Installation Guide

Installation Kit: 911-8114-10

For all 2010 & older CNH Accuguide Ready 4WD tractors.

Wheeled and Quadtrac Models

Case IH

STX275	STX430	Steiger 380
STX280	STX435	Steiger 385
STX325	STX440	Steiger 430
STX330	STX450	Steiger 435
STX335	STX480	Steiger 480
STX375	STX485	Steiger 485
STX380	STX500	Steiger 530
STX385	STX530	Steiger 535
STX425	STX535	

New Holland

TJ275	TJ425	T9020
TJ280	TJ430	T9030
TJ325	TJ450	T9040
TJ330	TJ480	T9050
TJ375	TJ500	T9060
TJ380	TJ530	

Introduction

WARNING!!!

Unexpected machine movement may occur when creating a new machine profile, switching machine profiles, changing valve type setting, or connecting a terminal with a different machine profile active.

Ensure the 3 position power switch is in the center (roading) position before performing any of the above operations until the proper machine profile and valve type is selected.

The procedures outlined in this guide provide the basic installation procedure for the eDriveM1 on the machines specified on the front cover of this guide. If you do not see your machine listed, contact customer support for further instruction. The kit components and corresponding install instructions are designated for each applicable machine make and model and may not be used on undesignated machine models.

Review Installation Kit Contents

Kit contents are outlined in the following pages of this installation guide. Read all applicable installation instructions for your machine's model and ensure that all required kit components are present before beginning the installation.

Read and Follow All Safety Messages

- Refer to the safety manual for the machine that the eDriveM1 is being installed on for operating age and precautions.
- Prior to installing and operating the eDriveM1, read and understand all safety precautions as outlined in this guide.
- Store this guide and all related safety information with related machine manuals for future reference.

Introduction

Safety Information and Warnings*

- eDriveM1 is NOT designed to replace the machine's operator and is designed as a driving aid for use in precision agriculture applications.
- eDriveM1 is NOT intended for use on roadways and should remain disengaged at all times when traveling on roadways.
- eDriveM1 does NOT control the speed of the machine and a human operator is required to manually maintain a safe operating speed.
- eDriveM1 does NOT avoid obstacles. To prevent human, machine and property injury a human operator is required to operate the machine at all times.
- Do NOT allow anyone to operate without instructions.
- At all times the driver is fully responsible for the safe operation of the vehicle.

* The safety warnings contained in this installation guide are not meant to be an exhaustive list of potential hazards.

- To ensure peak performance, eDriveM1 should only be installed after a thorough machine inspection has been conducted. The contents of this kit and eDriveM1 are not intended to replace preventative and or needed maintenance. To avoid bodily and machine injury, follow the machine preparation checklist below:
    - ⇒ Inspect steering linkage: Machine should drive in a straight line without manual correction
    - ⇒ Turn off machine and power-off all electronic gauges, monitors and external devices when installing or performing maintenance on the eDriveM1
    - ⇒ Park machine on a clean and level surface
    - ⇒ Lower all implements and headers to the ground
    - ⇒ Apply the parking break and chock wheels
    - ⇒ Inspect any drilling and/or cutting sites to ensure no electrical wiring damage will be incurred

Cabling Diagram

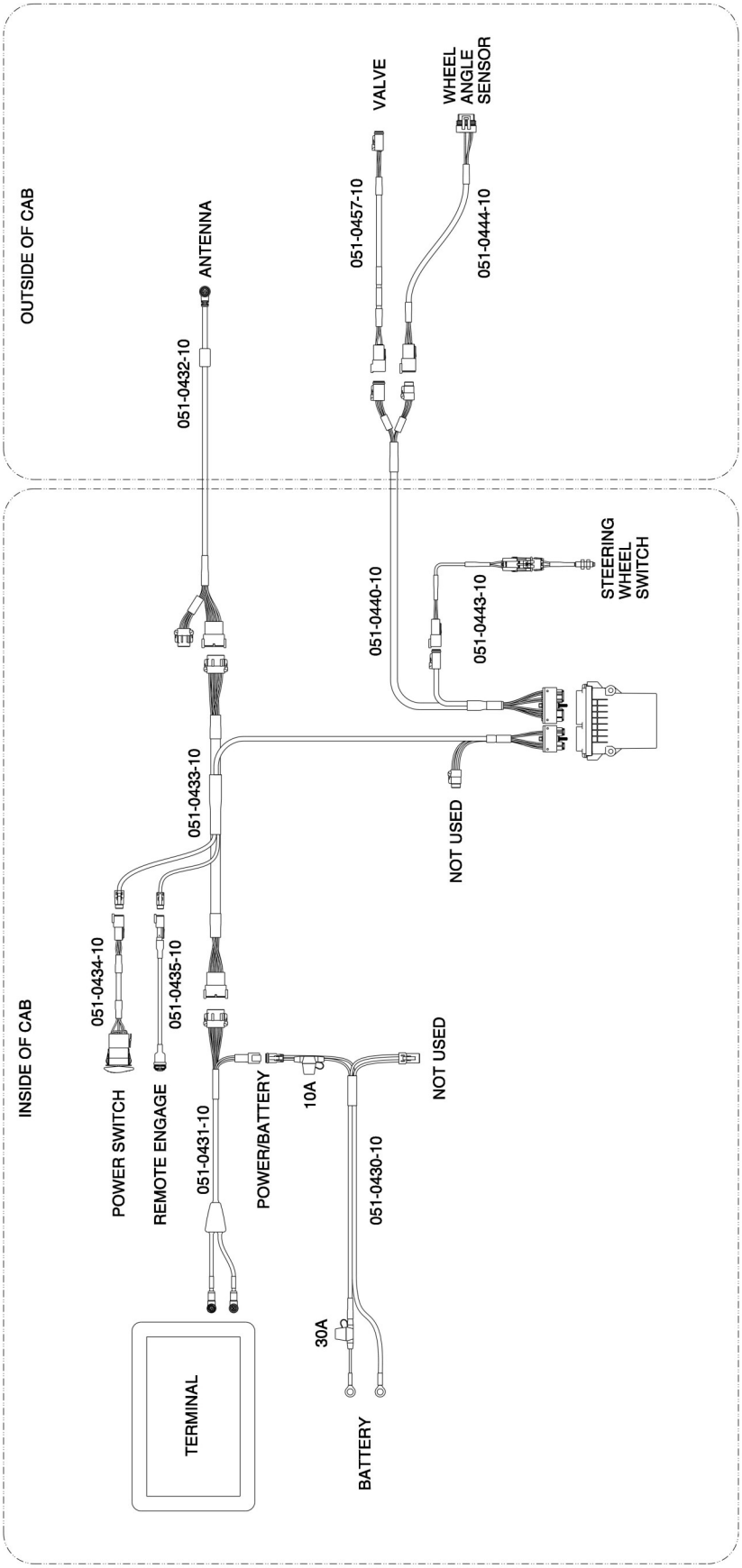


Figure 1

Steering Wheel Switch Installation (Wheeled Machines)

Locate the contents of the Steering Wheel Switch kit.

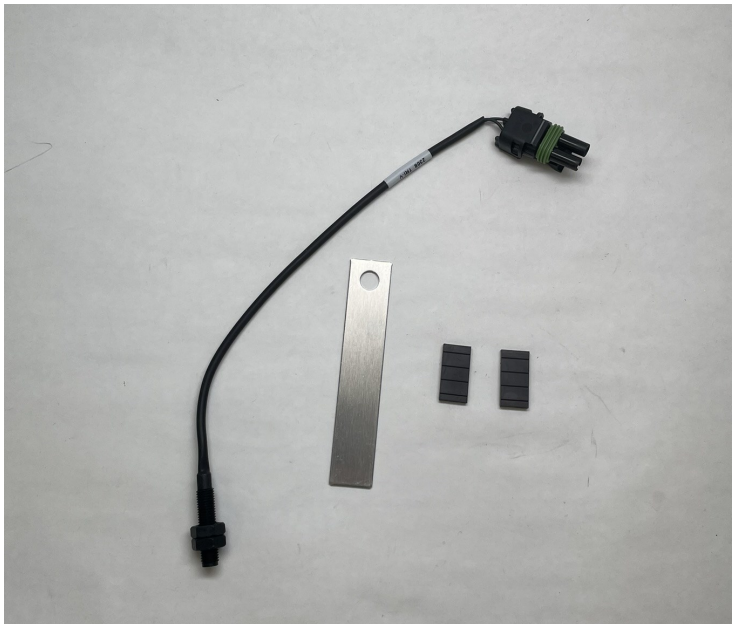


Figure 2

Drill a 3/8” hole in the sensor bracket at the opposite end from the sensor hole. Put a 90° bend in the end just drilled to 3/8”

