EZ-Pilot

STEERING SYSTEM

INSTALLATION INSTRUCTIONS

Landini	▶ 5/6/7
McCormick	▶ X5/X6X/X7

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Trimble

Legal Notices

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This is the January 2022 release (Revision A) of the *EZ-Pilot Steering System Installation Instructions*, part number 78100-99-RS-E08.

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Product Limited Warranty

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- proof of purchase
- this Trimble warranty card
- a description of the nonconforming Product including the model number
- an explanation of the problem.

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https://www.trimble.com/en/our-commitment/responsible-business/corporate-compliance/environmental-compliance



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.Add the following warnings.

Cautions

⚠ **CAUTION –** 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.

⚠ **CAUTION –** 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.

⚠ **CAUTION –** 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.

⚠ **CAUTION –** 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.

⚠ **CAUTION –** 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.

⚠ **CAUTION –** Do not direct pressurized water at:
- 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 –** To avoid malfunctions, or damage to cables:
- route cables away from areas where they may be pinched or rubbed.
- do not alter cable lengths and connections. If you must alter the length of the power cable do not remove the fuse or fuse holder from the cable.

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1

Introduction

- Technical assistance
- Displays
- Required components
- Optional accessories
- Hardware organization

This manual describes how to install the Trimble® EZ-Pilot® assisted steering system.

Even if you have used another Global Navigation Satellite System (GNSS), such as the United States' Global Positioning System (GPS) 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 GNSS, visit the Trimble website (www.trimble.com) for an interactive look at Trimble and GNSS.

Technical assistance

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

- Dealers, log into http://agpartners.trimble.com.
- End user customers, contact your local Trimble Agriculture dealer, at http://dealerlocator.trimble.com/.

Displays

Retain
TMX-2050™/XCN-2050™ integrated display: P/N 96500-xx
CFX-750™/FM-750™ display: P/N 94110-xx
Antenna to receiver cable: P/N 50449 Power cable: P/N 67258 & 66694
GFX-750™/XCN-1050™: P/N 121000-xx
Power cable GFX-750/XCN-1050: P/N 110551 Base power cable: P/N 67258 NAV-900 guidance controller: P/N 108993-05 GFX-750 to NAV-900 Comms cable: P/N 110540

Required components

Kits required	Special tools required
EZ-Pilot bracket kit: P/N 78100-99-RS	24 mm deep socket #2 Phillips screw driver 8 mm socket wrench Small thin-blade screw driver 4 mm L-shaped stubby hex wrench 5 mm T-handle hex wrench 4 mm T-handle hex wrench ⅛" drill bit #1 step drill, ⅛" - ½" #20 step drill, 9/16" - 1"

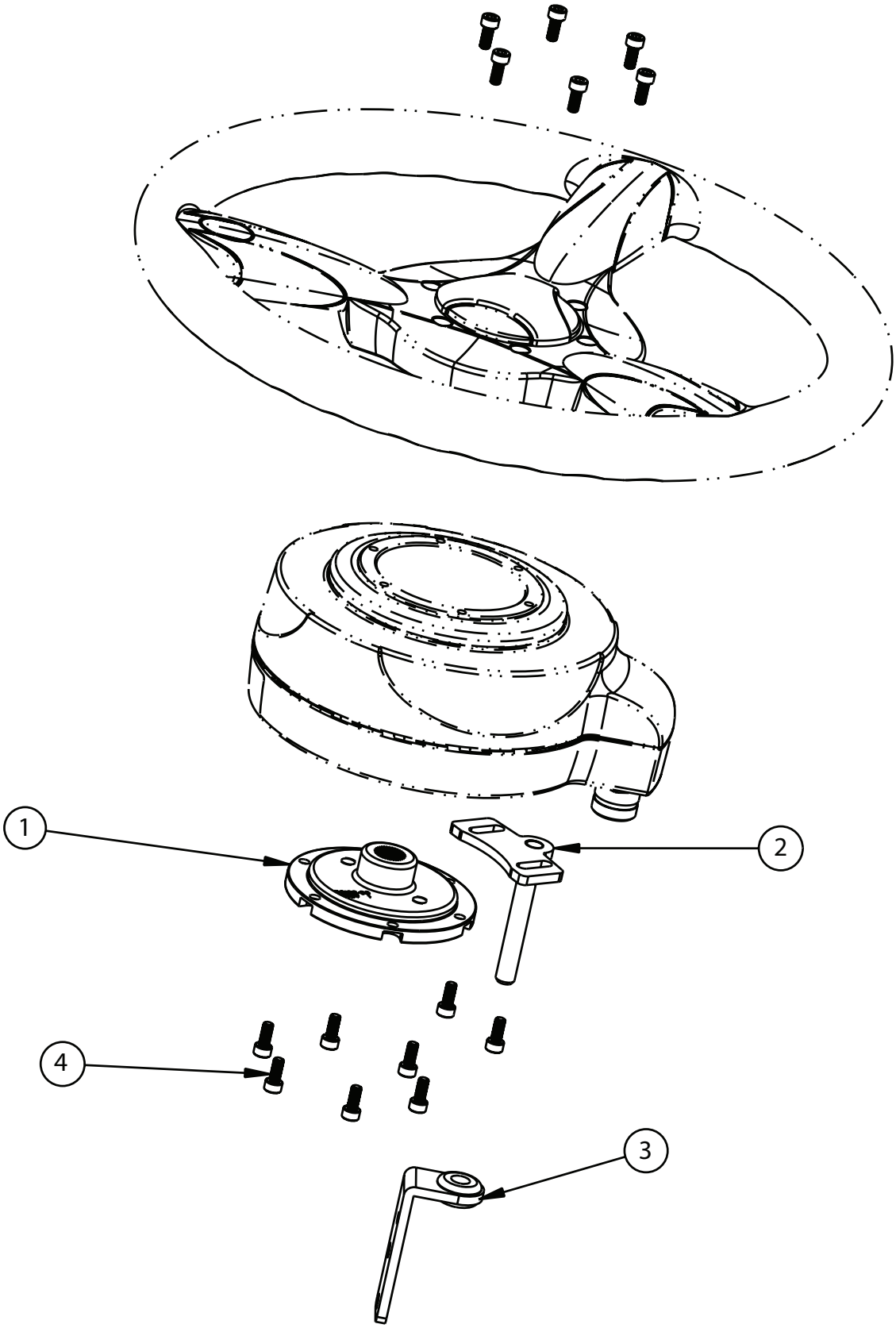
Optional accessories

Part Number	Description
88506	Remote engage adapter cable
78150-00	Kit, Footswitch, Remote engage, EZ-Pilot
85611	Spinner Knob, EZ-Pilot Trimble Steering wheel

Hardware organization

Hardware		Component	P/N	Qty
Platform kit: P/N 78100-99-RS	**1**	Adapter, lower steering Landini x/5, x/6, x/7	78102-99	1
	2	Bracket, Anti-rotation slide 75 mm pin,	78202-58	1
	3	Bracket, Anti-rotation mount		1
	4	Screw, socket head, M5 X 0.8 X 12 mm		14
	5	Template (not shown)		1
	6	Installation Manual (not shown)	78100-99-RS-E08	1

NOTE – Steering wheel must be purchased separately.



2

Installing the EZ-Pilot Motor and Anti-Rotation Bracket

- Preparing the vehicle
- Removing the steering wheel
- Installing the anti-rotation bracket
- Modifying the plastic cover
- Installing the SAM-200 motor
- Installing the Trimble steering wheel

Preparing the vehicle

1. Park the vehicle on a hard, level surface.
2. Engage the park brake and then remove the ignition key.
3. On an articulated vehicle, install the articulation locks.
4. Remove all dirt and debris from the areas of the vehicle where the system is to be installed.
5. Open all kit boxes and lay all of the parts out on a clean workbench.
6. Check the contents of the boxes against the packing lists.

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

Removing the steering wheel

Step 1

Position the column so that it is comfortable to work on.



Step 2

Remove the steering wheel center cap. Pull it upwards by hand, or use a 1/8" flat blade screwdriver to push it up.





Step 3

Use a 24 mm socket to loosen the steering nut. Unscrew the nut until it is flush with the top of the shaft. Pull up on the wheel with one hand or have an assistant help, then sharply rap the nut with a brass hammer to free the wheel.

NOTE – Use care as the brass hammer can still damage the threads.





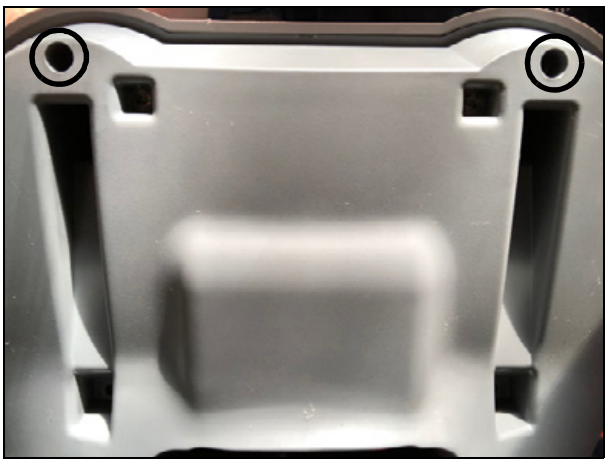
Step 4

Once the wheel is free, remove the nut and washer then lift the steering wheel off the steering shaft.

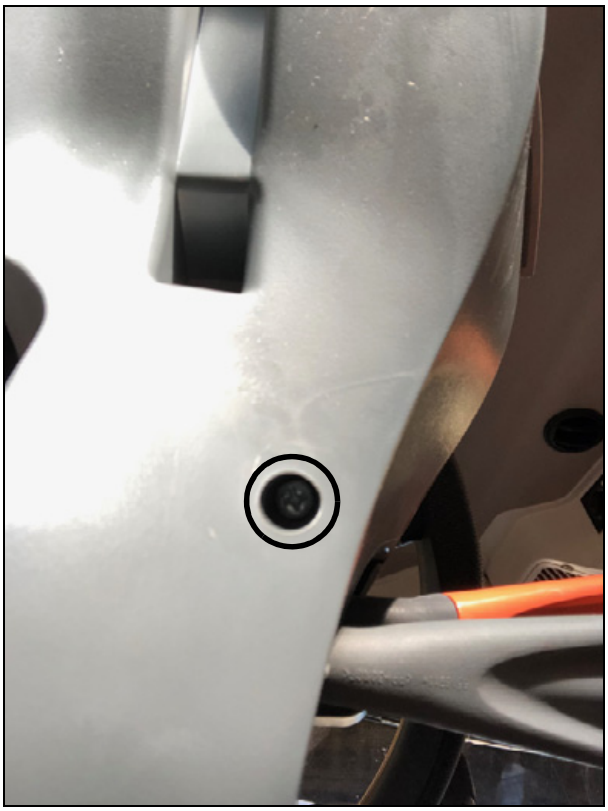


Step 5

Tilt the column forward to access the screws that retain the top housing. Use a #2 Philips screwdriver to remove them. There are a total of six screws that must be removed.



Remove the middle screws on the left & right sides.



Middle left



Middle right

Step 6

The final 2 screws are located under the front edge of the dash assembly. Use the #2 Philips screwdriver to remove them.



Step 7

Lift off the cover to expose the column assembly.



Installing the anti-rotation bracket

Step 1

Locate the two harness connectors shown. Disconnect both connectors.



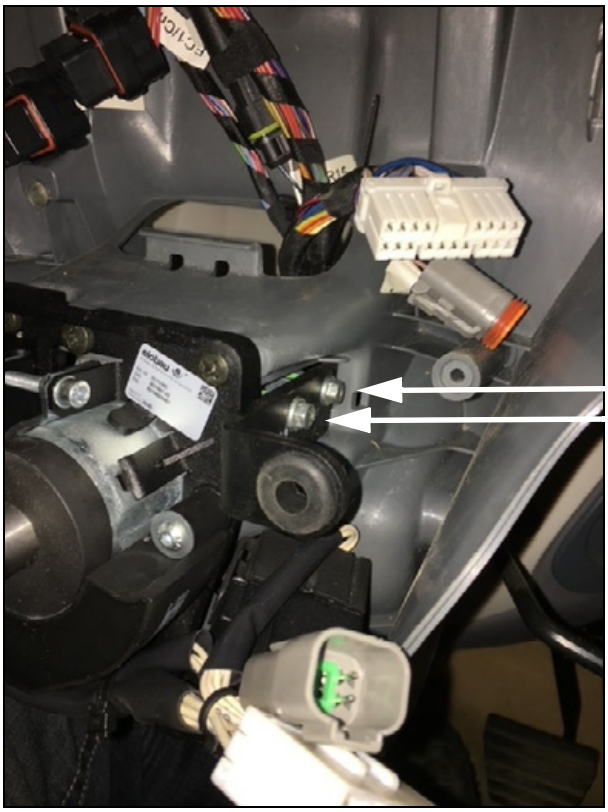
Step 2

Use an 8 mm socket to remove these two screws.



