

Raven RCM

Harness Solutions



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SureFire Harness Layout for RAVEN RCM

SureFire recommends buying a Raven RCM Adapter Harness from SureFire that will connect directly to the three connectors on the Raven RCM Controller. For 3 –5 product systems, SureFire only offers harnesses that connect directly to the Raven RCM. This method will NOT use the Raven main ECU to 47-Pin harness (115-7301-010).

Footswitch & ISO Extensions

(Purchase from SureFire)

Designed to integrate with many ISOBUS virtual terminals, The Raven RCM's connection starts at the tractor's ISO-BUS connection. Power and information is relayed to the Raven RCM using a SureFire Front ISO Extension which includes a foot switch and CAN bus connections. Already using the tractor ISO-BUS? No Problem. SureFire's ISOBUS Y harnesses can be found on page 25.

Raven RCM & Adapter Harness

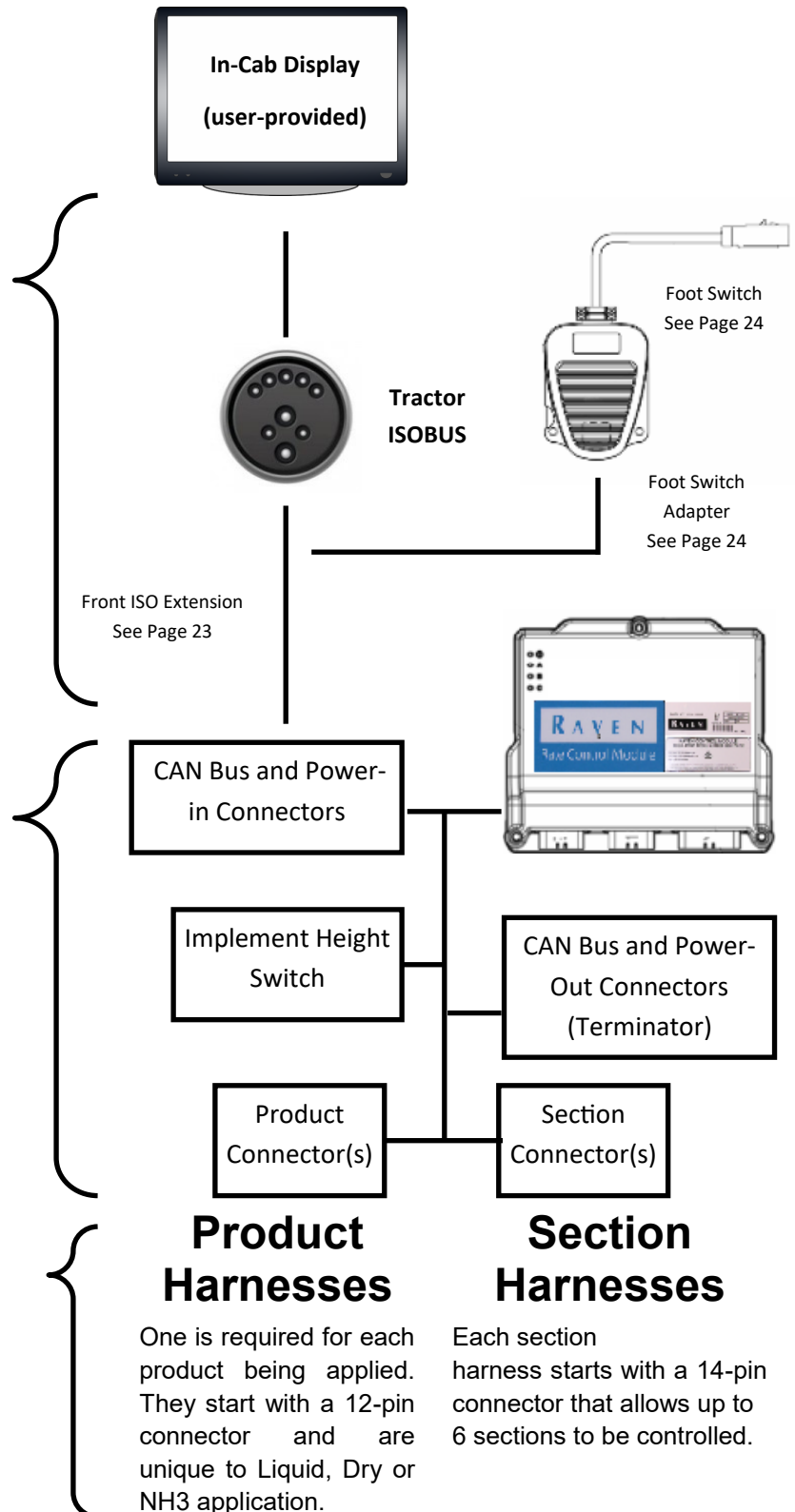
(purchase from SureFire)

These harnesses connect the CAN bus to the Raven RCM. Each harness will go directly to 12-pin product connectors and 14-pin section connectors. SureFire offers many different Raven RCM Adapter Harnesses built for a specific single-product or multi-product systems.

Final Harnesses

(purchase from SureFire)

Final Harnesses connect the Raven RCM Adapter Harness to pump drivers, flowmeters, hydraulic motors, speed sensors, pressure sensors, valves and any other components in a liquid, dry or NH3 application system.



Product Harnesses

One is required for each product being applied. They start with a 12-pin connector and are unique to Liquid, Dry or NH3 application.

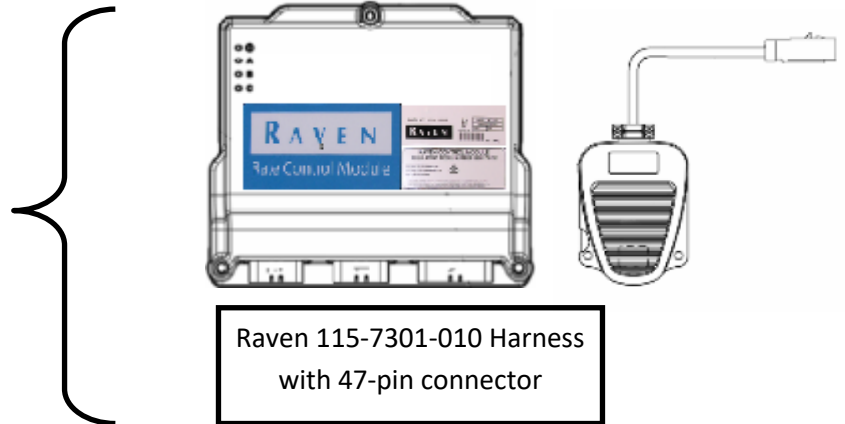
Section Harnesses

Each section harness starts with a 14-pin connector that allows up to 6 sections to be controlled.

Optional SureFire Harness Layout for RAVEN RCM / 1-2 products

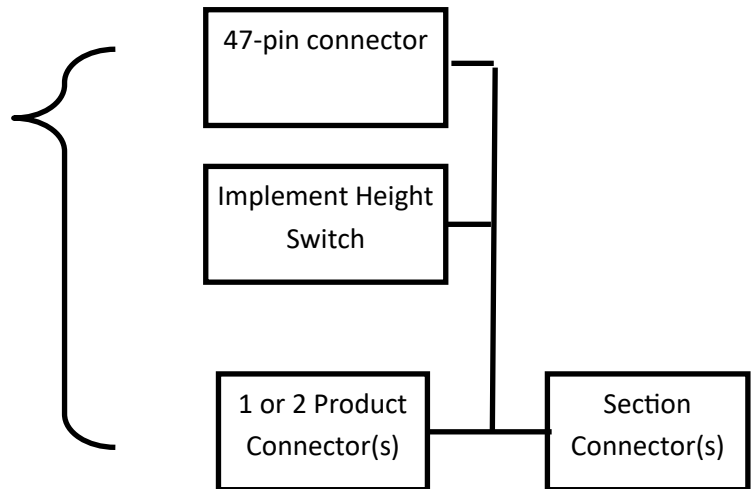
If a customer has already purchased a Raven Main ECU Harness (115-7301-010), SureFire also offers adapter harnesses that will start at the 47-pin connector. These 47-pin adapters only support 1 or 2 product systems. For 3-5 product systems you must use a SureFire adapter that attaches directly to the Raven RCM. **SureFire recommends Surefire adapter harnesses that attach directly to the Raven RCM (see previous page).**

**Raven RCM,
Harness &
Footswitch**
(purchase from SureFire)



**Raven RCM 47-pin
Adapter Harness**
(purchase from SureFire)

These harnesses connect to the 47-pin connector on the Raven RCM harness. The 47-pin connector only supports 1 or 2 products. Therefore, SureFire only uses the 47-pin connector for 1 or 2 product systems.



**Final
Harnesses**
(purchase from SureFire)

Final Harnesses connect the Raven RCM Adapter Harness to pump drivers, flowmeters, hydraulic motors, speed sensors, pressure sensors, valves and any other components in a liquid, dry or NH3 application system.

**Product
Harnesses**

One is required for each product being applied. They start with a 12-pin connector and are unique to Liquid, Dry or NH3 application.

**Section
Harnesses**

Each section harness starts with a 14-pin connector that allows up to 6 sections to be controlled.

RAVEN RCM Direct to 1 Liquid/Dry Product

RAVEN RCM
Direct
Adapters

213-00-3417Y2

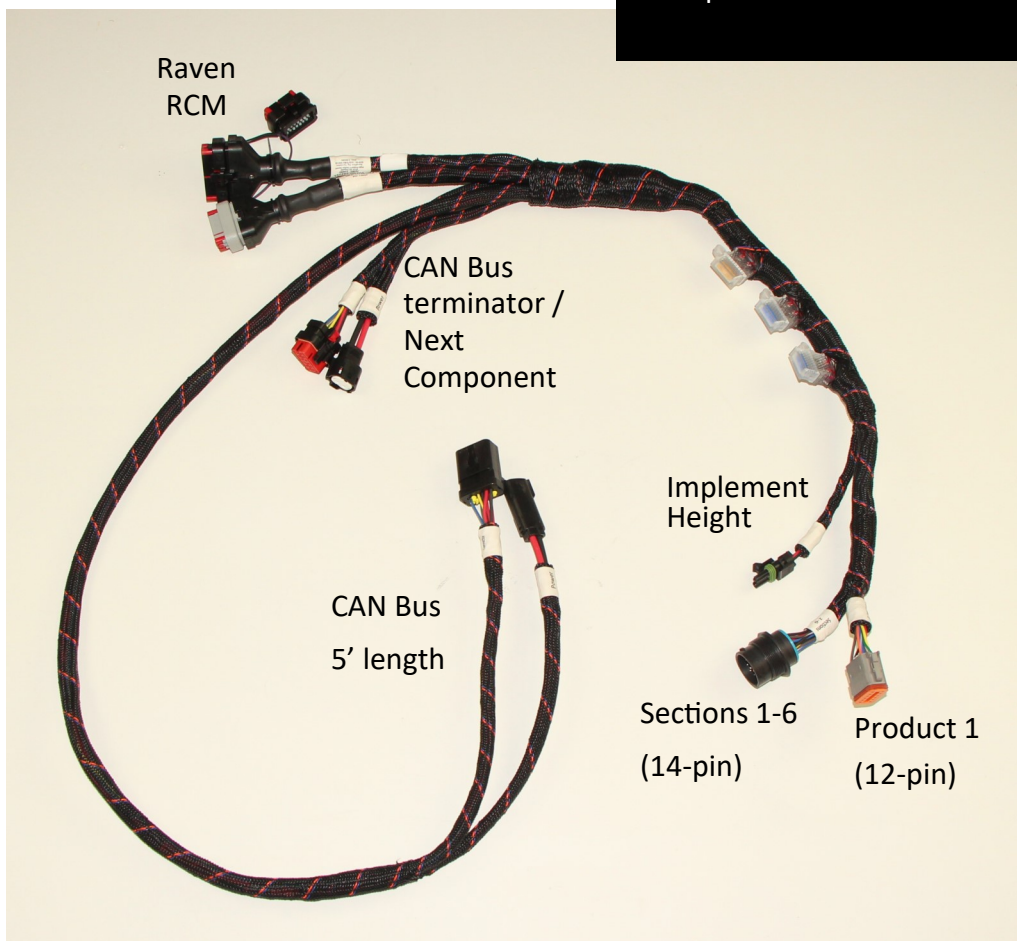
This is a very simple and common harness to operate a single liquid or dry product on the Raven RCM. It has capability to operate up to 6 section valves. This harness connects directly to the Raven RCM and the CAN bus.

