

# Gen 2 Operations Manual



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Models 2218, 2208, 2108

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Read manual before operating Montag equipment

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## 1. Introduction / General Information

#### 1.1 INTRODUCTION

Read and understand this manual before using your fertilizer/cover crop applicator, and follow all of the safety instructions. Keep all manuals in a safe place inside your tractor at all times.

The Gen 2 was designed to accurately and consistently disperse dry granular product using fluid air to convey product to drop point. The Gen 2 can be configured to run 1 or 2 products (fertilizer or seed) up to 18 rows by straight rate or by prescription. Section control is available in some configurations up to 4 sections. The 2218 is generally used to apply fertilizer. 2208 and 2108 machines are generally utilized for cover crop application. In this manual, fertilizer and cover crop/ seed are used interchangeable to describe the function of the machine.

Some components on your Gen 2 metering system may have separate instruction manuals. Where this manual indicates that you should read another manual, and you do not have that manual, contact your dealer or Montag Manufacturing for assistance.

Information provided in this manual was current as of the issue date. Montag Manufacturing reserves the right to make design changes without further notice or liability.

This manual covers 2218, 2208, and 2108 models. While there are differences between these models, many aspects of safety and operation are shared between them. Please be aware that there may be minor differences between the images shown in this manual and the physical product.

#### 1.2 HYDRAULIC REQUIREMENTS

The following tractor hydraulic capacity requirements apply for any dry fertilizer application.

Model	Bows	Hydraulia Canacity	Hydraulic Pressure	Minimum Hydraulic Hose Size		
Model	Rows	Hydraulic Capacity		Pressure	Return	Case Drain
GEN 2 - 2218	ALL Rows	20 gpm (76 lpm)	2850 psi (197 bar)	¾ inch	1 inch	½ inch
GEN 2 - 2208	ALL Rows	18 gpm (68 lpm)	2500 psi (172 bar)	¾ inch	1 inch	½ inch
GEN 2 - 2108	ALL Rows	18 gpm (68 lpm)	2500 psi (172 bar)	¾ inch	1 inch	½ inch

### 1.3 MACHINE IDENTIFICATION

Effective for machines with serial #s ranging from **20871** to **Current** 

2218 Serial tag is located between the forklift tubes on the non-fan end of the frame.

2208 and 2108 serial tags are found on the frame behind the fan.

My serial number is \_\_\_\_\_



# **MONTAG GENERATION 2**TWIN-BIN DRY FERTILIZER SYSTEM



GEN 2 Base Unit with gray bins on a Montag Auto-Steer Cart shown above. Other color options include white and yellow. Bins have two fill inlets each and are independently scaled. All units use the Montag particulate metering system. Multiple U.S. and international patents cover either, or both, this Product and its components.



### **GEN 2 Specifications**

Row Configurable: 6-18 rows

Section Configurable: 1-4 sections

Platform Configurable: 2 ladder locations

Product Capacity (bin/total):

155/310 ft<sup>3</sup> [4,389/8,778 L], 4.96/9.92 ton [4,218/8,437 kg]\*

Rate Capacity (bin/total)<sup>†</sup>:

25-500/50-800 lb/ac [28-560/56-897 kg/ha]

Weight<sup>‡</sup>: 4,500 lb [2,040 kg]

Overall Height: 108.2 in [274.8 cm]

Overall Length: 168.3 in [427.5 cm]

Overall Width: 100.0 in [254.0 cm]

Product Fill Height: 104.3 in [264.9 cm]

Product Fill Inlet Size: 7.16 ft<sup>2</sup> [0.67m<sup>2</sup>]

Product Outlet Hose Size: 2.00 in [5.08 cm]

Req. Hydraulic Capacity: 20 gpm [76 Lpm]

Req. Hydraulic Press.: 2,850 psi [197 bar]

Configurable with Montag 12 ton Auto-Steer Carts

\*Calculated using 64 lb/ft³ product density [1.025 kg/L] \*Calculated using 64 lb/ft³ product density, 30 in row spacing, and 5 mph [1.025 kg/L, 76 cm row spacing, and 8 km/h] \*Unloaded, Lty weight



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Published 05/01/2018

# **MONTAG GEN 2 2208 DRY PRODUCT METERING SYSTEM**

(AVAILABLE AS SINGLE OR DUAL PRODUCT)

# **GEN 2 2208 Specifications**

Row Configurable: 2-8 rows

Section Configurable: 1-4 section§

Slidegate Control Configurable:

Manual Lever or Hydraulic Control

Bin Size Configurable: 30 ft3 or 50 ft3

Product Capacity (bin/total):

30 ft3 bin: 34.8/69.6 ft3 [985/1,971 L], 1.11/2.22 ton [1,007/2,014 kg]\*  $50 \ ft^3 \ bin: 55.1/110 \ ft^3 \ [1,560/3,120 \ L],$ 1.76/3.52 ton [1,597/3,193 kg]\*

Rate Capacity (bin/total)<sup>†</sup>:

25-500/50-800 lb/ac [28-560/56-897 kg/ha]

Weight<sup>‡</sup>: 1,450-1650 lb [660- 750 kg]

Overall Height (30 ft<sup>3</sup> bins/50 ft<sup>3</sup> bins): 66.1/83.6 in [167.9/212.3 cm]

Overall Length: 78.0 in [198.1 cm]

Overall Width: 80.5 in [204.5 cm]

Product Fill Inlet Size: 3.00 ft<sup>2</sup> [0.28m<sup>2</sup>]

Product Outlet Hose Size: 2.00 in [5.08 cm]

Req. Hydraulic Capacity: 14-18 gpm [53-68 Lpm]

Req. Hydraulic Press.: 2,000 psi [138 bar]



GEN II 2208 with white bins shown above. Other bin color options include gray and yellow. Bins have one fill inlet each and can be independently scaled, or together. All units use the Montag particulate metering system. Multiple U.S. and international patents cover either, or both, this Product and its components.

\*Calculated using 64 lb/ft³ product density [1.025 kg/L]

\*\*Calculated using 64 lb/ft³ product density, 30 in row spacing, and 5 mph [1.025 kg/L, 76 cm row spacing, and 8 km/h] \*\*Unloaded, dry weight (approximated) \*\*Single product only available in 1 or 2 sections





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# MONTAG GEN 2 2108 DRY PRODUCT METERING SYSTEM

(AVAILABLE AS SINGLE PRODUCT ONLY)



GEN 2 2108 with white bin shown above. Other bin color options include gray and yellow. Bin has one fill inlet and the option of scales. All units use the Montag particulate metering system. Multiple U.S. and international patents cover either, or both, this product and its components.



Optional "Uni-Mount" mounting kit (Shown above)

#### **GEN 2 2108**

### **Specifications**

Row Configurable: 2-8 rows

Section Configurable: 1-4 sections

Slide gate Control: Manual Lever

Bin Size Configurable: 30 ft3 or 50 ft3

Product Capacity (bin/total):

 $30 \, \mathrm{ft^3}$  bin:  $34.8 \, \mathrm{ft^3} \, [985 \, \mathrm{L}],$   $1.11 \, \mathrm{ton} \, [1,007 \, \mathrm{kg}]^*$   $50 \, \mathrm{ft^3} \, \mathrm{bin:} \, 55.1 \, \mathrm{ft^3} \, [1,560 \, \mathrm{L}],$   $1.76 \, \mathrm{ton} \, [1,597 \, \mathrm{kg}]^*$ 

Rate Capacity (bin/total)<sup>†</sup>:

25-500 lb/ac [28-560 kg/ha]

Weight<sup>‡§</sup>: 850-1,000 lb [385-454 kg]

Overall Height $^{\S}$ : (30 ft $^{3}$  bins/50 ft $^{3}$  bins): 60/77.5 in [152.4/196.9 cm]

Overall Length§: 79 in [200 cm]

Overall Width§: 45.5 in [115.6 cm]

Product Fill Inlet Size: 3.00 ft<sup>2</sup> [0.28m<sup>2</sup>]

Product Outlet Hose Size: 2.00 in [5.08 cm]

Req. Hydraulic Capacity: 14-18 gpm [53-68 Lpm]

Req. Hydraulic Press.: 2000 psi [138 bar]

\*Calculated using 64 lb/ft $^3$  product density [1.025 kg/L]

†Calculated using 64 lb/ft³ product density, 30 in row spacing, and 5 mph [1.025 kg/L, 76 cm row spacing, and 8 km/h], see rate chart for more information ‡Unloaded, dry weight (approximated)



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Published 04/30/2020

#### 1.7 WARRANTY INFORMATION

#### MONTAG MANUFACTURING, INC.

#### LIMITED WARRANTY FOR NEW MONTAG EQUIPMENT

What this Limited Warranty Covers - Montag Manufacturing, Inc. ("Montag") warrants equipment manufactured by it to be free from defects in material and workmanship for the warranty period.

What this Limited Warranty Does Not Cover - Montag is not responsible for, and this limited warranty does not cover: (1) used parts, (2) any part that has been altered or modified in ways not approved by Montag, (3) depreciation or damage caused by normal wear and tear, (4) unauthorized repair or adjustments, (5) reimbursement for work completed by an unauthorized service center, (6) other equipment, crops, or property with which Montag equipment comes into contact, (7) components manufactured and warranted by other manufacturers such as tires and hydraulic equipment, (8) loss of time, loss of use, towing charges, or other incidental or consequential damages, or (9) to equipment which has been damaged as the result of, misuse, abuse, lack of proper protection during storage, accident, failure to follow the operating instructions and perform routine maintenance as provided in the operator's manual, fire, flood, "Acts of God" or other contingencies beyond Montag's control.

**Warranty Term and Coverage -** This limited warranty provides coverage for three years from the date the equipment is delivered to the first purchaser and extends to the original purchaser and any subsequent owner.

What Montag Will Do – (1) Montag will provide telephone consultation with a trained representative regardless of the location of the equipment. (2) For equipment located in the general geographic area served by a Montag dealer, Montag may, if Montag deems it necessary or expedient, send a trained technician to work on the equipment at the owner's place of business. (3) Equipment that requires service or repair at the Montag manufacturing facility or at an authorized Montag dealership must be transported or shipped to and from the Montag manufacturing facility or Montag authorized dealership at the owner's sole expense.

**To Get Warranty Service –** To get warranty service the owner must (1) report the defect to an authorized dealer and request repair within the warranty term, (2) present evidence of the warranty start date, and (3) make the product available to the dealer within a reasonable time. The owner can also contact Montag by U.S. Mail at 3816 461st Ave. Emmetsburg, lowa 50536; by telephone at (712)-852-4572; by facsimile at (712)-852-4574; or by e-mail at <a href="mailto:support@montagmfg.com">support@montagmfg.com</a>

Limitation of Implied Warranties and Other Remedies – To the extent permitted by law, Montag makes no warranties, representations or promises as to the quality, performance or freedom from defect of its equipment covered by this limited warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE PERIOD OF WARRANTY SET FORTH IN THIS LIMITED WARRANTY. THE OWNER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ARE SET FORTH IN THIS LIMITED WARRANTY. IN NO EVENT WILL MONTAG OR ANY MONTAG DEALER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above limitations may not apply to you.) This warranty gives you specific legal rights, and you have also have other rights which vary from state to state.

**No Dealer Warranty –** The selling dealer makes no warranty of its own and the dealer has no authority to make any representation on behalf of Montag, or to modify the terms or limitations of this warranty in any way.

#### 2.1 SECTION OVERVIEW

This section explains the level of risk and potential hazards associated with operating and maintaining Montag Particulate Metering Systems. The safety signs and their locations on the machine are also identified.

#### 2.2 SAFETY

This Owner's Manual covers the particulate metering system produced by Montag Manufacturing. Before operating or servicing the fertilizer applicator, you must read, understand and follow the instructions and safety warnings in this manual. Your fertilizer applicator may not be equipped with some of the optional equipment shown in the illustrations in this manual. Montag Manufacturing urges the consumer to make safety the highest priority when using this machine. Do not attempt to operate this equipment under the influence of drugs or alcohol. Do not use the equipment if alertness or coordination is impaired.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** 

The safety information in this manual is denoted by the safety alert symbol: This symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!** 



The level of risk is indicated by the following signal words.

# **▲** DANGER

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

# **MARNING**

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

# **ACAUTION**

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

# NOTICE

Indicates a situation that could result in damage to the machine or other property.

10

#### 2.2.1 KEEP ALL GUARDS IN PLACE

Remove guards only for adjustment and maintenance, install immediately when task is completed. Do not operate meter or fan with covers removed. Do not wear loose fitting clothing that can catch in rotating equipment.



Severing hazard.

Rotating fans and shafts can sever digits.

Always keep all guards and shields in place.

#### 2.2.2 STAY AWAY FROM ROTATING AUGERS

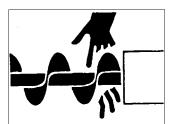
Keep hands and fingers away from metering augers unless chain has been removed from auger drive sprocket.



Severing hazard.

Rotating augers can sever digits.

Remove chain from auger drive sprocket before touching metering augers.



#### 2.2.3 KEEP RIDERS OFF EQUIPMENT

Never allow people on or near the equipment while it is moving. Riders can be thrown off or under the equipment, which may result in death or serious injury. Never climb on equipment while equipment is moving. Keep children away from equipment at all times.

Never climb onto cart when it is not attached to an implement. Cart could tip, which may result in death or serious injury.



Crushing hazard.

Riders can fall from equipment, resulting in death or serious injury.

Never allow riders on the equipment.

Never climb on cart not attached to implement.



#### 2.2.4 AVOID HOT PARTS

After several minutes of equipment operation, surfaces containing hydraulic fluid can become very hot.



Burn hazard.

Do not touch hot hydraulic surfaces.

Do not work on hydraulic system when it is hot.



#### 2.2.5 AVOID HIGH PRESSURE HYDRAULIC FLUID

Always relieve hydraulic system pressure before performing any work on the system. Use a piece of cardboard or paper, not your hand, to check for leaks.



Relieve pressure before disconnecting hydraulic lines.

Make sure hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system. Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. DO NOT DELAY! If an accident occurs, see a doctor familiar with this type of injury immediately Any fluid injected into the skin or eyes must be treated within a few hours or gangrene may result.

#### 2.2.6 AVOID FLYING OBJECT INJURIES

When fan is running, debris can be thrown from the air outlet, causing injury or possible loss of sight.



Projectile hazard.

Do not stand in front of air outlet while fan is operating.



#### 2.2.7 AVOID LOSS OF CONTROL

Transporting cart at excessive speed can result in loss of cart control, causing death or serious injury.



Danger of loss of control when transporting cart.

Remove all product from tank before transporting on roads. With empty tanks, maximum speed for cart on roads is 20 mph.

#### 2.2.8 AVOID TIPPING CART

If stairs and platform are installed on rear of dry tank, cart can tip over if people climb on stairs with cart disconnected from implement, resulting in death or serious injury.



Crushing hazard.

Do not climb on tank stairs or platform when cart is disconnected from implement.

#### 2.2.9 CLEARANCE



Collision hazard.

Know the height, width and length of the equipment.

Always be aware of clearances.

#### 2.2.10 MAINTENANCE



Crushing hazard.

Good maintenance is your responsibility. Poor Maintenance is an invitation to trouble. With careful inspection and routine maintenance, costly downtime and repairs can be avoided.

Some parts and assemblies can be quite heavy. Before attempting to unfasten any part or assembly, arrange to support it by means of a hoist, by blocking, or by use of an adequate arrangement to keep it from falling, tipping, swinging, or moving in any manner which may hurt somebody or damage the equipment.

Always use lifting equipment that is adequately rated to do the job. Never lift equipment over people.

Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.

Always use the proper tools or equipment for the job at hand.

After servicing, be sure all tools, parts, and service equipment are removed.

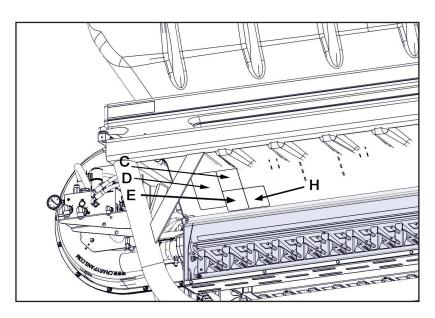
Before performing inspections, service or maintenance:

- Park the equipment on firm, level surface.
- Place tractor transmission in park, turn tractor engine off and remove ignition key.
- Verify service locks are properly engaged or lower tool bar and lower row units to the ground or pavement.

