

Steer Ready Kit Installation Guide

Kit: eDriveXC-SR-REBEL Versatile, P/N 914-0003-01


Fits Buhler Versatile MFWD and 4WD Models:

<u>MFWD</u>	<u>4WD</u>			
260	350	400	500	610
290	375	450	500DT	610DT
310		450DT	550DT	



Note: These instructions cover both MFWD and 4WD (articulated) models. Installation of the various components is different for the two machine types. There are, therefore, two sets of instructions, and each set covers installation of the steering controller, ECU (eDriveXC), and the cable connections for one machine type. The instructions make it clear which set of instructions you should follow.

Read and Follow Safety Messages

- In these instructions, you will see the heading WARNING and the safety alert symbol . They indicate a hazardous situation that, if not avoided, could result in death or serious injury. The safety messages provide information to identify a hazard associated with potential injury.
- Before installing, operating, or performing maintenance or service on any part of the system:
 - Read and understand this installation guide and all of the safety information
 - Read and understand the steer-ready user documentation
- Do not allow anyone to operate without instruction.
- Keep these instructions and all related safety information with the manual for your machine and other implements.

If you have any questions or need assistance, contact your local dealer or distributor.

Overview

This installation guide provides information on the installation of the steering controller, the ECU (eDXC), and all associated cabling. Use the guide in conjunction with any other related equipment installation guide(s).

The items covered for installation are detailed in the table that follows the safety warnings beginning below. After the table there are step-by-step installation instructions, one set for each machine type (MFWD/4WD).

Read this manual thoroughly before beginning the installation.

WARNING:

To avoid serious injury or death during machine operation, install the appropriate kit for your machine make and model.

Machine Preparation

⚠ WARNING:

Inspect the machine and perform any needed maintenance (for example, contaminated hydraulic fluid) before installing the steer-ready installation kit. This kit cannot perform as intended on a machine that is not maintained properly. Errors in performance increase the risk of operator and bystander injury or death.

Failure to maintain clean hydraulic fluid and operational hydraulic components can cause loss of directional control resulting in serious injury or death.





Turn off the machine and power off all steer-ready components when installing or performing maintenance.

Before beginning to install any of the components, park the machine on a clean level floor with adequate clearance to work all around.

Before you perform any drilling, cutting or fastening, ensure that no other machine components, such as hydraulic hoses or electrical wiring, will be damaged. Failure to follow this warning may cause physical injury and/or damage to the machine.

Kit Contents - Electronic Control Unit



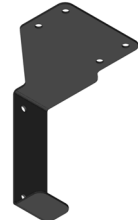


Unpack the electronic control unit kit and identify the parts as shown. Kit items are A, B, C etc. with an E (Electronic) prefix.

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
EA	050-0016-01#	1	ECU (eDriveXC) main cable (Connects ECU [EM] to various kit or machine components)	
Note: Item EB is not used in this installation				
EC	051-0399-000#	1	Steering controller cable (Connects steering controller EN to various kit or machine components)	
ED	050-0058-01#	1	Power cable (Connects machine's power to EM [thru EG])	
Note: Item EE is not used in this installation				
EF	054-0218-000#	1	Steering controller adapter cable (Connects EA's branch cable 'VALVES' to machine's harness)	

Kit Contents - Electronic Control Unit (*continued*)

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
EG	054-0168-000#	1	Power cable and switch (Install in EGa using EGb)	
EGa	607-0023-01	1	Switch bracket (Mount EG on terminal using EGb - comes bagged in your terminal kit)	
EGb	515-0027-01	2	Screw, SHCS, M3-0.5 x 8mm,SS (Use to mount EGa on terminal - comes bagged in your terminal kit)	
Bag 1 of 2 contains EH, EI and EJ				
EH	675-2002	2	Bolt, 1/4NC x 2-1/2" Gr5, ZP	
	678-1053	2	Washer, flat - 1/4", ZP	
	676-1034	2	Nut, lock - 1/4NC, ZP (Mount EN on EO or EP)	
EI	676-1088-000#	4	Nut, M8, ZP (Attach steering controller bracket EP [4WD only] to machine—if required)	
EJ	675-2081-000	3	Bolt, M8-08, 35MM, Gr 8.8, ZP (Mount EM)	
EK	054-0219-000	1	WAS adapter cable - MFWD	
EL	054-0220-000	1	WAS adapter cable - 4WD	
EM	806-1044-000#	1	ECU (eDriveXC) (Mount using EJ)	

