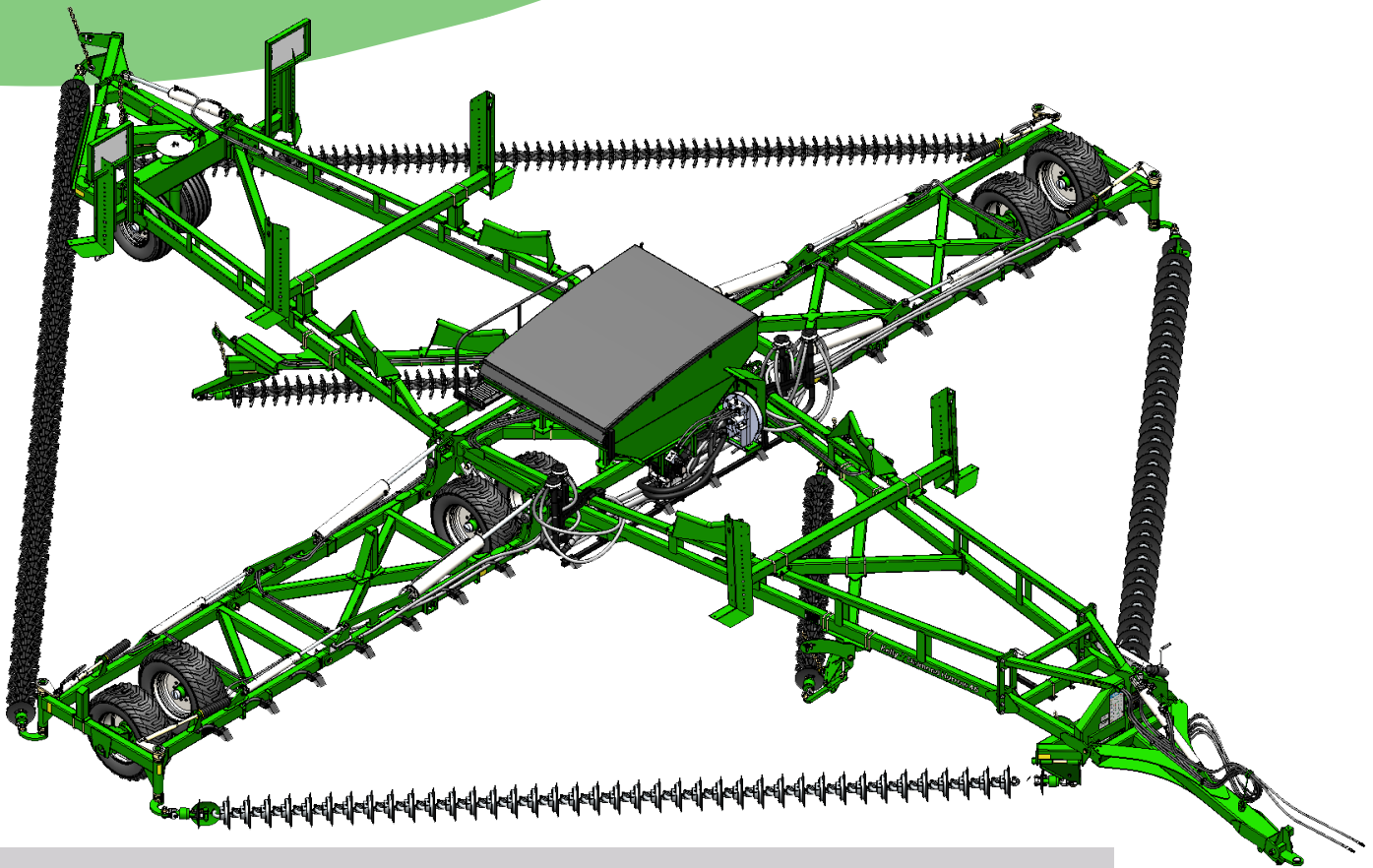# Kelly

TILLAGE SYSTEM

Kelly Seeder
Operating Instruction Manual

Serial number:

Register within 2 months of purchasing the machine to receive an additional 12 months warranty.

Find the registration information on page 5

Revision B

Kelly Engineering
PO Box 100
Booleroo Centre SA 5482
Australia

Phone: + 61 8 8667 2253
Email: sales@kellytillage.com
Website (Australia): www.kellytillage.com

Thank you for choosing a Kelly Seeder

We trust that you find the following manual clear and easy to follow. If you should require additional customer support or assistance, please do not hesitate to contact us.

Spare parts can be purchased, as required, through your local dealer or by contacting Kelly Tillage directly.

Kelly Tillage welcomes feedback. Should you have any difficulties that you wish to raise, suggestions for improvement or modifications that you feel would enhance our products, we look forward to hearing from you.

Contact Information

Australia
Kelly Tillage
PO Box 100
Booleroo Centre SA
Australia 5482

Phone: + 61 8 8667 2253
Email: sales@kellytillage.com
Spare Parts: parts@kellytillage.com
Website: www.kellytillage.com

USA
Hood & Company Inc
Springfield MO
Phone: +1 417 865 2100
Email: hoodco@hoodco.com

Canada
Adair Sales & Marketing Company Inc
Swift Current SK
Phone: +1 306 773 0996
Email: info@adairreps.com

Contents

Section 1
Warranty

Kelly Tillage Product Registration

Register within 2 months of purchasing the machine to receive an additional 12 months warranty

This form must be completed & returned to Kelly,
either online, emailed or posted in order to receive
the additional 12 months warranty

Please return the registration & survey to :

Fill out online

http://www.kellytillage.com/machine-registration/

Mail to   **Email**
Kelly Tillage   sales@kellytillage.com
PO Box 100, Booleroo Centre SA 5482 Australia

Purchaser/ owner

Name _____

Address _____

Email address _____

Contact number _____

Purchasing Details

Place of purchase _____   Date of purchase _____

Model purchase _____   Serial number_____

Occupation
○ Farmer   ○ Customer operator   ○ Other _____

What brought Kelly Tillage products to your attention ?
○ Field Day   ○ Friend/ neighbor   ○ Local Dealer   ○ Website
○ Dealer   ○ Family   ○ Radio   ○ Referral Source _____
○ Demonstration_____   ○ Magazine/ newspaper_____

On a scale of 1 to 10 (10 being highest) how likely are you to recommend us to friends and family ?

1	2	3	4	5	6	7	8	9	10

If you scored 8 or below then what must we do to become a 10 in your opinion?
_____
_____

If you scored 9 or above then please tell us why you gave us this score?
_____
_____

Satisfaction with dealer/ agent
Was the machine pre-delivered satisfactorily ?   ○ Yes ○ No _____
Were agents well informed about the product ?   ○ Yes ○ No _____
Would you recommend the agent to other farmers ?   ○ Yes ○ No _____

5

Warranty Policy

The warranty for the machine will be null and void if any non-genuine Kelly part is used on the machine.

Kelly guarantees its products against faulty workmanship and materials for twelve (12) months from date of purchase. Disc Chain, Prickle Chain and Swivel Bearing units are considered to be wear items and it's reasonable to expect that these parts may need to be replaced over time. We do however guarantee the Swivel Bearing units for a period of twelve (12) months or 10,000 acres, whichever occurs first.

Prickle Chains and all Disc Chains excluding the CL2 will be warrantied for a useful life span of 50,000 acres. The cast linkage sections of the CL2 discs are warrantied for 50,000 acres, while the replaceable disc is a wear part and warrantied against faulty materials.

Kelly is offering an additional 12 month warranty if the machine is registered within 2 months of purchasing the machine. Machine registrations can be completed by the customer or dealer on the Kelly website or by the warranty registration form in the operator manual.

Kelly's warranty policy does not cover misuse, modifications, damage during transit or product that has not been maintained per the Kelly maintenance procedures outlined in the relevant product manual. Failure to properly maintain the machine or blatant misuse shall result in the warranty being null and void.

The warranty for the machine will be voided immediately if any non-Kelly OEM (Kelly original equipment manufacturer) part is used on the machine.

Kelly reserves the right to request written, photographic or video documentation prior to any warranty authorisation. All warranty queries and requests for authorisation can be directed to warranty@kellytillage.com.

Any warranty repair, service or modification to products must be pre-approved by Kelly in writing and performed by an authorised Kelly dealer. If there are service parts needed this must be ordered through Kelly parts distribution and Kelly will issue a Returned Goods Authorization (RGA) for any faulty parts that are to be returned.

To ensure the continuity of warranty, related to any approved claims, it is expected that all warranty repair works are completed in a timely fashion, as specified by Kelly.

 Any claim for warranty, labour or parts must be completed on the Kelly website.

Warranty claims are to be lodged within 30 days of completion of work. If further information is requested on the claim from the Warranty Officer, you have 30 days to provide the information. If you fail to apply with the above instructions the warranty claim will be declined and closed.

Upon completion and approval of this claim the dealer will receive a credit to their account.

To activate the warranty a product registration form must be lodged with the manufacturer.

Machine registration

Customer registration: http://www.kellytillage.com/machine-registration/

Dealer registration: http://www.kellytillage.com/warranty-registration-2/

Section 2
Safety Information

Safety Information

Read all operating instructions thoroughly before using the Kelly Seeder

Please note:
Left and right is determined by standing behind the machine and looking to the front.

Safety Information

CAUTION

ATTENTION
BE ALERT
YOUR SAFETY IS INVOLVED
Watch for this symbol. It identifies potential
hazards to health or personal safety.

Signal Words
A signal word - **DANGER**, **WARNING**, or **CAUTION**, is used with the safety alert symbol. When you see this symbol on your machine or in this manual, be alert to instructions involving your personal safety and the safety of others.
Failure to follow these instructions can result in injury or death.

DANGER - Indicates an immediate hazardous situation that, if not avoided, will result in **DEATH OR SERIOUS INJURY**.

WARNING - Indicates a potentially hazardous situation that, if not avoided, could result in **DEATH OR SERIOUS INJURY.**

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in a **MINOR OR MODERATE INJURY.**

Carefully read all safety points in this manual and on your machine. Keep all safety decals in good condition and replace any that have deteriorated or are missing. Replacement decals are available by contacting your local dealer.

Safety guidelines
• This equipment is dangerous to children and persons unfamiliar with its operation.
• 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.
• Do not attempt to operate this equipment under the influence of drugs or alcohol.
• Review the safety instructions with all users annually.

If any safety decals are missing, please contact your local dealer immediately and do not use the machine

Before operation

• Carefully study and understand this manual.
• Do not wear loose fitting clothing that may catch in moving parts.
• Always wear protective clothing and footwear.
• Be sure that there are no tools lying in or on the equipment.
• Do not use the machine until you are sure that the area is clear, particularly of children or animals.
• If this machine is being used in a dry area, or in the presence of combustibles, care should be taken to
    prevent fires and fire fighting equipment should be readily available.

• Familiarise yourself and other operators with the machine's operation before using.

General operation

• Proceed cautiously under overhead powerlines and around power poles, as contact may result in the
    operator suffering a severe electrical shock.
• Never allow anyone within the immediate area when operating machinery.
• Stand clear when raising or lowering wings.
• Never enter hopper with machine connected to hydraulic supply/tractor and/or supply/tractor running.
• Always lock out tractor and check hand brake when accessing underside of Seeder.

Transporting

• Always travel at a safe speed. **NEVER EXCEED 15mph.**
• Ensure transport safety lock valves are closed during transport to ensure machine is transported safely.
• Ensure your speed is low enough for an emergency stop to be safe and secure and reduce speed prior
    to turns.
• Ensure safety chain is attached correctly to the towing vehicle.
• Please refer to your own country, state, provincial, county or municipality laws on the rules of transporting
    farm machinery on roads.
• Ensure that disc or prickle chains are engaged in chain guides and supports. Disc or prickle chain should
    be clear of the ground.
• Be aware of the height, length and width of the machine. Beware of obstacles and overhead powerlines.
• Use approved accessories and necessary warning devices on the road during both day and night time
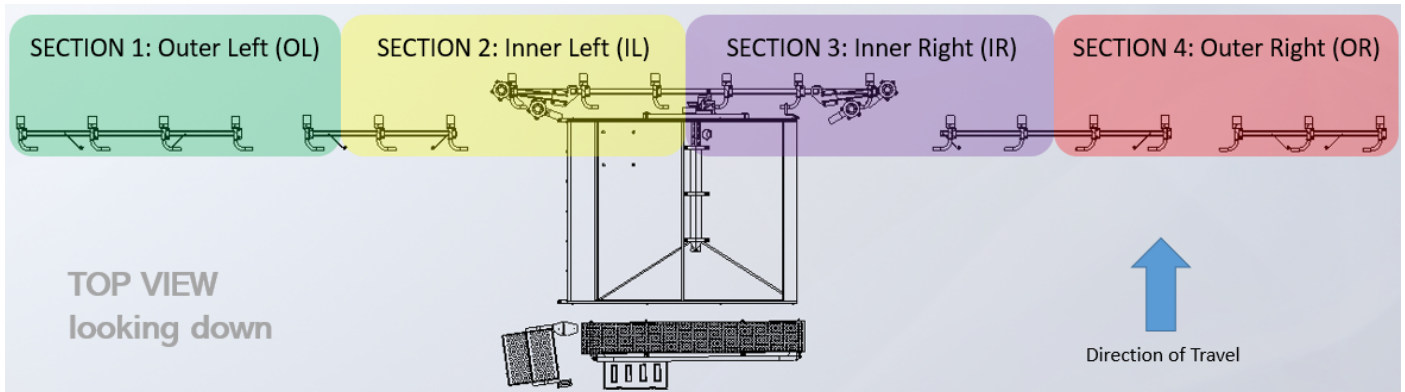   transporting.

