Repairs that are determined to be necessary due to defects in material or workmanship are reimbursable under warranty. Keep a copy of this signed checklist on file at the dealership.

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- □ Inspect seed meter components.
- Check vacuum hose connections.
- □ Install and adjust attachments as needed.
- □ Verify that correct seed disks are with the planter. (Sourced separately from CNH)
- □ Zero row unit depth adjustment.
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- □ Inspect all decals for proper mounting and location.
- □ Check the SMV sign orientation or remove protective covering as required.
- □ Inspect paint and touch up as required.
- Check and inflate wing wheel tires to proper pressure - 35 psi recommended 40 psi Max (241 kPa - 275 kPa).
- □ Check track air bag pressure 90 psi (620 kPa).
- □ Check track alignment.
- □ Level toolbar once connected to tractor.
- □ Calibrate ground speed sensors (distance check).
- □ Check Display/Controller(s) for proper operation.
- □ Check planter lighting operation.
- □ Check planter for proper operation.
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- Install Tractor Air Compressor Harness Direct to Battery
- □ If Equipped, Remove Quick Hitch from 3-pt
- Move Drawbar to Center Position (Magnum), Outer Position (Steiger)
- □ Remove Jack if pulling with Quadtrac

#### SERVICE PERFORMED:

Owner's signature:	Date:
Dealer's signature:	Date:
	T0051790 11Jul2013

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