Kit Contents - Electronic Control Unit *(continued)*

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
EN	750-5014-000	1	Steering controller (Mount using EH)	
EO	640-0178-000	1	Steering controller (EK) mounting bracket - MFWD (Mount using machine's bolts - see steps)	
EP	640-0179-000	1	Steering controller (EK) mounting bracket - 4WD (Mount using EI if necessary)	
Bag 2 of 2 contains EQ				
EQ	750-5013-000	1	Pressure transducer (Replaces machine's existing transducer)	
ER	677-2002	20	Tie strap, 7" releasable	

Installation 1 - MFWD: Steering Controller, ECU, Cabling

1. Install the steering controller (MFWD).

- a. Using hardware **EH**, mount steering controller **EN**—pressure warning outward (not shown)—against the large face of bracket **EO**, with **EO**'s 'extended top' to the right (Figure 1a).
- b. Using two of the machine's rubber flap mounting bolts (on the back of the cab—one visible in Figure 1b), install steering controller and bracket **EN/EO** against the mat, forward and to the left (as viewed) of the rear lamp bracket (Figure 1b).

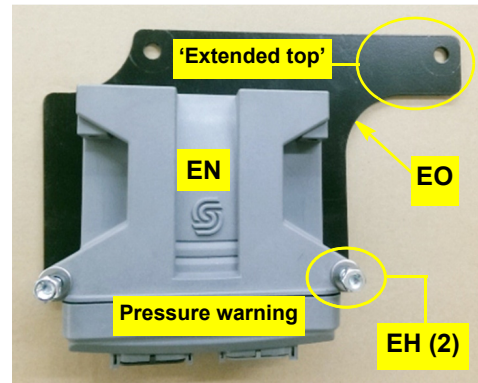


Figure 1a: Steering controller mounted on bracket

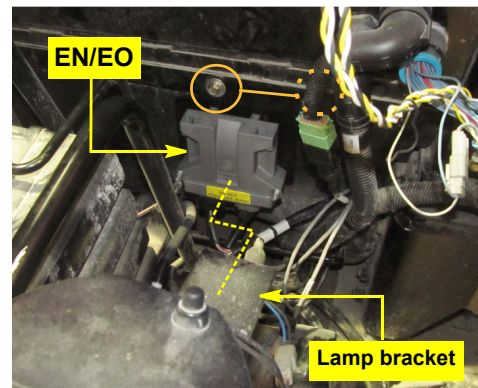


Figure 1b: Steering controller installed

2. Install the ECU (eDXC) and main cable (MFWD).

- a. Locate the prepared ECU mounting points on the metal box frame inside the fender well compartment to the right of the driver's seat (Figure 2a with inset).
- b. Connect main cable **EA** (not visible in Figure 2b) to ECU **EM**. Pass the cable rearward into the fender well compartment toward the back of the cab then, threading bolts **EJ** into the welded nuts on the mounting frame (only three will align with the holes in the ECU—see note following), install ECU **EM**.

NOTE:

Correctly installed, the long sides of the ECU will be parallel to the ground.