Hydraulics

• Before servicing or repairing the hydraulic system, ensure machine is unfolded and lowered into working
    position. Never remove hydraulic hoses or hose ends while the machine is in transport position or the
    wings are folded. Relieve all hydraulic pressure before disconnecting hydraulic hoses and fittings.
• Ensure all fittings and hoses are in good condition.
• Prior to inspecting the machine for hydraulic leaks, ensure that adequate hand and face protection is in
    place - high pressure hydraulic leaks can cause hydraulic fluid to penetrate the skin, in which case,
    immediate medical attention may be required.
• Ensure that area surrounding the machine is clear before operating hydraulics.
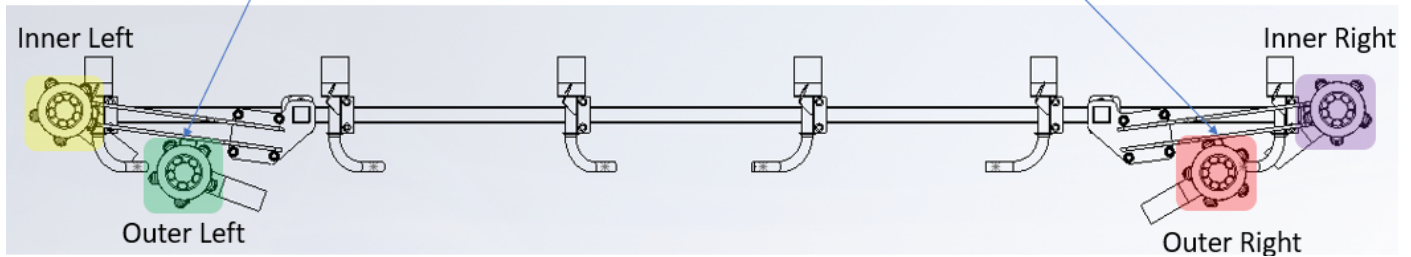• Maintain proper hydraulic fluid levels and pressure.
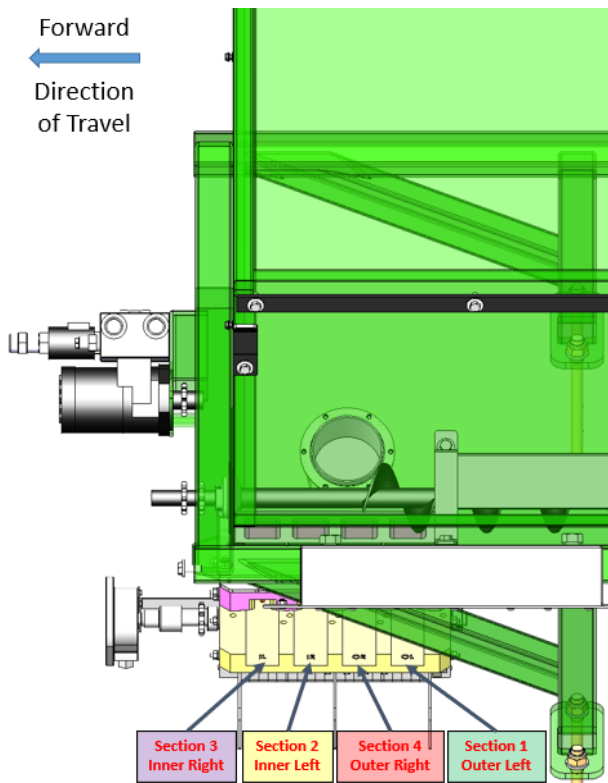
Section 3
Commissioning Quick Steps

Sections

Following assembly, the air systems should all be connected through from the fan to the nozzle. The sections are numbered from left to right on the machine.

SECTION 1: Outer Left (OL) SECTION 2: Inner Left (IL) SECTION 3: Inner Right (IR) SECTION 4: Outer Right (OR)

TOP VIEW looking down

Direction of Travel

The heads servicing the outer sections should be erected highest

Inner Left

Outer Left

Inner Right

Outer Right

The images below illustrate which opening in the tank corresponds to which section of the boom.

Forward
Direction of Travel

| Section 3 Inner Right | Section 2 Inner Left | Section 4 Outer Right | Section 1 Outer Left |

Serial #'s
- PJ 17 0001 46V1
- PJ 17 0002 46V1
- PJ 17 0003 46V1
- PJ 17 0004 46V1
- PJ 17 0005 46V1

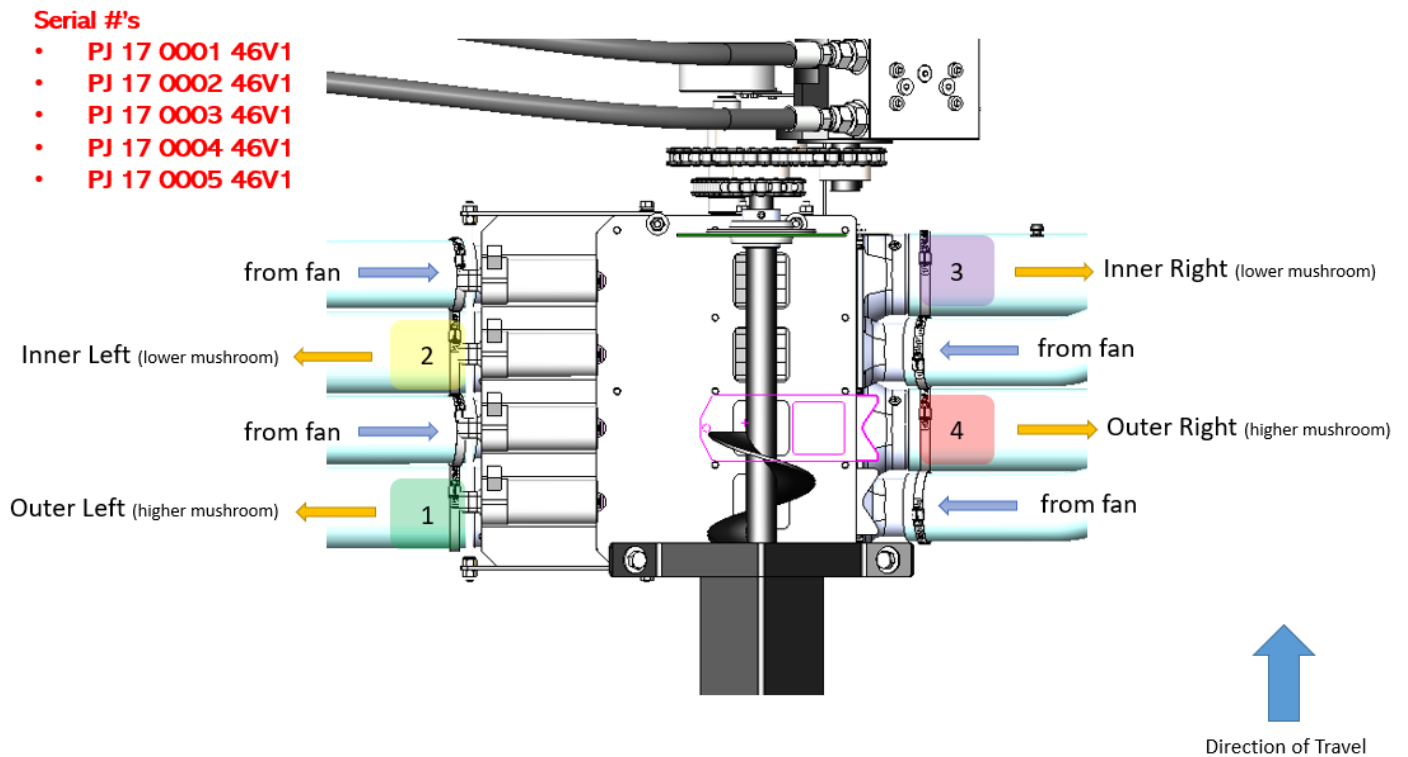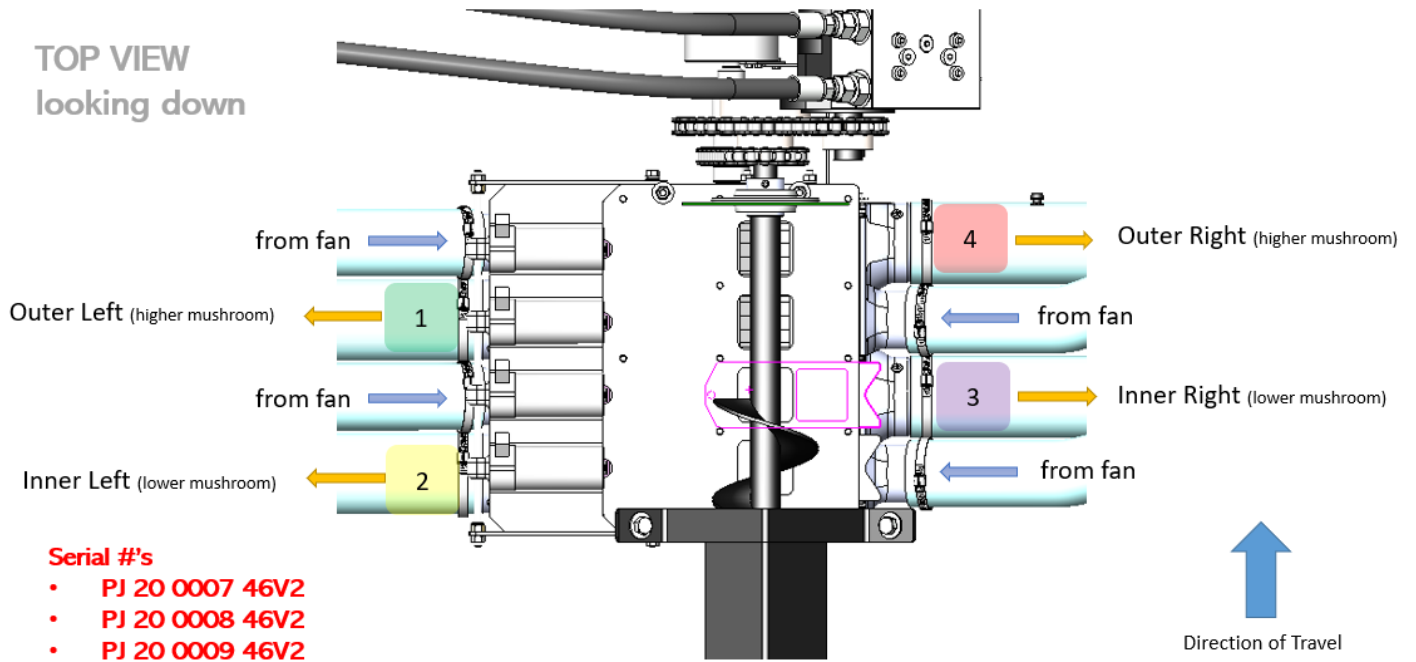| Section 4 Outer Right | Section 1 Outer Left | Section 3 Inner Right | Section 2 Inner Left |
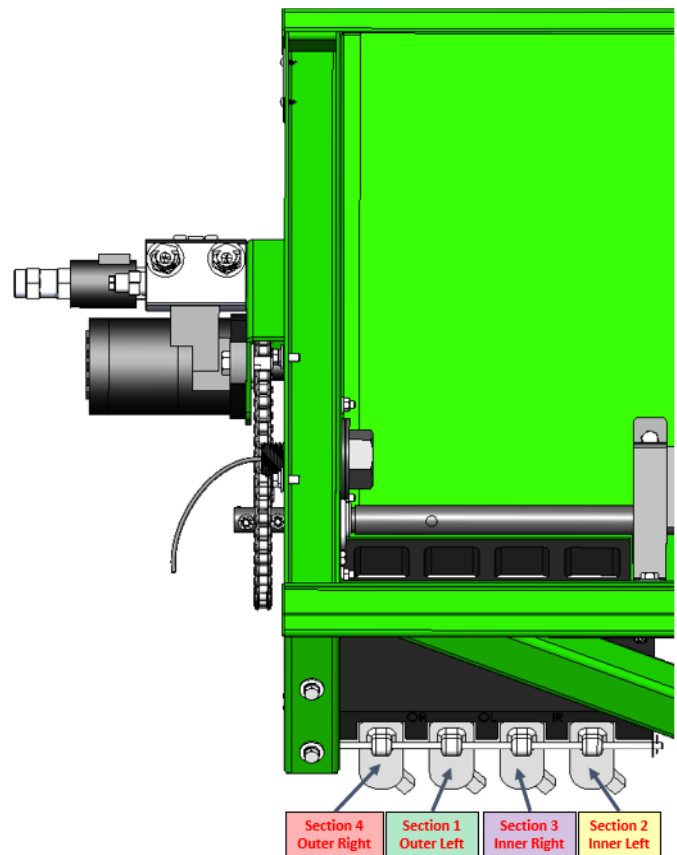
Serial #'s
- PJ 20 0007 46V2
- PJ 20 0008 46V2
- PJ 20 0009 46V2

Sections

The below diagrams illustrate the configuration of the air hoses.

