Case IH Magnum AccuGuide
New Holland T8 IntelliSteer

Supported Models

Case IH       New Holland
Magnum 180    T8.275
Magnum 190    T8.300
Magnum 210    T8.330
Magnum 225    T8.360
Magnum 235    T8.390
Magnum 260    T8.330
Magnum 290    T8.360
Magnum 315    T8.390
Magnum 340    T8.390
LEGAL DISCLAIMER

Note: Read and follow ALL instructions in this manual carefully before installing or operating the AutoSteer system.

Note: Take careful note of the safety information in the Safety Information section and the safety messages throughout this manual.

The manufacturer disclaims any liability for damage or injury that results from the failure to follow the instructions and warnings set forth herein.

Please take special note of the following warnings:

1. There is NO obstacle avoidance system included in the manufacturer’s product. Therefore, users must always have an operator on the equipment when the AutoSteer system is in use to look for any obstacles including people, animals, trees, ditches, buildings, etc.

2. During installation of the AutoSteer system and during the Calibration and Tuning processes, the vehicle's wheels may turn from side to side and the vehicle moves. Be sure that all people and obstacles are clear of the vehicle before installation, calibration and tuning, or use of the AutoSteer system.

3. Use of the AutoSteer system is NOT permitted while the vehicle is on public roads or in public areas. Verify that the system is powered OFF before driving on roads or in public areas.
Special Requirements

Tools

This list consists of the tools required to complete the installation. The installer is assumed to have a complete set of common installation tools.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Tool</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>13mm open wrench</td>
<td>13mm socket and ratchet</td>
<td>5/32” Allen wrench</td>
</tr>
<tr>
<td>11/32” open wrench</td>
<td>15/16” socket and ratchet</td>
<td>1/4” Nut driver</td>
</tr>
<tr>
<td>7/16” open wrench</td>
<td>Wire cutter small</td>
<td>#2 Philips screwdriver, standard</td>
</tr>
<tr>
<td>15/16” open wrench</td>
<td>Cleaning brush</td>
<td>Flat medium screwdriver</td>
</tr>
<tr>
<td>Metal Hacksaw</td>
<td>Cleaning rags</td>
<td>Ladder, 3 ft (0.9 m)</td>
</tr>
<tr>
<td>Utility Knife</td>
<td>Tape measure, 12 ft (3.7m) minimum</td>
<td>Ladder, 10 ft (3 m)</td>
</tr>
<tr>
<td>Wire Puller</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Safety Information

Warning Alerts

The AutoSteer system installer and manufacturer disclaim any responsibility for damage or physical harm caused by the failure to adhere to the following safety requirements:

• As the operator of the vehicle, you are responsible for its safe operation.
• The steering system is not designed to replace the vehicle’s operator.

Note: Verify that all screws, bolts, nuts, and cable connections are tight after the final installation of the AutoSteer system on the vehicle.

![WARNING]

To avoid electrical shock hazards, remove the Roof Module from the vehicle before driving under low structures or low electrical power lines.

![WARNING]

Ensure that you are in a stable position on the vehicle platform when installing or removing the Roof Module from the Roof Rail so you do not fall. If the vehicle does not provide a safe platform, use a ladder to safely access the vehicle’s Roof Module and Roof Rail.

![WARNING]

To prevent accidental death or injury from being run over by the vehicle, never leave the vehicle’s operator chair with the AutoSteer system engaged.
To understand the potential hazards associated with the operation of AutoSteer equipment read the provided documentation before installing the AutoSteer system on a vehicle.

To prevent the accidental engagement of the AutoSteer and loss of vehicle control while driving on roads, shut down the AutoSteer system (exit the program). Never drive on roads or in public areas with the AutoSteer system turned on.
**Caution Alerts**

The AutoSteer system installer and manufacturer disclaim any responsibility for damage or physical harm caused by the failure to adhere to the following safety requirements:

<table>
<thead>
<tr>
<th>☢️ CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Roof Module must be removed when transporting or driving the vehicle at speeds above 30 mph (48 km/h). The Roof Module can possibly detach due to wind loads at higher speeds.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>☢️ CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The AutoSteer system does not detect obstacles in the vehicle’s path. The operator must observe the path being driven in order to avoid obstacles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>☢️ CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>When engaged, the AutoSteer system controls only the steering of the vehicle. The operator must control the speed of the vehicle.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>☢️ CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The AutoSteer system must be powered OFF when installing or removing the Roof Module.</td>
</tr>
</tbody>
</table>
The Roof Module must always be firmly secured to the Roof Rail using the supplied hardware whenever the vehicle is in operation to prevent the Roof Module from releasing from its bracket and falling.

To avoid possible damage to electronic circuits caused by electrostatic discharge, do not touch the contacts on the ECU4 electrical connectors at any time.

