AIM Command FLEX, Patriot MY 2009-2016 Installation Manual

P/N 016-0171-632 Rev. A 8/16 E28145

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CHAPTER 1 IMPORTANT SAFETY INFORMATION

NOTICE

Read this manual and all operation and safety instructions included with the implement and/or controller carefully before installing the AIM Command FLEX system.

- Follow all safety information presented within this manual.
- If you require assistance with any portion of the installation or service of Case IH equipment, contact a local Case IH dealer for support.
- Follow all safety labels affixed to 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 Case IH dealer.

When operating the machine, observe the following safety measures:

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

⚠ DANGER

AGRICULTURAL CHEMICAL SAFETY

- Thoroughly bleed pressure from chemical lines and rinse the system with clean water prior to installing or servicing fittings, hoses, valves, or nozzles in the application system.
- Always follow safety labels and instructions provided by the chemical manufacturer or supplier.
- Always wear appropriate personal protective equipment as recommended by the chemical and/or equipment manufacturer.
- Fill, flush, calibrate, and decontaminate chemical application systems in an area where runoff will not reach ponds, lakes, streams, livestock areas, gardens, or populated areas.
- Avoid inhaling chemical dust or spray particulate and avoid direct contact with any agricultural chemicals. Seek immediate medical attention if symptoms of illness occur during, or soon after, use of agricultural chemicals, products, or equipment.
- After handling or applying agricultural chemicals:

  - Thoroughly wash hands and face after using agricultural chemicals and before eating, drinking, or using the rest room.
  - Thoroughly flush or rinse equipment used to mix, transfer, or apply chemicals with water after use or before servicing any component of the application system.
- Follow all federal, state, and local regulations regarding the handling, use, and disposal of agricultural chemicals, products, and containers. Triple-rinse and puncture or crush empty containers before disposing of them properly. Contact a local environmental agency or recycling center for additional information.

⚠ CAUTION

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.
- Disconnect the AIM Command FLEX system ECUs and control console before jump starting the vehicle or welding on any part of the implement or machine.

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

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.

CHAPTER 2 INTRODUCTION

The AIM Command FLEX nozzle control system is a pressure based product control system designed for precise sprayer application in a variety of conditions. Pressure based application control provides accurate control of droplet size which reduces spray drift during field operations.

AIM Command FLEX is compatible with the ISOBUS communication platform which allows the system to work with most ISO Virtual Terminals (VTs) and Task Controllers on the market. This manual is intended to provide installation instructions on the following equipment:

TABLE 1. Patriot Make and Model Information

Make	Model	Model Years	Boom Configuration
Patriot	3230/40, 3330/40, 4430/40	2009 through 2016	120′ Boom 20″ Spacing
			100′ Boom 20″ Spacing
			90′ Boom 20″ Spacing

REQUIRED COMPONENTS

The following components must be installed with the AIM Command FLEX nozzle control system:

- Updated software on field computers or control monitors
- PWM pump control valve
- Case IH compatible flow meter
- Case IH compatible pressure transducer
- 80 (or finer) mesh strainer

NOTE: Air induction style spray tips should not be used with the AIM Command FLEX nozzle control system. A fan or cone style spray tip is required for the AIM Command FLEX system to operate properly.

TOOLS AND MATERIALS NEEDED

NOTE: If using Pro 700 and have AutoBoom installed, the AutoBoom node must be replaced with an ISO AutoBoom node.

The following tools are recommended for completing the installation:

- SAE and metric sized wrenches and tools
- Drill bit set and drill
- Dielectric grease (supplied)
- Cable ties (supplied)

POINT OF REFERENCE

The instructions provided in this manual assume the installer is standing behind the machine, looking toward the machine cabin.

KIT CONTENTS

Basic hardware (nuts, bolts, etc. included with the kit are not included in the table below).

TABLE 2. Patriot (120' Boom, 20" Spacing) Kit (P/N 117-1007-130 or 117-1007-134)
Patriot (100' Boom, 20" Spacing) Kit (P/N 117-1007-131 or 117-1007-135)
Patriot (90' Boom, 20" Spacing) Kit (P/N 117-1007-132 or 117-1007-136)
Patriot (80' Boom/20" Spacing) Kit (P/N 117-1007-133 or 117-1007-137)

Picture	Item Description	Part Number	Qty.							
			117-1007-							
			130	134	131	135	132	136	133	137
Not Pictured	Cable - Adapter, Case ISO/ CAN to AIM Command FLEX	115-7303-083	1							
Not Pictured	Cable, 16' Power AIM Command FLEX	115-7303-082	1							
	ECU - Product Controller II	063-0173-799	1							
	ECU, ISO/CAN, Boom Sense Speed	016-0173-807	1							
Not Pictured	Plate, Mounting Node	107-0171-951	1							

Picture	Item Description	Part Number	Qty.							
			117-1007-							
			130	134	131	135	132	136	133	137
Not Pictured	Cable, Adapter, Fence Rows	115-1001-048	1							
Not Pictured	Cable - Adapter, Case ISO/ CAN to AIM Command FLEX	115-7303-115	1							
Not Pictured	CNH Nozzle Control Valve, Wilger	163-0173-810	54		54		54		48	
	O-Ring, Viton, Green Coated, -115, 56 Pack	219-1005-115M	1		1		1		1	
Not Pictured	CNH Nozzle Control Valve, Wilger	063-0173-809		54		54		54		48
	O-Ring Viton, Brown, -116, 56 Pack	219-1005-116M		1		1		1		1

UPDATES

Raven software and documentation updates may be made available periodically on the Raven Applied Technology web site:

www.ravenhelp.com

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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

-AIM Command FLEX, Patriot MY 2009-2016 Installation Manual
-P/N 016-0171-632 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.

