4225 SW Kirklawn Ave. | Topeka, Kansas 66609
prodsupport@capstanag.com | 855-628-7722
CapstanAG.com | CapstanAG.ca

Installation Instructions

PinPoint™ III ENVELOP on Miller Nitro

Parts List

Part Number	Description	Parts Drawing Description	Qty
118606-811	PCII Node Replacement Shut-off Harness	SHUTOFF HARNESS, 10 SEC, NITRO	1
118606-822	PCII Node Replacement Signal Harness	SIGNAL HARNESS PC2 REPLACEMENT	1
118640-108	Universal Mounting Bracket	BRACKET MOUNTING UNIVERSAL	2
123000-013	Mounting Plate	MOUNTING PLATE, PPIII	1
123000-018	Mounting Plate	MOUNTING PLATE, PPIII, MILLER	1
123000-150	Envelop Hub	ASSY, POWER HUB PPIII	1
123100-040	Power Harness	POWER HARNESS 40' PPIII	1
713501-406	Bolt	BOLT 5/16" X 3/4" SS	2
713501-412	Cap Screw	BOLT 5/ 16-18 X 1 SS HEX HEAD	4
713501-433	Carriage Bolt	BOLT, 5/16-18 X 6, CARRIAGE	4
713501-447	Flange Nut	NUT, FLANGE, 5/ 16 - 18, Z INC	8
713600-001	Lock Washer	WASHER LOCK 5/16" SS	2
713600-002	Washer	WASHER FLAT 5/ 16" SS	2
706530-456	Dust Plug, 8-Pin Deutsch DT, B-Key	DUST PLUG 8-PIN DEUTSCH DT	8

4225 SW Kirklawn Ave. | Topeka, Kansas 66609
prodsupport@capstanag.com | 855-628-7722
CapstanAG.com | CapstanAG.ca

Envelop Hub Installation

1. Open main power breaker before beginning installation.

Figure 1 — Envelop Hub Mounting Location

2. *Figure 1:* Locate appropriate Envelop Hub mounting location for your machine. Miller Nitro machines use one of two boom bracket configurations. Envelop Hubs can be mounted face-up, horizontally (1) or vertically, facing rear of machine (2).

   Note: View looking forward from the front of the cab, behind left-hand side of front-mount boom.

3. If machine uses horizontal mounting position, proceed to Step 4. If machine uses vertical mounting position, proceed to Step 7.

