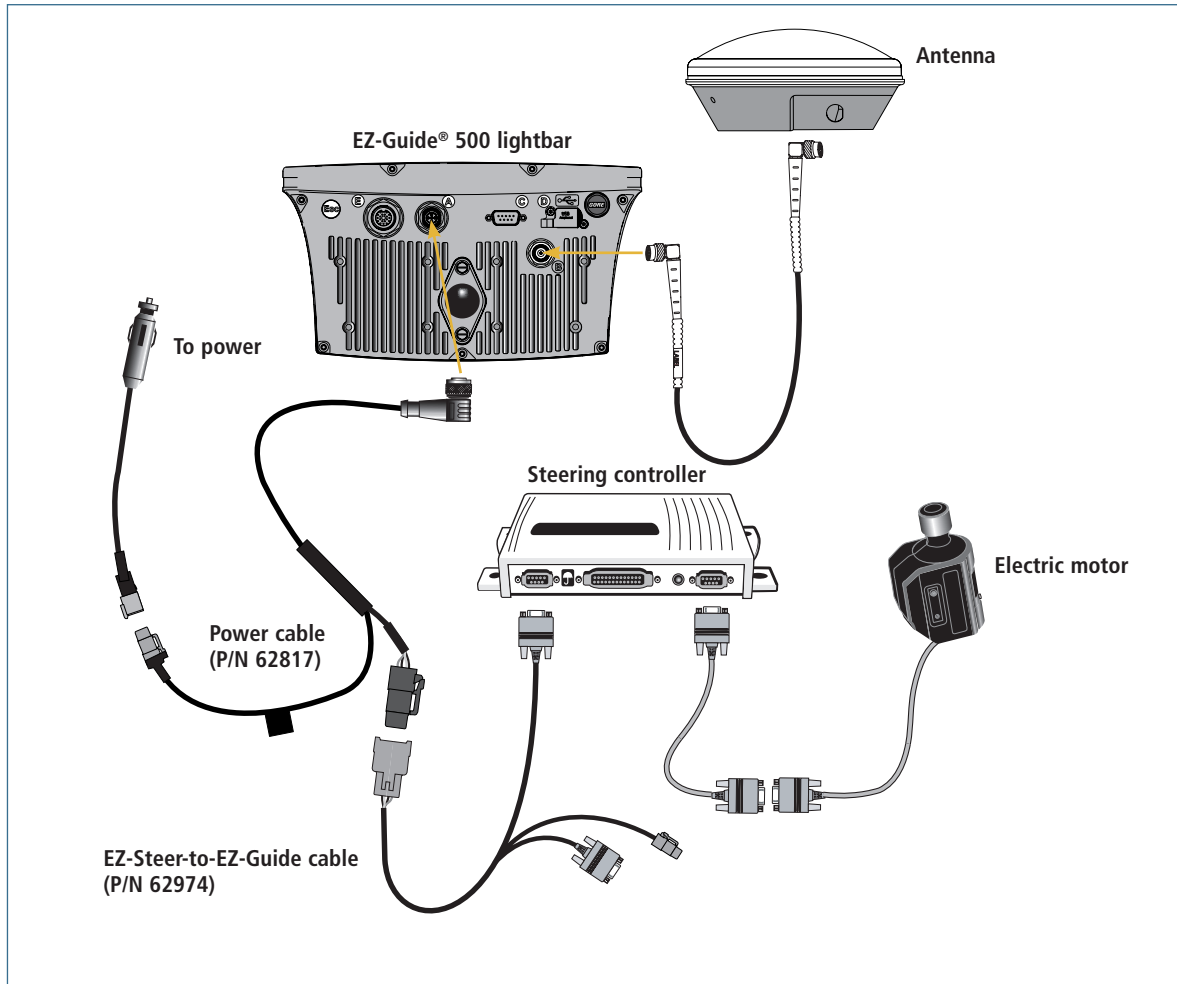


# EZ-Steer® 500 Assisted Steering System Quick Reference Card

## CONNECTING

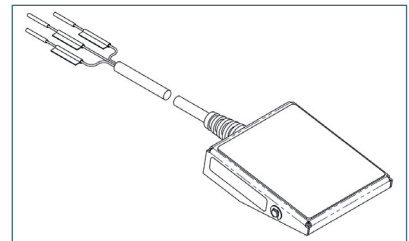
**WARNING:** Before you install the EZ-Steer® 500 assisted steering system, read the safety information on the back of this card.