Profile: Generic, Liquid Fert Tool

	Type	Sections
Product 1:	Liquid/Dry	1-6
Product 2:	None	
Product 3:	None	
Product 4:	None	

Also connects:

- Implement lift switch



Commonly Ordered With:

207-3462Y1 Final Cable for SureFire Liquid Pump System (pwm, flow, pres., pump rpm, fill flow)

207-3463Y1 14-pin 6 Section Final Cable (6 sections, flow return, pressure)

KITS: (include: adapter harness (213-00-3417Y2), related manual, and QuickStart Card)

231-03-090100 Tower Kit

231-03-090120 PumpRight Kit

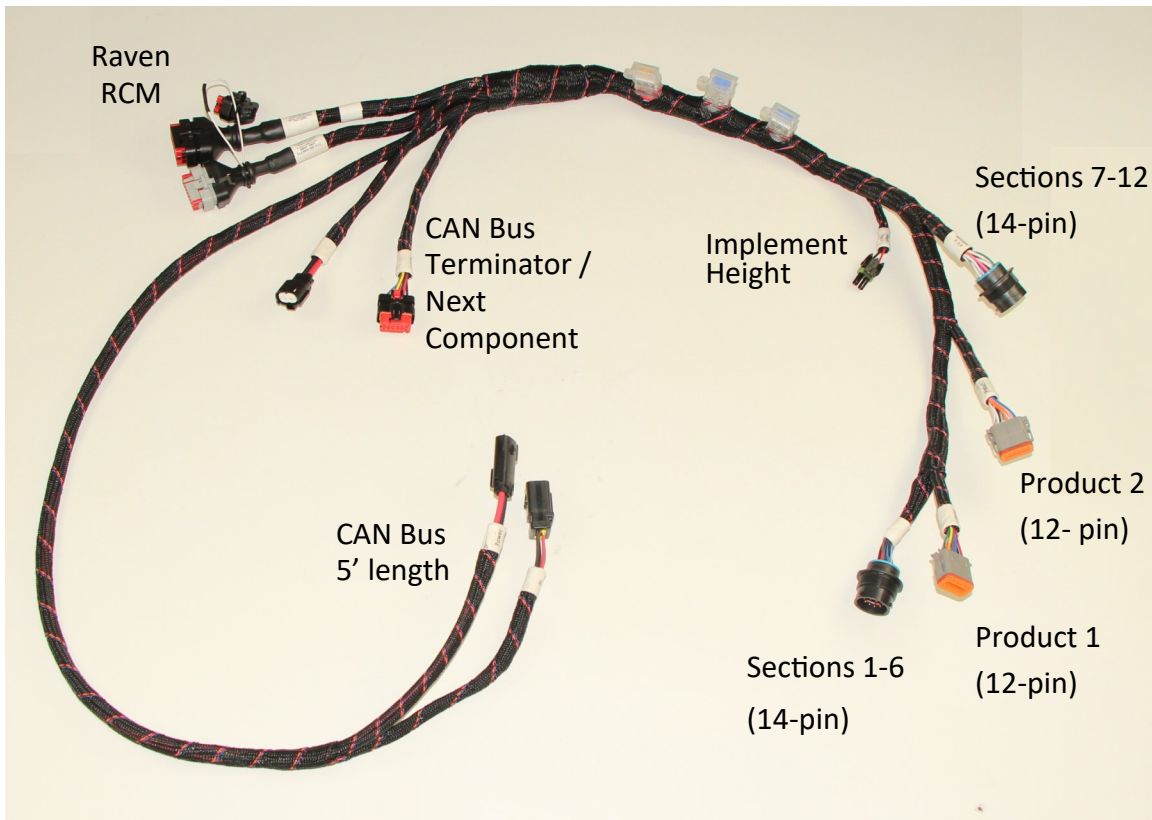
RAVEN RCM Direct to 2 Liquid/Dry Products

RAVEN RCM
Direct
Adapters

213-00-3467Y2

This harness operates a dual product system on the Raven RCM. The products can be liquid or dry. It has capability to operate up to 12 section valves. These can be split evenly with 6 for each product or you could use all 12 on one product and share them with the second product. This harness connects directly to the Raven RCM and the CAN bus.

Profile:	Generic	
	Type	Sections
Product 1:	Liquid/Dry	1-6
Product 2:	Liquid/Dry	7-12
Product 3:	None	
Product 4:	None	
Also connects:	<ul style="list-style-type: none"> Implement lift switch 	



Commonly Ordered With:

207-3462Y1 Final Cable for SureFire Liquid Pump System (pwm, flow, pres., pump rpm, fill flow)

207-3463Y1 14-pin 6 Section Final Cable (6 sections, flow return, pressure)

KITS: (include: adapter harness (213-00-3467Y2), related manual, and QuickStart Card)

231-03-090200 Tower Kit

231-03-090220 PumpRight Kit

231-03-090240 Tower & PumpRight Kit

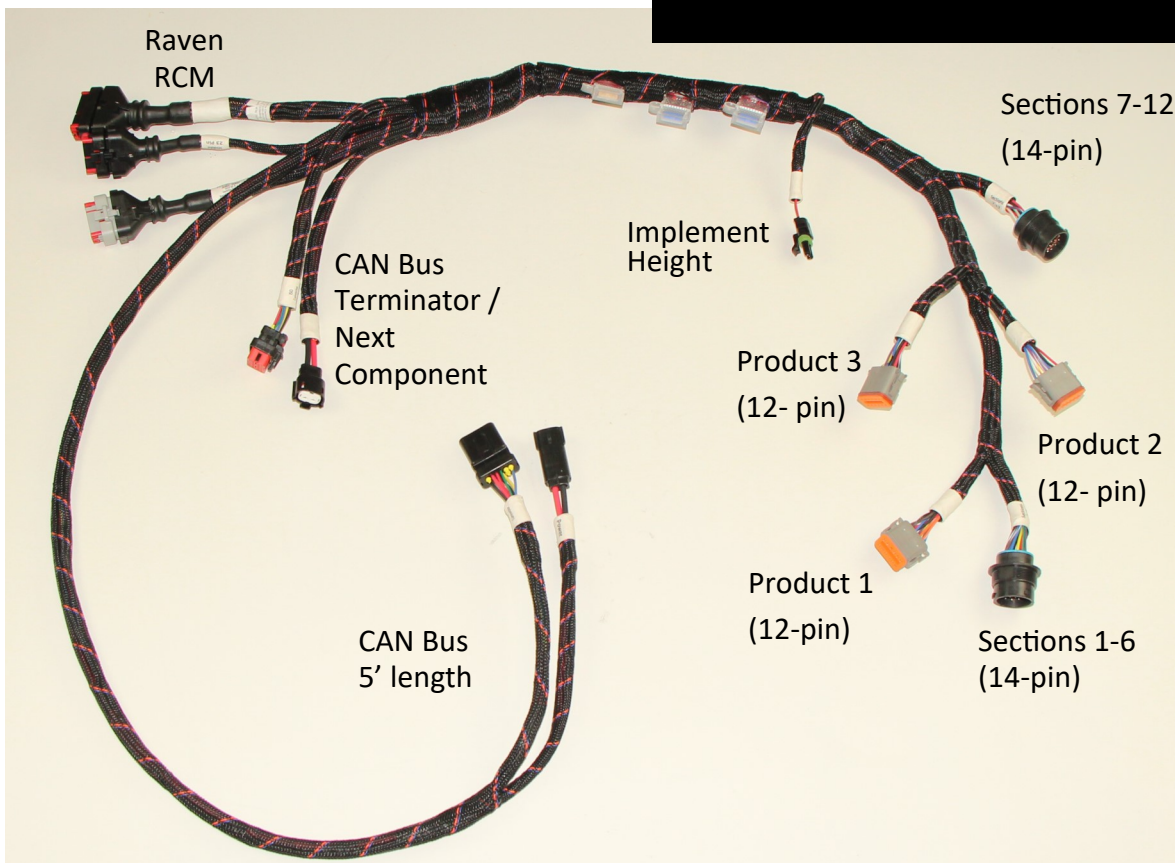
RAVEN RCM Direct to 3 Liquid/Dry Products

RAVEN RCM
Direct
Adapters

213-00-3517Y2

This harness operates up to a 3 product system on the Raven RCM. The products can be liquid or dry. It has 2 section valve connectors for up to 12 section valves total. The section valves can be split between the 3 products. In addition, product 3 also has section 13-14 in it's 12-pin connector. This harness connects directly to the Raven RCM and the CAN bus.

Profile:	Generic	
	Type	Sections
Product 1:	Liquid/Dry	1-6
Product 2:	Liquid/Dry	7-12
Product 3:	Liquid/Dry	13-14 or shared
Product 4:	None	
Also connects:	<ul style="list-style-type: none"> Implement lift switch 	



Commonly Ordered With:

207-3462Y1 Final Cable for SureFire Liquid Pump System (pwm, flow, pres., pump rpm, fill flow)

207-3463Y1 14-pin 6 Section Final Cable (6 sections, flow return, pressure)

KITS: (include: adapter harness (213-00-3517Y2), related manual, and QuickStart Card)

