

**R A V E N**

# AutoBoom® Installation Manual



**John Deere R4040i and 5430i Series**

## ***Disclaimer***

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<b>Chapter 1</b>	<b><i>Important Safety Information</i></b>	<b>1</b>
Hydraulic Safety	.....	2
Electrical Safety	.....	2
<b>Chapter 2</b>	<b><i>Introduction</i></b>	<b>3</b>
Preparing for Installation	.....	3
Recommendations	.....	4
Point of Reference	.....	4
Hydraulic Fittings	.....	4
Updates	.....	5
Kit Contents	.....	5
<b>Chapter 3</b>	<b><i>Hydraulic System Installation</i></b>	<b>11</b>
Install Fittings in the AutoBoom Valve	.....	12
Mount the AutoBoom Valve and Node	.....	13
Install the Pressure and Tank Hoses	.....	14
Remove the Orifices from the Machine's Tilt Cylinders	.....	15
Install the Left and Right Cylinder Hoses	.....	16
Install the Roll Lock Cylinder Orifices	.....	19
Remove and Install Variable Geometry Cylinder Rod Ends	.....	20
Hydraulic Schematic	.....	22
<b>Chapter 4</b>	<b><i>Sensor Installation</i></b>	<b>23</b>
Boom Sensor Mounting Locations	.....	23
Remove the John Deere BoomTrac Pro™ Sensors	.....	24
Mount the Boom Sensors	.....	24
Mount the Center Rack Sensor	.....	26
Connect the Sensor Cables	.....	27
<b>Chapter 5</b>	<b><i>Wiring Installation</i></b>	<b>29</b>
Wiring Connections	.....	29
Download and Install the Software Payload	.....	29
Connect the Harness to the AutoBoom Node	.....	29
Connect the Harness to the Boom Function Controls	.....	30
Install the Center Rack Control	.....	31
Connect the Harness to the Sensors	.....	31
Connect the Harness to the Machine's CAN System	.....	32
Connect the Power	.....	33
Model R4040i	.....	33
Model 5430i	.....	33
System Diagram	.....	35



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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 AutoBoom™ 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 AutoBoom 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 AutoBoom, observe the following safety measures:

- Be alert and aware of surroundings.
- Do not operate AutoBoom 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 AutoBoom is engaged.
- Disable AutoBoom when exiting from the operator's seat and machine.
- Do not drive the machine with AutoBoom enabled on any public road.
- Determine and remain a safe working distance from other individuals. The operator is responsible for disabling AutoBoom when the safe working distance has been diminished.
- Ensure AutoBoom is disabled prior to starting any maintenance work on AutoBoom or the machine.

## **WARNING**

- When starting the machine for the first time after installing AutoBoom, be sure that all persons stand clear, in case a hose has not been properly tightened.
- The machine must remain stationary and switched off, with the booms unfolded and supported while installation or maintenance is conducted.

## **CAUTION**

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### *Hydraulic Safety*

- Raven Industries recommends that appropriate protective equipment be worn at all times when working on the hydraulic system.
- Never attempt to open or work on a hydraulic system with the equipment running. Care should always be taken when opening a system that has been previously pressurized.
- When disconnecting the hydraulic hoses or purging is required, be aware that the hydraulic fluid may be extremely hot and under high pressure. Caution must be exercised.
- Any work performed on the hydraulic system must be done in accordance with the machine manufacturer's approved maintenance instructions.
- When installing AutoBoom hydraulics or performing diagnostics, maintenance, or routine service, ensure that precautions are taken to prevent any foreign material or contaminants from being introduced into the machine's hydraulic system. Objects or materials that are able to bypass the machine's hydraulic filtration system will adversely reduce performance and possibly damage the AutoBoom hydraulic valves.

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### *Electrical Safety*

- 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.

Congratulations on your purchase of the Raven AutoBoom system! This system is designed to provide automated boom height adjustment for agricultural equipment.

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

**MAKE: John Deere**

**MODEL: R4040i and 5430i**

**FIGURE 1. John Deere 5430i**



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## *Preparing for Installation*

Before installing AutoBoom, 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 before installing or operating the AutoBoom system for the first time, at the start of the season, or when moving the AutoBoom system to another machine:

- Ensure the machine's hydraulic filters have been recently changed and there are no issues with the machine's hydraulic system (e.g., pump issues, faulty hydraulic motors, fine metal deposits in the hydraulic hoses, etc.).
- Operate each of the machine's boom hydraulic functions (i.e., tilt, fold, center rack, tongue extension, or other hydraulic valve functions) three times to ensure the machine's hydraulic valve is using fresh oil and debris is flushed from the hydraulic hoses, valves, and filters.
- Upon installation of the AutoBoom system, operate the boom and center rack raise/lower functions through the machine's manual control functions first before operating them via the AutoBoom controller/field computer to ensure the hydraulic system has been installed correctly and air is released from the system.

Raven Industries recommends the following best practices when installing the AutoBoom system.

- Use part numbers to identify the parts.
- Do not remove the plastic wrap from a part until it is necessary for installation.
- Do not remove plastic caps from a part until it is necessary for installation.

### Tools Needed

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

- SAE standard and metric wrenches
- 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.

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## Hydraulic Fittings

This manual may reference the following types of hydraulic fittings:

- SAE O-ring fittings
- ORFS (O-Ring Face Seal) fittings
- JIC fittings

SAE O-ring fitting



ORFS fitting



JIC fitting





## 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)

- John Deere R4040i and 5430i Series AutoBoom® Installation Manual*
- Manual No. 016-0230-111 Rev. A*
- 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 UltraGlide AutoBoom kit. Before beginning the AutoBoom system installation, compare the items in the AutoBoom kit with the components on this list. If you have questions about the kit, contact your Raven dealer.

