

# Wheelman Pro Installation Guide

Fit Kit: 810-0027-01

## Fits the Following Vehicles

### AGCO

DT-160	RT-100	RT-135
DT-180	RT-100A	RT-140A
DT-180A	RT-110A	RT-145
DT-200	RT-115	RT-150
DT-200A	RT-120	RT-155A
DT-205B	RT-120A	RT-165A
DT-220A	RT-130	RT-180A
DT-225		
DT-225B		
DT-240A		
DT-250B		
DT-275B		

### Case IH Magnum

180	220	250	305	370
190	225	260	310	380
200	235	275	315	
210	240	280	335	
215	245	290	340	

### Case IH MX

100	140	200	240	285
100C	145	210	245	305
110	150	215	255	
120	170	220	270	
135	180	230	275	

### Challenger MT

425B	535B	585D	655C
445	535D	585E	655D
445B	545	595B	665
445D	545B	595D	665B
455B	545D	595E	665C
465B	555B	635	665D
465D	555D	635B	665E
475B	555E	645	675C
485D	565	645B	675D
515D	565B	645C	675E
515E	565D	645D	685C
525B	565E	645E	685D
525D	575B	655	685E
535	585B	655B	

### Massey/Ferguson

5425	6270	6499	8280
5435	6290	7465	8450
5445	6350	7475	8460
5450	6360	7480	8470
5455	6455	7485	8480
5460	6460	7490	8650
5465	6465	7495	8660
5470	6475	8220	8670
5475	6480	8240	8680
5480	6485	8245	8690
6245	6490	8250	
6255	6495	8260	
6265	6497	8270	

### McCormick

<i>MC</i>	<i>MTX</i>	<i>TTX</i>	<i>ZTX</i>
95	110	190	230
100	120	210	260
105	125	230	280
115	135		
120	140		
130	145		
135	150		
	155		
	165		
	175		
	185		
	200		

### New Holland

T8.275	T8010	TG210
T8.300	T8020	TG215
T8.320	T8030	TG230
T8.330	T8040	TG245
T8.350	T8050	TG255
T8.360		TG275
T8.380		TG285
T8.390		TG305
T8.410		
T8.420		
T8.435		

### Quadtrac

375	470	580
385	485	600
425	500	620
435	540	
450	550	

### Rowtrac

350	450
370	470
400	500
420	

### Steiger

330	385	450	540
335	400	480	550
350	420	485	580
370	430	500	600
380	435	535	620

### STX

275	380	480
280	425	500
325	430	530
330	440	
375	450	

# How to Use This Guide

This installation guide lists all the parts and provides instructions on how to install Wheelman Pro on the above vehicles. Read this manual thoroughly before beginning the installation.

- 1** Read and understand all safety warnings - page 3
- 2** Review the list of tools/items you may need to install Wheelman Pro - page 3
- 3** Review how your Wheelman Pro parts fit together - starting on page 4
- 4** Install Wheelman Pro - starting on page 7

