

RAVEN

Simply improving your position.SM

Installation & Operation Manual



Gregson 1000/1250 HT (2009 & Newer)

Disclaimer

While every effort has been made to ensure the accuracy of this document, Raven Industries assumes no responsibility for omissions and errors. Nor is any liability assumed for damages resulting from the use of information contained herein.

Raven Industries shall not be responsible or liable for incidental or consequential damages or a loss of anticipated benefits or profits, work stoppage or loss, or impairment of data arising out of the use, or inability to use, this system or any of its components. Raven Industries shall not be held responsible for any modifications or repairs made outside our facilities, nor damages resulting from inadequate maintenance of this system.

As with all wireless and satellite signals, several factors may affect the availability and accuracy of wireless and satellite navigation and correction services (e.g. GPS, GNSS, SBAS, etc.). Therefore, Raven Industries cannot guarantee the accuracy, integrity, continuity, or availability of these services and cannot guarantee the ability to use Raven systems, or products used as components of systems, which rely upon the reception of these signals or availability of these services. Raven Industries accepts no responsibility for the use of any of these signals or services for other than the stated purpose.

Chapter 1	<i>Important Safety Information</i>	1
	Important Safety Information	1
	Hydraulic Safety	2
	Electrical Safety	2
Chapter 2	<i>Introduction</i>	3
	Introduction	3
	Recommendations	3
	Tools Needed	4
	Preparing for Installation	4
	Point of Reference	4
	Hydraulic Fittings	4
	UltraGlide Kit Contents	5
Chapter 3	<i>Hydraulic System</i>	9
	Install the UltraGlide Hydraulic System	9
	Convert the Sprayer's Hydraulic Valve to Open Center (If Applicable)	10
	Install Fittings on the AutoBoom Valve	10
	Mount the AutoBoom Valve	11
	Install the Left and Right Cylinder Hoses	13
	UltraGlide Hydraulic Schematic	15
Chapter 4	<i>Sensors</i>	17
	Install the UltraGlide Sensors	17
	Boom Sensor Mounting Locations	17
	Mounting the Boom Sensors	17
	Mount the Center Rack Sensor	18
	Connect the Sensor Cables	18
Chapter 5	<i>Wiring</i>	19
	Install the UltraGlide Wiring	19
	Install the AutoBoom Node	19
	Connect the Harness Cable to the Boom Function Controls	20
	Install the Center Rack Control	21
	Connect the Harness Cable to the Sensors	22
	Connect the Harness Cable to the Controller Cable	22
	Connect the Controller (If Applicable)	22
	Connect the Field Computer (If Applicable)	23
	Connect the Power Leads	23
	UltraGlide Wiring Schematics	24
	AutoBoom Controller	24

Table of Contents

Envizio Plus	25
SCS 4000/5000	26
Viper Pro & Envizio Pro	27
Chapter 6 Replacement Parts	29
Valve	29
Sensors	30

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 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 supports, during installation or maintenance.

 **CAUTION**

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 reduce performance and possible cause damage to the AutoBoom hydraulic valve.

Electrical Safety

- Always verify that the power leads are connected to the correct polarity as marked. Reversing power leads could cause severe damage to the equipment.
- Ensure that the power cable is the last to be connected.

CHAPTER

2

Introduction

Introduction

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

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

MAKE: Gregson
MODEL: 1000/1250 HT
YEAR: 2009 & Newer
SERIAL NUMBER:

FIGURE 1. Gregson



Recommendations

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-sized wrenches
- Cable ties
- Set of tools

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.

Point of Reference

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

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 (M)



UltraGlide Kit Contents

This section contains a list of the components that are included in the UltraGlide AutoBoom kit. Before beginning the AutoBoom 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.

TABLE 1. UltraGlide Installation Kit (P/N 117-0232-101)





Picture	Item Description	Part Number	Qty.
Not Pictured	Manual - Gregson 1000/1250 (2009 & Newer) AutoBoom Installation	016-0230-101	1
	Valve - UltraGlide AutoBoom	063-0131-126	1
	Plate - Hydraulic Block Mounting	107-0171-802	1
	Sensor - Right Ultrasonic	063-0130-012	1
	Sensor - Left Ultrasonic	063-0130-014	1
	Sensor - Center Ultrasonic	063-0130-018	1
	Cable - Boom Sense Adapter	115-0171-546	3
	Cable - Center Rack Control Boom Sense	115-0230-039	2
	U-Bolt - 1-9/16" W x 2-1/2" L x 3/8" Thread	107-0171-611	4



TABLE 1. UltraGlide Installation Kit (P/N 117-0232-101)

Picture	Item Description	Part Number	Qty.
	Bolt - 5/16"-18 x 7/8" Hex	311-0052-104	4
	Bolt - 3/8"-16 x 1-1/4" UNC Hex	311-0054-106	9
	Nut - 3/8"-16 Zinc Flanged Lock	312-1001-164	17
	Washer - 5/16" Zinc Plated Lock	313-1000-019	4

TABLE 2. Hydraulic Kit (P/N 117-0134-101)

Picture	Item Description	Part Number	Qty.
	Fitting - 9/16" JIC (M) to 9/16" JIC (M) Straight Adapter	333-0012-045	2
	Fitting - 3/4" SAE O-Ring (M) to 3/4" JIC (M) Straight Adapter	333-0012-093	3
	Fitting - 1/2" NPT (M) to 1/2" NPSM (F) Swivel Straight Adapter	333-0012-187	2
	Fitting - 9/16" SAE O-Ring Hex Plug	333-0012-194	2
	Fitting - 1/2" NPTF (M) to 1/2" NPSM F/F Tee Adapter	333-0012-201	1
	Fitting - 3/8" NPTF (M) to 3/8" NPSM F/F Tee Adapter	333-0012-231	2

TABLE 2. Hydraulic Kit (P/N 117-0134-101)









Picture	Item Description	Part Number	Qty.
	Fitting - 3/8" NPT (M) to 3/8" NPSM (F) Swivel Straight Adapter	333-0012-305	4
	Hydraulic Hose - 9/16" JIC (F) to 3/8" NPT (M) - 60"	214-1000-683	2
	Hydraulic Hose - 3/4" JIC (F) 90° to 1/2" NPT (F) - 60"	214-1000-684	1
	Hydraulic Hose - 3/4" JIC (F) 90° to 1/2" NPT (M) - 60"	214-1000-685	2

TABLE 3. UltraGlide Wiring Kit (P/N 117-0137-024)

Picture	Item Description	Part Number	Qty.
Not Pictured	CAN AutoBoom Calibration & Operation Manual	016-0130-062	1
	AutoBoom Node	063-0130-013	1
	Cable - Sensor	115-0171-527	2
	Cable - Harness	115-0230-045	1
	Cable - Power/CAN Controller	115-0230-007	1



Install the UltraGlide Hydraulic System



WARNING

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



CAUTION

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.

Objects or materials that are able to bypass the machine's hydraulic filtration system will reduce performance and possibly cause damage to the AutoBoom hydraulic valve.