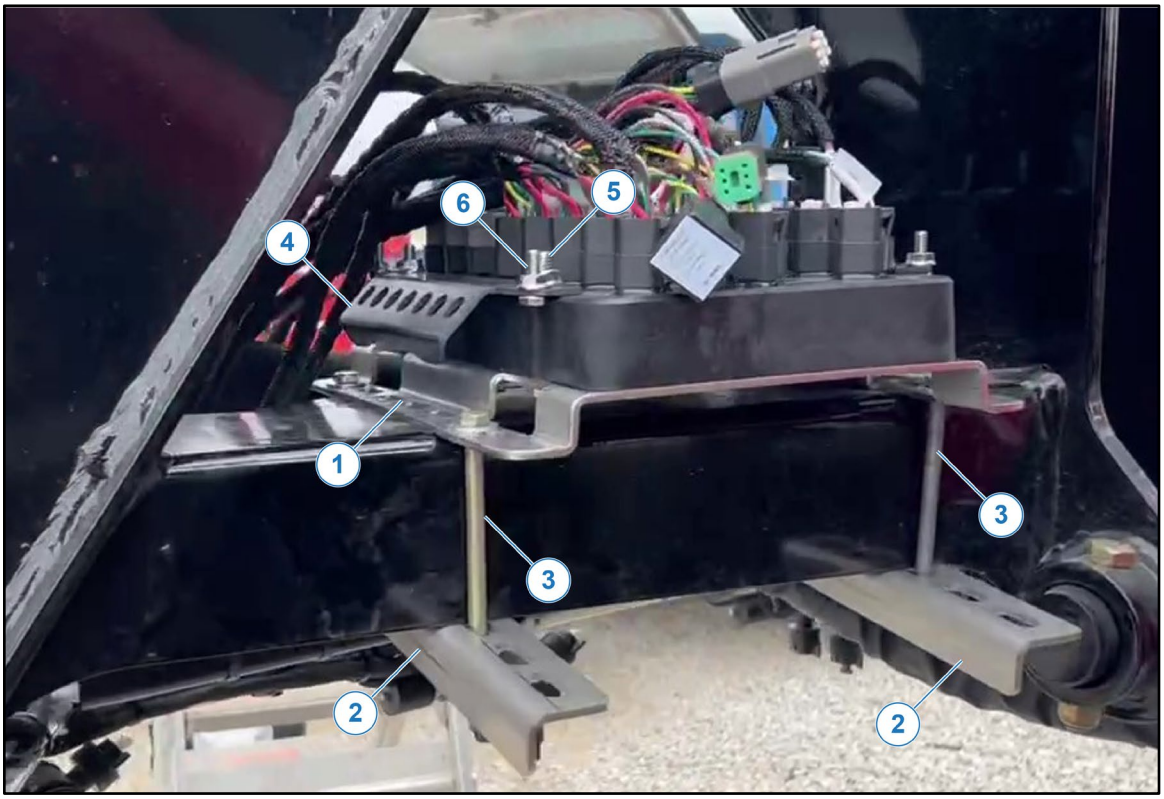

Figure 2 — Horizontal Mounting Bracket Installation

4. *Figure 2:* Secure universal mounting bracket (123000-013) (1) to boom frame using two mounting brackets (118640-108) (2), 6” carriage bolts (713501-433) (3), flat washers (713900-002) and flange nuts (713501-447).

5. Insert 5/16” x 2 ¼” bolts (5) included with Envelope Hub through strain relief bracket holes (4), through Envelop Hub mounting holes, and attach to universal bracket installed in previous step with included flange nuts.