# 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.

# 2 Tools/Items Needed for Installation

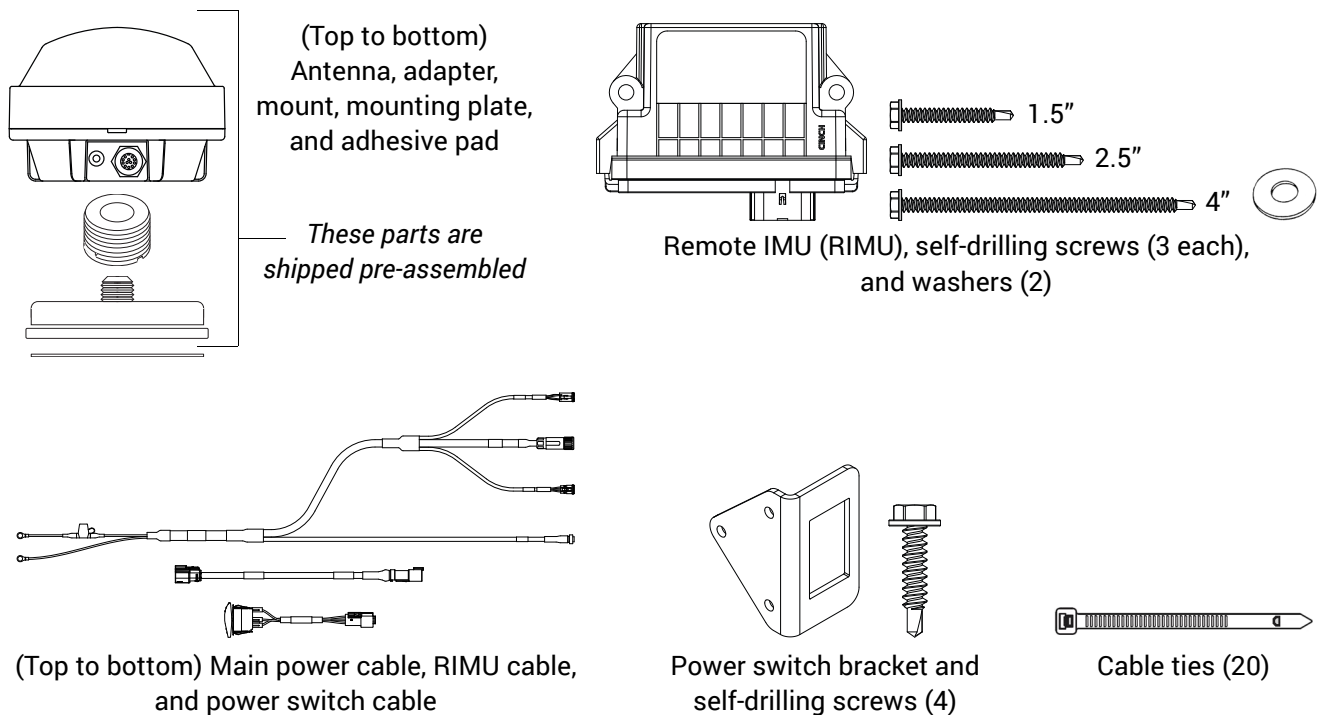
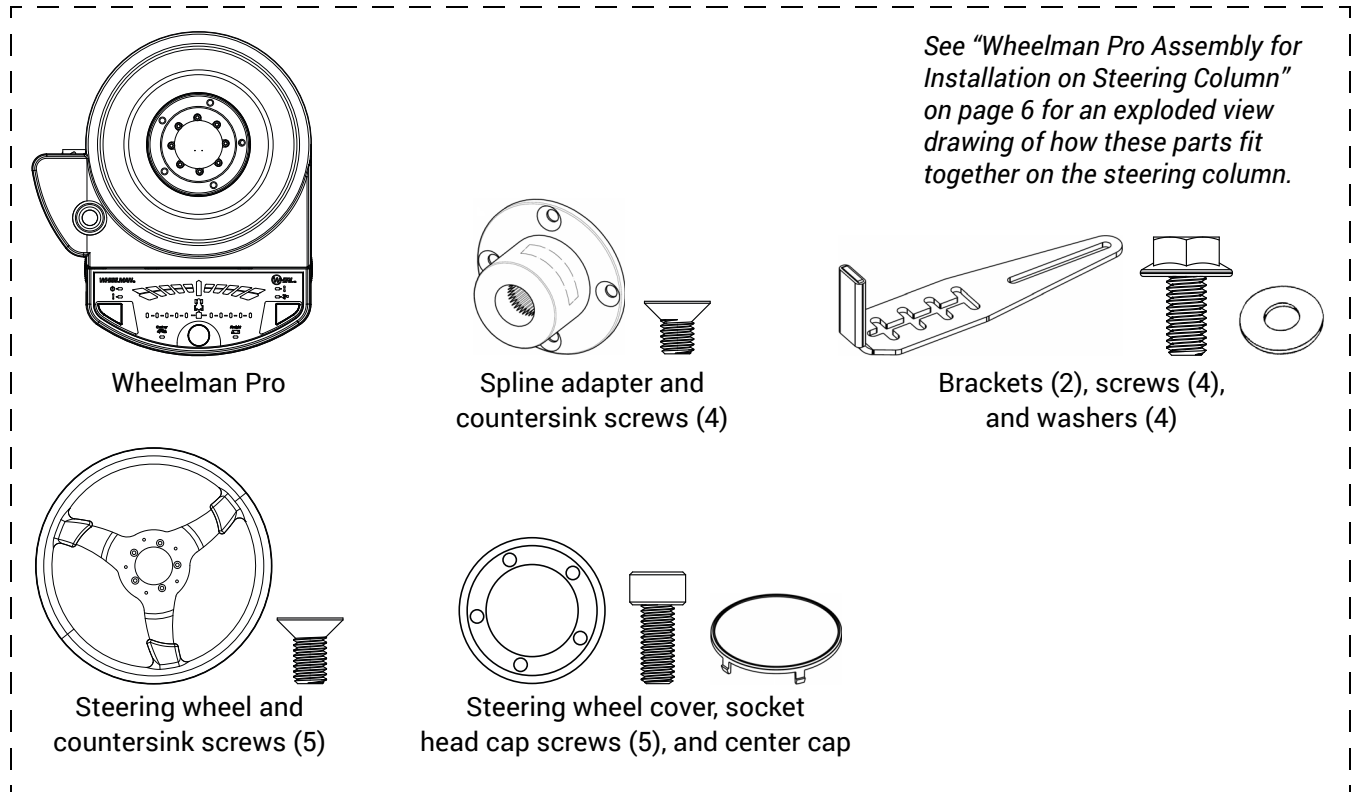
Make sure you have the right tools, such as:

- Wrenches, socket set, and screwdrivers
- Hex keys (4 mm and 5 mm)
- Hammer or steering wheel puller
- Torque wrench (in-lb)
- Blue threadlocker (medium strength)
- Tape measure (for vehicle measurements)

### 3 Parts for Your Installation

Use the diagrams that follow to:

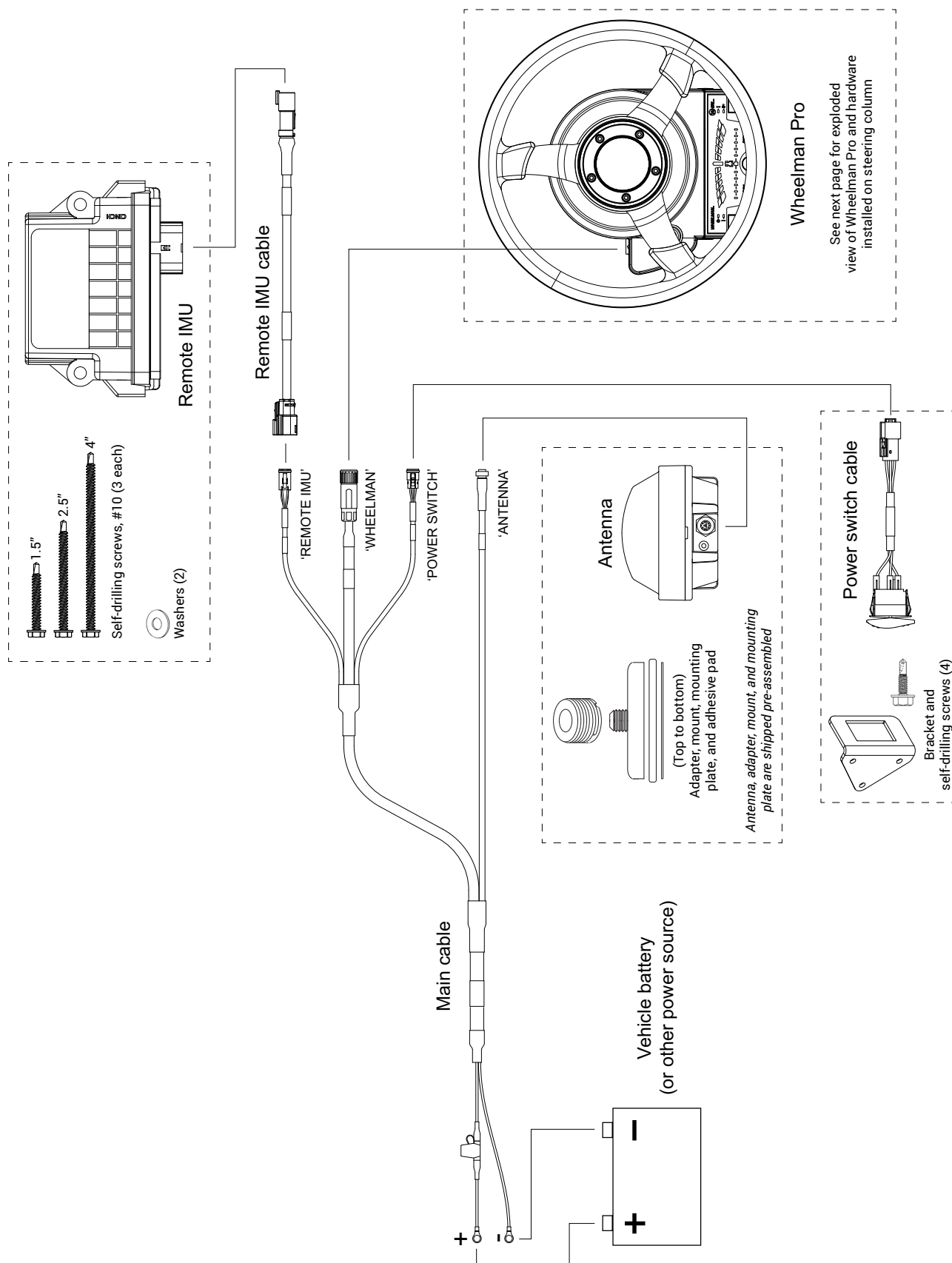
- Below - verify you have all Wheelman Pro parts
- Page 5 - see an overview of cable connections
- Page 6 - see how the parts in the dotted rectangle below fit together on your steering column





