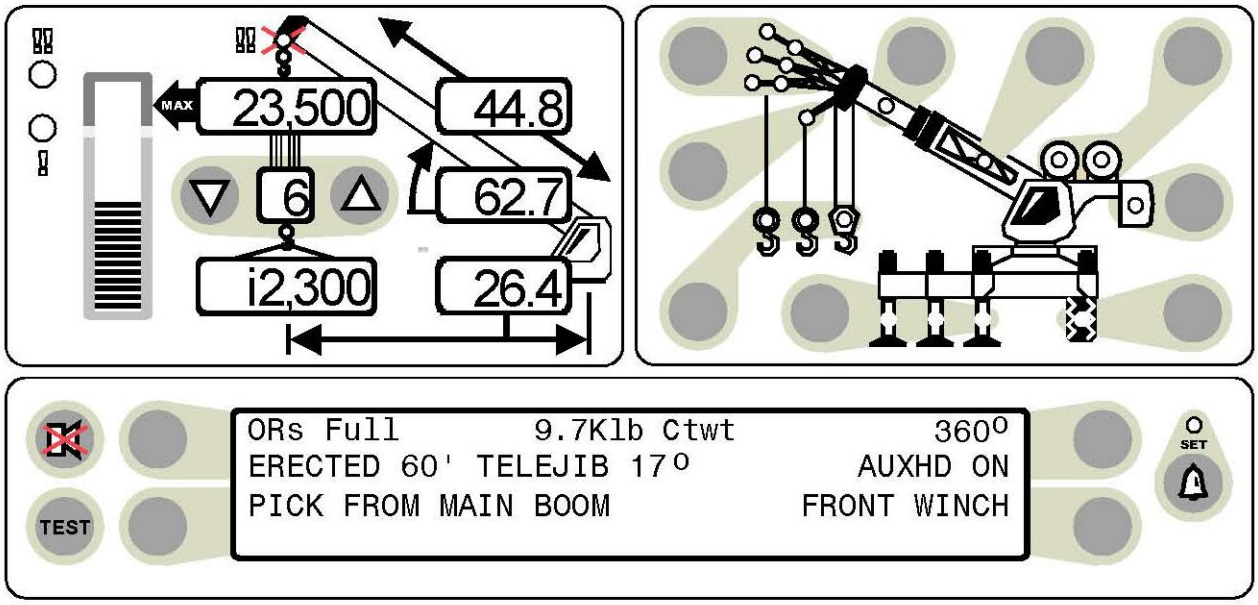
MICROGUARD RCI 510
OPERATOR'S MANUAL

TELESCOPIC BOOM CRANES



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Introduction

The RCI 510 System (hereinafter referred to as the "System") is designed for use as an aid to crane operation. Do not use this system in place of an operator who is knowledgeable in safety guidelines, crane capacity information, and the crane manufacturer's specifications.

This manual describes the operation of the system. Please read, understand, and follow the contents and instructions contained within this manual. The operator will then have a clear understanding of the outline of operation.

OUTLINE OF OPERATION

SYSTEM COMPONENTS

- MicroGuard Display Unit
- MicroGuard Computer Unit
- Pressure Transducers
- Reeling Drum, with Length and Angle Sensors
- Anti Two-Block Switches
- Cables
- Installation/Operator Manuals.

The system is intended to aid the crane operator by continuously monitoring the load and warning of an approach to an overload or two-block condition. Crane functions are monitored by means of high accuracy sensors. The system continuously compares the load suspended below the boom head to the crane capacity chart stored within the computer's memory. At approach to overload, the system sends warning signals by means of audible and visual alarms. The system can be configured to cause function kick-out by sending a signal to function disconnect solenoids.

DISPLAY

The operator is provided with a continuous display of:

- Rated Load
- Actual Load
- Bar graph showing Percentage of Rated Load
- Radius of the Load
- Boom Angle
- Main Boom Length
- Working Area
- Crane Configuration

On screen communications provide the operator with visual warnings of conditions which may occur during operation of the system.

BOOM ANGLE SENSOR

Boom angle is measured by means of a high accuracy potentiometer/pendulum assembly which is dampened to prevent overswing. It provides a voltage proportional to boom angle. The boom angle sensor is mounted inside the cable reeling drum assembly.

EXTENSION SENSOR

The extension sensor provides an increasing voltage proportional to the extension of the boom. A cable attached to the boom head provides a low current electrical path for the A2B signal.

PRESSURE TRANSDUCERS

There are two pressure transducers which measure the pressure in the boom hoist cylinder. The resultant Total Moment signal is processed to provide a continuous display of the load suspended below the point of lift.

ANTI TWO BLOCK (A2B)

A switch monitors the approach of the hookblock or overhaul ball to the boom head. The switch is held in the normal position until the hookblock or overhaul ball raises a weight that is mounted around the hoist rope. When the weight is raised it causes the switch to operate. The resultant signal is sent to the computer via the reeling drum causing the A2B alarm to operate and function kick-out to occur.

FUNCTION KICK-OUT

Electrically operated hydraulic solenoids disconnect the control lever functions for boom hoist lower, telescope out and winch up whenever an overload or an A2B condition occurs.

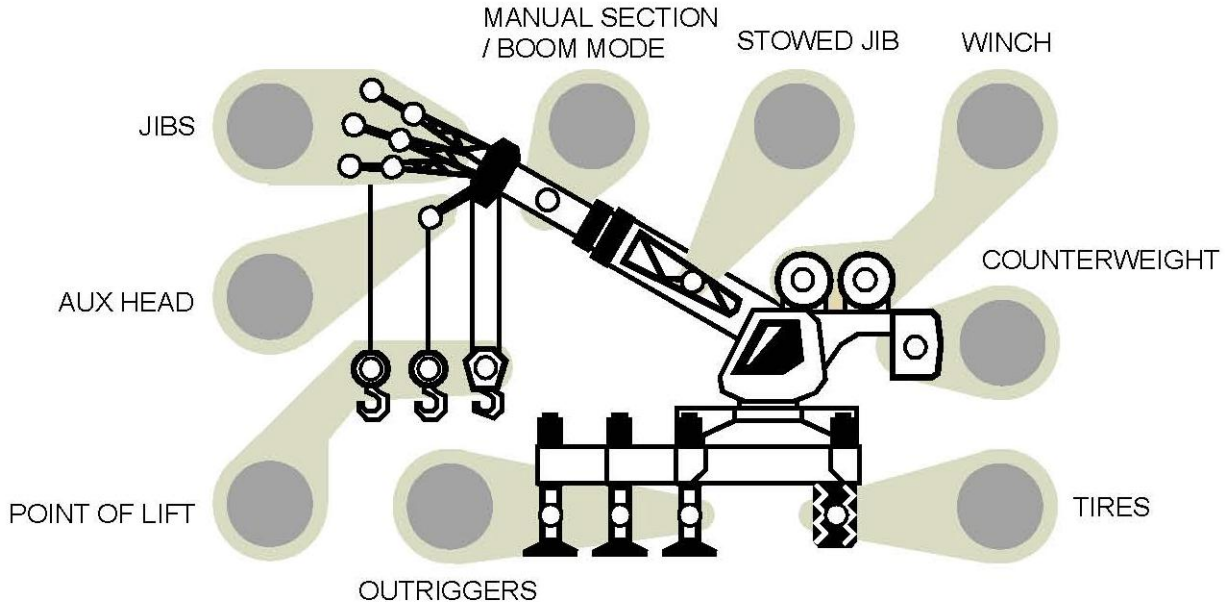
OPERATOR PROGRAMMABLE ALARMS

These alarms, when properly set by the operator, define the operating range. This is achieved by means of minimum and maximum angle, maximum height and/or maximum length. These alarms are programmable for each job site, and allow the operator to work in a defined area.