**Note:** *The ISO CAN AutoBoom power cable (P/N 115-0230-112) is required for after-market installation on John Deere model 5430i. This cable is sold separately. Contact your local Raven dealer for ordering information.*

**TABLE 1. UltraGlide Installation Kit (P/N 117-0232-117)**

Picture	Item Description	Qty.
Not Pictured	Manual - ISO AutoBoom Calibration & Operation	1
Not Pictured	Manual - John Deere R4040 and 5430i AutoBoom Installation Manual	1

TABLE 1. UltraGlide Installation Kit (P/N 117-0232-117)

Picture	Item Description	Qty.
	Valve - UltraGlide AutoBoom	1
	Node - UltraGlide AutoBoom	1
	Bracket - Hydraulic Valve Mounting	1
	Bracket - Right Sensor Mounting	1
	Bracket - Left Sensor Mounting	1
	Bracket - Center Sensor Mounting	1
	Sensor - Right Ultrasonic	1
	Sensor - Left Ultrasonic	2
	Cable - Ultrasonic Sensor 70' Extension	2
	Cable - 2-Pin Deutsch Boom Sense Adapter	2
	Cable - AutoBoom Tilt Boom Sense	2

TABLE 1. UltraGlide Installation Kit (P/N 117-0232-117)

Picture	Item Description	Qty.
	Cable - AutoBoom Harness	1
	U-Bolt - 3" W x 5-1/2" L x 3/8" Thread	2
	Bolt - 5/16"-18 x 7/8" Hex	4
	Bolt - 5/16"-18 x 1/1/4" Hex	6
	Bolt - 3/8"-16 UNC x 1-1/4" Hex	15
	Nut - 3/8"-16 Zinc Flanged Lock	19
	Nut - 5/16"-18 Flanged Lock	6
	Washer - 5/16" Split Lock	4
	Washer - 0.344" ID x 0.688" OD x 0.065" Thick	6
	Washer - 0.406" ID x 0.812" OD x 0.065" Thick	16

TABLE 2. Hydraulic Kit (P/N 117-0134-108)

Picture	Item Description	Qty.
	Fitting - 0.027" Floating Hex Orifice	1
	Fitting - 0.036" Floating Hex Orifice	1
	Fitting - -6 Plate Orifice	2
	Fitting - -6 ORFS M/F 90° Swivel Elbow	2
	Fitting - -6 ORFS (M) to -6 SAE O-Ring (M) Straight Adapter	5
	Fitting - -6 ORFS (M) to -8 SAE O-Ring (M) Straight Adapter	2
	Fitting - -8 ORFS (M) to -12 SAE O-Ring (M) Straight Adapter	2
	Fitting - -6 SAE O-Ring (M) to M15 x 1.5 Straight Adapter	1
	Hydraulic Hose - -6 ORFS (F) to -8 ORFS (F) 90° - 26"	2
	Hydraulic Hose - -6 ORFS (F) to -6 ORFS (F) 90° - 36"	2
	Hydraulic Hose - -6 ORFS (M) to -6 ORFS (F) 90° - 30"	2





CHAPTER

3

# Hydraulic System Installation



## **WARNING**

The machine must remain stationary and switched off, with the booms unfolded and supported, during installation or maintenance.


Hydraulics are under pressure. Care should always be taken with a system that has been pressurized.


Before beginning the SmarTrax hydraulic installation, turn off the machine and relieve pressure by turning the steering wheel left and right.

Never work on a hot machine. Always allow it to cool before performing diagnostics, maintenance, or routine service.

When disconnecting or purging hydraulic hoses, be aware that the hydraulic fluid within the machine's system may be extremely hot and under high pressure.

Tampering with hydraulic valves may cause serious injury or death, and will void the warranty.

	<b>! CAUTION</b>
	<p>When installing AutoBoom hydraulics or performing diagnostics, maintenance, or routine service, ensure precautions are taken to prevent any foreign material from being introduced into the machine's hydraulic system.</p> <p>Object or materials that are able to bypass the machine's hydraulic filtration system will reduce performance and possibly damage the AutoBoom hydraulic valve.</p>

	<b>NOTICE</b>
	<p>The appearance of the AutoBoom hydraulic valve may vary slightly from the images contained in this manual. However, the fittings, hose connections, and cable connections remain the same.</p>

## *Install Fittings in the AutoBoom Valve*

Before mounting the AutoBoom valve on the machine, install the proper fittings in the valve. This prepares the valve for installation and simplifies the hose connection process later in the procedure. refer to the following table to install the fittings in the appropriate ports of the AutoBoom valve.

**FIGURE 1. Fitting Installed in AutoBoom Valve**





Fitting	Port
Fitting - -6 ORFS (M) to -6 SAE O-Ring (M) Straight Adapter	LC, RC LV, RV
Fitting - -6 Plate Orifice	LV, RV (O-ring facing out)
Fitting - -6 ORFS M/F 90° Swivel Elbow	LV, RV
Fitting - -6 ORFS (M) to -8 SAE O-Ring (M) Straight Adapter	T, P

## *Mount the AutoBoom Valve and Node*

**FIGURE 2. AutoBoom Valve and Node Mounted to Valve Mounting Bracket**



1. Secure the AutoBoom valve to the valve mounting bracket using four 5/16"-18 x 7/8" hex bolts and four 5/16" lock washers.
2. Secure the AutoBoom node to the valve mounting bracket using three 3/8"-16 UNC x 1-1/4" hex bolts and three 3/8"-16 zinc flanged lock nuts.

FIGURE 3. AutoBoom Valve Mounted on the Center Rack

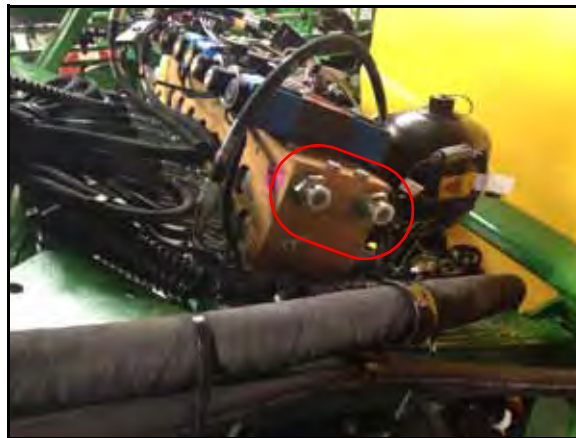


3. Secure the valve mounting bracket to the upper-right parallel arm of the machine's center rack using two 3-1/16" W x 5" L x 3/8" thread U-bolts, four 0.406" ID x 0.812" OD x 0.065 flat washers, and four 3/8"-16 zinc flanged lock nuts.

