

1 Safety Information

As the operator of the vehicle, you are responsible for its safe operation. The autosteering system is not designed to replace the vehicle's operator. After installation, ensure all screws, bolts, nuts, and cable connections are tight and all cables have been secured to prevent them from being damaged.

The warnings starting below and those throughout this manual (indicated by either graphic at right) provide information to identify hazards associated with potential injury or death and tell you how to avoid them.



Read and understand this manual and all the warnings below before installing, operating, or performing maintenance or service. **FAILURE TO DO SO MAY CAUSE IRREVERSIBLE DAMAGE TO YOUR SYSTEM.**

Keep this manual and all related safety information with the manuals for your vehicle. For questions or further assistance, contact Customer Support.

Safety Information and Warnings



To understand the potential hazards associated with the operation of an autosteer equipped vehicle, read the provided documentation before installing or operating the autosteering system.



To prevent accidental death or injury from being run over by the vehicle or automated motion of the steering system, never leave the vehicle's operator seat with autosteering engaged.



To prevent accidental death or injury from being run over by the vehicle, verify that area around the vehicle is clear of people and obstacles before startup, calibration, tuning, or use of autosteering.



To prevent the accidental engagement of autosteering and loss of vehicle control while driving on roads, shut down autosteering. Never drive on roads or in public areas with autosteering powered up.



To prevent accidental falls, maintain a stable position on the vehicle's platform or stairs when installing or removing the GPS antenna. If the vehicle does not provide a safe platform, use a ladder to safely access the vehicle's roof.



To avoid electrical shock hazards, remove the GPS antenna and/or other antennas from the vehicle before driving under low structures or low electrical power lines.



If the installation requires work on the vehicle's hydraulic system, read and understand the hydraulic sections of the vehicle manufacturer's operator manual before starting the installation. Wear hand and eye protection while performing hydraulic system maintenance. Relieve hydraulic system pressure before servicing the hydraulic system.

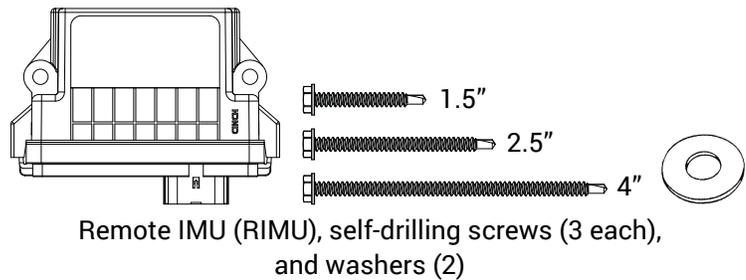
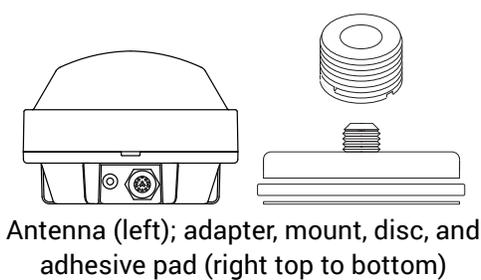
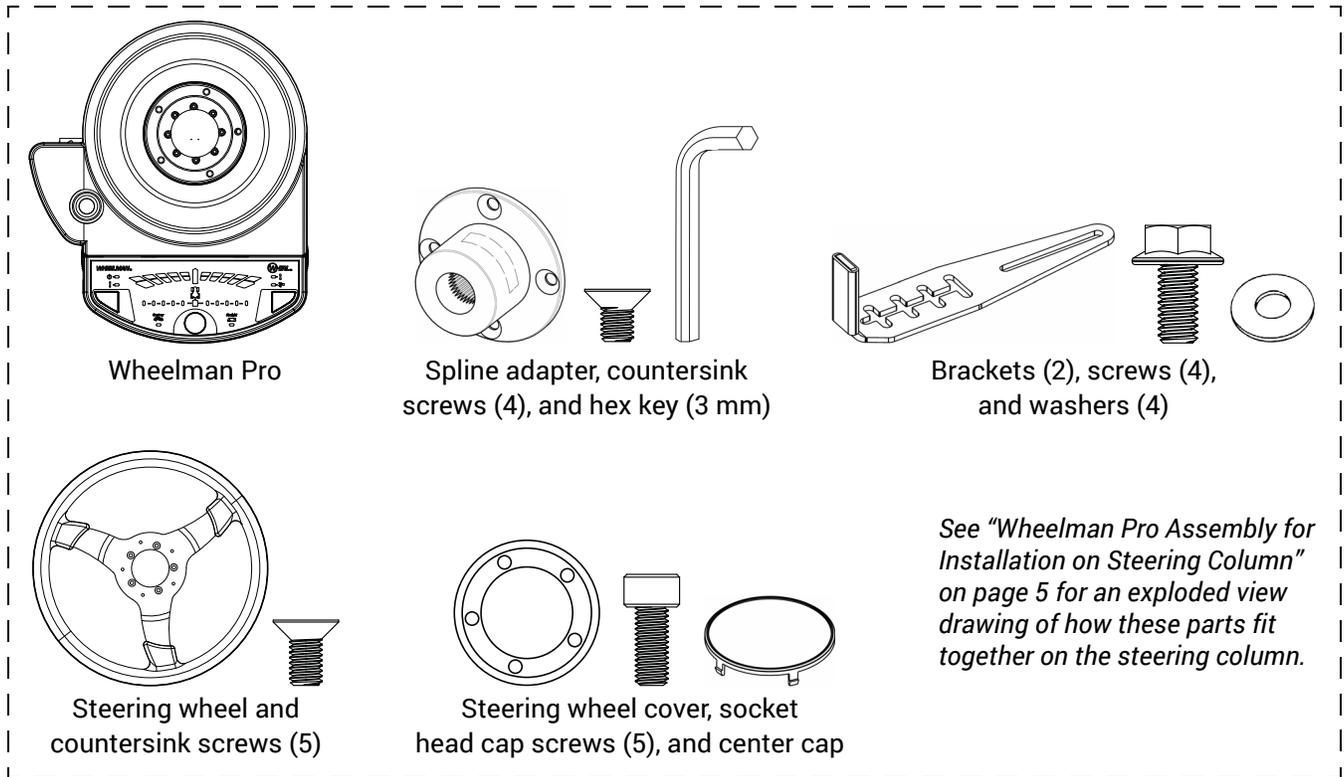