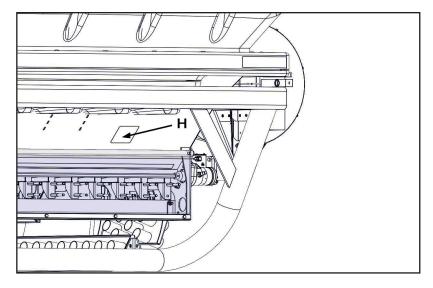
#### 2.2.11 HAZARDS FROM MODIFYING YOUR PARTICULATE METERING SYSTEM

Before making any alteration, contact your dealer or Montag Manufacturing and describe the alteration you are contemplating. Altering may void the manufacturer's warranty. Montag Manufacturing does not accept any liability for injury or damage.

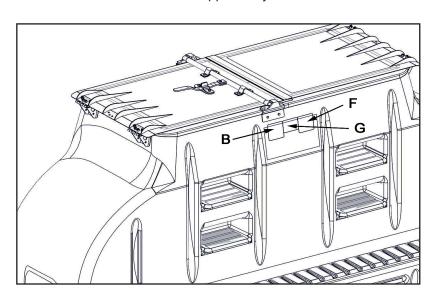
#### 2.2.12 SAFETY WARNING LABEL LOCATIONS - 2218



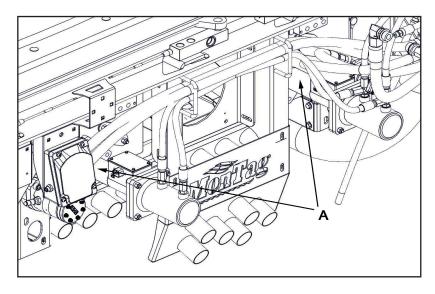
2218 Meter - hyd. valve location



2218 Meter - opposite hyd. valve

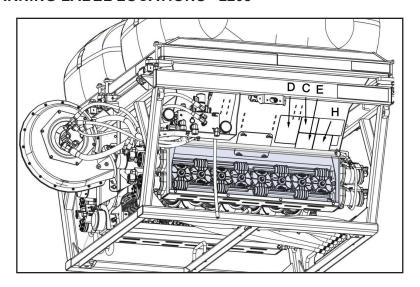


2218 Tank - inside catwalk

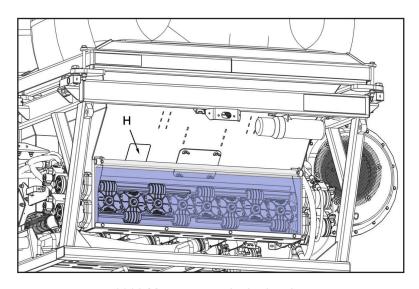


2218 - hyd. slide gate cylinders

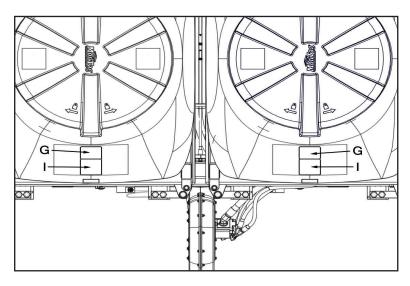
### 2.2.13 SAFETY WARNING LABEL LOCATIONS - 2208



2208 Meter - hyd. valve location

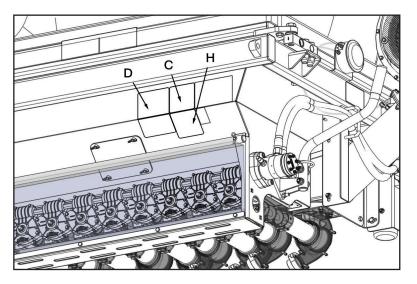


2208 Meter - opposite hyd. valve

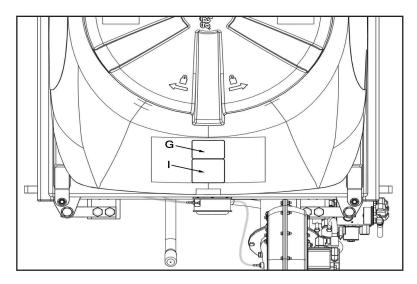


2208 - Tanks, fan side only

### 2.2.14 SAFETY WARNING LABEL LOCATIONS - 2108



2108 Meter - opposite hyd. valve



2108 Tank - fan side only

#### 2.2.15 SAFETY WARNING LABELS



Label A

motion.



Label B

# **A** CAUTION

- 1. Read Operator's Manual before using machine.
- Stop tractor engine, lower machine to the ground, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing, unplugging or fitting.
- 3. Install and secure all guards before starting.
- Keep hands, feet, hair and clothing away from moving parts.
- 5. Do not allow riders.
- Keep all hydraulic lines, fittings and couplers tight and free of leaks before using.
- 7. Clean reflectors, SMV and lights before transporting.
- 8. Install safety locks before transporting or working beneath components.
- Add extra lights and use pilot vehicle when transporting during times of limited visibility.
- 10. Use hazard flashers in tractor when transporting.
- 11. Install safety chain when attaching to tractor.
- Keep away from overhead electrical lines. Electrocution can occur without direct contact.
- 13. Review safety instructions with all operators annually.

FB-4 01

#### Label C



- Do not allow chemical or solution to touch skin.
   Some can be absorbed through the skin.
- Wear rubber gloves and protective gear at all

times.

- Stay away from chemical splash and vapor.
- Do not breathe vapor.
- Wear proper respirator when working with chemicals.
- · Chemicals can be toxic.
- If in eyes or mouth, read chemical manufacturers instructions and follow exactly.
- Seek medical attention immediately.
- A poison control number is normally inside the front cover of your telephone book.

FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN SERIOUS INJURY OR DEATH.

FB-900 01

Label D







#### HIGH-PRESSURE FLUID HAZARD

To prevent serious injury or death:

- Relieve pressure on system before repairing or adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

FB-700 0

Label E





#### To Prevent Serious Injury or Death:

 Keep hands, feet and clothing away from auger intake.

FB-103 01

Label F



# CAUTION

Agricultural chemicals can be dangerous. Improper selection or use can seriously injure persons, animals, plants, soil, or other property. BE SAFE. Select the right chemical for the job. Handle it with care. Follow the instructions on the container label and instructions from the equipment manufacturer.

Label G



Label H



Label I

# **MARNING**

To protect against death or serious injury, all labels must be on the machine and must be legible.

If any of these labels are missing or cannot be read, call Montag Manufacturing at 1-712-852-4572, or e-mail support@montagmfg.com, for replacement labels.

#### 2.2.16 SAFETY DECAL CARE

- · Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.
- Safety signs are available from your Distributor or Dealer Parts Department or the factory.

#### **How to Install Safety Signs:**

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

#### 2.3 HIGHWAY AND TRANSPORT OPERATIONS

- Adopt safe driving practices:
  - Keep the brake pedals latched together at all times. NEVER USE INDEPENDENT BRAKING WITH MACHINE IN TOW AS LOSS OF CONTROL AND/OR UPSET OF UNIT CAN RESULT.
  - Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.
  - · Reduce speed prior to turns to avoid the risk of overturning.
  - Avoid sudden uphill turns on steep slopes.
  - Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
  - Do not drink and drive!
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- When driving the tractor and equipment on the road or highway under 40 kph (20 mph) at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Plan your route to avoid heavy traffic.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight as which you are operating.
- Watch for obstructions overhead and to the side while transporting.
- Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping the unit, etc.
- Pick the most level possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- · Be extra careful when working on inclines.
- Maneuver the tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Avoid loose fill, rocks and holes; they can be dangerous for equipment operation or movement.
- Allow for unit length when making turns.
- Operate the towing vehicle from the operator's seat only.
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- Never leave running equipment attachments unattended.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.

### 2.4 RINSE TANK

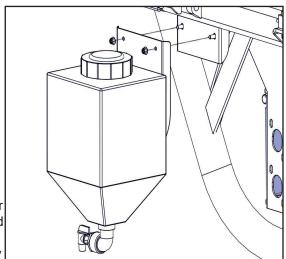


Agricultural chemicals can be dangerous.

Follow the instructions from the fertilizer supplier.

Be safe.

I. Some models come equipped with a rinse tank attached to the machine. The rinse tank should be kept filled with fresh water to be used if the operator would be come contaminated with hazard-ous materials. Many fertilizers are harmful when exposed to skin or eyes. The tank is provided for the safety of the operator and should be used accordingly. Care should be taken to prevent water from freezing. The tank should be drained when temperatures fall below 32 degrees Fahrenheit and a source of clean water should be carried in the cab.



### 3.1 GEN 2 2218 SYSTEM ASSEMBLY

#### 3.1.1 INSTALL GEN 2 UNIT ON CART

# **MARNING**

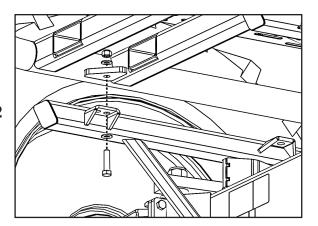
Prevent death or serious injury.

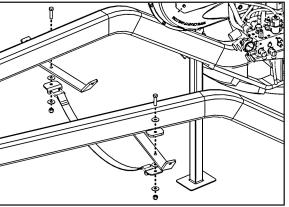
2218 unit weighs approximately 4700 lbs (2132 kg).

Use adequate lifting and support devices.

Never lift equipment over people.

- Carefully position skid onto cart, with skid frame fully aligned with cart frame and four mounting brackets on skid aligned with four mounting brackets on cart. Mount fan end to the front of cart.
- 2. Install (4) ¾" x 1.75 bolts from kit K002016 in each mounting bracket as shown. Tighten lock nuts until they each contact the plate.
- 3. Alternate tightening nuts on bolt until each nut is tightened to 200 lb. /ft. (271 Nm) of torque.
- 4. Attach the two hose guide strap saddle (A002168 & A002169) on the cart as shown in the drawing.





#### 3.1.2 INSTALL STEP AND PLATFORM ASSEMBLY

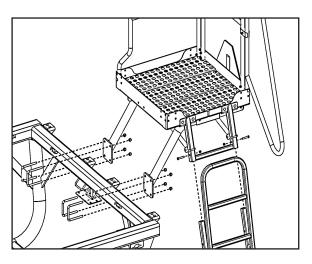
# **MARNING**

Prevent death or serious injury.

Step/platform assembly weighs approximately 205 lbs (93 kg).

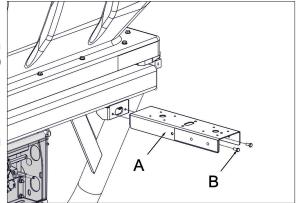
Use adequate lifting and support devices.

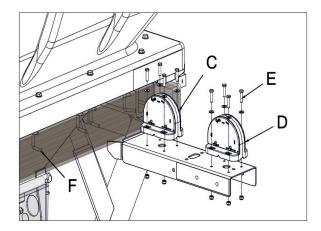
- 1. Position step/platform assembly adjacent to frame with an adequate lifting device.
- Attach with hardware shown in diagram. Verify no cabling or harness between U-bolts and main frame.
- 3. Tighten U-bolts to 112 lb. /ft. (152 Nm) of torque.
- 4. Attach ladder with hardware shown.



#### 3.1.3 INSTALL LIGHTS

- 1. Install light bracket (A) to tank bracket with two ½ x ¾ inch bolts (B).
- 2. Install red lamp (C) and amber lamp (D) to bracket with  $\frac{1}{4}$  x  $\frac{3}{4}$  inch bolts (E),  $\frac{1}{4}$  inch washers and  $\frac{1}{4}$  nuts. Tighten nuts to 4 lb/ft (5 Nm) of torque.
- 3. Repeat steps 1-2 for other side.
- 4. Route wires through loops (F) (inside frame) and follow steering arms to hitch.





### 3.2 GEN 2 2208 SYSTEM ASSEMBLY

#### 3.2.1 INSTALL GEN 2 2208 UNIT ON CART

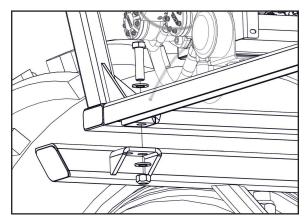


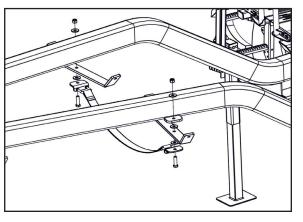
Prevent death or serious injury.

2208 unit weighs approximately 1650 lbs (750 kg).

Use adequate lifting and support devices.

- Carefully position skid onto cart, with skid frame fully aligned with cart frame and four mounting brackets on skid aligned with four mounting brackets on cart. Mount fan end to the front of cart.
- 2. Install (4) ¾ x 1.75 bolts from kit K002016 in each mounting bracket as shown. Tighten lock nuts until they each contact the plate.
- 3. Alternate tightening nuts on bolt until each nut is tightened to 200 lb. /ft. (271 Nm) of torque.
- 4. Attach the two hose guide strap saddle (A002168 & A002169) on the cart as shown in the drawing.





### 3.3 GEN 2 2108 SYSTEM ASSEMBLY

#### 3.3.1 INSTALL GEN 2 2108 UNIT ON IMPLEMENT

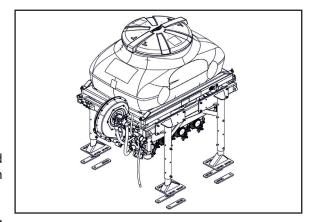
# **MARNING**

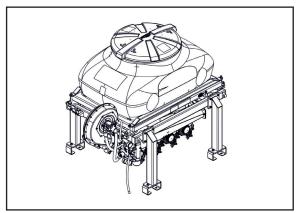
Prevent death or serious injury.

2108 unit weighs approximately 1000 lbs (454 kg).

Use adequate lifting and support devices.

- 1. Follow OEM mounting instructions for implement being mounted on. Use OEM recommended mounting legs, mounting hardware in location as recommended by implement manual.
- As the 2108 can be mounted on many pieces of equipment, Montag Manufacturing takes no liability of mounting location or mounting techniques used by OEMs. Montag Manufacturing offers a variety of leg configurations to be used for mounting.





### 4.1 GEN 2 SYSTEM

#### 4.1.1 CONNECT HYDRAULIC HOSES



Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail.

Inspect hoses before operation.

Replace damaged hoses.



Prevent damage to Gen 2 fan motor.

Gen 2 fan motor can be damaged if motor case drain hose is connected to an SCV coupler.

Connect fan motor case drain hose to sump coupler on tractor.

- 1. Connect a ½ inch hydraulic hose to CD port on hydraulic block and to case drain (zero pressure) return port on tractor. See tractor operator's manual or tractor dealer for location of this coupler on tractor.
- 2. Connect hose from P port on hydraulic block to pressure port on tractor hydraulic SCV. See Hydraulic Requirements in Section 1.2 for proper hose size.
- 3. See Hydraulic Schematics for your system to determine return hose connections. Connect return oil from system to a motor return port on tractor, not SCV stack. See tractor operator's manual or tractor dealer for location of this port on tractor. See Hydraulic Requirements in Section 1.2 for proper hose size.
- 4. First time use: Check operation of system to include direction of fan rotation and air flow from air chamber outlet tubes. Fan rotation should be clockwise as viewed from fan opening. Pressure gauges should read as follows:
  - Inlet Pressure GP Port Gauge 1500-2850 psi (103-197 bar).
  - Return Pressure GT Port Gauge 0-200 psi (0-14 bar). If pressure is higher than specified, verify return hose is connected to motor return port on tractor. Look for restrictions at fittings, couplers and hoses.

#### **4.1.2 CONNECT AIR HOSES**

See diagram GEN 2 SYSTEM - CONNECT AIR HOSES in Appendix section on page 50.

Air hoses should be routed to minimize peaks and valleys in order to keep air pressure to optimal pressure. It may be necessary if the implement folds, to fold and unfold several times to check for restrictions, kinks, pinches, and placement of cable ties (if used), or other means of securement.

Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.

#### 4.1.3 SYSTEM AIR PRESSURE ADJUSTMENT

Air pressure is controlled by the hydraulic flow from the tractor to Montag Gen 2 unit. When determining air pressure needed for each product and rate, start on the high range and lower to appropriate level.

