

Installation Instructions

AgGPS® Autopilot™ Automated Steering System

- Hagie** ■ **DTS 8**
- **DTS 8T**
- **DTS 10**

Version 4.00
Revision A
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Part Number 54037-67-E04



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- 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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Meerheide 45
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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.

ii.1 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. Falling from this height can cause broken bones and internal injuries. To avoid falling from the vehicle, when you enter or exit the vehicle, face the vehicle and use the steps and handrails.

ii.2 Cautions



CAUTION – When the vehicle has been running, parts of the vehicle, including the engine and exhaust, can become extremely hot. These hot parts 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. These can cause poisoning. Wash your hands thoroughly after you have finished working on the system.



CAUTION – Battery posts, terminals, and related accessories contain lead and lead compounds. Lead poisoning can cause lowered intelligence and kidney problems. 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 proper protective welders clothing if you want to complete any 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.

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Introduction

- Technical assistance
- Your comments
- Manual system upgrade to Autopilot
- Required components
- Antenna mounting options
- Autopilot hardware organization - as shipped
- Autopilot hardware organization - as installed
- Preparing the vehicle for installation

This manual describes how to install the Trimble® AgGPS® Autopilot™ automated steering system.

Even if you have used other 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 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** button at the top of the screen. The Support A–Z list of products appears.
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.

Manual system upgrade to Autopilot

AgGPS 150 EZ-Guide Plus lightbar

Retain	Remove
AgGPS 150 EZ-Guide® Plus lightbar Antenna for AgGPS 150 EZ-Guide Plus lightbar Antenna to receiver cable (Optional) Remote keypad	

EZ-Guide 500 manual guidance upgrade

Retain	Remove
EZ-Guide 500 lightbar Antenna for EZ-Guide 500 lightbar Antenna to receiver cable <i>Optional.</i> Remote keypad	Power cable (for modification)

Required components

Kits required	Special tools
Platform kit: P/N 54037-67 Hydraulic hose kit: P/N 64261	$\frac{7}{16}$ " drill bit Allen wrench set (metric and SAE) Cut-out tool or die grinder for standard Euro switch Brake or carburetor cleaner spray Paint or sealer

Antenna mounting options

Antenna options
Antenna V plate mount and AgGPS 252 receiver magnetic mount: P/N 62388-01 (includes magnets for mounting the 252 magnetically)

Autopilot hardware organization - as shipped

Hardware	Component	See...
Platform kit (P/N 54037-67)	Hydraulic valve	Chapter 2
	Hydraulic manifold	Chapter 2
	Transducer flow switch	Chapter 2
	Manual override cable	Chapter 2
	Hydraulic brackets and bolt kits	Chapter 2
	Hydraulic valve cable	Chapter 2
	AutoSense steering device and cabling	Chapter 3
	AutoSense mounting bracket and hardware	Chapter 3
	Power cable and switch	Chapter 6
	Controller mounting bracket	Chapter 8
	Bolt kit, controller	Chapter 8
Common parts	Controller	Chapter 8
	Cable kit: <ul style="list-style-type: none"> • Main wiring harness • Auxiliary wiring harness • Sonalert alarm 	Chapter 8
GPS receiver	GPS receiver	Chapter 4
	GPS antenna	Chapter 4
	GPS receiver mounting bracket	Chapter 4
	GPS receiver power/data cable	Chapter 4
	RTK radio, cable, and mounting bracket kit (sold separately)	Chapter 4
Display	Lightbar	Chapter 5
	AgGPS FieldManager display	Chapter 5
	AgGPS FieldManager display cable	Chapter 5
	AgGPS FieldManager display RAM mount	Chapter 5
	AgGPS 50 Lightbar	Chapter 5
	AgGPS 150 Lightbar	Chapter 5
Hydraulic hose kit (P/N 64261)	Hydraulic hoses	Chapter 2
	Hydraulic adaptors	Chapter 2
Roof bracket kit (P/N 62388-01)	Roof brackets	Chapter 4
	Bolt kit, roof bracket	Chapter 4

Autopilot hardware organization - as installed

Hardware	Component	See...
Hydraulics	<ul style="list-style-type: none"> Hydraulic valve, manifold, pressure transducer Hydraulic valve cable Manual override cable 	Chapter 2
AutoSense steering device	<ul style="list-style-type: none"> Steering angle cable Steering device, mounting brackets, and hardware 	Chapter 3
GPS receiver	<ul style="list-style-type: none"> GPS receiver GPS antenna GPS receiver mounting bracket GPS receiver power/data cable Roof brackets 	Chapter 4
Display	<ul style="list-style-type: none"> Lightbar AgGPS FieldManager display Lightbar cable Lightbar mounting bracket EZ-Guide Plus lightbar 	Chapter 5
Power	<ul style="list-style-type: none"> Power cable and switch 	Chapter 6
Controller	<ul style="list-style-type: none"> Controller Mounting plate Bolt kit - controller Main wiring harness Aux. wiring harness Sonalert alarm 	Chapter 8

Preparing the vehicle for installation

Step 1

Park the vehicle on a level, hard 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 AgGPS Autopilot 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.

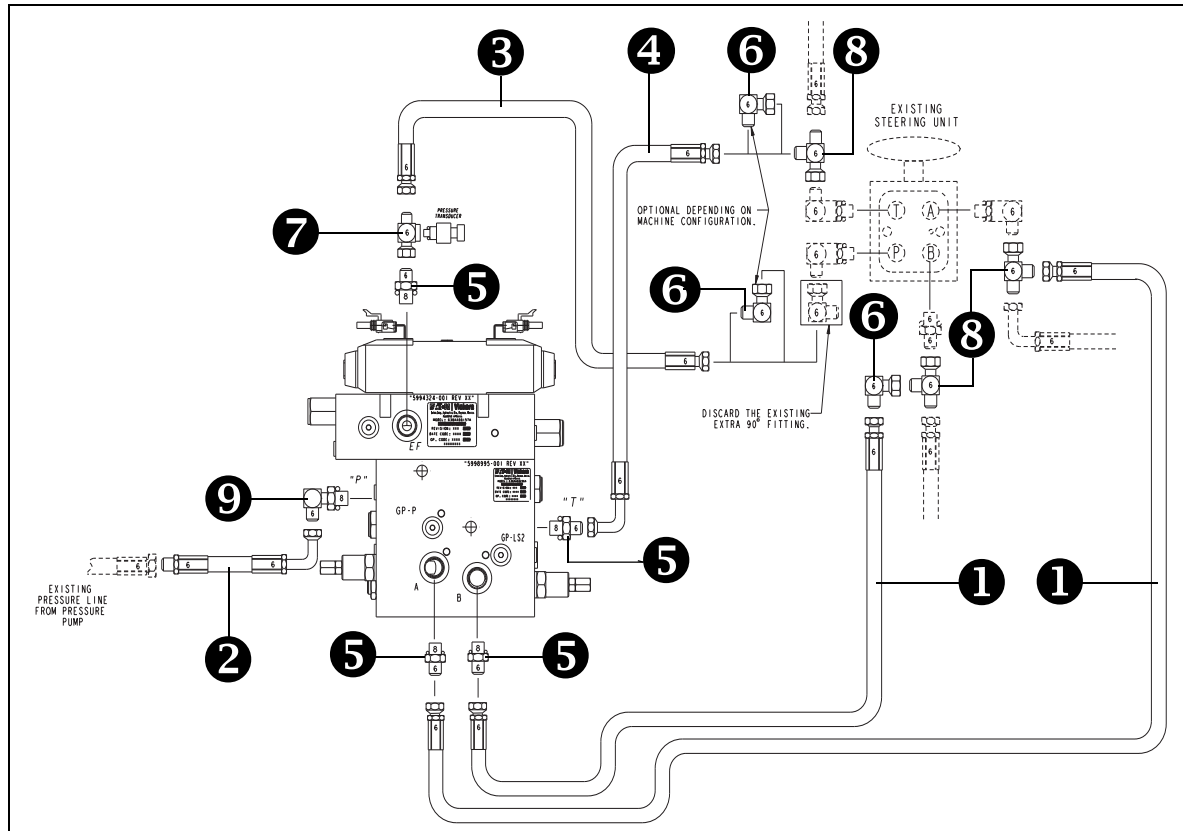
Hydraulic Control Valve Installation

In this chapter:

- Hydraulic components
- Preparing the manifold, hydraulic control valve, and the bypass valve
- Installing the hydraulic valve and hoses

This chapter describes how to install the hydraulic control valve and hoses.

Hydraulic components



Item	Description	Part number
①	85 inch hose (x2)	F451TC0606-06-06-06-85
②	92 inch hose	F451TC3903-06-06-06-92
③	92 inch hose	F451TC0606-06-06-06-92
④	92 inch hose	F451TC0639-06-06-06-92
⑤	Fitting (x4)	6 - 8 F50X-S

Item	Description	Part number
⑥	Fitting (x3)	6 C6X-S
⑦	Fitting	6-4 XHX6GP5TP-S
⑧	Fitting (x3)	6 R6X-S
⑨	Fitting	6- 8 C50X

Note – Part numbers are Parker numbers and are for reference only.

Preparing the manifold, hydraulic control valve, and the bypass valve

Note – Place the hydraulic control valve and manifold on a clean work surface. Ensure the cartridge and orifice remain very clean. Any small particles introduced into the system can cause obstruction.

Step 1

Place the hydraulic control valve and fittings on a clean work surface.



Step 2

Install an -8 ORB -6 JIC adaptor into the T port



Step 3

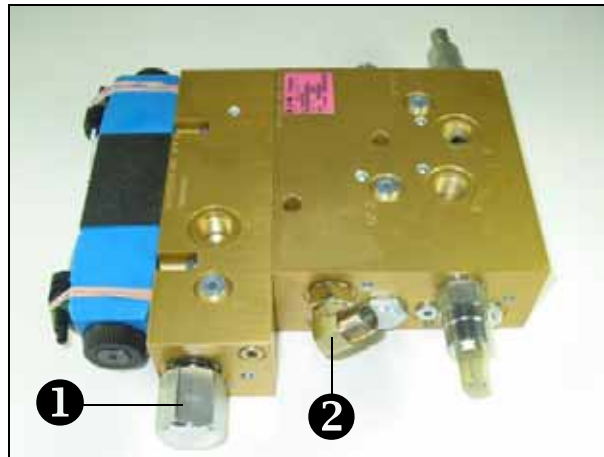
Locate the Priority Flow Regulator cartridge stamped with part number: PFRD-12-U-0-000-110-00.



Step 4

Install the following fittings:

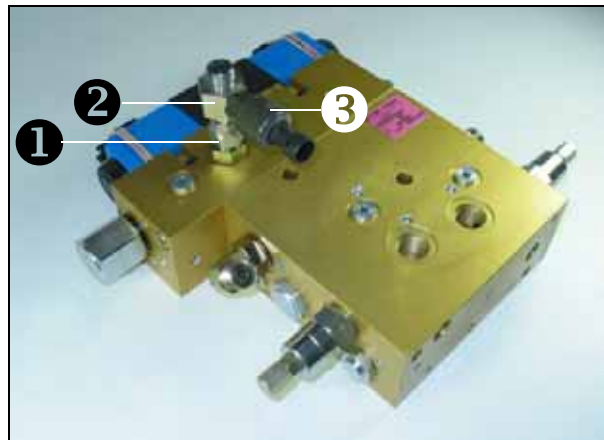
- ❶ Priority Flow Regulator cartridge into the port on the sandwich block.
- ❷ -8 ORB -6 JIC 90° adaptor into the P Port. Align the fitting to a two o'clock position as shown.



Step 5

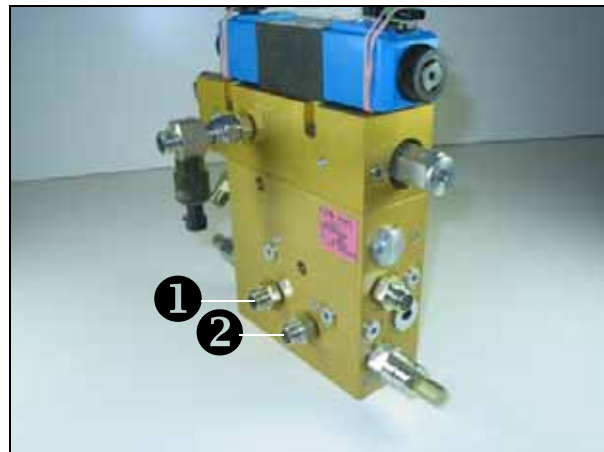
Install the following fittings:

- ❶ -8 ORB -6 JIC adaptor into the EF port on the sandwich block.
- ❷ -6 JIC diagnostic tee to the adaptor. Leave the tee loose at this point.
- ❸ Manual override pressure transducer into the test port on the diagnostic tee.



Step 6

Install -8 ORB -6 JIC straight fittings to the A and B ports (❶ and ❷).



Installing the hydraulic valve and hoses

Step 1

Attach the manifold bracket to the manifold as shown with the provided $\frac{3}{8}$ "-16 x 2" bolts.



Step 2

Position the manifold and bracket on the front frame just above the right front wheel. Mark the locations of the mounting holes and then drill two $\frac{3}{8}$ " holes completely through the frame tube.



Step 3

Attach the manifold and bracket assembly to the frame with the supplied $\frac{3}{8}$ x 4" bolts.



Step 4

Connect the -6 JIC tank hose to the manifold T port.



Step 5

Locate the tank port on the steering hand pump. It is the upper left port (or top rear as installed on the machine). Remove the existing hose and then install a -6 JIC run tee onto the existing 90° fitting. Reattach the existing line to the straight through port and then attach the hose from the control valve T port to the branch of the tee.

Note – Extra 90° swivel fittings are supplied if the adaptors on the pump are different because of the machine's vintage.



Step 6

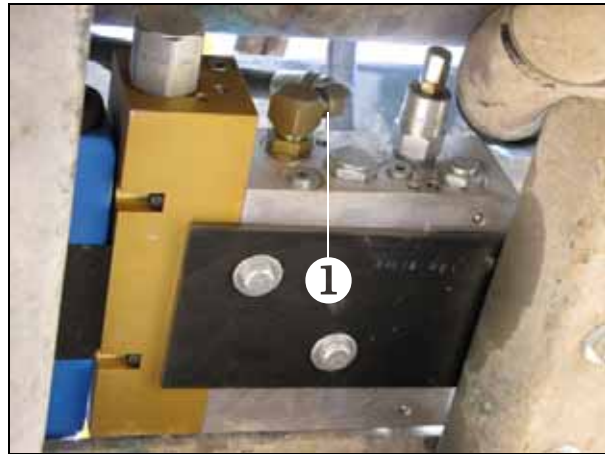
Locate the pressure line where it connects to the 90° fitting on the steering hand pump just below where the tank line was connected.

The pressure port may be fitted with two 90° fittings. Disconnect the existing hose and the second 90° fitting if present. Discard the fitting and then connect the supplied 92" EF hose to the remaining 90° fitting (see Note at Step 5).



Step 7

Connect the supplied 92" pressure hose to the end of the existing pressure line that was removed from the hand pump in Step 6 (See [Hydraulic components, page 14](#)). Route the opposite end up to the P port on the control valve ①.



Step 8

Rotate the Pressure Transducer as shown, tighten the fitting and then connect the EF hose from Step 6 to the -6 JIC diagnostic tee at the EF port on the control manifold.



Step 9

Connect a -8 JIC run tee to the A port (the upper port) on the steering hand pump.

Connect the existing line **1** to the run side of the tee and the Autopilot A line **2** to the branch (see Note at Step 5).



Step 10

Connect a -8 JIC run tee to the fitting in the B port (the lower port) on the steering hand pump and then connect a 90° elbow to the branch of the tee.

Connect the existing line **1** to the run side of the tee and the Autopilot B line **2** to the elbow on the branch (see Note at Step 5).



Step 11

Connect the remaining ends of the A and B lines to the A and B ports on the control valve/manifold assembly.



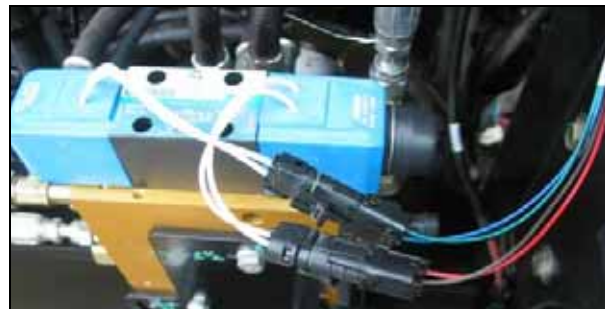
Step 12

Connect the manual override cable to the pressure transducer on the diagnostic tee.