231-03-090300 Tower Kit

231-03-090320 PumpRight Kit

231-03-090340 Tower & PumpRight Kit

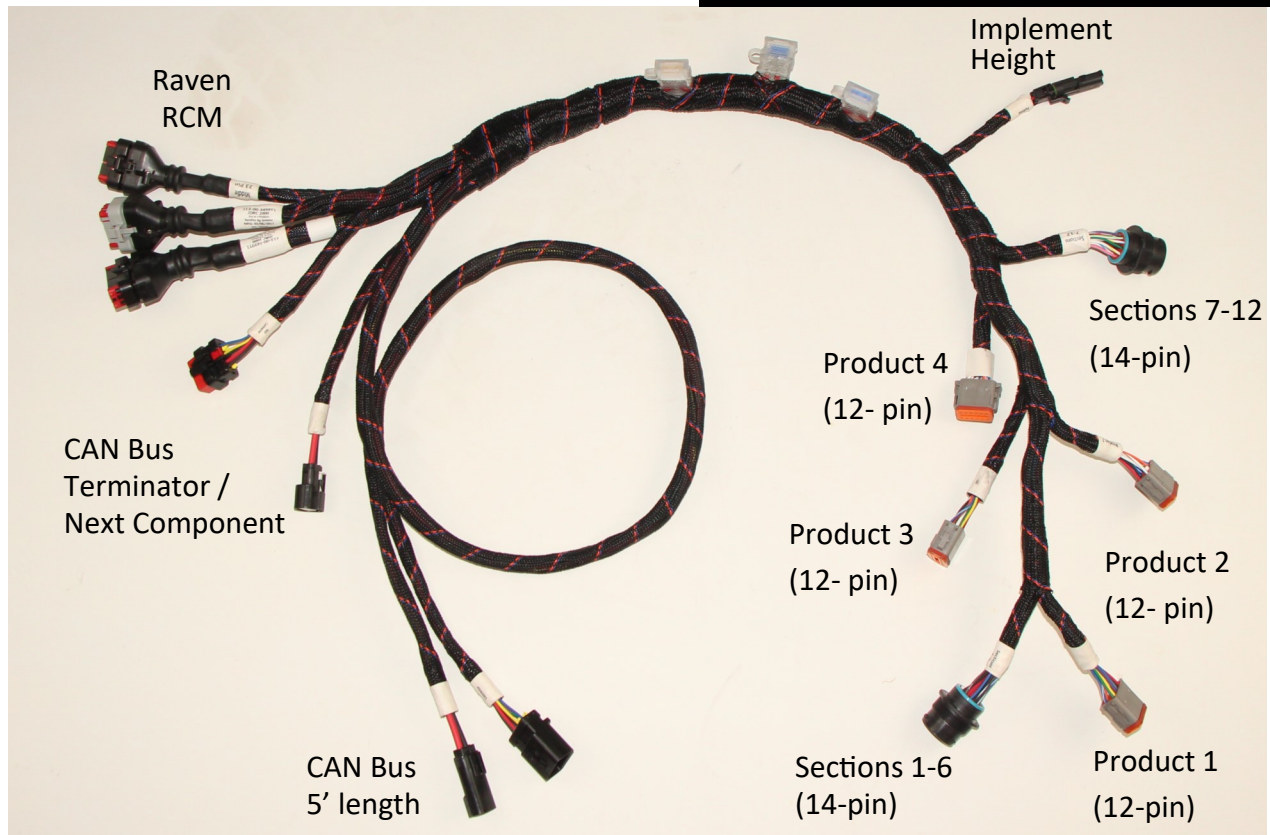
RAVEN RCM Direct to 4 Liquid/Dry Products

RAVEN RCM
Direct
Adapters

213-00-3499Y2

This harness operates up to a four product system on the Raven RCM. The products can be liquid or dry. It has 2 section valve connectors for up to 12 section valves. The section valves can be split between the 4 products. In addition, product 3 has sections 13-14 in it's 12-pin connector and product 4 has sections 15-16 in it's 12-pin connector. This harness connects directly to the Raven RCM and the CAN bus.

Profile:	Generic	
	Type	Sections
Product 1:	Liquid/Dry	1-6
Product 2:	Liquid/Dry	7-12
Product 3:	Liquid/Dry	13-14 or shared
Product 4:	Liquid/Dry	15-16 or shared
Also connects:	<ul style="list-style-type: none"> Implement lift switch 	



Commonly Ordered With:

- 207-3462Y1 Final Cable for SureFire Liquid Pump System (pwm, flow, pres., pump rpm, fill flow)
- 207-3463Y1 14-pin 6 Section Final Cable (6 sections, flow return, pressure)

KITS: (include: adapter harness (213-00-3499Y2), related manual, and QuickStart Card)

- 231-03-090400 Tower Kit
- 231-03-090420 PumpRight Kit
- 231-03-090440 Tower & PumpRight Kit

RAVEN RCM Direct to NH3

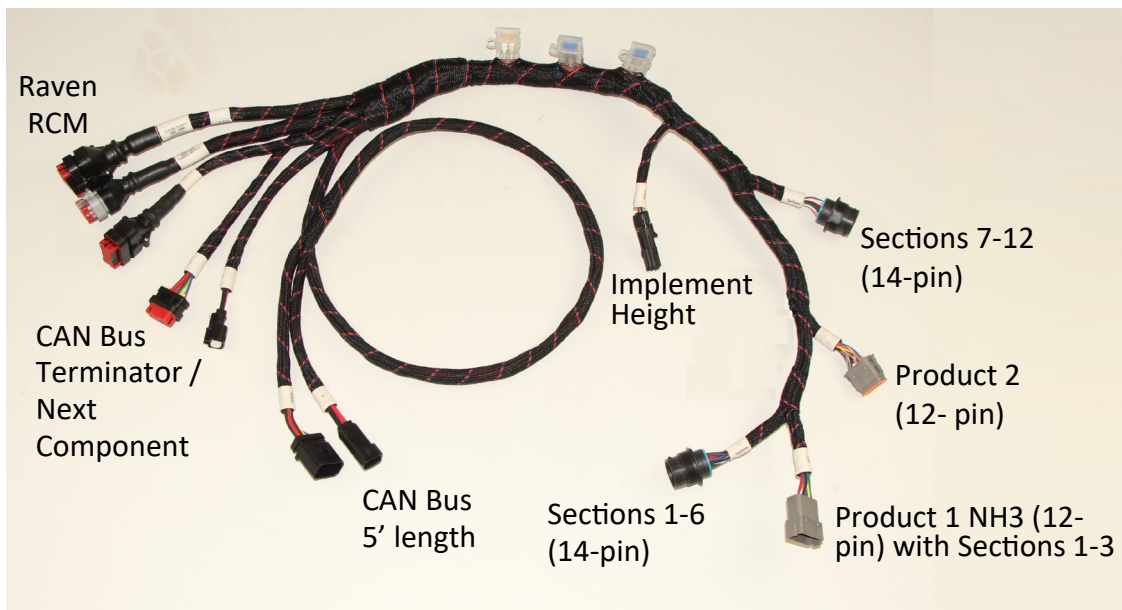
RAVEN RCM
Direct
Adapters

+ 1 Liquid/Dry Product

213-00-3816Y1

This harness operates up to a 2 product system on the Raven RCM. **Product 1 must be used for NH3.** Product 2 can be liquid or dry. It has 2 section valve connectors for up to 12 section valves total. Sections 1-6 can only be used for NH3. Sections 7-12 can be used for product 2. This harness connects directly to the Raven RCM and the CAN bus.

Profile:	NH3	
	Type	Sections
Product 1:	NH3	1-6
Product 2:	Liquid/Dry	7-12
Product 3:	None	
Product 4:	None	
Also connects:		
	• Implement lift switch	



Commonly Ordered With:

207-3494Y1 or 207-3496Y1 12-pin Final Cable for SureFire Torpedo NH3 System

216-3590Y1 or 216-3606Y1 12-pin Final Cable for Raven NH3 System

207-3462Y1 Final Cable for SureFire Liquid Pump System (pwm, flow, pres., pump rpm, fill flow)

207-3463Y1 14-pin 6 Section Final Cable (6 sections, flow return, pressure)

216-3607Y1 14-pin 6 Section Raven Valve Final Cable (6 sections, flow return, pressure)

3463Y1 and 3607Y1 work for both liquid and NH3 section valves

KITS: (include adapter harness (213-00-3816Y1), related manual, and QuickStart Card)

231-03-092100 NH3 only

231-03-092200 NH3 & Spartan Kit

231-03-092220 NH3 & Tower Kit

231-03-092240 NH3 & PumpRight Kit

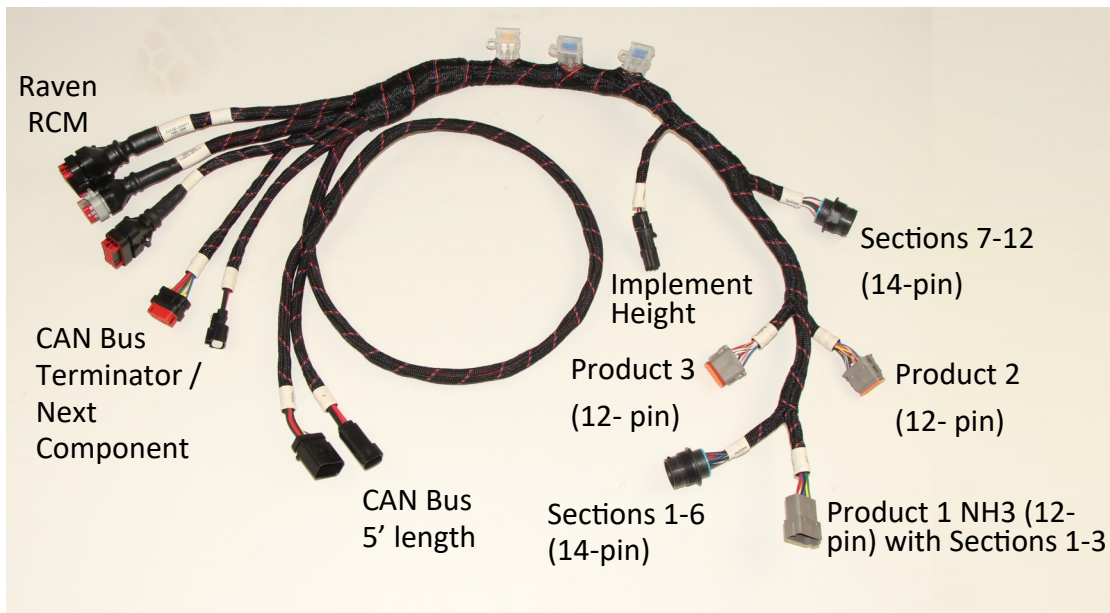
RAVEN RCM Direct to NH3 + 2 Liquid/Dry Products

RAVEN RCM
Direct
Adapters

213-00-3584Y1

This harness operates up to a 3 product system on the Raven RCM. **Product 1 must be used for NH3.** Products 2 & 3 can be liquid or dry. It has 2 section valve connectors for up to 12 section valves total. Sections 1-6 can only be used for NH3. Sections 7-12 can be used for product 2 & 3. Product 3 also has section 13-14 in it's 12-pin connector. This harness connects directly to the Raven RCM and the CAN bus.

Profile:	NH3	
	Type	Sections
Product 1:	NH3	1-6
Product 2:	Liquid/Dry	7-12
Product 3:	Liquid/Dry	13-14 or shared
Product 4:	None	
Also connects:	<ul style="list-style-type: none"> Implement lift switch 	



Commonly Ordered With:

- 207-3494Y1 or 207-3496Y1 12-pin Final Cable for SureFire Torpedo NH3 System
- 216-3590Y1 or 216-3606Y1 12-pin Final Cable for Raven NH3 System
- 207-3462Y1 Final Cable for SureFire Liquid Pump System (pwm, flow, pres., pump rpm, fill flow)
- 207-3463Y1 14-pin 6 Section Final Cable (6 sections, flow return, pressure)
- 216-3607Y1 14-pin 6 Section Raven Valve Final Cable (6 sections, flow return, pressure)
- 3463Y1 and 3607Y1 work for both liquid and NH3 section valves

KITS: (include adapter harness (213-00-3584Y1), related manual, and QuickStart Card)