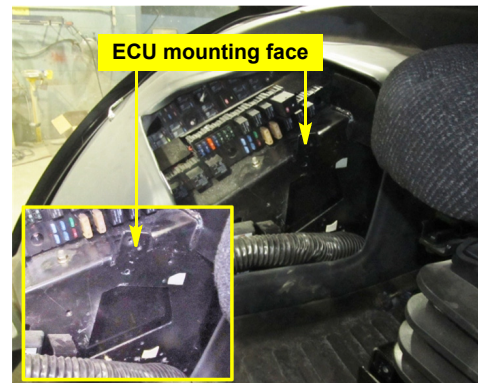


Figure 2a: ECU mounting location

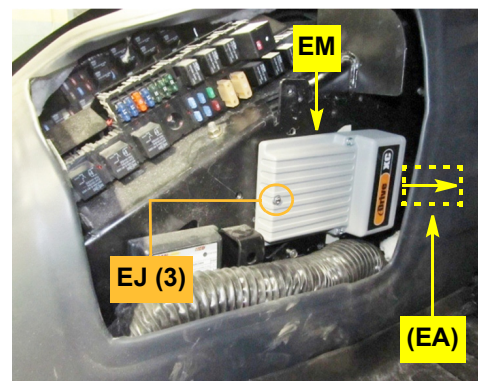


Figure 2b: ECU installed (EA connected)

3. Connect remaining cables (MFWD).

NOTE:

1. The text and figures in this section detail the connections that you will need to make. Exactly when you make the connections depends on individual installations and your working preferences.

2. In the following cable connecting/routing steps, route all cables with other machine cables or plumbing, free from entanglement. Use tie straps **ER** as required.

3. Some figures show prototype cabling.

On a clean surface lay out all the cables and become familiar with the connections and where they are to be placed—see Appendix, page 11).

- a. Locate the machine's unconnected 12-pin connector in the right rear corner of the cab (rearward of the ECU installation—circled in Figure 3a). Install adapter cable **EF** between that connector (Figure 3a top/left inset) and **EA**'s branch cable labeled 'VALVES' (Figure 3a bottom/right inset).

- b. Locate the machine's power cable connector in the right rear of the cab (Figure 3b, near the connections made in step 3a). Connect power cable **ED** to the machine's connector (Figure 3b).

Connect **ED**'s branch cables to **EA**'s branch cables labeled 'RMT_ENGAGE', 'EXT_POWER' (Figure 3b inset) and your terminal's power cable.

- c. Attach power switch **EG** to cable **EA**'s connector labeled 'PWR_SWITCH'. Some machines are equipped with pop out tabs that you can remove and replace with switch **EG**. If no tab is available, you can use (from your terminal kit) bracket **EGa** mounting it in the cab at the operator's preferred location using **EGb**.

NOTE:

Set switch **EG** to OFF before connecting **EA** to the battery.

- d. Complete remaining branch cable connections.
- e. Behind the cab, connect steering controller cable **EC**'s two 12-pin connectors (black and gray) to their respective sockets on steering controller **EN** (Figure 3c).

Locate the machine's 12-pin connector (the external continuation of the 12-pin cabling in step 3a). Connect it to **EC**'s branch cable labeled 'ECU' (Figure 3c).

- f. Locate the machine's PVE controller at the PVE block inboard of the front of the right rear tire (Figure 3d and insets). Connect **EC**'s branch cable labeled 'PVE' to the machine's PVE controller (Figure 3d right inset).