Step 3

Install the anti-rotation bracket using the screws removed previously.



Modifying the plastic cover

Step 1

Flip the column cover over so that you are viewing the back side with the opening for the instrument cluster at the top.

Orient the provided template with the slit over the middle of the three thin plastic bosses and the small hole in the upper right corner. Use the hole to mark the location for drilling the pin clearance hole.



Step 2

At the marked location, drill a small pilot hole through the dash cover from the back side.

Then flip the dash over and using increasing diameter bits or the recommended step bits, enlarge the hole slowly checking the location by replacing the cover onto the column and viewing the bracket grommet to check for alignment. The goal is to have the hole centered over the grommet and be just large enough that the installed pin does not contact the plastic which could cause noise when the motor operates.

Step 3

The installed cover should look like the one shown here–centered over the grommet and at a diameter about 6 mm (1/4") larger than the pin or approximately 13 mm (1/2") in total.

NOTE – Do not reinstall the cover at this time.



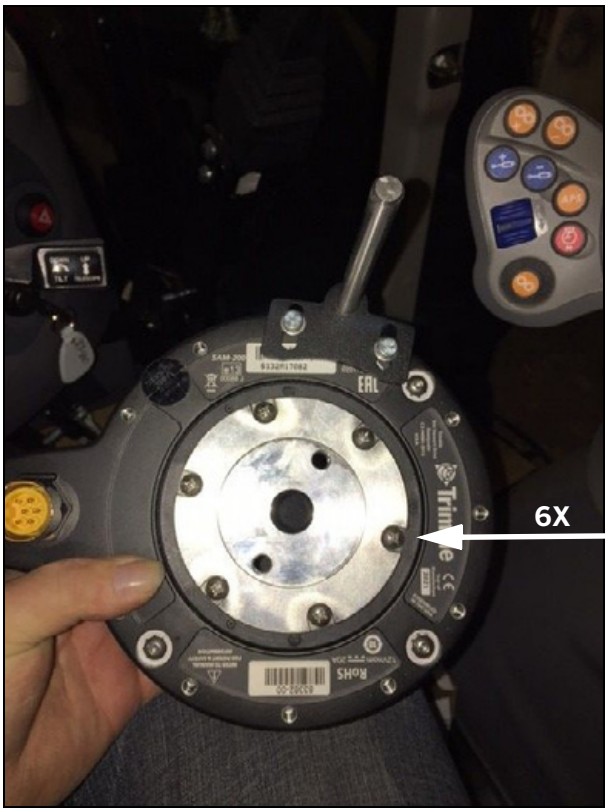
Step 4

When the dash cover is installed, it can be difficult to mount and tighten the anti-rotation pin assembly in the location on the motor. Completing this step now simplifies this task.

Flip the motor upside-down and fit the spline adapter P/N 78102-99 to the bottom of the motor using the supplied 5 mm socket head screws.

Use a 4 mm T-handle hex wrench to tighten the screws.

Place the anti-rotation pin assembly on the motor housing in the location shown. Use two 5 mm socket head screws. Tighten the screws just finger tight.



Step 5

Leaving the dash cover removed, place the motor on the steering shaft with the anti-rotation pin inserted into the grommet.

Loosen the two screws to allow the pin assembly to move freely. Ensure the motor is seated properly on the shaft with the pin properly centered and then proceed to tighten the retaining screws.

Remove the motor assembly from the steering column.

Step 6

Reconnect the two harness connectors and reinstall the cover in the reverse sequence of removal.

Installing the SAM-200 motor

Step 1

With the dash cover reinstalled, place the motor assembly on the splined shaft ensuring that the anti-rotation pin is in the grommet.

Reinstall the washer and nut. Tighten the nut to 33-40 lb/ft (44-54 Nm).

⚠ **CAUTION –** Do not force the spline adapter onto the steering shaft. If the splines do not mate together, *stop and recheck* that the spline teeth are aligned and that you have the correct lower adapter for your machine.





Installing the Trimble steering wheel

Step 1

Fasten the supplied round plastic cap to the center of the Trimble steering wheel. Use the supplied #6 sheet metal screws and a #2 Phillips screwdriver.

TIP – The sheet metal screws are included with the Trimble steering wheel.

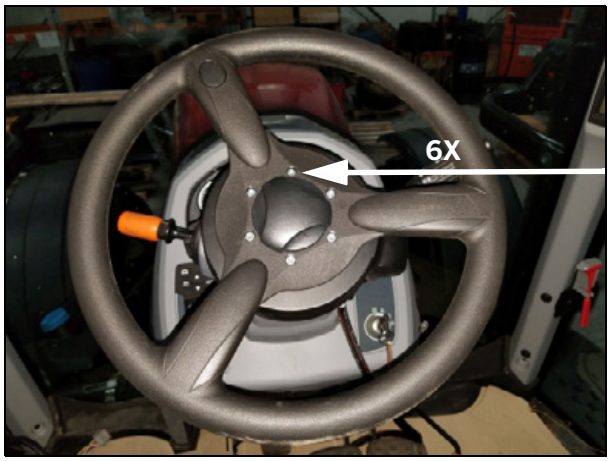




Step 2

Fasten the supplied Trimble steering wheel to the motor. Use the supplied 5 mm hex socket head screws. Tighten the screws using a 4 mm T-handle hex wrench.

⚠ **CAUTION –** When using the EZ-Pilot steering system, telescope the steering inward as far as possible to comfortably operate the machine. Excessive steering column extension may reduce auto steer accuracy and degrade the SAM-200 motor performance when engaged.



Stock photo

Completed installation

The images show the installed SAM-200 motor, Trimble steering wheel, and anti-rotation bracket.







Motor cable routing

Step 1

Locate the cable with the SAM motor connector. For a clean looking installation, route the cable under the floor mat on the right side and into the base of the column console assembly.

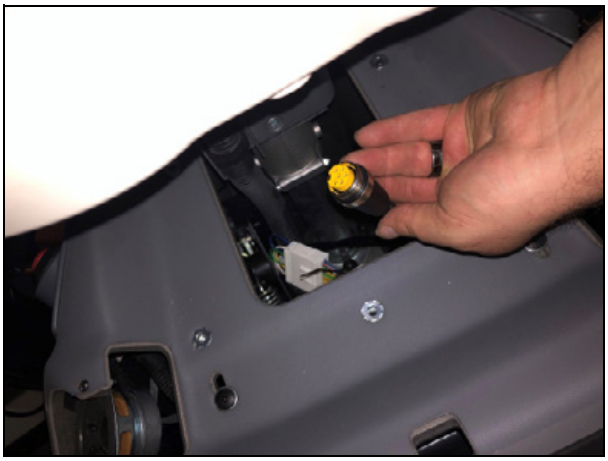
For easiest routing of the cable, tilt the column towards the seat and then remove the column base console cover, retaining screws at the base of the windshield and at the rear of the cover.

Lift the cover out of the way towards the seat.



Step 2

Route the cable up through the opening and around to the front of the column.



Step 3

Pull the cable through until you can connect it to the SAM motor connector. Once connected, replace the cover.



3

IMD-600 Unit Installation

⚠ **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.

NOTE – The information presented in this section should be considered as reference only. The IMD-600 Inertial Measurement Unit is only used in supporting the current Trimble display models when using EZ-Pilot Classic or if used with a legacy display such as the CFX-750 or TMX-2050. This section provides common practices that will ensure a successful installation and good performing system when using one of these options.

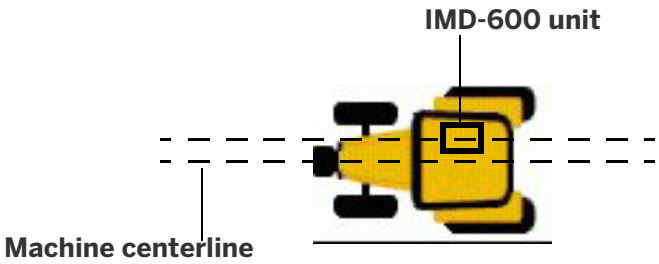
It is the installer's responsibility to determine a suitable location that allows the IMD-600 unit to be mounted rigidly and in a supported orientation.

USE CARE WHEN ATTACHING TO FLOOR OR BULKHEADS TO ENSURE NOT TO DAMAGE SYSTEMS ON THE OPPOSITE SIDE OF THE PANEL.

NOTE – This section displays a representative mounting of the IMD-600 as used with EZ-Pilot installations. The installer is responsible for locating a suitable location and taking proper care when mounting the unit.

⚠ **CAUTION –** Do not mount the IMD-600 unit outside the cab.
Mount the IMD-600 unit inside the cab:
- where it will not be covered by hand tools, tool boxes, chains, tow ropes, food or drink coolers, and so on. Objects placed on top of the unit may cause vibration, which will degrade the steering accuracy.
- where the electrical connector and cable will not be stepped on. If the unit is pushed out of alignment from its original mounting orientation, steering accuracy will be degraded.
- either in-line with or at 90° angles to the vehicle's forward travel direction. Non-orthogonal angles will cause performance degradation.

NOTE – For best accuracy, mount the IMD-600 unit level and parallel to the machine's center line:



Step 1

Fasten the provided sub plate to the IMD-600 unit (as shown) using the supplied #8-32 screws.

Tighten the screws using a #2 Phillips screwdriver.



Step 2

Fasten the IMD-600 assembly to the mounting plate using the supplied 5 mm screws.

Tighten the screws using a #2 Phillips screwdriver.



Check under the cab floor for any obstructions, such as hydraulic lines/hoses, air ducts, A/C evaporators, diesel fuel tanks, hydraulic fluid tanks, and so on.



Example: Under cab floor

Step 3

Use a 1/4" bit. Drill 4 holes through the floormat.



Example: Floormat

Do not drill into the metal cab floor.



Example: Floormat

Step 4

Use a 1/4" pilot bit and 3/4" hole saw. Drill 4 holes through the floormat at the same locations previously drilled.



Example: Floormat



Example: Floormat

Step 5

Use a very sharp box knife to cut away the floor mat webbing from around each newly created hole.

⚠ **CAUTION –** To avoid injury, handle sharp knives with care.



Example: Floormat



Step 6

Place the floormat back onto the cab floor and then insert the provided standoff spacers into the newly created holes.



Example: Floormat

Step 7

Place the IMD-600 unit on top of the spacers. Fasten the IMD-600 unit to the floor using the provided 1/4" x 2.5" long self tapping bolts. Use an 8 mm or 5/16" deep socket.

Check under the cab floor to make certain no obstructions were pierced or damaged by the self tapping screws.



Example: Installation



Example: Under cab floor

Step 8

This photo shows the IMD-600 mounted in a McCormick 6 Series or Landini X6 machine.

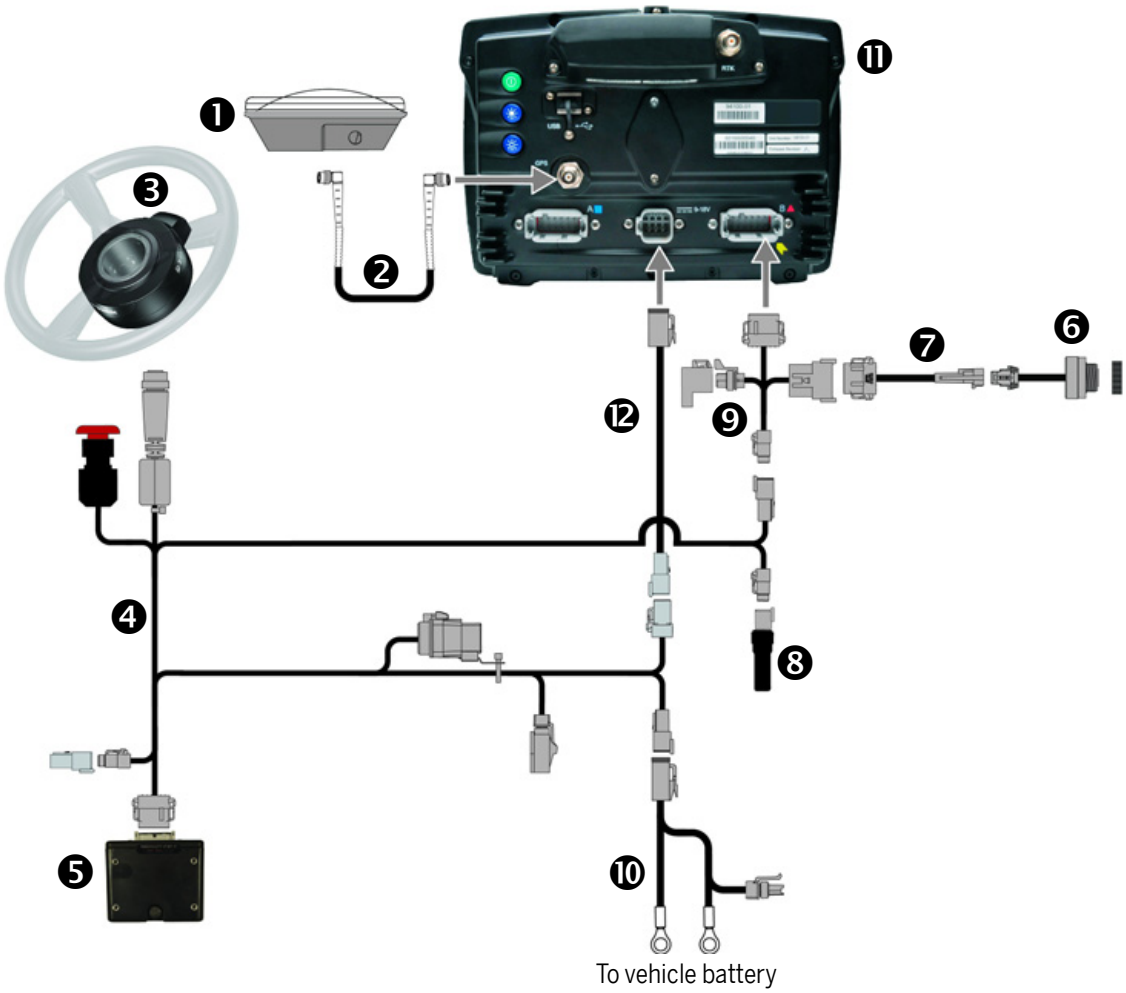


4

Display Connections

- CFX-750 display
- TMX-2050 display
- GFX-750 Display
- Installing the emergency stop switch