### Remote engage foot pedal

You can connect a foot pedal to the optional accessory cable (P/N 60491-00). Use the foot pedal to engage the EZ-Steer 500 system with a press of your foot.

For more information on connecting the foot pedal, refer to the *EZ-Steer 500 Assisted Steering System Reference Guide*.



# EZ-Steer® 500 Assisted Steering System Quick Reference Card

## EZ-STEER CALIBRATION WIZARD

The EZ-Steer Calibration Wizard configures the T2 roll calibration and the EZ-Steer 500 system *Angle per Turn*, *Aggressiveness*, and *Motor Speed* settings. If the EZ-Steer 500 system is connected to the lightbar, the EZ-Steer Calibration Wizard automatically appears after the Quick Start Wizard when the lightbar is turned on.

**Note** — To manually start the EZ-Steer Calibration Wizard, select *Configuration / Auto Steer / EZ-Steer / EZ-Steer Calibration*.

Before calibrating the vehicle, note the following:

- Ensure the vehicle's hydraulic oil is up to operating temperature before beginning. Refer to the vehicle documentation.
- Ensure that the tire pressure is correct.
- Perform initial calibration without an implement or with the booms folded in on a high clearance sprayer. After initial calibration is completed, the settings can be fine-tuned with the implement or booms folded out.
- Choose a field with the smoothest possible surface and perform calibration at the normal operating speed for the vehicle.

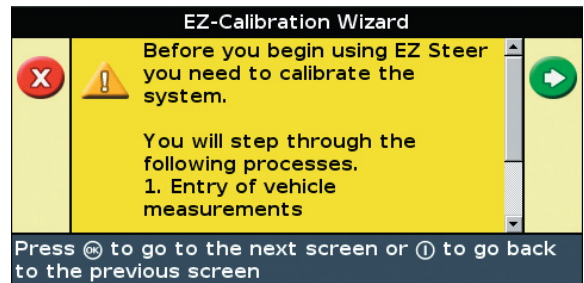
The EZ-Steer Calibration Wizard requires a straight AB Line. If you do not create an AB Line before you begin the Wizard, the system prompts you to create one.

### EZ-Steer calibration wizard process

1. Enter the vehicle settings
2. Perform T2 roll calibration
3. Calibrate the EZ-Steer 500 system settings:
  - a. Calibrate Angle per Turn
  - b. Calibrate Aggressiveness
  - c. Calibrate Freeplay Offset
4. Confirm the calibration settings

**Note** - It may be necessary to run the EZ-Steer Calibration Wizard more than once to achieve optimal results. If you run the Wizard again, ensure that you do not reset the Angle per Turn, Aggressiveness, and Freeplay Offset to the vehicle default.

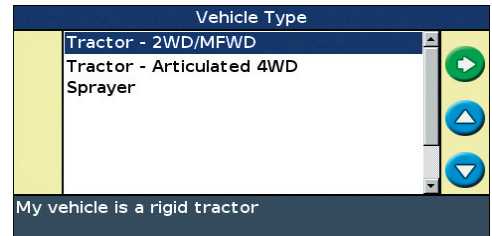
These steps are described in greater detail on the following pages.



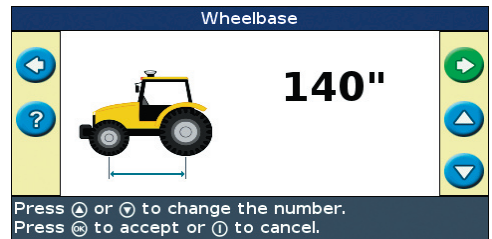
# EZ-Steer® 500 Assisted Steering System Quick Reference Card

## STEP 1. Entering the vehicle settings

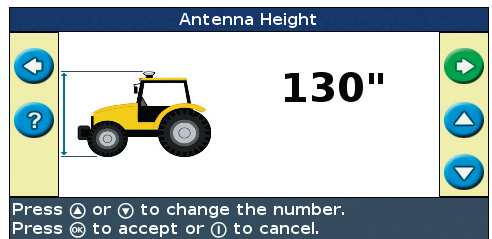
1. Select the vehicle type.



