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REVOLUTION

v7 Revolution Controls Proportional Control System Standard & Mini-Revolution Controls

Operation Manual





v7 Revolution Controls **Proportional Control System**



For Safety and Performance...

ALWAYS READ THE BOOK FIRST



**This manual should be read in conjunction
with the operation manual for the machine**

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WARRANTY POLICY

WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with McConnel Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

1. LIMITED WARRANTIES

- 1.01. *All mounted machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.
All Self Propelled Machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months or 1500 hours. Engine warranty will be specific to the Manufacturer of that unit.*
- 1.02. *All spare parts supplied by McConnel Ltd and purchased by the end user are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months. All parts warranty claims must be supported by a copy of the failed part invoice to the end user. We cannot consider claims for which sales invoices are not available.*
- 1.03. *The warranty offered by McConnel Ltd is limited to the making good by repair or replacement for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined. Pack the component(s) carefully so that any transit damage is avoided. All ports on hydraulic items should be drained of oil and securely plugged to prevent seepage and foreign body ingress. Certain other components, electrical items for example, may require particular care when packing to avoid damage in transit.*
- 1.04. *This warranty does not extend to any product from which McConnel Ltd's serial number plate has been removed or altered.*
- 1.05. *The warranty policy is valid for machines registered in line with the terms and conditions detailed and on the basis that the machines do not extend a period of 24 months or greater since their original purchase date, that is the original invoice date from McConnel Limited.
Machines that are held in stock for more than 24 months cannot be registered for warranty.*
- 1.06. *This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, belts, clutch linings, filter elements, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads, pneumatic tyres or tracks.*
- 1.07. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*
- 1.08. *Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.*
- 1.09. *Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which McConnel Ltd cannot be held liable, and may have safety implications.*
- 1.10. *If in exceptional circumstances a non McConnel Ltd part is used to effect a repair, warranty reimbursement will be at no more than McConnel Ltd's standard dealer cost for the genuine part.*

- 1.11. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of McConnell Ltd.*
- 1.12. *For machine warranty periods in excess of 12 months the following additional exclusions shall apply:*
 - 1.12.1. *Hoses, exposed pipes and hydraulic tank breathers.*
 - 1.12.2. *Filters.*
 - 1.12.3. *Rubber mountings.*
 - 1.12.4. *External electric wiring.*
 - 1.12.5. *Bearings and seals*
 - 1.12.6. *External Cables, Linkages*
 - 1.12.7. *Loose/Corroded Connections, Light Units, LED's*
 - 1.12.8. *Comfort items such as Operator Seat, Ventilation, Audio Equipment*
- 1.13. *All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.*
- 1.14. *Repeat or additional repairs resulting from incorrect diagnosis or poor quality previous repair work are excluded from warranty.*

NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. McConnell Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.

2. REMEDIES AND PROCEDURES

- 2.01. *The warranty is not effective unless the Selling Dealer registers the machine, via the McConnell web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.*
- 2.02. *Any fault must be reported to an authorised McConnell Ltd dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which McConnell Ltd cannot be held liable.*
- 2.03. *Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by McConnell Ltd. Please note that failure by the customer to release the machine for repair will not be accepted as a reason for delay in repair or submitting warranty claims.*
- 2.04. *All claims must be submitted, by an authorised McConnell Ltd Service Dealer, within 30 days of the date of repair.*
- 2.05. *Following examination of the claim and parts, McConnell Ltd will pay, at their discretion, for any valid claim the invoiced cost of any parts supplied by McConnell Ltd and appropriate labour and mileage allowances if applicable.*
- 2.06. *The submission of a claim is not a guarantee of payment.*
- 2.07. *Any decision reached by McConnell Ltd. is final.*

3. LIMITATION OF LIABILITY

- 3.01. *McConnell Ltd disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.*
- 3.02. *McConnell Ltd makes no warranty as to the design, capability, capacity or suitability for use of the goods.*
- 3.03. *Except as provided herein, McConnell Ltd shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.*
- 3.04. *No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.*

4. MISCELLANEOUS

- 4.01. *McConnel Ltd may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.*
- 4.02. *If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.*
- 4.03. *Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.*

McConnel Limited

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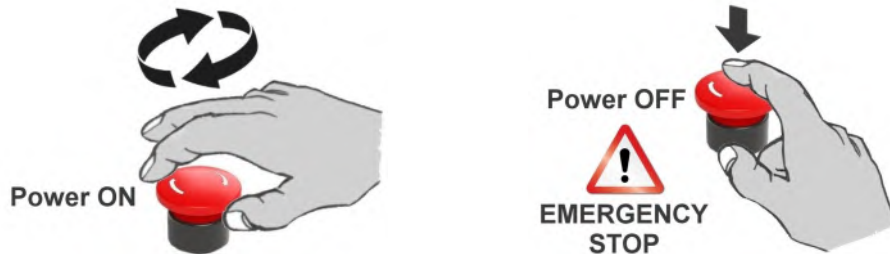
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POWER ON/OFF & EMERGENCY STOP

The power ON/OFF button for the control unit is located on the armrest bracket next to the joystick; depending on the specification this may be located on the left or right hand side.

Power ON

Rotate button clockwise to 'Power ON' the control unit; the button will spring upwards.



Power OFF

Press button downwards to 'Power OFF' control unit or an EMERGENCY STOP situation.

Emergency Stopping

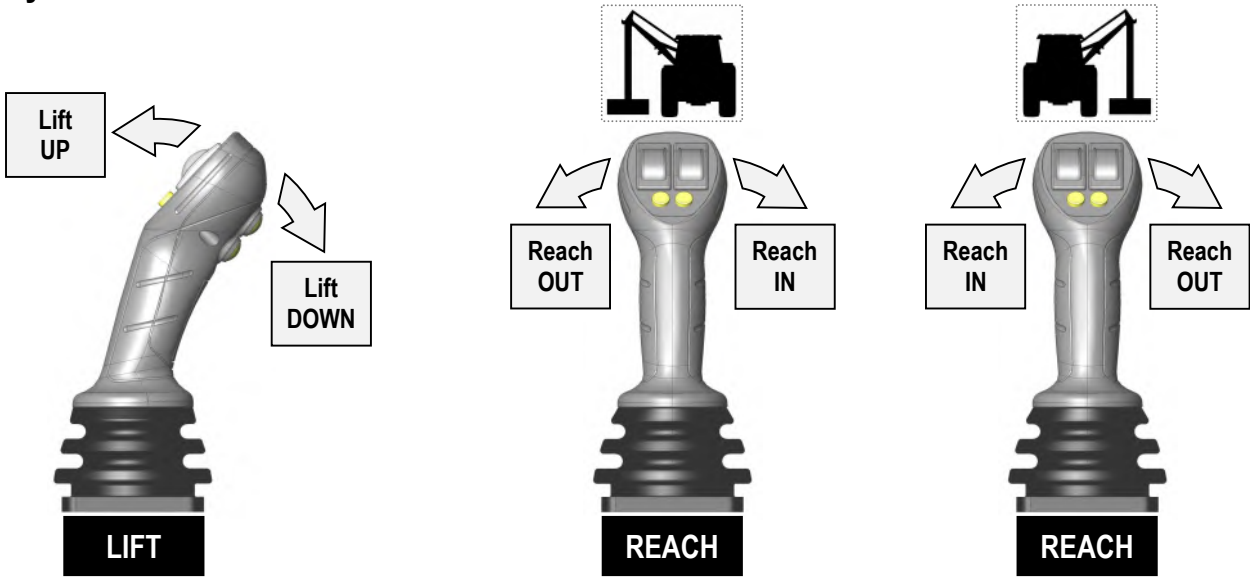
In all emergency situations machine operation and functions must be stopped immediately; **Stop PTO operation** using the tractor controls then immediately kill electrical power to the machine using the '**OFF**' (**Emergency Stop**) button on this control unit.

Auto-Reset Machines

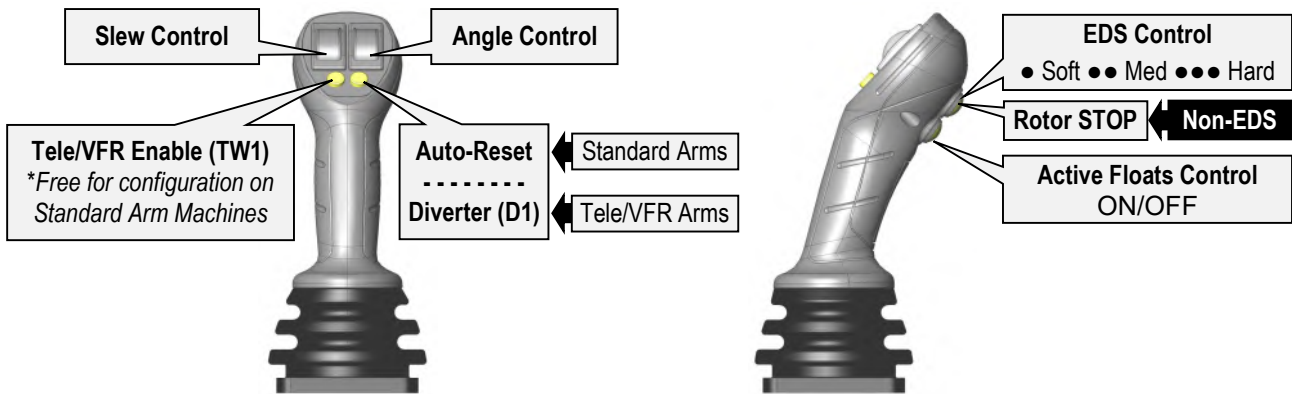
When the 'Auto-Reset' feature is active, the machines arm set is capable of unintentional movement even when the PTO is switched off and stationary. Always ensure that electrical power to the machine is switched off using the '**OFF**' (**Emergency Stop**) button on the control unit in emergency situations and/or when the machine is not being operated.

JOYSTICK CONTROLS – v7 REVOLUTION

Joystick : Overview



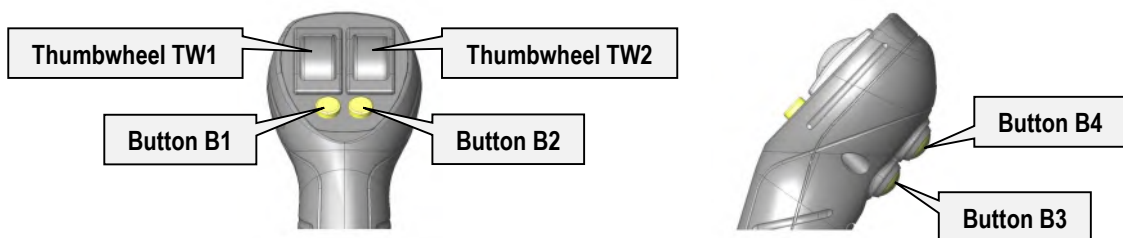
Joystick : Thumbwheels & Control Buttons (Default Functions)



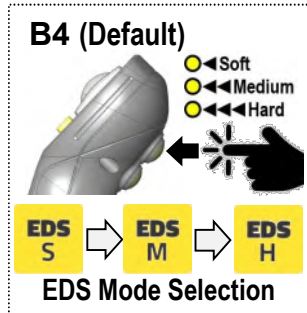
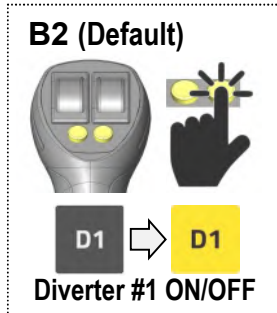
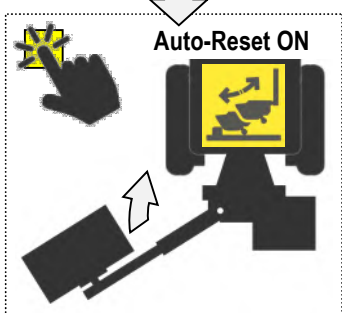
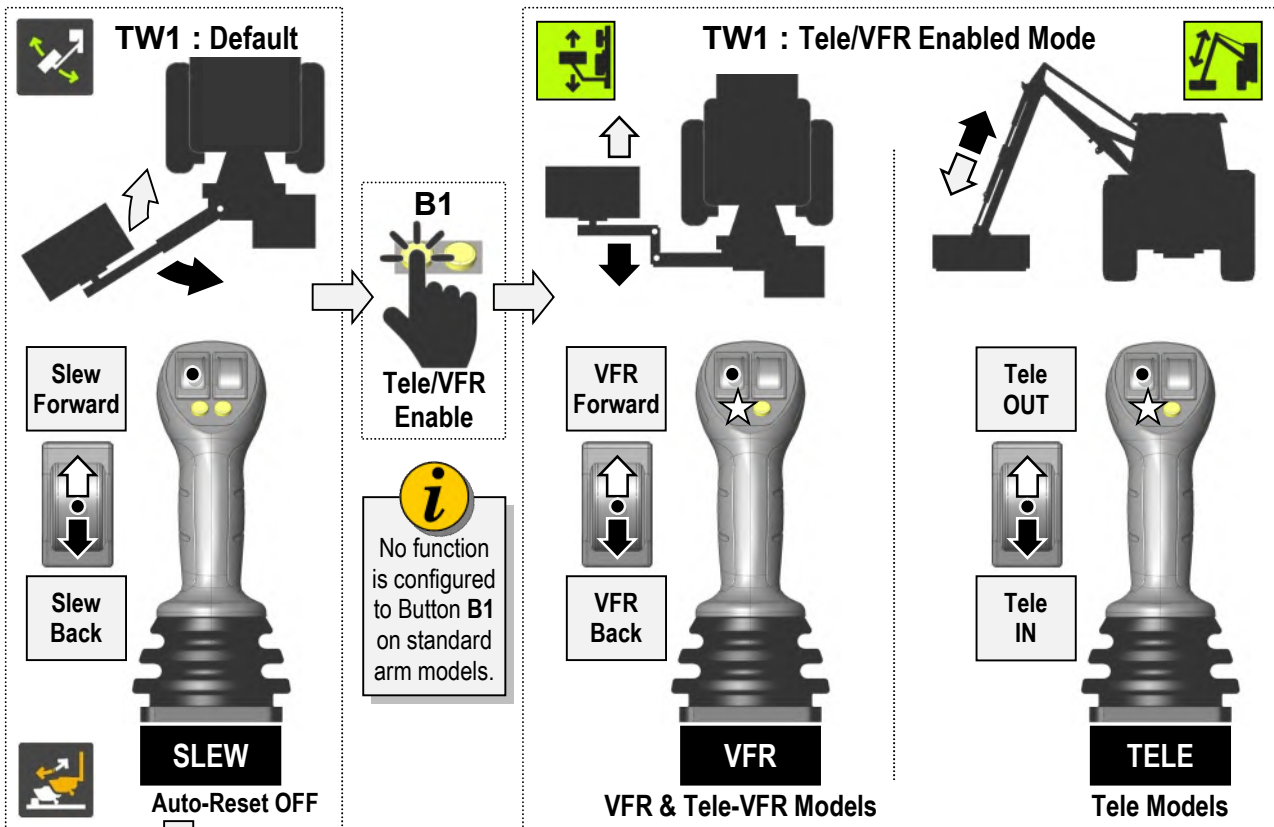
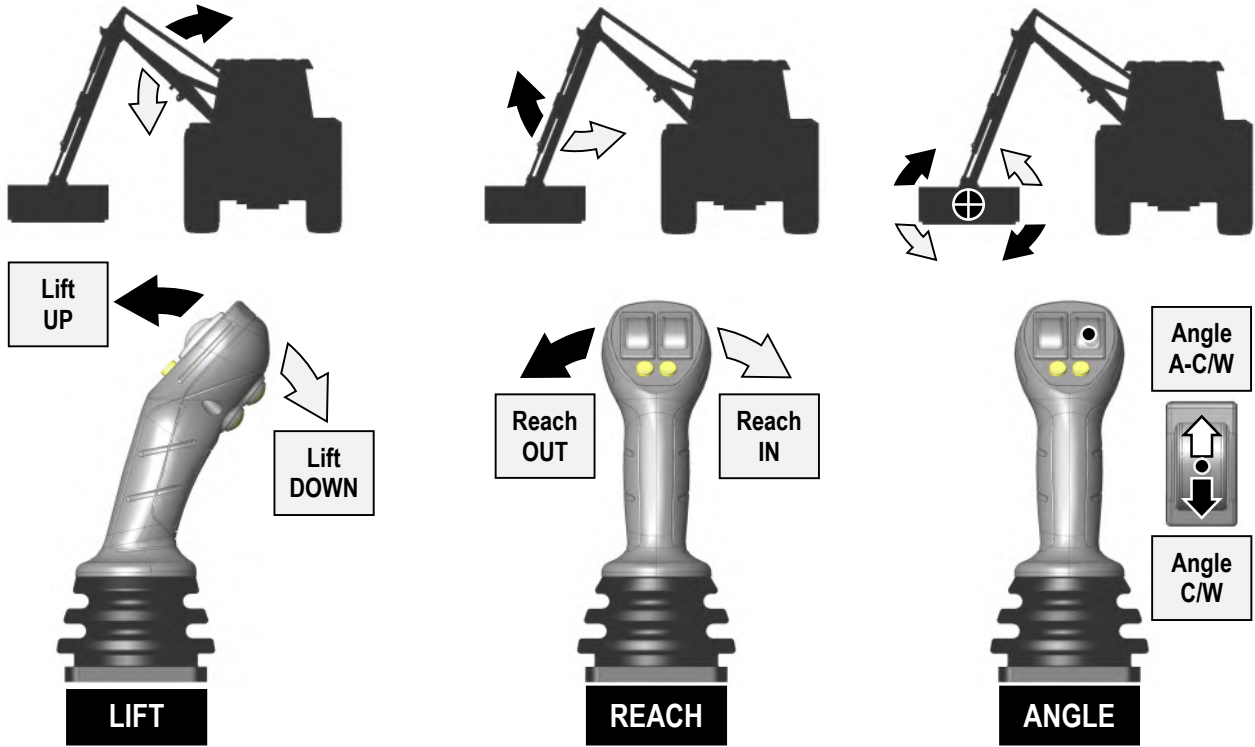
Tele/VFR Enable Button (B1) : Default Configurations