CHAPTER 3 INSTALLATION PREPARATION

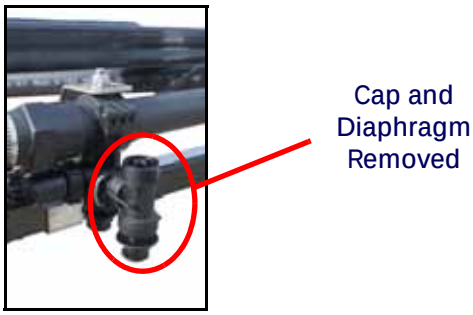
Perform the following procedure to prepare the implement for installation of the AIM Command FLEX nozzle control system.

⚠ CAUTION

Chemical residues may be present. Thoroughly bleed pressure from chemical lines and rinse the system with clean water prior to installing or servicing fittings, hoses, valves, or nozzles in the application system.

1. Rinse and fill the tank with clean water.
2. Move the equipment to an open area suitable for testing application system operation and rinsing the boom plumbing.
3. Unfold the boom and enable the application control system. Verify that all control hardware (e.g. control valves, section valves, etc.) and spray tips function as expected.
4. Operate the system until any chemicals are rinsed from the boom supply lines.
5. Disable the application control system and de-pressurize the boom.
6. Replace existing carrier line strainer(s) with an 80 mesh strainer. An 80 mesh or finer strainer is required for use with the AIM Command FLEX nozzle control system.
7. If turret style nozzle bodies are installed on the implement, rotate the turret to an open spray position, if available. If an open spray position is not available, or for nozzle bodies without a turret, remove the spray tips from the boom and set aside for later use.
8. Enable the application control system and run clean water for at least 20 seconds to rinse any remaining debris from the boom plumbing and nozzle bodies.
9. Remove the cap and diaphragm from the nozzle bodies.

FIGURE 1. Nozzle Body Cap and Diaphragm Removed



FOR MACHINE'S WITHOUT ACCUBOOM INSTALLED

Perform the steps in this section if the machine does not already have AccuBoom installed.

1. Identify the machine SCV switch harness 12 pin Deutsch connectors. This is located beneath the rear of the cab, just above the front axle.
2. Install the 115-01001-048 Adapter cable between the 12 pin Deutsch plug and receptacle.

FIGURE 2. Adapter Cable Installation Location

CHAPTER 4 BOOM INSTALLATION

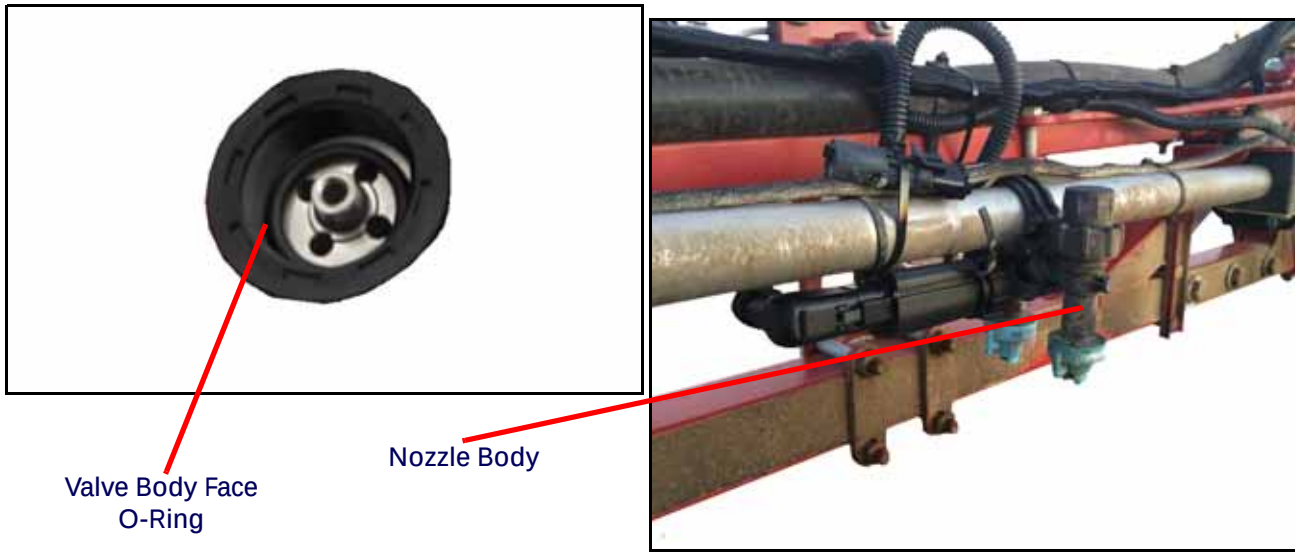
AIM COMMAND FLEX NOZZLE CONTROL VALVE INSTALLATION

BEST PRACTICES AND RECOMMENDATIONS

- Do not connect battery leads until all cables are installed and connected.
- If a dual channel turret nozzle body is installed on the implement, always mount the AIM Command FLEX nozzle control valve to the straight nozzle port to avoid excessive pressure drop across the nozzle.

GENERAL VALVE INSTALLATION

FIGURE 1. Valve Face O-Ring and Nozzle Control Valve



1. Place a supplied o-ring on the inside of the fly nut flush with the valve body face.
2. Thread the fly nut onto the nozzle body.
3. Orient the nozzle control valve so that the label is easily readable.
4. Hand tighten the swivel nut to secure the nozzle control valve to the nozzle body. Do not over tighten.

NOTE: Frequently check the nozzle control valve nuts to ensure they are secure.

5. Repeat the previous steps to mount a nozzle control valve to each nozzle body on the spray boom.

VALVE MOUNTING INTERFERENCE AND OBSTRUCTIONS

In some locations on the spray boom, boom equipment or hardware may interfere with mounting the AIM Command FLEX nozzle control valves. In these locations, it may be necessary to rotate the nozzle control valve or to relocate existing hardware to provide additional clearance.

NOTE: Avoid removing of any existing boom hardware or support brackets where applicable during installation of the AIM Command FLEX nozzle control valves.

See Figure 2 on page 14 for an example of modified installations of the nozzle control valve.