TOP VIEW looking down

from fan →

Outer Left (higher mushroom) ← **1**

from fan →

Inner Left (lower mushroom) ← **2**

4 → Outer Right (higher mushroom)

← from fan

3 → Inner Right (lower mushroom)

← from fan

Direction of Travel ↑

Serial #'s
- PJ 20 0007 46V2
- PJ 20 0008 46V2
- PJ 20 0009 46V2

Serial #'s
- PJ 17 0001 46V1
- PJ 17 0002 46V1
- PJ 17 0003 46V1
- PJ 17 0004 46V1
- PJ 17 0005 46V1

from fan →

Inner Left (lower mushroom) ← **2**

from fan →

Outer Left (higher mushroom) ← **1**

3 → Inner Right (lower mushroom)

← from fan

4 → Outer Right (higher mushroom)

← from fan

Direction of Travel ↑

Electrical

The electrical control components are located in the cabinet bolted to the left side of the seed bin. Connect the looms according to the following schematic. This system runs on 12V DC current, supplied through the ISO loom from the tractor. All the electronic connections are uni-directional to acoid faults due to polarity. Be sure to connect the correct actuator to the specifically labelled connector, in line with figure above. The sections are imprinted on the shutoff mechanism for clarity.
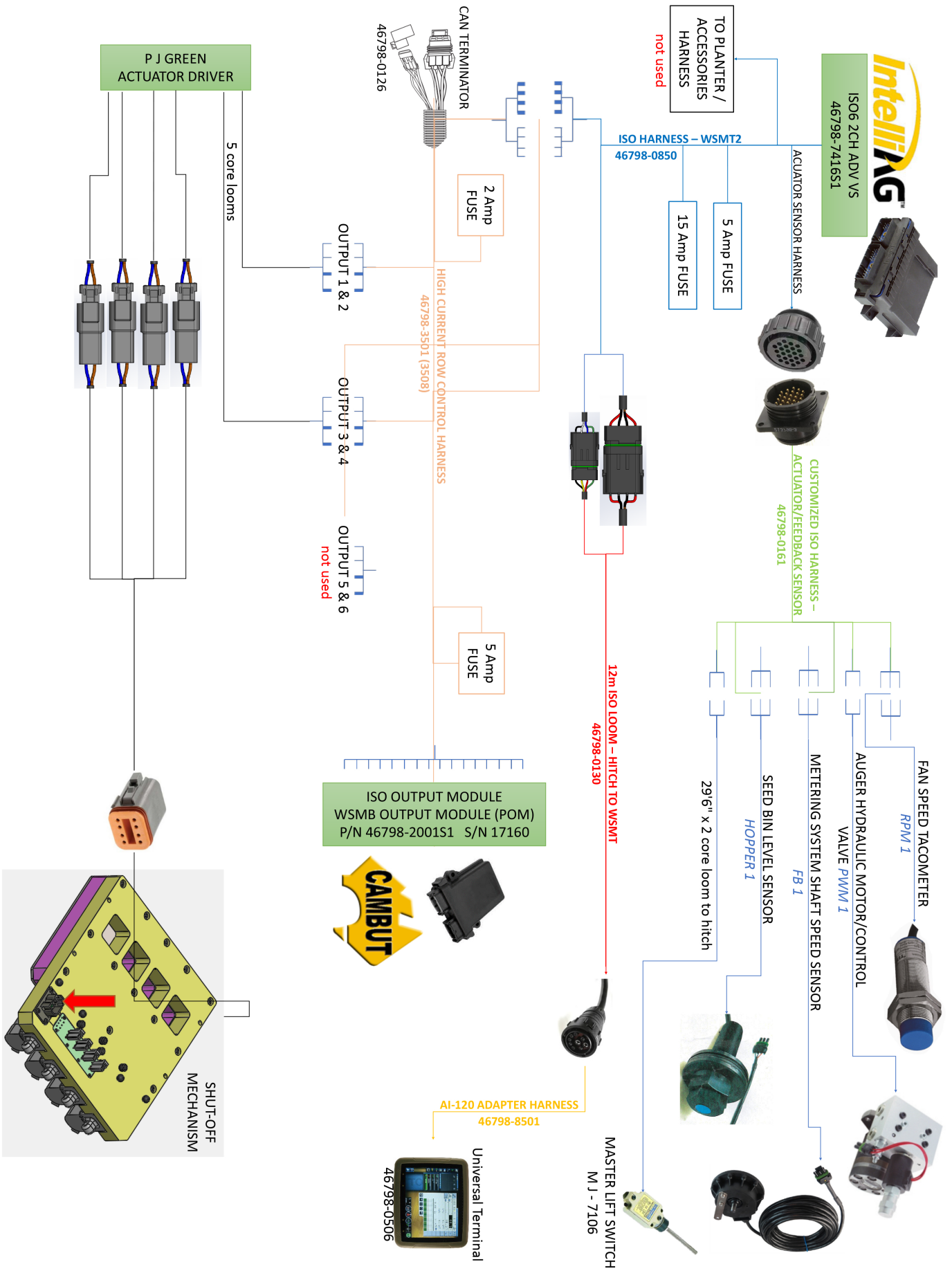
Implement Harness Installation

Follow the instructions below to connect the electrical cables illustrated on page 15.

1. Starting at the **Kelly Seeder** hopper, route the main connector of **ISO Loom-Hitch to WSMT** (46798-0130) through the tube on the right hand side of the **Front A-Pull**.
   Note: Harness connector should extend past the front of tow hitch by approximately 5' (1.5m) to allow for machine movement.
2. Connect the accessory sensors to the customised 0161 ISO actuator sensor harness: tacometer for fan speed, PWM sensor for Hydra-Drive valve connector, hopper level sensor, metering system shaft speed sensor and the 29'5" two-core loom to the hitch for the masters lift switch.
3. Connect the PJ Green actuator driver into the 'output' connectors of the Row Control Harness.
4. Connect each actuator plug into the individual 2-core looms from the PJ Green actuator driver.
5. Make sure that there is signal successfully captured in the cab on the ISO6 screen.
   If the RPM measures over 5000rpm, then the proxy sensor needs to be adjusted so that it is only seeing one fin on the star wheel.
6. With all connections in place, use zip ties to position the looms neatly.
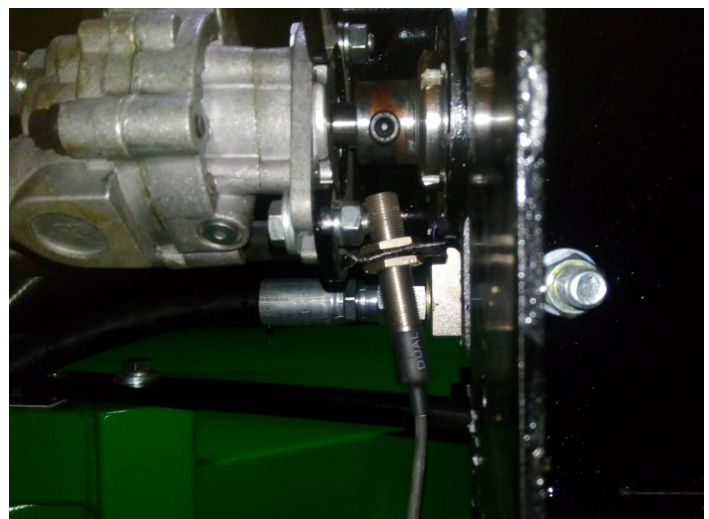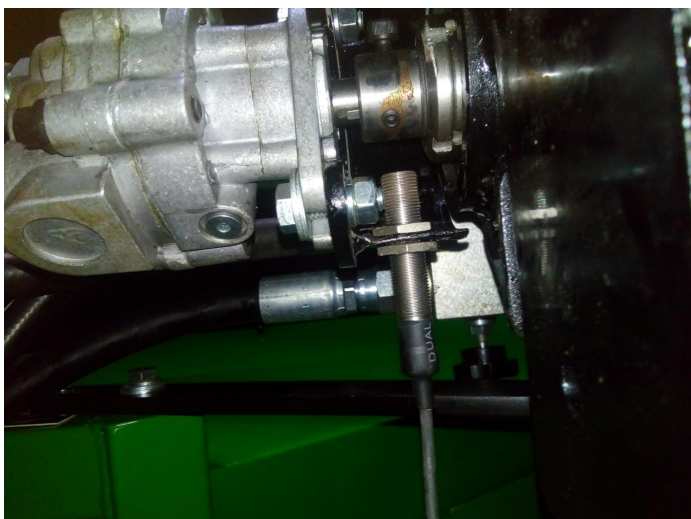
If the fan speed indicator is reading in excess of 7000rpm, the sensor is double reading the grub screw. Angle the sensor as shown to avoid this issue.

Electrical

P J GREEN
ACTUATOR DRIVER

5 core looms

CAN TERMINATOR

46798-0126

not used

TO PLANTER /
ACCESSORIES
HARNESS

Intelli**AG**™

ISO6 2CH ADV VS
46798-7416S1

ACUATOR SENSOR HARNESS

ISO HARNESS – WSMT2
46798-0850

2 Amp
FUSE

OUTPUT 1 & 2

15 Amp FUSE

5 Amp FUSE

HIGH CURRENT ROW CONTROL HARNESS

46798-3501 (3508)

OUTPUT 3 & 4

OUTPUT 5 & 6

not used

CUSTOMIZED ISO HARNESS –
ACTUATOR/FEEDBACK SENSOR
46798-0161

5 Amp
FUSE

12m ISO LOOM – HITCH TO WSMT
46798-0130

FAN SPEED TACOMETER
RPM 1

AUGER HYDRAULIC MOTOR/CONTROL
VALVE *PWM 1*

METERING SYSTEM SHAFT SPEED SENSOR
FB 1

SEED BIN LEVEL SENSOR
HOPPER 1

29'6" x 2 core loom to hitch

ISO OUTPUT MODULE
WSMB OUTPUT MODULE (POM)
P/N 46798-2001S1   S/N 17160

CAMBUT

SHUT-OFF
MECHANISM

AI-120 ADAPTER HARNESS
46798-8501

46798-0506

Universal Terminal

MASTER LIFT SWITCH
MJ - 7106

Shutoff Mechanism

For diagnostic purposes, each actuator is supplied by a two-core loom, comprising a blue & brown wire. When power (+12V) is supplied on the brown wire, the actuator will extend, thus closing the gate. Conversely, when power is supplied on the blue wire, the actuator will retract, thus opening the gate. The brown wires are connected to the red wires of the actuators.

For serial numbers **PJ 17 0001** to **PJ 17 0005**, the following schematic describes the wiring connections.
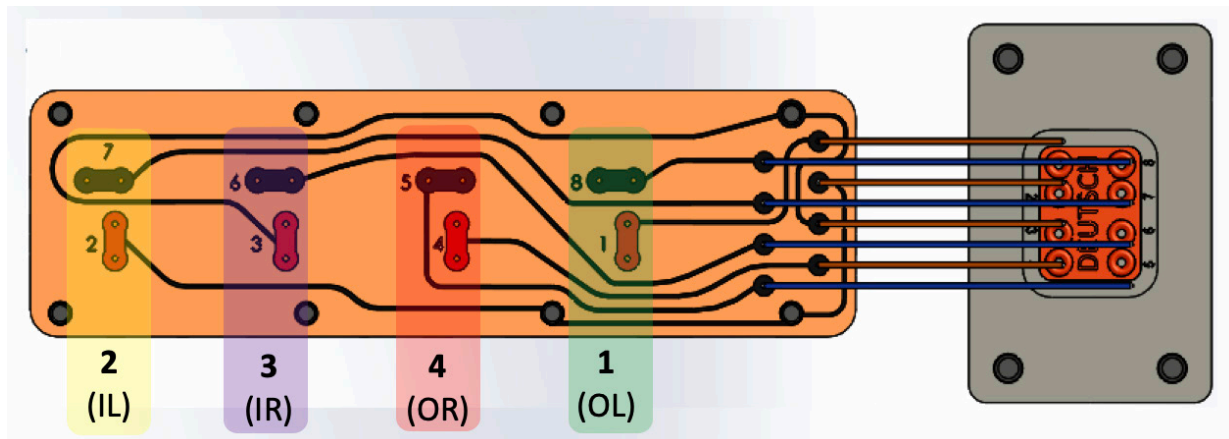
Test operation of gates before use. Ensure gates are free to slide in their slot (each actuator can be removed individually for inspection).

Plumbing

All 1 1/4" hose should be plumbed from correct distributer head to the correct section of deflector plates shown in the diagram on page 15. Avoid hoses running uphill. Check hoses when folding for the first time.

Daily checks of hoses are recommended to check for kinks or blockages.

Master Lift Switch

The master lift switch, triggered by the lowering of the front drawbar cylinder, cuts off the seeding unit when the front pull is raised for headlands or transport. It is connected into the main loom by a simple 2 core cable. This must be connected in order to access the setup menus on the ISO6 controller.

Metering Block Maintenance

When Kelly Seeder is not in use clean out metering rollers with high pressure air to avoid build up of dust and coatings in roller teeth. This could cause damage or inaccurate rates if left unmaintained.

Check feed run rollers are free to move before filling tank. The gates can be manually operated from the screen by pressing on the red/green section squares.

The metering system and associated venturi system is designed to achieve maximum delivery rates of 90lb/acre. Therefore, it is highly recommended to watch for spilling or overflowing from the top of the venturi with a camera or similar.

Keep tarp closed when operating, overnight or when not in use.

Filling the Hopper

With the machine unfolded, position your augur's wheels against the front main chain. This is the closest access point reaching over the hopper. Alternatively, with the machine folded, you can direct the seed through the wing truss frame.

