



CRX + RS1

CNH INTELLISTEER <TIER 4B

016-8000-108EN REV. A1

Installation manual

(English) (Original)

R A V E N

PREFACE

This installation manual is intended for persons responsible for installing a CRx kit. The manual contains important instructions that should be complied with when commissioning, operating and servicing the CRx kit.

This manual has been compiled with the utmost care. Raven Europe assumes no responsibility for any errors or omissions in this document.

Any comments or questions can be sent to service-eu@ravenind.com.

Raven Europe or any of its suppliers will accept no liability for physical or material damage caused whilst using the CRx .

The installed Raven system produces less than 70dB (A) noise.

This installation guide uses a number of concepts for extra attention to a few things:



Hint!:

Provides recommendations on how certain activities can be performed much easier.



Please note!:

Indicates certain problems that the user should take note of.



Caution!:

Indicates that the machine can be damaged.



Warning!:

Indicates a risk of injury.

DISCLAIMER

WARNING!

- The safety instructions contained in the manuals of the tractor or implements must be complied with at all times.
- Always switch off the tractor before installing or repairing hydraulic and electrical components of the SBGuidance system.
- It is strictly prohibited to use the CRx systems on public roads.
- It is strictly prohibited to leave a driving vehicle unattended when the CRx system is switched on. The driver is always responsible for the direction and course of the vehicle.
- To prevent injury or fire, replace defective fuses only with fuses of the same type and amperage.
- The SBGuidance the operating system is not able to detect and avoid obstacles. If there is an obstacle in your path, you will always need to take action for it to be avoided.
- Only allow authorized/qualified persons to operate the system. Authorized/qualified persons are defined as: persons who have read and understood the manual, have been given instructions by a product specialist, and who are both physically and mentally fit and able to operate the system.
- The system contains moving parts! Make sure the immediate environment is clear of people before operating the system.
- In case of system failure or breakdown switch of the tractor and disconnect the electrical power source to avoid further damage. Contact your dealer for further instructions on how to repair your system.
- Always wear personal protective equipment when operating/adjusting/repairing the system outside of the tractor cab.
- In order to prevent power surges from occurring, always start the machine first, before initiating the SBGuidance control system.

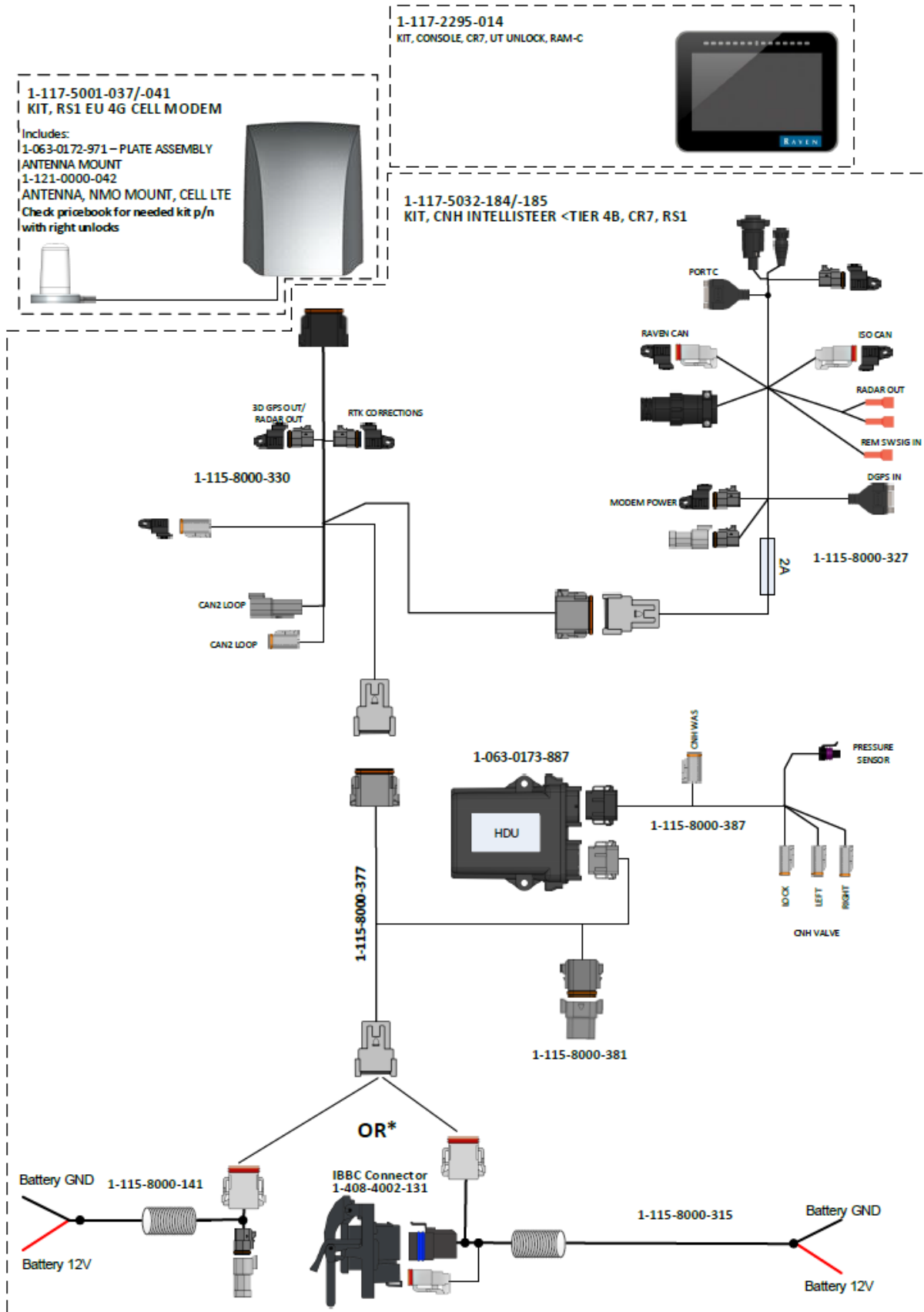
PAY ATTENTION!

