

## Hydraulic master switch

### ⚠ WARNING

**Moving parts!**

Always use the Hydraulic Master switch to disable the hitch and remote valve controls before roading. Failure to comply could result in death or serious injury.

W1587A

### ⚠ WARNING

**Unexpected machine movement!**

Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.

W1789A

### ⚠ WARNING

**Misuse hazard!**

Always use the hydraulic master switch to disable the front hitch. A Drop Rate Setting of 0% is not intended to be a safety lock mechanism.

Failure to comply could result in death or serious injury.

W1792A

### ⚠ WARNING

**Misuse hazard!**

Always use the Hydraulic Master switch to disable the rear hitch. A Drop Rate Setting of 0% is not intended to be a safety lock mechanism.

Failure to comply could result in death or serious injury.

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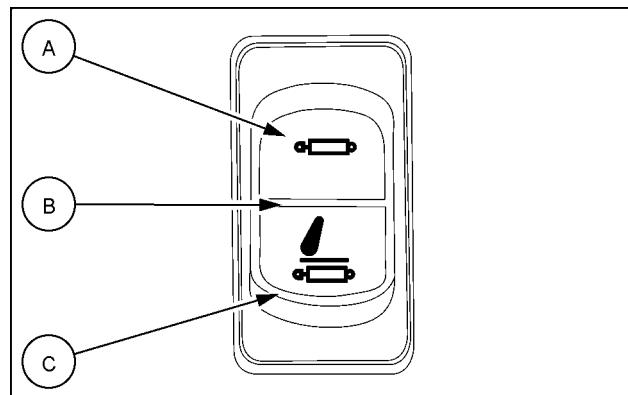
## EHC/EHR transport lock

When travelling on the road the mid-mount remote control valves, the rear electronic remote control valves and the three-point hitch can be disabled to prevent inadvertent lowering of the implement which may cause damage to the tractor or road surface.

**NOTE:** Depending on the configuration of your tractor the symbol on the switch may differ.

The switch on the cab right C-pillar has three possible positions and carries out the following functions:

- **(A)** Excitation of the rear and mid-mount electronic remote valves (if fitted) and three-point hitch locked out
- **(B)** Locking of the electronic remote valves and three-point hitch
- **(C)** Excitation of the rear and mid-mount electronic remote valves (if fitted) and rear three-point hitch



SVIL17TR00867AA 1

## Advanced joystick (where fitted)

### ⚠ WARNING

**Moving parts!**

**Always use the Hydraulic Master switch to disable the hitch and remote valve controls before roading. Failure to comply could result in death or serious injury.**

W1587A

### ⚠ WARNING

**Unexpected machine movement!**

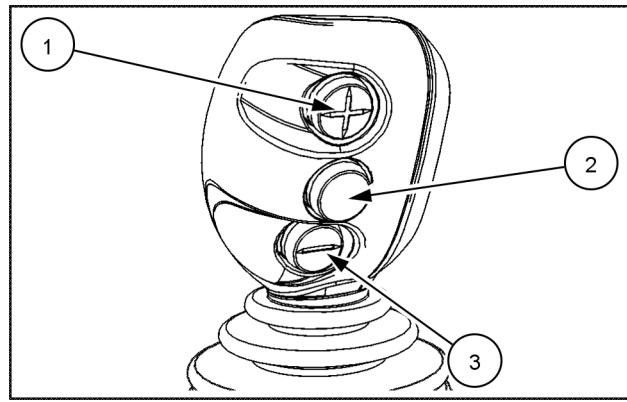
**Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.**

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There are three types of provided advanced joystick.

All the optional fitted advanced joysticks are equipped with:

- An upshift switch (1)
- A downshift switch (3)
- A range change switch (2).



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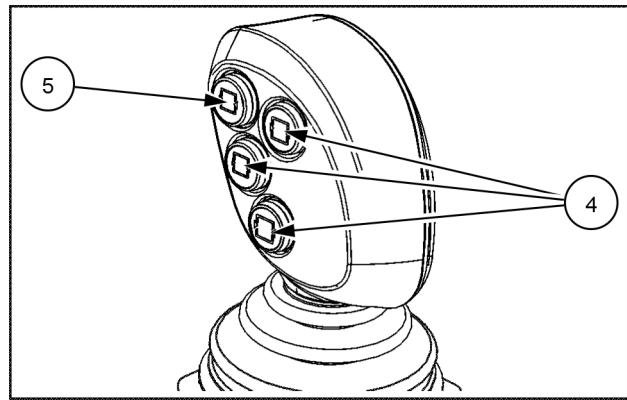
**NOTE:** The function of these switches are the same as previously described on the **CommandGrip™ handle** (refer to **CommandGrip™ handle (55.640)**).

Additionally, the joystick in figure 2 offers:

- Three switches (4) operating remote hydraulic services via relay and additional valve.

Where additional hydraulic services are required:

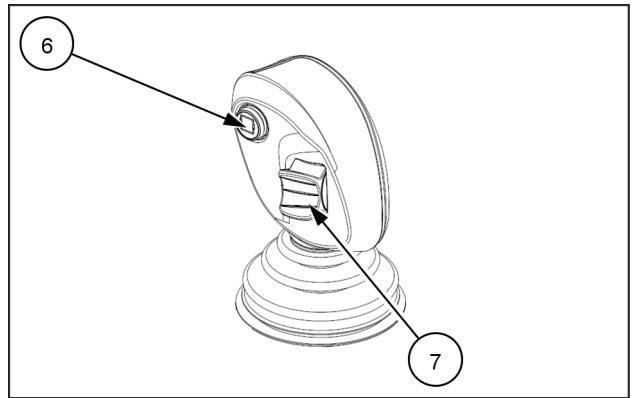
- In presence of a tool installed in the ISOBUS, the joystick can offer optional functions activated by the switch (5) that can be configured by means of the monitor.



SVIL17TR03459AA 2

Additionally, the joystick in figure 3 offers:

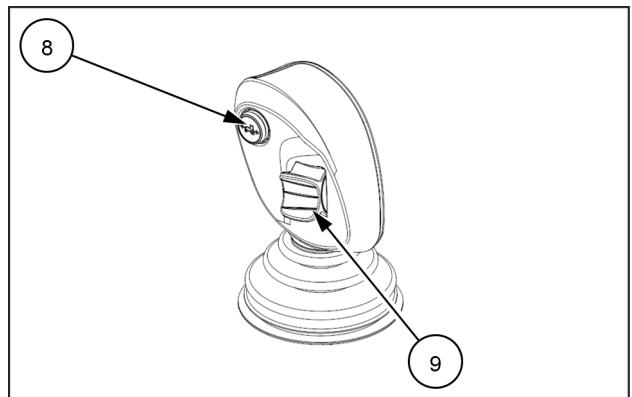
- A switch (6) to depress and hold combined with a joystick movement on vertical or horizontal axis
- A thumbwheel (7) to control:
  - the front third valve in extension and retraction when the joystick is assigned to front electro-hydraulic remote valves
  - the rear third valve in extension and retraction when the joystick is assigned to rear electro-hydraulic remote valves.



MOIL24TR00794AA 3

Additionally, the joystick in figure 4 offers:

- A switch (8) to swap between forward direction and reverse direction
- A thumbwheel (7) to control:
  - the front third valve in extension and retraction when the joystick is assigned to front electro-hydraulic remote valves
  - the rear third valve in extension and retraction when the joystick is assigned to rear electro-hydraulic remote valves.



MOIL24TR00793AA 4

Additionally, the joystick in figure 5 offers:

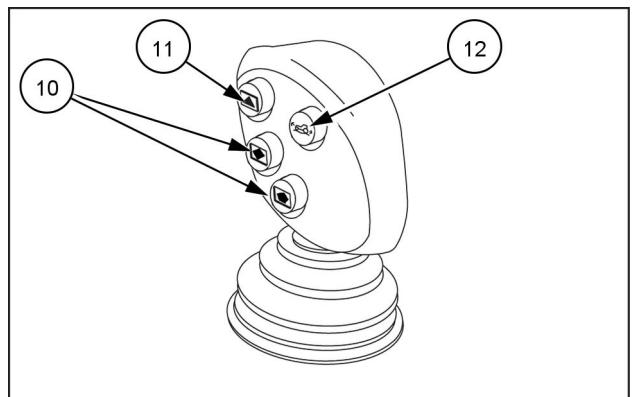
- Two switches (10) operating remote hydraulic services via relay and additional valve.

Where additional hydraulic services are required, the joystick can offer optional functions activated by:

- Depressing and holding the switch (11) by combining a joystick movement on vertical or horizontal axis
- Pressing the switch (12) to swap between forward direction and reverse direction.

**NOTE:** If the tractor is provided with monitor and the unlock feature for the reconfigurable electro hydraulic remote valves (EHR) is active, the switches (10) and (11) are available as fully configurable switches.

**NOTE:** The additional functions of advanced joysticks described in the following pages may vary due to different configurations. Please always refer to **Remote control valves remote valves (35.204)** for a detailed description of the joysticks functions.



MOIL24TR00052AA 5

## Integrated control panel

### ⚠ WARNING

Moving parts!

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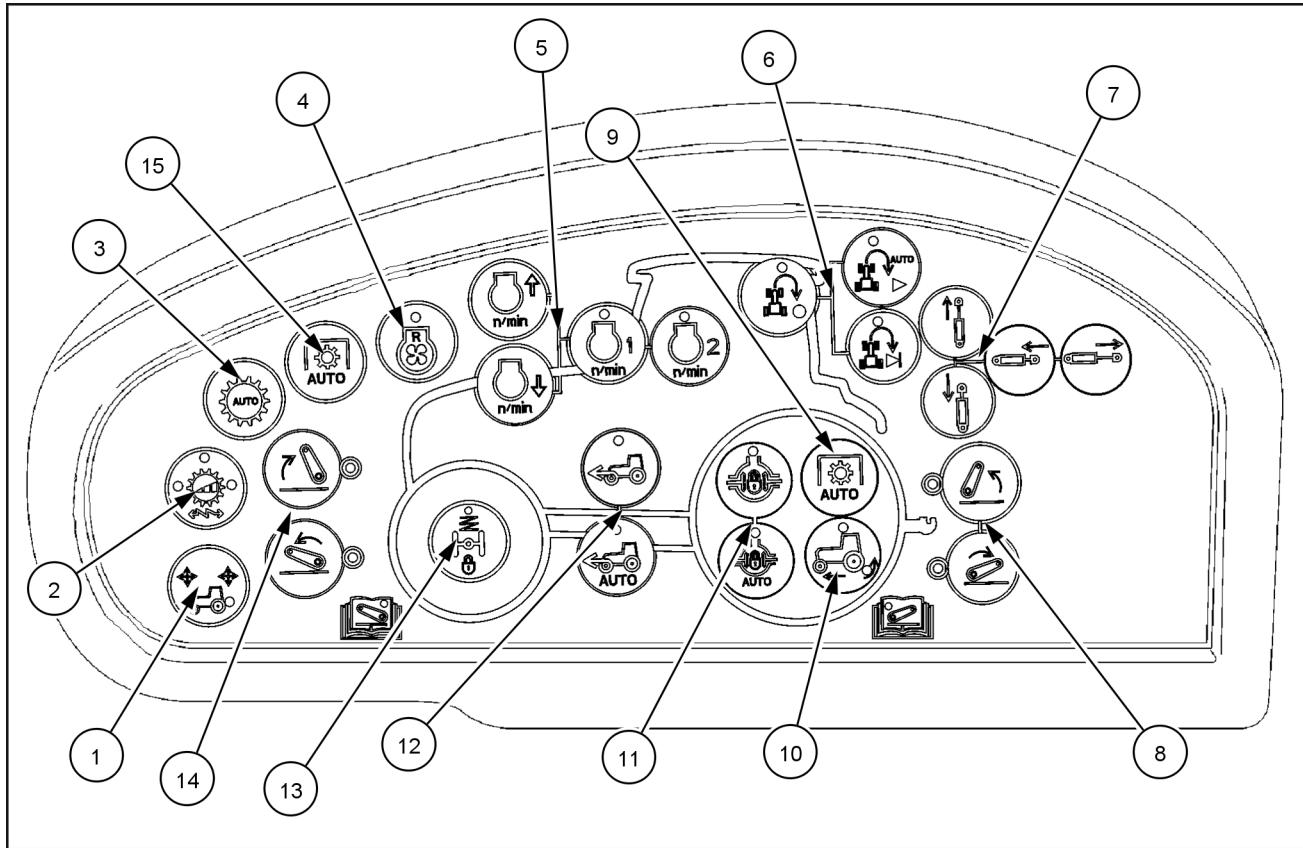
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### ⚠ WARNING

Unexpected machine movement!

Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.

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Your tractor is equipped with a number of electronic control switches located on the right-hand side of the cab. Depending on the options fitted to your tractor, some of these switches may have more than one function. A full explanation of individual switch operation can be found in the relevant pages of this manual.

The grouping of the switches on the ICP in your tractor may appear different to those shown in some illustrations in Operator's Manual. However, their operation will be identical to that described.

1. Front/ rear joystick control selector
2. Acceleration/deceleration rate control
3. Not Used
4. Reversible engine fan control
5. Engine Speed Management settings
6. HTS Record/ Auto/ Manual select
7. Hydraulically adjusted top and right hand link

8. Rear 3- point hitch EDC operation
9. Rear auto PTO control
10. Wheel slip engagement
11. Rear axle differential lock, Auto/ Manual engagement
12. 4WD Auto or Manual engagement
13. Front axle suspension lock
14. Front 3- point hitch operation
15. Front Automatic PTO (where fitted)

## CommandGrip™ handle

### ⚠️ WARNING

**Moving parts!**

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W1587A

### ⚠️ WARNING

**Unexpected machine movement!**

**Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.**

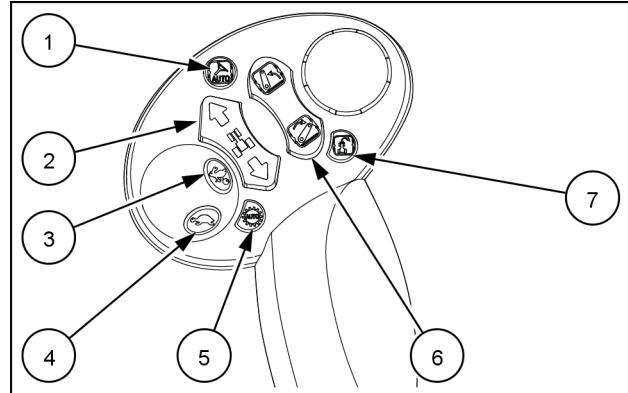
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**NOTE:** Depending on your tractor's equipment, one of the following CommandGrip™ levers will be fitted. The images in this manual only show the fully equipped multifunction handle.

### CommandGrip™ lever without EHR controls

The CommandGrip™ lever allows one handed operation of several tractor functions, all of which are explained in full detail as you read through the manual.

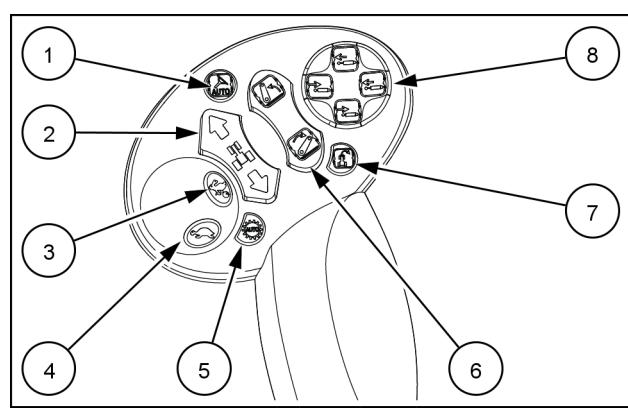
1. Autoguidance engagement (where fitted)
2. Transmission shuttle switches
3. Upshift switch
4. Downshift switch
5. Circuit breaker
6. Hitch raise/lower switches
7. Headland turn step switch (where fitted)



### Basic CommandGrip™ lever

The CommandGrip™ lever allows one handed operation of several tractor functions, all of which are explained in full detail as you read through the manual.

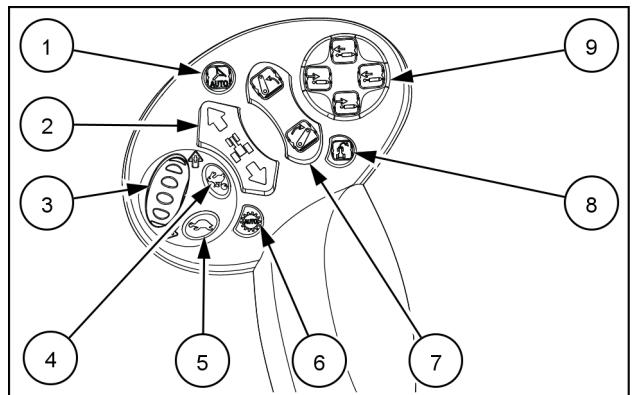
1. Autoguidance engagement (where fitted)
2. Transmission shuttle switches
3. Upshift switch
4. Downshift switch
5. Circuit breaker
6. Hitch raise/lower switches
7. Headland turn step switch (where fitted)
8. Remote cylinder controls (only with EHRs fitted)



## Advanced CommandGrip™ lever

The **CommandGrip™** lever allows one handed operation of several tractor functions, all of which are explained in more detail as you read through the manual.