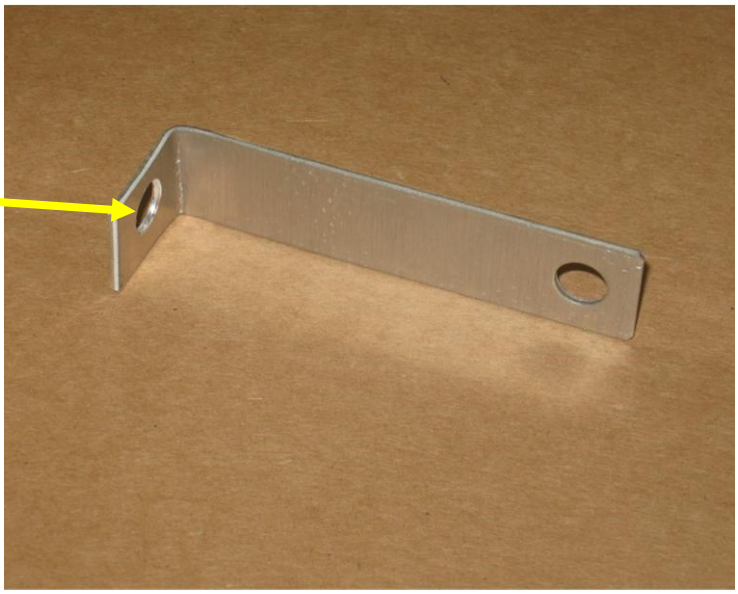


Figure 3

Steering Wheel Switch Installation (Wheeled Machines)

Remove the bottom steering shaft shield flange nut. Using the bent sensor arm as a template, drill a ½” hole in the steering shaft shield Figure 4. Cut one of the magnets in half. Using the two-part epoxy, attach one half of the magnet to the inner steering shaft. Turn the shaft 180° and attach the other half magnet.

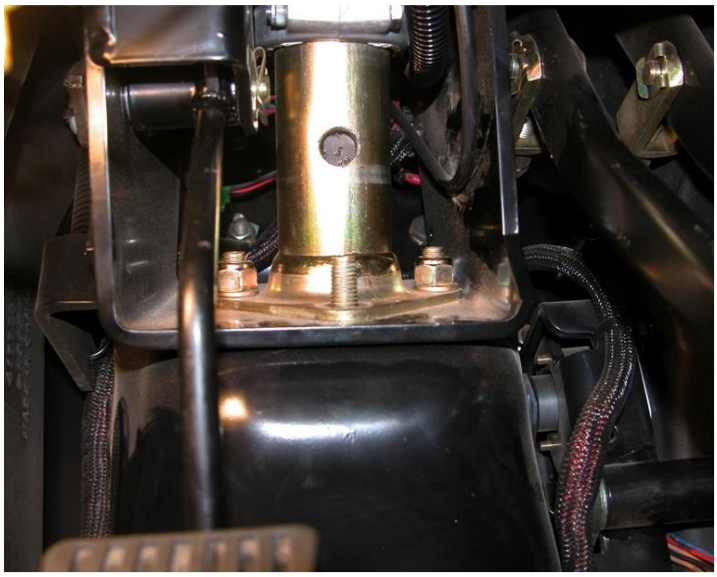


Figure 4

Attach sensor to the bracket. Fasten the sensor arm to the steering shaft shield flange with the nut removed in previous step Figure 4.

Align the sensor with the magnets and adjust the sensor face to 1/8” to 1/4” from the magnets Figure 5.

Steering Wheel Switch install is complete for your wheeled machine. Proceed to ECU Installation on page 9.

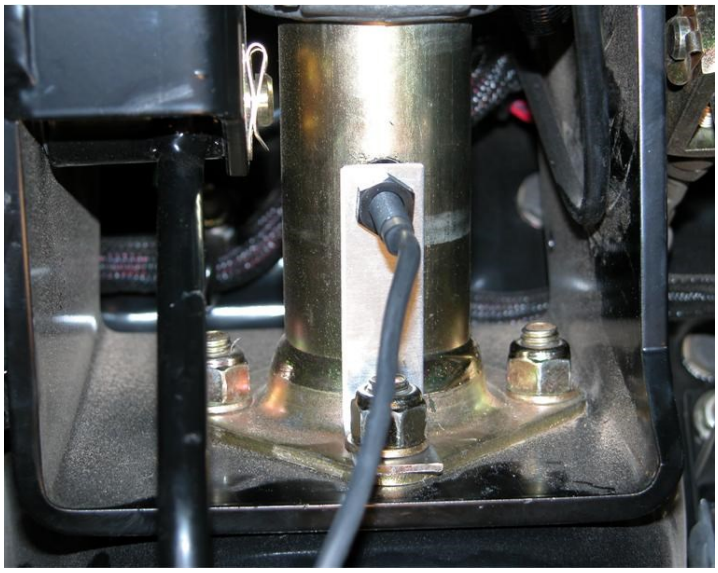


Figure 5

Steering Wheel Switch Installation (Quadtrac Machines)

Cut the switch bracket in half (into 2” lengths). Discard the end without the pre-drilled switch hole. Drill a 1/8” pilot hole in the opposite end from the switch hole, 3/8” from the cut end and 3/16” from the right edge. Put a 90° bend halfway along the bracket so that the new hole remains on the right on the internal bend side Figure 6.

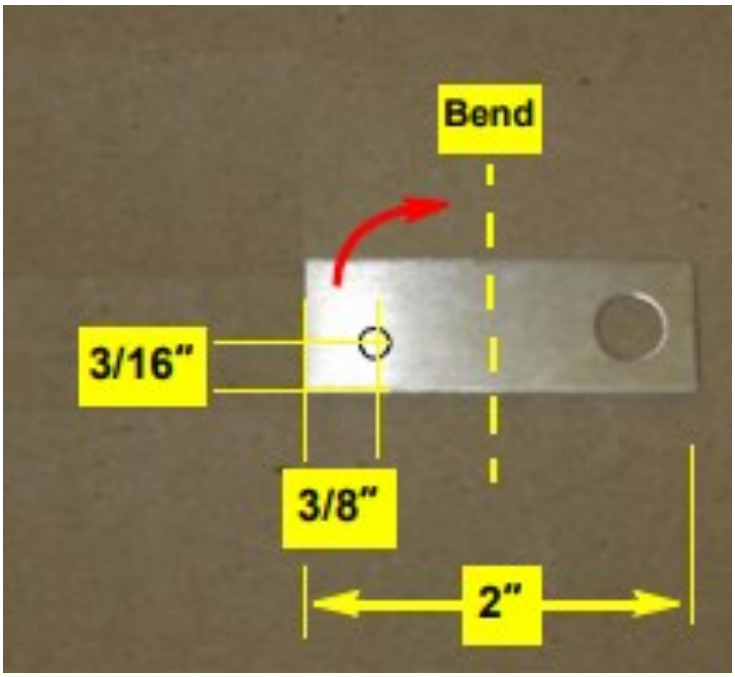


Figure 6

Remove the steering wheel center cap and the steering wheel retaining nut and washer.

Following the manufacturer’s recommended procedure, remove the steering wheel.

Consult your equipment dealer if you are unsure of the correct procedure for removing the steering wheel.

Remove the cover screw to the right of the steering shaft and swing the plastic cover clear.

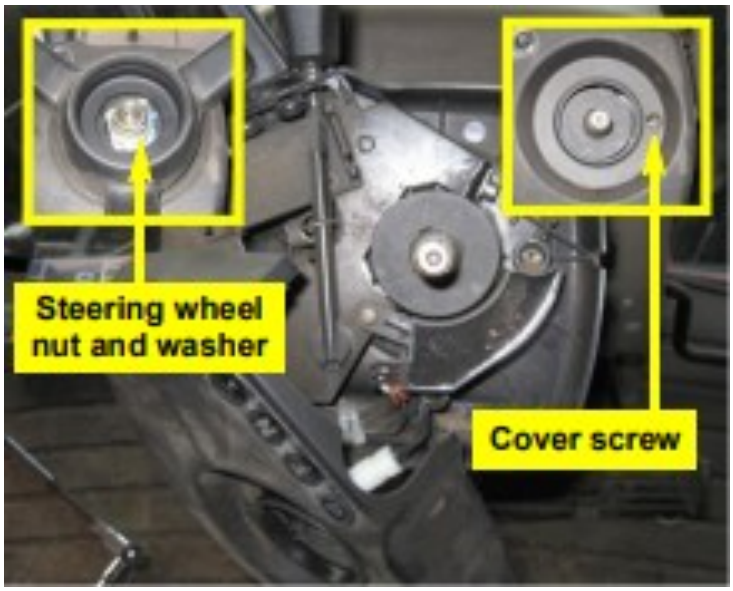


Figure 7

Steering Wheel Switch Installation (Quadtrac Machines)

Remove the top screw (at the 11 o'clock position) and, using that screw, install switch bracket squarely facing the magnetic ring.

