



Diagnostic Manual



Wireless Turn Signals +

Horn

Hazzard

Auto Cancel

Dash Indicators

EZ Install

Hand Control

WTS+ Hand Control Diagnostic Manual

Thank You for purchasing the WTS+ turn signal kit.

This document will inform you on diagnostic and debugging of the system.

WTS+ Hand Control Diagnostic Manual

Table of Contents

Background	3
Diagnosing the Base Unit	3
Diagnosing the Hand Control	5
Diagnosing the Turn Signal Use	6
Diagnosing the Brake	7
Diagnosing the Horn	7
Diagnosing the Dash Indicators	7
Important Notes.....	8

WTS+ Hand Control Diagnostic Manual

Background

This document should be used to diagnose and debug any issues with the WTS+ system. For simplicity, it has been organized for starting at the top of the document and working your way down through the steps. Therefore, there are assumptions that prior steps were completed.

IMPORTANT NOTE: If for any reason the WTS+ begins to work improperly on the trail, especially if the brake lights stop working properly, you can easily bypass the WTS+ system by simply disconnecting the rear box connector and the WTS+ breakout connector and then reconnecting the factory box connectors. This will eliminate the WTS+ system and will bring the UTV back to factory wiring.

This document may refer you to contacting us so we can further assist with diagnosing the issue you are experiencing. Please contact us at the email below for this or any additional support questions. We will get back to you as soon as we can. Feel free to include a phone number in the email if that would be more convenient.

Contact Email: sales@swanemerson.com

Diagnosing the Base Unit

1. Is there a Bluetooth device named wts?
 - 1.1. Ensure all other WTS+ systems installed on other UTVs in the area are turned off. With the key in the on position or accessory position, use your cell phone and do a Bluetooth scan. Note: do not connect to it.
 - 1.2. If there is a wts Bluetooth device, your base unit is functioning properly, you can skip to the steps to debug the Hand Control.
 - 1.3. If there is no wts Bluetooth device proceed to the next step.
2. Is the power light on the Base Unit board?
 - 2.1. Locate the Base Unit installed on your UTV. Typically, this would be in the front.



WTS+ Hand Control Diagnostic Manual

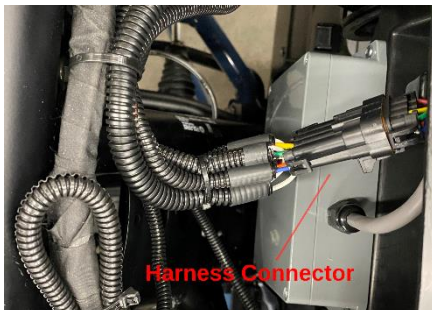
- 2.2. Remove the cover with a phillips screwdriver and inspect the server board with the key in the on or accessory position.
- 2.3. If there is a green light, the server board is powered up, you can skip to the steps to debug the Hand Control.
- 2.4. If there is no light, the server board is not getting power. Turn off the key and do the following checks.
- 2.5. Inspect the fuse in the WTS+ harness. This will be located next to the pulse connector that supplies power. If it is blown, replace it.



- 2.6. Check the pulse connector and ensure it is seated properly into the pulse power bar or if on a model without a pulse power bar, ensure the adapter is getting proper power.



- 2.7. Check the main harness connection to the Base Unit connector.



WTS+ Hand Control Diagnostic Manual

- Are there any pins bent on the connector? If yes, restraighten.
- Ensure the connector is seating properly.
- Check the factory fuse that supplies power to the pulse bar or power adapter. If it is blown replace it. See your Polaris owner's manual for location.

3. Retest for power.

With all the connectors plugged and seated properly, turn the key to the on or accessory position and recheck for a green light on the Base Unit. Also recheck for the wts Bluetooth device.

3.1. If either the green light or the Bluetooth device does not display, contact us.

Diagnosing the Hand Control

This section assumes you have successfully completed the Diagnosing the Base Unit section.



1. Identify the Hand Control startup status.

Turn the key to the on or accessory position and watch the Hand Control indicator lights. Look for one of the conditions in the following steps.