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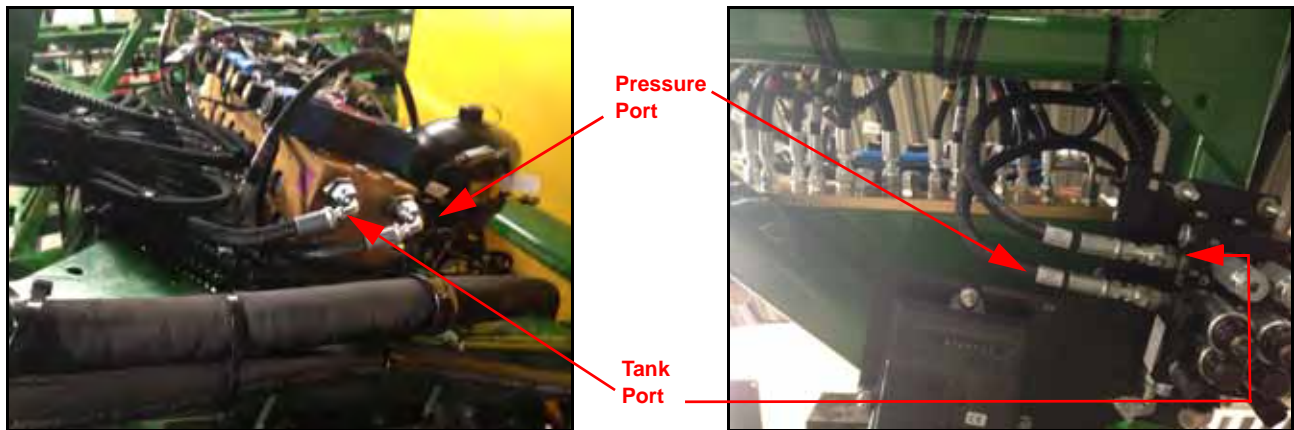
## *Install the Pressure and Tank Hoses*

FIGURE 4. Machine's Pressure and Tank Ports



1. Locate the pressure and tank ports on the machine's hydraulic valve.
2. Remove the plugs from the pressure and tank ports.
3. Install -8 ORFS (M) to -12 SAE O-ring (M) adapter fittings in the open ports of the machine's hydraulic valve.

FIGURE 5. Pressure and Tank Hoses Installed



4. Install the 90° end of the supplied hydraulic hose on the fitting installed in the pressure port of the machine's hydraulic valve.
5. Connect the straight end of the installed hydraulic hose to the fitting installed in Port P of the AutoBoom valve.
6. Install the 90° end of the supplied hydraulic hose on the fitting installed in the tank port of the machine's hydraulic valve.
7. Connect the straight end of the installed hydraulic valve to the fitting installed in Port T of the AutoBoom valve.

## Remove the Orifices from the Machine's Tilt Cylinders

1. Disconnect the machine's raise hose from the rod-end of the left tilt cylinder.
2. Remove the machine's cylinder fitting and the orifice located behind the fitting.

**Note:** Keep the orifice and fitting for future use.

3. Reconnect the machine's raise hose on the rod-end of the left tilt cylinder.
4. Verify that there is no orifice in the base-end of the left tilt cylinder.

**Note:** If the orifice is present, remove it and keep it for future use.

5. Disconnect the machine's raise hose from the rod-end of the right tilt cylinder.
6. Remove the machine's cylinder fitting and the orifice located behind the fitting.

**Note:** Keep the orifice and fitting for future use.

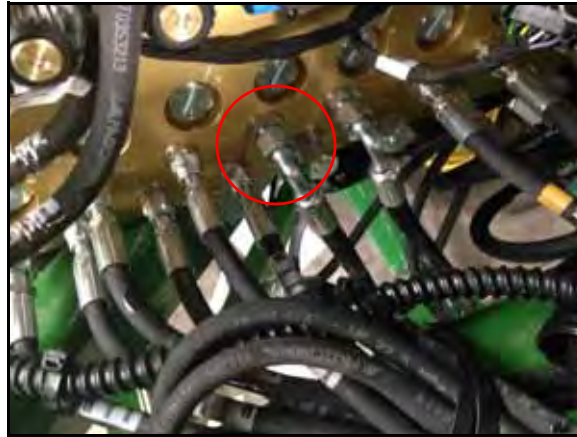
7. Reconnect the machine's raise hose on the rod-end of the right tilt cylinder.
8. Verify that there is no orifice in the base-end of the right tilt cylinder.

**Note:** If the orifice is present, remove it and keep it for future use.

## *Install the Left and Right Cylinder Hoses*

**FIGURE 6. Machine's Left Cylinder Raise Hose**

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1. Disconnect the machine's left raise hose from the left UP port on the machine's hydraulic valve.