1. Autoguidance engagement (where fitted)
2. Transmission shuttle switches
3. Thumbwheel
4. Upshift switch
5. Downshift switch
6. Circuit breaker
7. Hitch raise/lower switches
8. Headland turn step switch (where fitted)
9. Remote cylinder controls (only with EHRs fitted)



MOIL20TR00186AA 3

## Electronic Draft Control (EDC)

### ⚠ WARNING

#### Misuse hazard!

Always use the Hydraulic Master switch to disable the rear hitch. A Drop Rate Setting of 0% is not intended to be a safety lock mechanism.

Failure to comply could result in death or serious injury.

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Electronic Draft Control (EDC) is an electronically controlled hydraulic system that senses changes in the draft loading via sensors in the lower link pins of the three-point hitch, and changes in the vertical position of the hitch via a sensor in the cross shaft. The system functions in position control or draft control.

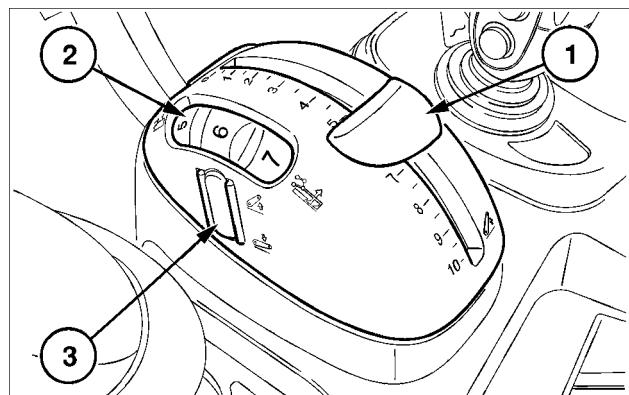
**NOTE:** Always keep the rear hitch lower links fully raised in transport position when travelling on road without implements connected to the lower links.

Position control provides accurate control of implements that operate above the ground. Once the implement height has been set, the system will maintain that height irrespective of any external forces acting upon it.

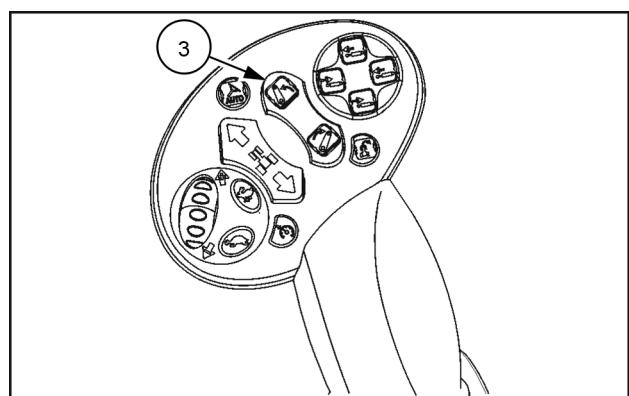
Draft control is designed for mounted or semi mounted implements operating in the ground. Draft control automatically compensates for changes in soil resistance which cause the implement draft loading to increase or decrease.

### EDC control overview

1. The hitch position lever (1) is used to set implement height, when operating in position control and maximum implement depth when operating in draft control.
2. The draft loading wheel (2) determines the draft load and therefore implement working depth by setting a force on the draft sensitivity pins. Rotate fully forward (position 10) to provide maximum load and therefore maximum implement depth.
3. Raise and lower switch. Once the 3-point hitch has been set to the required working position, this switch can be used to raise and lower the hitch without affecting the draft or position control settings. The switch also provides for faster ground engagement, if required. For detailed information, see text on page **Electronic Draft Control (EDC) operation (55.130)**.



BRL6112C 1



SVIL17TR03615AA 2

4. The indicator lights (4) on the integrated control panel illuminate when the position control lever is moved to raise or lower the implement or when the incremental raise and lower switches are used. As draft corrections occur during normal tractor operation, the lower light will illuminate when the hitch lowers, the upper light will illuminate when the hitch raises.

5. Incremental raise and lower switches (5). Where a small change in the height of the three-point hitch is required, depressing these switches repeatedly will alter the height of the hitch in small increments.

6. The malfunction warning light (6) serves two purposes:

- Flashing light indicates a malfunction in the system circuits.
- Steady light, the light remains illuminated when the hitch is not at the working height selected or at the preset height set by the height limiter.

This may be caused by:

Operating the inching switches (5), figure 3

3-point hitch is stopped during the raise cycle.

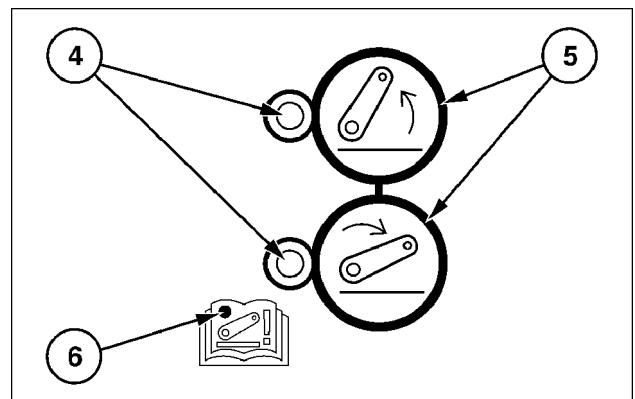
Operating the fender switches.

Moving the hitch controls after key OFF.

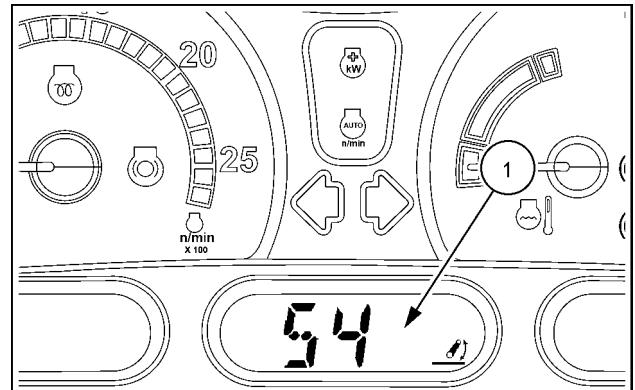
The above lights will be accompanied by the hitch error symbol appearing in the operational display. To clear the error, cycle the hitch position lever slowly through the full lift range.

## Hitch position display

The digital display in the instrument cluster indicates the position of the lower links (1) over a scale of '0' to '100'. A display of '0' indicates that the links are fully lowered. '100' indicates they are fully raised. 'dr' is displayed instead of the hitch position when draft control is active and when the system has automatically adjusted the hitch height. Select the display using the appropriate keys on the keypad.



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## EDC panel

To gain access to the EDC controls, lift the pad on the right-hand armrest.

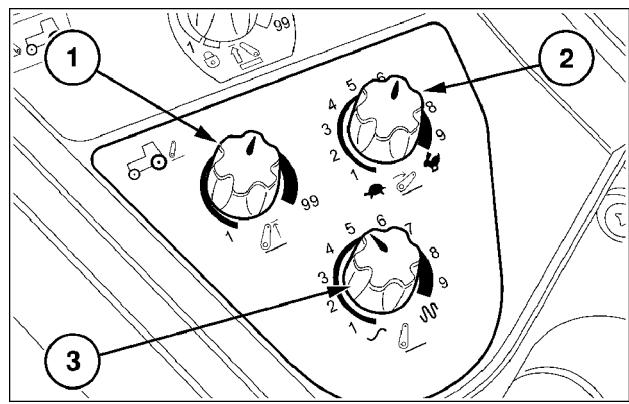
The height limit control knob (1) limits the height to which the hitch may be raised. Adjust this knob to avoid the possibility of a large implement damaging the tractor when fully raised.

The drop rate control (2) adjusts the speed at which the three-point hitch drops during the lowering cycle. Position 1 selects the slowest drop and is denoted by the tortoise symbol, position 7 provides the fastest rate of drop.

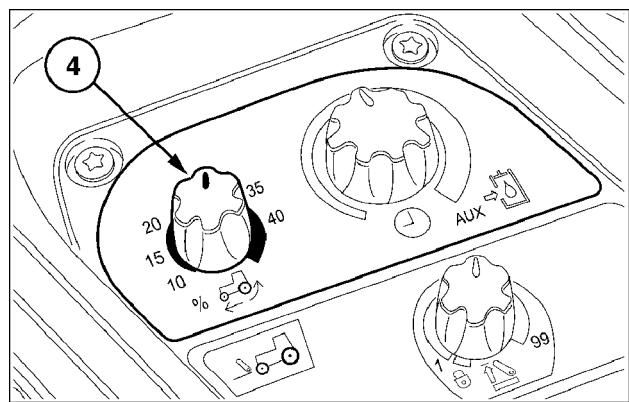
The draft sensitivity control (3) is used to make the system more sensitive or less sensitive to changes in draft loading. Maximum sensitivity is obtained by rotating the control fully clockwise.

When equipped with the optional radar sensor unit, the slip limit control (4) enables the operator to select a wheel slip threshold, above which the implement will raise until wheel slip returns to the set level.

Depress the slip control switch on the armrest to activate. A slip limit 'on' indicator illuminates when the wheel slip limit control is activated.



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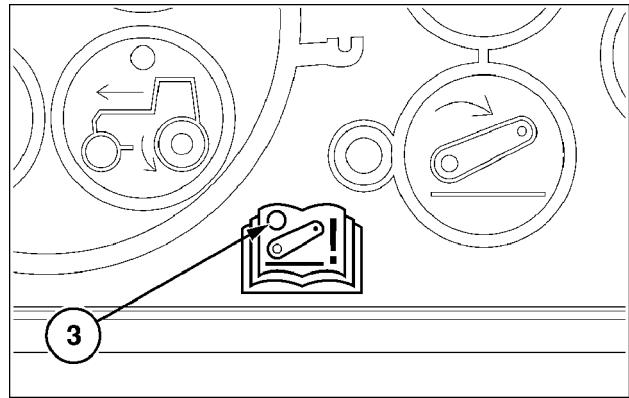
BRL6124B 6

## Disable and release the hitch

A steady malfunction warning light (3) signifies that the hitch has been disabled and the setting of the Position Control lever does not correspond to the height position of the lower links.

The 'hitch disabled' warning will display if:

- The Position Control lever has been moved with the engine stopped.
- One of the external hitch controls has been operated to raise or lower the three-point hitch. See 'Malfunction Warning Light' on figure 1 or 'External three-point hitch controls' on page **External hitch controls (55.130)**.



BRL6107B 7

To re-phase the position control lever with the lower links, start the engine and move the lever slowly in either direction until the position of the lever matches the height of the hitch. This will be confirmed by the 'hitch disabled' warning light going out.

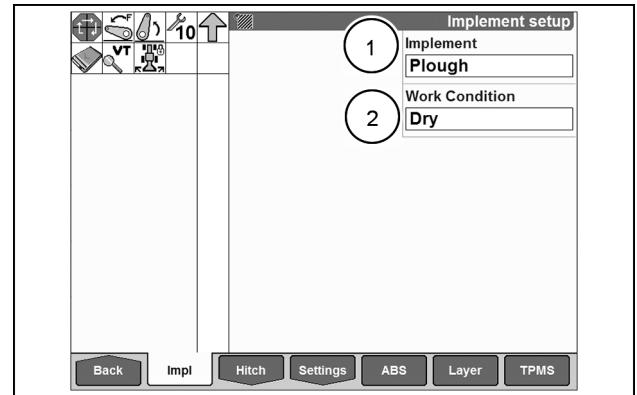
During the re-phase sequence, the lower links will raise slowly but once the Position Control lever and hitch height are synchronized, the lower links will operate normally.

## Work condition

Monitors are able to record operational settings made to the EHC system and the three-point hitch. These settings may be stored in the tractor memory and recalled for future use.

**NOTE:** To exit popup screens without making changes touch X.

**NOTE:** Changing the descriptions for Implement or Work Condition in any screen will automatically update all Work Condition screens.



SVIL15TR02316AA 8

Implement setup

Work conditions

Impl

The implement screen allows the operator to select, edit or create implement descriptions and working conditions.

Implement (1)

Select an implement from the popup list, modify a current implement description or add a new implement to the list.

Work Condition (2)

Select the current work condition from the popup list, modify the current condition or add a new work category to the list.

## Remote control valves valves

### ⚠ WARNING

Unexpected machine movement!

Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.

W1789A

### ⚠ WARNING

Unexpected movement!

When starting the machine engine, make sure the remote valve levers are in the correct position BEFORE you operate the key switch. This prevents an attached implement from moving unintentionally. Failure to comply could result in death or serious injury.

W0433A

### ⚠ WARNING

Escaping fluid!

If a hydraulic hose, line, or pipe shows signs of wear or damage, replace the component IMMEDIATELY. Failure to comply could result in death or serious injury.

W0297A

### ⚠ WARNING

Escaping fluid!

Do not connect or disconnect hydraulic quick coupler under pressurized conditions. Make sure all hydraulic pressure is removed from the system before connecting or disconnecting hydraulic quick coupler.

Failure to comply could result in death or serious injury.

W0095B

### ⚠ WARNING

Pressurized system!

Before disconnecting the couplers, you must:

-lower the connected attachments,

-stop the engine,

-move the control levers forward and backward to discharge pressure from the hydraulic system.

Failure to comply could result in death or serious injury.

W0389A

### ⚠ WARNING

Pressurized fluid can penetrate the skin and cause severe injuries.

Keep hands and body away from any pressurized leak. DO NOT use your hand to check for leaks. Use a piece of cardboard or paper. If fluid penetrates the skin, seek medical attention immediately.

Failure to comply could result in death or serious injury.

W0158A

### ⚠ WARNING

Pressurized fluid can penetrate the skin and cause severe injuries.

Make sure all hydraulic hoses are properly secured, and not in danger of binding or being pinched.

This could cause a hose to break, allowing pressurized fluid to escape.

Failure to comply could result in death or serious injury.

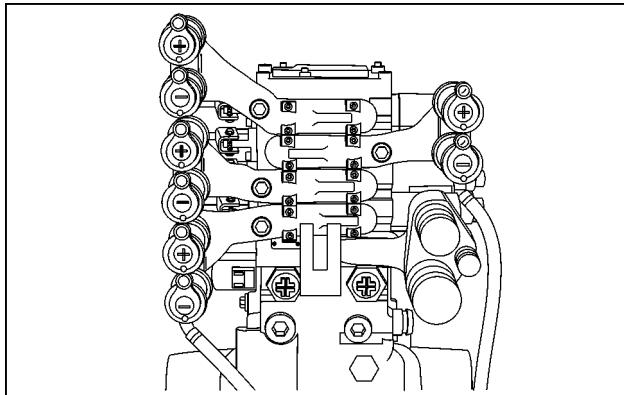
W0439A

**NOTE:** See page **Hydraulic oil level when using remote hydraulic equipment (21)** for available oil quantities when powering external hydraulic equipment.

The hydraulic remote valves described here are of the load sensing type. By automatically sensing oil demand from the implement, load sensing valves continually adjust the oil flow from the tractor to suit implement requirements.

The control valves are used to operate the external hydraulic cylinders, engines etc. Up to four remote valves can be fitted (2 configurable + 2 non-configurable), located on the rear of the tractor. All remote valves incorporate an automatic lock valve in the Raise (Extend) port to prevent inadvertent leak down of the implement.

The valves are operated by levers which are located in the console to the right of the operator's seat. The levers and their respective valves are colour coded for identification.