Vehicle Requirements

The vehicle must be AccuGuide\(^1\) or IntelliSteer\(^2\) Ready with the factory installed Steering Valve, Steering Wheel Encoder or Pressure Transducer, Wheel Angle Sensor, and AccuGuide or IntelliSteer Ready harnesses installed. Verify the proper factory installed equipment is installed on the vehicle prior to beginning the installation.

The vehicle steering system must be in good working order before installing the AutoSteer system. Check for loose or worn parts. Drive the vehicle before installing the AutoSteer system and confirm that it steers straight and the wheels can be turned from lock to lock.

The vehicle’s electrical system and battery must be in good working order.

The vehicle should be fully cleaned before installing the AutoSteer system. A clean vehicle will ease the installation process and cable routing.

\(^1\) AccuGuide is a registered trademark of CNH America, LLC.

\(^2\) IntelliSteer is a registered trademark of CNH America, LLC.
This installation manual contains valuable information for servicing the AutoSteer system. After the installation is complete, store this manual in a safe place for future reference.

**Note:** Verify that all screws, bolts, nuts, and cable connections are tight after the final installation of the AutoSteer system on the vehicle.

**Technical Support**

Refer to your Display user manual for technical support information.

**Contact Information**

Refer to your Display user manual for contact information.
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Installation Overview

The **Installation Overview** chapter information is provided in the following sections:

- Vehicle Sub-Categories
- Vehicle Inspection
- Kit Overview
- Installation Procedure Outline
- Cable Diagram

This installation guide describes the installation of the AutoSteer system on several models of Case IH and New Holland MFWD vehicles with the AccuGuide or IntelliSteer option installed. The AutoSteer installation kit PN: 188-0076-02 is used on the following vehicle series:

- Case IH Magnum Mid Range (180, 190, 210, and 225) model year start 2011
- Case IH Magnum (235, 260, 290, 315, and 340) model year start 2011

**Note:** If you are installing an electric steering wheel actuator such as OnTrac2+, refer to your electric steering product manual for further instructions. Additional cables and steps are required for that installation. Contact your AutoSteer dealership to purchase these cables.

**Vehicle Sub-Categories**

The models supported by this kit can be divided into sub-categories. This installation kit can be used on all the models shown, however on some vehicles the installation instructions will call out different instructions depending on what sub-category the model belongs to. Use **Table 1-1** to determine which section in the manual to use when a specific sub-category is described.

<table>
<thead>
<tr>
<th>Small Frame</th>
<th>Large Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case IH Magnum 180</td>
<td>Case IH Magnum 235</td>
</tr>
<tr>
<td></td>
<td>Case IH Magnum 260</td>
</tr>
<tr>
<td></td>
<td>New Holland T8.300</td>
</tr>
<tr>
<td>Case IH Magnum 190</td>
<td>New Holland T8.360</td>
</tr>
<tr>
<td>Case IH Magnum 210</td>
<td>Case IH Magnum 315</td>
</tr>
<tr>
<td></td>
<td>New Holland T8.360</td>
</tr>
<tr>
<td>Case IH Magnum 225</td>
<td>Case IH Magnum 340</td>
</tr>
<tr>
<td></td>
<td>New Holland T8.290</td>
</tr>
</tbody>
</table>
Vehicle Inspection

Prior to installing the AutoSteer system, confirm that the vehicle and the vehicle’s steering system are in good working order by driving it around. In addition, verify the following items:

- Check the pressure on all the tires and adjust to the proper factory suggested pressure.
- Verify that you can turn the steered wheels from lock to lock.
- Record the time it takes to manually turn the steering wheel from full left to full right as fast as you can and then record the time it takes to manually turn the steering wheel from full right to full left as fast as you can. Use these values later to verify the steering performance is the same after the install.
- Verify the vehicle steers straight and does not pull to one side.
- Check for loose or worn steering components.
- Service the vehicle if the steering system is not in good working order.

Kit Overview

The Kit Overview section provides a description of the components that are provided with the installation kit. Use this section to verify that all the parts required for the installation have been shipped.

Figure 1-1 Kit Components (PN: 188-0076-02)

Table 1-2 Kit Component Descriptions (PN: 188-0076-02)

<table>
<thead>
<tr>
<th>Item</th>
<th>Component</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>ECU4 Assembly</td>
<td>200-0610-01</td>
</tr>
<tr>
<td>2.</td>
<td>Common Installation Kit</td>
<td>200-0497-02</td>
</tr>
<tr>
<td>3.</td>
<td>Cable Routing Hardware</td>
<td>200-0076-01</td>
</tr>
</tbody>
</table>
### Installation Procedure Outline

**Note:** If installing an electric steering actuator, such as OnTrac2+, follow the additional instructions provided with the electric steering actuator to install the additional components.