2. **Startup condition 1:** There are no lights on the Hand Control at any point.

This indicates there is no power to the hand control.

2.1. Check the hand control connector at the harness connection. Ensure there are no bent pins, and that the connector is seated properly.



WTS+ Hand Control Diagnostic Manual

2.2. Remove the cover from the hand control.

- Is there a light on inside of the hand control case?
- If yes, there is power to the hand control but no code running, contact us.
- If no, there is power to the server but not the hand control, there may be a bad hand control. Contact us.

3. **Startup condition 2:** The hand control indicator lights turn on and immediately blink three times.

3.1. This is normal and indicates the hand control has successfully connected with the base unit. Skip to startup condition 4.

4. **Startup condition 3:** The hand control indicator lights never blink three times at startup.

4.1. This indicates the hand control never connects to the server.

- Complete the procedure to re-pair the hand control.
- If the above does not resolve the issue, contact us.

5. **Startup condition 4:** The hand control indicator lights are solid green for longer than 60 seconds.

5.1. If yes, the hand control is connected to the server and ready for use. You can skip to the Diagnosing the Turn Signal Use section.

5.2. If no, the hand control has not connected to the base unit and gone into sleep mode.

- It has lost connection to the base unit, try a function on the hand control.
- Did WTS+ do something?
- If yes, the base unit and the hand control are connected and communicating properly.
- If no, contact us.

Diagnosing the Turn Signal Use

1. Are the front turn signal lights operating oppositely?

1.1. If no, this is functioning properly.

1.2. If yes, verify the left side has the yellow wire and the right side has the green wire.

- If they are correct, contact us.
- If they are not correct, reinstall the left and right front portion of the harness so they are correct.

2. Are the rear turn signal lights operating oppositely?

2.1. If no, this is functioning properly.

2.2. If yes and this is a Ranger (3 Pin), ensure the breakout connector was installed correctly.

- The side with the orange wire is the left side and side with the brown wire is the right side.
- If this is not correct, reinstall the 3 Pin breakout connector to the correct specification.

2.3. If yes, disconnect the breakout connector and install the Rear Turn Signal Inverter. See the section Rear Turn Signal Is Opposite in the installation manual.

WTS+ Hand Control Diagnostic Manual

- If this corrected the issue, it is now functioning properly.
- If this did not correct the issue, something is different with the box connector, contact us.

Diagnosing the Brake

1. Do the rear brake lights work when pressing the brake pedal?
 - 1.1. If yes, this is functioning correctly.
 - 1.2. If no, do the following...
 - Check the connection at the breakout connector.
 - o Are there any pins bent? if so straighten.
 - o Ensure the connector is seated properly.
 - Check the connection at the WTS+ harness and base unit.
 - o Are there any pins bent? If so, straighten.
 - o Ensure the connector is seated properly.
 - Can you hear a faint click in the base unit when stepping on the brake pedal (you may want to remove the cover from the base unit)?
 - o If yes, the base unit is getting a brake signal and processing it, contact us
 - o If no, check the vehicle brake fuse and ensure it is not blown, see the Polaris manual for location.

Diagnosing the Horn

1. Does the horn sound off when using the hand control?
 - 1.1. If yes, this is working properly.
 - 1.2. If no, ensure the horn is connected to the WTS+ harness. Note it does not matter what wires are connected to what spade.
 - 1.3. If still no sound, horn may be bad, contact us.
2. Does the horn make a sound but is muted?
 - 2.1. If yes, ensure the horn is mounted in such a way as to keep the horn itself, not the horn mount, from contacting other objects.

Diagnosing the Dash Indicators

1. Are the dash indicator lights opposite of left, and right?
 - 1.1. If yes, ensure the proper wires have been installed to the proper pin number in the dash connector. See the installation manual for detailed instructions.
2. Are the dash indicator lights working intermittently?
 - 2.1. This could be an indication of an incompatible year/model.
3. Do both left and right dash indicators light up when turning?
 - 3.1. If yes, this could be normal operation depending on the year/model.

WTS+ Hand Control Diagnostic Manual

Important Notes

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