CFX-750 display

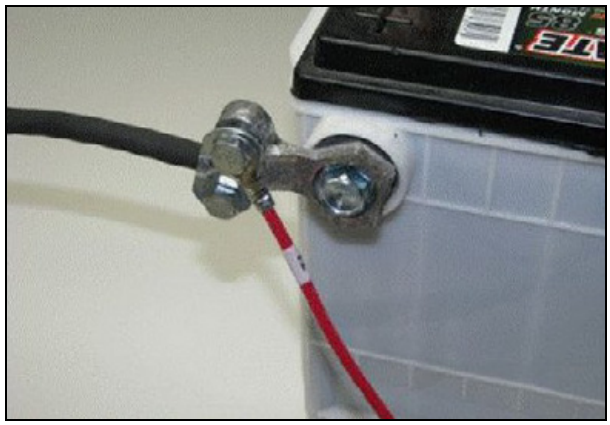


Item	Description	P/N
1	Antenna	77038-00
2	Antenna cable	50449
3	SAM-200 steering motor	83382-xx
4	IMD-600 to SAM-200 to CAN power cable	76351
5	IMD-600 unit	83390-xx
6	Sonalert device	43104
7	Display to Sonalert cable	84668
8	CAN terminator	59783
9	Display to Field-IQ cable	75834
10	Basic power cable	67528
11	CFX-750™ display	94100-xx
12	Display power cable	77282

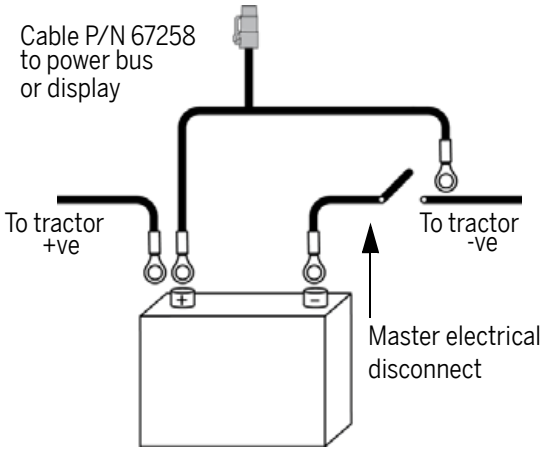
CFX-750 display: Connecting the EZ-Pilot system

Step 1

Connect the power cable to the battery.



⚠ **CAUTION –** If the vehicle has a master electrical disconnect, make sure that the basic power cable (P/N 67258), is not directly attached to the battery terminal that is disconnected by the master switch - the negative pole in this example. Attach this terminal side just past the main disconnect so that it is as close as possible to the battery but still gets disconnected.
Failure to do so can result in damage to the display.



Step 2

Connect the basic power cable to the battery. The battery is located on the right-hand side of the machine by the steps.



Step 3

Connect the power cable to the display.



Step 4

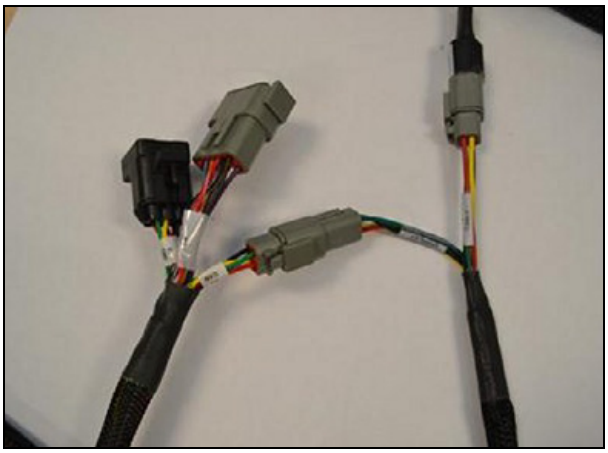
Plug in the 12-pin CAN connection on P/N 75834:

Port B



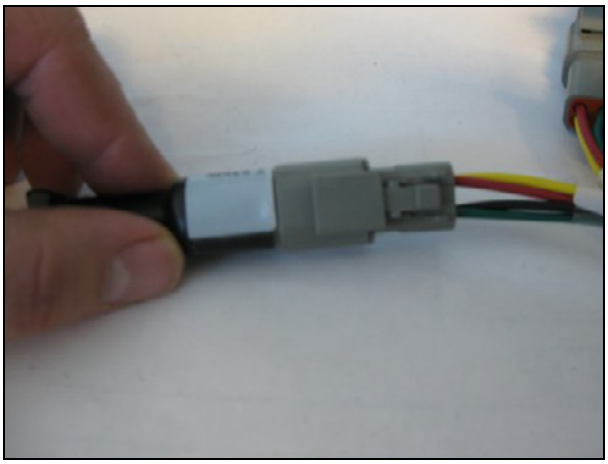
Step 5

Connect the 4-pin CAN plug on P/N 75834 to the 4-pin CAN receptacle on P/N 76351.



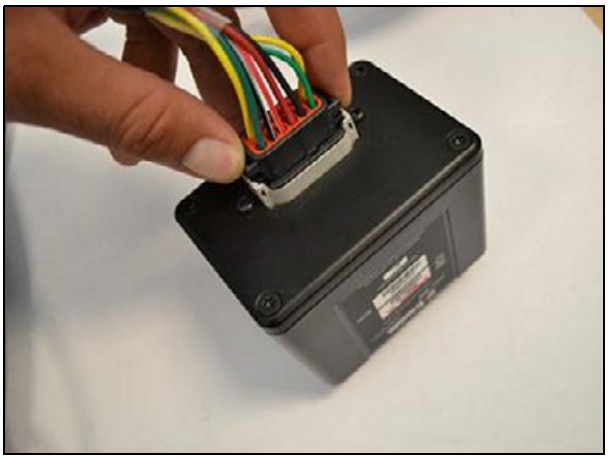
Step 6

Connect the CAN terminator P/N 59783 to the cable P/N 76351.



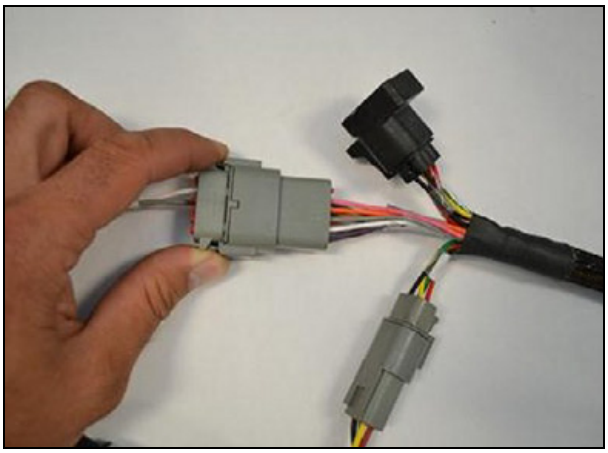
Step 7

Connect the black 12-pin plug to the IMD-600 unit.

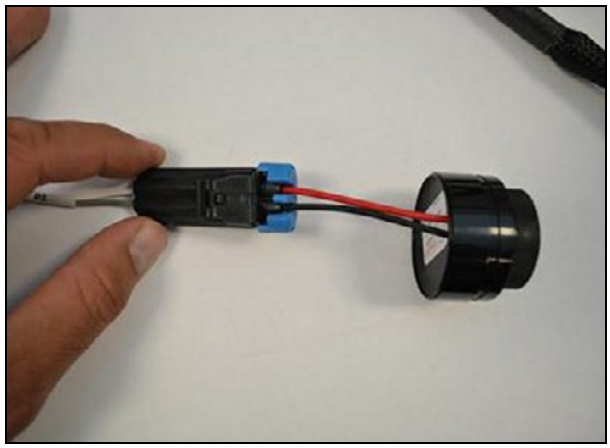


Step 8 Connecting the Sonalert device

Connect the Sonalert adapter 12-pin plug the cable P/N 75834.



Connect the Sonalert device to the adapter cable.



Step 9

Plug the round SAM-200 connector into the SAM-200 motor.



CFX-750 display: Installing the GNSS antenna and mounting plate

Step 1

Pick a location on the cab roof where the GNSS antenna *will be mounted level*. Push down on the roof to find a firm location.

Trimble recommends that you install the antenna directly over the drive tires of the machine.

Make sure to keep the antenna mounted level.

Clean the antenna's mounting location on the roof of the cab with a light solvent to remove oil and dust.

Use an adhesive promoter to increase the bonding between the foam tape and the plastic cab roof. Any surface with adhesive promotor applied will attract dirt. Apply the chemical to a very small area.

Example adhesive:

http://www.3m.com, 3M tape primer 94, P/N 24216

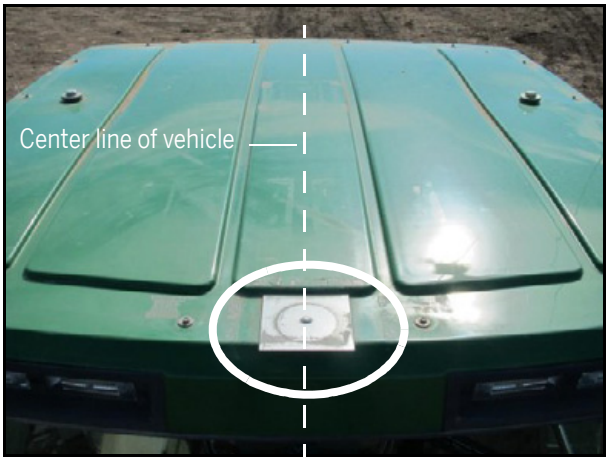


Step 2

Allow the adhesive promotor to dry.

Remove the backing tape from the foam strips and then apply the plate to the cab roof *exactly on the center line of the machine*.

Ensure that the foam strips make even contact with the surface. Apply pressure and then leave for approximately 30 minutes to adhere.



Example antenna mount

Step 3

Attach the GNSS antenna to the center of the 5" x 5" plate (P/N 62034).



CFX-750 display: Installing the RTK radio antenna

Step 1

Connect the RTK radio antenna to the magnetic antenna base



Step 2

Pick a location on the cab roof where the RTK antenna will be a minimum of 3 feet (1 m) from the GNSS antenna. Push down on the roof to find a firm location.

Clean the antenna's mounting location on the roof of the cab with a light solvent to remove oil and dust.

Use an adhesive promoter to increase the bonding between the foam tape and the plastic cab roof. Any surface with adhesive promotor applied will attract dirt. Apply the chemical to a very small area.

Example adhesive:
http://www.3m.com, 3M tape primer 94,
P/N 24216



Step 3

Allow the adhesive promoter to dry.

Remove the backing tape from the foam strips and then apply the plate to the cab roof. Ensure that the foam strips make even contact with the surface. Apply pressure and then leave for approximately 30 minutes to adhere.



Step 4

Attach the magnetic radio antenna base to a 5" x 5" plate (P/N 62034).

Step 5

Route the RTK antenna's coaxial cable into the cab, and connect the cable to the Trimble display. Secure the cable along the route.