1. Verify all the components shown in the previous section have been shipped.
2. Install the ECU.
3. Install the Roof Rail on the cab roof.
4. Install the Roof Module on the Roof Rail.
5. Install the Display RAM Mounting bracket in the cab.
6. Install the Display using a RAM Mount Arm.

**Note:** Follow the instructions that come with your Display for attaching the Display to the vehicle mounting position.

7. Install the ECU Harnesses.
8. Install the Main Cable Harness.
9. Install the Display Harness.
10. Connect all vehicle harnesses to the Display Harnesses and/or Display.

**Note:** Use the diagram in the **Cable Diagram** section of this manual and instructions in the Display Installation kit to guide the connecting of the harnesses to the proper places.

11. Verify that all connectors are properly coupled and secured.
12. Power ON the AutoSteer system.
13. Calibrate the vehicle.
14. If necessary, tune the vehicle to improve performance.
15. Verify the system has been installed properly and operates satisfactorily.
16. Fill out the Installation Checklist at the end of this Installation Manual.

### Hardware Installation Guide

<table>
<thead>
<tr>
<th>Item</th>
<th>Component</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Warning Labels</td>
<td>603-0074-01</td>
</tr>
<tr>
<td>5</td>
<td>Roof Module Mounting Hardware</td>
<td>200-0387-02</td>
</tr>
<tr>
<td>6</td>
<td>ECU to Magnum AccuGuide Adapter Harness</td>
<td>201-0541-01</td>
</tr>
<tr>
<td>7</td>
<td>RAM Mount Double U-Bolt</td>
<td>207-0010-01</td>
</tr>
<tr>
<td>8</td>
<td>Installation Manual</td>
<td>602-0306-01</td>
</tr>
<tr>
<td>9</td>
<td>ECU Power Data Harness</td>
<td>201-0511-01</td>
</tr>
<tr>
<td>10</td>
<td>ECU to NAVII Bracket Assembly</td>
<td>200-0651-01</td>
</tr>
</tbody>
</table>
Cable Diagram

- Vehicle Type: Case IH Magnum xxx AccuGuide or New Holland T8.xxx IntelliSteer
- Actuator Type: PWV via AccuGuide or IntelliSteer connector.
ECU4 Installation

The ECU4 Installation chapter contains information in the following sections:

- Overview
- Mount the ECU4
- LED Diagnostics
- Diagnostics

Overview

The ECU4 can be mounted in any orientation except with the cables connectors pointing upward. Figure 2-1 shows the ECU4 and identifies the cable connectors.

Figure 2-1  ECU4

![ECU4 Cable Connections]

To avoid possible damage to electronic circuits caused by electrostatic discharge, do not touch the contacts on the ECU4 electrical connectors at any time.
Mount the ECU4

Due to the variety of mounting options available on vehicles and the possible configuration differences, it may be necessary to install the ECU4 in a location other than the example shown in this installation manual. If an alternative location is required, choose a location where the ECU4 can be protected from damage from moving parts or crop debris, excessive moisture from weather and cleaning, within the limits of the lengths of the cables, and not inside the engine compartment. It should be mounted where the LEDs are visible for troubleshooting.

Mount the ECU4

1. Move the driver’s seat all the way forward. Locate the ECU4 mounting point on the back wall of the cab behind the seat. Remove the cargo net from the back of the cab.

   Figure 2-2  ECU4 Mounting Point

2. Remove the four wing nuts holding the metal plate to the back of the cab and remove the plate.

   Figure 2-3  Remove Back Plate
3. Locate the 40-pin AccuGuide Harness Connector and remove the yellow protective cover.

Figure 2-4 Locate the 40-pin AccuGuide Connector

4. Attach the ECU to Magnum AccuGuide Adapter Harness to the 40-pin AccuGuide connector. Tighten the connector with a 5/32” Allen Wrench

Figure 2-5 Attach ECU to Magnum AccuGuide Adapter Harness
Mount the ECU4

5. Attach the 18 pin connector of the ECU Power and Data Harness to the ECU4 with a 1/4” nut driver.

Figure 2-6 Attach ECU4 Power and Data Harness

6. Attach the 30 pin connector of the ECU to Magnum AccuGuide Adapter Harness to the ECU4 with a 1/4” nut driver.

Figure 2-7 Attach ECU to Magnum AccuGuide Adapter Harness
7. Attach the ECU4 to the ECU Mounting Plate with the four 8-32 x 1/2 Hex Screws using a 1/4" nut driver. Do not over tighten.