NOTICE

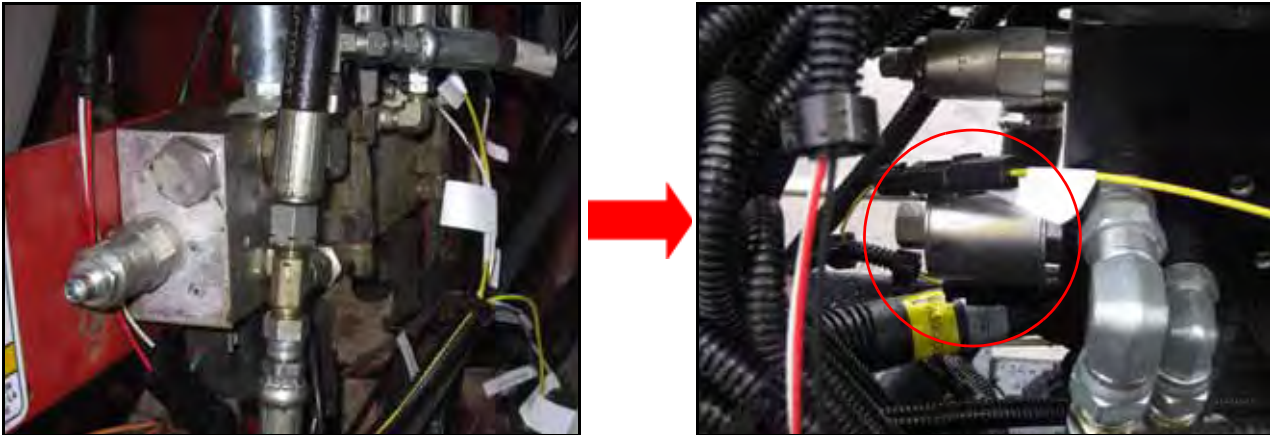
The appearance of the AutoBoom hydraulic valve may vary slightly from the images contained in this manual. However, the fittings, hose connections, and cable connections remain the same.

Convert the Sprayer's Hydraulic Valve to Open Center (If Applicable)

By factory default, the machine's main hydraulic valve may be configured as a "closed center" hydraulic system. In order for AutoBoom to function properly and to prevent the hydraulic system from overheating, Raven recommends converting the machine's hydraulic system to an "open center" system.

Note: Contact your Gregson dealer to obtain the open center conversion kit.

FIGURE 1. Converted Hydraulic Valve - Closed Center to Open Center



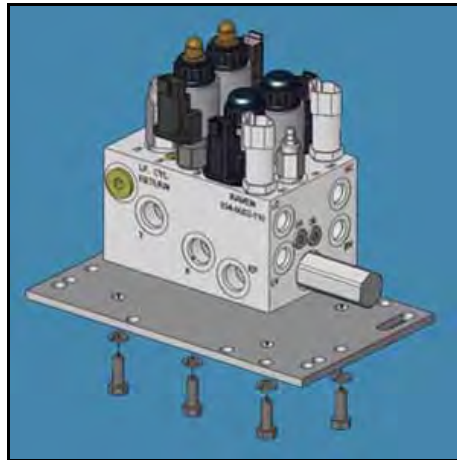
Install Fittings on the AutoBoom Valve

Before mounting the AutoBoom valve on the machine, install the proper fittings on 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.

Fitting	Part Number	Port
Fitting - 9/16" JIC (M) to 9/16" JIC (M) Straight Adapter	333-0012-045	LC, RC
Fitting - 9/16" SAE O-Ring Hex Plug	333-0012-194	LV, RV
Fitting - 3/4" SAE O-Ring (M) to 3/4" JIC (M) Straight Adapter	333-0012-093	Left T, P, EF

Mount the AutoBoom Valve

FIGURE 2. AutoBoom Valve Mounted to the Mounting Plate



1. Mount the AutoBoom valve (P/N 063-0131-126) to the valve mounting plate (P/N 107-0171-802) using four 5/16"-18 x 7/8" hex bolts (P/N 311-0052-104) and four 5/16" zinc plated lock washers (P/N 313-1000-019).

FIGURE 3. AutoBoom Valve Mounted to the Machine



2. Secure the mounting plate to the machine's center rack brace using four 3/8"-16 x 1-1/4" UNC hex bolts (P/N 311-0054-106) and four 3/8"-16 zinc flanged lock nuts (P/N 312-1001-164).

Note: It may be necessary to drill holes into the mounting plate to align with the center rack brace.

Install the Pressure and Tank Hoses

	<p>⚠ WARNING</p>
<p>Hydraulics are under pressure. Care should always be taken with a system that been pressurized. 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.</p>	


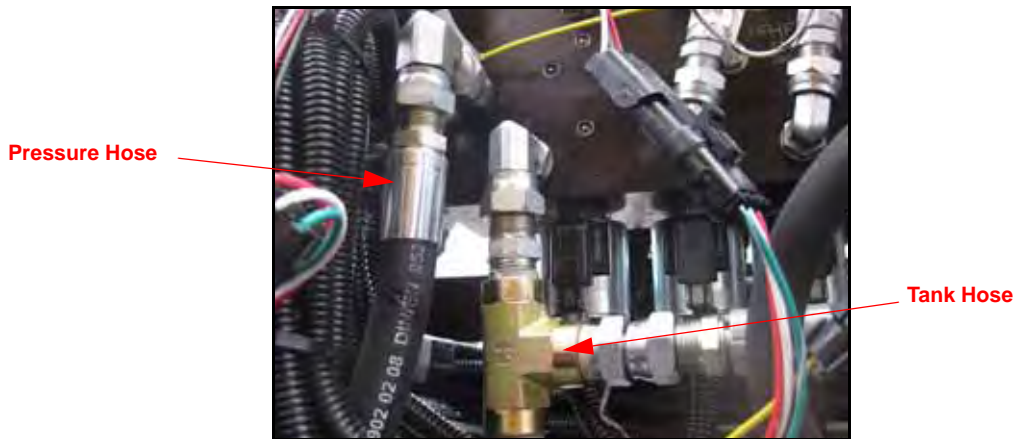
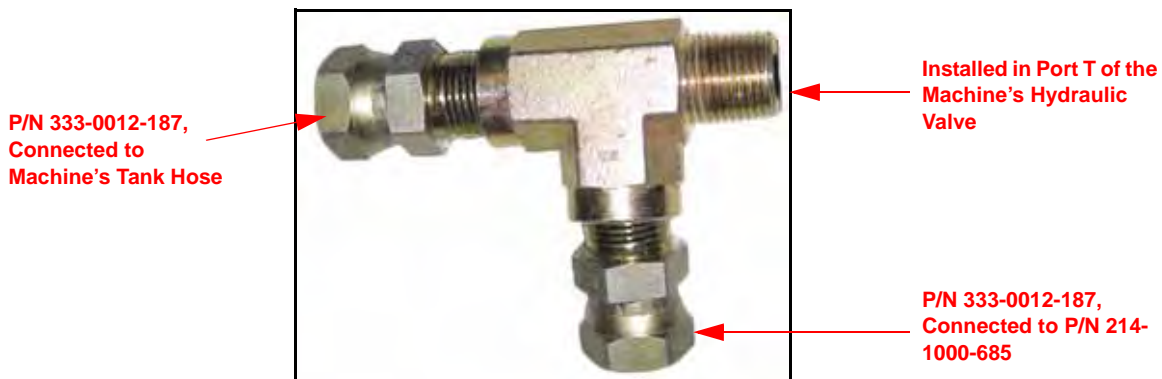
	⚠ CAUTION
	<p>When installing AutoBoom hydraulics or performing diagnostics, maintenance, or routine service, ensure precautions are taken to prevent any foreign material from being introduced into the machine's hydraulic system.</p> <p>Objects or materials that are able to bypass the machine's hydraulic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

