

# AGCO RoGator 64/74 Series AccuBoom™ Installation Manual

*Manual No. 016-0171-003 Rev. D 01/17*

*E28992*

## ***Disclaimer***

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# CHAPTER

# 1

# IMPORTANT SAFETY INFORMATION

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## 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

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### INSTRUCTIONS FOR WIRE ROUTING

The word "harness" is used to mean all electrical leads and cables, bundled and unbundled. When installing harness, secure it at least every 30 cm (12in) to the frame. Follow existing harness as much as possible and use these guidelines:

Harness should not contact or be attached to:

- Lines and hoses with high vibration forces or pressure spikes

- Lines and hoses carrying hot fluids beyond harness component specifications

Avoid contact with any sharp edge or abrading surfaces such as, but not limited to:

- Sheared or flame cut edges
- Edges of machined surfaces
- Fastener threads or cap screw heads
- Ends of adjustable hose clamps
- Wire exiting conduit without protection, either ends or side of conduit
- Hose and tube fittings

Routing should not allow harnesses to:

- Hang below the unit
- Have the potential to become damaged due to exposure to the exterior environment. (i.e. tree limbs, debris, attachments)
- Be placed in areas of or in contact with machine components which develop temperatures higher than the temperature rating of harness components
- Wiring should be protected or shielded if it needs to route near hot temperatures beyond harness component specifications

Harnessing should not have sharp bends

Allow sufficient clearance from machine component operational zones such as:

- Drive shafts, universal joints and hitches (i.e. 3-point hitch)
- Pulleys, gears, sprockets
- Deflection and backlash of belts and chains
- Adjustment zones of adjustable brackets
- Changes of position in steering and suspension systems
- Moving linkages, cylinders, articulation joints, attachments
- Ground engaging components

For harness sections that move during machine operation:

- Allow sufficient length for free movement without interference to prevent: pulling, pinching, catching or rubbing, especially in articulation and pivot points
- Clamp harnesses securely to force controlled movement to occur in the desired harness section
- Avoid sharp twisting or flexing of harnesses in short distances
- Connectors and splices should not be located in harness sections that move

Protect harnesses from:

- Foreign objects such as rocks that may fall or be thrown by the unit
- Buildup of dirt, mud, snow, ice, submersion in water and oil
- Tree limbs, brush and debris
- Damage where service personnel or operators might step or use as a grab bar
- Damage when passing through metal structures

**IMPORTANT:** Avoid directly spraying electrical components and connections with high pressure water. High pressure water sprays can penetrate seals and cause electrical components to corrode or otherwise become damaged. When performing maintenance:

- Inspect all electrical components and connections for damage or corrosion. Repair or replace components, connections, or cable as necessary.
- Ensure connections are clean, dry, and not damaged. Repair or replace components, connections, or cable as necessary.
- Clean components or connections using low pressure water, pressurized air, or an aerosol electrical component cleaning agent.
- Remove visible surface water from components, connections, or seals using pressurized air or an aerosol electrical component cleaning agent. allow components to dry completely before reconnecting cables.

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## INSTRUCTIONS FOR HOSE ROUTING

The word "hose" is used to mean all flexible fluid carrying components. Follow existing hoses as much as possible and use these guidelines:

Hoses should not contact or be attached to:

- Components with high vibration forces
- Components carrying hot fluids beyond component specifications

Avoid contact with any sharp edge or abrading surfaces such as, but not limited to:

- Sheared or flame cut edges
- Edges of machined surfaces
- Fastener threads or cap screw heads
- Ends of adjustable hose clamps

Routing should not allow hoses to:

- Hang below the unit
- Have the potential to become damaged due to exposure to the exterior environment. (i.e. tree limbs, debris, attachments)
- Be placed in areas of or in contact with machine components which develop temperatures higher than the temperature rating of hose components
- Hoses should be protected or shielded if it needs to route near hot temperatures beyond hose component specifications

Hoses should not have sharp bends

Allow sufficient clearance from machine component operational zones such as:

- Drive shafts, universal joints and hitches (i.e. 3-point hitch)
- Pulleys, gears, sprockets
- Deflection and backlash of belts and chains
- Adjustment zones of adjustable brackets
- Changes of position in steering and suspension systems
- Moving linkages, cylinders, articulation joints, attachments
- Ground engaging components

For hose sections that move during machine operation:

- Allow sufficient length for free movement without interference to prevent: pulling, pinching, catching or rubbing, especially in articulation and pivot points
- Clamp hoses securely to force controlled movement to occur in the desired hose section
- Avoid sharp twisting or flexing of hoses in short distances

Protect hoses from:

- Foreign objects such as rocks that may fall or be thrown by the unit
- Buildup of dirt, mud, snow, ice, submersion in water and oil
- Tree limbs, brush and debris
- Damage where service personnel or operators might step or use as a grab bar
- Damage when passing through metal structures
- High pressure wash



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 64 and 74 Series  
MODEL YEARS: 2006 and Older

MAKE: AGCO  
MODEL: RoGator 74, 84, and 86 Series  
MODEL YEARS: 2007 to 2008

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## 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.

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## 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](mailto:techwriting@ravenind.com)

- AGCO RoGator 64/74 Series AccuBoom™ Installation Manual
- Manual No. 016-0171-003 Rev. D
- 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.

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## 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 64/74 Series (2006 and older) AccuBoom Installation Kit (P/N 117-1004-010)

TABLE 2.





Picture	Item Description	Part Number	Qty.
Not Pictured	Manual - AGCO RoGator 64/74 Series AccuBoom Installation	016-0171-003	1
	Cable - RoGator 64/74 Series AccuBoom Harness	115-0171-556	1
	Cable - 24' [7 m] CAN Tee	115-0171-363	1

TABLE 3. AGCO RoGator 1274 7-Boom (2007 and 2008) AccuBoom Installation Kit (P/N 117-1004-022)

TABLE 4.

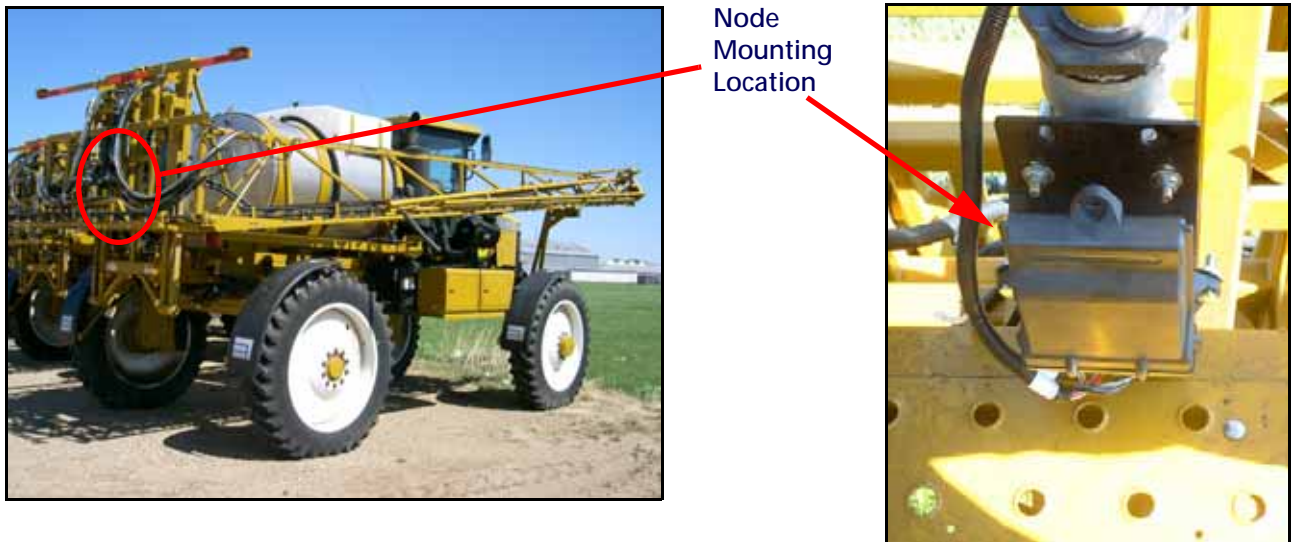
Picture	Item Description	Part Number	Qty.
Not Pictured	Manual - AGCO RoGator 64/74 Series AccuBoom Installation	016-0171-003	1
	Cable - RoGator 1274 7-Boom AccuBoom Harness	115-0171-683	1
	Cable - 24' [7 m] CAN Tee	115-0171-363	1