FIGURE 2. Modified Nozzle Control Valve Installation

BOOM CABLE ROUTING AND CONNECTION

For a boom cable routing drawing example, refer to the “System Diagram” on page 18.

BEST PRACTICES AND RECOMMENDATIONS

- Route the AIM Command FLEX primary and secondary boom cables along existing cables or plumbing to help avoid damage to the cable.
- Route cables to avoid pinch points and to avoid stretching the cable during folding and unfolding operations. Pay special attention to cable routing near folding or break-away points.
- Route cables through existing cable retention devices as appropriate.
- When securing the primary and secondary boom cables on the implement, begin at the outer boom tips. Adjust the cable position to provide sufficient slack between valve tee branches while working toward the center of the implement.
- Route the boom cables on the inside of the boom frame work.
- Secure cables using a zip tie at each nozzle control valve tee branch, and one between each tee branch along the cable length.

SECONDARY BOOM CABLE ROUTING AND CONNECTIONS

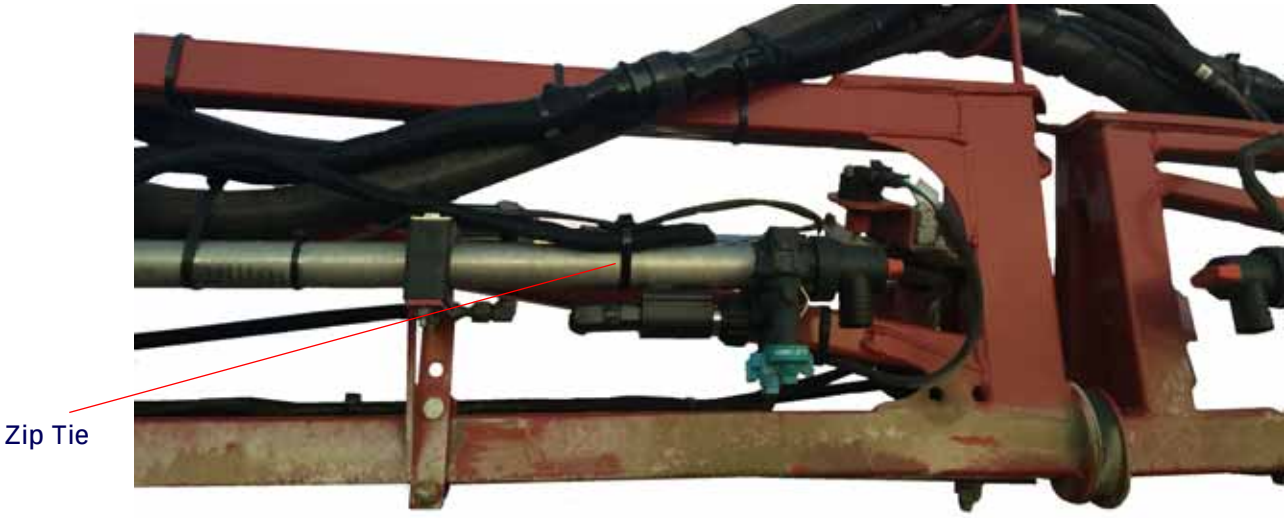
NOTE: Please review the Best Practices and Recommendations section on page 14 before routing or securing the boom cables on the implement. Do not to connect or secure the cables until instructed to do so in the procedure.

1. Locate the terminator on each of the secondary boom cables (refer to the Kit Contents section on page 8).

FIGURE 3. Secondary Cable ISOBUS Power Terminator

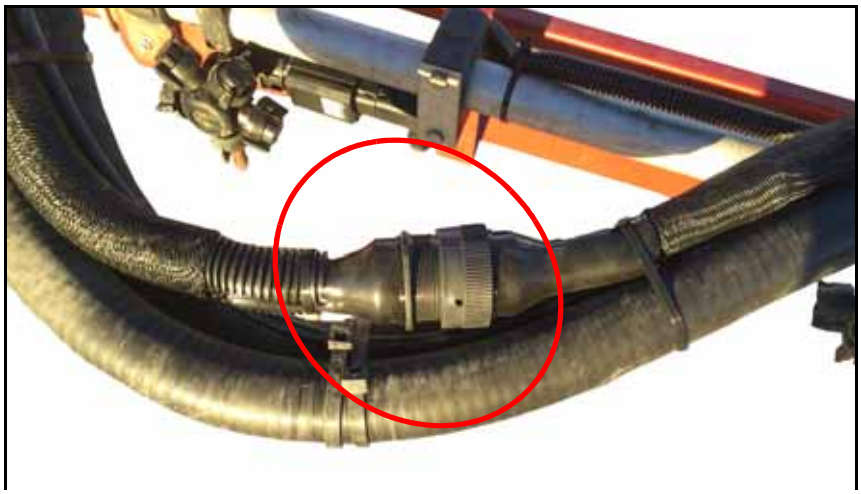
2. Route the secondary boom cables so they are located at the outer tips of the left and right boom.
3. Starting from the mid-boom fold point, feed the terminator end of the secondary boom cable through the boom framework along existing cable or plumbing runs and through any existing cable retention devices as appropriate.
4. Once the secondary boom cable is routed appropriately, begin connecting the valve tee branches to the nozzle control valves, starting with the nozzle control valve at the outer end of the boom.

FIGURE 4. Securing Valve Branches



5. At each valve branch, adjust the cable as necessary to provide slack between nozzle control valve connections. The large round connector on the secondary boom cable should reach to the mid-boom fold point after all nozzle control valves are connected.

FIGURE 5. Boom Cable Connection at Fold Points



6. Repeat this procedure to route and connect the secondary boom cable on the opposite boom.

NOTE: Route and connect the primary and secondary cables before securing the cable with the supplied zip ties.

PRIMARY BOOM CABLE ROUTING AND CONNECTIONS

NOTE: Review the Best Practices and Recommendations section on page 14 before routing or securing the boom cables on the implement. It is recommended not to connect or secure the cable until instructed to do so in the procedure.