FIGURE 4. Pressure and Tank Hoses Installed



1. Locate and disconnect the machine's pressure hose from the machine's hydraulic valve.
2. Install the straight end of the supplied hydraulic hose (P/N 214-1000-684) on the end of the machine's pressure hose.
3. Connect the 90° end of the installed hydraulic hose to the fitting installed in Port P of the AutoBoom valve.
4. Install the straight end of the supplied hydraulic hose (P/N 214-1000-685) on port P of the machine's hydraulic valve.
5. Connect the 90° end of the installed hydraulic hose to the fitting installed in Port EF of the AutoBoom valve.

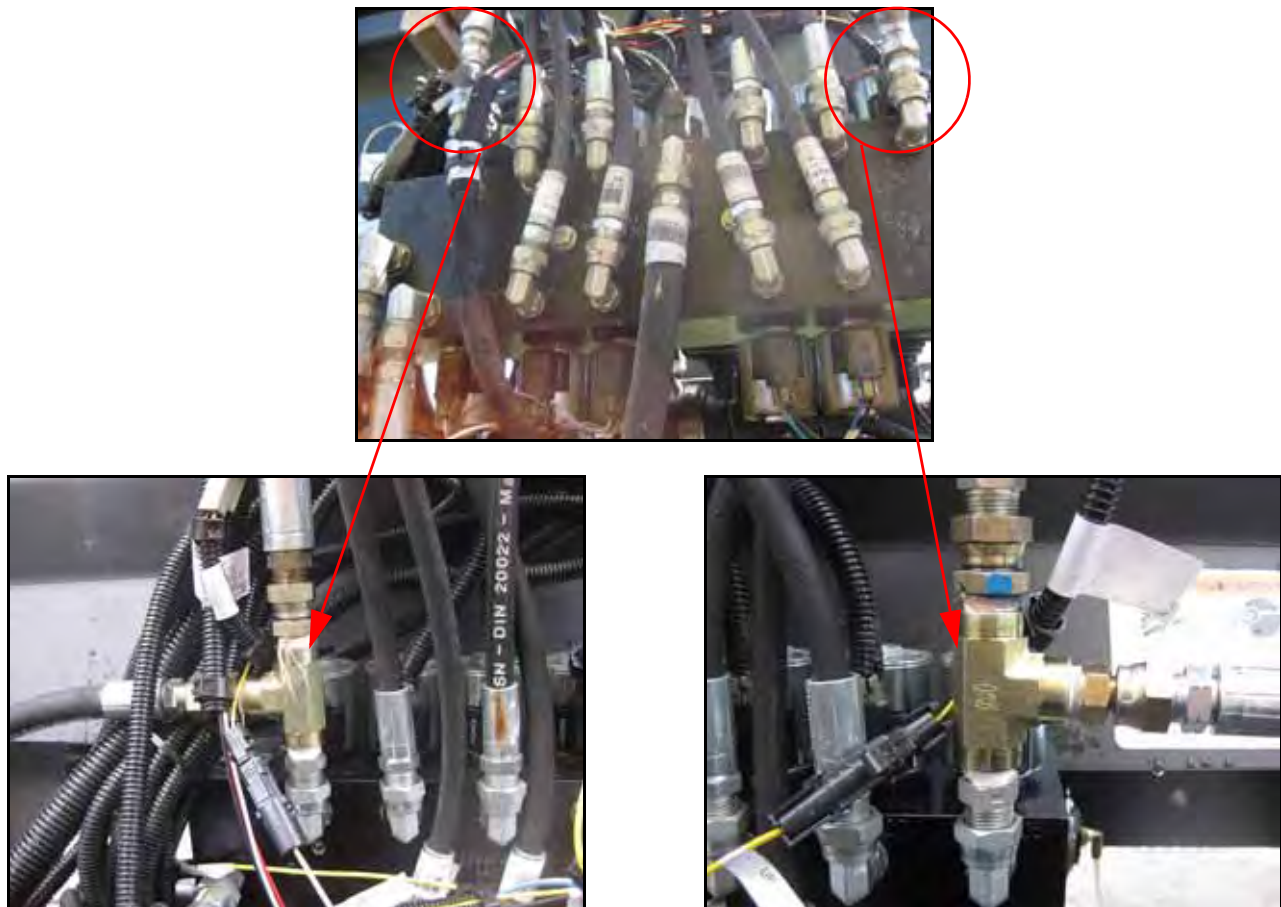
FIGURE 5. Machine's Tank Port Fitting Assembly



6. Disconnect the tank hose from the machine's hydraulic valve.
7. Install the 1/2" NPT (M) to 1/2" NPSM (F) swivel straight adapter fittings (P/N 333-0012-187) in the female ends of the 1/2" NPTF (M) to 1/2" NPSM F/F tee adapter fitting (P/N 333-0012-201).
8. Install the male end of the tee fitting in port T of the machine's hydraulic valve.
9. Install the machine's tank hose to the fitting installed on the opposite end of the installed tee fitting.
10. Install the straight end of the supplied hydraulic hose (P/N 214-1000-685) to the 90° end of the installed tee fitting assembly.
11. Connect the 90° end of the installed hydraulic hose to the fitting installed in Port T of the AutoBoom valve.