6. Insert ¼” bolts from backside of strain relief brackets and attach with flange nuts (6). Proceed to Step 9.

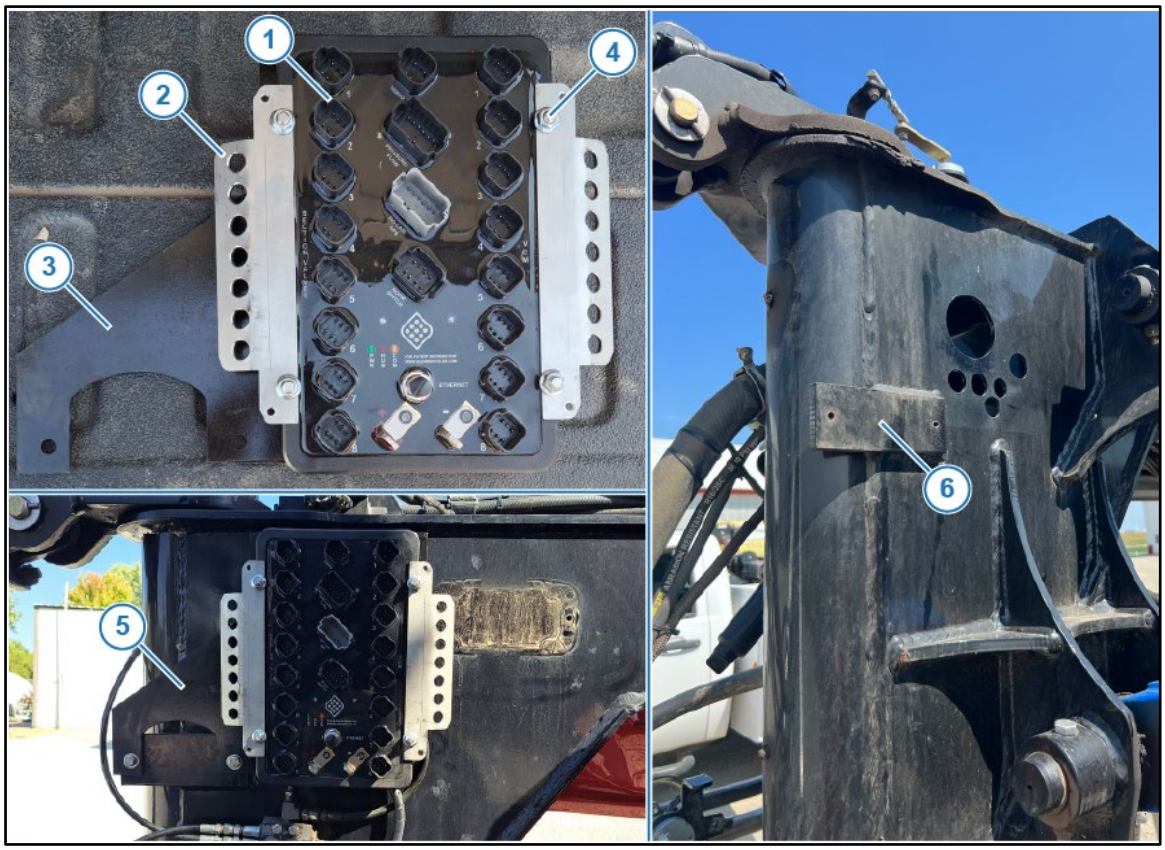

Figure 3 — Vertical Mounting Bracket Installation

7. *Figure 3*: Install the Envelop Hub (1) and strain relief brackets (2) onto the mounting bracket (3) using the included 5/16” x 2 1/4” bolts and 5/16” nuts (4).

   Note: The bolts should be inserted from the back of the assembly with the nuts installed from the front.

8. Secure mounting bracket and Envelop hub assembly (5) to existing holes in boom bracket (6) using 3/4” cap screws (713501-406). Proceed to Step 9.

PCII Node Replacement Signal/Shut-Off Harness Connections

Figure 4 — PCII Replacement Harness Connections

9. *Figure 4:* Plug PCII Node Replacement Signal Harness (118606-822) (1) into Envelop Hub's Servo, Pressure/Flow, and ISOCAN/GPS ports.

10. Plug PCII Node Replacement Shutoff Harness (118606-811) boom section signal connectors into their matching labeled Section Valve ports (2).

11. Route these harnesses along with the other machine harnesses under cab and up toward mounting location of Product Controller II (PCII) Node mounted on back of the cab.