1. Locate the large, round connectors on the primary boom cables (refer to the Kit Contents section on page 8). The primary boom cables must be routed such that the connector with female pins is located at the mid-boom fold point of the left or right boom and will connect to the secondary boom cable.

FIGURE 6. Primary Cable Ends

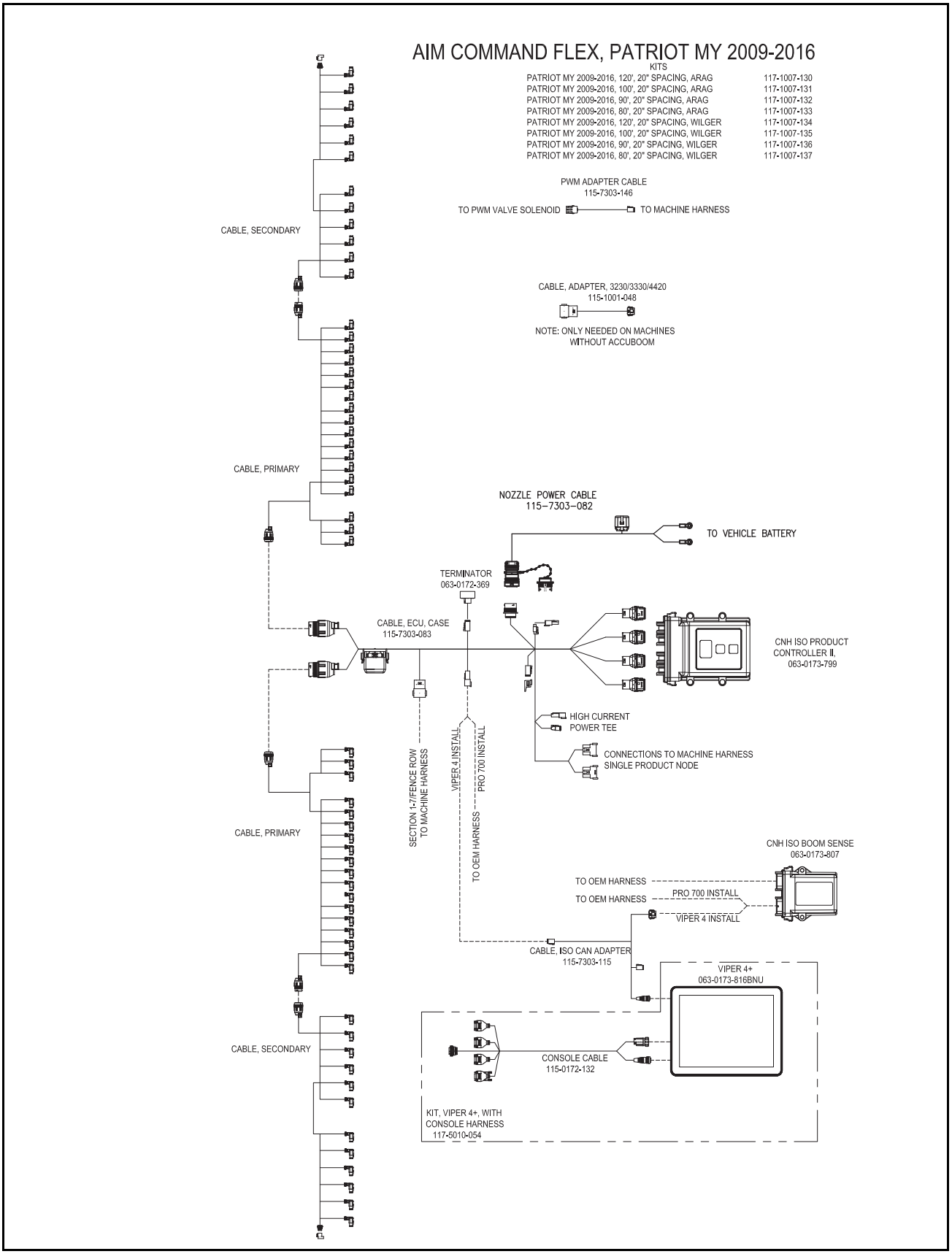
Male Connector
To Center Rack/Chassis Connector

Female Receptacle
To Secondary Boom Cable/Mid-Boom Fold Point

2. Starting at the center of the implement, feed the female receptacle end of the primary boom cable through the boom framework along existing cable or plumbing runs and through any existing cable retention devices as appropriate.
3. Connect the large, round connectors on the primary and secondary boom cables.

4. Adjust the primary and secondary boom cables to ensure sufficient slack around the mid-boom fold point and allow each cable to reach nozzle control valves near the folding point.
5. Secure the primary and secondary connection using the supplied zip ties as necessary to protect the connector from damage during folding and unfolding operations.
6. Once the primary and secondary boom cables are connected, begin connecting the valve tee branches to the nozzle control valves, starting with the valve on the primary boom segment furthest from the center of the implement.
7. At each valve branch, adjust the cable as necessary to provide slack between nozzle control valve connections and use the supplied zip ties to secure the cable at each valve branch. Refer to Figure 4 on page 15. The large, round connector with male pins on the primary boom cable should reach to the center of the implement after all nozzle control valves are connected.
8. Repeat this procedure to route the primary boom cable on the opposite boom.