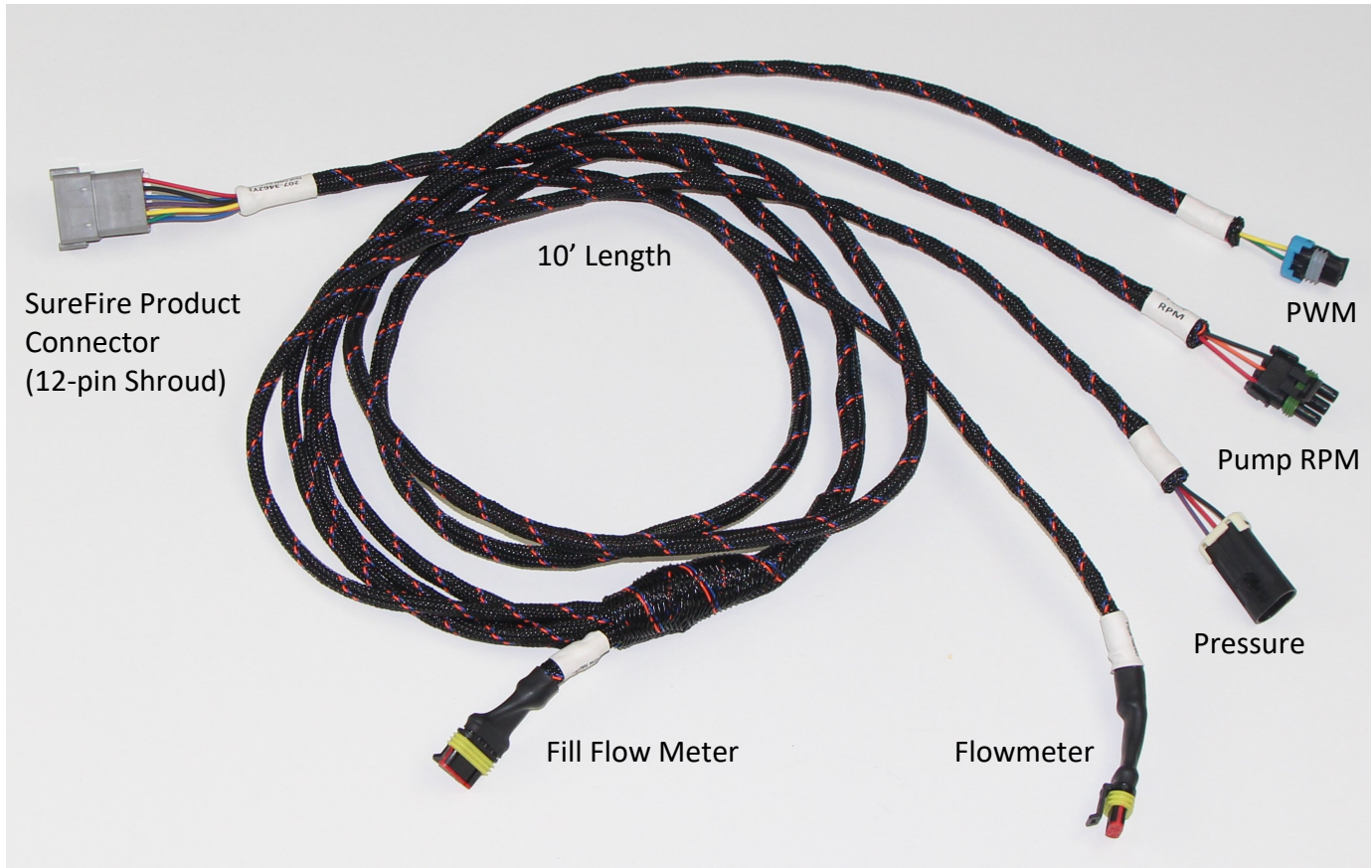
- 231-03-092300 NH3, Spartan & Tower Kit
- 231-03-092320 NH3, Spartan & PumpRight Kit
- 231-03-092340 NH3, Tower & PumpRight Kit

Final Cable for SureFire Liquid Pump System

Final
Product
Harnesses

207-3462Y1

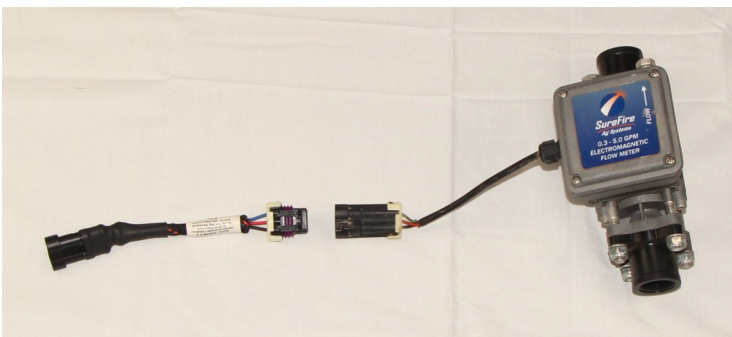
Use this final harness with SureFire Tower, PumpRight, Spartan and other systems. It attaches to the SureFire 12-pin product connector for any products 1-5 on the Raven RCM. Order one of these harnesses for each liquid system on the implement.



Flow Adapter—Amp Superseal to MP150 Flowmeter

201-3406Y1

Use this to adapt the new Superseal flow connector (used on 3462Y1 above) to an older SureFire meter or a Micro-Trak flowmeter that uses a MetriPack 150 connector. SureFire meters that require this adapter have a gray plastic body with a blue label.



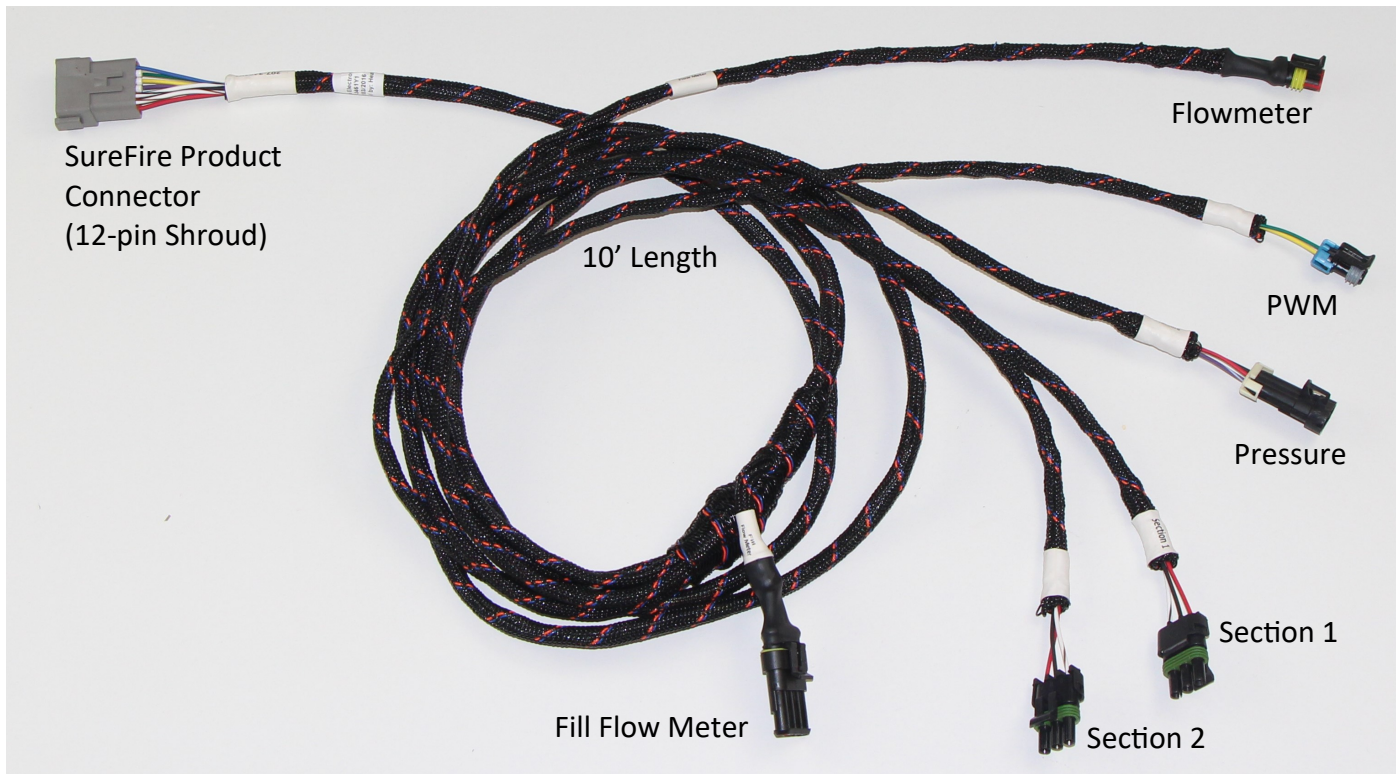
Final Cable for Tower with 1 or 2 Section Valves

Final
Product
Harnesses

207-3461Y1

Use this final harness with SureFire Tower and Catalyst systems. It attaches to the SureFire 12-pin product connector. This harness can also be used for any Tower Electric Pump System or Catalyst System with 1 or 2 section valves; this will eliminate the need for the 207-3463Y1 6-section harness.

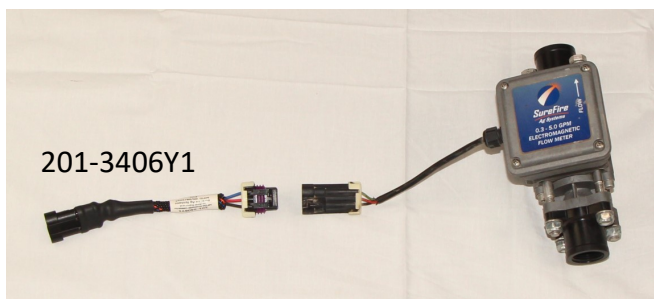
For 3 or more sections Catalyst system use the SureFire standard liquid harnessing.



Flow Adapter—Amp Superseal to MP150 Flowmeter

201-3406Y1

Use this to adapt the new Superseal flow connector to an older SureFire meter or a Micro-Trak flowmeter that uses a MetriPack 150 connector. SureFire meters that require this adapter have a gray plastic body with a blue label.

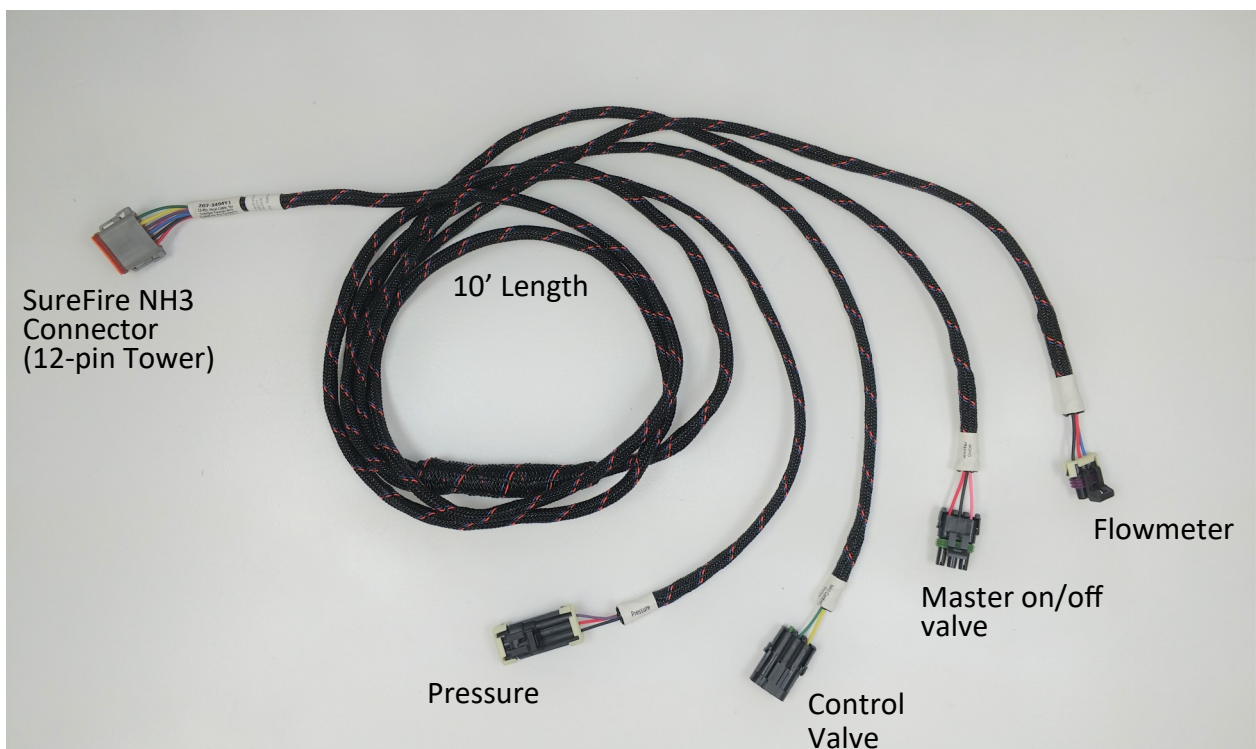


SureFire Torpedo NH3 Final Harness

Final
Product
Harnesses

207-3494Y1

Use this final harness with SureFire Torpedo for NH3 Application. This harness must be used in conjunction with a SureFire Raven RCM adapter harness specifically labeled for NH3 control on product 1; NH3 is always product 1 on the Raven RCM. This harness by itself is great for a Torpedo NH3 system with no section valves. It can also be combined with a 6-section final harness for a system with up to 6 NH3 section valves.