Install the Left and Right Cylinder Hoses

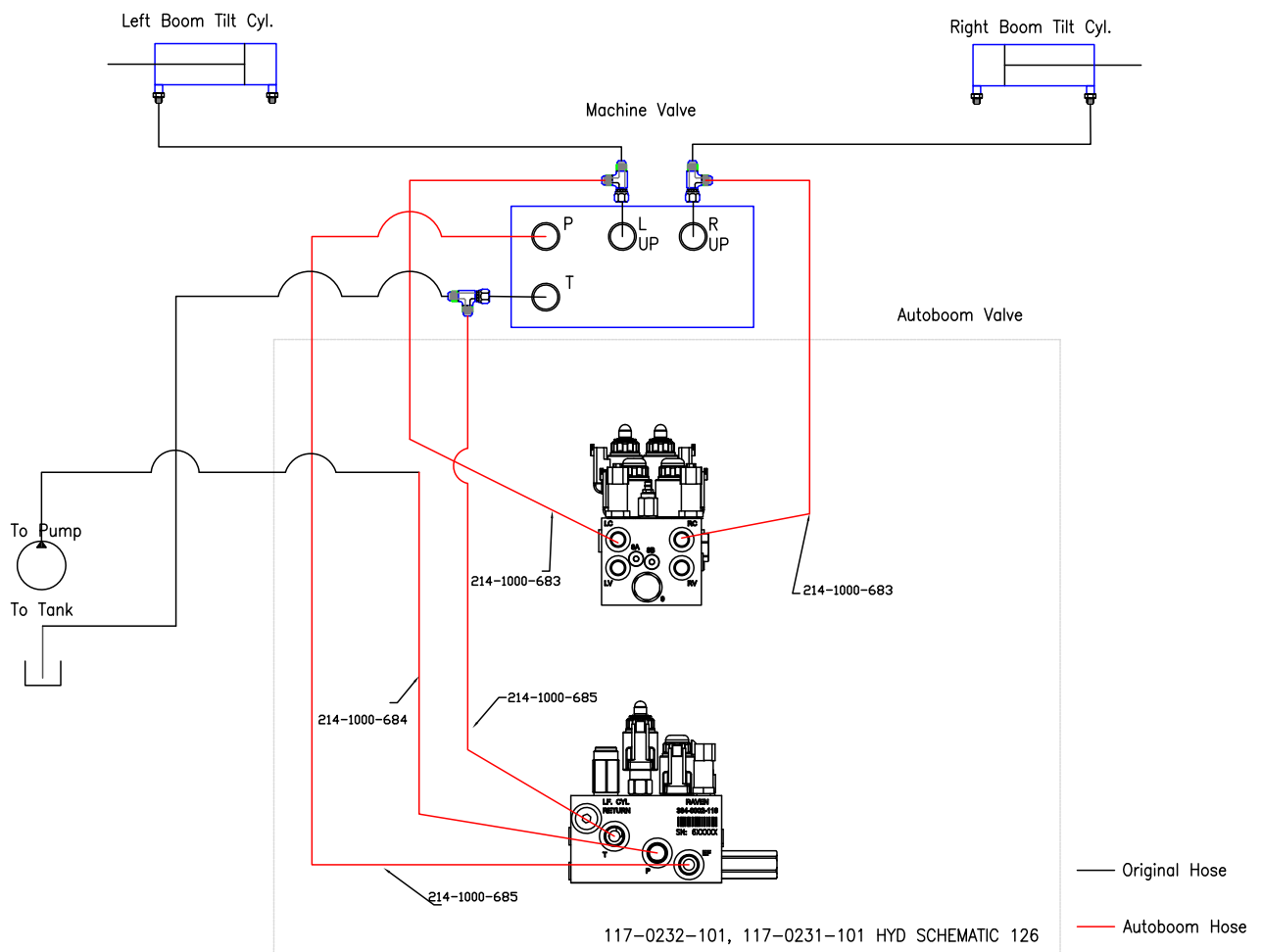
FIGURE 6. Left and Right Cylinder Hoses Installed



1. Install 3/8" NPT (M) to 3/8" NPSM (F) swivel straight adapter fittings (P/N 333-0012-305) in the female ends of the 3/8" NPTF (M) to 3/8" NPSM F/F tee adapter fitting (P/N 333-0012-231).
2. Trace the machine's hose in the rod-end of the left tilt cylinder back to the machine's hydraulic valve and disconnect it.
3. Install the male end of the one of the 3/8" NPT M/F/F tee adapter fittings in the open port of the machine's hydraulic valve.
4. Connect the machine's hydraulic hose to the fitting installed on the straight end of the installed tee fitting.
5. Install the male end of the supplied hydraulic hose (P/N 214-1000-683) on the fitting installed on the 90° end of the tee fitting.

6. Connect the female end of the installed hydraulic hose to the fitting installed in Port LC of the AutoBoom valve.
7. Trace the machine's hose in the rod-end of the right tilt cylinder back to the machine's hydraulic valve and disconnect it.
8. Install the male end of the other 3/8" NPT M/F/F tee adapter fitting in the open port of the machine's hydraulic valve.
9. Connect the machine's hydraulic hose to the fitting installed on the straight end of the installed tee fitting.
10. Install the male end of the supplied hydraulic hose (P/N 214-1000-683) on the fitting installed on the 90° end of the tee fitting.
11. Connect the female end of the installed hydraulic hose to the fitting installed in Port RC of the AutoBoom valve.

UltraGlide Hydraulic Schematic



Install the UltraGlide Sensors

Boom Sensor Mounting Locations

Sensor mounting locations may be influenced by the boom configuration. Determine the appropriate location for mounting the sensors on the boom, ensuring the sensors will not interfere with or be damaged while folding or unfolding the booms.

Mounting the Boom Sensors

FIGURE 1. Mounted Boom Sensors

Outside Boom Sensor Mounting Location



Optional Inside Boom Sensor Mounting Location



1. Secure the left sensor (P/N 063-0130-014) to the front of the left boom using two 1-9/16" W x 2-1/2" L x 3/8" thread U-bolts (P/N 107-0171-611) and four 3/8"-16 zinc flanged lock nuts (P/N 312-1001-164).
2. Tighten the nuts to ensure the sensor is mounted securely.
3. Repeat the steps above to mount the remaining boom sensor(s).

Mount the Center Rack Sensor

FIGURE 2. Center Rack Sensor Mounting Location



1. Using the mounting holes on the arm of the center sensor (P/N 063-0130-018) as a guide, drill holes in the center boom brace.
2. Mount the center sensor to the center boom brace using two 3/8"-16 x 1-1/4" UNC hex bolts (P/N 311-0054-106) and two 3/8"-16 zinc flanged lock nuts (P/N 312-1001-164).
3. Tighten the nuts to ensure the sensor is mounted securely.

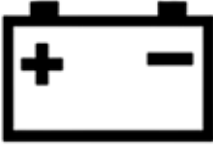
Connect the Sensor Cables

1. Connect the left sensor cable (P/N 115-0171-527) to the connector on the left outer sensor.
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 connector the remaining sensor cables.

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

Install the UltraGlide Wiring

Wiring Connections

	<p>⚠ CAUTION</p> <p>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.</p>
--	---

Note: 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.

Install the AutoBoom Node

FIGURE 1. AutoBoom Node Installed (Example Only)



1. Mount the AutoBoom node (P/N 063-0130-013) to the valve mounting plate using three 3/8"-16 zinc hex bolts (P/N 311-0054-106) and three 3/8"-16 zinc flanged lock nuts (P/N 312-1001-164).

Note: Install the AutoBoom node so that the cable connectors face down.

2. Insert the large, rectangular node connectors on the harness cable (P/N 115-0230-045) into the correct ports of the AutoBoom node.
3. Tighten the bolts on the node connectors to secure the connections.