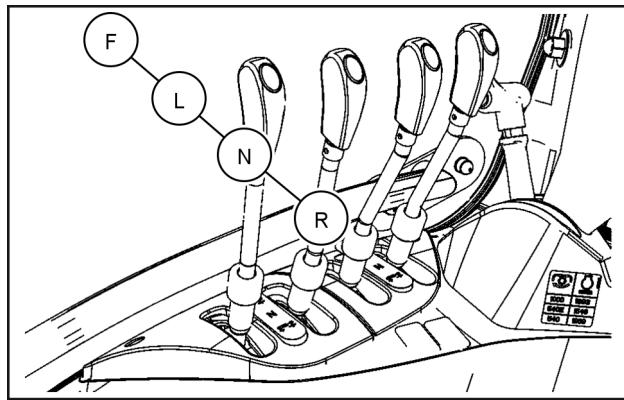


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## Control levers

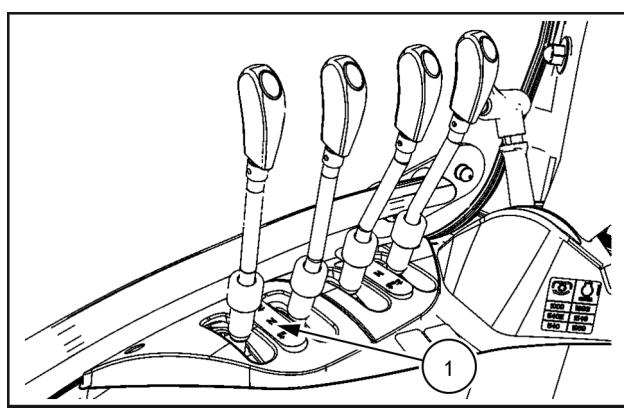
Each remote valve lever has four operating positions, as follows:

- **(R)** Raise (or extend)  
Pull a lever rearward to extend the cylinder to which it is connected and raise the implement.
- **(N)** Neutral  
Push the lever forward from the raise position to select neutral and deactivate the connected cylinder.
- **(L)** Lower (or Retract)  
Push the lever further forward, past neutral to retract the cylinder and lower the implement.
- **(F)** Flotation  
Push the lever fully forward, beyond the lower position, to select Float. This will permit the cylinder to extend or retract freely, thereby allowing equipment such as scraper blades to 'Float' or follow the ground contour.



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The Raise, Neutral, Lower and Float positions are identified by symbols on a decal (1) next to the control levers.



SVIL18TR00246AA 3

A detent holds the lever in the selected lifting (extension) or lowering (retraction) position until the auxiliary cylinder reaches the end stop; now return the control handle to neutral. Alternatively, the lever can be returned to Neutral manually.

**NOTE:** if placed in the Float position, the lever does not automatically return to the Neutral position,

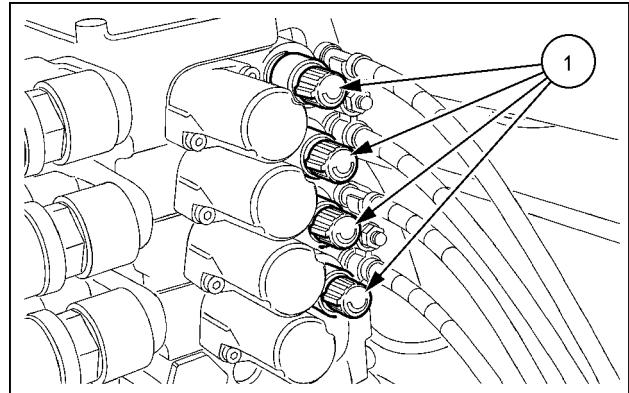
**NOTE:** do not hold the lever in the extended or retracted position after the auxiliary cylinder has reached the end stop: in this situation the hydro pump will bring the system to maximum pressure.

Maintaining maximum system pressure for extended periods may overheat the oil and cause premature failure of hydraulic or drive line components.

## Flow Control

Each remote valve has its own flow control (1) this provides individual flow settings for each valve.

- Turn the flow control knob counterclockwise to increase the rate of oil flow.



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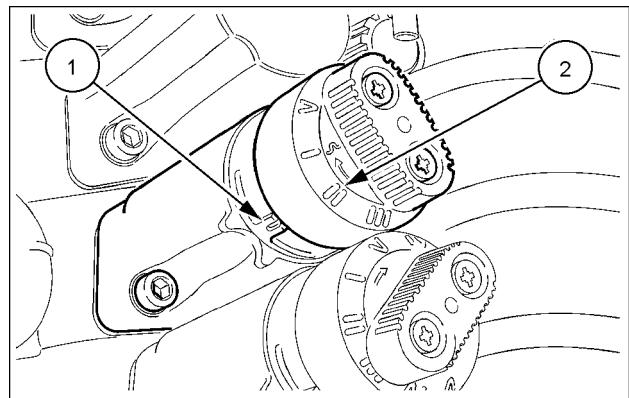
**NOTE:** For available flow rates, see the Specification section in this manual.

## Configurable detent operation (where fitted)

Your tractor may be fitted with configurable detents on remote valve 1 and 2. The rotary control (1) is used to select one of five detent settings.

To select a setting:

- rotate the control until the number (2) on the end cap is aligned with the mark (1) on the valve body.



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**NOTE:** If the number on the rotary control is not aligned correctly with the reference mark on the valve body, the performance of the valve may be affected.

Before turning the selector, ensure any residual pressure in the hydraulic system is exhausted, in the following way:

- stop the tractor engine
- move the remote valve control lever to all the positions
- return it to the Neutral position.

Each position offers the following functions:

I.

Raise (**R**), Neutral (**N**), Lower (**L**) and Float (**F**) positions available. Detent position in Float only. No lever auto return to neutral (kick out).

II.

Raise, Neutral and Lower positions only. No Float facility. No detent positions available. No lever auto return to neutral (kick out).

III.

Raise, Neutral, Lower and Float positions available. Detents in Raise, Lower and Float. Lever auto return to neutral (kick out) in Raise and Lower positions.

IV.

Raise, Neutral, Lower and Float positions available. Detents in Raise, Lower and Float. No lever auto return to neutral (kick out).

V.

Lower and Float positions available. Detents in Raise and Float. No lever auto return to neutral (kick out).

To select position V:

- move the remote valve control lever to the Neutral position
- select position I or IV, then move the lever to the Float position.
- With the lever in Float select position V.

To deselect position V:

- Move the remote valve lever to the Float position
- turn the selector control to position I or IV
- move the remote valve lever to the Neutral position.  
It is now possible to select positions I to IV.

**NOTE:** *With the selector in positions I to IV - Neutral. With the selector in position V - Float*

## Electronic Draft Control (EDC) operation

### ⚠️ WARNING

**Moving parts!**

**Always use the Hydraulic Master switch to disable the hitch and remote valve controls before roading. Failure to comply could result in death or serious injury.**

W1787A

### ⚠️ WARNING

**Unexpected machine movement!**

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W1789A

### Pre-operation settings

Ensure the hydraulic master switch is in the ON position to allow the three-point hitch to function. See Page **Hydraulic master switch (35.000)**.

Attach the implement to the three-point.

Turn the draft loading wheel (2) fully forward (position 10), this is the position control setting.

Start the engine and using the position control lever (1), raise the implement in stages, ensuring there is at least **100 mm (3.94 in)** clearance between the implement and any part of the tractor.

Note the figure in the central display. If the reading is less than '100' it means that the implement is not fully raised.

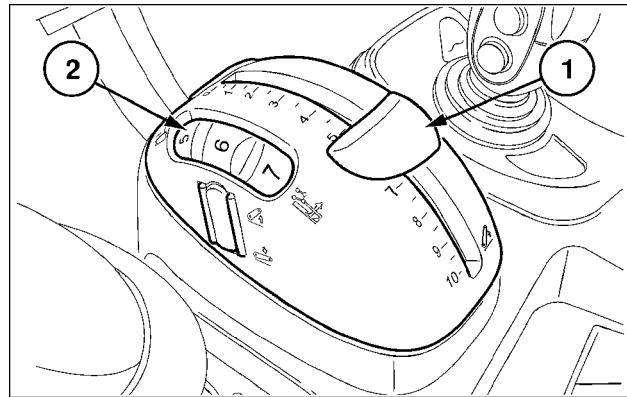
Adjust the height limit control knob (4) to prevent the hitch being raised further and so avoid the possibility of the implement damaging the tractor when fully raised.

When the raise/lower switch or the position control lever is used to raise the implement, it will only raise to the height set by the limit control, as determined in the previous step.

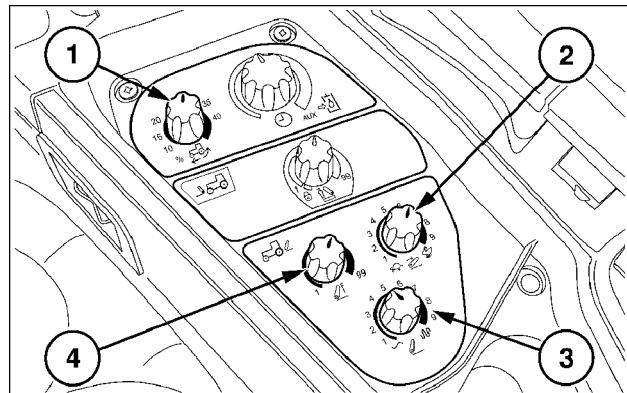
Adjust the rate of drop, to suit the size and weight of the attached implement, by rotating the drop rate control knob (2). Turn the knob clockwise to speed up the drop rate or counter-clockwise to slow down the drop rate.

**NOTICE:** When first setting the implement up for work, keep the drop rate control knob in the slow drop position ('tortoise' symbol).

When the raise/lower switch is used to lower the implement, it will lower at a controlled rate as determined in the previous step.



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BRL6122B 2

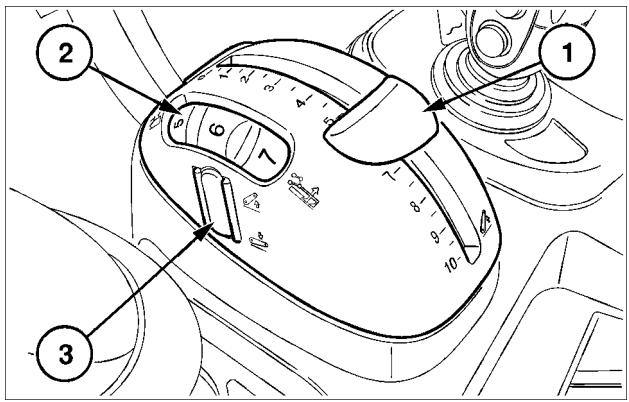
## Position control operation

To operate in position control, the draft loading wheel (2) should, ideally, be rotated fully forward to position 10.

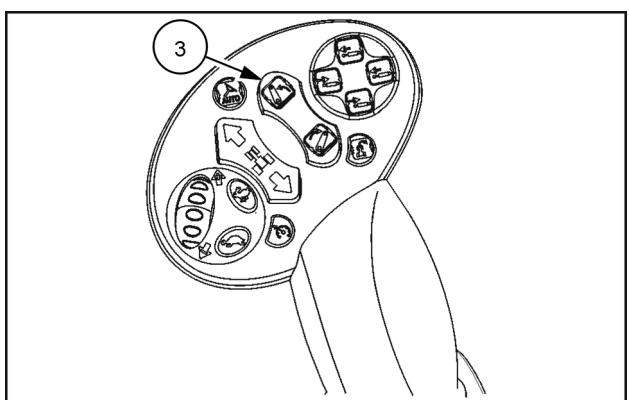
Use the position control lever (1) to raise and lower the three-point hitch. The implement will raise and stop at the height set by the height limit control knob.

**NOTE:** *The rate of lift will be adjusted automatically. If a large movement of the position control lever is made then the lower links will respond by moving rapidly. As the links approach the position set by the Position Control lever, implement movement will be slower.*

If it is required to raise the implement at the headland, momentarily depress the top of the raise switch on the EDC pod or transmission lever (3) to lift the implement to the position set by the height limit control knob. When reentering the work area, momentarily depress the bottom of the switch and the implement will return to the height originally set by the position control lever (1).



BRL6112C 3



SVIL17TR03615AA 4

## Draft control operation

To ensure the best performance in the field it will be necessary to adjust the draft control system to suit the implement and ground conditions.

The position of the draft sensitivity knob (3) determines the sensitivity of the system. Set the knob to the mid-position before lowering the implement into work.

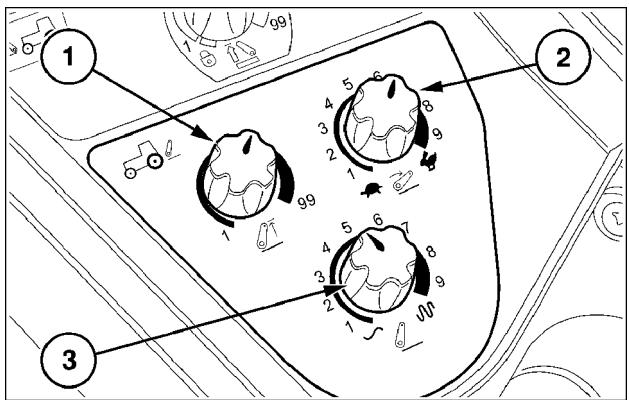
The draft loading wheel (2), figure 7, determines implement depth by setting a required force on the draft sensing pins. Set the wheel to the mid-position, marked 5, prior to commencing work.

Drive the tractor into the field and lower the implement into work by moving the position control lever (1) forward.

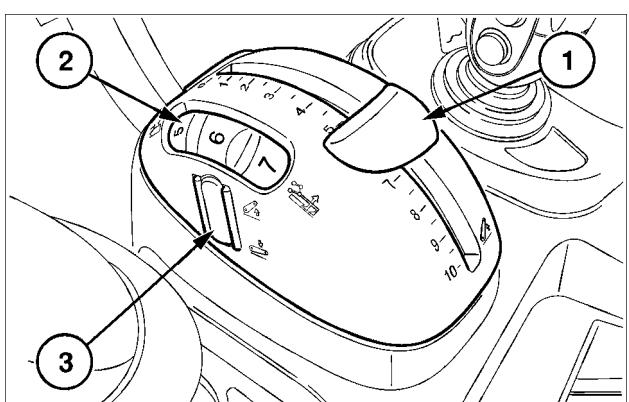
Set the required implement working depth by adjusting the setting on the draft loading wheel (2). When the required depth has been achieved, move the position control lever rearwards until the implement starts to raise then move forward again in small increments to set the maximum depth limit.

When adjusted correctly, the position control setting will prevent the implement from 'diving' or working too deep if an area of soft or light soil is encountered.

Once the draft loading and maximum depth have been set, raise and lower the implement using the fast raise on the transmission lever or EDC pod (3).



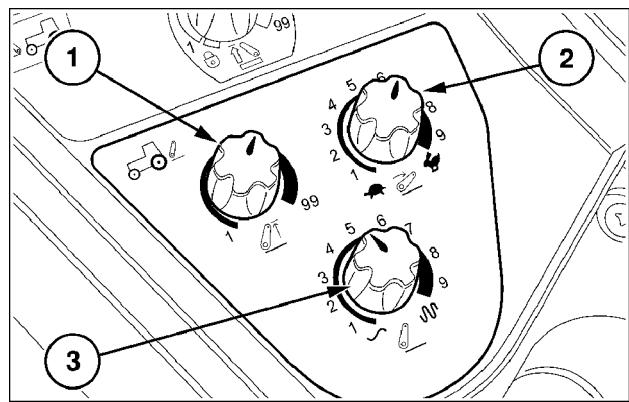
BRL6123B 5



BRL6112C 6

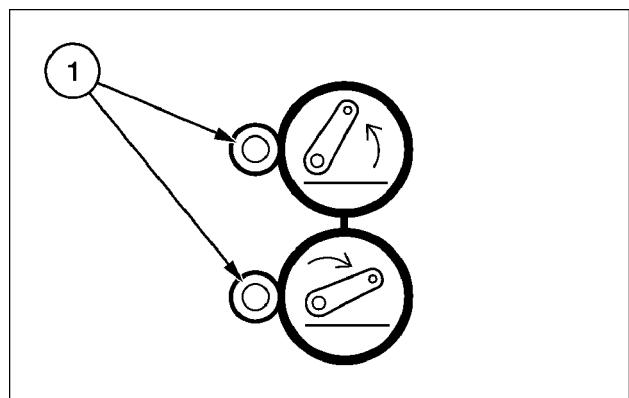
Observe the implement as it pulls through the soil and adjust the draft sensitivity knob (3) until the tendency for the hitch to raise and lower, due to variations in soil resistance, is satisfactory. Once set, the tractor's hydraulic system will automatically adjust the depth of the implement to maintain an even pull (draft load) on the tractor.

The optimum setting will be achieved by observing the movement indicator lights (1), figure 8. The upper light will illuminate every time the system raises the implement as normal draft corrections occur. The lower light will illuminate as the implement lowers.



Turn the draft sensitivity knob (3), figure 7, slowly clockwise. The system will respond with smaller, faster movements causing the lights to flicker. At this point, turn the knob slightly counterclockwise until either of the indicator lights flashes once every 2 s or 3 s or, as required, to suit the soil conditions.

Once the required working conditions have been established, there is no need to move the Position Control lever again until the work in hand has been completed.



Upon reaching the headland, momentarily depress the top of the fast raise switch (1) to quickly lift the implement to the position set by the height limit control.

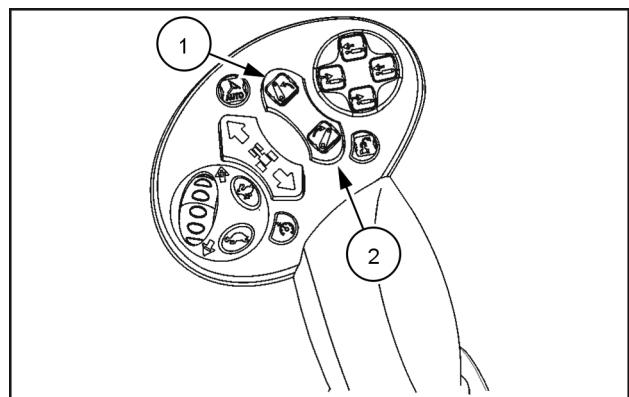
During the raise cycle, momentarily depressing the fast raise switch will pause implement lift.

