864/874/1064/1074/1274 (C) Rogator with Raven SCS 661 Console AccuBoom™ Installation Manual

P/N 016-0171-077 Rev C   07/15   E22332

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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 a 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 a 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 seat in the machine at all times when AccuBoom is enabled.
- Disable AccuBoom when exiting the operator's seat and machine.
- Do not drive the machine on any public road when AccuBoom is enabled.
- 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 starting maintenance on AccuBoom or the machine.

⚠ CAUTION

- 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 cable is the last cable to be connected.

Introduction

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

This manual applies to the following machines:

MAKE: AGCO
MODEL: RoGator 864, 874, 1064, 1074, and 1274(C) with the Raven SCS 661 Console
MODEL YEARS:

Note: *Machine boom section switches must remain in the off position to allow AccuBoom to automatically control section status.*

Preparing for Installation

Before installing AccuBoom, park the machine where the ground is level, clean, and dry. 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.

Recommendations

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

- Use part numbers to identify the parts.
- Do not remove the plastic wrap from a part until it is necessary for installation.
- Recommended cable routing practices:
  - Locate available switched and battery power sources before installation.
  - Map out best available cable routes 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 heat sources.

Tools Needed

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

- 1/4" nut driver or SAE standard size wrenches, sockets, and ratchet wrench
- Cable ties
- Set of tools

Point of Reference

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

Note: *Section 1 will always be to the left end of the boom or implement.*

Updates

Software and manual updates are available on the Raven Applied Technology website:

http://www.ravenhelp.com

At Raven Industries, we strive to make your experience with our products as rewarding as possible. One way to improve this experience is to provide us with feedback on this manual.

Your feedback will help shape the future of our product documentation and the overall service we provide. We appreciate the opportunity to see ourselves as our customers see us and are eager to gather ideas on how we have been helping or how we can do better.

To serve you best, please send an email with the following information to

techwriting@ravenind.com

-RoGator 864/874, 1064/1074, and 1274(C) with SCS 661 AccuBoom™ Installation Manual
-Manual No. 016-0171-077 Rev. C
-Any comments or feedback (include chapter or page numbers if applicable).
-Let us know how long have you been using this or other Raven products.

We will not share your email or any information you provide with anyone else. Your feedback is valued and extremely important to us.

Thank you for your time.

Kit Contents

This section contains a list of the components that are included in the AccuBoom installation kit. Before beginning the AccuBoom system installation, compare the items in the kit with the components on this list.Contact a local Raven dealer for additional information.

Note: *The AccuBoom node (P/N 063-0172-316) must be ordered separately. Contact a local Raven dealer for ordering information.*

TABLE 1. **AGCO RoGator 864/874, 1064/1074 with Raven 661 AccuBoom Installation Kit (P/N 117-1004-026)**

Picture	Item Description	Part Number	Qty.
Not Pictured	Manual - AGCO RoGator 864/874, 1064/1074 with Raven 661 AccuBoom Installation	016-0171-077	1
	Cable - 6' [1.8 m] CANbus with Tee	115-0171-326	1
	Cable - AccuBoom 64/74 Series RoGator with SCS 661 Harness	115-1001-007	1

Note: *If a Raven CANbus system is not already installed on the machine, a Raven CANbus power adapter tee cable and terminator kit (P/N 117-0159-923) and another CANbus tee cable will be required. Contact a local Raven dealer for available cable lengths and for purchasing information.*

AccuBoom Installation

These instructions are designed to assist in the installation of the AccuBoom system on AGCO RoGator 864, 1064, 874, 1074, or 1274(C) with a Raven SCS 661 and a Raven field computer. Refer to the Installation and Operation Manual for the specific field computer being used for instructions on setting up the software and using the AccuBoom system.

Install the AccuBoom Node

1. Locate the bulkhead connection located behind the operator cabin.

   FIGURE 1. **AccuBoom Node Mounting Location**
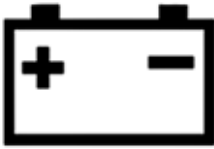
   Bulkhead Connection   **Node Mounting Location**

2. Mount the AccuBoom node (P/N 063-0172-316) beneath the catwalk close to the machine cabin. The node must be mounted within 2 feet [0.6 m] of the machine bulkhead connection.

Note: *Mount the node so that the node cable connectors are pointing toward the front of the vehicle. Depending upon the selected mounting location, it may be necessary to secure the harness connectors before securing the node to the mounting location. Refer to the Install the AccuBoom Harness Cable section on page 8.*

Install the AccuBoom Harness Cable

	⚠ **CAUTION**
[battery symbol + −]	Always connect the power cable as the last step in the wiring process and verify that the power leads are connected with the correct polarity. Reversing power leads can cause severe damage to the equipment.

For wiring connections made outside the cab, apply dielectric silicone grease (P/N 222-0000-006) generously on both the male and female ends of the connectors. Application of the grease will help to prevent corrosion to the pins and wires.