Connect the Harness Cable to the Boom Function Controls

1. Locate the Left Press and Right Press connectors on the harness cable (P/N 115-0230-045).
2. Route the connectors to the AutoBoom valve (P/N 063-0131-126).
3. Connect the Left Press connector to Port G1 on the AutoBoom valve.
4. Connect the Right Press connector to Port G4 on the AutoBoom valve.
5. Locate the Left Solenoid and Right Solenoid connectors on the harness cable.
6. Connect the Left Solenoid connector to Port 4A on the AutoBoom valve.
7. Connect the Right Solenoid connector to Port 4B on the AutoBoom valve.
8. Locate the Left Prop and Right Prop connectors on the harness cable.
9. Connect the Left Prop connector to Port 5A on the AutoBoom valve.
10. Connect the Right Prop connector to Port 13A on the AutoBoom valve.

FIGURE 2. Boom Sense Adapter Cables Installed

Left Up/Down Coil



Right Up/Down Coil



11. Disconnect the machine's harness cable connection from the left up/down coil on the machine's hydraulic valve.
12. Install a boom sense adapter cable (P/N 115-0171-546) on the coil.
13. Connect the machine's harness cable to the installed boom sense adapter cable.
14. Connect the Left Solenoid Sense Up connector from the AutoBoom harness cable (P/N 115-0230-045) to the installed boom sense adapter cable.
15. Disconnect the machine's harness cable connection from the right up/down coil on the machine's hydraulic valve.
16. Install a boom sense adapter cable (P/N 115-0171-546) on the coil.
17. Connect the Right Solenoid Sense Up connector from the AutoBoom harness cable to the installed boom sense adapter cable.

FIGURE 3. Open Center Coil

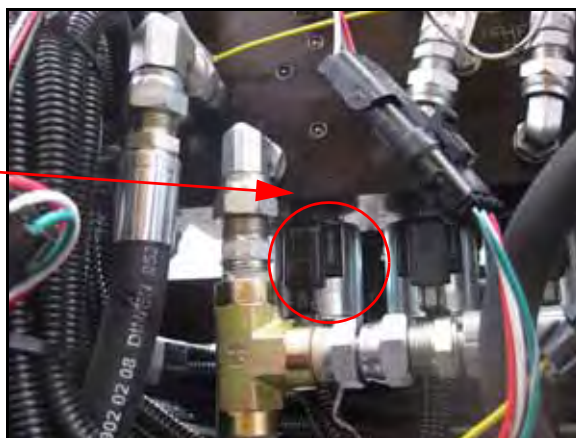


18. Disconnect the machine's harness cable connection from the open center coil on the machine's hydraulic valve.
19. Install a boom sense adapter cable (P/N 115-0171-546) on the open center coil.
20. Connect the machine's harness cable to the installed boom sense adapter cable.
21. Connect the Open Center Valve connection on the AutoBoom harness cable to the single weatherpack connection of the installed boom sense adapter cable.

Install the Center Rack Control

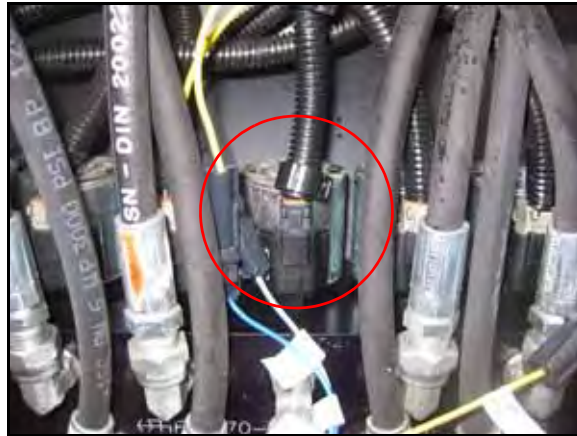
FIGURE 4. Directional Coil

Labeled "DIR" on the Machine's Hydraulic Valve



1. Locate the directional coil on the machine's hydraulic valve.
2. Disconnect the directional coil connector from the coil.
3. Install a center rack control boom sense adapter cable (P/N 115-0230-039) on the machine's directional coil.
4. Connect the machine's directional coil connector to the installed center rack control boom sense adapter cable.
5. Connect the Center Solenoid Down Sense and Control connectors on the AutoBoom harness cable (P/N 115-0230-045) to the center rack control boom sense adapter cable installed on the directional coil.

FIGURE 5. Center Rack Coil



6. Locate the machine's center rack coil.
7. Disconnect the center rack coil connector from the coil.
8. Install a center rack control boom sense adapter cable (P/N 115-0230-039) on the machine's center rack coil.
9. Connect the machine's center rack coil connector to the installed center rack control boom sense adapter cable.
10. Connect the Center Solenoid Up Sense and Control connectors on the AutoBoom harness cable (P/N 115-0230-045) to the installed center rack control boom sense adapter cable.

Connect the Harness Cable to the Sensors

1. Locate the Center Sensor connector on the AutoBoom harness cable.
2. Connect the Center Sensor connector to the installed center sensor (P/N 063-0130-018).
3. Locate the Left Outer Sensor connector on the AutoBoom harness cable.
4. Connect the Left Outer Sensor connector to the installed left sensor cable (P/N 115-0171-527).
5. Locate the Right Outer Sensor connector on the AutoBoom harness cable.
6. Connect the Right Outer Sensor connector to the installed right sensor cable.
7. If optional inside boom sensors are installed, repeat the steps above to connect the inner sensors.

Connect the Harness Cable to the Controller Cable

1. Route the harness cable (P/N 115-0230-045) toward the machine's cab.
2. Connect the harness cable to the controller cable (P/N 115-0230-007).
3. Tighten the connector cap to secure the connection.

Note: Be sure to allow enough slack in the harness cable to allow for boom racking.

Connect the Controller (If Applicable)

1. Route the controller cable (P/N 115-0230-007) into the right side of the machine's cab.
2. Locate the two controller connectors and connect them to the AutoBoom controller (P/N 063-0130-011).

Note: The AutoBoom controller should be mounted in the machine's cab so that the operator has easy access to it.