When re-entering the work area, briefly press the lower part of the switch; the implement lowers at the speed set with the lowering speed control knob, stopping once the depth set with the draft control knob is reached.

**NOTE:** *Depressing the fast raise switch during the lift cycle will temporarily disable the hitch. Depressing the switch again will re-enable hitch operation but initial movement will be slow.*

Where faster implement penetration is required, for example, after turning at a narrow headland or where the implement is reluctant to penetrate, press and hold the bottom of the raise/lower switch (2). The implement will lower at the rate set by the drop rate control knob, until it contacts the ground.

Continue to depress the switch and the drop rate and the position control settings will be overridden. The implement will quickly penetrate the ground, rising to the preset working depth when the switch is released.



## Rear wheel slip limit setting

### Setting the slip limit with the control knob

The slip limit control knob (1) available only with the optional radar sensor unit, enables the operator to select a wheel slip threshold above which the implement will raise until wheel slip returns to the preset level.

Slip limit temporarily overrides the normal draft control sensing signals and reduces the working depth of the implement. As soon as the wheel slip falls below the operating limit the implement will return to its original working depth.

Care must be taken not to select a wheel slip limit that is either too high or too low.

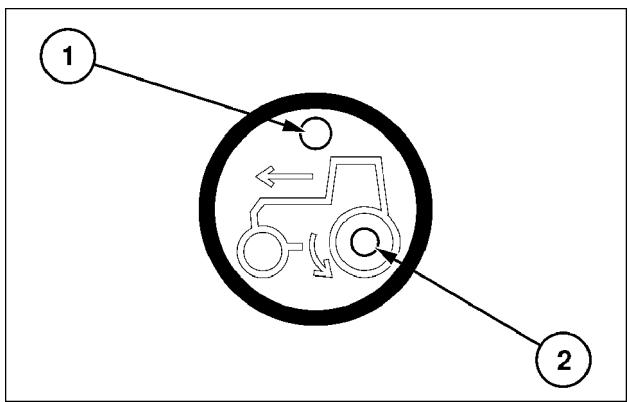
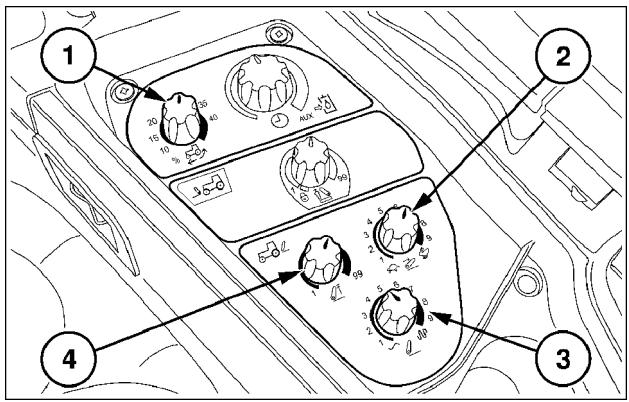
Setting the slip limit to a very low level, unobtainable in wet conditions, may have a detrimental effect on the work rate and depth.

**NOTE:** The wheel slip function does not work in position control.

The slip limit 'on' indicator (1) will illuminate when the slip function is activated by depressing the switch on the arm rest unit. When the slip control is in operation, the warning light (2) will also illuminate and the implement will raise to reduce the slip rate.

Where the amount of wheel slip approaches the preset limit, a warning will also appear in the display.

To disengage the slip function depress the switch on the arm rest unit.



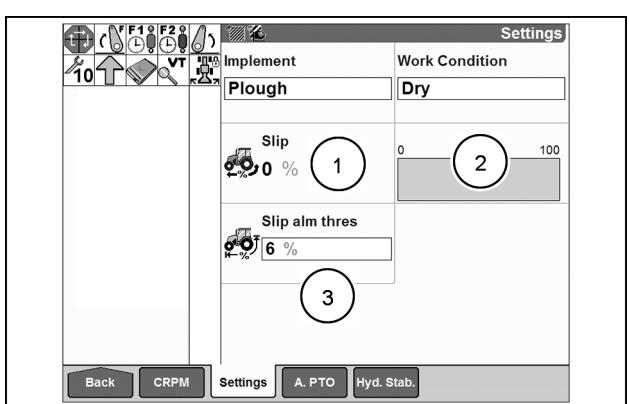
### Setting the slip limit with the monitor

Settings

Implement. Use the popup screen to select, change or add a new implement category.

Work condition. Use the pop-up screen to select, change or add a new category of work condition.

1. Percentage slip figure, this will change as wheel slip increases and decreases.
2. Same as (1) above but in bar graph format.
3. to access the popup for setting wheel slip alarm threshold. Set the figure using or then press Enter. The selected figure will appear in the slip alarm box.



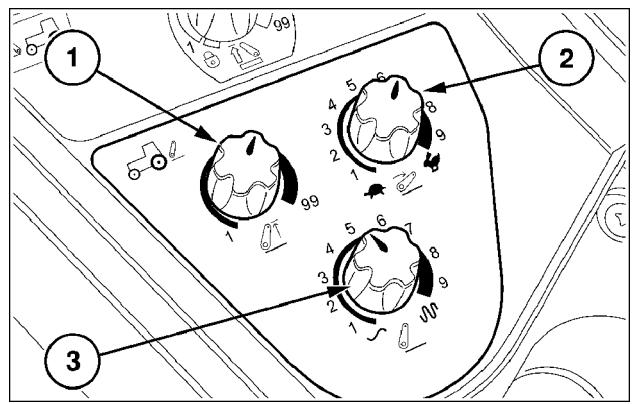
## Ride control system

When transporting equipment on the three-point hitch, implement bounce can lead to lack of steering control at transport speeds. With dynamic ride control selected, when the front wheels hit a bump, causing the front of the tractor to rise, the hydraulic system will immediately react to counter the movement and minimize implement bounce to provide a smoother ride.

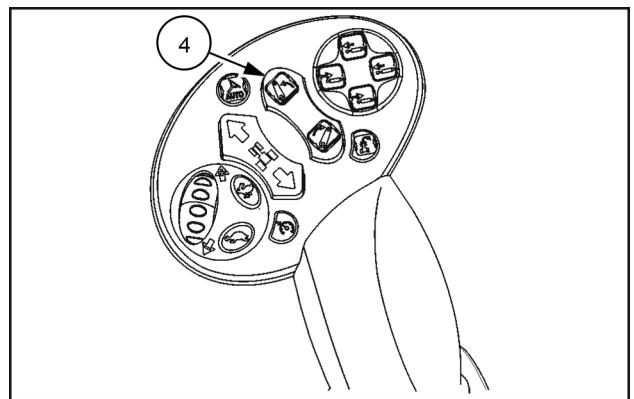
To engage ride control, turn the draft sensitivity knob (3) fully counter-clockwise. Depress the top of the raise/lower switch (4), figure 14, to raise the implement to the height set by the height limit control (1).

Turn the drop rate control knob (2) fully counter-clockwise to the transport lock position (padlock symbol).

Ride control will only operate at speeds above **8 km/h (5.0 mph)**. When tractor speed exceeds **8 km/h (5.0 mph)**, the implement will drop by 4 - 5 points (as displayed on the instrument panel) as the hydraulic system makes corrections to counteract implement bounce. When tractor speed falls below **8 km/h (5.0 mph)** the implement will raise again to the height set by the height limit control and ride control will become inoperative.



BRL6123B 13



SVIL17TR03615AA 14

## Hitch operation

### ⚠ WARNING

**Misuse hazard!**

Always use the hydraulic master switch to disable the front hitch. A Drop Rate Setting of 0% is not intended to be a safety lock mechanism.

Failure to comply could result in death or serious injury.

W1792A

### ⚠ WARNING

**Avoid injury!**

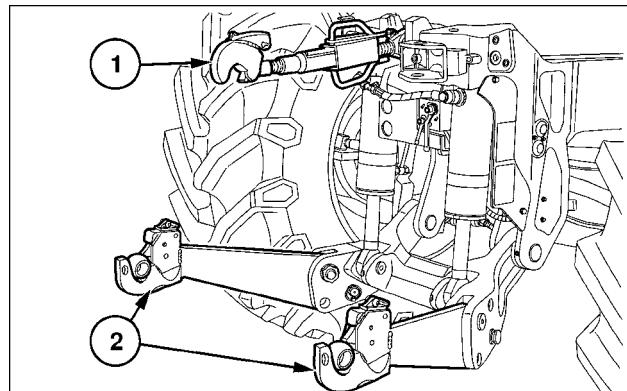
Observe ALL precautions listed below when using external controls.

Failure to comply could result in death or serious injury.

W0420A

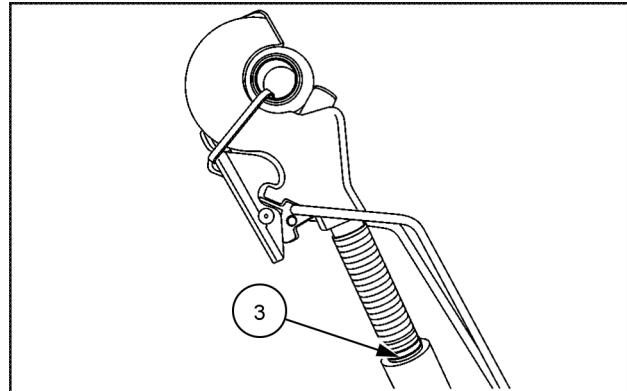
The optional front hitch consists of an adjustable top link (1) and a pair of folding lower links (2). The top link and the lower links have open claw ends that permit rapid coupling and uncoupling of implements.

The claws are equipped with self locking latches to ensure positive retention of the three-point hitch to the implement.



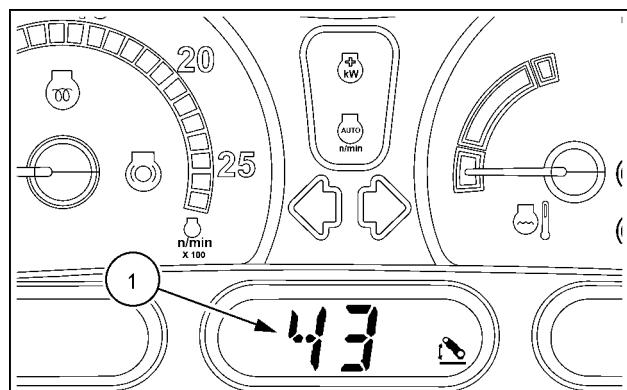
BRJ5356D 1

**NOTICE:** Extend the lift rod only until the notch (3) in the thread is visible to avoid damage of the thread.



SVIL14TR00023AC 2

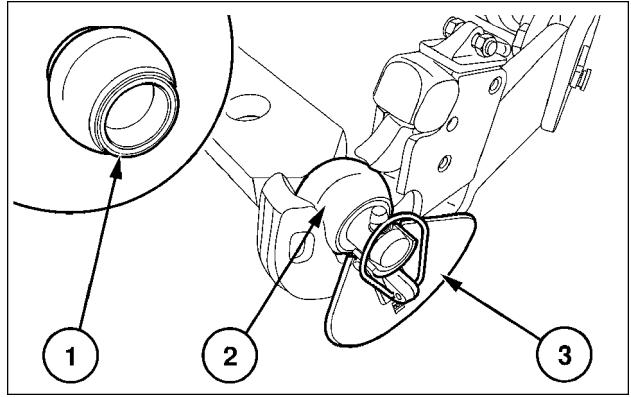
The front hitch can be operated by a rear or mid-mount remote valve (where fitted). The height of the hitch (1) can be shown in the Central Display as a percentage (%) ranging from 0 (fully lowered) to 100 (full raise).



SVIL17TR00632AA 3

Three ball-bushings are supplied for installation on the implement, if required. The ball-bushing with projecting lips (1) should be installed on the implement upper hitch pin.

The two plain ball-bushings (2) with their detachable guides (3) should be installed on the implement lower hitch pins.



BRJ5352B 4

## Operating the front hitch

The front hitch may be operated by rear remote mechanic control valves, rear remote electrohydraulic control valves or, if fitted, by mid-mount remote electrohydraulic control valves.

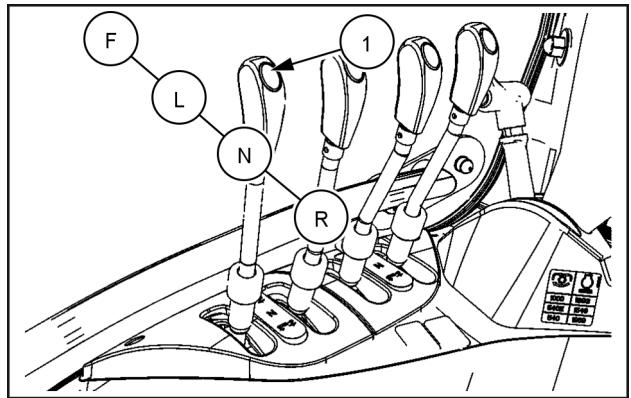
### Hitch operation with mechanical rear remote control valves

One of the rear mechanical control valves can be used to operate the front hitch using the control lever (1).

The pre-defined control valve for operating the front hitch is always number (1).

Each remote control valve lever has four operating positions, as follows:

- **(R) Raise (or Extend)**  
Pull a lever rearward to extend the cylinder to which it is connected and raise the implement.
- **(N)Neutral**  
Push the lever forward from the raise position to select neutral and deactivate the connected cylinder.
- **(L) Lower (or Retract)**  
Push the lever further forward, past neutral, to retract the cylinder and lower the implement.
- **(F) Float** — Push the lever fully forward, beyond the lower position, to select float. This will permit the cylinder to extend or retract freely, thereby allowing equipment such as scraper blades to 'float' or follow the ground contour.



SVIL18TR00246AA 5

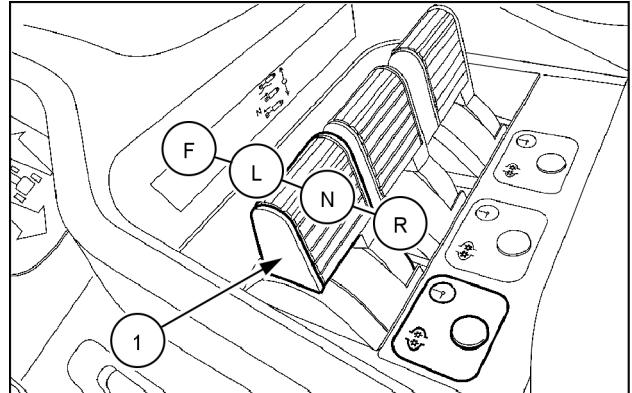
For a detailed description of the operation of rear remote mechanical control valves, refer to **Remote control valves valves (35.204)** in this manual.

## Hitch operation with electronic rear remote valves:

Rear electrohydraulic control valves may be used to operate the front hitch using the multi-function handle, with the control lever (1) (where fitted), or with the joystick (where fitted).

As a factory fitted option, the default valve to operate the hitch will always be valve number 1 whether rear mount or mid-mount valves are used.

- With the front hitch connected to valve number 1, pull the lever backwards (R) to raise the hitch.
- Move the lever to (N) to halt hitch movement, the hitch will maintain its height position.
- Select (L) to lower the hitch.
- Moving the lever to the float position (F) will permit the hitch to 'float' up and down allowing the implement to follow the ground contours.

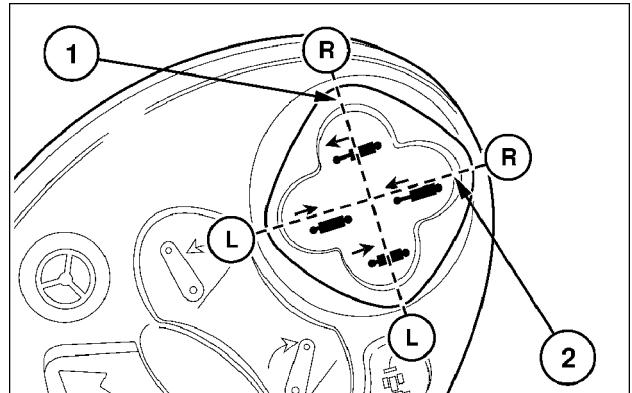


MOIL18TR02051AA 6

**NOTE:** Remote # 1 is programmed to operate in conjunction with the front hitch height limiter that was described previously.

## Hitch operation with multi-function handle and rear or mid-mount electrohydraulic control valves

Depending on the machine specification, when the machine is configured to support the front hitch, the multi-function handle electrohydraulic (EHR) control valve controls (1) are reassigned as per the table below.