**Note:** Verify that the ECU Mounting Plate holes allow the ECU4 to be mounted on the plate as shown in *Figure 2-8.*

**Figure 2-8  Attach ECU4 to Mounting Plate**

**Note:** Verify that the screw inserts on the ECU Mounting Plate have the round side facing the ECU4 when attached. Attaching to the hexagon shaped side of the plate can cause the inserts to be pulled out of the bracket when the ECU4 is attached.

**Figure 2-9  Attach ECU4 to this Side of Bracket**

**Figure 2-10  Do not Attach ECU4 to this Side of Bracket**
8. Place the ECU Mounting Plate on to the four stubs on the back wall. Leave the plate loose until the rest of the install has been completed.

**Note:** Carefully position the harnesses around the ECU as shown so they will not be pinched when the fuse panel is replaced.

---

**LED Diagnostics**

The ECU4 has been designed with four LEDs that can be used to help determine the status of the ECU4 as well as provide some basic troubleshooting information. *Figure 2-12* shows the front panel of the ECU4.

---

**Figure 2-11 Attach ECU4 to Vehicle**

![Attachment Studs and ECU Mounting Plate](image)

**Note:** After the rest of the harnesses are run and attached, secure the ECU Mounting plate, metal cover, and cargo net that were removed in this procedure. Reattach with the wing nuts and netting.

**Figure 2-12 Front Panel of ECU4**
Table 2-1 provides an explanation of the definitions for the different LEDs and colors.

<table>
<thead>
<tr>
<th>Green Icons</th>
<th>Description</th>
<th>Orange Icons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Power LED Icon" /></td>
<td>Solid green indicates the system is receiving power and it is in an operational mode</td>
<td><img src="image.png" alt="Power LED Icon" /></td>
<td>Solid orange indicates a fault, most likely a communication error</td>
</tr>
<tr>
<td><img src="image.png" alt="Flashing Green Icon" /></td>
<td>Flashing green indicates the ECU4 is communicating to the AutoSteer system via the CAN connection</td>
<td><img src="image.png" alt="Flashing Orange Icon" /></td>
<td>Solid orange indicates that new software is being loaded. Do not cut off power to the ECU4 while this light is orange</td>
</tr>
<tr>
<td><img src="image.png" alt="Left Steering Icon" /></td>
<td>When green, a left steering command is being commanded to the actuator</td>
<td><img src="image.png" alt="Orange Error Code Icon" /></td>
<td>Orange indicates a fault error code</td>
</tr>
<tr>
<td><img src="image.png" alt="Right Steering Icon" /></td>
<td>When green, a right steering command is being commanded to the actuator</td>
<td><img src="image.png" alt="Orange Error Code Icon" /></td>
<td>Orange indicates a fault error code</td>
</tr>
</tbody>
</table>

**Diagnostics**

**Power LED does not Turn On**
- Check all cable connections and verify they have all been properly connected.
- Verify that the AutoSteer system Roof Module has powered up.
- Check the fuses on the main harness.

**Right and Left LEDs are Blinking but do not Steer the Vehicle**
- This indicates a bad actuator on the Steering Valve or possibly a bad cable. Verify the cables are properly connected to the actuators and there are no shorts. Verify the actuators are working.
- This can also be caused by a hydraulic problem. Verify the hydraulics are working properly and the system has been plumbed correctly.

**Right and Left LEDs do not Blink when a Steer Right or Steer Left Command is Sent**
- This indicates that a steering command is not being sent to the ECU4. Verify the AutoSteer system settings, especially vehicle type, and make sure the system is set up properly.
- Use the *Steering Components* screens to manually command the wheels to turn right and left.
- Verify if the unit is communicating with AutoSteer system, indicated by the blinking green communications LED. If not, check the cable for problems.

**System is Unresponsive and does not Steer**
- Verify that the green power LED is turned on. If not determine why the system is not powered up.
- Verify if the Communications LED is flashing. If not check all cables and settings on the AutoSteer system.
E1 or E2 LEDs are Solid Orange

- Call technical support or press the Call Support button from the My Account tab if either E1 or E2 LEDs are solid or blinking orange as this indicates an internal fault. Your dealer can use AutoSteer system Remote Diagnostics to determine the fault condition.
Roof Module Installation

The Roof Module Installation chapter contains information in the following sections:

- Safety Notes
- Roof Rail Installation

Safety Notes

- The AutoSteer system must be powered OFF when installing or removing the Roof Module.
- The Roof Module must always be firmly secured to the Roof Rail using the hardware provided whenever the vehicle is in operation to prevent the Roof Module from releasing from its bracket and falling off.
- The Roof Module must be removed when transporting the vehicle at speeds above 30 mph (48 km/h).
- Ensure you are in a stable position on the vehicle or ladder when removing the Roof Module so that you do not fall or drop the Roof Module.
- Use a ladder to install the Roof Rail and Roof Module if a stable platform on the vehicle is not available.

