

INSTALLATION INSTRUCTIONS

Field-IQ™ Crop Input Control System

- **Planter**
- **Liquid Strip Till**

Version 1.00
Revision A
January 2011
Part Number 99001-00-ENG



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This is the January 2011 release (Revision A) of the *Field-IQ Crop Input Control System Installation Instructions*, part number 99001-00-ENG. It applies to version 1.00 of the Field-IQ Crop Input Control System.

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Notices

Class B Statement – Notice to Users. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

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Recycling in Europe: To recycle Trimble WEEE, Call +31 497 53 2430, and ask for the "WEEE Associate"

Or

Mail a request for recycling instructions to:

Trimble Europe BV
c/o Menlo Worldwide Logistics
Meerheide 45
5521 DZ Eersel, NL



Safety Information

Always follow the instructions that accompany a Warning or Caution. The information they provide is intended to minimize the risk of personal injury and/or damage to property. In particular, observe safety instructions that are presented in the following format:



WARNING – This alert warns of a potential hazard, which, if not avoided, can cause severe injury.



CAUTION – This alert warns of a hazard or unsafe practice which, if not avoided, can cause injury or damage.

Note – An absence of specific alerts does not mean that there are no safety risks involved.

Warnings



WARNING – When you are working on the vehicle's hydraulic systems, vehicle attachments that are suspended can drop. If you are working around the vehicle, you could suffer serious injury if an attachment dropped on you. To avoid this risk, lower all vehicle attachments to the ground before you begin work.



WARNING – If someone else attempts to drive the vehicle while you are working on or under it, you can suffer serious or fatal injuries. To avoid this possibility, install a lockout box on the battery terminal to prevent the battery from being reconnected, remove the key from the vehicle's ignition switch, and attach a "Do not operate" tag in the cab.



WARNING – Agricultural chemicals can pose serious health risks. If the vehicle has been used to apply agricultural chemicals, steam clean the vehicle to remove any chemical residue from the areas of the vehicle where you will be working.



WARNING – Vehicle cabs can be quite high in the air. To avoid potentially serious injury through falling from this height, always use the steps and handrails, and face the vehicle, when you enter or exit it.



WARNING – When the vehicle has been running, parts of the vehicle, including the engine and exhaust, can become extremely hot and can cause serious burns. To avoid burns, allow hot machine parts to cool before you begin working on them.



WARNING – The system installation may bring you into contact with chemical substances, such as oil, which can cause poisoning. Wash your hands thoroughly after you finish working on the system.



WARNING – Battery posts, terminals, and related accessories contain lead and lead compounds, which can cause serious illness. To avoid ingesting lead, wash your hands thoroughly after touching the battery.



WARNING – Always wear protective equipment appropriate to the job conditions and the nature of the vehicle. This includes wearing protective glasses when you use pressurized air or water, and correct protective welder's clothing when welding. Avoid wearing loose clothing or jewelry that can catch on machine parts or tools.



WARNING – Parts of the vehicle may be under pressure. To avoid injury from pressurized parts, relieve all pressure in oil, air, and water systems before you disconnect any lines, fittings, or related items. To avoid being sprayed by pressurized liquids, hold a rag over fill caps, breathers, or hose connections when you remove them. Do not use your bare hands to check for hydraulic leaks. Use a board or cardboard instead.



WARNING – Folding and unfolding the applicator booms can result in damage; make sure there are no people or objects in the path of travel of the booms.



WARNING – Do not alter cable lengths and connections. If you must alter the length of the power cable do not remove the fuse and fuse holder from the cable.



WARNING – Most application equipment have pressurized cabs. If you need to drill a hole in the cab, reseal the hole to maintain the pressurization of the cab; sealing putty is one option to seal the cab. Trimble recommends Sealing Gum, Size 2 pounds, Permagum Block Grainger item # 4E307, or Brand Virginia KMP, manufacturer's model PP-22. These are available from www.grainger.com.



WARNING – Damage will result to the cable if it is not routed correctly. When routing cables be sure to route them free from areas that may result in damage to the cables including pinching, stretching and rubbing.

Cautions



CAUTION – Do not direct pressurized water at Field-IQ system nozzles or other components including:

- electronic or electrical components or connectors
- bearings
- hydraulic seals
- fuel injection pumps
- any other sensitive parts or components



Set the hose pressure as low as practicable, and spray at a 45° to 90° angle. Keep the nozzle of the power washer away from the machine at the distance recommended by the manufacturer.



CAUTION – Be sure to install the hitch connection and cables so they are free of areas that could result in damage to the cable or the Field-IQ system.



CAUTION – Do not pull the cables while they are installed into the control module's cinch box. Pulling the cables with any force will torque the front connector plate and cause the sealing tabs to snap out of place.



CAUTION – Before you drill any holes, check behind the drilling surface to ensure that you will not damage any hoses, wires, or other equipment. Failure to do so could result in damage to the vehicle.

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Introduction

- [Technical assistance](#)
- [Your comments](#)
- [Required components](#)
- [Preparing the vehicle for installation](#)

This manual describes how to install the Trimble® Field-IQ™ Crop Input Control System.

Even if you have used other Global Positioning System (GPS), or application control products before, Trimble recommends that you spend some time reading this manual to learn about the special features of this product. If you are not familiar with GPS, visit the Trimble website (www.trimble.com) for an interactive look at Trimble and GPS.

Technical assistance

If you have a problem and cannot find the information you need in the product documentation, contact Trimble technical support:

1. Go to the Trimble website (www.trimble.com).
2. Click the **Support & Training** link at the top of the screen, select *Support* and then select *Support A-Z list of products*.
3. Scroll to the bottom of the list.
4. Click the *submit an inquiry* link. A form appears.
5. Complete the form and then click **Send**.

Your comments

Your feedback about the supporting documentation helps us to improve it with each revision. Email your comments to ReaderFeedback@trimble.com.

Required components

Kits required	Special tools
Field-IQ cab kit for FmX integrated display and CFX-750 display - P/N 80810-00 Field-IQ cab kit for EZ-Guide 500 - P/N 80820-00 Field-IQ 12-section switch box (required for CFX750 and EZ-Guide 500 section control) - P/N 80600-00 Optional: Powell Adapter - Tractor - 77413 Powell Adapter - Implement - 77611 Power Relay - 77533	$\frac{3}{16}$ " - $\frac{1}{4}$ " center punch 1 $\frac{3}{4}$ " hole saw bit Drill $\frac{3}{16}$ " steel drill bit Allen wrench set (SAE) Volt meter

Preparing the vehicle for installation

Step 1

Park the vehicle on a hard, level surface. Block the front and rear wheels.

Step 2

Align the steering straight ahead. On an articulated vehicle, install the articulation locks.

Step 3

Remove all dirt and debris from the areas of the vehicle where the Field-IQ Crop Input Control system will be installed.

Step 4

Open all kit boxes and check the contents of the box against the packing list/s. Lay all of the parts out on a clean workbench.

Note – The left and right sides of the vehicle are referenced while standing behind the unit, facing the normal direction of travel.

Display Installation

In this chapter:

- Installing the display power harness
- FmX integrated display power components
- EZ-Guide 500 lightbar power components
- Configuring the power bus options for the display

This chapter describes how to install the display.

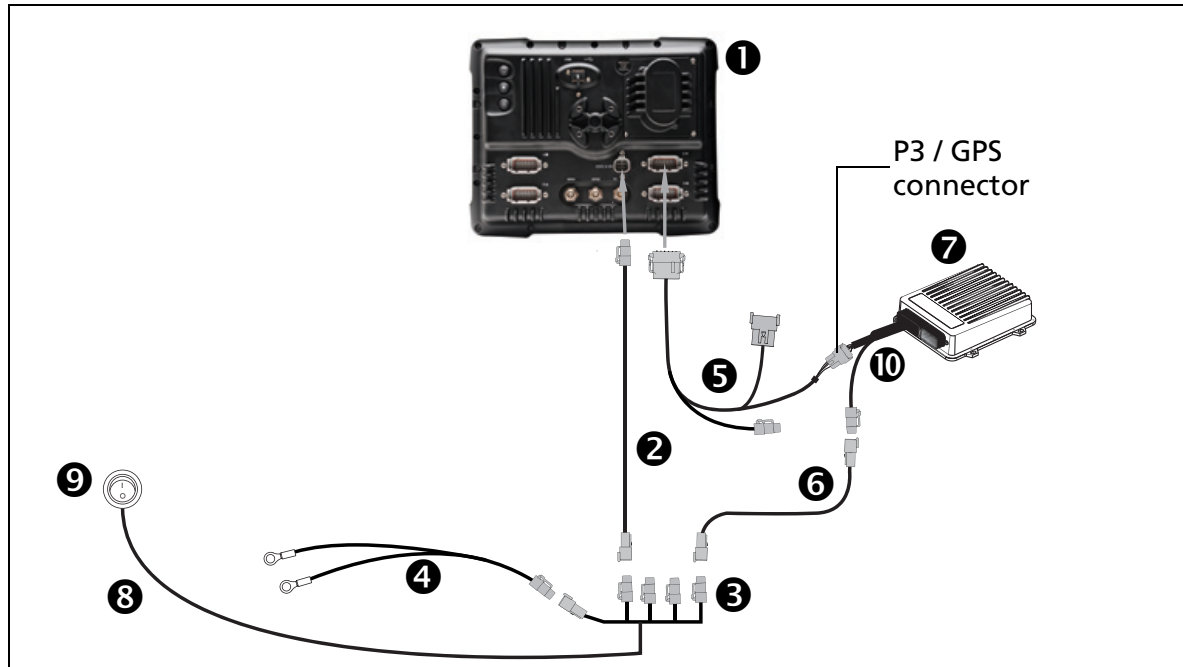
***Note** – This chapter is not required if the display was installed previously.*

Installing the display power harness



WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

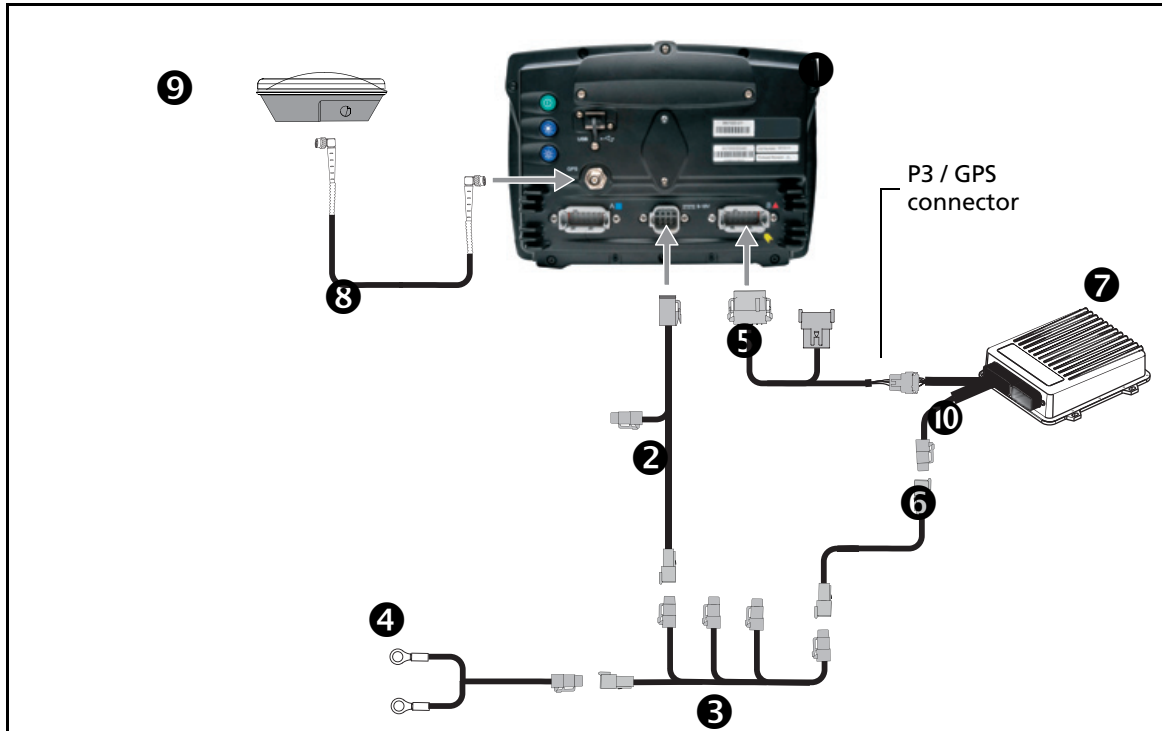
FmX integrated display power components



Item	Description	Trimble part number
1	FmX integrated display	93100-02
2	FmX power cable	66694
3	FmX power cable with relay and switch (power bus)	67259
4	Basic power cable	67258
5	FmX to NavController II cable with port replicator	65522
6	2 pin DTM to 2 pin DT power adapter	67095
7	NavController II	55563-00
8	External switch cable included with kit	Part of 67259
9	External switch included with kit	Part of 67259
10	Main NavController II cable	54601

CFX-750 display power components

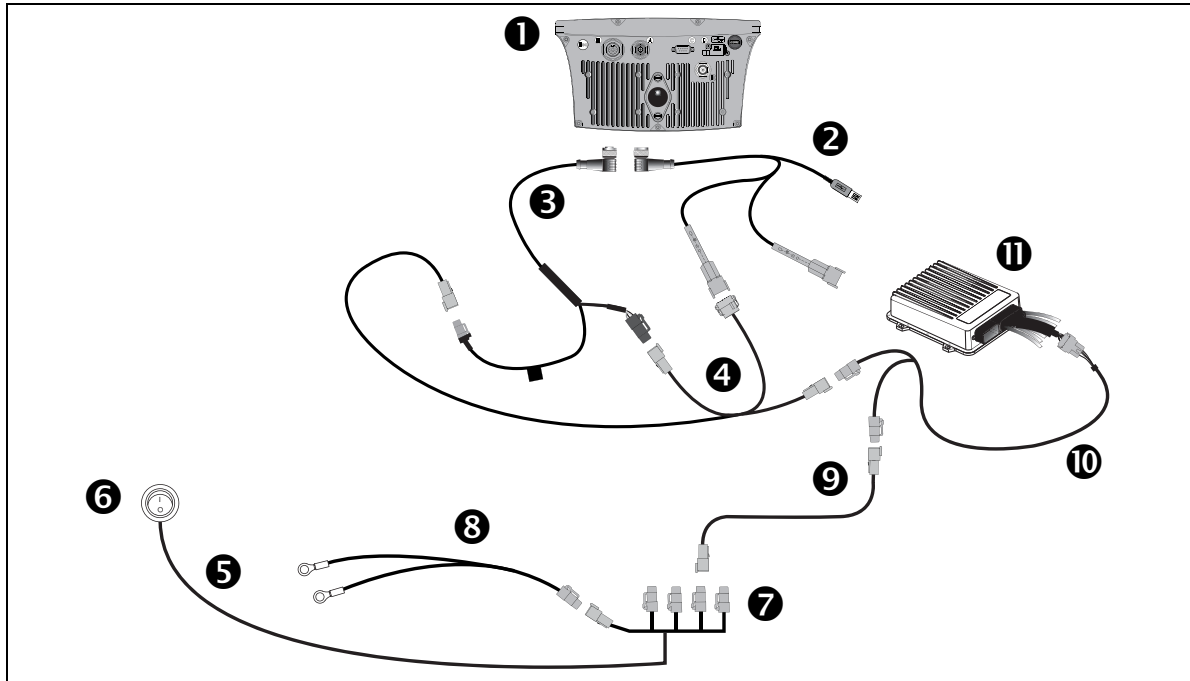
Connecting the CFX-750 display and the Autopilot automated steering system to use WAAS / EGNOS / OmniSTAR XP or HP corrections.



CAUTION – Connecting the Port Replicator on the CFX-750 display to NavController II cable ⑤ to the P4 or P12 connector of the NavController II harness ⑩ will result in damage to the CFX-750 display and will void the warranty.

Item	Description	Trimble part number
①	CFX-750 display	94100-01
②	CFX-750 power cable	77282
③	CFX-750 power cable with relay and switch (power bus) Note – To enable the CFX-750 display to power-up the NavController II, plug the 2-pin Delphi together.	67259
④	Basic power cable	67258
⑤	CFX-750 to NavController II cable with port replicator	75741
⑥	2 pin DTM to 2 pin DT power adaptor	67095
⑦	NavController II	55563-00
⑧	8 m GPS TNC/TNC RT angle cable	50449
⑨	Ag25 GNSS antenna	77038-00
⑩	Main NavController II cable	54601

EZ-Guide 500 lightbar power components



Item	Description	Trimble part number
①	EZ-Guide 500 lightbar	
②	EZ-Guide 500 lightbar 19 pin port expansion cable	62069
③	EZ-Guide 500 lightbar/CAN 90° 5 pin connector	62817
④	EZ-Guide 500 lightbar port A to NavController II cable	62754
⑤	Switch cable	Part of 67259
⑥	Switch	67095
⑦	FmX power cable with relay and switch	67259
⑧	FmX basic power cable	67258
⑨	2 pin DTM to 2 pin 2 DT power adapter	67095
⑩	NavController II main cable	54601
⑪	NavController II	55563-00

Power bus installation

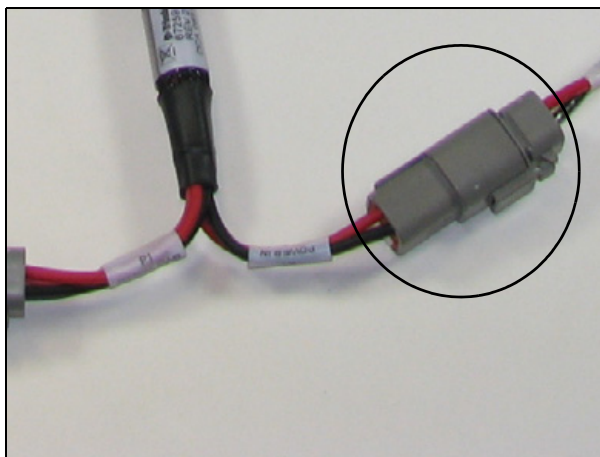
Step 1

Connect the basic power cable to the vehicle battery and then route the cable into the cab.



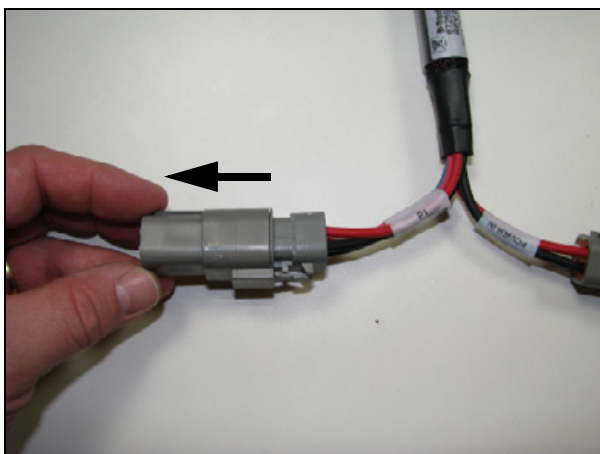
Step 2

Locate and connect the 4-pin Deutsch DTP receptacle on the power bus to the 4-pin Deutsch DTP plug on the basic power cable.



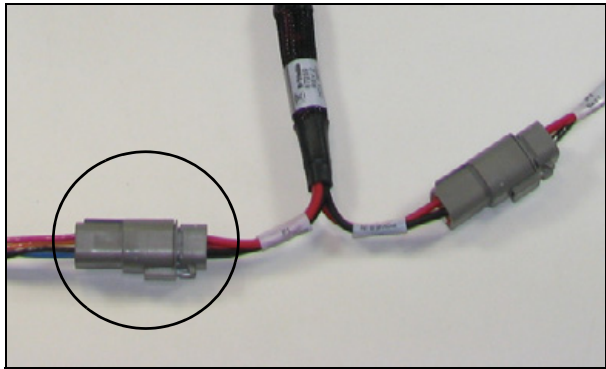
Step 3

Remove the protective receptacle from the power bus.



Step 4

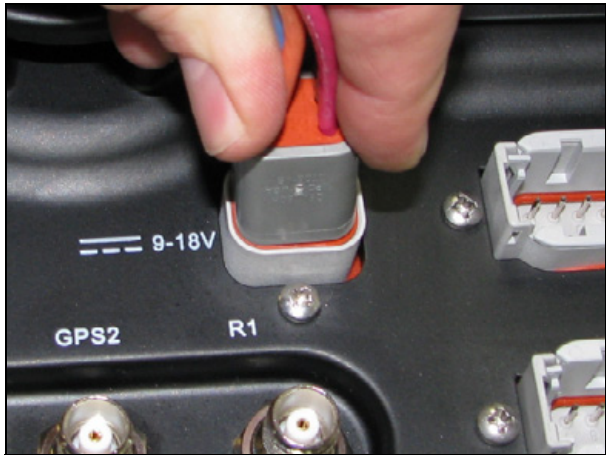
Locate and connect the 4-pin Deutsch DTP receptacle on the FmX integrated display power adapter to the 4-pin Deutsch DTP plug on the power bus.



Step 5

Route the FmX integrated display power adapter to the display mounting location and then connect it to the display.