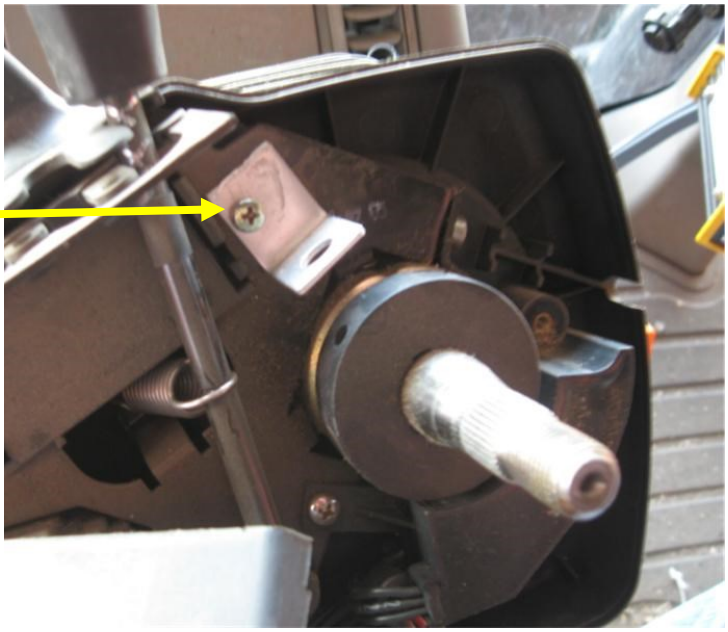


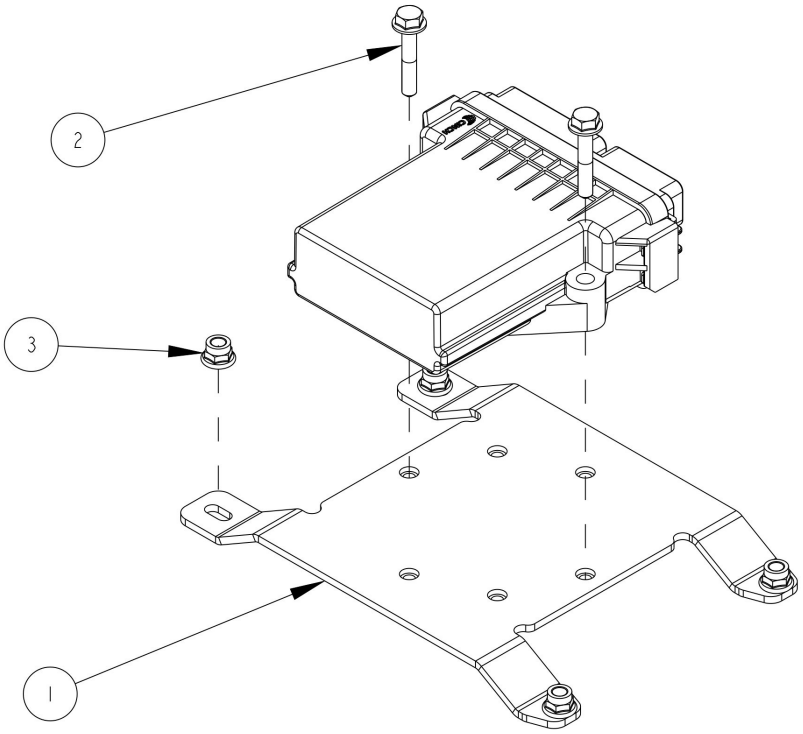
Figure 8

Install the switch into the bracket and adjust the sensor face to 1/8" to 1/4" from the magnetic ring. Run the sensor cable out through the slot in the right edge of the lower plastic. Refit the cover, steering wheel and center cap.

Figure 9

ECU Installation

Required items for ECU install listed below



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	640-0201-10	BRACKET, ECU, EDM1
2	2	675-1362-10	SCREW, FLANGE, HEX, M6-1.0x35
3	4	676-1089-000	NUT, M6-1.0, NYLOK, FLANGED, ZP

Figure 10

The ecu mounting location is under the buddy seat. Pull the plastic tub out to gain access to the fuse panel.

Note: For older model machines there may not be a fuse panel under the buddy seat. Proceed to ECU mounting on page 11.

Figure 11

ECU Installation

Remove the 4 fasteners shown in Figure 12.

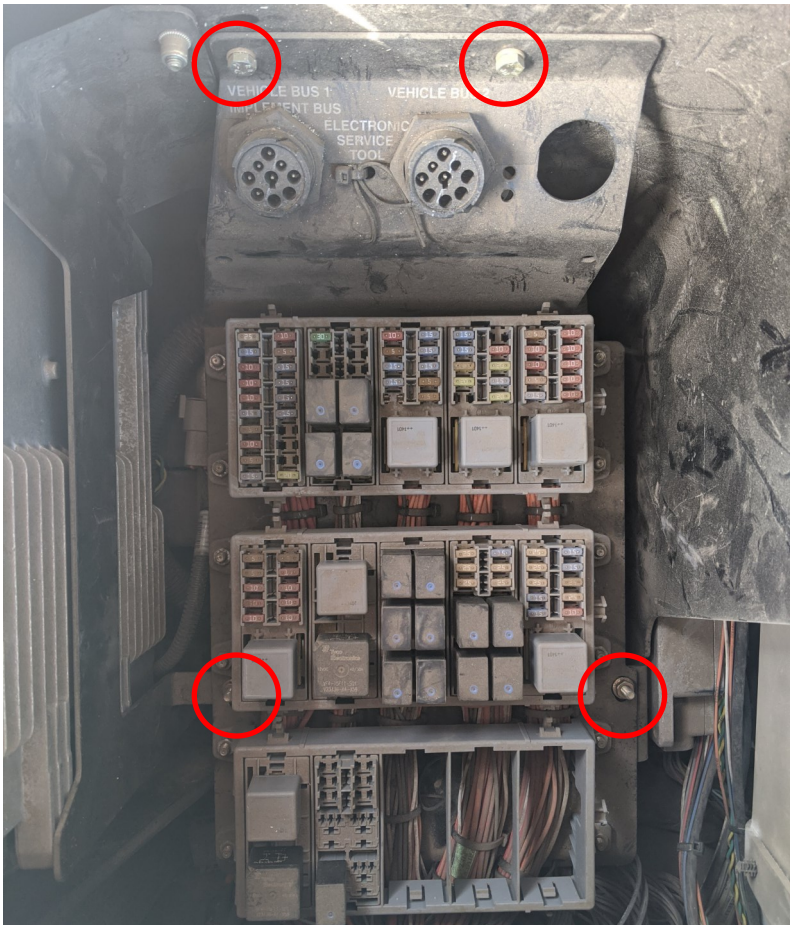


Figure 12

Use a zip tie to secure the fuse panel up and out of the way.

Figure 13

ECU Installation

Secure ecu bracket (item 1) to the floor of the compartment using the Qty 4 M6 flange nuts (item 3).

Attach the eDriveM1 steering ECU to the bracket using included hardware (item 2) ECU shown in Figure 6 is installed with logo facing up and connector pointing right.

This orientation will need entered into the display for the first calibration step.

You may have to connect the harnesses to the ecu before securing the ecu to the bracket.