Connect the Field Computer (If Applicable)

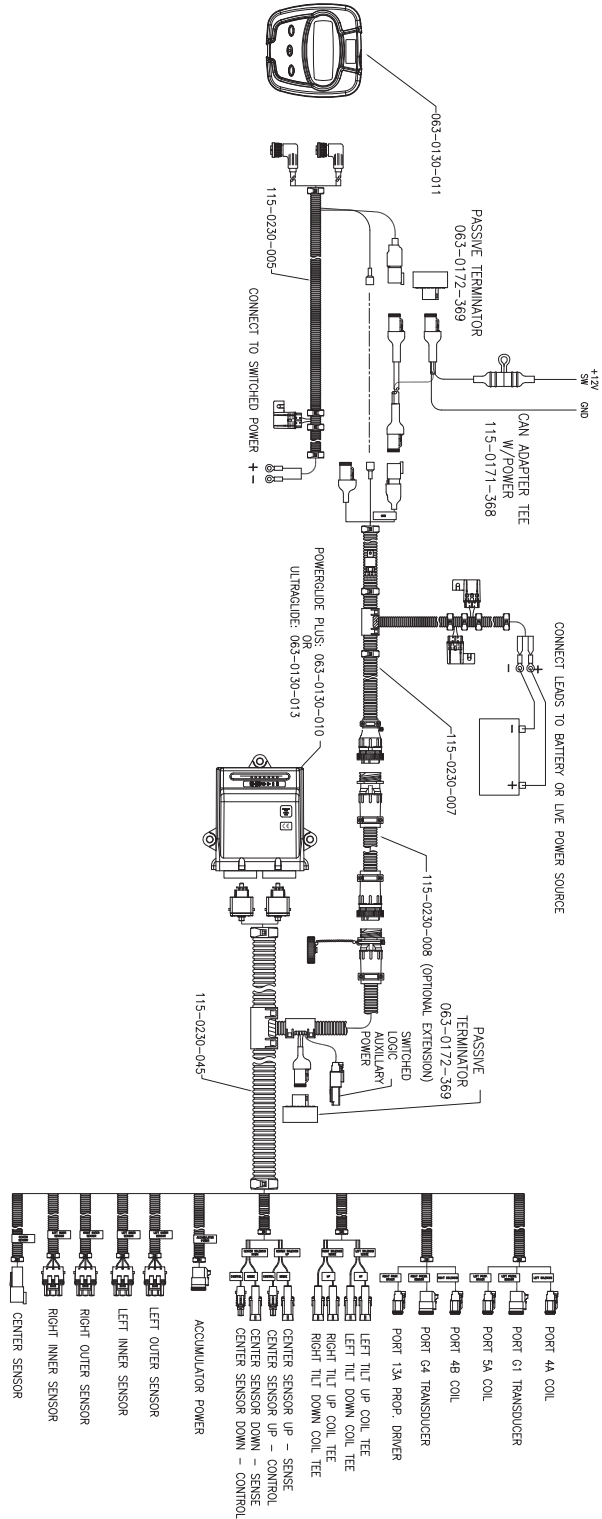
Refer to the Installation & Operation Manual and the appropriate wiring schematics beginning on page 24 for installation and wiring instructions for the specific field computer being used.

Connect the Power Leads

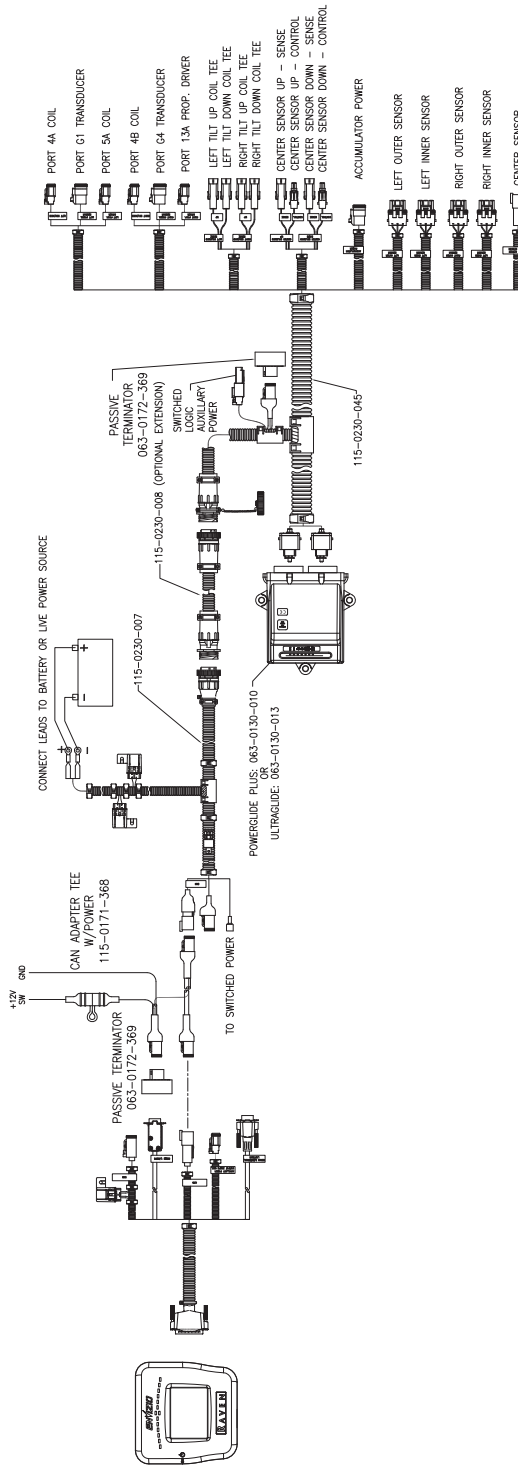
1. Locate the power cable that has the red and white power leads at one end.
2. Disconnect the machine's connectors from the battery terminals.
3. Install the red power lead on the positive battery terminal and reinstall the machine's battery connector.
4. Install the white power lead on the negative battery terminal and reinstall the machine's battery connector.

