

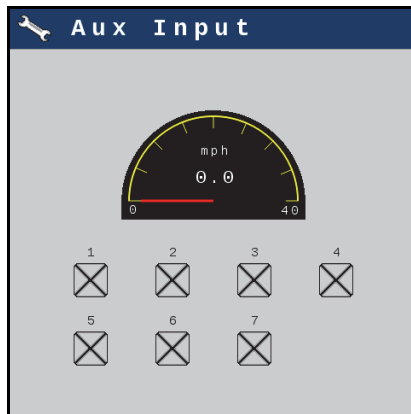
# ISO BOOM SENSE/SPEED ECU OPERATION GUIDE

## INTRODUCTION

The Raven ISO Boom Sense/Speed ECU is designed to share hardwired control switch signals with a product control system. The ISO Boom/Sense Speed ECU can also measure speed from a ground radar sensor and share that speed with other ISO devices. The functionality described in this guide requires version 3.0.0.6 or higher ISO Boom Sense/Speed ECU software.

## OPERATING USING A RAVEN ISO PRODUCT CONTROL ECU

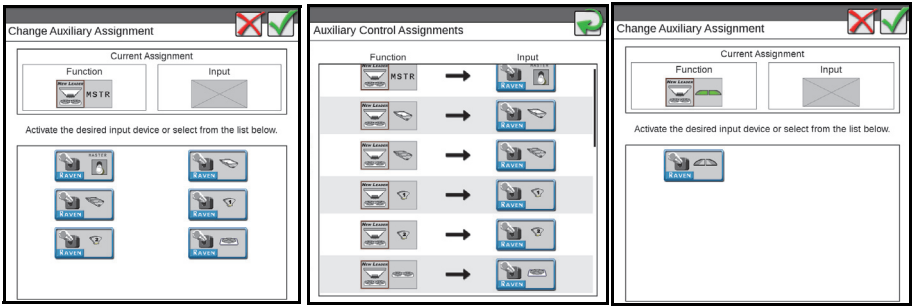
The ISO Boom Sense/Speed ECU will detect the status of hardwired control switches and share their status with a Raven ISO product control ECU via ISO messaging. The Home screen of the ISO Boom Sense/Speed ECU will display how many switch inputs are mapped to the ISO product control ECU, but the input icon will only be displayed as an "X" which indicates they are not assigned to an Auxiliary function. To determine if the switch status is being properly detected by the system, navigate to the ISO Product ECU and observe the boom section status while toggling the hardwired switches.



## OPERATING USING A NEW LEADER CONTROL ECU

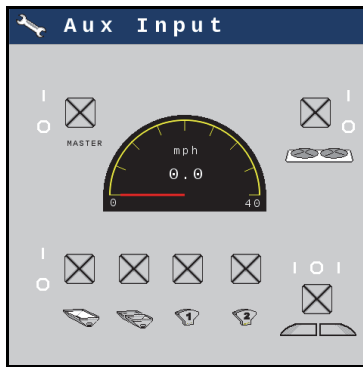
The ISO Boom Sense/Speed ECU can be used to map hardwired switches to a New Leader control ECU in lieu of a New Leader switchbox. This also requires that the UT has ISO Auxiliary mapping functionality.

1. Navigate to the Auxiliary Control Assignments screen. This screen will show the functions the New Leader Control ECU is expecting.



**NOTE:** For each function, press the corresponding menu and search for the matching function from the ISO Boom Sense/Speed ECU.

2. Navigate to the ISO Boom Sense/Speed ECU's home screen.
3. Toggle the hardwired switches and observe the switch status on the home screen. If any functions are incorrect, return to the UT's auxiliary assignment screen and reconfigure the settings.



4. Navigate to the New Leader control screen and observe that the switches are functioning properly.
5. If needed, refer to the New Leader control manual for additional information.

