

OPERATION MANUAL



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Excicontrol WS

Joystick control for Wheel loaders and other machines equipped with Excicontrol WS,
general description

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1. Important Information

Before you begin using your product, it is important that you read and understand the content of these operating instructions and in particular the Safety Instructions.

These operating instructions are primarily intended to acquaint you with the functions of the product and how you can use them in the best manner possible. They also contain important safety information.

Always keep these operating instructions handy in connection with your machine, since the need for important information can arise concerning its use.

It is also possible to obtain information concerning our products from our home page on the Internet. You can find us at www.excidor.se.

All information, pictures, illustrations and specifications are based upon the product information that was available at the time that these operating instructions were printed. Pictures and illustrations that are found in these operating instructions are representative examples and not intended to be exact descriptions of the various parts of the product.

Disposal

Once the product is disused, it must be disposed of in accordance with the national environmental regulations for vehicles and work machines.

We reserve the right to make changes to the product without prior notice.

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2. Safety instructions

1. General

Please read and follow all instructions and warnings in this manual before operating your product. In- correct use may both cause personal injuries or property damage. In order to reduce these risks, you should read the Owner's Manual carefully, in particular the safety instructions and their warning texts.

Excidor AB is not responsible for personal injuries or property damage resulting from any person's failure to follow the warnings and instructions in this manual. Excidor AB is not responsible for injuries or damage resulting from failure to exercise good judgment.

Throughout this manual the following symbols will be used to note items that have significant importance to safety concerns.

WARNING!

Please use extreme caution where this warning symbol appears. Failure to observe warnings can lead to personal injury and property damage.

CAUTION!

Please use caution where this symbol appears

2. Operation

WARNING!

Deactivating the system by turning the power off with the "power switch EC WS" is NOT recommended. This means that the machine will go to N (Neutral) as the power is switched off. (Not all machine types have this power switch.)

WARNING!

The Joystick console should under no circumstances be used if the security protection is damaged or removed. If the protection is removed, ExciControl WS must not be started or activated.

WARNING!

While driving on public road ExciControl WS must not be active in travelling speed above appr. 20 km/h. When the system is activated the speed is limited to appr. 20-30 km/h, depending on machine type and model.

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3. Design & function

1. General

ExciControl WS (Wheel Steering) is a control system for joystick control of wheel loaders. The system consists of a joystick console mounted in the operator seat's left armrest and a main controller mounted in the cabin.

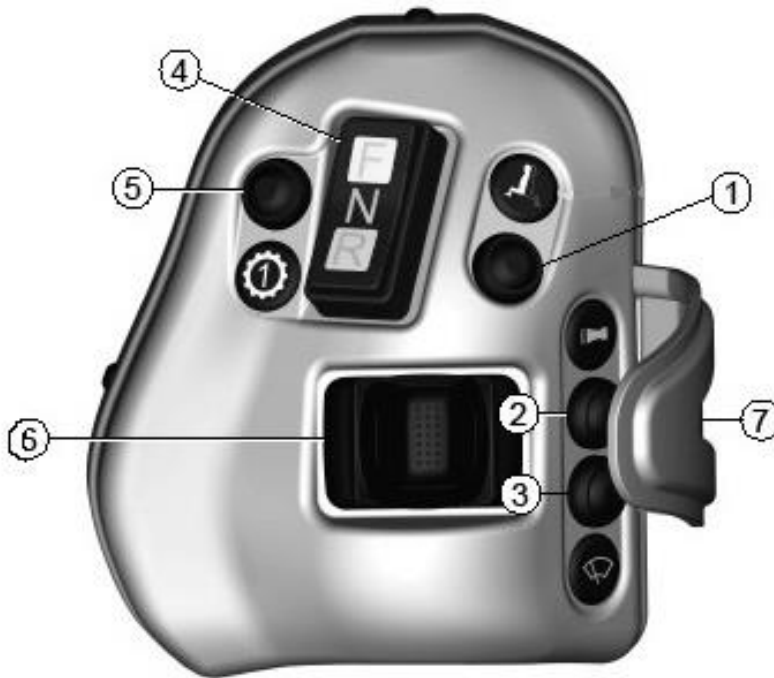
ExciControl WS is used to control the steering left/right as well as to operate the machine forward/ reverse. In addition to these functions there are further additional functions which are described in this document.

NOTE! The machine's original system for steering (steering wheel) is always active and can always be used instead of ExciControl WS.

For detailed information on how the system is attached into the machine we refer to the wiring diagram for each machine model.

A number of functions are located on the joystick console. Some functions work directly when the system is powered up, others require the system to also be activated.

The buttons pos.2,3 and 5 can have various functions depending on machine model. See symbols and schematic for your particular machine. Below are the most common functions explained.



- | | |
|-----------------------------|---------------------------|
| 1. Activate system | 5*. Kick down, (or other) |
| 2*. Horn, (or other) | 6. Joystick for steering |
| 3*. Wiper, (or other) | 7. Security protection |
| 4*. Switch FNR
(Fwd/Rev) | |

*Buttons and functions may vary depending on the machine model

Overview

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2. Security protection

Joystick console is equipped with a protection for the joystick to avoid involuntary movement.



Security protection.

WARNING!

The Joystick console should under no circumstances be used if the security protection is damaged or removed. If the protection is removed, ExciControl WS must not be started or activated.

3. Features that require the system to be powered

Activate system

Key used to activate the ExciControl WS system (see “Activating the system” on page 11). This key has a built-in delay and must be retained for a short time to become activated. The activation button has a blue LED that indicates when the wheel steering system is in operation.



Symbol and key for Activating/deactivating the system.