TOO MUCH AIR CAUSES PREMATURE WEAR ON AIR HOSES, CAN CAUSE PRODUCT BRIDGING, AND REQUIRES MORE HORSEPOWER. NOT ENOUGH AIR WILL CAUSE PRODUCT BLOCKAGE AND DAMAGED SHEAR COUPLERS.

TYPICAL AIR PRESSURE BY RATE *			
RATE	AIR PRESSURE (INCHES WATER COLUMN)		
150 LBS/ACRE OR LESS	12-15		
150 LBS/ACRE OR MORE	15-21		

<sup>\*</sup> Typical 62-65 lb. density, 5.0 to 7.5 mph speed.

Each application will vary depending on how the Montag Applicator is being used. Some of the variables that affect the air pressure are flat rate vs prescription (range of rates), ground speed, number of row machine, implement width, if splitters are used, density of the product, and hose routing.

Generally, the highest air pressure needed is 21 inches water column (w.c.) down to 12 inches. Most applications require air pressure somewhere in the middle. A good test is start with a high pressure (20 w.c.) and start applying the highest rate and highest ground speed you will be operating at. After a couple rounds, start turning your air pressure down, and turn it down until you start seeing the product pulsing in the hoses. It will look like mice running thru the hoses. When this happens plugging can occur, so look at your air pressure reading and turn your air pressure up 1 to 2 w.c. higher. The product pulsing should go away, and the machine should be set for peak performance. If product or rates are changed, this air pressure should be monitored.

#### 4.1.4 CONTROLLER SET UP

It is recommended to become familiar with the rate controller before adding product and going to the field. Read and understand the Dry Rate Controller Operation Manual, the Quick Start Reference Guide, and the Set-up Guide. See Appendix pages 76-82. Use these manuals to set up the controller for your specific application. Any updated information can also be found at MontagMfg.com. Consult your specific monitor manual for task controller functions of section control and prescription application. It is good at this time to verify that GPS speed is broadcast on the ISOBUS and is being picked up by the Montag controller. It is suggested to make a dry run to validate all functions are set-up correctly and working together.

#### 4.1.5 HYDRAULIC SLIDE GATE OPERATION FOR GEN 2

The slide gate closes the opening between the tank and the augers. By closing the opening this allows the augers to be purged clean and also allows cartridges to be removed with product in the tank. The monitor has manual open and close buttons for the slide gate on the right side of the home screen. On the home page the meter icons on the top of the page will show either a meter, a gate or half of each if in between full open or close state. Also the sensor indicator on each cylinder on the meter shows position with a green (open) LED or a red (closed) LED.

On the home page the road mode button will shut the gates when open and run augers for 5 seconds to purge the product from the augers. At this time the road icon will appear on the status line when active. By touching the road mode again, the gates will open and the icon in the status line disappears.

See Montag Dry Rate Controller Operation Manual for more details.

1. Open Slide Gate (green)



2. Close Slide Gate (red)



3. Road Mode



4. Open with Open Gate



#### 4.1.6 MECHANICAL SLIDE GATE CONTROLS

If your machine is equipped with mechanical slide gate controls instead of hydraulic, the slide gate is closed when the handle is in the down position, and is open when the handle is in the up position.







**OPEN POSITION** 



Crushing hazard.

Before climbing onto tank platform:

- Do not climb on cart unless cart is connected to implement.
- Park the equipment on firm, level surface.
- Place tractor transmission in park, turn tractor engine off and remove ignition key.
- Verify service locks are properly engaged or lower tool bar and lower row units to the ground or pavement.



Falling hazard.

Operator can fall off or into tank resulting in death or serious injury.

- Stand on platform only. Do not climb on tank or stand on screen.
- Keep screen cover on tank fill opening at all times.

# **MARNING**

Fertilizer can be dangerous to people, animals, and the environment.

Read and follow the safety and handling instructions provided by the fertilizer manufacturer before filling Gen 2 tank.

## **NOTICE**

Fill tank only with amount of product planned for application that day. Empty tank after daily use. Fertilizer / cover crop left in tank for extended periods can absorb moisture or cause compaction resulting in system blockage.

Install two screens (A) on top of each tank.

Stand on platform and fill tank with product.

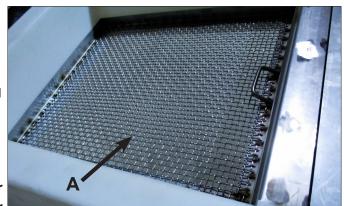
For low volumes, product may need to be manually leveled across the entire meter for consistent application.

### NOTICE

Moist product can plug fertilizer / cover

immediately after filling to prevent moisture from entering system.

crop application system. Close tank cover



### 5.1 DISCONNECT CART FROM IMPLEMENT - GEN 2



Crushing hazard.

The hitch may have a negative draft load (upward force).

Before disconnecting from tractor:

- Park the equipment on firm, level surface.
- Place tractor transmission in park, turn tractor engine off and remove ignition key.
- Block the wheels.
- Verify service locks are properly engaged or lower tool bar and lower row units to the ground or pavement.
- Remove all product from tank.



Fertilizer can be dangerous to people, animals, and the environment.

Read and follow the safety and handling instructions provided by the fertilizer manufacturer before working around fertilizer system.

#### **5.1.1 DISCONNECT GEN 2 SYSTEM**



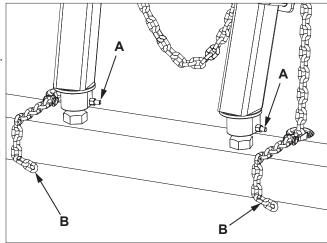
Pressurized fluids can penetrate the skin.

Relieve all hydraulic pressure before disconnecting hydraulic hoses.

- 1. Disconnect ISO Plug on Montag controller from tractor of CAN backbone.
- 2. Relieve hydraulic pressure and disconnect pressure hose, return hose, case drain hose and light connector from tractor.

#### **5.1.2 DISCONNECT CART FROM IMPLEMENT**

- 1. Install jacks on cart and remove weight from implement hitch.
- 2. Disconnect and remove chains (B) from implement.
- 3. Label and disconnect all air hoses.
- Remove bolts (A) from ball hitches or remove 1% inch nut on knuckle hitches.
- 5. Lift cart from hitch with jacks.



# **6.1 TROUBLESHOOTING GEN 2**

### 6.1.1 TROUBLESHOOTING GUIDE

<u>Symptom</u>	<u>Problem</u>	Solution
Scale drops off/ doesn't show up	Digistar VT does not show up on home page	Check Digistar ISO connection, the 6 pin Deutsch connector (18" whip out the bottom of the SL2140 ISO control box) fo corrosion/damage/bad connection.
		Remove cover (4 screws) on the SL2140 ISO. On the right side there should be 4 blue LED on, and the 3 status LED on the left side should be off.
		Check system voltage, on Montag screen, under diagnostic button, under ECU, voltage should be 12.2V or greater.
		Check ISO Connector at tractor for corrosion/connection.
		Restart tractor, let screen power up for 20 sec before starting tractor.
		Verify all ISO connections are correct. Verify correct ISO terminations are in place.
		If using a monitor that requires a USB key for data, try a different USB key, or try removing it.
Digistar VT good, not on Montag home page	Scales not set up	Verify scale system setting is set to "Yes" on Montag VT.
Scales showing erratic readings	Possible bad Scale Link ISO node, j-box, or load cell	Verify correct Digistar Cal # for both tanks are setup 115030 and cal 5333.
		Remove 2 blank plugs and check for moisture. Blow out j-block if moisture to see if problem goes away.
		If customer using grease, clean with alcohol. Grease draws moisture and should not be used with scales.
		Look for areas of tank hang-up or binding so as load cells not getting actual weight
		Use GT 400 interactive troubleshooting guide and watch trouble shooting video under controller info tab on Montag website for troubleshooting diagnostics.
		If testing load cell by tap test, if bad will jump 1000-2000 lbs.
Calculated weight	Set-up incorrect	In hopper screen equalize weights and recheck.
and actual weight off		Check cal factor correct, check density of the product with Density scale.
		Check # of rows and total implement width.
		Configure a new product and retry.
		Example set-up 200lb/ac, 5 mph, 65lb/ft3, 12 row, 30' total width, Cal factor .03, the auger speed should be $31 \pm 1$ RPM auger speed.

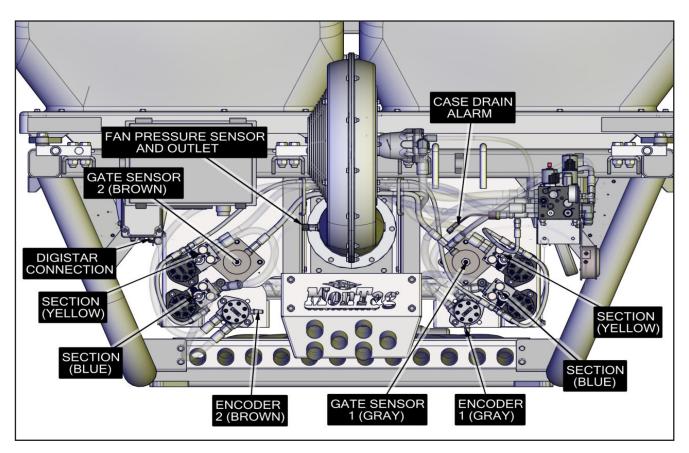
	Calibration factor off	Do calibration test- either catch or no-catch test. Test must be started with fan on and ended with fan on. Also start and stop on level ground for scale accuracy.
		Verify no sheared couplers.
		Verify hydraulic motor drive shaft couplers are properly connected.
	Calibration does not stay on	May have bridging issue. Consider turning air pressure down a little at a time. If have access to a camera, put a camera or the augers to see if they run empty (bridging). By shutting off the fan, the auger will fill back up.
Montag screen	Montag VT does not show up	Check ISO Connector at tractor for corrosion/connection.
drops off/doesn't show up	on home page	Restart tractor, let screen power up for 20 sec before starting tractor.
		Verify all ISO connections are correct. Verify correct ISO terminations are in place.
		If using a monitor that requires a USB key for data, try a different USB key, or try removing it.
		Make VT1 post monitor and VT2 Armrest (Deere only).
		Check Digistar ISO connection, the 6 pin Deutsch connector (18" whip out the bottom of the SL2140 ISO control box) for corrosion/damage/bad connection.
		Delete object pool on monitor.
		If other ISOBUS controllers are on system, unplug to see if just Montag and Digistar come online
Controller not	Erratic and inconsistent results	Delete object pool on monitor.
working	from controller	Check system voltage, on Montag screen, under diagnostic button, under ECU, voltage should be 12.2V or greater.
Slide gate will not	Slide gate will not function	Make sure hydraulics are engaged.
open		If in road mode, push road mode button to get to application mode.
		Check slide gates from diagnostics screen.
		Verify solenoid and position sensor harness connections are good and harness is in good condition.
	Slide gates open/close opposite controller	If hydraulics were disconnect and reinstalled backwards, or harness remove and red and green wire swapped.
No Product being delivered -All rows	Fan not turning	Verify all tractor hydraulic couplers are fully engaged.
		With tractor off and key removed, see if fan rotates by hand If fan is not binding on housing, and does not rotate by hand, replace fan motor.
		Fan not calibrated or out of calibration. Calibrate per instructions in ISO Dry Rate Controller Operation Manual.

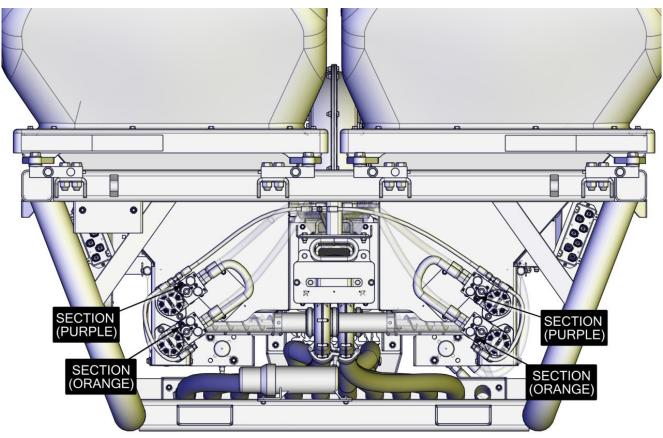
	Fan air gauge pressure less than 12 inch H2O	Fan rotation must be clockwise (CW) when viewed from the screen side of fan. If rotation is not CW, see Hydraulic Schematics in Montag manual and plumb as shown for your machine.
		If analog gauge reads correct, but digital transducer reads incorrect, calibrate air sensor following instructions in manual.
		Set gap between fan and shroud to 1/4 inch (6MM).
		Check for any air leaks in plenum tray or air chambers or anywhere in system.
	Augers turn wrong direction	Augers must turn CCW. Check hydraulic schematic and verify each hydraulic motor is in correct position.
		Check all augers and clean out system. Close slide gate and run meters in diagnostics mode. Check all augers for rotation and replace any sheared couplers. Clean out hoses and make sure air is coming out each hose at toolbar before starting to apply fertilizer.
	Auger(s) not turning	Confirm fan is running. Augers will only turn while fan is running. Confirm augers are not obstructed. Safely remove any obstructions by following instructions in Montag operations manual.
		Check controller set-up is complete with correct product info (density, cal factor, rate, ground speed is registering.
		If using prescriptions, verify mapping is in correct format and entered correctly. Verify prescription icon is by rate on home screen, and a non-zero target rate is on display side.
		Turn off section control on your monitor. If augers turn, then your monitor/prescription is shutting it off. Be sure you are inside your boundary and not in an already applied area.
		Shut slide gate and run meters in diagnostic screen. If still does not run, set meters to 100% and check for 12 VDC at PWM valve. If 12 VDC, then check hydraulic motor to see if motor turning, but coupler slipped off. If no voltage, look for harness damage. If augers turn but no RPM, check encoder harness for given tank. Test for 12 VDC on pins 1 & 3 of encoder harness.
	Master switch/ work switch not set-up correctly	Follow instructions in manual for correct set-up. Work switch icon on status line will toggle on/off when toolbar is lowered/raised. When master is toggled on the off master icon on the meter will switch to augers and section boxes will become lit.
	Problem with encoder or PWM valve	Shut slide gate and run meters in diagnostic screen. If still does not run, set meters to 100% and check for 12 VDC at PWM valve. Look for harness damage. If augers turn but no RPM, check encoder harness for given tank. Test for 12 VDC on pins 1 & 3 of encoder harness. Remove plastic cap over encoder motor shaft to verify hydraulic flow at encoder motor. If 12VDC and motor turning replace sensor in motor. Follow replacement instructions (entire motor must be re-
		turned w/ speed sensor unadjusted if still under warranty).