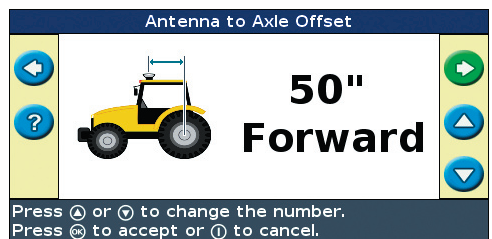
2. Measure the horizontal distance between the front and rear axles (the "wheelbase") and then enter it.



3. Measure the antenna height from the ground and then enter it.

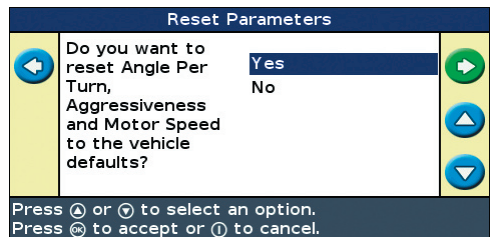


4. Measure the horizontal distance from the rear axle to the antenna and then enter it.



If you have run the EZ-Steer Calibration wizard before, the **Reset Parameters** screen appears:

- If you are replacing the calibration, select **Yes**.
- If you are fine-tuning the calibration settings, select **No** to retain your current settings.



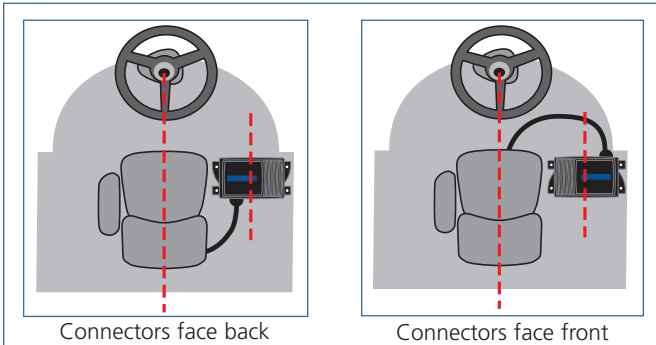
# EZ-Steer® 500 Assisted Steering System Quick Reference Card

## STEP 2. Performing the T2 roll calibration

The EZ-Steer system contains sensors that use T2™ terrain compensation technology to provide roll compensation when the vehicle is on a slope or drives over a bump. For roll compensation to work correctly, the controller must be calibrated:

1. Select the direction that the connectors of the EZ-Steer controller face.

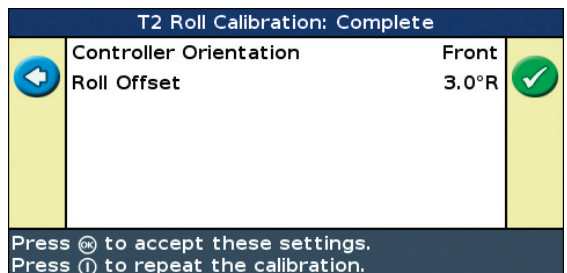
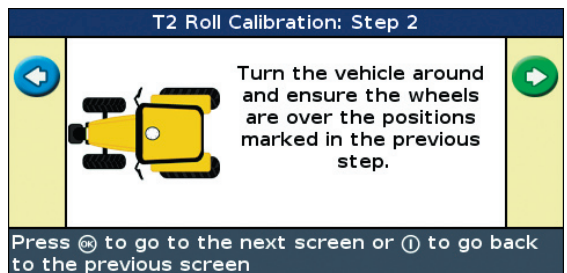
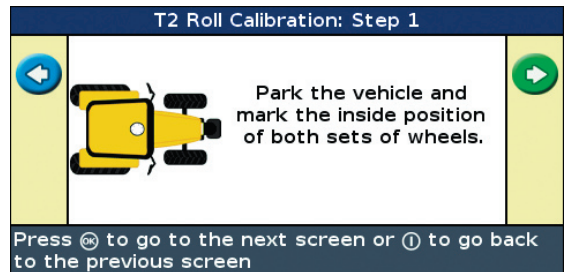
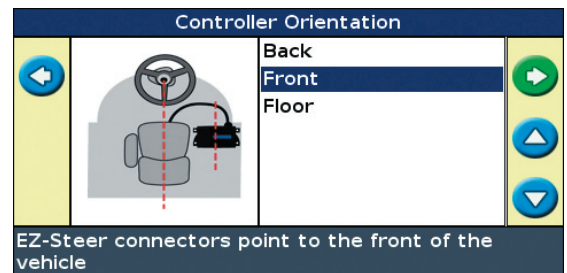
*Note - For the best accuracy roll compensation, install the EZ-Steer controller on the floor at the front of the cab with the controller parallel to the vehicle center-line. Installing on the back window is not recommended, because the vibrations may reduce the accuracy of the terrain compensation.*