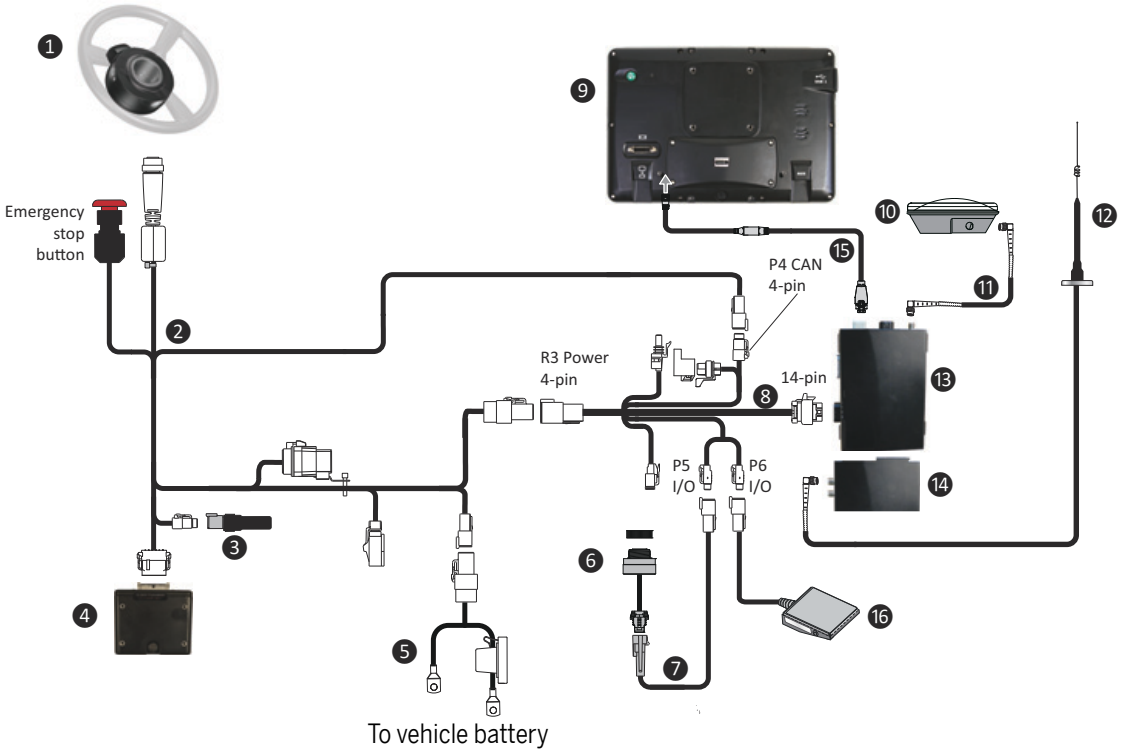


TMX-2050 display

TMX-2050 display: Connecting the display system to the EZ-Pilot system harness

After-market installation

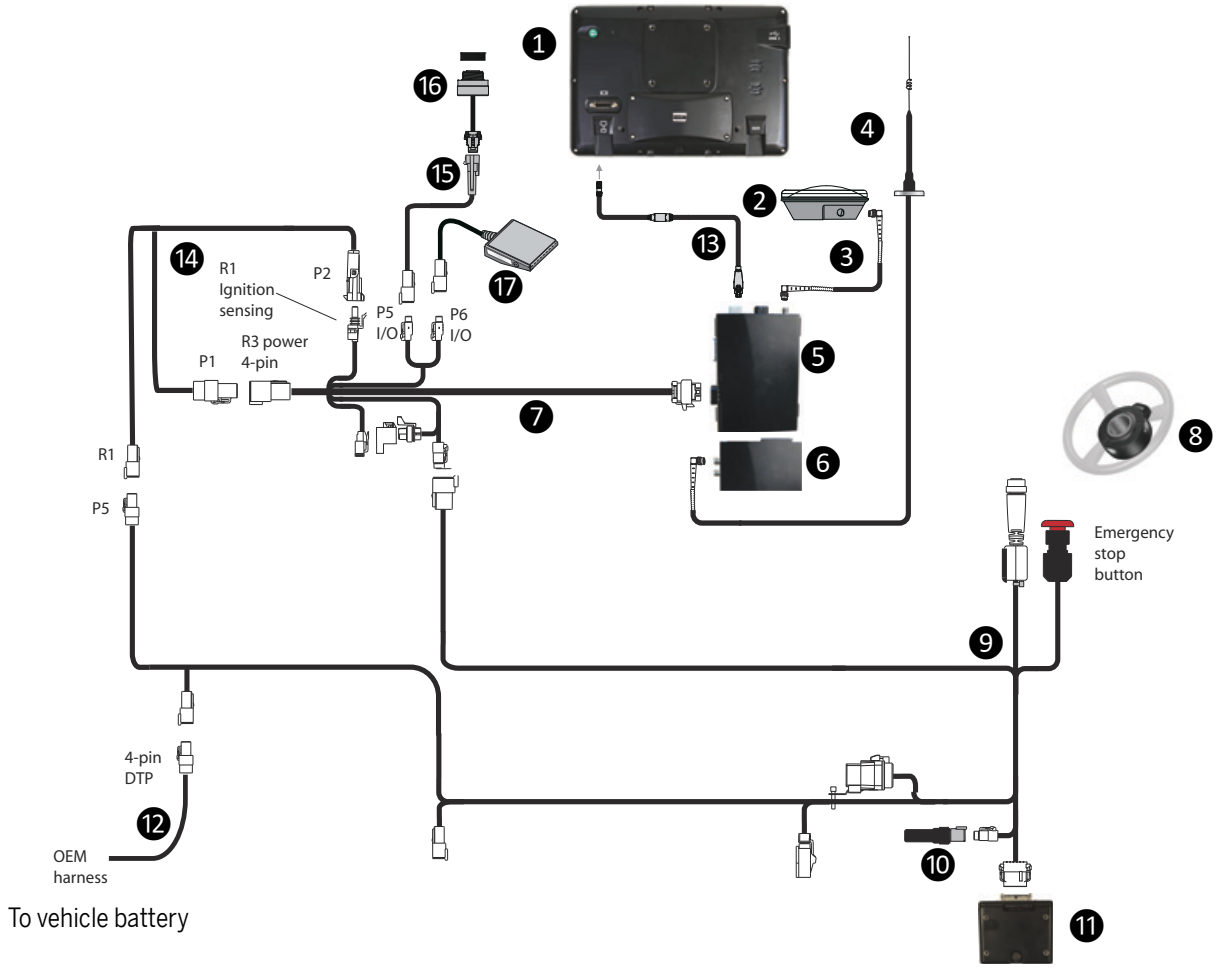
This diagram shows how perform an after-market install to connect the TM-200 Module with the EZ-Pilot system:



Item	Description	P/N	Item	Description	P/N
1	SAM-200 motor	83382-00	**9**	TMX-2050 display	96700-00
2	IMD-600 unit to SAM-200 motor to CAN and power cable	76351	**10**	AG-25 GNSS antenna	77038-00
3	CAN bus terminator	59783	**11**	8 m GNSS TNC/TNC RT angle cable	50449
4	IMD-600 unit	83390-00	**12**	900 MHz radio antenna kit	22882-10
5	TM-200 Module battery power cable	92905	**13**	TM-200 Module	95060-00
6	Sonalert	43104	**14**	AG-815 radio	
7	Display to Sonalert cable	84668	**15**	TMX-2050 display to TM-200 cable	93843
8	TM-200 Module power and I/O cable	92676	**16**	EZ-Pilot system foot switch remote engage (P6 connector only)	78150-00

OEM install

This diagram shows how connect the EZ-Pilot system to a vehicle with an existing OEM harness.



Item	Description	P/N	Item	Description	P/N
1	TMX-2050 display	96700-00	**10**	CAN bus terminator	59783
2	AG-25 GNSS antenna	77038-00	**11**	IMD-600 unit	83390-00
3	8 m GNSS TNC/TNC RT angle cable	50449	**12**	OEM harness	
4	900 MHz radio antenna kit	22882-10	**13**	TMX-2050 display to TM-200 Module	93843
5	TM-200 Module	95060-00	**14**	Cable, power adapter	95918
6	AG-815 radio		**15**	Display to Sonalert cable	84668
7	TM-200 Module power and I/O cable	92676	**16**	Sonalert	43104
8	SAM-200 motor	83382-00	**17**	EZ-Pilot system foot switch remote engage (P6 connector only)	78150-00
9	IMD-600 unit to SAM-200 motor to CAN and power cable	76351			

TMX-2050 display: Preparation

Use the provided hardware to attach the RAM mount to the display as shown.





TMX-2050 display: Installation

Step 1

Decide where you will mount the display in the vehicle cab and then use the provided bolts to attach the bar mount to a tube rail inside the operator's cab.

Cut the u-bolts to the required length and then re-thread using 1/4"-20 die.

Apply anti-seize paste, otherwise the stainless steel u-bolts might gall.



Example

Step 2

The mount has a tightening arm. Loosen the arm to let the display move on the mount.

Hold the display in the selected location and make sure that it:

- Is easy to see, but does not block the driver's view.
- Is within the driver's reach so that the USB drive is easy to remove and replace.
- Does not interfere with the driver getting in or out of the cab, or any other activities.



Example

Step 3

Adjust the TMX-2050 display until it is positioned where you want it.

Turn the tightening arm clockwise to tighten the mount and lock the display in the desired position.



Example

TMX-2050 display: Installing the display wiring

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.

CAUTION – Make sure the vehicle power is off when you are connecting system components.

Step 1

Connect P1 from the P/N 92676 power and I/O cable to port B to the TM-200 Module.



Step 2

Connect the GNSS antenna cable to the TNC connector at Port 1 of the TM-200 Module.



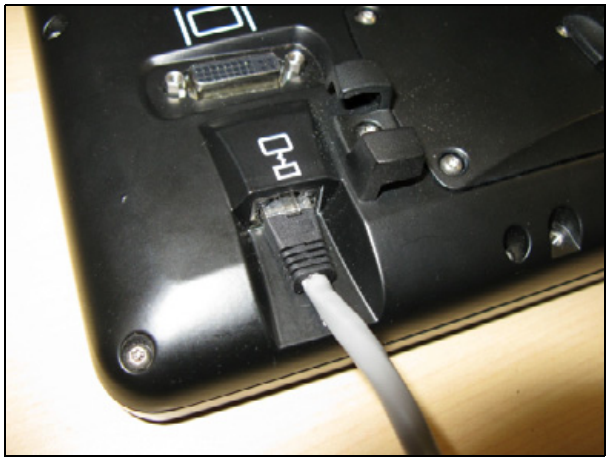
Step 3

Connect the 8-pin Ampseal connector on the display cable P/N 93843 to the white display port on the TM-200 Module.



Step 4

Connect the other end of the display cable (P/N 93843) to the RJ45 connector on the TMX-2050 display.



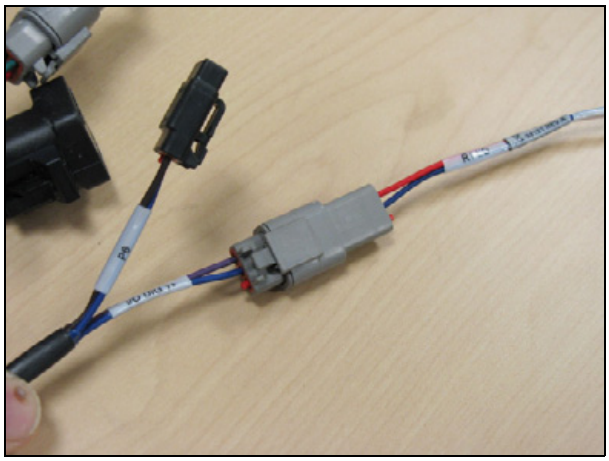
Step 5

Connect the Sonalert to the P/N 94121 Sonalert cable.



Step 6

Connect P5 from the P/N 92676 power and I/O cable to the P/N 94121 Sonalert cable.



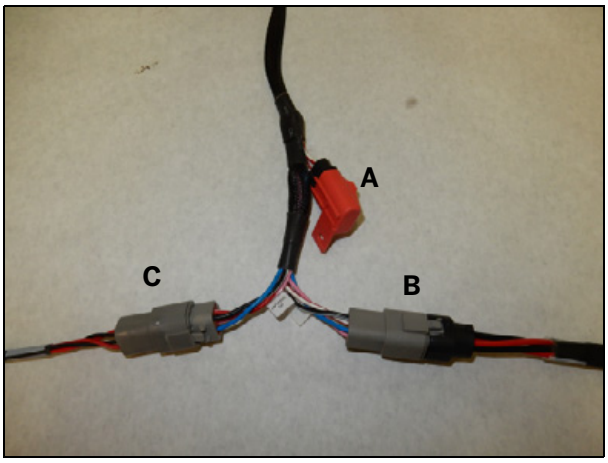
TMX-2050 display: Connecting the display system to the EZ-Pilot system harness

Step 1

Connect the P/N 92905 battery power cable (B) to EZ-Pilot cable P/N 76351 (A).

Step 2

Connect the P/N 92676, TM200 module power cable (C) to EZ-Pilot cable P/N 76351 (A).