These instructions are designed to assist in the installation of the AccuBoom system on AGCO RoGator 64 and 74 Series machines. 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 ACCUBOOM NODE

FIGURE 1. AccuBoom Node Mounting Location

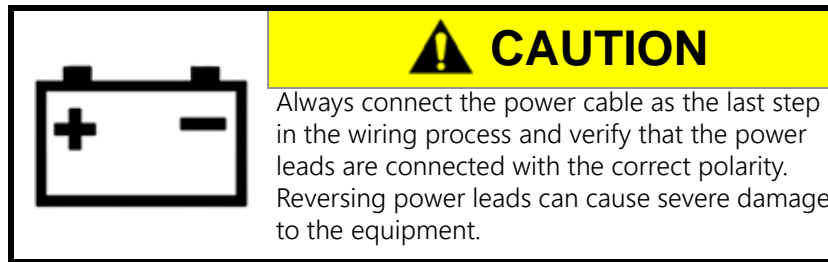


1. Identify the AccuBoom node (P/N 063-0172-316) mounting location at the rear of the machine. The node must be mounted within 5 feet [1.5 m] of the machine boom wiring connector located on the left side of the machine center rack.

**NOTE:** Mount the node so that the node cable connectors point down. 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

A bracket similar to the one shown in Figure 1 on page 7 may need to be fabricated to secure the node to the center rack frame or similar structure as necessary.

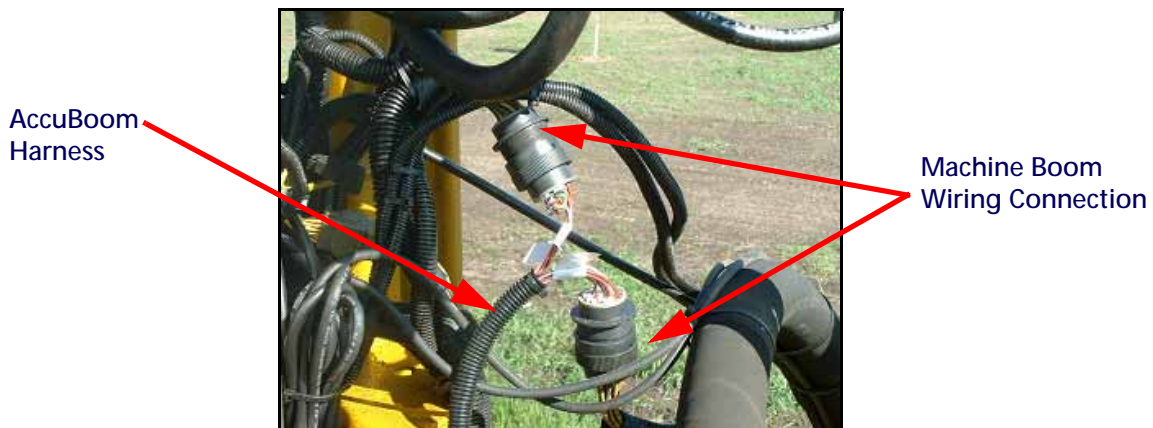
## INSTALL THE ACCUBOOM HARNESS CABLE



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 prevent corrosion to the pins and wires.

