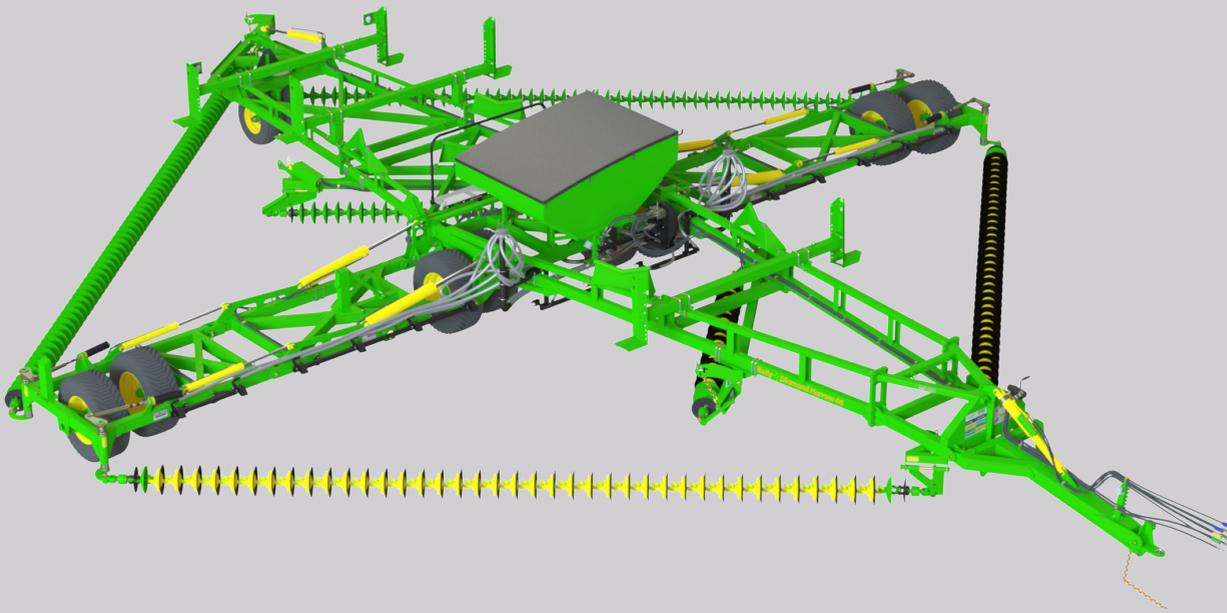


# Kelly Seeder

## Operating Instruction Manual



**Revision A - September 2017**

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# Kelly Engineering Owner's Record

Keep in manual & retain for your own record

## WARRANTY INFORMATION

### KELLY DIAMOND HARROW

Kelly Engineering guarantees its products against faulty workmanship and materials. Should any defects arise, Kelly Engineering will arrange at its discretion for the replacement or repair of defective parts for a period of 12 months from the date of purchase.

Disc Chain, Prickle Chain and swivel units are considered to be wear parts and it is reasonable to expect over time that these parts may need to be replaced. Kelly Engineering does however guarantee the swivel units for a period of 12 months or 10 000 acres (4000 Ha), whichever occurs first. Furthermore, Kelly Engineering guarantees the useful working life of the Disc and Prickle Chains to be in excess of 2 years or 50 000 acres (20 000 Ha), whichever occurs first.

Kelly Engineering is not responsible for freight charges incurred.

This warranty excludes damage caused by misuse, mishandling in transit or normal wear and tear. All Kelly Engineering products should be maintained according to the maintenance section in the supplied manual. Any unauthorized modifications to the equipment may result in cancellation of warranty.

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

## OWNER'S RECORD

### Purchaser/owner

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Contact number: \_\_\_\_\_

Email address: \_\_\_\_\_

### Purchase details

Place of purchase: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

Model purchased: \_\_\_\_\_

Serial number: \_\_\_\_\_

# Kelly Engineering Product Registration

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

Please complete our online Product Registration for <http://www.kellyengineering.com.au/machine-registration/> or send this page via email, fax or post to receive an additional 12 months warranty

## Purchaser/ owner

Name \_\_\_\_\_

Address \_\_\_\_\_

Email address \_\_\_\_\_

Contact number \_\_\_\_\_

## Purchasing Details

Place of purchase \_\_\_\_\_

Date of purchase \_\_\_\_\_

Model purchase \_\_\_\_\_

Serialnumber \_\_\_\_\_

## Occupation

Farmer       Customer operator       Other \_\_\_\_\_

## What brought Kelly Engineering products to your attention ?

Field Day       Friend/ neighbor       Local Deaker       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 than what must we do to become a 10 in your eyes ?