Step 3

Connect R2 from the P/N 92676 power and I/O cable to P4 of the P/N 76351 EZ-Pilot system main harness.



Step 4

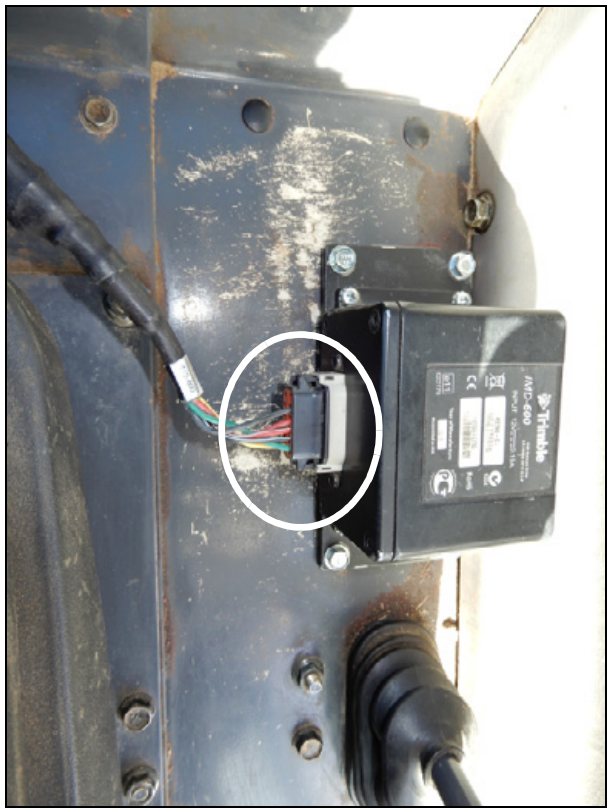
Connect the supplied CAN Terminator P/N 59783 to P5 of the P/N 76351 EZ-Pilot system main harness.



Step 5

Find the supplied cable P/N 76351.

Connect the black 12-pin plug labeled **P3** to the IMD-600 unit.



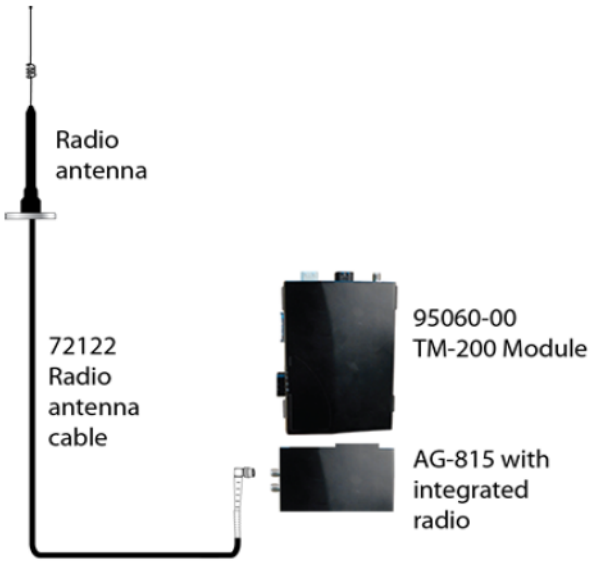
Step 6

Plug the connector labeled **P1 SAM200** into the motor.



TMX-2050 display: Installing the RTK radio antenna

NOTE – This section applies to the TMX-2050 display with optional AG-815, 900 MHz radio module.



Step 1

Connect the RTK radio antenna to the magnetic antenna base



Step 2

Pick a location on the cab roof where the RTK antenna will be a minimum of 0.3 m (1 foot) from the GNSS antenna. Push down on the roof to find a firm location.

Clean the antenna's mounting location on the roof of the cab with denatured alcohol to remove oil and dust.



Step 3

Locate the provided P/N 62034 metal plate. Remove the backing tape from the foam strips and then apply the plate to the cab roof.

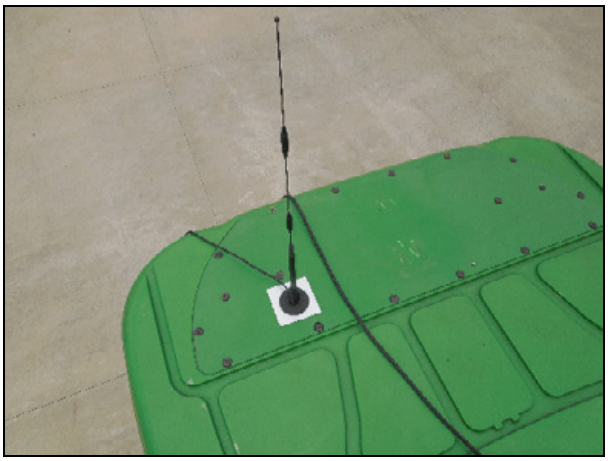
Make sure that the foam strips make even contact with the surface. Apply pressure to adhere.



Example installation

Step 4

Attach the magnetic radio antenna base to the plate.



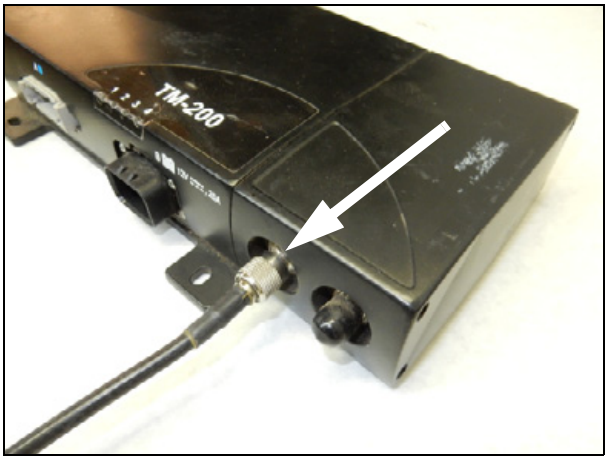
Example installation

Step 5

Route the RTK antenna's coaxial cable into the cab.

Connect the cable to the Trimble display.

Secure the cable along the route.



Step 6

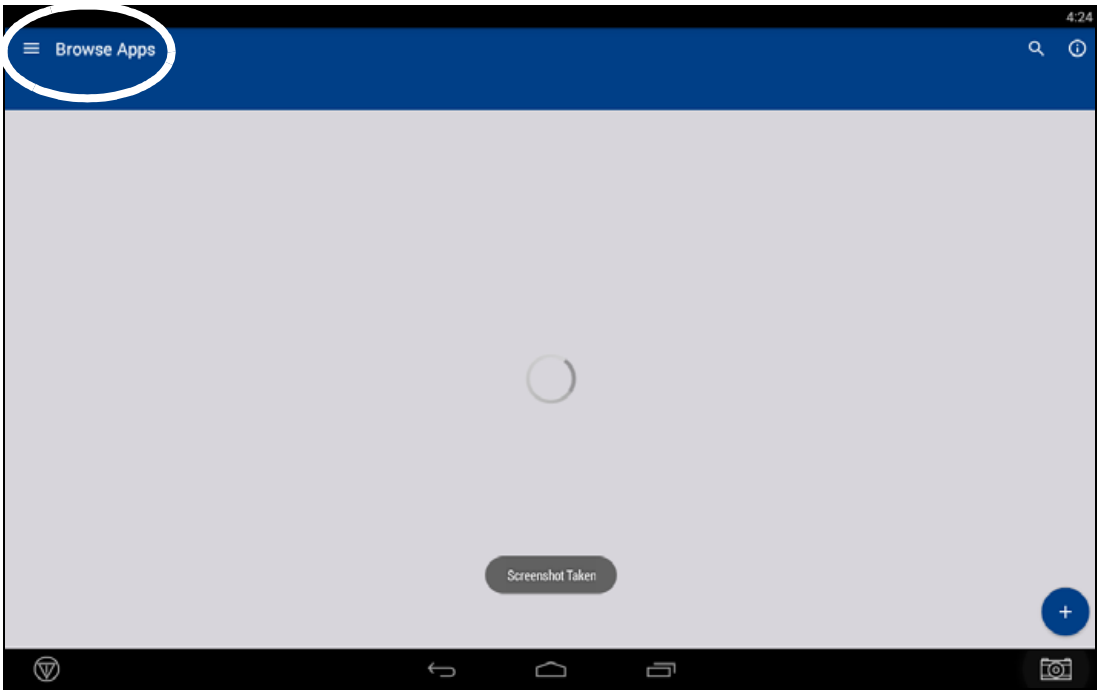
TIP – To receive RTK corrections, the display must have a High Accuracy license installed. If this is not installed, contact your Trimble Agriculture reseller.

Do the following to check your display for the **High Accuracy** option:

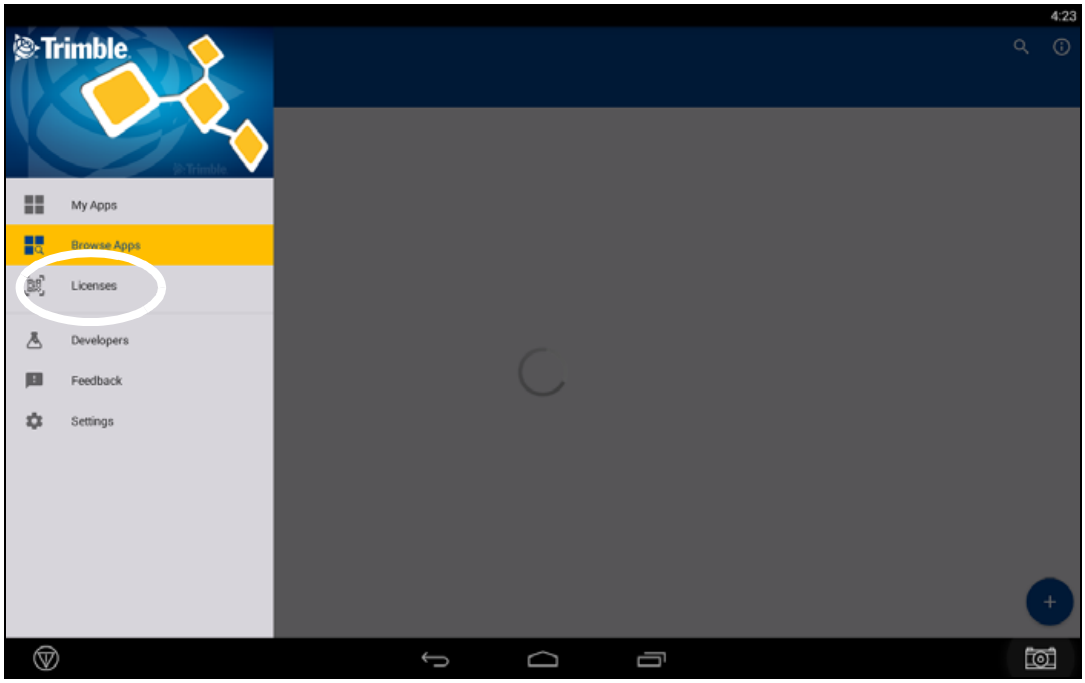
a. In the Home screen, tap **App Central**.



