

**SpraCoupe 7000 Series AccuBoom™
Installation Manual**

P/N 016-0171-012 Rev E 04/16

E16480

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Chapter 1	<i>Important Safety Information</i>	1
Chapter 2	<i>Introduction</i>	3
	Introduction	3
	Recommendations	3
	Tools Needed	3
	Preparing for Installation	4
	Point of Reference	4
	AccuBoom Kit Contents	4
Chapter 3	<i>AccuBoom Installation</i>	5
	Install the CAN Power and Ground	5
	Install the AccuBoom Node	6
	Connect the AccuBoom Cable to the Sprayer’s Boom Harness Cable	7
	Connect the CAN Bus Cable	8
	Install the Logic Power and Ground Connections	8
Chapter 4	<i>Section Mapping Setup</i>	9
	Envizio Pro	9
	Viper Pro	9
Chapter 5	<i>Troubleshooting</i>	11

CHAPTER

1

Important Safety Information

NOTICE

Read this manual and the operation and safety instructions included with your implement and/or controller carefully before installing the AccuBoom™ system.

- Follow all safety information presented within this manual.
- If you require assistance with any portion of the installation or service of your Raven equipment, contact your local Raven dealer for support.
- Follow all safety labels affixed to the AccuBoom system components. Be sure to keep safety labels in good condition and replace any missing or damaged labels. To obtain replacements for missing or damaged safety labels, contact your local Raven dealer.

When operating the machine after installing AccuBoom, observe the following safety measures:

- Be alert and aware of surroundings.
- Do not operate AccuBoom or any agricultural equipment while under the influence of alcohol or an illegal substance.
- Remain in the operator's position in the machine at all times when AccuBoom is enabled.
- Disable AccuBoom when exiting from the operator's seat and machine.
- Do not drive the machine with AccuBoom enabled on any public road.
- Determine and remain a safe working distance from other individuals. The operator is responsible for disabling AccuBoom when the safe working distance has diminished.
- Ensure AccuBoom is disabled prior to performing maintenance on AccuBoom or the machine.

CAUTION

- To prevent electrical shock, disconnect the machine's battery connections before installing AccuBoom.
- Always verify that the power leads are connected to the correct polarity as marked. Reversing the power leads could cause severe damage to the equipment.
- Ensure that the power connections are the last to be connected.

CHAPTER

2

Introduction

Introduction

Congratulations on your purchase of the Raven AccuBoom system! This system was designed to provide accurate and cost-efficient application control by avoiding no-spray zones and eliminating wasteful overlaps.

This manual applies to the following machines. For future reference, write the serial number of the machine in the space below.

MAKE: SpraCoupe
MODEL: 7000 Series
YEAR:
SERIAL NUMBER:

Recommendations

Raven Industries recommends the following best practices when installing the AccuBoom system:

- Use part numbers to identify parts.
- Do not remove the plastic wrap from a part until it is necessary for installation.
- Use recommended cable routing practices:
 - Locate available switched and battery power sources before installation.
 - Map out the best available cable route before installation.
 - Ensure cables are able to rest in a relaxed state and are not pinched, kinked, or stretched.
 - Route cables away from moving parts and excessive heat sources.

Tools Needed

The following tools are recommended for installation of the AccuBoom system:

- SAE standard-sized wrenches
- Cables ties
- Set of tools

Preparing for Installation

Before installing AccuBoom, park the machine on a clean, level, and dry surface. Leave the machine turned off for the duration of the installation process.

During the installation process, follow good safety practices. Be sure to carefully read the instructions in this manual as you complete the installation process.

Point of Reference



The instructions in this manual assume that you are standing behind the machine, looking toward the cab.

AccuBoom Kit Contents

This section contains a list of the components that are included in the AccuBoom kit. Before beginning the AccuBoom installation, compare the items in the AccuBoom kit with the components on this list. If you have questions about the kit, contact your local Raven dealer.

Important: *In addition to the following kit components, an AccuBoom CAN node (P/N 063-0172-316) is required for the operation of the AccuBoom system. Also, if a CAN system is not currently installed on the machine, a CAN terminator/power tee kit (P/N 117-0159-923) is required.*

TABLE 1. AccuBoom Installation Kit (P/N 117-1004-012)

Picture	Item Description	Part Number	Qty.
Not Pictured	Manual - SpraCoupe 7000 Series AccuBoom Installation Manual	016-0171-012	1
	Cable - 24' CANBus	115-0171-363	1
	Cable - SpraCoupe 7000 Series CAN AccuBoom	115-0171-590	1

CHAPTER

3

AccuBoom Installation

The instructions in this manual are designed to assist in the installation of the AccuBoom system on the SpraCoupe 7000 series machine. Refer to the Installation & Operation Manual for the specific field computer being used for instructions on setting up the software and using the AccuBoom system.