2. Park the vehicle and mark the inside position of both sets of wheels.
3. Press the **OK** button. The lightbar records the roll offset in the first direction. This takes approximately 20 seconds. Do not move the vehicle while the offset is being read.
4. Turn the vehicle around and ensure that the wheels are over the positions marked in Step 2.
5. Press the **OK** button. The lightbar records the roll offset in the second direction. This takes approximately 20 seconds. Do not move the vehicle while the offset is being read.

The T2 calibration results appear. The *Roll Offset* value should be between 0° and 4°.

6. Press the **OK** button to accept the settings.



# EZ-Steer® 500 Assisted Steering System

## Quick Reference Card

### STEP 3. Calibrating the EZ-Steer 500 system settings

#### Angle per Turn

The *Angle per Turn* value is the angle that the wheels turn through during one full rotation of the steering wheel. This is a course aggressiveness adjustment. If the setting is too low, the system may require several attempts to reach the line.

1. Line the vehicle up 1 m (3 ft) from the guidance line and parallel to it.
2. Engage the EZ-Steer system.
3. Adjust the *Angle per Turn* value so that when the system is engaged, the vehicle moves close to the guidance line.

To make ...	Do the following ...
More aggressive turns	Decrease the <i>Angle per Turn</i> value
Less aggressive turns	Increase the <i>Angle per Turn</i> value

#### Aggressiveness

The *Aggressiveness* setting fine-tunes how aggressively the system holds the line:

- If the *Aggressiveness* setting is too low, the vehicle will not hold the line.
- If the *Aggressiveness* setting is too high, the vehicle may over-correct and make S-turns.

Adjust the *Aggressiveness* setting to get the vehicle as close to the line as possible without going into S-turns.

To make ...	Do the following ...
More aggressive turns	Increase the <i>Aggressiveness</i> value
Less aggressive turns	Decrease the <i>Aggressiveness</i> value

#### Freeplay offset

Add a freeplay offset if the steering has greater freeplay in one direction than the other, causing it to drive consistently to one side of the guidance line.

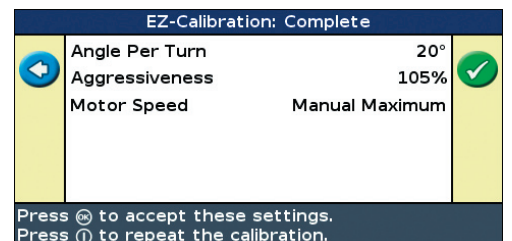
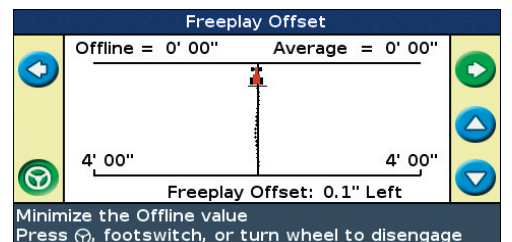
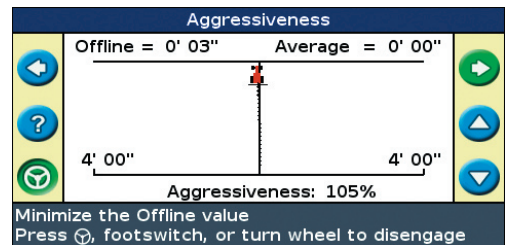
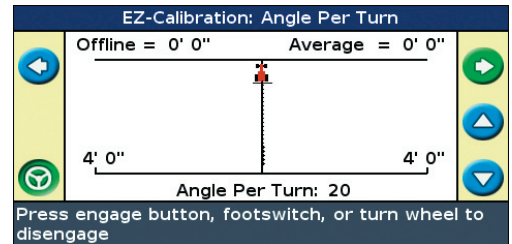
Engage the system on the guidance line.

