Viper Pro™ Retrofit for AGCO Air Spread Machines Installation Guide

P/N 016-0171-541 B 03/16

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Overview

The following instructions are intended to assist with the procedure to replace a Falcon console on AGCO Air Spread equipment and associated cabling with a Raven Viper Pro field computer.

Materials

The following components will be required to complete the procedures outlined in this document:

Description	Part Number
Field Computer, Viper Pro	063-0172-879
Cable, Viper Pro Console	115-0172-001
Bracket, A-Post Mounting	107-0171-415
Cable, Chassis	115-0171-915
Node, Product Controller	063-0173-449
Cable, Product Controller Node Harness	115-0172-071
Kit, Product Controller Node Mounting	117-0171-299

Note: If needed, contact a local Raven dealer for additional information and assistance. The above list of components may vary depending upon the year and model, or if aftermarket equipment has been installed with the factory system.

Preparation

- 1. Disconnect the AGCO Falcon console and associated cabling in the equipment cabin.
- 2. Dismount the console and associated mounting components.
- 3. Remove the valve block harness (AGCO P/N 514063D1).
- 4. Remove the Falcon console and set aside.

Retrofit Kit Installation

Install the Viper Pro Field Computer

Note: Refer to the Viper Pro Installation and Operation Manual for additional information on mounting the field computer.

- 1. Mount the Viper Pro inside the vehicle cabin using the A-post mounting bracket (P/N 107-0171-415).
- 2. Connect the console cable (P/N 115-0172-001) to the Viper Pro and route to the floor of the cabin.

Connect the Raven Chassis Cable



Cabin Access Port Cabin Pass-Through

Cabin Pass-Through

 Connect the chassis cable (P/N 115-0171-915) to the equipment battery and route along the equipment frame and underneath the operator cabin. Route the cable to the rear, right corner of the cabin.

- 2. Remove the electrical access panel from the rear, right corner of the operator cabin and route the connector labeled "To Cab Cable" through the pass-through into the cabin.
- 3. Continue routing the "To Cab Cable" through a second pass-through to reach into the operator cabin and connect to the console cable.

Connect a Raven Product Controller Node

Mount the Product Controller Node (P/N 063-0173-449)

1. Using a node mounting kit (P/N 117-0171-299), install a Raven product controller node (P/N 063-0173-449) to the surface of the product bin. It is recommended to mount the product controller node just behind the operator cabin toward the right side of the machine. **Controller Node Mounting**



Connect the Product Controller Node Harness (P/N 115-0172-071)

Important: Valve, sensor, and encoder connectors on the product controller node harness are labeled with specific product numbers. To properly control the equipment after installation, be sure to route these connections to the control hardware for the appropriate product, or bin, on the machine. Bin 1 is located toward the front of the machine.

- 1. Locate the large 16-pin connectors on the product controller node harness and chassis cable.
- 2. Disconnect the 16-pin CAN terminator from the chassis cable 16-pin connector.
- 3. Connect the product controller node harness to the chassis cable.

Master

- 4. Replace the 16-pin CAN terminator to the remaining 16-pin connector on the node harness.
- 5. Locate the hydraulic valve block on the front, left of the Air Spread bed.
- 6. Locate the master solenoid at the top of the valve block.
- 7. Route and connect the directional coil labeled "Master" to the master solenoid.
- 8. Locate the control solenoids along the center of the valve block.
- Route and connect the product control valve connectors to the appropriate control valve solenoid.
- **Note:** Recall that bin 1 is located toward the front of the machine.
- 10.Locate the directional solenoids at the bottom of the valve block.

Directional

Solenoids

- 11. Route and connect the remaining direction coil connectors to the directional solenoids. Belt direction may be changed by switching the inner and outer connectors on the solenoid.
- 12.Locate the bin level sensors along the right side of the Air Spread bed.
- 13.Route and connect the appropriate bin level

sensor connectors on the node harness to the bin level sensors. **Note:** Recall that bin 1 is located toward the front of the machine.

14.Locate the product encoders along the right side of the Air Spread bed.

15. Route and connect the appropriate encoder connectors on the node harness to the encoders.



Hvdraulic Valve Block

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Outer

Connector

Connector

Inner

- 16.Locate the vertical auger at the left, rear of the machine.
- 17.Route and connect the "Vertical Auger" connector to the vertical auger.
- 18.Locate the fan speed or RPM sensor at the rear of the machine near the fan.
- 19.Route and connect the "Fan RPM Sensor" connector to the fan speed sensor.
- 20.Locate the Section Control Air Box at the right, rear of the machine.
- 21.Route the "Section Shutoff Air Valve" connectors on the node harness to the air box.
- 22.Disconnect the AGCO bulkhead connector at the Section Control Air Box and reconnect the bulkhead connector to the node harness.
- 23.Connect the remaining node harness connector to the air box.
- 24.Locate the large, rectangular connectors on the node harness.
- 25.Route and connect the rectangular connectors to the product controller node.
- 26.Locate the 12-pin Deutsch connector at the right, rear of the machine below the Section Control Air Box.
- 27.Remove the cap and connect the jumper included with the node harness.

Vertical Auger Connection



Section Control Air Box



Deutsch Connector with Jumper



Node Setup

Configure the product node for the Air Spread machine.

- 1. Navigate to the valve calibration input.
- 2. Enter calibration number. Refer to the calibration number table to determine the appropriate four digit calibration number.

Table 1: Valve Calibration Input Table

First Digit	Second Digit	Third Digit	Fourth Digit
9	1 for Air Spread	2 for Air Spread standard logic	the number of products (1 - 9)
	3 for Air Max	3 for Air Spread inverted logic	
		8 for Air Max standard logic	
		9 for Air Max inverted logic	

Air Max Examples

- Setting the product 1 valve cal value to 9322 sets control mode to gran 3, Air Max standard logic, 2 products after restart.
- Setting the product 1 valve cal value to 9382 sets control mode to gran 2, Air Max standard logic, and 2 products after restart.
- Setting the product 1 valve cal value to 9392 sets control mods to gran 3, Air Max inverted logic, and 2 products after restart.

Air Spread Examples

- Setting the product 1 valve cal value to 9124 sets the control mode to gran 1, Air Spread standard logic, and 4 products after restart.
- Setting the product 1 valve cal value to 9134 sets control mode to gran 1, Air Spread to inverted logic, and 4 products after restart.

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 when used for intended purpose.

How Long is the Coverage Period?

Raven Applied Technology Division 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 with 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 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.

RAVEN RAVEN INDUSTRIES 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 with 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.