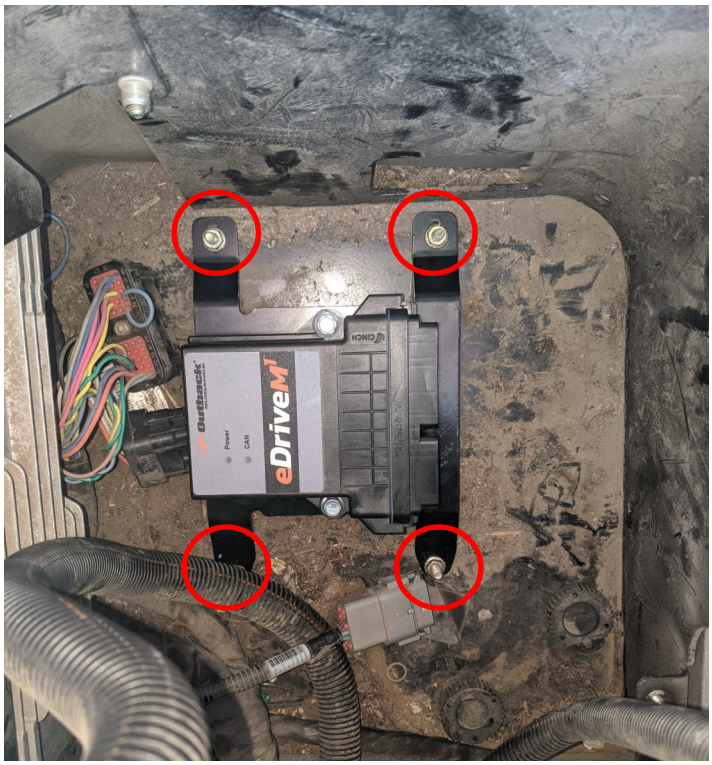
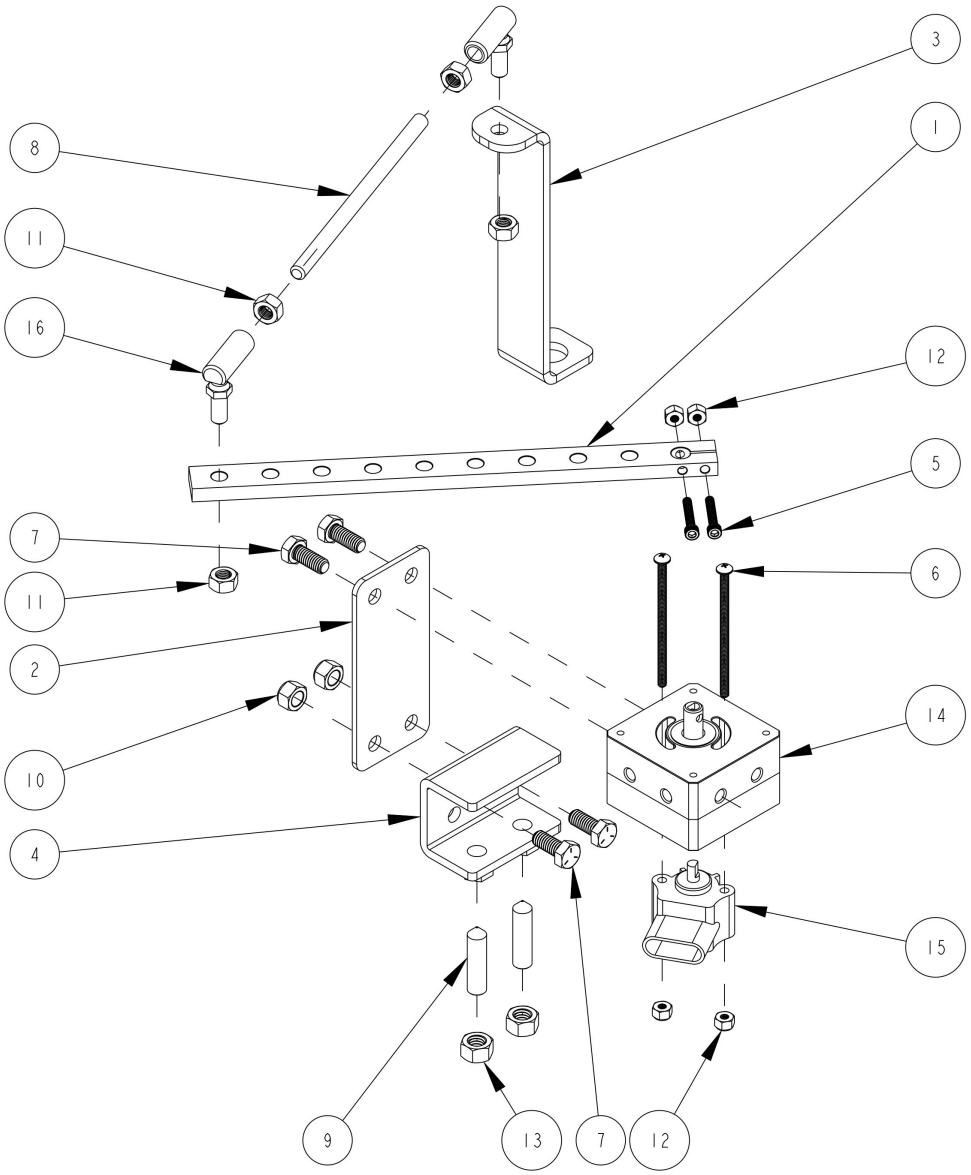


Figure 14

Wheel Angle Sensor Installation (Wheeled Machines)

Required items for WAS install listed below, For Quadtrac machines see page 18.



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	602-1087-000	CONNECTOR ARM
2	1	640-0073-000	EDX WAS HOUSING MOUNT EDX-CSTX2
3	1	640-0074-000	EDX WAS ROD MOUNT EDX-CSTX2
4	1	640-0085-000	EDX WAS CLAMP MOUNT EDX-CSTX2
5	2	675-1150-000	SCREW- SOCKET HEAD, 8-32x1"
6	2	675-1191-000	SCREW- PHILLIPS HEAD, 8-32x3"
7	4	675-2010	BOLT- HEX, 5/16-18 x 3/4", GR5
8	1	675-2031-000	THREADED ROD- 5/16-24 x 12"
9	2	675-2043-000	CONE POINT ALLEN 3_8-16X1-1_2
10	2	676-1036	NUT, NYLOCK - 5/16NC ZP
11	4	676-1053-000	NUT- 5/16-24
12	4	676-1054-000	NUT- NYLOK, 8-32
13	2	676-1085-000	NUT, HEX, 3/8-16, SS
14	1	720-0045-000	WAS HOUSING ASM
15	1	750-5002-000	SENSOR, WHEEL ANGLE
16	2	760-0018-000	ROD END, SWIVEL, 5/16-24

Figure 15

Wheel Angle Sensor Installation (Wheeled Machines)

Position the sensor on the housing as shown in the Figure 16. Use (item 6) and (item 12) to secure the sensor to the housing.

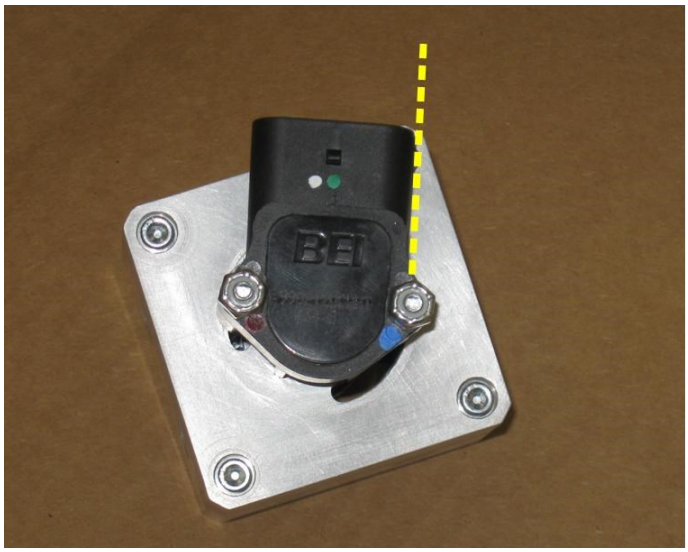


Figure 16

Cut 2 holes off of the WAS arm (item 1) opposite of the WAS shaft mounting hole (circled in red). See Figure 17 for reference.

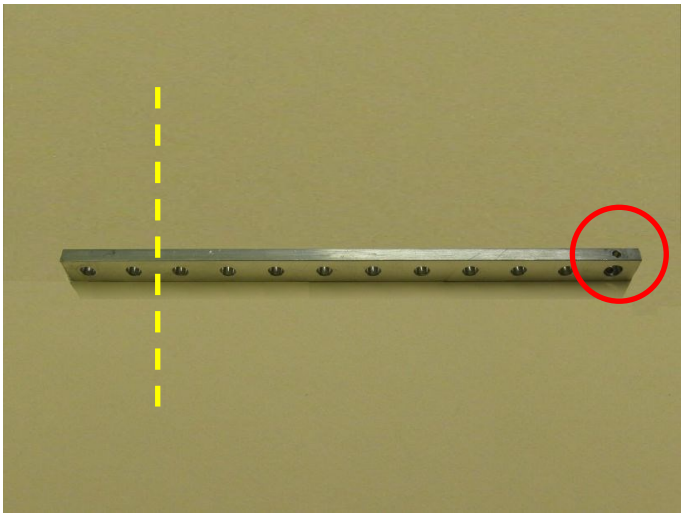


Figure 17

Attach the WAS arm to the WAS sensor housing assembly. Make sure the WAS arm is facing the same direction as the sensor connector.

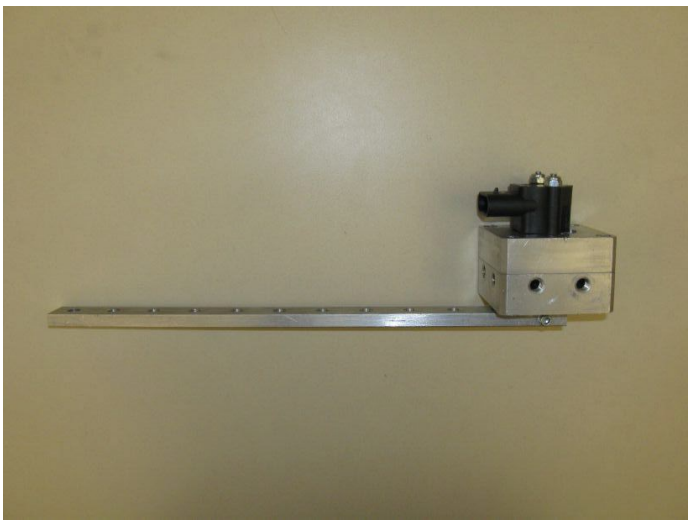


Figure 18

Wheel Angle Sensor Installation (Wheeled Machines)

Screw the provided 5/16” nuts (item 11) onto the threaded rod (item 8) so that they are inside the cut you will make. After the rod has been cut the nuts will help clean the threads. Cut the 5/16” threaded rod (item 8) 5 3/4”.