\_\_\_\_\_

## If you scored 9 or above than 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 \_\_\_\_\_

## Please return the registration & survey to :

### Fill out online

(Australia) <http://www.kellyengineering.com.au/machine-registration/>

(United States) <http://www.kellyharrows.com.au/machine-registration/>

### Email

(Australia) [sales@kellyengineering.com.au](mailto:sales@kellyengineering.com.au)

(United States) [sales@kellyharrows.com](mailto:sales@kellyharrows.com)

### Fax

(Australia) +61 8 8667 2250

Internation dialling 011 618 8667 2250

### Mail to

Kelly Engineering

PO Box 100, Booleroo Centre SA 5482 Australia

# Thank you for choosing a Kelly Engineering product

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 Engineering Australia or in the United States, Hood & Company.

Kelly Engineering 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.

## **Australia**

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## **Spare Parts**

### **Hood & Company Inc**

**Springfield MO**

**Phone:** 417 865 2100

**Fax:** 417 865 2105

**Email:** hoodco@hoodco.com

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# Section 1

Safety

# Safety information



## 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 ones that have been worn or lost. 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.

# Safety information

## 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.

## Transporting

- Always travel at a safe speed. **NEVER EXCEED 15mph (25kmph).**
- Ensure your speed is low enough for an emergency stop to be safe and secure and reduce speed prior to turns
- Fit transport safety lock to front cylinder for highway use
- Ensure safety chain is attached correctly to the towing vehicle
- Please refer to your own state laws on the rules of transporting farm machinery on roads
- Ensure that disc or prick chains are engaged in chain guides and supports. Discs or spikes should be clear of the ground
- It may be necessary to increase the spring tension on the brake assembly for road transport
- Castor wheel assembly may oscillate when towed above the recommended towing speed
- Be aware of the height, length and width of the machine. Beware of obstacles and overhead powerlines
- Check local laws and use approved accessory lighting, flags and necessary warning devices on the highway during both day and night time transporting. Various safety lights and devices are available from your dealer.

## Hydraulics

- **NEVER** remove hydraulic hoses or ends unless the machine is in either transport position or fully extended in working position. Relieve all hydraulic pressure before disconnecting hydraulic hoses and fittings
- Ensure all fittings and hoses are in good condition
- Do not search for high pressure hydraulic leaks without hand and face protection. A leak can penetrate the skin, thereby requiring immediate medical attention
- Double check that all is clear before operating hydraulics
- Maintain proper hydraulic fluid levels and pressure.

## Maintenance and inspection

- Good maintenance is your responsibility.
- Regular maintenance and inspection is imperative.

**Guidelines can be found on pages 23-24 in the Operation section**

## Section 2

Dickey-John Land Manager  
Quick Install Steps

# Dickey-John Land Manager Quick Install Steps

**Note:** Before commissioning connect all hydraulics. Larger 5/8 Hose is the return Line. It is highly recommended that tractor is fitted with low pressure return coupling to tractor.

**Note:** During installation please refer to the Land Manager Operators Guide as well as the Kelly Seeder 46' Quick Start Guide.

**Note:** Before installing cut J2 (4663991000 CAB HARN) Boom Section (Brown) wires off as these are not required for this application.

## Cab Installation:

1. Install **Dickey-John Land Manager** control unit in cab of tractor on a ridged mount. Ensure clear vision and access to buttons of unit.
2. Connect **J2** (4663991000 CAB HARN) power supply harness to **Dickey-John Land Manager** control unit
3. Connect **J2** (4663991000 CAB HARN) power supply harness to the tractor **12V** power source.
4. Connect **J1** (4663991090 HARN ASSY) to **Dickey-John Land Manager** control unit.
5. Connect **Land Manager Switch** (46605-0030) module to **J1** (4663991090 HARN ASSY) master switch module connector.
6. Mount **Land Manager Switch** (46605-0030) module to tractor cab in appropriate location.
7. Connect **Cambut Sat-Speed** module to **J1** (4663991090 HARN ASSY) ground speed sensor connector.
8. Mount magnetic **Cambut Sat-Speed** antenna on roof of tractor cab in a clear location.

**Note:** Plate is supplied with double sided tape for non-magnetic surfaces.

9. Route **J1** (4663991090 HARN ASSY) harness out rear of window.
10. Mount **J1** (4663991090 HARN ASSY) connector on rear of tractor.