Vehicle is offline ...	Do the following ...
To the left	Increase the freeplay offset to the right
To the right	Increase the freeplay offset to the left

*Note - If you are calibrating a 4WD articulated vehicle, you will be prompted to set the Motor Speed setting. Refer to the Reference Guide or the lightbar's built-in help.*

### STEP 4. Confirming the calibration settings

1. Check the new *Angle per Turn*, *Aggressiveness*, and *Freeplay Offset* values.
2. Press **OK** to complete the calibration or press the **+** button to fine-tune the settings.



# EZ-Steer® 500 Assisted Steering System


## Quick Reference Card



### ENGAGING

To engage the EZ-Steer 500 system, you must have an AB Line defined, and the vehicle must be within the engage limits configured in *Configuration / Auto Steer / EZ-Steer / Engage Options*.

**Note** — To access the Engage Options screen, the lightbar must be in Advanced mode.

To manually engage the EZ-Steer 500 system, do one of the following:

- Press the engage button  on the main guidance screen or on the optional remote control.
- Press the optional remote engage foot pedal.


Engage Options	
	Minimum Speed 1.0mph
	Maximum Speed 15.0mph
	Maximum Angle 15°
	Engage Offline 6' 00"
	Disengage Offline 10' 00"
	Override Sensitivity 20%
	EZ-Steer External Switch Disabled
Change the minimum speed for engaging EZ-Steer	


### DISENGAGING

The EZ-Steer 500 system automatically disengages when:

- The vehicle is outside the engage limits configured in the *Engage Options* screen
- The system is paused
- GPS positions are lost
- The *Minimum Fix Quality* setting is set to a high accuracy correction method and the system receives low accuracy positions (for example, no corrections). To adjust this setting, select *Configuration / System / GPS / GPS Requirements / GPS Limits / Minimum Fix Quality*.





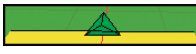




To manually disengage the system, do one of the following:

- Press the engage button  on the main guidance screen or on the optional remote control.
- Turn the steering wheel to override the electric motor.
- Press the optional remote engage foot pedal.

GPS Requirements	
	Minimum Satellites 5
	Maximum HDOP 3.0
	Minimum Fix Quality DGPS
Set the minimum position quality that is acceptable when autosteering	

When the system is not in use, hinge the motor away from the steering wheel and secure it with the lock pin.

### Engage status indicators

Engage status	Engage button color	Vehicle icon color	LED indication
Ready to engage			1 solid LED at each end 
Engaged			2 solid LEDs at each end 
Cannot engage			No end LEDs illuminated 