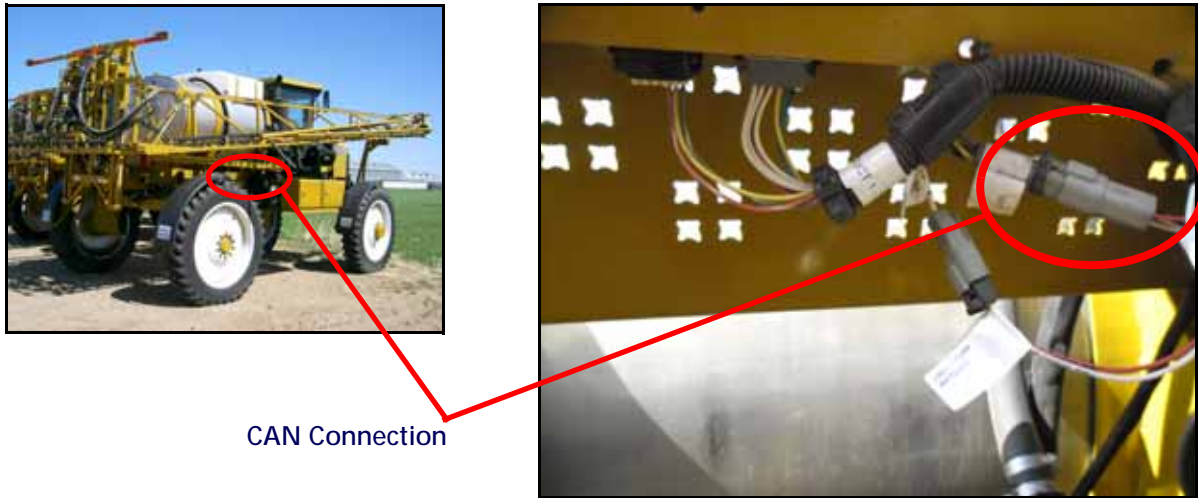
**NOTE:** The following procedures will be required to connect the AccuBoom node harness cable (P/N 115-0171-556 or 115-0171-683) for the specific machine. Refer to either the RoGator 64/74 Series Node Harness Power Connections section on page 9 or the RoGator 1274 7-Boom Harness Power Connections section on page 10 for specific power and ground connection procedures for each of these cables.

**FIGURE 2. Machine's Existing Harness Connection**



1. Locate and disconnect the machine boom wiring connector found to the left center of the center rack.
2. Install the mating connectors of the AccuBoom harness cable (P/N 115-0171-556 or 115-0171-683) on each end of the machinecabling.

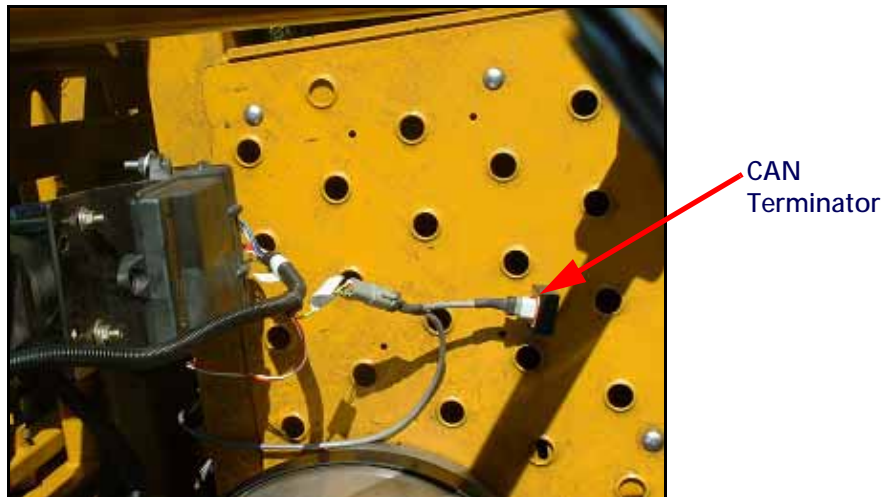
FIGURE 3. Existing CAN Connection



CAN Connection

3. Locate the CAN terminator (P/N 063-0172-369) connected to the CAN product cable behind the operator cabin. The product cable and terminator can usually be located below the catwalk on the right side of the vehicle.
4. Disconnect the terminator and connect the single connector on the CAN tee cable (P/N 115-0171-363).

FIGURE 4. CAN Terminator and Tee Cable Connected to the AccuBoom Harness



CAN Terminator

5. Route the CAN tee cable to the AccuBoom node harness and connect to the 4-pin connector labeled 'To CANbus' located near the AccuBoom node.
6. Install the CAN terminator onto the remaining branch connector.