Hopper Seed Dump

The below image shows the location of the chute on the bottom of the bin used for draining the seed and cleaning the augur.
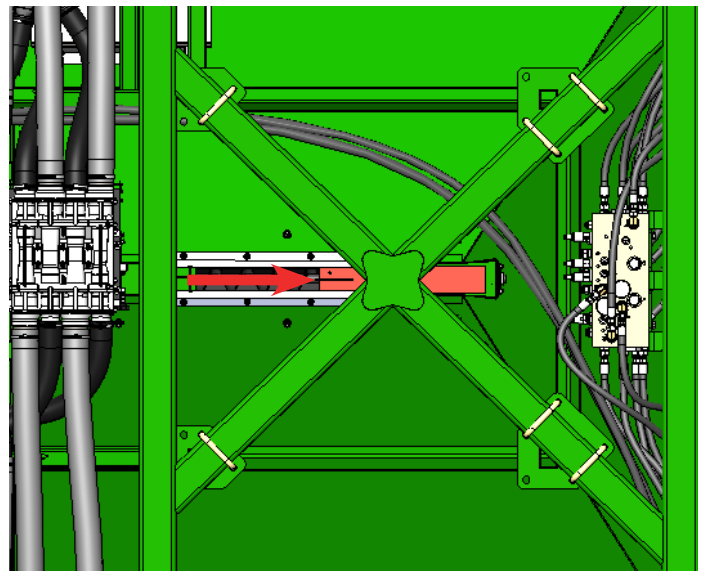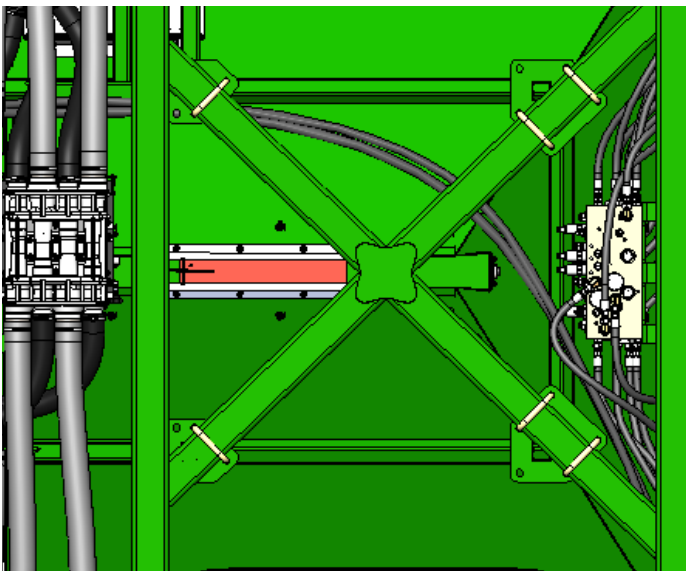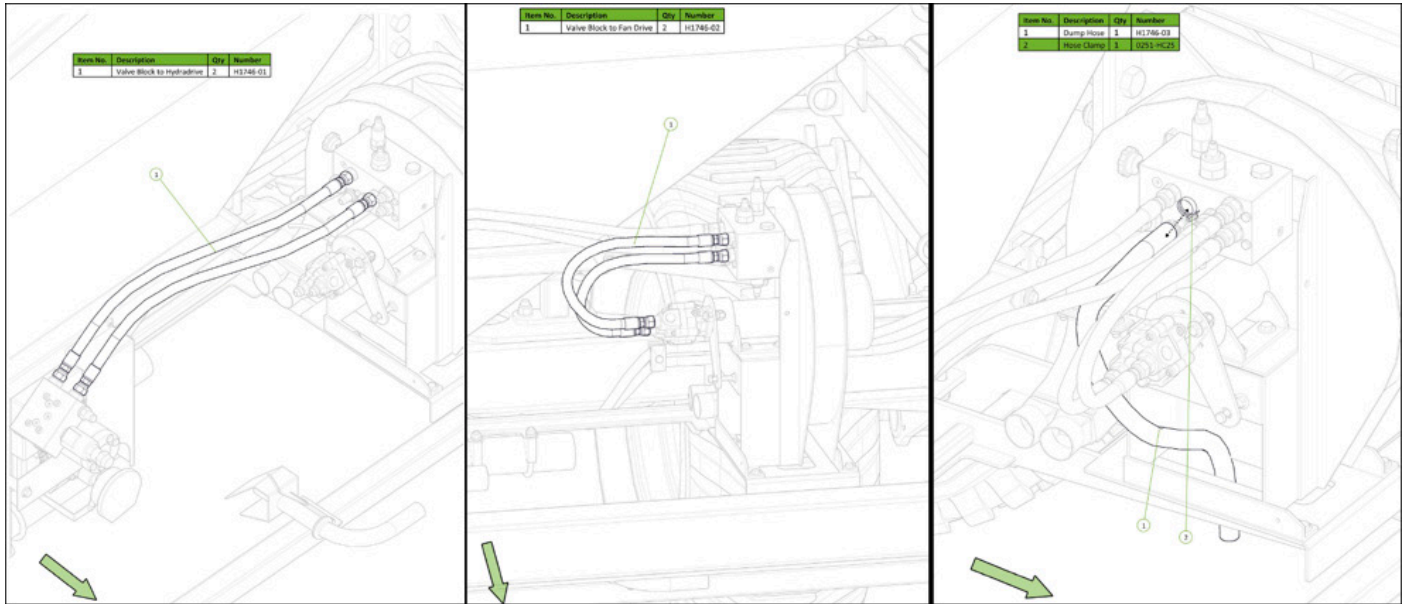

Hydraulic Settings

Before operation, connect all hydraulics. The larger 5/8" hose is the return line. It is highly recommended that tractor is fitted with low pressure return coupling to tractor.

Fan Speed Setup

1. Take note of which valve the fan hydraulic block is connected to.

The hydraulic hoses used to drive the valve block for the auger Hydra-Drive control valve (left), the fan hydraulic motor (centre) and the dump hose for safety (right).

2. For the setup, set the flow rate from the tractor to its lowest. With the screen ON, engage the fan hydraulics. Fan speed should increase. **IF NOT STOP!**
   Note: If fan cannot return oil, oil will be dispersed onto the ground under the fan to prevent overpressurising and damaging hydraulic motor. If running return line through remotes try swapping hoses around in remotes and check connection.
3. Desired Fan Speed setting is 4400-4600 RPM.
   Note: Oil should be up to running temperature before adjusting fan speed.
4. If the fan has reached its speed & the tractor flow is not at a maximum, you'll need to adjust the fan speed backflow control knob. This is the knob positioned on the rear of the fan hydraulic manifold block. Screw this in, so the fan speed slows and out for a faster fan speed. When tractor flow is at a maximum, then the fan speed should be in the desired range.
5. THE FAN SPEED MUST NOT EXCEED 4600RPM.
   Note: With fan running, the **Hydra Drive** unit on Kelly Seeder needs to be calibrated when fitted to a new tractor or every season before sowing.

Valve Calibration

Your hydraulic system must be plumbed and in good working order to proceed. Start the hydraulic system and bring the hydraulic pump and fan up to normal working rpm.

1. Use the 'Shaft Turn' (which triggers a full rotation of the shaft at a time) to prime the rollers, before installing the socks for calibration.
2. Install calibration socks from toolbox into distributor head.
3. Raise the machine to turn off Master switch. Have the fan running at operating speed. Valve Calibration is in the Controls Menu on the screen. Follow the prompts. See item 7.2. on page 25.
4. Auger RPM setup - settings of the Seeder valve block are set by PJ Green from factory.

Section 4
IntelliAg ISO6
Quick Setup Guide

IntelliAg Setup

This guide summarises the key steps in setting up the parameters for this section control system on the 4614 Kelly Tillage System.

The IntelliAg system was chosen because of its ability to implement section control and its compatibility with ISO compliant universal terminals. Therefore, much of the operation of the seeder should be guided off their operator's manual.

http://www.dickey-john.com/_media/1-1486_1.pdf https://www.greatplainsmfg.com/manuals/pdf/6011258.pdf

Completing the setup in the order shown in this document will prevent any information being overwritten. Not all options will apply to every system. Refer to the manual for further information on any aspect. The "Implement Lift Switch" cannot be disabled. Once on the Work Screen, you cannot return to the Home Screen while the Implement is down.

Home Screen

Work Screen

Show All Setup Menus Customise

Home Screen Software Version
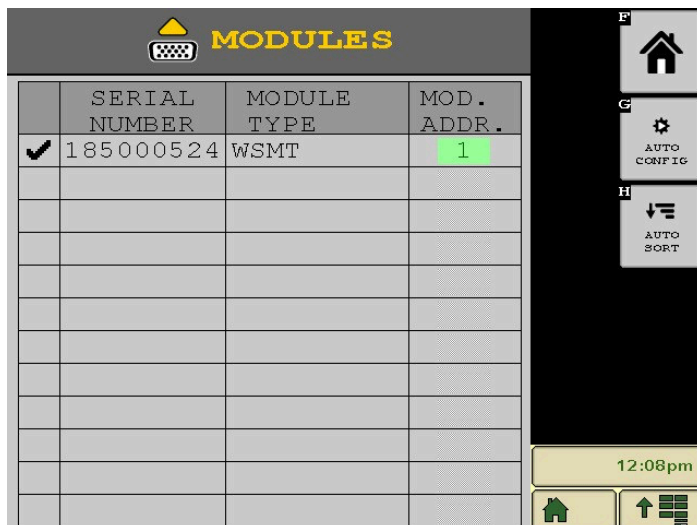
Setup Menus
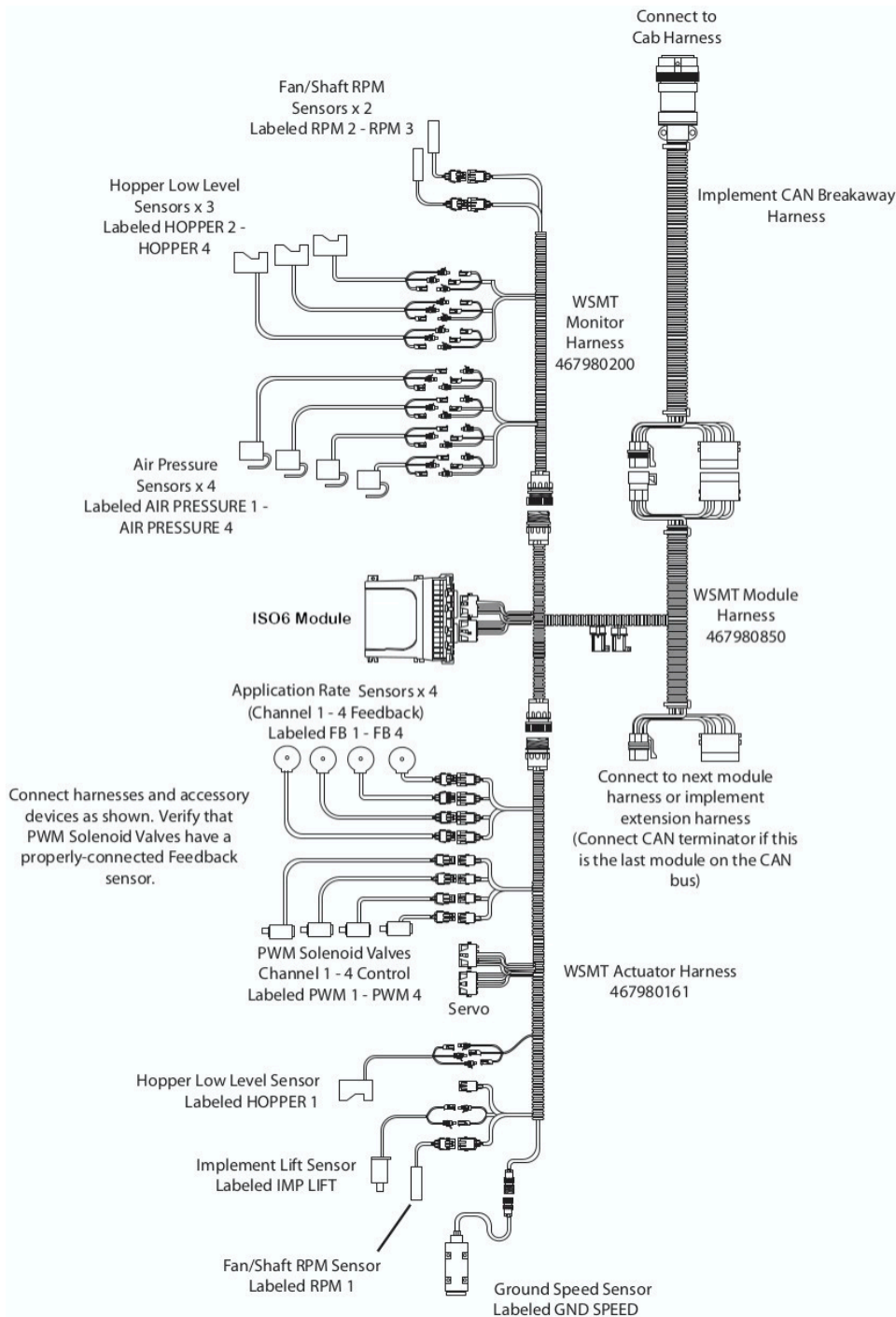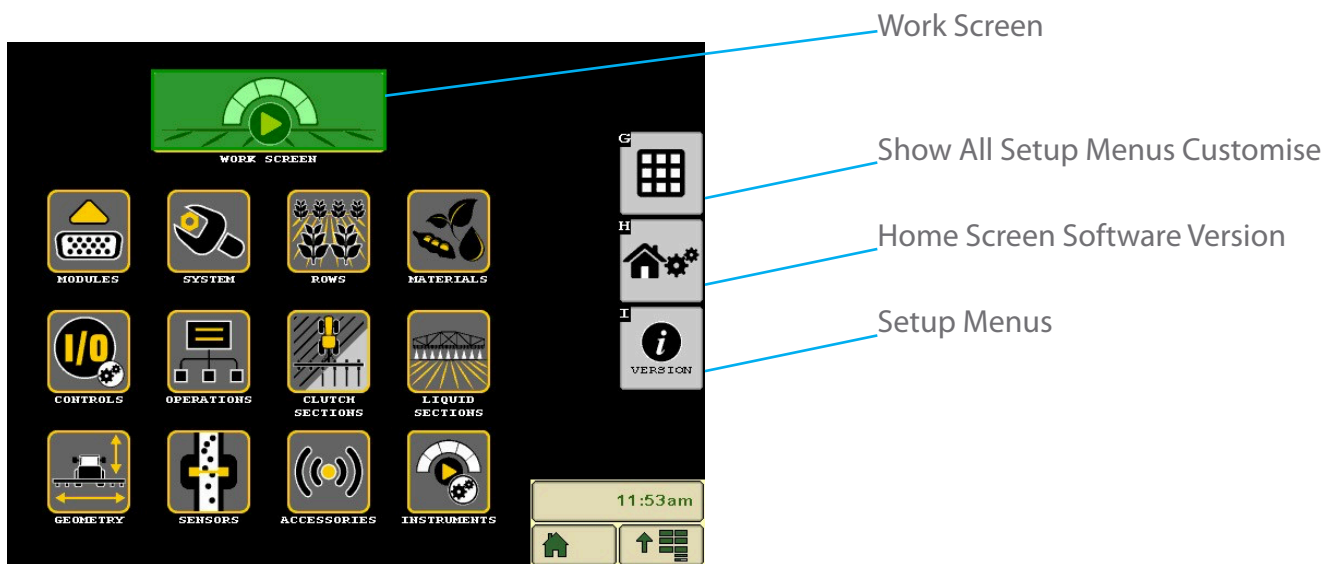
1. System Menu
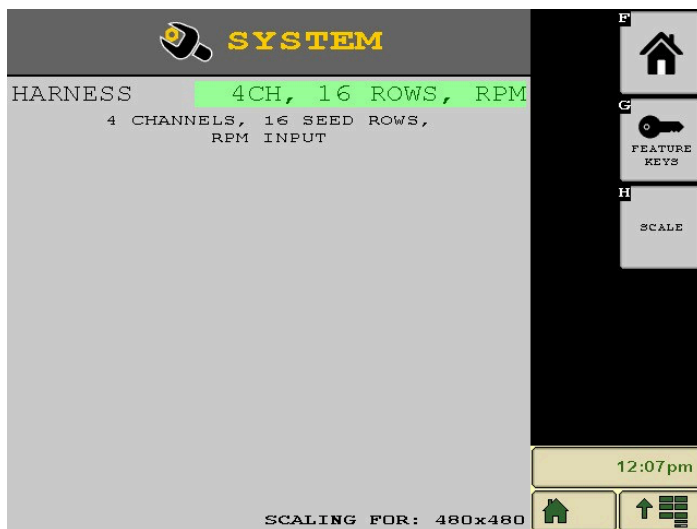
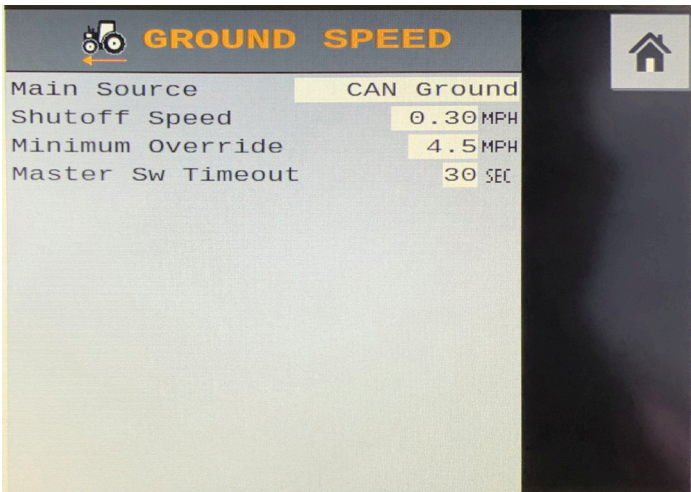Confirm that the Harness selected is correct for the application.