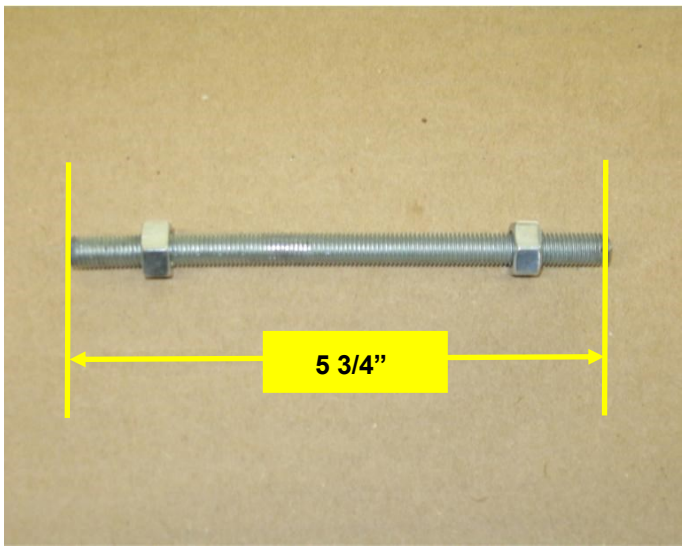


Figure 19

Screw the swivel rod ends (item 16) onto the cut threaded rod to achieve a center to center stud measurement of 7”. Leave the 5/16” nuts loose until you complete the WAS linkage installation.

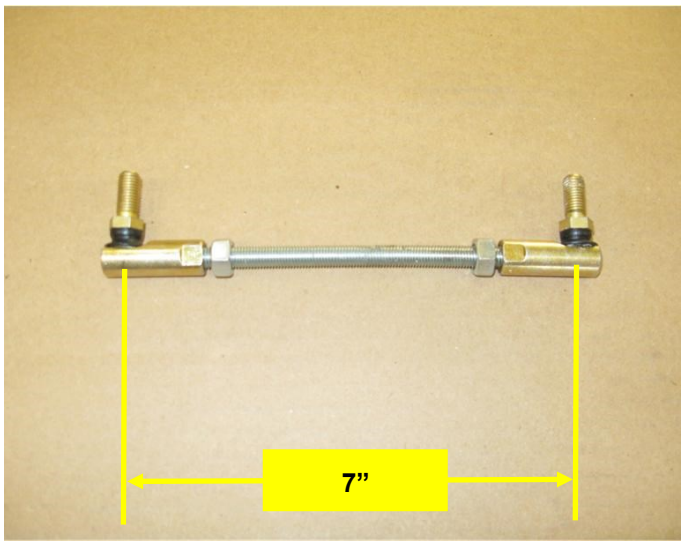


Figure 20

Using hardware (item 7) and (item 10) fasten the clamp bracket (item 4) to the extension bracket (item 2) with the welded nuts on the bottom. Use the top holes in the clamp bracket (item 4).

Figure 21

Wheel Angle Sensor Installation (Wheeled Machines)

Locate the top frame brace near the articulation point of the tractor Figure 22.

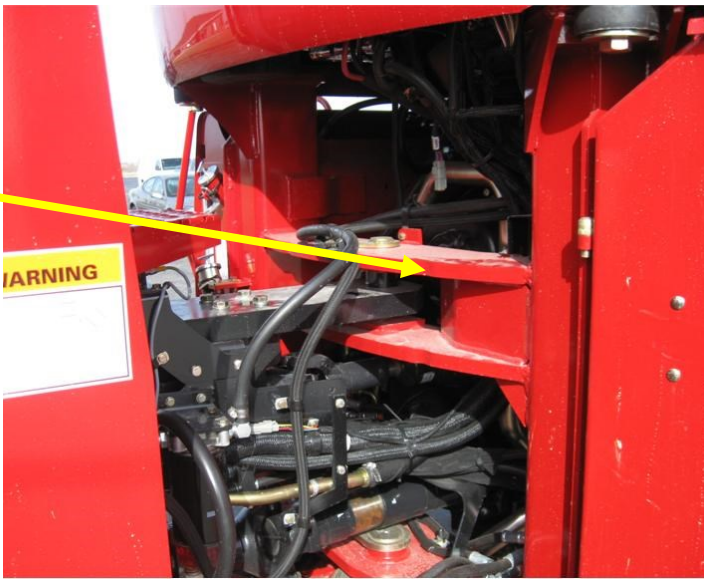


Figure 22

Attach the bracket assembly to the back lip of the top frame brace. The center of the assembled brackets must be 7” from the center of the articulation point. Using hardware (item 7) attach the WAS assembly to the brackets shown in Figure 21. The sensor connector must face the front right section of the tractor.

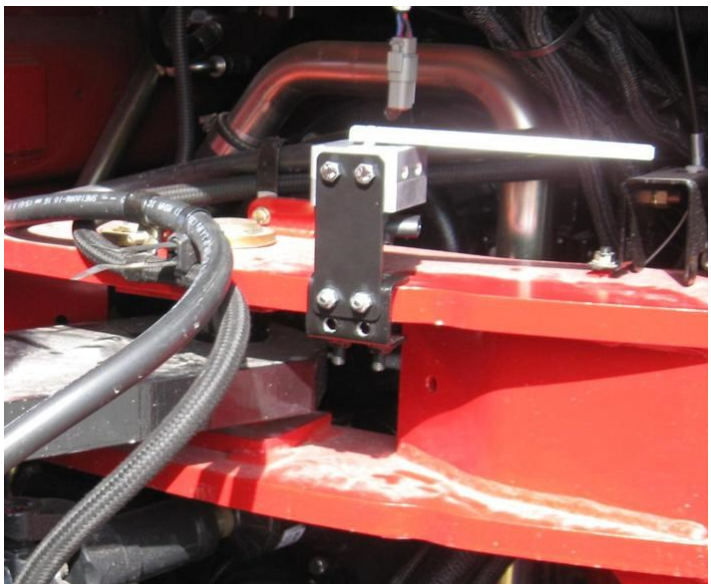


Figure 23

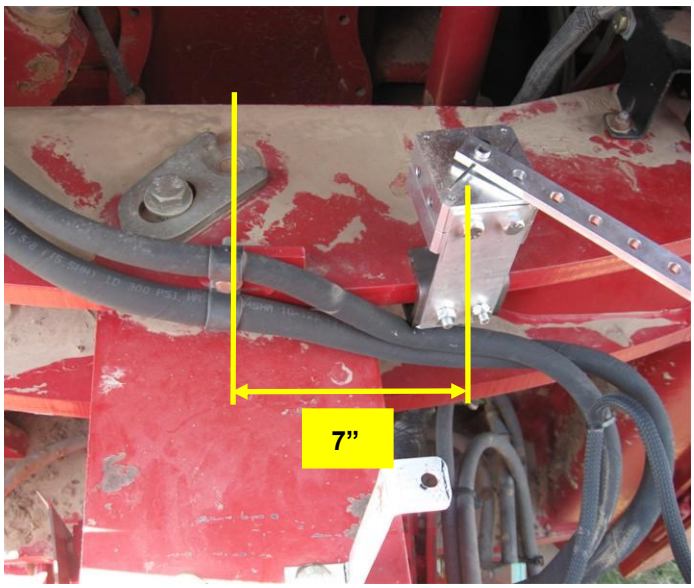


Figure 24

Wheel Angle Sensor Installation (Wheeled Machines)

Remove the front right bolt from the articulation linkage.

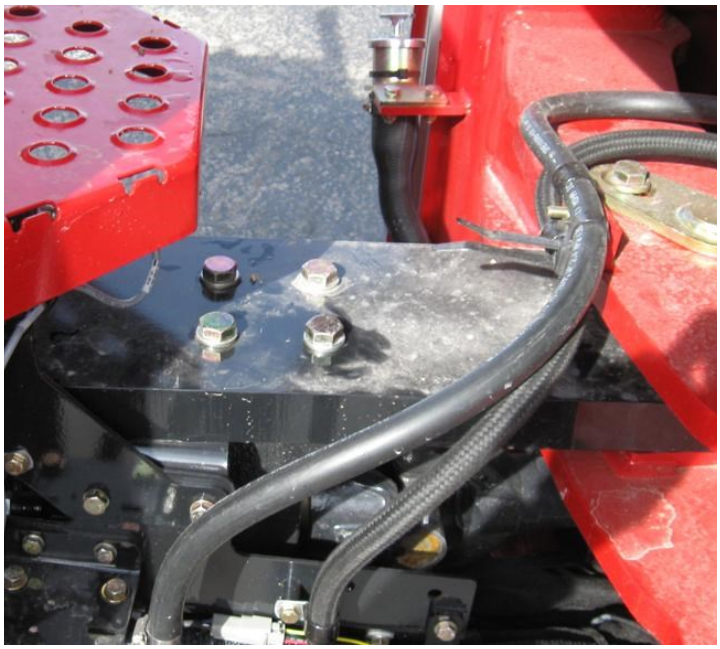


Figure 25

Use the bolt removed from the previous step and install the WAS rod mounting bracket (item 3). Set the bracket at 90 degrees right to the articulation linkage.