UltraGlide Wiring Schematics

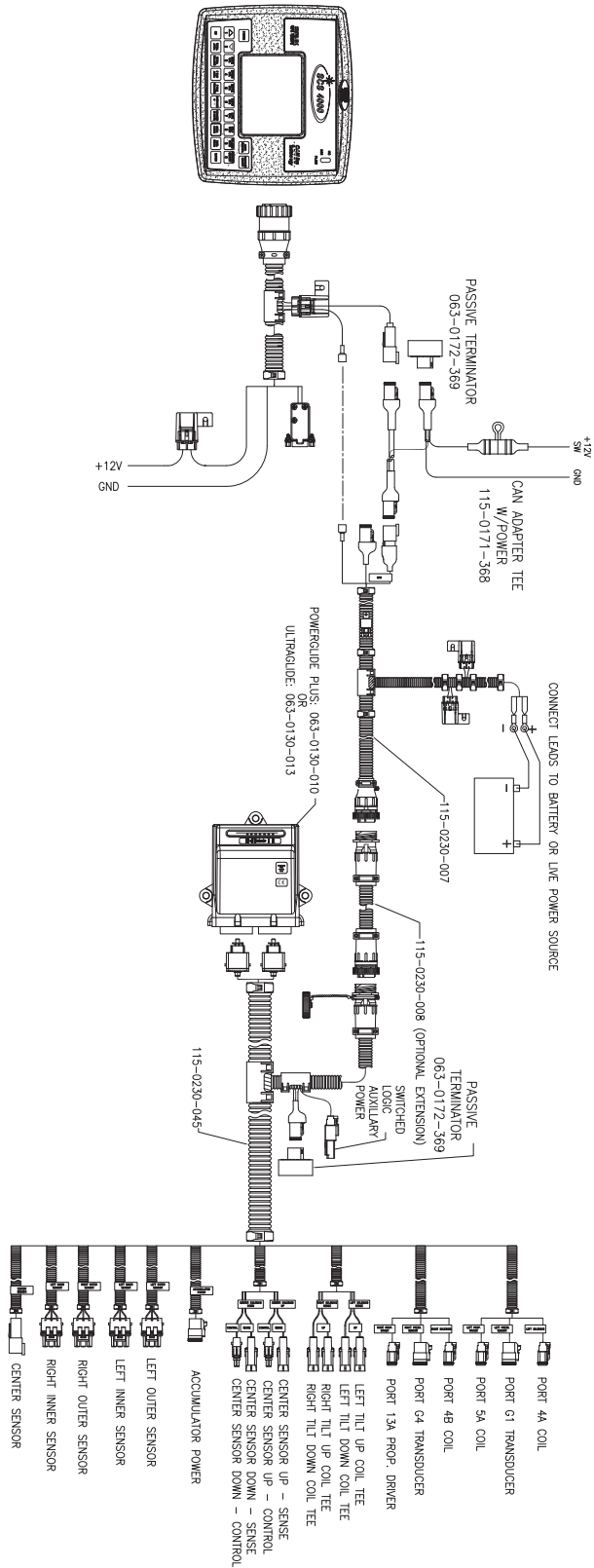
AutoBoom Controller



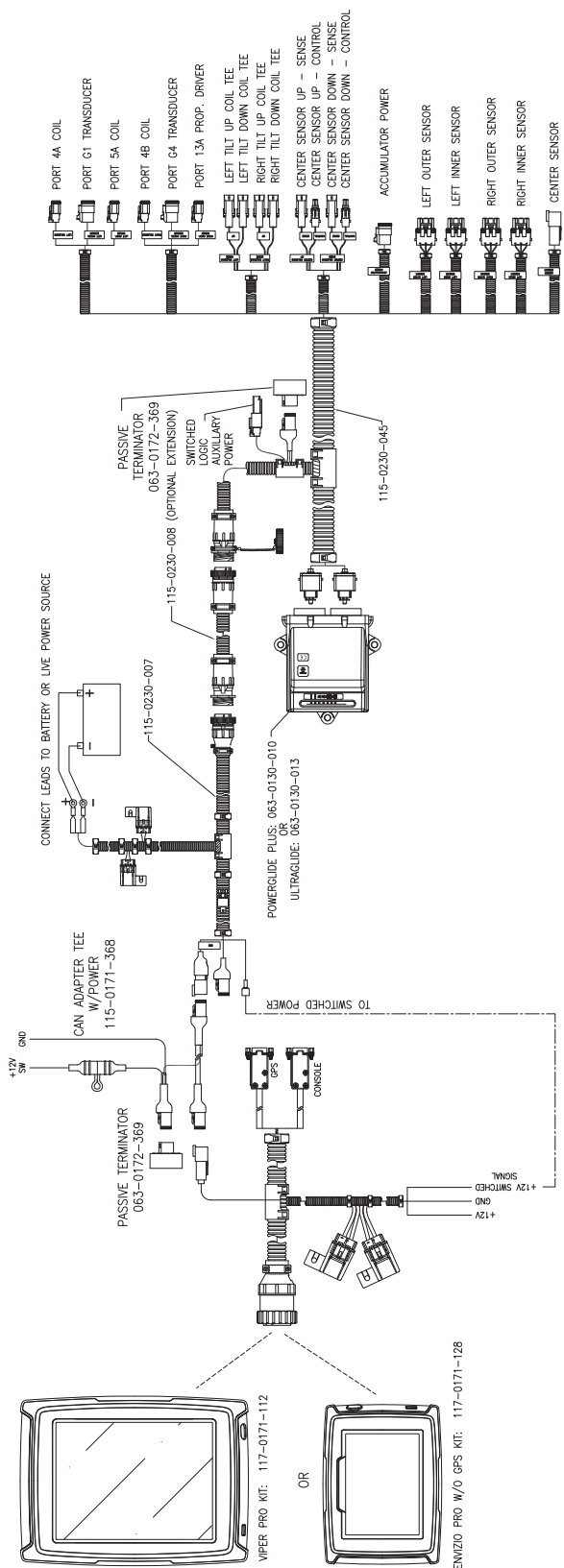
Envizio Plus



SCS 4000/5000



Viper Pro & Envizio Pro



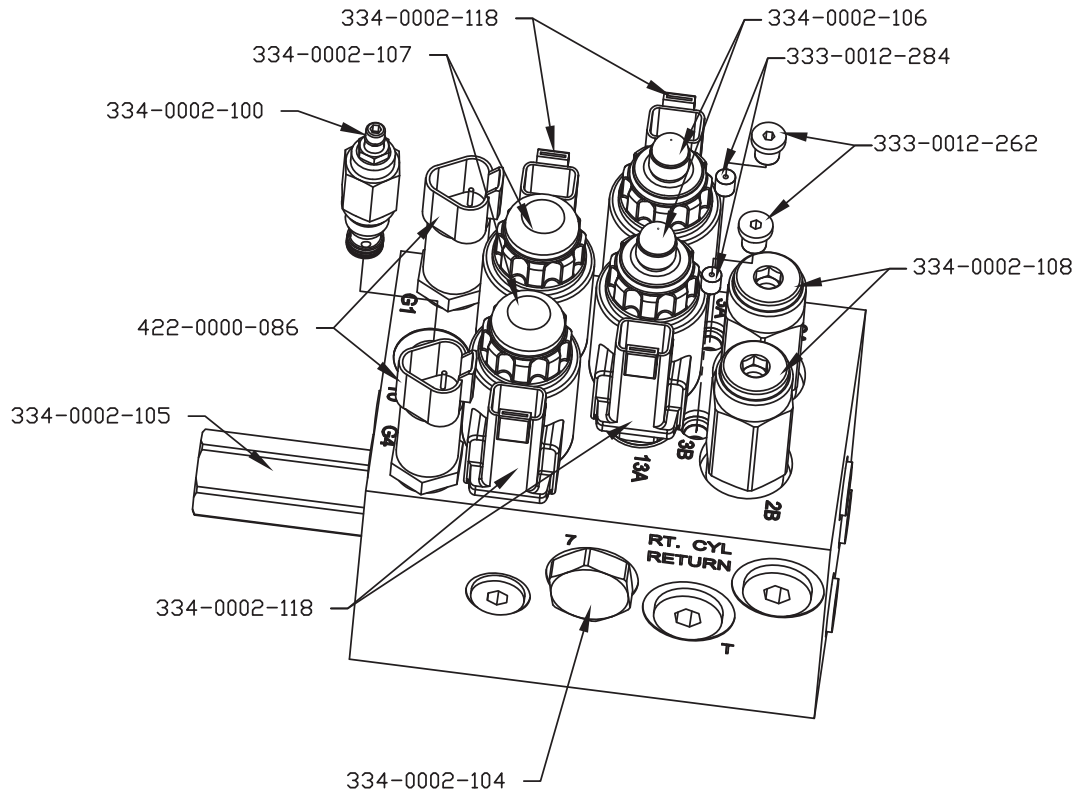
CHAPTER

6

Replacement Parts

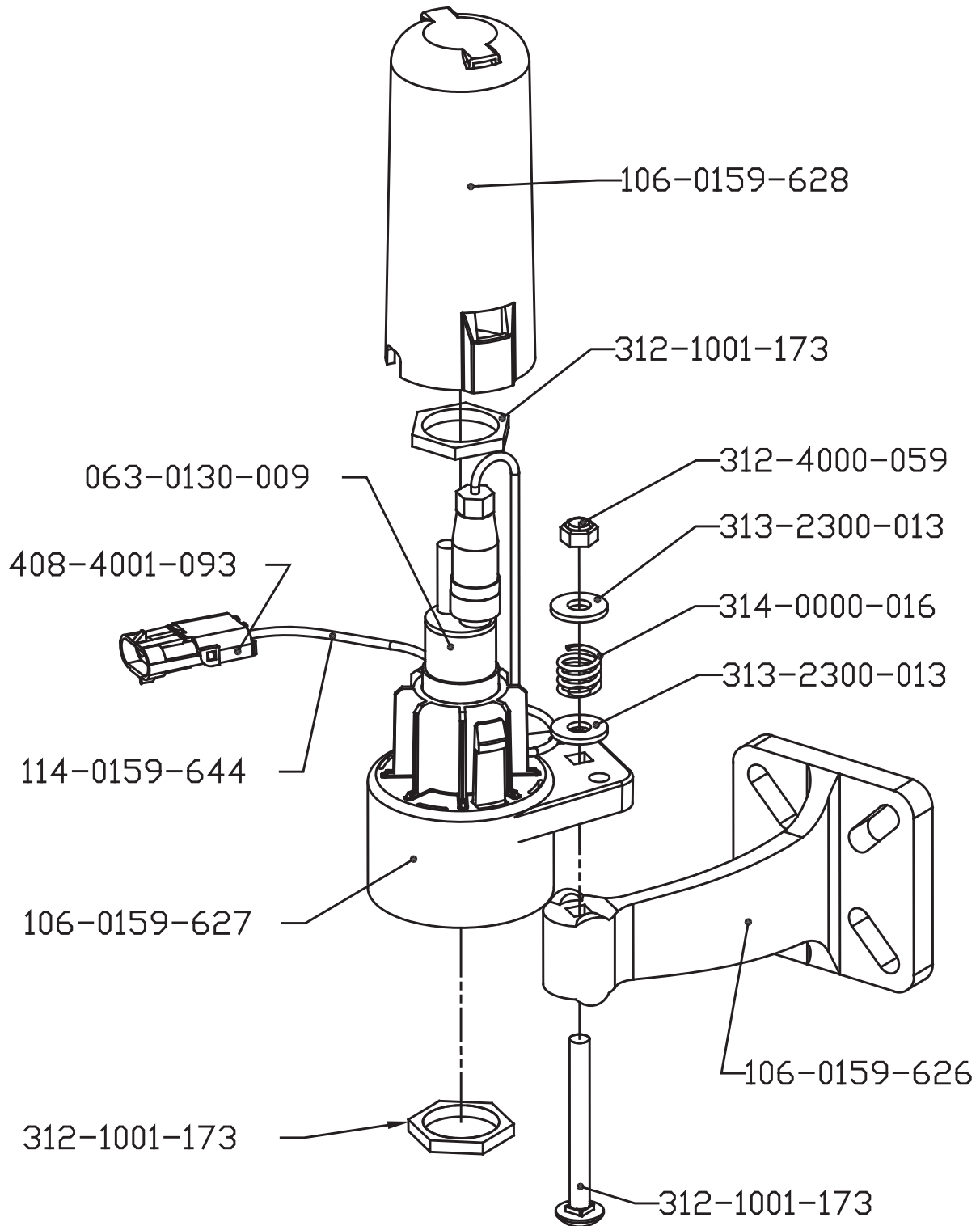
This section contains replacement part diagrams for the UltraGlide system. Please refer to these diagrams when calling to request replacement parts.

Valve



063-0131-126
VALVE, HYDRAULIC POWERGLIDE
PLUS/ULTRAGLIDE, OPEN CENTER, AUTOBOOM

Sensors



E**Electrical Safety** 2**H****Hydraulic Safety** 2**Hydraulic System** 9

- Converting the Sprayer's Hydraulic Valve to Open Center 10
- Installing Fittings on the AutoBoom Valve 10
- Installing the Left and Right Cylinder Hoses 13
- Installing the Pressure and Tank Hoses 11
- Mounting the AutoBoom Valve 11
- UltraGlide Hydraulic Schematic 15

I**Important Safety Information**

- Electrical Safety 2
- Hydraulic Safety 2

Introduction 3

- Hydraulic Fittings 4
- Kit Contents 5
- Point of Reference 4
- Preparing for Installation 4
- Recommendations 3
- Tools Needed 4

K**Kit Contents** 5**P****Point of Reference** 4**Preparing for Installation** 4**R****Recommendations** 3**Replacement Parts** 29

- Sensors 30
- Valve 29

S**Sensors** 17

- Boom Sensor Mounting Locations 17
- Connecting the Sensor Cables 18
- Mounting the Boom Sensors 17
- Mounting the Center Rack Sensor 18

T**Tools Needed** 4**W****Wiring** 19

- Connecting the Controller 22