Machine Build	Button B1 Default Function	Configuration Options
Standard Arm	No function configured	Can be configured in settings to control a chosen function
VFR Arm	Enables VFR Control by TW1	Can be changed in settings to control an alternate function
Tele Arm	Enables Tele Control by TW1	Can be changed in settings to control an alternate function
Tele / VFR Arm	Enables VFR Control by TW1	Can be changed in settings to control an alternate function

Thumbwheels & Buttons Identification

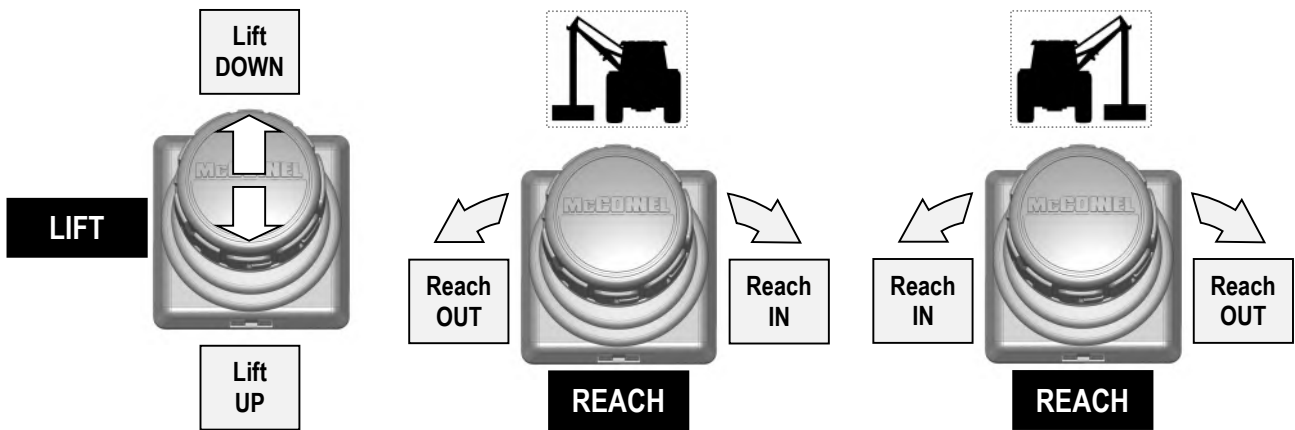


Joystick : Lever, Thumbwheel & Button Functions

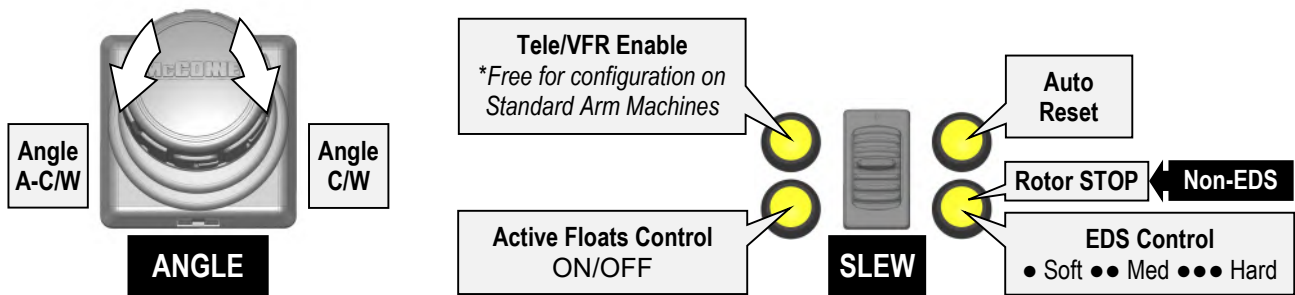


JOYSTICK CONTROLS – v7 MINI REVOLUTION

Mini Joystick : Overview



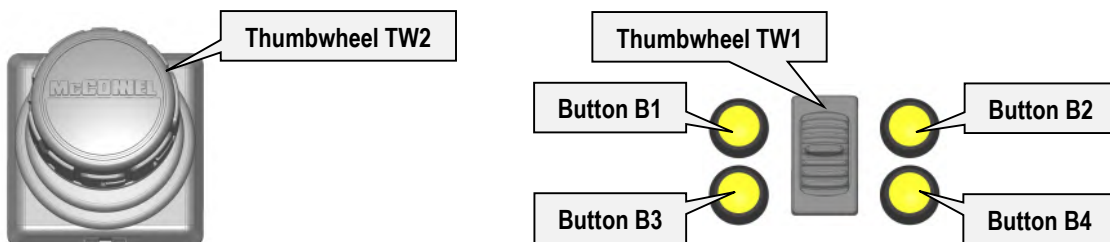
Mini Joystick : Thumbwheel & Control Buttons (Default Functions)



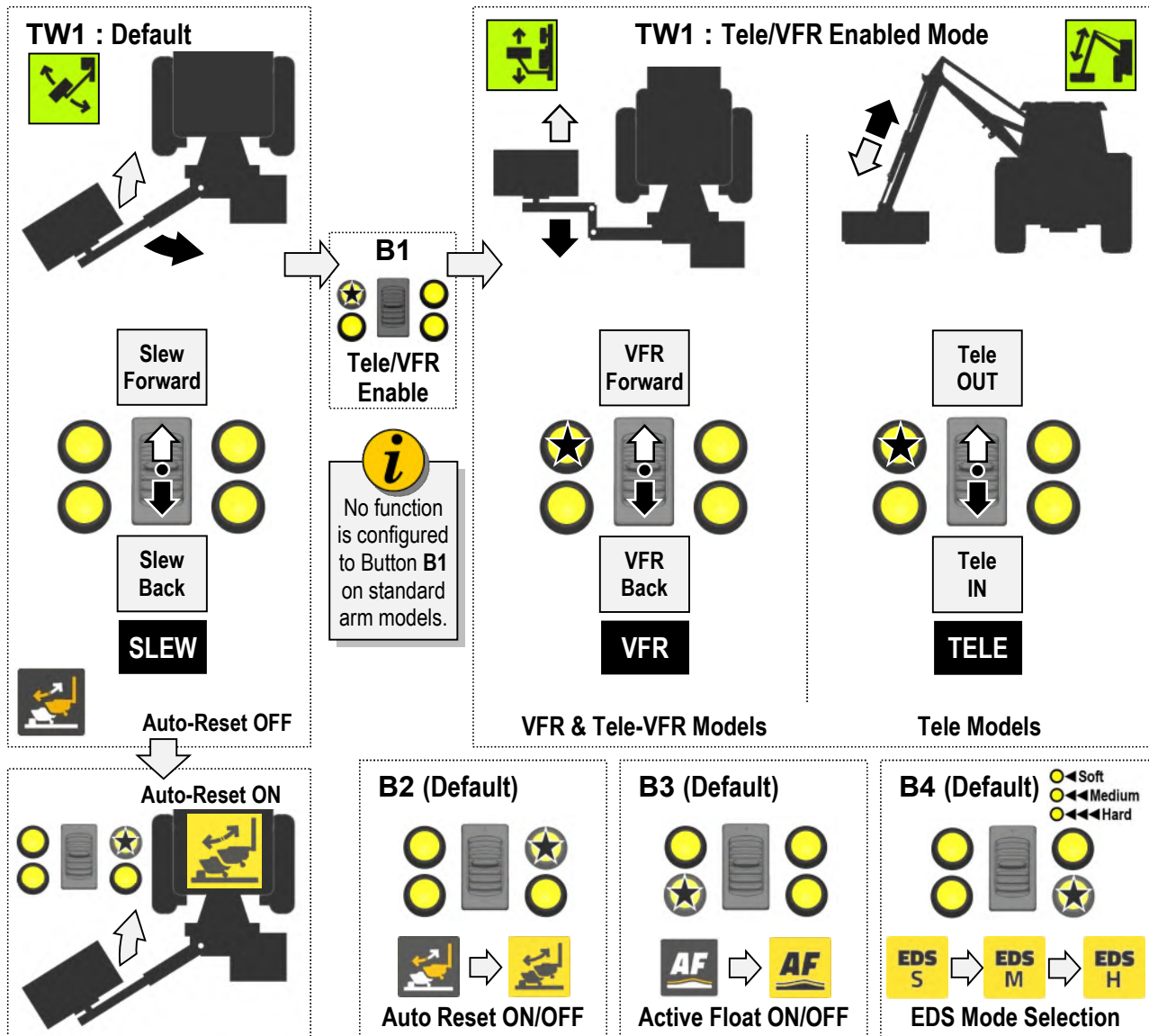
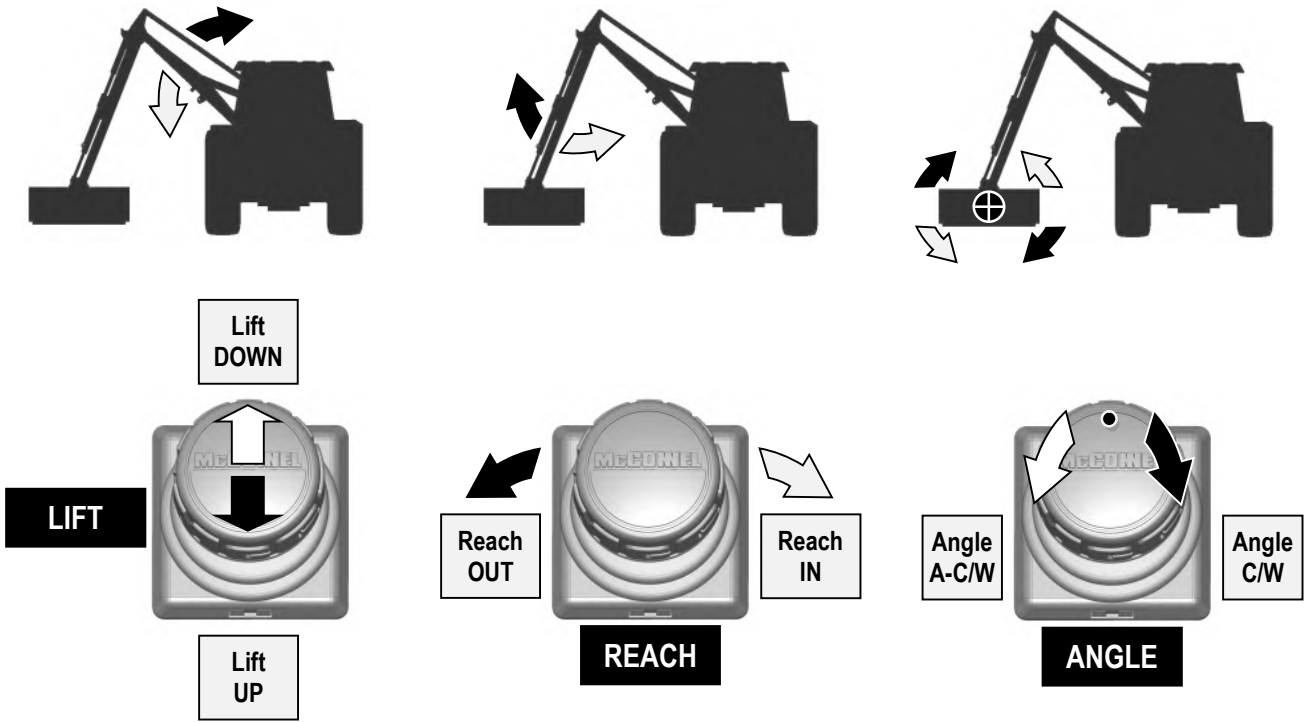
Tele/VFR Enable Button (B1) : Default Configurations

Machine Build	Button B1 Default Function	Configuration Options
Standard Arm	No function configured	Can be configured in settings to control a chosen function
VFR Arm	Enables VFR Control by TW1	Can be changed in settings to control an alternate function
Tele Arm	Enables Tele Control by TW1	Can be changed in settings to control an alternate function
Tele / VFR Arm	Enables VFR Control by TW1	Can be changed in settings to control an alternate function

Thumbwheels & Buttons Identification



Mini Joystick : Lever, Thumbwheel & Button Functions



SCREEN UNIT

Screen Control Unit



v7 Revolution Display Unit

Home Screen : Overview



- A. Thumbwheel and Button Functions.
- B. Thumbwheel Status Indicator.
- C. Function Control Zone #1.
- D. Function Control Zone #2.
- E. Information Display Zone.
- F. Rotor Control Zone.
- G. Settings Access Icon.