## Implement Harness Installation:

1. Starting at the **Kelly Seeder** hopper route the main connector of **Implement Harness** (4663991030 IMP HARN 1 CHANNEL) through left hand side of **Kelly Diamond Harrow**.

**Note:** Harness connector should extend past the front of tow hitch by approximately 5' (1.5m) to allow for machine movement.

2. Connect **Implement Harness** (4663991030 IMP HARN 1 CHANNEL) **Actuator Sensor** connector to **Hydra-Drive Valve** connector.
3. Connect **Implement Harness** (4663991030 IMP HARN 1 CHANNEL) **Fq Sensor** connector to **Application Rate Sensor** connector.
4. Connect **Implement Harness** (4663991030 IMP HARN 1 CHANNEL) **Digital 1 Sensor** connector to **Hopper Level Sensor** connector.
5. Connect **Implement Harness** (4663991030 IMP HARN 1 CHANNEL) **Digital 2 Sensor** connector to **Fan Speed Sensor** connector.
6. Connect **Implement Harness** (4663991030 IMP HARN 1 CHANNEL) to **J1** (4663991090 HARN ASSY)
7. With all connections in place secure harness with zip ties along main pull.

## Section 3

### Dickey-John Land Manger Quick Setup Guide

# Dickey-John Land Manager Quick Setup Guide

## Using the keys:

- When you first turn on Land Manager, the **Right and Left Green Arrow** keys can be used to adjust the display brightness and the **Up and Down Green Arrow** keys can be used to adjust the display contrast. Whenever the Channel Label is **NOT** highlighted, you have control of the display with the **Green Arrow** keys.
- The **Blue Arrow** keys allow navigation around the menu system on Land Manager.
- The **Green Arrow** keys are used to change values.
- In addition, the **Blue Arrow** keys allow manual control over a channel with the **Green Arrow** keys while in **Operate** Mode.
- Use the **Blue Up Arrow** key to select the **Channel**. Press again to de-select.
- While looking at the Main **Operate Screen**, when the channel is selected, its **Channel Label will be highlighted**. Once selected, you have complete control over the channel using the **Green Arrow** keys:
  - Use the **GREEN UP ARROW** key to **INCREASE** the Channel Application Rate.
  - Use the **GREEN DOWN ARROW** key to **DECREASE** the **Channel Application Rate**.
  - Use the **GREEN LEFT ARROW** to turn the channel **OFF**. The Display will show 'OFF'.
  - Use the **GREEN RIGHT ARROW** key to turn the channel back **ON**.

**Note:** When you have set up your channel for the first time, the channel display may indicate 'OFF'.

- Use a **Blue Arrow** key to highlight the corresponding **Channel Label**.
- Press the **Green Right Arrow** key to turn the channel **ON**.

## Miscellaneous Operational Notes:

- Land Manager displays more than just what is seen on the Main Operate Screen. To access this information, simply press the white **Operate** key to cycle through the various **Operate Mode Screens**.
- Setup or System may be entered only when the **Land Manager Master Switch** is in the **OFF** position.
- Any error alarms reported by Land Manager can be cleared by pressing the **Enter** key.
- Area and Product accumulators on the second Operate Screen can be zeroed by pressing the **Blue Arrow** keys to highlight the accumulator and pressing the **Clear** key.

## Fan Speed Setup:

1. Turn on Land Manager unit.
2. Press **Operate** to display fan speed.
3. Engage Fan Hydraulics, Fan speed should increase. **IF NOT STOP!**

**Note:** If fan cannot return oil, oil will be dispersed onto the ground under fan to protect over pressurising and damaging hydraulic motor. If running return line through remotes try swapping hoses around in remotes and check connection.

4. Desired **Fan Speed** setting is 4400–4600 RPM

**Note:** Oil should be up to running temperature before adjusting fan speed.

5. To Adjust **Fan Speed**, unlock black flow control knob on the rear of Hydraulic fan manifold block and adjust in for slower fan speed and out for a faster -fan speed. When setting is correct fasten locking nut.

**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.

## Calibrating the Automatic Gain

**Note:** 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. Press the **System** button.
2. Press the **Blue Down Arrow** to select **Calibration**. Press **Enter**.
3. Press the **Blue Down Arrow** to select **Automatic Gain**. Press **Enter**.

**Note:** You will be asked if you wish to limit the maximum channel output before proceeding with the automatic gain calibration. It may be necessary to limit the upper value of the channel output to prevent over speeding of motors or drive trains. If you select NO below, the maximum capacity of your system will be applied to the hydraulic motors.

- If channel output limiting is desired, select **Yes** using the **Blue Arrow** keys. Press **Enter**.
- If no limiting is required, select **No** using the **Blue Arrow** keys. Press **Enter**.