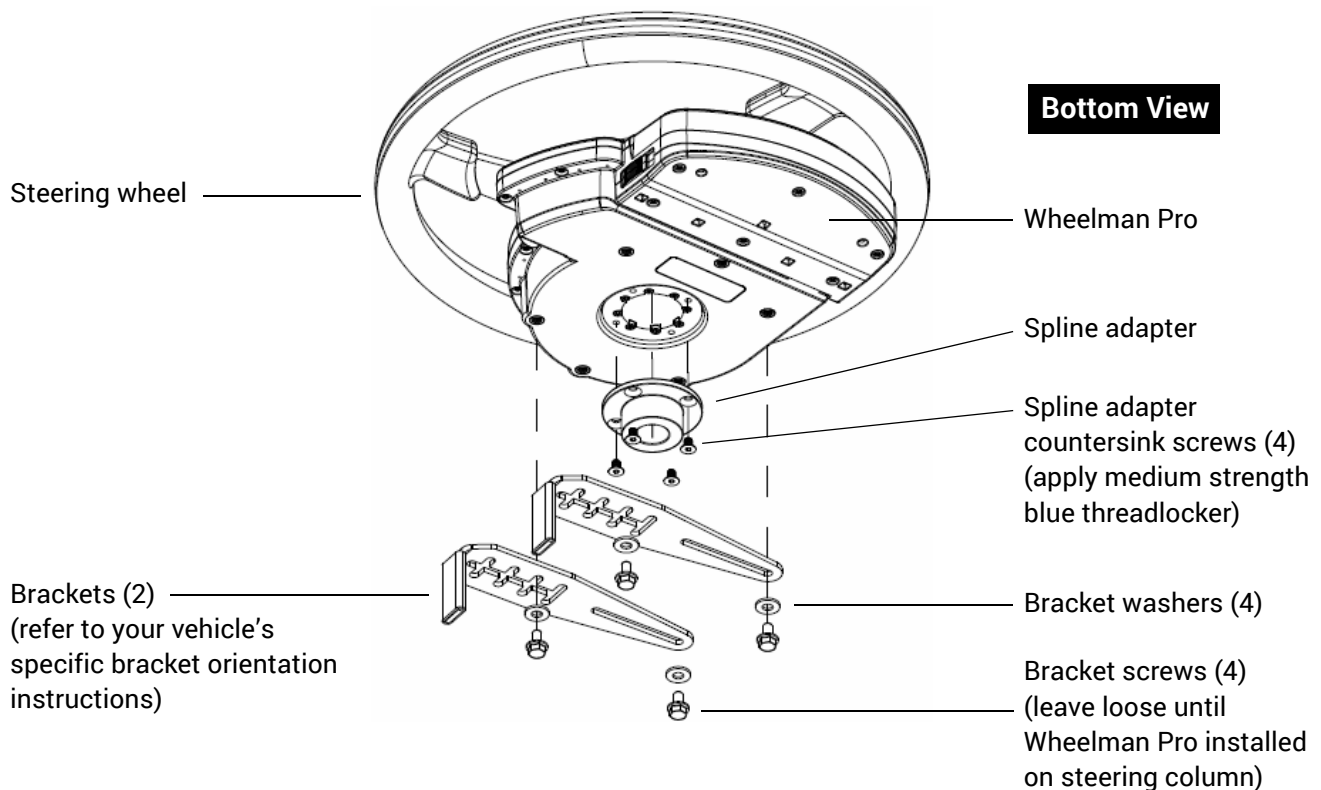