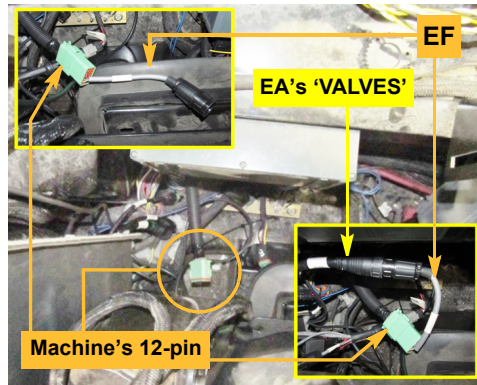


Figure 3a: Machine harness to ECU connection

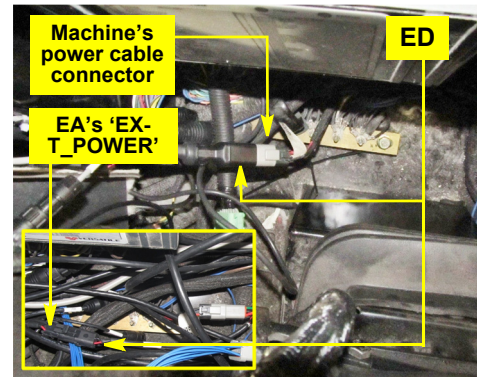


Figure 3b: Power connections

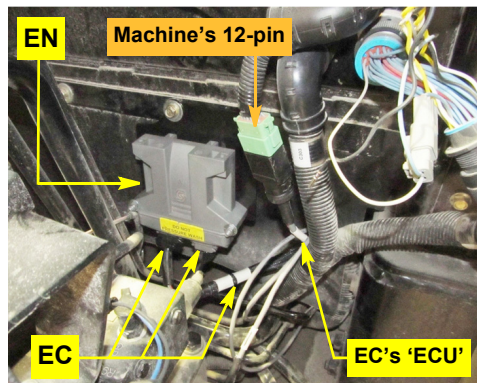


Figure 3c: Steering controller main cable connected and its connection to ECU

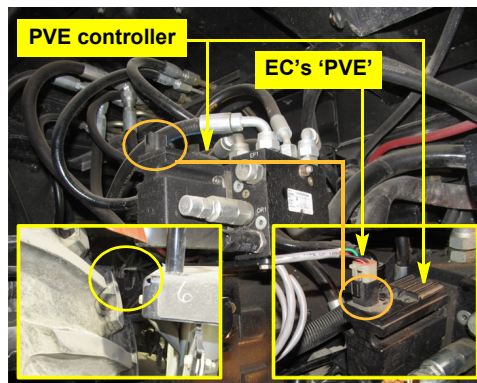


Figure 3d: Steering controller to PVE controller connection

3. **Connect remaining cables (MFWD) (continued).**

- g. Locate the machine's existing PVE pressure transducer in the PVE block (Figure 3e - see also step 3f). Remove it and install replacement transducer **EQ** (Figure 3e top inset). Connect **EC**'s branch cable labeled 'PRESSURE' to the newly installed transducer (Figure 3e bottom inset).

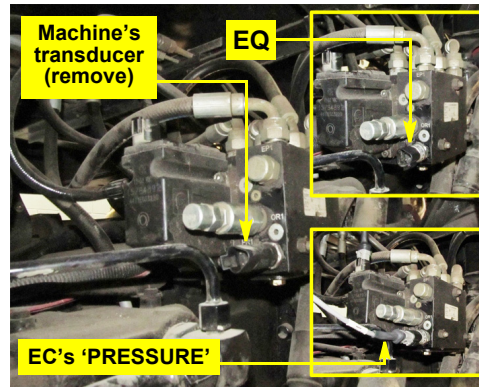


Figure 3e: Pressure transducer replacement

- h. Locate the machine's wheel angle sensor cable connectors behind the front axle, on the left side near the tie rod (Figure 3f and left inset). Split the connectors and connect WAS adapter cable **EK**'s branches to the machine's cable connectors (Figure 3f right inset). Connect the other end of **EK** to **EC**'s branch cable labeled 'WAS'.

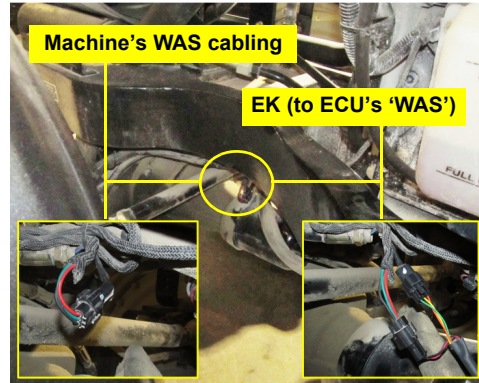


Figure 3f: WAS cable (re)connections

Installation 2 - 4WD: Steering Controller, ECU, Cabling

1. Install the steering controller (4WD).

NOTE:

At step a. the studs referred to may be in use. If they are, you can still use them adding bracket EP to whatever is already there (using existing hardware instead of nuts EI).