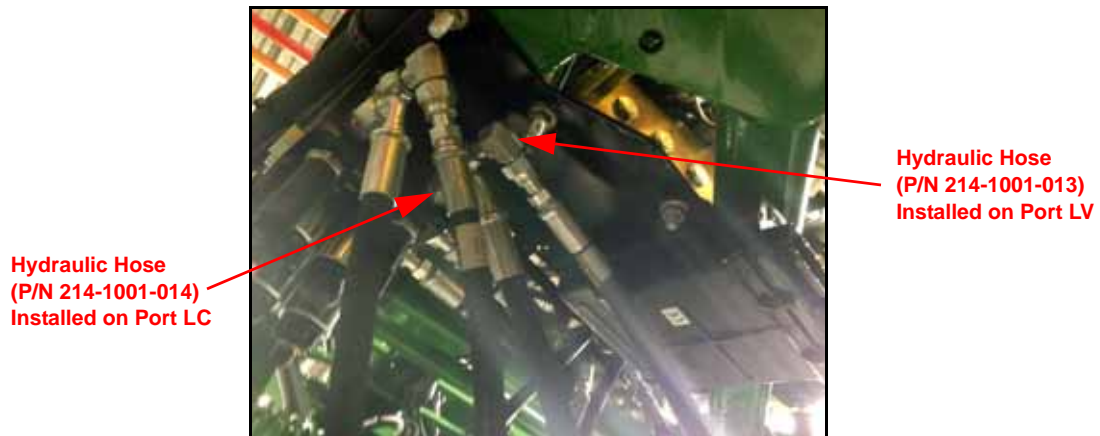
**FIGURE 7. Hydraulic Hose Installed on Left Raise Hose**

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2. Install the male end of the supplied hydraulic hose on the left raise hose.

**FIGURE 8. Hydraulic Hoses Installed on AutoBoom Valve**



3. Connect the 90° end of the installed hydraulic hose on the fitting installed in Port LC of the AutoBoom valve.
4. Install the straight end of the supplied hydraulic hose on the open left raise port.
5. Connect the 90° end of the installed hydraulic hose to the fitting installed in Port LV of the AutoBoom valve.

**FIGURE 9. Machine's Right Cylinder Raise Hose**



6. Disconnect the machine's right raise hose from the machine's hydraulic valve.



FIGURE 10. Hydraulic Hose Installed on Right Raise Hose



7. Install the male end of the supplied hydraulic hose on the right raise hose.

FIGURE 11. Hydraulic Hoses Installed on AutoBoom Valve



8. Connect the 90° end of the installed hydraulic hose to the fitting installed in Port RC of the AutoBoom valve.
9. Install the straight end of the supplied hydraulic hose on the open right raise port.
10. Connect the 90° end of the installed hydraulic hose to the fitting installed in Port RV of the AutoBoom valve.

## Install the Roll Lock Cylinder Orifices

FIGURE 12. Base-End of Roll Bias Cylinder



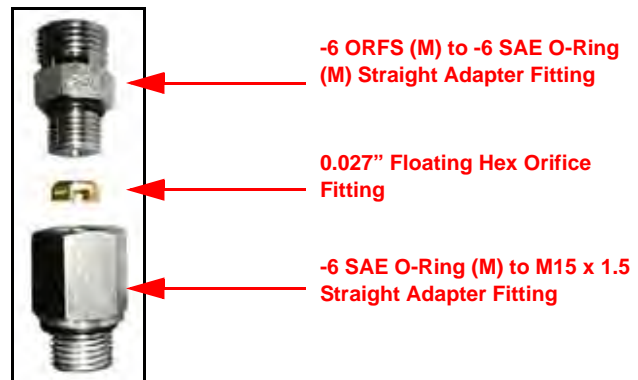
1. Remove the machine's hydraulic hose from the base-end of the roll bias cylinder.
2. Remove the existing orifice from the cylinder port.
3. Install a 0.036" floating hex orifice in the cylinder port with the slot facing down.
4. Reinstall the machine's hydraulic hose.

FIGURE 13. Rod-End of Roll Bias Cylinder



5. Remove the machine's hydraulic hose from the rod-end of the roll bias cylinder.
6. Remove the fitting from the cylinder port.

FIGURE 14. Fittings to be Installed

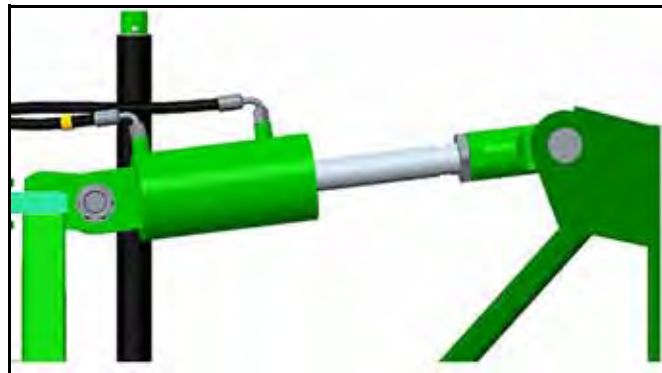


7. Install the orifices in the open cylinder port in the order and orientation shown in Figure 14 above.
8. Reinstall the machine's hydraulic hose.

## Remove and Install Variable Geometry Cylinder Rod Ends

1. With the booms racked, support the boom's weight.
2. Start the machine's engine.
3. Press and hold the boom lower switch for five seconds after the boom is completely lowered into the transport cradle.
4. Continue to press the boom lower switch while shutting off the engine.

**FIGURE 15. Short VG Cylinder Rod-End Installed**

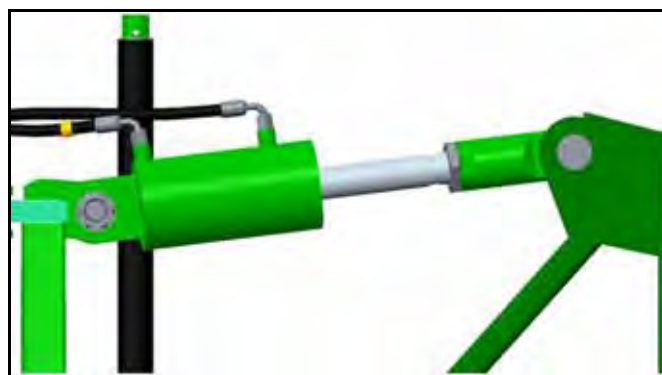


5. Disconnect the hydraulic hoses from the cylinder.

**Note:** Cap and plug all hoses and fittings to prevent system contamination and fluid loss.

6. Remove the pin from the rod-end of the variable geometry (VG) cylinder.
7. Remove the VG cylinder rod-end, counting the number of turns it takes to remove it from the rod.