SYSTEM DIAGRAM



CHAPTER 5 CAB PREPARATION AND WIRING

BEST PRACTICES AND RECOMMENDATIONS

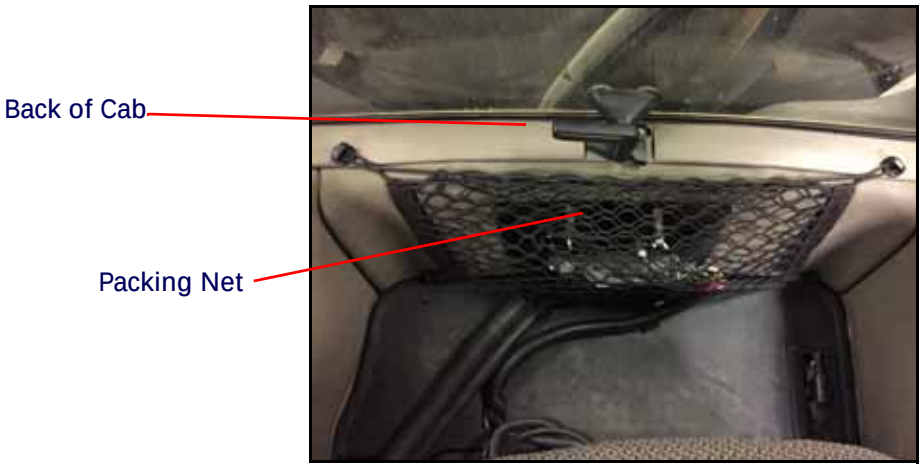
- Do not connect battery leads until all cables are installed and connected.
- Route chassis cabling along existing cabling or plumbing to help avoid pinch points or stretching the cable during normal equipment operation.

CABLE ROUTING

FOR CLASS 3XX0 MACHINES

1. Remove the packing net located near the floor at the back of the cab.

FIGURE 1. Packing Net



2. Take off the wing nuts securing the SmarTrax node and mounting plate (if applicable) to the back of the cab.
3. Lay the SmarTrax note and mounting plate to the side. Keep the node connected to the cabling.

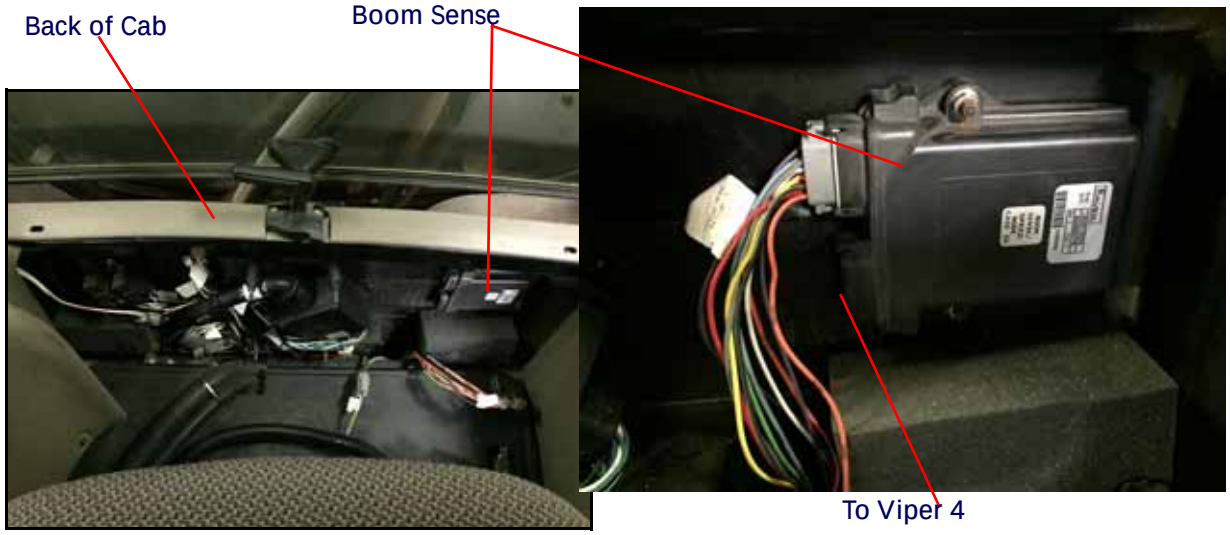
FIGURE 2. SmarTrax Node on Mounting Plate

4. Remove the two standoffs that supported the mounting plate.
5. Remove the cover plate.
6. Loosen the four quarter-turn knobs that secure the back panel to the back of the cab.

FIGURE 3. Quarter-Turn Latches for Back Panel

7. Locate the boom sense node.

FIGURE 4. Boom Sense Node



8. Remove the two nuts that secure the boom sense node to the back of the cab.
9. Install the new ISO boom sense node to the location the original boom sense node was mounted.
10. If using a Viper 4, complete the directions in the Viper 4 Cable Installation section below. If using a Pro 700, complete the information in the Pro 700 Cable Installation section below.

VIPER 4 CABLE INSTALLATION (CLASS 3XX0)

1. Disconnect gray connector from the original boom sense node and install it in the top jack on the new boom sense node.
2. Disconnect the black plug from the original boom sense node. This will not be used with the AIM Command FLEX installation.
3. Locate the black 12-pin connector on the 115-7303-115 cable and connect it to the bottom jack on the boom sense node.
4. Route the seven pin plug on the 115-7303-115 to the back of the Viper 4 and connect it to port 5.
5. Locate the cable feed through in the back cab window.

FIGURE 5. Feed Through in Back Window

6. Route the four-pin can connector out of the cab towards the rear of the sprayer. This will connect to the ECU cable (115-7303-083).
7. Reinstall the back panel, cover, SmarTrax node (if applicable) and package net.

PRO 700 CABLE ROUTING (CLASS 4XX0)

1. Disconnect both connectors from the original boom sense node and connect them to the new boom sense node.

NOTE: The 115-7303-115 cable will not be used in installations using a Pro 700.

FOR CLASS 4XX0 MACHINES

1. Lift the instructional seat cushion and remove any contents.

FIGURE 6. Instruction Seat

2. Remove the plastic compartment.

3. Locate the boom speed node near the back wall of the cab.

FIGURE 7. Boom Speed Node

4. Install the new ISO boom sense node to the location the original boom sense node was mounted.
5. If using a Viper 4, complete the directions in the Viper 4 Cable Installation section below. If using a Pro 700, complete the information in the Pro 700 Cable Installation section below.