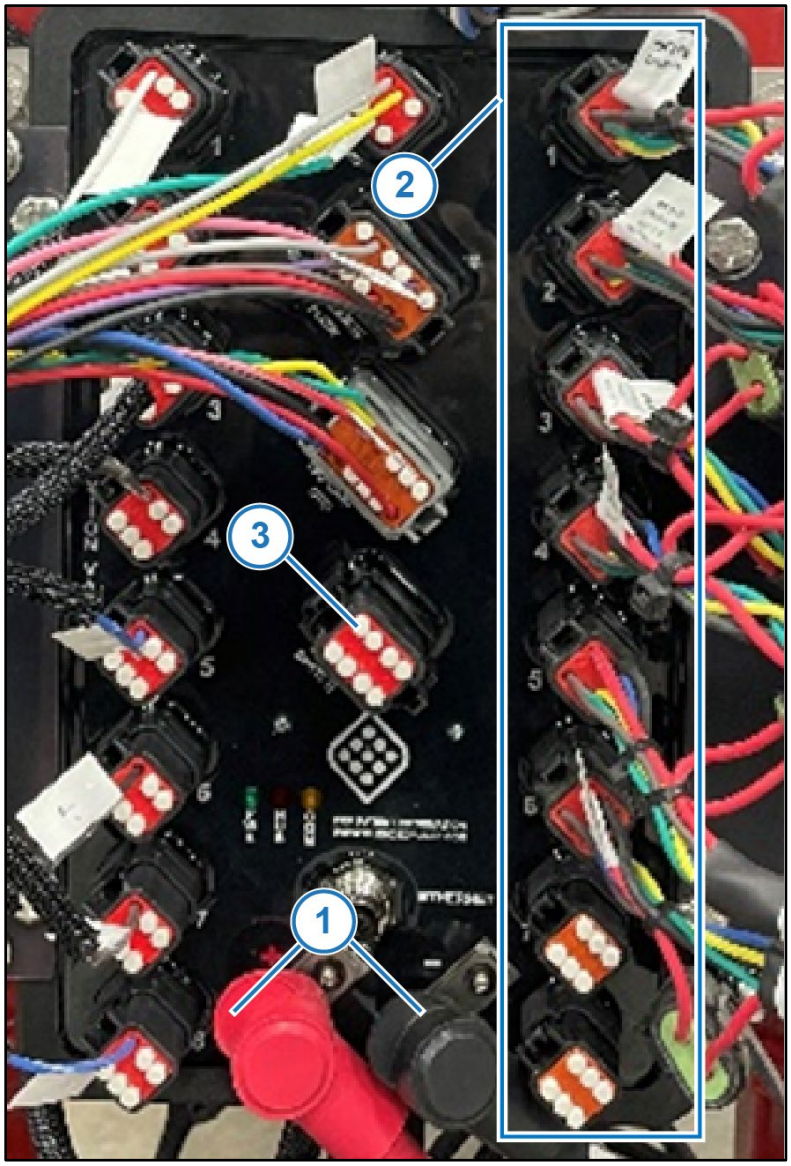

Figure 5 — PCII Replacement and Power Harness Connections

1. *Figure 5:* Attach power harness to Envelop Hub positive and negative terminals (1) using supplied bolts and flange nuts.
2. Plug each VCM extension harness into its corresponding numbered port (2).
3. Insert dust plugs into unused ports (706530-456) (3).
4. Zip tie harnesses to strain relief brackets so that there is a small amount of slack in hub side wiring.
5. Slide supplied Envelop Hub cover onto the ¼" bolts previously installed and secure it with supplied flange nuts.