**FIGURE 16. Long VG Cylinder Rod-End Installed**



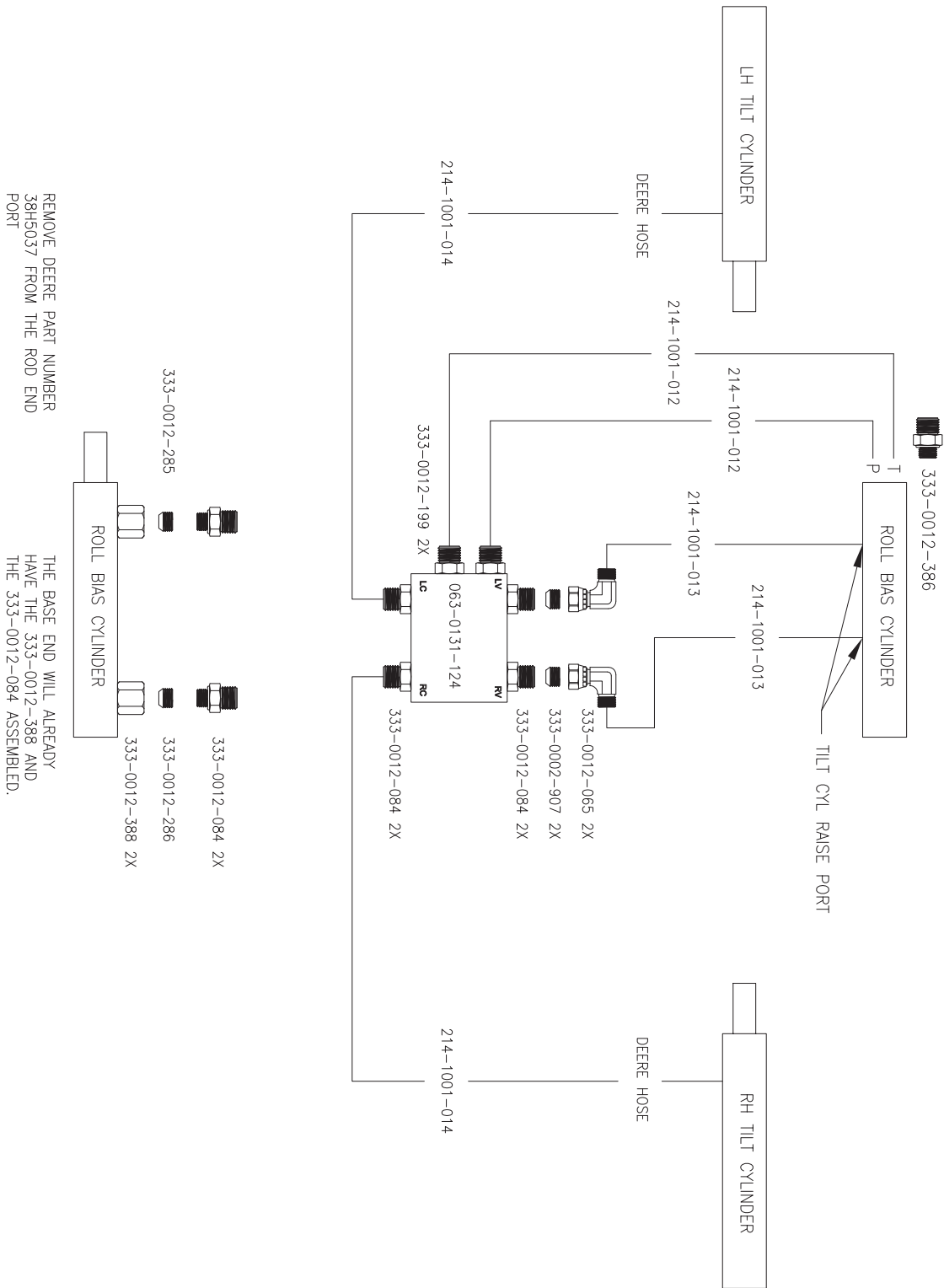
8. Install the new VG cylinder rod-end on the rod, turning it the same number of times it took to remove the old VG cylinder rod-end.
9. Install the jam nut on the VG cylinder rod-end to lock it into place.
10. Reinstall the pin hardware.
11. Reinstall the hydraulic hoses with new O-rings in the appropriate ports of the VG cylinder.
12. Repeat the steps above to install the new VG cylinder rod-ends on the other side of the machine.

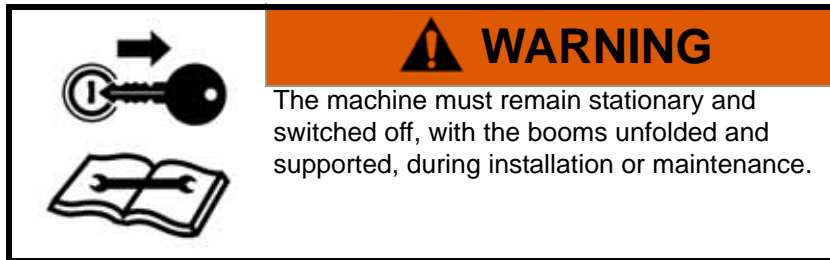


13. Extend and retract the cylinders several times to remove air.
14. Check for leaks in the hydraulic fittings and hoses.
15. Check the hydraulic fluid level and add more if necessary.