**Note** - When the system disengages, the three LEDs at each end of the lightbar flash for 10 seconds.

# EZ-Steer® 500 Assisted Steering System Quick Reference Card

## FAULTS

Fault code	Fault message	Possible cause	Solution
01	Excessive manual overrides	There have been a large number of manual overrides on one swath.	Decrease the <b>Override Sensitivity</b> value in the <b>Engage Options</b> screen.
02	Hardware fault	There has been a general hardware fault.	Check all equipment and cables for damage.
03	Controller reset	There was a power brownout (a momentary loss of power).	Ensure that power cables are not damaged and that all connectors are tight. Connect power directly to the battery.
		The EZ-Steer 500 controller has reset unexpectedly.	Download the error log.
04	Communication error	The EZ-Steer 500 controller failed to receive CAN messages from the EZ-Guide® 500 lightbar.	Check that the cable is not damaged and that connectors are tight.
05	Bridge fault	The manual override sensitivity is too low.	Increase the <b>Override Sensitivity</b> value in the <b>Engage Options</b> screen.
		The controller is faulty.	Contact your local EZ-Steer 500 system reseller for a repair or replacement.
07	Broken motor cable	The motor cable is broken.	Contact your local EZ-Steer 500 system reseller for a repair or replacement.
08	EEPROM fault	There was a memory error in the EZ-Steer 500 system controller.	Contact your local EZ-Steer 500 system reseller for a repair or replacement.
09	No motor connection	The motor or motor cable is not connected to the EZ-Steer 500 system controller.	<ol style="list-style-type: none"> <li>1. Check that the motor cable is connected to the EZ-Steer 500 system motor.</li> <li>2. Check that the motor cable is connected to the EZ-Steer 500 system controller.</li> <li>3. Check that all cable connections are secure and that the cables are not damaged.</li> </ol>
10	Unknown fault	There was an unknown fault in the EZ-Steer 500 system.	Contact your local EZ-Steer 500 system reseller for a repair or replacement.
11	System fault	The lightbar failed to receive messages from the controller.	<ol style="list-style-type: none"> <li>1. Check that none of the cables are damaged.</li> <li>2. Check that the connectors are tight.</li> </ol>
12	Temperature too high	The controller temperature has exceeded the maximum internal operating temperature.	<ol style="list-style-type: none"> <li>1. Move the controller out of direct sunlight.</li> <li>2. Ensure that the controller is well ventilated.</li> <li>3. Turn on the air conditioning and direct the cool air to the controller.</li> </ol>

# EZ-Steer® 500 Assisted Steering System Quick Reference Card

## SAFETY NOTICES

THE EZ-STEER 500 ASSISTED STEERING SYSTEM IS SOLELY INTENDED FOR AGRICULTURAL USE IN AN OPEN FIELD ENVIRONMENT WITH AGRICULTURAL VEHICLES APPROVED BY THE MANUFACTURER FOR USE WITH THE EZ-STEER 500 SYSTEM, AND SHOULD NOT BE USED WITH ANY OTHER TYPE OF VEHICLE OR FOR ANY OTHER PURPOSE.

### Before using the system

- Ensure that any EZ-Steer system documentation relates to the system when used *with the EZ-Guide 500 lightbar*. The EZ-Steer system works differently with the EZ-Guide Plus lightbar, so the documentation is not interchangeable.
- Put the vehicle seat and steering wheel in the normal operating position and check that the EZ-Steer motor does not interfere with any controls, for example, throttle, gears, or wipers.  
If it does interfere with any controls, tilt the steering wheel or orient the motor at a different angle on the steering wheel. For example, shift from the 3 o'clock to the 12 o'clock position to avoid the interference.
- The operator must read and acknowledge safety warnings whenever the system is powered on.

### While using the system

- Keep alert for obstacles in the path of the vehicle. The EZ-Steer 500 system cannot identify or avoid these.
- Remain in the vehicle while the EZ-Steer 500 system is engaged.
- Use the EZ-Steer 500 system only in an open field. Do not engage on any type of road.

### After using the system

- Turn off the EZ-Steer 500 system power switch or remove the power plug before exiting the vehicle.
- If the EZ-Steer 500 system is not being used, pivot the motor away from the steering wheel.

## ADDITIONAL INFORMATION

For more information on how to use the EZ-Guide 500 lightbar and other guidance features, refer to the *EZ-Guide 500 Lightbar Guidance System Quick Reference Card* and *Getting Started Guide*.

For additional information on the EZ-Steer 500 system, go to [www.EZ-Steer.com](http://www.EZ-Steer.com) or contact your local EZ-Steer 500 system reseller.

To purchase any of the following options or accessories, contact your local EZ-Steer 500 system reseller:

- remote control
- seat switch and sonalert cable
- remote engage foot pedal
- spare foam wheels



P/N 66023-80-ENG

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[www.EZ-Steer.com](http://www.EZ-Steer.com)