Note – The power bus may be used with EZ-Guide 500 and the AgGPS Autopilot Navigation Controller II. If the EZ-Guide 500 is not used with a power bus then connect the EZ-Guide 500 directly to battery using cable Trimble P/N 75743.

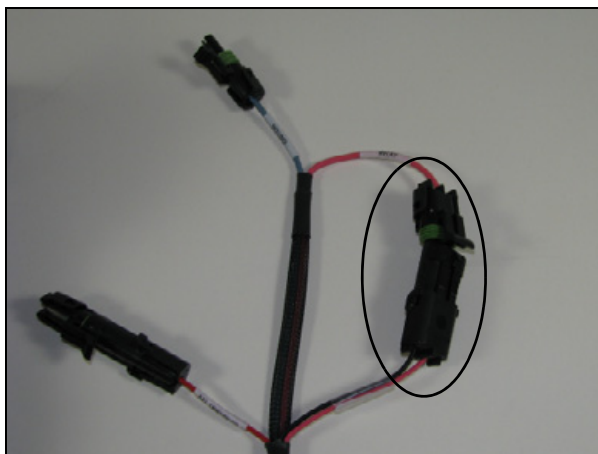


Configuring the power bus options for the display

Use one of the following configuration methods to turn on the Trimble Autopilot™ system:

- FmX integrated display power button

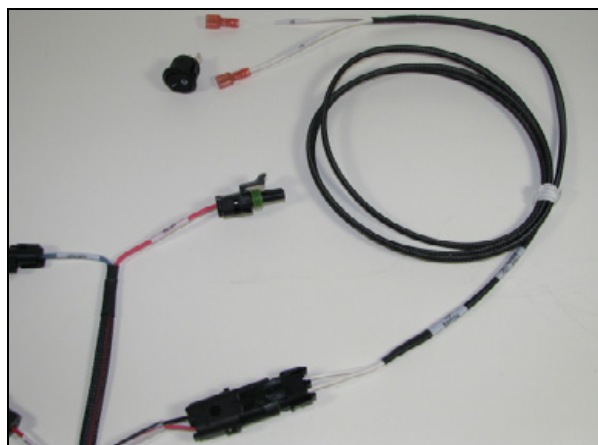
Connect the 2 pin connectors labeled R2 and P2 on the power bus.



- External switch

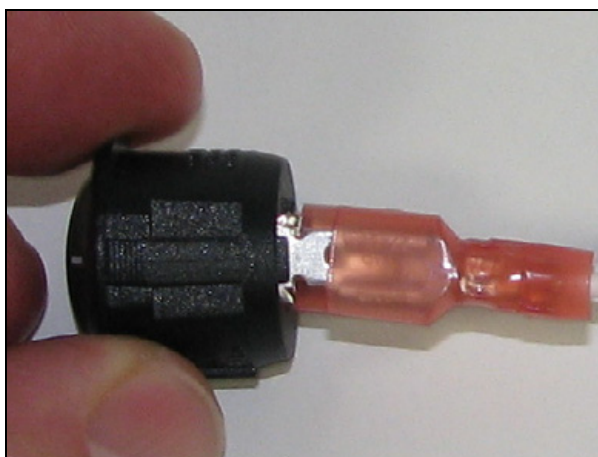
1. Connect the cable labeled R7 switch (included with the power bus) to connector labeled P2 on the power bus. Route the cable labeled R7 to a switch location.

Note – To install the switch provided, drill a $\frac{3}{4}$ " hole.



2. Connect the cable labeled R7 to the switch pins.

Note – Polarity is not important.



Field-IQ Cab Kit and Switch Box

In this chapter:

- Installing the Field-IQ switch box
- The following describes how to install the Field-IQ cab kit for the FmX integrated display, CFX-750 display, and EZ-Guide 500 lightbar.
- Field-IQ System Cable Installation with the EZ-Guide 500 system
- Optional cable installation

This chapter describes how to install the cab components of the Field-IQ application control system.

Installing the Field-IQ switch box



WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

The Field-IQ system requires the 4-switch master switch box to be connected and installed. The master switch box is used to control the system.

The optional 12-section switch box is not required. The 12-section switch box allows for manual control of individual sections.

Use the following steps to install one or both of the switch boxes.

Step 1

Locate the Master Switch Box and mounting hardware.



Step 2

Use a Phillips screwdriver and the supplied screws to secure the two mounting brackets to the master switch box.

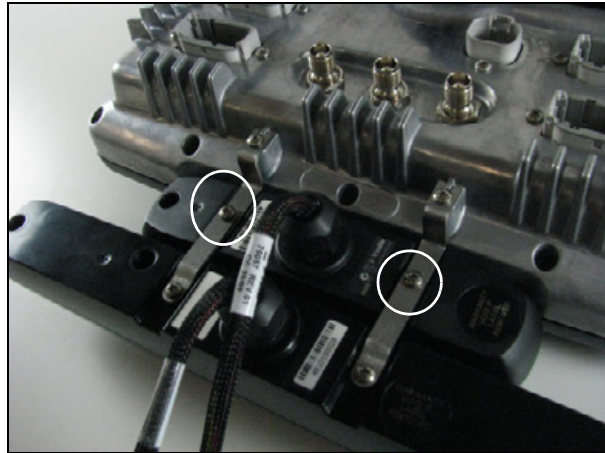


Step 3

Use a Phillips screwdriver and the supplied screws to secure the master switch box to the bottom of the display.

If the display does not have the mounting option on the bottom, use the flat mounting brackets to secure the switch boxes to the top of the display.

Note – The optional 12-section switch box is shown in the picture.



Installing the optional 12-section switch box

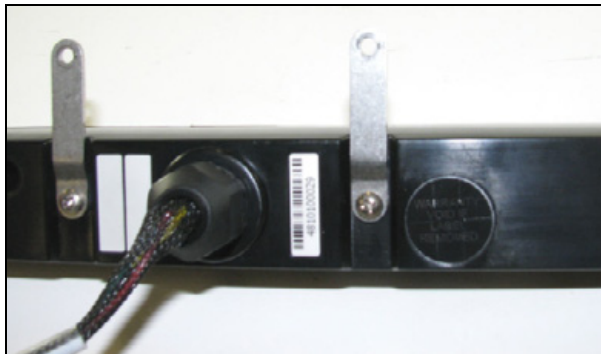
Step 1

Locate the 12-section switch box and installation hardware.



Step 2

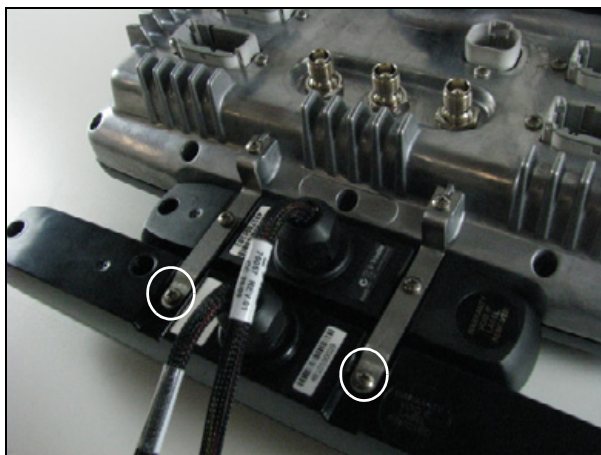
Use a Phillips screwdriver and the supplied screws to secure the mounting hardware to the switch box.



Step 3

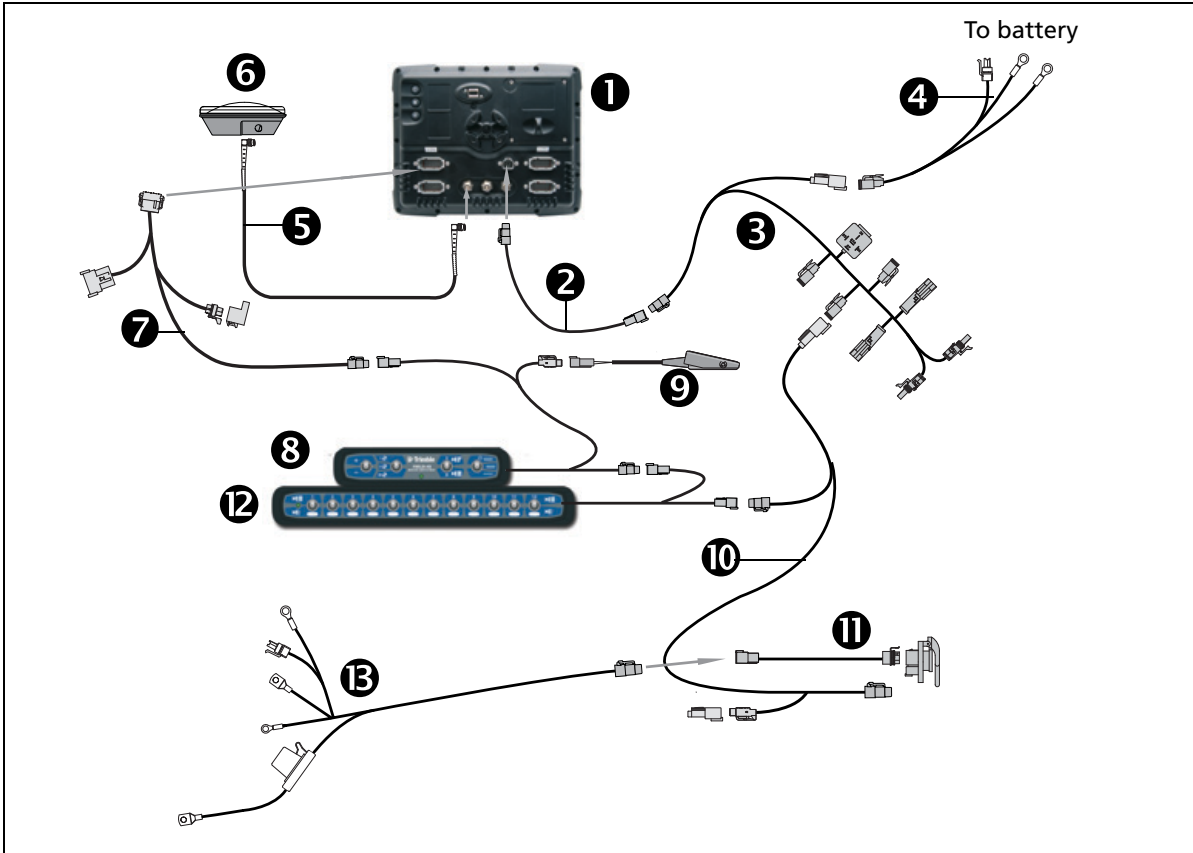
Use a Phillips screwdriver to secure the 12-section switch box to the master switch box.

Note – Remove the screws from the master switch box in order to mount the 12-section switch box.



Installing the Field-IQ cab kit

The following describes how to install the Field-IQ cab kit for the FmX integrated display, CFX-750 display, and EZ-Guide 500 lightbar.

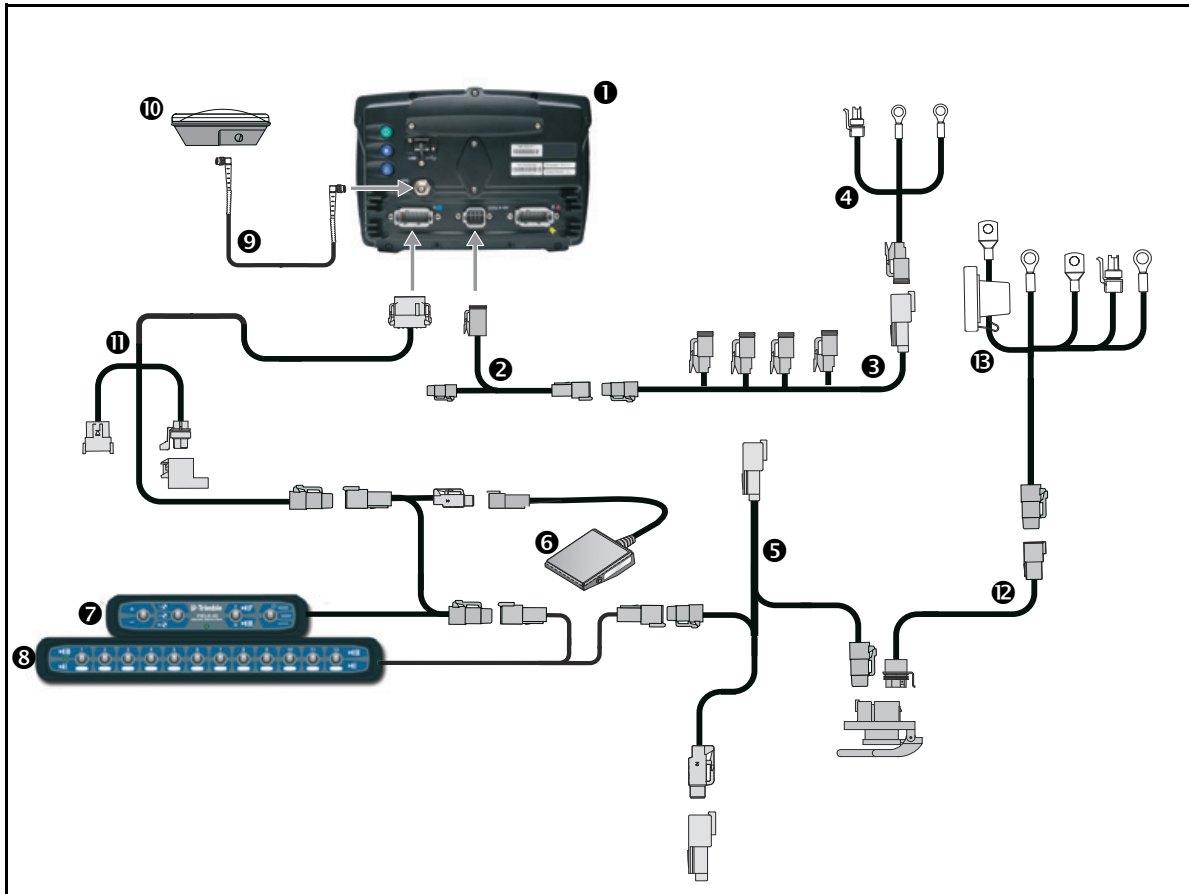


Item	Description	Trimble part number
①	FmX integrated display	93100-01
②	FmX power cable	66694
③	Power bus	67259
④	Basic power cable	67258
⑤	8 m GPS TNC/TNC RT angle cable	50449
⑥	Ag25 GNSS antenna	68040-00S
⑦	Cable assembly, display to Field-IQ	75834
⑧	Field-IQ master switch box	75050-01
⑨	Optional: Remote foot switch	60490
⑩	Cable assembly, CAN, cab to hitch	77368
⑪	Optional: IBRC to DPT adapter cable	77413

3 Field-IQ Cab Kit and Switch Box

Item	Description	Trimble part number
⑫	Optional: 12-section switch box	75060-01
⑬	Cable assembly, power to cab	76941

CFX-750 / Field-IQ cab kit / Powell hitch connection



Item	Description	Trimble part number
①	CFX-750 display	94100-01
②	CFX-750 power cable	77282
③	CFX-750 power cable with relay and switch (power bus)	67259
④	Basic power cable	67258
⑤	Cab to hitch CAN cable	77368
⑥	Remote foot switch (optional)	60490
⑦	Field-IQ master switch box	75050-01
⑧	12-section switch box (optional)	75060-01
⑨	8m TNC/TMC right-angle GPS cable	50449
⑩	Ag25 GNSS antenna	77038-00
⑪	CFX-750 display to Field-IQ cable	75834
⑫	IBRC to DPT adapter cable (optional)	77413
⑬	Power to cab cable	76941

The following steps are required to connect the FmX integrated display or CFX-750 display and switch boxes to the Field-IQ system components.

Note – *These steps provide general guidance for connecting the cables. Cable routing depends on the vehicle and individual preference and is not detailed in these steps.*



CAUTION – When routing the Field-IQ cables be sure to avoid areas of the vehicle that may cause damage to the cable and possibly the Field-IQ system.

Step 1

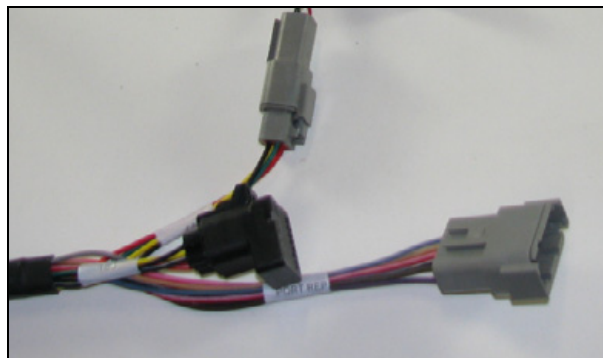
Connect the 12-pin DTM plug on the display harness to the rear of the display.

Note – *Ensure the harness is plugged into either the A or B CAN connector only.*



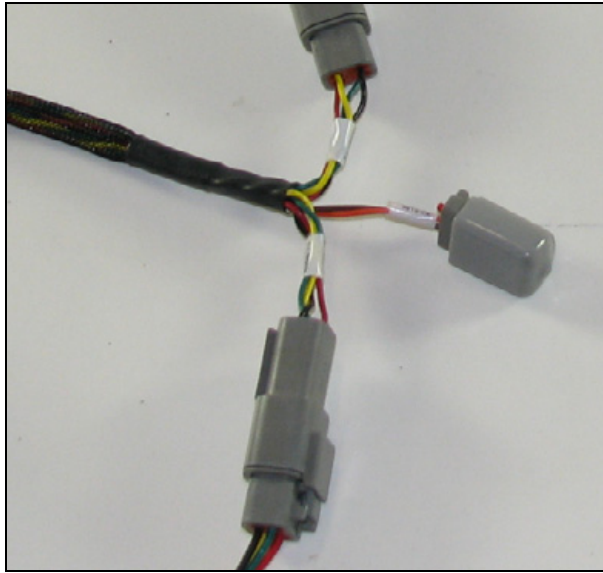
Step 2

Connect the CAN terminator to the R2 connector on the display cable.



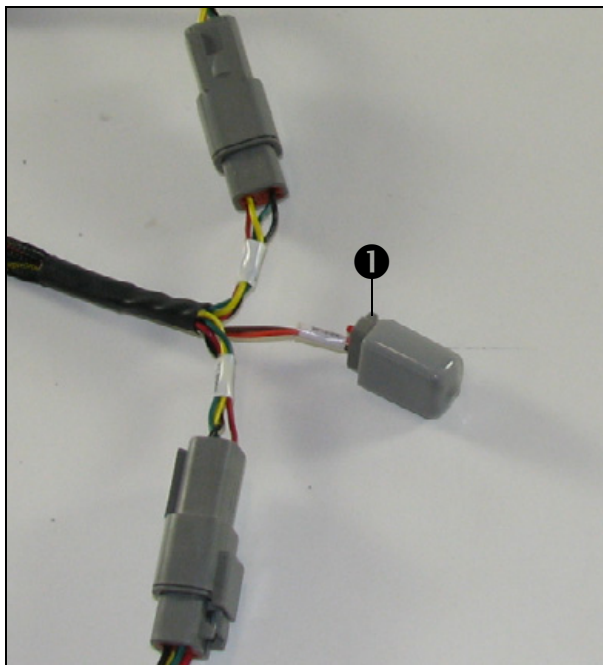
Step 3

Locate the 4-pin CAN plug connection on the display cable and then insert the connector in the 4-pin receptacle on the master switch box harness.



Optional step

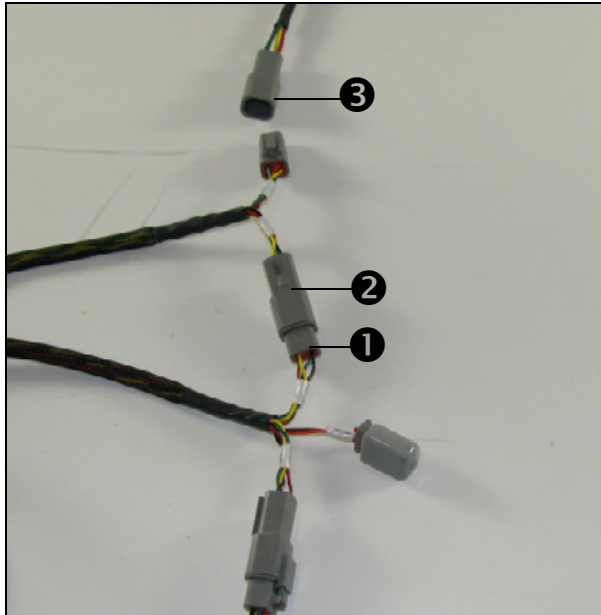
Connect the optional remote foot switch to the P4 connector ❶ on the master switch box harness. The foot switch can be used to remotely control the master on/off switch.



Step 4

If the 12-section switch box is used, the 4-pin plug labeled P3 ❶ on the master switch box harness connector must be connected to the 4-pin receptacle ❷ located on the 12-section switch box harness.