- a. Locate the four threaded studs under the rear of the cab, to the right and slightly forward of the bulk-head cable connections cluster (Figure 1a). Using nuts **EI**, install bracket **EP** with its bottom step forward (Figure 1a, inset). (Secure the cable clamp/cables on the front left stud.)
- b. Using hardware **EH** install steering controller **EN** on bracket **EP** with its connector sockets to the right and its pressure washing warning forward (Figure 1b).

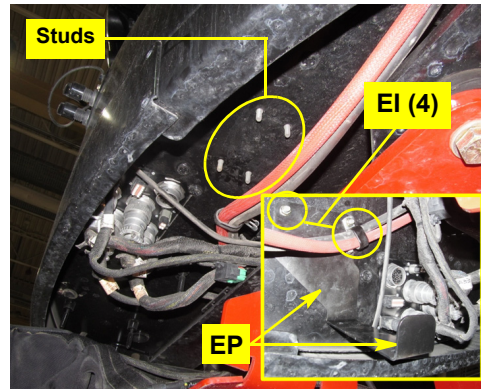


Figure 1a: Steering controller bracket location and bracket installed (cable clamp secured)

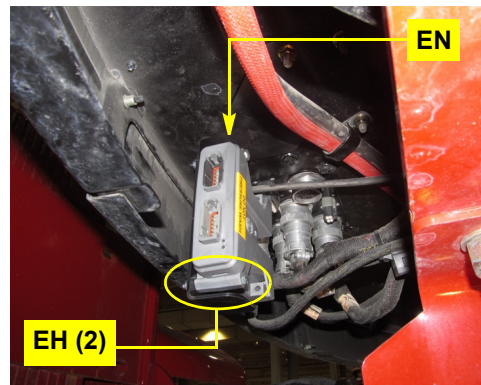


Figure 1b: Steering controller installed

2. Install the ECU (eDXC - 4WD).

- a. Locate the pre-installed ECU mounting bracket in the cabling compartment behind the driver's seat (Figure 2a).
- b. Using bolts **EJ** into the welded nuts on the mounting, mount ECU **EM** with its connector socket to the right (left as viewed - Figure 2b and inset).

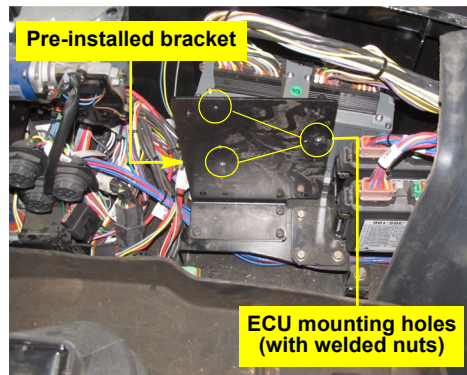


Figure 2a: ECU mounting bracket

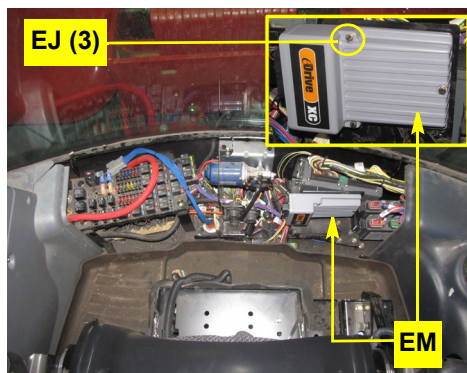


Figure 2b: ECU installed

3. Connect remaining cables (4WD).

NOTE:

1. The text and figures in this section detail the connections that you will need to make. Exactly when you make the connections depends on individual installations and your working preferences.

2. Route all cables with other machine cables or plumbing, free from entanglement. Use tie straps ER as required.

3. Some figures show prototype cabling.

On a clean surface lay out all the cables and become familiar with the connections and where they are to be placed—see Appendix, page 11.