Thumbwheel and Button Functions

Displays functions assigned to thumbwheels and buttons and indicates active status.

Thumbwheels Status Indicator

Indicates current thumbwheel operating mode (normal or swapped).

Function Control Zone #1

Display area for screen operated control icons.

Function Control Zone #2

Additional display area for screen operated control icons.

Information Display Zone

Display panel for machine and user information.

Rotor Control Zone

Control icons for rotor operation: [Rotor ON (Uphill)] [Rotor OFF] [Rotor ON (Downhill)]

Settings Access Icon

Navigation icon for access to machine and user settings menu.

Thumbwheels : Customisation

By default, the thumbwheels are assigned to operate '**slew**' (TW1) and '**angle**' (TW2); this mode can be 'swapped' within the settings to operate '**angle**' (TW1) and '**slew**' (TW2). Refer to joystick setting page for thumbwheel swap instructions.

Joystick Buttons : Customisation

By default the joystick buttons operate, or permit operation of, the following functions;

- B1** : 5th Service
- B2** : Auto-reset
- B3** : EDS control
- B4** : Active floats

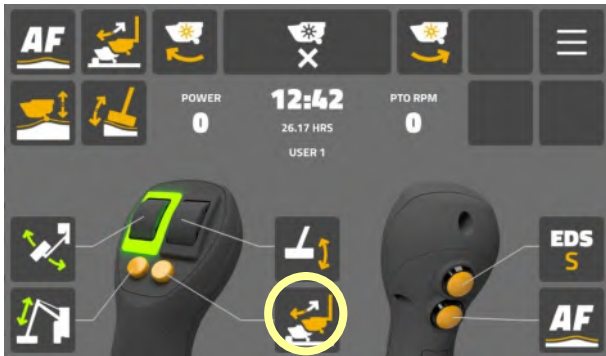
If required, the buttons can be customised by the user to control different functions.

Changing Button Function

The procedure to change the control function of a button is as follows;



Select and hold '**control icon**' for the button function you want to change. Control icons library will be displayed.



Scroll '**screen**' to view available control options.



Select '**control icon**' for the new function you want to assign to the button.



Selected '**control icon**' is displayed on-screen and button will now control that function.

Function Control Zones : Customisation

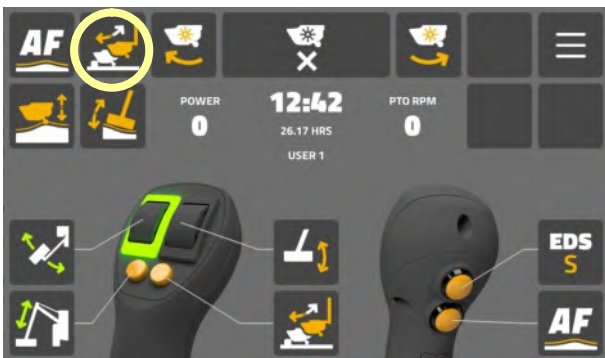
The function control zones are display areas for screen operated control icons; 4 control icons are located in the top left hand corner of the screen and 3 icons in the top right hand corner adjacent to the settings access icon. By default, the 3 icons on the right side are initially unassigned and will appear as blanks tiles, but these can be assigned by the user.

The function control zones can be individually customised by the user to display specific control icons on the screen; the layout created by each user is unique to them and any changes made will not affect other users of the machine.

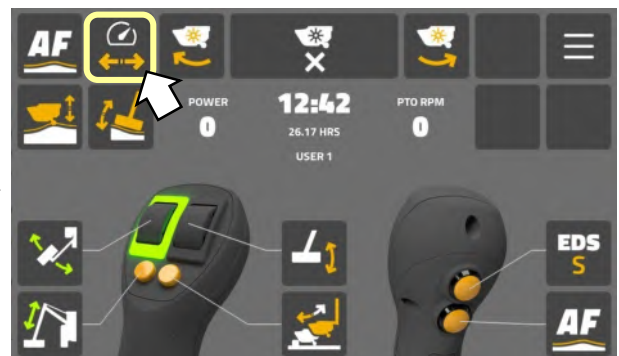
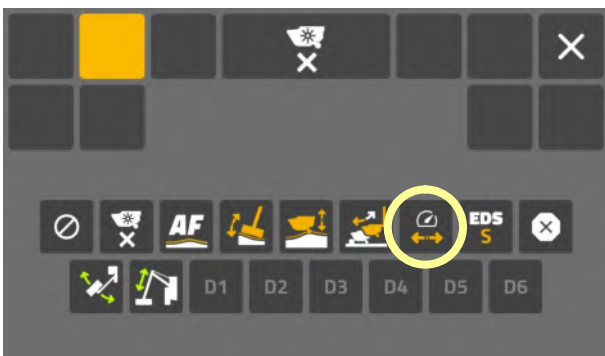
The procedure for changing or installing a ‘screen control icon’ is as follows;



Select and hold ‘**screen control icon**’ for the function you want to change. *Screen control icons library will be displayed.*



Select ‘**control icon**’ for the function you wish to place on the screen.



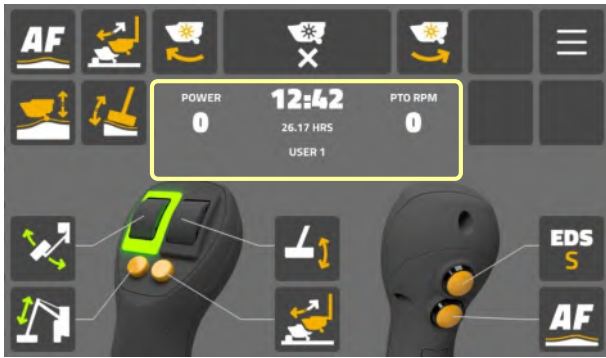
Selected ‘**control icon**’ is displayed on-screen and the icon will now control that function.

Control Icon Identification

Slew Control	Slew Forward	Slew Back	Tele Control	Tele In	Tele Out
Auto-Reset	Active Floats	Lift Float	Angle Float	EDS	Valve Set
Diverter 1	Diverter 2	Diverter 3	Diverter 4	Diverter 5	Diverter 6
Rotor Stop	Reach Stops	Aux. Valve Open	Aux. Valve Close	Unassign Icon	

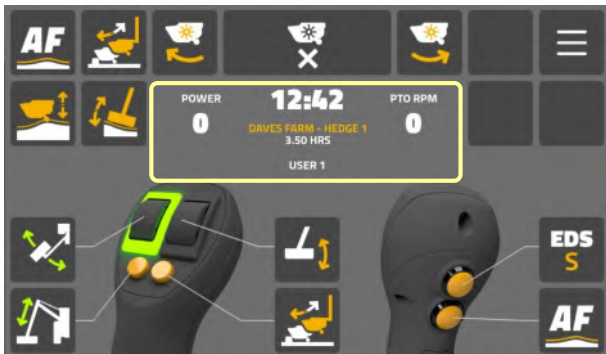
Information Display Zone

This area of the home screen will display the following machine and user information;



No Active Job

- Time (Clock)
- Rotor or Attachment Power Status (%)
- PTO Speed (RPM)
- Rotor Hours Total (Machine)
- User Name (Active Operator)



Active Job

- Time (Clock)
- Rotor or Attachment Power Status (%)
- PTO Speed (RPM)
- Active Job Name
- Rotor Hours Total (Current Job)
- User Name (Active Operator)

When applicable this area of the screen will also display warning symbols to alert the user to system and/or machine operation issues.

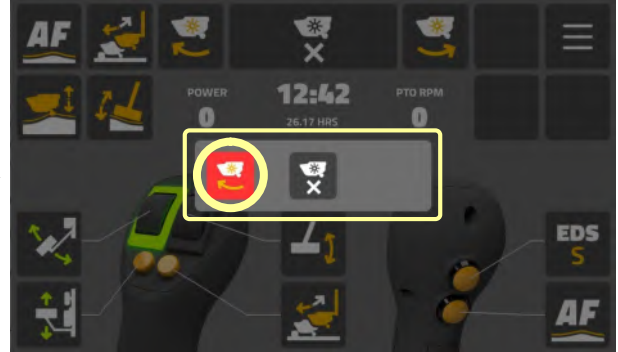
Rotor Controls

The procedure for starting and stopping the rotor is as follows;

Starting the Rotor : Uphill Cutting Direction



Select 'rotor uphill icon' on home screen to **request rotor start**.



Select 'rotor uphill icon' on splash screen to **confirm rotor start**.



Select 'rotor cancel icon' on splash screen to **dismiss request**.

Rotor ON Status Indicator

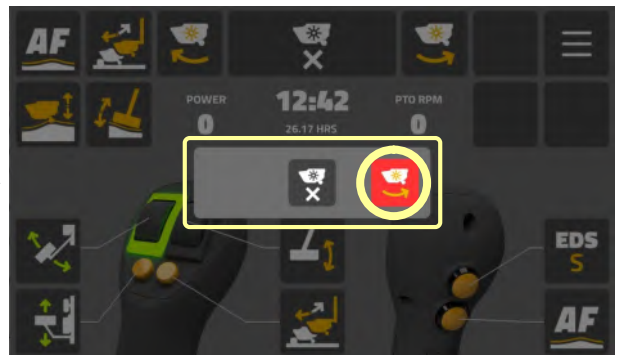


When rotor is running; 'rotor uphill icon' on home screen is 'highlighted yellow' to indicate the active operating direction. 'Rotor STOP icon' is displayed red for easy identification.

Starting the Rotor : Downhill Cutting Direction



Select 'rotor downhill icon' on home screen to **request rotor start**.



Select 'rotor downhill icon' on splash screen to **confirm rotor start**.



Select 'rotor cancel icon' on splash screen to **dismiss request**.

Rotor ON Status Indicator

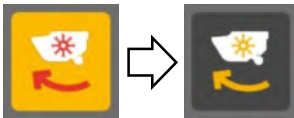


When rotor is running: 'rotor downhill icon' on home screen is 'highlighted yellow' to indicate the active operating direction. 'Rotor STOP icon' is displayed red for easy identification.

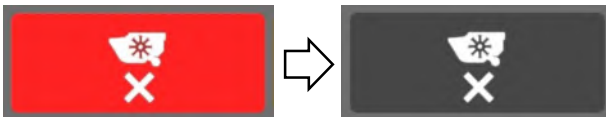
Stopping the Rotor



Select 'rotor stop icon' to switch rotor OFF.



The active rotor icon will deselect immediately.



Rotor stop icon will remain 'highlighted' for a further 8 seconds (\pm) to indicate 'run-down'.



CAUTION



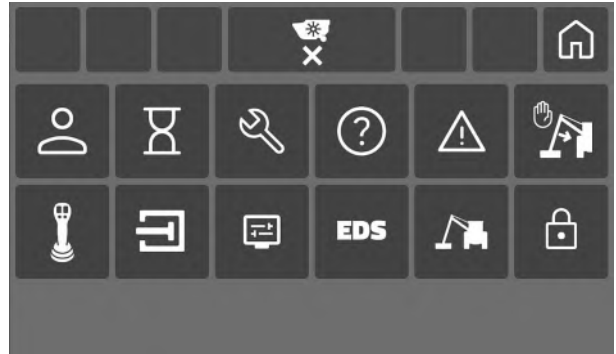
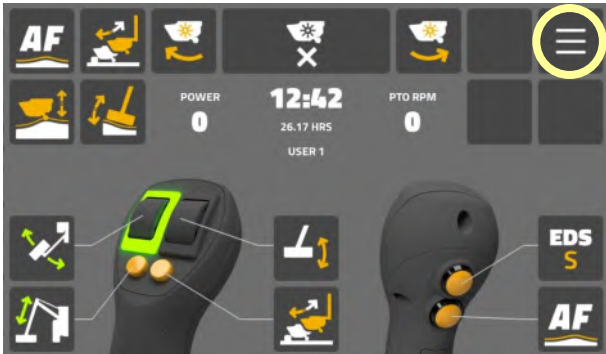
When switched OFF a rotor can continue to 'freewheel' under its own momentum for up to 40 seconds before stopping. DO NOT attempt to restart the rotor in the reverse direction until all movement has stopped.

SETTINGS MENU

Main Settings Screen Access



Select 'settings icon' to access the main settings menu.



Main Settings Menu



Categories

- | | |
|-------------------------|-------------------------|
| 1. User settings | 7. Joystick settings |
| 2. Job settings | 8. Valve settings |
| 3. Service information | 9. Screen settings |
| 4. Controls information | 10. EDS information |
| 5. Warning information | 11. Machine information |
| 6. Reach stop settings | 12. Dealer access |

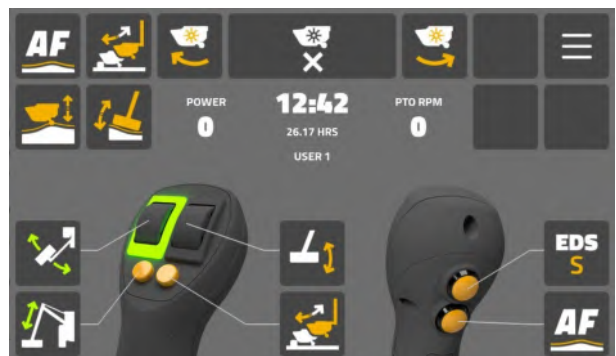
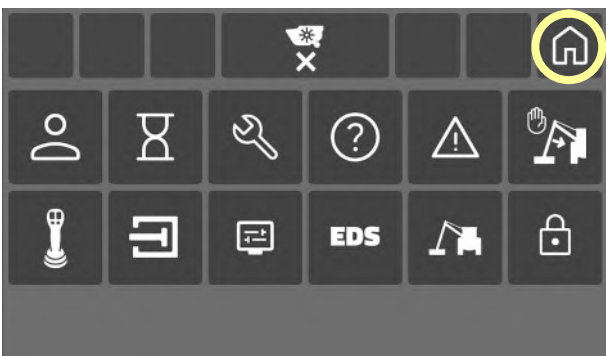


Select a 'menu icon' to access that settings category.