Wiper

Key used the same way as the machine’s original function for windshield wiper (one sweep). This key has a built-in delay and must be retained for a short time to become activated.

(This button can also have a different function, or be missing, depending on machine model.)



Symbol and key for wiper.

Horn

Key used for activating the horn off the machine.

(This button can also have a different function, or be missing, depending on machine model.)



Symbol and key for horn.

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4. Features that require the system to be powered and activated.

Joystick for steering

Proportional joystick to control steering left/right. The larger movement on the joystick, the faster steering it will be.



Joystick for steering.

WARNING!

The Joystick console should under no circumstances be used if the security protection is damaged or removed. If the protection is removed, ExciControl WS must not be started or activated.

Switch FNR (Fwd/Rev)

(May be missing, depending on machine model)

3-way switch to operate the machines forward, reverse or neutral gear. Unlike the machines original switch for forward/reverse, the machine is speed limited to a max. speed of about 20-30 km/h, (depending on machine type and model), when using the FNR switch on the joystick console.



Switch FNR (Fwd/Rev).

Kick down

Key that can be used in the same way as the machine's original key for Kick down. (This button can also have a different function, or be missing, depending on machine model.).



Symbol and key for kick down.

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4. Operation

1. Starting the system

In order to use ExciControl WS the system must be powered. Start the system by activating:

- The Main switch of the machine
- The ignition lock.

If the model is equipped with a power switch:

- Power switch EC WS

The power switch EC WS is located in the cab and is equipped with an indicator lamp that will lit up when the system is powered.

Once the system is powered, in addition to the joystick console, the main controller should also automatically be powered. The main controller is positioned inside the cabin.



Power switch EC WS.



WARNING!

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WARNING!

The Joystick console should under no circumstances be used if the security protection is damaged or removed. If the protection is removed, ExciControl WS must not be started or activated.

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2. Indicator lights

The main controller is equipped with three indicator lights, Power, CAN and Error. Power should light solid green when the main controller is powered.

Power

Off: Main controller has no power.

Lights green: Main controller is powered.

CAN

Off: No CAN communication with machine (or PC).

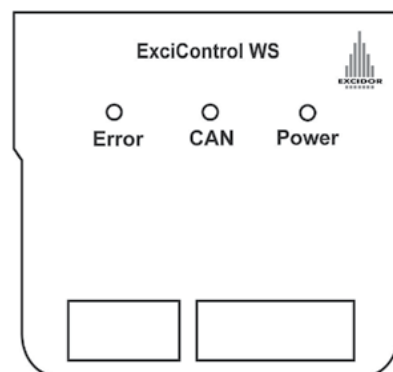
Flashing yellow: Main controller communicates with machine (or PC).

Error

Off: System is operating normally.

Lights red: The system has an error. If you shut the power off, then restart it and the light still is red, you should contact your nearest service technician.

Flashing red: System have had an error since it was last powered on. If you shut the power off and then restart the indicator should normally go off. If it periodic flashes red, you should contact the nearest service technician.



Indicator lights on the main controller, Error, CAN and Power.

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3. Activating the system

Before ExciControl WS can be used it has to be started and activated. Starting the system is described on page 9.

Before activating, make sure:

- The machine is stationary
- The armrest is tilted down to working position.
- All Forward/Reverse switches are set to N (neutral).



Armrest position switch.

Activating

Activate the system by pressing and holding the activate/de-activate key for a short period.

A blue LED in the middle of the key indicates that the system is activated and ready to be used.

NOTE! Activating is only possible when the armrest is tilted down in working position.

NOTE! Activating is only possible when all Forward/Reverse switches are set to N (Neutral). These switches are located on the left side of the steering column, on the joystick / handle in the right-side panel and on the ExciControl WS joystick console. If any of these switches are in the incorrect position, set it to N and then press and hold the key Activate/Deactivate on the ExciControl WS joystick console briefly.



Symbol and key for Activate/Deactivate system.

NOTE! In some models of CAT wheel loaders, the machine's Quick Steering function must be activated before ExciControl WS can be activated (how to activate Quick Steering can be found in the machine's manual).

NOTE! When ExciControl WS is activated the maximum speed of the machine is limited to about 20-30 km/h.

NOTE! In some machines, low gear must be activated before ExciControl can be activated.

WARNING!

While driving on public road ExciControl WS must not be active in travelling speed above appr. 20 km/h. When the system is activated the speed is limited to appr. 20-30 km/h, depending on machine type and model.

The Joystick console should under no circumstances be used if the security protection is damaged or removed. If the protection is removed, ExciControl WS must not be started or activated.

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System in standby mode

If the original steering (steering wheel) is used when the system is active, steering with joystick will be deactivated and set to standby mode. Mode is indicated by the blue activation diode starting to flash. Other functions of the ExciControl WS still works. "Standby" mode means that the Excicontrol system stands and waits until you have stopped steering with the original steering wheel. To leave standby mode, stop using the steering wheel and use the joystick on the ExciControl WS console again. If the conditions for taking over are met, you can control with the joystick again and the blue activation diode lights up steadily.

4. Deactivating the system

Deactivating

Press the key Activate/Deactivate on the joystick console or lift the armrest until the armrest position switch deactivates the system.

NOTE! If the original Forward/Reverse switch is set to F (Forward) or R (Reverse) when the system is deactivated, this switch will not work until it is set to N (Neutral). After setting the switch to N (Neutral) the Forward/Reverse switch works as original again.



Symbol and key for Activate/Deactivate system.



WARNING!

Deactivating the system by turning the power off with the "power switch EC WS" is NOT recommended. This means that the machine will go to N (Neutral) as the power is switched off.



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