Step 13

Plug the A and B steering valve connectors into the connectors on the steering valve harness. Secure all harnesses with tie straps.



Note – Due to the often corrosive environment present on spraying and spreading equipment, Trimble recommends that you apply some form of coating to newly installed fittings and hose ends. Nearly any paint product will provide protection if applied to clean, dry surfaces. See [Performing the final machine check, page 110](#).

AutoSense Steering Device Installation

In this chapter:

- AutoSense steering device components
- Installing the AutoSense steering device
- Preparing the harness (P/N 54602 Rev C)

This chapter describes how to install the AgGPS AutoSense[™] steering device.

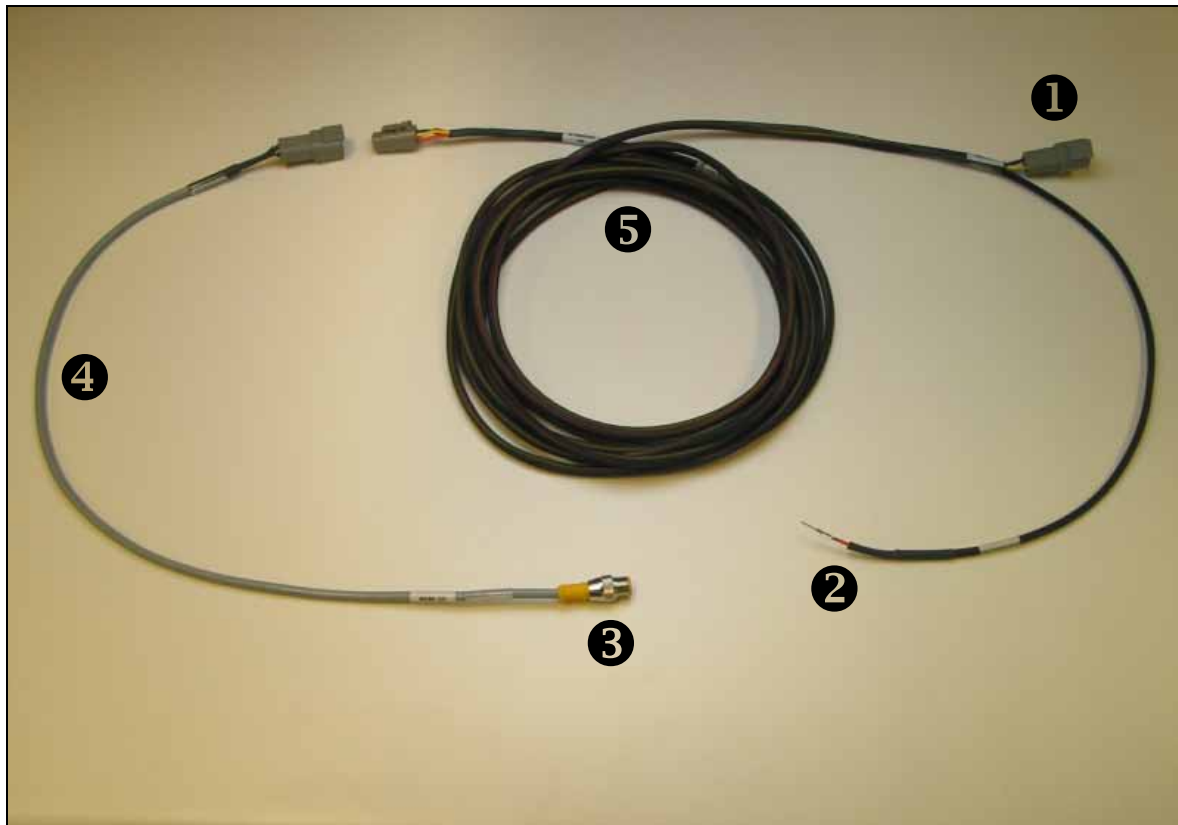
If the described mounting location is not accessible, chose a different location. To ensure proper function, the AutoSense device must be located in a position where it is free of obstructions and can rotate with the wheels when they turn.

On articulated vehicles, mount the AutoSense device on the opposite side of the pivot point to the Autopilot controller.

Mount the device base down or base up so the device maintains a level orientation. Do not mount the device on its side. An angle of up to 10 degrees in any direction is acceptable.

To avoid stretching the cable, leave adequate length on the service loop.

AutoSense steering device components



Item	Description
①	P-6 connector
②	Power connector
③	AutoSense connector
④	Jumper cable (P/N 57560)
⑤	AutoSense steering cable (P/N 57885)

Installing the AutoSense steering device

Step 1

Mount the AutoSense device inside the right front wheel. The bracket is attached using an existing bolt located behind the steering pivot column.



Step 2

Attach the AutoSense device to the bracket with the included screws. Then clamp the bracket to the machine as shown.



Step 3

Attach the AutoSense sensor cable to the sensor.



Step 4

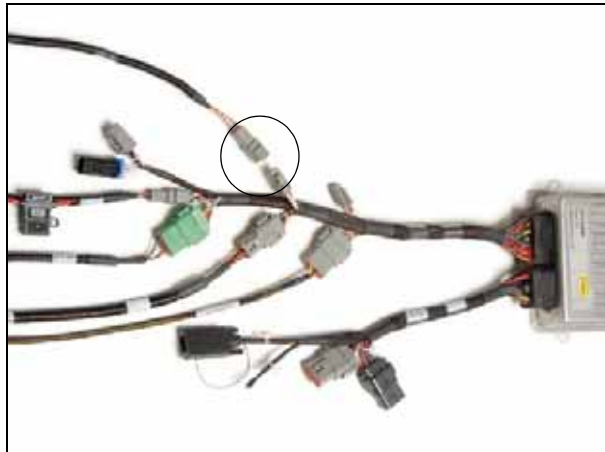
Run the cable so it can be routed along the hydraulic hose covers. Loosen the hook-and-loop straps and route the long AutoSense steering cable inside. Connect the two cables and reapply the hook-and-loop straps.

***Note** – It may be easier to route the long steering cable from inside the cab before you try to push the cable up into the cab.*



Step 5

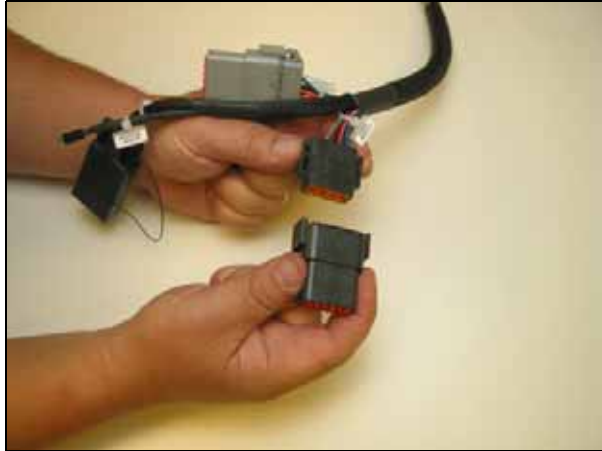
Connect the steering device cable connection to P-6 on the main wiring harness. P-6 is labeled “Steering Sensor”.



Preparing the harness (P/N 54602 Rev C)

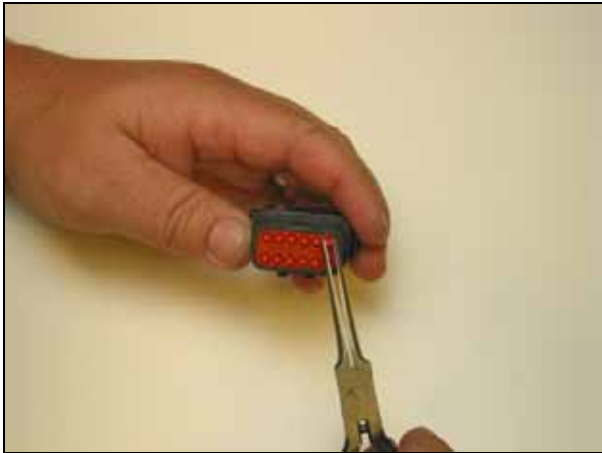
Step 1

Remove the black Deutsch DTM receptacle from the P-13 sensors leg of the auxiliary harness. See [Chapter 8, Controller Connections](#).



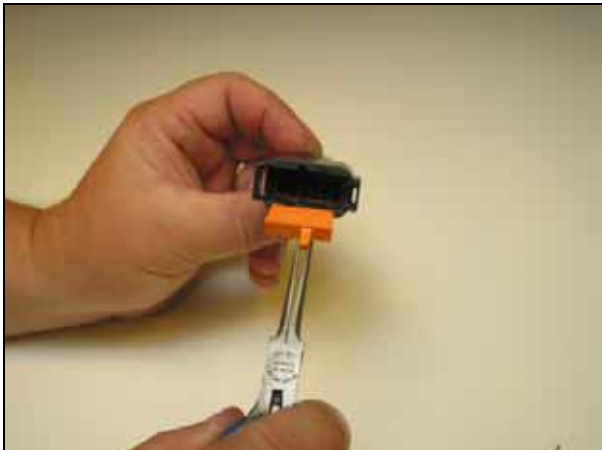
Step 2

Remove the plug from cavity number 1.



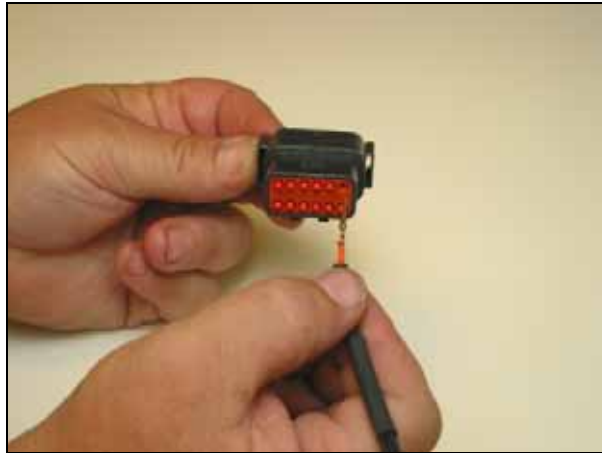
Step 3

Remove the wedge from the connector.



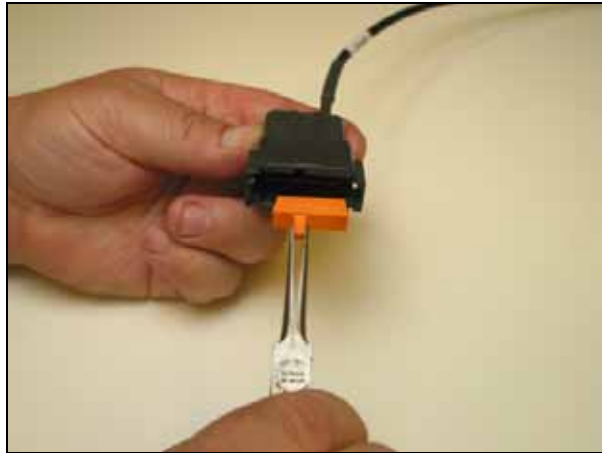
Step 4

Insert the DTM pin labeled “Cavity 1” into the connector.



Step 5

Pull back on the wire to seat the pin.
Replace the wedge in the connector.



Antenna/Receiver Installation

In this chapter:

- Antenna and receiver installation options
- AgGPS 252 GPS receiver with AgGPS 450/900 radio module (if equipped) components
- Installing the AgGPS 252 GPS receiver with AgGPS 450/900 radio module (if equipped)
- Installing an AgGPS 252 receiver with magnetic feet
- AgGPS 332 receiver components
- Installing the AgGPS 332 receiver
- AgGPS 442/432 receiver components
- Installing the AgGPS 442/432 receiver
- Installing a SiteNet radio and antenna
- Installing a PDL radio modem

This chapter describes how to install an AgGPS 252 receiver and AgGPS radio module, an AgGPS 332 receiver and antenna, or an AgGPS 442 receiver and antenna.

Note – To install the antenna for an EZ-Guide 500 system, see [Chapter 5, Display Installation](#).

Antenna and receiver installation options

There are several options for mounting components (the antenna, radio module, or GPS receiver) on the cab roof depending on the accuracy required and antenna type:

- **Spar mount** – This bracket mounts directly to the roof bolts and is required for all high accuracy applications such as RTK and OmniSTAR. It is recommended for AgGPS 252 mounting. Bolt a metal spar to the roof or to a light bracket and then attach either a V plate for magnetic mounting or an AgGPS 252 receiver plate for permanent mounting.
- **VHB mount** – Attach a 4" x 6" plate or a V plate directly to the roof with VHB (Very High Bond) adhesive for magnetic mounting. See [page 34](#).
- **Magnetic mounting** – Magnetic mounting for quick release is available for both VHB and spar type mounting.
 - For quick release magnetic mounting with an AgGPS 252 receiver, order the kit listed in [Antenna mounting options, page 9](#) and bolt the V plate to the spar. When spar mounting is not available and high accuracy is required, see [Installing an AgGPS 252 receiver with magnetic feet, page 42](#) for mounting magnetic feet directly to the base plates.
 - With all other antennas, bolt the V plate to the spar for high accuracy and repeatability.
 - For WAAS, EGNOS, OmniSTAR VBS, Beacon, and DGPS applications, place either of the plates in a firm location using the VHB.

Possible mounting methods for each GPS receiver are as follows:

GPS receiver	V plate on spar (removable)	VHB plate on roof (removable)	Standard AgGPS 252 plate bolted to spar (permanent)
AgGPS 252 receiver	✓	X	✓
AgGPS 332 receiver	✓	✓	X
AgGPS 432/442 receiver	✓	X	X
EZ-Guide 500 lightbar	✓	✓	X

Mounting an adjustable spar to roof bolts

Step 1

Locate the cab bolts on the roof of the vehicle.



If a light bracket already occupies the roof studs, mount the spar directly to the light bracket.



Step 2

If required, replace the existing bolts with longer bolts.

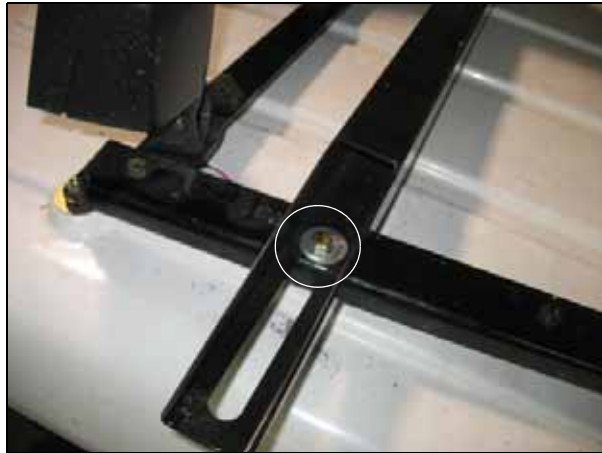


If you use the light bracket, drill two holes to match the spar width.

Step 3

Use the slotted holes to center the spar and then tighten the bolts. If required, use the spacers and flat washers provided to secure the spar.

***Note** – If the receiver is offset to the left or the right of the vehicle, AgGPS Autopilot system performance may be affected. Before you tighten, make sure that the GPS antenna is aligned with the center of the vehicle.*



Step 4

For either of the following applications:

- A single magnet antenna mount
- An AgGPS 252 receiver with magnetic option for quick removal

Install a V plate with four ¼" flathead screws.

The "V" points to the front of the vehicle.

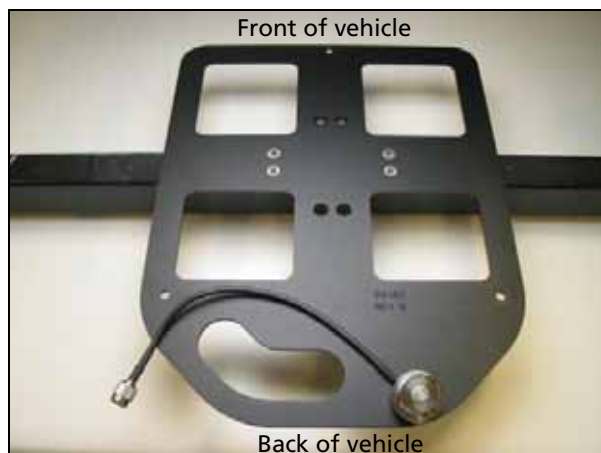


V plate on spar



Magnetic mount on V plate

If you use a standard AgGPS 252 plate for permanent mounting, complete the radio antenna installation first. Use four ¼" flathead screws to mount the plate with the handle to the back of the vehicle.