BRL6073R 7

Multi function control	Remote valve number	
	vertical axis	horizontal axis
With mid-mount control valve	F1	
With two mid-mount control valves	F1	F2
With 3 mid-mount control valves and rear electrohydraulic control valves	F1	R1
With 3 mid-mount control valves, with rear electrohydraulic control valves and with front loader	F1	R1

Vertical axis (1)

F refers to mid mount remote valves,

Horizontal axis (2)

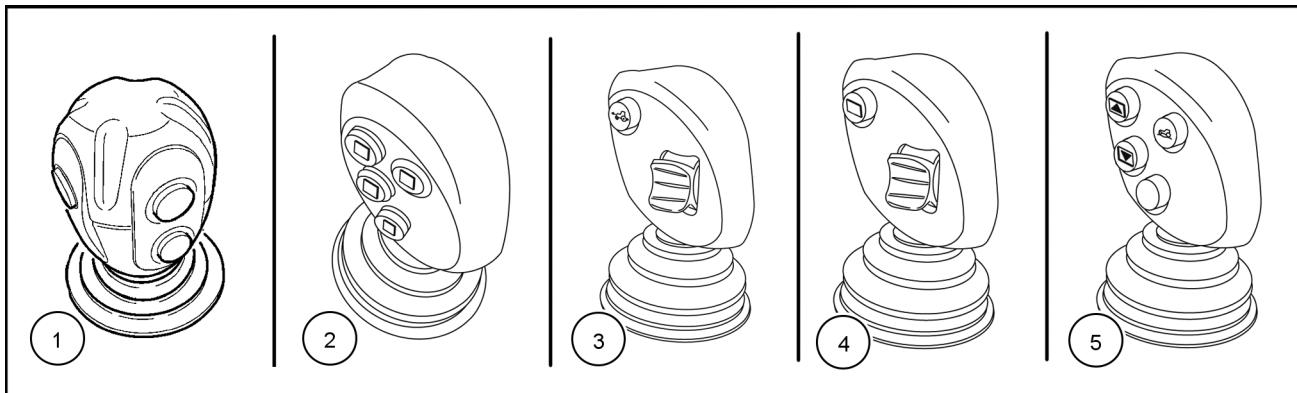
R refers to rear control valves

## Hitch operation with joystick and electronic rear or mid-mount remote valves:

One of the available joysticks, can be used to control the front hitch using the electronic rear remote valves or, where fitted, the mid- mount remote valves.

Where a front hitch is supplied as a factory option, the tractor will be fitted with a joystick and electronic mid-mount remote valves. Valve number 1 will be used to operate the hitch.

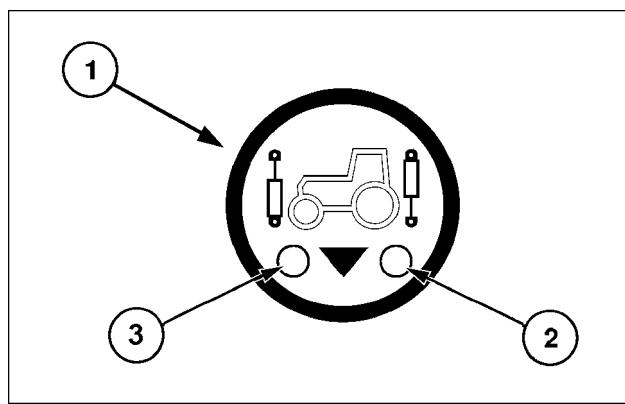
**NOTE:** On tractors equipped with both mid and rear mounted electronic valves, the joystick can be used to control either valve assembly.



MOIL21TR01555EA 8

A selector switch (1) on the console allows the operator to switch joystick control between the mid- mount and rear mount valves.

Repeated pressing of the switch will cycle between the mid-mount and rear mount valves. Lights in the switch (2) and (3) will confirm which valves are activated.



SS10K090 9

**NOTE:** If the joystick is configured to operate front loader than it is not possible to switch the joystick to operate rear remote valves.

**NOTICE:** Before switching joystick operation between mid and rear mount valves or vice versa, ensure all remote valve levers and the joystick are in the neutral position.

At key- off, the joystick function is deactivated. The joystick will be reactivated when the operator is in the seat with the engine running for more than three seconds.

When the joystick is deactivated, the warning lights in the front/ rear selector switch will flash.

**NOTE:** Operation of the joystick will be disabled if the tractor engine is stopped.

Where it is required to operate the front hitch using the rear remote valves and joystick, depress the switch and the rear remote valve indicator light (2) will start to flash.

After five seconds the rear indicator light will stop flashing and will remain on, confirming joystick control of the rear remote valves has been activated.

Operation of the front hitch is now controlled by the joystick through the rear remote valves.

Both mid-mount and rear mount electronic remote valves offer the following functions when operated by the joystick.

Remote mid-mount/rear electrohydraulic control valve 1:

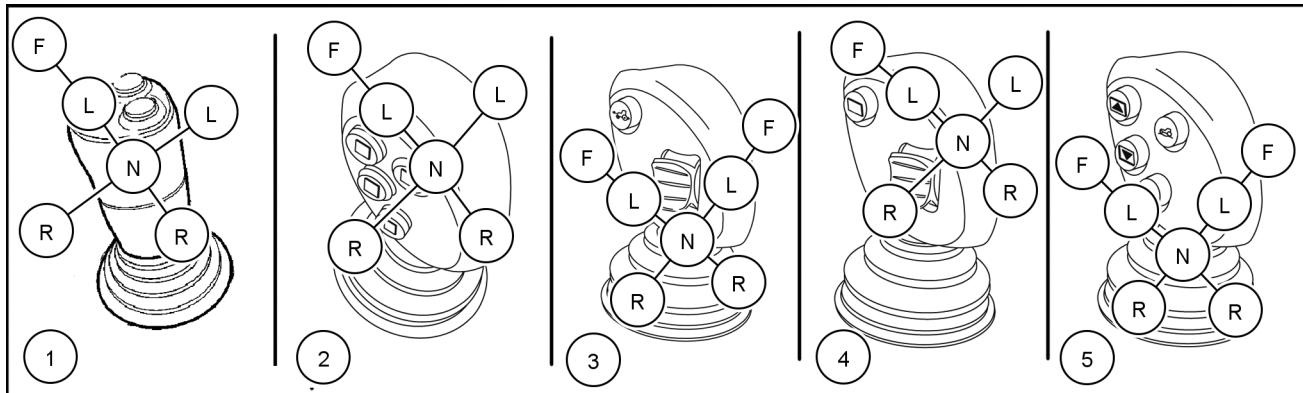
- Move the joystick forwards or backwards to select raise, neutral, lower and float on the front hitch.

Remote mid-mount/rear electrohydraulic control valve 2:

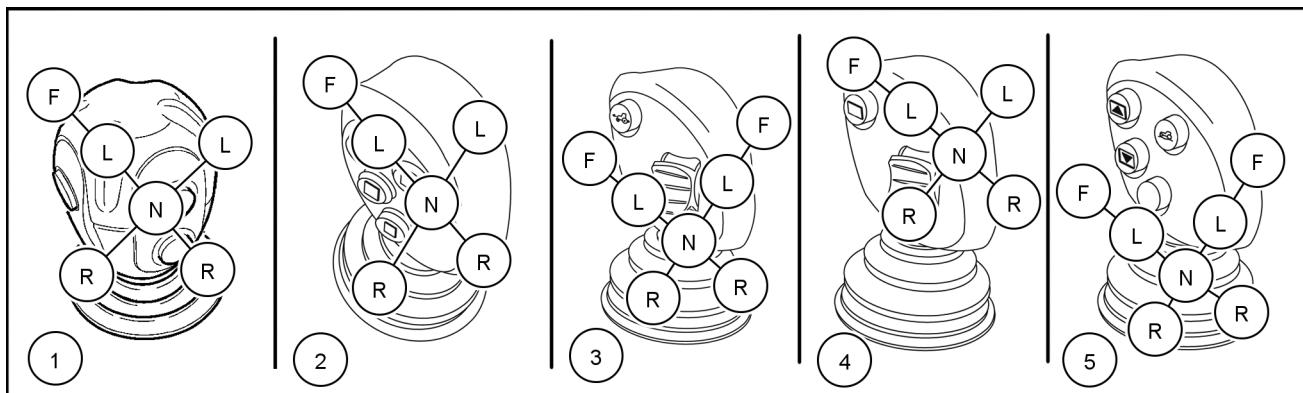
- Move the joystick left or right to provide oil flow through the front couplers (where fitted).

**NOTE:** The yellow and green switches can be used to operate diverter valves fitted to an implement which is connected to the front hitch if correctly wired to do so.

**NOTE:** The joystick should not be used for hydraulic motor operation.



MOIL21TR01554EA 10



MOIL21TR01555EA 11

- Move the joystick rearwards (**R**) to raise the implement. When the front hitch reaches the position set by the height limit control the hitch will stop.
- Pushing the joystick forward to the 'lower' position (**L**) will cause the implement to lower to the ground at a controlled rate of descent.
- Further forward movement of the joystick will select 'float' (**F**) which will allow the implement to lower under its own weight.
- Float can also be used to let the hitch lift cylinder extend or retract freely allowing front mounted equipment to follow ground contours.

**NOTE:** Always use the 'float' position to lower a single-acting cylinder. The 'lower' position is for double-acting cylinders only.

**NOTE:** With the joystick operating the rear electrohydraulic remote control valves, the float position for control valve 2 and (lateral movement of the joystick) is not available.

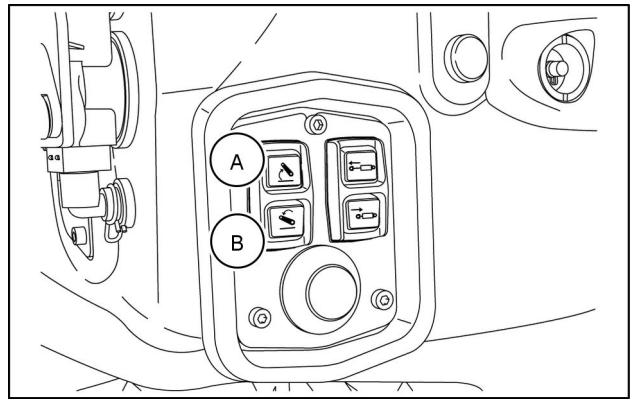
- The joystick may also be moved laterally, (**R**) and (**L**) to provide oil flow for equipment connected to the optional front couplers.
- By moving the joystick diagonally, two cylinders may be operated simultaneously.

**Operating the hitch with the external switch (where fitted) and with mid-mount control valves:**

The optional external switch is connected to the F1 mid-mount control valve.

Switch operation:

- **(A)**Lifting function. Press the switch to raise or extend the cylinder connected to the related hitch.
- **(B)**Lowering function. Press the switch to lower or retract the cylinder connected to the related hitch.

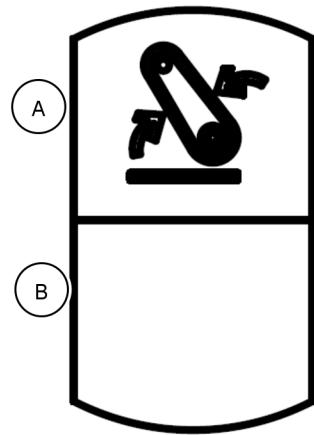


MOIL19TR00340AA 12

## Setting the front hitch

The front hitch has two operating modes:

- Single effect (**B**): pressure is only applied to the lower side of the cylinders.
- Double effect (**A**): pressure is applied to both sides of the cylinders.



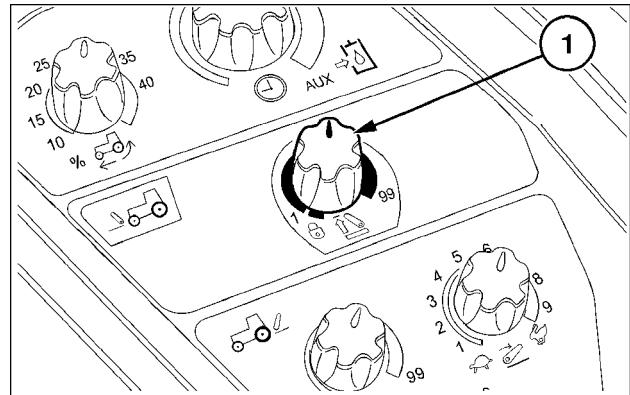
MOIL19TR00322AA 13

## Setting the height of the front hitch with electronic remote valves only

A height limit control permits the operator to set a pre-determined limit on the maximum lift height of the hitch.

- Turn clockwise to set the maximum height, turn counter-clockwise to reduce the height.
- The position of the hitch will be shown in the display as a percentage (%) between 0 (fully lowered) and 100 (full raise).
- Turn the control fully counter-clockwise to disable the height limit function.

Height limit adjustment is set by the knob (1) on the EHC console.

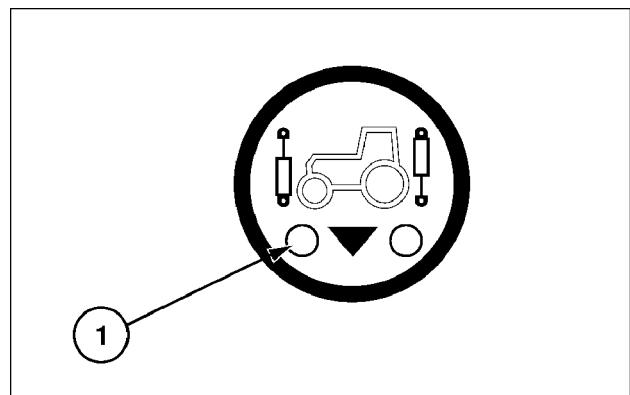


BRL6125B 14

To reinstate lever control of the rear valves, depress the selector switch to activate the mid-mount valves. The rear indicator light will go out and the mid-mount indicator light (1) will start to flash.

After **2 s** the mid-mount light will stay on confirming joystick operation has been switched back to the mid-mount valves (where fitted).

The rear remote valves are now controlled by their respective levers.



BRL6106C 15

## Joystick Functionality Screen

On tractors fitted with the monitor, the operator can access the joystick screen which provides details on joystick functionality.

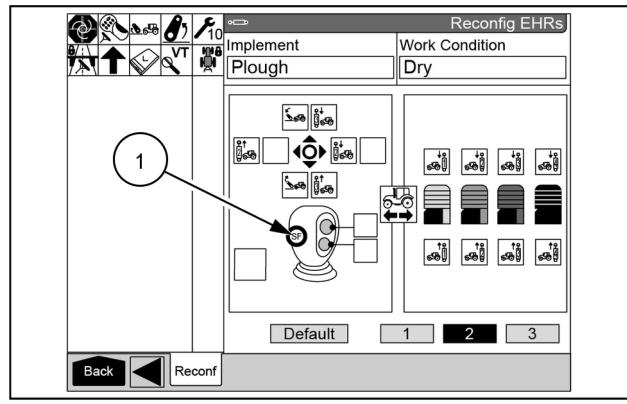
### Remote valves

Use buttons **▲▼** to scroll through the menu until "Reconf" is displayed.

### "Reconf"

The joystick functionality screen identifies the number of control valves controlled by the joystick and the corresponding movement required to operate each control valve. Valves marked with a blue border can be operated by simply moving the joystick, valves with a black border require the switch **(1)** to be depressed before moving the joystick.

When the switch is depressed a symbol will appear in the screen on the lower right-hand side.



As a valve is operated the white background will change to orange.

When joystick operation is transferred between rear and mid-mount valves, the valve identification will change from R1, R2 etc. to F1, F2. This feature is not available with mechanically operated remote valves.

If the tractor is fitted with a front hitch the joystick functionality screen also identifies the control valve used to operate the front hitch.

## Remote control valves remote valves

### ⚠ WARNING

**Moving parts!**

Always use the Hydraulic Master switch to disable the hitch and remote valve controls before roading. Failure to comply could result in death or serious injury.

W1587A

### ⚠ WARNING

**Unexpected machine movement!**

Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.

W1789A

### ⚠ WARNING

**Unexpected movement!**

When starting the machine engine, make sure the remote valve levers are in the correct position BEFORE you operate the key switch. This prevents an attached implement from moving unintentionally. Failure to comply could result in death or serious injury.

W0433A

### ⚠ WARNING

**Escaping fluid!**

Do not connect or disconnect hydraulic quick coupler under pressurized conditions. Make sure all hydraulic pressure is removed from the system before connecting or disconnecting hydraulic quick coupler.

Failure to comply could result in death or serious injury.

W0095B

### ⚠ WARNING

**Pressurized system!**

Before disconnecting the couplers, you must:

-lower the connected attachments,

-stop the engine,

-move the control levers forward and backward to discharge pressure from the hydraulic system.

Failure to comply could result in death or serious injury.

W0389A

### ⚠ WARNING

**Pressurized fluid can penetrate the skin and cause severe injuries.**

Keep hands and body away from any pressurized leak. DO NOT use your hand to check for leaks. Use a piece of cardboard or paper. If fluid penetrates the skin, seek medical attention immediately.