AREA ALARM

This alarm, when set, permits the operator to define the operating zone by only two set points. The use of this method results in a greatly enhanced working area, and also clearly defines the operating zone.

THE PICTOGRAPH



The PICTOGRAPH gives a pictorial representation of the current set up of the system. It does this by means of light emitting diodes (LEDs). Each shaded area contains a group of one or more LEDs and a button which is pressed to change the setup selection. In groups where there are multiple options, LEDs illuminate one at a time to indicate the selection.

The OUTRIGGER group contains three LEDs. They indicate the selection of either full outriggers, intermediate or retracted outriggers.

The TIRE group contains one LED. When operation on tires is selected, the outrigger LED will turn off, and the tire LED will illuminate.

The COUNTERWEIGHT group contains one LED. It is only active on machines that have counterweight options.

The WINCH group contains two LEDs. They indicate the selection of FRONT or REAR winch.

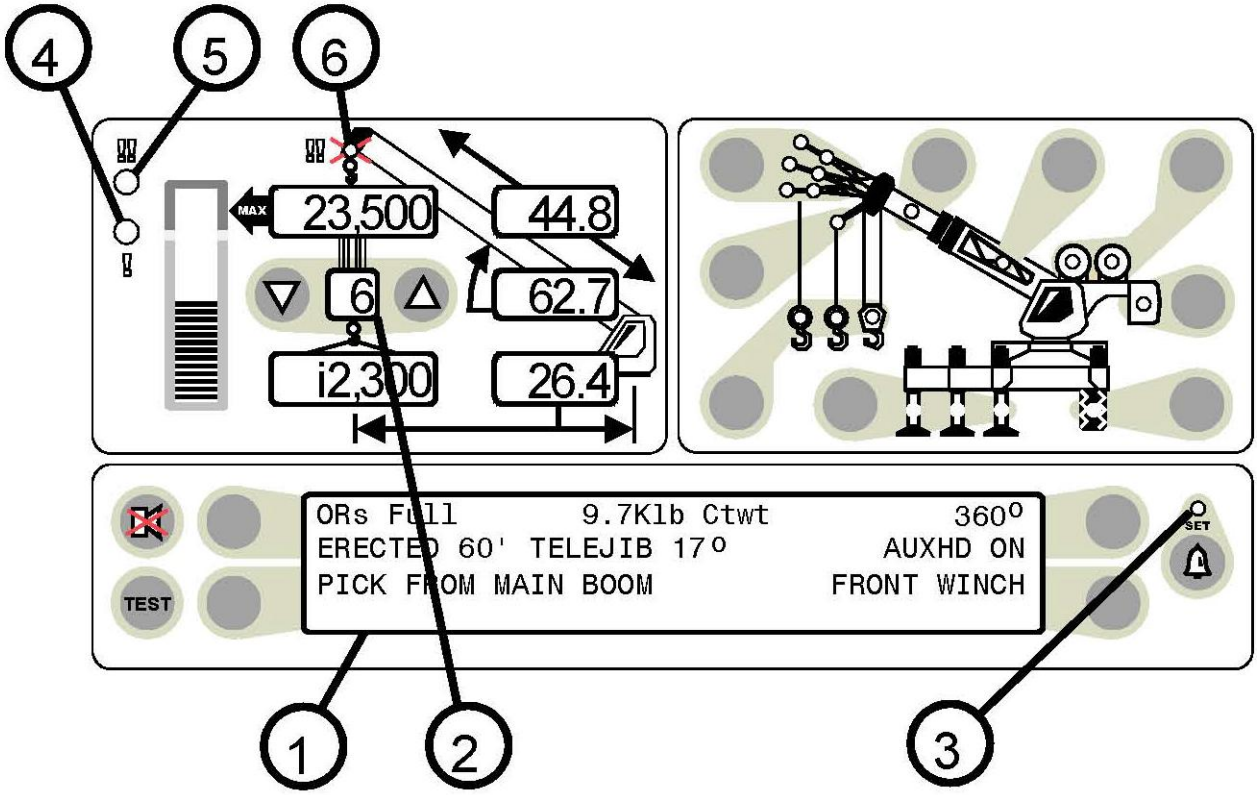
The STOWED JIB group contains one LED. This will illuminate when the jib is stowed on the boom.

The MANUAL SECTION group contains one LED. It is active on machines that have pinned extensions or active tip boom options.

The JIB group contains 6 LEDs. They indicate the length and offset of the jib in use.

The AUX HEAD group contains one LED that will illuminate when the AUX HEAD is fitted.

The POINT OF LIFT group contains three LEDs. A single LED will illuminate to show the point of lift.