Front of vehicle

Back of vehicle

Plate on spar

Mounting with Very High Bond (VHB) adhesive

Standard 4" x 6" plates are provided in most kits. You can use the VHB mounting method to attach either a 4" x 6" plate or a V plate.

- **L1/L2 dual band antenna (RTK, OmniSTAR, DGPS)** – To use this method for high accuracy, the surface must be rigid and free of “oil panning”. For RTK or OmniSTAR HP corrections, the spar method is recommended. The V plate provides repeatable positioning of the antenna.
- **L1 single band antenna (WAAS, EGNOS, OmniSTAR VBS, Beacon)** – Use a 4" x 6" plate for simplified installation in applications where high accuracy is not critical.

Step 1

Clean the antenna location on the roof of the cab with a light solvent to remove oil and dust. Press on the roof to find a firm location.



Step 2

V plate only

Remove the backing from one side of the VHB strips provided and then apply the strips to the plate.

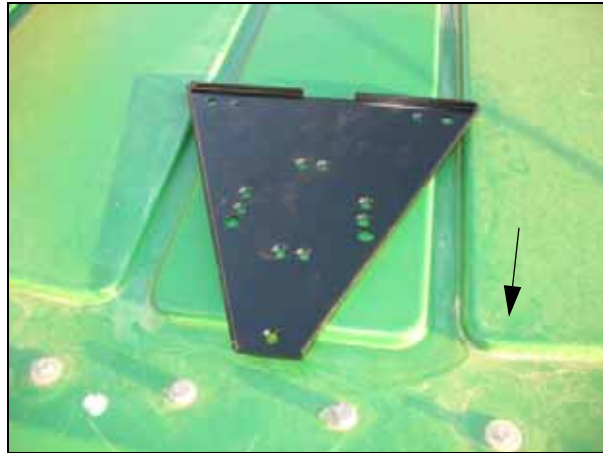
Note – The VHB strips are pre-applied to the 4" x 6" plate.



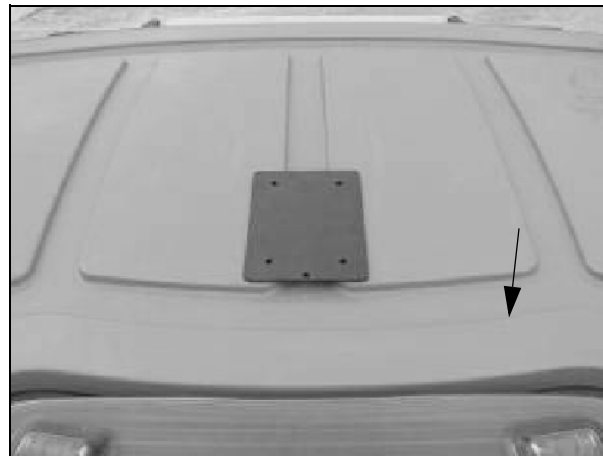
Step 3

Remove the backing from the other side of the VHB strips and then apply the plate to the cab roof as shown. Ensure that the VHB strips make even contact with the surface. Apply pressure and then leave for approximately 30 minutes to adhere.

Note – The arrow points to the front of the vehicle.

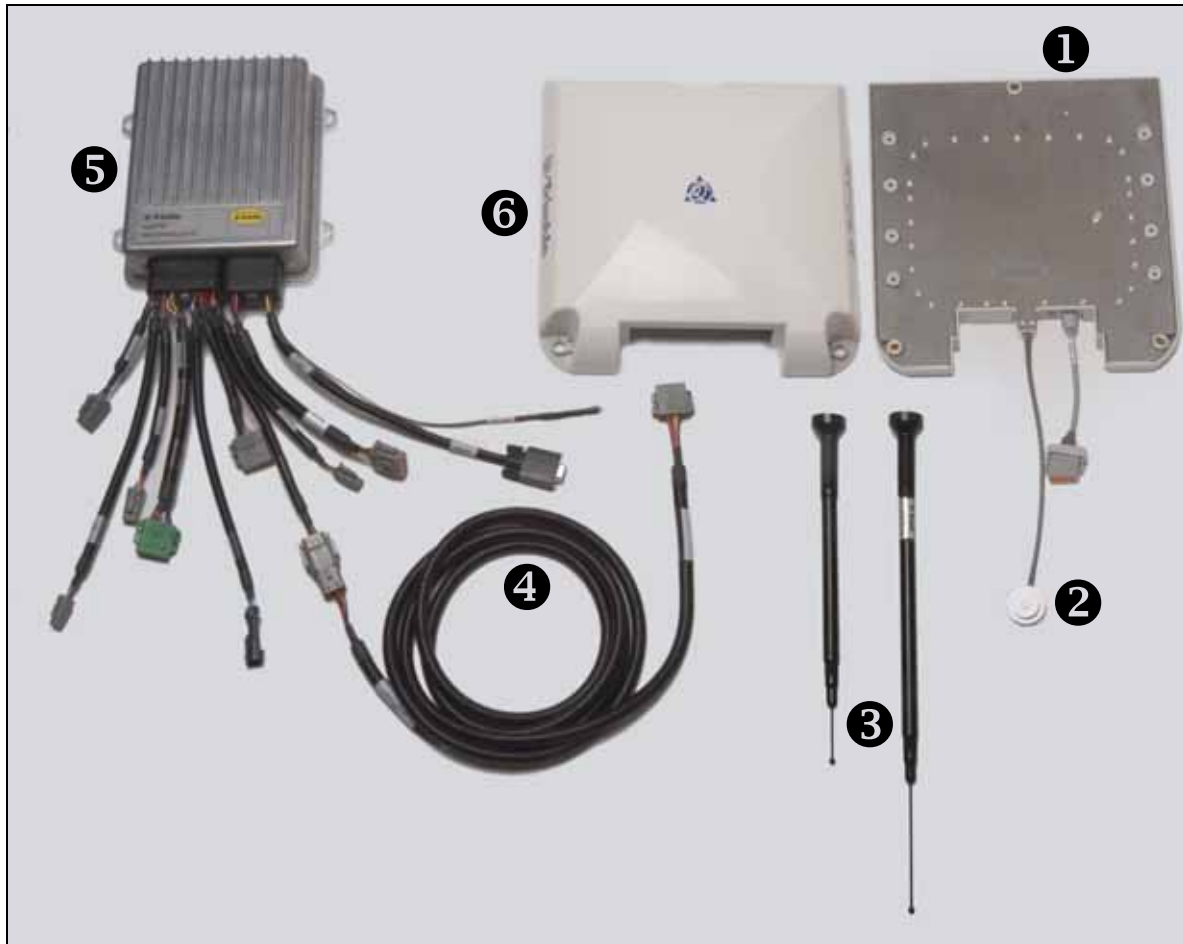


V plate



4" x 6" plate

AgGPS 252 GPS receiver with AgGPS 450/900 radio module (if equipped) components



Item	Description
①	AgGPS 450 or 900 radio (if equipped)
②	Radio antenna cable and magnetic mount
③	AgGPS 450 or 900 radio antenna
④	Antenna/receiver cable (P/N 54608)
⑤	AgGPS Autopilot controller
⑥	AgGPS 252 antenna/receiver

Installing the AgGPS 252 GPS receiver with AgGPS 450/900 radio module (if equipped)

To attach the AgGPS 252 receiver plate to the cab roof, do one of the following:

- For a removable installation, attach a V plate to a spar and then stick the receiver plate to the V plate with magnets.
- For a permanent installation, bolt the receiver plate to a spar.

Removable magnet mounting option

Step 1

V plate

Attach the V plate to the spar using the ¼" flathead screws provided in the V plate bolt kit. Ensure that the "V" points forward.

For spar mounting instructions, see [Mounting an adjustable spar to roof bolts, page 31](#).



Mounting plate

Attach the three provided magnets to the plate with the ¼" flathead screws and hardware provided.



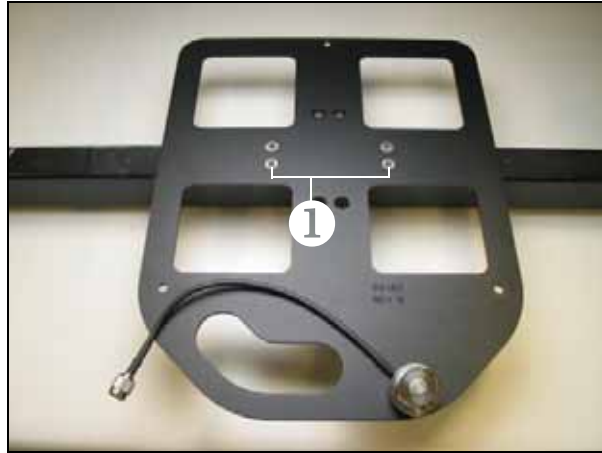
Underside of plate

Permanent mounting option

Step 1

Use the four provided $\frac{1}{4}$ " flathead screws ❶ to attach the receiver mounting bracket to the spar.

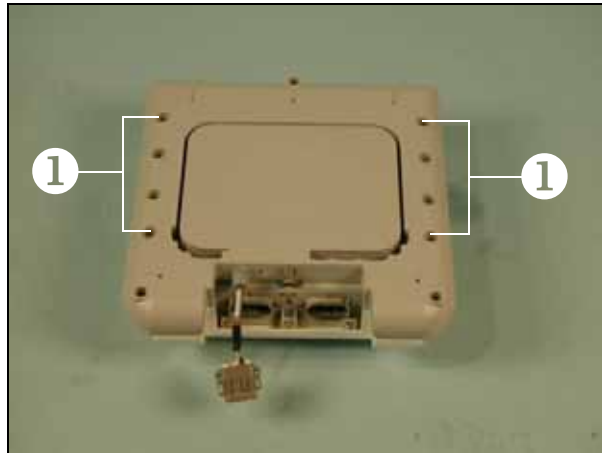
For spar mounting instructions, see [Mounting an adjustable spar to roof bolts](#), page 31.



Step 2

Both methods

Place the radio module on the AgGPS 252 receiver. Insert eight screws in the holes ❶ as shown.



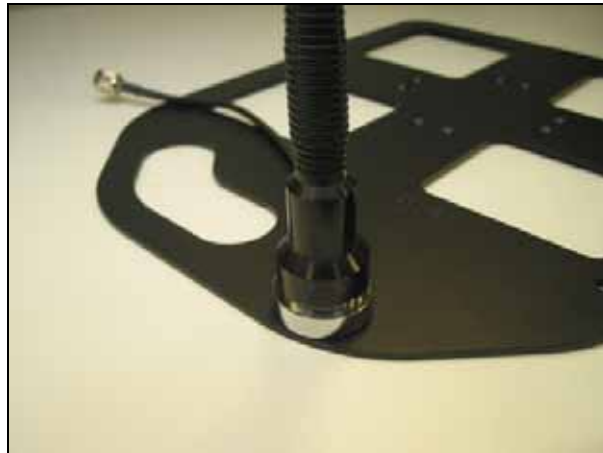
Step 3

Attach the antenna base to the rear of the plate with the two flathead screws provided.



Step 4

Attach the radio antenna to the antenna base.

**Step 5**

Position the AgGPS 252 receiver and radio on the mounting plate with the connector ports facing the radio antenna. Align the three bolt holes with the receiver, radio, and mounting plate.

**Step 6**

Attach the nylon bushings provided.



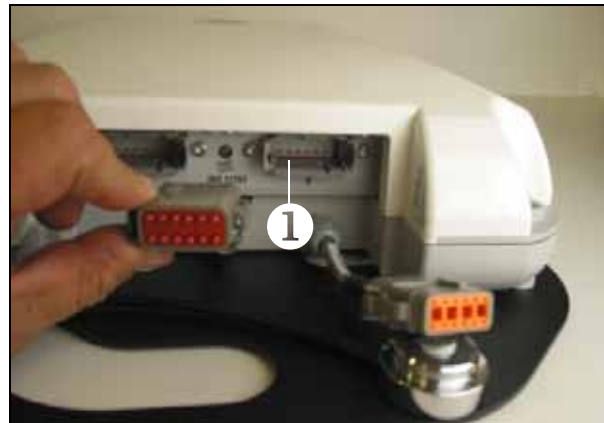
Step 7

Push the bolts through the receiver, radio, and mounting bracket. Place nuts on the bolt ends and then tighten them.



Step 8

Remove the connector plug from port B ❶.



Step 9

Place the radio module connector into port B of the receiver.



Step 10

Connect the radio antenna to the antenna port.



Step 11

Magnet method

Place the receiver on the roof by aligning the magnets with the V plate. Ensure that the handle ❶ is to the rear of the vehicle.

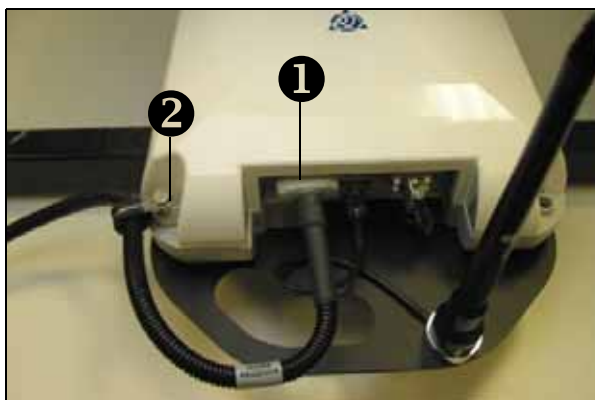


Step 12

Both methods

Connect the cable from the cab controller into port A ❶ of the AgGPS 252 receiver. Bolt the cable clamp ❷ to the left side of the receiver.

Route the cable into the cab and into the controller.



Installing an AgGPS 252 receiver with magnetic feet

Use this option only when all other options are unavailable. It requires a firm surface for mounting to avoid vertical vibration and is not an easily repeatable location when moving receivers. Many cabs do not offer roof bolts and may require drilling or fabrication if a firm location is not available.

Step 1

Attach the magnets to the receiver mounting plate. Mount the AgGPS 252 GPS receiver using the three ¼" bolts.

Place the nuts on the receiver side.



Step 2

Turn the mounting plate upside down. Stick the covers onto the magnets as shown.

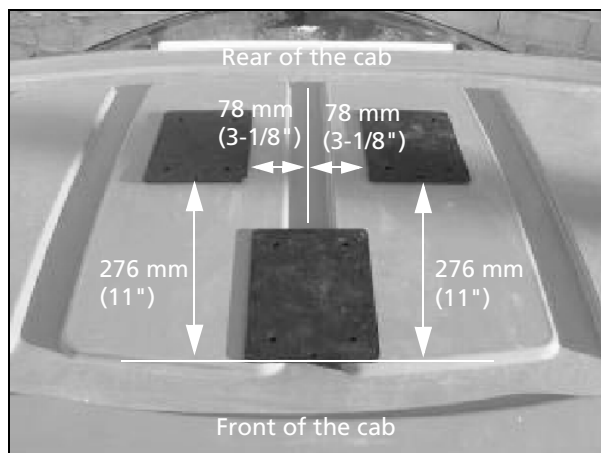


Step 3

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

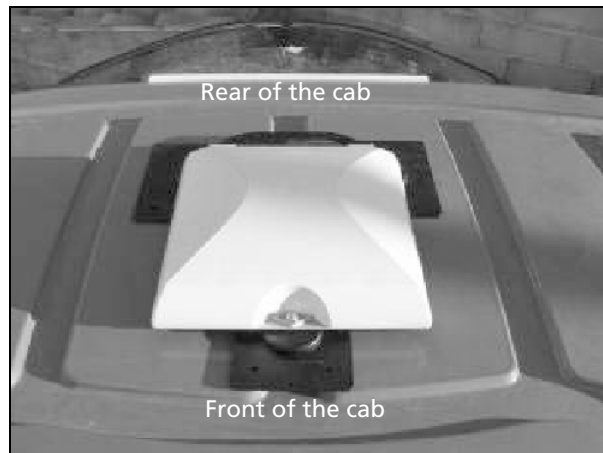
Remove the backing from the VHB strips and then apply the plates to the cab roof.

Attach the three mounting plates so the receiver is as firm as possible.



Step 4

Stick the antenna magnetic mounts at the center of the mounting plates.