VIPER 4 CABLE INSTALLATION (CLASS 4XX0)

1. Disconnect gray connector from the original boom sense node and install it in the gray receptacle on the new boom sense node.
2. Disconnect the black plug from the original boom sense node. This will not be used with the AIM Command FLEX installation.
3. Connect the black 12-pin connector on the 115-7303-115 cable and connect it to the black receptacle on the boom sense node.
4. Remove the rear vent cover at the back of cab.

FIGURE 8. Vent Cover

5. Route the remaining connectors on the 115-7303-115 cable to the right side of the cab.
6. Disconnect gray connector from the original boom sense node and install it in the top jack on the new boom sense node.
7. Disconnect the black plug from the original boom sense node. This will not be used with the AIM Command FLEX installation.
8. Connect the black 12-pin connector on the 115-7303-115 cable and connect it to the bottom jack on the boom sense node.
9. Route the seven pin plug on the 115-7303-115 to the back of the Viper 4 and connect it to port 5.
10. Locate the cable feed through in the back cab window.

FIGURE 9. Feed Through in Back Window

11. Route the four-pin can connector out of the cab towards the rear of the sprayer. This will connect to the ECU cable (115-7303-083).
12. Reinstall the back panel, cover, SmarTrax node (if applicable) and package net.

PRO 700 CABLE ROUTING FOR CLASS 4XX0 MACHINES

1. Disconnect the boom sense connectors from the original boom sense node and connect them to the new boom sense node.
2. Reinstall the back panel, cover, SmarTrax node (if applicable) and package net.

NOTE: The 115-7303-115 cable will not be used in installations using a Pro 700.

CHAPTER 6 ISOBUS ECU MOUNTING AND CONNECTION

PRODUCT CONTROLLER II ECU INSTALLATION

BEST PRACTICES AND RECOMMENDATIONS

- Do not connect battery leads until all cables are installed and connected.
- If a protected mounting location is not available on the equipment, mount the AIM Command FLEX product controller II ECU with the connectors facing down toward the ground to help keep moisture from accumulating in the ECU.

MOUNTING PLATE PREPARATION

FIGURE 1. AccuBoom Node

1. Locate the existing AccuBoom node.

NOTE: If the machine does not have AccuBoom, install the provided bracket.

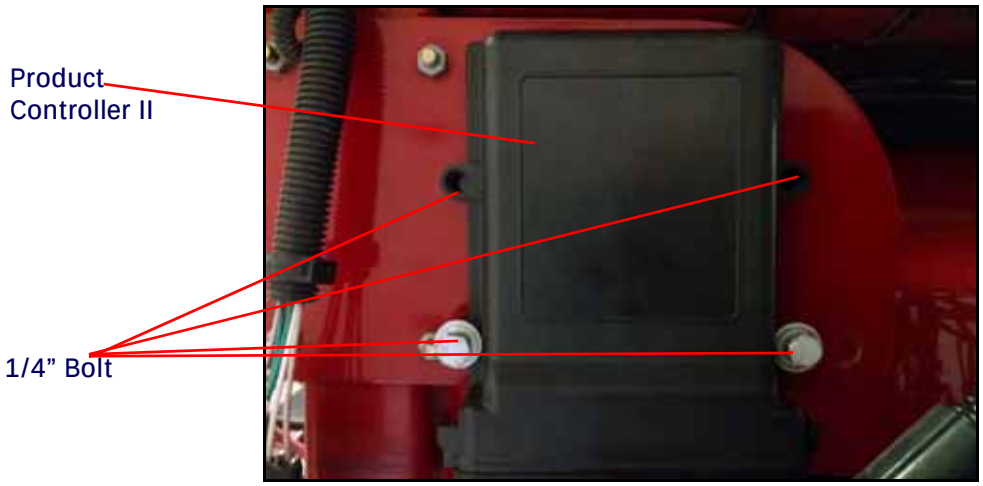
2. Use a socket to remove the three bolts that secure the existing AccuBoom node to the mounting plate.

NOTE: Do not disconnect cables from the node at this time.

3. Use a 1/4" bolt provided with the kit to secure one side of the product controller II ECU to the one of the original AccuBoom node mounting holes. Ensure that the top edge of the product controller II ECU is parallel to the top edge of the mounting plate.
4. Mark the hole locations for the remaining three remaining mounting holes for the product controller II ECU.
5. Remove product controller II ECU.
6. Drill 5/16" holes at the locations marked in step 4.

7. Install the product controller II ECU to the mounting plate using the 1/4" bolts, nuts, and washers provided.
8. Disconnect and remove the AccuBoom harness.

FIGURE 2. Electrical Box Assembly.

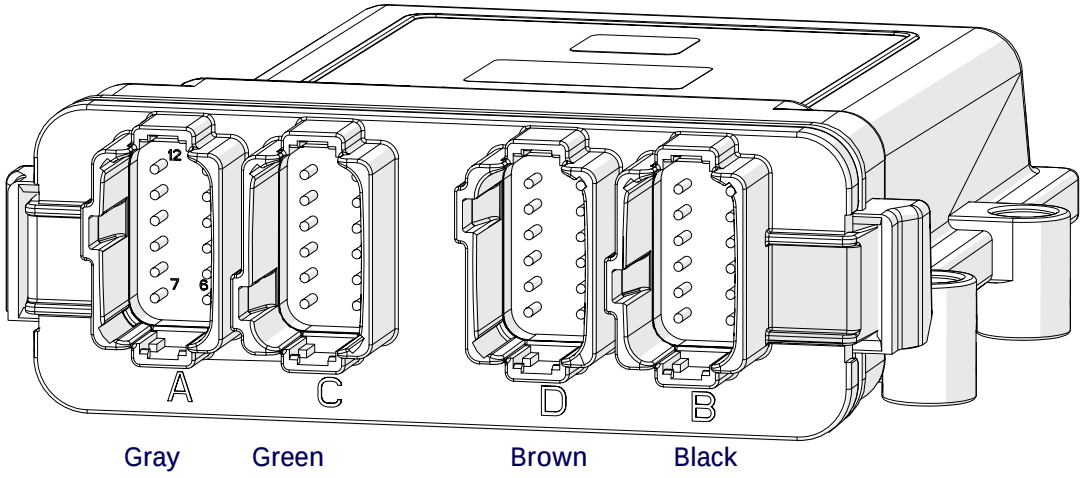


RETROFIT CABLE INSTALLATION

1. Locate the AIM Command FLEX ECU harness (115-7303-083).
2. Connect the four large plugs (gray, green, brown, black) on the AIM Command FLEX ECU cable to the bottom of the product controller II as shown in Figure 3 on page 26.