Exiting Settings Menu



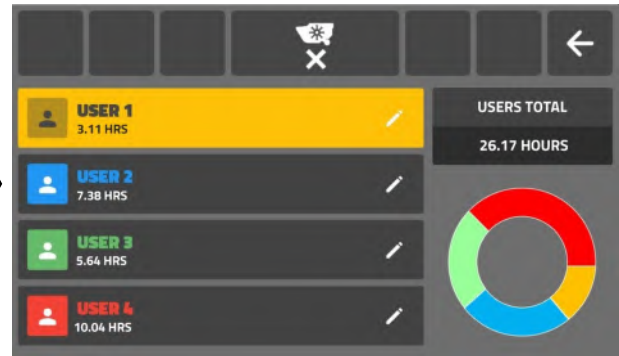
Select 'home icon' to return to home screen.



User Menu Screen



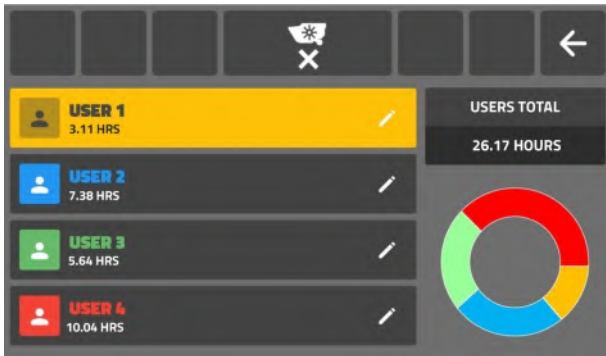
Select 'user icon' to access user menu.



The user menu provides 4 different users; the name panel of the current active user will be 'highlighted' and the user name will be displayed on the 'Home Screen'.

User Information

The control system records and displays the following information on the users screen;



- Individual users total 'rotor running' hours.
- Combined users total 'rotor running' hours.
- Visual 'user hours' percentage chart.

Recorded hours displayed cannot be reset; if a user name is changed the new name will retain the rotor hours of the previous name.

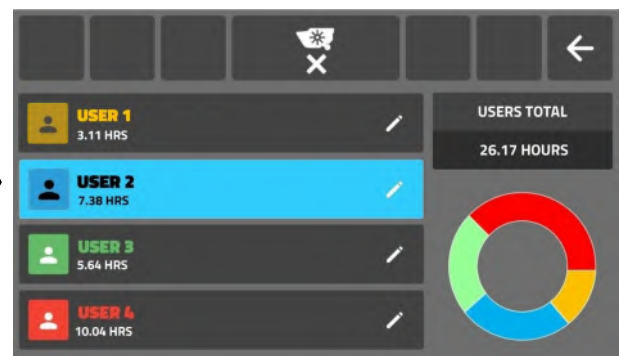
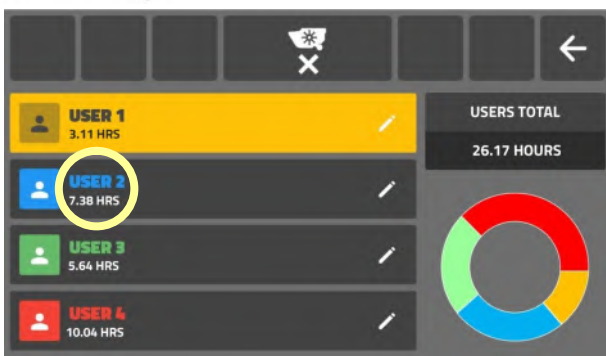


Total rotor hours of active user are also displayed on the 'Home Screen' unless a job has been loaded; if a job is active the rotor hours for the job will be displayed.

Selecting User



Select a 'name panel' to select and activate that user.



Name panel will now be highlighted and the users name will appear on the 'Home Screen'.

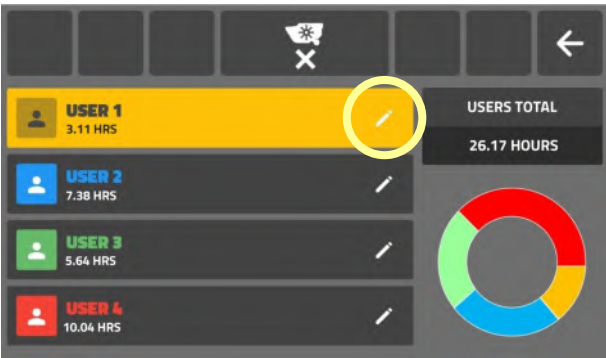


Select 'return icon' to exit 'user menu'.

Editing User Name



Select **'edit icon'** on name panel to access the **'edit screen'**.



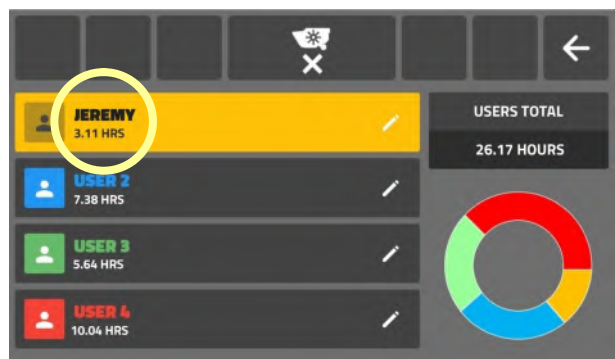
Select **'backspace key'** to remove current user name.



Enter new **'user name'** via the **'on-screen keyboard'**.



User names can be letters and/or numbers (20 digits maximum).



Select **'tick icon'** to confirm change and exit the **'edit screen'**.
New user name is now displayed on name panel and 'Home Screen'.



NOTE: To return to **'user menu'** without saving changes, select **'cross icon'** instead of **'tick icon'**; the original user name will be retained.

Job Settings Screen : Overview

The 'job screen' allows users to manage individual jobs and record the rotor running time for the task. Users can create, activate, deactivate and delete jobs as and when required.

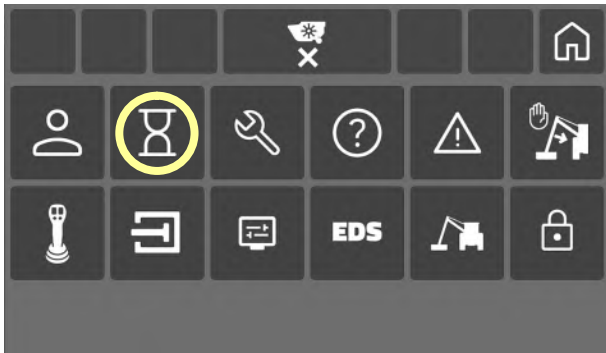
When a specific job is activated, the 'job name' is displayed on the 'home screen' and the on-screen hours display will report the rotor running time for the active job.

When a job is deactivated, the home screen hour display reverts to the user total hours.

Job Screen

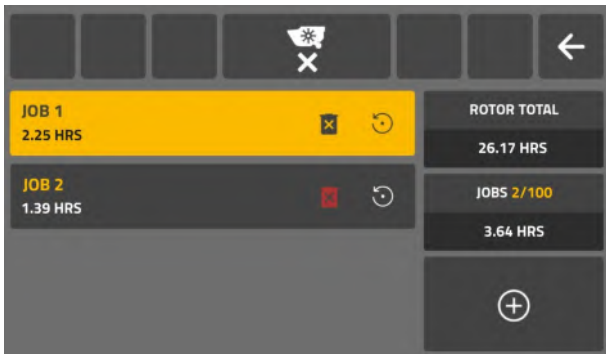


Select 'Job icon' to access job screen.



Job Screen Information

The job screen displays the following information and features;



- Job name panel(s) with delete and reset
- Rotor running hours (machine total)*
- Loaded job counter (maximum 100 jobs)
- Rotor running hours (loaded jobs total)**
- Add job icon



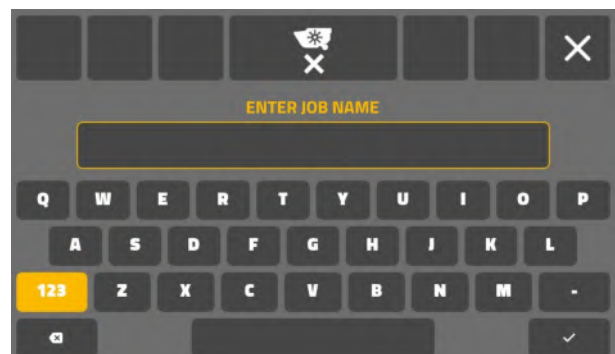
*Rotor total is the accrued rotor running time hours for the machine by all users.

**Job hours is the total rotor running time for all loaded jobs (active and inactive); when jobs are deleted the hours for those jobs are deducted from the 'jobs' total.

Creating Job



Select 'add icon' to create new job.





Enter new 'job name' via the 'on-screen keyboard'.



Job names can be letters and/or numbers (20 digits maximum).

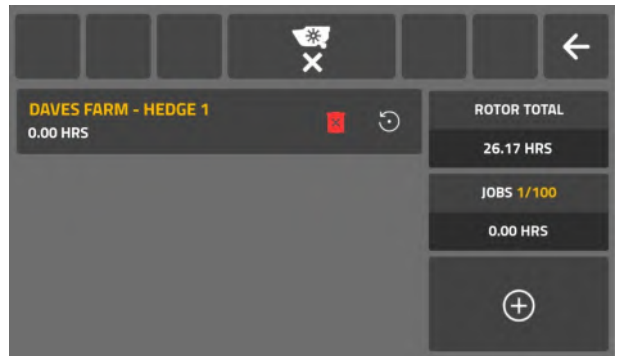
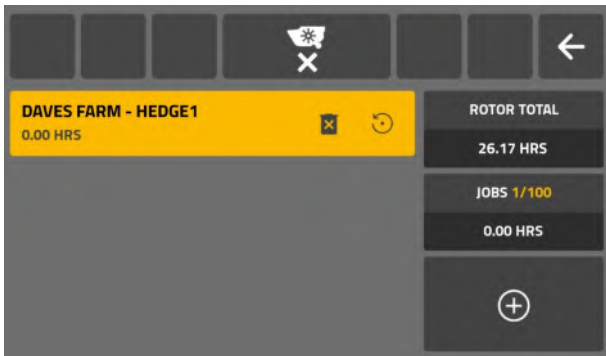


Select 'tick icon' to confirm job and exit the screen.

New job is now active and displayed on job name panel and 'Home Screen'.

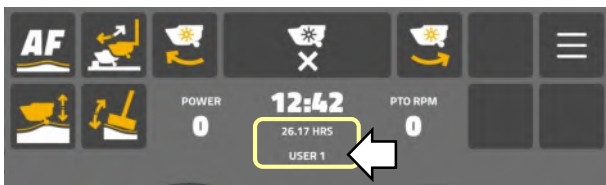


If the 'tick icon' is selected without entering a job name, the system will automatically name it 'JOB' followed by an available number.



If the newly created job is not required to be immediately active, it can be deactivated by touching the job name panel; when deactivated the job name panel will not be highlighted.

Job Report (Home Screen)



No Active Job

- 'Home Screen' will display;
- Machine total rotor hours.
- Active user name.



Active Job

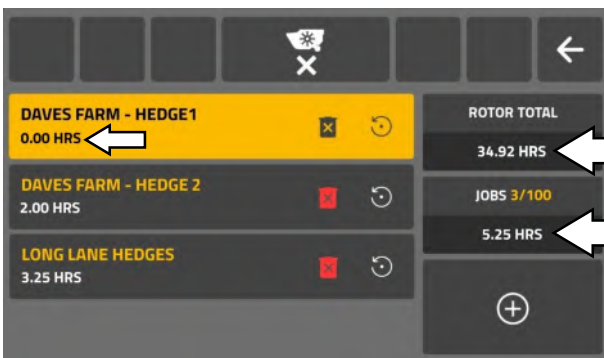
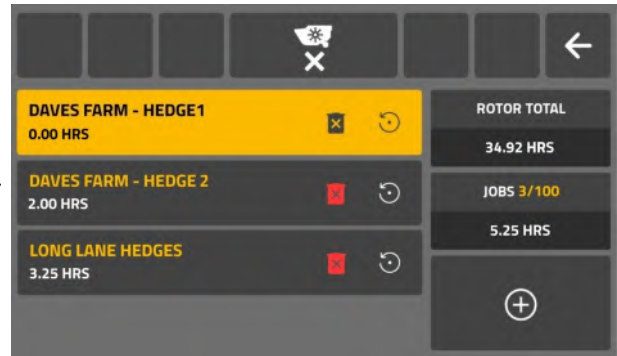
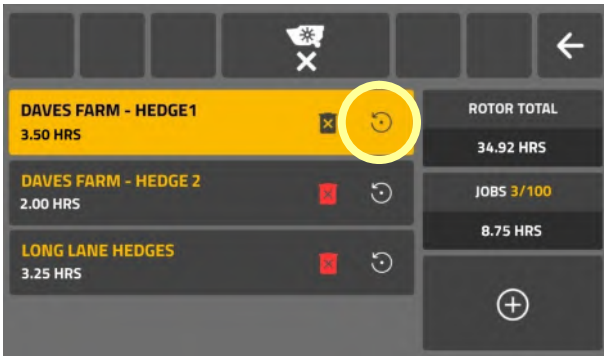
- 'Home Screen' will display;
- Active job name.
- Total rotor hours for active job.
- Active user name.

Resetting Job Hours

Job must be selected (active) to permit the hours to be reset.



Select and hold 'reset icon' on name panel to reset job hours to zero (0.00).



When job hours have been reset;

Machine total hours will remain the same.