**Step 5**

Connect the antenna cable to port A of the *AgGPS* 252 GPS receiver and then route the cable toward the NavController II controller harness.



AgGPS 332 receiver components

Note – To receive RTK corrections with a radio, Trimble recommends that you use of the AgGPS 432 GPS receiver with integrated radio modem.



Item	Description
①	Receiver-to-Autopilot controller cable (P/N 54610)
②	To controller "P3 GPS" connection
③	AgGPS 332 GPS receiver
④	GPS antenna
⑤	Magnetic mount
⑥	GPS antenna cable

Installing the AgGPS 332 receiver

Note – If the antenna has magnets built in, skip this step.

Step 1

Attach the large magnet with a $\frac{5}{8}$ " stud to the GPS antenna.



Step 2

*L1/L2 dual band antenna
(RTK, OmniSTAR, DGPS)*

For repeatable positioning, place the antenna against the lip at the point of the V plate.



Step 3

L1 single band antenna (WAAS, EGNOS, VBS, Beacon)

Attach the antenna to the center of the 4" x 6" plate.



Step 4

Attach the antenna/receiver cable to the antenna and then route the cable into the cab. Secure the cable along the way. Route the cable into the cab through the rubber grommet at the base of the rear window.

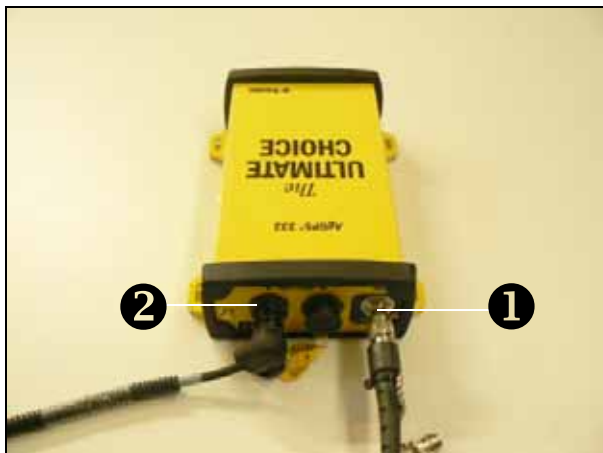


Step 5

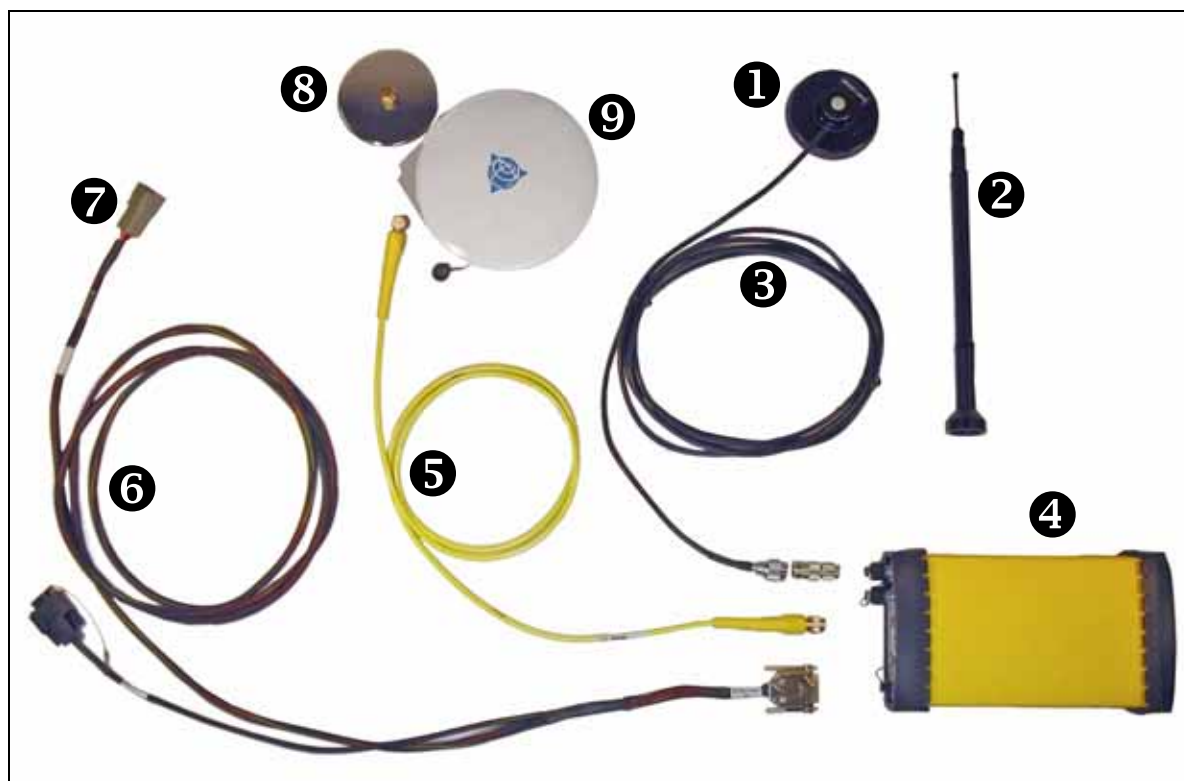
Mount the receiver in a convenient location in the cab.

Route the antenna cable ❶ to the receiver and then connect it. Connect the controller cable to cavity "A" ❷ of the receiver.

Controller cable connections will be established later in the *Installation Instructions*.



AgGPS 442/432 receiver components



Item	Description
①	Radio antenna magnetic base
②	Radio antenna
③	Radio antenna cable
④	AgGPS 442/432 GPS receiver
⑤	Antenna cable
⑥	Receiver cable (P/N 62037)
⑦	To controller "P3 GPS"
⑧	Antenna magnetic mount
⑨	AgGPS 442/432 antenna

Installing the AgGPS 442/432 receiver

Note – If the antenna has magnets built in, skip this step.

Step 1

Attach the large magnet with a $\frac{5}{8}$ " stud to the GPS antenna.



Step 2

*L1/L2 dual band antenna
(RTK, OmniSTAR, DGPS)*

For repeatable positioning, place the antenna against the lip at the point of the V plate.



Step 3

Both antennas

Attach the antenna/receiver cable to the antenna and then route the cable into the cab. Secure the cable along the way. Route the cable into the cab through the rubber grommet at the base of the rear window.



Step 4

Mount the receiver in a convenient location in the cab. Route the antenna cable to the receiver and then connect it.



Step 5

Identify the correct adaptor for the radio connection:

- ❶ Reverse polarity TNC-to-N for 900 MHz radios
- ❷ Normal polarity TNC-to-N for 400 MHz radios



Step 6

Attach the adaptor to the radio port.



Step 7

Connect the radio antenna cable to the radio port adaptor.



Step 8

Connect the controller cable to the 26-pin connector of the receiver. Controller cable connections will be established later in the *Installation Instructions*.



Step 9

Connect the radio antenna to the magnetic antenna base.



Step 10

Attach the magnetic radio antenna base to the rear of the V plate on the roof. If the cable does not reach the V plate, use the 4" x 6" plate with the VHB provided to relocate the antenna.



Installing a SiteNet radio and antenna

Step 1

Install the SiteNet™ radio in the cab where it is hidden and secured from rolling. Connect the antenna adaptor to the SiteNet radio.



Step 2

Connect the radio antenna to the magnetic antenna base.



Step 3

Attach the magnetic radio antenna base to the rear of the V plate on the roof. If the cable does not reach the V plate, use the 4" x 6" plate with the VHB provided to relocate the antenna.



Step 4

Feed the radio antenna cable down from the roof and into the cab to the radio. Connect the cable to the radio.



Installing a PDL radio modem

Step 1

Install the radio where it is accessible when the operator needs to select a new radio channel ID.



There are several mounting options:

- For a permanent mount, bolt the radio onto a bracket with a $\frac{5}{8}$ " UNC screw.



- For a temporary mount (so it can be moved between vehicles), mount the radio on a magnet with a $\frac{5}{8}$ " UNC stud.

Step 2

Connect the radio antenna cable adaptor to the radio.



Step 3

Connect the radio cable to the adaptor.



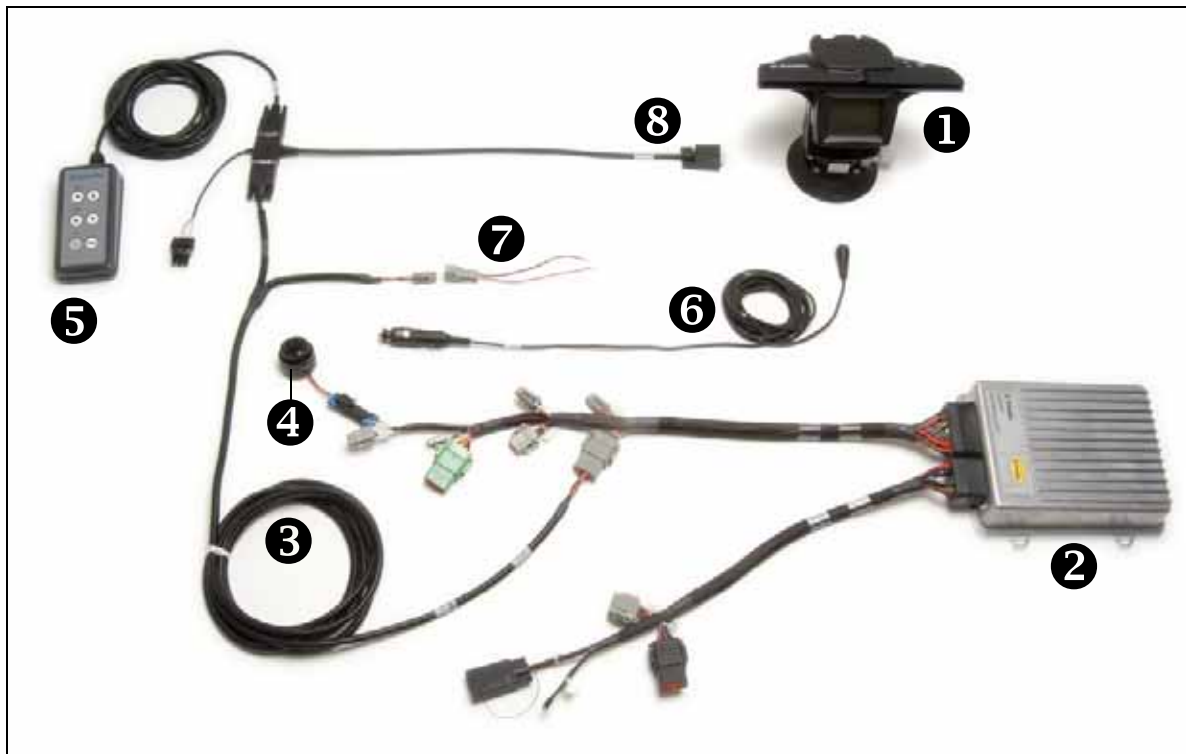
Display Installation

In this chapter:

- EZ-Guide Plus lightbar components
- Installing the EZ-Guide Plus lightbar
- Mounting the EZ-Guide Plus lightbar
- Preparing the existing EZ-Guide Plus power cable
- AgGPS FieldManager display components
- Preparing the AgGPS FieldManager display
- Installing the AgGPS FieldManager display
- Preparing the AgGPS FieldManager display wiring harness
- EZ-Guide 500 lightbar components
- EZ-Guide 500 lightbar: Installing the antenna plate and GPS antenna
- EZ-Guide 500 lightbar: Installing the SiteNet radio and antenna
- Connecting the EZ-Guide 500 lightbar cables
- Installing the EZ-Guide 500 lightbar

This chapter describes and how to install and connect the EZ-Guide Plus lightbar, the AgGPS FieldManager™ display, or the EZ-Guide 500 lightbar in the vehicle.

EZ-Guide Plus lightbar components

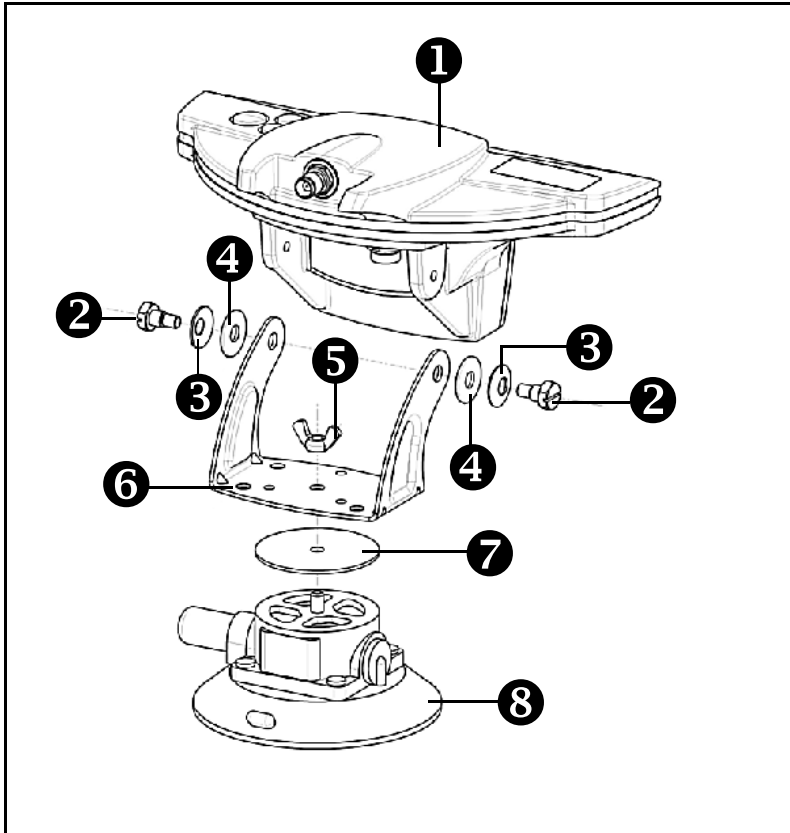


Item	Description
①	EZ-Guide Plus lightbar
②	Controller
③	Display cable (P/N 54612)
④	Sonalert alarm (if connected)
⑤	Optional remote keypad
⑥	Power harness
⑦	Alternative EZ-Guide Plus lightbar power supply
⑧	External interface cable

Installing the EZ-Guide Plus lightbar

Step 1

Assemble the lightbar as shown below.



Item	Description
①	EZ-Guide Plus lightbar
②	Bracket screw
③	Bracket lock-washer
④	Bracket flat-washer

Item	Description
⑤	Bracket wing-nut
⑥	Mount bracket
⑦	Bracket pad
⑧	Suction cup mount

Step 2

Note – Before inserting the screws, check the orientation of the bracket.

Check that the bracket is correctly oriented and then insert the screws. Tighten the screws ② to a torque of 170 cNm (15 in/lbs). Screws require liquid thread-locking compound for optimum performance; re-apply thread-lock after every 10 insertions.

Mounting the EZ-Guide Plus lightbar



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.

Use one of the following methods to mount the EZ-Guide Plus lightbar:

- On a vertical, or near vertical surface, such as a window, use a suction cup vacuum mount.

***Note** – This is a temporary mounting device. Before you use it, read the manufacturer's instructions provided with the mounting kit.*

- On a horizontal, or near horizontal surface, such as a vehicle dash, use a screw-on mount bracket.

Installing the vacuum mount

Step 1

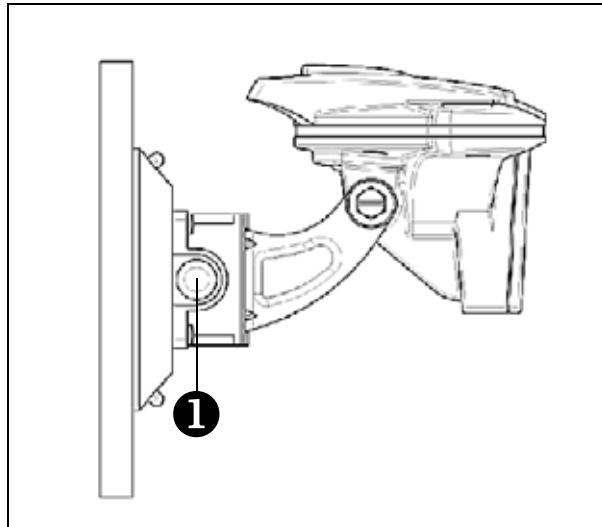
Secure the vacuum mount to the mounting bracket using the hardware provided.