FIGURE 2. Machine Boom Wiring Connector

Machine Boom Wiring Connector

Bulkhead Connections

1. Locate and disconnect the machine bulkhead connection found behind the operator cabin.
2. Disconnect the boom wiring connector from the bulkhead. The boom wiring connector is in the lower, right corner of the bulkhead and will have several light blue wires running to the connector.
3. Connect the AccuBoom harness cable (P/N 115-1001-007) to the bulkhead receptacle and reconnect the machine boom wiring connector to the remaining harness connector.

FIGURE 3. **AccuBoom Harness Installed**
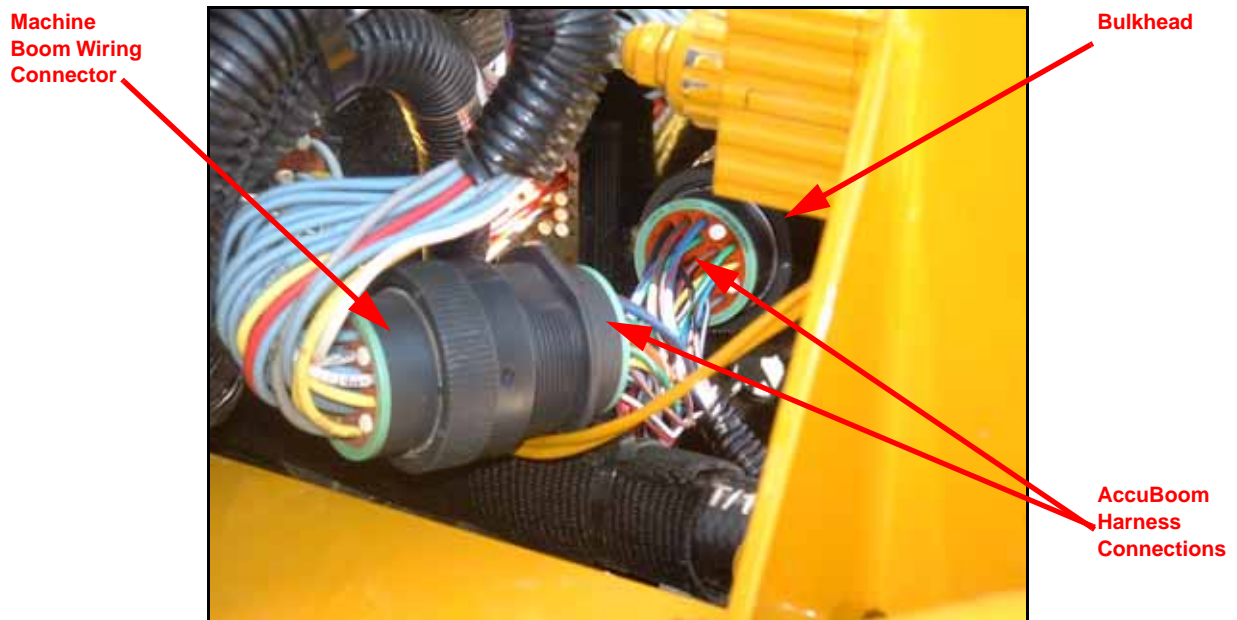
4. Route the two large, rectangular connectors to the AccuBoom node and secure to the node.

CANbus Connection

Note: *Refer to the following procedure if the machine already has a Raven CANbus system installed. If a Raven CANbus system is not already installed, refer to Chapter 4, CANbus Installation, for assistance with installing a CANbus power tee cable to build a new CAN network.*

1. Connect the CAN Tee cable (P/N 115-0171-326) to the 4-pin CAN connection on the AccuBoom harness.

FIGURE 4. **CAN Connection**

2. Locate the access port on the underside of the machine cabin.

FIGURE 5. **Cabin Access Port**

3. Route the CAN Tee through the access hole and to the existing CANbus cabling connection in the machine cab.

4. Disconnect the existing CANbus connector or terminator and connect the CAN tee cable from the AccuBoom harness to the CANbus line.

Note: *A short CAN tee cable may be necessary to reconnect existing connections depending upon the CAN components already installed in the machine cabin. Contact a local Raven dealer for available CAN tee cables or other options for connecting to the CANbus line.*

Power Connections

1. Locate the access port on the underside of the machine cabin.

FIGURE 6. **Cabin Access Port**

2. Route the red and white battery leads from the AccuBoom node harness through the access port to a source of clean power.
3. Connect the red lead to a source of clean, controlled +12 VDC power.
4. Connect the white lead to a negative or ground connection.

Important: Do not use chassis or frame ground connections with the Raven AccuBoom control node. Route the ground leads directly to the negative battery post or ground bus bar to properly ground the system.

CANbus Installation

If a Raven CANbus (Controller Area Network) system has not already been installed on the machine, a CANbus terminator and power adapter tee kit (P/N 117-0159-923) will be necessary to begin building a CANbus system on the implement. Once installed, the CANbus network will allow other CAN control systems and features to be added at any time.