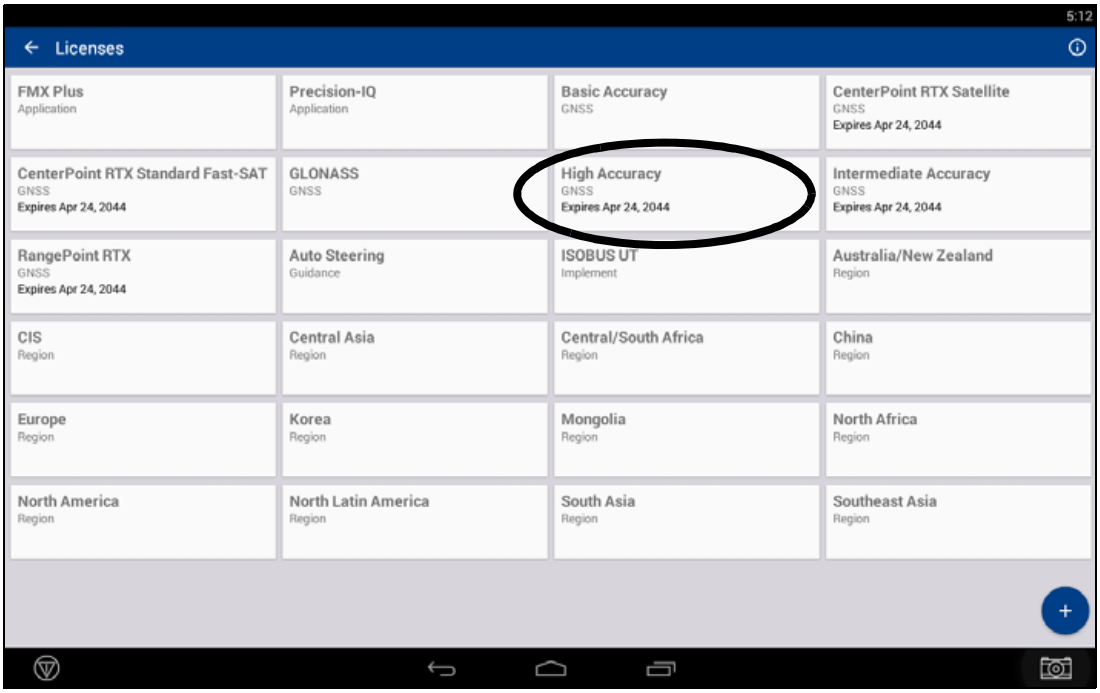
b. In the **App Central** screen, tap **Browse.**



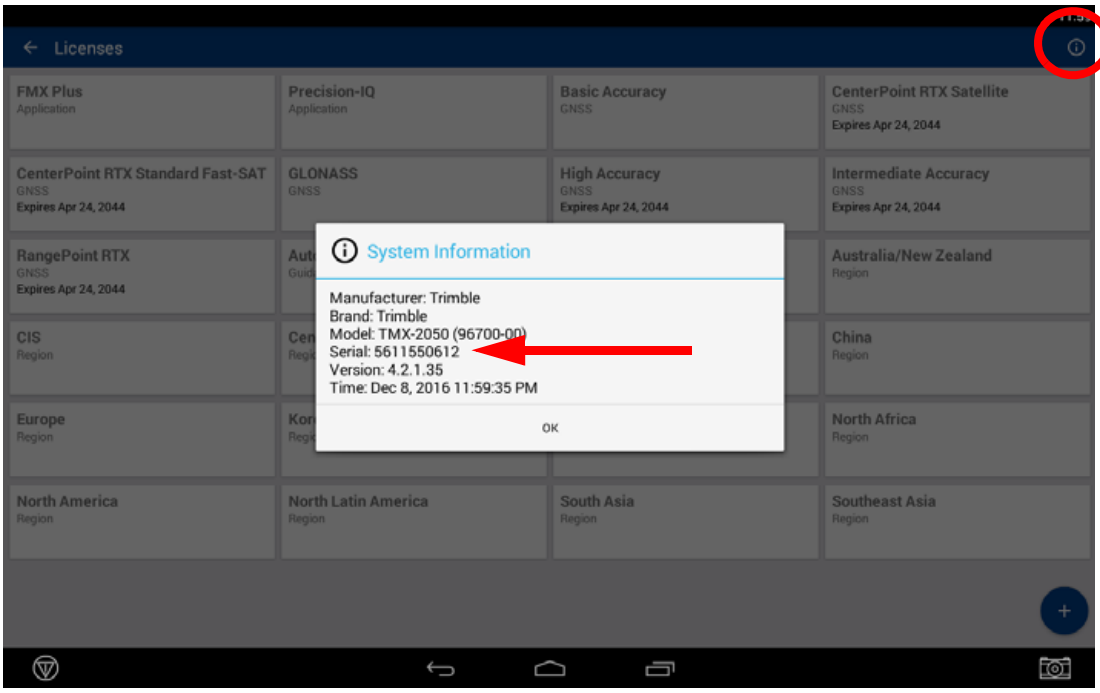
c. Tap **Licenses**.



d. Look for the High Accuracy license listed on-screen. If it is not shown, contact your Trimble Agriculture reseller:.



e. **Optional.** If you choose purchase a high accuracy license, the display serial number is required. Tap the information symbol.



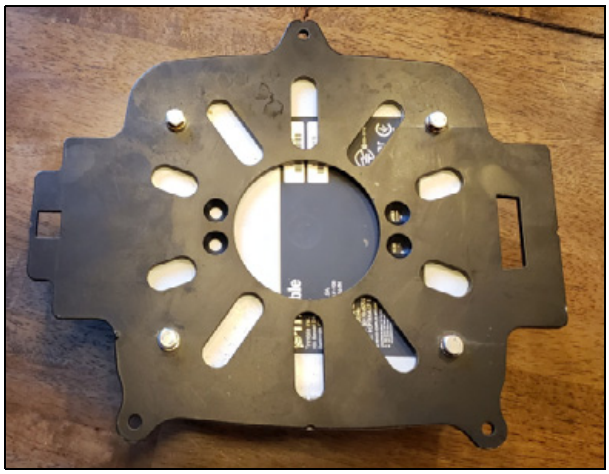
GFX-750 Display

Antenna Mounting

The NAV-900 antenna should be mounted on the roof, placed as close to the axial centerline of the machine as possible, centered over the rear axle.

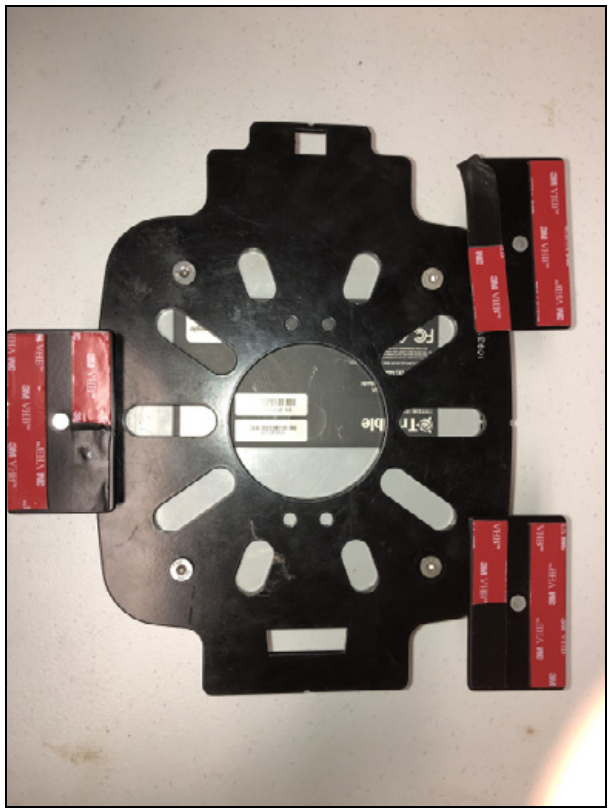
Step 1

Attach the NAV-900 to the supplied mounting bracket.



Step 2

Attach the three VHB plates to the mounting plate using the hardware provided.



Step 3

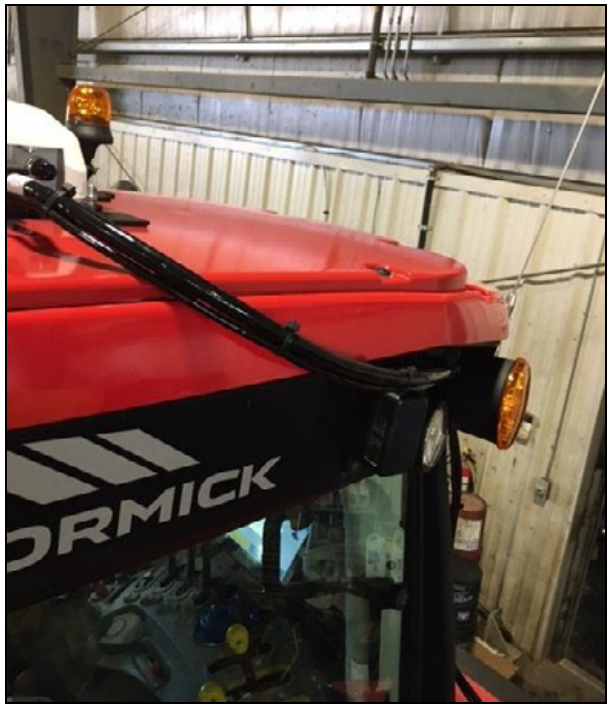
Clean the area where the NAV-900 assembly will be placed with soapy water or alcohol wipes. When dry, peel the release liner from the VHB tape on the mounting feet.

Center the NAV-900 plate over the rear axle and on the machine centerline and then press it firmly into place.



Step 4

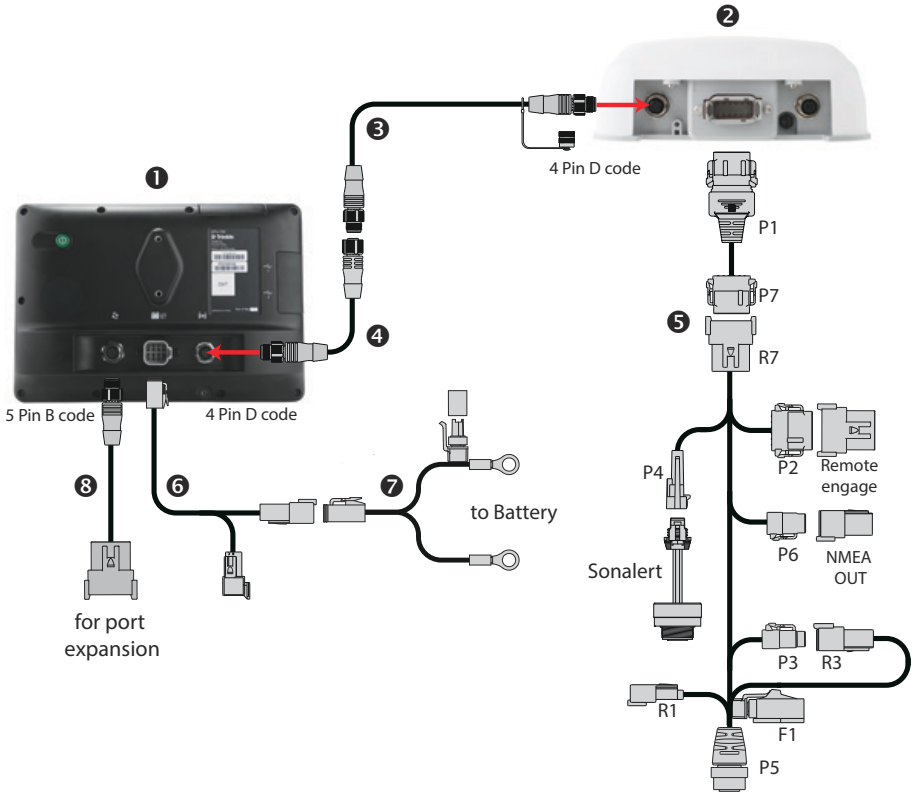
Connect the P1 connector from the system harness to the NAV-900 controller. Connect the coaxial Broad-R Reach cable to the NAV-900.



Route the cables through the pass though at the rear window. Then connect them to the display and display harness.



GFX-750/XCN-1050 display: Components



Item	Description	Trimble part number
1	GFX-750™/XCN-1050™ display, with PIQ App	121000-XX
2	NAV-900 Guidance controller	108993-05
3	Cable Assy, GFX-750/XCN-1050 to NAV-900, Power/Ethernet (BRR), 5 m	110540
4	Cable Assy, GFX-750/XCN-1050 to NAV-900, Power/Ethernet (BRR) Extension, 2.5 m. Optional extension for large vehicles.	112082
5	Cable Assy, NAV-900 to APMD	110549
6	Cable Assy, GFX-750/XCN-1050, Power to display, CAN, 2.5 m	110551
7	Cable Assy, GFX-750/CFX-750™/FM-750™/XCN-1050/ FmX®/FM-1000™ Basic Power, 4m	67258
8	Cable Assy, GFX-750/XCN-1050, Expansion Port Basic, RS232, Dig I/O, 2.5m	110545

GFX-750/XCN-1050 display: Mounting the display

For mounting the GFX-750/XCN-1050 display, see the TMX-2050 display mounting instructions starting on page 44.

Step 1

Connect the 4-pin M12 connector to the 4-pin receiver connector. Note the Keying and number of pins.



Step 2

Plug the P1 connector on the P/N 110551 cable into the port shown.



Installing the emergency stop switch

Mount the stop switch in a prominent location in the cab, where it is easily accessible in case of an emergency.

NOTE – There are two versions of the emergency stop switch. The version that you have will depend on the date when you purchased the EZ-Pilot kit. The updated (smaller) version is shown on the left; the original (larger) version is shown on the right. Make sure that you know which switch you have **before** you drill any holes for mounting.