Step 2

Dampen the rubber seal on the suction cup.

Step 3

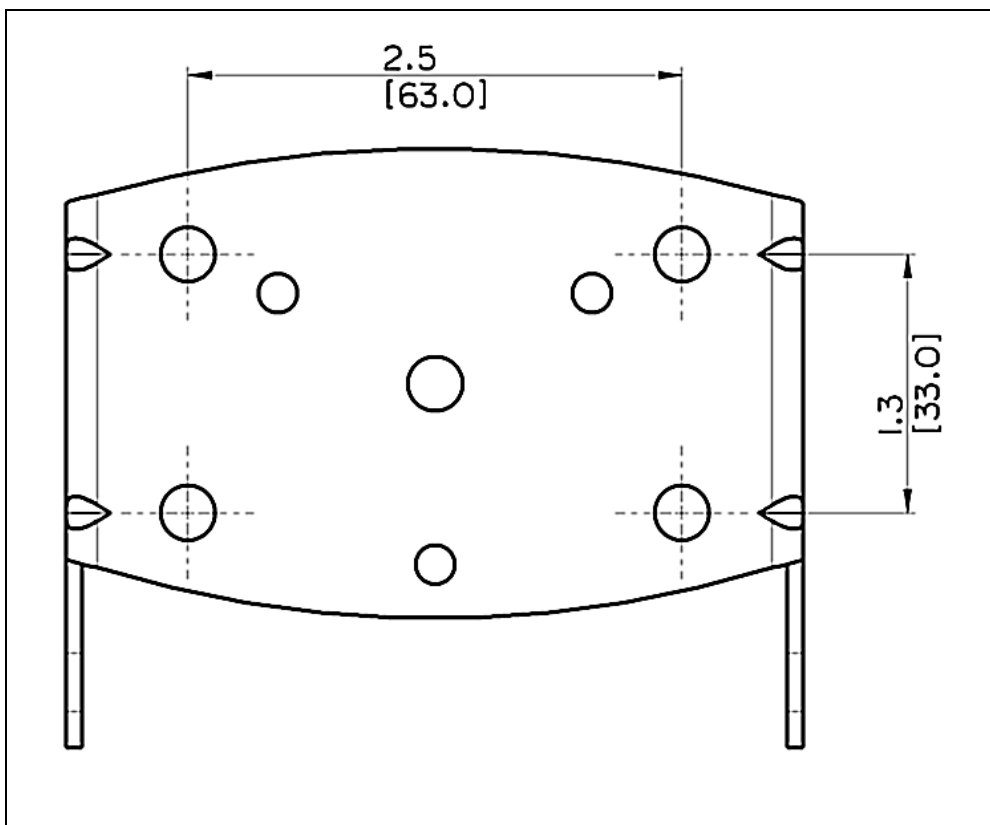
To secure the lightbar in position, press the suction cup against a flat surface and then pump the gray button **1** until the red line is no longer visible.



Installing the mount bracket

Step 1

Use a pen or awl with the bracket drilling template below to mark where the four holes are to be drilled on the mount plate.



Step 2

Drill the holes in the bracket at the marked points.

Step 3

Screw the mount bracket to the horizontal surface.

Step 4

Attach the EZ-Guide Plus lightbar to the mount bracket.

Step 5

Connect the cable to the EZ-Guide Plus lightbar.

Step 6

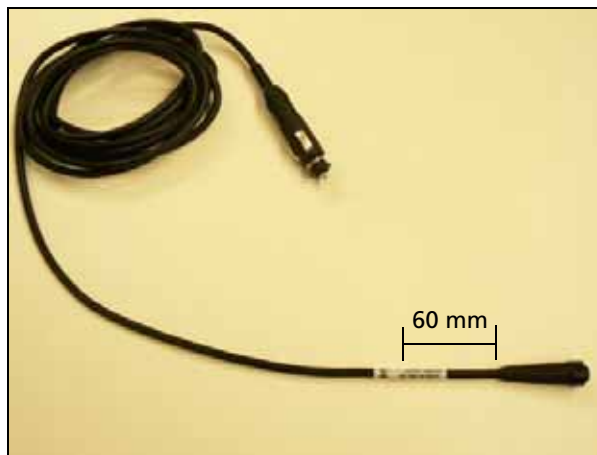
Attach the EZ-Guide Plus display cable to the main harness connection labeled “Display”.

***Note** – If the cable is connected to the auxiliary harness connection labeled “Spare”, the display will act as a lightbar only.*

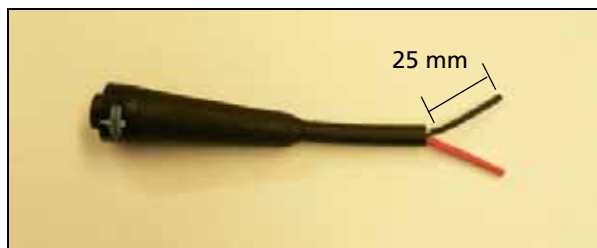
Preparing the existing EZ-Guide Plus power cable

Step 1

- a. Locate the EZ-Guide Plus power cable and then cut it as shown.

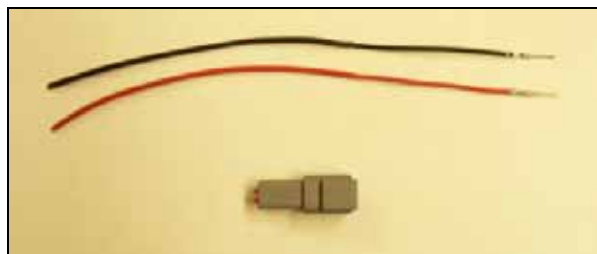


- b. Strip 25 mm of insulation off the EZ-Guide Plus power cable.



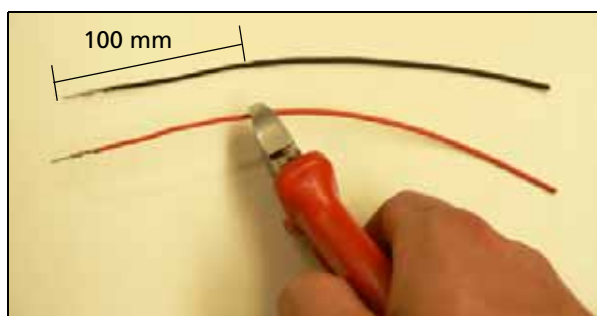
Step 2

Locate the power leads (with one open end) and the two-cavity Deutsch connector that come with the Autopilot display cable (P/N 54612).



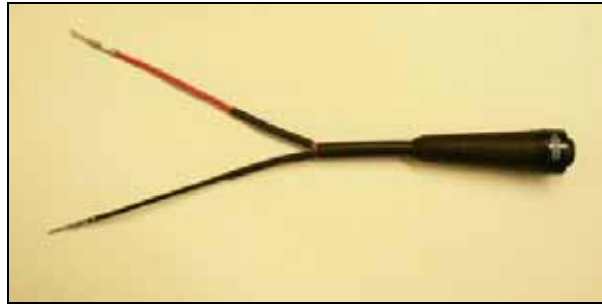
Step 3

Cut the two power lead wires as shown.



Step 4

Crimp new TM pins on the ends of the wires or strip approximately 10 mm of insulation off the four wires and then add solder to the ends.



Step 5

Insert the wires into the Deutsch connector as follows:

Wire	Cavity
Red	Deutsch connector position A
Black	Deutsch connector position B

Step 6

Connect the two Deutsch connectors together, coil the power cable, and then attach it to the cable end with a DB9 connector so that both ends are at the same length.

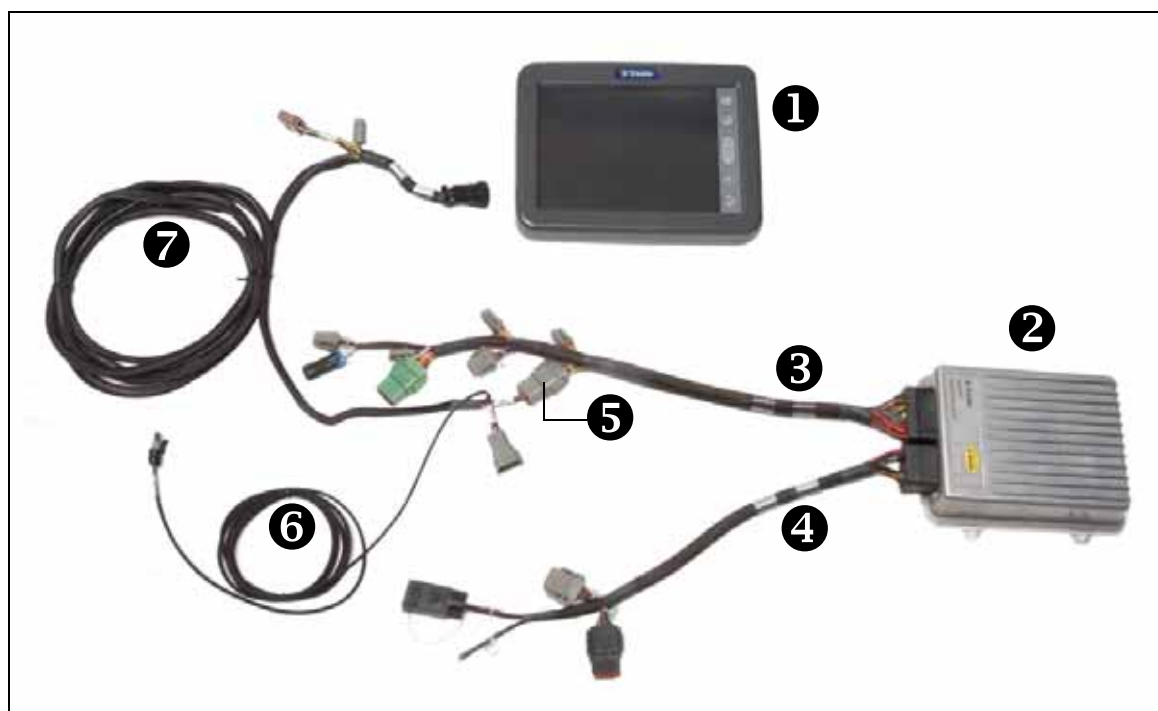


Step 7

Attach the DB9 connector and the power connector from the Autopilot display cable to the lightbar as shown.



AgGPS FieldManager display components



Item	Description
①	AgGPS FieldManager display
②	Autopilot NavController II navigation controller
③	Autopilot main harness
④	Autopilot auxiliary harness
⑤	P4 connector – “Display”
⑥	Power lead
⑦	FieldManager display harness (P/N 59872)

Preparing the AgGPS FieldManager display

The AgGPS FieldManager display is mounted in the cab with a bar-style RAM mount.

Step 1

Locate the FieldManager display, the RAM mount bracket, and the RAM mount clamp.



Step 2

Use the provided metric hardware to attach the RAM mount bracket to the rear of the display.



Step 3

Attach the RAM mount to the rear of the display.



Installing the AgGPS FieldManager display



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

- Identify where to mount the display in the cab and then use the provided bolts to attach the bar mount to the rail.
- Feed the Autopilot harness through to the display position.



Step 2

Attach the free end of the RAM mount to the bar mount. Tighten the clamp on the RAM mount so that the display is held securely in place.



Step 3

Attach the Autopilot cable to the back of the FieldManager display. Route the cable to the Autopilot controller and then connect it to the connection labeled “Display” on the main harness.

Do not connect the FieldManager display connection to the auxiliary harness connection labeled “Spare”.

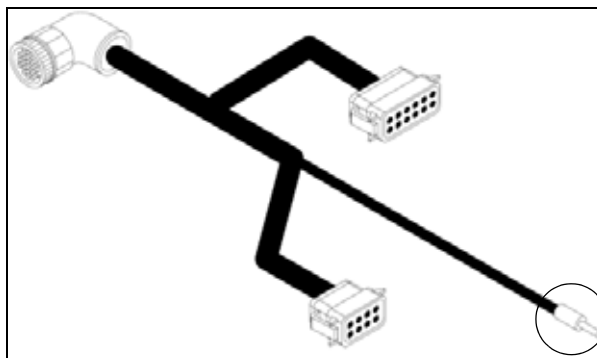


Preparing the AgGPS FieldManager display wiring harness

The FieldManager display requires a constant unswitched B+ power lead.

Step 1

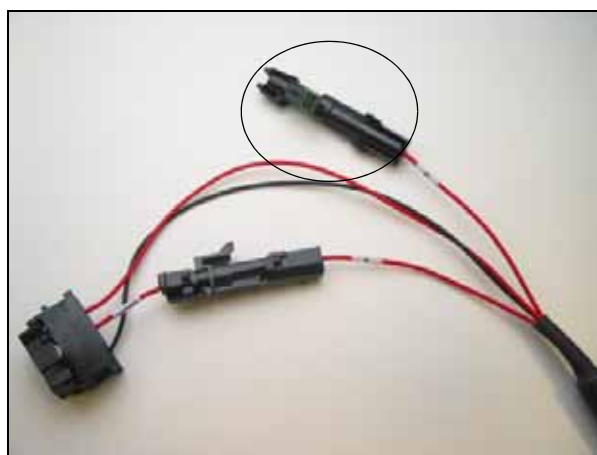
Locate the P9 “Continuous Power” connector on the FieldManager display harness.



Step 2

Locate the unused connector labeled “B” on the power harness at the power switch and then verify that it is the unswitched power lead. If it is not, swap the “A” and “B” leads so that unswitched power is available in the extra lead.

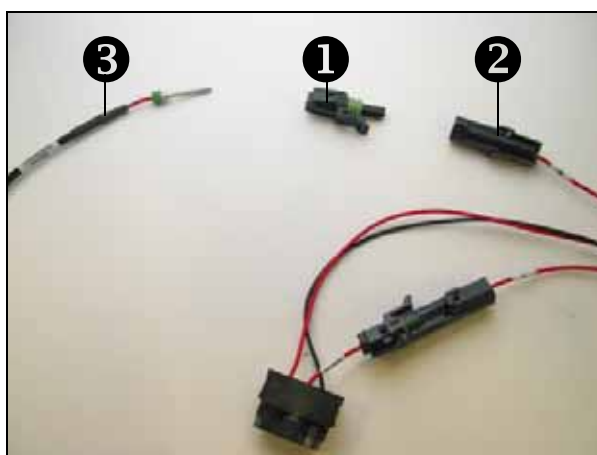
To determine which lead is constant battery power, turn off the vehicle key and then use a volt meter on each lead.



Step 3

Remove the plug ❶ in the unswitched power lead ❷ and then insert the FieldManager display P9 ❸ pin into the female 1-pin Weatherpack plug. Connect to the mating connector.

To verify that the lead is battery power, turn off the vehicle key and then turn on the display.



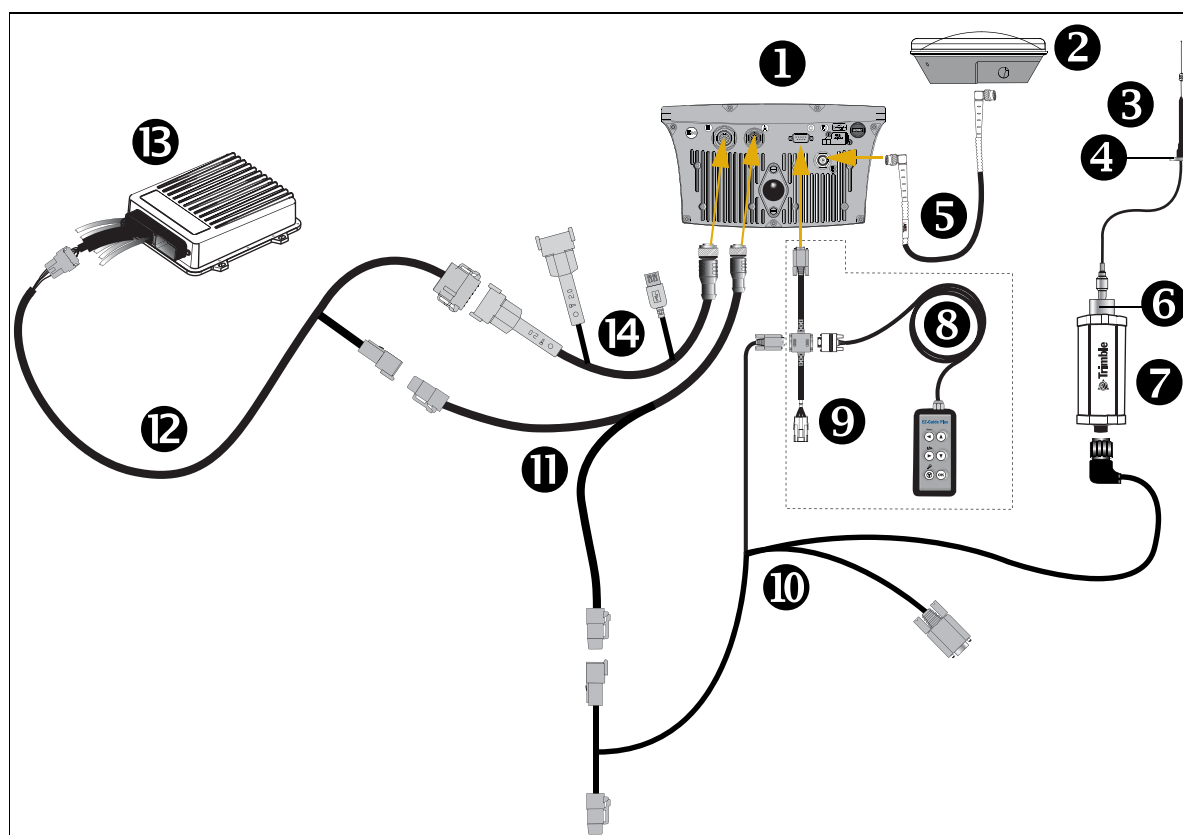
Step 4

To insert the wire end into the connector, release the clips and then remove the cavity plug. Insert the pin.



