

CR7 WITH SGC STEERING UPDATE CONTROLLERS

016-8000-XXX EN REV. A





PREFACE

This installation manual is intended for persons responsible for installing a CR7 kit. The manual contains important instructions that should be complied with when commissioning, operating and servicing the CR7.

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 <u>service-</u> <u>eu@ravenind.com</u>.

Raven Europe or any of its suppliers will accept no liability for physical or material damage caused whilst using the CR7.

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 CR7 system on public roads.
- It is strictly prohibited to leave a driving vehicle unattended when the CR7 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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1 INSTALL PROGRAMS ON LAPTOP

Programs needed

- CANtool 2.0.33 (or newer)
 - o Download here: <u>http://www.raveneurope.com/download/cantool/</u>
- Raven Service Tool 2.7.27 (or newer)
 - Download here: <u>https://portal.ravenprecision.com/ProductDocumentation/Category?categoryId=181</u>
- If installations of this programs does not work, refer to the complete manual on the websites.

Needed hardware:

Raven Service Tool installation Kit

TABLE 1. Raven Service Tool Installation Kit (P/N 117-0171-464)

Picture	Item Description	Part Number	Qty.
Office and the second s	Converter - Systec USB to CAN	063-0173-428	1
1	Drive - USB Flash with Software	063-0173-595	1
	Cable - USB to 4-pin Deutsch CAN Adapter	115-0172-029	1

2 UPDATE SGC (RAVEN ISO STEERING CONTROLLER)

#	Description	Picture
01	Connect the USB to CAN module to the laptop	
02	Connect the 4-pin DT connector to the 4-pin DT connector in the cabling (CR7 terminal harness, 115-8000-027)	
03	Open the Raven Service Tool	Raven Service Tool
04	Press on 'Connect'	Reprogramming File Name Exit

RAVEN



05	After pressing connect, the 'Bus Traffic' must be green. All the modules on the bus are shown.	Raven Service Tool Disconnect Bus Traffic Refreeh Dences Address SN Description F9 1020 13 1003 Start Logging Disgnostics
06	Press on 'Browse'.	
07	Search for the right update file SGC = P449-SGC-Standard_v1_1_1_2.hex (or higher)	Name Date modified Type 150 MDU v0.0.99.hex 4/4/2013 2:55 PM HEX File 150 MDU v1.0.06.hex 4/2/2013 11:54 AM HEX File 150 MDU v1.0.08.0B.hex 4/10/2013 10:12 AM HEX File P269v6121STD_MDB_2_19_003.hex 4/4/2013 2:55 PM HEX File
08	Once the file is selected, the SGC should color lightblue (description is different then in picture, description is SGC).	Reprogramming File Name ISO MDU v1.0.65 her

09	Right-click on the device and select Program to start the programming.	Reven Service Tool Bus Traffic BUS Type: J1939 Refresh Devices Disconnect Disconnect
10	The progress of programming is shown in the service tool, the bar at the bottom. If an error message is shown, please reconnect the device again (plug the cable from the connector out and in again).	



3 UPDATE MDU (ELECTRICAL STEER MOTOR UNIT)

#	Description	Picture
11	Connect and open the Raven Service Tool (see step #01 to step #05). Press on 'Browse' to select the file for the MDU update.	Rever Service Tool Bus Traffic BUS Type: J1939 Address SN Description F9 1020 Service Tool 13 1003 SmarTrax ECU Stop Logging Diagnostics Reprogramming File Name Bowe Exit
12	Select the .hex file for updating the MDU; MDU_P502_Standard_v2_1_0_92.hex (or higher).	Name Date modified Type 150 MDU v0.0.99.hex 4/4/2013 2:55 PM HEX File 150 MDU v1.0.06.hex 4/2/2013 11:54 AM HEX File 150 MDU v1.0.08.DB.hex 4/10/2013 10:12 AM HEX File 150 MDU v1.0.08.DB.hex 4/10/2013 10:12 AM HEX File P269V6121STD_MDB_2_19_003.hex 4/4/2013 2:55 PM HEX File
13	Once the file is selected, the Smartrax MD should color lightblue (description is different then in picture, description is Smartrax MD).	Reven Service Tool Bus Traffic BUS Type: J1939 Refresh Devices Address SN Description F9 1020 Service Tool Tool Tool Tool Tool Tool Start Logging Disgnostics Reprogramming File Name ISO MOUV10.06hee Busse Journee Journeee Journeeeeeeeeeeeeeeeeeeeeeeeee
14	Right-click on the device and select Program to start the programming.	Address SN App Sft Ver Description Start Logging Program Stop Logging Stop Logging Stop Logging Details Send Sft ID Req Run Script Refresh ECU's Get ECU Metrics BUS traffic: ECU count: 2 BUS Type: J1939 J1939

15	The progress of programming is shown in the service tool, the bar at the bottom. If an error message is shown, please reconnect the device again (plug the cable from the connector out and in again).	