**Note:** Read the **WARNING** on the screen and make sure that everyone is clear of the moving parts of your system. The system will start operating when you press the next button.

4. Press the **Enter** button to **Start** the automatic gain test.
5. If channel output limiting was selected above, use the **Green Arrow** keys to adjust the channel output now. It may be necessary to press the **Green Up Arrow** several times before your system starts moving. Increase the channel drive until you reach the maximum drive (speed) of your system. When finished, use the **Blue Arrow** keys to select **Continue** and Press **Enter**.
  - The system will shut down and stabilize.
  - The system will now proceed with the actual test.
  - The system will speed up and slow down at different rates and the screen will show its progress as it goes through the 15 steps.

**Note:** The calibration may take several minutes depending on the response it sees from the hydraulics system.

- When all 15 steps have been completed, the screen will show the **System Gain**.
6. Press **Enter** on **Done** to save this value. This value is automatically entered into the Channel Setup.

Press the white **System** button to return to the main **System Menu**.

## Calibrating Machine for Current Seed Type:

### Determining the spreader constant

**Note:** Product must first need to load product into the hopper. Remove the head caps and fit the PVC Calibration elbows to the heads. Place sock over tube and hang sock onto screws of head. Socks and elbows should be located in the tool box fitted to the step.

1. Press the white **System** button.
2. Press the **Blue Down Arrow** to select **Calibration**. Press **Enter**.
3. Press the **Blue Down Arrow** to select **Spreader**. Press **Enter**.

**RATE:** Application Rate in lbs./ac.

4. Press the **Green Arrow** keys to change this value. Press **Enter** when done. Press the **Blue Down Arrow** key to continue.

**INC/DEC STEP:** Allows adjustment of the application rate in **lbs./ac**.

5. Press the **Green Arrow** keys to change this value. Press **Enter** when done. Press the **Blue Down Arrow** key to continue.

**SPREADER CONST:** This is the calibration number that will be determined during this procedure, a starting value should already be entered.

6. Press the **Green Arrow** keys to change this value. Press **Enter** when done. Press the **Blue Down Arrow** key to continue.

**TEST SPEED:** Set this to your normal operating speed in **Miles/hr**.

7. Press the **Green Arrow** keys to change this value. Press **Enter** when done. Press the **Blue Down Arrow** key to continue.

**WIDTH:** This is your applicator width in **Feet**.

8. Press the **Green Arrow** keys to change this value. Press **Enter** when done. Press the **Blue Down Arrow** key to continue.

**DENSITY:** This is the weight in lbs./ft. of the product loaded, the test will correct this automatically.

9. Press the **Green Arrow** keys to change this value. Press **Enter** when done. Press the **Blue Down Arrow** key to continue.

10. Press the **Enter** button on **Proceed With Test** to continue.

**Start the hydraulics system and bring the hydraulic pump up to normal working rpm and engage the fan. Make sure everyone is clear of the system as material will be dispensed.**

11. Press the **Blue Down Arrow** key to select **Run Calibration**. Press **Enter**.

**Note:** Material will now be dispensed.

12. **Collect the material as it is dispensed.** When you have enough material that you can reliably weigh, Press **Enter** to **Stop** the calibration process.

**Note:** Air seeders and the like dispense 10 lbs. or so.

13. Weigh the material dispensed and enter the weight in lbs. into **Amount Dispensed**. Press the **Green Arrow** keys to change the value. Press **Enter**.
14. Press the **Blue Down Arrow** key to select **Done**. Press **Enter**. Your spreader is now calibrated and the spreader constant has been automatically changed in the **Channel Setup**.
15. Press the white **Operate** button to go to the main **Operate Screen**.

**Switch Master Switch Module to Auto when ready to broadcast seed.**

## Common Problems and Troubleshooting

<b>Problem</b>	<b>Possible Solution</b>
Alarm sounds, but display is dark or too 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	<p>Land Manager has driven the control valve fully open to try to achieve the application rate you desire. Check the following:</p> <ol style="list-style-type: none"> <li>1. Slow down. You may be travelling too fast to achieve the rate.</li> <li>2. The hydraulic system is not delivering enough fluid or pressure.</li> <li>3. Your hydraulic filters are blocked.</li> <li>4. Your bed drive motor/gearbox is not functioning.</li> <li>5. The application rate sensor is not turning (bed compaction, loose coupling, bad connection)</li> <li>6. The valve driver module is damaged or disconnected.</li> </ol> <p>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.</p>
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 off 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?

**Notes:**