If the vehicle has a wheel angle sensor as part of the installation, because the steering mechanism could move suddenly and cause severe injury or death, always shut off the vehicle when working around the steering axle while installing, checking, and adjusting the wheel angle sensor and rod lengths.

2 Parts for Your Installation

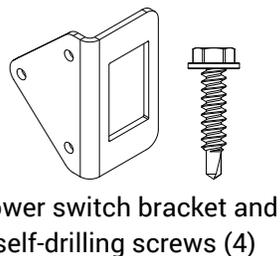
Use the diagrams that follow to:

- Below - verify you have all Wheelman Pro parts
- Page 4 - see an overview of cable connections
- Page 5 - see how the parts in the dotted rectangle below fit together on your steering column



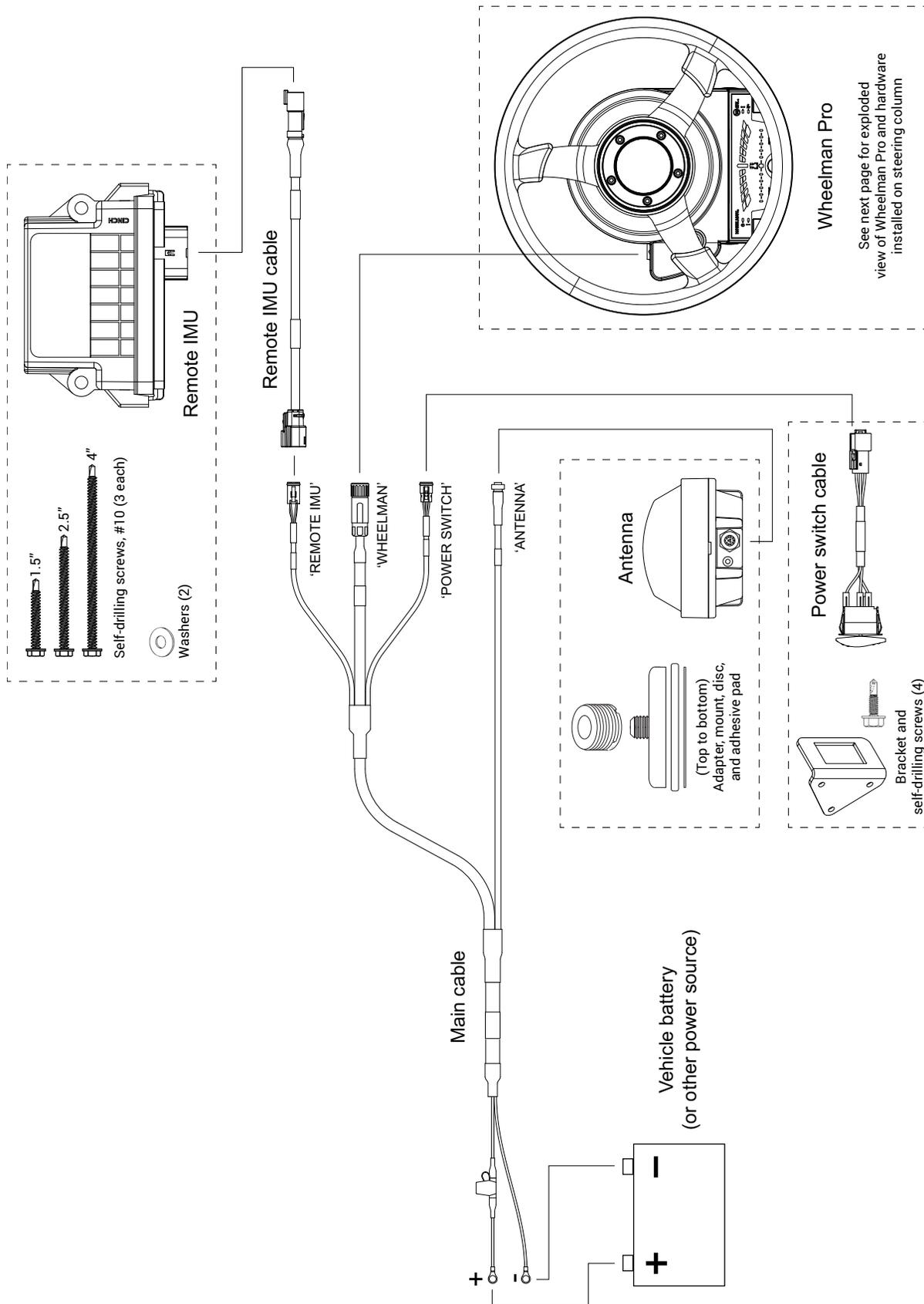
SEE CONNECTION
DIAGRAM ON PAGE 5

Cables - main (power/data),
RIMU, and power switch



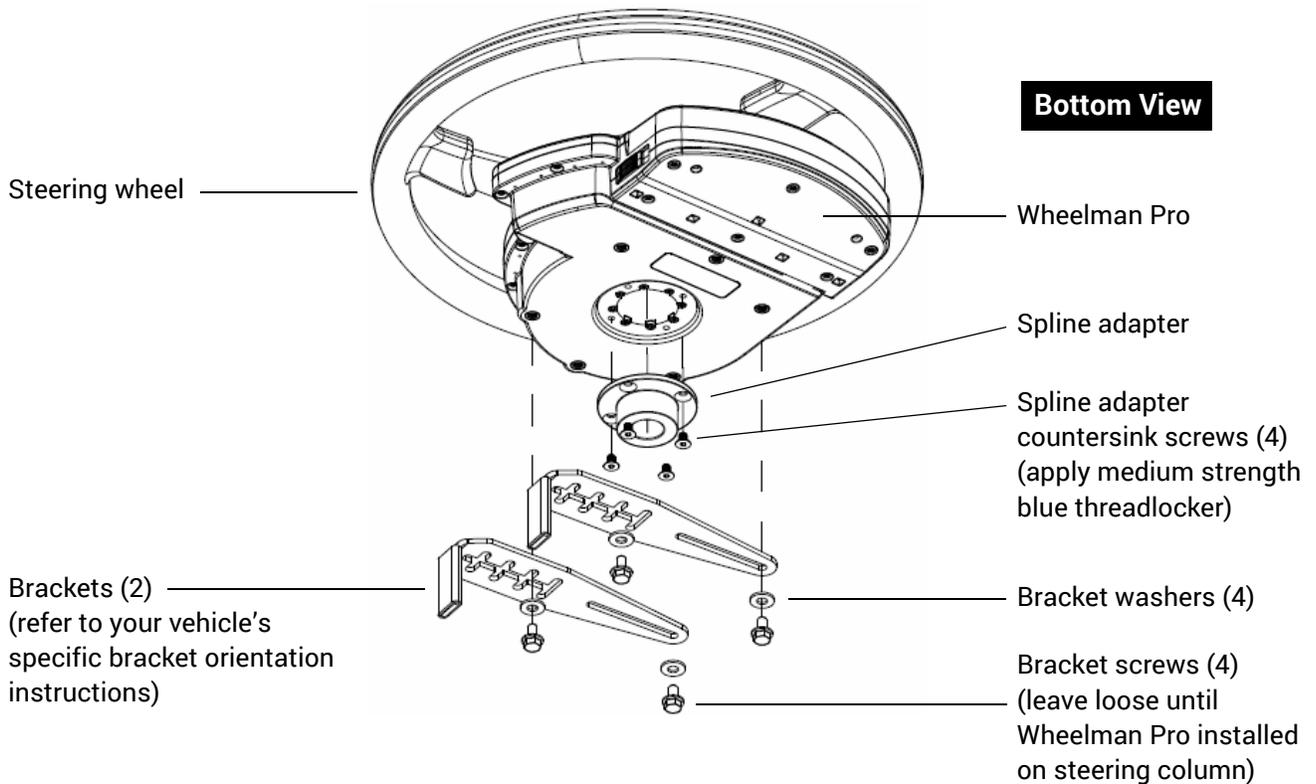
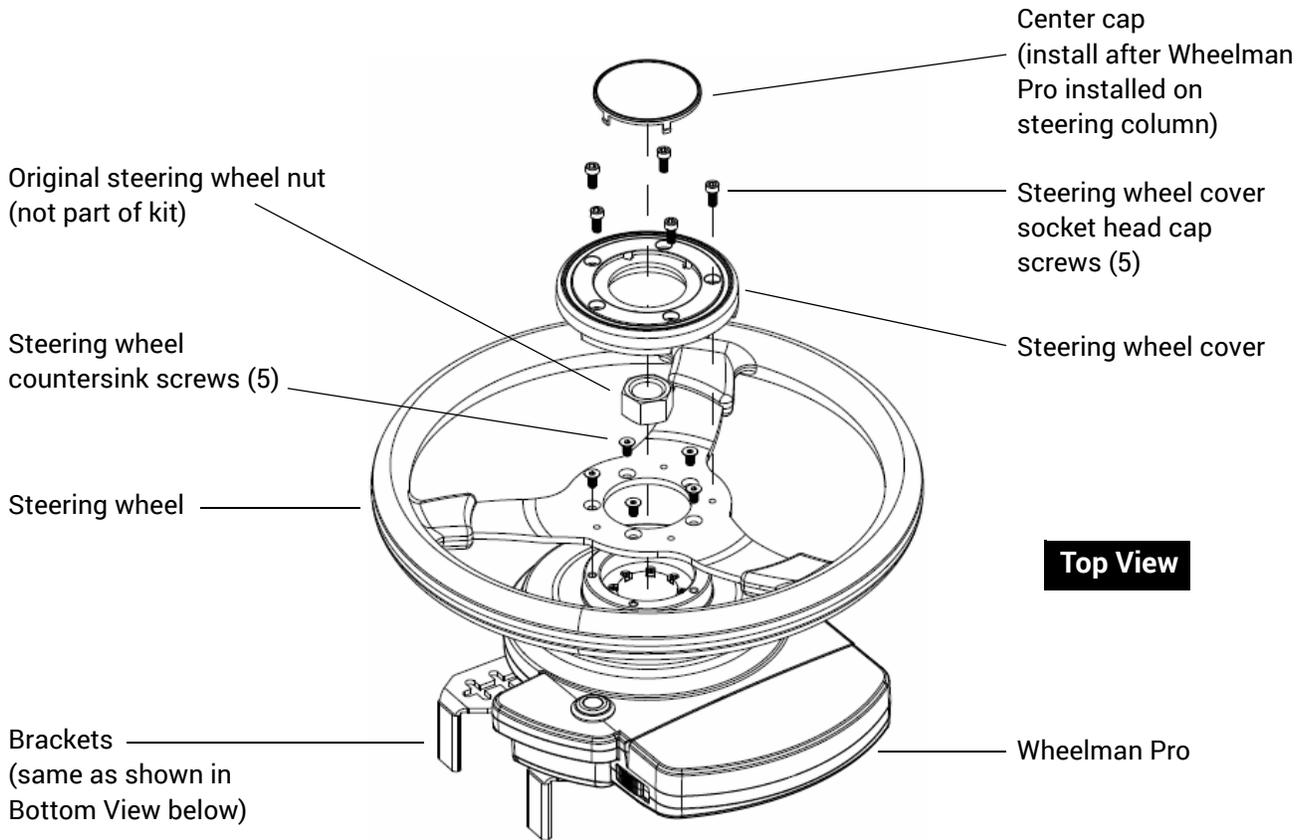
Wheelman Pro Connection Diagram