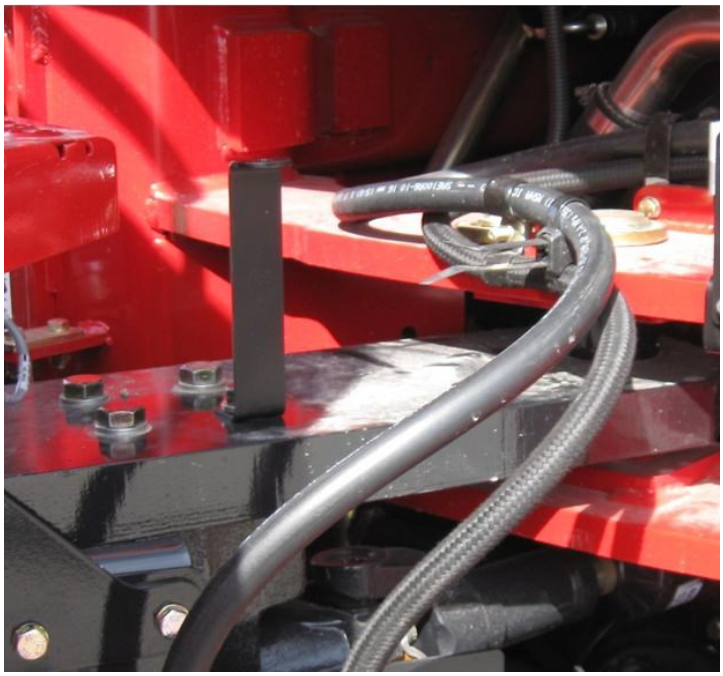


Figure 26

Wheel Angle Sensor Installation (Wheeled Machines)

Install the assembled WAS linkage between the road bracket (item 3) and the last hole in the WAS connector arm (item 1). Install the linkage with the swivel studs downward but leave the swivel stud nuts (item 11) loose.

Full Left Lock

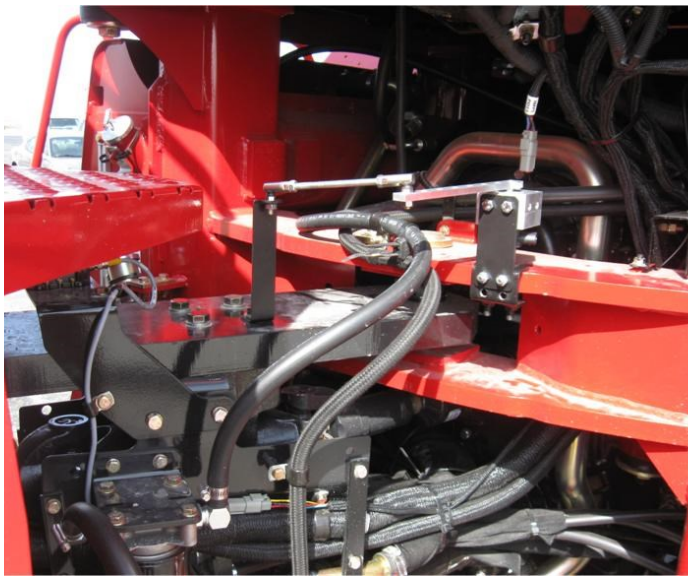


Figure 27

Full Right Lock

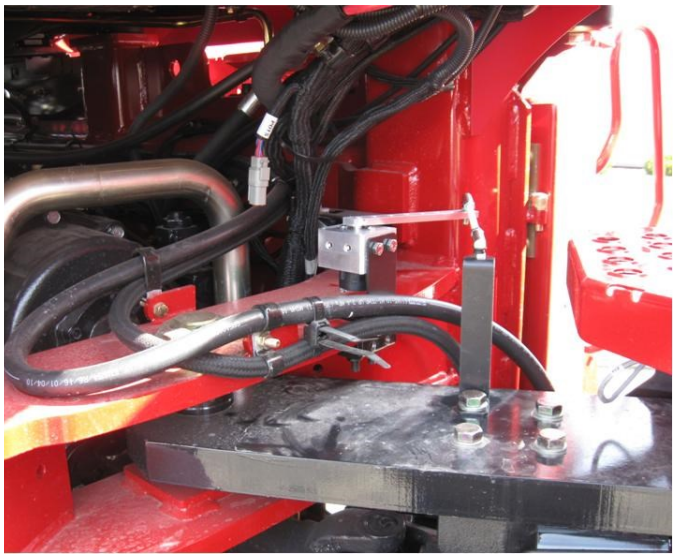
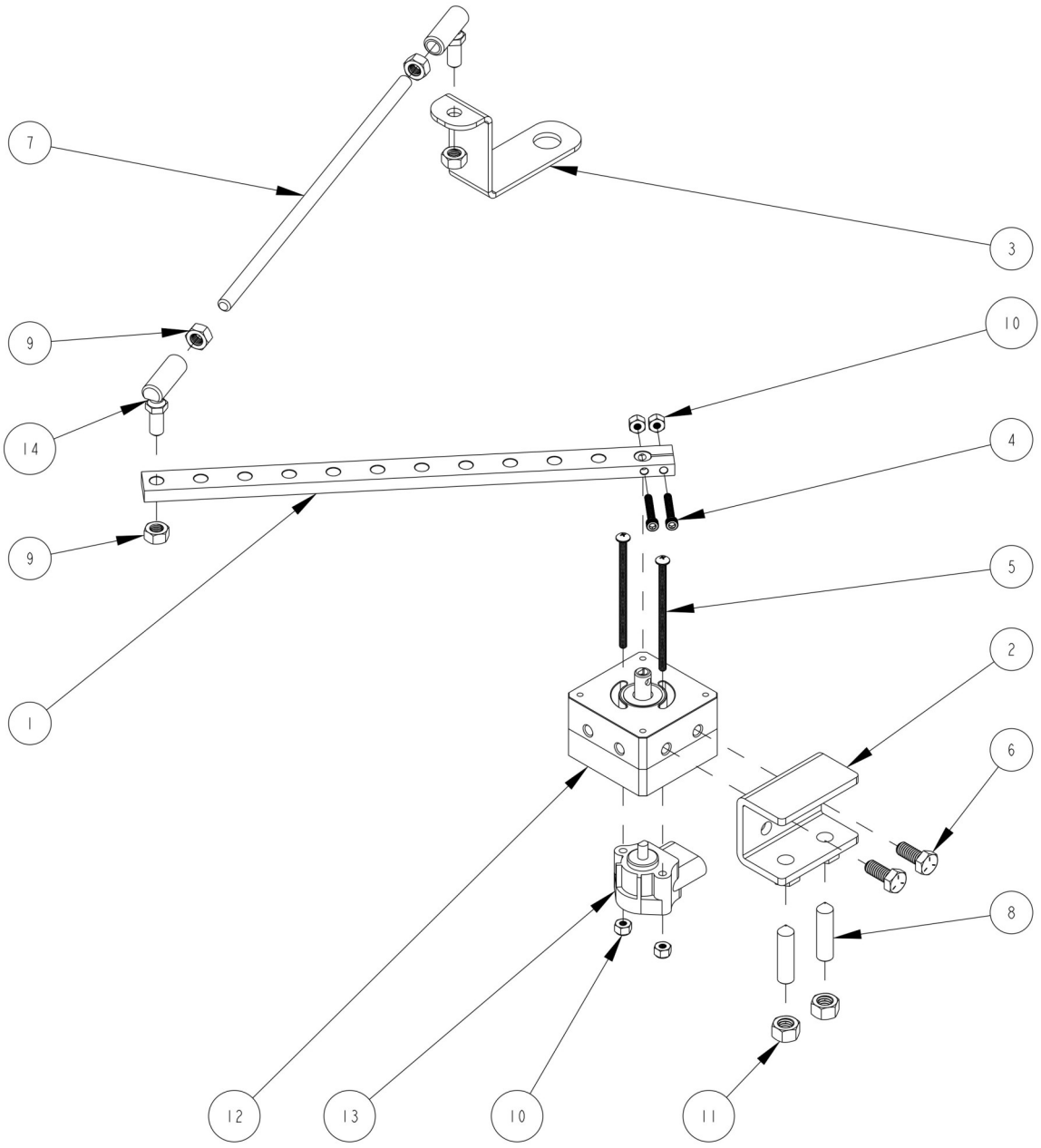


Figure 28

With all hardware loose, slowly turn the wheels full left lock then full right lock pictured below. Check that the linkage moves freely without binding and adjust the linkage if necessary. When the linkage does move freely and without binding, tighten hardware on the rod and the swivels.