Also confirm that the module has necessary Feature Keys. For example, "Advanced Seeding" (singulation data).

2. Modules Menu

Confirm that all modules are connected, and that they are in the expected order.

3. Ground Speed Menu

Choose your Ground Speed Source. "CAN Ground" or "CAN GPS" will utilise your GPS Receiver information. Control will cease when driving below the "Shutoff Speed". Control RPM will behave as if planter is moving at "Minimum Override" speed until travelling above this speed.
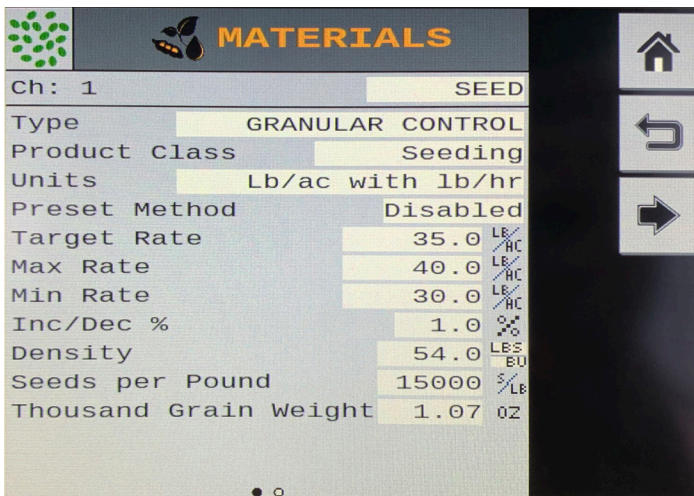
4. Rows Menu
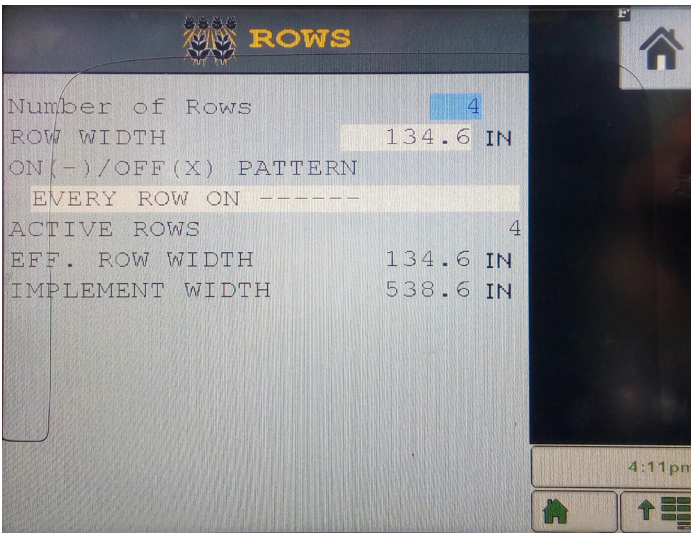
Assign the number of rows and the row width to give the Implement Width of your planter.

4.1. Rows Menu cont
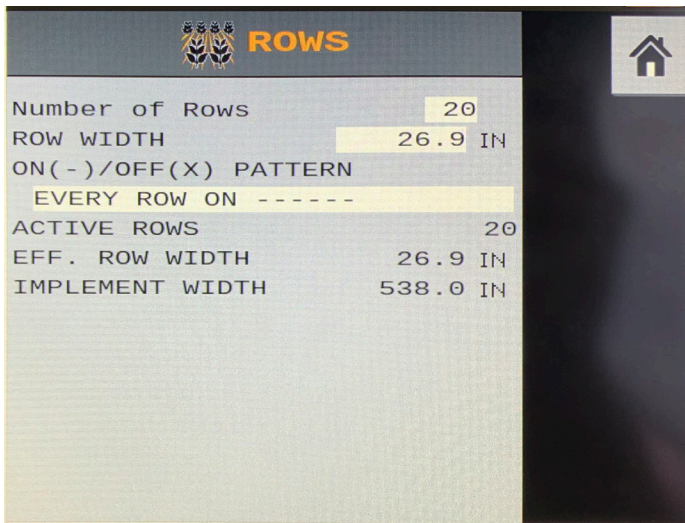
If you have blockage sensors installed as an accessory as discussed in 11.2, configure your rows as illustrated.
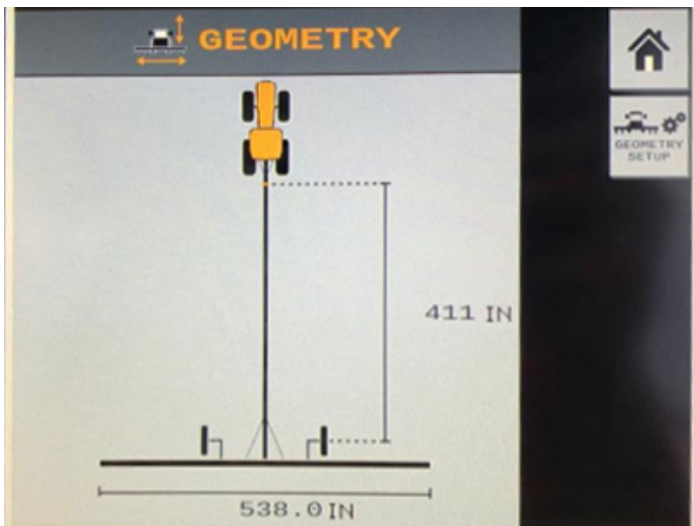
5. Materials Menu

Here you create a Material for each product you will be using. You will return to this menu later to complete the setup. To begin, press "Add", choose the Material Type ("Granular Control" is correct for most Air Cart Bins), then press "Edit" to customise.

Once editing a Material, you can change settings like the name, target rate, seeds/lb, inc/dec% (the amount the rate will change with the +/- key on the work screen). Over the page ("Right Arrow") lets you change, seeds/sec fail rate, and motor RPM high/low alarms.
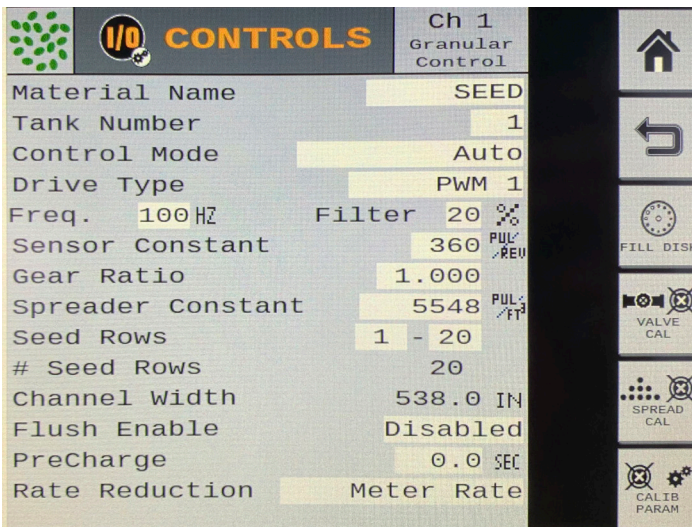
6. Geometry Menu

For the 46 harrow, enter the following machine dimensions.

7. Controls Menu

Create a Channel for each monitoring/control application. The Channel Type must match a Material already created, and must match the Material you want to use. Once created, select the Channel and press "Edit".

7.1. Granular Control Menu

Select the Drive Type (harness output), Frequency (200Hz for hydraulic motors, 40Hz for electric usually), Gear Ratio, and Seed Rows (gives channel width). Control Mode is always "Auto" unless wanting to test hardware while stationary. Once ready, press "Valve Cal" to calibrate the Controller for your drive motor.

7.2. Valve Calibration
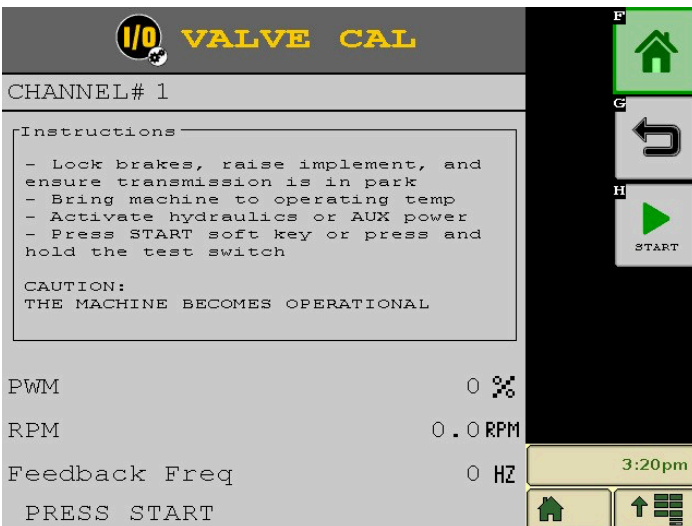
Valve Calibration is essential for smooth operation. This calibration should take several minutes, stopping and starting the control actuator. Follow on-screen instructions. Ensure hydraulic motors have plenty of oil. Seed/fert is not required for this calibration, but will be dispensed if present. Once finished, press the "Return" arrow and complete a "Spread Cal".