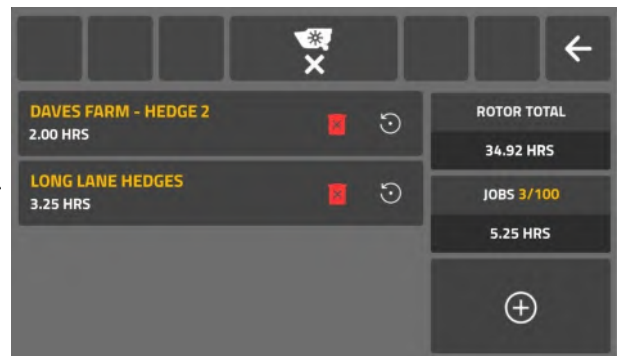
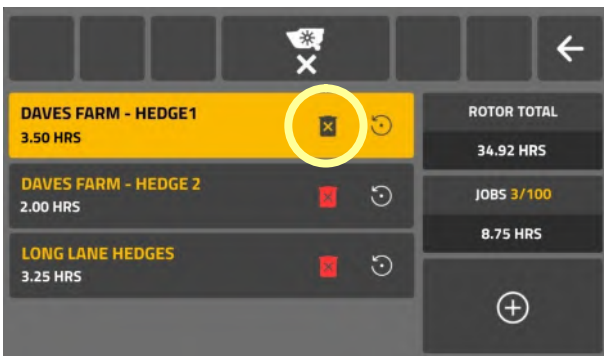
Reset job hours will be deducted from the hours total of the jobs on the system.

Deleting Job

Jobs can be deleted when active or inactive.



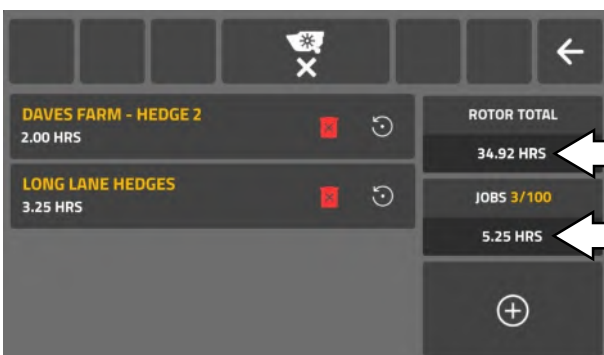
Select and hold 'delete icon' on name panel to delete the job.



When a job has been deleted;

Machine total hours will remain the same.

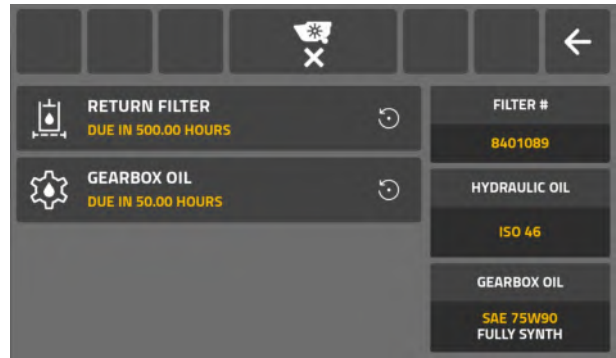
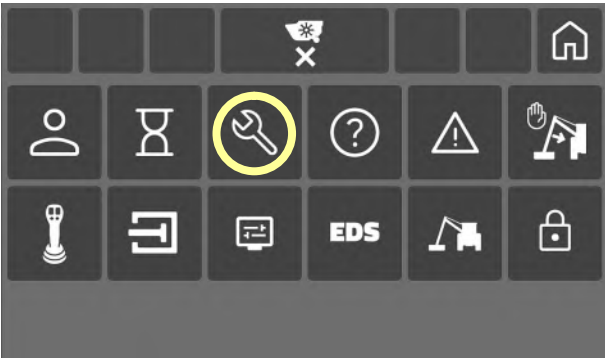
Deleted job hours will be deducted from the hours total of the jobs on the system.



Service Screen



Select **'Service icon'** to access **'Service information screen'**.



Service screen displays and reports the following information;

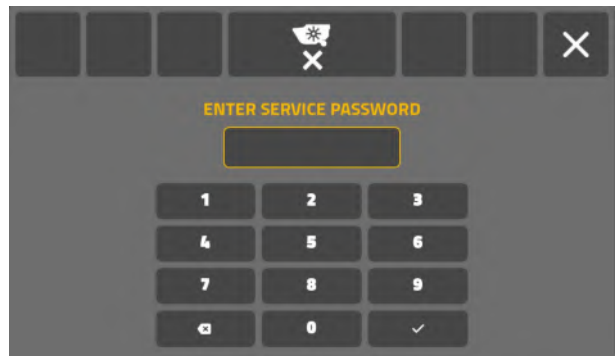
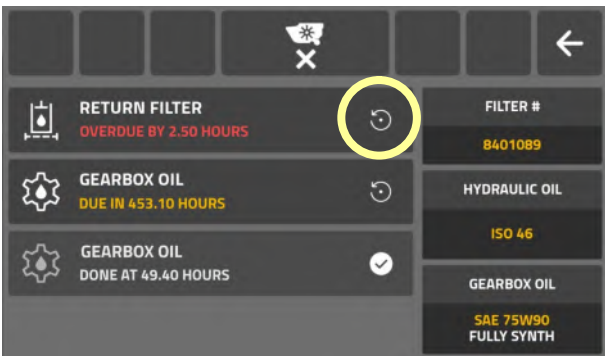
- Hour counter for return filter replacement.
- Hour counter for gearbox oil change.
- Replacement filter part number.
- Hydraulic oil specification.
- Gearbox oil specification.

Resetting Service Timers

Resetting the hour counters for filter and gearbox oil replacement will require a password; contact your Local Dealer to obtain the four digit service code.



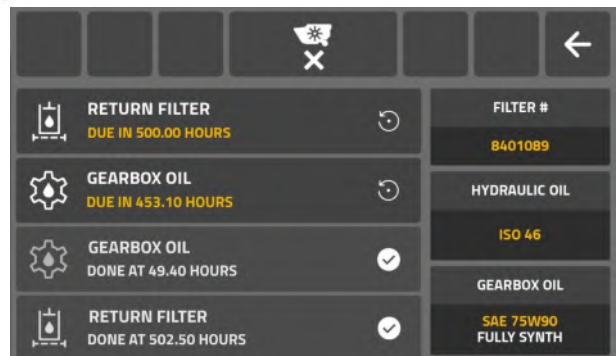
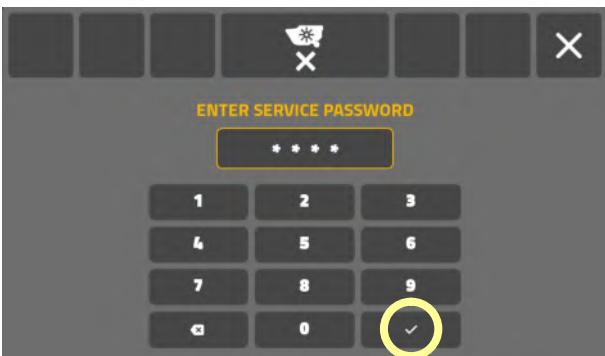
Select **'reset icon'** on service task panel; password screen will open.



Enter **'service code'**....



Select **'tick icon'** to confirm **'reset'**



Completed service tasks are logged and listed on this Service Screen.

Resetting hour counters must only be performed on completion of that service task; failure to perform service tasks in the required period will risk the health of the machine and may affect your Warranty.

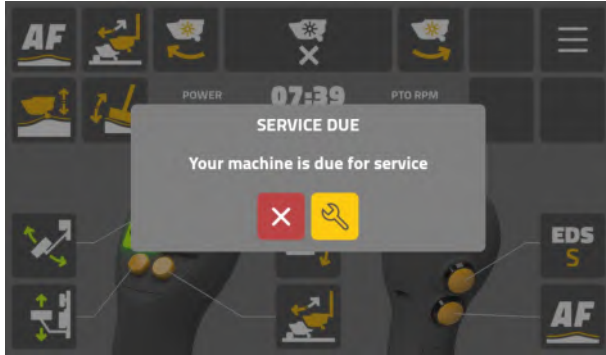
Service Warning Notification

A 'service due' warning is displayed at screen start-up when a service task is imminent.

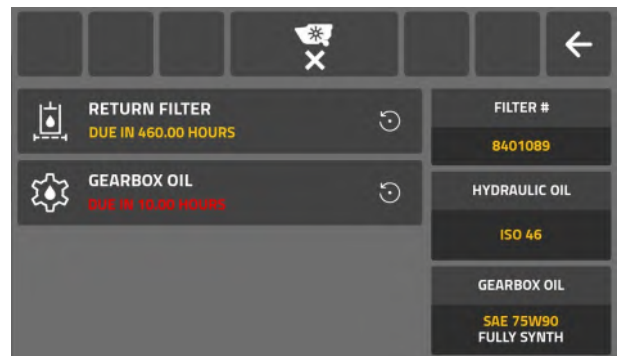
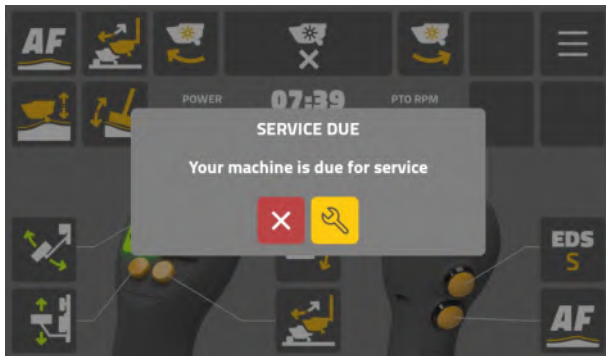
To close this screen users must confirm the warning using one of the following actions;



Select '**cross icon**' to dismiss warning and continue to 'Home Screen'.



Select '**service icon**' to open service screen and view imminent task(s).



Select '**return icon**' to exit the service screen.

The 'service due' warning screen will be displayed at the intervals below;

- **10 hours** before the initial **50 hour** gearbox oil change is due.
- **50 hours** before every **500 hour** gearbox oil change is due.
- **50 hours** before every **500 hour** filter replacement is due.

Warnings will cease when relevant service has been completed and logged on the system.



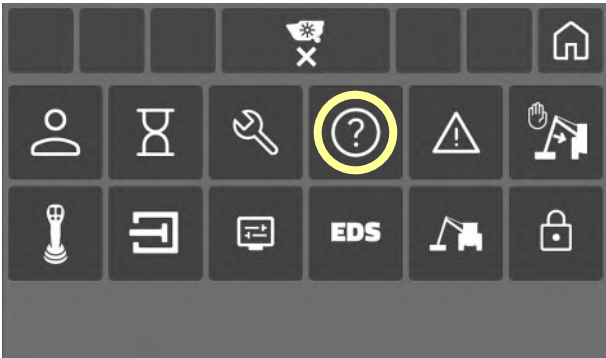
Protect your machine and warranty by performing service tasks at the recommended periods.

Control System Information Screen

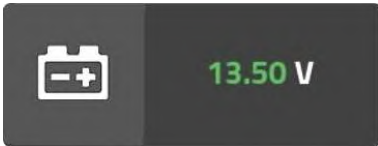
Information and diagnostics use only; no settings are available on this screen.



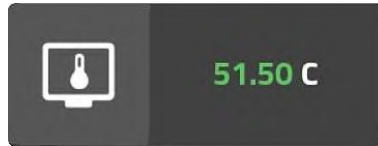
Select 'enquire icon' to access 'control system information screen'.



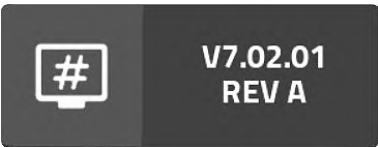
This information screen monitors and reports the following data;



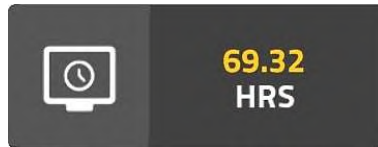
Power voltage to control unit



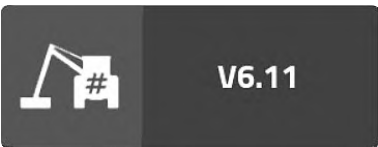
Screen temperature



Screen software version



Screen power on time (total)



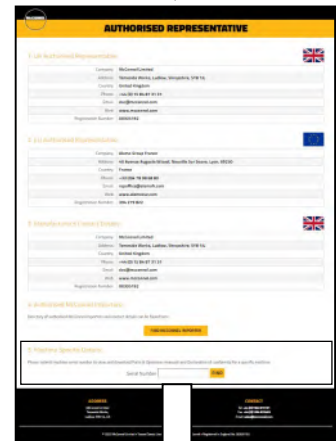
ACB software version



ACB power on time (total)



QR Code: direct access to McConnell online manuals (Serial No. required)



Select 'return icon' to exit screen.

5. Machine Specific Details:

Please submit machine serial number to view and download Parts & Operators manuals and Declaration of conformity for a specific machine:

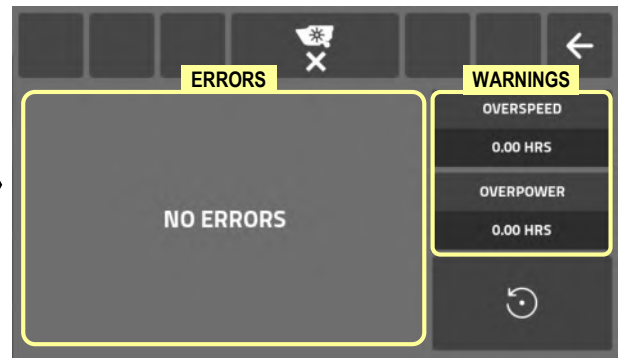
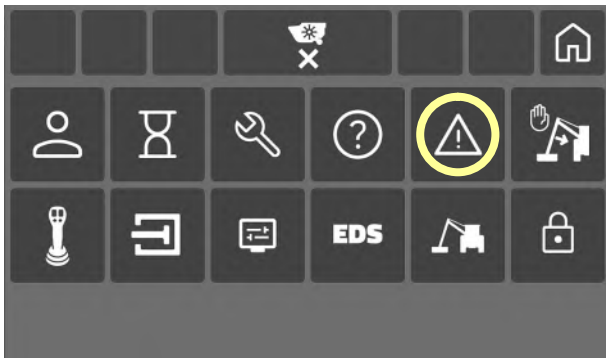
Serial Number **FIND**

Enter Serial No. to obtain a machine specific Operator Manual, Parts Manual and Declaration of Conformity.

Warnings & Errors Screen



Select 'enquire icon' to access 'errors and warning screen'.



This screen logs and reports machine operating warnings and control errors.

Overspeed Warning

Home screen displays warning when PTO speed too high: system logs 'overspeed' hours.