***Note** – If the 12-section switch box is not required, then connect the 4-pin plug to the 4-pin receptacle labeled R1 ❸ located on the cab-to-hitch harness.*

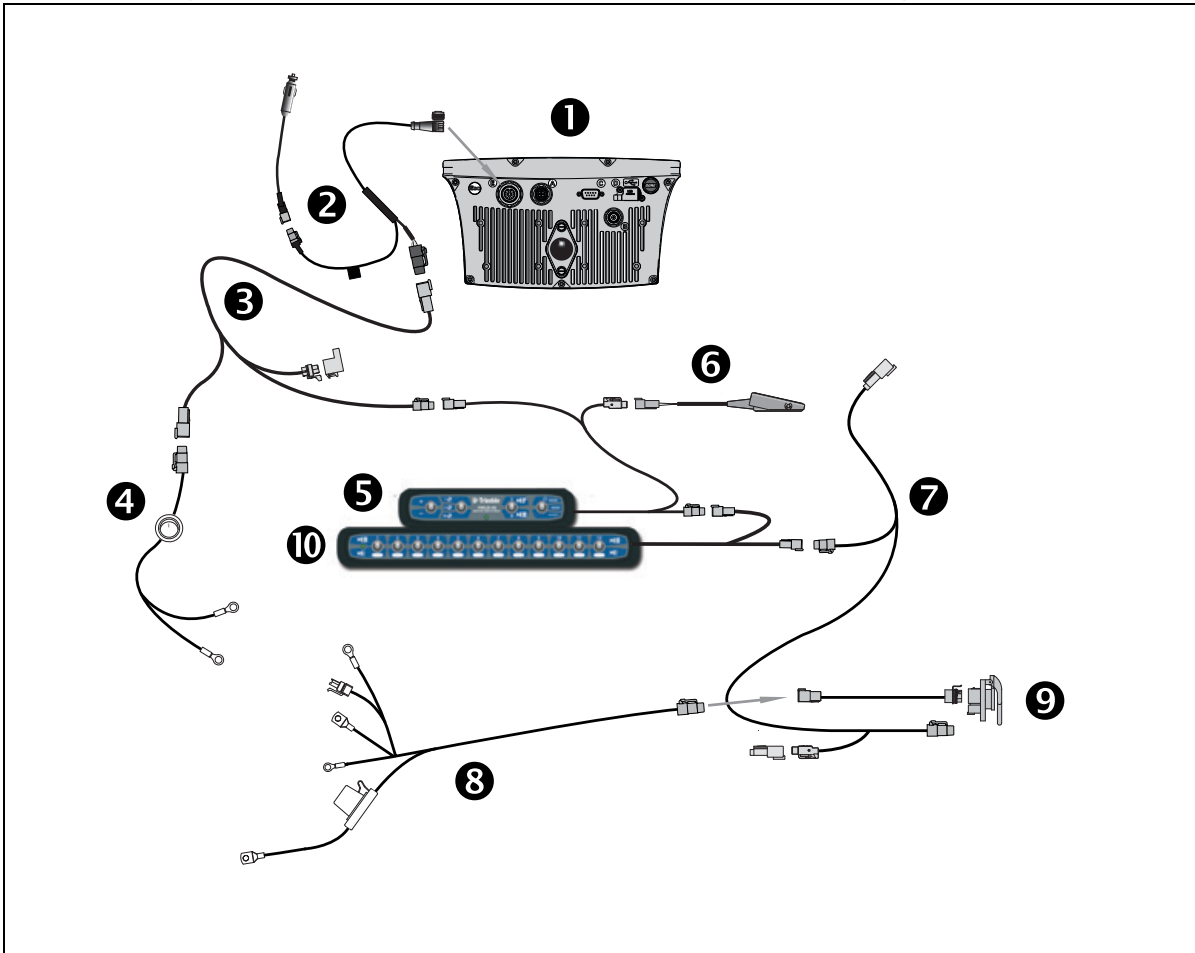


Step 5

Route the cab-to-hitch cable to the rear of the tractor.

***Note** – Cable routing depends on the tractor and cab configuration.*

Field-IQ System Cable Installation with the EZ-Guide 500 system

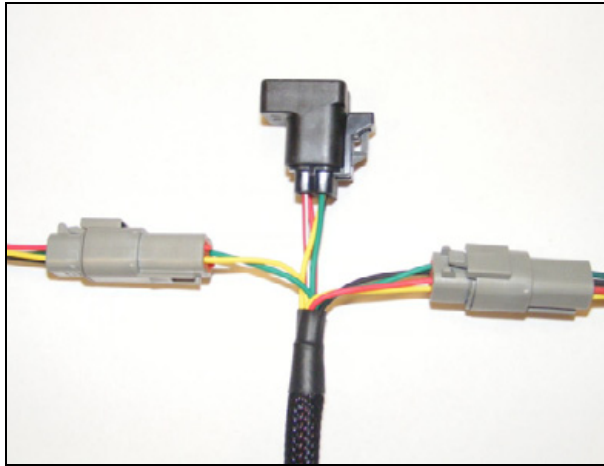


Item	Description	Trimble part number
①	EZ-Guide 500	66100-xx
②	Power cable	62817
③	Cable assembly, CAN-TBC active terminator with power	75522
④	Cable assembly, power with switch	75743
⑤	Field-IQ master switch box	75050-01
⑥	Optional: remote foot switch	60490
⑦	Cable assembly, CAN, cab to hitch	77368
⑧	Cable assembly, power to cab	76941
⑨	Optional: IBRC to DPT adapter cable	77413
⑩	Optional: 12-section switch box	75060-01

The following steps are required to connect the EZ-Guide 500 display and switch boxes to the Field-IQ system components.

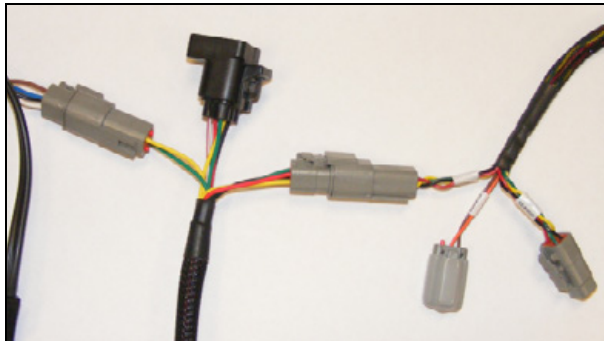
Step 1

Connect the 4-pin DTM plug on the EZ-Guide 500 power cable to the 4-pin DTM receptacle on EZ-Guide 500/Application control adapter cable.



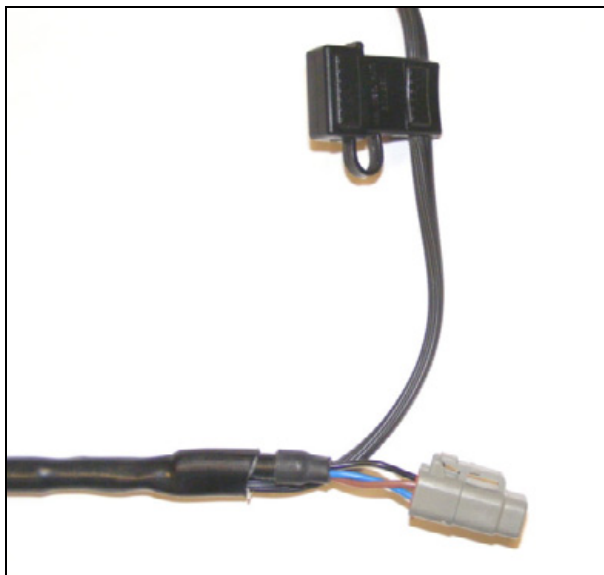
Step 2

Connect the 4-pin DTM plug on the EZ-Guide 500/Application control adapter cable to the 4-pin DTM receptacle on the master switch box harness.



Step 3

Connect the 2-pin receptacle on the EZ-Guide 500/Application control adapter cable to the EZ-Guide 500 power cable. The EZ-Guide 500 power cable will then be connected directly to the battery.



Step 4

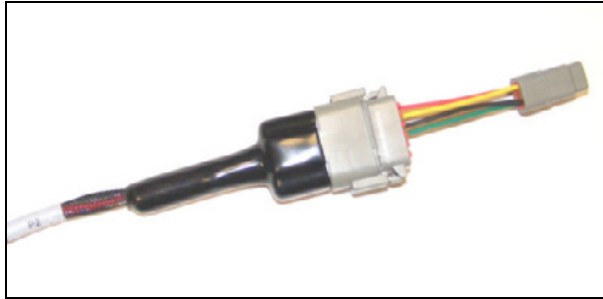
Complete steps 3 through 5 as described above to complete the installation of the cab cables.

Optional cable installation

The Field-IQ system can also be connected using the EZ-Guide 500 19-pin port expansion cable (Trimble P/N 54609).

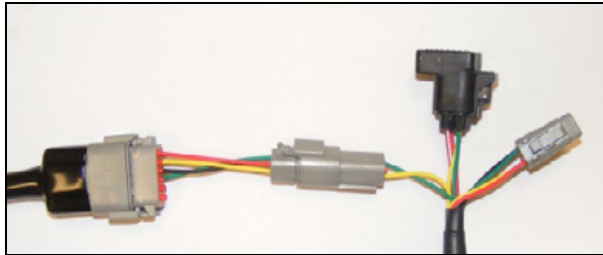
Step 1

Locate and connect the 12-pin DTM to 4-pin DTM adapter and connect it to the gray 12-pin DTM, labeled P2, connector on the port expander cable.



Step 2

Connect the 4-pin DTM plug on the EZ-Guide 500/Application control adapter cable to the 4-pin DTM receptacle on the 12- to 4-pin DTM adapter.



Step 3

Complete the optional step 3 through step 5 as described above to complete the installation of the cab cables.

Field-IQ Power Harness Installation

In this chapter:

- Installing the Field-IQ power harness
- Articulated and track tractors
- Optional: Power relay cable

This chapter describes how to install the Field-IQ Crop Input Control system power harness to the planter.



CAUTION – Install the power cable so it is free from areas of the vehicle that may cause damage to the cable. These include areas that rub, pinch, or cut the cable. Make sure that you do not short power with the cables or wrench.

Installing the Field-IQ power harness



WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

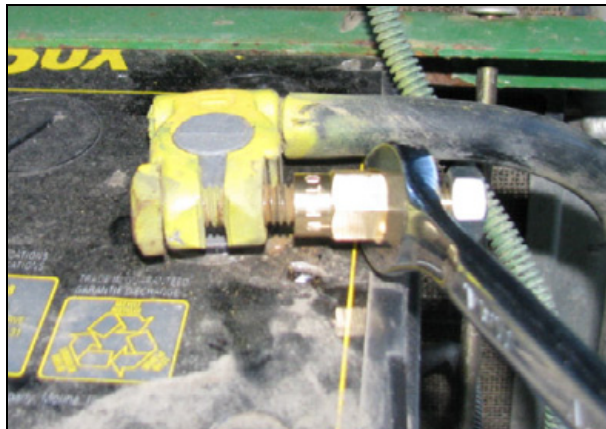
Step 1

Remove the existing nut on the battery terminal.



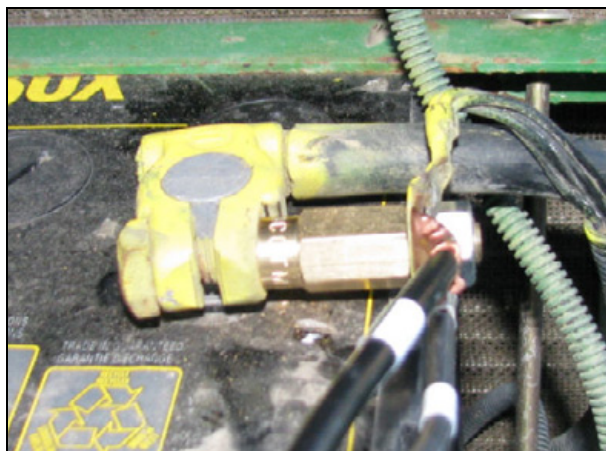
Step 2

Using an open ended wrench connect the battery terminal extender to the existing battery terminal bolt.



Step 3

Remove the nut from the terminal extender and reconnect the existing vehicle battery connectors. Connect the terminals located on the Field-IQ power cable and reconnect the nut.



Step 4

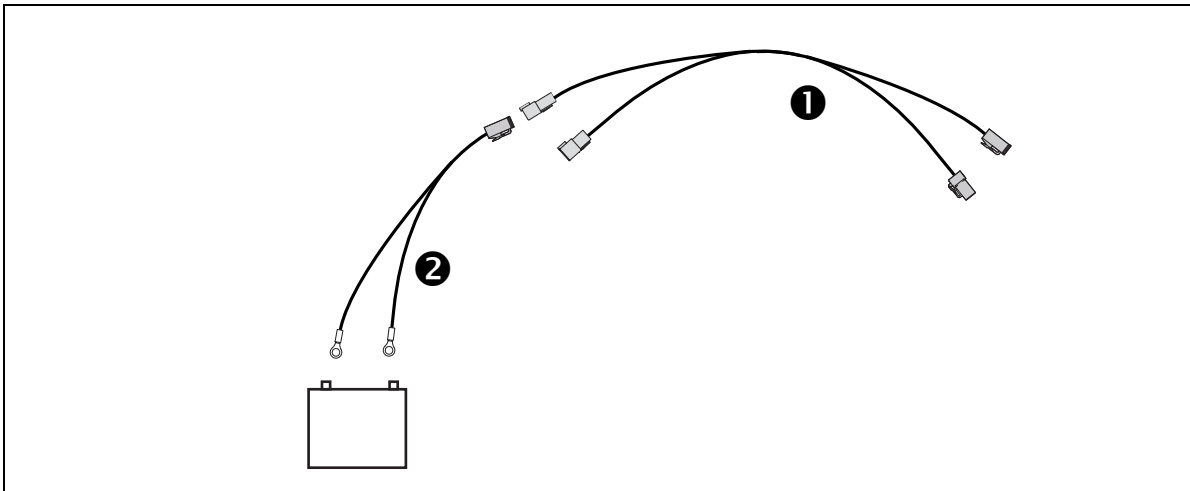
Repeat the step for the second battery connection.

Step 5

Route the cable to the back of the vehicle to the hitch connection.

Articulated and track tractors

An additional implement hitch extension cable may be required to extend the length of the battery adapter harness to the rear of the vehicle.



Item	Description	Trimble part number
①	CAN-power extension cable	75528-xx
②	Power-to-cab cable assembly (connects to the battery)	76941

Connect the 4-pin DTP connectors on the implement hitch extension cable to the battery adapter harness and the harness from the implement or the Powell adapter harness. Route the cable to the rear of the tractor.

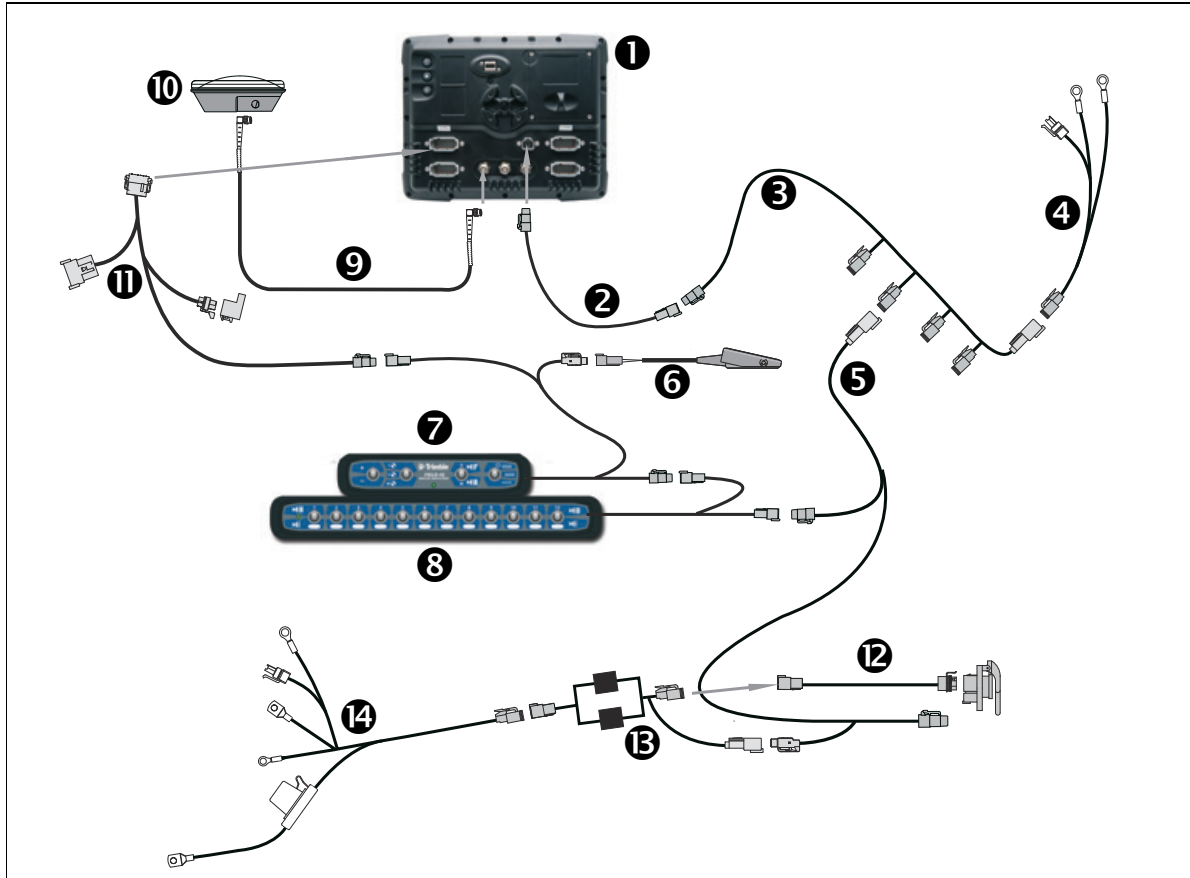
Note – If the cab-to-hitch cable must be extended then connect the cable to the 4-pin DT connector.



CAUTION – Be sure to route and install the cable free from areas that may result in damage to the cable. For example, the tractor drive shaft.

Optional: Power relay cable

The optional power relay cable is used to prevent power from being supplied to the implement.

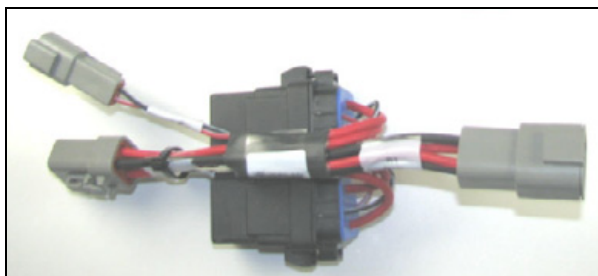


Item	Description	Trimble part number
❶	FmX integrated display	93100-02
❷	FmX power cable	66694
❸	FmX power cable with relay and switch (power bus)	67259
❹	Basic power cable	67258
❺	Cab to hitch CAN cable	77368
❻	Remote foot switch (optional)	60490
❼	Field-IQ master switch box	75050-01
❽	12-section switch box (optional)	75060-01
❾	8m TNC/TMC right-angle GPS cable	50449
❿	AG25 GNSS antenna	68040-00S
⓫	FmX integrated display to Field-IQ cable	75834
⓬	IBRC to DPT adapter cable (optional)	77413

Item	Description	Trimble part number
13	Dual relay power cutoff cable	77533
14	Power to cab cable	76941

Step 1

Locate the power relay.



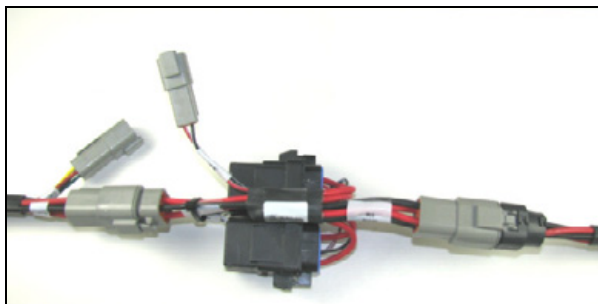
Step 2

Connect one of the 4-pin connectors to the power cable.

Standard Hitch Connection: Connect the second 4-pin connector to the implement harness.

Powell Connector:

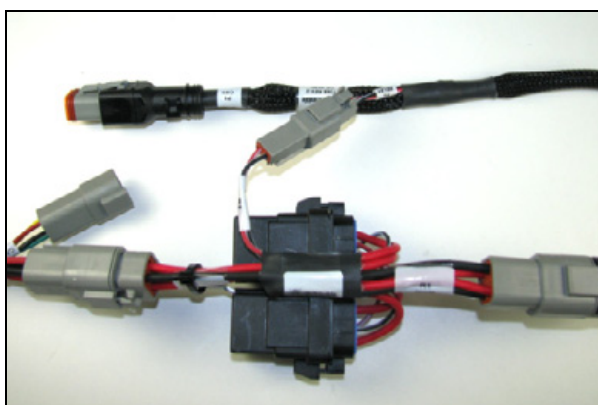
Connect the second 4-pin connector to the Powell connector adapter harness.



Step 3

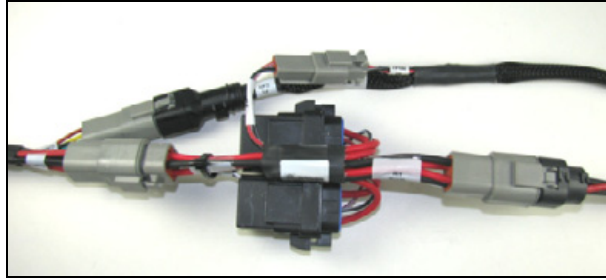
Locate the 2-pin receptacle, labeled power bus, on the cab to hitch harness and connect to the power bus harness.