Harness Connections at Machine

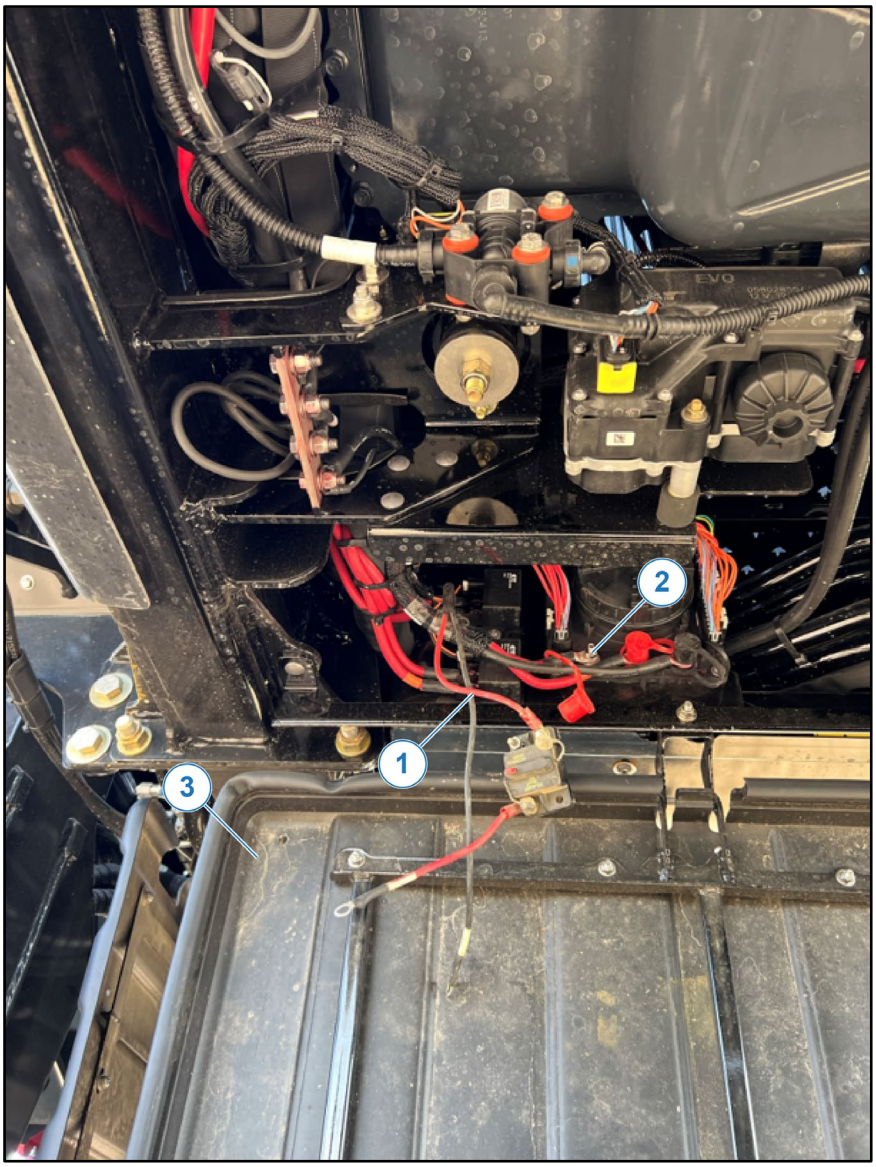

Figure 6 — Power Harness

6. *Figure 6:* Route power harness (1) to machine power terminals (2), accessible from the rear-most underside access panel (3), following existing machine harnesses. Secure harness with zip ties.

   Note: Do not route power harness along side fluid plumbing. Ensure harness is secured in such a way that it will not be prone to wear by rubbing on machine frame or other components.

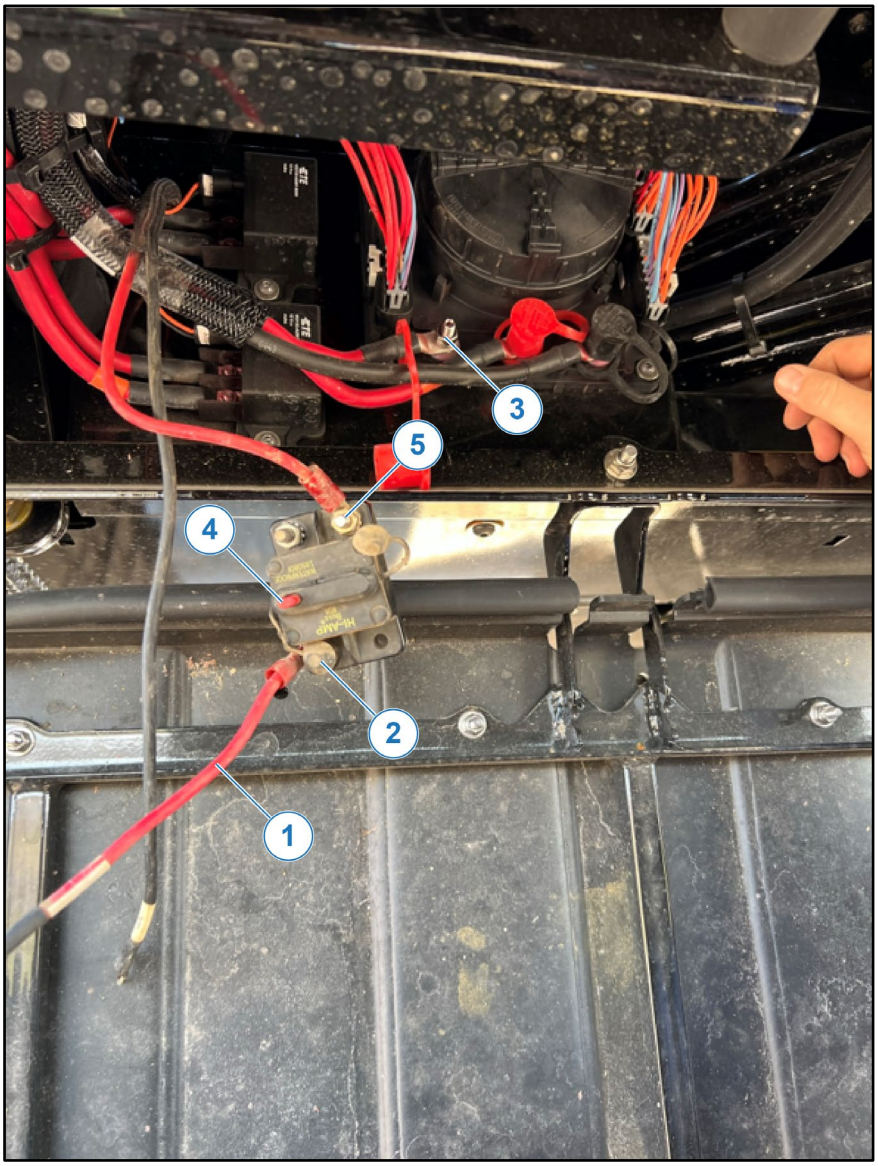

Figure 7 — Power Terminals

7. *Figure 7:* Cut a short length (4” to 6”) of wire (1) from positive power harness cable and cap one end with ¼” ring terminal (2) included to fit supplied circuit breaker and the other end with a ring terminal correctly sized for positive battery lug (3).