**Note:** *Refer to the machine's operator' manual for instructions on adding hydraulic fluid.*

# Hydraulic Schematic

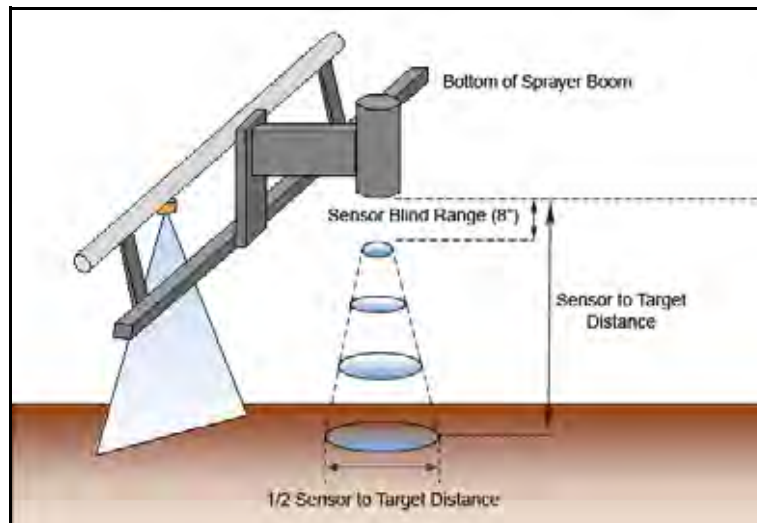




## *Boom Sensor Mounting Locations*

Sensor mounting locations may be influenced by the boom configuration. If an object enters the sensor's blind range unexpectedly, a false echo return to the sensor could occur, causing the boom to drop and the sensor or boom to be damaged. To ensure optimal operation of the UltraGlide AutoBoom system and to protect the sprayer's booms, the sensors should be mounted on the front side of the boom, 8 - 10" above the lowest hanging part of the boom.

**FIGURE 1. Illustration of Sensor's Blind Range**



## Remove the John Deere BoomTrac Pro™ Sensors

FIGURE 2. BoomTrac Pro Sensor to be Removed



1. Disconnect the sensors from the machine's harness.
2. Remove the nuts and bolts used to secure the existing sensors to the booms./

## Mount the Boom Sensors

FIGURE 3. Ultrasonic Sensor Assembly



1. Locate one left ultrasonic sensor in the UltraGlide AutoBoom installation kit.

**Note:** *The second left ultrasonic sensor will be mounted to the center rack. Do not follow the instructions in this section for the second left sensor.*

2. Secure the sensor to the left sensor mounting bracket using four 3/8"-16 UNC x 1-1/4" hex bolts , four 0.406" ID x 0.812" OD x 0.065" washers, and four 3/8"-16 zinc flanged lock nuts.

**FIGURE 4. Left Sensor Installed**

3. Mount the left sensor to the front of the left boom using two 5/16"-18 x 1-1/4" bolts and two 5/16"-18 zinc flanged lock nuts.
4. Tighten the nuts to ensure the sensor is mounted securely.

**FIGURE 5. Ultrasonic Sensor Assembly**

5. Locate the right ultrasonic sensor in the UltraGlide AutoBoom installation kit.
6. Secure the sensor to the right sensor mounting bracket using four 3/8"-16 UNC x 1-1/4" hex bolts, four 0.406" ID x 0.812" OD x 0.065" washers, and four 3/8"-16 zinc flanged lock nuts.

**FIGURE 6. Right Sensor Installed**

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7. Mount the right sensor to the front of the right boom using one 3" W x 5-1/2" L x 3/8" thread U-bolt and two 3/8"-16 zinc flanged lock nuts.
8. Repeat the steps above to mount the remaining boom sensors, if applicable.

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## *Mount the Center Rack Sensor*

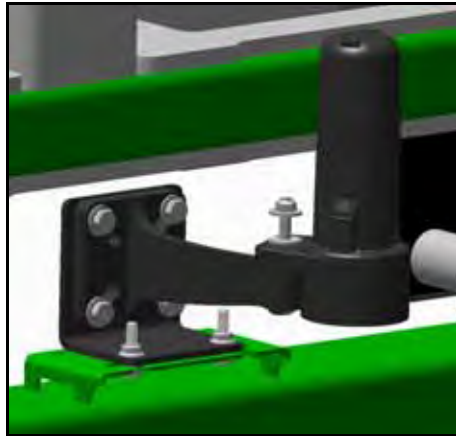
**FIGURE 7. Ultrasonic Sensor Assembly**

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1. Secure the remaining left ultrasonic sensor to the center sensor mounting bracket using four 3/8"-16 hex bolts and four 3/8"-16 zinc flanged lock nuts.

FIGURE 8. Center Sensor Installed



2. Mount the sensor to the existing bracket on the center rack using one 3" W x 5-1/2" L x 3/8" thread U-bolt and two 3/8"-16 zinc flanged lock nuts.
3. Tighten the nuts to ensure the sensor is mounted securely.

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## *Connect the Sensor Cables*

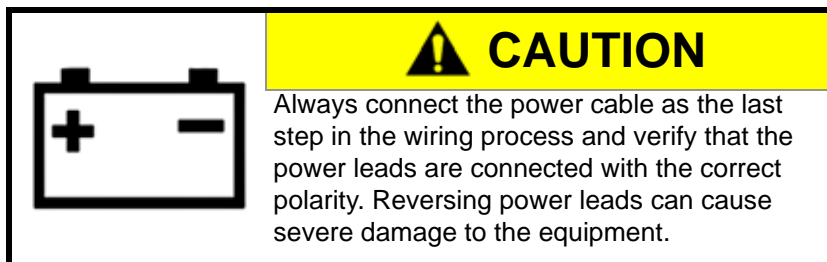
1. Connect the left sensor cable to the connector on the sensor mounted on the left boom.
2. Route the left sensor cable toward the AutoBoom valve.
3. Loop and tie-off any excess cable, allowing enough cable for boom folding and extension.
4. Repeat the steps above to connect the remaining sensor cable(s).

**Note:** *The sensor cables will be connected to the AutoBoom system in the wiring phase of installation.*





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*Wiring Connections*

For wiring connections made outside the cab, apply dielectric silicone grease generously on both the male and female ends of the connectors. Application of the grease will prevent corrosion to the pins and wires.

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*Download and Install the Software Payload*

1. Download Software Payload KK24184 through the Service Advisor Software Delivery Service.
2. Install the Software Payload.

