

GVM Predator and Prowler AccuBoom Installation Manual

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CHAPTER

1

IMPORTANT SAFETY INFORMATION

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 been diminished.
- Ensure AccuBoom is disabled prior to starting any maintenance work 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.

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.

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

INTRODUCTION

Congratulations on your purchase of the Raven AccuBoom system! This system is 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 your serial number in the space below.

MAKE: GVM
MODEL: Predator and Prowler
SERIAL NUMBER:

FIGURE 1. GVM Predator



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.

TOOLS NEEDED

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

- SAE standard-sized wrenches
- Cable ties
- Drill and drill bits

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.

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.

TABLE 1. AccuBoom Installation Kit (P/N 117-1001-076)

Picture	Item Description	Part Number	Qty.
Not Pictured	Manual - GVM Predator and Prowler AccuBoom Installation	016-1001-072	1
	Node - CAN AccuBoom	063-0172-316	1
	Cable - GVM Predator and Prowler CAN AccuBoom	115-1001-037	1
	Bolt - 3/8"-16 x 1" Hex	311-0054-105	2
	Nut - 3/8"-16 Nylon Lock	312-4000-061	2
	Washer - 3/8" Flat	313-2300-013	2

The instructions in this manual are designed to assist in the proper installation of the AccuBoom system on GVM Predator and Prowler series sprayers. Refer to your field computer's Installation & Operation Manual for instructions on setting up the software and using the AccuBoom system.

INSTALL THE ACCUBOOM NODE

1. Locate the node enclosure on the center rack at the rear of the machine.
2. Using the node mounting holes as a guide, mark and drill two holes in the node enclosure cover.
3. Mount the AccuBoom node (P/N 063-0172-316) to the node enclosure using two 3/8"-16 x 1" hex bolts (P/N 311-0054-105), two 3/8" flat washers (P/N 313-2300-013), and two 3/8"-16 nylon lock nuts (P/N 312-4000-061).

FIGURE 1. AccuBoom Node Installed



NOTE: Install the node so that the cable connectors face down.

INSTALL THE ACCUBOOM HARNESS CABLE

INSTALL THE POWER CONNECTION

FIGURE 2. AccuBoom Harness Power Connection



1. Locate the 4-pin weather pack connector in the node enclosure.
2. Remove the dust cap from the weatherpack connector.
3. Connect the weatherpack connector to the power connection on the AccuBoom harness cable (P/N 115-1001-037).

INSTALL THE CAN CONNECTIONS

FIGURE 3. AccuBoom CAN Connections



1. Locate the terminator in the node enclosure.
2. Remove the terminator from the machine's CAN connection.

NOTE: If the machine was previously equipped with the AutoBoom system, the CAN terminator may be located on the AutoBoom harness.

3. Connect the machine's CAN connection to the AccuBoom harness CAN tee cable.
4. Connect the terminator to the other end of the AccuBoom harness CAN tee cable.

FIGURE 4. AccuBoom Cable Routing



5. Route the AccuBoom harness valve connections through the hole in the bottom of the node enclosure.

CONNECT THE HARNESS TO THE ACCUBOOM VALVE

FIGURE 5. AccuBoom Harness Cable Valve Connections



1. Locate the 3-pin weatherpack boom valve connections on the machine.
2. Disconnect the machine's boom valve harness connections.
3. Remove the dust caps from the AccuBoom harness and connect the harness to the machine's boom valve connections.
4. Place the dust caps on the machine's boom valve harness connections.
5. Secure the AccuBoom harness cable to the machine using the supplied plastic ties.

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

ENVIZIO PRO

Boom	Section Label
1	1
2	2
3	3
4	4
5	5

VIPER PRO

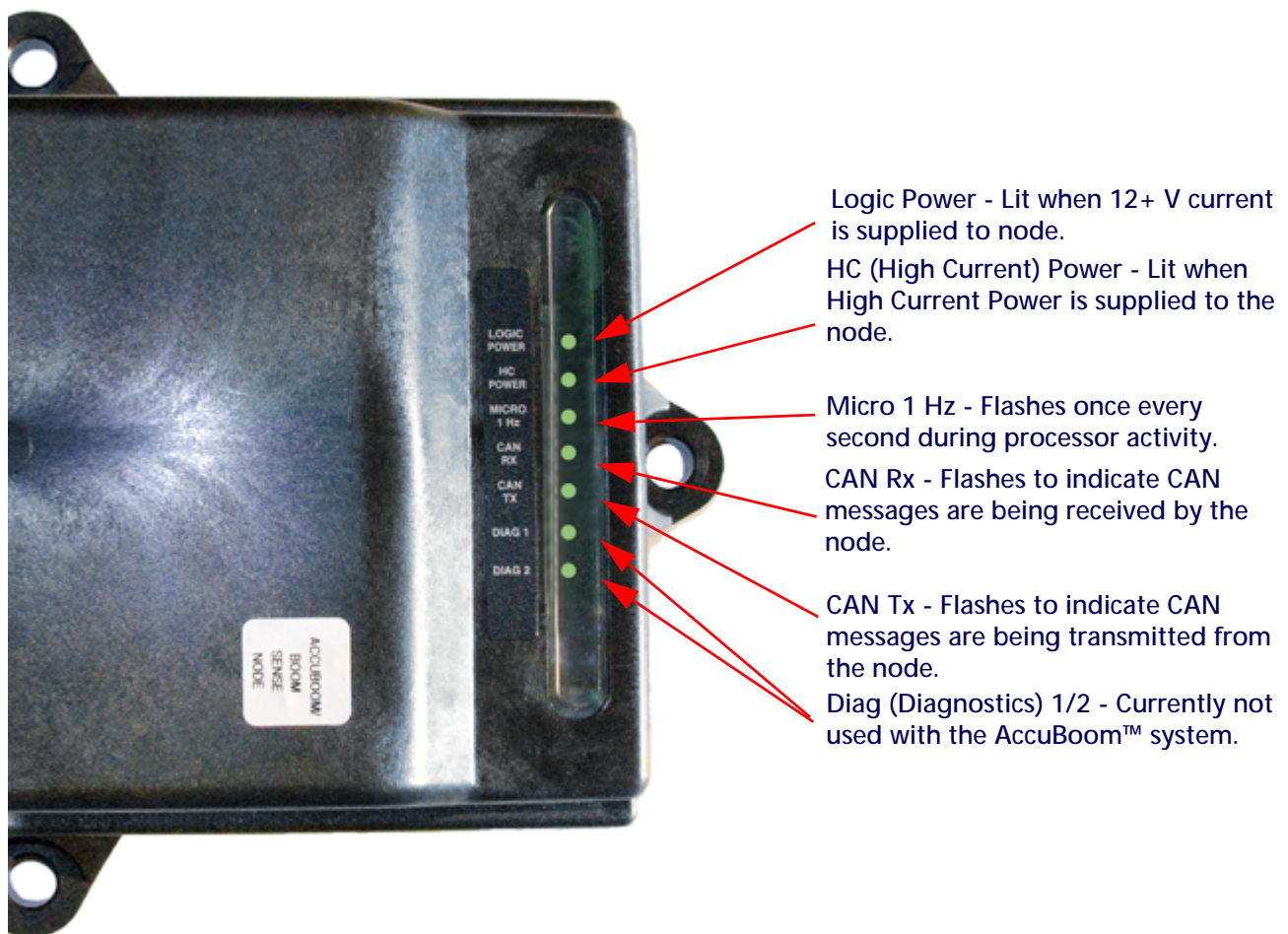
Boom	Wired As	Display As
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

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

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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.

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.