⚠️ WARNING

Ensure that you are in a stable position on the vehicle when installing or removing the Roof Rail and Roof Module so you do not fall. Use a ladder if a safe platform is not available.
Roof Rail Installation

1. Locate the four nuts on top of the cab holding the cab cover on.

   Figure 3-1 Mounting Bolt Location

2. Remove the four nuts with a 13mm socket and ratchet.

3. Attach the Roof Rail Mounting Brackets to the existing studs with the nuts that were removed earlier. Tighten the nuts with a 13mm socket and ratchet.

   Note: Verify the brackets are attached with the proper holes in the bracket and the bracket is orientated as shown in Figure 3-2.

   Figure 3-2 Attach the Roof Rail Mounting Bracket
4. Attach the dummy plugs to the back of the Roof Rail with two pan head Phillips #8-32 x 1/2 screws and lock nuts. Tighten the screws with an 11/32" open end wrench and #2 Phillips screwdriver.  

**Figure 3-3 Attach Dummy Plugs**

5. Place the Roof Rail on top of the Roof Rail Mounting Brackets and center it over the cab. Attach the Roof Rail with two 5/8" x 1 bolts, flat washers, and nuts. Tighten the bolts with a 15/16" socket and ratchet and 15/16" open end wrench.  

**Figure 3-4 Attach Quick Attach Rail**
6. Attach the antennas to the proper antennas connections on the Roof Module as shown in Figure 3-5.

**Note:** Some installations do not require all the antennas shown. Roof Modules (PN 200-0473-03 and later) no longer come equipped with the WiFi Antenna port. Hand tighten the connections. Do not over tighten.

7. Remove the locking pin from the Roof Rail.

**Figure 3-6 Removing the Locking Pin**
8. Place the Roof Module on the Roof Rail.

9. Re-insert the locking pin to lock the Roof Module onto the vehicle.

   **Figure 3-7  Locking Pin Inserted**

10. The Roof Module is now installed.

   **Figure 3-8  Roof Module Installed**

**Note:** Confirm that the Roof Rail and Roof Module are correctly aligned across the roof using the correct bracket holes so that it is perpendicular to the direction of travel. Confirm the alignment by measuring the distance from the each end of the rail to a known feature on the right and left side of the cab roof.
Display Installation

The **Display Installation** chapter contains information in the following sections:

- **Overview**
- **Installation Procedure**

**Overview**

This manual provides the instructions for installing the RAM mount ball in the cab so that the Display can be attached later. Refer to your Display user manual for instructions on installing the Display.

If the location shown for mounting the Display is being used by another piece of equipment, other mounting locations can be used. However, for best performance and ease of use, use the location shown in the installation manual.

**Note:** This installation requires that the Cab Roof Monitor Mount is installed on the vehicle. This mount is installed on the right side of the cab from the roof to the right, rear cab post. This mount is supplied by the vehicle manufacturer. If this mount is not present, the install kit (CNH PN 719602006) needs to be ordered from your vehicle service provider and installed. The CNH part number provided in this document is for reference only. Always verify that the part number is current and the correct one with your vehicle service provider prior to ordering the parts.

**Note:** If necessary, the U-Bolts used for this part of the installation can be trimmed with a hacksaw to shorten them. This may allow more mounting positions for the RAM arm.
Installation Procedure

1. Locate the accessory mounting bar along the right side window.

   Figure 4-1 Identify the Accessory Mounting Bar

2. Attach the RAM Mount Ball with two U-Bolts provided. Adjust the position of the mount and then tighten the nuts with a 7/16” open end wrench.

   Figure 4-2 Display Bracket Installed

3. Attach the rubber protectors on the end of the bolts.

   Note: Refer to the Display user manual for the remaining Display specific installation instructions.
Connecting System Cables

The Connecting System Cables chapter provides information in the following sections:

- Overview
- Vehicle Harness
  - AccuGuide/IntelliSteer Connector
  - Enabler Valve
- Main Cable Harness
  - Roof Module
  - Main Cable Harness Connections inside the Cab
  - ECU Data and Power Harness
- Power Supply Connection
  - Cab Power Connection
  - Battery Power Connection

Overview

The final step of the installation is to connect all the components installed with the various harnesses that come with the system. Refer to the Cable Diagram on Page 4, which shows all the necessary cable connections on the vehicle. Also refer to the Display user manual for additional instructions on how to connect the AutoSteer system to the Display.

Note: When routing harnesses, verify that all harnesses are routed away from moving parts and sharp objects. Secure the harnesses with cable ties to ensure they are not damaged.

Vehicle Harness

AccuGuide/IntelliSteer Connector

This connector connects the AutoSteer system to the factory AccuGuide or IntelliSteer Harness. The AccuGuide or IntelliSteer Harness connects to the various sensors and controllers on the vehicle required for AutoSteering. This connector should have been connected at the time the ECU4 was installed. If not, connect it now. Refer to the ECU4 Installation chapter for instructions on connecting this connector.