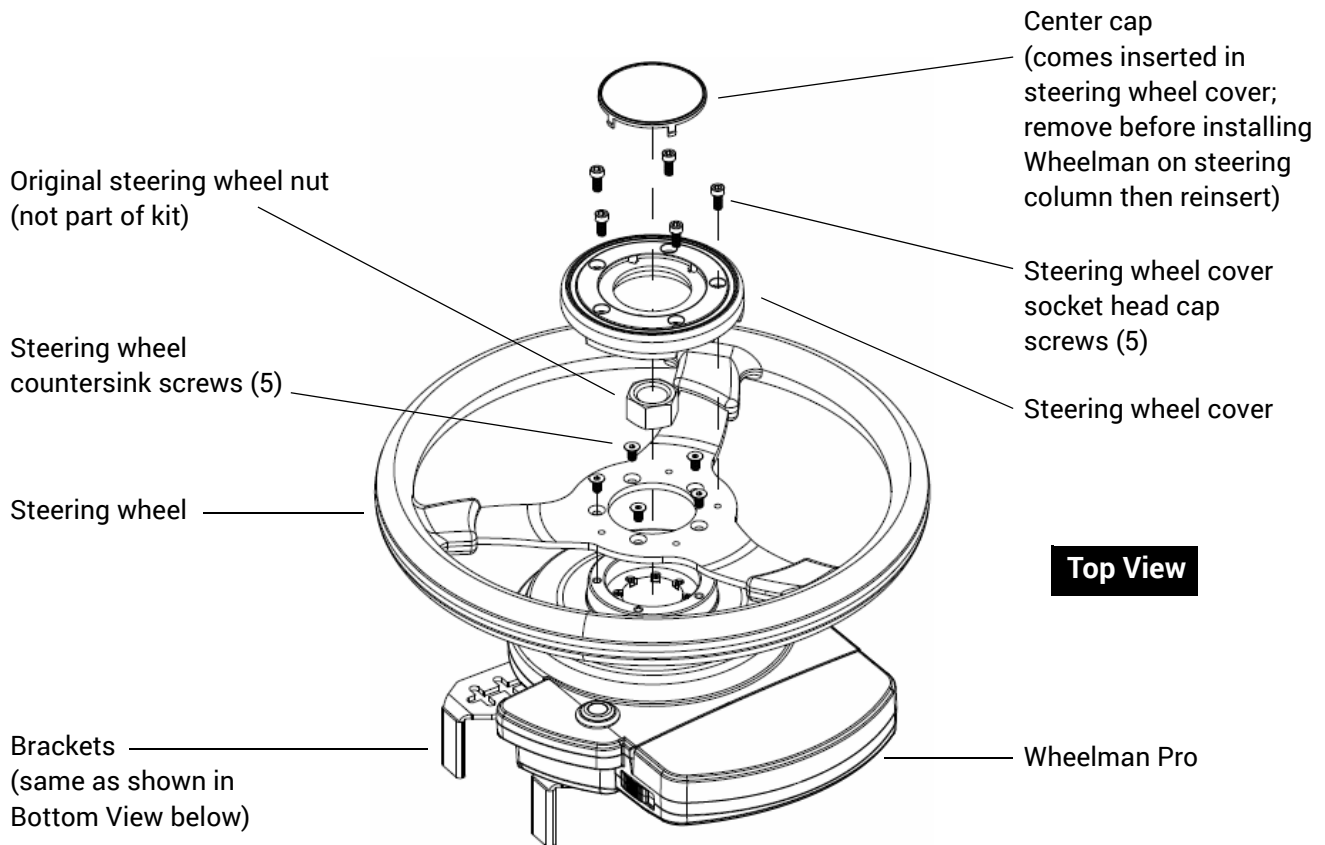
## Wheelman Pro Connection Diagram