1. The INFORMATION SCREEN contains details of the currently selected configuration.

2. PARTS OF LINE displays the parts of line currently selected.

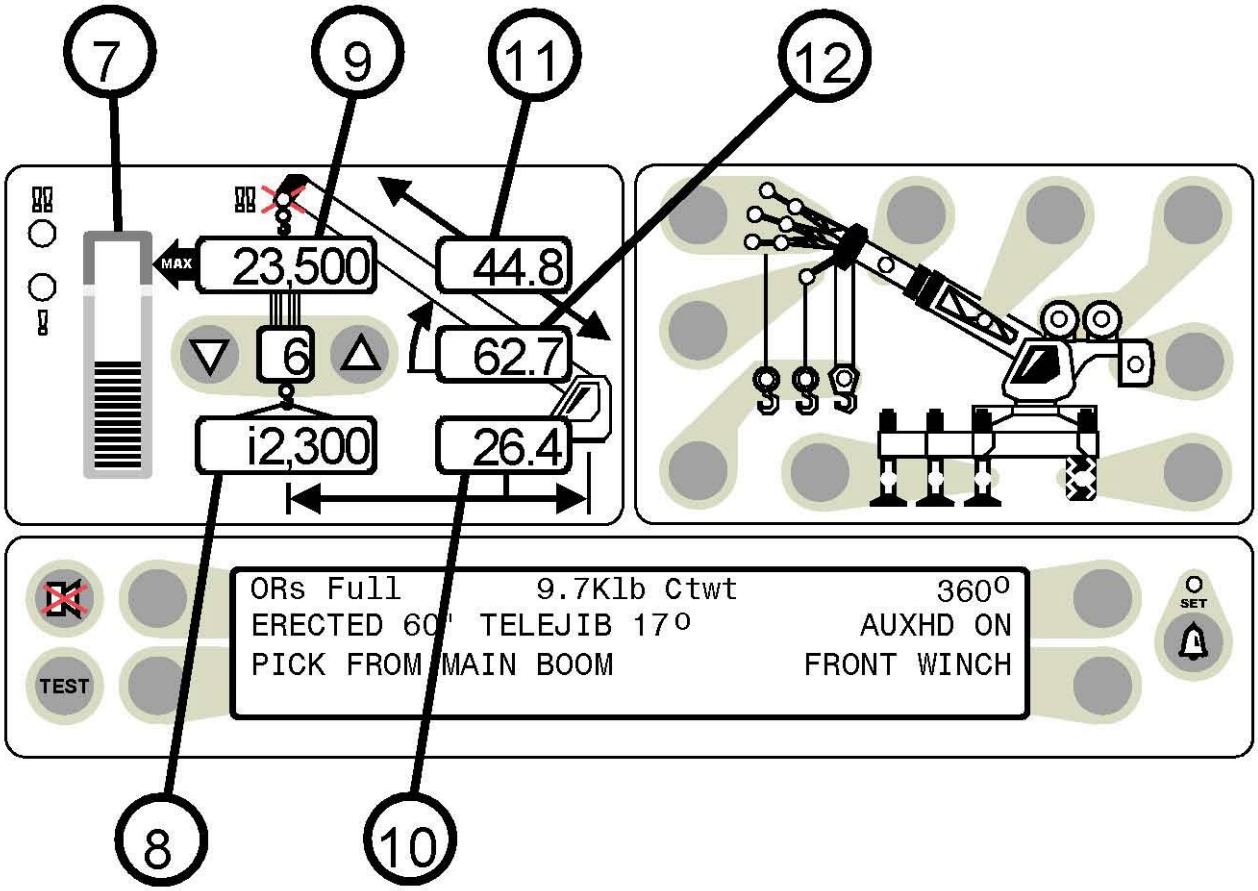
3. The OPERATOR ALARM lamp illuminates when operator alarms have been set.

4. The PRE-ALARM (AMBER) indicator illuminates at a preset value of 90% of Rated Capacity, and provides a visual indication of approach to overload.

5. The OVERLOAD INDICATOR (RED) illuminates at a preset value of 100% of Rated Capacity, and provides a visual indication of Maximum Allowed Load.

6. The ANTI TWO-BLOCK lamp illuminates when the A2B limit switch detects approach to a two-block condition.

WHAT DOES IT TELL YOU?



7. The BAR GRAPH indicates the ACTUAL LOAD as a PERCENTAGE OF RATED CAPACITY.

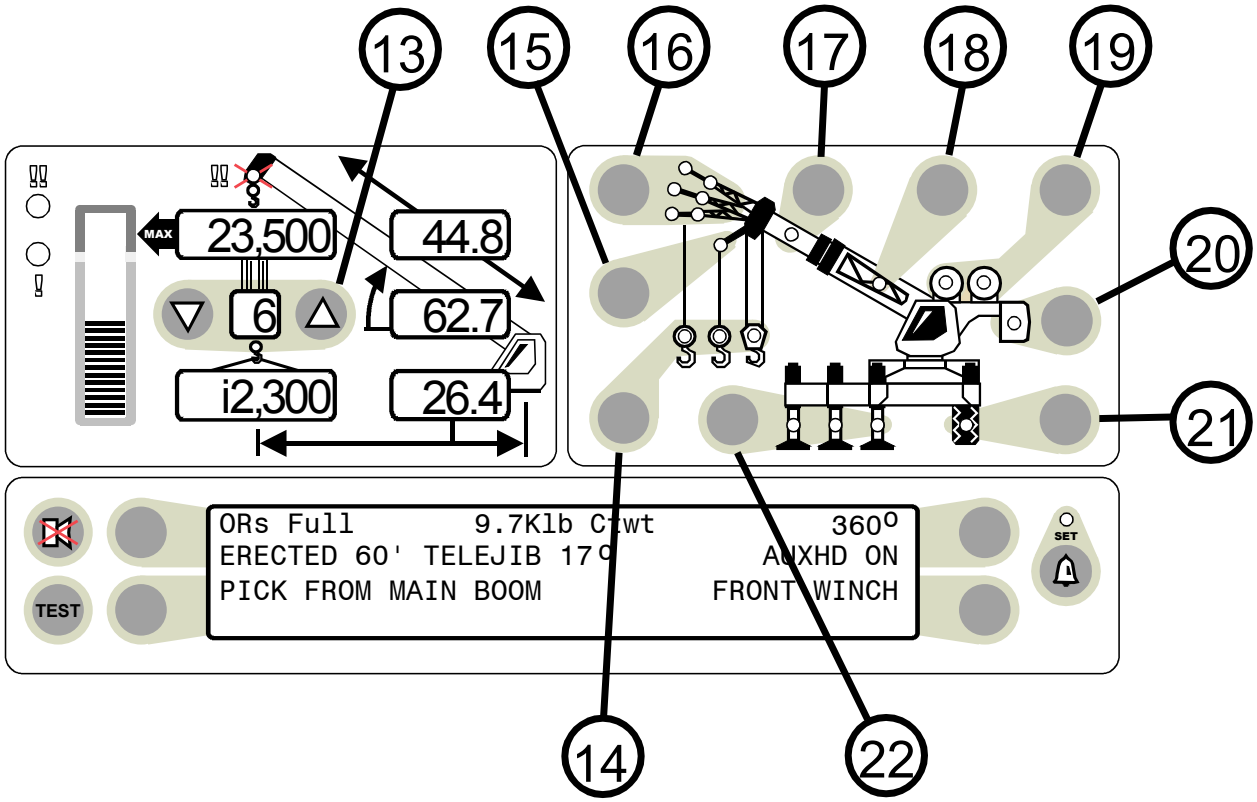
8. ACTUAL LOAD display shows total load, including load, slings etc., suspended below the lifting point.

9. RATED CAPACITY display shows the RATED CAPACITY of the machine in the current configuration.

10. The RADIUS display shows radius of the load. Radius is defined as the horizontal distance from the centerline of rotation to the centerline of the lifting point.

11. The LENGTH display shows the length of the main boom from the boom foot pin to the sheave pin of the main boom head machinery.