UPDATE STU (STEERING CONTROLLER, NEARBY HYDRAULIC MANIFOLD) | CR7 WITH SGC STEERING | UPDATE CONTROLLERS

4 UPDATE STU (STEERING CONTROLLER, NEARBY HYDRAULIC MANIFOLD)

#	Description	Picture
16	Connect the USB to CAN module to the laptop	
17	Connect the 4-pin DT connector to the 4-pin DT connector in the cabling (CR7 terminal harness, 115-8000-027)	
18	Open the CANtool	CANTool
19	Select for Hardwaremanufacturer: SysWorxx Select for Hardware Channel: 1 Press Initialize	CANTool 2.0.33 File Tools Modules Hardware MyDevice MyPatners Rx Tx File File Connection Hardware manufacturer: SysWoox Auto connect VisWoox Auto connect Msg Type: Initialize 1 Bit/sec Extended Terminate

20	Check in the bottom of the screen if there is busload (connection).	Received frames: 525 Error Frames: 0 Dusload: 0,12%
21	Go to the next tab (MyDevice) Set for Pre-selection: Diagnostic Service Tool	File Tools Modules Hardware MyDevice MyPatners Rx Tx Flash Pre-selector: Diagnostc Service Tool Diagnostc Service Tool Diagnostc Service_tool MyDeviceType: Navtronics_Diagnostic_Service_tool Source address: 144 0x90 Self-configurabe address: Industry group: Industry group: IsloBAL P Device class: Industry group: IsloBAL P Device class: IsloBAL P
22	In this tab (MyDevice), Press Connect (on the bottom of the screen).	Function: 123 DN_BOAFD_DIAGNOSTIC_S Function instance: ECU instance: COUNTRONICS Idenity number: Connect Received frames: 15 Dusload: 0,12%
23	Go to the tab Flash . Press Refresh to see all the modules which are on the CANbus.	File Tools Modules Hardware MyDevice MyDevice MyDevice Hardware MyDevice MyDevice MyDevice Hardware Function: MULTINE_CONTROL It by: Function: MACHINE_CONTROL Expand All DeviceCless: SPRAYER Expand All DeviceCless: Collapse All Collapse All Ecunstance: 0 Retesh Hardware: 1 Show Parameters Hardware: Self Orfin unbleAddress: Fleich Mode



UPDATE STU (STEERING CONTROLLER, NEARBY HYDRAULIC MANIFOLD) | CR7 WITH SGC STEERING | UPDATE CONTROLLERS

24	The Steering controller is the device that needs to be updated. It is shown like this in the list of controllers. Double click on this controller.	⊕ ■ Function: STEERING_CONTROL
25	Press on the '' to search for the update file.	HW version: BL version: File: File: V2.0.20 Received frames: 15586 Error Frames: 0 Busload: 3.36%
26	Select the right update file: STU_DEFAULT_PACK_4_2_22.srec	STU_DEFAULT_PACK_4_2_22.srec
27	After the file is selected, press Flash Device in the bottom.	Flash Device

28	After the flash has finished, press Refresh again and the Steering Controller will appear on the CANbus again.	File Tools Modules Hardwaie MyDevice MyPatners Rx Tx Flash B Function: MACHINE_CONTROL Control Eurotion: MACHINE_CONTROL B DeviceClassinstance: 0 B Eculonatione: 0 Control Function: MACHINE_CONTROL Hardware DeviceClassinstance: 0 Control Function: MACHINE_CONTROL Control Function: MACHINE_CONTROL Control Function: MACHINE_CONTROL Control Function: MACHINE_CONTROL Control Function: MACHINE; Control MACHINE; MACHINE; Control Function: MACHINE; Control MACHINE; MACHINE; Control MACHINE; Manufacture: Control Self: Manufacture: Self: Self: Manufacture: Control Self: Self:	Sort by: Function Expend All Collapse All Retresh Show Parameters Floch Mode
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5 UPDATE CR7 SOFTWARE

#	Description	Picture
29	Download the latest software: CR7 2.0.9.4 or higher (<u>www.raveneurope.com</u>). Copy the .zip file to a USB. Folder structure; USB -Raven -Updates	Computer → Removable Disk (E:) → Raven → Updates → Share with ▼ New folder Name UpdateCR7_2.0.9.4.Raven
30	Go to the 'Software Update' in the settings of the CR7. If it is not in a shortcut like in the picture, swipe to the 2 nd page of settings. Press on Software Update.	Watching With Construction Matching With Construction Watching With Construction With Construction With Construction Service With Construction Display With Construction Display With Construction With Construction Service With Construction With Construction With Construction
31	The software update will occur. Press Update. The CR7 will automatically ask for a reboot after the update has finished.	

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