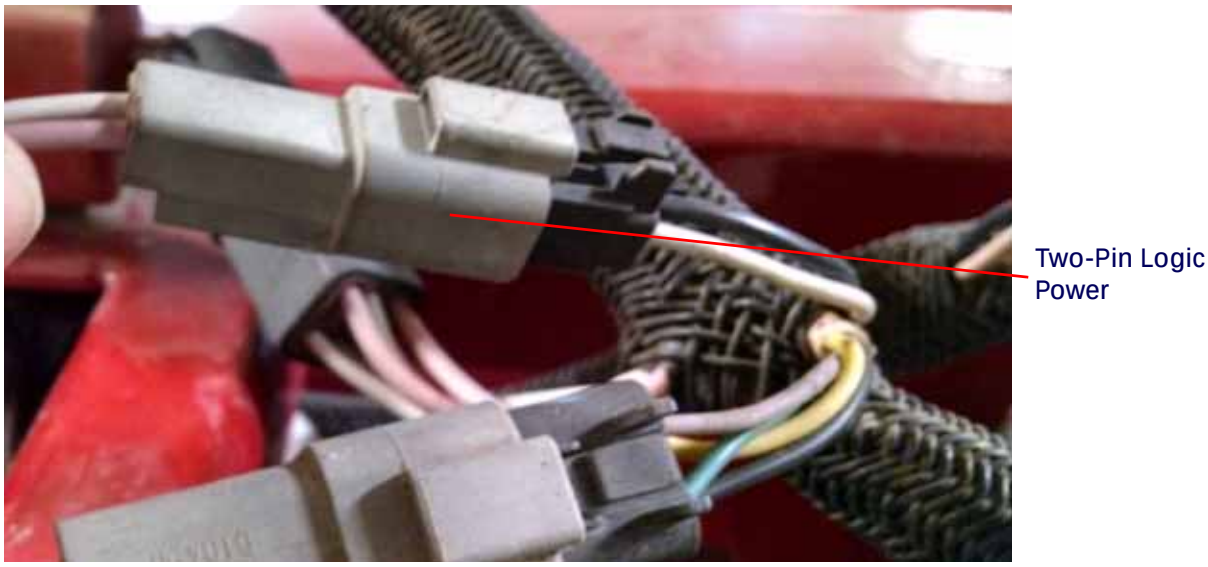
NOTE: Press firmly to ensure that the connectors latch into place.

FIGURE 3. Product Controller II ECU Connections



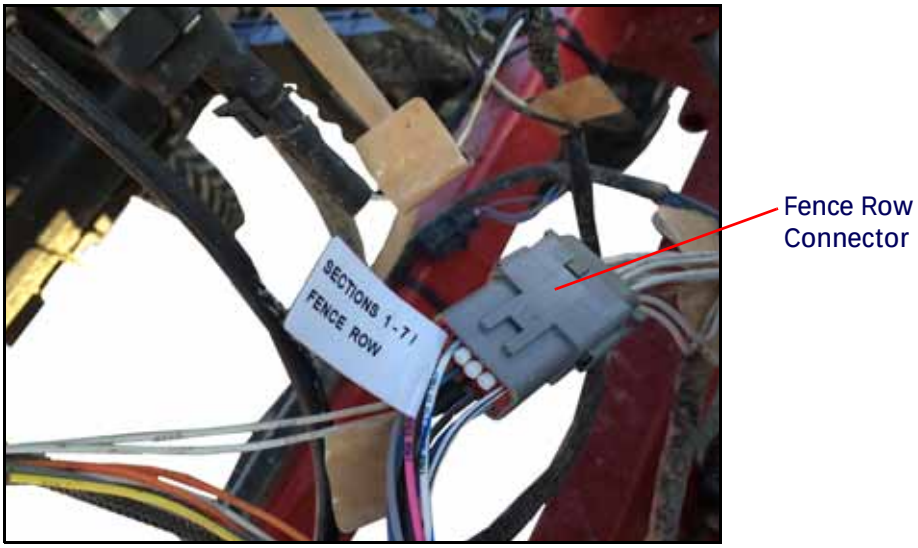
3. Connect the two-pin logic power receptacle and plug to gray connectors on the machine harness.

FIGURE 4. Two-Pin Logic Power



4. Locate the 12-pin gray connector labeled Sections 1-7/ Fence Row and connect it to the machine harness.

FIGURE 5. 12-Pin Fence Row Connector



5. If using a V4, locate the four-pin plug on the CAN tee cable (115-7303-115) that was routed out of the cab in Section 5 and connect the mating CAN connector to the 115-7303-083 harness.

   If using Pro 700, connect the Can Tee on the -083 between the 4-pin connection shown in Figure 4 on page 27.

FIGURE 6. Four-Pin from ECU Harness

6. Locate the 19-pin plug from the right primary cable installed in Section 4, Nozzle Control Valve Installation.
7. Connect the 19-pin plug to the mating receptacle of the AIM Command FLEX ECU harness (115-7303-083).

FIGURE 7. Boom Cable Connections

8. Locate the 19-pin plug from the left primary cable installed in Section 4, Nozzle Control Valve Installation.
9. Connect the 19-pin plug to the mating receptacle of the AIM Command FLEX ECU harness (115-7303-083).
10. Locate the two 12-pin mini deutsch receptacles on the AIM Command FLEX ECU harness (115-7303-083) and route them over the center rack and towards the cab.