Wheel Angle Sensor Installation (Quadtrac Machines)

Required items for WAS install listed below



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	602-1087-000	CONNECTOR ARM
2	1	640-0085-000	EDX WAS CLAMP MOUNT EDX-CSTX2
3	1	640-0112-000	EDX WAS ROD MOUNT - STX QUAD
4	2	675-1150-000	SCREW- SOCKET HEAD, 8-32x1"
5	2	675-1191-000	SCREW- PHILLIPS HEAD, 8-32x3"
6	2	675-2010	BOLT- HEX, 5/16-18 x 3/4", GR5
7	1	675-2031-000	THREADED ROD- 5/16-24 x 12"
8	2	675-2043-000	CONE POINT ALLEN 3_8-16X1-1_2
9	4	676-1053-000	NUT- 5/16-24
10	4	676-1054-000	NUT- NYLOK, 8-32
11	2	676-1085-000	NUT, HEX, 3/8-16, SS
12	1	720-0045-000	WAS HOUSING ASM
13	1	750-5002-000	SENSOR, WHEEL ANGLE
14	2	760-0018-000	ROD END, SWIVEL, 5/16-24

Figure 29

Wheel Angle Sensor Installation (Quadtrac Machines)

Position the sensor on the housing as shown in the picture to the right. Use (item 5) and (item 10) to secure the sensor to the housing.

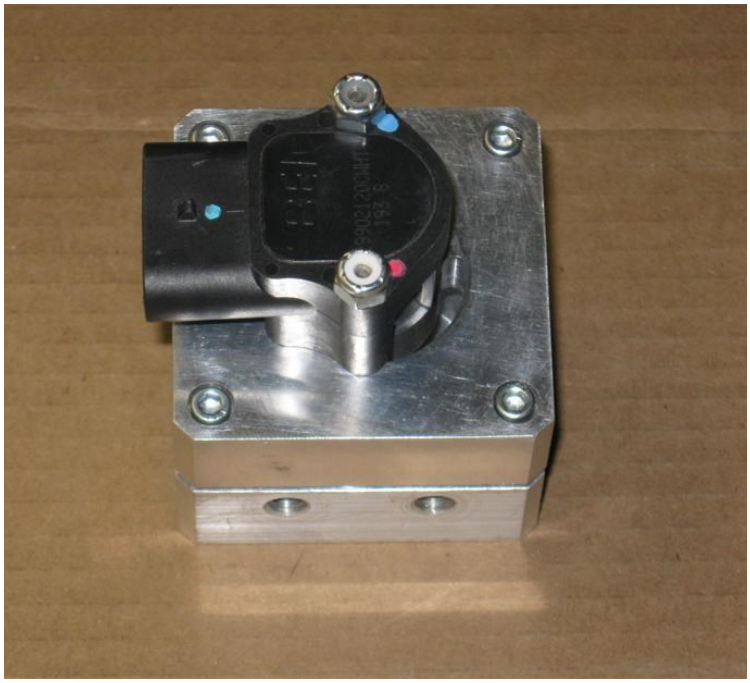


Figure 30

Using hardware (item 4) and (item 10) attach the WAS connector arm (item 1) to the WAS assembly. Mount the arm in the opposite direction to the WAS wire connector (item13) shown in Figure 31.

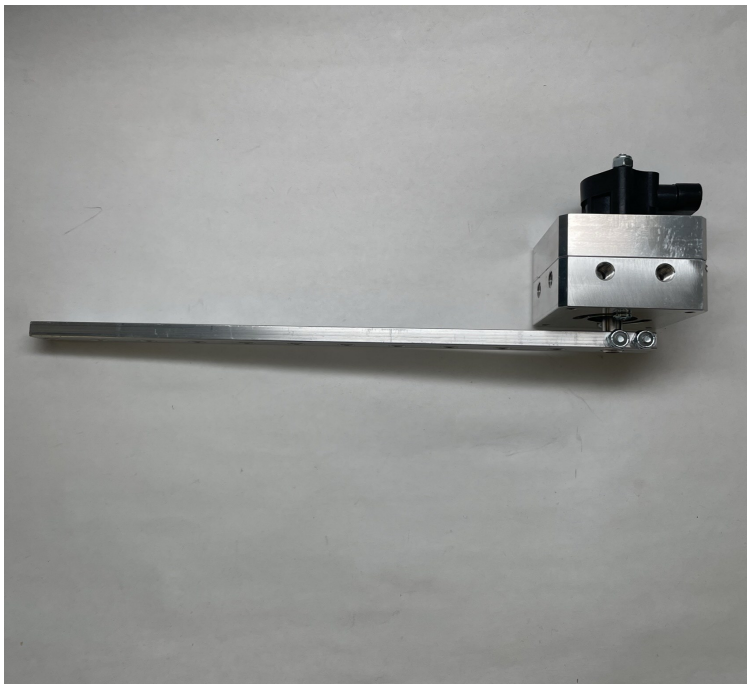


Figure 31

Wheel Angle Sensor Installation (Quadtrac Machines)

Screw the provided 5/16” nuts (item 9) onto the threaded rod (item 7) so that they are inside the cut you will make. After the rod has been cut the nuts will help clean the threads. Cut the 5/16” threaded rod (item 7) to 9 3/4”.

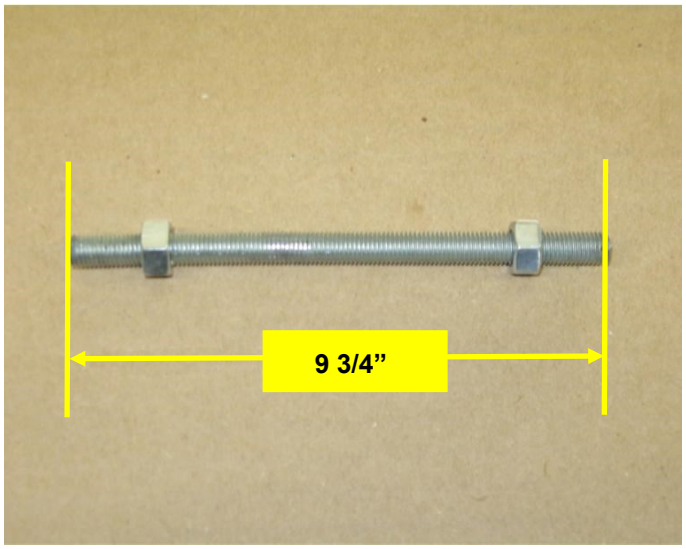


Figure 32

Screw the swivel rod ends (item 14) onto the cut threaded rod to achieve a center to center stud measurement of 11”. Leave the 5/16” nuts loose until you complete the WAS linkage installation.

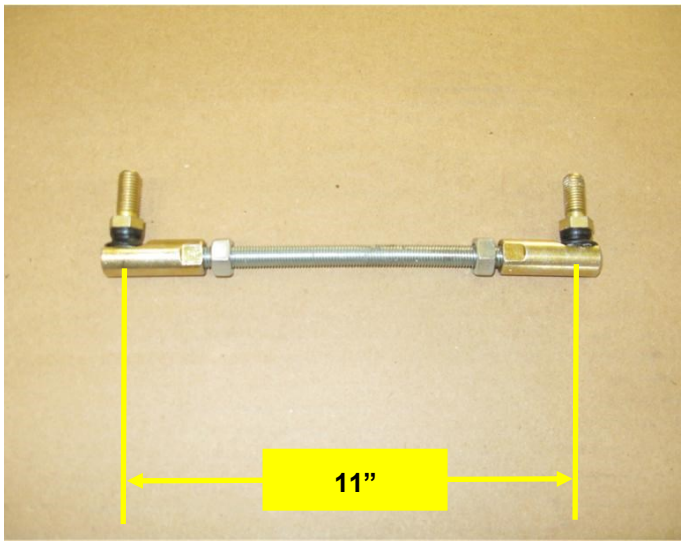


Figure 33

Wheel Angle Sensor Installation (Quadtrac Machines)

Locate the top frame brace near the articulation point of the tractor. You will mount the WAS assembly on the right side of the articulation point.

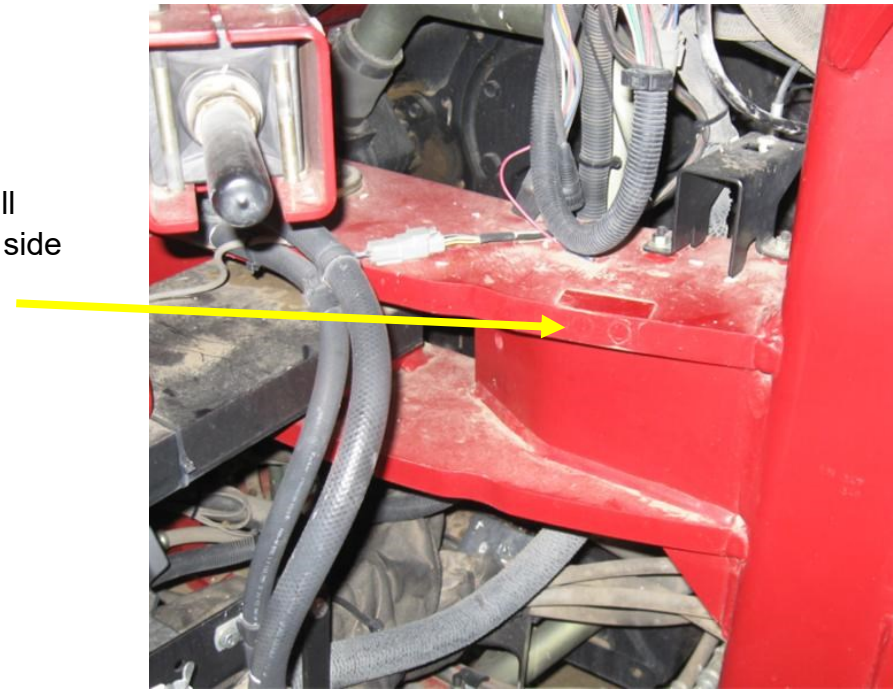


Figure 34

Using hardware (item 6), attach the WAS assembly to clamp bracket (item 2). Use the top 2 holes of (item 2) Have the connector arm (item 1) pointing away from the center of the machine. The WAS sensor connector will point towards the center of the machine as shown in Figure 35 pictured right.