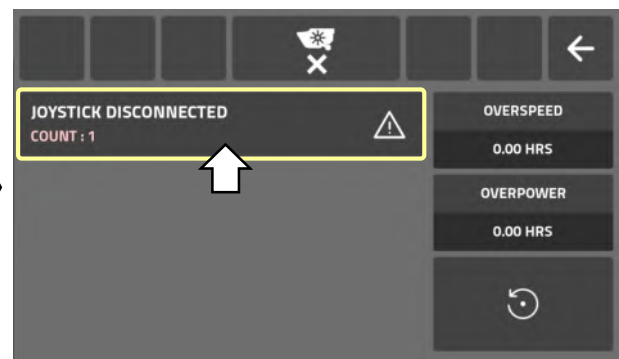
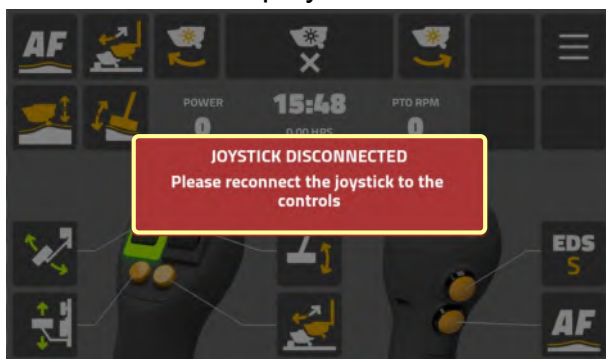
Overpower Warning

Home screen displays warning when rotor load too high: system logs 'overpower' hours.



Joystick Disconnected Error

Error screen is displayed: error and number of occurrences are recorded on error screen.



Connect joystick to dismiss the warning and permit access to the home screen.

Machine Disconnected Error

Error screen is displayed: error and number of occurrences are recorded on error screen.



Connect ACB to dismiss warning and permit access to the home screen.

Voltage Errors

Error screen is displayed: error and number of occurrences are recorded on error screen. 'Active' will be displayed on the panel of the existing error.



Check all power and battery connections are correctly secured and the tractor alternator is charging effectively, threshold is **10v Min** (under) **16.5v Max** (over). Contact your Dealer if the error persists.

Temperature Errors

Error screen is displayed: error and number of occurrences are recorded on error screen. 'Active' will be displayed on the panel of the existing error.



Check screen temperature reading in the 'control information' settings; the display should operate within the range of **-15°** and **+80°**. If temperature reading is outside of this range, and/or the problem persists, contact your Dealer.

i When an error initially occurs it is automatically listed on the errors screen: any further occurrences of same error are recorded as a 'count' on that error panel.

Error Resetting

If required the error screen can be reset to clear all non-active errors.



Select '**reset icon**' to clear non-active errors.



'Overspeed' and 'Overpower' hours recorded on the system cannot be reset.

Reach Stops Screen

These settings allow users to configure automatic **'Reach IN stop'** positions for the arm. 2 stops positions can be configured which can provide differing stop points for vertical and horizontal head operation.

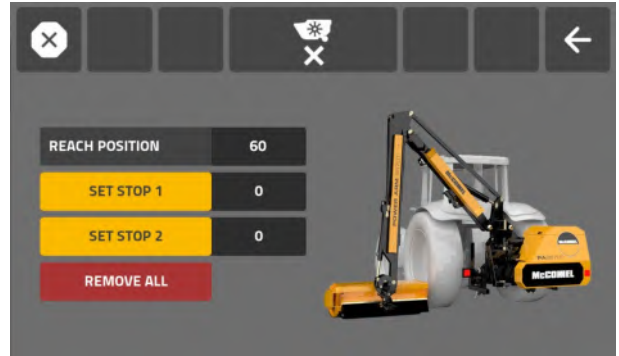
The **'Reach stop'** feature can be switched **ON/OFF** as required via the **'reach stop icon'** which can be added to the **'Home Screen'** (refer to home screen pages for details).



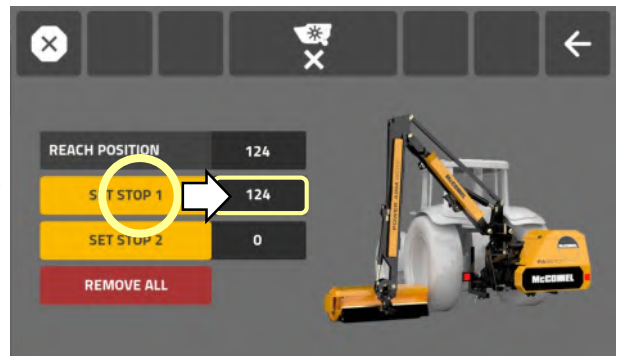
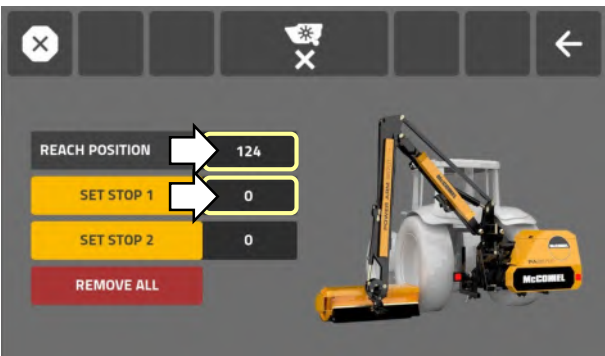
'Reach stop' settings created here apply to the machine, not to the individual user.



Select **'reach icon'** to access **reach stop settings screen**.



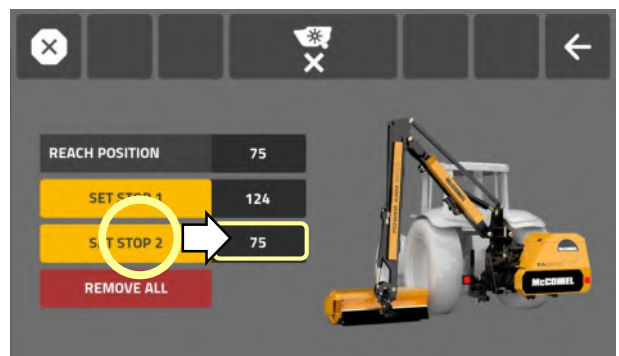
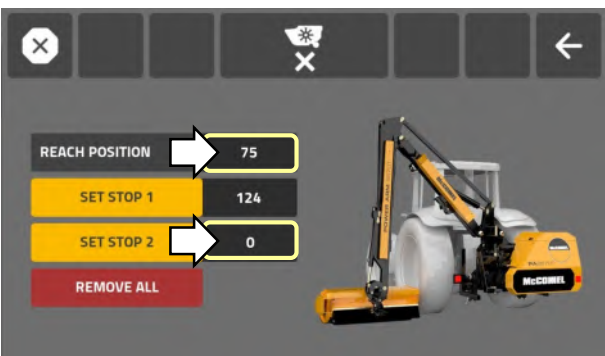
Operate **'reach in'** to position the arm at the required **'stop 1'** position.



With arm halted at required 'stop position', select **'set stop 1'** panel to save that stop point.



Operate **'reach in'** to position the arm at the required **'stop 2'** position.



With arm halted at required 'stop position', select **'set stop 2'** panel to save that stop point.



Select **'reach stop icon'** to activate function; *Icon is highlighted when active.*

Reach Stop Operation

When the 'reach stop' function is activated, inwards travel of the arm-set will automatically halt at the outermost stop position.

To permit further inward travel, the joystick must be returned to its mid-point position and subsequently reoperated to allow further inward movement; if a second 'reach stop' has been configured, the arm-set will halt again when it reaches the innermost stop position.

Repeat the first 'reach stop' procedure to permit further inward movement.

⚠ CAUTION

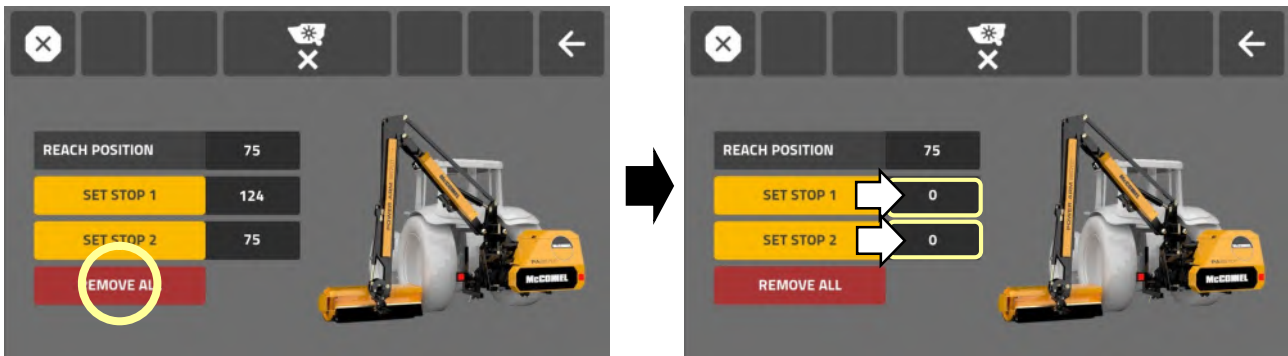
The reach stops are controlled by machine sensors, if sensors are damaged or otherwise fail the stops will not operate and the machine may come into contact with the tractor; McConnell take no responsibility for damage resulting from failed sensors and/or wiring.

⚠ CAUTION

If the 'reach position' figure on the screen reads zero (0), or the 'set stop' figures do not match the 'reach position' figure when moving the arm to set the stops, the machine reach sensor should be checked and tested before attempting to operate using this function.

Deleting Reach Stop Settings

Select 'remove all' panel to delete 'set stop' settings.



Select 'return icon' to exit screen.

Joystick Settings Screen

Joystick settings screen allows users to ‘swap’ the operating function of the thumbwheels.

Revolution Control Unit (default set-up)

Standard mode: **LH Thumbwheel** operates ‘slew’ / **RH Thumbwheel** operates ‘angle’.
 Swapped mode: **LH Thumbwheel** operates ‘angle’ / **RH Thumbwheel** operates ‘slew’.

Mini-Revolution Control Unit (default set-up)

Standard mode: **Thumbwheel** operates ‘slew’ / **joystick rotation** operates ‘angle’.
 Swapped mode: **Thumbwheel** operates ‘angle’ / **joystick rotation** operates ‘slew’.

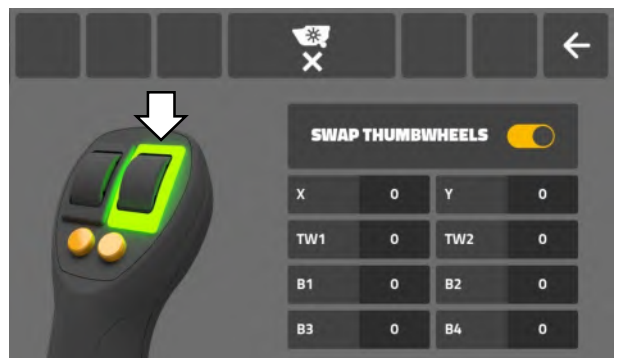
Thumbwheel Swap



Select ‘joystick icon’ to access joystick settings.

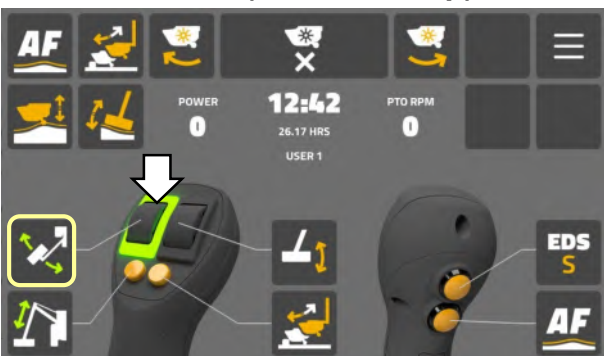


Select ‘switch icon’ to swap thumbwheel functions.

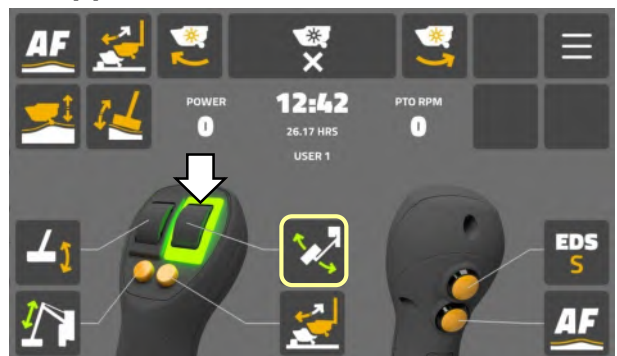


When thumbwheel operating mode is swapped it will only apply to the current active user.

Standard mode (default set-up)



Swapped mode



The thumbwheel ‘highlighted’ on each users home screen indicates slew operating control.

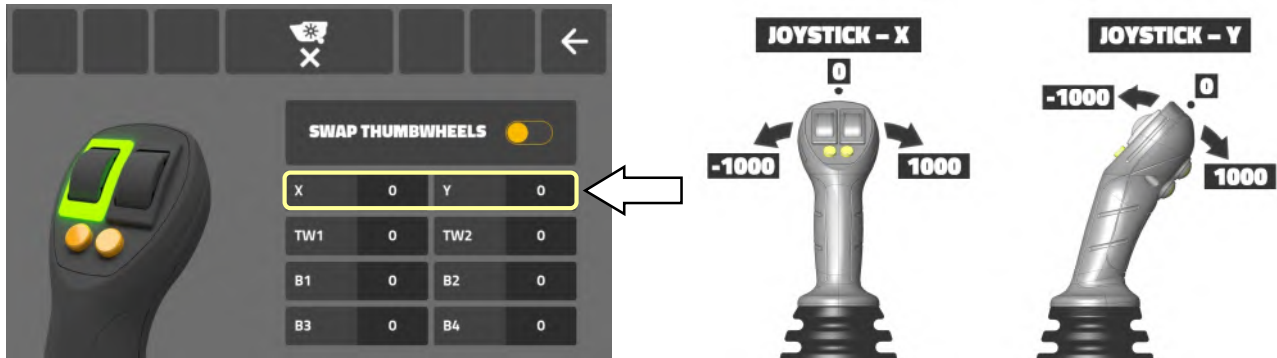
Calibration Reporting

The following calibration tests and reports are available on the joystick settings screen;

- Joystick Calibration Test/Check (Output CAN-Count)
- Thumbwheel Calibration Test/Check (Output CAN-Count)
- Button Cycle Count Check (Usage Figure)

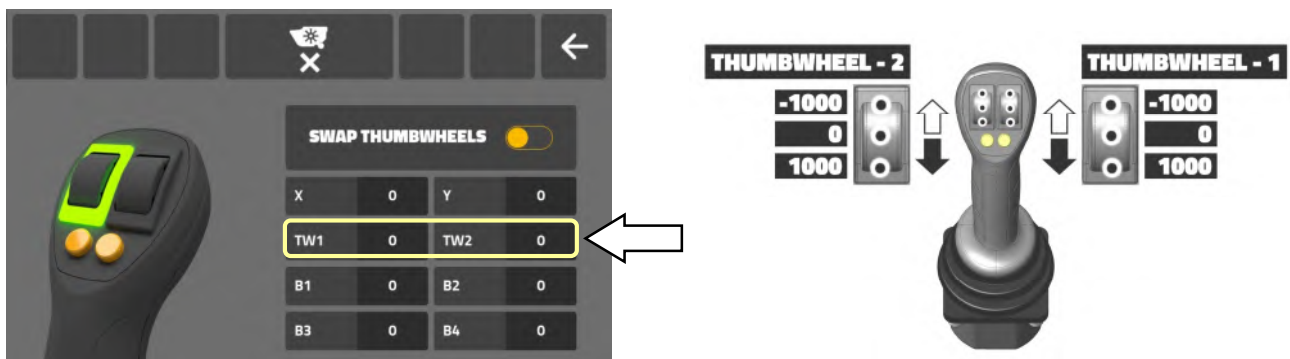
Joystick Calibration Test

To test joystick calibration, operate the control lever to its maximum positions in both the 'X' axis and the 'Y' axis; calibration is correct when the test screen reports '-1000' & '1000' at the opposing maximum positions in each axis, and '0' at it's mid-point position.