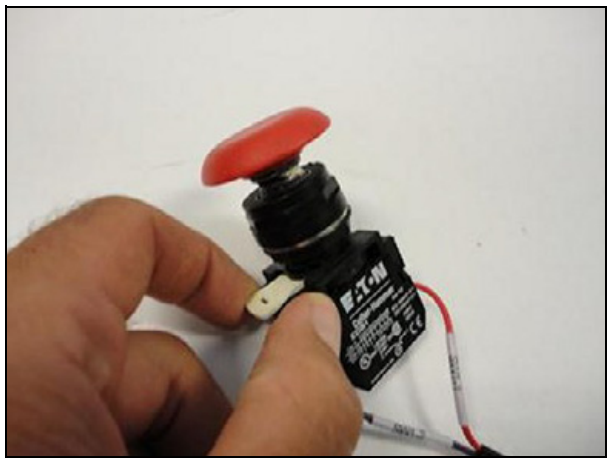
Step 1

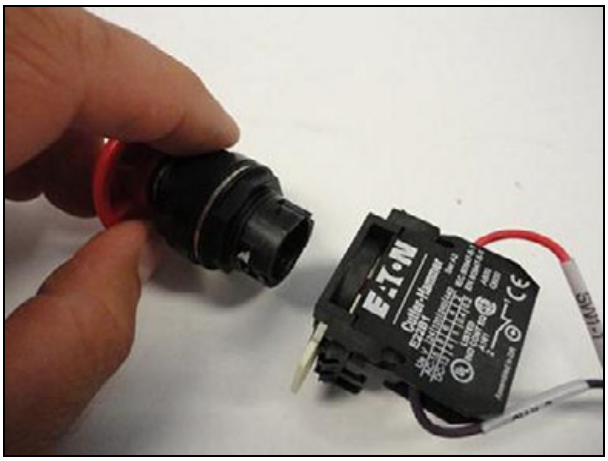
Locate the emergency stop switch.



Step 2

Push the white release button to remove the top half of the switch.





The smaller switch has a small tab—push this to separate the full switch.



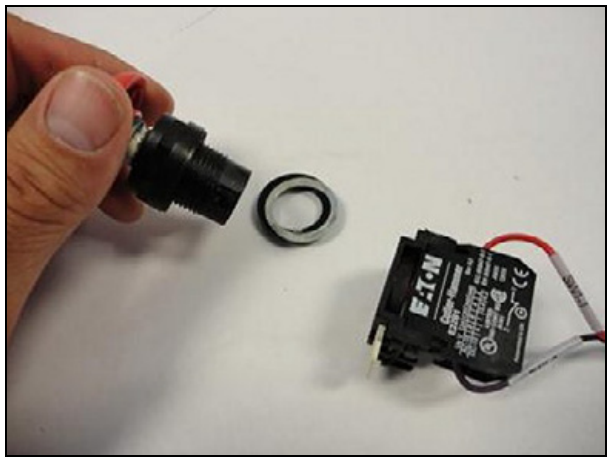
Screwdriver used to separate switch



Switch separated

Step 3

Remove the nut and washer.



Step 4

In the selected prominent location, drill a 7⁄8" hole for the larger switch, or a 5⁄8" hole for the smaller switch and then mount the switch with the provided washer and nut.



Step 5

Route the switch wires and then reattach the lower housing.





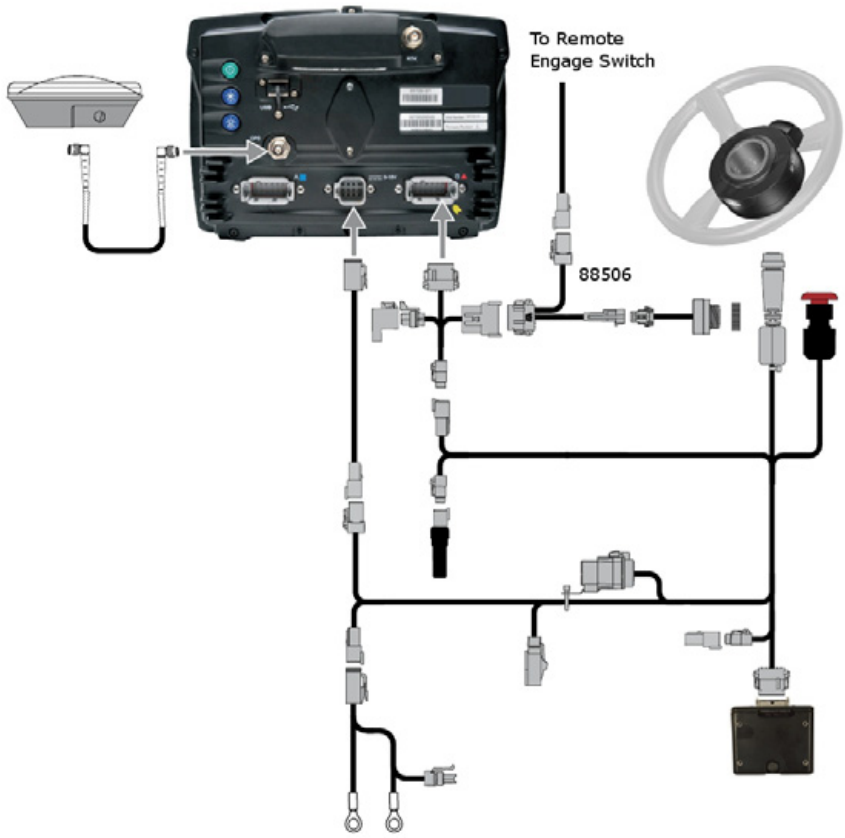
Example: New E-STOP mounted

5

Remote Engage

- CFX-750 display: Installing the remote engage switch
- CFX-750 display: Setting up the remote engage
- GFX-750/NAV-900 System: Installing the remote engage switch

CFX-750 display: Installing the remote engage switch



To engage the EZ-pilot system, you can use one of these methods:

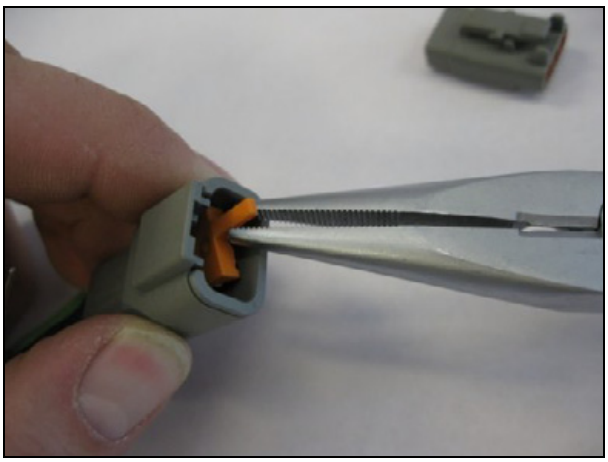
- Press the engage button on the screen.
- Press the EZ-Remote Engage button.
- Press an external foot switch, rocker switch, or the green button on the machine's hydrostat handle if this has been wired.

Step 1

Foot / rocker switch: Locate the foot or momentary rocker switch that will be used. Locate the remote engage adapter cable (P/N 88506) that is included with the foot switch kit (P/N 78150-00) or purchased separately.

Step 2

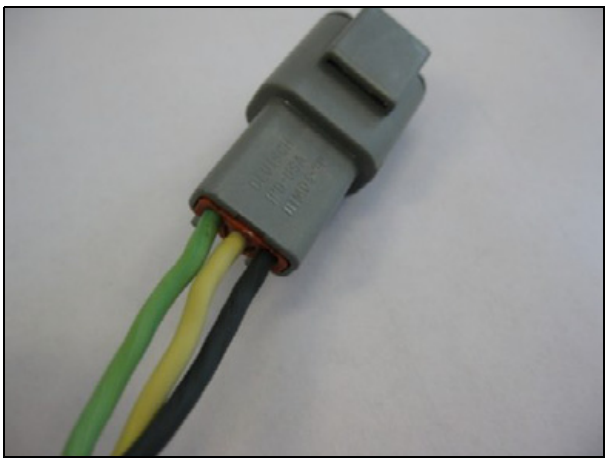
Remove the wedge from the receptacle 3-pin Deutsch DTM that is included with the P/N 88506 remote engage cable.



Step 3

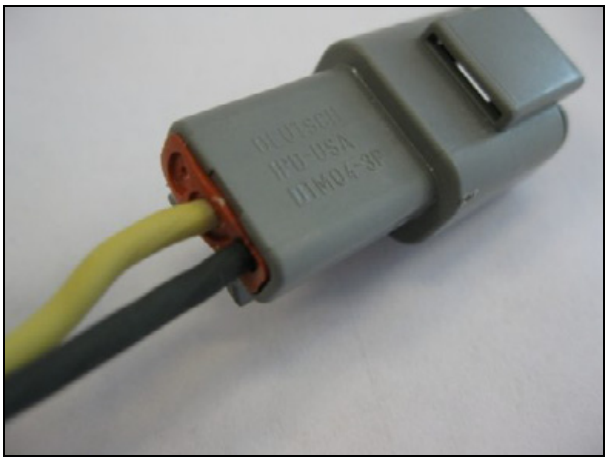
a. **Foot switch:** Hold the receptacle with the lock facing upward.

   Insert the black wire on the right side, the white wire in the middle, and the green wire on the left.



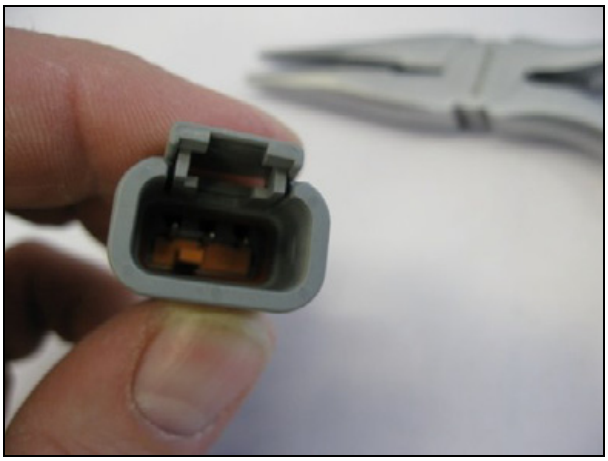
NOTE – If you purchased P/N 78150, the correct connector is already attached.

b. **Hydrostat button and rocker switch:** Insert the wires into the right and middle sockets. The orientation does not matter.



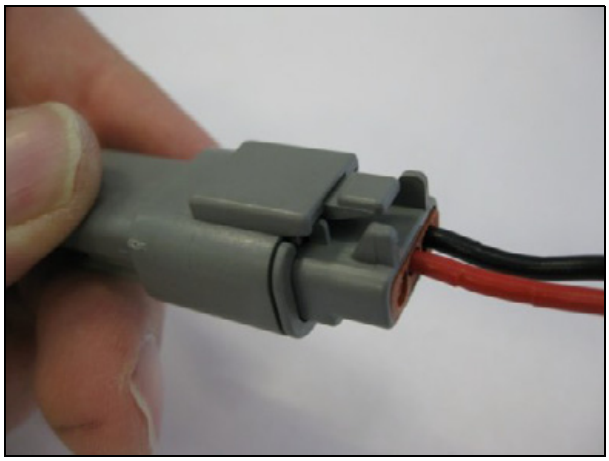
Step 4

Re-insert the wedge into the receptacle.



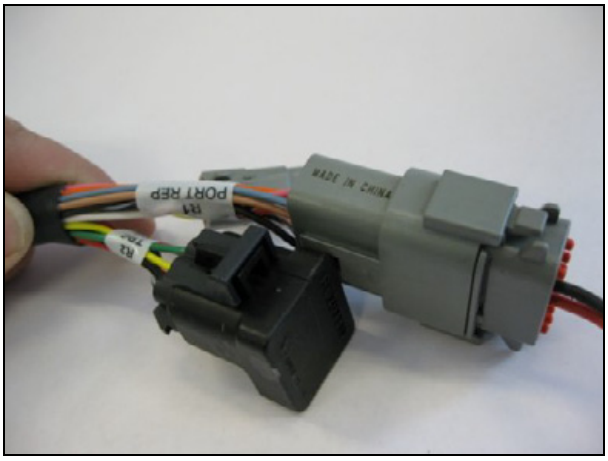
Step 5

Connect the attached receptacle to the 3-pin DTM plug on the remote engage adapter cable.

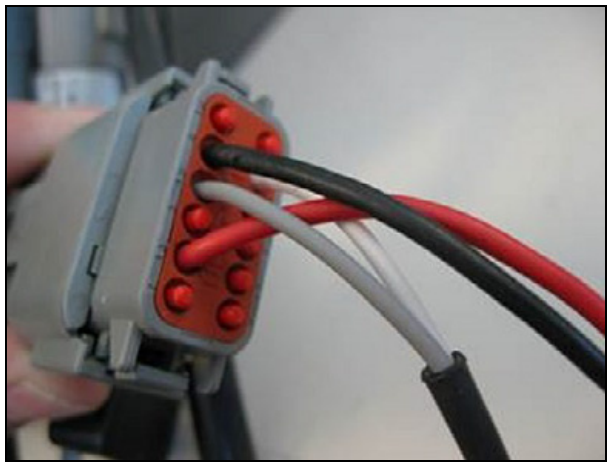


Step 6

Plug the other end of the remote engage adapter cable into the port replicator (pins 10 and 11) on the EZ-Pilot cable connected to one of the CFX-750 display, port B.