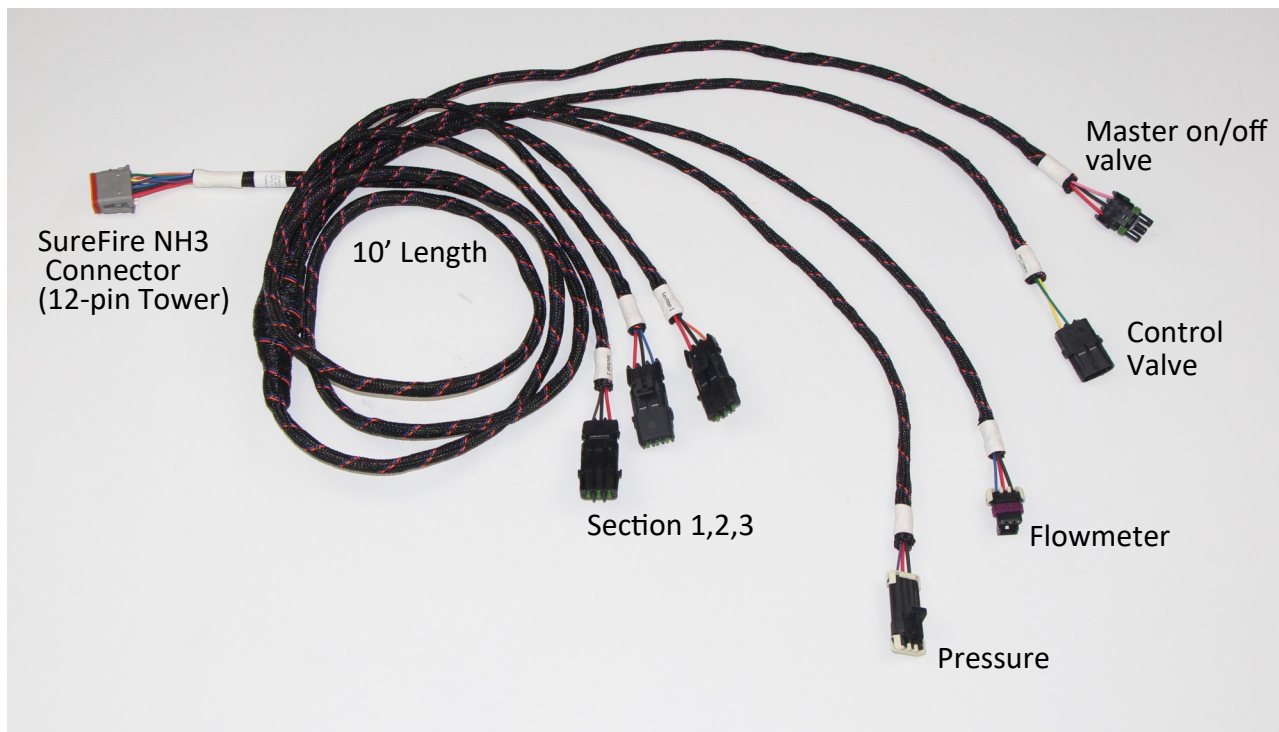


SureFire Torpedo NH3 Final Harness with 3 Section Valve Connectors

Final
Product
Harnesses

207-3496Y1

Use this final harness with SureFire Torpedo for NH3 Application. This harness must be used in conjunction with a SureFire Raven RCM adapter harness specifically labeled for NH3 control on product 1; NH3 is always product 1 on the Raven RCM. This harness is specifically designed for Torpedo NH3 systems with 2 or 3 section valves. Three section valve connectors are included in this cable. Therefore, a 6-section final cable is NOT needed.



Commonly Ordered With:

206-03-_____

3-Pin Weatherpack extension harnesses from 5-50 feet. Order length required to reach each section valve from the Torpedo mounting location.

Final Cable for Dry Fertilizer System

207-3492Y2

Final
Product
Harnesses

Use this final harness to connect to dry fertilizer application systems. The PWM connector is a MP150 2-pin tower; this connects to SureFire and other hydraulic valve solenoids. The Meter RPM Sensor is a 3-pin WP Shroud; this connects to the Dickey John 360 pulse shaft rpm sensor. The aux RPM signal is a 3-pin WP Tower; this connects to the SureFire hydraulic motor speed sensor. The aux RPM signal can also be used to monitor a spinner or fan rpm with the proper sensor or adapter.



Dry Fertilizer System Components

Hydraulic valves listed below have a bypass valve and load sense port to allow for flexibility in plumbing the hydraulic system. Open the valve to allow bypass if plumbing in series with other components. Close the valve if plumbing in parallel or using power-beyond hydraulics. Ports are marked with stamped letters to make plumbing as easy as possible.

Valves and Motors

- 165-P15618A-3 Standalone Hydraulic PWM Valve
Maximum Flow: 25 GPM
Pressure and Controlled Flow -12 SAE O-Ring
Bypass -8 SAE O-Ring (optional)
Load Sense -6 SAE O-Ring (optional)
- 164-FTA0994 4.0 CID Hydraulic Motor with PWM Valve
Rotation: Clockwise
Shaft: 1"
Maximum Speed: 560 RPM @ 10 GPM
Pressure and Tank Ports -8 SAE O-Ring
Load Sense -6 SAE O-Ring (optional)

Shaft Sensors

- 204-04-464360178S1 360 pulses / rev fully enclosed shaft sensor with 3-pin WP Tower—Use for Meter RPM Sensor on harness above
- 229-03-467092221 Dickey John 360 pulse/rev encoder coupler - mounts to 1" shaft
- 204-04-150600 Gear or Sprocket Tooth Sensor
Nickel Plated Full Thread Sensor w/ L Mounting Bracket.
Sensor has WP Shroud connector on sensor for Aux RPM Connection above (WP Tower x WP Tower adapter harness included to connect to Meter RPM Sensor on harness above)



SureFire 6 Section Harness

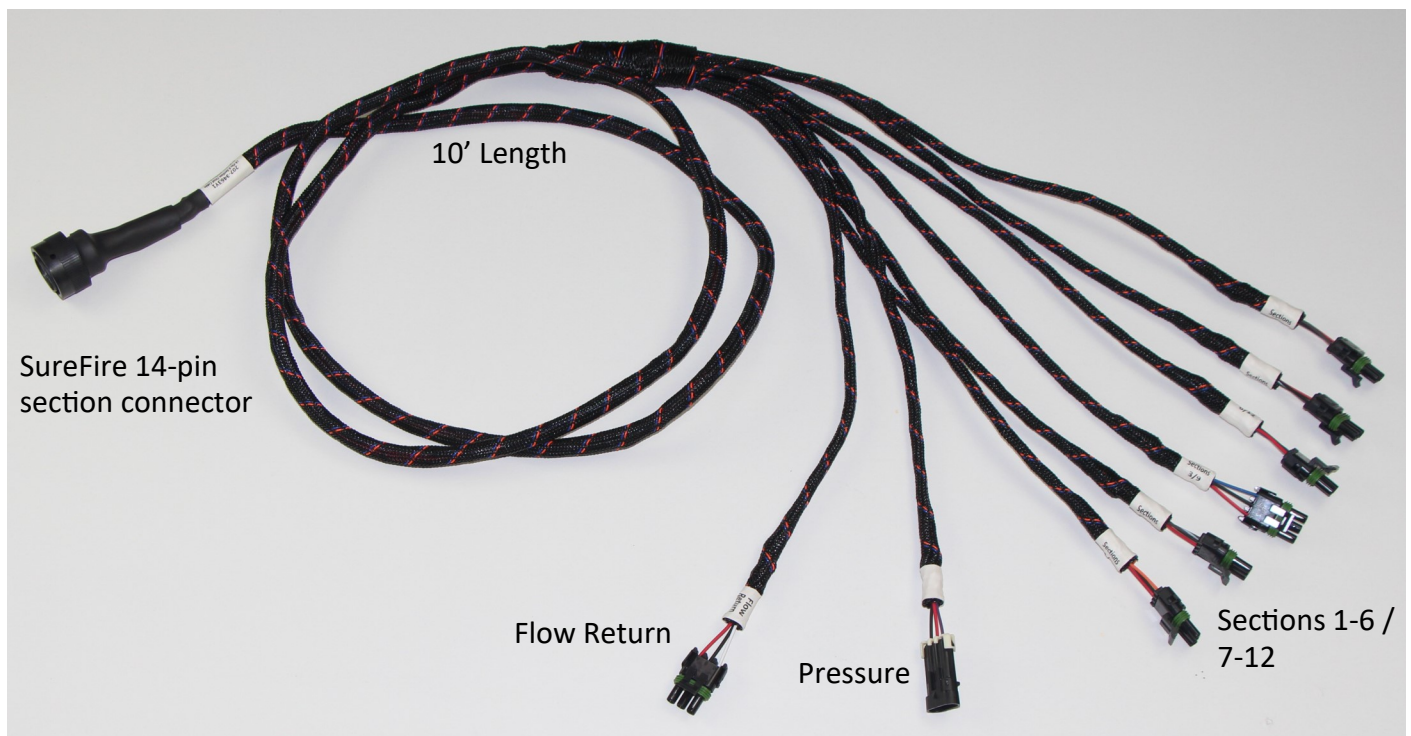
Final
Product
Harnesses

207-3463Y1

Use this final section harness with SureFire Tower, PumpRight, Torpedo and other systems. It attaches to the SureFire 14-Pin section connector and is used to control 6 section valves on the Raven RCM. The first harness connected will control sections 1-6. The second harness connected will control sections 7-12. Sections 7-12 are typically assigned to a second product, but may also be configured to be additional sections on the first product.

This harness also controls section valves for an NH3 system. On the Raven RCM NH3 systems will always be product 1 and will use sections 1-6

Note, although this harness has a flow return valve connector, in many configurations on the Raven RCM, the flow return valve IS NOT supported. The flow return valve will work in Liquid Fertilizer Tool configuration; this configuration only allows a single product to be controlled. Therefore, at this time, flow return valve is not available for use on multiple product systems on the Raven RCM.