Note – The power bus is used with the FmX and the Autopilot or EZ-Steer system. The power bus is not included in the Field-IQ kit and may need to be purchased separately depending on the system configuration.



Step 4

Connect the 2-pin connector on the relay to the 2-pin receptacle on the cab to hitch harness.



Step 5

If no Powell connection is used then connect the relay and the cab to hitch harness to the implement CAN/Power harness.

Vehicle And Implement Hitch Connection

In this chapter:

- Introduction
- Optional: Installing the Powell connector
- Standard: Connecting the hitch
- Installing protective caps
- Optional: Connecting the hitch bracket

This chapter describes how to install the Field-IQ™ Crop Input Control system to the planter.

Introduction



WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

There are two methods for the hitch installation. The Powell connector is the preferred method as it provides a quick disconnection between the vehicle and implement. The Powell connector parts are an option for the Field-IQ system. The second method is the basic cab kit. Both methods are shown below.

Note – Be sure to install the hitch connection and cables so they are free of areas that could result in damage to the cable or the Field-IQ system.

Verify the cables are installed so they are free from the following which could result in damage:

- PTO Shafts
- Vehicle tires when the implement is turning
- 3-Point linkage

To complete the hitch connection installation, do the following:

Optional: Installing the Powell connector

The Powell connector provides a robust mounting and connection option for the implement. Use the steps below to add the Powell connector option to the Basic Cab kit.



CAUTION – Use only the connectors supplied with this option. The connectors used for the Powell connector option are different than the hitch connectors on some vehicles.

Step 1

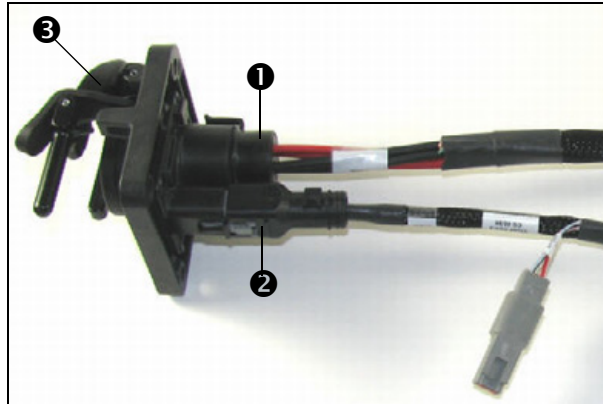
Install the Powell connector on the vehicle in a secure location that allows for easy access to the connector.



Step 2

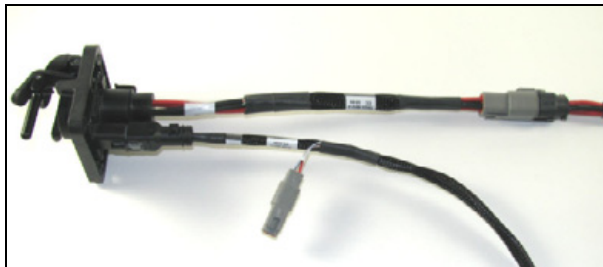
Connect the 4-pin DT plug (❶ shown in the picture) on the CAN cab harness to the 4-pin DT receptacle on the Powell connector (❸ shown in the picture).

Connect the IBRC plug connector (❷ shown in the picture) to the receptacle on the Powell connector (❸ shown in the picture).



Step 3

Connect the 4-pin DTP plug on the power harness to the 4-pin DTP receptacle on the Powell adapter cable.



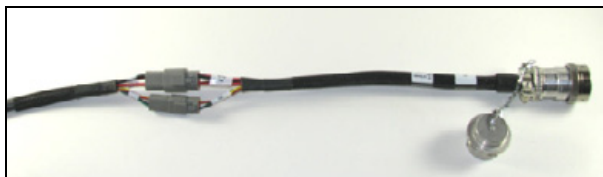
Step 4

Connect the implement Powell adapter to the vehicle.



Step 5

Connect the 4-Pin DT and 4-Pin DTP connectors to the implement CAN/Power harness. The implement harness will then connect the vehicle to the Field-IQ control modules mounted on the implement.



Standard: Connecting the hitch

Use the following steps for the basic hitch connection.

Step 1

Route the power cable and the cab-to-hitch cable to the hitch of the vehicle.

Step 2

Connect the 4-pin DT and 4-pin DTP connectors to the implement CAN/power harness.



Step 3

Route the implement harness to the Field-IQ control modules on the implement.

Installing protective caps

The protective caps provide a way to secure the ends of the cables as well as protect the cable connectors when disconnected from the implement.

Step 1

Locate the protective caps and then connect them to the cables.



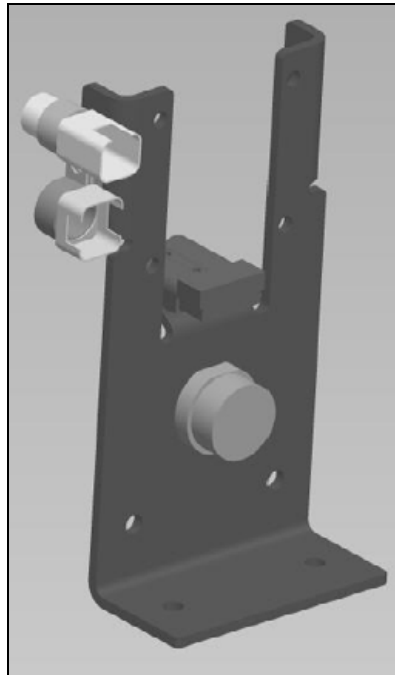
Step 2

Secure the caps to the cable or vehicle using the provided tie strap.

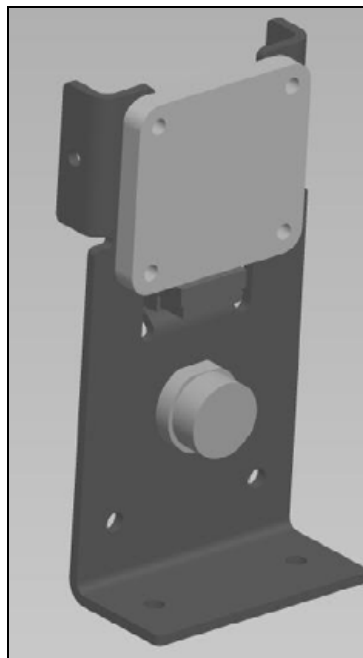
Optional: Connecting the hitch bracket

The optional bracket for the hitch connection may be installed on the tractor near the hitch. The bracket may be used for either the Powell connector or the basic hitch connection. Securely mount the bracket near the hitch of the tractor and install either the Powell adapter or the basic cables.

Picture shows an example of the basic method.



Picture shows an example of the Powell connection.



Field-IQ Crop Input Control System Installation

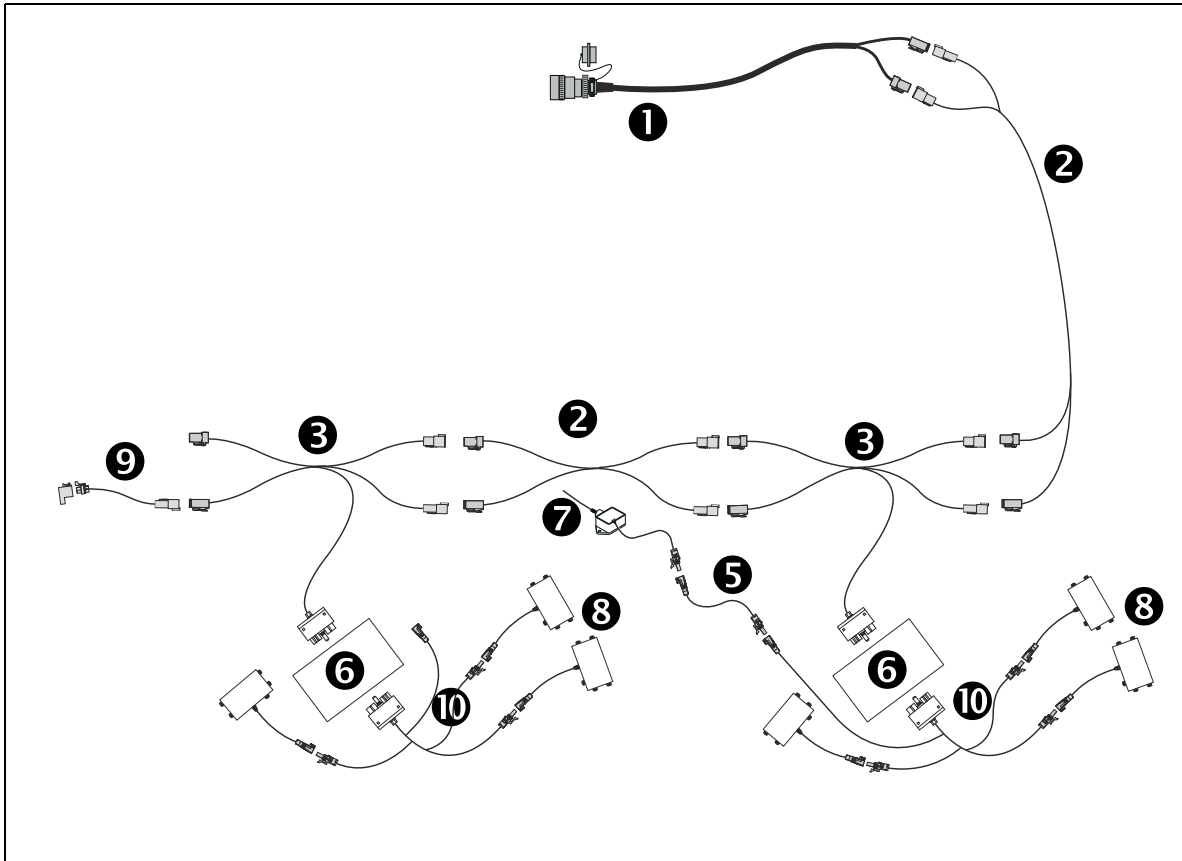
In this chapter:

- Field-IQ with Tru Count Air Clutches or LiquiBlock
- Field-IQ with Rawson PAR 2 drives
- Field-IQ with 3 Rawson PAR 2 drives and Tru Count air clutches
- Cable routing suggestions
- Connecting the Rawson Control Module
- Connecting the rate and section control (RTCM, RSCM, or SCM) or seed sensing (SSM) modules
- CAN Terminator Installation
- Implement Switch Installation

This chapter describes how to install the Field-IQ™ Crop Input Control System to the planter.

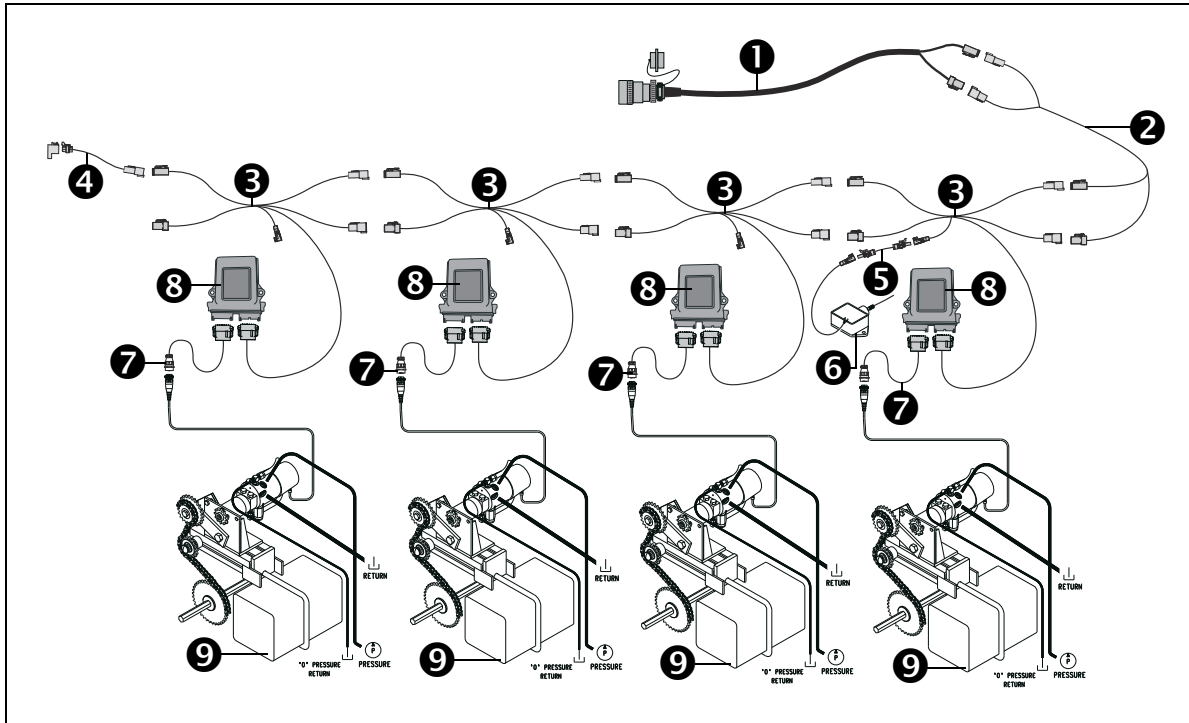
WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

Field-IQ with Tru Count Air Clutches or LiquiBlock



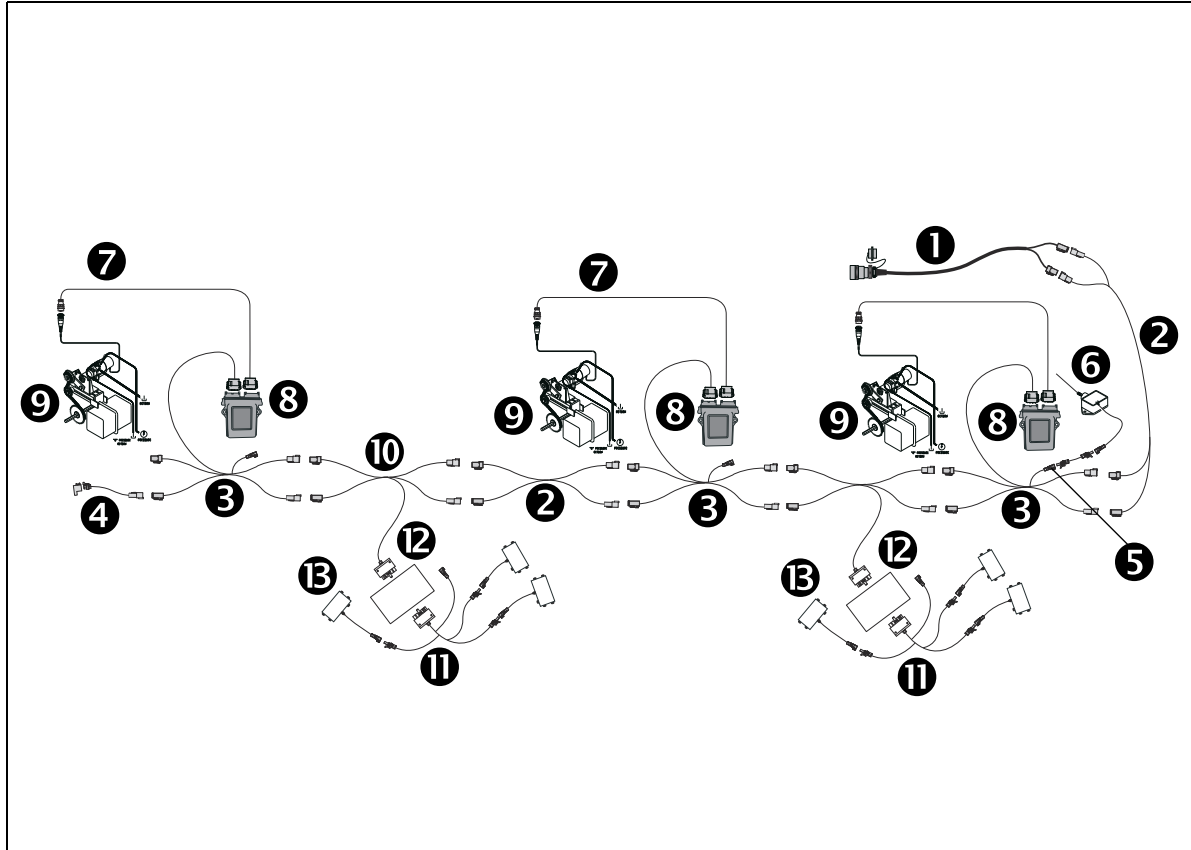
Item	Description	Trimble part number
①	Implement harness (Powell adapter)	77611
②	CAN/power extension cable	75528-xx
③	CAN-T Magnus cable	75524
④	Switching module to valve module cable	76859
⑤	20' implement switch extension cable	77542
⑥	Section control module	75774-05
⑦	Whisker switch	77636
⑧	Tru Count module	68355-00
⑨	Implement terminator kit (includes 75491)	75529
⑩	Cable assembly - Section Control Module to Tru Count	76859

Field-IQ with Rawson PAR 2 drives



	Description	Trimble part number
❶	Implement harness (Powell adapter)	77611
❷	CAN/power extension cable	75528-xx
❸	Rawson module T-cable	75527
❹	Implement terminator kit (includes P/N 75491)	75529
❺	20' implement switch extension cable	75542
❻	Whisker switch	77636
❼	Rawson motor CPC to DTM cable	75531
❽	Rawson control module	75070-00
❾	Rawson PAR 2 motor	300499

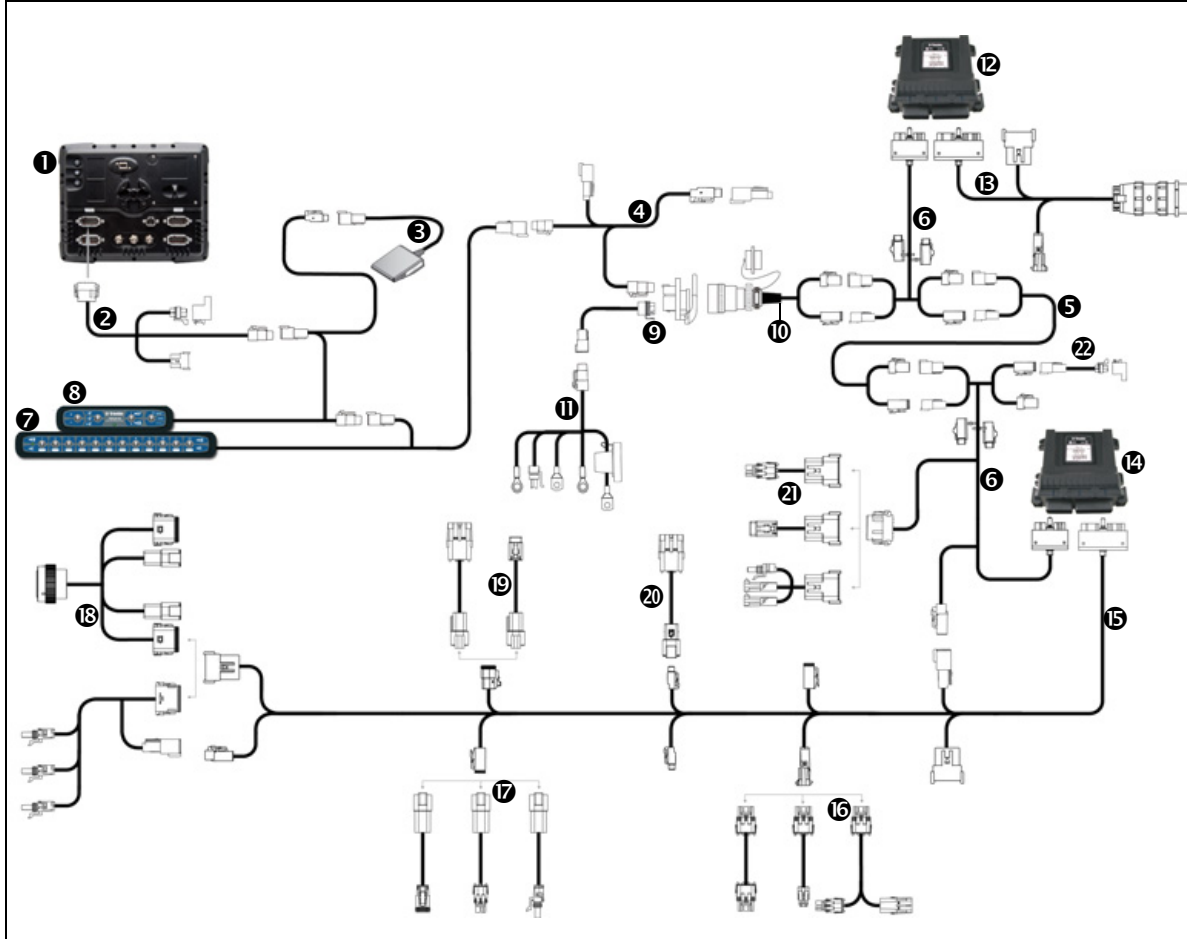
Field-IQ with 3 Rawson PAR 2 drives and Tru Count air clutches



Item	Description	Trimble part number
①	Implement harness (Powell adapter)	77611
②	CAN/power extension cable	75528-xx
③	Rawson module T-cable	75527
④	Implement terminator kit (includes 75491)	75529
⑤	20' Implement switch extension cable	77542
⑥	Whisker switch	77636
⑦	Rawson motor CPC to DTM cable	75531
⑧	Rawson control module	75070-00
⑨	Rawson PAR 2 motor	300499
⑩	CAN-T Magnus cable	75524
⑪	Switching module to valve module cable	76859
⑫	Switch control module	75774-05
⑬	Tru Count module	68355-00

FmX/Field-IQ cab kit / Seed Monitoring / Rate and Section Control

Connecting the FmX integrated display to the Field-IQ cab kit and the Seed Monitoring module.