Review the diagram below to see how the Wheelman Pro parts fit together. The diagrams on the next page show how the Wheelman Pro is assembled on the steering column.



Wheelman Pro Assembly for Installation on Steering Column

Assemble the Wheelman Pro components as shown below. You can then install this assembly on your vehicle's steering column.



3 Install Wheelman Pro

Using the diagrams on the previous pages as a reference, complete this section to install Wheelman Pro on your vehicle.

NOTE:

Before beginning the installation:

- *On a clean surface lay out all the components and check them against the diagram on the previous pages.*
- *Become familiar with the components and where they are to be installed.*
- *Work out how the harness is to be routed into/out of the cab (typically, through the rear window for closed cabs) to the battery and antenna. It is recommended to start at the battery and work back into the cab.*

a Assemble the components that you will install on the steering column

You may want to perform these steps on a flat surface, such as a work bench. These steps show installing the following on the Wheelman Pro: spline adapter, then brackets, and finally the wheel; however, you may install them in any order. You can then install this assembly as one piece on the steering column in section c on page 8.

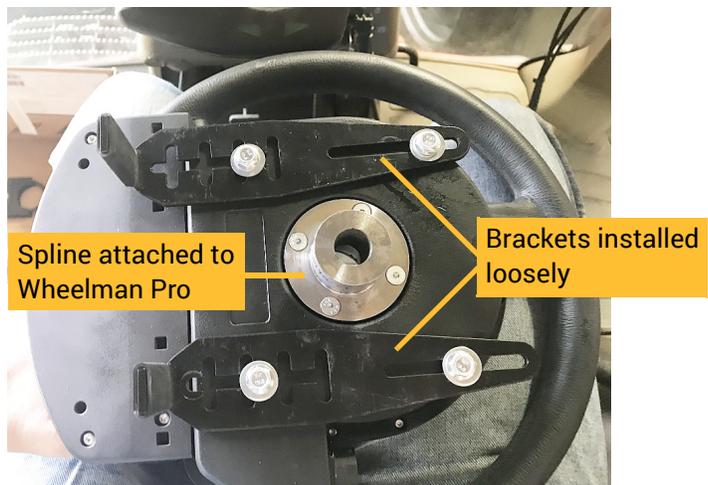
Using the parts overview on page 3, the assembly diagram on page 5, and the photos that follow as reference, assemble the components while noting the following:

- Leave the brackets loose—you will tighten these later.
- Do not install the steering wheel center cap yet—you will install this later.

NOTE:

The orientation of the brackets may vary for different vehicles. Review “Appendix: Bracket Orientation Examples” starting on page 11 before installing the brackets on the Wheelman.

1. On the underside of the Wheelman Pro, install the spline adapter and the brackets:
 - a. Apply blue threadlocker to the four spline adapter countersink screws, then using the screws and the hex key, install the spline adapter on the bottom of Wheelman Pro. Torque screws to 6 N·m (53 in-lb).
 - b. Using the four bracket screws and four bracket washers, attach the two brackets as shown at right; leave the screws loose (do not tighten).



2. On the top side of the Wheelman Pro, install the new steering wheel (below left) and the steering wheel cover (below right)—although the photos below show the Wheelman already placed on the steering column, you may assemble these components on a flat surface, such as a workbench, before installing the assembly on the steering column. If you want to assemble these components while installing Wheelman on the steering column, complete step b below (removing the existing steering wheel) first.
 - a. Place the new steering wheel on top of the Wheelman Pro, then using the five countersink screws that came with the steering wheel, fasten the wheel to the Wheelman Pro.
 - b. Using the five socket head cap screws, install the steering wheel cover. Do not overtighten.



b Remove the existing steering wheel

1. Remove the steering wheel center cap and discard.
2. Remove and retain the steering wheel nut and washer (below left)—you will reuse them later.
3. Using a steering wheel puller, rubber mallet, or suitable tool, remove the steering wheel (below right). If necessary, consult your equipment dealer if you are unsure of the correct procedure for removing the steering wheel.