Review the diagram below to see how the Wheelman Pro parts are connected using the cables. 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

Use the figures below to help you assemble Wheelman Pro as described in the instructions starting on the next page.



## 4 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 9.

Using the parts overview on page 4, the assembly diagram on page 6, and the photos that follow as reference, assemble the components while noting the following:

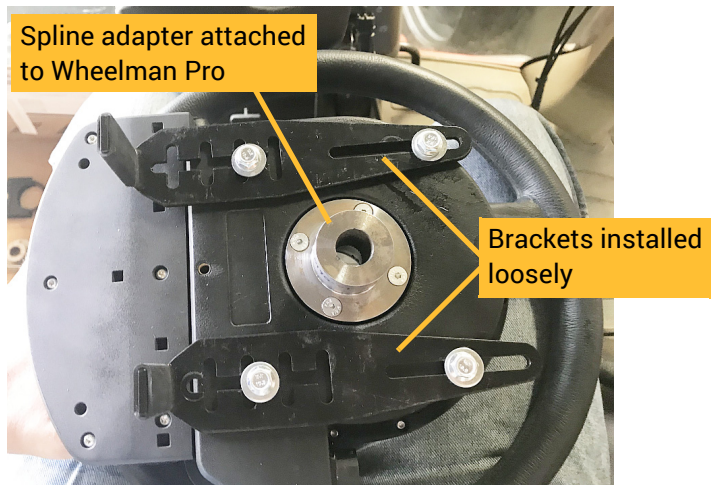
- Leave the brackets loose—you will tighten these later.
- Do not install the steering wheel center cap yet—you will install this later.

### NOTE:

*The orientation of the brackets may vary for different vehicles. Review “Appendix: Bracket Orientation Examples” starting on page 13 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 the screws to 50 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. Carefully pop the Wheelman center cap out of the steering wheel cover—retain the cap, you will reinsert it later. Then, 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.