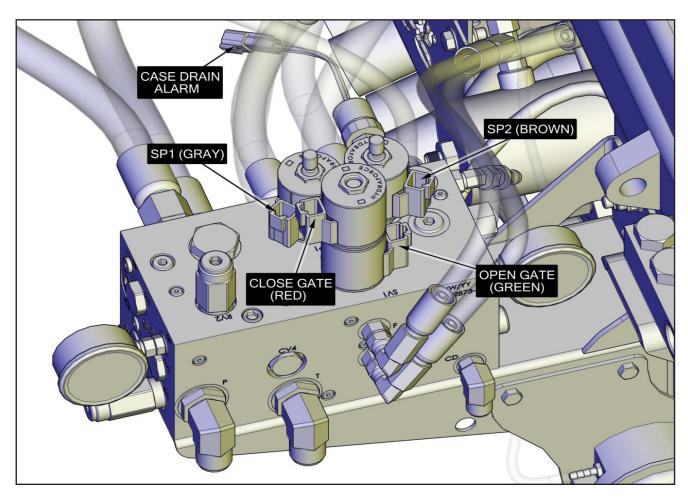
	Controller not seeing speed	Check that controller is seeing speed and correct speed when machine is moving. Verify GPS and display is properly set-up and functioning.
No Fertilizer in 1 or more rows	Couplers sheared	Check all augers and clean out system. Close slide gate and run meters in diagnostics mode. Check all augers for rotation and replace any sheared couplers. Clean out hoses and make sure air coming out each hose at toolbar before starting to apply fertilizer. See instructions for calculated and actual weight off. If using bin chaining, verify set-up correctly as directed in controller operations manual. Combined auger speeds should be less than 130 RPM.
	Product Bridging	With fan still running look at auger cartridge for bridging or obstruction which does not allow product to flow evenly. Shut off fan and then back on to see if issue persists.
		Air pressure may be too high.
		Open/close slide gate.
		Product is too moist or has too many fines.
	1 tank or 1 section	Check set screw on coupler is in and tight. If not, it may hit the side of trough and lock up motor.
Not holding rate	Alarm "Metering drive cannot maintain target rate"	Check for correct product info (density, cal factor, rate).
		Augers RPM should be between 5- 105 range.
		Verify correct ground speed.
		Adjust meter amplification factor.
		Add a new product with correct numbers.
		Clear object pool by following monitor manufacturers instructions.
		Power cycle controller.
		Verify correct cal factor for that specific meter.
		May need to increase ground speed if running to low of an auger speed (under 10 RPM).
One tank not hold-	Set-up incorrect	Check for correct product info (density, cal factor, rate).
ing rate	Bad speed sensor cable	Shut slide gate and run meters in diagnostic, verify shaft RPM's for both tanks.
		Check all harnesses and harness connections to motor encoders and PWM valves.
		Power cycle controller

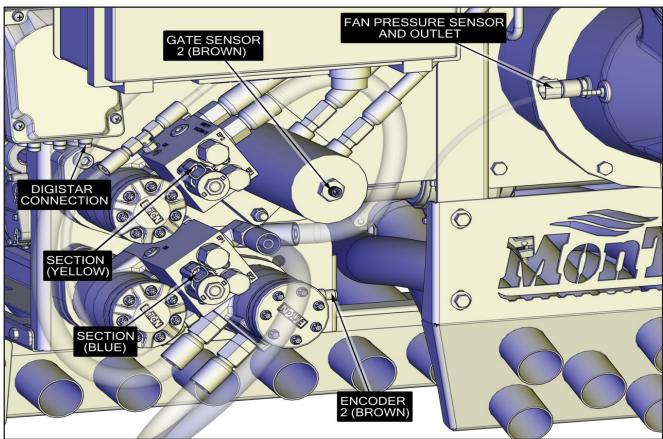
Section Control not working	Sections turn off, but will not go back on	If running an Ag Leader, verify target rate entered on both Ag Leader and Montag.		
		If section box gray with red X, then touch button again to shut off manual section button.		
		If section box red, then map or controller is turning section off. If in a already applied area, section will be red. Move to an area not applied yet. If a prescription is loaded, move within map area.		
		Verify look ahead and implement geometry settings are correct.		
Mapping not working	Layers not set-up correctly	Contact monitor dealer for set-up instruction for 2 product application. Typical for JD monitors.		
Rate is not correct	Using Bin chaining	Follow instructions in controller operations manual. Total auger RPM must be under 130 RPM to prevent plugging.		
Download box will	Not plugged in correctly	Make sure LED's are lit on download box		
not load	Other implements plugged in after MDRC	Unplug any other implement plugged into Montag ISO Connection (located under Montag ECU).		
Prescription not showing up	Map does not show up on JD side 4600-4640	Make sure products associated and mapped on JD side.		
	Map does not show up on JD	Delete object pool.		
	side 2630	Update 2630.		

#### **6.2 2218 HARNESS CONNECTION**

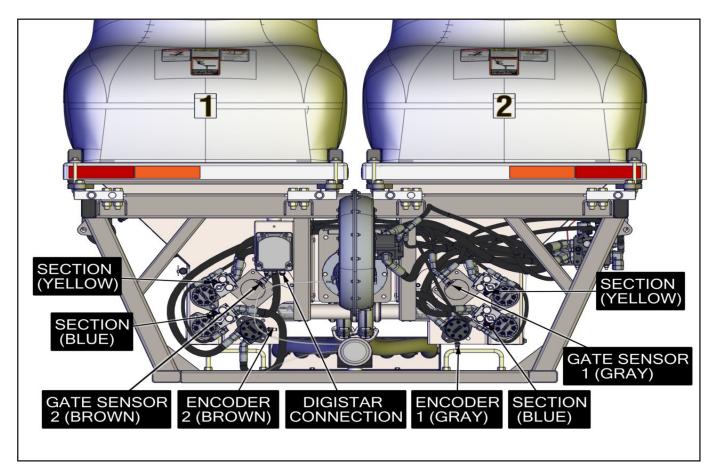


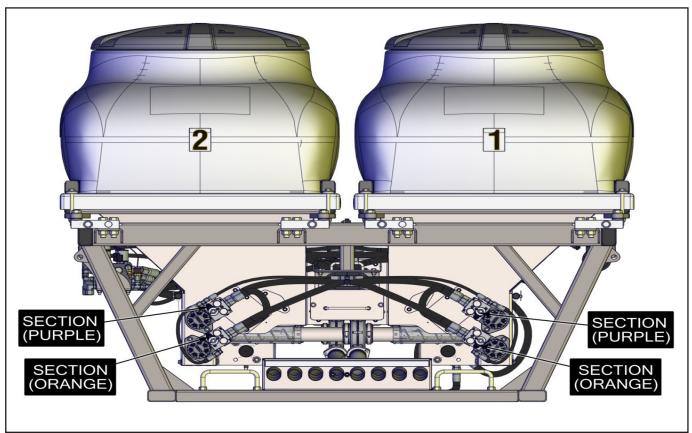


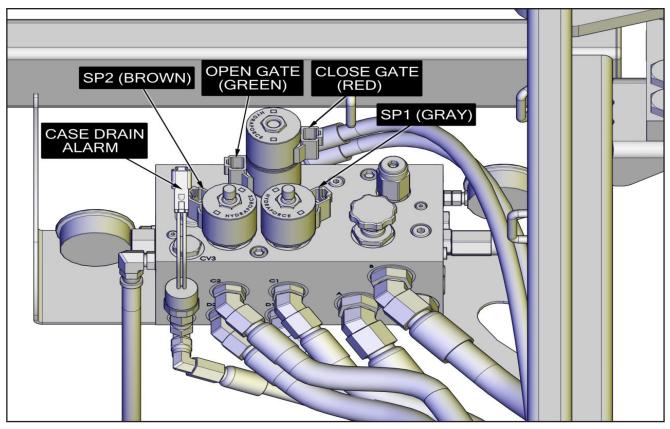




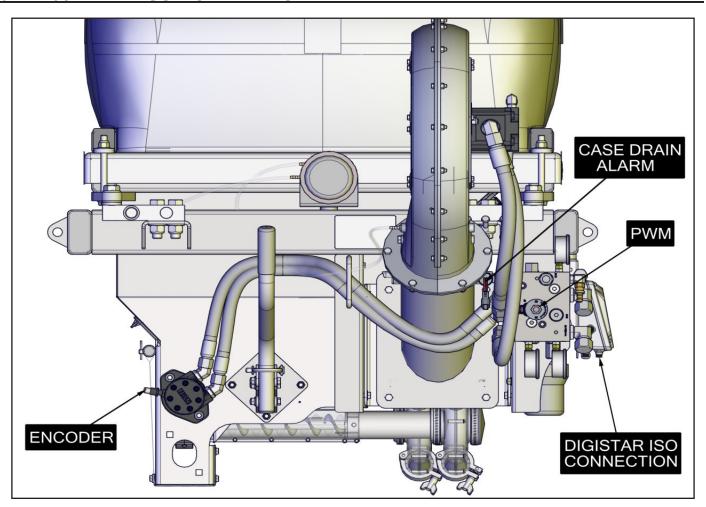
## **6.3 2208 HARNESS CONNECTION**







## **6.4 2108 HARNESS CONNECTION**



## 7. ROUTINE MAINTENANCE

#### 7.1 SECTION OVERVIEW

Montag Manufacturing uses some components produced by other manufacturers. Refer to the OEM manufacturer's information for specific maintenance instructions. If you do not have the manufacturer's information, contact your dealer or Montag Manufacturing for assistance.

Routine inspections, maintenance and service must be performed on your machine on a regular basis to insure safe and reliable operation. Inspections can be performed by a person trained in spotting potential problems. Service and repairs must be performed by a trained, qualified technician.

Note: In addition to this manual, also check the relevant component manufacturer's manual.



#### Crushing hazard.

Before performing inspections, service or maintenance:

- Park the equipment on firm, level surface.
- Place tractor transmission in park, turn tractor engine off and remove ignition key.
- · Block the wheels.
- Lower all equipment to the ground or pavement.

#### 7.2 END OF SEASON INSPECTIONS

Perform the following inspections at the end of each season. Repair or replace worn and damaged parts.

- Inspect shear couplers run augers and visually inspect all augers are turning.
- Inspect slide gate.
- Inspect fan.
- Inspect air and hydraulic hoses.
- Inspect augers.
- Inspect scales, controller, cables, and connections.

#### 7.3 STORING THE GEN 2 SYSTEM



Fertilizer can be dangerous to people, animals, and the environment.

Wear eye protection and proper clothing. Read and follow the safety and handling instructions provided by the fertilizer manufacturer before removing the hoses or performing maintenance.

Do not permit children to play on or around the stored unit.

Make sure all parked machines are on a hard, level surface and engage all safety devices.

Wheel chocks may be needed to prevent unit from rolling.

Perform the following steps before storing your fertilizer application system in season

- 1. Empty product from tanks if possible.
- 2. Store under roof to help prevent moisture and humidity from getting into product contact areas.

Perform the following steps before storing your fertilizer application system for the offseason.

- 1. Run out all product from the tanks.
- 2. Shut down tractor and remove key.

3. Let vinyl screen down take note of gearbox pattern if section machine and follow instructions on removing product

cartridges. For instructions see SERVICE AND REPAIR 8.2 GEAR BOX AND CARTRIDGE REMOVAL FOR GEN 2.

- 4. Follow instructions on removing Slide gate and sweep out any loose product in tank See section 8.4 SLIDE GATE REMOVAL / REPAIR FOR GEN 2.
- 5. Thoroughly power wash Gen 2 metering system (inside and outside).
- 6. Remove fan guarding and inspect fan blades. If debris build-up, thoroughly power wash fan blade. Attention should be given that fan weights are not removed or moved in process of cleaning. All fan fins should be thoroughly cleaned, as improper cleaning will cause fan imbalance. Add fan guarding and start fan to remove water and debris.
- 7. Lay aside gearboxes for dry cleaning and power wash remaining components.
- Inspect and replace any damaged parts.
- Reinstall all components paying close attention to gearbox rotation if using a 2-4 section machine. If needed consult row layout instructions for installing gearboxes in proper location. See page 49 in Appendix for instructions.
- 10. Run fan to blow water out of system.
- 11. Store tanks with top lids closed.





#### Crushing hazard.

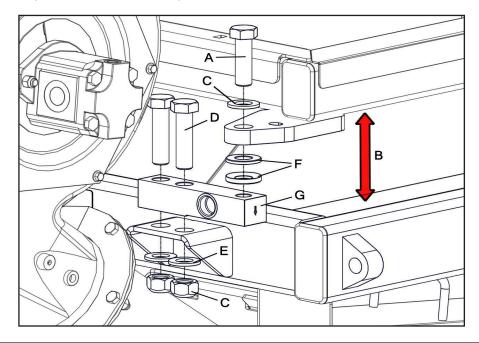
Before performing inspections, service or maintenance:

- Park the equipment on firm, level surface.
- Place tractor transmission in park, turn tractor engine off and remove ignition key and place do not operate tag on ignition switch.
- Do not disconnect cart from implement for servicing.
- · Block the wheels.
- Lower all equipment to the ground or pavement.
- If welding, disconnect electrical harness from Montag ECU.

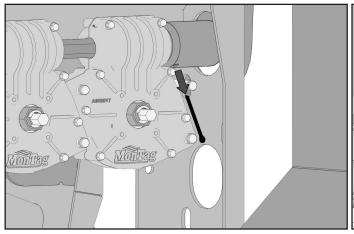
#### **8.1 REPLACING LOAD CELLS ON GEN 2**

If multiple load cells need replaced do one at a time following steps 1-8.

- 1. Remove bolt A and raise tank frame just enough to relieve pressure on load cell. CAUTION over lifting or allowing the tank to lower too far may cause damage to delivery components on bottom of tank.
- 2. Place a spacer or block in opening B that will safely support the weight of the tank and material you may have in it.
- 3. Remove nuts C, bolts D, washers E, self aligning washer F, and load cell G.
- 4. Install new load cell with nuts C snug but allow the load cell to move.
- 5. Insert bolt A into the load cell threads (through spherical washer, note the orientation shown) a few turns but do not tighten at this time.
- 6. Torque nuts C to 220 lb/ft.
- 7. Raise tank frame slightly off spacer and remove spacer.
- 8. Lower tank frame to spherical washer and torque bolt A to 220 lb/ft.



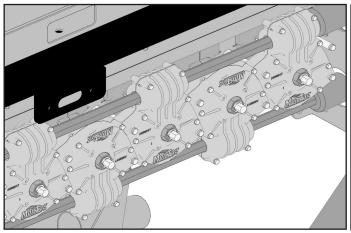
## 8.2 GEAR BOX AND CARTRIDGE REMOVAL FOR GEN 2



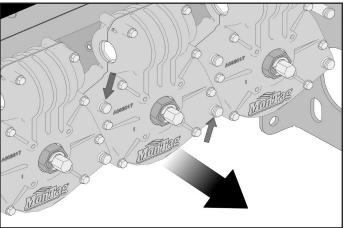
AMOUNT CO CONTROL MONTH OF THE PARTY OF THE

Lower vinyl screen for access to gearboxes. Remove cotter pin from coupler / hex shaft.

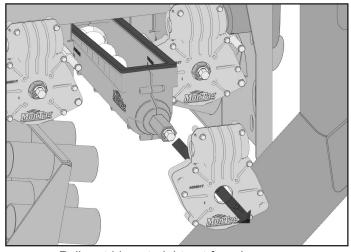
Slide hex shaft out through the gear boxes.\*



Before removing gear boxes note orientation and spacing of gearboxes for proper installation when reassembling. If installed incorrectly, section control will not function accurately.



Remove clips from posts. Pull gear box straight out off of posts.



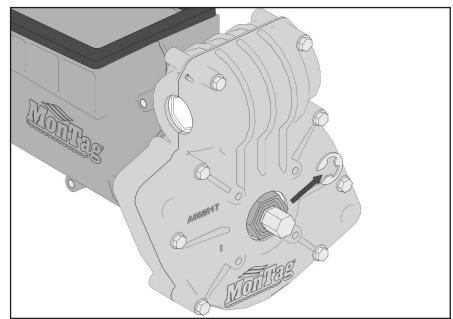
Pull cartridge straight out from hanger.



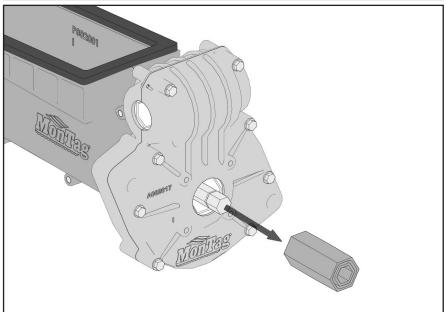
\* Shaft Puller is included with 1-3 section machines.

## **8.3 SHEAR COUPLER REPLACEMENT FOR GEN 2**

1. Observe that auger shaft is not turning while drive shaft is turning, or hex coupler is twisted and sheared. Remove clip from hex shaft.



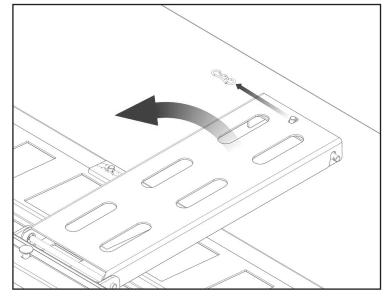
2. Use pliers to remove both pieces of coupler. Diagnose why coupler sheared. Check hoses for blockage and empty hoses by removing sanitary fittings on the air chamber if fan will not clear lines. Check for air flow at discharge of air release. Make sure auger shaft turns freely with a 7/16" wrench or socket and than insert new coupler. Reattach clip onto shaft.



## 8.4 SLIDE GATE REMOVAL / REPAIR FOR GEN 2 2218

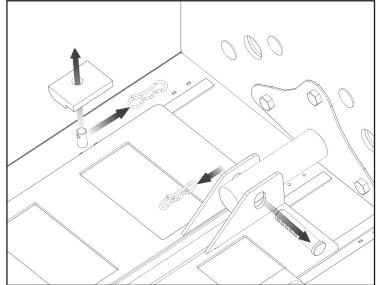
#### Step 1

- 1. Remove key from tractor before entering tank.
- 2. Remove pin on (2) braces and flip up.