Enabler Valve

The Magnum and T8 vehicles have an Enabler Valve on the side of the factory supplied steering valve. In order to activate this valve, a separate wire from the ECU Magnum AccuGuide Adapter Harness needs to be run from the ECU4 to the Steering Valve. The steering valve and the enabler valve are different for the Small and Large Frame vehicles. Refer to Table 1-1 to determine which sub-category the system is being installed on. When directed, refer to the appropriate section for your vehicle.
All Vehicles

1. Open the rear window. Remove the cargo net clips on the lower and upper right side of the back wall.

   Figure 5-1   Remove Cargo Net Clip

   ![Cargo Net Clips](image)

2. Create a hole in the rubber grommet at the Cable Access Point at the right, rear side of the cab.

   Figure 5-2   Prepare the Cable Access Point

   ![Rubber Grommet](image)
3. Route Enable Valve Harness behind the rear cab upholstery and then out the back of the cab under the plastic molding.

   **Figure 5-3 Route Cable to Cab Cable Access Point**

4. Route the Enable Valve Harness to the Cab Access Point under the plastic molding. Then route the cable out the back of the cab through the Cab Access Point.

   **Figure 5-4 Route Enable Valve out Cab Access Point**
5. Locate the rear cover.

Figure 5-5 Rear Cover

6. Remove the bottom bolt on both sides of the rear cover with a 13mm socket and ratchet and 13mm open end wrench. The cover will then pull off the back of the vehicle.

Figure 5-6 Cover Bolt on Right Side under Rear Fender Shown (Second one on the Left Side)
Small Frame Vehicles

1. Identify the hood latch at the front, left side of the engine.
   
   Figure 5-7  Small Frame Hood Latch

2. Pull the hood latch out and then lift the hood.

3. Locate the steering valve area on the right side of the vehicle below the front of the cab.
   
   Figure 5-8  Steering Valve Location
Vehicle Harness

4. Route the Enabler Valve Harness down the back of the cab, under the right side of the cab, and towards the steering valve.

5. Locate the Enabler Valve connector on the right side of the steering valve. Route the Enabler Valve Harness to this point.

**Note:** Be sure to route the harness away from the exhaust system. If the harness comes in contact of the exhaust system, it will be damaged. When finished with the installation, verify that the Enabler Valve Harness is secured thoroughly with cable ties to prevent any contact and to keep the harness a safe distance from the exhaust system.

6. Disconnect the vehicle’s Enabler Valve Harness from the steering valve. Remove the cap from the AutoSteer Enable Valve Harness and place it on the vehicle’s harness to protect it.

7. Attach the AutoSteer Enabler Valve Harness to the steering valve’s Enabler Valve connector.

**Figure 5-10 Enabler Valve Harness Connected**

8. Secure all Harnesses with cable ties.
Large Frame Vehicles

1. Identify the hood latch at the front of the vehicle.
   
   Figure 5-11 Small Frame Hood Latch

2. Pull the hood latch out and then lift the hood.

3. Locate the steering valve area on the left side of the vehicle below the front of the cab.
   
   Figure 5-12 Steering Valve Location
4. Route the Enabler Valve Harness down the back of the cab, under the left side of the cab, and towards the steering valve.

5. Locate the Enabler Valve connector on the left side of the steering valve. Route the Enabler Valve Harness to this point.

**Note:** The steering valve and Enabler Valve connector are difficult to reach and are deep inside the engine compartment. To access the connector, the plastic loom over the existing hydraulic lines may need to be slid to the side. Use a short ladder to access this area.

6. Disconnect the vehicle’s Enabler Valve Harness from the steering valve. Remove the cap from the AutoSteer Enable Valve Harness and place it on the vehicle’s harness to protect it.

7. Attach the AutoSteer Enabler Valve Harness to the steering valve’s Enabler Valve connector.

8. Secure all Harnesses with cable ties.
Main Cable Harness

Roof Module

1. Attach the Main Cable Harness “Roof Module” connector to the Roof Module.

   Orient the 12-pin connector so the word “TOP” on the cable connector is pointing upwards (towards the sky). Insert the cable connector into the Roof Module. Push the connector in until it “clicks” and locks in place. To remove, grasp the connector to compress the two side latches and pull away from the Roof Module.

   **Note:** Do not force the connector. If the connector does not engage easily, check for the correct orientation of the connector.