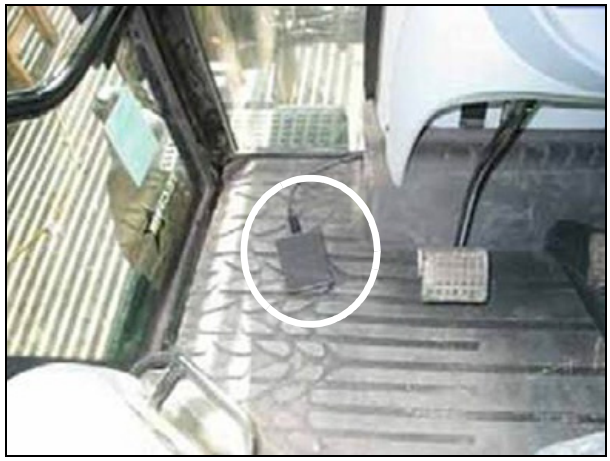
NOTE – For CFX-750 installations with a Sonalert, you must plug the ground wire from pin 10 into pin 8 (the red wire in this example).



Step 7

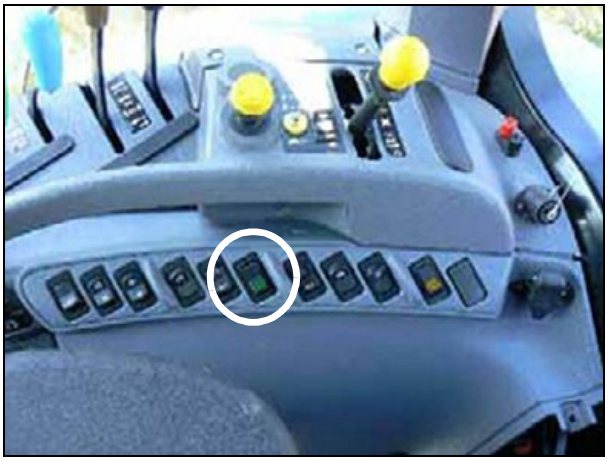
Route the cables to the required location.

Foot switch



Example installation

Rocker switch



Example installation

CFX-750 display: Setting up the remote engage

Step 1

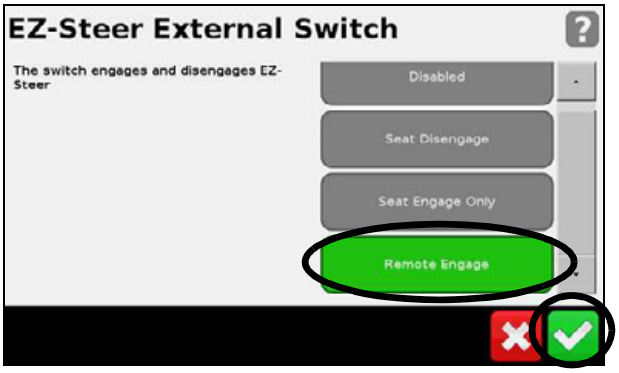
On the display, go to Settings, Vehicle, Auto Steer, EZ-Pilot Setup.

Press **External Switch**.

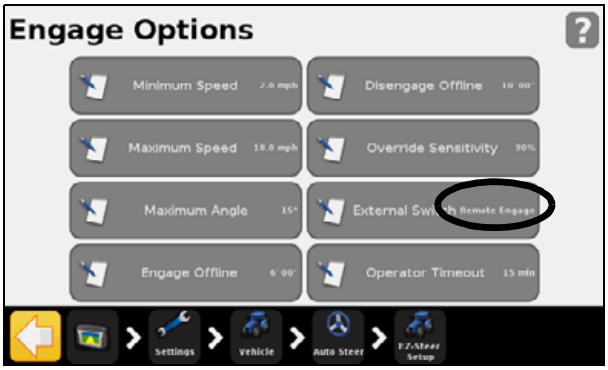


Step 2

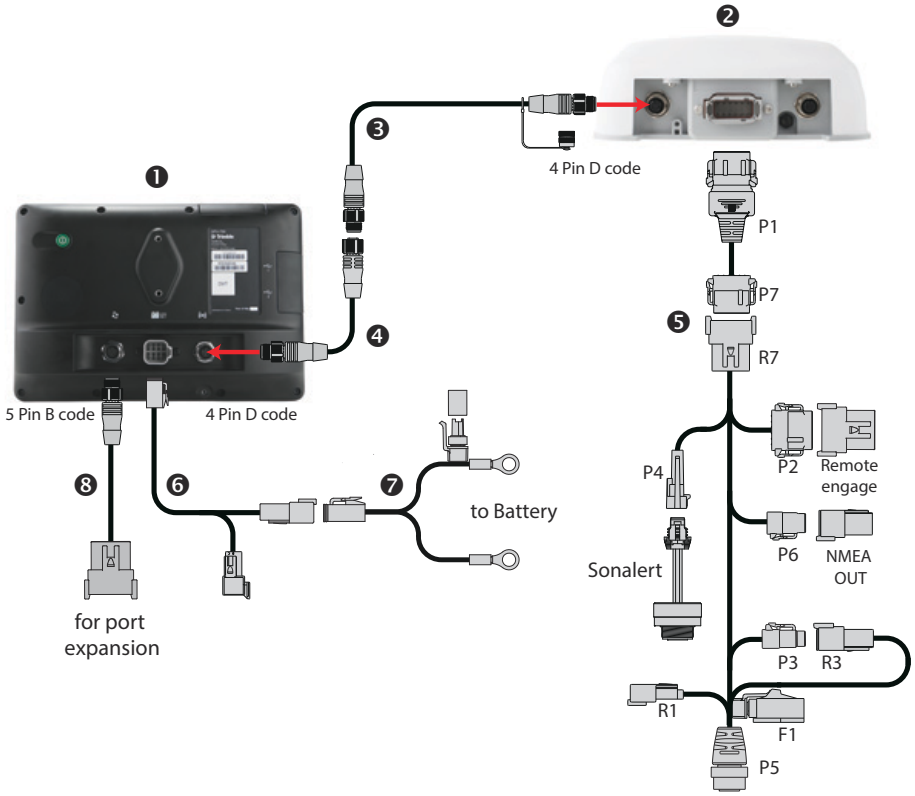
Select **Remote engage** and then press the **Checkmark**.



The **External Switch** now shows **Remote Engage**, and is ready to use.



GFX-750/NAV-900 System: Installing the remote engage switch



To engage the EZ-pilot system, you can use one of these methods:

- Press the engage button on the screen
- Press an external foot or rocker switch

These instructions cover the method for the foot or rocker switch.

Step 1

Locate the foot or momentary rocker switch that will be used.

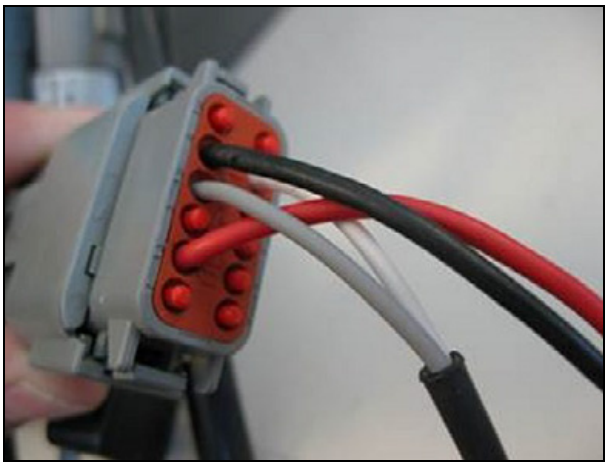
Step 2

Remove the wedge from the receptacle 3-pin Deutsch DTM.



Step 3

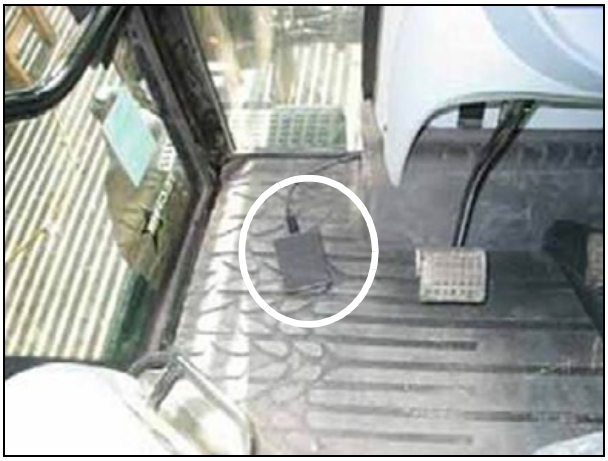
Insert the GND in position 11, PWR Out in position 2 and Remote Engage In in position 7 of the P2 connector on EZ-Pilot cable P/N 110549.



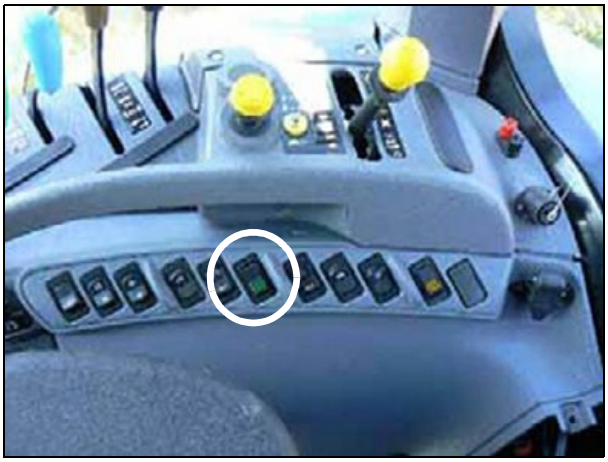
Step 4

Route the cables to the required location.

Foot switch



Rocker switch



6

Final Machine Check

- Performing the final machine check
- Vehicle measurements

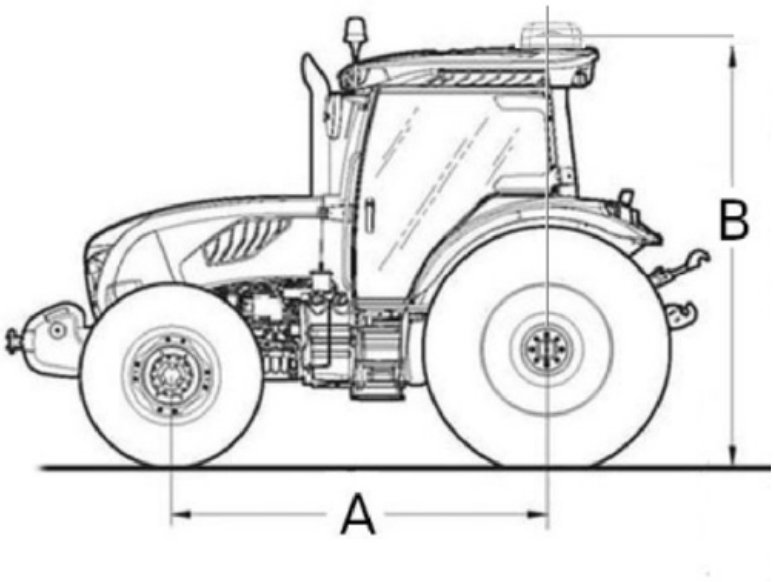
Performing the final machine check

⚠ **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.

1. Make sure that the emergency stop switch is *not* depressed. If the switch is depressed, the EZ-Pilot system will not engage for auto steering.
2. Update the Trimble display, IMD-600 unit, and SAM-200 motor to the latest firmware from https://agriculture.trimble.com/training-and-support/.
3. Configure the EZ-Pilot system through the Trimble display.
   Depending on your machine type, the following items must be calibrated *before* you can use the EZ-Pilot system for autosteering:
   - IMD-600 unit mounting orientation
   - Antenna height, Antenna axle offset, and Roll offset
   - Machine type, Machine Wheelbase
   - Angle per Turn left, Angle per Turn right
   - Motor Speed, Override Sensitivity

Vehicle measurements

⚠ **CAUTION –** These measurements are provided as an example only. You must check the dimensions against your machine.



Models: McCormick X5.35, X5.45, X5.55

Wheel base MFWD (A)	Antenna height (B)
2355 mm (92.7")	2683 mm (105.6")

Models: McCormick X6.35, X6.45, X6.55

Wheel base MFWD (A)	Antenna height (B)
2420 mm (95.25")	

Models: McCormick X6.420, X6.430, X6.440

Wheel base MFWD (A)	Antenna height (B)
2540 mm (100.0")	

Models: McCormick X7.4xx

Wheel base MFWD (A)	Antenna height (B)
2600 mm (102.4")	

Models: McCormick X7.6xx

Wheel base MFWD (A)	Antenna height (B)
2820 mm (111.0")	3160 mm (122.4")

Models: Landini 5-100, 5-110, 5-120

Wheel base MFWD (A)	Antenna height (B)
2355 mm (92.7")	2683 mm (105.6")

Models: Landini 6-125, 6-135, 6-145

Wheel base MFWD (A)	Antenna height (B)
2540 mm (100.0")	2865 mm (112.8")

Models: Landini 7-200, 7-210, 7-230

Wheel base MFWD (A)	Antenna height (B)
2820 mm (111.0")	3160 mm (122.4")