## SPEED SETTINGS

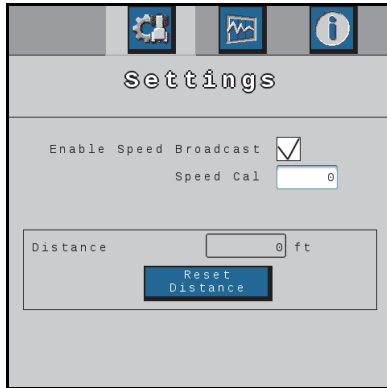
To access speed settings:

1. Navigate to the Universal Terminal menu of the field computer and locate the

Raven ISO Boom Sense/Speed ECU icon .

2. Select Tools .

3. Select the Settings  tab.



4. Select the checkbox if you want the ISO Boom Sense/Speed ECU to send speed messages to the other ISO ECU's. Uncheck the box if you do not want speed messages sent to the other ISO ECU's.
5. If Enable Speed Broadcast is checked a speed calibration is required. To perform a calibration:
  - a. Enter a starting speed cal value (Ex. 800).
  - b. Measure out a known distance greater than 400' (122m) or greater.
  - c. Drive the machine to the starting point of the known distance.
  - d. Press Reset Distance to zero the distance counter.
  - e. Drive to the end of the known distance.
  - f. Note the distance value displayed on the screen. This will be needed for the formula to adjust the speed cal number.
  - g. Calculate the new distance value using the following formula:

$$\frac{\text{Current Speed Cal} \times \text{Known Distance}}{\text{Distance on Screen}} = \text{New Speed Cal}$$

**FOR EXAMPLE:** Using a mile (5,280') as the known distance but, after driving, the distance reads 5,240'. The original speed cal for this example was 800. The calculation is:

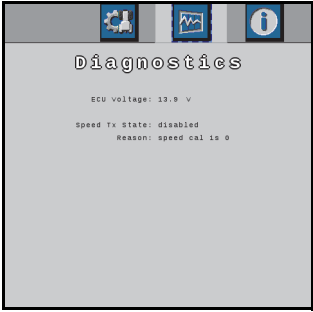
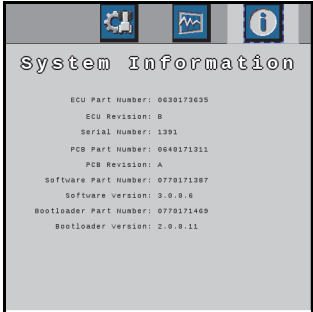
$$\frac{800 \times 5,280}{5,240} = 779$$

- h. Repeat the speed calibration procedure to ensure the speed cal number is correct.

**NOTE:** The measured ground speed will be displayed in a gauge on the ISO Boom Sense/Speed ECU's Home tab screen.

## DIAGNOSTICS

Navigate to the Tools menu for additional information about the ISO Boom Sense/Speed ECU. The table below shows the information available on the Diagnostics and System Information tabs:

Tab Name	Icon	Information
Diagnostics	 <p>The screenshot shows the 'Diagnostics' screen with three icons at the top: a person, a graph, and an information icon. The text on the screen reads: 'Diagnostics', 'ECU voltage: 13.9 v', and 'Speed Tx State: disabled Reason: speed cal is 0'.</p>	<ul style="list-style-type: none"> <li>• ECU Voltage</li> <li>• Speed Transmission (TX) State</li> </ul>
System Information	 <p>The screenshot shows the 'System Information' screen with the same three icons at the top. The text on the screen lists various identifiers and versions: 'System Information', 'ECU Part Number: 0630173635', 'ECU Revision: B', 'Serial Number: 1391', 'PCB Part Number: 0640171311', 'PCB Revision: A', 'Software Part Number: 0779171387', 'Software Version: 3.0.0.6', 'Bootloader Part Number: 0779171469', and 'Bootloader Version: 2.0.0.11'.</p>	<ul style="list-style-type: none"> <li>• ECU Part Number</li> <li>• ECU Revision</li> <li>• Serial Number</li> <li>• PCB Part Number</li> <li>• PCB Revision</li> <li>• Software Part Number</li> <li>• Software Version</li> <li>• Bootloader Part Number</li> <li>• Bootloader Version</li> </ul>