**Figure 5-15** Roof Module Main Cable Harness Connection

One Side Latch Shown
Main Cable Harness

2. Attach the Ethernet connector to the Roof Module.

Orient the Ethernet cable connector with the connector under the receiver so the contacts on the cable connector are pointing towards the back of the vehicle. Slide the cable connector into the receiver and rotate the plastic bayonet sleeve clockwise to lock the connector. The bayonet sleeve will “click” when it fully engages and locks. To remove the cable, rotate the bayonet sleeve counterclockwise until it “clicks” and pull the connector down or away from the Roof Module.

*Note:* Do not force the connector. If the connector does not engage easily, check for the correct orientation of the connector.

---

**Figure 5-16 Roof Module Ethernet Connection**

![Bayonet Sleeve](image)

3. Remove the two plugs from the top of the right, rear cab post with a flat screwdriver.

*Figure 5-17 Remove Plugs*
4. Route the harness along the back of the Roof Rail and secure with cable ties.

**Note:** Do not attach the cable ties around the top or bottom parts of the Roof Rail so the Roof Module can freely slide along the Roof Rail when it is installed and removed.

5. Route the harness to the back of the cab along the Roof Rail Mounting Bracket and secure with a cable tie.

6. Route the harness to the right, rear cab light and secure with a cable tie.

7. Route the harness down the rear, right cab post. Secure at the top with a cable tie where the plugs were removed. Secure on the bottom with a metal cable clip. Remove the bottom bolt with a 13mm socket and ratchet to attach the metal clip.

8. Route the excess cable into the cab through the Cab Cable Access Port.

**Figure 5-18 Cable Tie Locations**
**Main Cable Harness Connections inside the Cab**

*Figure 5-19 shows all the Main Cable Harness connectors used inside the cab.*

*Figure 5-19 Main Cable Harness Connectors*

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*Table 5-1 shows the functions of the Main Cable Harness cab connectors. Refer to your Display user manual for instructions on connecting the Main Cable Harness connections shown to the correct ports and harnesses on the Display and Display harnesses.*

**Table 5-1   Main Cable Harness Connections**

<table>
<thead>
<tr>
<th>Main Cable Harness Connector</th>
<th>Connected to</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISPLAY ETH</td>
<td>Display Ethernet Port (RJ-45)</td>
</tr>
<tr>
<td>DISPLAY COMM</td>
<td>Display Communication Port (DB-9)</td>
</tr>
<tr>
<td>VEHICLE POWER</td>
<td>12 Volt Power</td>
</tr>
<tr>
<td>SAM POWER</td>
<td>ECU Power</td>
</tr>
<tr>
<td>SAM DATA</td>
<td>ECU Data</td>
</tr>
<tr>
<td>CAN</td>
<td>Not Used in this Installation</td>
</tr>
</tbody>
</table>
**ECU Data and Power Harness**

1. Connect the 12-pin data and 2-pin power connectors between the Main Cable Harness and the ECU Data and Power Harness where they meet at the back panel.

   *Figure 5-20  ECU Data and Power Connectors*

2. Neatly coil all remaining harnesses and secure behind the back panel. Reattach all panels and parts that were removed during the installation process.

**Power Supply Connection**

The following sub-sections describe basic instructions for locating the available power sources on the vehicle:

- **Cab Power Connection**
- **Battery Power Connection**

**Note:** The AutoSteer system does not get its power from these connections in the standard installation. This section is provided only as a reference to the installer to help locate the power supply points to provide power to the Display.

Use this section to identify the location of the power source used by the Display installation. Refer to your Display user manual to determine which source should be used. Attach the Display power cables as described in the Display manual and then attach the AutoSteer Main Cable Harness’s “Vehicle Power” to the connector provided by the Display installation harnesses.

**Note:** Refer to your Display user manual before connecting the AutoSteer system to vehicle power.

**Note:** The AutoSteer Main Cable Harness’s “Vehicle Power” connector is always connected to a Display harness with switched power. It is never connected directly to the vehicle accessory port. Connecting the Main Cable Harness directly to the vehicle accessory port will cause the AutoSteer system to remain powered up even when the vehicle and Display are shut off. This can lead to unexpected battery drain when the system is not in use.
**Cab Power Connection**

Figure 5-21 Typical Accessory Port Connection Diagram

1. Locate the 12V power outlet on the rear, right side of the cab on the side of the side console panel.
2. Use this 12V accessory power connector only if the Display user manual specifies connecting to power inside the cab.

**Figure 5-22 Accessory Port**
Battery Power Connection

Figure 5-23 Typical Battery Cable Connection Diagram

Small Frame Vehicles

1. Identify the battery compartment on the right side of the vehicle below the cab. Remove the four hand screws to remove the panel.

Figure 5-24 Battery Compartment Location
2. Connect to the vehicle battery only if the Display user manual specifies a direct battery connection.