Failure to comply could result in death or serious injury.

W0158A

### ⚠ WARNING

**Uncontrolled equipment movement!**

Because the electronic remote control valves have detented lever positions, it is not recommended to use them for front-end loader operations. Consult your authorized dealer.

Failure to comply could result in death or serious injury.

W0428A

**NOTE:** Two, three or four electro-hydraulic auxiliary control valves using the same oil as the hydraulic lift circuit to which they are connected can be fitted to your tractor for remote control of single-acting and double-acting cylinders.

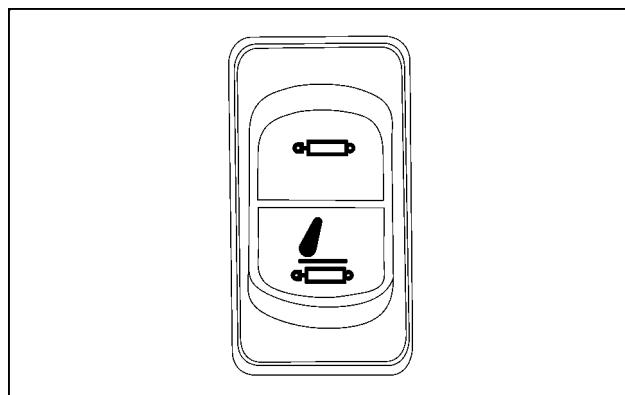
**NOTE:** See page **Hydraulic oil level when using remote hydraulic equipment (21)** for available oil quantities when powering external hydraulic equipment.

**NOTICE:** Using the tractor with a low oil level may result in damage to the rear axle and transmission components.

When operating, (EHR) Electronic Hydraulic Remote control valves perform in a similar manner to mechanical valves providing raise, lower and float functions selected by the operator.

However, where an implement requires repeated hydraulic movements, such as extending and retracting hydraulic cylinders, (EHR) Electronic Hydraulic Remote control valves allow the operator to create an automated programme of these movements.

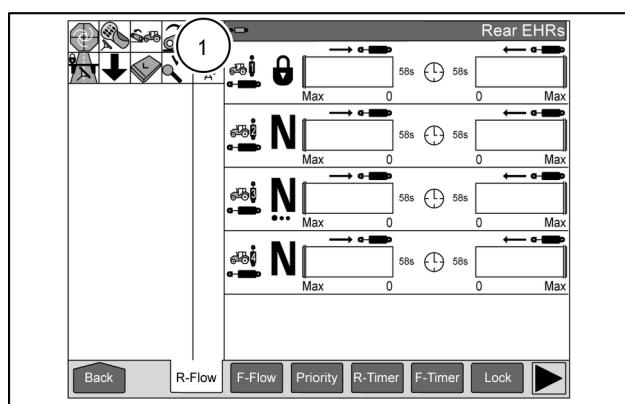
Each programme is supported by visual displays in the (EHR) Electronic Hydraulic Remote control valve **IntelliView™ IV** display screen.



SVIL17TR00867AA 1

Where a hydraulic service is locked out by the master switch, a symbol will appear on the **IntelliView™ IV** status display on the top left side of the monitor (1).

**NOTE:** Where mid-mount (EHR) Electronic Hydraulic Remote control valves are installed, these will also be locked out when the switch is in the central position.



MOIL22TR03968AA 2

When starting the tractor engine, all the (EHR) Electronic Hydraulic Remote valve levers and the joystick (where fitted) must be placed in the Neutral position. Any control not in Neutral will cause the corresponding valve to be disabled.

To reactivate a disabled control valve:

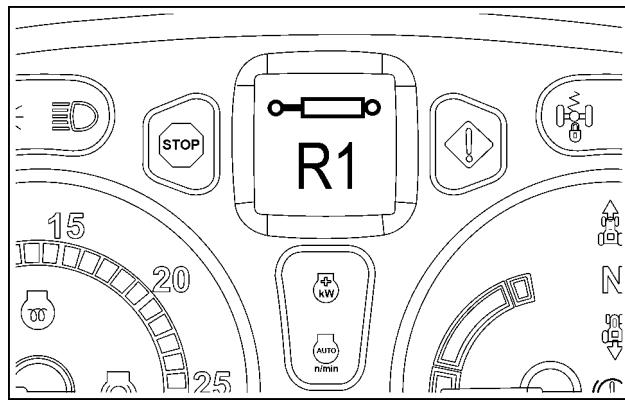
- ensure that the hydraulic system master switch is in the ON position
- manually move the remote valve control lever to the Neutral position.

**NOTE:** Where a valve is not in Neutral at start up, a symbol and the corresponding valve number will appear in the dot matrix display. Where more than one (EHR) Electronic Hydraulic Remote control valve is not in Neutral, the display will scroll sequentially through each valve number.

**NOTE:** At start-up, (EHR) Electronic Hydraulic Remote control valve operation is disabled until the engine speed has been detected to be over **500 RPM** for approximately **3 s**.

Should a remote valve become inoperable or stuck in one position, that valve will become disabled until the fault is rectified or the valve electronically disconnected from the system.

Should this occur, consult your authorized NEW HOLLAND dealer.



SVIL17TR00635AA 3

## Control lever operation

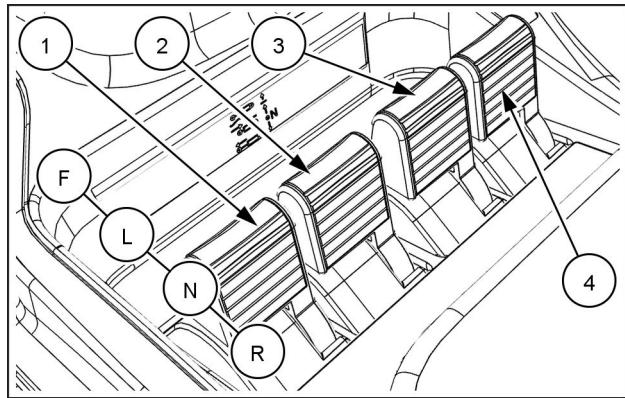
**NOTE:** The levers and their respective (EHR) Electronic Hydraulic Remote valves are colour coded for identification.

**NOTE:** the lever positions may be defined as Raise, Neutral, Lower and Float, or Extend, Neutral, Retract and Float. The functionality however, remains the same.

With the most complete configuration, the levers (1) (2), (3) and (4) control the four rear (EHR) Electronic Hydraulic Remote control valves.

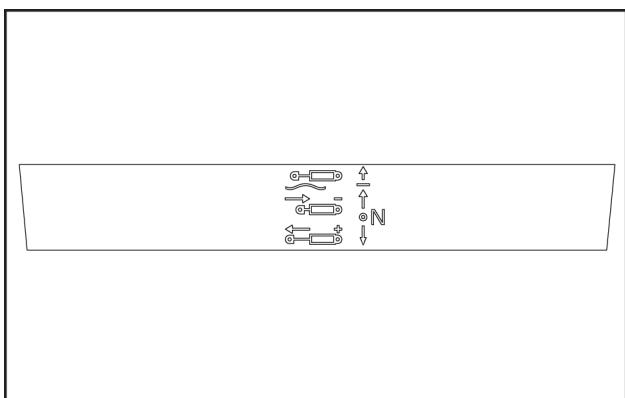
The (EHR) Electronic Hydraulic Remote control valve levers (1), (2), (3) and (4) have four positions:

- (R) lever back, raising implement
- (N) neutral position
- (L) lever forwards, lowering implement
- (F) lever fully forwards, float function



MOIL22TR03776AA 4

The label in figure 5, located near the control lever, shows the operator the operating positions available for each lever.



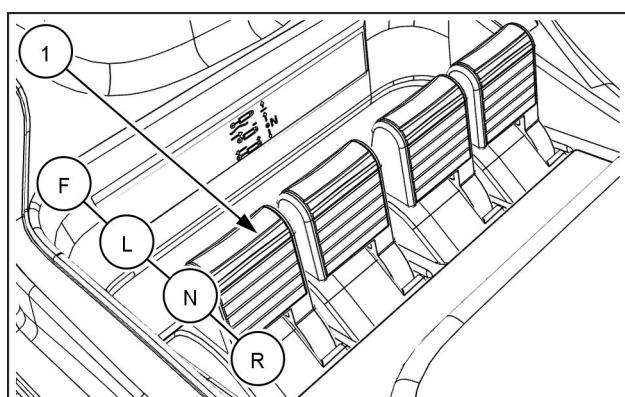
MOIL22TR03777AA 5

Based on different configurations, the control levers can have the following pairings:

Configuration	Control handle number			
	(1)	(2)	(3)	(4)
Up to 2 rear electrohydraulic control valves	R1	R2		
Up to 3 rear electrohydraulic control valves	R1	R2	R3	
Up to 4 rear electrohydraulic control valves	R1	R2	R3	R4
Up to 2 mid-mount control valves	F1	F2		
Up to 2 rear electrohydraulic control valves and up to 3 mid-mount control valves	R1/F1	R2/F2	F3	
Up to 2 rear electrohydraulic control valves and up to 3 mid-mount control valves, with loader and front lift	R1	R2		

**NOTE:** When there is a front loader, control levers (1) and (2) cannot be paired to the mid-mount control valves.

- Pull the lever back from the Neutral position, (N) to the raise position, (R).
- From neutral, push forward to the (lower) position, (L).
- Push the lever fully forward to the float position, (F). A catch will keep the lever hooked in the float position. Float will permit a hydraulic cylinder to extend or retract freely, allowing equipment such as scraper blades to "Float" or follow the ground contour.



MOIL22TR03776AA 6

**NOTICE:** When operating remote cylinders in manual mode, be careful not to leave the control handle of the distributor held on the extension or retraction position.

When the cylinder has reached the end of its stroke the control handle must be returned to the neutral position manually.

Failure to observe this procedure may cause overheating of the hydraulic oil and may lead to failure of hydraulic or drive line components.

**NOTICE:** Never use the Neutral position from the extend or retract position to stop a hydraulic motor. Sudden hydraulic lock up of the system may cause extensive damage to the motor. When operating hydraulic motors, ALWAYS use motor mode; see the page **Creating timer programs (35.204)** and the following.

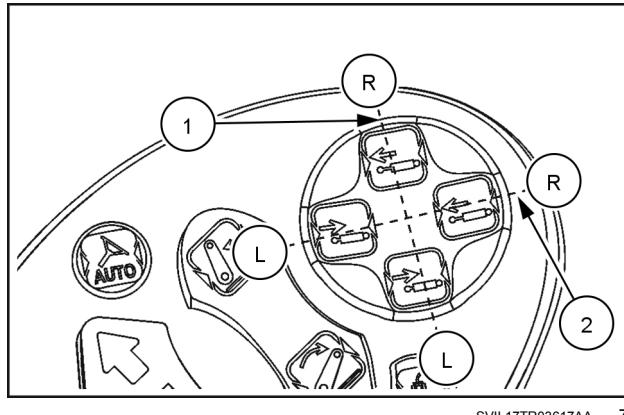
## (EHR) Electronic Hydraulic Remote control valve Quad switch

The multi-function lever incorporates a spring-centred toggle switch which can be used to operate two (EHR) Electronic Hydraulic Remote control valves.

**NOTE:** The quad switch operates only in the Raise, Neutral and Lower modes. To select Float depress the Float button on the Multi- Function lever.

A number of hydraulic functions can be operated using the Quad switch:

- Option A  
(applicable with 1 or 2 rear-mounted (EHR) Electronic Hydraulic Remote control valves)  
Vertical axis (1), Rear valve 1  
Horizontal axis (2), Rear valve 2
- Option B  
(With mid-mount (EHR) Electronic Hydraulic Remote control valves and 2 rear-mounted (EHR) Electronic Hydraulic Remote control valves)  
Horizontal axis (1), Rear valve 1  
Vertical axis (2), mid-mount control valve 1
- Option C  
(With 1 or 2 mid-mount (EHR) Electronic Hydraulic Remote control valves)  
Horizontal axis (1), mid-mount control valve 1  
Vertical axis (2), mid-mount control valve 2

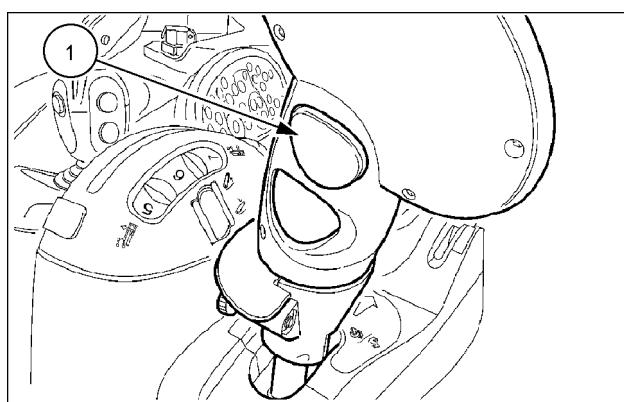


SVIL17TR03617AA 7

The float switch (1) operates in conjunction with the quad switch and provides a float function for (EHR) Electronic Hydraulic Remote control valves controlled by the quad switch.

To engage the Float function:

- press and hold the switch (1)
- press and hold the lower (retract) side of the quad switch for the appropriate control valve
- release the float switch.



BRL6113C 8

## Electronic joystick operation (where fitted)

The optional electronic joystick (1) can be used to operate either mid-mount or rear-mounted (EHR) Electronic Hydraulic Remote control valves. If the joystick is used to operate the rear (EHR) Electronic Hydraulic Remote control valves, the operation of the mid-mount (EHR) Electronic Hydraulic Remote control valves is transferred to the (EHR) Electronic Hydraulic Remote control valve levers.

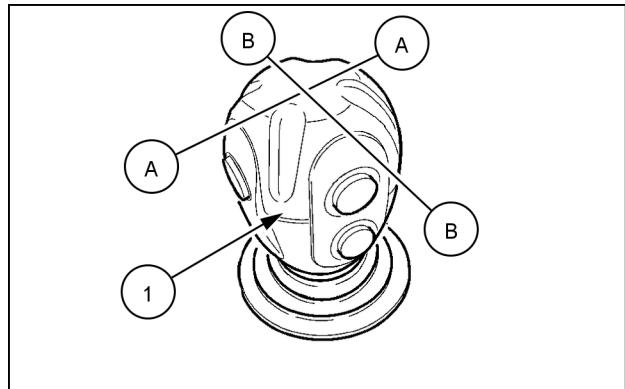
On tractors equipped with mid- and rear-mounted (EHR) Electronic Hydraulic Remote control valves, the switch on the integrated control panel enables joystick control of either mid-mount or rear-mounted valves.

Based on the different configurations, the electronic joystick can have the following pairings, for each joystick:

- (B) vertical axis / (A) horizontal axis
- F mid-mount (EHR) Electronic Hydraulic Remote control valves/R rear-mounted (EHR) Electronic Hydraulic Remote control valves.

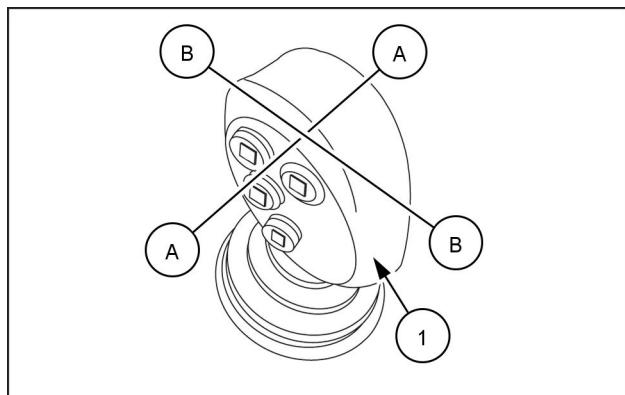
**NOTE:** The following descriptions of joystick operating procedures refer to tractors not equipped with a factory installed loader kit. For information on loader functions consult the loader Operator's Manual or see page **Joystick operation with a front loader (90.151)**.