EZ-Guide 500 lightbar components

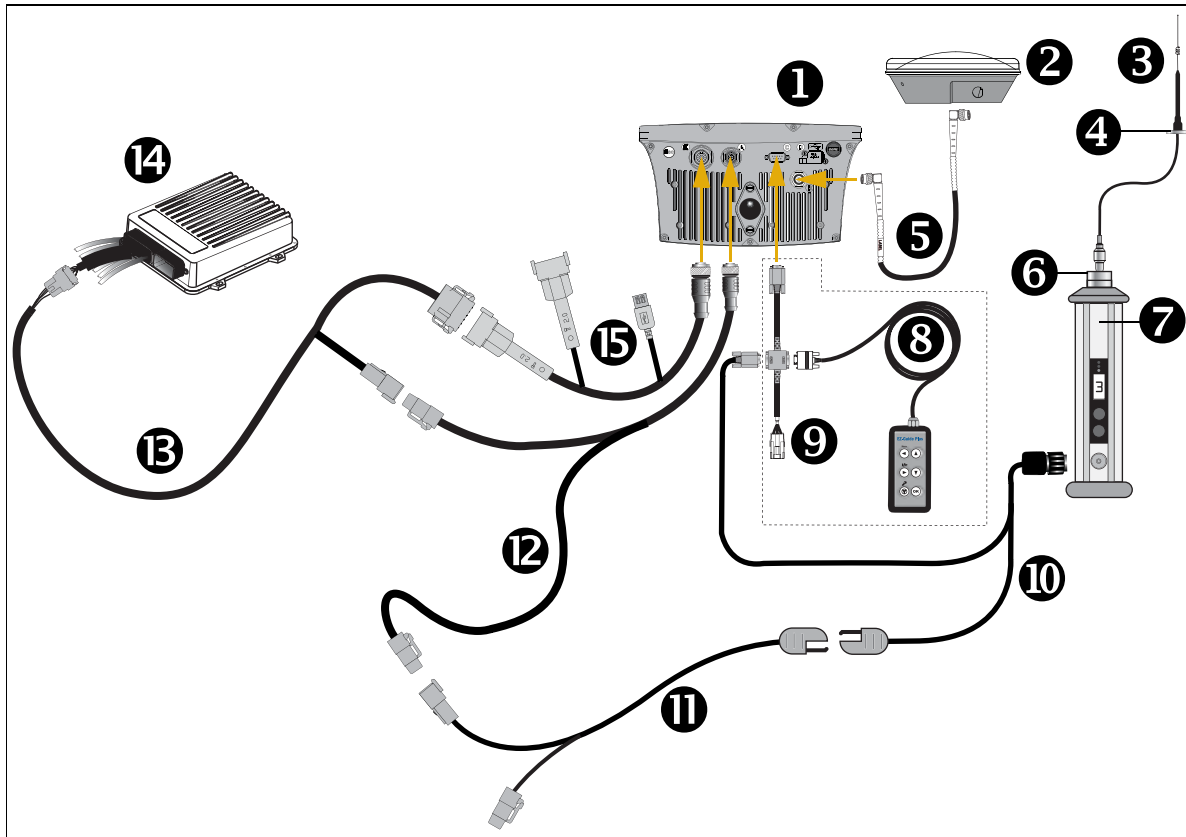
With a SiteNet radio for 900 MHz RTK corrections (if equipped)



Item	Description
①	EZ-Guide 500 lightbar
②	GPS antenna (P/N 57200-00)
③	SiteNet radio antenna (P/N 22882-00)
④	SiteNet radio antenna magnetic mount (P/N 62109)
⑤	GPS antenna cable (P/N 50449)
⑥	Radio antenna connector (P/N 46740)
⑦	SiteNet radio

Item	Description
⑧	Remote keypad (optional - P/N 66030-00)
⑨	External interface cable (P/N 62749)
⑩	EZ-Guide 500-to-radio cable (P/N 62082)
⑪	EZ-Guide 500 power cable (P/N 62817)
⑫	EZ-Guide 500-to-Autopilot cable (P/N 62754)
⑬	AgGPS Autopilot controller
⑭	Port expansion cable (P/N 62609)

With a PDL 450 radio for 450 MHz RTK corrections (if equipped)



Item	Description
①	EZ-Guide 500 lightbar
②	GPS antenna (P/N 57200-00)
③	PDL 450 radio antenna (P/N 5187-x0-x0)
④	Radio antenna magnetic mount (P/N 62109)
⑤	GPS antenna cable (P/N 50449)
⑥	Radio antenna connector (P/N 63278)
⑦	PDL 450 radio (P/N 62550-4x-xx)
⑧	Remote keypad (optional, P/N 66030-00)

Item	Description
⑨	External interface cable (P/N 62749)
⑩	PDL radio power/data cable (P/N 51861-00)
⑪	Power tap to PDL radio (P/N 63185)
⑫	EZ-Guide 500 power cable (P/N 62817)
⑬	EZ-Guide 500-to-Autopilot cable (P/N 62754)
⑭	AgGPS Autopilot controller
⑮	Port expansion cable (P/N 62609)

EZ-Guide 500 lightbar: Installing the antenna plate and GPS antenna



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 V plate antenna bracket is available on the Autopilot price list. See [Antenna mounting options, page 9](#).

Use one of the following methods:

- Spar mount
- VHB adhesive

Spar mount method

Trimble recommends that you use this method for RTK and OmniSTAR operations. For more information, see [Antenna and receiver installation options, page 30](#).

Attach the V plate to the spar with the four ¼"-20 flathead screws provided. The narrow end points forward.



VHB adhesive method

Standard 4" x 6" plates are provided in most kits. You can use Very High Bond (VHB) to attach either a 4" x 6" plate or a V plate.

- **L1/L2 dual band antenna (RTK, OmniSTAR, DGPS)** – To use this method for high accuracy, the surface must be rigid and free of "oil panning". For RTK or OmniSTAR HP corrections, the spar method is recommended. The V plate provides repeatable positioning of the antenna.
- **L1 single band antenna (WAAS, EGNOS, OmniSTAR VBS, Beacon)** – Use a 4" x 6" plate for simplified installation in applications where high accuracy is not critical.

Step 1

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

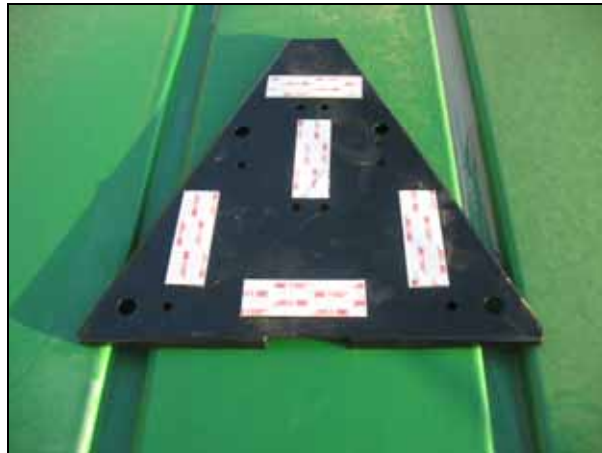


Step 2

V plate only

Remove the backing from one side of the VHB strips provided and then apply the strips to the plate.

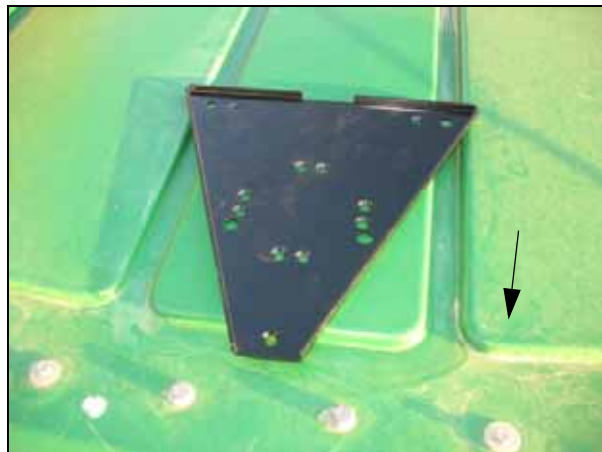
Note – The VHB strips are pre-applied to the 4" x 6" plate.



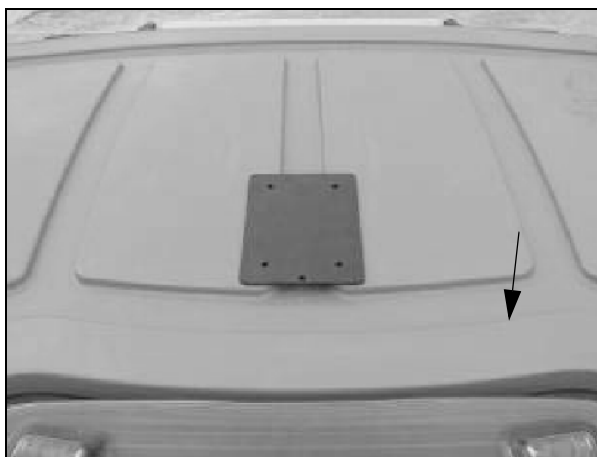
Step 3

Remove the backing from the other side of the VHB strips and then apply the plate to the cab roof. The narrow end points forward. Ensure that the VHB strips make even contact with the surface. Apply pressure and then leave for approximately 30 minutes to adhere.

Note – The arrow in this figure points to the front of the vehicle.



V plate



4" x 6" plate

Step 4

If the antenna has magnets built in, omit this step.



Otherwise, attach the large magnet with a 5/8" stud to the GPS antenna.



Step 5

L1/L2 dual band antenna (RTK, OmniSTAR, DGPS)

For repeatable positioning, place the antenna against the lip at the narrow end of the V plate.



L1 single band antenna (WAAS, EGNOS, VBS, Beacon)

Attach the antenna to the center of the 4" x 6" plate.



Step 6

Both models

Attach the antenna/receiver cable to the antenna and then route the cable into the cab through the rubber grommet at the base of the rear window. Secure the cable along the way.



EZ-Guide 500 lightbar: Installing the SiteNet radio and antenna



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

Position the SiteNet radio in the cab where it is out of sight and secured from rolling. Connect the antenna adaptor to the SiteNet radio.



Step 2

Connect the radio antenna to the magnetic antenna base.



Step 3

Attach the magnetic radio antenna base to the rear of the V plate on the roof. If the cable does not reach the V plate, use the 4" x 6" plate with the VHB provided to relocate the antenna.



Step 4

Feed the radio antenna cable down from the roof and into the cab to the radio. Connect the cable to the radio.



Installing a PDL radio modem

Step 1

Position the radio where it is accessible for the operator to select a new radio channel ID.



There are several mounting options:

- For a permanent mount, bolt the radio onto a bracket with a 5/8" UNC screw.



- For a temporary mount (so it can be moved between vehicles), mount the radio on a magnet with a 5/8" UNC stud.



Step 2

Connect the radio antenna cable adaptor to the radio.



Step 3

Connect the radio cable to the adaptor.



Preparing the EZ-Guide 500 lightbar

Note – Before you attach the lightbar to the RAM mount, connect the EZ-Guide 500 cables to the back of the lightbar.

Step 1

Locate the EZ-Guide 500 lightbar, the RAM mount and hardware, and the RAM mount clamp.



Step 2

Attach the RAM mount diamond base to the display using the hardware provided.



Connecting the EZ-Guide 500 lightbar cables

Note – Before you attach the lightbar to the RAM mount, connect the EZ-Guide 500 cables to the back of the lightbar.

Step 1

Connect the port expansion cable (P/N 62609) to the AUX port on the back of the lightbar.



Step 2

Connect the EZ-Guide 500 power cable (P/N 62817) to the PWR port on the back of the lightbar.



Step 3

Connect the 2-pin connector on the port expansion cable and the 12-pin connector on the power cable to the matching connectors on the EZ-Guide 500-to-Autopilot cable (P/N 62754).

Step 4

Feed the GPS antenna cable into the cab and then connect it to the antenna port on the back of the lightbar.



Step 5

With keypad

Connect the external interface cable (P/N 66030-00) to the serial port on the back of the lightbar.



Connect the remote keypad to the KPAD serial port on the external interface cable.



Connect the appropriate cable to the GPS serial port on the interface cable:

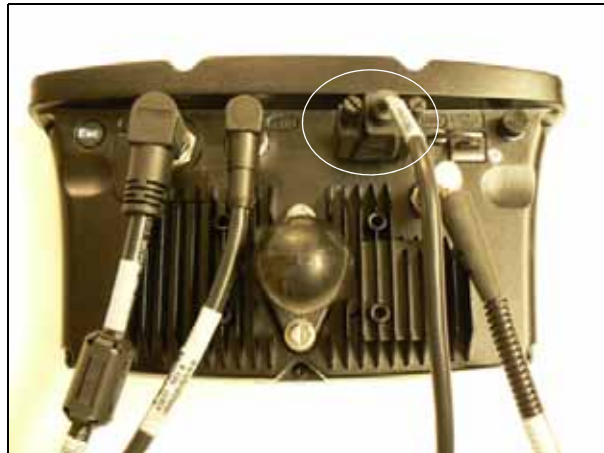
Radio type	Cable to connect
SiteNet radio	EZ-Guide 500-to-radio cable (P/N 62082)
PDL 450 radio	PDL radio power/data cable (P/N 51861-00)



Without keypad

Connect the appropriate cable to the serial port on the back of the lightbar:

Radio type	Cable to connect
SiteNet radio	EZ-Guide 500-to-radio cable (P/N 62082)
PDL 450 radio	PDL radio power/data cable (P/N 51861-00)

**Step 6**

Connect the other end of the radio cable to the radio.



SiteNet radio

Step 7***SiteNet radio only***

Connect the S5 connector on the EZ-Guide 500-to-radio cable to the connector on the EZ-Guide 500 power cable.

PDL radio only

Connect the remaining connector on the PDL radio power/data cable to the matching connector on the power tap cable (P/N 63185).

Connect the connector at the other end of the power tap cable to the EZ-Guide 500 power cable.

Installing the EZ-Guide 500 lightbar

Step 1

Select the location for the lightbar in the cab. There must be a bar that the RAM mount can be attached to.



Step 2

Sit in the driver's seat and hold the lightbar in place. Ensure that it allows comfortable access to the display buttons and does not obstruct instruments.



Step 3

Attach the RAM mount to the ball on the rear of the lightbar.



Step 4

Attach the free end of the RAM mount to the bar mount. Tighten the clamp on the RAM mount so that the lightbar is held securely in place.



Step 5

Adjust the angle of the RAM mount for ease of use.