Install the CAN Power and Ground

Note: *If the machine is equipped with a previously installed CAN system, skip this procedure and proceed to the section “Install the AccuBoom Node” on page 6.*

FIGURE 1. CAN Power Cable Connections



1. Determine the appropriate location for installing the CAN power adapter cable (P/N 115-0171-368).
2. Install a CAN terminator (P/N 063-0172-369) on the end of the cable containing the red power and white ground wires.

FIGURE 2. Field Computer Cable Connection

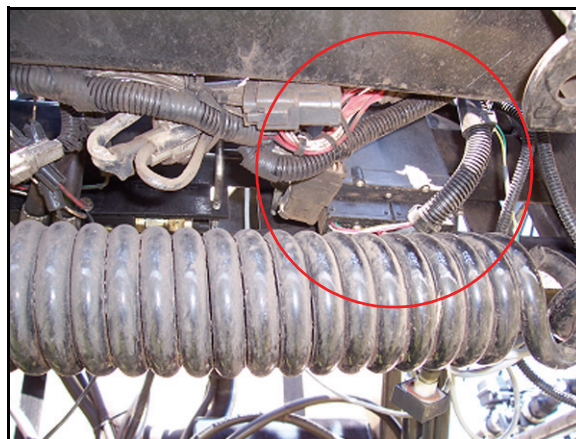


3. Connect one end of the CAN power adapter cable to the Envizio Pro or Viper Pro interface cable.
4. Route the red power and white ground wires toward the battery.

Note: Do not connect the power and ground wires at this time. The power and ground wires will be connected at a later phase of the AccuBoom installation.

Install the AccuBoom Node

FIGURE 3. AccuBoom Node Installed



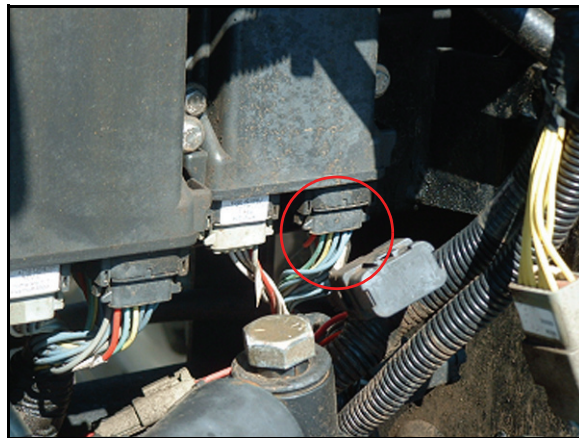
1. Fabricate a steel plate slightly larger than the node (P/N 063-0172-316).
2. Using the node as a guide, drill holes in the mounting plate.
3. Mount the node to the mounting plate.
4. Mount the node and mounting plate on the tube directly behind the existing SpraCoupe CAN nodes.

Note: Mount the node so that the cable connections face down.

5. Connect the large, rectangular node connectors on the 7000 series SpraCoupe CAN AccuBoom cable (P/N 115-0171-590) into the correct ports of the AccuBoom node.
6. Tighten the node connectors to secure the connections.

Connect the AccuBoom Cable to the Sprayer's Boom Harness Cable

FIGURE 4. Machine's Boom Valve Node Connection

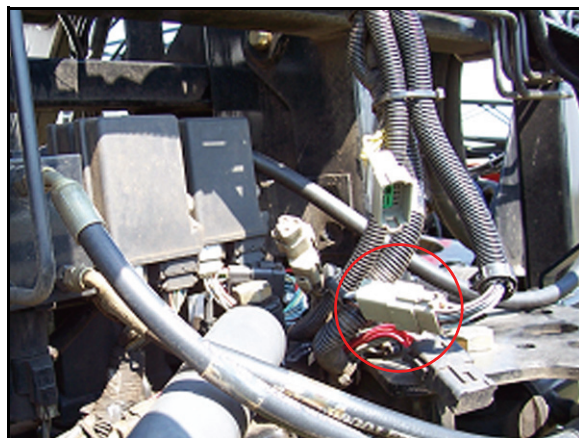


1. Locate the machine's CAN node that controls the boom valves.

Note: *The machine's boom valve node is the single (not stacked) node located at the center rear of the machine.*

2. Disconnect the right node connector containing the blue wires.
3. Connect the SpraCoupe Boom Node cable connector on the 7000 series SpraCoupe CAN AccuBoom cable (P/N 115-0171-590) to the machine's CAN node.
4. Connect the SpraCoupe Boom Cable connector on the AccuBoom cable to the connector that was disconnected from the node.