Use cone allen bolts (item 8) to attach clamp bracket and WAS assembly to the lip of the top frame brace. The right edge of the clamp bracket (item2) must be 3 1/4” from the nearest end of the frame brace. Use the Qty 2 jam nuts (item 11) to lock the cone allen bolts into the clamp bracket.

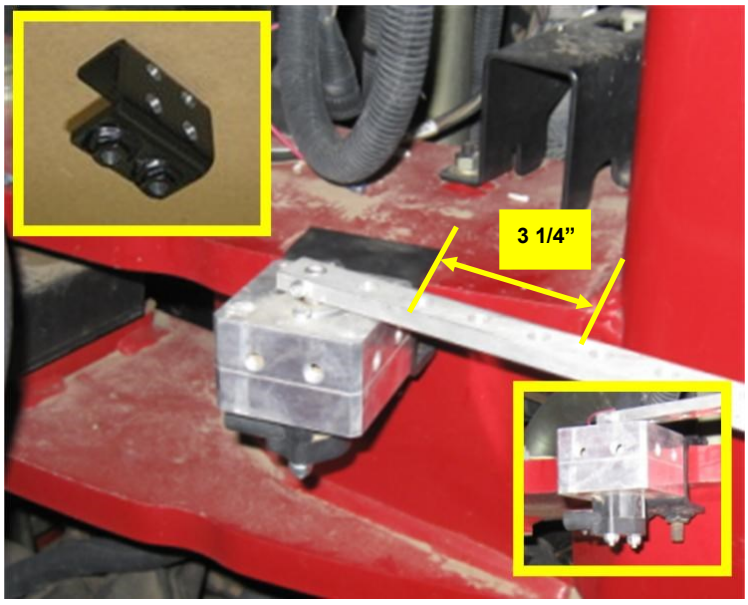


Figure 35

Wheel Angle Sensor Installation (Quadtrac Machines)

Remove the rear bolt from the right side of the steps push arm assembly's clevis coupling on the machine's articulation center link, using the removed bolt, install WAS link rod bracket (item 3) on the clevis coupling. Set (item 3) square to the clevis coupling and with its short leg outward.

Figure 36

Install the assembled WAS linkage from Figure 33 between the rod bracket (item 3) and the last hole in the connector are (item 1). Install the linkage with the swivel stud downward at the rod link bracket, upward at the connector arm. Leave the swivel stud nuts loose.

With all the hardware loose, slowly turn the wheels full lock left then full right lock. Check that the linkage moves freely without binding and adjust the linkage if necessary. When the linkage does move freely and without binding, tighten hardware on the rod and the swivels.

Figure 37

Connecting to Steering PVE Valve.

Locate the PVE steering valve on the right side of the machine behind the right side access panel.

Figure 38

Disconnect the machine's harness from the PVE valve and connect the 051-0457-10 harness to the PVE valve.

Figure 39

Connecting to Wheel Angle Sensor

Connect the 051-0444-10 harness to the wheel angle sensor that was installed previously.

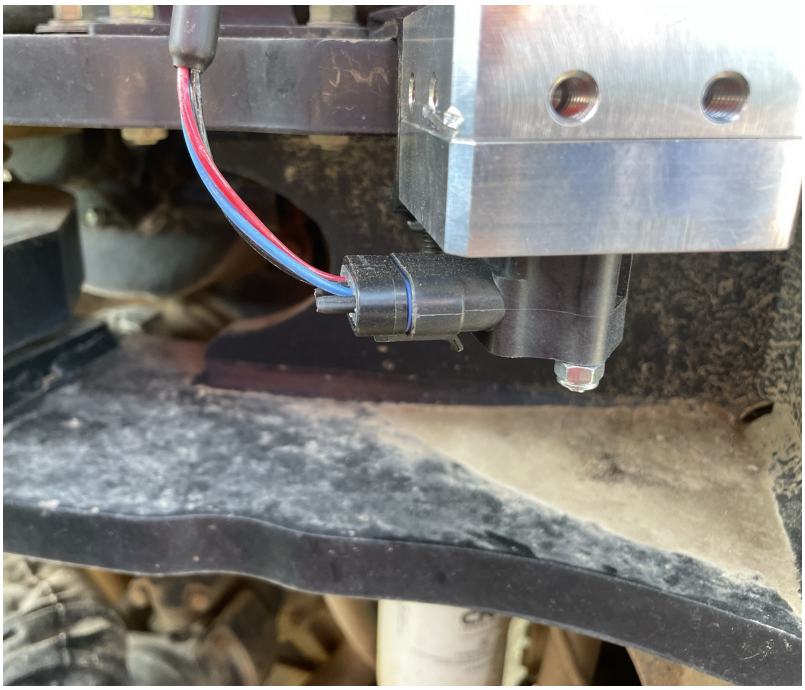


Figure 40

Cable routing in and out of the cab can be done through the holes located under the cab above the articulation point.

Connect all remaining harness ends per diagram Figure 1 page 4.

This concludes the cable connections for this install.

Figure 41

Initial Setup

When creating a new machine in your Maverix terminal, you will need to select “Hyd. Ratiometric” for your machines valve type. To setup the disengage sensor you will use the “Automatic Detection” feature. This will calibrate the disengage sensor and select “Digital (Freq.)” as the correct disengage sensor for your machine.

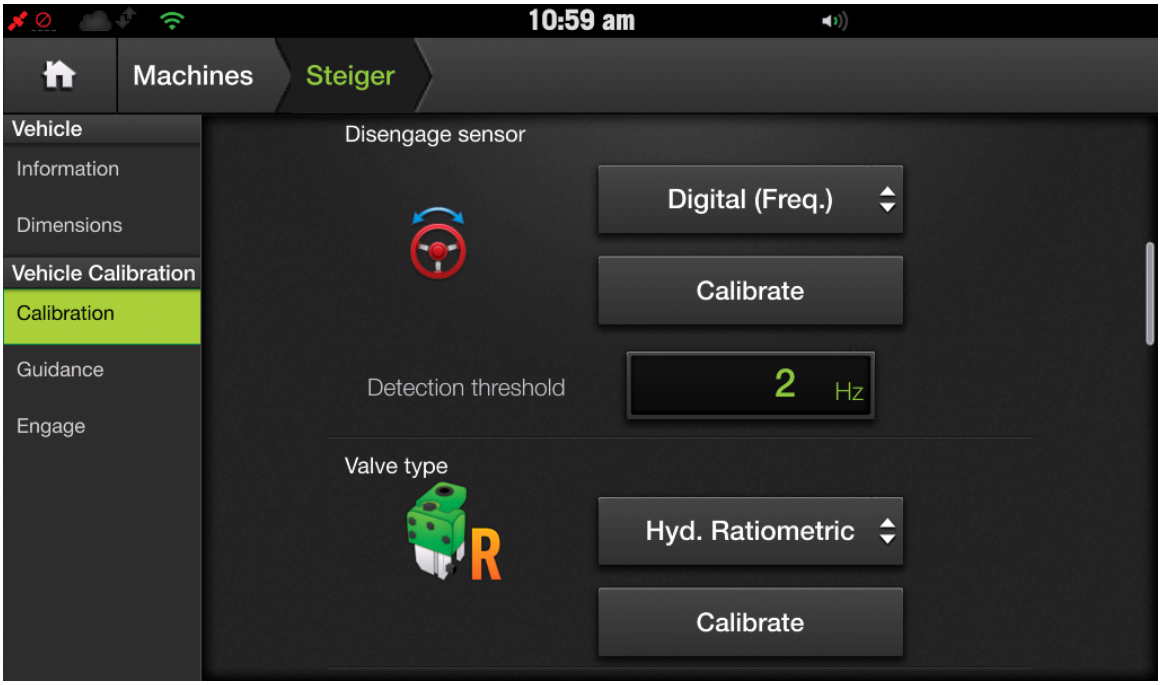


Figure 42

Troubleshooting & Diagnostics

To read the voltage values coming from the factory wheel angle sensor and or disengage steering encoder, refer to the terminal user guide to see where to read sensor diagnostic information.

Wheel Angle Sensor

The wheel angle sensor has a voltage output range of 0-5 volts. You should be able to see the wheel angle voltage change as you turn the tractor from full left lock to full right lock. If the voltage doesn’t go up or down when turning the steering wheel then there may be a problem with the wheel angle sensor.