7.3. Spreader Calibration
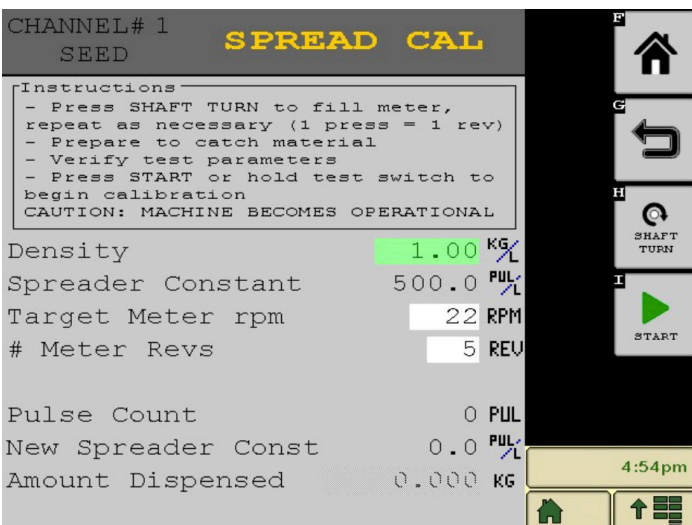
Spreader Calibration determines feedback pulses per lb (Spreader Constant). Follow the on-screen instructions. This must be done every time product is changed, and for each Channel (even when using the same seed/fert as the Spreader Constant will vary slightly between bins). Dispense as much product as you can weigh for best constant.
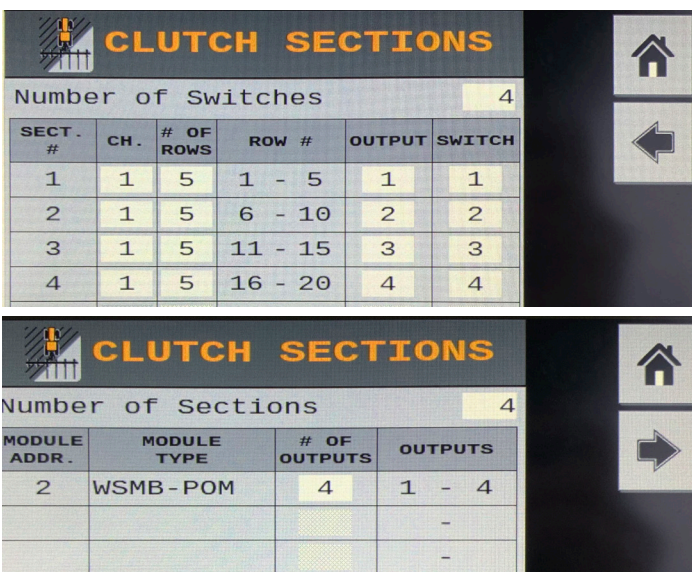
8. Operations Menu

Check and name your Operations. Every time a Channel is created it is automatically assigned an Operation. If two or more Channels of the same "Type" sit next to each on the planter (determined by what Seed Rows are assigned), they should be assigned to the same Operation.
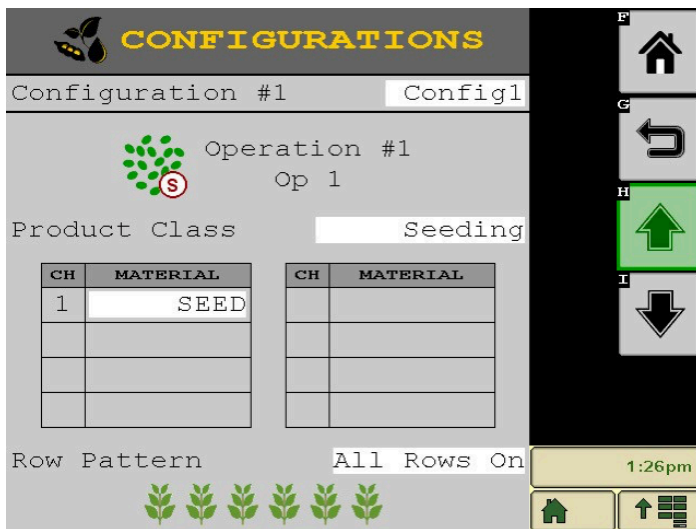
8.1. Materials Menu
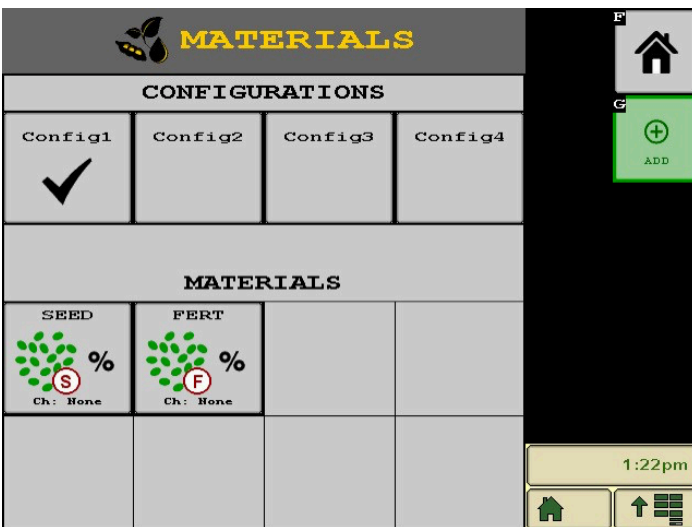
Return to the Materials Menu and edit a Configuration. Only one Configuration will be activated at any time.

9. Clutch Sections

Set number of outputs to four to configure system for four sections.

10. Configurations Menu

Here you assign a Material to each Channel currently assigned to an Operation. You also assign a Row Pattern to each Operation. Pressing the "Down Arrow" will take you to the next Operation's settings in the current Configuration.

10.1. Configurations Menu cont.
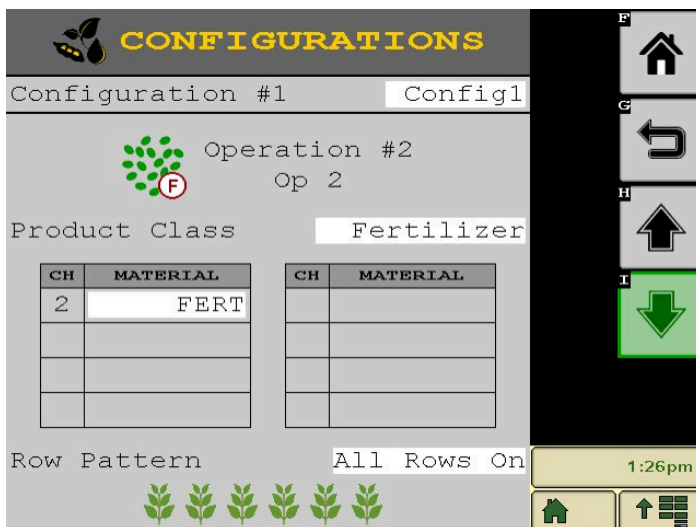
Here you can see the Configuration settings for the second Operation in this example system.

11. Sensors Menu
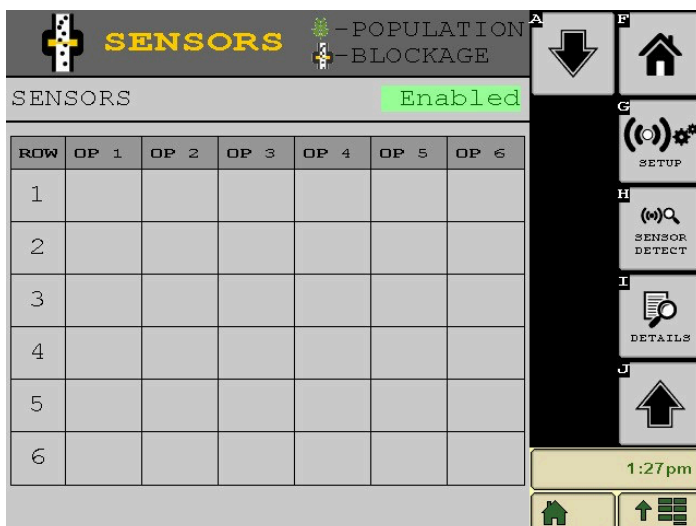
The Sensors Menu is where blockage/flow sensors are assigned. If you have selevted a "System Harness" that doesn't allow for row inputs, you will need a WSMB connected to the system.
Press "Setup" to begin assignment.

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11.1. Sensors Menu cont.

Press "Auto Config" for the system to locate and display every planter sensor installed, then confirm that every sensor is found and assigned to the expected module. Sensors can be set up as either population (plant icon) or blockage (hose icon) sensor type.
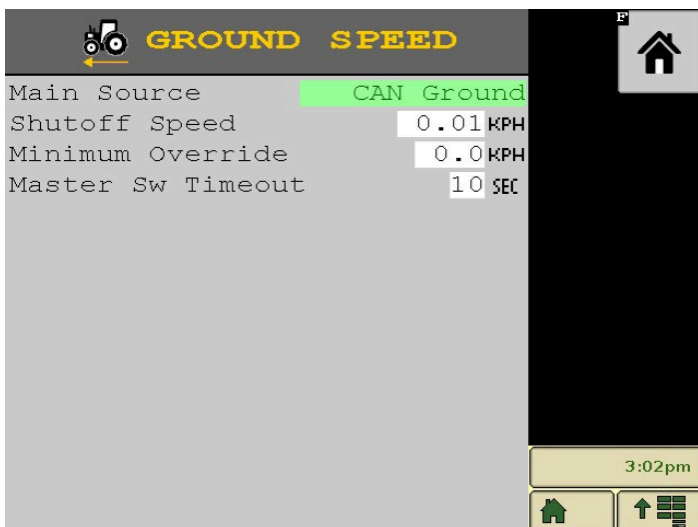
Once done, press the "Right Arrow" to continue setup.

11.2. Sensors Menu cont.
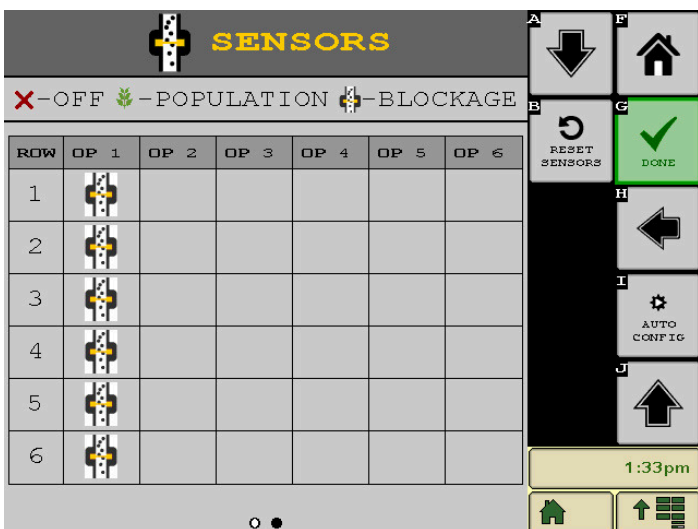
If this optional accessory is fitted to your unit: All sensors will be disabled by default. Press "Auto Config" to enable all sensors.

Finally, you must press "Done" to complete the setup.

12. Accessories Menu
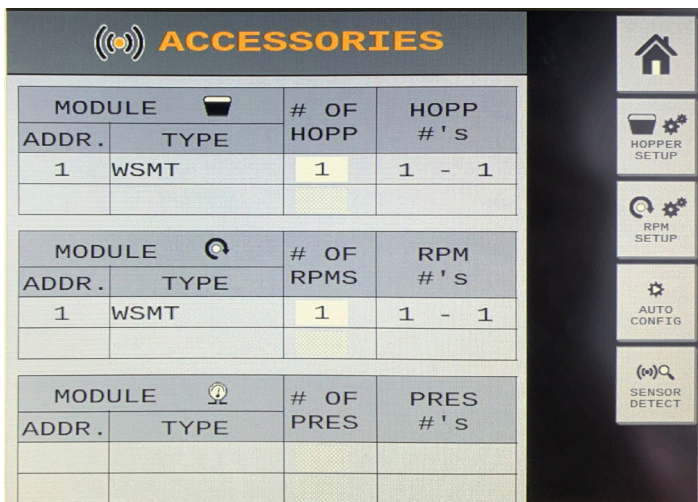
Set up your accessory sensors in this menu. Press "Accy Setup" to enter this page. Press "Auto Config" to find all connected accessory sensors, or press "Add" to assign them manually (RPM sensors MUST be added manually). Then, select a sensor and press "Edit" to change its settings.

12.1. Hopper Settings
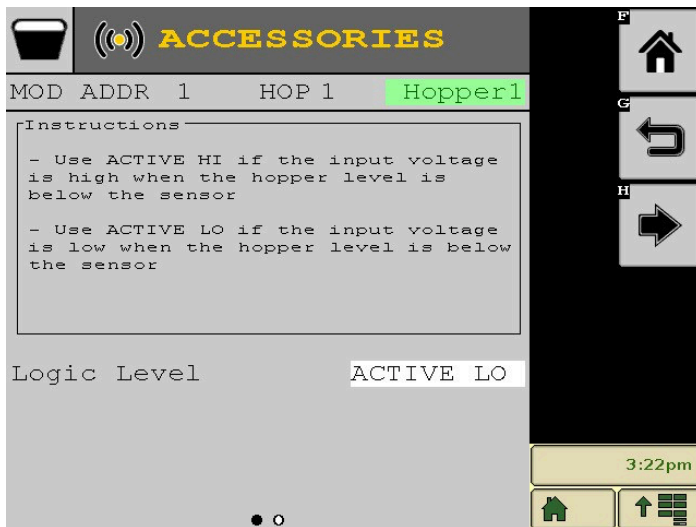
Name each Hopper Sensor. "Logic Level" determines whether the sensor is displayed as "Full" or "Empty" with a low output. Press the "Right Arrow" to configure the alarm behaviour.

12.2. RPM Settings

Name each RPM Sensor. "RPM Constant" is the number of pickups per revolution. This number must be 1 or above for the sensor to operate. Press the "Right Arrow" to configure the alarm behaviour.