FIGURE 5. Machine's Boom Sense Cable



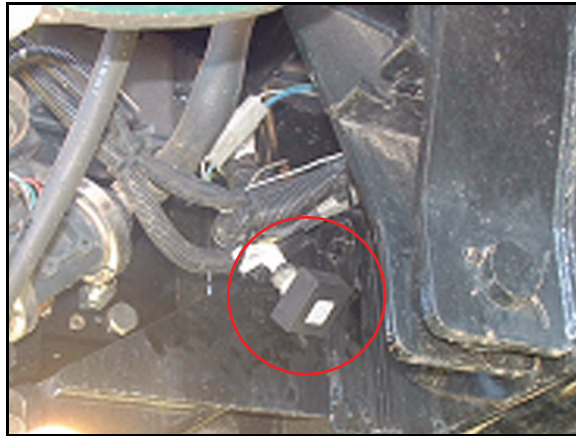
5. Locate and disconnect the machine's boom sense cable connector.

Note: *The cable contains yellow wires and is located along the vertical upright tub to the right of the machine's CAN node.*

6. Connect the machine's boom sense cable connector to the SpraCoupe Sense Cable connector on the AccuBoom cable.

Connect the CAN Bus Cable

FIGURE 6. Machine's CAN Terminator



1. Locate the machine's product control CAN cable routed from the cab.

Note: *The cable is located on the left side of the machine, behind the main product pump.*

2. Remove the CAN terminator from the cable.
3. Connect the single end of the CAN bus cable (P/N 115-0171-363) to the machine's existing product control CAN cable.
4. Route and connect the other end of the CAN bus cable to the 7000 series SpraCoupe AccuBoom cable (P/N 115-0171-590).
5. Install the CAN terminator on the remaining branch of the CAN bus cable.

Install the Logic Power and Ground Connections

1. Locate and route the logic power connections up and into the cab.
2. Locate and connect the red 16 gauge power wire to the clean source of switched power.
3. Locate and connect the white 16 gauge ground wire to the clean source of switched ground.
4. Connect the CAN power adapter cable (P/N 115-0171-368) power connections to the battery.
5. Reconnect the machine's battery connections.

CHAPTER

4

***Section Mapping
Setup***

This section contains mapping settings that are used to program the AccuBoom controller. Refer to the Installation & Operation Manual and the appropriate section in this chapter for the specific field computer being used for the specific programming and section mapping settings.