### ROGATOR 64/74 SERIES NODE HARNESS POWER CONNECTIONS

Perform the following procedure to install the AccuBoom node harness (P/N 115-0171-556):

1. Route the power and ground battery leads from the AccuBoom node harness to a source of clean power such as the vehicle battery.
2. Connect the power lead to a source of clean, controlled +12 VDC power.
3. Connect the ground lead to a negative or ground connection.

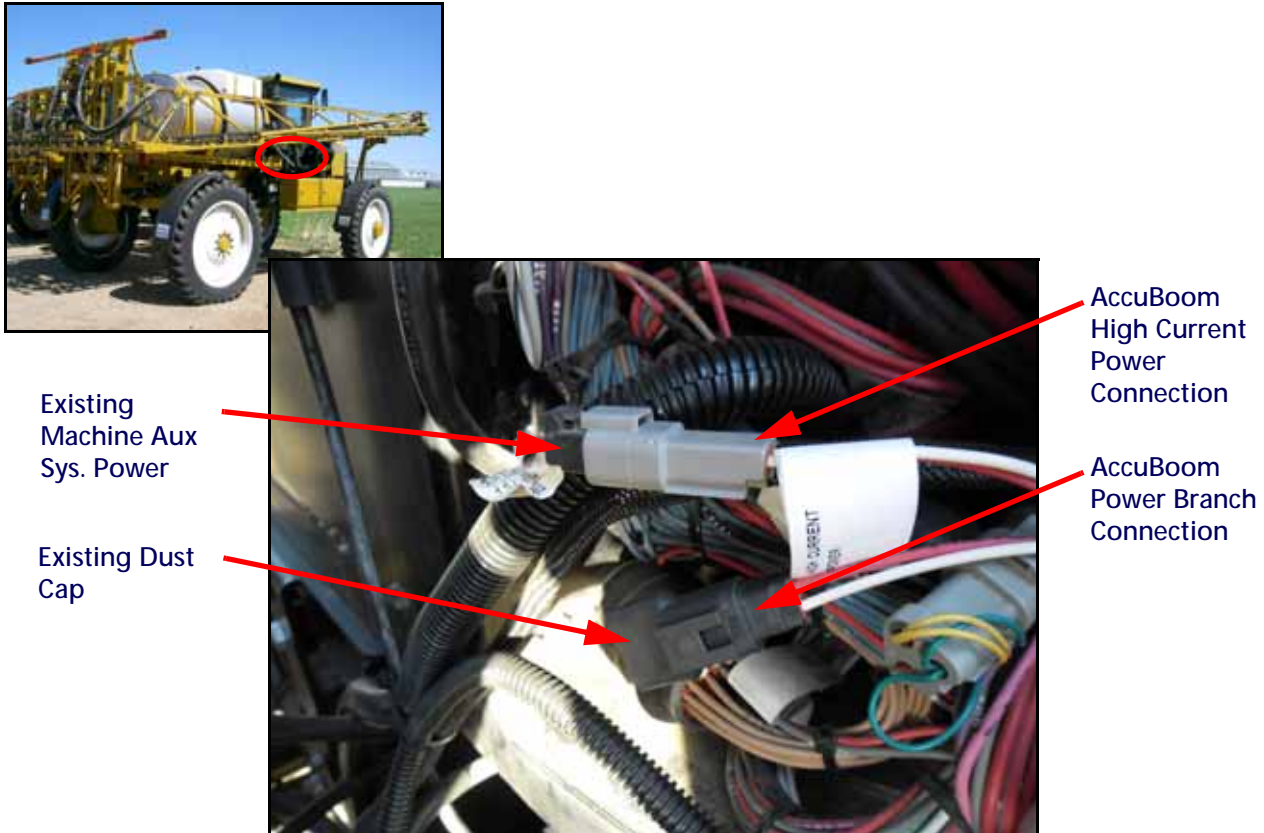
**IMPORTANT:** Do not use chassis or frame ground connections with the Raven AccuBoom control node. Route the ground leads directly to the negative battery post or ground bus bar to properly ground the system.