Item	Description	Trimble part number
1	FmX integrated display	93100-01
2	Display to Field-IQ Cable	75834
3	Optional: Remote Foot Switch	60490
4	Cab to Hitch CAN Cable	77368
5	CAN/Power Extension Cable	75528-XX
6	Cable Assy, Rate/section module tee	75526
7	Field-IQ 12-section switch box	75060-10
8	Field-IQ Master switch box	75050-01
9	Powell Quick Disconnect (Tractor Side) - Optional	77413
10	Implement Harness (Powell Adapter) – Implement Side - Optional	77611-01
11	Power to Cab Cable	76941
12	Seed Monitoring Module (SMM)	76774-05

Item	Description	Trimble part number
13	Existing Population Sensor Harness Adapters	
	Seed Monitoring Module Adapter PM Style (24 or fewer Rows)	82537
	Seed Monitoring Module Adapter PM Style (25 -32 Rows)	82539
	Seed Monitoring Module Adapter CT Style (24 or fewer Rows)	82536
	Seed Monitoring Module Adapter CT Style (25 - 32 Rows)	82538
14	Rate and Section Control Module	75774-00
15	Field-IQ Rate + Section Implement Adapter	80540
16	Implement Lift Switch Adapter	
	FIELD-IQ TO JD IMPLEMENT LIFT SWITCH	82743
	Field-IQ to Case IH Implement Switch	82922
	Field-IQ To Kinze Implement Switch	82924
	10' Implement Switch Extension Cable	77543
	Whisker Switch	77636
17	PWM Drive Adapter	
	FIELD IQ TO KZ 2-WIRE/JD PWM	82706
	Field-IQ to Case IH/Kinze PWM	82919
	DJ PWM, control valve adapter	80960
18	Row Section Control Adapter	
	Field-IQ To Tru Count Breakout Adapter	81693
	John Deere Row Command adapter cable (Non DB Series)	82670
19	Application Rate Sensor Adapter	
	Field-IQ To Dickey-john Encoder/Flowmeter – (JD/Case IH/Kinze)	80539
	Field-IQ to Case IH App Rate	82921
20	Vacuum / Pressure Sensor Adapter	
	FIELD IQ TO JD VAC SENSOR	82744
21	Bin Level Sensor Adapter and Fan Speed Sensor Adapter	
	FIELD IQ TO JD BIN LEVEL SENSOR	82789
	Field-IQ to Case IH Bin Level Sensor	82920
	White Bin/Hopper Level sensor adapter	82928
22	Field-IQ Implement Terminator Adapter	75529

Cable routing suggestions

The following schematics illustrate the preferred routing location for the different mounting and folding configurations.

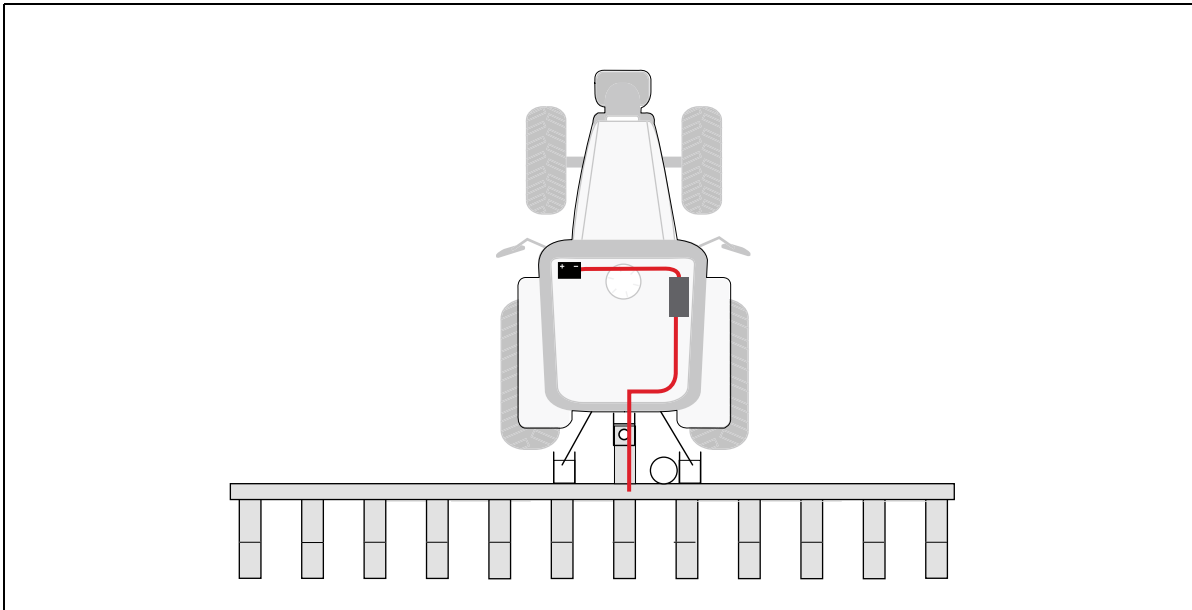
3-Point mounted or stack fold implements



CAUTION – Be sure to fold and unfold the implement during installation to verify that no cables are damaged during the folding process.

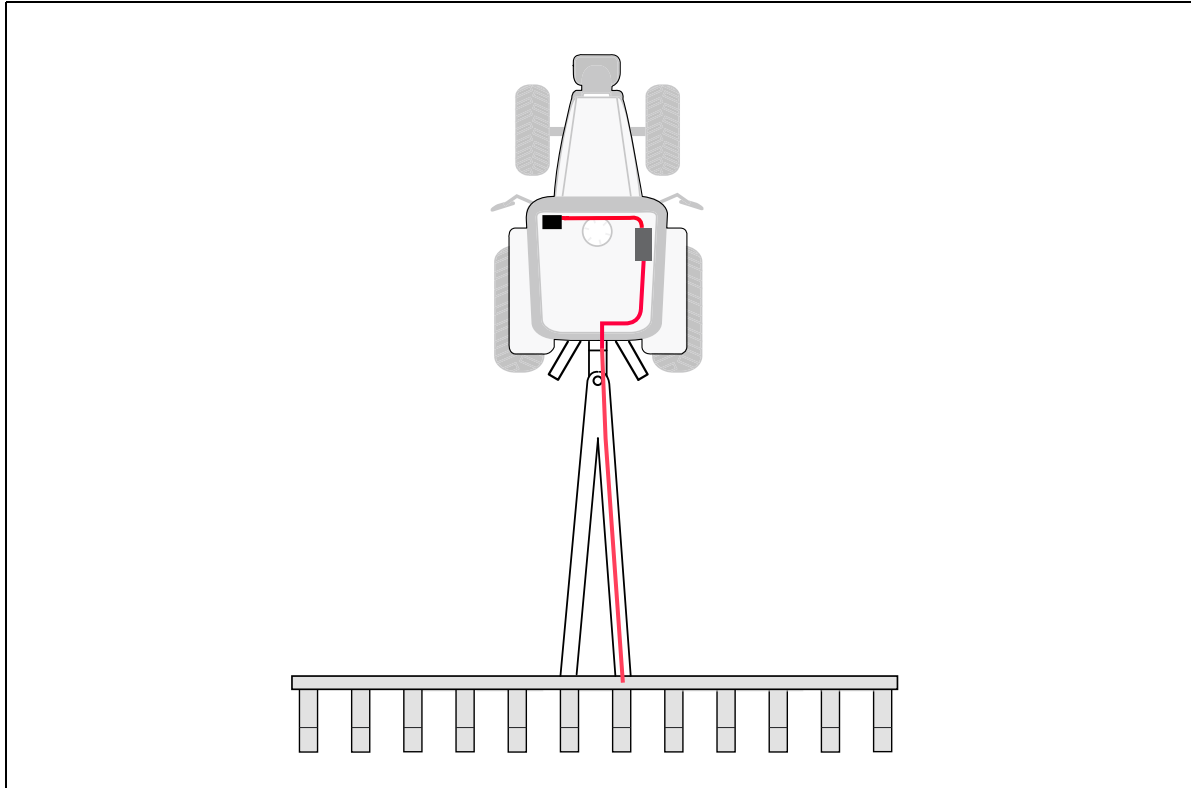
The 3-point mounted and stack fold planters use a short CAN extension harness to connect the tractor to the Field-IQ components on the implement.

Note – Additional CAN extension cables may be needed depending on the planter width and drive configuration.



Rigid Drawn Implement

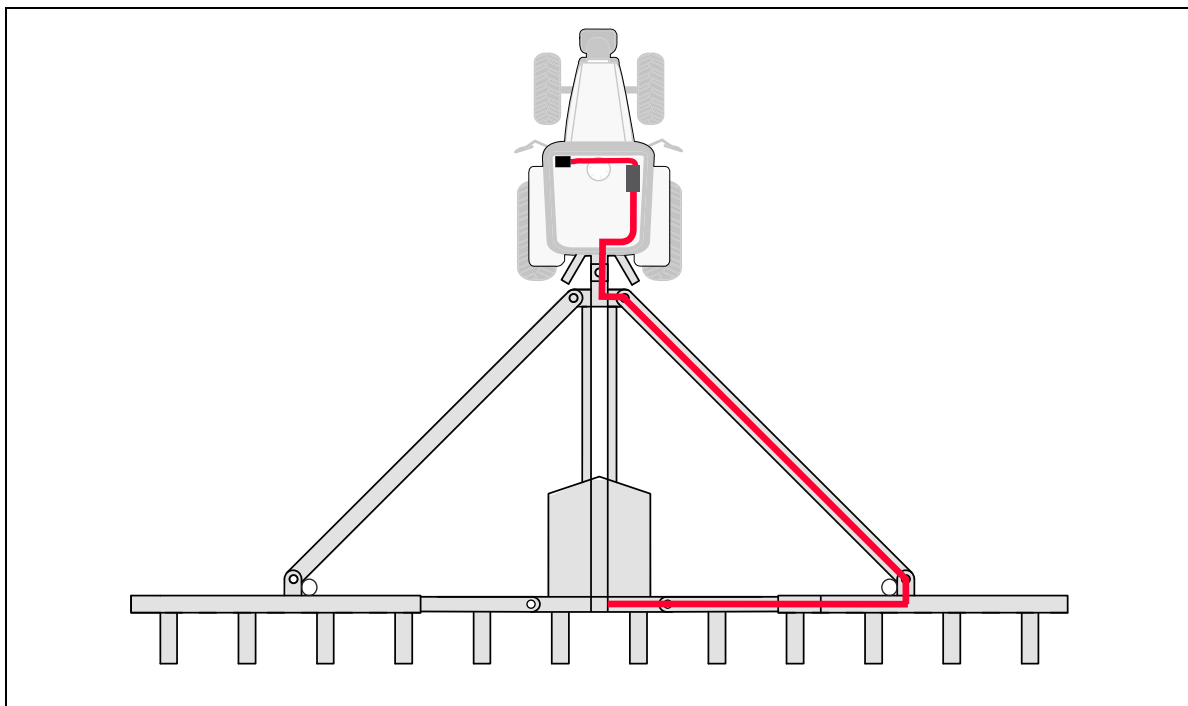
Route the CAN/power extension harness from the tractor to the implement along one of the support braces of the hitch.



Front Fold Implement

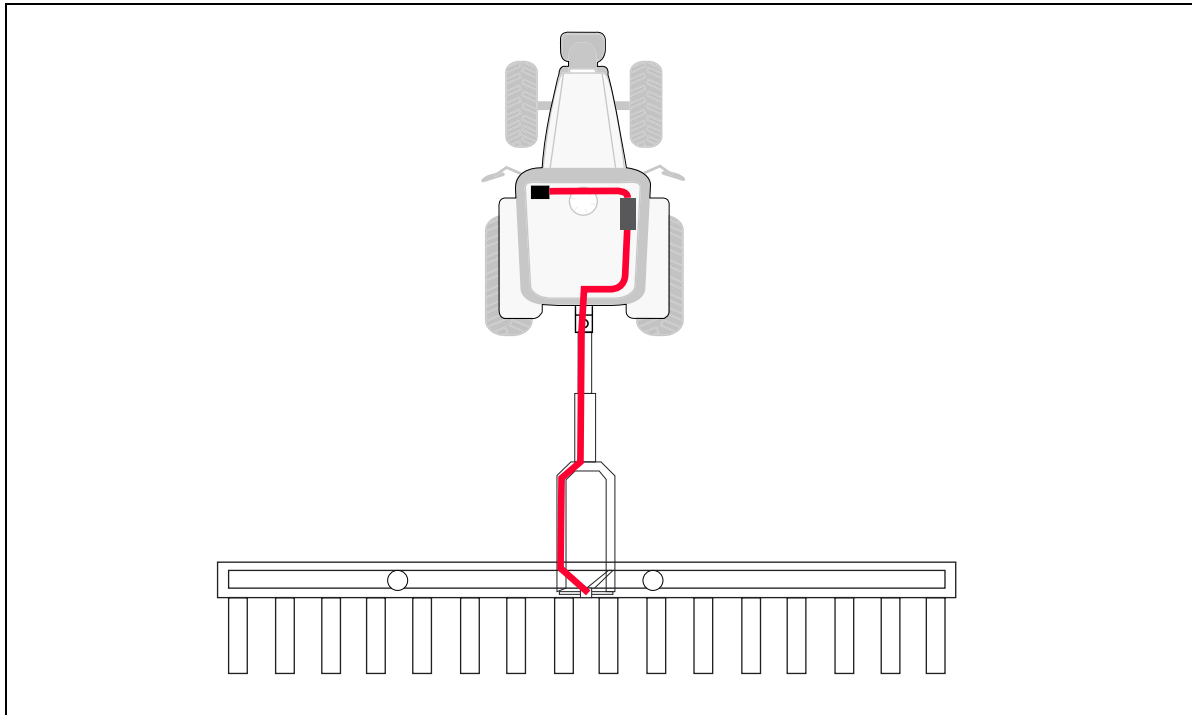
Route the CAN/power extension harness from the tractor to the implement along one of the support braces of the hitch.

Depending on the location of the control modules varying lengths of the CAN/power cable may be required.



Pivot Planters

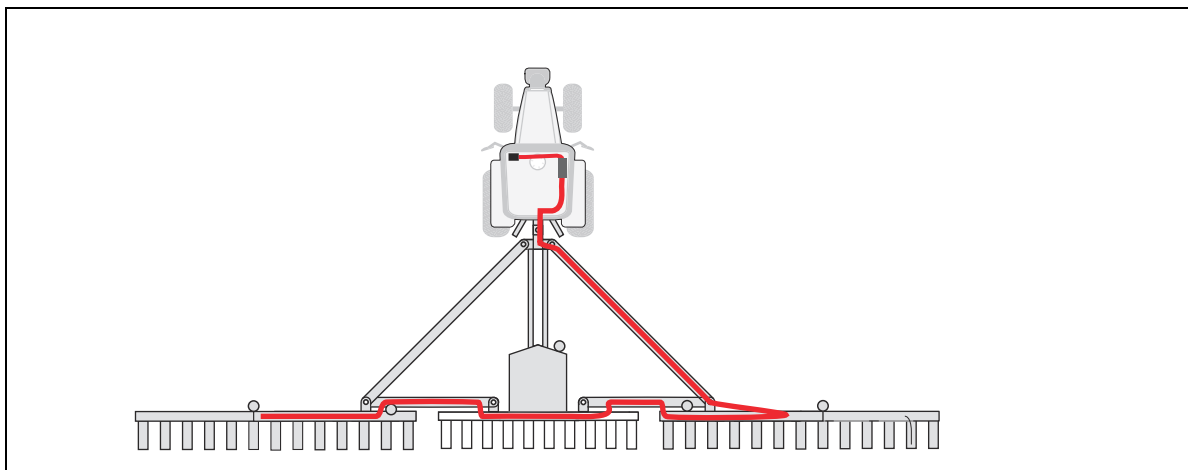
Route the CAN/power cable from the tractor along the main frame of the planter to the center of the pivot. Make sure to leave enough slack in the cable to allow the implement to fold and unfold correctly.



John Deere DB series

Route the CAN/power extension harness from the tractor to the implement along one of the support braces of the hitch.

Depending on the location of the control modules varying lengths of the CAN/power cable may be required.



Connecting the Rawson Control Module



WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

The following section describes how to connect the Rawson Control Module. Repeat these steps for each Rawson Control Module required for the implement. The implement switch is not required for each module. Only one switch is needed for the system.



CAUTION – The preferred mounting is with the red and green connectors pointing down. The control module may also be mounted with connectors pointed to the side. Do not mount with the red and green connectors pointing up.

Step 1

Locate the Rawson Control Module and mounting hardware.

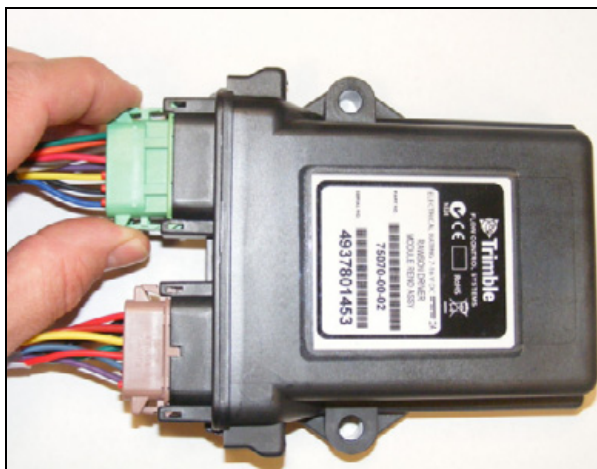
Step 2

Locate a secure mounting location on the implement for the Rawson Control Module. Verify the location is where the module will not be damaged. The module mounting location must be near the Rawson drive mounting location.



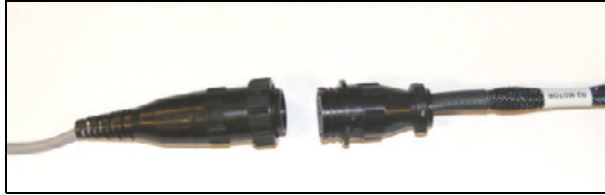
Step 3

Connect the green 12-pin DTM connector on the Rawson adapter cable to the module.



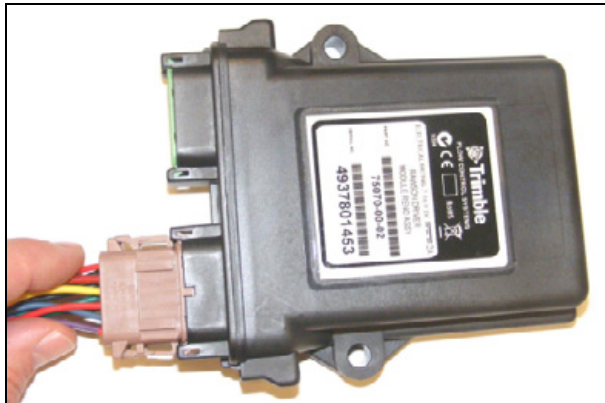
Step 4

Connect the round connector on the Rawson adapter cable to the Rawson motor cable.



Step 5

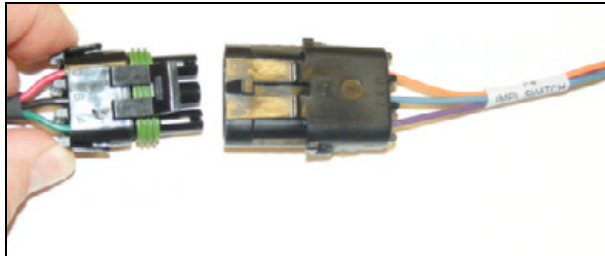
Connect the 12-pin DTM connector on the Rawson module to CAN system adapter cable to the Rawson Control Module.



Step 6

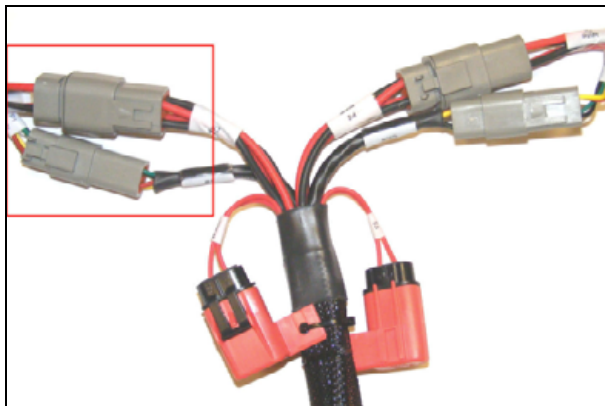
Follow the steps in the implement switch installation section to install the implement switch.