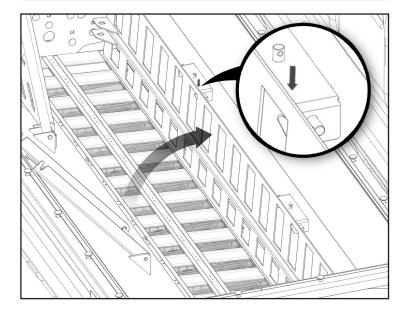
#### Step 2

1. Remove pins on white slide gate fasteners and pin connecting slide gate to cylinder.



#### Step 3

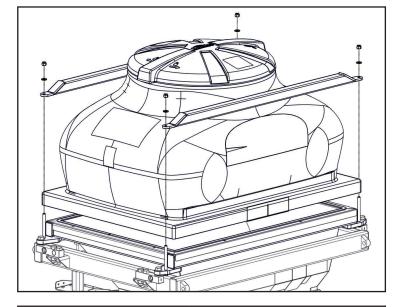
- 1. Flip slide gate up and hook on brace support as shown (on 2218 only).
- 2. Reverse order to reinstall



### 8.5 SLIDE GATE REMOVAL / REPAIR FOR GEN 2 2208, 2108

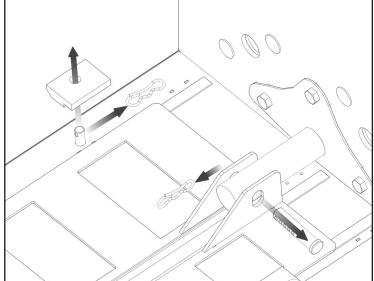
#### Step 1

- 1. Remove key from tractor before entering tank.
- 2. Remove hardware from (2) tank clamp brackets.
- 3. Remove brackets.
- 4. Remove poly tank.



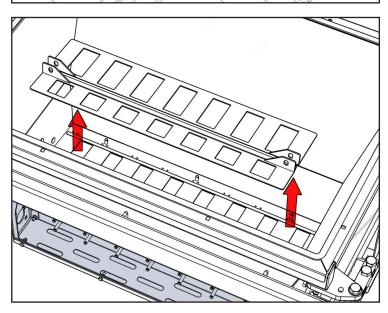
#### Step 2

1. Remove pins on white slide gate fasteners and pin connecting slide gate to cylinder.



#### Step 3

- 1. Remove slide gate. Set aside.
- 2. Reverse order to reinstall. Tighten bracket hardware in an incremental pattern, until the tank is evenly and fully clamped down. The mounting bolts need to come up from the underside of the tank ring, or they will not be able to fully tighten.



#### **8.6 FAN DRIVE MOTOR**

Relieve hydraulic system pressure before performing any work on hydraulic system. Use wood or cardboard to check for leaks



Relieve pressure before disconnecting hydraulic lines.

Tighten all connections before applying pressure.

Seek medical attention immediately if fluid is injected into skin.

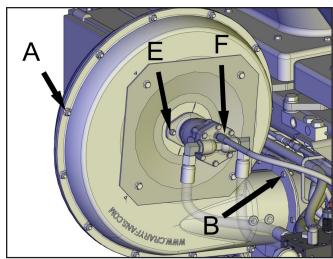
Use all the warnings and notices that are being used in current manual.

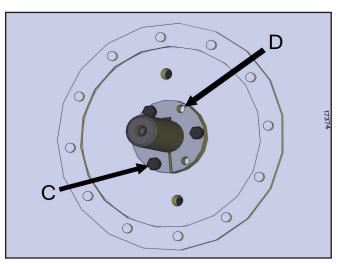
- Shut off tractor and remove key, disconnect hoses from tractor, and relieve hydraulic pressure. Identify and remove hoses from motor.
- 2. Remove bolts (A) and (B) to remove screen half of fan housing. Measure distance between tapered hub lock and end of the shaft. Remove fan by removing 10-24 screws (C). Use a 10-24 bottom tap to clean holes (D) and start 3 screws until hand tight. Then alternately tighten each screw ¼ turn until hub is pushed off. Remove fan.
- 3. Remove nuts (E) and remove motor.



#### Prevent fan drive motor damage.

- 1. Position new motor with case drain port (F) located on top as shown.
- 2. Apply anti-seize to bolts and fan shaft when re-installing. Install and tighten nuts (E) to 22 lb/ft (30 Nm) of torque.
- Put fan and hub assembly together on motor shaft and hand tighten screws. Adjust to correct placement on shaft accordingly and alternately tighten each screw 1/4". Do not over tighten.
- 4. Install hoses as removed. Verify fan rotation on start-up.





#### 9.1 HOW TO READ ROW CONFIGURATION CHARTS FOR GEN 2

							1	8 Row 3	3 Sectio	<u>n</u>											
Α	В	С	D	E	F	G	Н	ı	J	K	L	М	N	0	P	Q	R	Fan end	18 row 3 section SI	haft Configeration	
18		17		16						15	14					13		A&E	Section W (F	ull Shaft) тор	N/A
	1		2		3	4	5	6	10			12	7	11	8		9	B&F	Sect X (half)Bottom	Sect Y (Half) Bottom	C&G

Find the row configuration and section configuration of the machine on the chart. Shown above is a 18 row 3 section example.



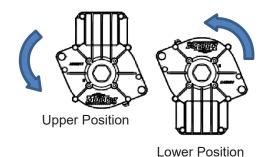
Observe **orientation of gearbox** on tank locations A (toolbar row 18) and B (toolbar row 1). "A" gearbox is in upper position on machine (upper box on chart) while "B" gearbox is in lower position on machine (lower box on chart). "A" gearbox is driven from yellow section W motor while "B" gearbox is driven from section X (blue) motor. "A" gearbox feeds toolbar row 18 and "B" gearbox feeds to toolbar row 1. **If gearboxes are removed, they must be replaced in the correct orientation for section control to function correctly.** Screw heads must be showing when mounted. Coloring on chart corresponds with color of motor harness leads on machine. In this example, the top shaft is full length shaft from position A to R, bottom shafts are split into 2 section control with section X (blue) controlling toolbar rows 1-6 and section Y (orange) controlling toolbar rows 7-12.

For hose routing toolbar row 1 is attached to B port on manifold while toolbar row 2 is attached to port D, etc..

For **sequencing section control**, refer to chart for controller configuration. Each machine configuration has a distinct gearbox, shaft and motor section configuration and should be observed when set-up of controller for section control sequencing. For example, row 7 can be controlled by section W, or X, or Y, depending on machine configuration. Row 7 in this example is controlled by section Y motor and would be the second section in sequence.



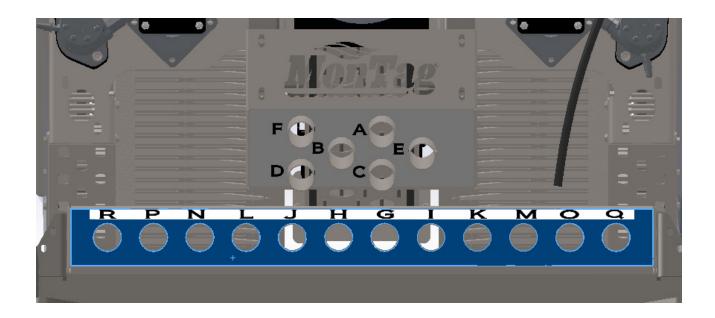
If motors are removed, they must be replaced in correct position. On start-up verify auger rotation configuration to be CCW as shown by the blue arrows below. This should be checked with no product in auger. Incorrect rotation will shear hex to hex shear coupler and cause a no flow situation. If this happens, couplers must be replaced. Refer to motor shaft rotation sheet for proper configuration. Incorrect placement will cause reverse rotation and improper section control.



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#### 9.1.1 GEN 2 2218 SYSTEM - CONNECT AIR HOSES

The diagram below shows the row connection letters for hose manifold connection. Connect hose from corresponding letter to corresponding toolbar row according to row and section configuration chart for machine configuration.



							18 Ro	w 3 Sec	tion T1	8A923						•	
Α	В	С	D	E	F	G	Н	ı	J	К	L	M	N	0	P	Q	R
18		17		16						15	14					13	
	1		2		3	4	5	6	10			12	7	11	8		9

As an example, you are routing a 18 Row 3 section find the corresponding chart to use from the row configuration section of manual. Toolbar row 1 hose mounts to manifold B, row 2 to manifold D, etc. If used on a folding toolbar allow enough hose so it does not pull off connections, but not too much that the hose pinches or kinks. Operate fold enough times to verify proper hose routing and lengths.

## 9.2 ROW CONFIGURATION CHARTS GEN 2 2218

Montag Gen 2 2218 Row Configuration

Montag Gen 2 2218 Row Configuration

			×			×	×			×	9%0			H&U	C&G	2 (E,F,G,H				×			×	×			×	C&G			H&G	080	יינב כ ה
		16 row 1 section Shaft Configuration	🔼 Section W (Full Shaft) Top		16 row 2 section Shaft Configuration	Section W (Full Shaft) Top	💛 Section X (Full Shaft) Bottom		16 row 3 section Shaft Configuration	Section W (Full Shaft) Top	Sect X (Half) Bottom Sect Y (Half) Bottom		16 row 4 section Shaft Configuration		Sect X (Half) Bottom   Sect Y (Half) Bottom	W (B,D,E,G) Tank 1 (A,B,C,D), Tank 2 (E,F,G,H)			15 row 1 section Shaft Configuration	🔼 Section W (Full Shaft) Top		15 row 2 section Shaft Configuration	Section W (Full Shaft) Top	Section X (Full Shaft) Bottom		15 row 3 section Shaft Configuration	🗥 Section W (Full Shaft) Top	Sect X (Half) Bottom Sect Y (Half) Bottom		15 row 4 section Shaft Configuration	Sect W (Half) Top Sect Z (Half) Top	Sect X (Half) Bottom Sect Y (Half) Bottom	W P D E G Tonk 1 / A B C D) Tonk 9/E E G U)
		Fan End	A&E		Fan End	A&E	B&F		Fan End	A&E	B&F		Fan End	A&E	B&F	' (A,C,F,H); CI			Fan End	A&E		Fan End	A&E	B&F		Fan End	A&E	B&F		Fan End	A&E	B&F	7 V L E LIV. C
		~			œ				~				~			MOTORS CW (A,C,F,H); CCW (B,D,E,G)			<b>~</b>			æ				<b>~</b>				~			MOTORS CW//A CE HI: CCW//B DE G
		0	6		0	6			0	12			Ū	6		2			0	8		0		8		0	12			0		8	2
		Ь	8		<u> </u>		8		<b>_</b>		8		۵		8				Ь	6		Ь	6			Ь		6		Ь	6		
		0	10		0	10			0		10		0	10					0	7		0		7		0		7		0		7	
		Z	7		Z		7		Z		7		z		7		H		Z	10		Z	10			N		10		Z	10		
16 KUW UNII		W	11		Σ	11			Σ		11		Σ	11		the left)	15 ROW UNIT		×	9		W		9		W		9		Σ		9	Meter Side View /fan to the left
16 KU		7	9		1		9		7		9		1		9	v (fan to	15 RO		7	11		7	Ε			7	11			7	1		w (fan to
	<u>u</u>	Ж	12	u u	¥	12		u	×	14		U	¥	12		Meter Side View (fan to the left)		=	У	5	U	Х		2	<u>u</u>	Ж	13		U	¥	12		Cido Kio
	w 1 Section	ſ	5	16 Row 2 Section	7		5	w 3 Section	ſ		6	16 Row 4 Section	_		5	Meter		15 Row 1 Section	ſ	12	w 2 Section	ſ	12		w 3 Section	ſ		8	w 4 Section	ſ		5	Motor
	16 Row	-	13	16 Row	_	13		16 Row	_		2	16 Row	_	13				15 Row	_	4	15 Row	-		4	15 Row	-		4	15 Row	_		4	
		H	4		Ξ		4		=	13			Ξ		4				H	13		Ŧ	13			H		2		Ξ	13		
		9	14		9	14			9		4		9	14					9	3		9		3		9		3		9		3	
		4	3		ъ.		3		<u>.</u>		3		4		3	2			F			4				F				ш			r
		3	15		ш	15			ш	15			ш	15		Section W Section X Section Y			Э	14		В	14			3	14			ш	14		Hank Conting M. Conting V Sorting 7
		0	2		٥		2		O		2		0		2	X Section			0	2		Q		2		O		2		O		2	V Cootion
		0	16		ပ	16			ပ	16			၁	16		W Section			ງ	15		ວ	12			0	15			၁	15		1M Coction
		В	1		В		-		В		-		В		-				В	1		В		-		В		-		В		-	Coction
		٧			۷				٧				٧			blank			A			٧				٧				V			Juck

Number represents toolbar location (left to right when viewed from behind toolbar), letter represents hook-up locations on hose manifold.

Montag Gen 2 2218 Row Configuration

		>	×			×	×			×	C&G			D&H	C&G	E,F,G,H)				×			×	×			×	C&G			D&H	C&G	E.F.G.H)
	Configuration	Local Iguidation	natt) lop		t Configuration	shaft) Top	aft) Bottom		t Configuration	shaft) Top	Sect Y (Half) Bottom		t Configuration	Sect Z (Half) Top	Sect Y (Half) Bottom	Tank 1 (A,B,C,D), Tank 2 (E,F,G,H)			t Configuration	shaft) Top		t Configuration	shaft) Top	aft) Bottom		t Configuration	Shaft) Top	Sect Y (Half) Bottom		t Configuration	Sect Z (Half) Top	Sect Y (Half) Bottom	Tank 1(A.B.C.D). Tank 2 (E.E.G.H)
	14 row 1 section Shaft Configuration		Section W (Full Shaft) Lop		14 row 2 section Shaft Configuration	Section W (Full Shaft) Top	Section X (Full Shaft) Bottom		14 row 3 section Shaft Configuration	🔼 Section W (Full S	Sect X (Half) Bottom Se		14 row 4 section Shaft Configuration		Sect X (Half) Bottom Se				13 row 1 section Shaft Configuration	Section W (Full Shaft) Top		13 row 2 section Shaft Configuration	Section W (Full Shaft)	Section X (Full Shaft) Bottom		13 row 3 section Shaft Configuration		Sect X (Half) Bottom Se		13 row 4 section Shaft Configuration		Sect X (Half) Bottom Se	
	Fan End	-	A&E 🔼		Fan End	A&E	B&F		Fan End	A&E	B&F		Fan End		B&F	MOTORS CW (A,C,F,H); CCW (B,D,E,G)			Fan End	A&E 🔼		Fan End		B&F		Fan End	A&E	B&F		Fan End	1	B&F	MOTORS CW (A.C.E.H): CCW (B.D.E.G.)
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Montag Gen 2 2218 Row Configuration

	•	ation	Section W (Full Shart) Top X		ft Configuration	Section W (Full Shaft) Top X	Section A (rull shart) bottom		12 row 3 section Shaft Configuration	_	Sect X (Half) Bottom Sect Y (Half) Bottom C&G		Н	Sect W (Half) Top Sect Z (Half) Top D&H	Sect I (mail) Doctoriii	B,D,E,G) Tank 1 (A,B,C,D), Tank 2 (E,F,G,H)			11 row 1 section Shaft Configuration	Section W (Full Shaft) Top X		11 row 2 section Shaft Configuration	Section W (Full Shaft) Top X		11 row 3 section Shaft Confinuation		ct X (Half) Bottom   Sect Y (Half) Bottom   C	B.D.E.G.) Tank 1 (A.B.C.D). Tank 2 (E.F.G.H.)				10 row 1 section Shaft Configuration	Section W (Full Shaft) Top X		10 row 2 section Shaft Configuration	Section W (Full Shaft) Top X	Section X (Full Shaft) Bottom X	B.D.E.G) Tank 1 (A.B.C.D). Tank 2 (E.F.G.H)
		Fan End	A&E 🗥		T	A&E N	BAF		Fan End	A&E			Fan End	A&E (NS)	-	MOTORS CW (A,C,F,H); CCW (B,D,E,G)			Fan End	A&E 🔼		Fan End	A&E A	מאַ	Fan Fnd	A&F	П	MOTORS CW (A.C.F.H): CCW (B.D.E.G.)				Fon End	A&E A		Fan End	A&E N	B&F V	MOTORS CW (A.C.F.H): CCW (B.D.E.G)
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Number represents toolbar location (left to right when viewed from behind toolbar), letter represents hook-up locations on hose manifold.