Configuration	Hydraulic distributor	
	B	A
Without front loader	F1/R1	F2/R2
With front loader	F1	F2
With front loader and front lift	F2	F3



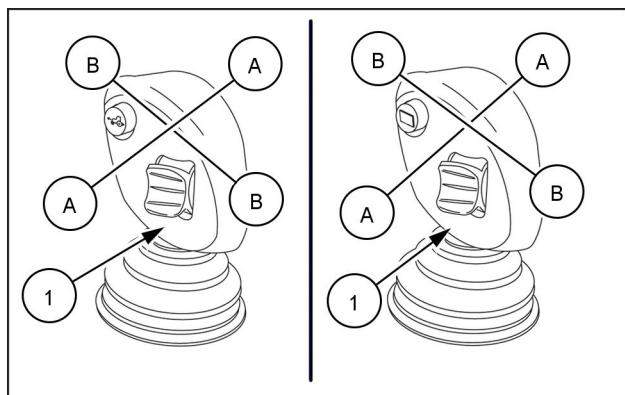
MOIL21TR02569AA 9

Configuration	Hydraulic distributor			
	B	A	B + di- verter CAN	A + di- verter CAN
Without front loader	F1/R1	F2/R2	F3	-
With front loader	F1	F2	-	F3
With front loader and front lift	F2	F3	F1	-



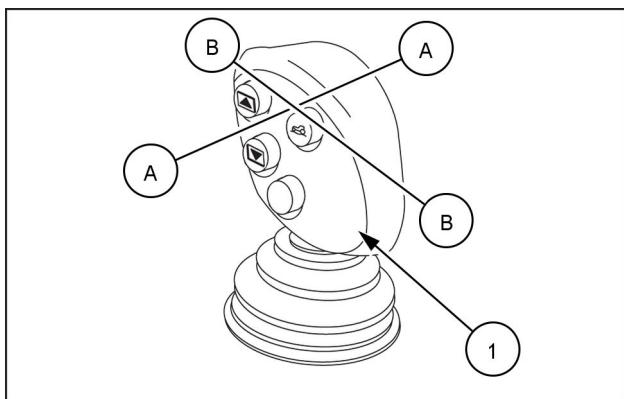
MOIL21TR01833AA 10

Configuration	Hydraulic distributor		
	B	A	thumb- wheel
Without front loader	F1/R1	F2/R2	F3
With front loader	F1	F2	F3
With front loader and front lift	F2	F3	F1



MOIL21TR02570AA 11

Configuration	Hydraulic distributor			
	B	A	B + di-verter CAN	A + di-verter CAN
Without front loader	F1/R1	F2/R2	F3	-
With front loader	F1	F2	-	F3
With front loader and front lift	F2	F3	F1	-



MOIL21TR02565AA 12

On tractors equipped with mid- and rear-mounted (EHR) Electronic Hydraulic Remote control valves, the switch on the integrated control panel enables joystick control of either mid-mount or rear-mounted valves.

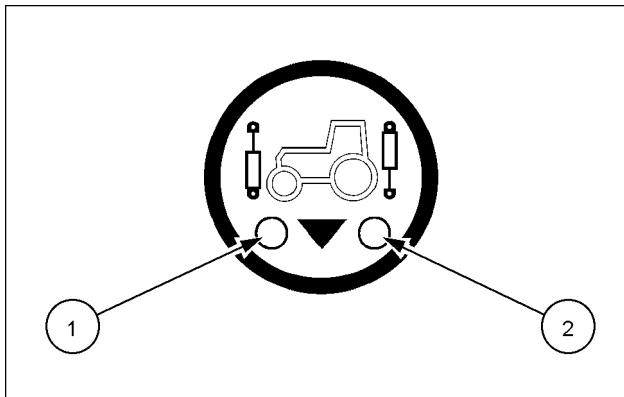
Indicator lights **(1)** and **(2)** confirm which valves are controlled by the joystick.

**NOTE:** Where tractors are fitted with mid-mount (EHR) Electronic Hydraulic Remote valves and mechanical rear (EHR) Electronic Hydraulic Remote valves, pressing the switch **(1)** will have no effect and the light **(2)** will remain illuminated.

At key ON, if the joystick is set to operate the mid-mount (EHR) Electronic Hydraulic Remote control valves, the indicator light **(1)** will be on.

To switch joystick control from mid-mount to rear-mounted (EHR) Electronic Hydraulic Remote valves:

- press and hold the switch for **2 s**, until the indicator light **(1)** goes out and the indicator light **(2)** starts flashing.
- Release the switch and light **(2)** will stop flashing and will remain illuminated. Control is now transferred to the rear-mounted (EHR) Electronic Hydraulic Remote control valves.

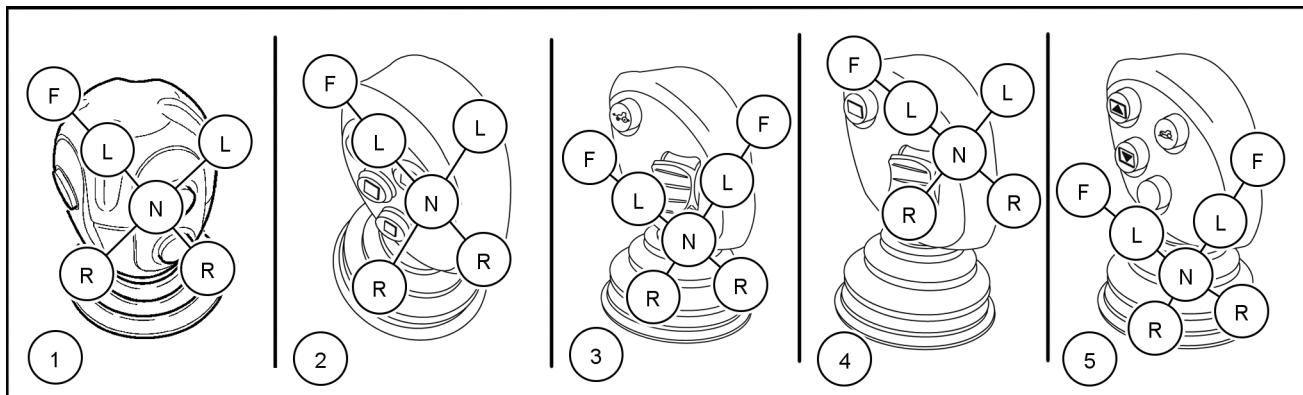


BRL6106D 13

Before transferring joystick control between (EHR) Electronic Hydraulic Remote control valves, ensure that all the (EHR) Electronic Hydraulic Remote control valves are in neutral. Any (EHR) Electronic Hydraulic Remote valves not in neutral will be disabled and the (EHR) Electronic Hydraulic Remote control valve display will identify the number and "R" (rear) or "FR" (front). If a joystick transfer is attempted when one of the target (EHR) Electronic Hydraulic Remote control valves is not in neutral, the indicator light will flash until the disabled hydraulic control valve has been reactivated.

To reactivate a control valve:

- use the (EHR) Electronic Hydraulic Remote control valve control just assigned (lever or joystick) and move it from the Neutral position to the Raise or Lower position
- move it to the Neutral position.



MOIL21TR01555EA 14

At key OFF, the current joystick setting (control of the mid-mount or rear (EHR) Electronic Hydraulic Remote control valves) will be saved in the memory of the (EHR) Electronic Hydraulic Remote control valves for reactivation at key ON.

Where mid-mount (EHR) Electronic Hydraulic Remote control valves are not fitted to the tractor, the switch is used to select lever or joystick control of the rear (EHR) Electronic Hydraulic Remote control valves only. If the warning indicator lights in the switch are off, the control valves are operated via the lever control; if the light (2) is on, operation is via joystick.

The joystick operates on two axes, forward/backward and right/left.

- moving the joystick forward/backward provides Raise, Neutral, Lower and Float on control valve 1;
- moving the joystick sideways gives Raise, Neutral and Lower on valve 2.
- Moving the joystick backward or to the left (**R**) extends a hydraulic cylinder;
- moving the joystick forward or to the right to the Lower position (**L**) to retract the cylinder. Further forward movement of the joystick will select 'Float' (**F**) which will allow the cylinder to extend or retract freely.

Two services can be operated simultaneously by moving the joystick diagonally.

Where additional hydraulic services are required, the joystick can offer optional functions activated by depressing and holding the switch (1) on top of the joystick.

First auxiliary control valve:

- Move the joystick forwards or backwards to operate Raise, Neutral, Lower and Float.

Second auxiliary control valve:

- Move the joystick left or right to operate Raise, Neutral and Lower.

**NOTE:** Always use the 'float' position to lower a single-acting cylinder. The lower position is for double acting cylinders only.

**NOTE:** At key-off, the joystick function is deactivated. To activate the joystick, the operator must be in the seat with the engine running for more than 3 s.

## Joystick functionality screen

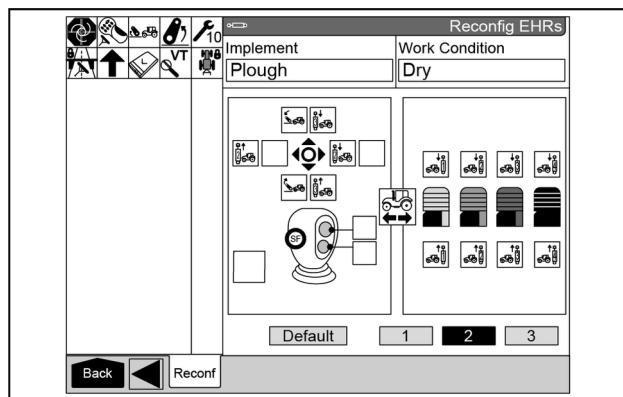
 (EHR) Electronic Hydraulic Remote Valves

Use **▲▼** to scroll through the menu until 'Reconf' is displayed.

 'Reconf'

The joystick functionality screen identifies the number of (EHR) Electronic Hydraulic Remote control valves controlled by the joystick and the corresponding movement required to operate each control valve.

As a valve is operated the white background will change to orange.

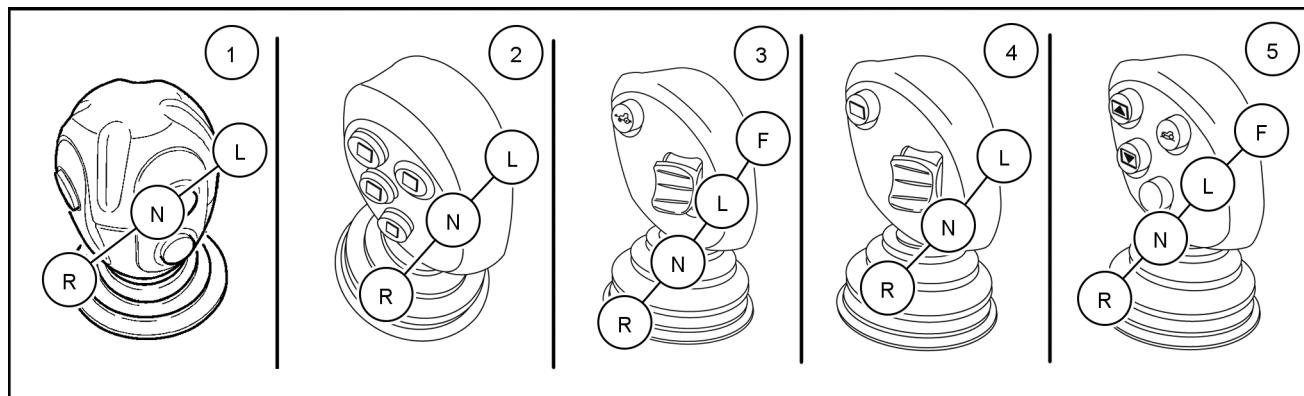


MOIL20TR00423AA 15

When joystick operation is transferred between rear and mid-mount (EHR) Electronic Hydraulic Remote control valves, control valve identification will change from R1, R2 to F1 F2. This feature is not available with mechanically operated remote valves.

If the tractor is fitted with a front hitch the joystick functionality screen also identifies the control valve used to operate the front hitch.

## Joystick Float operation



MOIL21TR01555EA 16

When the hydraulic pressure needs to be drained from the rear (EHR) Electronic Hydraulic Remote control valves, or before disconnecting a hydraulic hose from the tractor, the following procedure can be used, with the engine on:

- For the control valve controlled on the vertical axis, move the joystick forward to the Float position, then turn the engine off (control valve 1).

### **WARNING**

#### **Crushing hazard!**

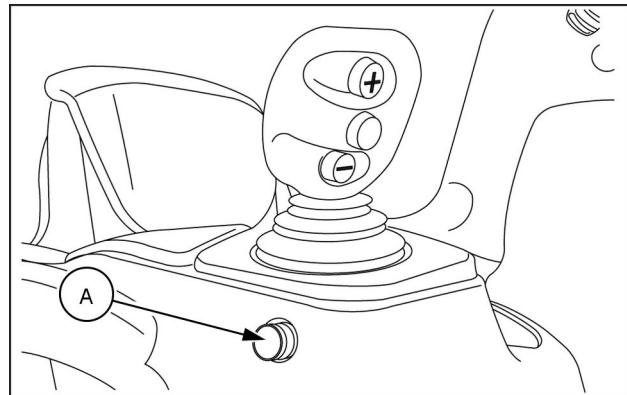
**Make sure no one will be injured by moving equipment when relieving pressure in the system. Before disconnecting cylinders or equipment, make sure the equipment or implement is supported securely.**

**Failure to comply could result in death or serious injury.**

W0424A

To cancel float mode, move the joystick in any direction to the raise or lower position and then back to neutral.

- If the tractor is fitted with the joystick **(3)** or **(5)**, for the control valve controlled on the horizontal axis, move the joystick to the right, to the Float position and turn the engine off.
- If the tractor is fitted with the joystick **(1)**, **(2)** or **(4)** to drain the hydraulic pressure from the rear (EHR) Electronic Hydraulic Remote control valves, the switch **(A)**, next to the joystick, must be pressed and the joystick must be moved to the Float position.



MOIL19TR02353AA 17

## Joystick operation with a front loader

### ⚠️ WARNING

**Moving parts!**

**Always use the Hydraulic Master switch to disable the hitch and remote valve controls before roading. Failure to comply could result in death or serious injury.**

W1587A

### ⚠️ WARNING

**Unexpected machine movement!**

**Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.**

W1789A

### ⚠️ WARNING

**Crushing hazard!**

**Lower all components, attachments, or implements to the ground before leaving the cab.**

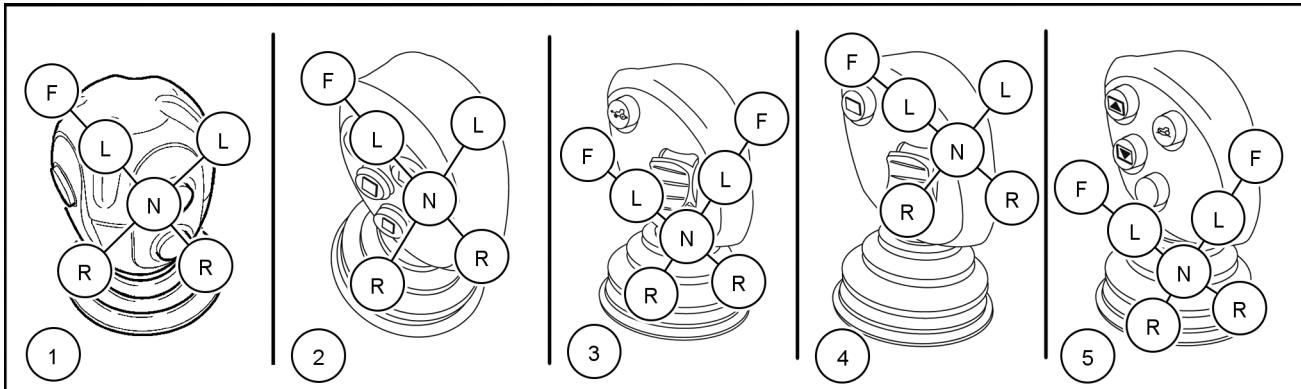
**Failure to comply could result in death or serious injury.**

W0419A

Where a front loader is installed as a factory option, an electronic joystick is provided to control the electronic remote valves (EHRs) used for operating the loader and attachments. Up to three remote valves may be operated simultaneously by the joystick.

**NOTE:** Where a tractor is equipped with front loader and rear EHRs, the joystick is dedicated to operate the loader mid-mount valves only, it is not possible to control the rear EHR's using the joystick.

### Joystick for 2 remote valves



MOIL21TR01555EA 1

Remote valve 1:

- Move the joystick forwards (**L**) or backwards (**R**) to raise and lower the loader boom.
- Pushing the joystick forward to the 'lower' position (**L**) will allow the loader boom to lower to the ground at a controlled rate of descent.
- By moving the joystick fully forward into 'Float' (**F**) the loader boom will lower quickly under its own weight. When Float is engaged with the boom in the fully lowered position, the bucket or attachment will follow the ground contours.

**NOTE:** The Float position is not available on remote valve 2 and 3.

Remote Valve 2:

- Moving the joystick to (**R**) operates bucket rollback, moving the joystick to (**L**) operate bucket dump.

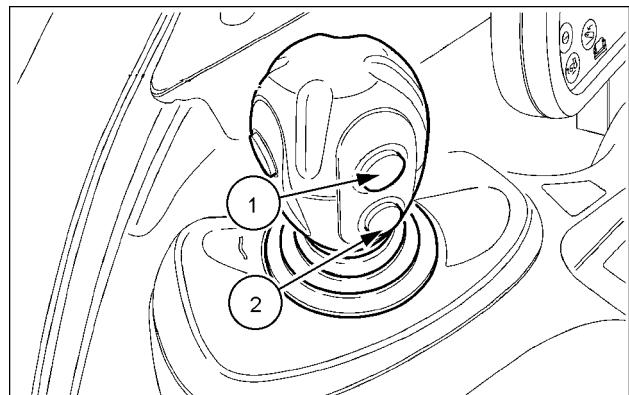
**NOTE:** By moving the joystick diagonally, both loader boom and bucket actions can be operated simultaneously.