12. The ANGLE display indicates, in degrees, the angle of the main boom relative to horizontal.



13. The number of PARTS OF LINE.

14. The POINT OF LIFT, for example,. main boom, auxiliary head or jib.

15. AUXILIARY HEAD ON or OFF the machine.

16. Which JIB configuration is in use.

17. Is the MANUAL SECTION or ACTIVE TIP extended (if applicable).

18. Is a JIB STOWED on the boom.

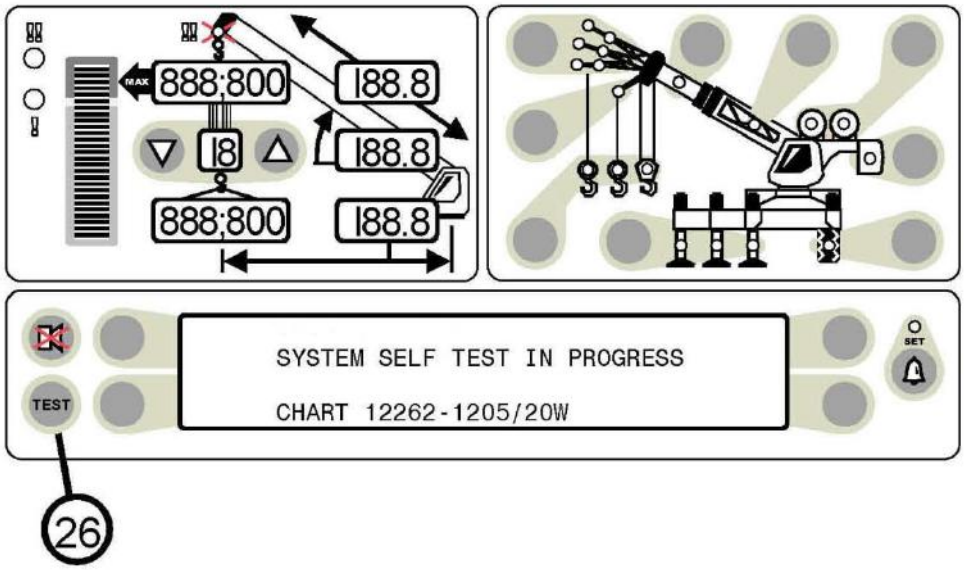
19. Which WINCH will be used for the pick.

20. Which COUNTERWEIGHT is fitted (if applicable).

21. TIRES creep, static and RIGGING/TRAVEL mode.

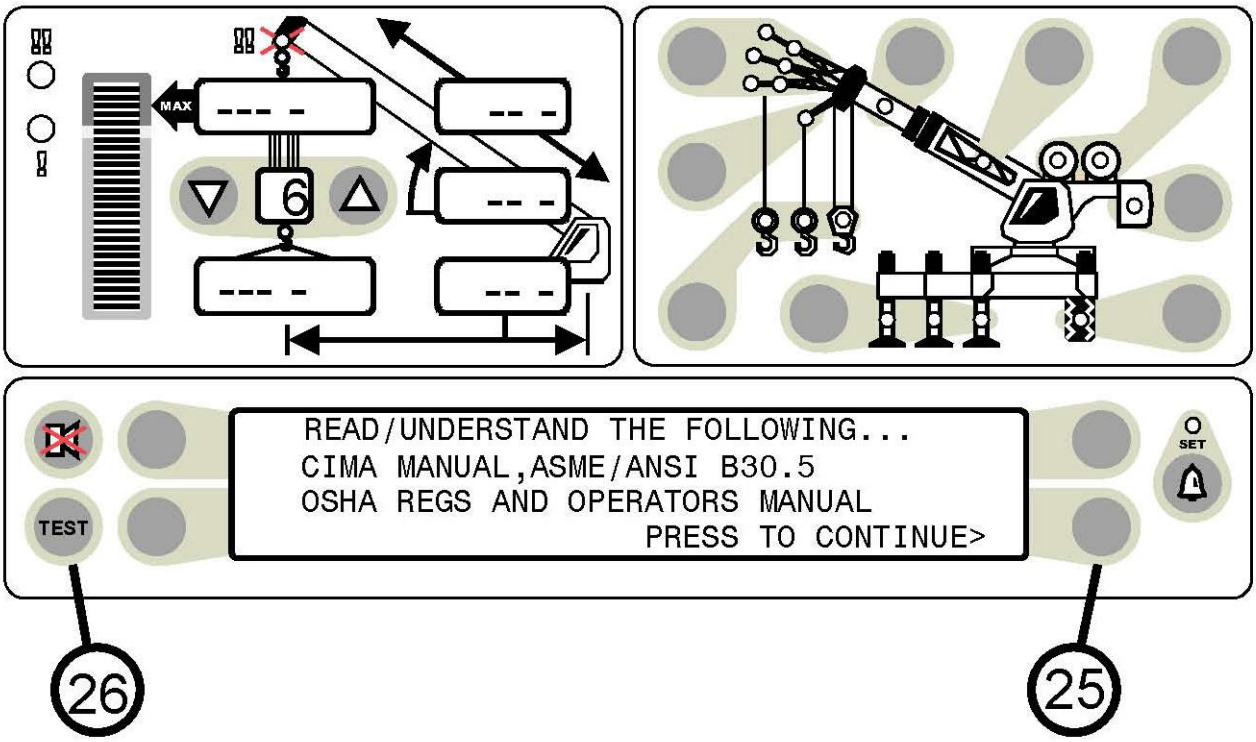
22. OUTRIGGERS full extension, mid extension, retracted.

POWER UP SELF TEST



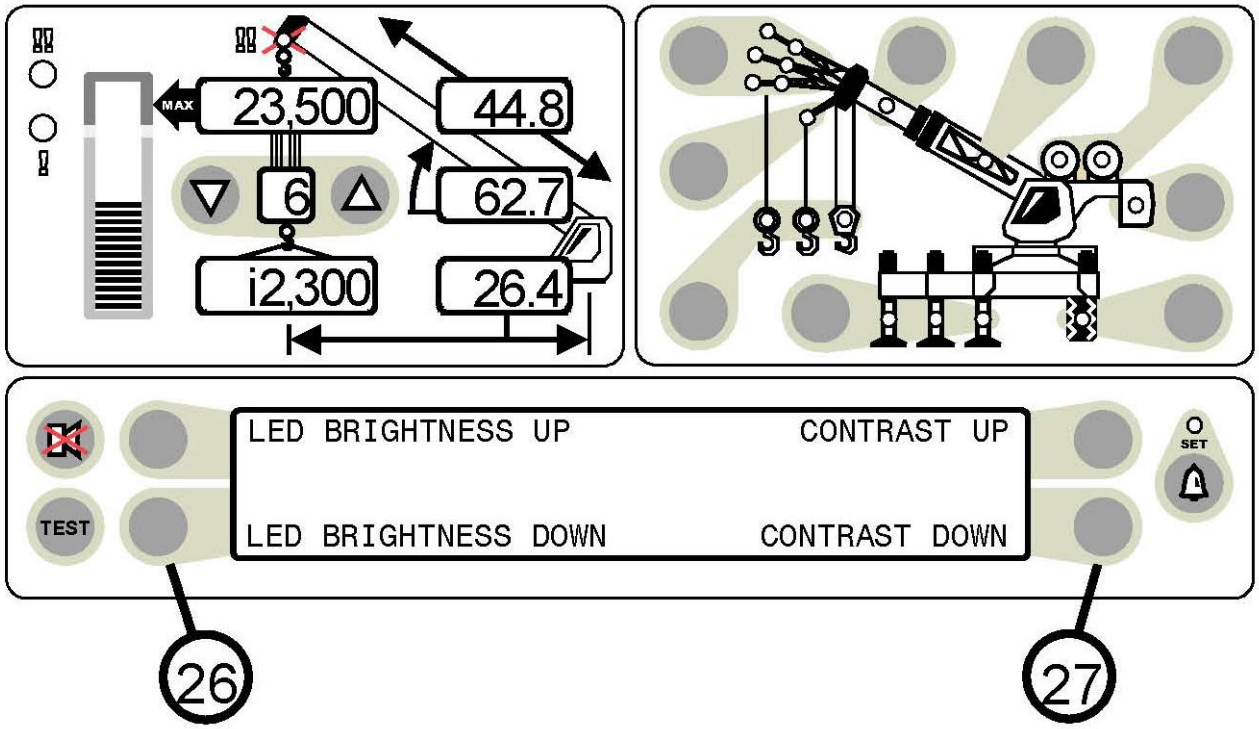
Immediately following electrical power up or following operation of the TEST switch (item 26), the system executes a self-test which lasts for three seconds. During this time the numerical display segments and bar graph segments are all turned on, the audible alarm will sound and alarm indicator lights are illuminated.
The information display shows the machine model and rating chart number.