Montag Gen 2 2218 Row Configuration

## 9.3 ROW CONFIGURATION CHARTS GEN 2 2208, 2108

## Montag Gen 2 2208 and 2108

**Row Configuration** 

				8	B RO	N 220	B & 2	108	UNI	Γ			
			8 Row 1	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	8 row	1 section S	haft Configuration	
8	1	7	2	6	3	5	4		A&E	<b>A</b> S	ection W (F	ull Shaft) Top	Χ
			8 Row 2	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	8 row	2 section S	haft Configuration	
8		7		6		5			A&E	<b>N</b> S	ection W (F	ull Shaft) Top	Χ
	1		2		3		4		B&F	V S∈	ction X (Full	Shaft) Bottom	Χ
			8 Row 3	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	8 row	3 section S	haft Configuration	
8				7		6			A&E	<b>A</b> S	ection W (F	ull Shaft) Top	Х
	1	2	3		4		5		B&F	Sect X (Ha	alf) Bottom	Sect Y (Half) Bottom	C&G
			8 Row 4	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	8 row	4 section S	haft Configuration	
8		7		6		5			A&E	Sect W (	Half) Top	Sect Z (Half) Top	D&H
	1		2		3		4		B&F	Sect X (Ha	alf) Bottom	Sect Y (Half) Bottom	C&G
											MOTORS	Tank 1 (A,B,C,D), Tank 2	(E,F,G,H)
blank	Section W	Section X	Section Y	Section Z	<u>/</u> 1	<u> Neter Sid</u>	e View	(fan	to the le	<u>ft)</u>	MOTORS	CW (A,C,F,H); CCW (	B,D,E,G)

				7	7 RO	W 220	8 & 2°	108	BUNIT	Γ			
			7 Row 1	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	7 row	1 section S	haft Configuration	
	1	7	2	6	3	5	4		A&E	<b>^</b> 5	Section W (F	ull Shaft) Top	Х
			7 Row 2	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	7 row	2 section S	haft Configuration	
		7		6		5		1	A&E	<b>A</b> S	Section W (F	ull Shaft) Top	Χ
	1		2		3		4		B&F	V S€	ction X (Full	Shaft) Bottom	Х
			7 Row 3	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	7 row	3 section S	haft Configuration	
		7		6					A&E	<b>A</b> S	ection W (F	ull Shaft) Top	Х
	1		2		3	4	5		B&F	Sect X (Ha	alf) Bottom	Sect Y (Half) Bottom	C&G
			7 Row 4	Section									
Α	В	С	D	E	F	G	Н	1	Fan End	7 row	4 section S	haft Configuration	
		7		6		5			A&E	🔼 Sect W (	Half) Top	Sect Z (Half) Top	D&H
	1		2		3		4		B&F	Sect X (Ha	alf) Bottom	Sect Y (Half) Bottom	C&G
	_										MOTORS	Tank 1 (A,B,C,D), Tank 2	2 (E,F,G,H)
blank	Section W	Section X	Section Y	Section Z	<u>/</u>	Aeter Sia	le View i	(fan	to the le	<i>ft)</i>	IVIUTURS	CW (A,C,F,H); CCW	(B,D,E,G)

Number represents toolbar location (left to right when viewed from behind toolbar), letter represents hook-up locations on hose manifold.

# Montag Gen 2 2208 and 2108

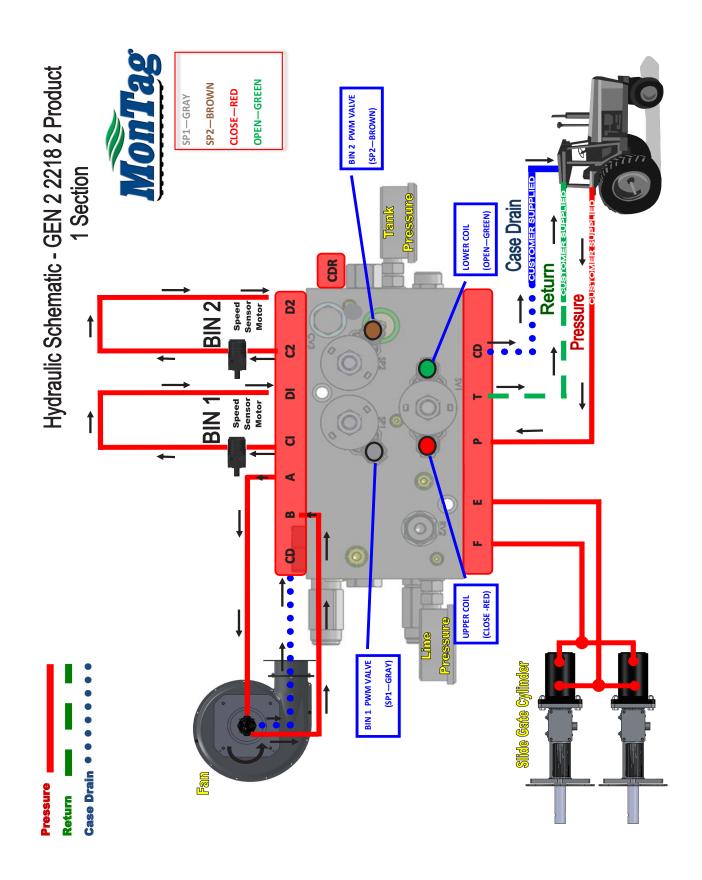
Row Configuration

				(	6 RO\	N 220	8 & 2°	108	UNIT	Γ		
			6 Row 1	Section								
Α	В	С	D	E	F	G	Н		Fan End	6 row 1 section S	Shaft Configuration	
	1	6	2	5	3	4			A&E	A Section W (	Full Shaft) Top	Х
			6 Row 2	Section								
Α	В	C	D	E	F	G	Н	Ī	Fan End	6 row 2 section S	Shaft Configuration	
		6		5		4			A&E	Section W (	Full Shaft) Top	Х
	1		2		3				B&F	V Section X (Fu	ll Shaft) Bottom	Х
			6 Row 3	Section								
Α	В	С	D	E	F	G	Н	Ī	Fan End	6 row 3 section S	Shaft Configuration	
		6		5					A&E	Section W (	Full Shaft) Top	Х
	1		2		3	4			B&F	Sect X (Half) Bottom	Sect Y (Half) Bottom	C&G
							•			МОТОРС	Tank 1 (A,B,C,D), Tank 2	2 (E,F,G,H)
blank	Section W	Section X	Section Y	Section Z	<u> 1</u>	<u> 1eter Sia</u>	le View	(fan	to the le	ft) MOTORS	CW (A,C,F,H); CCW	(B,D,E,G)

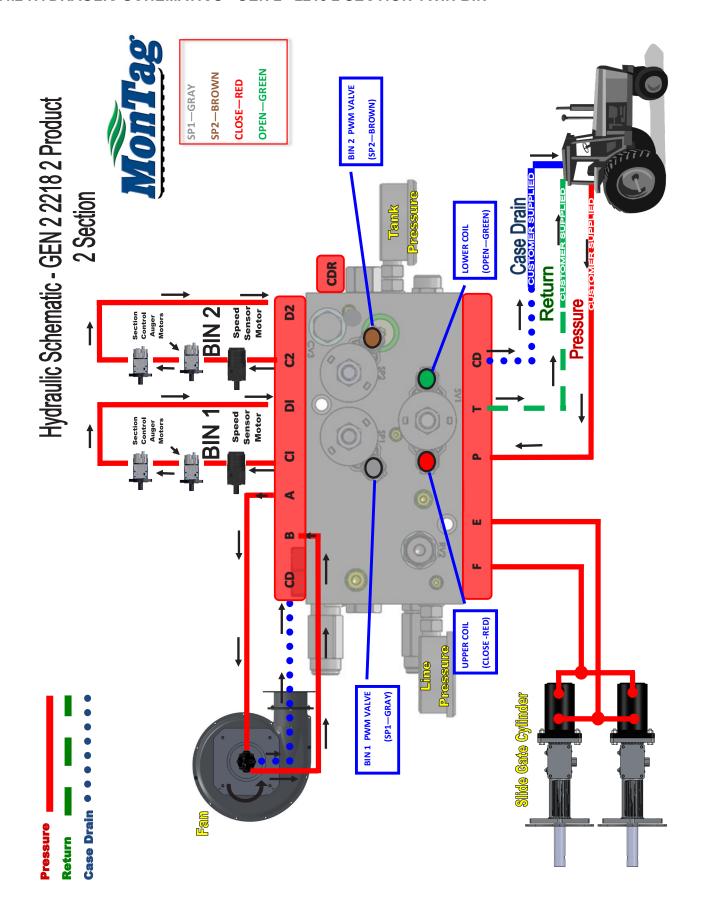
				į	5 RO	W 220	8 & 2°	108	UNIT	Ī			
			5 Row 1	Section									
Α	В	C	D	E	F	G	Н		Fan End	5 row	1 section S	haft Configuration	
	1	5	2		3	4			A&E	<b>A</b> 9	Section W (F	ull Shaft) Top	Х
			5 Row 2	Section									
Α	В	C	D	E	F	G	Н		Fan End	5 row	2 section S	haft Configuration	
		5				4			A&E	<b>A</b> S	Section W (F	ull Shaft) Top	Х
	1		2		3				B&F	₩ Se	ction X (Ful	l Shaft) Bottom	Х
			5 Row 3	Section									
Α	В	C	D	E	F	G	Н		Fan End	6 row	3 section S	haft Configuration	
		5				4			A&E	<b>A</b> S	Section W (F	ull Shaft) Top	Х
	1		2		3				B&F	Sect X (Ha	alf) Bottom	Sect Y (Half) Bottom	C&G
•							•		•	•	MOTORS	Tank 1 (A,B,C,D), Tank	2 (E,F,G,H)
blank	Section W	Section X	Section Y	Section Z	<u>/</u>	<u>Meter Sid</u>	le View	(fan	to the le	<u>ft)</u>	IVIUTURS	CW (A,C,F,H); CCW	(B,D,E,G)

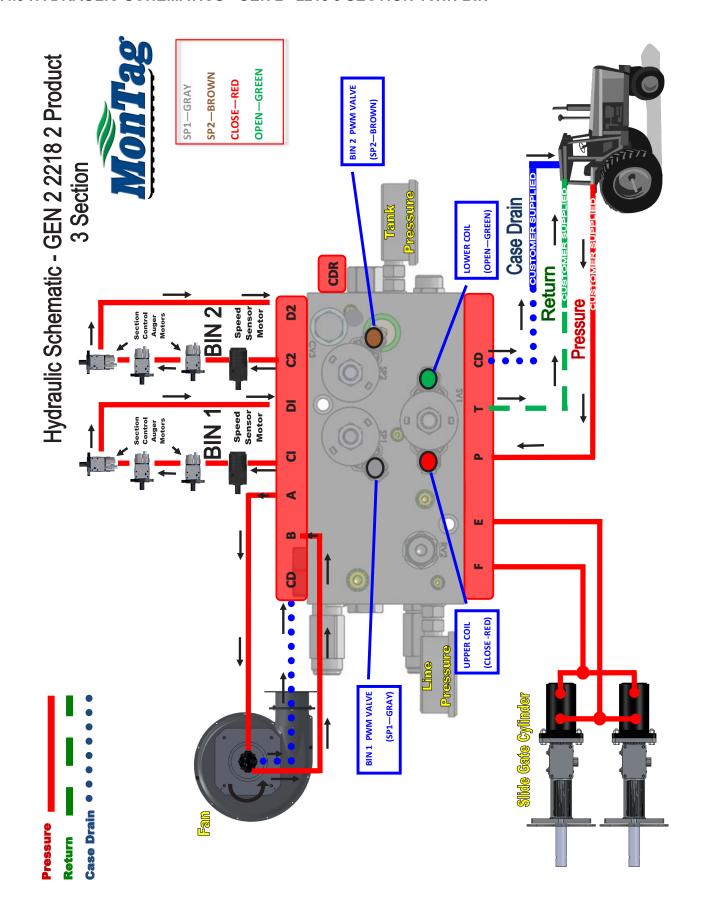
				4	4 ROV	V 220	<b>8 &amp; 2</b> 1	108	UNIT	T
			4 Row 1	Section						
Α	В	C	D	E	F	G	Н		Fan End	14 row 1 section Shaft Configuration
	1		4	2		3			A&E	Section W (Full Shaft) Top X
			4 Row 2	Section						
Α	В	C	D	E	F	G	Н	İ	Fan End	14 row 2 section Shaft Configuration
			4			3			A&E	Section W (Full Shaft) Top X
	1			2					B&F	Section X (Full Shaft) Bottom X
					•					Tank 1 (A,B,C,D), Tank 2 (E,F,G,H)
blank	Section W	Section X	Section Y	Section Z	<u>N</u>	<u>leter Sia</u>	<u>le View (</u>	'fan	to the le	MOTORS CW (A,C,F,H); CCW (B,D,E,G