Note – An implement switch extension cable may be required depending on the switch mounting location.



Step 7

Connect each of the 4-pin DTP and DT connectors to the CAN backbone cable.



Connecting the rate and section control (RTCM, RSCM, or SCM) or seed sensing (SSM) modules



WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.



CAUTION – The preferred mounting is with the connectors pointing down. The module may also be mounted with connectors pointed to the side. Do not mount with the connectors pointing up.

Step 1

Locate the module and mounting hardware.

Step 2

Locate a secure mounting location on the implement. Verify the location is where the module will not be damaged when the implement is folded.



Step 3

Connect the 18-pin Cinch connector on the CAN backbone adapter cable to the module.

Use a ¼" socket or nut driver to tighten the connector.



WARNING – Do not exceed 15-20 in/lbs torque.



Step 4

Connect the 30-pin Cinch connector on the system adapter cable to the module.

Use a ¼" socket or nut driver to tighten the connector.



WARNING – Do not exceed 15-20 in/lbs torque.

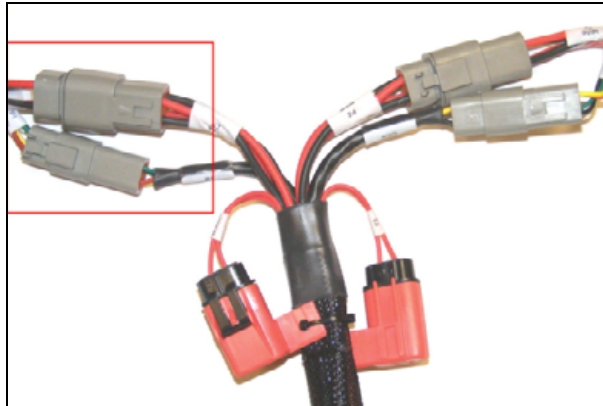


Step 5

Connect the 4-pin DT and 4-pin DTP connectors to the CAN extension harness.

Repeat these steps for each module required for the implement.

Note – *If the module is the last module to be added to the CAN system the CAN terminator cable must be installed.*



CAN Terminator Installation

The Field-IQ system requires two CAN terminators. The first terminator is located in the vehicle cab. Use the following steps to install the second CAN terminator located on the implement.

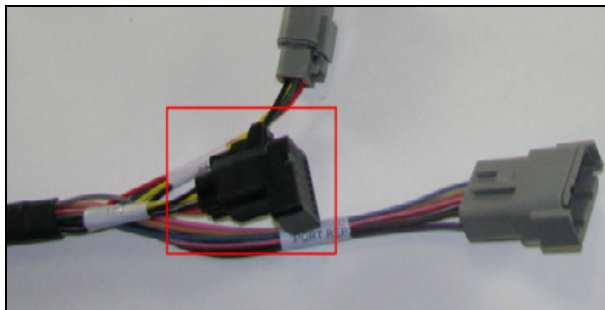
Step 1

Locate the CAN terminator, cable and protective 4-pin DTP cap.



Step 2

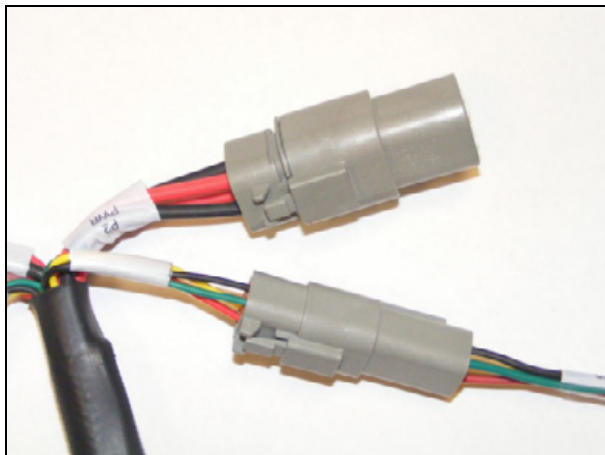
Verify the CAN terminator is connected on the CAN adapter cable.



Step 3

Connect the 4-pin DT receptacle on the CAN adapter cable to the 4-pin DT plug on the CAN backbone cable.

Connect the 4-pin DTP protective cap to the 4-pin DTP plug on the CAN/Power backbone cable.



Step 4

Secure the cable to prevent damage to the cable and system.

Implement Switch Installation

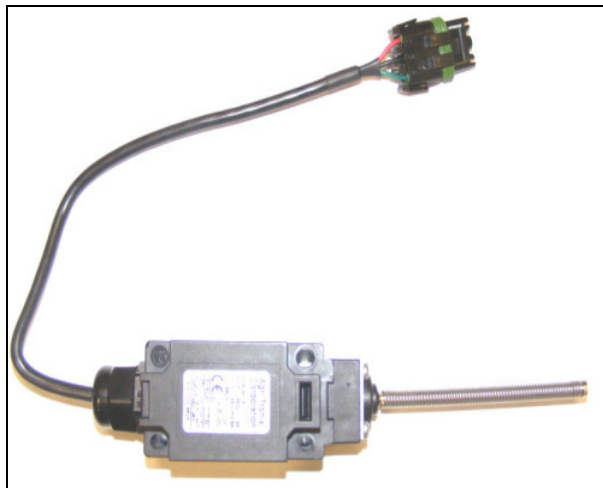
The Field-IQ system uses an implement switch to provide indication to the control system when the implement is lowered and operating. The installation of the switch is dependant on the implement. The instructions below are general guidelines. Alternative installation of the switch may be required.

Step 1

Locate a secure location on the implement that allows the switch to be mounted and activate as the implement is raised and lowered.

Step 2

Use bolts or screws to securely mount the switch using the mounting holes in the switch.



Step 3

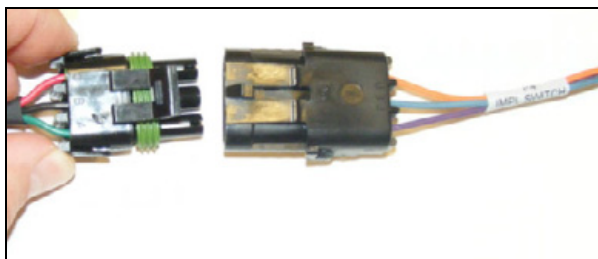
Raise and lower the implement to verify the switch activates with the movement. The picture shows an example of an implement switch that is mounted.



Step 4

Connect the implement switch to the extension cable or to the control module. Route the cable to the control module and connect the extension cable to the module.

Note – Depending on the mounting location an implement switch extension cable may be required.



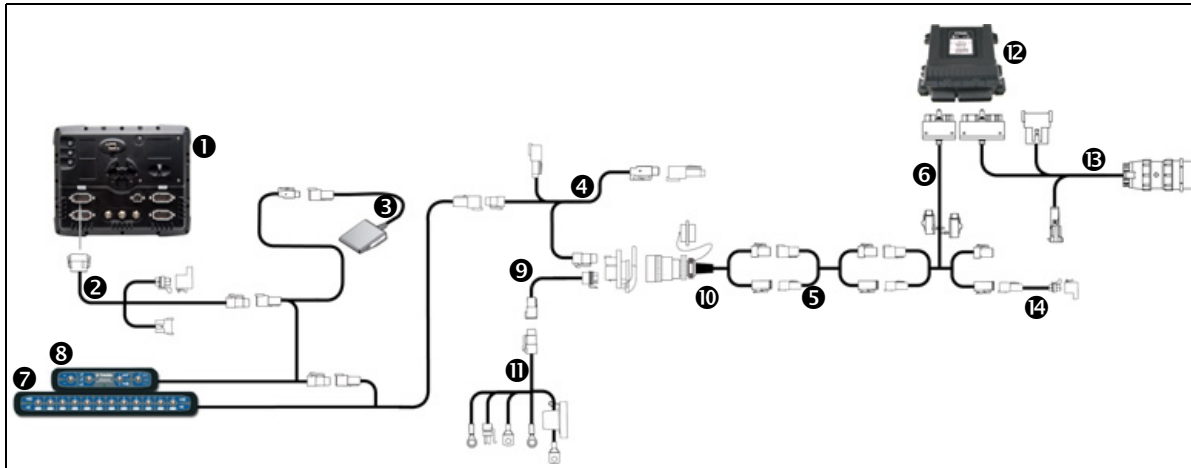
Seed Monitoring Module (SSM)

In this chapter:

- Field-IQ cab kit / Seed monitoring only: Components
- Connecting the seed monitoring module
- Connecting the seed sensor adapter harness

This chapter describes how to connect the FmX integrated display to the Field-IQ cab kit and the seed monitoring module.

Field-IQ cab kit / Seed monitoring only: Components



Item	Description	Trimble P/N
1	FmX integrated display	93100-01
2	Display to Field-IQ Cable	75834
3	Optional: Remote Foot Switch	60490
4	Cab to Hitch CAN Cable	77368
5	CAN/Power Extension Cable	75528-XX
6	Cable Assy, Rate/section module tee	75526
7	Field-IQ 12-section Switch box	75060-10
8	Field-IQ Master Switch box	75050-01
9	Powell Quick Disconnect (Tractor Side) - Optional	77413
10	Implement Harness (Powell Adapter) – Implement Side - Optional	77611-01
11	Power to Cab Cable	76941
12	Seed Monitoring Module (SMM)	76774-05
13	Existing Population Sensor Harness Adapters	
	Seed Monitoring Module Adapter PM Style (24 or less Rows)	82537
	Seed Monitoring Module Adapter PM Style (25 -32 Rows)	82539
	Seed Monitoring Module Adapter CT Style (24 or less Rows)	82536
	Seed Monitoring Module Adapter CT Style (25 - 32 Rows)	82538
14	Field-IQ Implement Terminator Adapter	75529

Connecting the seed monitoring module

The CAN/Power tee and the seed sensor adapter harness connects to the seed monitoring module.

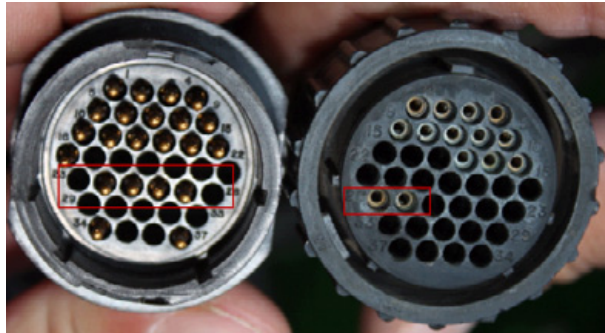


WARNING – Do not exceed 15-20 in/lbs torque.



The seed sensor adapter harness is available in the following configurations.

Style	Rows
PM (Planter Monitor)	24 rows or fewer 25-32 rows
CT (CompuTrac)	24 rows or fewer 25-32 rows



PM style:

All pins or combination of pins 24 - 27 populated

CT style:

Pins 27 and 28 populated

Connecting the seed sensor adapter harness

Step 1

Connect R3 on the sensor adapter to P4 on the CAN/Power tee.



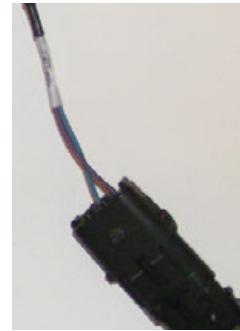
Step 2

Connect the seed sensor harness to the adapter cable. See above for the correct style of adapter harness.



***Note** – For monitoring only systems, you can connect an implement switch to the seed monitoring module.*

Connect the implement switch to P2 of the seed sensor adapter harness.



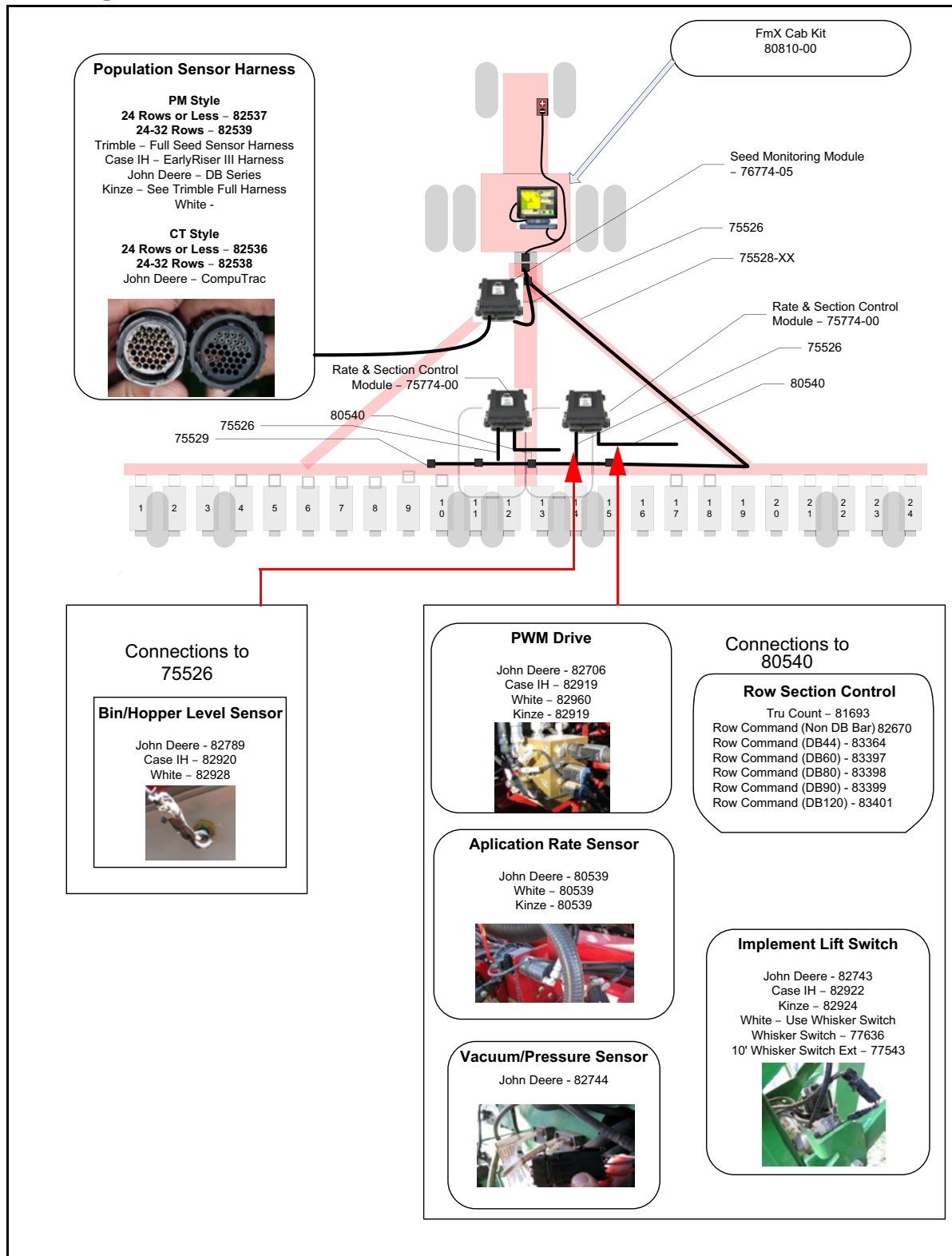
Existing Planter Hardware Connection

In this chapter:

- Components
- Connecting the rate and section control module with cables 80540 and 75526
- Connecting to the PWM valve
- Connecting the bin level switch
- Connecting the rate sensor
- Connecting the pressure/vacuum sensor
- Connecting to an existing implement switch

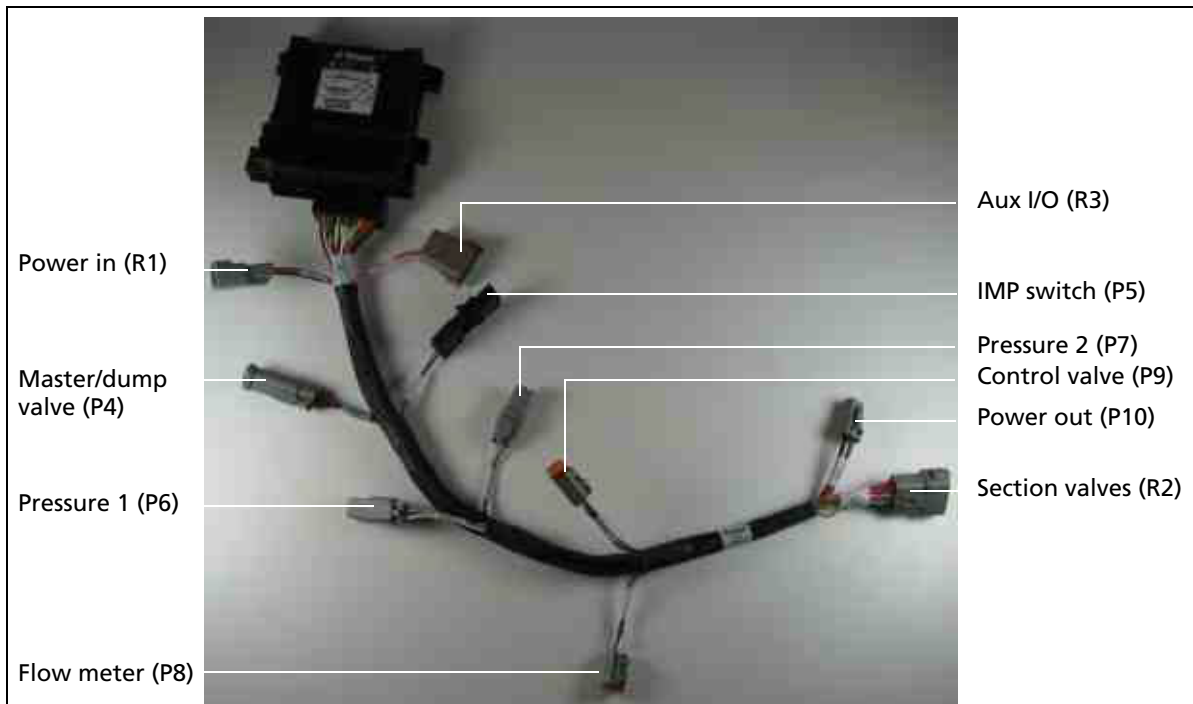
This chapter describes how to connect to existing planter hardware with the rate and section control module.

Components

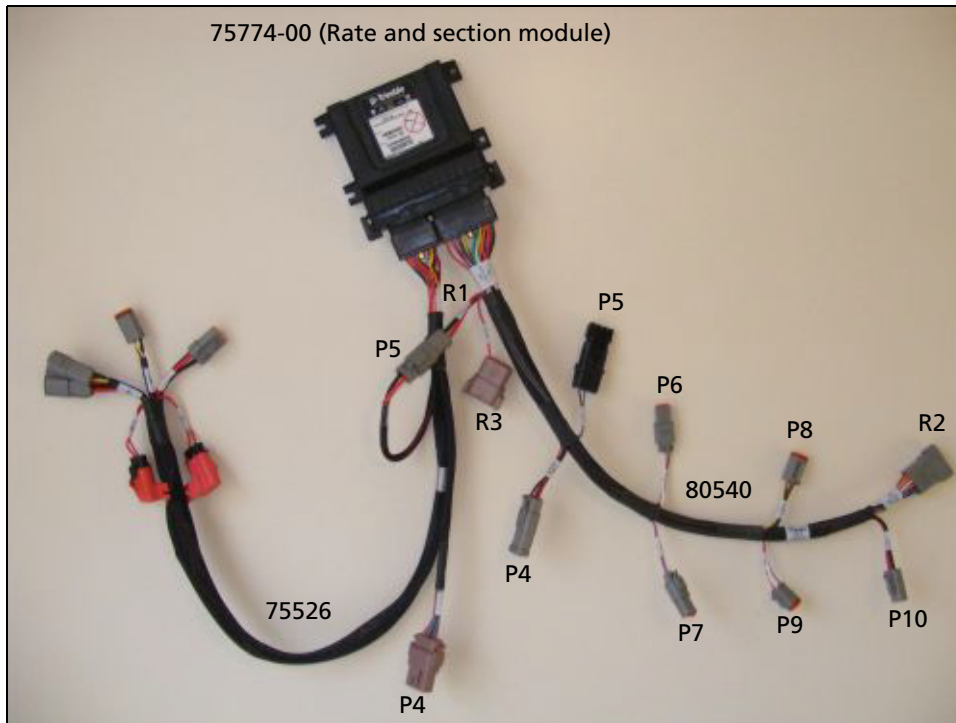


Connecting the rate and section control module with cables 80540 and 75526

Cable 80540 connects to the rate and section control module. Connector functions are shown below.



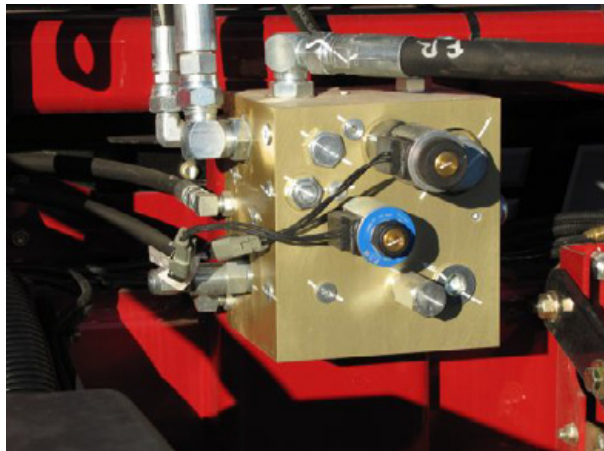
Connect cables 80540 and 75526 to the rate and section control module (75774-00). R1 from cable 80540 must be connected to P5 from cable 75526.