- Only touch the touch-screen with your finger or by using a special touch-screen stylus/pen. Operating the touch-screen with sharp objects may cause permanent damage to the screen.
- Always consult your supplier as to which products are best suited first before cleaning the touch-screen with chemicals or alcohol.
- If the terminal is not used for a long period, better remove the terminal from the tractor and store in a heated environment. This will extend the life span of the electronic components.
- To prevent theft, it is better to not let the terminal and GPS-antenna unattended in the tractor on the field.

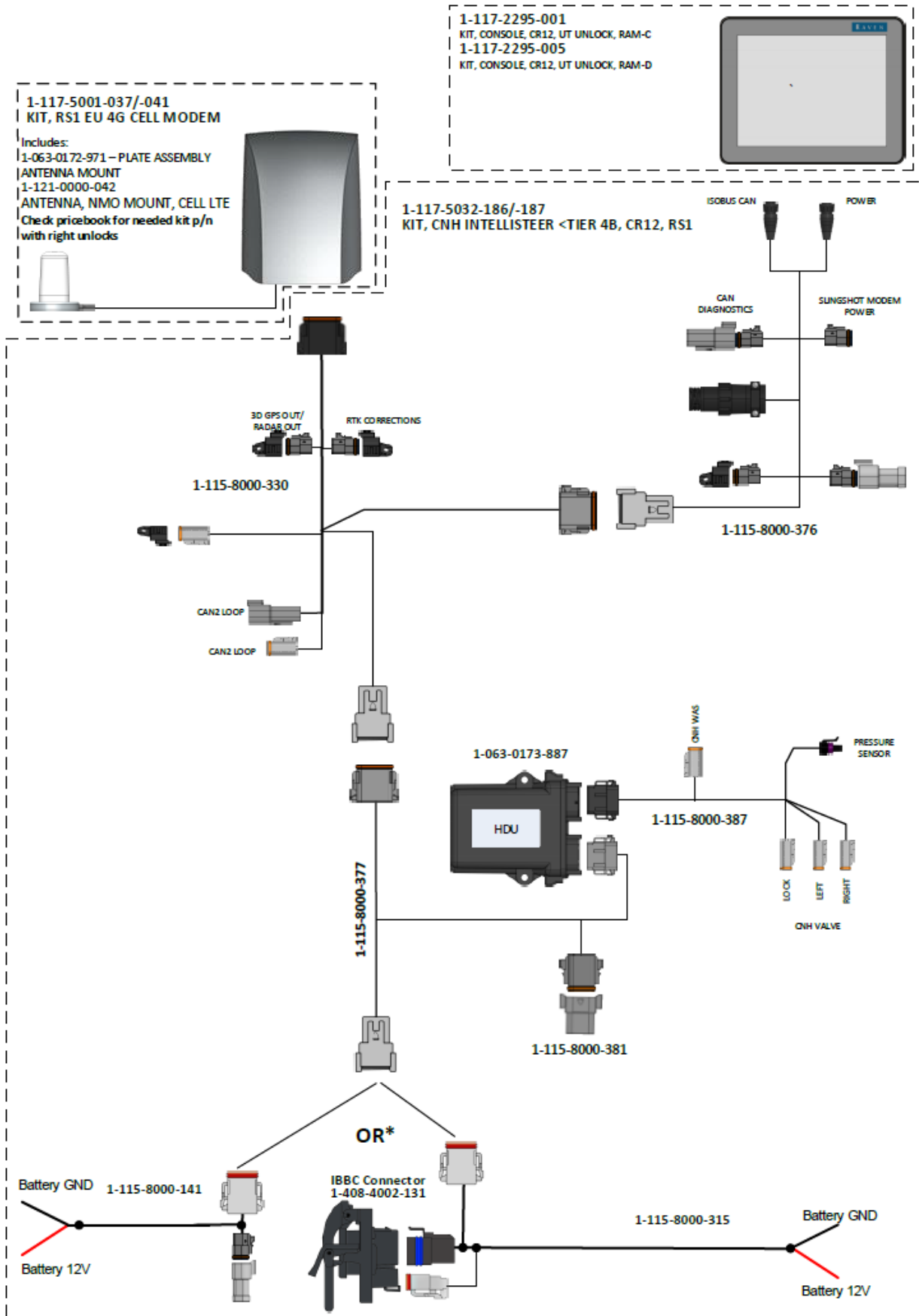
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SYSTEM OVERVIEW CR7 + RS1