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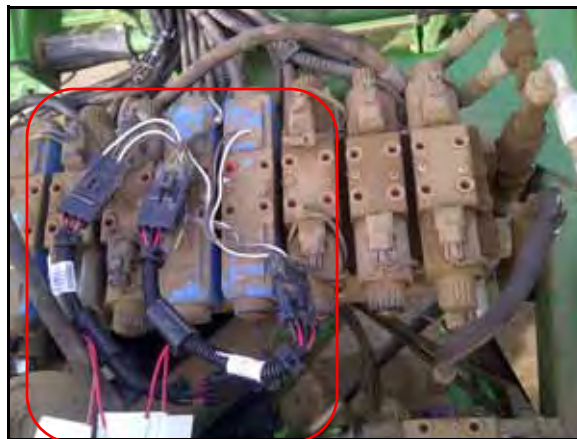
*Connect the Harness to the AutoBoom Node*

3. Insert the large, rectangular node connectors on the AutoBoom harness cable into the correct ports of the AutoBoom valve.
4. Tighten the bolts on the node connectors to secure the connections.

## *Connect the Harness to the Boom Function Controls*

1. Locate the LEFT PRESS (PORT G1) and RIGHT PRESS (PORT G4) connectors on the AutoBoom harness cable.
2. Route the connectors to the AutoBoom valve.
3. Connect the LEFT PRESS (PORT G1) connector to Port G1 of the AutoBoom valve.
4. Connect the RIGHT PRESS (PORT G4) connector to Port G4 of the AutoBoom valve.
5. Locate the LEFT SOLENOID (PORT 4A) and RIGHT SOLENOID (PORT 4B) connectors on the harness cable.
6. Connect the LEFT SOLENOID (PORT 4A) connector to Port 4A of the AutoBoom valve.
7. Connect the RIGHT SOLENOID (PORT 4B) connector to Port 4B of the AutoBoom valve.
8. Locate the LEFT PROP (PORT 5A) and RIGHT PROP (PORT 13A) connectors on the harness cable.
9. Connect the LEFT PROP (PORT 5A) connector to Port 5A of the AutoBoom valve.
10. Connect the RIGHT PROPER (PORT 13A) connector to Port 13A of the AutoBoom valve.

**FIGURE 1. Machine's Left and Right Tilt Boom Function Coils**



11. Locate the machine's boom function coils near the machine's hydraulic valve.
12. Disconnect the connector from the left tilt up coil.
13. Install a boom sense adapter cable between the coil and the machine's coil connector.
14. On the harness cable, locate the LEFT SOLENOID SENSE connector labeled UP and connect it to the LEFT connector of the boom sense adapter cable.
15. On the harness cable, locate the RIGHT SOLENOID SENSE connector labeled UP and connect it to the RIGHT connector of the boom sense adapter cable.
16. Disconnect the connector from the right tilt up coil.
17. Install a boom sense adapter cable between the coil and the machine's coil connector.
18. On the harness cable, locate the unlabeled LEFT SOLENOID SENSE connector and connect it to the LEFT connector of the boom sense adapter cable.
19. On the harness cable, locate the unlabeled RIGHT SOLENOID SENSE connector and connect it to the RIGHT connector of the boom sense adapter cable.

## Install the Center Rack Control

FIGURE 2. Machine's Center Function Coils



1. Locate the center up coil on the machine's hydraulic valve.
2. Unplug the coil connector from the center up coil.
3. Install a 2-pin Deutsch boom sense adapter cable on the machine's center up coil.
4. Connect the machine's coil connector to the installed boom sense adapter cable.
5. Plug the single connectors on the installed boom sense adapter cable into the mating CENTER UP connectors on the AutoBoom harness.
6. Locate the center down coil on the machine's hydraulic valve.
7. Unplug the coil connector from the center down coil.
8. Install a 2-pin Deutsch boom sense adapter cable on the machine's center down coil.
9. Connect the machine's coil connector to the installed boom sense adapter cable.
10. Plug the single connectors on the installed boom sense adapter cable into the mating CENTER DOWN connectors on the AutoBoom harness.

**Note:** The OPEN CENTER VALVE connector is not used in the AutoBoom system.

## Connect the Harness to the Sensors

1. Locate the CENTER SENSOR connector on the AutoBoom harness.
2. Connect the CENTER SENSOR connector to the installed center sensor.
3. Locate the LEFT SENSOR (OUTER) connector on the AutoBoom harness.
4. Connect the LEFT SENSOR (OUTER) connector to the installed left sensor cable.
5. Locate the RIGHT SENSOR (OUTER) connector on the AutoBoom harness.
6. Connect the RIGHT SENSOR (OUTER) connector to the installed right sensor cable.

7. If optional inside boom sensors are installed, connect the remaining harness connections to the appropriate sensor cable.

## *Connect the Harness to the Machine's CAN System*

**FIGURE 3. Harness Connected to Machine's Can System**

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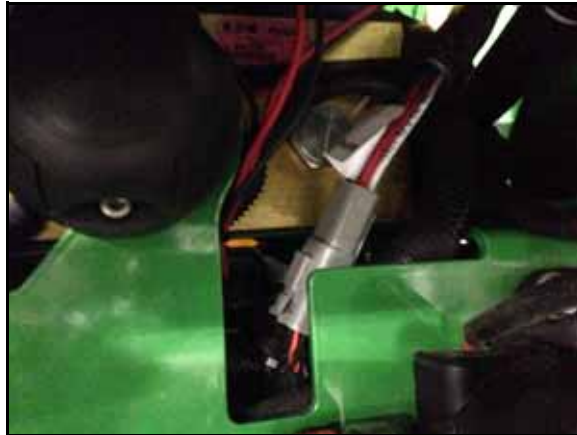
1. Locate the machine's CAN connector at the rear of the machine, above the plastic John Deere controller cover.
2. Remove the terminator and install it on the AutoBoom harness CAN connector.
3. Connect the machine's CAN connector to the CAN BUS connector on the AutoBoom harness.