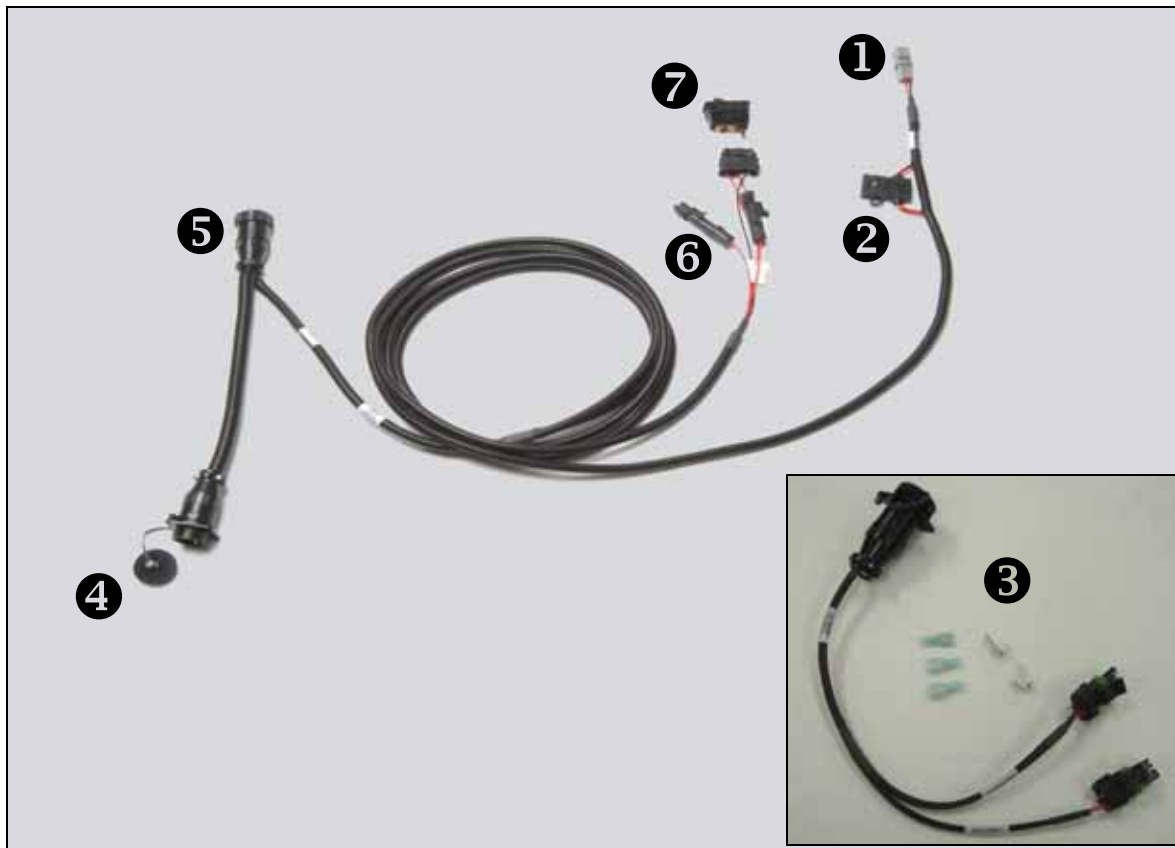
Power Harness Installation

In this chapter:

- Power harness components
- Installing the power harness

This chapter describes how to install the power harness in the vehicle.

Power harness components



Item	Description
①	Controller power connection
②	Fuse holder - Littlefuse 257010, 10 amp
③	Auxiliary power adaptor (P/N 61484)
④	Extra accessory outlet
⑤	Accessory jumper cable (P/N 54630)
⑥	Switch receptacle
⑦	Switch

Note – Route all harnesses, wires, and cables along routes that are free of obstructions and pinch points. Use wire ties where necessary. Connectors on all harnesses are identified by component for ease of installation. The following instructions give the installer only the general direction to route the components. The installer is responsible for determining the best method to conceal all routings.

Note – Make note of where any wire harness and hose tie straps were removed during disassembly so that they can be properly installed during assembly.

Installing the power harness

Step 1

There is a panel in the lower right corner of the cab where the power accessory outlets are mounted.

The recommended procedure is to remove the panel to provide access to the positive and negative power jacks.



Step 2

Prepare the auxiliary power adaptor (P/N 61484). To remove the Weatherpak connectors clip the wires next to the unswitched power lead connector.



Step 3

Strip the wires and then crimp the ring terminal connectors to the ends. Connect the ring terminals to the appropriate power stud on the back of the power panel.



Step 4

Connect the adaptor cable into the correct connector on the accessory power cable and then route the power harness along the floor and behind the seat to the Autopilot controller.

Step 5

Mate the black (ground) wire in the receptacle with pin 3 of the switch. The pins are marked on the sides of the switch.



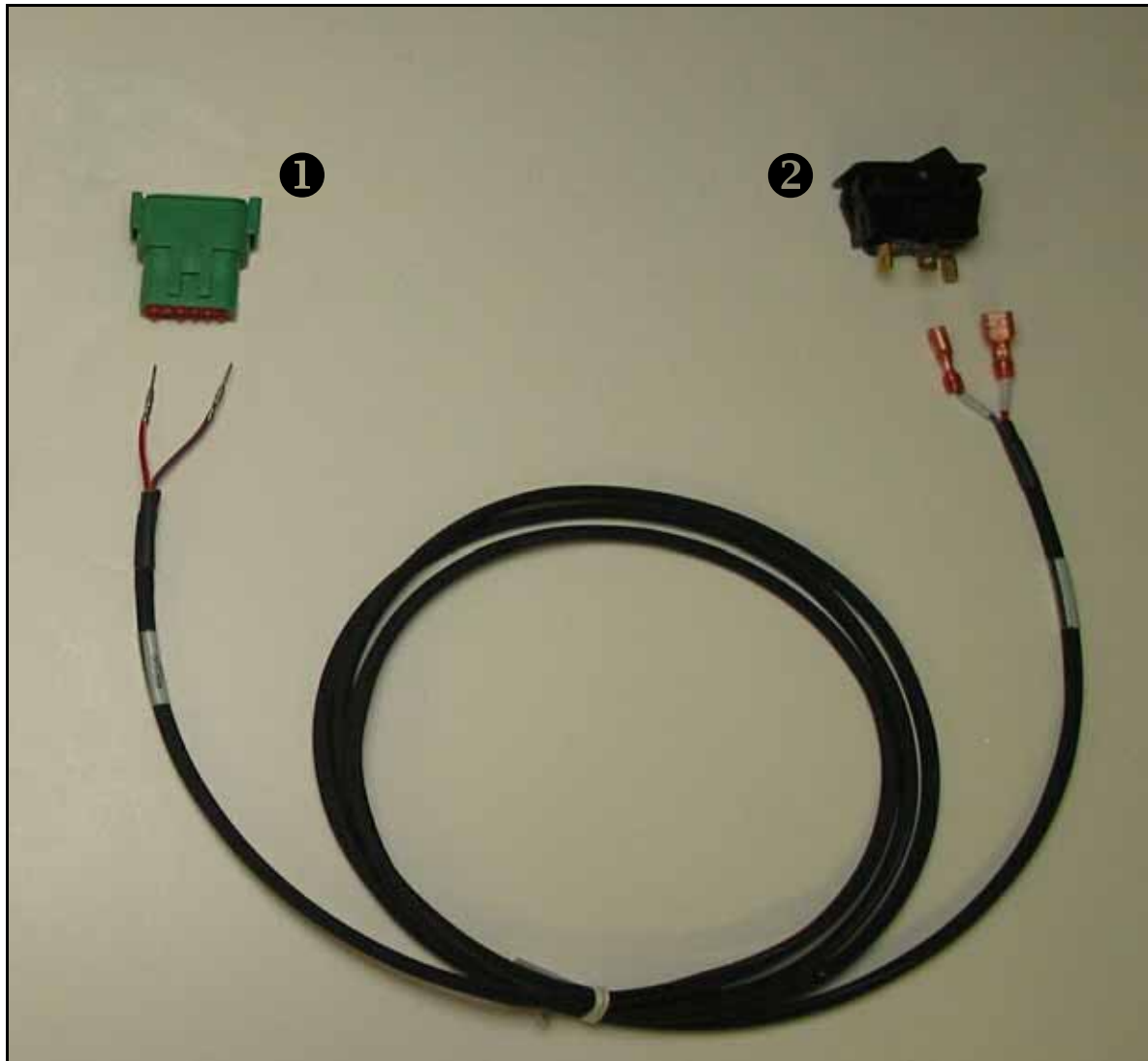
Remote Engage Switch Installation

In this chapter:

- Remote engage switch components: Rocker switch
- Remote engage switch components: Foot switch
- Preparing the remote engage cable
- Using the remote engage switch

There are two types of remote engage switch. This chapter describes how to install them.

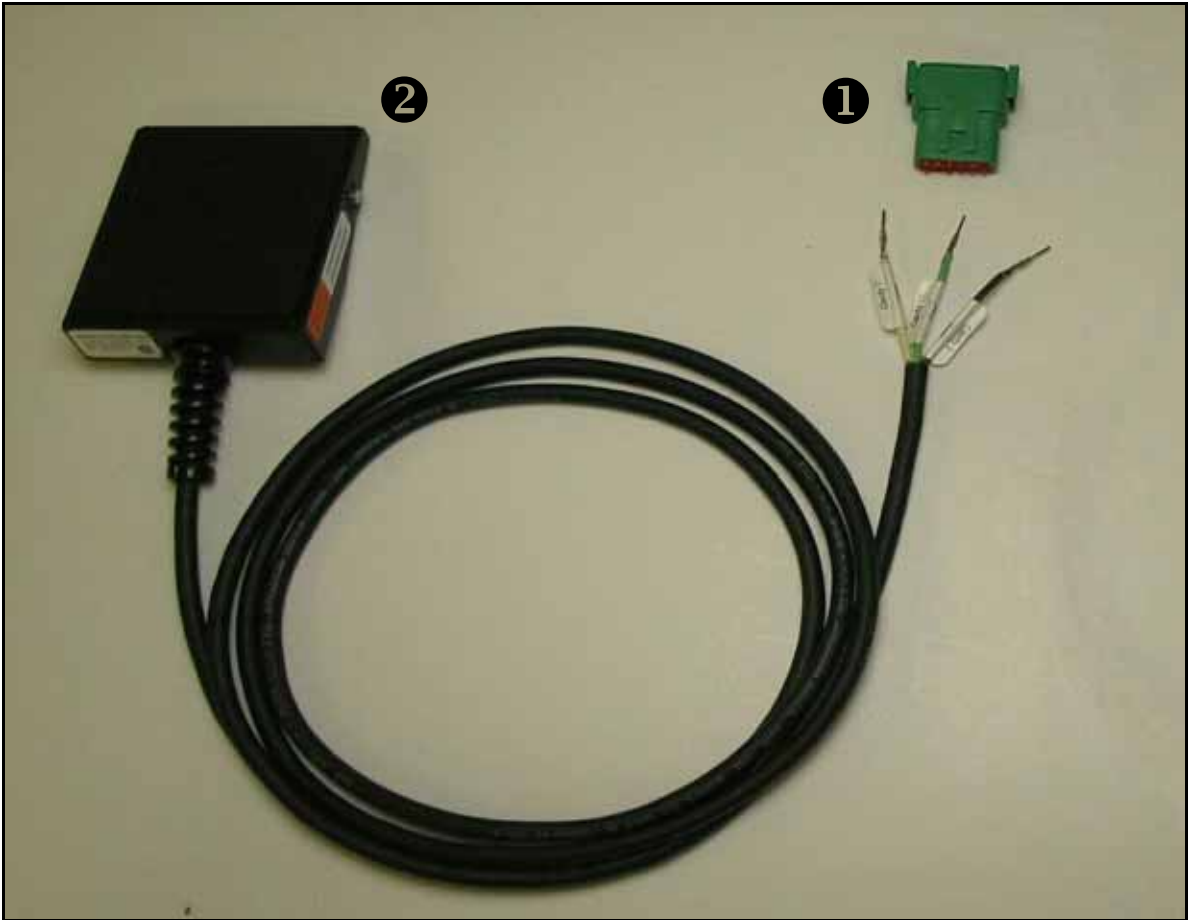
Remote engage switch components: Rocker switch



Item	Description
①	DTM receptacle
②	Remote engage rocker switch

Note – Full or Standard Euro switch, depending on kit ordered.

Remote engage switch components: Foot switch

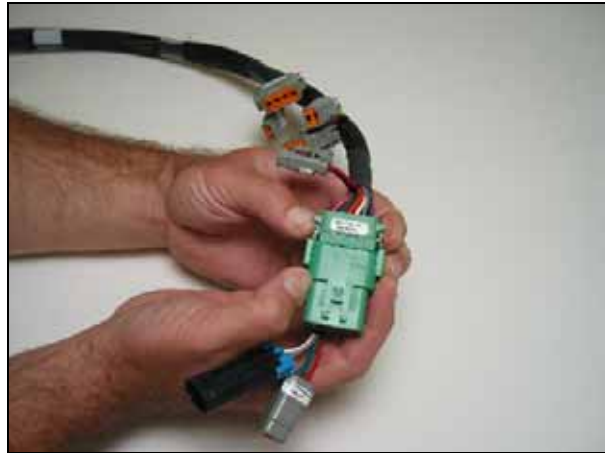


Item	Description
1	DTM receptacle
2	Remote engage foot switch

Preparing the remote engage cable

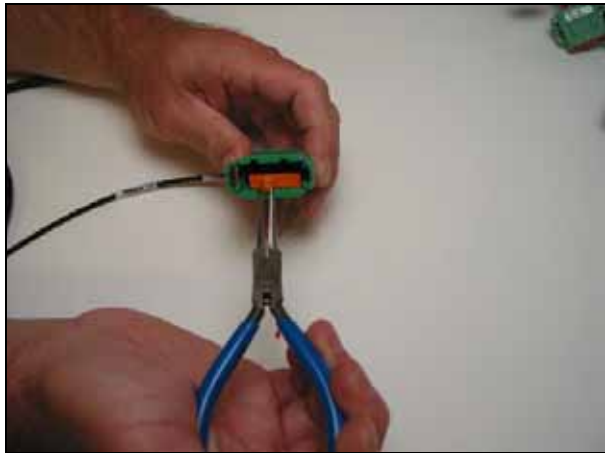
Step 1

Locate the green 12-pin Deutsch receptacle on the P-5 leg of the main controller harness. See [Chapter 8.1, Controller Connections](#).



Step 2

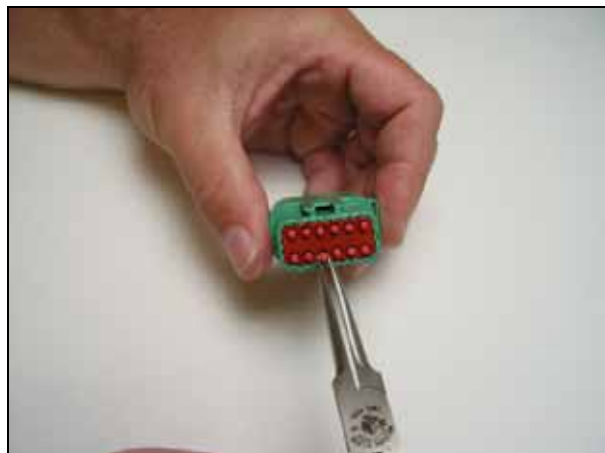
Remove the wedge from the connector.



Step 3

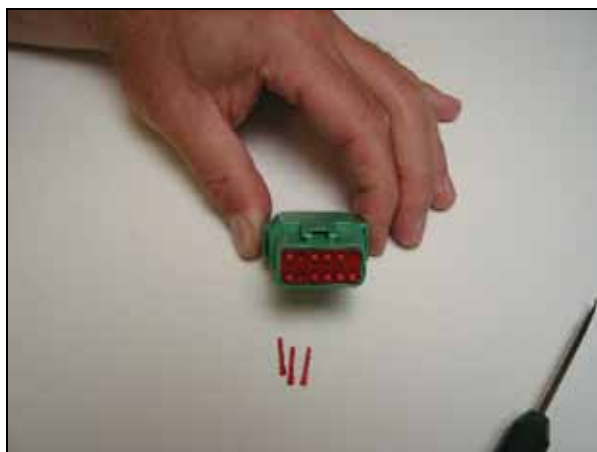
Rocker switch only

Remove the plugs from cavity 2 and 7.



Foot switch only

Remove the plugs from cavity 2, 7, and 11.

**Step 4*****Rocker switch only***

Insert the DTM pins into cavity 2 and 7 according to the labels on the wires.