12.3. Air Pressure Settings
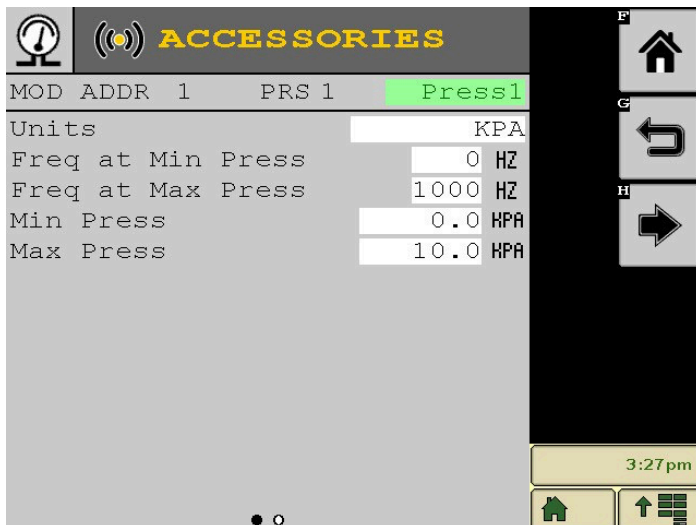
Name each Air Pressure Sensor & select the "Units" you wish to display. For a Dickey-john sensor, the min. freq. is 200Hz, and max. is 1160Hz. The sensor will range from 0kPa to 10kPa. Press the "Right Arrow" to configure the alarm.

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13. Customising Work Screen
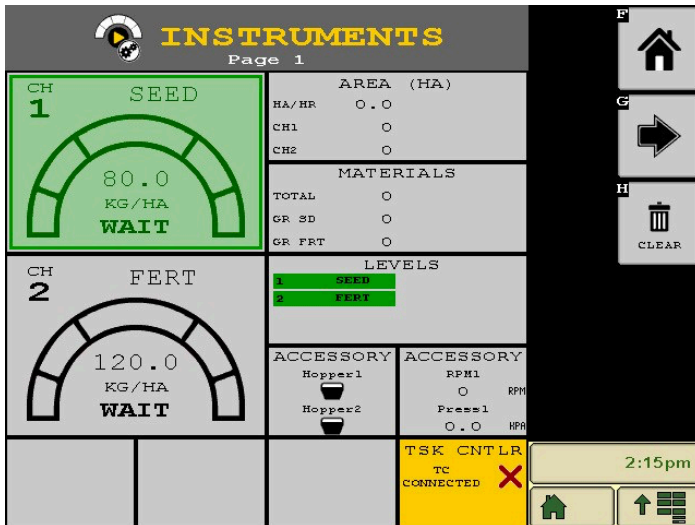
Customise the Work Screen by selecting what information you want displayed. The Work Screen can feature up to 4 pages.

The screen opposite is a suggested example of an Air Seeder Work Screen configuration. Pressing any configured box (followed by "Info" down the right-hand side) on the Work Screen will show all relevant data.

13.1. Display Type
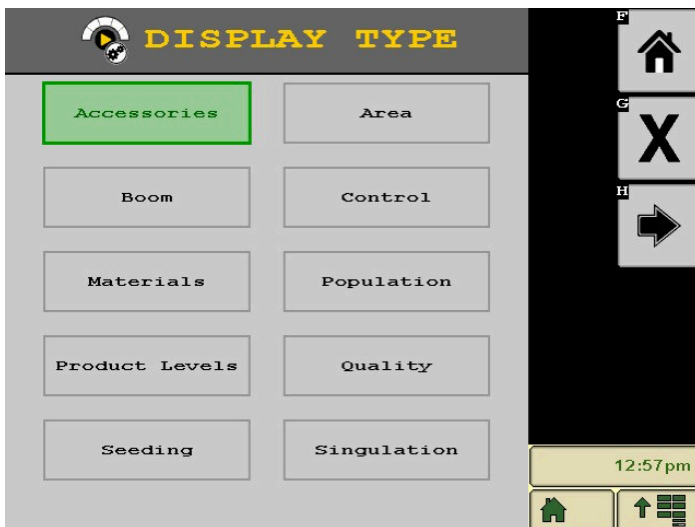
Pressing a blank space on the screen then pressing "Add" will bring up this "Display Type" page. From here you can choose which type of information you wish to be displayed in the selected space.

13.2. Control

"Control" will add a control channel to the work screen. You can select the size of the window, the channel, the base on which to display the rate (ks/ha, seeds/sec, or only the target rate), and the sensitivity of the gauge.

13.3. Area

"Area" displays area information as area per hour, channel specific area, or material specific area.

13.4. Metering Roller RPM
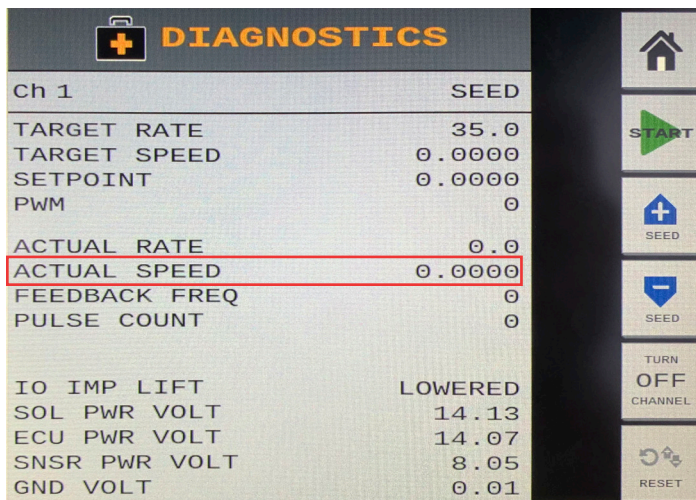
The reading 'Actual Speed' is the metering system's shaft RPM.
The metering rollers are most efficient at 170 RPM and should not exceed 210 RPM.

14. Instruments Menu

"Accessories" displays accessory sensor information. Each space can display up to 2 sensors. Select a slot then press "Edit" to continue.

14.1. Instruments Menu cont.

The next page of the "Accessories" space setup lets you select the type of sensor, to which module the sensor is connected, and which specific sensor you wish to display.

14.2. Materials

"Materials" displays accumulators of the amount of product dispensed.
These can be total, channel & material specific.

14.3. Levels
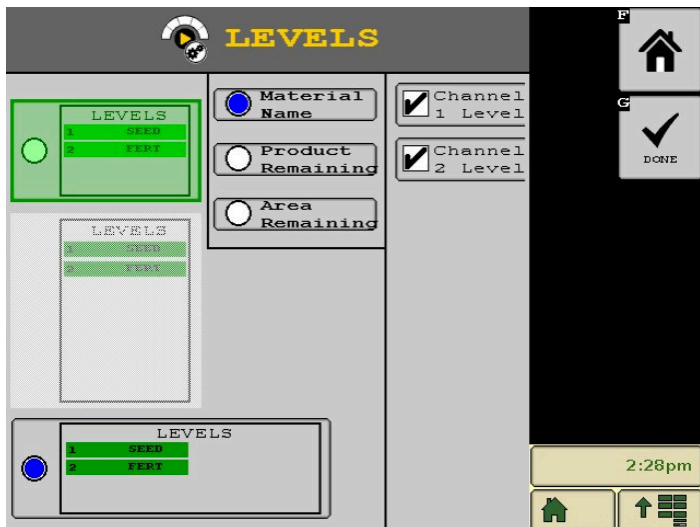
"Levels" lets you assign how many lbs are in each bin. This number will decrease proportional to the product your Control Channel dispenses. You can display this level as the Material Name, the kilograms remaining, or the remaining area the can be covered by the selected bin.

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ALARM #	ALARM	PROBABLY CAUSE	CORRECTIVE ACTION
6	Control CPU Communications Intermittent Alarm	1. Processor has automatically restarted.	1. Wait until intermittent alarm occurs before running system. 2. Power off the system if intermittent alarm does not appear.
7	Monitor CPU Communications Failed Alarm	1. Processor has automatically restarted.	1. Wait until intermittent alarm occurs before running system. 2. Power off the system if intermittent alarm does not appear.
8	Monitor CPU Communications Intermittent Alarm	1. Processor that had previously failed communication has come online.	1. No action needed.
200	Master Switch Time Out Alarm	1. Master switch is active but no ground speed is detected. If no speed is detected, the master switch will deactivate.	1. Press Cancel to keep the master switch active.
202	Ground Speed Failure Alarm	Only Active In Planter Monitor Mode. Seeds Are Detected When There Is No Ground Speed. 1. Incorrect speed source setting or calibration. 2. Defective speed sensor or harness. 3. Defective module or universal terminal.	1. Verify correct speed source setting and speed calibration on the Ground Speed Calibration screen. 2. Inspect speed sensor/harness for damage or replace speed sensor. 3. Replace module or universal terminal.
206	Control Channel Unable to Control Alarm	Control channel cannot control to the specified rate. 1. Incorrect channel settings. 2. Incorrect feedback sensor installation. 3. Defective feedback sensor.	1. Verify correct setup constants on the Control Channel screen. 2. Perform a valve calibration. 3. Verify correct installation of the feedback sensor. Inspect feedback sensor for damage or replace. 4. Check control valve for damage. 5. Check harness and module for damage.
207	Channel Unstable Alarm	1. Incorrect channel settings. 2. Incorrect feedback sensor installation. 3. Defective feedback sensor.	1. Verify correct setup constants on the Channel Configuration screen. Perform a valve calibration. 2. Verify correct installation of the feedback sensor. 3. Inspect feedback sensor for damage or replace.
208	Channel Saturation Exceeded Alarm	1. Excessive speed. 2. Incorrect channel settings. Desired rate too high for implement. 3. Target rate too high.	1. Reduce speed. 2. Verify correct setup constants on the Channel Configuration screen. Perform a valve calibration and a Calibration constant.
211	All Rows Failed Alarm	1. Seed meter drive malfunction. 2. Rows are not assigned to channel and channels are turned off.	1. Check seeding drive(s). 2. Assign rows to channel.

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ALARM #	ALARM	PROBABLY CAUSE	CORRECTIVE ACTION
212	Row Failure Alarm	Seed Rate Has Fallen Below The Row Fail Rate Setting On The Seed Monitor Setup Screen. 1. Seed meter malfunction. 2. Dirty or defective seed sensor. 3. Damaged planter harness. 4. Defective module harness or module. 5. Out of seed.	1. Verify proper planter operation. 2. Inspect seed sensor for dirt or damage. Replace if necessary. 3. Inspect planter harness for damage. Repair or replace. 4. Inspect harness and module for damage. Replace if necessary. 5. Fill with seed.
213	High Population Limit Exceeded Alarm	Seed Rate Has Exceeded The High Alarm Setting On The Seed Monitor Setup Screen. 1. Seed meter malfunction or incorrect setup. 2. Defective seed sensor. 3. Defective module.	1. Verify proper planter options/setup. 2. Inspect seed sensor for damage. Replace if necessary. 3. Inspect module for damage. Replace if necessary.
214	Low Population Limit Exceeded Alarm	Seed Rate Has Dropped Below The Low Alarm Setting On The Seed Monitor Setup Screen. 1. Seed meter malfunction or incorrect setup. 2. Defective seed sensor. 3. Defective module. 4. Running out of seed.	1. Verify proper planter operation/setup. 2. Inspect seed sensot for damage. Replace if necessary. 3. Inspect module for damage. Replace if necessary. 4. Fill with seed.
215	High Pressure Limit Exceeded Alarm	Sensed Pressure Exceeds The High Alarm Setting On The Pressure Setup Screen. 1. Implement malfunction or incorrect setup. 2. Defective pressure sensor. 3. Defective module.	1. Verify proper implement operation/setup. 2. Inspect pressure sensor for damage. Replace if necessary. 3. Inspect module for damage. Replace if necessary.
216	Low Pressure Limit Exceeded Alarm	Sensed Pressure Below The Low Alarm Setting On The Pressure Setup Screen. 1. Implement malfunction or incorrect setup. 2. Defective pressure sensor. 3. Defective module harness or module.	1. Verify proper implement operation/setup. 2. Inspect pressure sensor for damage. Replace if necessary. 3. Inspect module and/or module harness for damage. Replace if necessary.
217	Member module Detection Alarm	Number Of Member Modules Does Not Match The Systen Configuration. 1. Too few modules connect to system. 2. Too many modules connect to system. 3. Defectice CAN/module harness. 4. Blown module harness fuse. 5. Defective module. 6. New module has been added to the system.	1. Verify correct module configuration setup on the Module Configuration screen. 2. Verify correct module configuration setup on the Module Configuration screen. 3. Identify missing module in the Module Configuration list. Inspect CAN/module harness of the missing module for damage. Repair or replace harness. 4. Inspect module harness fuse of the identified module. Replace if necessary. 5. Identify missing module in the Module Congifuration list. Inspect missing module for damage or replace. 6. Verify correct module configuration setup on the Module Configuration screen.