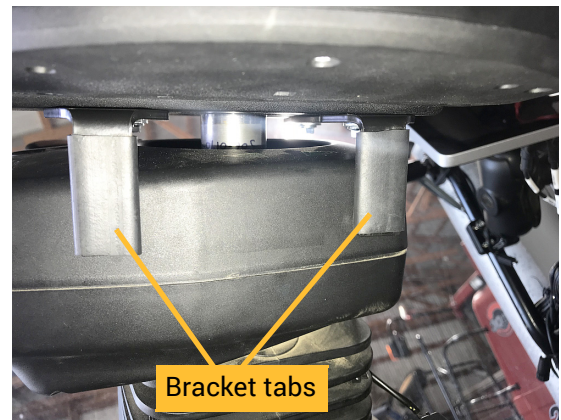
The photo at right shows a prototype center cap already inserted. You will insert the Wheelman center cap in step 4 below.



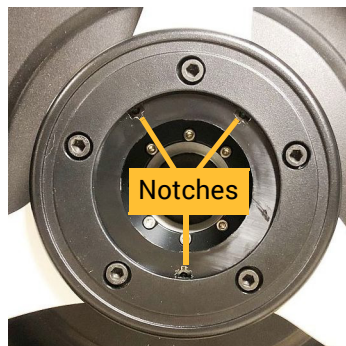
### **NOTE:**

*The orientation of the brackets may vary for different vehicles. Review “Appendix: Bracket Orientation Examples” starting on page 13 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 torque the bracket screws with a 10 mm wrench to 50 in-lb.
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. Using the two photos at right as a guide, insert the center cap into the steering wheel cover. The cap has three tabs on the back that snap into the three notches on the steering wheel cover.



## d Install the Remote IMU (RIMU)

The Remote IMU (sometimes referred to as a gyro, but actually contains a set of gyros and accelerometers) measures your vehicle's movement in all directions to enable Wheelman to more precisely autosteer your vehicle.

**⚠ 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.*



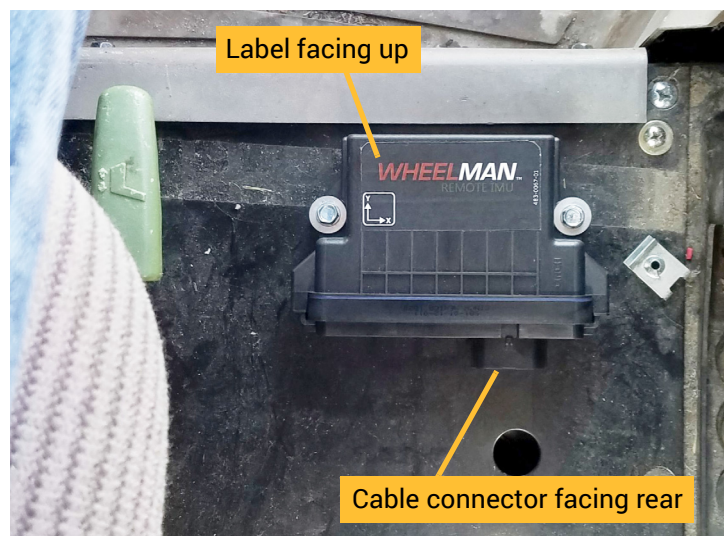
When installing the Remote IMU (RIMU):

- 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.
  - 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.

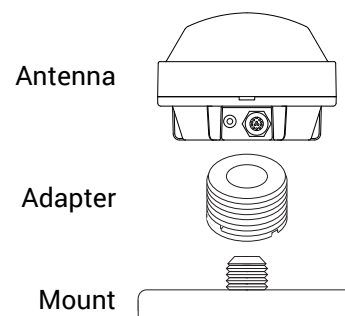
The photo at right shows the RIMU installed on the cab floor, to the right of the operator's seat, with the X-Y label pointing up, and with the connector pointing toward the rear. **You will enter the label and cable directions during vehicle setup in the Whirl app.**



## e Mount the antenna on the vehicle roof

The antenna, adapter, and mount (at right) are shipped pre-assembled.

Once you place the mounting plate on the vehicle roof, you will not be able to move it. Therefore, plan your antenna location carefully.



To 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).