C Install the Wheelman Pro assembly on the steering column

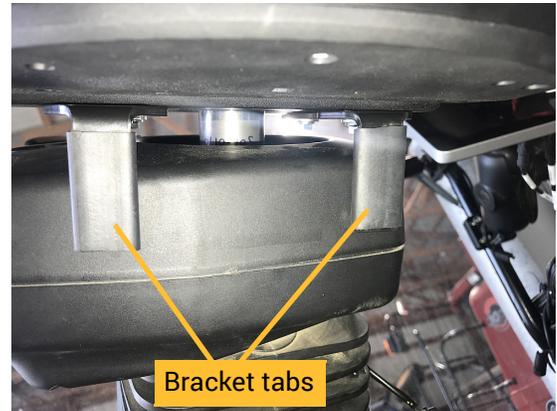
1. Place the Wheelman Pro assembly (from section a) on the steering column with the power button and connector to the left of the steering column.



NOTE:

The orientation of the brackets may vary for different vehicles. Review “Appendix: Bracket Orientation Examples” starting on page 11 for help in making sure the brackets are snug against the steering console and that there is proper clearance between Wheelman components and vehicle levers and switches for proper operation.

2. Push the two bracket tabs against the steering column plastic then tighten the bracket screws with a 10 mm wrench.
3. Using the steering wheel washer and nut from when you removed the old steering wheel, secure the Wheelman Pro to the steering column. Tighten the nut. **DO NOT OVERTIGHTEN.**
4. Snap the center cap into the steering wheel cover (see photo in step 1 above).



d Install the Remote IMU (RIMU)

⚠ WARNING: Before drilling (or using self-drilling screws) in the cab, make sure there is nothing that can be damaged by the drilling or by any self-drilling screws used to secure the RIMU. Secure anything that could be damaged away from where the screws come through. The photo at right is an example of a pre-drilling check; it shows an under-floor cabling compartment.



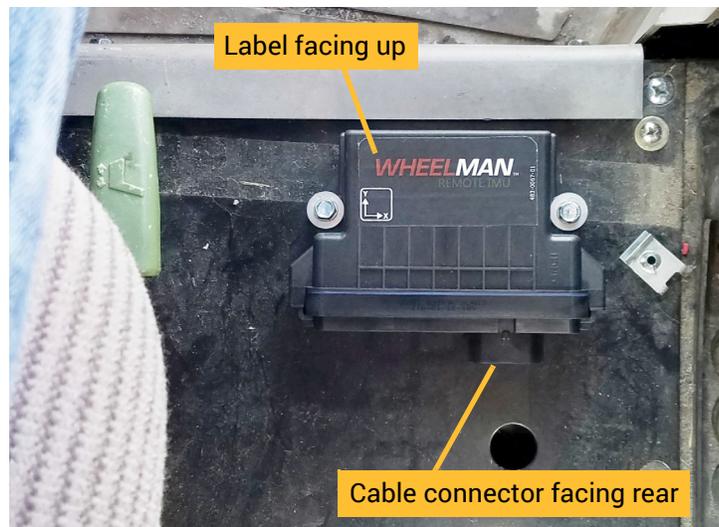
When installing the Remote IMU (RIMU):

- The mounting location must be solid to the vehicle frame or cab and be vibration-free.
- The RIMU must not move independently of the vehicle (not loose on the cab floor).
- The RIMU must be square to the floor and to the centerline of the vehicle.
- There must be sufficient clearance around the seat to accommodate the RIMU as the seat suspension moves up and down even with the seat at its lowest level (for example, with all the air removed).
- There must be sufficient clearance to rotate the seat without interfering with the RIMU.
- Do not mount the RIMU where it can:
 - Interfere with any of the vehicle's seat or other control levers and knobs.
 - Interfere with the operator's visibility while operating the vehicle.
 - Do not mount the RIMU where it can be damaged by falling objects or where other materials can be piled on it.