SYSTEM OVERVIEW, CR12 + RS1



1 MOUNTING HARNESS

There is a choice between a CAN Basic harness or an Implement Ready (IR) harness at SBG.

1.1 CAN BASIC HARNESS

The Basic harness can only be used for tractor steering. If the tractor is mounted with this harness there is no possibility to use the tractor for implement steering (TWIN, plough).

1.2 CAN IMPLEMENT READY (IR) HARNESS

The Implement Ready harness ensures that the tractor can be used for tractor and implement steering. Mounting the implement is possible through the IBBC-connector. The harness is mounted from the battery to the IBBC-connector at the back side of the tractor.

1.3 MOUNT HARNESSES

The CAN basic harness and the CAN Implement harness are divided in the following harnesses (ranked in order from the battery):

1. Power harness: This harness comes from the battery and goes to the rear axle along the chassis, wrapped in a hard casing. A Basic harness goes from the battery directly to the chassis harness (and not to the rear axle of the tractor)
2. Chassis harness: is a branch to the Steering Controller (HDU). Mount the HDU somewhere nearby the Case/New Holland steering valve. On top of the engine is the best place, just below the hood. (Figure 1).
3. In-Cab harness (SC1): This harness comes from the chassis harness and goes inside the cabin, wrapped in a braided sleeve casing. A branch is made to the SC1.



FIGURE 1 LOCATION OF THE HDU ON TOP OF ENGINE

4. Harness in-cab (Terminal): This harness comes from the In-Cab harness (SC1) to the terminal.

5. Harness HDU – NH IntelliSteer: Find the Case/New Holland steering valve for mounting this harness. The steering valve is just under the hood nearby the cabin and close to the orbitrol. (see red circle in Figure 2) On this steering valve are two Deutsch DT-connectors mounted. Disconnect these connectors and connect the connectors from the HDU – NH intelligisteer harness with the inscription “left” and “right”. (see red circles in Figure 3)

The lockvalve is also located on the steering valve. Disconnect the existing CNH Deutsch DT-connector also and connect the connector from the HDU – NH intelligisteer harness with the inscription “lock” on the lockvalve. (see the red circle in Figure 4)