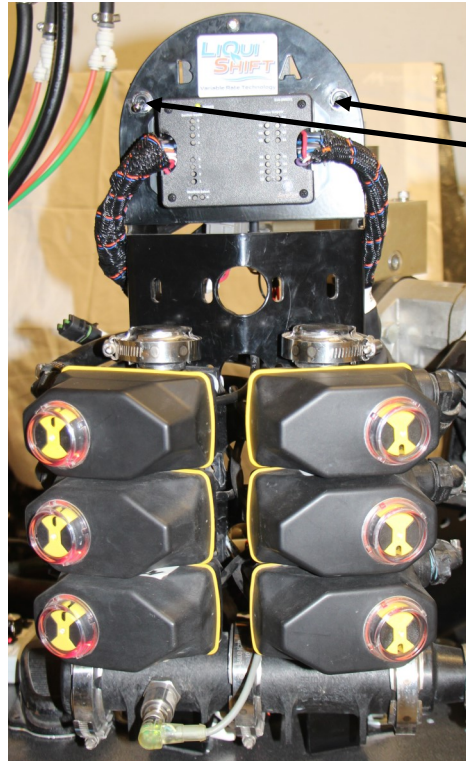
6 Section Harness w/ Raven Connectors

216-3607Y1

This harness functions identically to the 3463Y1 harness pictured above but has connectors for Raven components. It has the 14-pin connector to connect to SureFire adapter harness, then it has 7 Raven round 4-pin connectors for 6 section valves plus 1 flow return valve and a 3-pin round Raven pressure connector.

2-8 Section LiquiShift Systems

LiquiShift is compatible and improved for the Raven RCM. Now, all the LiquiShift electrical components are mounted on the LiquiShift valve stack. This makes installation and troubleshooting easier by providing a simpler system. The manual override switches are mounted on the top of the valve stack, so no more searching for the switches in the harness. Also, harnessing is simplified because the 14-pin section connector on any SureFire Raven RCM adapter harness just plugs into the 14-pin LiquiShift connector.

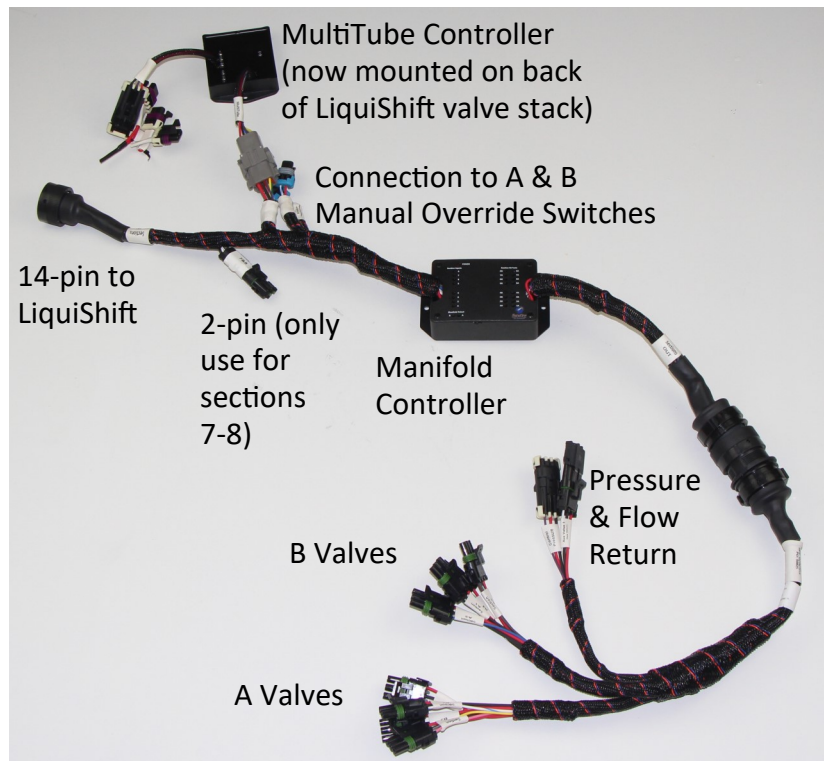


A & B Manual Override switches



Sections 7-12 (14-pin)
Sections 1-6 (14-pin)

The 14-pin section connector on any SureFire Raven RCM Adapter Harness can plug into the LiquiShift 14-pin. With the 3467Y1 harness above, you would plug Section 1-6 connector to the LiquiShift for product 1 LiquiShift. You would plug the Section 7-12 connector to the LiquiShift for product 2 LiquiShift. Product 1 only, product 2 only, or both product 1 & 2 could use LiquiShift.

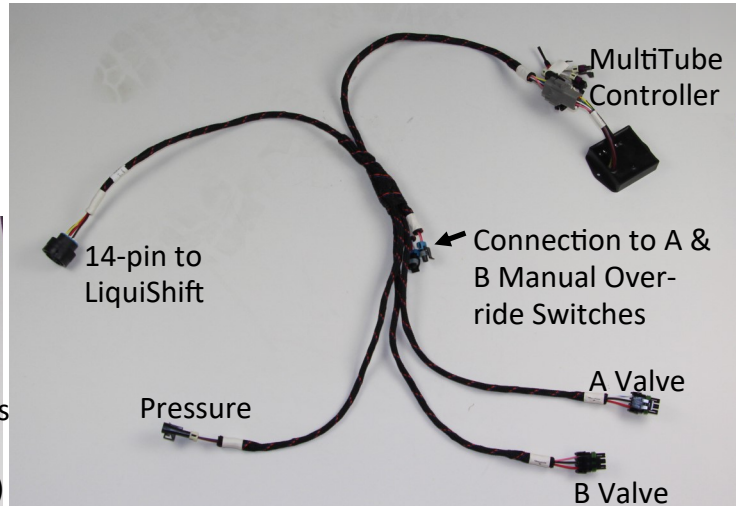


MultiTube Controller (now mounted on back of LiquiShift valve stack)
Connection to A & B Manual Override Switches
14-pin to LiquiShift
2-pin (only use for sections 7-8)
Manifold Controller
Pressure & Flow Return
B Valves
A Valves

- 218-3454Y1 Manifold Controller (14 & 8-pin In, 23-pin Out)
- 218-2565Y1 MultiTube Controller
- 201-3455Y1 4 Section 23-Pin LiquiShift Valve Stack Cable (A1-A4, B1-B4, pres, flow return)
- 201-3456Y1 6 Section 23-Pin LiquiShift Valve Stack Cable (A1-A6, B1-B6, pres, flow return)
- 201-3457Y1 8 Section 23-Pin LiquiShift Valve Stack Cable (A1-A8, B1-B8, pres, flow return)

Single-Section LiquiShift Systems

Single -Section LiquiShift provides the same variable rate technology, it is just simplified to eliminate the section control. Single A and B valves will open to allow flow to the full width of the implement. Single section LiquiShift may or may not use the LiquiShift valve stack mounting depending on specific system layout.



The 14-pin section connector on any SureFire Raven RCM Adapter Harness can plug into the LiquiShift 14-pin. Single Section LiquiShift eliminates the Manifold Controller found in multiple section LiquiShift systems. The A and B valves are controlled directly by the MultiTube Controller.

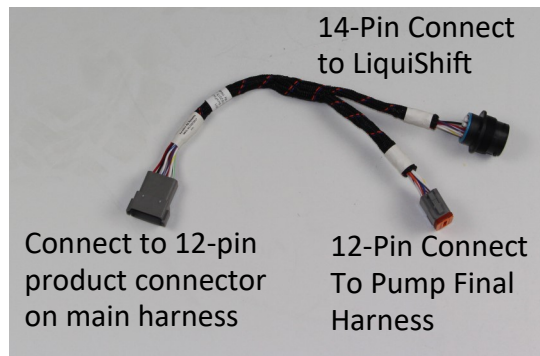
- 207-3575Y1 Single Section LiquiShift Harness with 14-pin input (MultiTube Controller 8-pin, A&B Valve Output, Pressure)
- 218-2565Y1 MultiTube Controller

201-3576Y1

12-Pin Product Connector to LiquiShift Adapter (1 or 2 Sections Only)

Use this adapter when you have a 12-Pin SureFire Product Connector but DO NOT have a 14-pin connector to attach to the LiquiShift.

This adapter harness will only work with 1 or 2 section LiquiShift systems. It WILL NOT WORK with 3 or more section systems.



Basic Final Cable for Raven Liquid or Dry Fertilizer System

Raven Connector
Final Product
Harnesses

216-3589Y1

With multiple-product control on the Raven RCM many customers may wish to control an existing system along with an additional new application system. This harness will allow them to use new SureFire Raven RCM adapter harnesses with 12-pin Liquid/Dry Product Connector and connect to a Raven meter and PWM valve. It can connect to a Raven liquid flowmeter or the Raven shaft rpm sensor for dry applications. The PWM valve connector is identical to the SureFire PWM connector so this harness is compatible with both Raven and SureFire hydraulic PWM valves. This harness has a built-in converter to supply 5 volts to the Raven meter with a 12 volt input from the Raven RCM SureFire Adapter Harness.



Final Cable for Raven NH3 System

Raven Connector
Final Product
Harnesses

216-3590Y1

With multiple-product control on the Raven RCM many customers may wish to control an existing system along with an existing Raven NH3 System. This harness will allow them to use new SureFire Raven RCM adapter harnesses with 12-pin NH3 Product Connector and connect to Raven NH3 components. It connects to flowmeter, master valve, control valve, and pressure sensor all with Raven connectors. This harness has a built-in converter to supply 5 volts to the Raven flowmeter with a 12 volt input from the Raven RCM SureFire Adapter Harness.



Final Cable for Raven NH3 System w/ up to 3 section valves

216-3606Y1

The 216-3606Y1 harness is identical to the 3590Y1 harness pictured above with the addition of 3 section valve connectors. It will work with Raven NH3 components, supplying 5 volts to the flowmeter. The 3 section valve connectors will use the Raven 4-pin round connector (same connector as master valve connector pictured above).

Commonly Ordered With:

206-04-_____ 4-Pin Raven Con-X-All valve connector extension harnesses from 5-40 feet. Order length required to reach each section valve from the NH3 cooler mounting location.

Application System Components

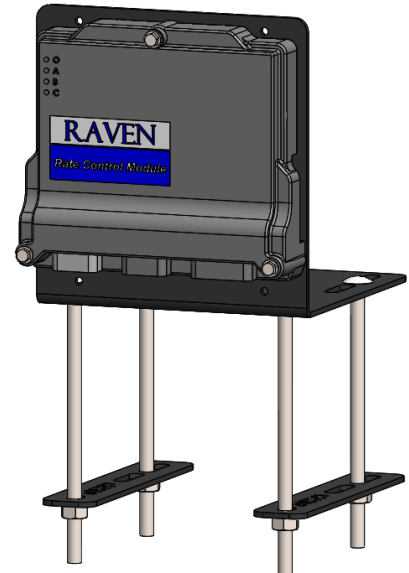
Extension,
Adapter and
Other

Raven RCM Mounting Bracket Kit

515-100950

This kit will mount the Raven RCM to any 5" - 8" bar. Hardware is also included to bolt the RCM to the bracket.

*SureFire stocks several u-bolt sizes and hardware options to mount the RCM to your toolbar.



Implement Height Switches

Extension,
Adapter and
Other

All SureFire harnesses for the Raven RCM include the Implement Height Switch (2-pin WP) connector. The height switch is REQUIRED FOR NH3 application, and optional for all other application configurations. Raven RCM logic is switch closed = implement down; switch open = implement up.

Mercury Switch

The SureFire mercury switch is the simplest most reliable height switch possible. Mount it to any item with some rotation as it is raised and lowered on the implement. 30' of cable is built into the switch. The switch is closed when the wires on the switch point down, signaling the implement is down.