CANbus Installation

CAN Tee with Power Cable

1. From the machine cabin, route the red and white battery leads to a source of clean, controlled +12V power such as a bus bar.
2. Connect the red lead to the positive power source.
3. Connect the white wire to a clean ground.

Note: *Do not connect to a chassis ground.*

FIGURE 1. **Cabin Access Port**

4. Connect a CAN terminator (P/N 063-0172-369) to the power tee cable. Generally, the most robust system is obtained when one CAN terminator is connected directly to the power tee cable.

5. Route one end of the CAN power tee cable to the CANbus connector on the field computer or console interface cable.

6. Connect any remaining CAN systems or features to the remaining connector on the power tee cable using additional CAN tee cables as necessary. Contact a local Raven dealer for available lengths and for purchasing assistance.

Section Mapping Setup

This section contains section 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 programming and section mapping settings.

Envizio Pro

5 Section			7 Section	
Boom	**Section Label**		**Boom**	**Section Label**
1	1		1	1
2	2		2	2
3	3		3	3
4	4		4	4
5	5		5	5
			6	6
			7	7

Viper Pro

5 Section				7 Section		
Boom	**Wired As**	**Displayed As**		**Boom**	**Wired As**	**Displayed As**
1	1	1		1	1	1
2	2	2		2	2	2
3	3	3		3	3	3
4	4	4		4	4	4
5	5	5		5	5	5
				6	6	6
				7	7	7

CHAPTER

Troubleshooting

6

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 a local Raven dealer for additional technical support.*

All boom switches must remain in the off position while AccuBoom control is in operation.

FIGURE 1. **AccuBoom CAN Control Node LEDs**

Logic Power - Lit when +12 V current is supplied to the node.

HC (High Current) Power - Lit when High Current Power is supplied to the node.

Micro 1 Hz - Flashes once every second during processor activity.

CAN Rx - Flashes to indicate CAN messages are being received by the node.

CAN Tx - Flashes to indicate CAN messages are being transmitted from the node.

Diag (Diagnostics) 1 - Turns on to indicate master switch signal is detected by the node. If master switch is off, or if the switch signal is monitored by the control console, the light will not illuminate.

Diag (Diagnostics) 2 - Flashes to indicate signal received from remote.

RAVEN

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 when used for intended purpose.

How Long is the Coverage Period?

Raven Applied Technology products are covered by this warranty for 12 months from the date of retail sale. In no case will the Limited Warranty period exceed 24 months from the date the product was issued by Raven Industries Applied Technology Division. This warranty coverage applies only to the original owner and is non-transferable.

How Can I Get Service?

Bring the defective part and proof of purchase to your Raven dealer. If the dealer approves the warranty claim, the dealer will process the claim and send it to Raven Industries for final approval. The freight cost to Raven Industries will be the customer's responsibility. The Return Materials Authorization (RMA) number must appear on the box and all documentation (including proof of purchase) must be included inside the box to be sent to Raven Industries.

What Will Raven Industries Do?

Upon confirmation of the warranty claim, Raven Industries will (at our discretion) repair or replace the defective product and pay for the standard return freight, regardless of the inbound shipping method. Expedited freight is available at the customer's expense.

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, labor, or other 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.

RAVEN

Extended 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 when used for intended purpose.

Do I Need to Register My Product to Qualify for the Extended Warranty?

Yes. Products/systems must be registered within 30 days of retail sale to receive coverage under the Extended Warranty. If the component does not have a serial tag, the kit it came in must be registered instead.

Where Can I Register My Product for the Extended Warranty?

To register, go online to www.ravenhelp.com and select Product Registration.

How Long is the Extended Warranty Coverage Period?

Raven Applied Technology products that have been registered online are covered for an additional 12 months beyond the Limited Warranty for a total coverage period of 24 months from the date of retail sale. In no case will the Extended Warranty period exceed 36 months from the date the product was issued by Raven Industries Applied Technology Division. This Extended Warranty coverage applies only to the original owner and is non-transferable.

How Can I Get Service?

Bring the defective part and proof of purchase to your Raven dealer. If the dealer approves the warranty claim, the dealer will process the claim and send it to Raven Industries for final approval. The freight cost to Raven Industries will be the customer's responsibility. The Return Materials Authorization (RMA) number must appear on the box and all documentation (including proof of purchase) must be included inside the box to be sent to Raven Industries. In addition, the words "Extended Warranty" must appear on the box and all documentation if the failure is between 12 and 24 months from the retail sale.

What Will Raven Industries Do?

Upon confirmation of the product's registration for the Extended Warranty and the claim itself, Raven Industries will (at our discretion) repair or replace the defective product and pay for the standard return freight, regardless of the inbound shipping method. Expedited freight is available at the customer's expense.

What is Not Covered by the Extended 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, labor, or other damages. Cables, hoses, software enhancements, and remanufactured items are not covered by this Extended Warranty. 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.