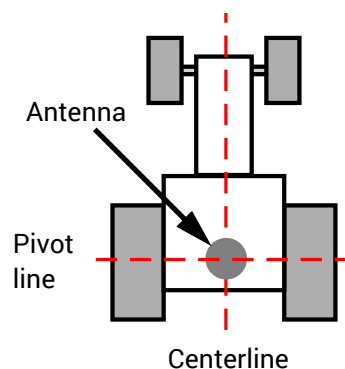


3. Position the mounting plate and press down hard for proper adhesion. When determining the location of the mounting plate, ensure that when you mount the antenna on the plate (next step) the antenna will be on the vehicle's centerline and pivot line.

### NOTE:

*Depending on your vehicle, if you cannot place the antenna on the centerline and/or pivot line, place the antenna as close as possible to these lines.*

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



4. Ensure the antenna assembly (antenna, adapter, mount) is securely tightened, then place the assembly on the mounting plate (see photo at right).



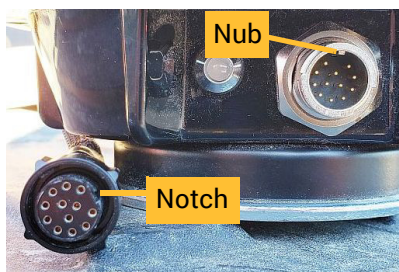


## **f** Route and connect the cables

Using the “Wheelman Pro Connection Diagram” on page 5 as a guide, connect the cables included in your kit (main cable, Remote IMU cable, power switch cable) to the appropriate parts.

When routing and connecting 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.
- When connecting the main cable to the antenna, note the nub on the antenna's connector and the notch on the cable end (see near right). To connect the cable, align the notch with the nub, push the cable onto the antenna connector, then twist to the right to lock it in place (see far right).



### **NOTE:**

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



**Congratulations on successfully installing your Wheelman Pro. Return to the Quick Start Guide to finish setup.**



# 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
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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.

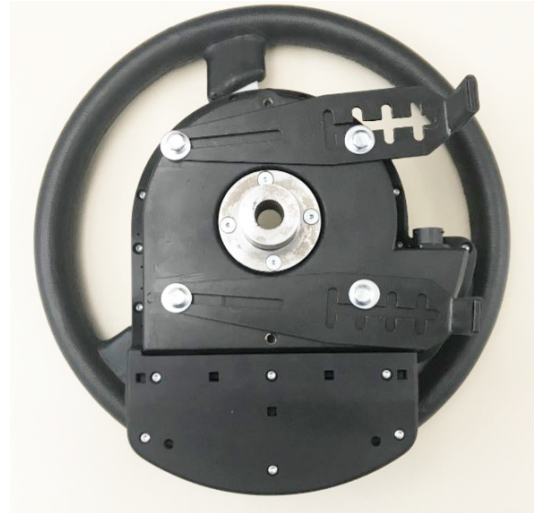
Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.



**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.

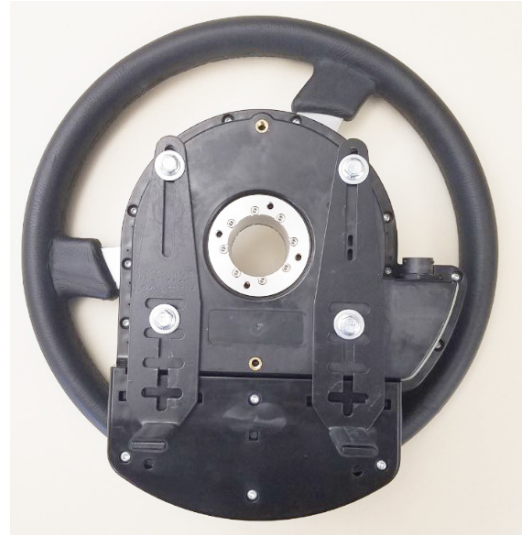
Verify proper clearance between Wheelman components and vehicle levers and switches for proper operation.



**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.