---

## Connect the Power

### Model R4040i

**FIGURE 4. Power Connection**



1. Locate the 4-pin Deutsch connector at the rear of the machine, behind the John Deere controller cover and near the tread adjust valve
2. Pull the connector so that it is exposed and connect it to the POWER cable connector on the AutoBoom harness cable.

### Model 5430i

1. Locate the CAN POWER connector on the AutoBoom harness cable and connect it to the mating connector of the ISO AutoBoom power cable.

**FIGURE 5. Power Cable Installed on Switched Power Post**



2. Connect the single, switched power wire on the power cable to the switched power post located behind the solution command center.

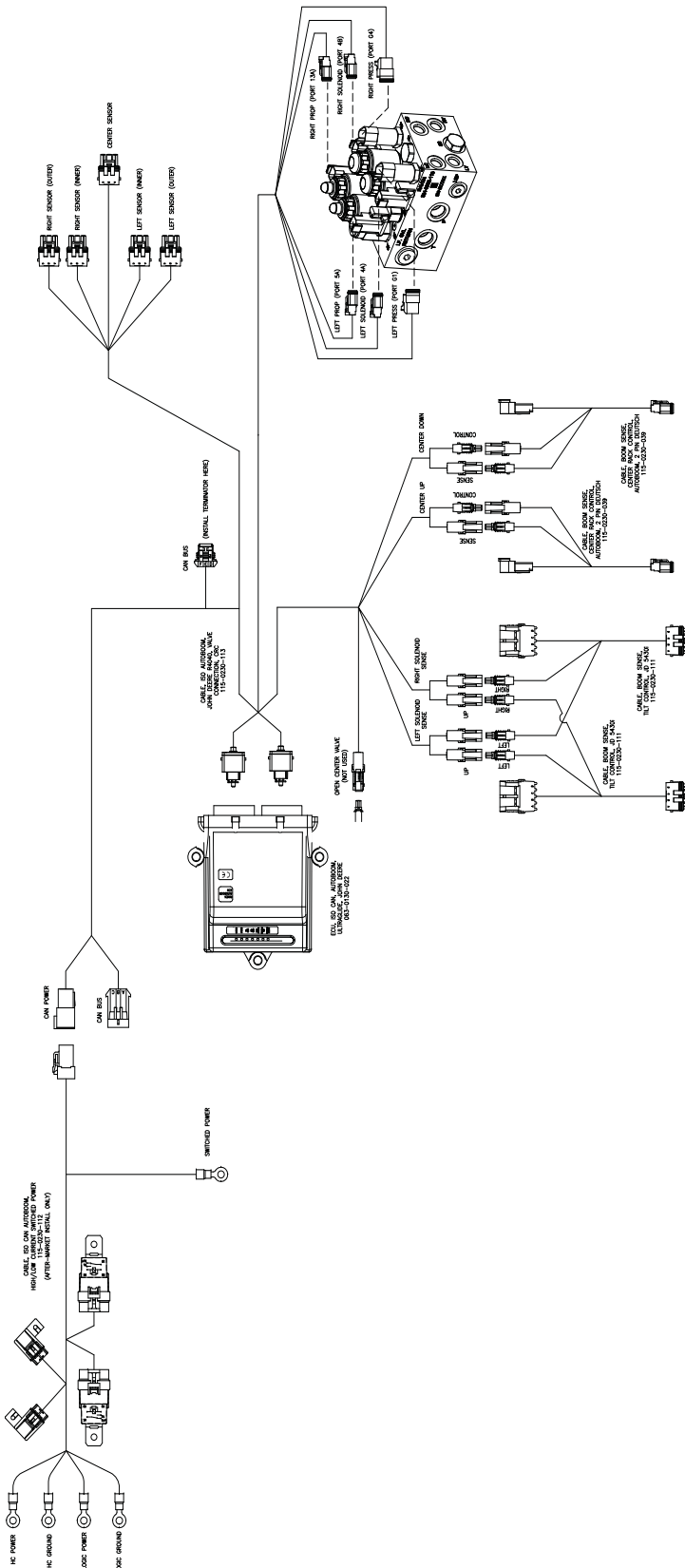
FIGURE 6. Power and Ground Wires Installed on Battery

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3. Install the high current power and ground wires on the power cable to the machine's battery.

# System Diagram







**C****Connect** 27**E****Electrical**

Safety 2

**H****Hydraulic**

Fittings 4

Safety 2

**Hydraulic System Installation** 11

Hydraulic Schematic 22

Installing Fittings in the AutoBoom Valve 12

Installing the Left and Right Cylinder Hoses 16

Installing the Pressure and Tank Hoses 14

Installing the Roll Lock Cylinder Orifices 19

Mounting the AutoBoom Valve and Node 13

Removing and Installing Variable Geometry Cylinder

Rod Ends 20

Removing the Orifices from the Machine's Tilt

Cylinders 15

**I****Important Safety Information** 1

Electrical 2

Hydraulics 2

**Introduction**

Kit Contents 5

Updates 5

**K****Kit Contents** 5**P****Point of Reference** 4**Preparing for Installation** 3**R****Recommendations** 4**S****Sensor Installation** 23

Boom Sensor Mounting Locations 23

Connecting the Sensor Cables 27

Mounting the Boom Sensors 24

Mounting the Center Rack Sensor 26

Removing the John Deere BoomTrac Pro Sensors 24

**T****Tools Needed** 4**W****Wiring**

Downloading and Installing the Software Payload 29

**Wiring Installation** 29

Connecting the Harness to the AutoBoom Node 29

Connecting the Harness to the Boom Function

Controls 30

Connecting the Harness to the Machine's CAN

System 32

Connecting the Harness to the Sensors 31

Connecting the Power 33

Model 5430i 33

Model R4040i 33

Installing the Center Rack Control 31

Wiring Connections 29



# 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.**



# RAVEN

John Deere R4040i and 5430i Series  
AutoBoom® Installation Manual  
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