To install the Remote IMU:

1. Review the requirements above.
2. Using the two self tapping hex screws and washers, install the RIMU in your preferred location. Do not overtighten.

The photo at right shows the RIMU installed on the cab floor, to the right of the operator's seat, with the X-Y label pointing up, and with the connector pointing toward the rear. **You will enter the label and cable directions during vehicle setup in the Whirl app.**



e Mount the antenna on the vehicle roof

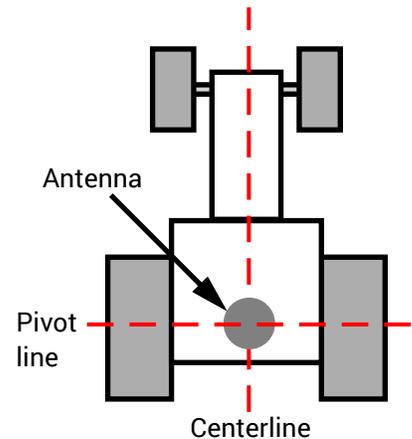
1. Clean and dry the vehicle surface where you will attach the antenna mounting plate.
2. Remove the paper backing from the adhesive on the back of the mounting plate (see photo at right).



3. Position the mounting plate and press down hard for proper adhesion. When determining the location of the mounting plate, ensure that when you mount the antenna on the plate (next step) the antenna will be on the vehicle's centerline and pivot line.

NOTE: Depending on your vehicle, you may not be able to place the antenna on the centerline and/or pivot line. If this occurs, place the antenna as close as possible to the centerline and pivot line.

You will then measure the antenna left/right offset (distance left or right of centerline) and the antenna pivot (front or rear of pivot line) and enter these values in the Whirl app during vehicle setup.



4. Attach the antenna to the antenna mounting base (see photo at right). Hand tighten only.



f Route and connect the cables

When routing cables:

- Stow cabling under carpets and at the edges of the cab.
- Store excess cable lengths with a minimum six-inch bend radius.
- Avoid high-temperature exposure (for example the exhaust, exhaust manifold).
- Hand tighten cables only—do not use tools.

NOTE: Some machines are equipped with pop out tabs that you can remove and replace with the power switch (left photo). If no tab is available, you can use the power switch bracket (right photo), mounting it in the cab in your preferred location. Turn the power switch off before connecting the main cable to the battery.



Appendix: Bracket Orientation Examples

To help you install your Wheelman Pro, the following table provides six bracket orientation examples based on various steering column layouts.

If your steering column looks like this

Install your brackets similar to this

Example 1



Installation Notes:

Ensure brackets are snug against console then tighten bracket screws.

Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.



If your steering column looks like this

Install your brackets similar to this

Example 2



Installation Notes:

Ensure brackets are snug against console then tighten bracket screws.

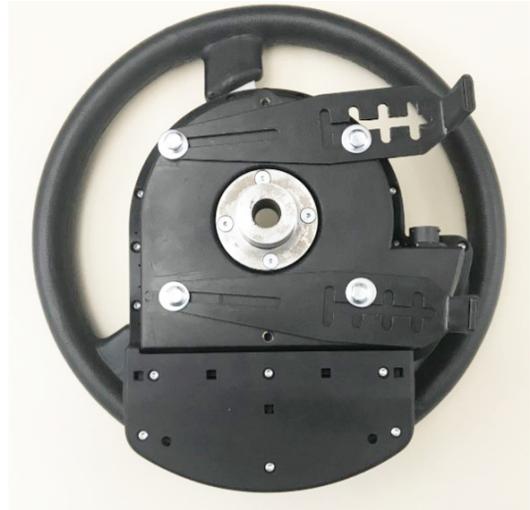
Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.



If your steering column looks like this

Install your brackets similar to this

Example 3



Installation Notes:

Ensure brackets are snug against console then tighten bracket screws.

Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.



If your steering column looks like this

Install your brackets similar to this

Example 4



Installation Notes:

Ensure brackets are snug against console then tighten bracket screws.

Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.



If your steering column looks like this

Install your brackets similar to this

Example 5



Installation Notes:

Ensure brackets are snug against console then tighten bracket screws.

Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.



If your steering column looks like this

Install your brackets similar to this

Example 6



Installation Notes:

Ensure brackets are snug against console then tighten bracket screws.

Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.