- a. Connect ECU main cable **EA** to ECU **EM** (Figure 3a).
 - b. In the rear cabling compartment, locate the machine's unconnected 12-pin connector (Figure 3b near the wiper motor). Install adapter cable **EF** between that connector and **EA**'s branch cable labeled 'VALVES' (Figure 3b).
 - c. Locate the machine's power cable connector (from beneath the ECU installation—Figure 3c). Connect power cable **ED** to the machine's connector (Figure 3c top/right inset).
- Connect **ED**'s branch cables to **EA**'s branch cables labeled 'RMT_ENGAGE', 'EXT_POWER' (Figure 3b inset) and your terminal's power cable.
- d. Attach power switch **EG** to cable **EA**'s connector labeled 'PWR_SWITCH'. Some machines are equipped with pop out tabs that you can remove and replace with switch **EG**. If no tab is available, you can use (from your terminal kit) bracket **EGa** mounting it in the cab at the operator's preferred location using **EGb**.

NOTE:

Set switch **EG** to OFF before connecting **EA** to the battery.

- e. Under the cab, connect steering controller cable **EC**'s two 12-pin connectors (black and gray) to their respective sockets on steering controller **EN** (Figure 3d).

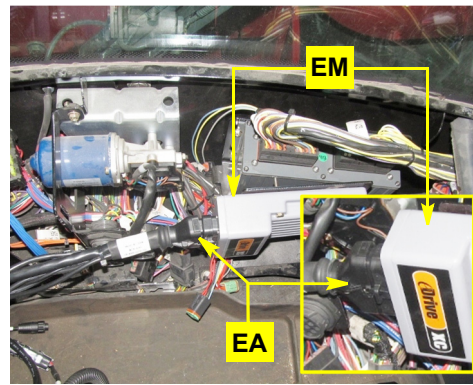


Figure 3a: ECU's main cable connected

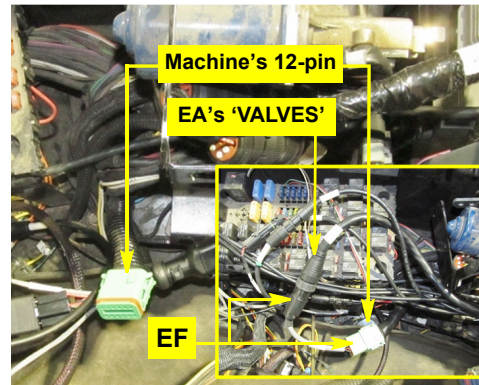


Figure 3b: Adapter cable to machine's harness

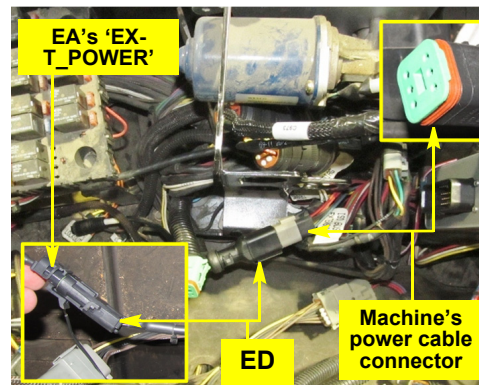


Figure 3c: Power connections

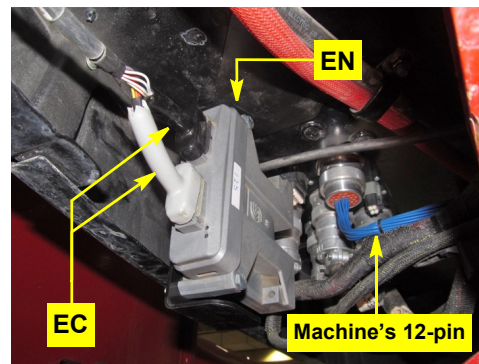


Figure 3d: Steering controller's main cable connected

3. **Connect remaining cables (4WD) (continued).**

- f. From the cable connections cluster, locate the machine's 12-pin connector (the external continuation of the 12-pin cabling in step 3b—Figures 3d and 3e left image). Connect it to EC's branch cable labeled 'ECU' (Figure 3e right image).