#### 9.4.1 HYDRAULIC SCHEMATICS - GEN 2 - 2218 1 SECTION TWIN BIN

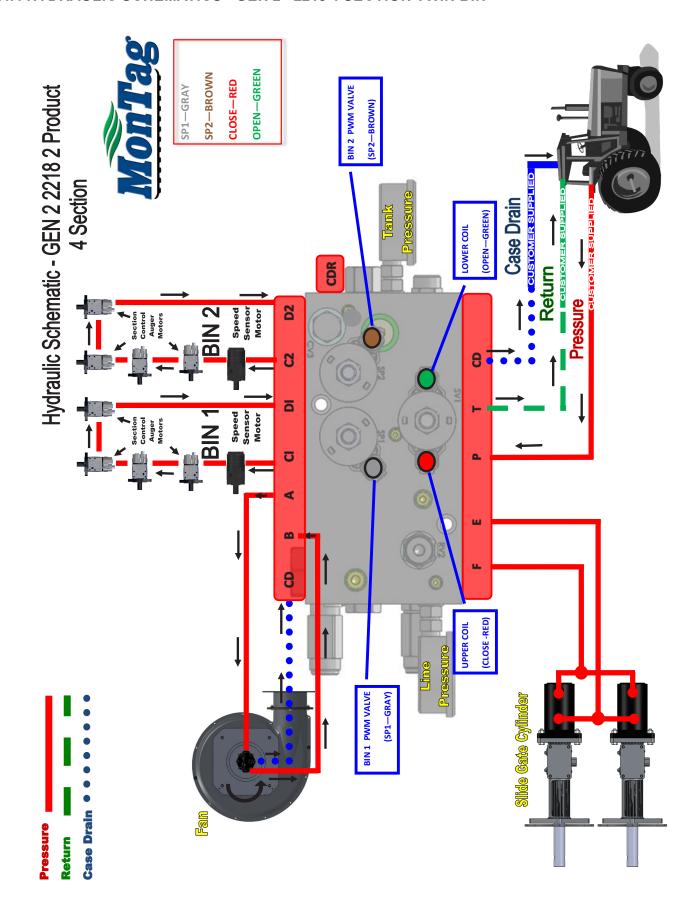


#### 9.4.2 HYDRAULIC SCHEMATICS - GEN 2 - 2218 2 SECTION TWIN BIN

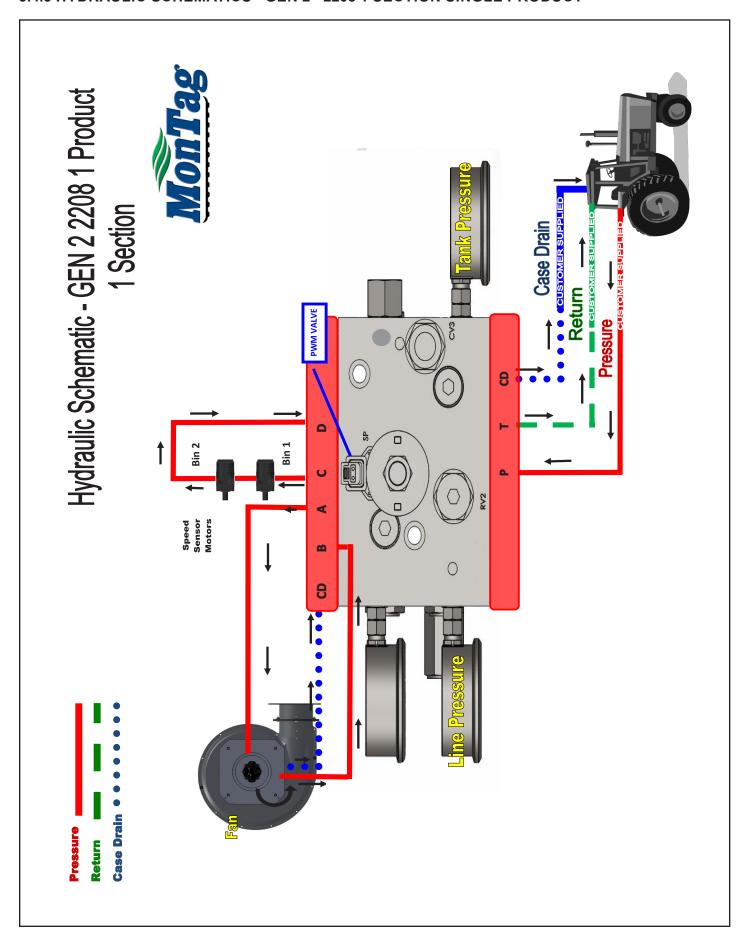




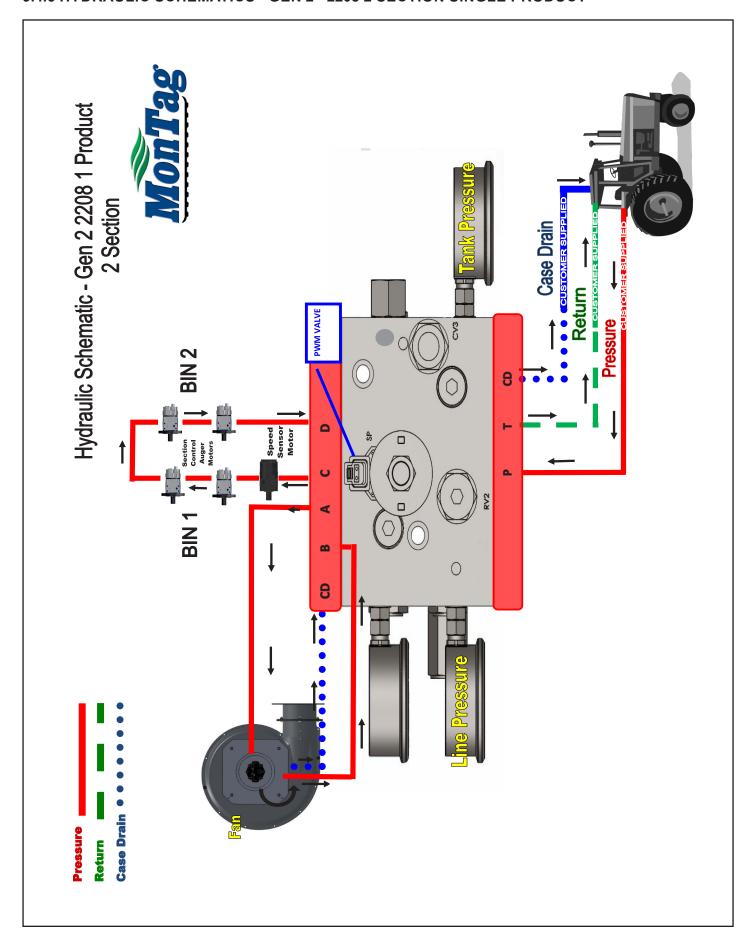
#### 9.4.4 HYDRAULIC SCHEMATICS - GEN 2 - 2218 4 SECTION TWIN BIN

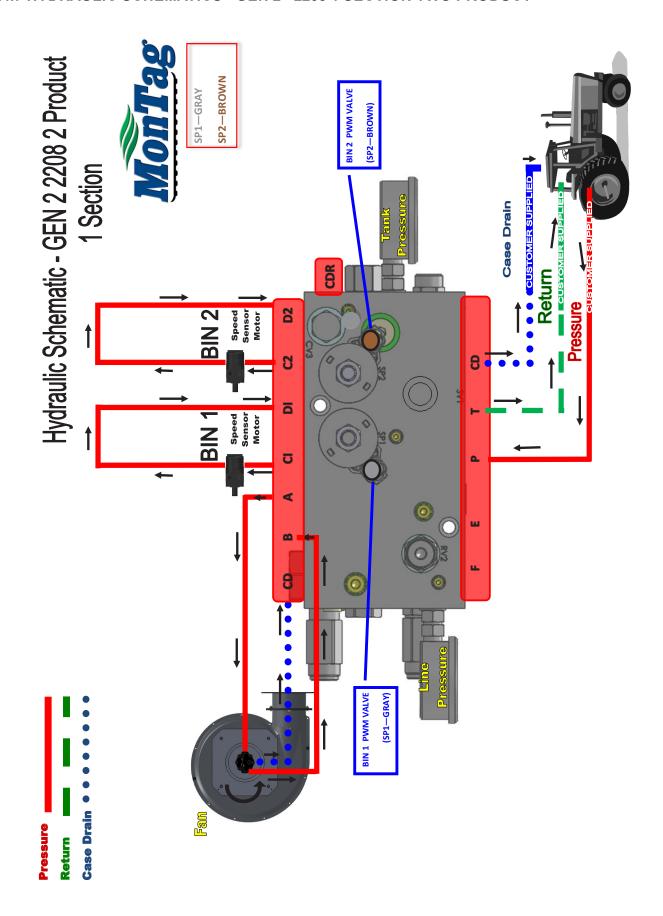


#### 9.4.5 HYDRAULIC SCHEMATICS - GEN 2 - 2208 1 SECTION SINGLE PRODUCT

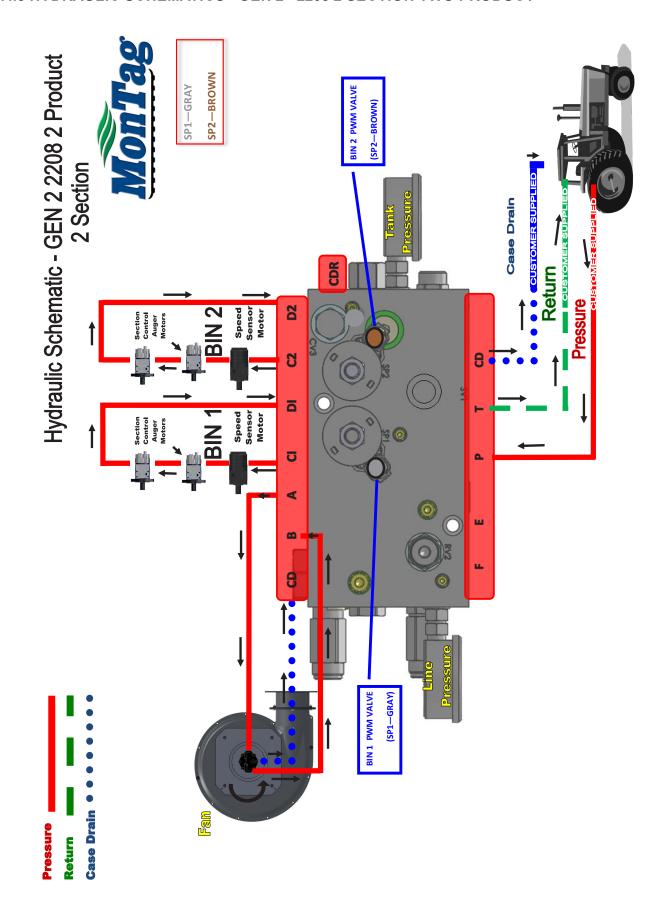


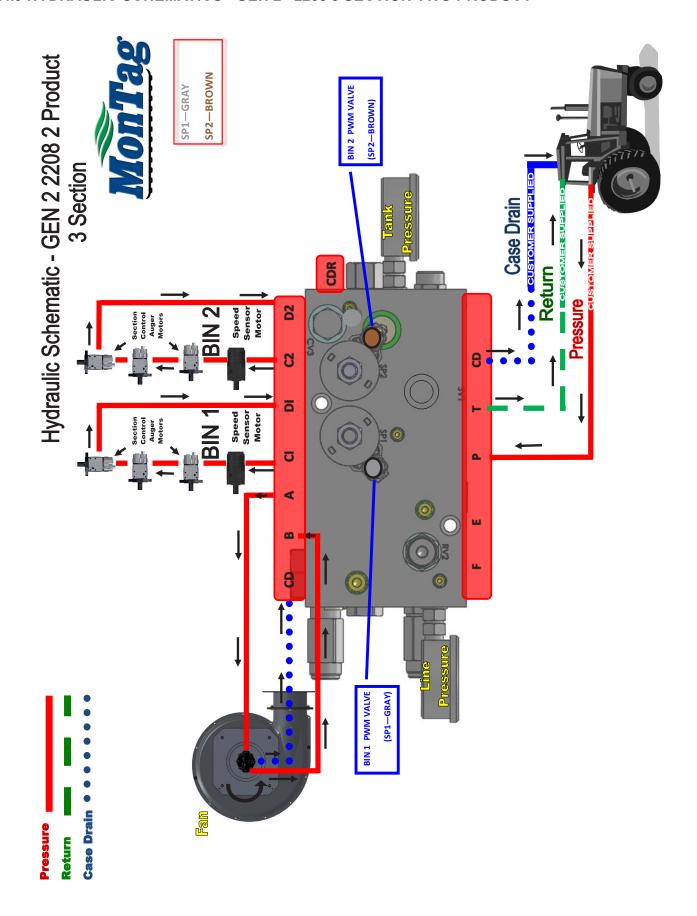
#### 9.4.6 HYDRAULIC SCHEMATICS - GEN 2 - 2208 2 SECTION SINGLE PRODUCT

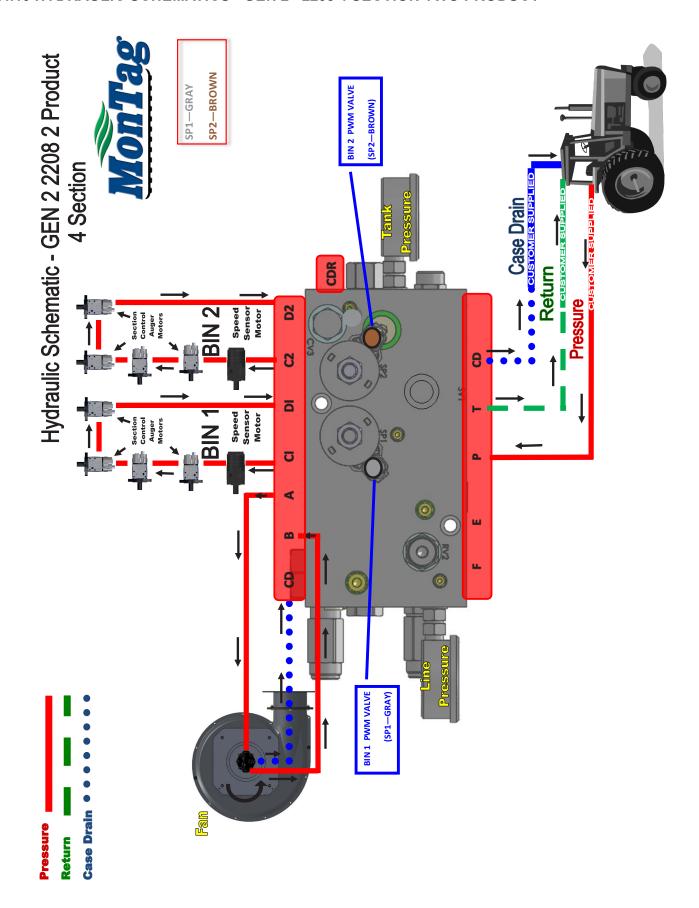


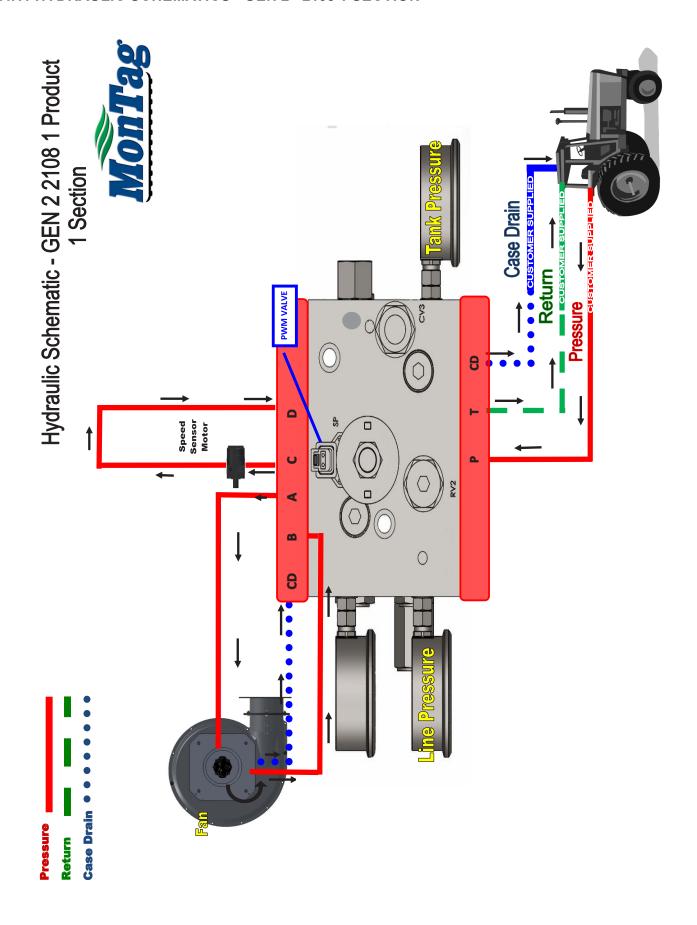


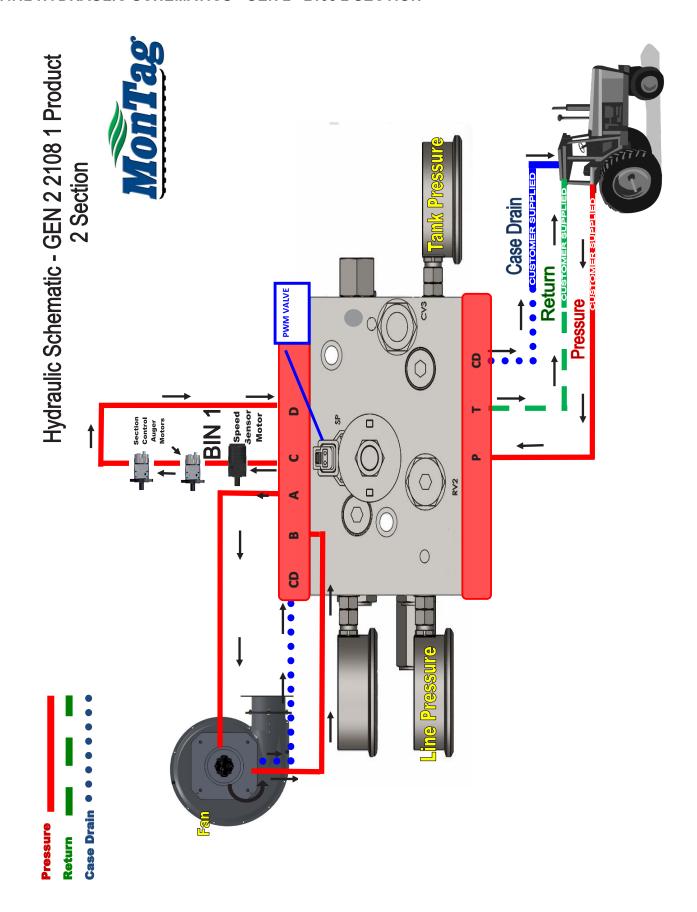
#### 9.4.8 HYDRAULIC SCHEMATICS - GEN 2 - 2208 2 SECTION TWO PRODUCT