STARTUP SCREEN



Immediately following power up self test, the display indications will show as above. During this time, crane motions are disabled by the system function kickout. Operation of the bottom right information display button (item 25) will acknowledge the information display message and allow the system to start normal operation.

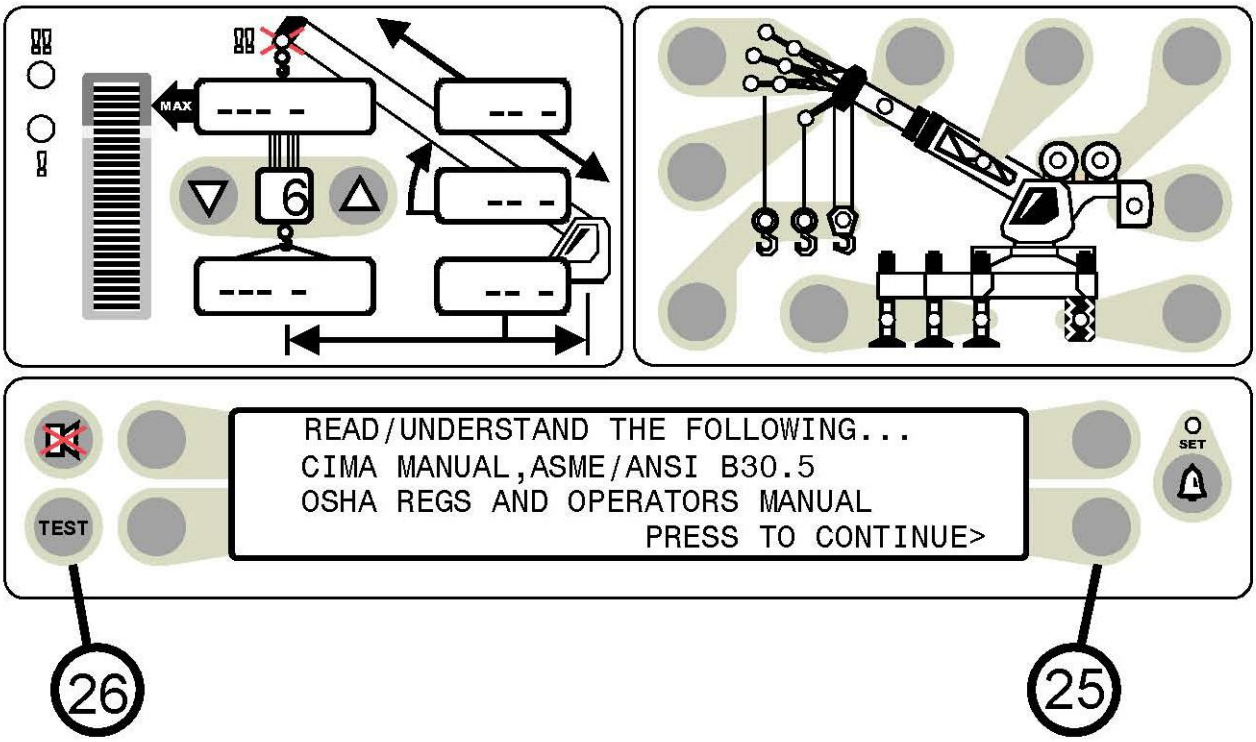
BRIGHTNESS AND CONTRAST CONTROLS



Immediately following self test and the start up screen, the information display will display a three second reminder of the brightness and contrast control functions.

Buttons to the left and right of the information display (items 26, and 27) allow the brightness of all LEDs on the display panel to be adjusted up or down at any time during operation of the system unless operator alarms are being set.

During adjustment of the contrast or brightness, the information window will automatically display the reminder window shown.