8. Secure circuit breaker appropriately in battery area. Ensure it is open prior to installation by pressing red button on top (4).

9. Cut positive power harness cable to length, strip, and cap it with included ¼” ring terminal.

10. Attach the ring terminal to breaker lug labeled AUX (5).

11. Attach short length of wire trimmed from the positive power harness cable earlier to breaker lug labeled BAT (2). Attach other end to positive battery lug (3).

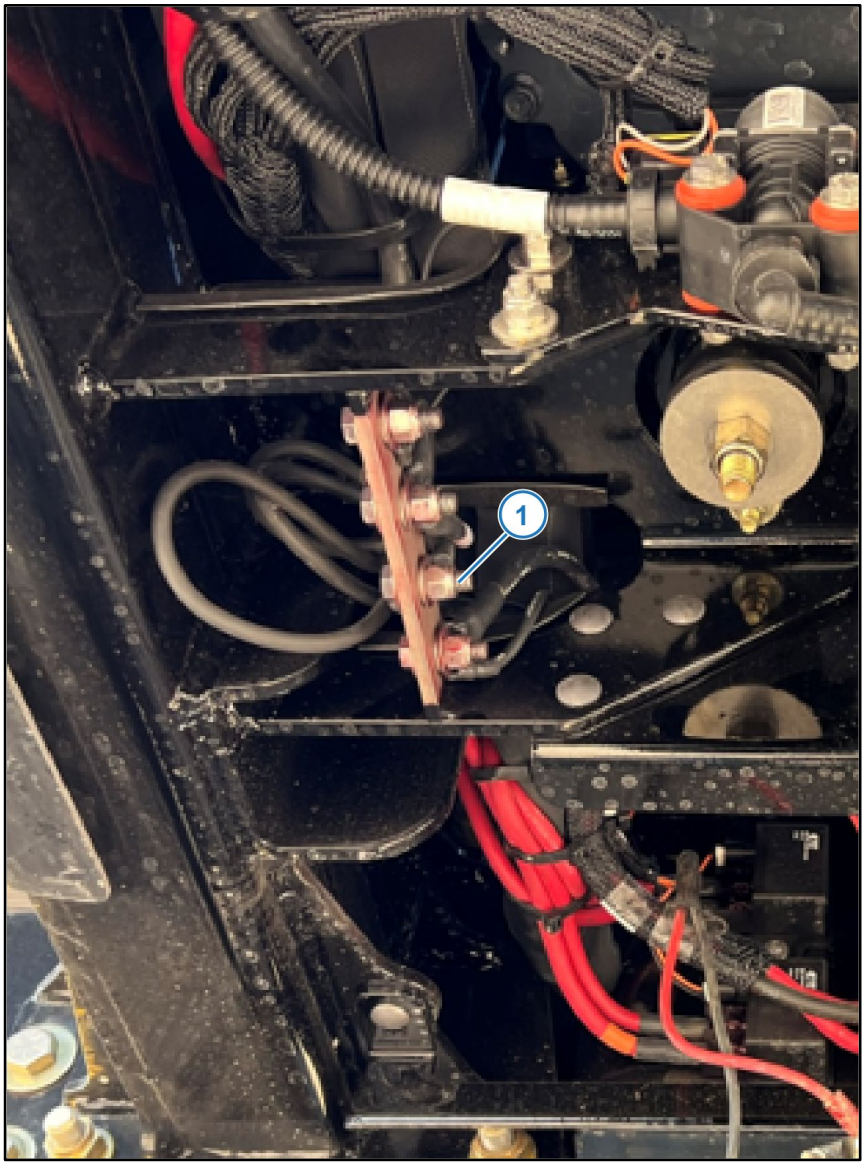

Figure 8 — Negative Power Cable

12. *Figure 8:* Route negative power harness cable to machine ground lug, cut to length, strip, and cap with a ring terminal correctly sized for ground lug (1).