FIGURE 2 LOCATION CNH STEERING VALVE

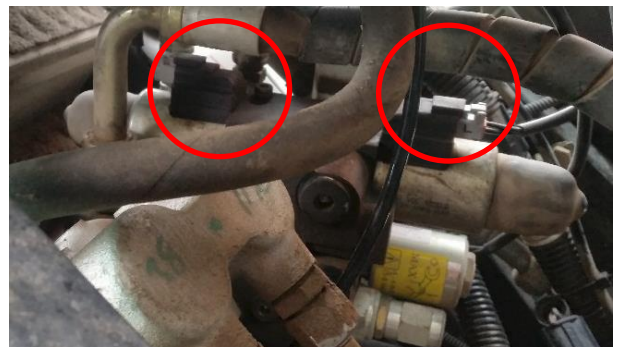


FIGURE 3 CONNECTION OF THE HDU – NH INTELLISTEER HARNESS ON THE CNH STEERING VALVE



FIGURE 4 CONNECTION OF THE HDU – NH INTELLISTEER HARNESS ON THE CNH LOCK VALVE

On the side of the exhaust is a pressure sensor mounted on the CNH steering valve (Figure 5). Connect the 3-pole Delphi connector of the HDU – NH Intellisteer harness with inscription “pressure sensor” on the steering valve.

6. Harness CNH STR WHS – Spy: First disconnect the existing connection of the CNH steer angle sensor. This connection is located on the right side of the tractor next to the radiator (Figure 6). Then connect the two connectors of the NH STR WHS – Spy harness between the existing CNH wheel angle sensor. (Figure 6)



FIGURE 5 CONNECTION OF THE HDU – NH INTELLISTEER HARNESS ON THE CNH PRESSURE SENSOR



Pay attention!: Do not connect the connectors of the NH STR WHS – Spy harness on the dummy connector which is also located nearby the radiator. Connect the connectors of the harness between the existing connection.

7. Wheel sensor cable: The next step is to connect the wheel angle sensor cable (5m) (11158000226) to the NH STR WHS – Spy harness with the wheel sensor connector of the HDU – NH intellisteer connector.



Hint!: A schematic overview of the SBG CAN-harness on a CNH Intellisteer Ready tractor is shown in Figure 8.

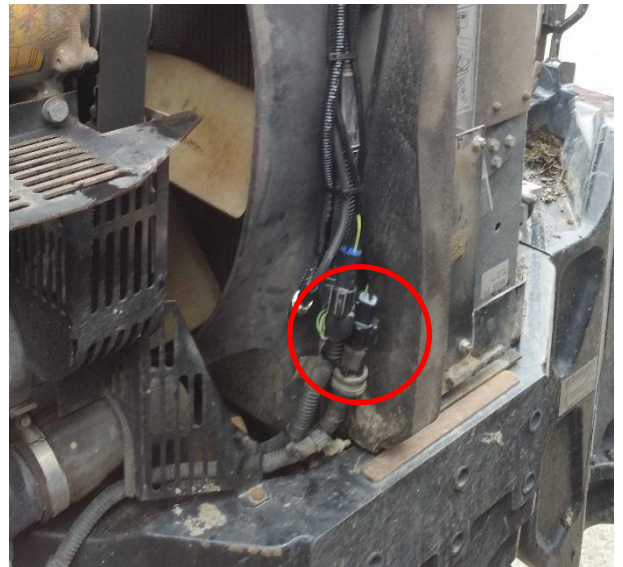


FIGURE 6 CONNECTION OF THE HDU – NH INTELLISTEER HARNESS TO THE WHEEL ANGLE SENSOR

Furthermore there are some general instructions for mounting an SBG harness:

- Mount the harness, if there is no battery switch installed, always directly on the battery. That means the positive (red) and the negative (black).
- If a battery switch is used, the harness has to be mounted after the battery switch.
- Mount the terminal harness together with the GPS- and radio/GSM-cable in one jamb.
- Use tie-wraps to mount all the cables vibration and scrape free.



Pay attention! *Important to mount the harness at all times at last on the battery after mounting all the cables and controllers!*



Be sure the cables won't damage during the installation!



Push all connectors until they snap to be sure the connectors are properly connected!

2 RS1 INSTALLATION

The RS1 mounting package comes with 2 metal strips with an adhesive: 107-0172-618. Insert the included screws into the metal strips and screw the fixed mount: 107-0182-531 onto the metal strips (Figure 7). Tape the metal brackets as close to center of the roof as possible. Make sure the roof is clean and dry before mounting the strips. This mount stays permanent on the tractor.