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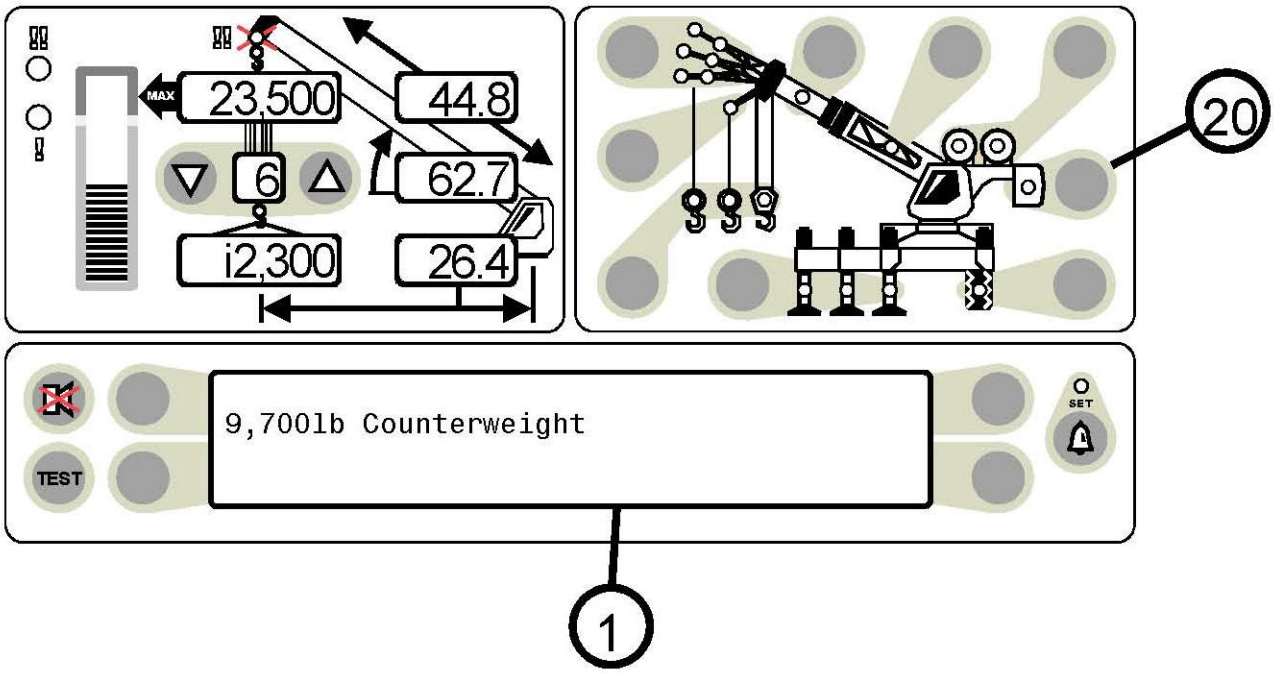
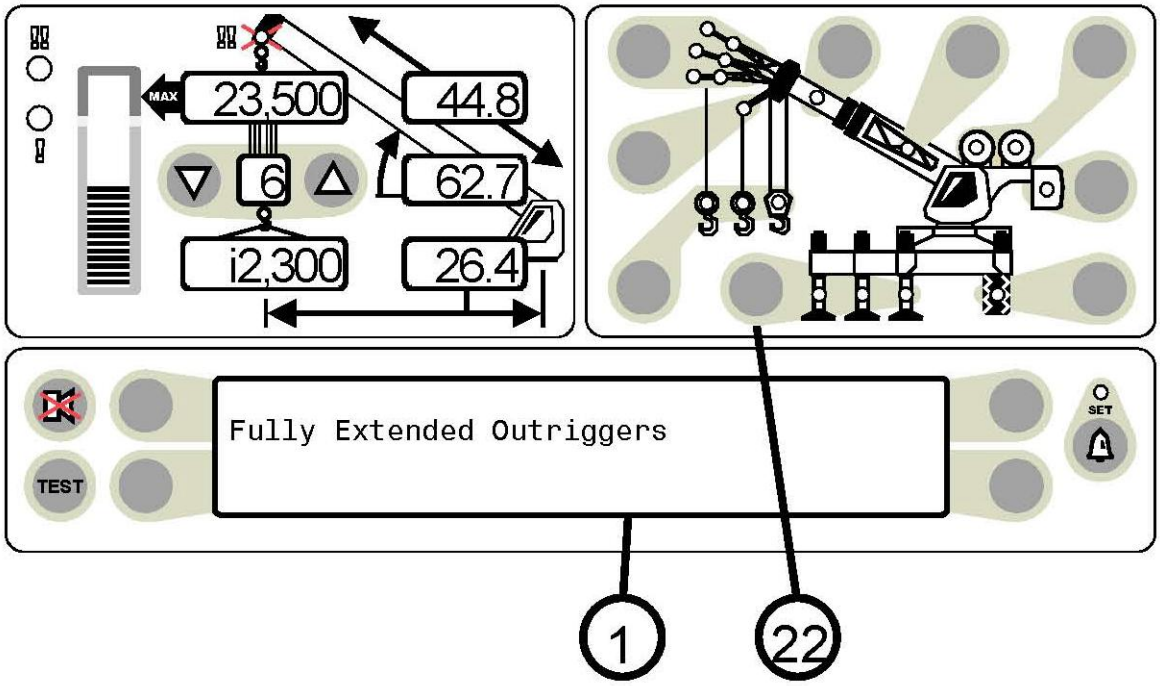


COUNTERWEIGHT

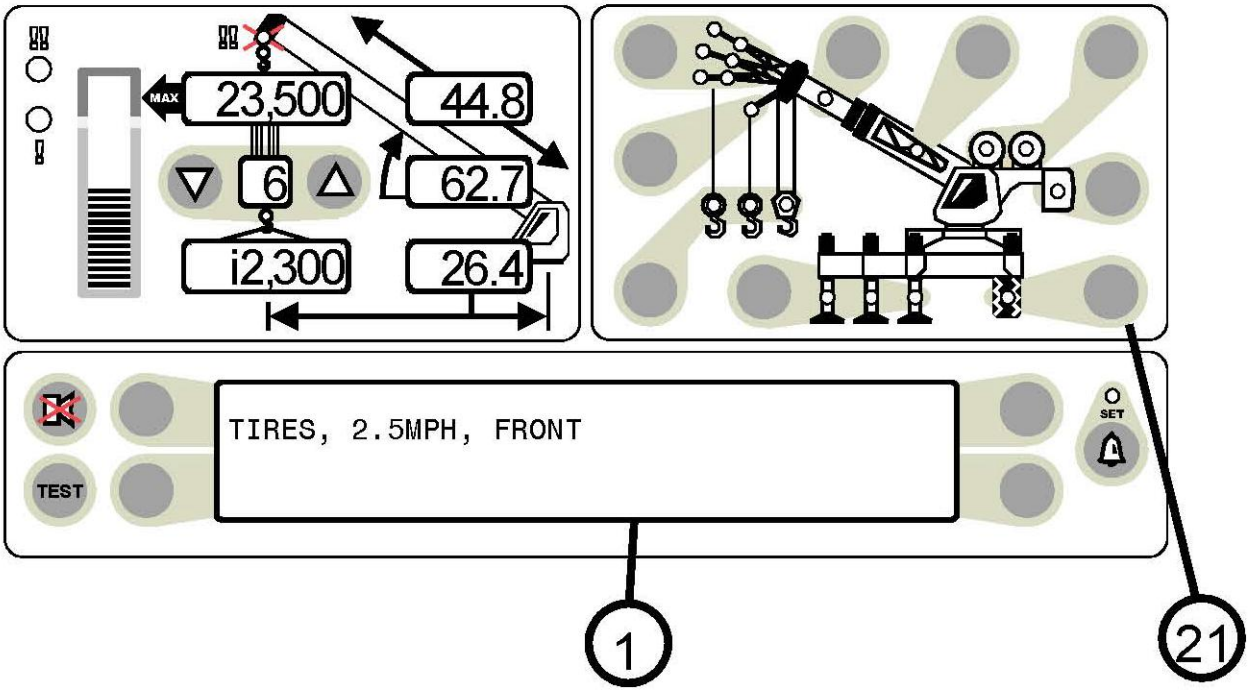
IF THE COUNTERWEIGHT BUTTON IS PRESSED ON A MACHINE THAT DOES NOT HAVE COUNTERWEIGHT OPTIONS THE MESSAGE "NO COUNTERWEIGHT OPTIONS" WILL APPEAR IN THE INFORMATION DISPLAY. REFER TO THE CRANE RATING MANUAL FOR DETAILS OF OPTIONS ON THE MACHINE.