13. Secure to the third ground lug from top (1) with machine hardware.

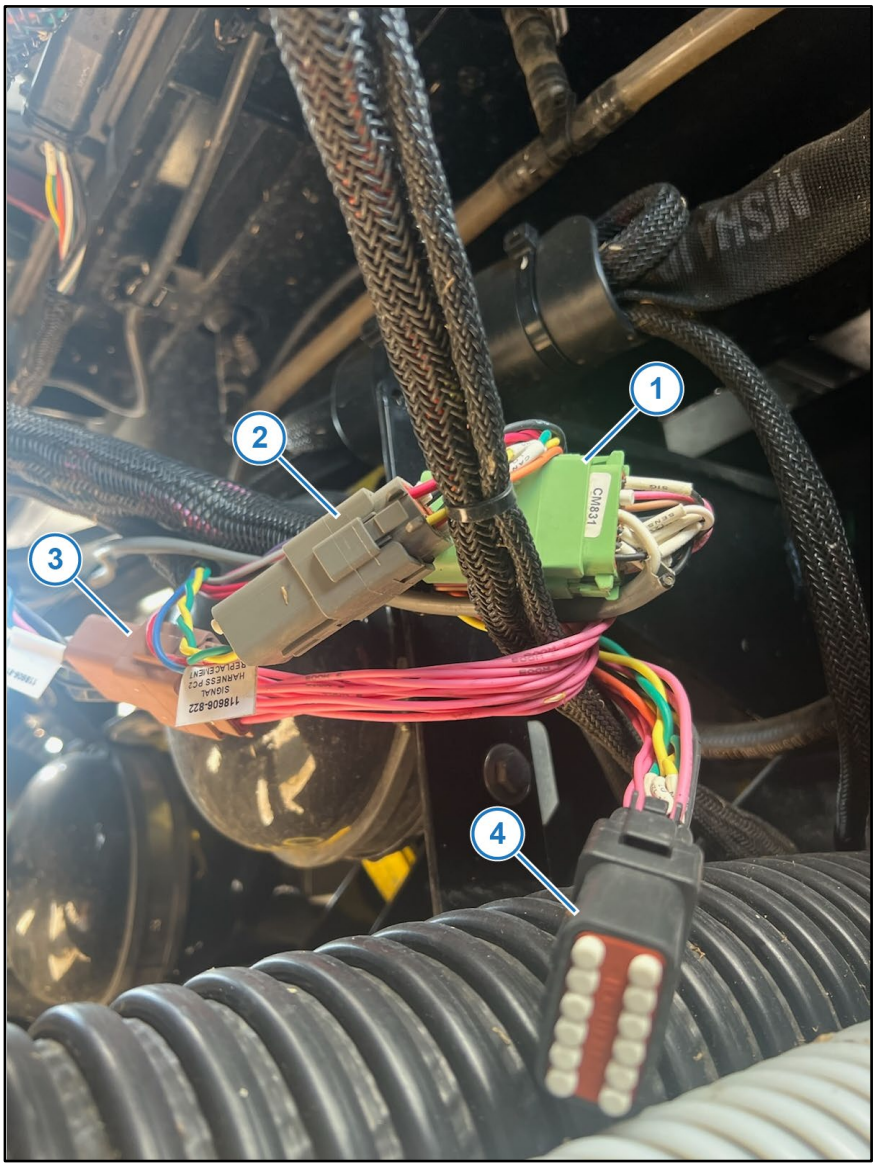

Figure 9 — Product Control Node Removal

14. *Figure 9:* Remove Product Control II Node (PCII) from rear of the machine cab by unplugging gray, green, brown, and black connectors and removing mounting bolts.

15. Plug PCII Node Replacement Signal Harness (118606-822), previously routed under cab from Envelop Hub, into corresponding green (1) and gray (2) plugs previously plugged into PCII Node.

16. Plug PCII Node Replacement Shutoff Harness (118606-811), routed from Envelop Hub, into corresponding brown (3) plug previously plugged into PCII Node. Dust cap black PCII plug (4).

17. Secure all harnesses with zip ties, ensuring that they are secured in such a way that they will not be prone to wear by rubbing on machine frame or other components.

18. Reset the Envelop Hub power harness breaker and machine main power breaker.