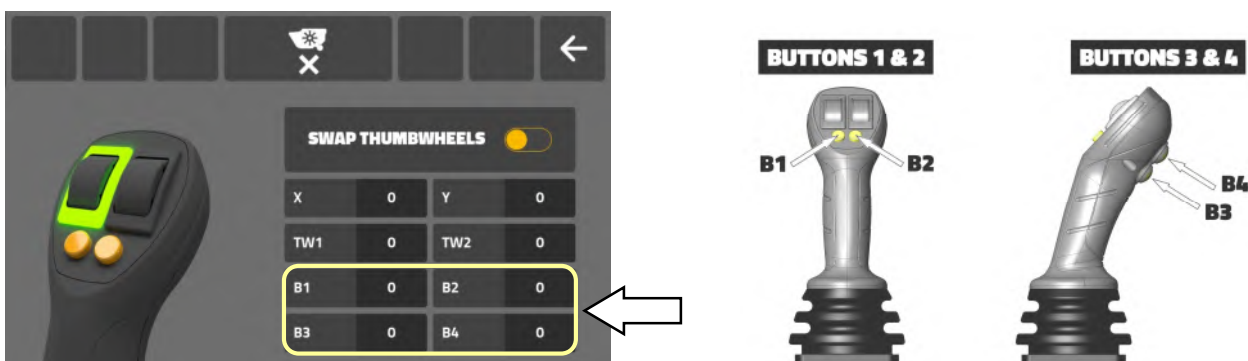
Thumbwheel Calibration Test

To test thumbwheel calibration, operate each thumbwheel to it's maximum position in each direction; calibration is correct when the test screen reports '-1000' & '1000' at the opposing maximum positions and '0' at it's mid-point position.



Button Cycle Count

The control unit counts each operation of the joystick buttons; the running total for each button is recorded on the test screen.

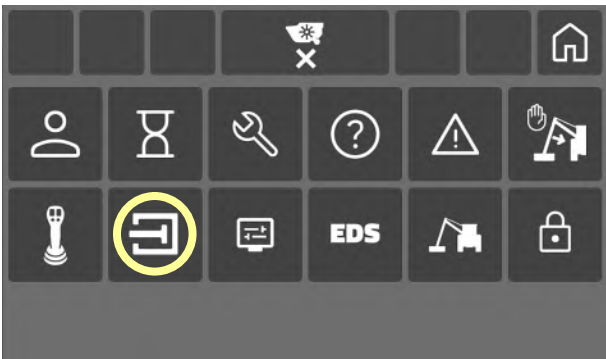


Select 'return icon' to exit the screen.

Valve Settings Screen



Select 'valve icon' to access valve settings.



The system features 2 independent valve modes that can be customised by the user for different work tasks. Users can switch between modes via the 'valve mode icon'.



Mode 1 (icon deactivated)



Mode 2 (icon activated)

The factory default setting for valve speeds is;

Mode 1 : Valves set at **slower speeds** generally suitable for hedge cutting work.

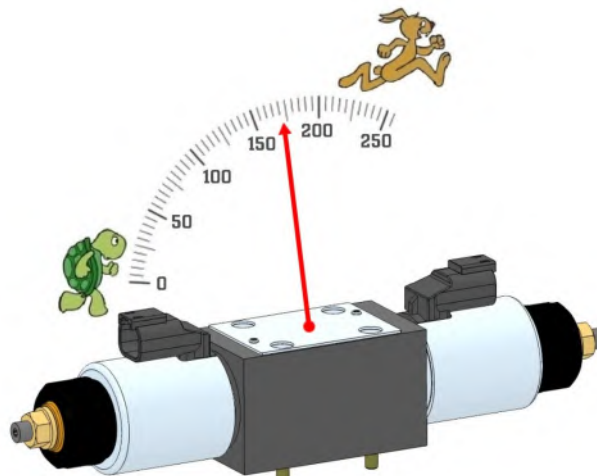
Mode 2 : Valves set at **faster speeds** generally suitable for verge mowing work.

Factory Default Settings for Mode 1

Valve Service	Min Value	Max Value	Valve Service	Min Value	Max Value
Lift Up	55	180	Lift Down	55	250
Reach In	60	180	Reach Out	60	200
Angle CW	50	160	Angle A-CW	55	160
Slew In	55	180	Slew Out	55	120
5 th Service In	55	180	5 th Service Out	55	180
6 th Service In	55	180	6 th Service Out	55	180
7 th Service In	55	180	7 th Service Out	55	180

Values listed are recommended valve settings for normal hedge cutting operations.

The minimum and maximum settings relate to valve response times; values range between 0 and 255, the higher the value the faster the response time.

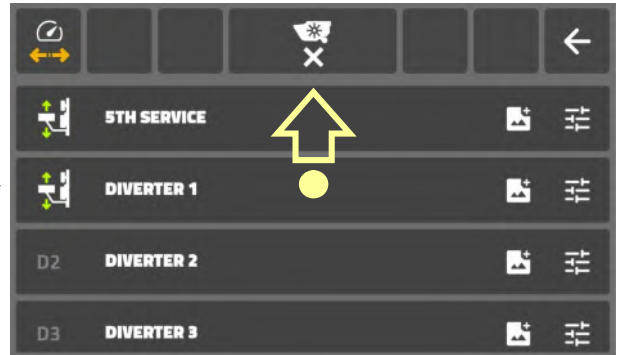
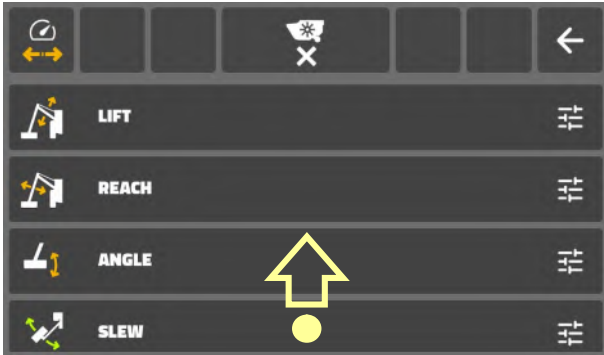


Valve Speed Customisation

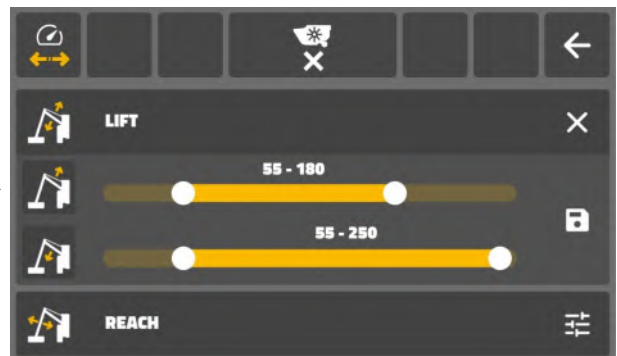
Users can customise valve speeds to suit their own personal preferences, but it must be remembered that any changes will overwrite factory default settings; therefore, depending on the settings changed, the modes may no longer be identified as 'slower' and 'faster'.



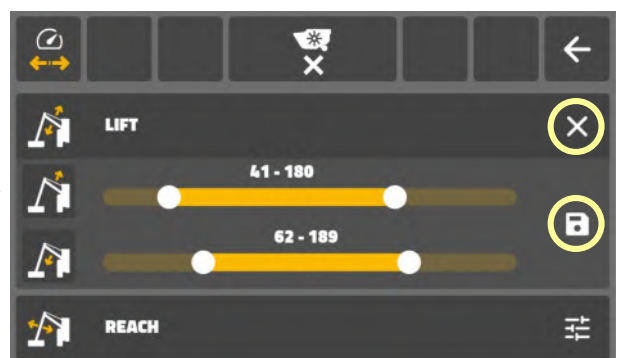
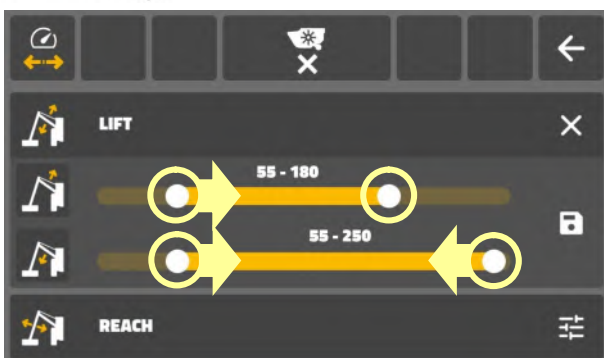
Scroll '**screen**' to view all valves.



Select '**valve settings icon**' to view or edit settings.



Move '**bar icons**' to adjust the operating direction 'min and 'max' settings.



Select '**cross icon**' to **cancel changes** and/or **exit screen**.

or



Select '**save icon**' to **confirm changes** and **exit screen**.

Repeat the procedure for all valves you wish to adjust.



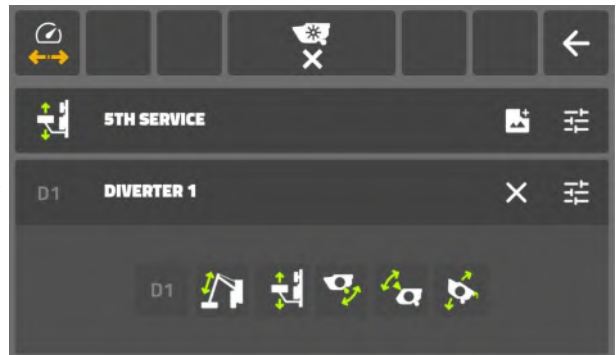
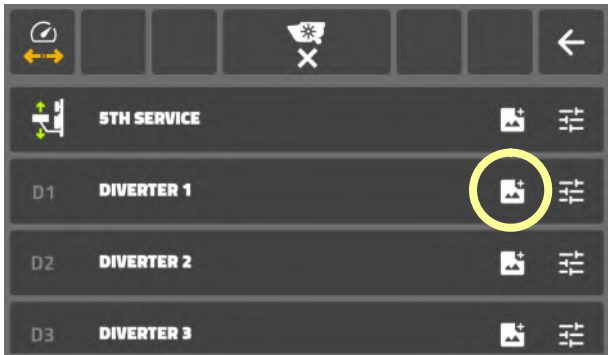
Changes to valve settings only affect the valves in their currently selected mode. When customising multiple valves for a specific task, all changes must be made within the same selected mode to ensure all settings are applied to that mode.

Assigning Function Icons to Valves

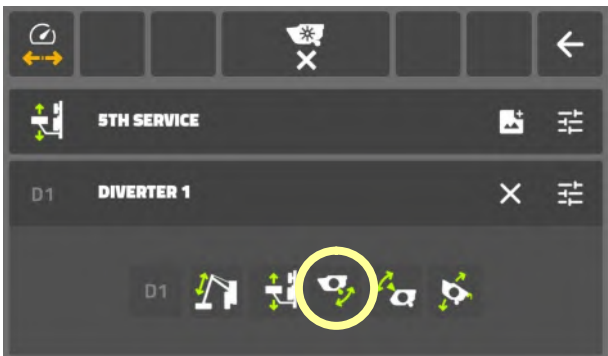
Control icons can be assigned to 5th Service and Diverter valves to identify their function.



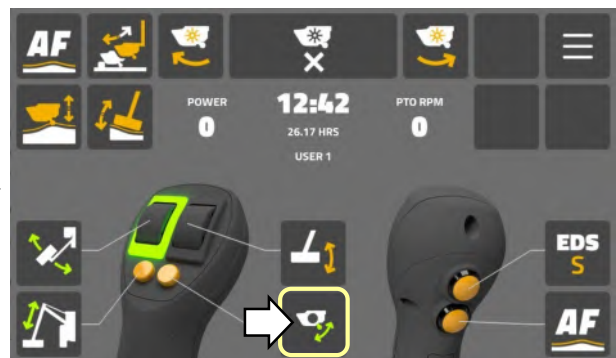
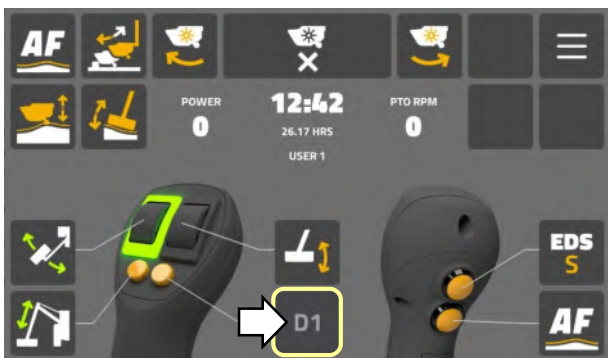
Select 'add icon image' to access icon image library.



Select 'icon image' to select and assign that symbol to the valve function.



Function identification symbol is assigned to the valve and to the relevant control icon on the home screen.