On the bottom of the RS1 there are 4 screws located, unscrew them and insert the SIM into the SIM slot. The SIM must be inserted into the J11 slot or the RS1 will not receive any signal (Figure 8).

Mount the Latch Plate: 116-0159-802 onto the RS1 using the provided screws (Figure 9). This latch plate stays connected to RS1.

Connect the RS1 with latch plate to the fixed plate and secure it with the latch. Connect the connector.

The LAIRD antenna is the main receiver of the RS1. The RS1 / LAIRD-antennas should be mounted atleast 50 cm apart.

Furthermore, the following guidelines must be observed when installing the GPS antenna:

- Mount the GPS-antenna with the connectors pointing to the backside.
- Mount the GPS-antenna in front of the rear axle.

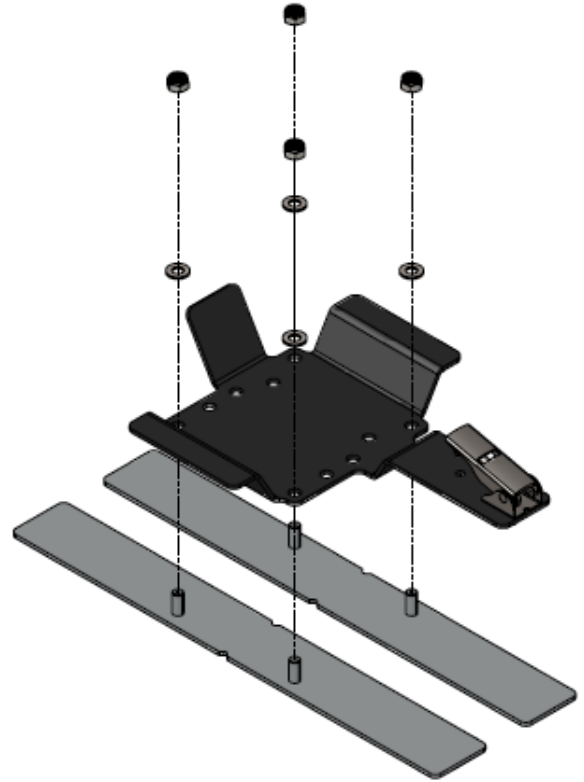


FIGURE 7 BOTTOM ASSEMBLY OF RS1 MOUNT

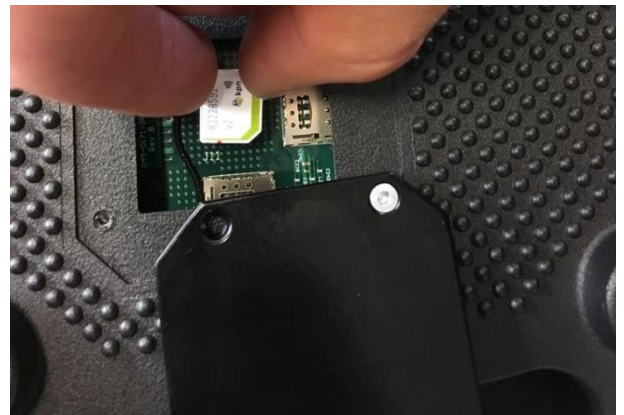


FIGURE 8 INSERT SIM CARD INTO THE J11 SLOT

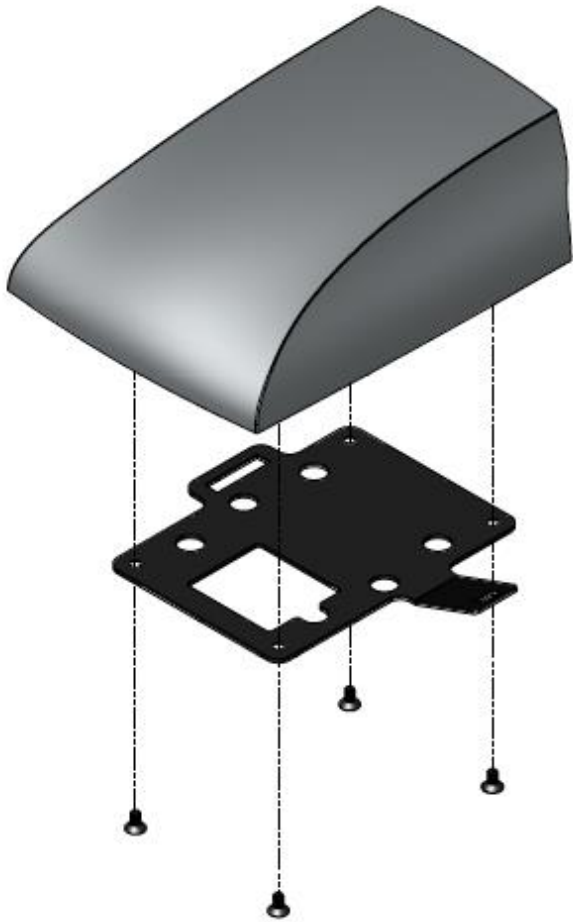


FIGURE 9 MOUNTING THE RS1 ON THE GENERIC BRACKET



FIGURE 10 RS1 MOUNTED ON TRACTOR



FIGURE 11 TOP ASSEMBLY OF RS1

3 CRX INSTALLATION

3.1 MOUNTING THE CR7

The following guidelines have been established for mounting the terminal:

- Always contact the customer about the terminal position in the cabin.
- Always use a RAM-C ball attachment.
- Mount the terminal free of vibrations with a solid bracket. A variety of mounting brackets are available for this purpose.
- Secure all cables in the cabin.