Envizio Pro

Boom	Section Label
1	L
2	1
3	2
4	3
5	4
6	5
7	R

Viper Pro

Viper Boom	Wired As	Display Character
1	6	L
2	1	1
3	2	2
4	3	3
5	4	4
6	5	5
7	7	R

CHAPTER

5

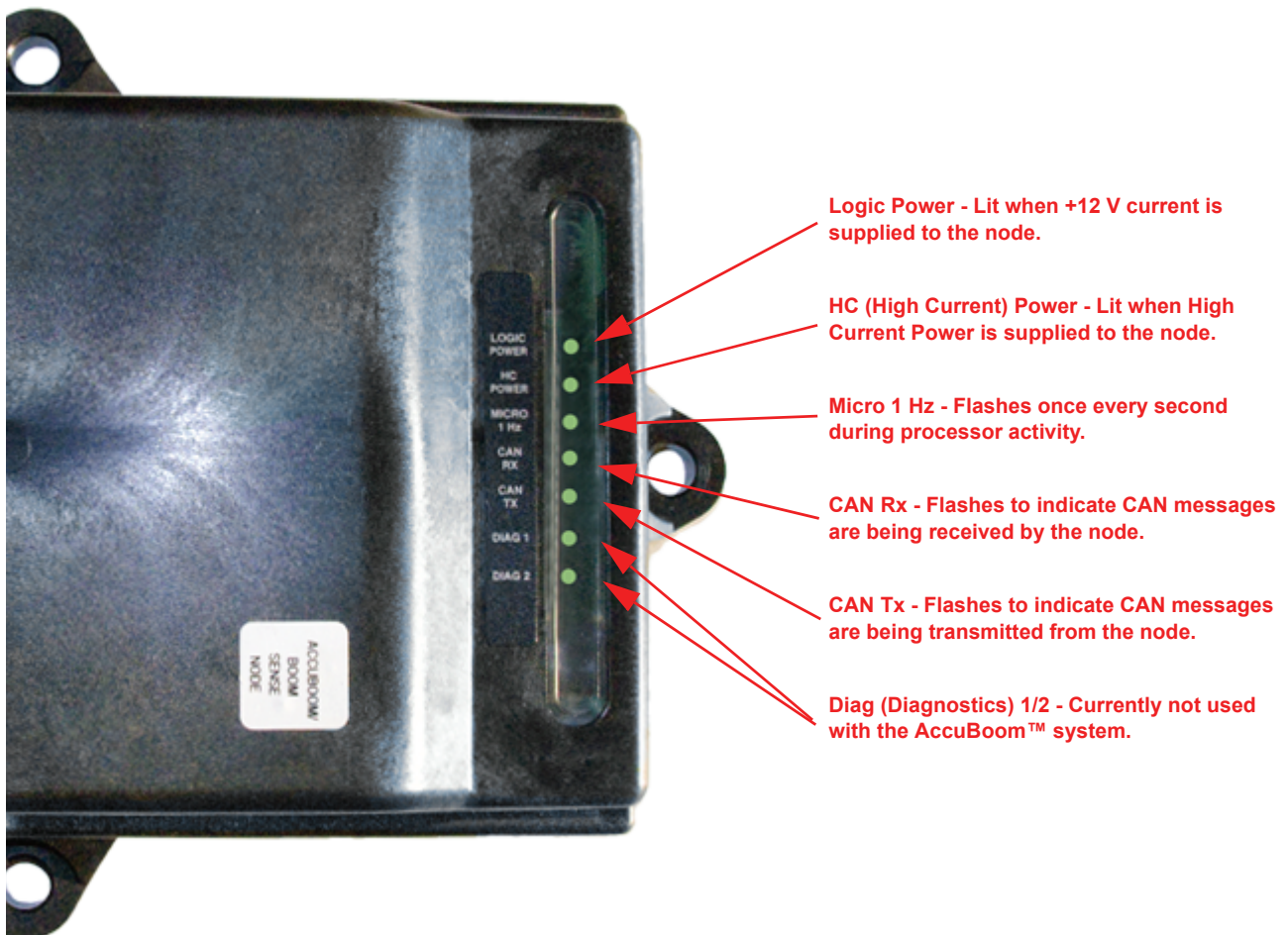
Troubleshooting

The AccuBoom CAN control node (P/N 063-0172-316) features several green light-emitting diodes (LEDs) which may be used to diagnose issues within the AccuBoom system.

Note: If the LEDs are not displayed as outlined in the figure below, check the CAN connections and the control cable connections on the node. If the issue persists, contact your local Raven dealer for additional technical support.

Note: All boom switches must remain in the On position while AccuBoom control is in operation.

FIGURE 1. AccuBoom CAN Control Node LEDs



A**AccuBoom Installation**

- Connecting the AccuBoom Cable to the Sprayer's Boom Harness Cable 7
- Connecting the CAN Bus Cable 8
- Installing the CAN Power and Ground 5
- Installing the Logic Power and Ground Connections 8

AccuBoom Kit Contents 4**I****Introduction**

- AccuBoom Kit Contents 4
- Point of Reference 4
- Preparing for Installation 4
- Recommendations 3
- Tools Needed 3

K**Kit Contents 4****S****Section Mapping Setup**

- Envizio Pro 9
- Viper Pro 9

T**Troubleshooting 11**

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Limited Warranty

What Does this Warranty Cover?

This warranty covers all defects in workmanship or materials in your Raven Applied Technology Division product under normal use, maintenance, and service.

How Long is the Coverage Period?

Raven Applied Technology Division products are covered by this warranty for 12 months after the date of purchase. This warranty coverage applies only to the original owner and is nontransferable.

How Can I Get Service?

Bring the defective part and proof of purchase to your Raven dealer. If your dealer agrees with the warranty claim, the dealer will send the part and proof of purchase to their distributor or to Raven Industries for final approval.

What Will Raven Industries Do?

Upon confirmation of the warranty claim, Raven Industries will, at our discretion, repair or replace the defective part and pay for return freight.

What is not Covered by this Warranty?

Raven Industries will not assume any expense or liability for repairs made outside our facilities without written consent. Raven Industries is not responsible for damage to any associated equipment or products and will not be liable for loss of profit or other special damages. The obligation of this warranty is in lieu of all other warranties, expressed or implied, and no person or organization is authorized to assume any liability for Raven Industries.

Damages caused by normal wear and tear, misuse, abuse, neglect, accident, or improper installation and maintenance are not covered by this warranty.