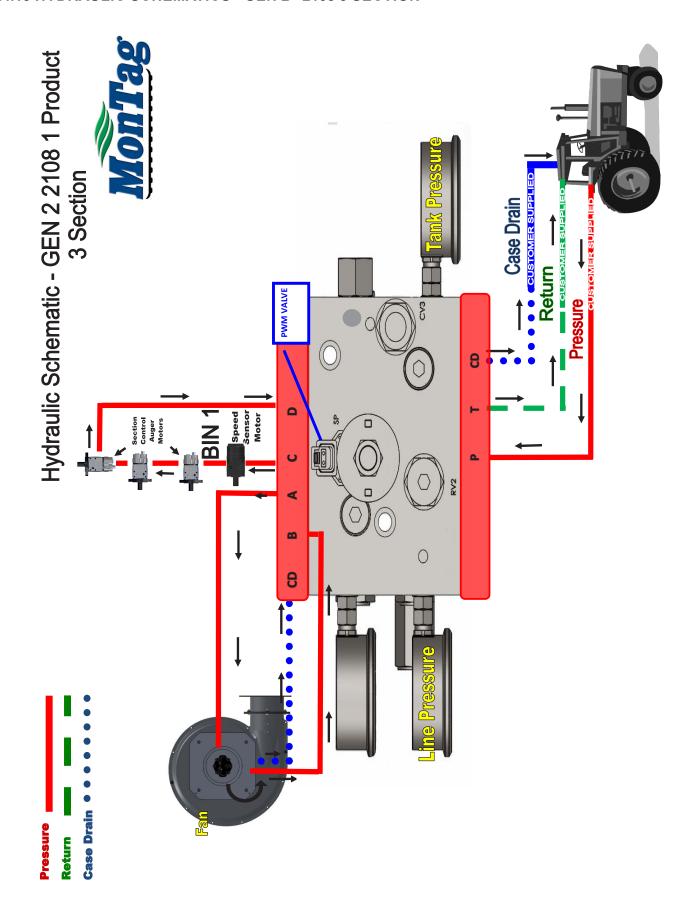


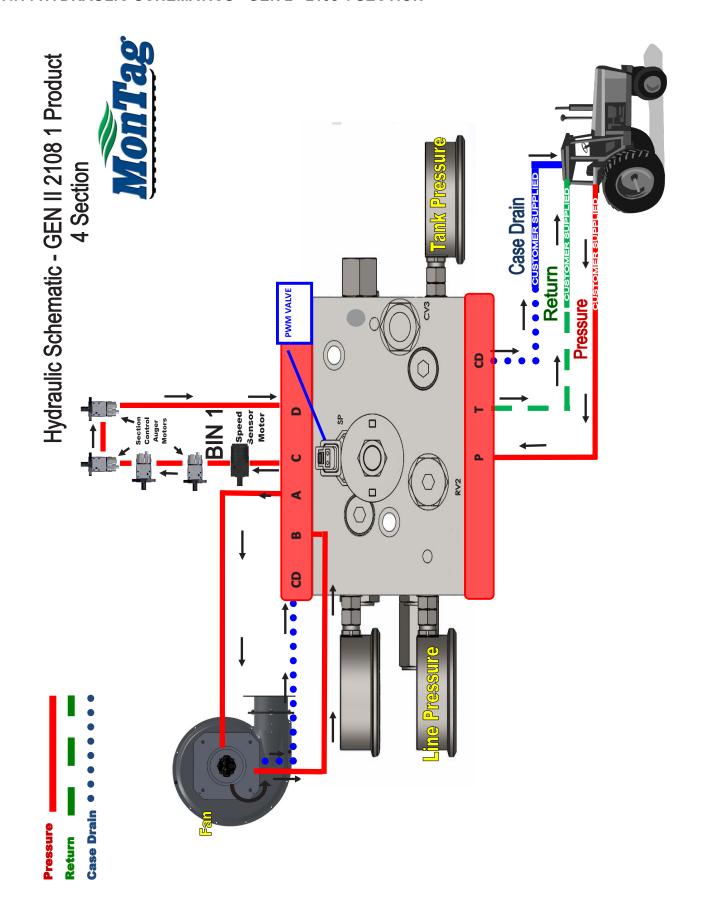


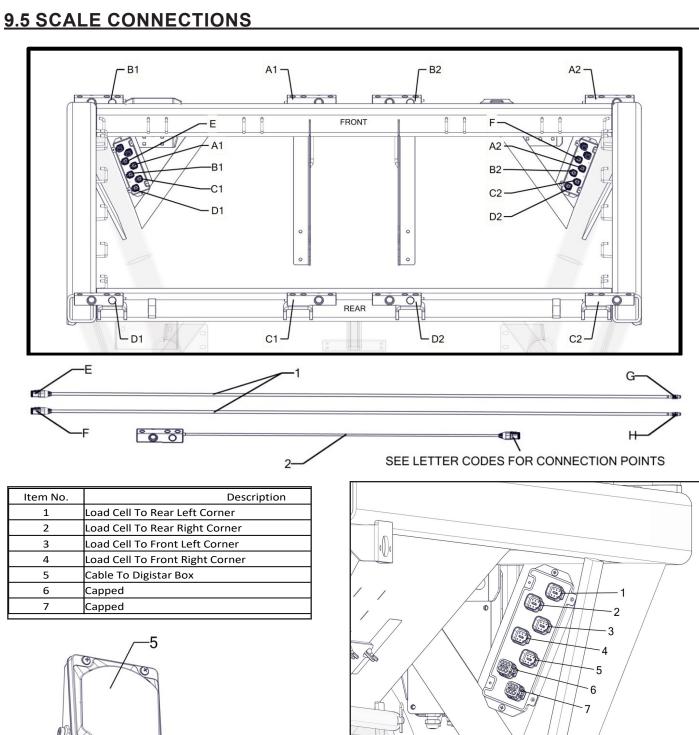












ISO Scale ECU

J-Box and J-Block locations will vary by

model. Refer to the specific product parts manuals at www.montagmfg.com for details.

G (TANK 2)

H (TANK 1)

Н

### 9.6 ELECTRICAL CONNECTOR PINOUTS

### TRACTOR ISO HOOK-UP



Pin#	Signal	
1	OV HC	
2	0V Electronic	
3	12V HC	
4	12V Electronic	
5	Pin	
6	CAN Enable (TBC +)	
7	CAN Ground	
8	CAN H	
9	CANL	

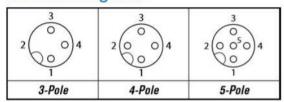
### **6 PIN DEUTSCH**



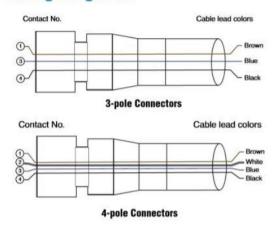
6 PIN DEUTSCH	SCALE CAN	SCALE LOAD CELL
PIN 1	12 VDC	+EXC
PIN 2	CAN-H	-EXC
PIN 3	0 VDC	+SIG
PIN 4	CAN-L	-SIG
PIN 5	PLUG	SHIELD
PIN 6	PLUG	PLUG

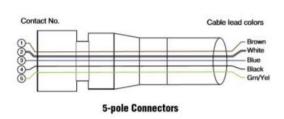
### **M12 HARNESS END PINOUTS**

### **Contact Diagrams**



### Wiring Diagrams





M12 HARNESS	SPEED SENSOR	GATE SENSOR	SCALE
PIN 1	12 VDC	12 VDC	+EXC
PIN 2		SIGNAL	-SIG
PIN 3	0 VDC	0 VDC	+SIG
PIN 4	SIGNAL		-EXC
PIN 5			SHIELD



### **3 PIN DEUTSCH**

3 PIN	FAN PRESSURE
A	12 VDC
В	Signal
С	0 VDC

### 9.7 SPEED SENSOR REPLACEMENT

Installation Information No. 4-1-106 July, 1997

F:T·N

# Char-Lynn® Motors Speed Sensor

Eaton Corporation Hydraulics Division 15/151 Hwy, 5 Eden Prame, MN 55344 Telephone 612/937-9800 Fax 612/937-7130 Eaton Ltd.
Hydrautics Division
Genrothes, Fide
Scotland, 877 4MW
Telephone 01-592-771-771
Fax 01-592-773-184

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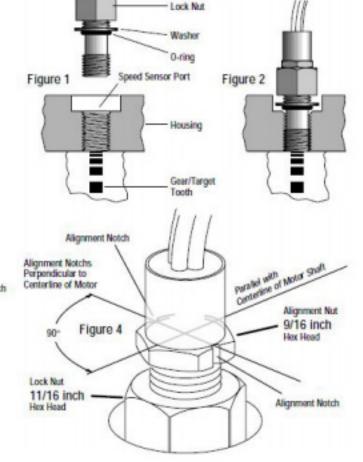
- 1 Rotate the motor shaft until a (gear/target) tooth is centered in the speed sensor port. If this is not done, the sensor may be damaged during the operation of the motor.
- 2 Make sure the lock nut and its threads are clean and dry for the proper torque. Position the lock nut against the alignment nut as shown in Figure 1.
- 3 Move the washer and the o-ring up against the speed sensor body threads as shown in Figure 1.
- 4 By hand, lightly thread the speed sensor body into the housing until the sensor touches against the motor (gear/target) tooth. Do not force the sensor against the (gear/target) tooth, damage may occur. Make sure the o-ring or the washer do not touch the housing see Figure 2.
- 5 Turn the speed sensor body out one quarter turn (CCW) plus the additional amount (CCW) needed to make the alignment notches perpendicular to the motor shaft centerline (90° +/-5 degrees from the motor shaft centerline Figure 3 and 4).
- 6 Maintain the speed sensor body alignment (Figure 4), and tighten the lock nut to 8,5-14 Nm [75-125 lb-in.] (torque values are for clean dry threads).

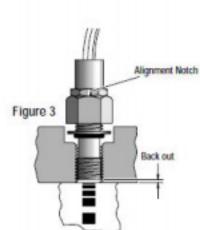
Speed Sensor Body

Alignment Nut

7 Check the speed sensor body for correct alignment (Figure 4), reinstall the sensor if it is not correct.

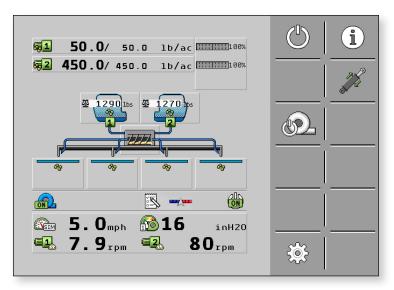
Speed Sensor Installation







## ISOBUS Dry Rate Controller Set-Up Guide

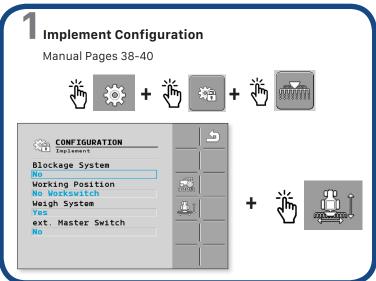


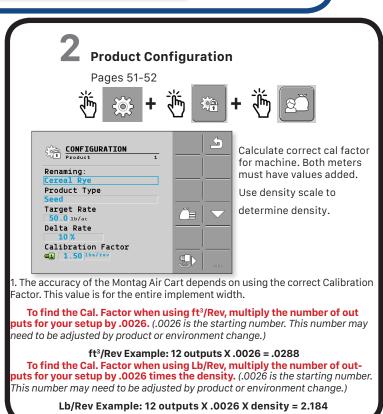
For updated manuals and additional support materials, visit our website @ Montagmfg.com

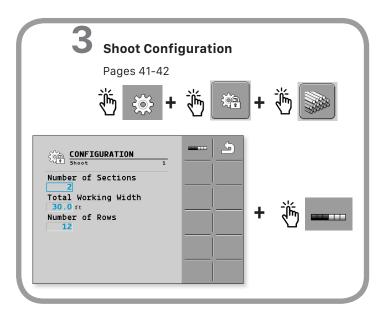
Last Update: 10/18/2018

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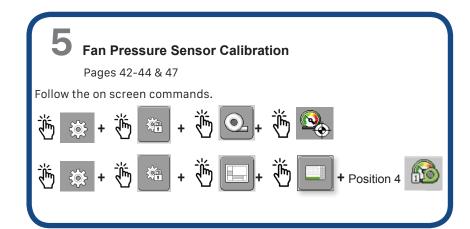
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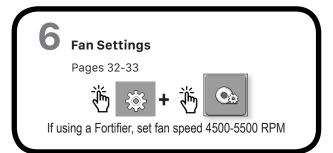


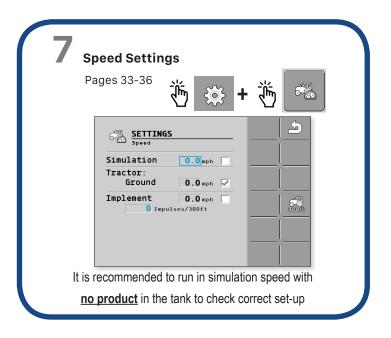


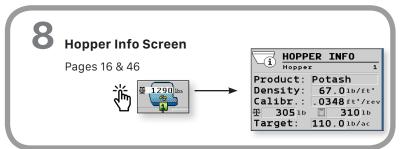


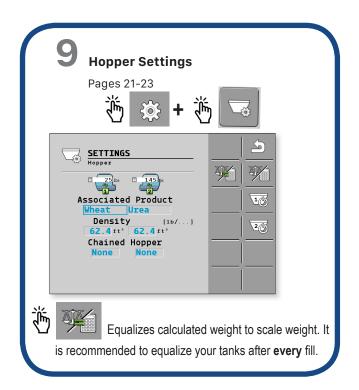






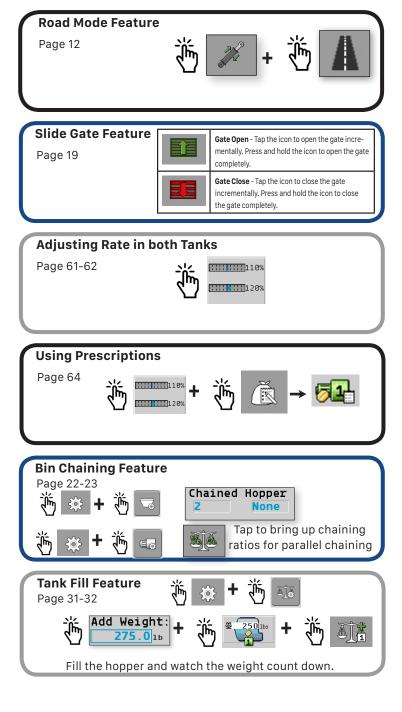






**Note:** Pages numbers may not correspond to earlier manual versions. Some set-up features may also be unavailable in earlier software versions.

### 10 Additional Set-Up Features



### 9.9 ROW CALIBRATION INFORMATION

### CALIBRATION INFORMATION - GEN 2 MONTAG SUPPLIED CONTROLLER

Displacement per Row = Gen 2 Meter (2" hoses) 0.0026 Cubic ft. / Rev.

CFR (cubic ft / Revolution) = Displacement per Row X Number of Rows = CFR

Adjust CFR = Actual Rate or Scale weight X Current CFR = New CFR Cal#

Desired Rate or Weight displayed on controller

### **CALIBRATION INFORMATION - GEN 2 CUSTOMER SUPPLIED CONTROLLER**

Flow Control Valve = PWM Closed

12 Volt 110 Hertz

Meter Control Valve Cal # = 1023 (See Controller manual for fine tuning)

Encoder = 12 Volt 60 Pulses / Rev.

Auger Drive = Gear Ratio 3.14 to 1

Meter Speed Sensor Cal # = 60 x 3.14 = 188.4 (pulses per auger revolution)

Low limit/High limit = (Use default setting see controller manual for instructions)

Auger RPM Gen 2 meter 10 – 150 MAX

Tank Capacity = 4.5 Ton per tank 150 cu/ft or 120 bushels

Displacement per Row = Gen 2 Meter (2" hoses) 0.0026 Cubic ft. / Rev.

CFR (cubic ft / Revolution) = Displacement per Row X Number of Rows = CFR

Adjust CFR = Actual Rate or Scale weight
Desired Rate or Weight displayed on controller

X Current CFR = New CFR Cal#

Spreader Constant = Meter Speed Sensor Cal# = Spreader Constant

Adjust Spreader Constant = Spreader Constant Actual Rate X Desired Rate=New Spreader Constant

#### **Controllers with Automatic Calibration Functions:**

The Montag applicators fan must be running at normal operating pressure when performing automatic calibration functions on a controller such as PWM limits or performing catch tests.



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