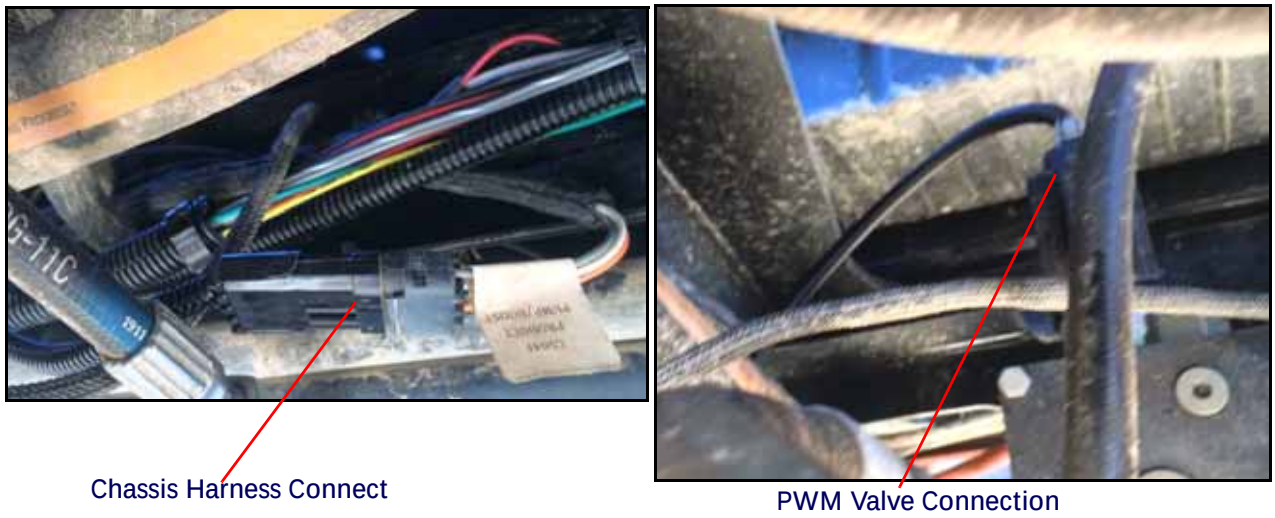
NOTE: Follow existing cables and power wires.

11. Locate and disconnect the existing black and gray single product node connections.
12. Connect the 12-pin mini-deutsch receptacles to the black and gray plugs that were connected to the original single product node.

FIGURE 8. 12-Pin Mini Receptacles

13. Locate the machine boost box located near the single product node.
14. Un-install the boost box from the machine. One end is connected to the PWM valve and the other end is connected to the machine chassis harness.

FIGURE 9. Installed Boost Box



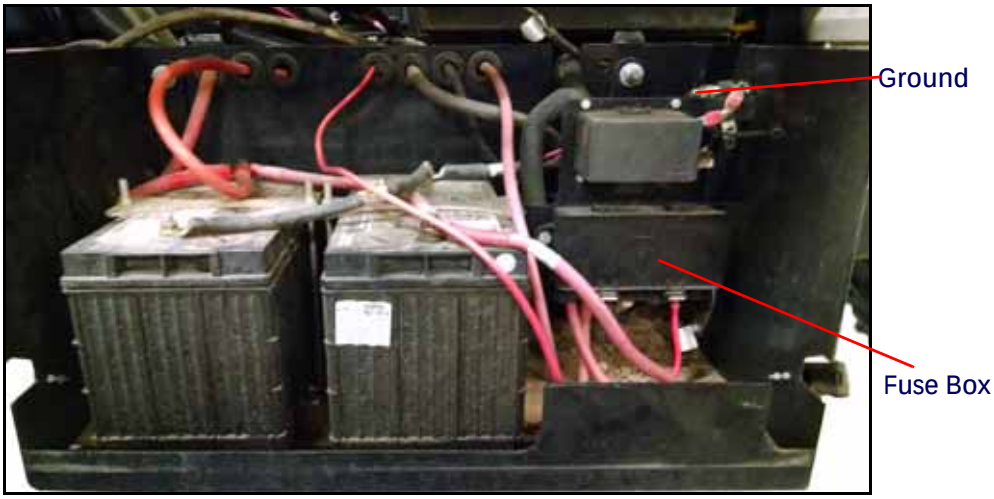
15. Install the115-7303-146 as a jumper to replace the boost box wiring.

ELECTRICAL CONNECTION

1. Connect the black ground cable from the AIM Command FLEX power cable (115-7303-082) to the main disconnect on the inside of the battery box.

NOTE: You may need to install a 60 Amp fuse.

FIGURE 10. Fuse Box and Ground Installation



2. Route the AIM Command FLEX power cable to the left frame-rail and towards the rear of the sprayer.

NOTE: Follow existing hoses and wires.

3. Connect the eight-pin plug to the receptacle on the AIM Command FLEX ECU cable (115-7303-083).
4. Connect positive cable from the AIM Command FLEX power cable (115-7303-082) to an available breaker in the breaker box.
5. Secure to the sprayer chassis with cable ties.

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.

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RAVEN

Extended Warranty

What Does this Warranty Cover?

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

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

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

Where Can I Register My Product for the Extended Warranty?

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

How Long is the Extended Warranty Coverage Period?

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

How Can I Get Service?

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

What Will Raven Industries Do?

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

What is Not Covered by the Extended Warranty?

Raven Industries will not assume any expense or liability for repairs made outside our facilities without written consent. Raven Industries is not responsible for damage to any associated equipment or products and will not be liable for loss of profit, labor, or other damages. Cables, hoses, software enhancements, and remanufactured items are not covered by this Extended Warranty. The obligation of this warranty is in lieu of all other warranties, expressed or implied, and no person or organization is authorized to assume any liability for Raven Industries.

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