Note – Cables and connections are shown with the Rate and Section Control module. Cables 75526 and 80540 are also used for the Rate Control Only module and Section Control Only module when used with the FmX integrated display.

Connecting to the PWM valve

The PWM valve drive connects to the rate and section control module through P9 on cable 80540.



Use the appropriate adapter cable for your planter and valve type to connect your specific valve to P9.



Connecting the bin level switch

The bin level sensor connects to the rate and section control module through P4 on cable 75526.



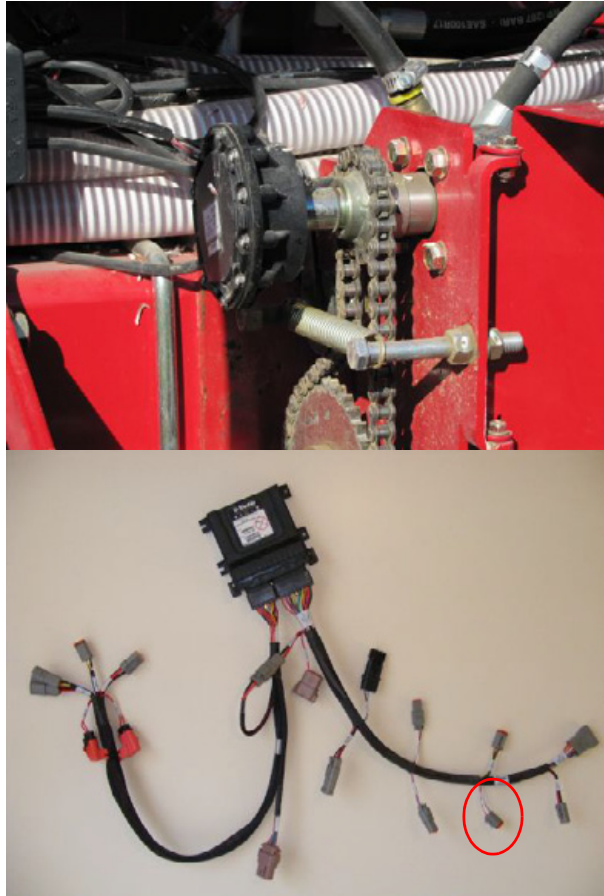
Use the appropriate adapter cable for your planter and bin level sensor to connect your specific bin level sensor to P4.



Connecting the rate sensor

The application rate sensor connects to the rate and section control module through P8 on cable 80540.

Use the appropriate adapter cable for your planter and rate sensor to connect your specific rate sensor to P8.



Connecting the pressure/vacuum sensor

The pressure or vacuum sensors connect to the rate and section control module through P6 or P7 on cable 80540.

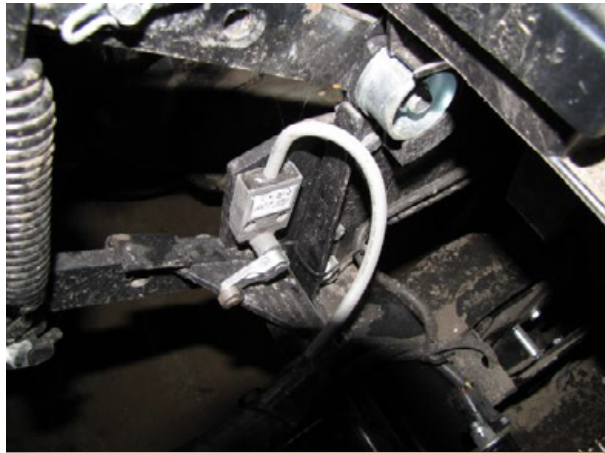


Use the appropriate adapter cable for your planter and pressure or vacuum sensor to connect it to P6 or P7 on 80540.



Connecting to an existing implement switch

The implement switch connects to the rate and section control module through P5 on cable 80540.



Use the appropriate adapter cable for your planter and implement switch to connect your specific switch to P5.



Section Control Installation

In this chapter:

- [Connecting the Tru Count Air Clutch system](#)

This chapter describes how to connect the section control module to a Tru Count Air Clutch system or existing hardware.

To install the Tru Count Air Clutch system, see the installation instructions that are included with the Tru Count Air Clutch kit.

Note – *Tru Count Air Clutch installation instructions vary depending on the planter manufacturer.*

Connecting the Tru Count Air Clutch system

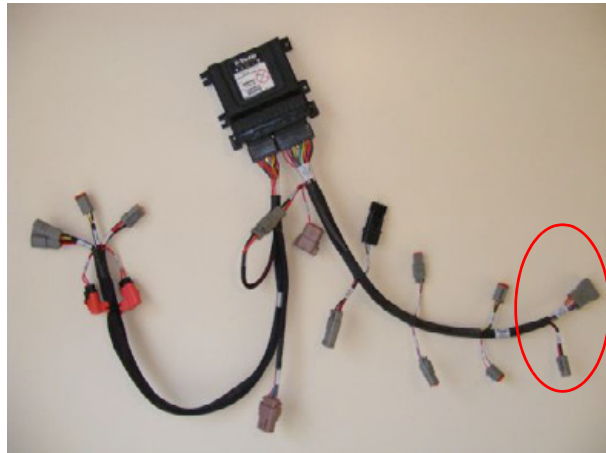
Trimble vehicles

P1 and R4 on cable 81693 connect to the rate and section control module through R2 and P10 on cable 80540.



The TruCount valve control modules will then connect to R1, R2, and R3 on cable 81693.

***Note** – Up to 12 rows can be controlled by each rate and section module.*

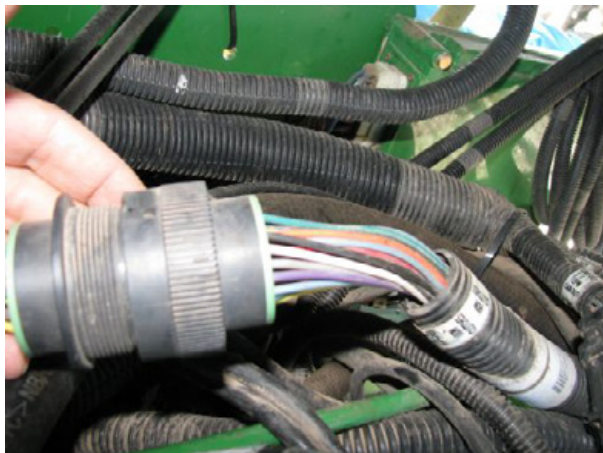


John Deere vehicles

The air clutches connect to the rate and section control module through R2 and P10 on cable 80540.

Step 1

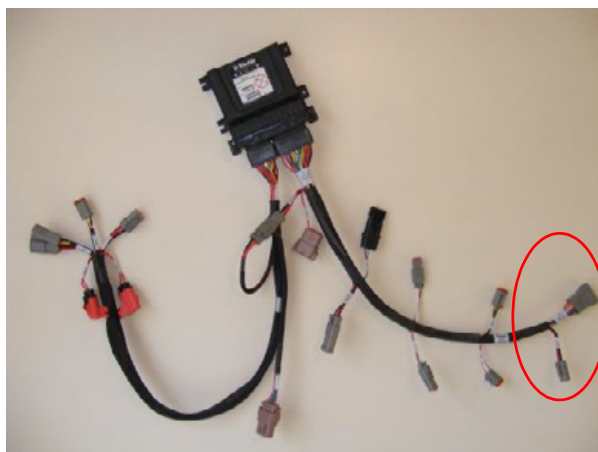
Disconnect the existing John Deere clutch harness connectors and then connect the appropriate clutch adapter harness in its place.



Step 2

Connect R2 and P10 on cable 80540 to the appropriate row sequence on the clutch adapter harness.

Note – *If the planter has more than 12 rows, you can connect additional section control modules to it.*



Rawson Par 2 Variable Rate Drive Installation

In this chapter:

- Installing the Rawson Par 2 variable rate drive
- Rawson Par 2 installation without double reduction
- Orifice selection

This chapter describes how to install the Rawson Par 2 Variable Rate Drive to the planter.

Installing the Rawson Par 2 variable rate drive



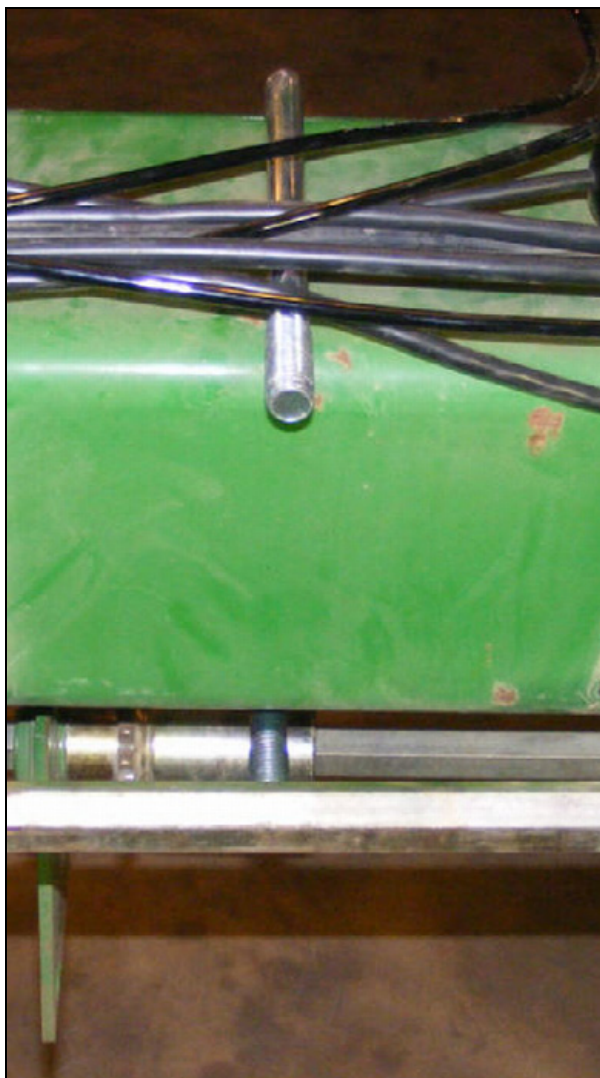
WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

The following picture shows the system components that ship with the Rawson Par 2 variable rate drive.



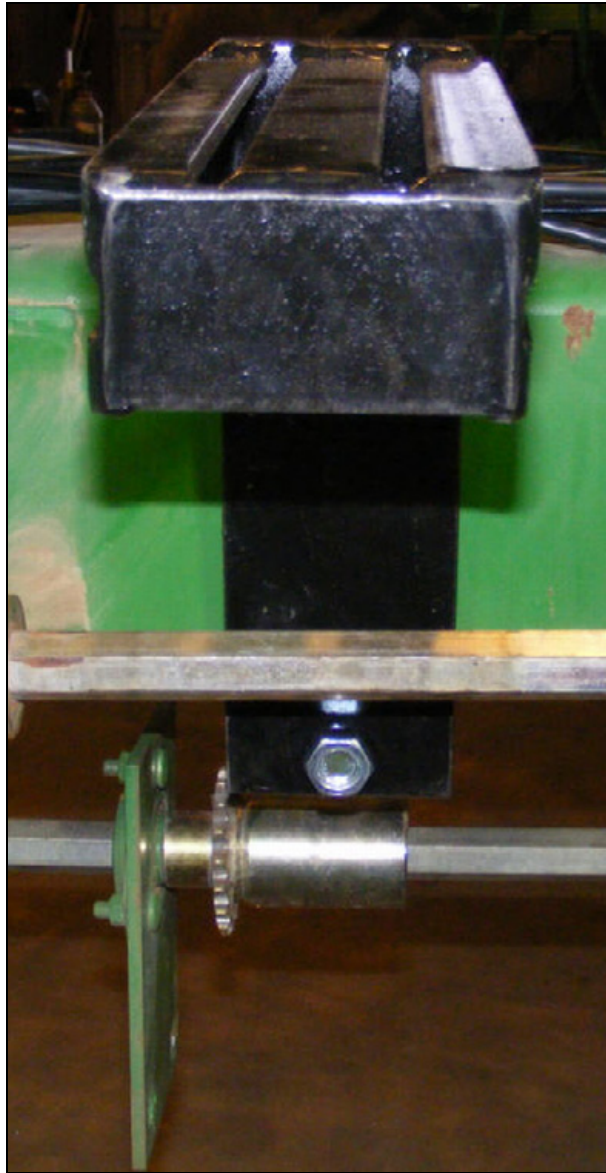
Step 1

Locate and place the mounting u-bolt in place on the frame of the implement.



Step 2

Place the mounting bracket on the implement and secure using the u-bolt and hardware provided.



Step 3

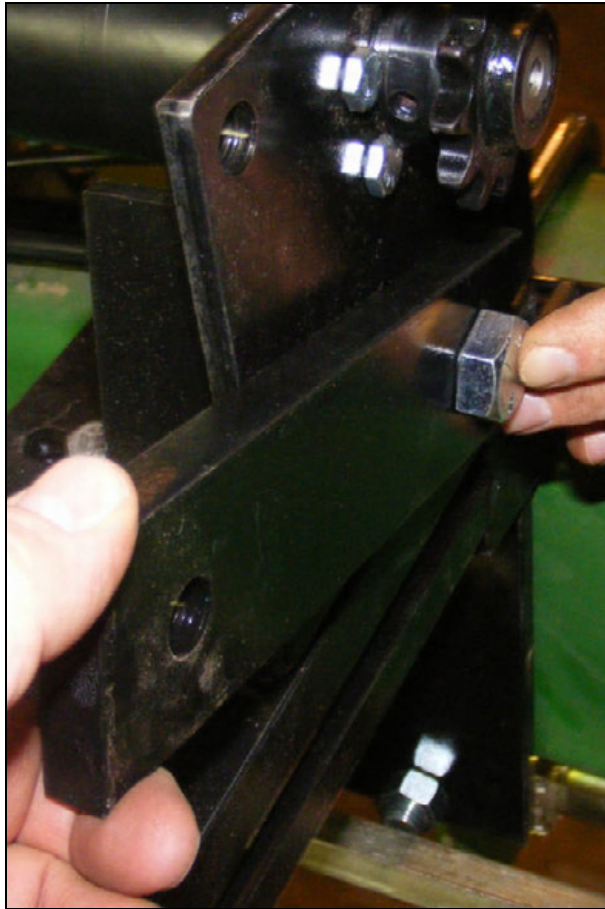
Place the variable rate drive on the mounting bracket and secure with the hardware provided.

Note – Before mounting the drive, verify the direction of travel required for the shaft. Use the indication arrow on the side of the variable rate drive to orient the drive in the correct direction to ensure the implement shaft turns in the correct direction.



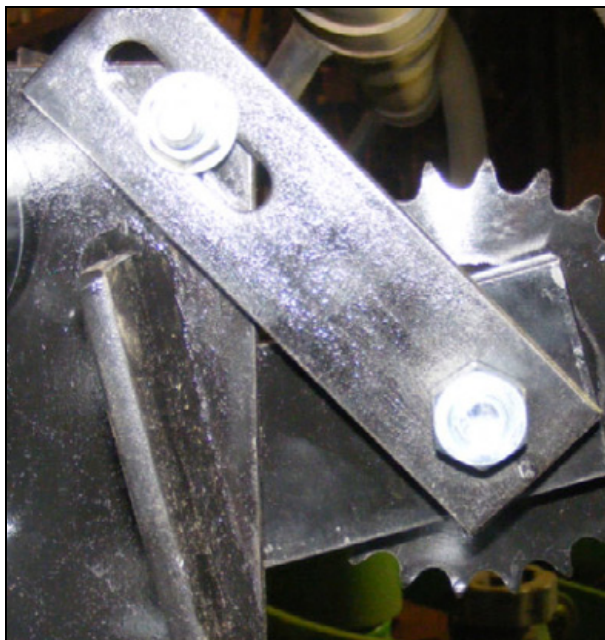
Step 4

Install the double reduction gear mounting brace.



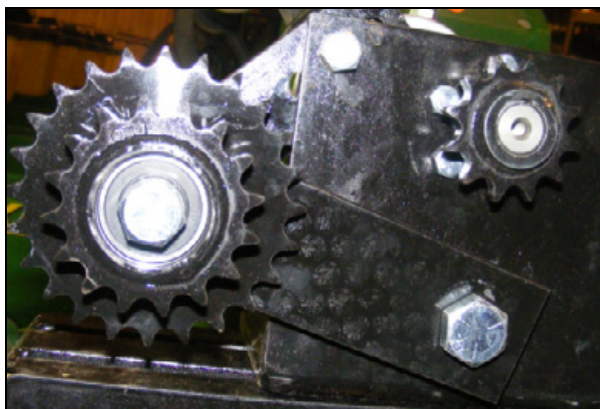
Step 5

Install the double reduction gear adjustable brace.



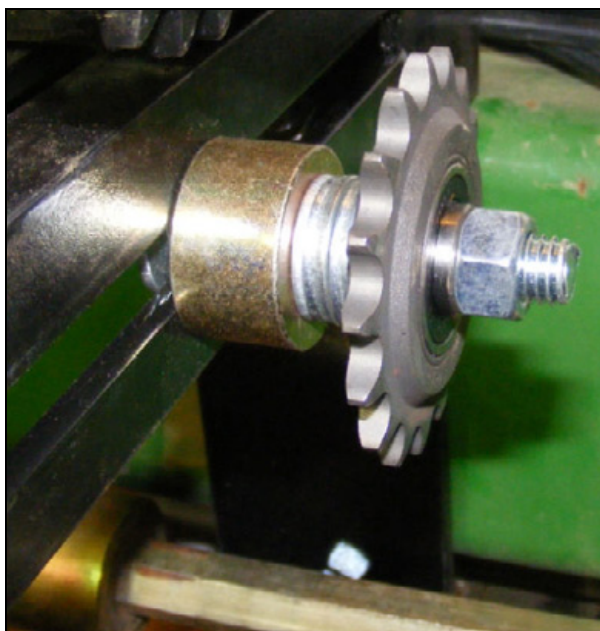
Step 6

Install the double reduction gear.

**Step 7**

Install the idler sprocket using the carriage bolt and spacers provided.

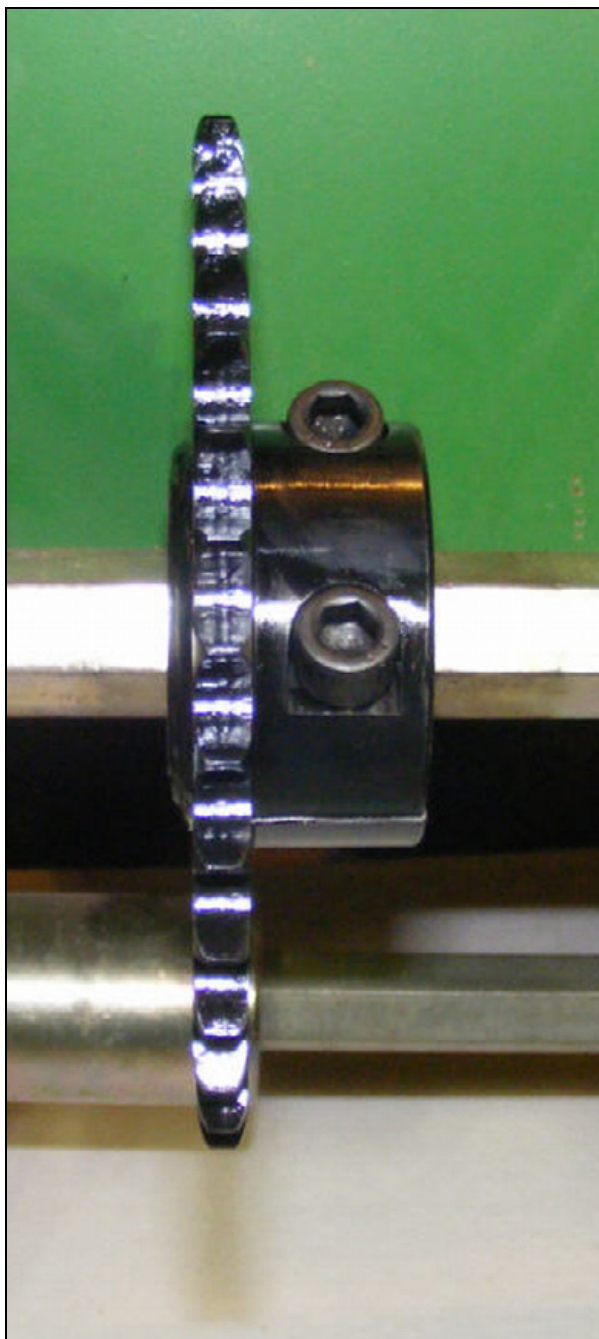
The number of spacers required may vary depending on the installation. Ensure the idler lines up with the other sprockets.