- 501-1005 Mercury Switch with Magnetic Mount -
30' cable, 2-pin WP shroud for Raven RCM
- 501-100510 Mercury Switch with EPDM Clamp and 30' cable,
2-pin WP shroud for Raven RCM (no magnet and bracket)

Finger Style Switch

A finger style switch is a great choice for easy installation. The switch is normally closed; mount to deflect the spring-loaded finger when the implement is raised. (Switch polarity can be reversed in the field by moving connection terminals.)



- 501-100530 Finger Type Height Switch with Magnetic Mount
(30' cable, 2-Pin WP Shroud for Raven RCM)
- 501-100535 Finger Type Height Switch Without Magnetic Mount
(30' cable, 2-Pin WP Shroud for Raven RCM, no bracket)

Fill Flowmeters

Extension,
Adapter and
Other

The Raven RCM has a new option to install a fill flowmeter that will automatically measure the amount of fertilizer or other liquid you add to your tank. The tank level on your in-cab display will always be up to date and correct without user input each time the tank is filled. The fill flowmeter connector is a 4-pin Superseal connector included on SureFire final product cables.

Fill Flowmeter Kits

SureFire fill flowmeter kits use electromagnetic meters for accurate flow measurement with no moving parts. This provides much improved reliability over any flowmeter with moving parts.

500-02-3020	2" Electromagnetic Fill Flowmeter Kit w/ 2" Full Port Manifold Flange Connections (300 pulses / 10 gallons)
500-02-3030	3" Electromagnetic Fill Flowmeter Kit w/ 3" Manifold Flange Connections (130 pulses / 10 gallons)



4-Pin Superseal Fill Flowmeter Extensions

The SureFire fill flowmeter connector is a 4-pin Superseal Tower. Order required extensions (not included in kits above) to reach from the fill flowmeter mounting location to the liquid product final harness with the 4-pin fill flowmeter connector.

5 feet	206-04-3476Y1
10 feet	206-04-3477Y1
20 feet	206-04-3478Y1
30 feet	206-04-3479Y1
40 feet	206-04-3480Y1
50 feet	206-04-3481Y1

Fill Flowmeter Adapter Cables

The 2" and 3" fill flowmeter includes a cable (208-05-2421Y1) that attaches to the flowmeter and has a 3-pin MP150 connector. The adapter below (also included in above kits) converts from the 3-pin MP150 to the 4-pin Superseal connector used for fill flowmeter connection to the SureFire product harness.

201-3482Y1	Adapter Cable—3-pin MP 150 Tower Flowmeter to 4-pin Superseal Shroud Fill Flowmeter Connector (Included in fill flowmeter kits above)
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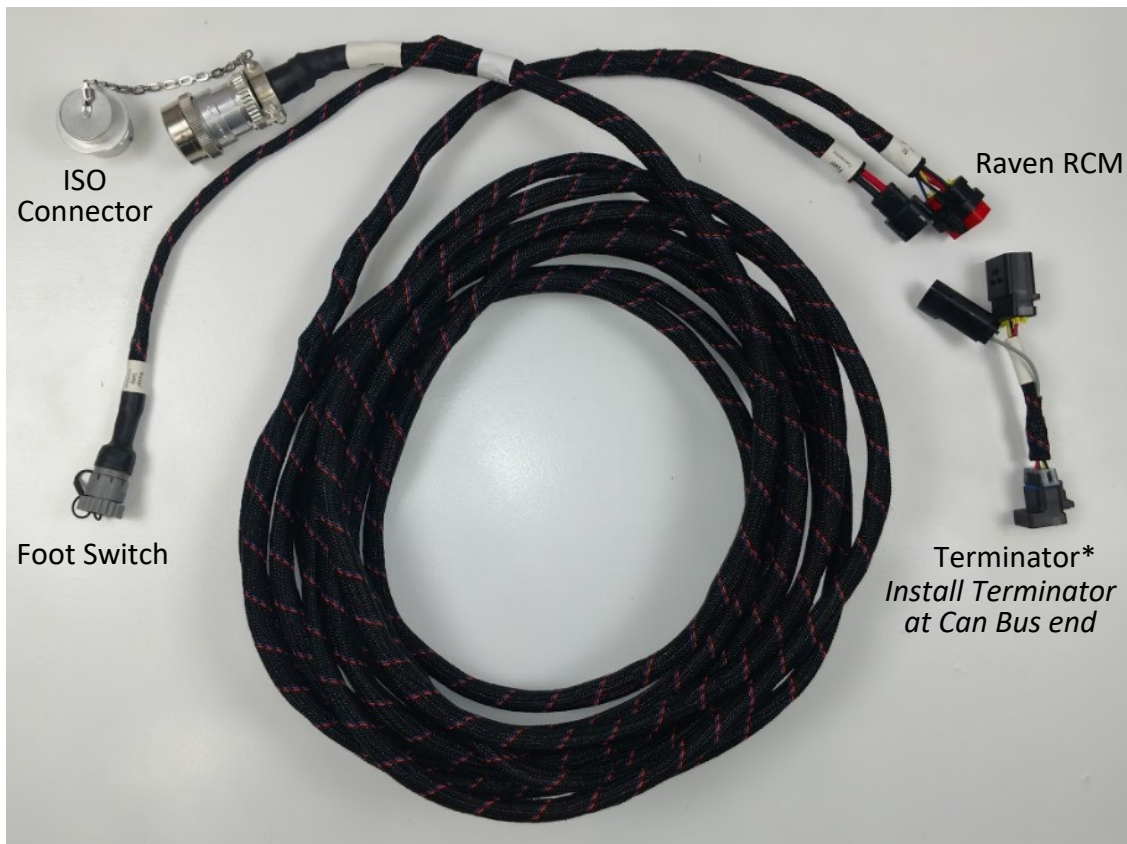
ISO and CAN Bus Extension Harnesses

Extension,
Adapter and
Other

Front ISO Extensions

Front ISO extensions have a large round 9-pin ISO connector and a 3-pin master switch connector to plug in to the tractor. The other end of the harness has the CAN Bus connectors; a 12-pin ISO connector and a 2-pin power connector. This harness also works to connect the ISOBUS SureFire Sentinel ECU harness to the 9-pin ISO connector on the tractor. All Front ISO Extension come with the Terminator.

10 feet	214-00-3553Y1
20 feet	214-00-3554Y1
30 feet	214-00-3555Y1
40 feet	214-00-3556Y1
50 feet	214-00-3557Y1



**Terminator also sold individually as 214-00-3757Y1*

ISO and CAN Bus Extension Harnesses

Extension,
Adapter and
Other

Foot Switch & Power Harness adapter

The Raven RCM needs a master switch in the cab. This harness connects to the Front ISO extensions on the previous page to allow for a master switch in the cab. SureFire offers two lengths: 12' for Row crop tractors and 23' for 4 wheel drive tractors.

- 12 feet 201-3817Y1
- 23 feet 201-3818Y1



Foot Switch 212-02-3762Y1

The foot switch is the most common in-cab master switch. This foot switch plugs directly into the foot switch & power harness options above.



ISO and CAN Bus Extension Harnesses

Extension,
Adapter and
Other

Center ISO Extensions

These harnesses extend the CAN bus wiring to connect a Raven RCM controller or other CAN components. A single harness has both the 12-pin CAN bus connector and the 2-pin high current power connector in a single braided harness.

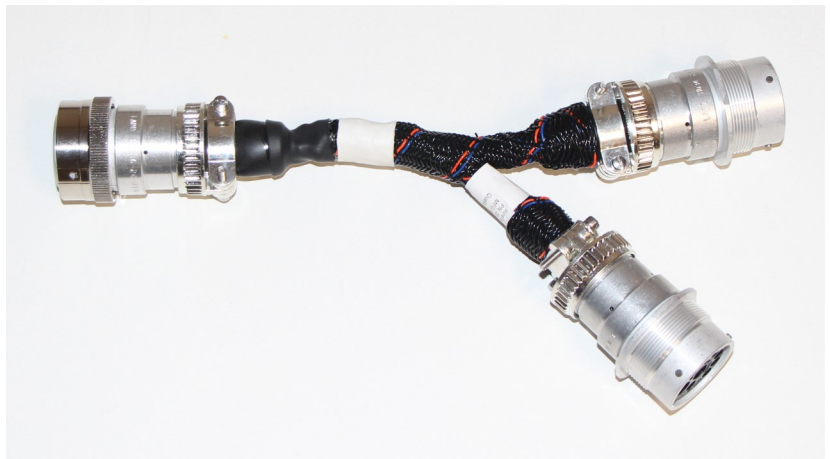
10 feet	206-14-3385Y1
20 feet	206-14-3386Y1
30 feet	206-14-3387Y1
40 feet	206-14-3388Y1



ISOBUS Y Harness

The ISOBUS Y harness splits the tractor ISOBUS connector into two implement ECU connectors for installation of two ISOBUS systems.

201-3306Y1	ISOBUS Y
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Electric Pump Extension Harnesses

Extension,
Adapter and
Other

SureFire 12 Volt Power Harness w/ Anderson Connectors

Cable with large ring terminals connects directly to battery power; 40 amp fuse is built into the cable. The key switch option cable has a built in relay which will shut off power when the key switch is turned off. 18' wire included to connect to keyed power source.

20 feet	205-3118Y1	Anderson 40A EPD Power Cable - 20' - 6 AWG
20 feet	205-3119Y1	Anderson 40A EPD Power Cable 20' with relay and key switch option

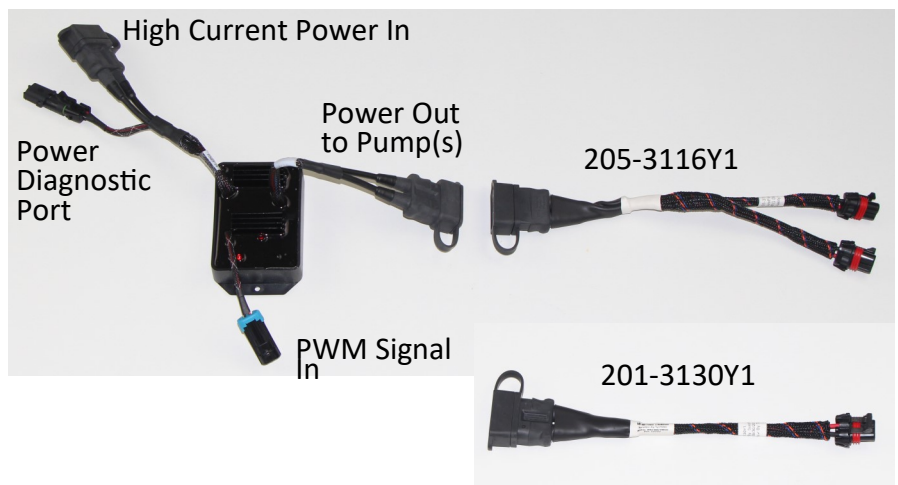
SureFire 12 Volt Power Extensions w/ Anderson Connectors

1 foot	206-02-3120Y1	10 AWG
5 feet	206-02-3121Y1	10 AWG
10 feet	206-02-3122Y1	8 AWG
20 feet	206-02-3123Y1	8 AWG
30 feet	206-02-3124Y1	6 AWG
40 feet	206-02-3125Y1	6 AWG
50 feet	206-02-3126Y1	6 AWG
60 feet	206-02-3127Y1	6 AWG

Use these extensions when operating any SureFire Tower electric pump system. SureFire uses heavy duty connectors and heavy gauge wire to minimize voltage drop. Using lighter wire or poor connectors will cause problems with electric pumps and electric pump drivers.