### ROGATOR 1274 7-BOOM HARNESS POWER CONNECTIONS

Perform the following procedure to install the AccuBoom node harness (P/N 115-0171-683):

#### HIGH CURRENT POWER

FIGURE 5. Existing Power Connection

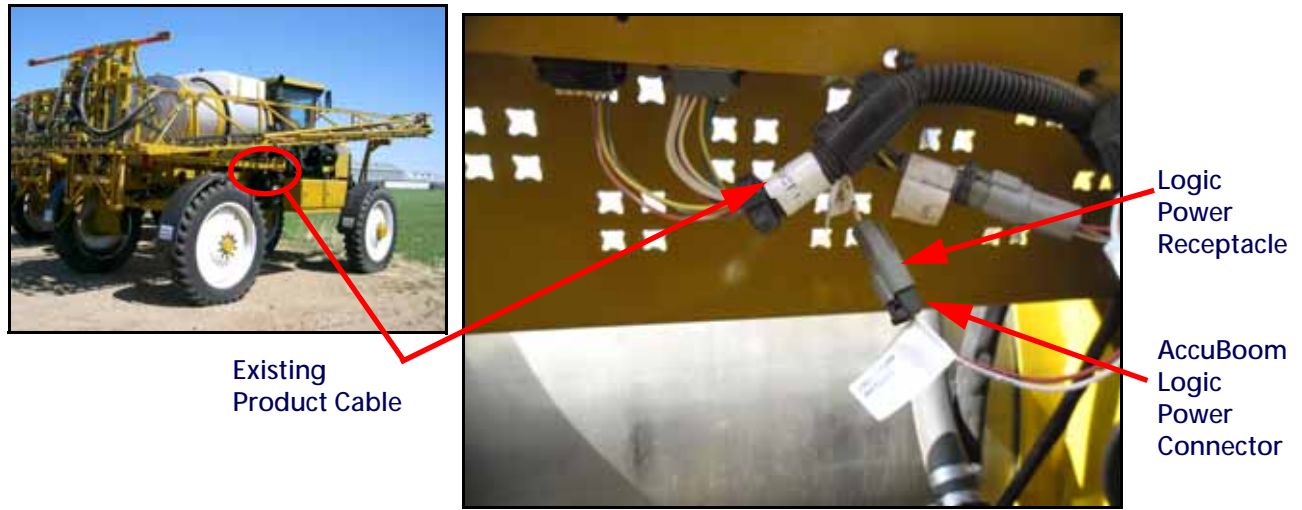


1. Locate the 2-pin Deutsch style connector labeled "Aux Sys. Power" in the access panel on the right side of the operator cabin.
2. Remove the dust cap and connect the Aux Sys. Power connector to the 2-pin receptacle labeled "High Current" on the AccuBoom control harness.
3. Replace the dust cap on the branch connection of the AccuBoom harness.



## LOGIC POWER

FIGURE 6. AccuBoom Cable Power Connection



1. Locate the 2-pin Deutsch style receptacle on the existing machine product control cable located behind the right side of the operator cabin.
2. Remove the dust cap and connect the 2-pin Deutsch style connector labeled "Logic Power (Switched)" on the AccuBoom control harness.



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# CHAPTER

# SECTION MAPPING SETUP

## 4

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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.

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### ENVIZIO PRO

TABLE 1.

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 or L		6	6
7	7 or R		7	7
			8	*
			9	9 or L
			10	10 or R

---

### VIPER PRO

TABLE 2.

5 Section				7 Section		
Boom	Wired As	Displaye d As		Boom	Wired As	Displaye d As
1	6	L		1	9	L
2	1	1		2	1	1
3	2	2		3	2	2
4	3	3		4	3	3
5	4	4		5	4	4

TABLE 2.