- For Machines with counterweight options, the operator must tell the MicroGuard system which counterweight is currently fitted. If there are no options, continue on to selection of outriggers.
- Start the choice by pressing the counterweight button (item 20).
- The current selection will appear in the Information Screen (item 1) and the LED in the counterweight will flash.
- If this is the selection required then no further action is necessary. The system will revert to the working screen using the current selection after a 5-second time out. The LED in the counterweight will stop flashing and remain ON.
- If this is not the selection required then pressing the counterweight button (item 20) before the 5-second time out will display another counterweight option in the information screen. If this is the selection required then no further action is necessary. The system will revert to the working screen using the new selection after the 5-second time out



OUTRIGGERS

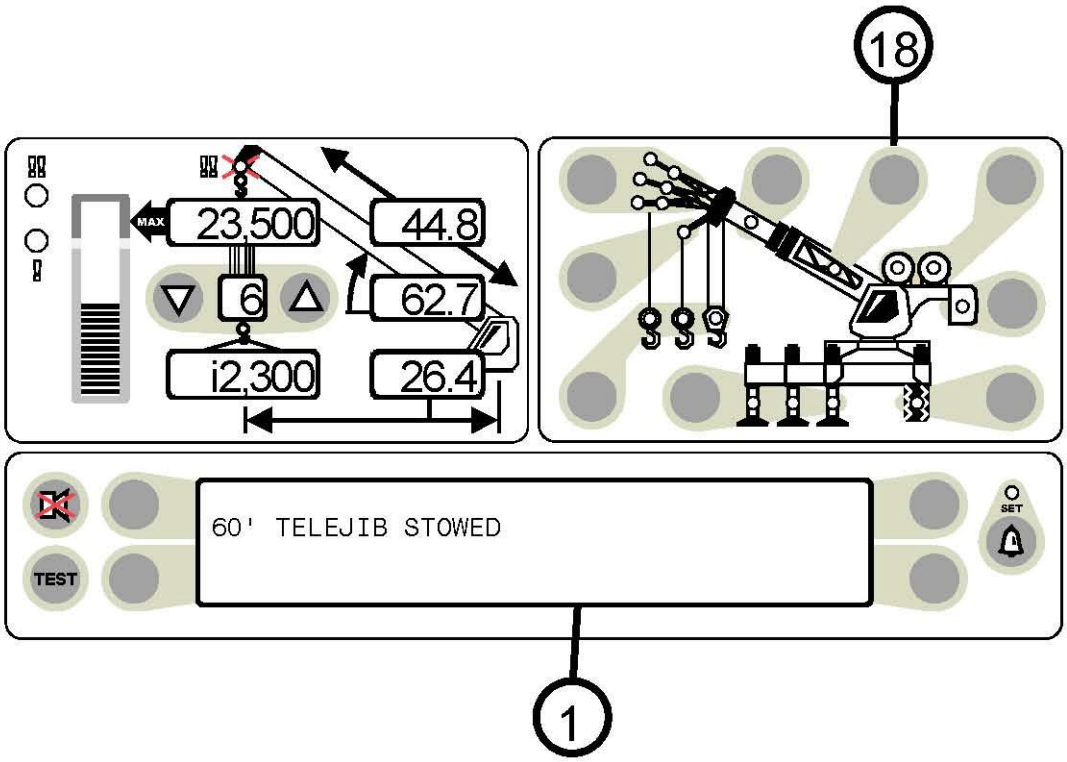
- The operator must tell the system which outrigger position is in use.
- Start the choice by pressing the outrigger button (item 22).
- The current selection will appear in the window of the Information Screen (item 1) and the corresponding outrigger LED will begin to flash.
- If this is the selection required then no further action is necessary. The system will revert to the working screen using the current selection after a 5-second time out. The LED will stop flashing and remain ON.
- If this is not the selection required then pressing the outrigger button (item 22) before the 5-second time out will display another outrigger option in the information screen. If this is the selection required then no further action is necessary. The system will revert to the working screen using the new selection after the 5-second time out. The corresponding LED will now be ON.



TIRES/RIGGING TRAVEL

IF THE TIRE BUTTON IS PRESSED ON A MACHINE THAT DOES NOT HAVE TIRE OPTIONS THE MESSAGE "NO TIRE OPTIONS" WILL APPEAR IN THE INFORMATION DISPLAY. REFER TO THE CRANE RATING MANUAL FOR DETAILS OF OPTIONS ON THE MACHINE.

- For machines with more than one tire option, for example, static, creep etc., the operator must select the tire configuration that corresponds to the tire chart used.
- Start the choice by pressing the tire button (item 21).
- The current selection will appear in the Information Screen window (item 1) and the TIRE LED will flash.
- If this is the selection required then no further action will be necessary. The system will revert to the working screen using the current selection after a 5-second time out.
- If this is not the selection required then pressing the tire button (item 21) before the 5-second time out will display another tire option. If this is the selection required then no further action is necessary. the system will revert to the working screen using the new selection after the 5-second time out. The TIRE led will be ON.
- RIGGING/TRAVEL MODE is selected when the machine is in the rigging process or is a Rough Terrain Crane travelling between jobs.



STOWED JIBS

IF THE STOWED JIB PUSH BUTTON IS PRESSED ON A MACHINE THAT DOES NOT HAVE JIB OPTIONS THE MESSAGE "NO JIB OPTIONS" WILL APPEAR IN THE INFORMATION DISPLAY. REFER TO THE CRANE RATING MANUAL FOR DETAILS OF OPTIONS ON THE MACHINE.