Step 8

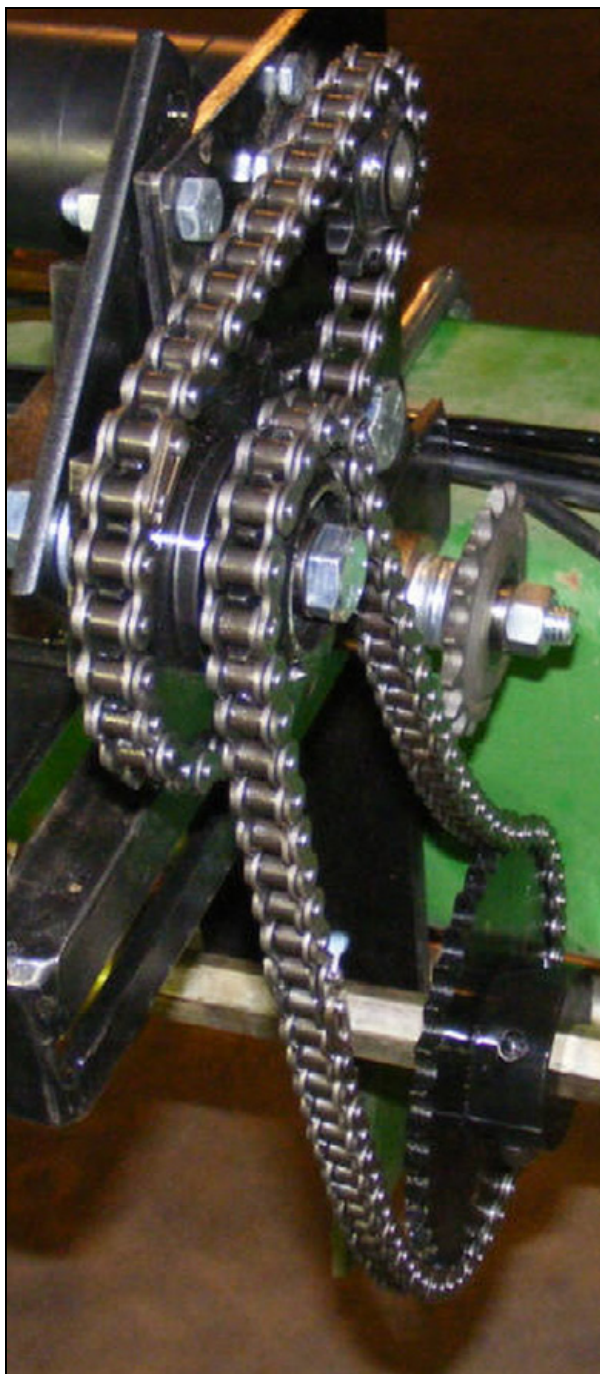
Install the split sprocket.

Do not tighten as the sprocket may need to be moved to line up with the drive sprocket.



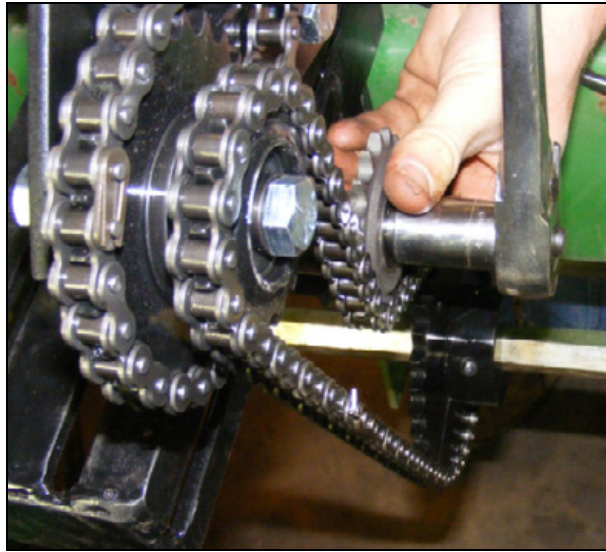
Step 9

Install the two #40 chains.



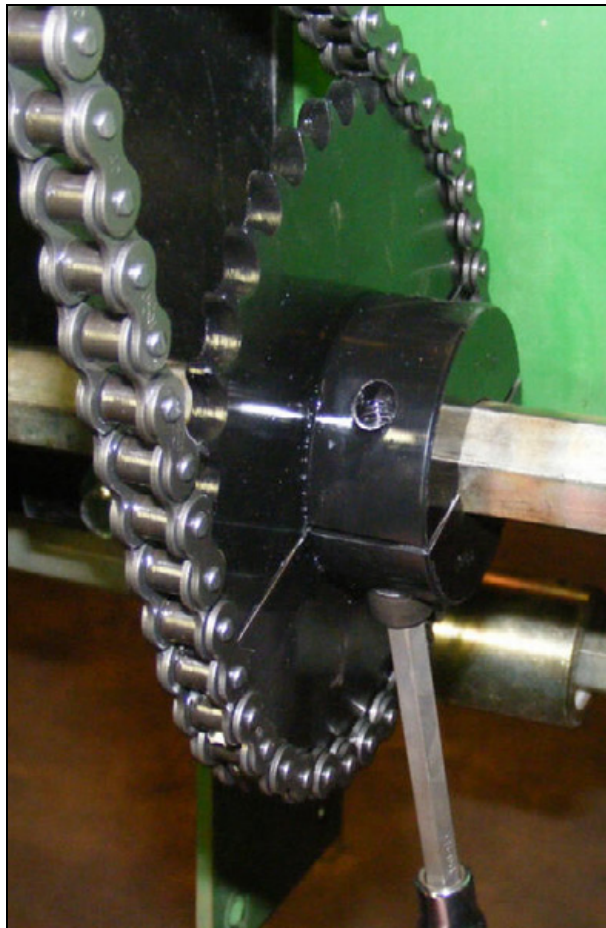
Step 10

Tighten the idler sprocket.



Step 11

Tighten the split sprocket after the sprocket has been aligned with the double reduction sprocket.



Step 12

Install the orifice, if required, in the P port of the drive.

See the orifice selection section later in this document.



Step 13

Install the provided hydraulic fittings and connect the pressure and tank hoses.

Note – The additional 90 degree fittings shown in the picture are not included with the kit.

See the *Rawson Installation Instructions* for the number of drives and type of hydraulic systems used.



Step 14

Connect the zero return line to the drive.

The Rawson drive requires the zero return line be installed and the hose routed to a zero pressure return port on the tractor. Failure to connect to a zero return pressure port could result in damage to the variable rate drive.



Step 15

Mount the hydraulic filter and connect the hydraulic hoses.

Note – The hydraulic hoses are not provided with the system. Use high quality hydraulic hoses and fittings.



CAUTION – Install the hydraulic filter in the pressure line before the first Rawson drive. The filter must be installed.

Step 17

Install the reducer.



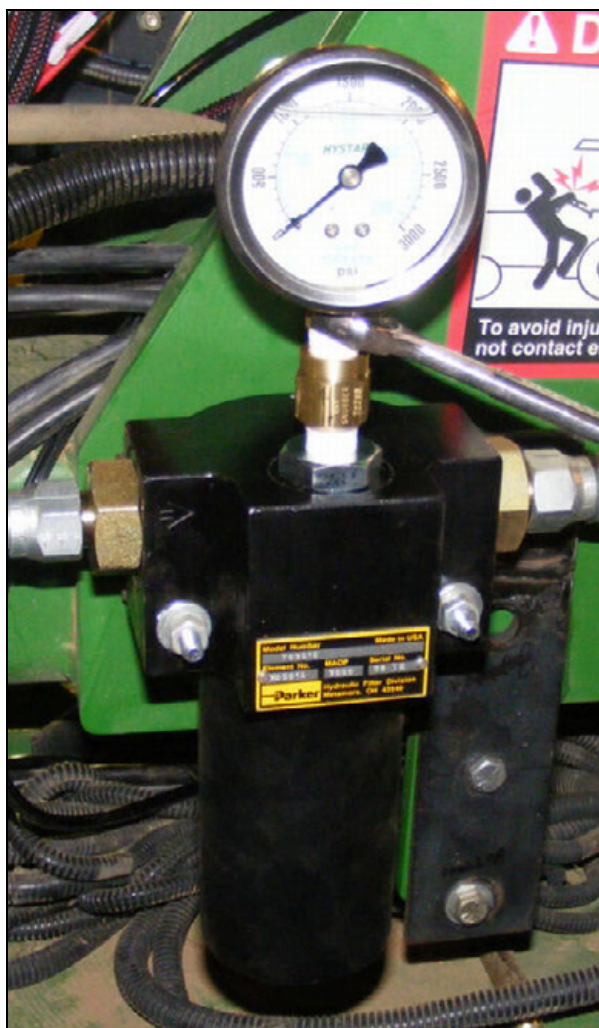
Step 18

Install the dampener.



Step 19

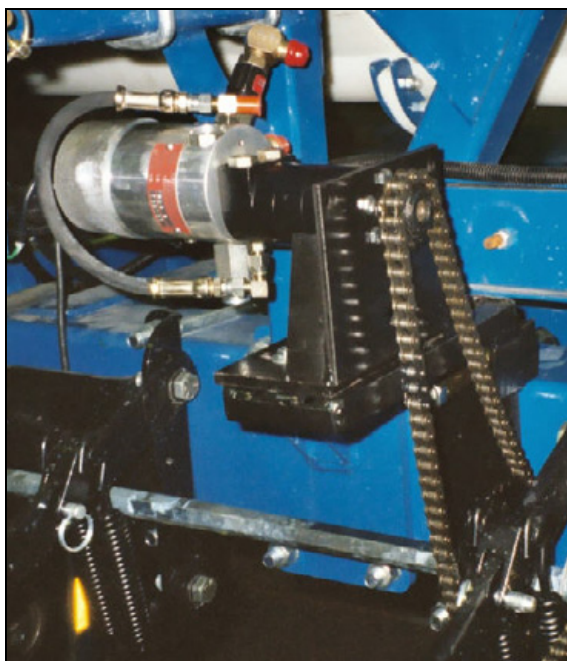
Install the pressure gauge.



Rawson Par 2 installation without double reduction

Some planters or applicators do not require the use of the double reduction sprockets. The drive sprocket is connected directly from the variable rate drive shaft to the split sprocket. The steps above still apply for the remaining portions of the system installation.

The picture below shows an example:



Orifice selection

The Rawson hydraulic drive may require an orifice to be installed depending on the drive configuration used. The orifice is not installed from the factory.

If an orifice is required and not in the hydraulic drive, too much oil will be going through the drive at 1000 PSI pressure and most likely the drives will want to run all the time. If an orifice is in the drive and the drive runs then stops, you may not have the pressure high enough or have the wrong orifice in the drive.

There are two basic drives for the PAR 2.

Trimble part number	Description	Orifice part number included	Orifice size
30300498	PAR 2 - 1.93 Cubic Inch Motor	329107 329110	.0625 .0810
300499	PAR 2 - 3.0 Cubic Inch Motor	329110 329113	.0810 .1015

Use the following details to determine the correct orifice to use. The Rawson PAR 2 hydraulic drives can be installed as a single drive, plumbed in series or parallel depending on the configuration of the implement and tractor.

Installed as a single drive

Use the following orifice:

PAR 2 – 1.93 Cubic Inch Motor – Install orifice part number 329107.

PAR 2 – 3.0 Cubic Inch Motor – Install orifice part number 329113 for implements with 12–24 rows. Install orifice 329110 for implements with 4–12 rows.

Note – Orifice 329110 is needed when the Rawson PAR 2 – 1.93 Cubic Inch Motor is used with the CDS-John Blue piston pump.

Installed in series

An orifice is used in hydraulic circuits to restrict flow. If you have more than one drive in series, the first drive must have an orifice installed. The drives downstream from the first should not have orifices.

Use the following orifice:

PAR 2 – 1.93 Cubic Inch Motor – Install orifice part number 329110 in the first drive. Do not install an orifice in the remaining drives.

PAR 2 – 3.0 Cubic Inch Motor – Install orifice part number 329113 in the first drive. Do not install an orifice in the remaining drives.

Installed in parallel

When the Rawson drives are plumbed in parallel the orifice requirements are similar to the single drive configuration.

Use the following orifice:

PAR 2 – 1.93 Cubic Inch Motor – Install orifice part number 329107 in each drive.

PAR 2 – 3.0 Cubic Inch Motor – Install orifice part number 329110 in each drive.

LiquiBlock Valve Installation

In this chapter:

- [LiquiBlock valve hardware overview](#)
- [Installing the LiquiBlock valves](#)

This chapter describes how to install the Tru Count LiquiBlock™ valves.

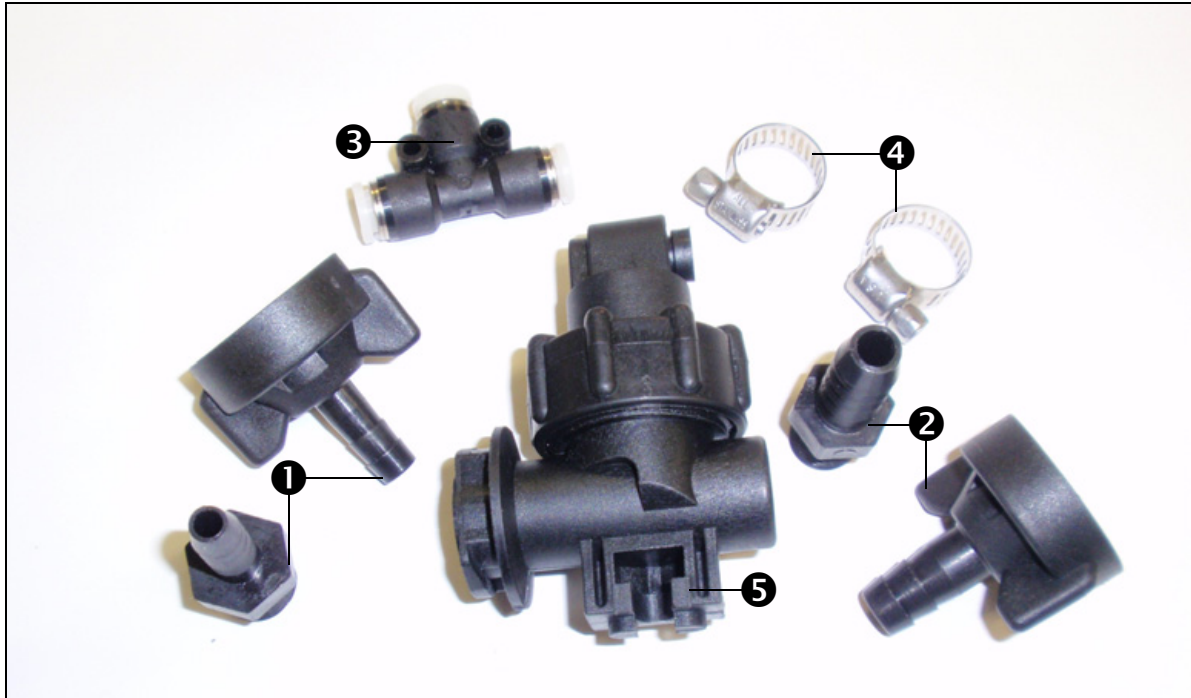
Read all instructions carefully.

Read [Safety Information, page 3](#) before starting.

Note – See the *LiquiBlock installation instructions that were provided with the kit for installation of compressor, tank and other Tru Count components.*

LiquiBlock valve hardware overview

Trimble recommends that you familiarize yourself with the hardware before you start installing the LiquiBlock valves (P/N 76643).



Item	Description
❶	1/4" hose barb adapters (x 2)
❷	3/8" hose barb adapters (x 2)
❸	1/4" air line T (x 1)
❹	1/4" – 5/8" band clamp (x 2)
❺	LiquiBlock valve

Installing the LiquiBlock valves



WARNING – Before you start the installation, you must:

- Read and understand the information contained in [Safety Information, page 3](#).
- Disconnect the drive shaft.

The LiquiBlock system is used for individual row shutoff of liquid fertilizer using the Tru Count air control system. The LiquiBlock system can be used as a standalone system with the Tru Count valve modules or in conjunction with Tru Count Air Clutchsystems.

Note – The LiquiBlock system may be used on $\frac{1}{4}$ " or $\frac{3}{8}$ " tubing.

Use the following steps to install the LiquiBlock unit on each row of the implement.

Step 1

Locate and verify the size of the liquid fertilizer tube on the row the LiquiBlock valve is to control.



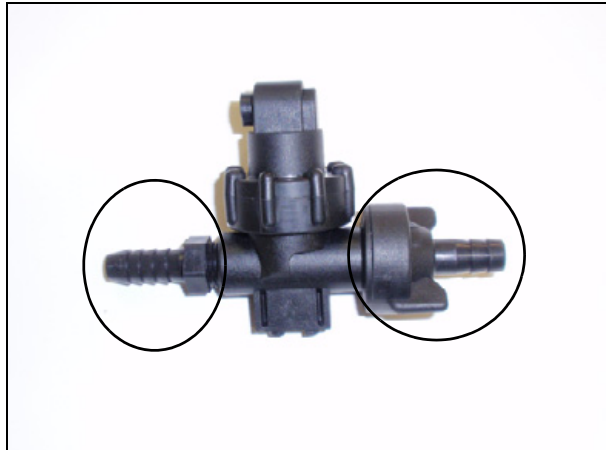
Step 2

Cut the hose near the discharge point.



Step 3

Install the hose barb adapters on the LiquiBlock valve, ensuring that they match the size of the tube.



Step 4

Place the supplied hose clamps on each side of the cut hose.

Note – Do not tighten the clamps.



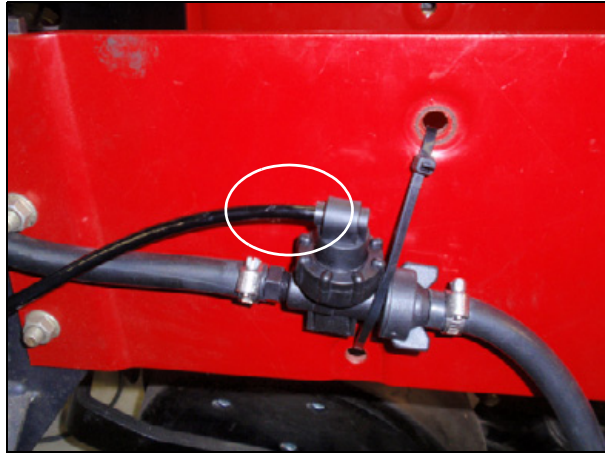
Step 5

Install the valve to the cut tube, tighten the clamps and then secure the device. For example, use a cable-tie to secure the LiquiBlock valve.



Step 6

Attach the air line from the Tru Count control module into the LiquiBlock air hose adapter.



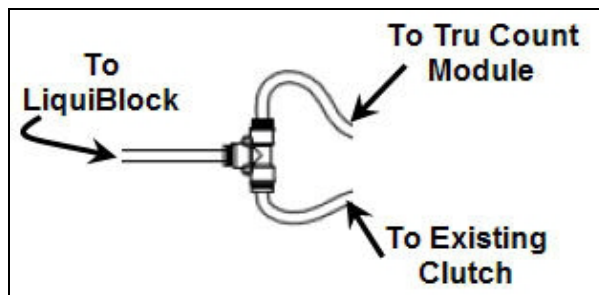
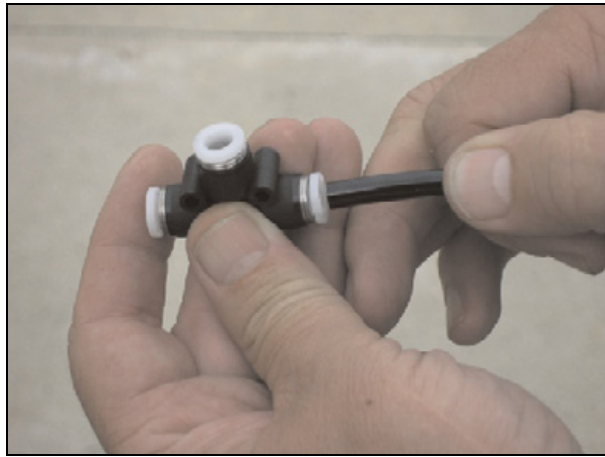
Step 7

Optional step

Note – When the LiquiBlock system is used in conjunction with the Tru Count Air Clutch system, connect the LiquiBlock valve to the existing air line that connects the clutch to the control module.

Locate the air line that connects the air clutch to the control module and then cut it near the LiquiBlock valve.

Use the supplied T-fitting to connect each end of the air line to the supplied T and then to the LiquiBlock valve.



CAUTION – Make sure the air line is cut square. Use a tube cutting tool for best results.

Note – An additional piece of air line may be needed to complete the T.

Final Machine Check

In this chapter:

- [Performing the final machine check](#)

This chapter describes how to perform a final check of the vehicle.

Performing the final machine check



WARNING – To avoid potentially serious personal injury or illness, and to prevent damage to equipment, make sure that you read and understand the [Safety Information](#) chapter.

Step 1

Connect the battery.

Step 2

Connect the hydraulic hoses to the tractor.

Step 3

Run the system to verify operation. Follow the steps in the *FmX Integrated Display User Guide*, *CFX-750 Display User Guide*, or the *EZ-Guide 500 System with Field IQ Quick Reference Card* to calibrate the system.