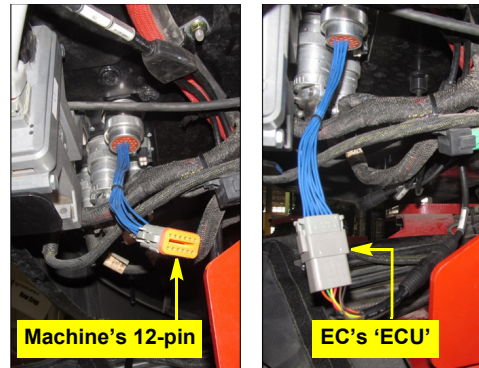


Figure 3e: Machine's harness (L) to steering controller's cable 'ECU' (R)

- g. Locate the machine's PVE controller at the PVE block under the cab to the right of the articulation joint (Figure 3f and top inset). Connect EC's branch cable labeled 'PVE' to the machine's PVE controller (Figure 3f, bottom inset).

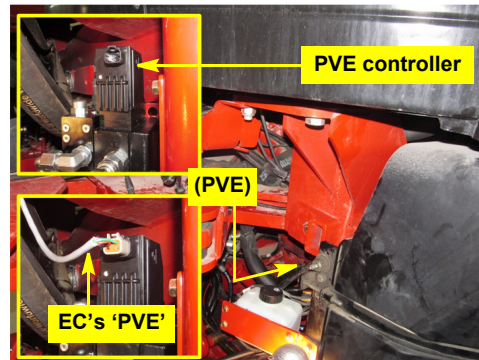


Figure 3f: Steering controller to PVE controller

- h. Locate the machine's existing PVE pressure transducer in the PVE block (Figure 3g - see also step 3g). Remove it and install replacement transducer EQ (Figure 3g top inset). Connect EC's branch cable labeled 'PRESSURE' to the newly installed transducer (Figure 3g bottom inset).

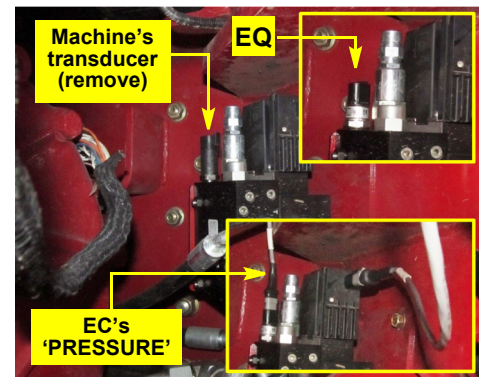


Figure 3g: Pressure transducer replacement

- i. Locate and split the machine's wheel angle sensor cable(s) connection (with triangular connector—Figure 3h top right inset) under the cab (coming from forward of the steering controller installation—Figure 3h: connector already split). Connect WAS adapter cable EL's branch connectors to the machine's connectors. Connect the other end of EL to EC's branch cable labeled 'WAS' (Figure 3h).

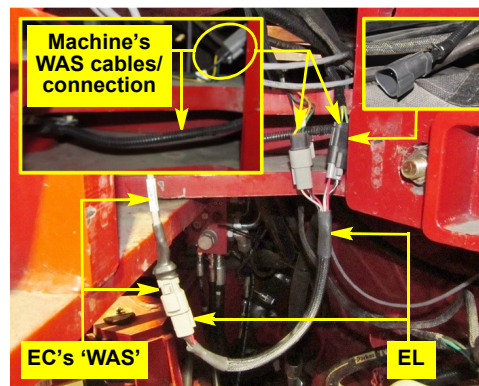


Figure 3h: Steering controller to machine's WAS cable(s) connection

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Appendix - ECU Cables and Connections