SureFire 12 Volt Electric Pump Driver (EPD) w/ Anderson Connectors

205-19024	PWM EPD (Anderson connectors)
205-3116Y1	Y Cable—Anderson In x Two MP480 Out to pumps
201-3130Y1	Anderson In x One MP480 Out to pumps



2 and 3-pin Extension Harnesses

Extension,
Adapter and
Other

2 Pin Metripack 150 Extensions (PWM Signal)

5 feet	206-02-13200
10 feet	206-02-13201
15 feet	206-02-13202
20 feet	206-02-13203
25 feet	206-02-13204

2 Pin Weatherpack Extensions (Implement Height Switch)

5 feet	206-02-2990Y1
10 feet	206-02-2991Y1
15 feet	206-02-2992Y1
20 feet	206-02-2993Y1
25 feet	206-02-2994Y1
30 feet	206-02-2995Y1

3 Pin Superseal Extensions (SureFire Flowmeters w/ molded-in connector, begin 2016)

5 feet	206-03-3486Y1
10 feet	206-03-3487Y1
20 feet	206-03-3488Y1
30 feet	206-03-3489Y1
40 feet	206-03-3490Y1
50 feet	206-03-3491Y1

Use for extending flowmeter connection on new SureFire flowmeters with black body and orange decal.

3 Pin Weatherpack Extensions (Section Valve Extensions)

5 feet	206-03-10450
10 feet	206-03-10449
15 feet	206-03-10876
20 feet	206-03-10829
25 feet	206-03-11462
30 feet	206-03-11530
35 feet	206-03-11535

The 3-pin WP is a very common on/off valve connector. Use when extending to reach a valve's mounting location. An example is for reaching NH3 section valves, which are typically mounted with the NH3 manifolds across the implement. Also used on shaft encoders for planter drives and dry fertilizer meters.

40 feet	206-03-11540
50 feet	206-03-11550

3 Pin Metripack 150 Extensions (Pressure Extensions, Pre-2016 Sure-Fire flowmeter extensions)

5 feet	206-03-13205
10 feet	206-03-13206
15 feet	206-03-13207
20 feet	206-03-13208

Use these extensions if flowmeters or pressure sensors are mounted away from the pump or heat exchanger location. Works with older SureFire flowmeters with gray body and blue decal.

25 feet	206-03-13209
50 feet	206-03-13419

Extension Harnesses

Extension,

4-Pin Raven On/Off Valve Extension

5 feet	206-04-3596Y1
10 feet	206-04-3597Y1
20 feet	206-04-3599Y1
30 feet	206-04-3601Y1
40 feet	206-04-3603Y1

Used to extend to reach a Raven on/off valve. These extensions are for the round 4-pin Con-X-All used on Raven on/off valves. A common application is on NH3 systems where section valves are placed with each manifold and require an extension from the main harness.

12-Pin Deutsch (Raven RCM Product Harnesses)

5 feet	206-12-3434Y1
10 feet	206-12-3435Y1
20 feet	206-12-3436Y1
30 feet	206-12-3437Y1
40 feet	206-12-3438Y1
50 feet	206-12-3439Y1

On the Raven RCM harnesses, SureFire uses the 12-pin Deutsch connector for Liquid, Dry and NH3 Products (NH3 is reversed gender from liquid/dry connectors but uses the same extensions). Most SureFire final harnesses are 10 feet long. Use these extensions to extend from the Raven RCM ECU to the pump mounting location when more than 10 feet of cable is needed.

14-Pin Deutsch (Raven RCM Section Harnesses)

5 feet	206-14-3469Y1
10 feet	206-14-3470Y1
20 feet	206-14-3471Y1
30 feet	206-14-3472Y1
40 feet	206-14-3473Y1
50 feet	206-14-3474Y1

On the Raven RCM harnesses, SureFire uses the 14-pin Deutsch connector for section valves. The section valve cable is 10 feet long. Use these extensions when you need more than 10 feet of cable from the Raven RCM ECU to the section valve location. Also use these to connect the 14-pin section connector to the SureFire LiquiShift valve stack.

Dust Caps

Dust Cap for SureFire Liquid/Dry 12-Pin Product Connector - Deutsch 12-Pin DT04-12P
Dust Cap for SureFire 14-Pin Section Connector - Deutsch 14-Pin HDP26-18-14SE

374-3531Y1
374-3532Y1

Extension Harnesses

Extension,
Adapter and
Other

16-Pin Amp Extension cables

5 feet	206-16-215855
10 feet	206-16-215856
20 feet	206-16-215857
30 feet	206-16-215900
40 feet	206-16-215940

Historically, Raven has used the 16-pin Amp round connector for several applications.

37-Pin Amp Extension cables

5 feet	206-37-2286
10 feet	206-37-2287
20 feet	206-37-2288
30 feet	206-37-2289
40 feet	206-37-2290

Historically, Raven has used the 37-pin Amp round connector for several applications.

***Don't see a Raven RCM harness, extension cable or connector you are looking for?
Give us a call.***

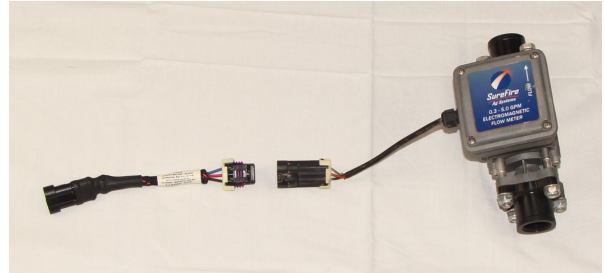
Flowmeter Adapter Harnesses

Extension,
Adapter and
Other

SureFire Flowmeter with MP150 connector to SuperSeal connector on harness

201-3406Y1

Use this to adapt the new Superseal flow connector on a final harness to an older SureFire meter or a Micro-Trak flowmeter that uses a MetriPack 150 connector. SureFire meters that require this adapter have a gray plastic body with a blue label.



SureFire Flowmeter with Superseal connector to MP150 connector on harness

201-17842

Use this adapter to connect a new SureFire meter with integral Superseal connector (black body with orange label) to a harness with 3-pin MP150 flow connector.



Raven Adapter Harnesses

Raven Flowmeter Adapters

Raven Flowmeter with 3-pin round connector to SureFire SuperSeal connector on harness

201-3580Y1

Use this to connect a Raven Flowmeter or Meter RPM Sensor with the Raven 3-pin round connector to a SureFire harness with Superseal connector. This harness includes voltage regulator to supply the Raven flow or rpm sensor with 5 volts and must be plugged into a 3-pin Superseal harness connector with 12 volts.



Raven Flowmeter with 3-pin round connector to SureFire MP150 connector on harness

201-3579Y1

Use this to connect a Raven Flowmeter or Meter RPM Sensor with the Raven 3-pin round connector to a SureFire harness with MP150 flow connector. This harness includes an integrated voltage regulator to supply the Raven flow or rpm sensor with 5 volts and must be plugged into a 3-pin MP150 harness connector with 12 volts.



RAVEN Adapter Harnesses (cont.)

Extension,
Adapter and
Other

Raven Pressure Sensor Adapters

Raven Pressure Sensor with 3-pin round 150 MP connector to pressure connector on SureFire harness (150 MP flat)

201-3808Y1

Use this to connect a Raven pressure sensor with a 3-pin round 150 MP connector to a SureFire harness with 3-pin flat 150 MP connector.



Raven Pressure Sensor with 3-pin Deutsch connector to pressure connector on SureFire harness (150 MP flat)

201-3827Y1

Use this to connect the new Raven pressure sensor with a 3-pin Deutsch connector to a SureFire harness with 3-pin flat 150 MP connector.



RAVEN Adapter Harnesses

**Extension,
Adapter and
Other**

Raven Encoder Adapters

Raven Encoder with 3-pin round Con-x-all to SureFire Dry harnesses

201-3648Y1 (3-pin WP Tower for use with Meter RPM)

201-3831Y1 (3-pin WP Shroud for use with Auxiliary RPM)

Use this to connect a Raven Encoder with a 3-pin Con-x-all connector to a SureFire harness with 3-pin WP connector. This harness includes voltage regulator to supply the Raven Encoder with 5 volts and must be plugged into a 3-pin WP harness connector with 12 volts.



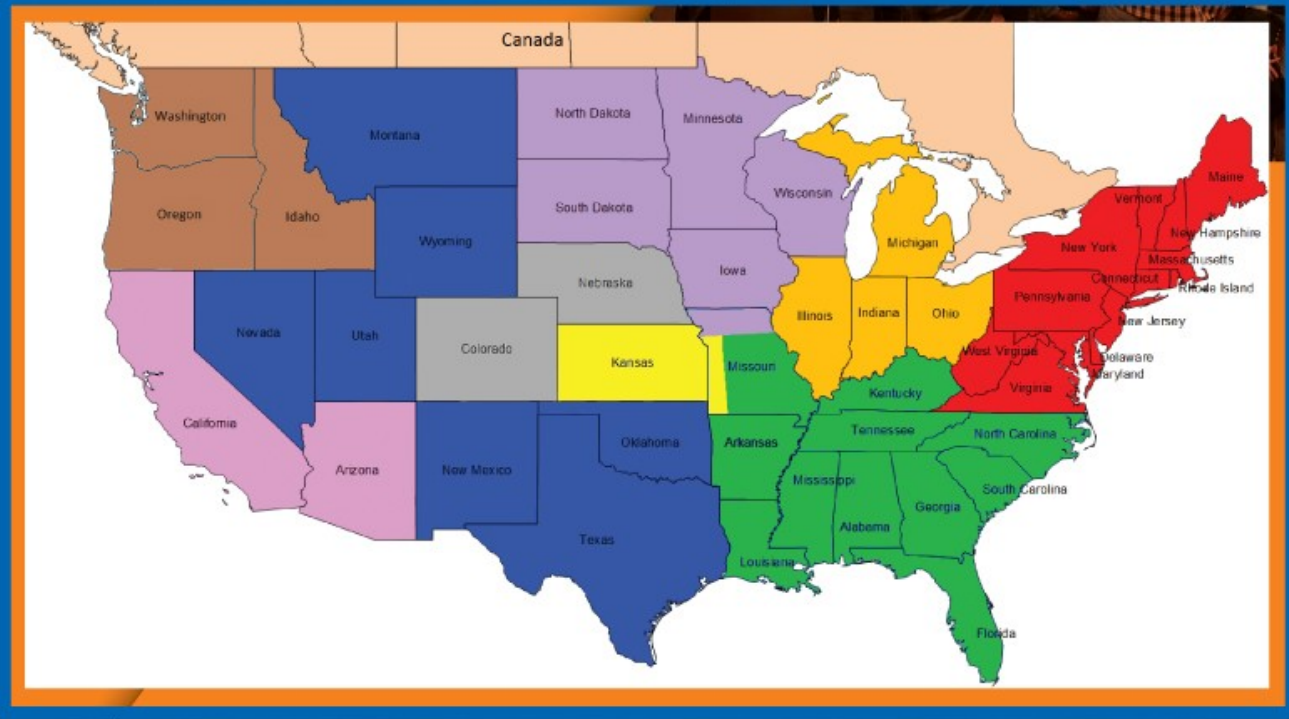
Raven Encoder with 3-pin Deutsch on SureFire Dry harnesses

201-3828Y1 (3-pin WP Tower for use with Meter RPM)

201-3829Y1 (3-pin WP Shroud for use with Auxiliary RPM)

Use this to connect a Raven Encoder with a 3-pin Deutsch connector to a SureFire harness with 3-pin WP connector. The new Raven Encoder can work with 12 volts.





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