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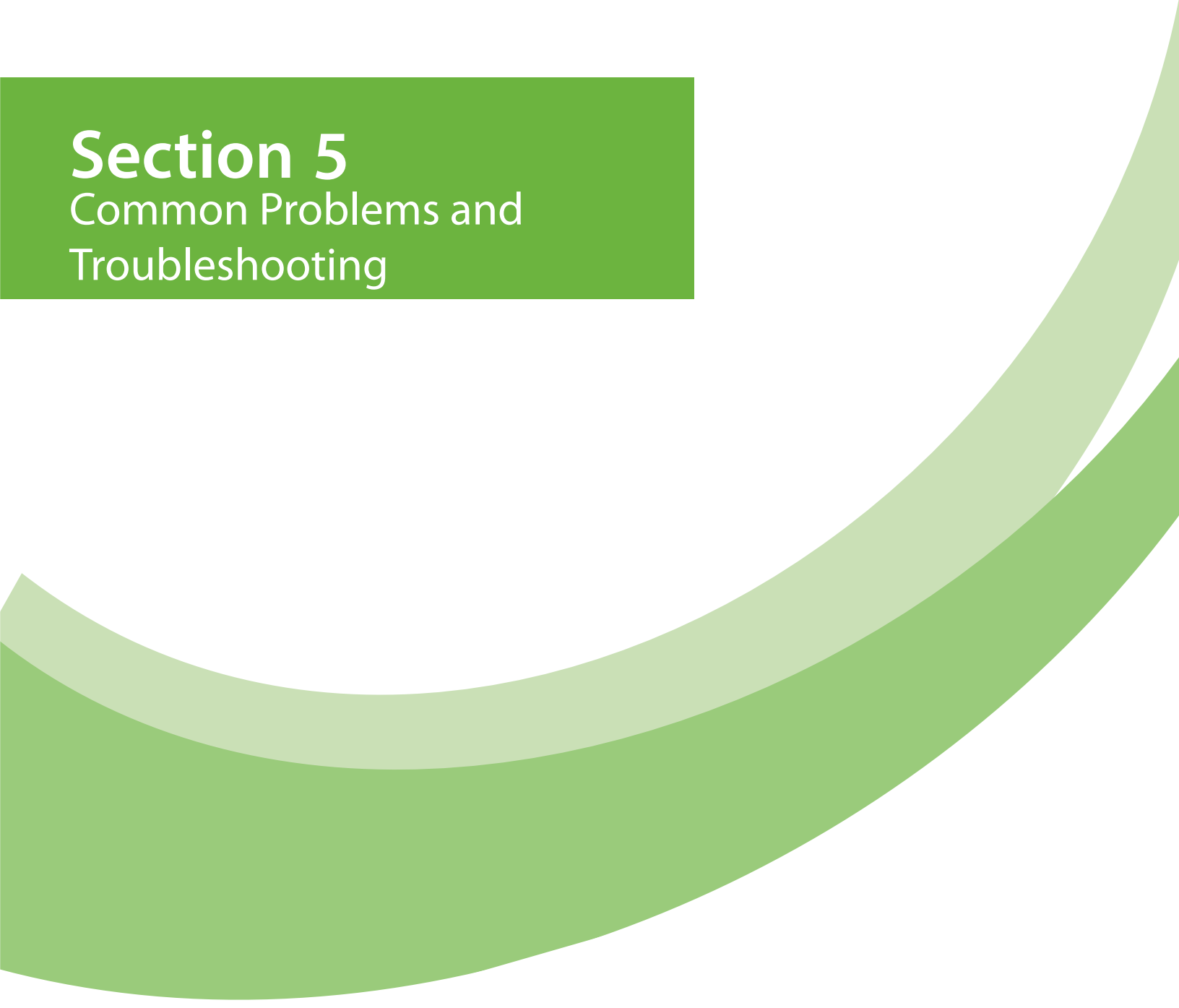| ALARM #	ALARM	PROBABLY CAUSE	CORRECTIVE ACTION
218	Pressure Sensor Detection Alarm	Number Of Pressure Sensors Connected Does Not Agree With The Number Of Sensors Configured On The Pressure Sensor Configuration Screen. 1. Defective Sensor. 2. Defective module or damaged module harness. 3. Additional pressure sensor detected.	1. Inspect pressure sensor for damage or replace. 2. Inspect module and/or module harness for damage. Replace if necessary. 3. Verify correct # ACC setting for each module.
219	Row Sensor Not Detected Alarm	1. Incorrect seed row connections. 2. Additional seed sensor detected. 3. Incorrect setup. 4. Defective seed sensore. 5. Defective module or damaged module harness.	1. Inspect pressure sensor for damage or replace. 2. Inspect module and/or module harness for damage. Replace if necessary. 3. Verify correct # ROWS setting for each module.
221	Channel Invalid State Alarm	1. Internal system software error.	1. Cycle system power Off/On. If condition persists, contact your local dealer.
222	Control Channel Step Height Error Alarm	1. Implement hydraulic system malfunction. 2. Defective control valve. 3. Incorrect feedback sensor installation. 4. Defective feedback sensor. 5. Limit Max Output set too low.	1. Verify implement hydraulic system operation. 2. Inspect control valve for damage. Replace if necessary. 3. Verify correct installation of the feedback sensor. 4. Inspect feedback sensor for damage or replace. 5. Set Limit Max Output to a higher PWM% on the Valve Calibration screen. Perform a new valve calibration.
223	Control Channel Max Feedback Unreachable Alarm	1. Limit Max Output set too low. 2. Incorrect feedback sensor installation. 3. Defective feedback sensor.	1. Set Limit Max Output to a higher level on the Valve Calibration screen. Perform a new valve calibration. 2. Verify correeect installation of the feedback sensor. 3. Inspect feedback sensor for damage or replace.
224	No Channel Gain Steps Calculated Alarm	1. Implement hydraulic system malfunction. 2. Defective control valve. 3. Incorrect feedback sensor installation. 4. Defective feedback sensor.	1. Verify implement hydraulic system operation. 2. Inspect control valve for damage. Replace if necessary. 3. Verify correct installation of the feedback sensor. 4. Inspect feedback sensor for damage or replace.
225	Hopper Sensor Low Alarm	1. Incorrect logic level setting on the Hopper Setup screen. 2. Dirty or defective hopper sensor. 3. Defective module harness or module. 4. Hopper empty.	1. Verify correct logic level setting on the Hopper Setup screen. 2. Clean/inspect hopper sensor. Replace if necessary. 3. Inspet harness and module for damage. Replace if necessary. 4. Fill hopper.

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ALARM #	ALARM	PROBABLY CAUSE	CORRECTIVE ACTION
226	RPM Sensor High Limit Exceeded Alarm	Sensed RPM exceeds the high alarm setting on the RPM or Control Setup screen. 1. Implement malfunction or incorrect setup. 2. Defective RPM sensor. 3. Defective module.	1. Verify proper implement operation/setup. 2. Inspect RPM sensor for damage. Replace if necessary. 3. Inspect module for damage. Replace if necessary.
227	RPM Sensor Low Limit Exceeded Alarm	Sensed RPM exceeds the low alarm setting on the RPM or Control Setup screen. 1. Implement malfunction or incorrect setup. 2. Defective RPM sensor. 3. Defective module.	1. Verify proper implement operation/setup. 2. Inspect RPM sensor for damage. Replace if necessary. 3. Inspect module for damage. Replace if necessary.
228	Hopper Sensor Detection Alarm	Number Of Hopper Sensors Connected Does Not Agree With The Number Of Sensors Configured On The Hopper Sensor Configuration Screen. 1. Defective hopper sensor. 2. Defective module or damaged module harness. 3. Additional hopper sensors detected.	1. Inspect hopper sensor for damage or replace. 2. Inspect module and/or module harness for damage. Replace if necessary. 3. Verify correct # HOPP setting for each module.
232	Control Channel Shutdown Alarm	RPM Has Dropped Below The Disable Control On Low Alarm Setting On The Accessory Setup Screen. 1. Defective RPM sensor. 2. Damaged module harness. 3. Defective module. 4. Low RPM.	1. Inspect RPM sensor for damage. Replace if necessary. 2. Inspect module harness for damage. Repair of replace. 3. Inspect module for damage. Replace if necessary. 4. Increase RPM.
235	New Member Module Detected Alarm	1. New member module has been found.	1. Assign sensors to the new module at Module Configuration Setup screen and its position.
236	Intermittent Member Module Detected Alarm	1. A member module that had previously failed communication has come online.	1. Inspect harness connections to this module.
237	Product Level Low Alarm	1. Calculated product level has dropped below alarm level.	1. Fill product bin and reset level.
238	Left/Right Field Marker Control Failed Alarm	1. Marker feedback does not match marker control.	1. Check feedback sensor and module for damage.
240	Pre-emergence Marker Control Failed Alarm	1. Pre-emergence marker feedback does not match marker control	1. Check feedback sensor for damage. 2. Check module harness for damage.
241	Seeding Detected on a Control Off Row Alarm	1. Seed rate detected on an off row.	1. Inspect harness and module for damage. Check control shutoff. Verify correct row to control channel assignment.

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ALARM #	ALARM	PROBABLY CAUSE	CORRECTIVE ACTION
248	BSM/ESM Communication Lost Alarm	Communication With An Active Module Has Failed 1. Damaged CAN or module harness. 2. Blown module harness fuse. 3. Defective module.	1. Identify missing module in the Module Configuration list. Inspect CAN/module harness of the missing module for damage. Repair or replace harness. 2. Inspect module harness fuse, replace if necessary. 3. Identify missing module in the Module Configuration list. Inspect missing module for damage and replace.
249	BSM/ESM Foot Switch Lost Alarm	1. Incorrect foot switch connections. 2. Defective BSM or foot switch. 3. Defective module harness.	1. Inspect BSM, foot switch, and module harness.
256	Channel Invalid Material Alarm	1. No material exists that is compatible with channel type.	1. Setup a material for the channel type.
260	Tramline Output Error	1. Tramline output feedback does not match the tramline control.	1. Check the feedback sensor for damage. 2. Check the tramline output for damage.
268	Down Pressure High Limit Exceeded Alarm	1. Down pressure exceeds high limit setup.	1. Inspect down pressure high setup. 2. Check planter spring settings. 3. Check load cell sensor for damage. 4. Check harness and module for damage.
269	Down Pressure Low Limit Exceeded Alarm	1. Down pressure exceeds low limit setup.	1. Inspect down pressure low setup. 2. Check planter spring settings. 3. Check load cell sensor for damage. 4. Check harness for module damage.
270	Load Cell Failure Alarm	1. A load cell has failed.	1. Check planter spring settings. 2. Check load cell sensor for damage. 3. Check air valve for damage. 4. Check harness and module for damage.
272	Defaults Loaded Alarm	System configuation is corrupt and has been reset to default settings.	1. Check system configuration for correctness. If this persists, contact dealer for support.
300	Disconnected from Task Controller Alarm	System configuration has changed and the connection to the task controller has been disconnected.	1. Continue setup and restart system.
301	Task Controller Rate Override Alarm	1. The commanded rate from the task controller has been manually overridden.	1. Press the Reset button to return to the commanded rate.
602	8 Volt Supply Failure Alarm	8v Supply Voltage Is Below 7.2v Or Higher Than 16v. 1. Damaged module harness. 2. Defective seed or hopper sensor. 3. Defective module.	1. Inspect module harness for damage. Repair or replace harness. 2. Inspect seed or hopper sensors connected to the identified module for damage. Replace sensors if necessary. 3. Replace identified module.

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ALARM #	ALARM	PROBABLY CAUSE	CORRECTIVE ACTION
603	Member Module Communication Failed Alarm	Communication With An Active Module Has Failed. 1. Damaged CAN or module harness. 2. Blown module harness fuse. 3. Defective module.	1. Identify missing module in the Module Configuration list. Inspect CAN/module harness of the missing module for damage. Repair or replace harness. 2. Inspect module harness fuse, replace if necessary. 3. Identify missing module in the Module Configuration list. Inspect missing module for damage or replace.
604	ECU Voltage Out of Range Alarm	ECU Voltage Is Below 11v Or Higher Than 16v. 1. Damaged CAN or module harness. 2. Defective module.	1. Inspect CAN/module harness of the identified module for damage. 2. Inspect identified module for damage or replace.
605	Solenoid Voltage Out of Range Alarm	Solenoid Voltage Is Nelow 11v Or Higher Than 16v. 1. Damaged CAN or module harness. 2. Blown module harness fuse. 3. Defective module.	1. Inspect CAN/module harness of the identified module for damage. Repair or replace harness. 2. Inspect module harness fuse or replace. 3. Inspect identified module for damage or replace.
606	Ground Offset Voltage Out of Range Alarm	1. Damaged/shorted Actuator Harness. 2. Defective PWM valve driver or Servo valve driver. 3. Defective module.	1. Inspect Actuator Harness for damage around the WPM and Servo valve connections. Repair or replace harness. 2. Inspect PWM or Servo valve drivers for damage and replace if necessary. 3. Inspect identified module for damage and replace if necessary.

Section 5
Common Problems and Troubleshooting

Troubleshooting

Problem	Possible Solution
Alarm sounds, but display is dark of tool light	Try adjusting the display contrast. See start guide
Display only shows "OFF"	Channel recently re-configured. Select channel and use green arrow keys to turn channel back on. See start guide.
Alarm 230: Valve full open channel 1	Land Manager has driven the control valve fully open to try to achieve the application rate you desire. Check the following: 1. Slow down. You may be travelling too fast to achieve the rate. 2. The hydraulic system is not delivering enough fluid or pressure. 3. Your hydraulic filters are blocked. 4. Your bed drive motor/gearbox is not functioning. 5. The application rate sensor is not turning (bed compaction, loose coupling, bad connection) 6. The valve driver module is damaged or disconnected. Try to isolate a hydraulic problem from an electronic problem by manually adjusting the hydraulic control valve and checking for bed movement. Don't forget to adjust the control valve to the full off position prior to using Land Manager again.
Alarm 500/510: Master Switch Alarms	Land Manager has been turned on with the Master Switch in the AUTO or MANUAL position. Turn the Master Switch to the OFF position. A persistent error has occurred and Land Manager has shut itself down. Turn the Master Switch to the OFF position.
Alarm 110: Channel Not Responding - Channel 1	This error occurs when Land Manager tries to control open or close the control valve and sees no corresponding change in bed speed. Check the hydraulics by manually opening the control valve, then check all electrical connections. Don't forget to adjust the control valve to the full position prior to using Land Manager again (Adjustment screw fully counter-clockwise).
System is unstable	Do an Automatic Gain test. An Automatic Gain MUST BE DONE before Land Manager can control your system. Check the hydraulics by manually opening the control valve. Don't forget to adjust the control valve to the full off position prior to using Land Manager again (Adjustment screw fully counter-clockwise). Check for bed compaction.
Application is not accurate	Have you done a Spreader Calibration for this product? Is the product excessively wet or are there any other product considerations that may affect its flow characteristics?

If these adjustments do not solve the problem, contact your service agent for assistance. You may also contact Kelly Tillage directly for technical advice and assistance.
Phone: +618 8667 2253
Email: sales@kellytillage.com

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