- Connecting the Field Computer 23
- Connecting the Harness Cable to the Boom Function Controls 20

Connecting the Harness Cable to the Controller Cable 22

Connecting the Harness Cable to the Sensors 22

Connecting the Power Leads 23

Installing the AutoBoom Node 19

Installing the Center Rack Control 21

Wiring Connections 19

Wiring Schematics 24

AutoBoom Controller 24

Envizio Plus 25

SCS 4000/5000 26

Viper Pro & Envizio Pro 27

RAVEN

RAVEN INDUSTRIES

Limited Warranty

What Does this Warranty Cover?

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

How Long is the Coverage Period?

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

How Can I Get Service?

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

What Will Raven Industries Do?

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

What is not Covered by this Warranty?

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

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

R A V E N

Gregson 1000/1250 HT (2009 & Newer)
AutoBoom™ Installation Manual
(P/N 016-0230-101 Rev A 06/10 E16277)

Simply improving your position.™



Raven Industries
Applied Technology Division
P.O. Box 5107
Sioux Falls, SD 57117-5107

Toll Free (U.S. and Canada): (800)-243-5435
or Outside the U.S. :1 605-575-0722
Fax: 605-331-0426
www.ravenprecision.com

Notice: This document and the information provided are the property of Raven Industries, Inc. and may only be used as authorized by Raven Industries, Inc. All rights reserved under copyright laws.