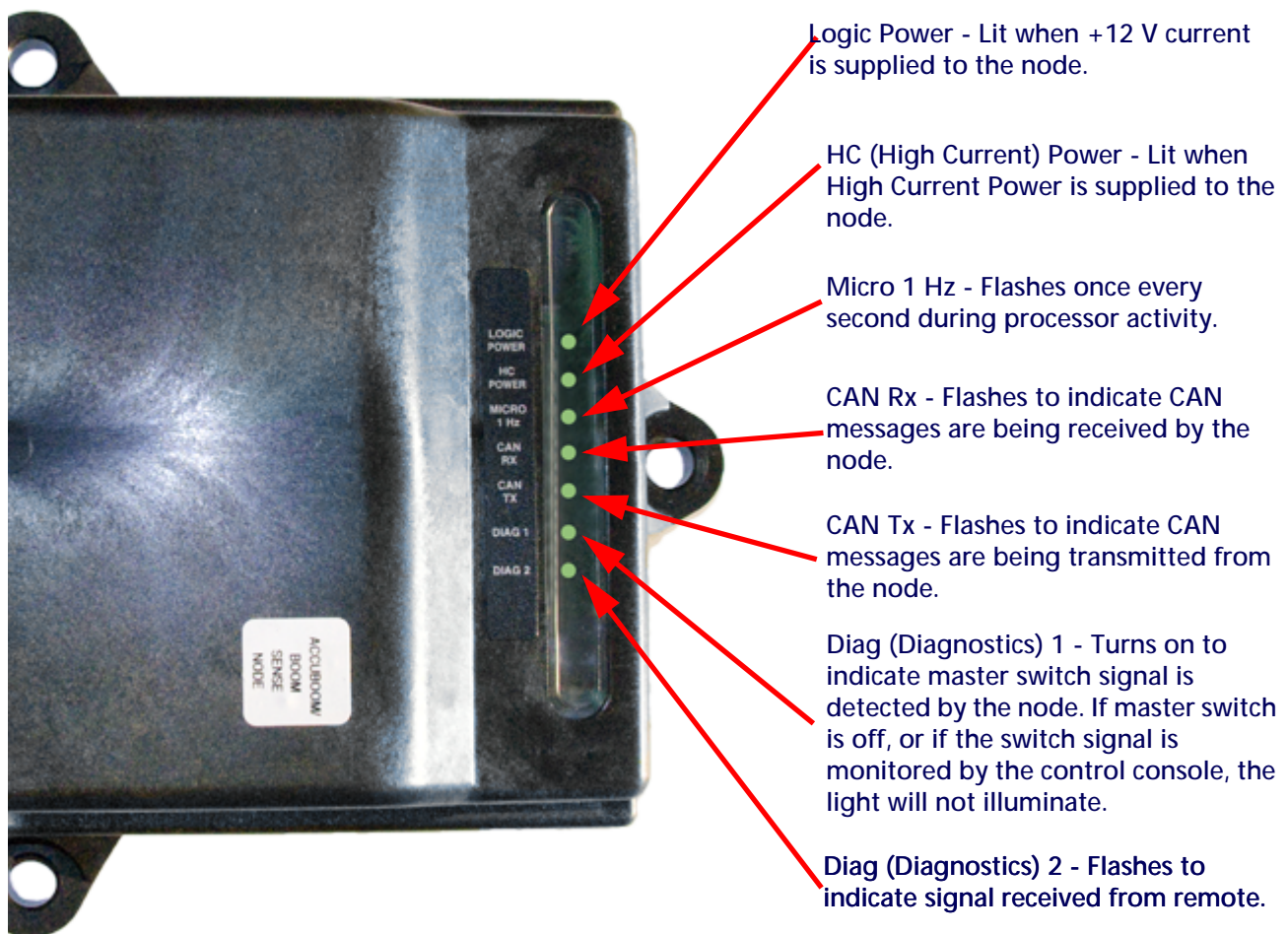
5 Section			7 Section		
Boom	Wired As	Displaye d As	Boom	Wired As	Displaye d As
6	5	5	6	5	5
7	7	R	7	6	6
			8	7	7
			9	*	*
			10	10	R

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 On position while AccuBoom control is in operation.

FIGURE 1. AccuBoom CAN Control Node LEDs





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# RAVEN

## Limited Warranty

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### ***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.**



## 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](http://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.**