Where additional hydraulic services are required, the joystick can offer optional functions activated by depressing and holding the switches **(1)** and **(2)** on the joystick.

## Switch function

### Standard joystick

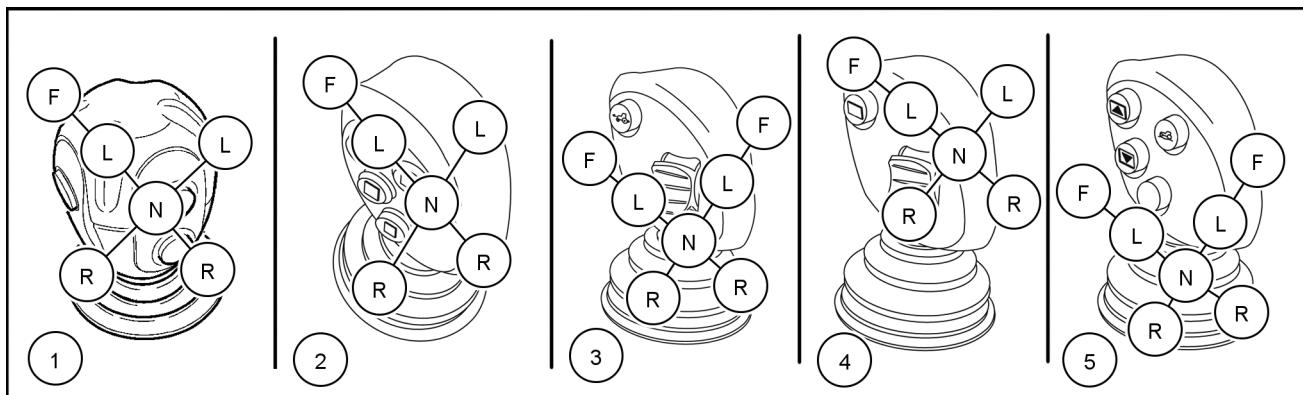
Switch number	Function
1 cylinder	Operates remote hydraulic service via relay and additional valve
2 cylinder	Operates remote hydraulic service via relay and second additional valve



SVIL18TR04279AA 2

**NOTE:** for a description of the functions of the advanced joysticks, refer to **Advanced joystick (where fitted) (55.024)**

### Joystick for 3 remote valves



MOIL21TR01555EA 3

#### Remote valve 1:

- Move the joystick forwards (**L**) or backwards (**R**) to raise and lower the loader boom.
- Pushing the joystick forward to the 'lower' position (**L**) will allow the loader boom to lower to the ground at a controlled rate of descent.
- By moving the joystick fully forward into 'Float' (**F**) the loader boom will lower quickly under its own weight. When Float is engaged with the boom in the fully lowered position, the bucket or attachment will follow the ground contours.

**NOTE:** The Float position is not available on remote valve 2 and 3.

#### Remote Valve 2:

- Moving the joystick to (**R**) operates bucket rollback, moving the joystick to (**L**) operate bucket dump.

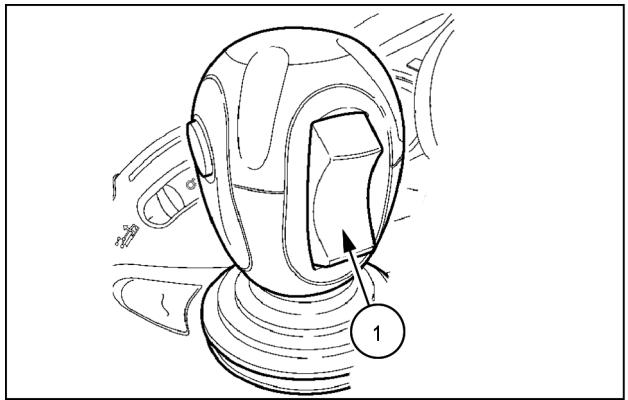
**NOTE:** By moving the joystick diagonally, both loader boom and bucket actions can be operated simultaneously.

**Remote valve 3 (where fitted):**

Where a third hydraulic service is required to operate an attachment such as a bale fork eject plate or 4 in 1 bucket jaw, switch (1) is used to control the third valve.

The control for this valve is a progressive, self centring rocker switch. This type of switch allows the operator to control the speed at which a hydraulic cylinder is extended or retracted.

By lightly depressing the switch, a minimal oil flow is generated to provide a slow speed, depressing the switch further will increase the flow and therefore the speed.

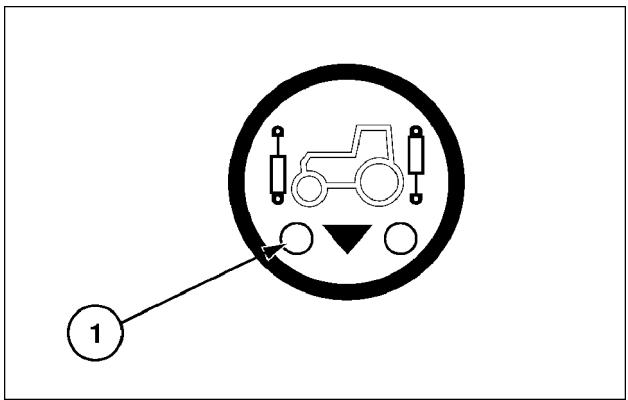


MOIL19TR00429AA 4

**Joystick activation and configuration**

At key-off, the joystick function is deactivated. To activate the joystick, the operator must be in the seat with the engine running for more than **5 s**.

When the joystick is deactivated, the warning light (1) starts to flash.



BRL6106C 5

**NOTE:** If the operator leaves the seat with the engine running, joystick operation will be deactivated and the warning light (1) starts to flash. When the operator is re-seated, joystick operation will be reactivated after **2 s**. The warning light will stop flashing and will remain illuminated.

**NOTICE:** Where a loader has been retrofitted to a tractor having the remote valves configured for front hitch operation or front coupler operation, it is most important the valves are re-configured by your authorized dealer for loader operation.

This will activate the advanced features available when the loader is used in conjunction with the monitor, and will also disable the auto function, so that joystick operation cannot be included in the HTS programmes.

The re-configuration procedure requires the use of special tools and must be carried out by an authorized dealer.

**NOTE:** Switching the joystick from mid-mount to rear valve operation will automatically suspend lever operation of the rear remote valves.

**NOTICE:** Before switching joystick operation between mid and rear valve packs or vice versa, ensure both remote valve levers and joystick are in the Neutral position.

## Joystick functionality screen with standard joystick (where fitted)

To access the joystick screen:

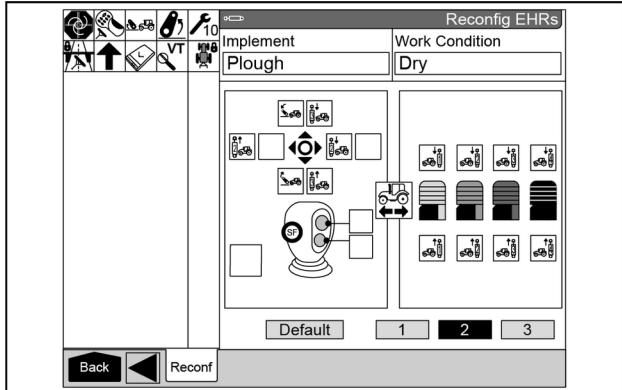
- ☒ Back
- ☒ Remote valves
- ☒ 'Reconf'

The monitor shows the settings for the control valves and front hitch on the joystick. The joystick mode can be selected between

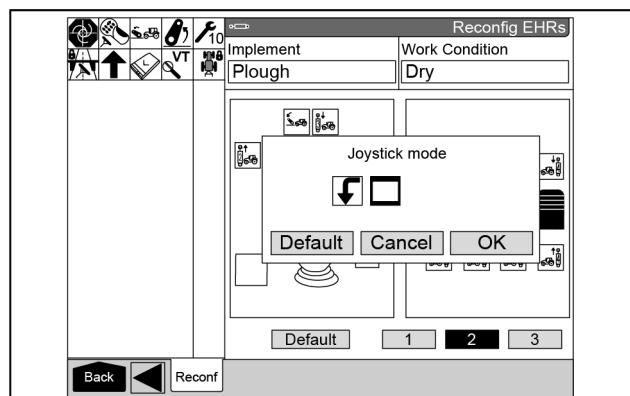
- Normal
- Stop

Click on the joystick mode to choose two different option modes:

- Normal
- Stop



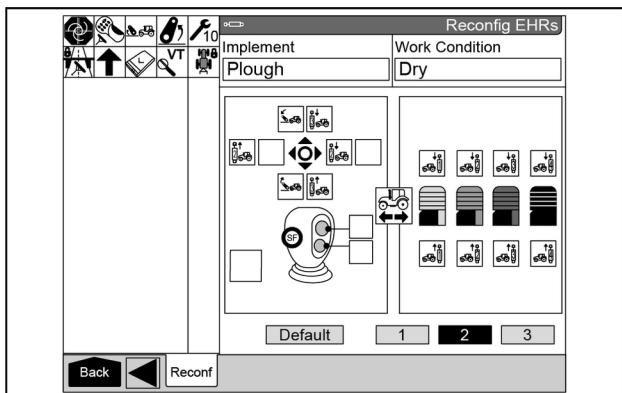
MOIL20TR00423AA 6



MOIL20TR00424AA 7

## Normal mode

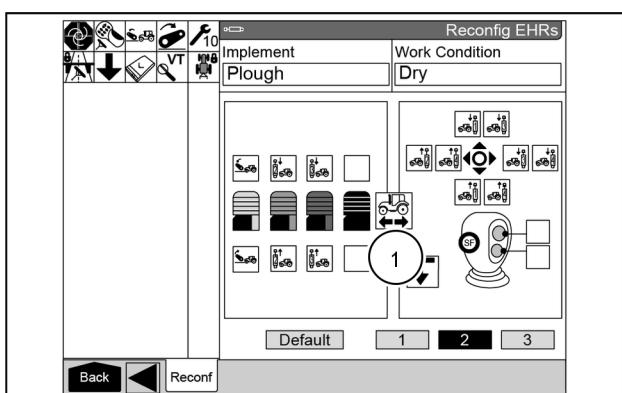
The joystick is by default set to normal mode. The operation is as described before.



MOIL20TR00423AA 8

## Joystick selection to front/rear EHRs

Click on the tractor symbol (1) to change the joystick selection from the front EHRs to the rear EHRs and vice versa.



MOIL20TR00425AA 9

## Joystick functionality screen with advanced joystick (where fitted)

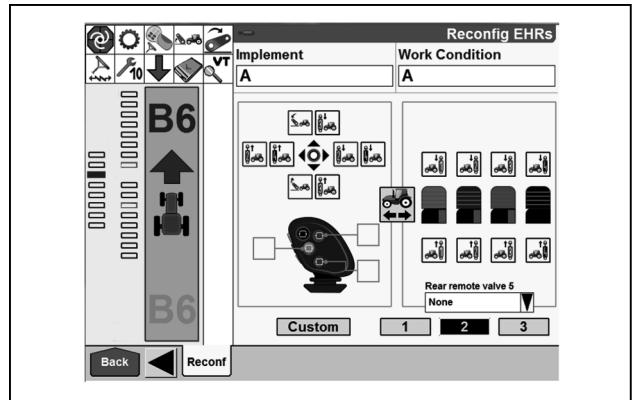
To access the joystick screen:

☞ Back

☞ Remote valves

☞ 'Reconf'

The monitor shows the settings for the control valves and front hitch on the joystick.



## Mid mount valves

### ⚠️ WARNING

**Moving parts!**

**Always use the Hydraulic Master switch to disable the hitch and remote valve controls before roading. Failure to comply could result in death or serious injury.**

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### ⚠️ WARNING

**Unexpected machine movement!**

**Always use the machine's locking devices to prevent any unintentional movements of the machine (mounted or towed) or parts of it that may occur while roading or servicing (unfold, swing out, or other). Read and follow all related instructions in the manual provided by the machine manufacturer. Failure to comply could result in death or serious injury.**

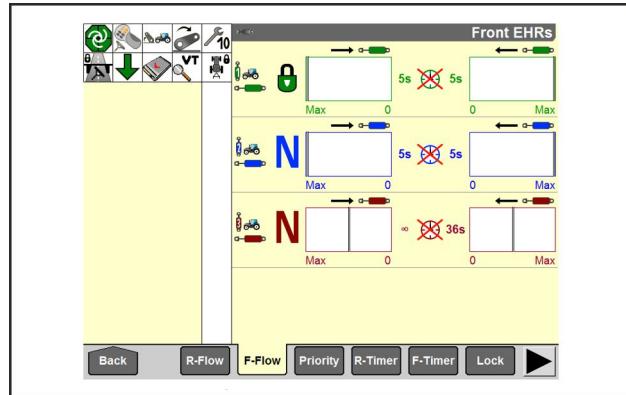
W1789A

## Adjustments

A number of settings and adjustments can be made to the mid mount EHR valves. This can be done using the navigator or the monitor.

Adjustments and settings will include:

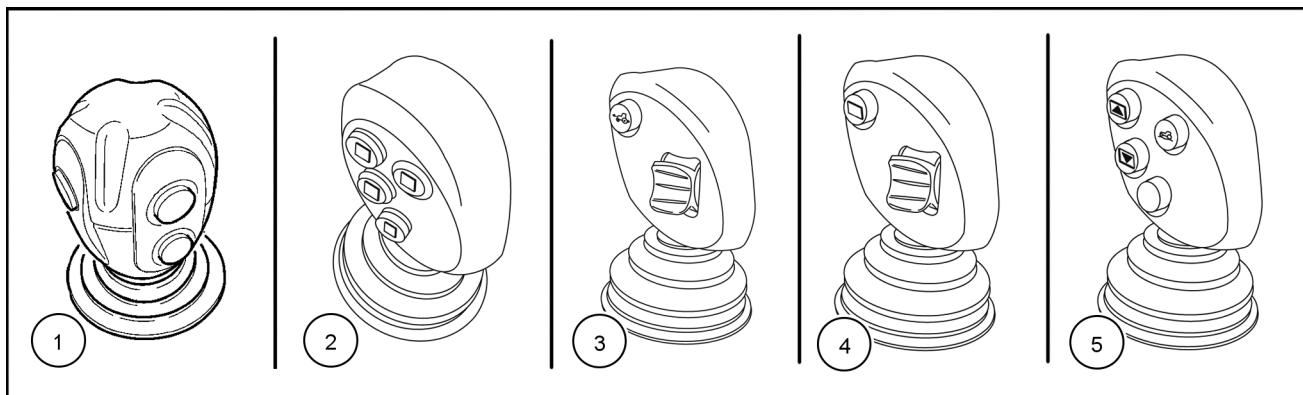
1. Oil flow adjustment, retract and extend.
2. Timer period settings, retract and extend.
3. Timer on/ off.
4. Valve lock or unlock.



SVIL17TR01301AA 1

Full details on mid mount EHR adjustments can be found in this section beginning on page **Remote control valves remote valves (35.204)**.

## Electronic joystick operation



MOIL21TR01555EA 2

Where a mid-mount hitch is supplied as a factory fitted option, the tractor will be fitted with one of the joysticks available and electrohydraulic mid-mount control valves.

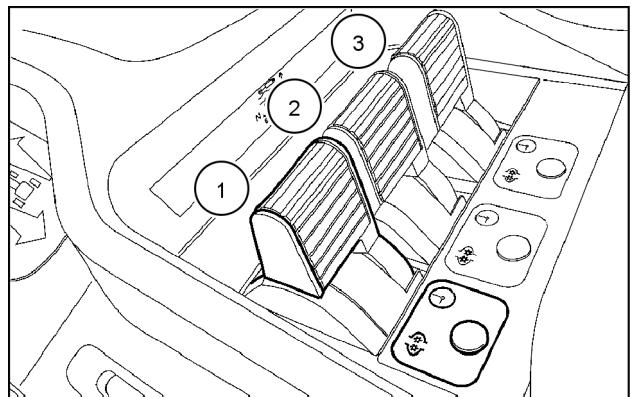
The joystick can be used to control the mid-mount hitch using the mid-mount remote control valves.

**NOTE:** On tractors equipped with both mid and rear mount remote electrohydraulic control valves, the electronic joystick can be used to control either valve group.

For more information on the operation of the electronic joysticks, refer to **Remote control valves remote valves (35.204)** in this manual.

## Control lever operation

The mid-mount electrohydraulic control valves can be operated using the control handle (1) (if fitted) or with the joystick (if fitted).



**NOTE:** On tractors equipped with both mid and rear mount remote electrohydraulic control valves, the control handles can be used to control either valve group.

For more information on the operation of the control levers, refer to **Remote control valves remote valves (35.204)** in this manual.