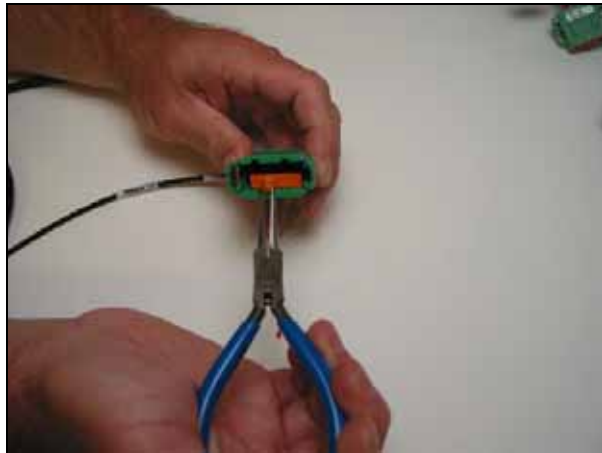
***Foot switch only***

Insert the DTM pins into cavity 2, 7, and 11 according to the labels on the wires.



Step 5

Pull on the wires to seat them in place. Replace the wedge in the connector.



Step 6

Rocker switch only

Run the spade ends of the cable to a knockout location in the operator's console.



Foot switch only

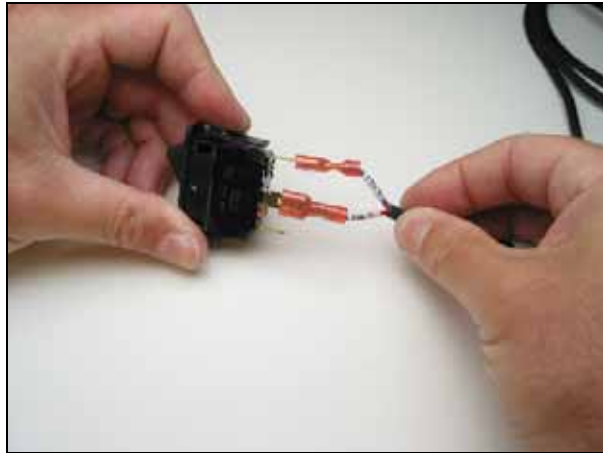
Run the cable to a clear location on the floor board. Use double-sided tape to secure the pedal. Route the cable under the floor mat.



Step 7

Rocker switch only

Connect the wires to the switch that matches the print on the switch body and the labels on the wires.



Step 8

Rocker switch only

Place the switch in the console.



Using the remote engage switch

Step 1

Hold down the switch for at least 0.5 seconds.

Note – Holding the switch for less than 0.5 seconds will not engage the system.

Step 2

Release the switch between 0.5 and 4.0 seconds. The vehicle will engage when you release the switch.

Controller Installation

In this chapter:

- [Installing the controller](#)
- [Controller Connections](#)
- [Alternative controller installation location](#)

This chapter describes how to install the controller unit in the vehicle.

Installing the controller

Note – Depending on the machine configuration, a tool box may obscure the area shown in the following installation procedure. For the alternative controller installation procedure, see [Alternative controller installation location](#), page 103.

Step 1

Mount the Autopilot controller on the left rear inside corner of the cab. Use the controller mount plate as a template to mark the mounting hole locations.

Note – The lower right rear hole is located $4\frac{3}{8}$ " from the rear corner of the cab and $3\frac{1}{2}$ " up from the bottom edge.



Step 2

Match drill or measure to locate and drill four 0.281" holes in the cab for the controller plate.



Step 3

Install four 1" hex spacers to the inside of the cab. Pull the interior padding up around the studs so it is not caught underneath them.



Step 4

Mount the controller mount plate to the hex spacers with the supplied 1/4"-20 cap screws.



Step 5

Before you install the controller, attach the main and auxiliary cable harnesses. Use an Allen wrench to secure the connectors to the controller.



Step 6

Attach the controller to the controller mount plate with the six #10-32 x $\frac{6}{8}$ " screws supplied in the controller bolt kit. Orient the controller so that the cables exit at the top.



Step 7

You can route cables to the controller through the floor at the right rear of the cab. Secure the cables with tie wraps and reinstall the plastic insert in the seat.

Step 8

Make all connections to the main harness.

Note – The cable connectors are labeled for correct connection.

Note – On later models, an access hole for cable routing exists at the rear of the operator's seat compartment.

Alternative controller installation location

Note – If the vehicle is fitted with a toolbox to the left of the driver's seat, the controller may be mounted on the floor to the right of the seat. During setup, you must enter the correct controller orientation.

Step 1

Note – Prior to drilling, check the underside of the cab to ensure that the drill will not damage any components.

Place the mounting plate on the floor between the seat base and cab wall. Locate it horizontally, approximately 3" from the cab wall. Roughly align the threaded controller mount hole with the front edge of the seat base and then drill the four corner mounting holes.



Step 2

Install four 1.25" standoffs through the floor mat. Loosely start four 1/4"-20 hex cap screws from the underside of the cab to hold the standoffs in place.

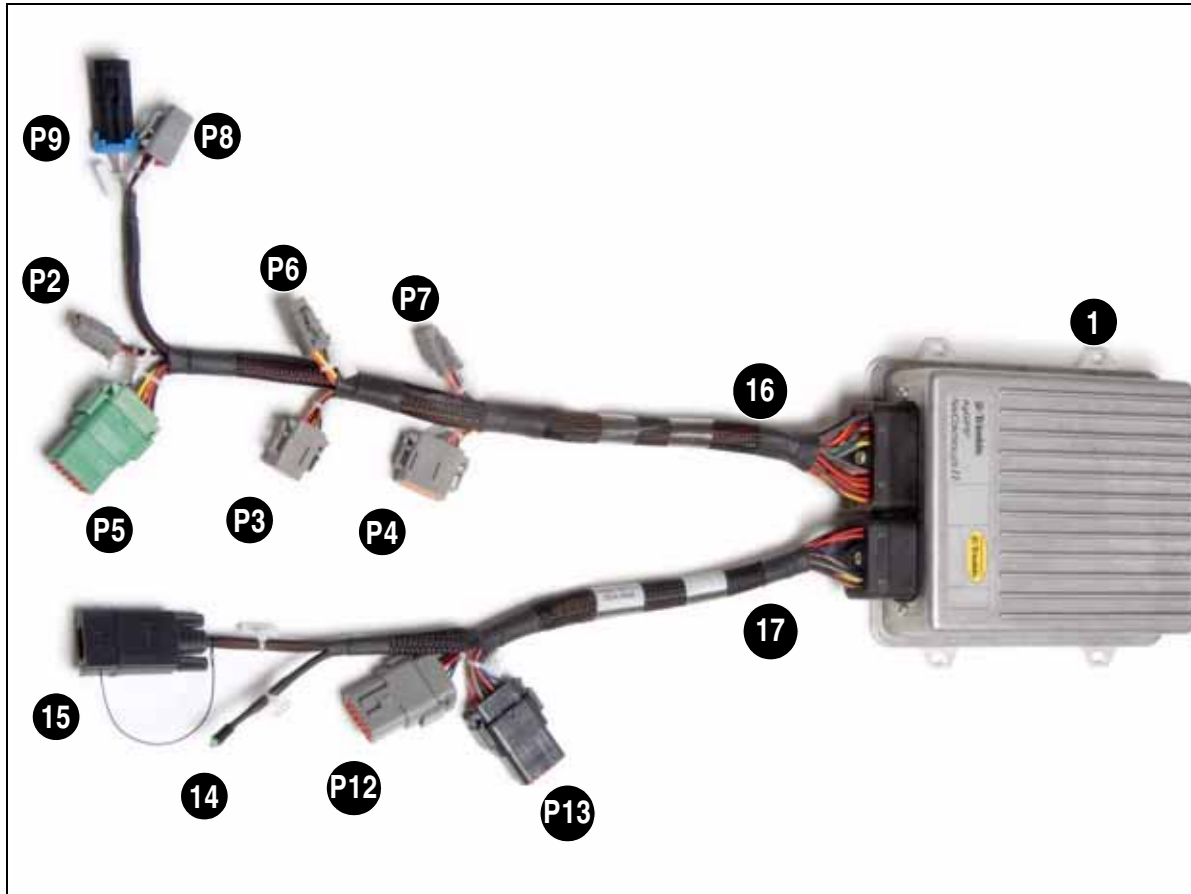


Step 3

Install the mounting plate using four 1/4"-20 hex cap screws. Tighten the screws on the plate and then tighten the screws beneath the cab.



Controller Connections



Item	Description
1	NavController II controller
P2	Power connector
P3	GPS connector
P4	Display connector
P5	Vehicle sensors connector
P6	Steering sensor connector
P7	Manual override connector
P8	Hydraulic valve connector

Item	Description
P9	Sonalert connector
P12	Lightbar/spare connector
P13	Spare sensors connector
14	Status indicator
15	Laptop connector
16	Main harness
17	Auxiliary harness

Step 1

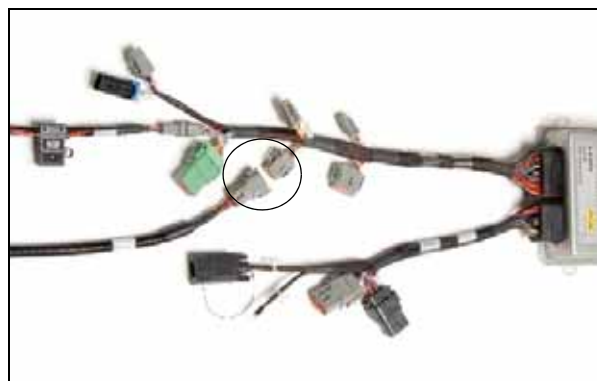
Connect the power cable connection to P-2, which is labeled “Power”. P-2 is on the main wiring harness.

***Note** – The power connection supplies power through the controller to all connected devices, including GPS and displays.*



Step 2

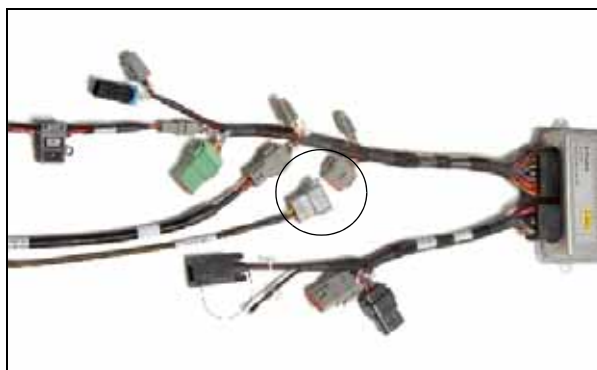
Connect the GPS cable connection to P-3, which is labeled “GPS”. P-3 is on the main wiring harness.



Step 3

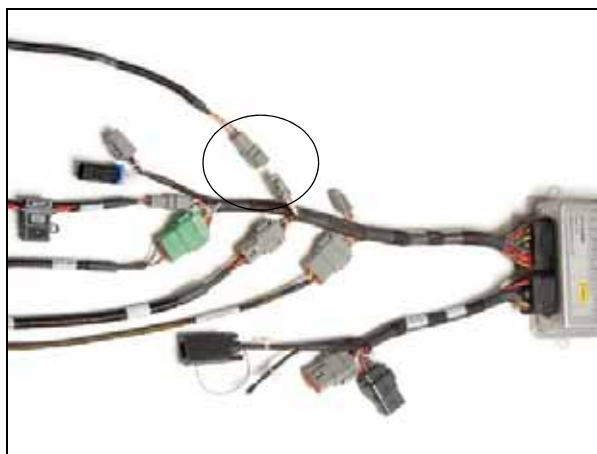
Connect the primary display cable connection to P-4, which is labeled “Display”. P-4 is on the main wiring harness.

***Note** – Do not connect the cable to the connector labeled “Spare” on the auxiliary harness.*



Step 4

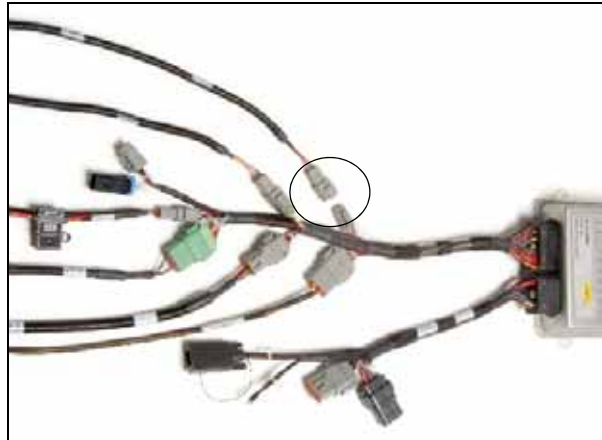
Connect the steering sensor cable connection to P-6, which is labeled “Steering Sensor”. P-6 is on the main wiring harness.



Step 5

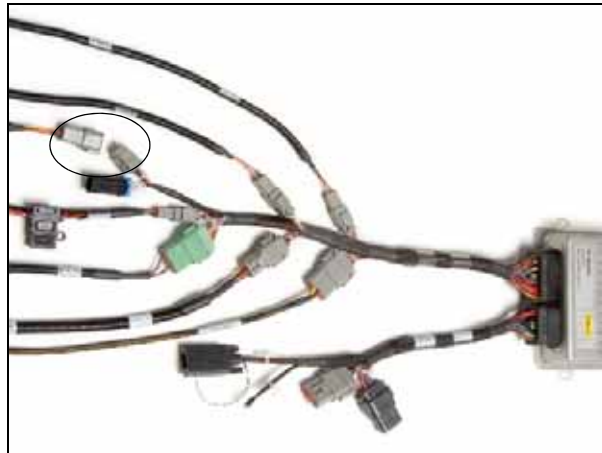
Connect the manual override cable connection to P-7, which is labeled “Manual Override”. P-7 is on the main wiring harness.

Note – When you install the remote engage harness, add the pins to the existing connector.



Step 6

Connect the hydraulic steering valve cable connection to P-8, which is labeled “Hydraulic Valve”. P-8 is on the main wiring harness.



Step 7

When you use a lightbar as a secondary display to an AgGPS 170 Field Computer, connect the lightbar cable connection to P-12, which is labeled “Lightbar/Spare”. P-12 is on the auxiliary wiring harness.

Note – If an AgGPS 50 or AgGPS 150 lightbar is connected to P-12, it will act as a lightbar only.



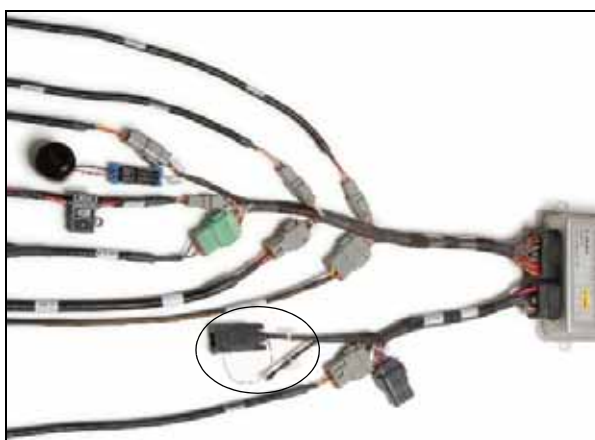
Step 8

Connect the Sonalert P-9 to the two pin Delphi connector on the main wiring harness. Route the cable so that the Sonalert warning device is in a position that is audible to the operator.



Step 9

Route the LED and laptop lead, which is on the auxiliary wiring harness, where the operator can determine the controller status. See controller LED status for status determination. Six flashes per second indicates a correctly functioning controller.



Step 10

Use the provided sleeving to secure the harness cables with tie wraps. Cover and route the cable bundle to avoid damage to connectors and strain on wire connections.

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

Step 1

Connect the battery.

Step 2

Start the machine and check for hydraulic leaks. Correct as needed.

Step 3

***Note** – Due to the often corrosive environment present on spraying and spreading equipment, Trimble recommends that you apply a coating to newly installed fittings and hose ends. Nearly any paint product will provide protection if applied to clean, dry surfaces.*

Clean the installed fittings and hose ends with brake or carburetor cleaner spray. When the fittings and hose ends are dry, apply a coat of paint or sealer and then allow it to dry.

Step 4

Connect and run the AgGPS Autopilot Toolbox II software for system setup and calibration. For more information, refer to the *AgGPS Autopilot Toolbox II Software User Guide*.

Step 5

Open the Diagnostic page of the AgGPS Autopilot Toolbox II software and ensure that all signals from the hydraulics and sensors are active.