- Mount in such a way that the display is directed straight towards the driver.
- Mount in such a way that driver has a clear view all around.



Hint!: Mount the terminal in such a way that it does not obstruct the view of the driver over the top of the right-hand fender, but also so that the inside of the front wheel on the ground is still clearly visible



FIGURE 12 CR7 ON A-PILLAR



FIGURE 13 RAM-C BALL ATTACHEMENT



FIGURE 14 CR7 MOUNTED

3.2 MOUNTING THE CR12

The following guidelines have been established for mounting the terminal.

- Always contact the customer about the terminal position in the cabin.
- Always use a RAM-C or RAM-D ball attachment.
- Mount the terminal free of vibrations with a solid bracket. A variety of mounting brackets are available for this purpose.
- Secure all cables in the cabin.
- Mount in such a way that the display is directed straight towards the driver.
- Mount in such a way that driver has a clear view all around.



Hint!: Mount the terminal in such a way that it does not obstruct the view of the driver over the top of the right-hand fender, but also so that the inside of the front wheel on the ground is still clearly visible



FIGURE 15 CR12 ON A PILLAR

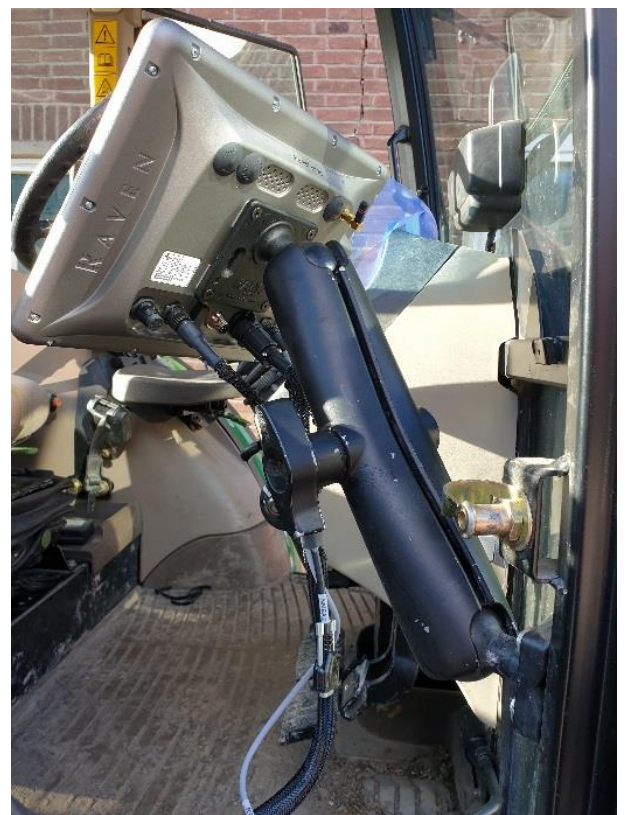


FIGURE 16 RAM B BALL ATTACHMENT ON PILAR

4 CALIBRATION

For calibration of the RS1 steering system please check:

016-8000-036-EN – Calibration manual RS1

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