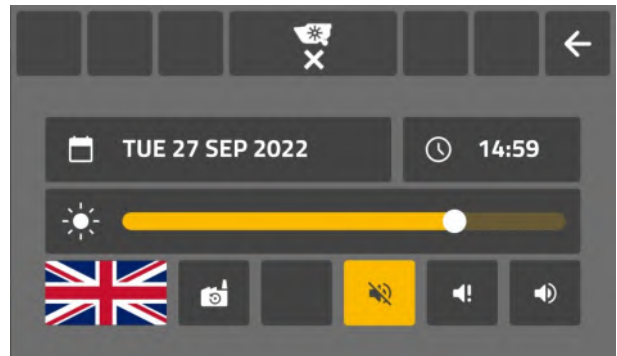
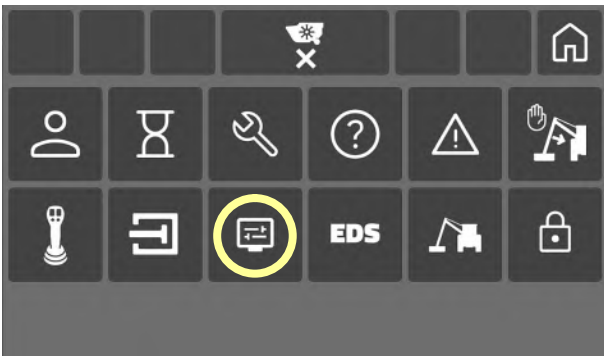


This procedure does not change the actual function of the valve, it only assigns a identification icon to the function; *always ensure the icon assigned is the correct symbol for the specific function of the valve.*

Screen Unit Settings Screen



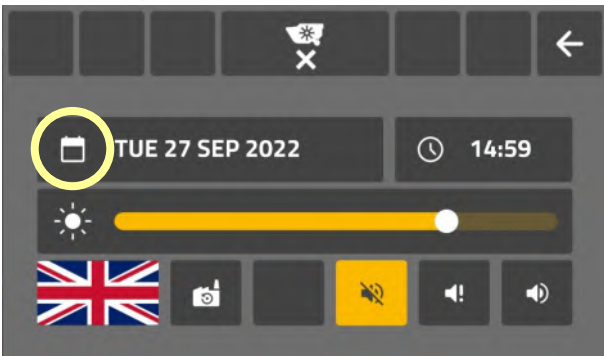
Select 'screen icon' to access screen settings.



Date Setting



Select 'calendar icon' to access date setting screen.



Scroll '[day] [month] [year] icons' to select current date.

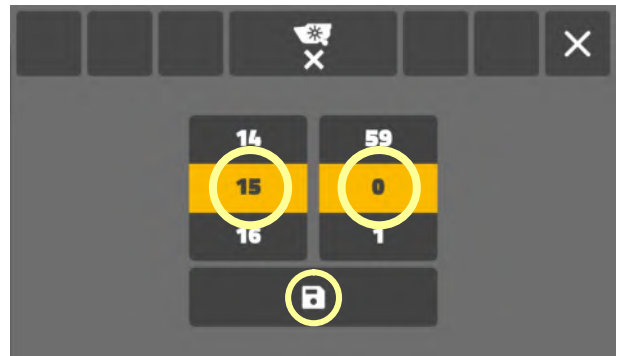
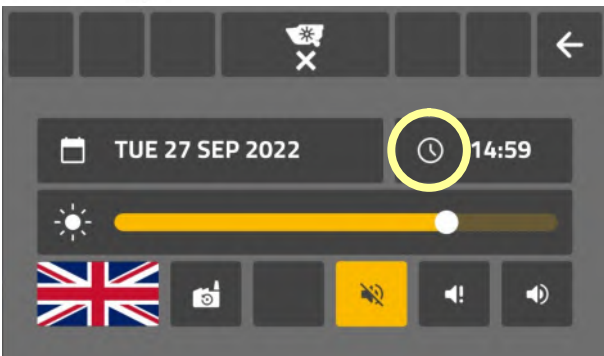


Select 'save icon' to set date and exit screen.

Time Setting



Select 'clock icon' to access time setting screen.



Scroll '[hour] [minutes] icons' to select current time.

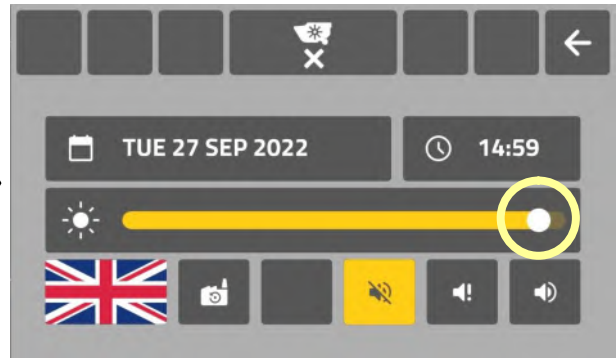
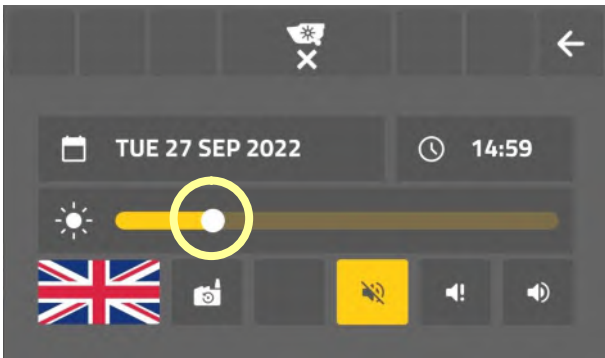


Select 'save icon' to set time and exit screen.

Screen Brightness Setting



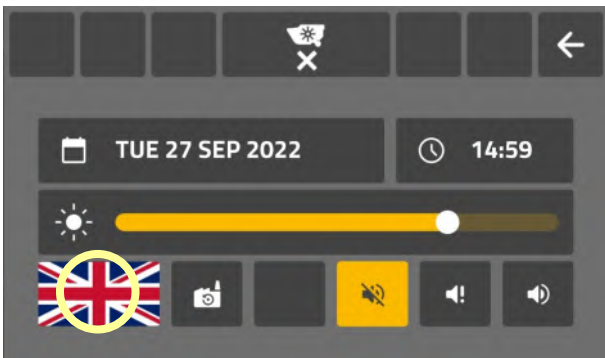
Move 'slider icon' to adjust screen brightness.



Language Setting



Select 'flag icon' to access the language menu.

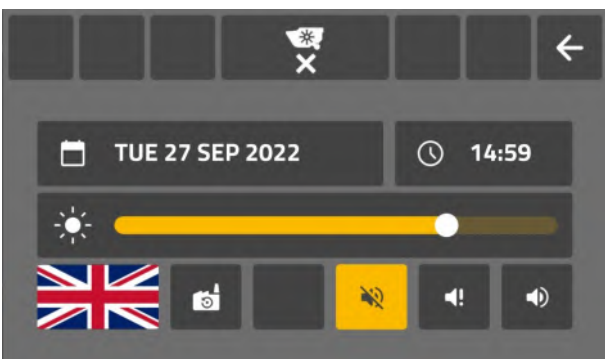


Select 'flag icon' of required language.
Language will change and settings screen will display that language flag.

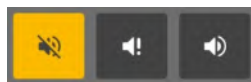
Sound Settings



Select a 'sound icon' to set the **system sound** option.



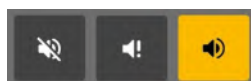
Sound options:



Sound OFF



Sound ON (Warnings only)



Sound ON

Screen Reset

Allows users to restore the following screen settings to the factory default setting;

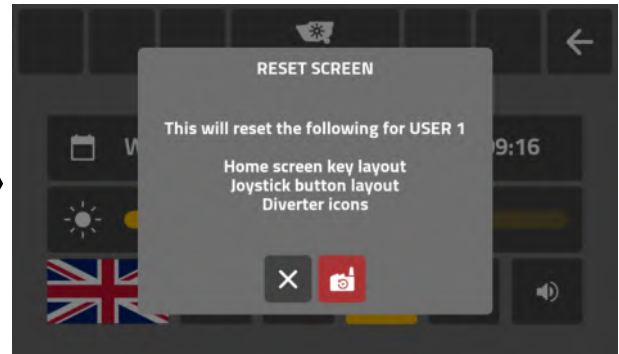
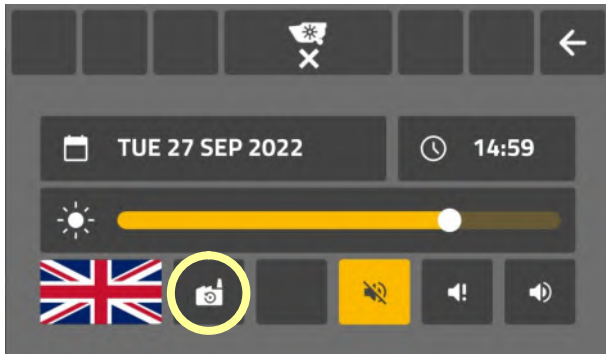
- Home Screen Icon Layout.
- Thumbwheel & Button Layout.
- Diverter Icons.



Screen reset will only restore the settings for the current user; the screen settings of all other users will not be changed.



Select '**factory reset icon**' to **reset screen settings** for current user.



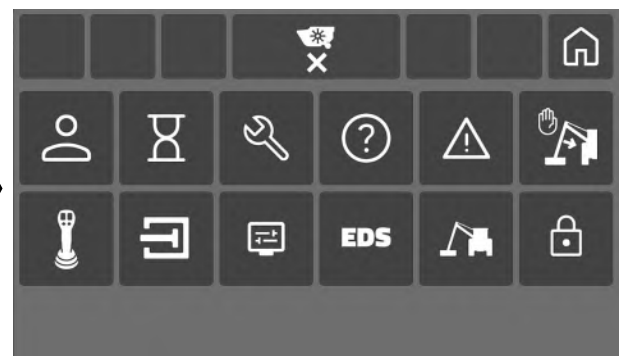
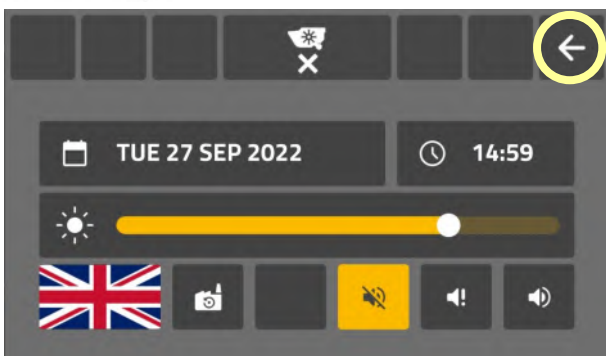
Select '**cancel icon**' on splash screen to **dismiss request**.
Reset will be cancelled and no changes will be made.



Select '**factory reset icon**' on splash screen to confirm **screen reset**.
Screen settings for the current user will be restored to factory default.

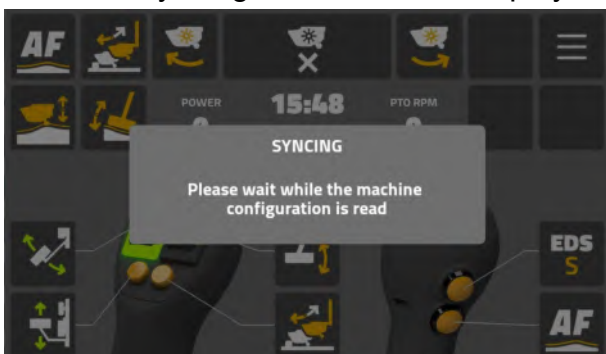


Select '**return icon**' to **exit screen settings**.



Screen Synchronisation Warning

Some changes to the system will require the machine configuration to be read; when this occurs a 'syncing' screen will be displayed.



Occasions when 'syncing' may occur are;

- ACB reconnection.
- Time and/or date changes.
- Software crash.

When reconfiguration is complete the syncing screen will close; *no user action is required.*

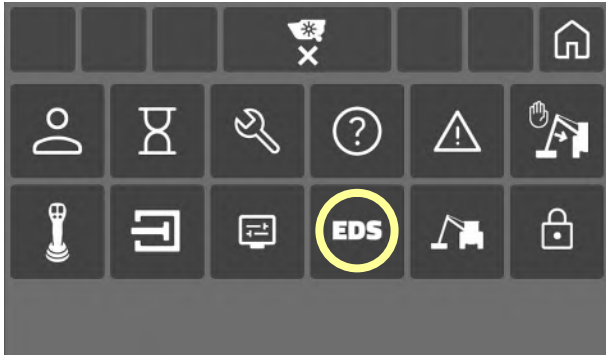
EDS Screen

The EDS screen is for information and reporting use only; users cannot edit or change any values or information displayed on this screen.

Access to the EDS screen should only be necessary if your Dealer or McConnel Service request information from the screen for troubleshooting purposes.



Select '**EDS icon**' to access the '**EDS information screen**'.



	MIN	MAX	REACH POSITION	
EDS S	40	95	REACH POSITION	180
			LIFT PRESURE	100
EDS M	35	90	CUT OFF	0
			LIFT VALVE MIN	55
EDS H	30	85	LIFT VALVE MAX	180



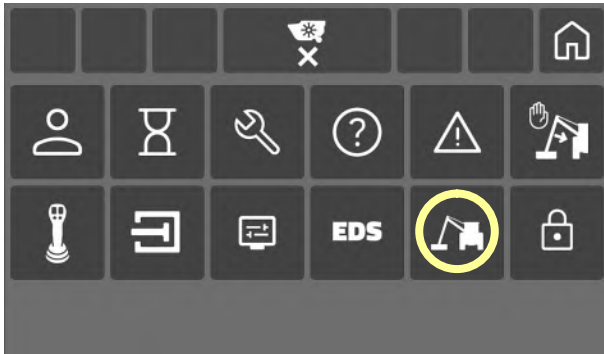
Select '**return icon**' to exit screen.

Factory Input Settings Screen

The factory input screen contains machine build data added by the manufacturer and is for informational use only; users cannot edit or change any information on this screen.



Select '**machine icon**' to access '**machine information screen**'.



HAND	LEFT	TYPE	STANDARD
MAX POWER	180	EDS LIFT FLOAT	YES
PTO SPEED	760	P/M FITTED	NO
		P/M OFFSET	1716



Select '**return icon**' to exit screen.

Password Input Screen

The password input screen is provided for the sole use of McConnell Service and qualified Dealers; this portal permits access to advanced settings that should only be changed or edited by qualified service personnel.



Select '**lock icon**' to access the '**password input screen**'.



Select '**keypad icons**' to enter passcode.



Select '**tick icon**' to confirm passcode and enter **advanced settings mode**.

CAUTION

Changes to advanced settings must only be performed by fully qualified service engineers with knowledge of McConnell machines and control systems; alterations to any of these settings can greatly affect the operation and performance of the machine.



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