**Figure 5-25 Vehicle Batteries**

**Note:** A battery cable is provided with the AutoSteer system when a direct battery connection is required.

**Large Frame Vehicles**

1. Identify the battery compartment on the left side of the vehicle below the cab. Remove the two hand screws on the bottom and the two hand screws on the top to remove the panel.

**Figure 5-26 Battery Compartment Location**
2. Connect to the vehicle battery only if the Display user manual specifies a direct battery connection.

**Figure 5-27 Vehicle Batteries**

*Note:* A battery cable is provided with the AutoSteer system when a direct battery connection is required.
Warning Label

Install the Warning Label on the cab window in a position that is easy to read and does not obstruct the driver’s view of the road or surrounding obstacles.

**Note:** Install the Warning Label with the language that best matches the operator’s language. If necessary, install labels in multiple languages. Warning labels are provided in the following languages: English, French, German, and Spanish.

**Figure 5-28  AutoSteer Warning Label**
Post-Installation Procedures and Information

The Post-Installation Procedures and Information chapter provides information in the following sections:

- Create New Vehicle
- Calibration and Tuning Guidelines

Once the entire AutoSteer system, including the Display and Display Harnesses, have been installed on the vehicle, the procedures and notes provided in this chapter must be followed to complete the installation and prepare the vehicle for full AutoSteer capabilities.

Create New Vehicle

The operator must first create a new vehicle profile. This configures the hardware so the Display can properly communicate with the various sensors and components on the vehicle. Follow the procedure below to create a new vehicle.

1. Ensure that the vehicle is still in Park and/or the park brake is set to prevent the vehicle from moving.
2. Ensure the vehicle is off. Do not start the vehicle yet.
3. Power up the AutoSteer system.
4. Follow the instructions provided in the Display user manual to create a new vehicle.

Note: Select AccuGuide Ready or IntelliSteer Ready as the controller for the specific vehicle model when setting up your vehicle on the AutoSteer system Display.

Calibration and Tuning Guidelines

Note: For optimal steering performance, the AutoSteer system must be fully calibrated and then tuned.

1. Start the vehicle and move it to an open area.
2. Power up the AutoSteer system.
3. Follow the instructions in the Display user manual to navigate to the Vehicle tab from the AutoSteer Setup screen. The current vehicle should have already been set up and selected during the Create New Vehicle section, if not, select the current vehicle profile in the Manage Vehicle screen.
4. Select Auto Calibrate from the Vehicle screen and follow the on screen procedure to calibrate the vehicle.
5. If additional performance is required, follow the instructions provided by the Display user manual to Tune the vehicle after the calibration has completed. Under normal circumstances this should not be necessary.

**Vehicle AutoSteer Lock out Switch**

Vehicles with the AccuGuide or IntelliSteer Ready system have a built-in AutoSteer Lock out toggle switch that disables the AutoSteer system when it is engaged. If this toggle switch is set to the locked position, the AutoSteer system will not operate. This switch should be locked while the vehicle is on public roads to prevent accidental engagement of the AutoSteer system.

When the vehicle is ready to AutoSteer and in a field area, verify that the AutoSteer Lock out toggle switch is in the unlocked position and that the back light is off on the switch. The switch is located on the right side console.

Refer to your vehicle’s Owner’s Manual for further details on switch function and operation.

**Figure 6-1  AutoSteer Lock Toggle Switch**
Final Hardware Installation Checklist

This Final Hardware Installation Checklist contains the verification steps necessary after the installation of the AutoSteer system.

Note: The Final Hardware Installation Checklist is on the back of this page. You should fill out this form and keep a copy of this checklist for future reference when servicing the AutoSteer system.

Machine Model: ___________________________ Year: _________ Serial #: ___________________________

Customer Name: ________________________________________________________________________________

Location/Address: _______________________________________________________________________________

AutoSteer Installation Kit Part Number: ___________________________________________________________________

NOTES

_____________________________________________________________________________________________________

_____________________________________________________________________________________________________

_____________________________________________________________________________________________________

_____________________________________________________________________________________________________

_____________________________________________________________________________________________________

Name of Installer: ___________________________ Date: ___________________________
Final Hardware Installation Checklist

1. Display Bracket is installed and all fasteners are tight.
2. Display installed and all fasteners are tight.
3. Roof Rail and Roof Module are installed and all fasteners are tight.
4. ECU4 is installed and all fasteners are tight.
5. All cable ends are connected.
6. All cables are secured with cable ties.

AutoSteer Performance Checklist

1. Completed the AutoSteer system calibration.
2. Completed the AutoSteer system tuning
3. Line acquisition is satisfactory.
4. On-line steering is satisfactory.
5. Manual Override (kick-out) is working.
6. Steering speed from lock to lock is satisfactory. Time _________ Sec

Note: See the Post-Installation Procedures and Information chapter for additional information.