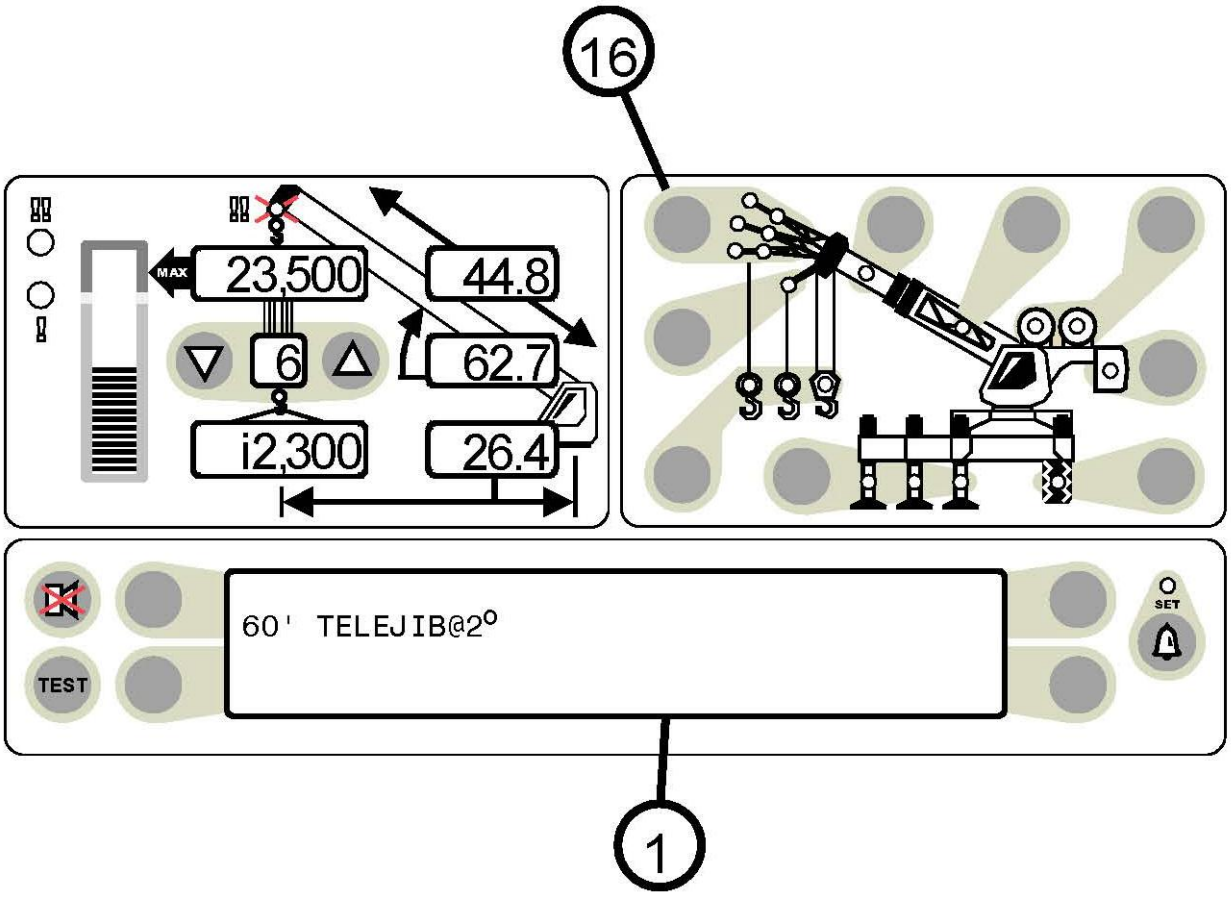
- On machines that have more than one jib option, fixed, offset or telejib etc., the operator must select the jib which is to be used

- Start the choice by pressing the Stowed Jib button (item 18).

- The current selection will appear in the window of the Information Screen (item 1) and the stowed jib LED will begin to flash.

- If this is the selection required then no further action is necessary. After a 5-second time out the system will revert to the working screen using the current selection which will be displayed in the working screen.

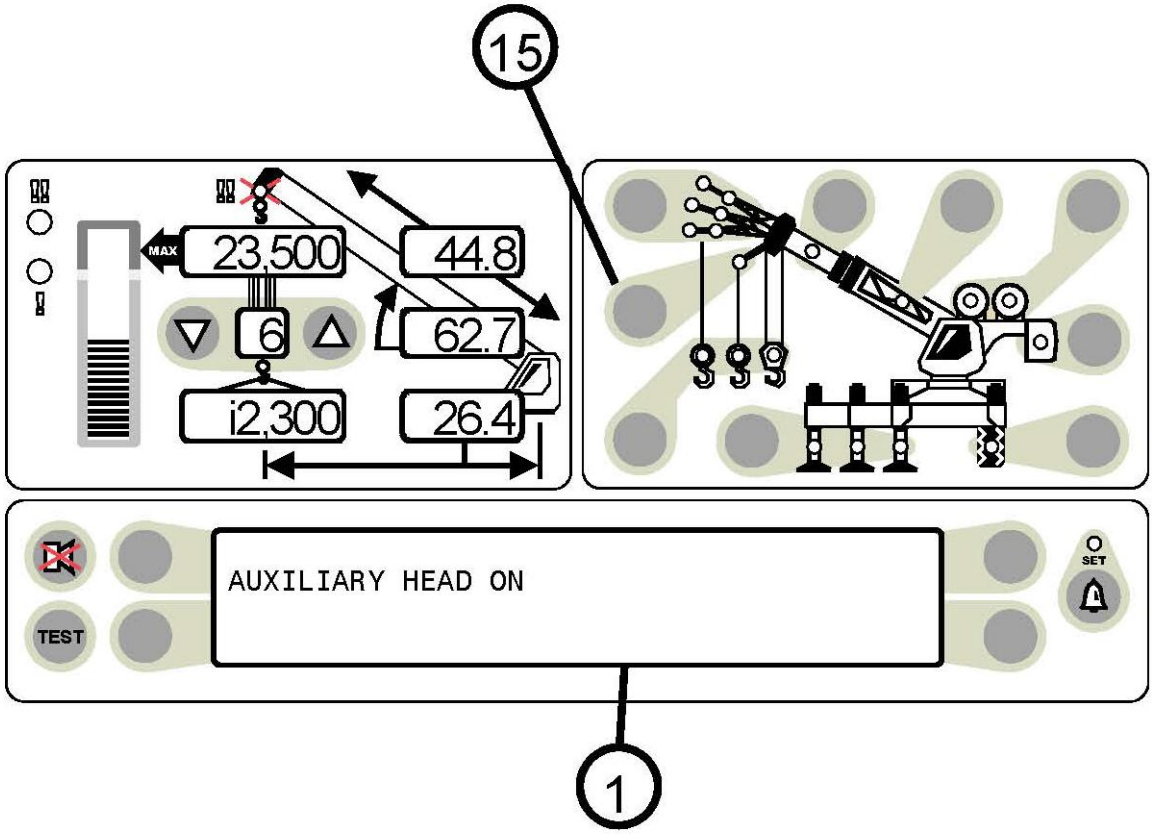
- If this is not the selection required then pressing the Stowed Jib button (item 18) before the 5-second time out will display another jib option in the information screen. If this is the selection required then no further action is necessary. The system will revert to the working screen using the new selection which will be displayed in the working screen after the 5-second time out. The stowed jib LED will now be ON.



ERECTED JIBS

IF THE ERECTED JIB BUTTON IS PRESSED ON A MACHINE THAT DOES NOT HAVE JIB OPTIONS THE MESSAGE "NO JIB OPTIONS" WILL APPEAR IN THE INFORMATION DISPLAY. REFER TO THE CRANE RATING MANUAL FOR DETAILS OF OPTIONS ON THE MACHINE.

- To erect a JIB it must first have been selected and stowed as detailed on the previous page.
- Start the choice by pressing the Erected Jib button (item 16).
- The current selection will appear in the window of the Information Screen (item 1) and the corresponding LED will flash.
- If this is the selection required then no further action is necessary. The system will revert to the working screen using the current selection after a 5-second time out.
- If this is not the selection required then pressing the Erected Jib button (item 16) before the 5-second time out will display another jib option in the information screen. If this is the selection required then no further action is necessary. The system will revert to the working screen using the new selection which will be displayed in the working screen after the 5-second time out and the corresponding LED will be ON. If another selection is required continue to press the button within the 5-second time out period until the required option is displayed.



AUXILIARY HEAD

IF THE AUXILIARY HEAD BUTTON IS PRESSED ON A MACHINE WHICH DOES NOT HAVE AN AUXILIARY HEAD THE MESSAGE "NO AUXILIARY HEAD OPTIONS" WILL APPEAR IN THE INFORMATION SCREEN

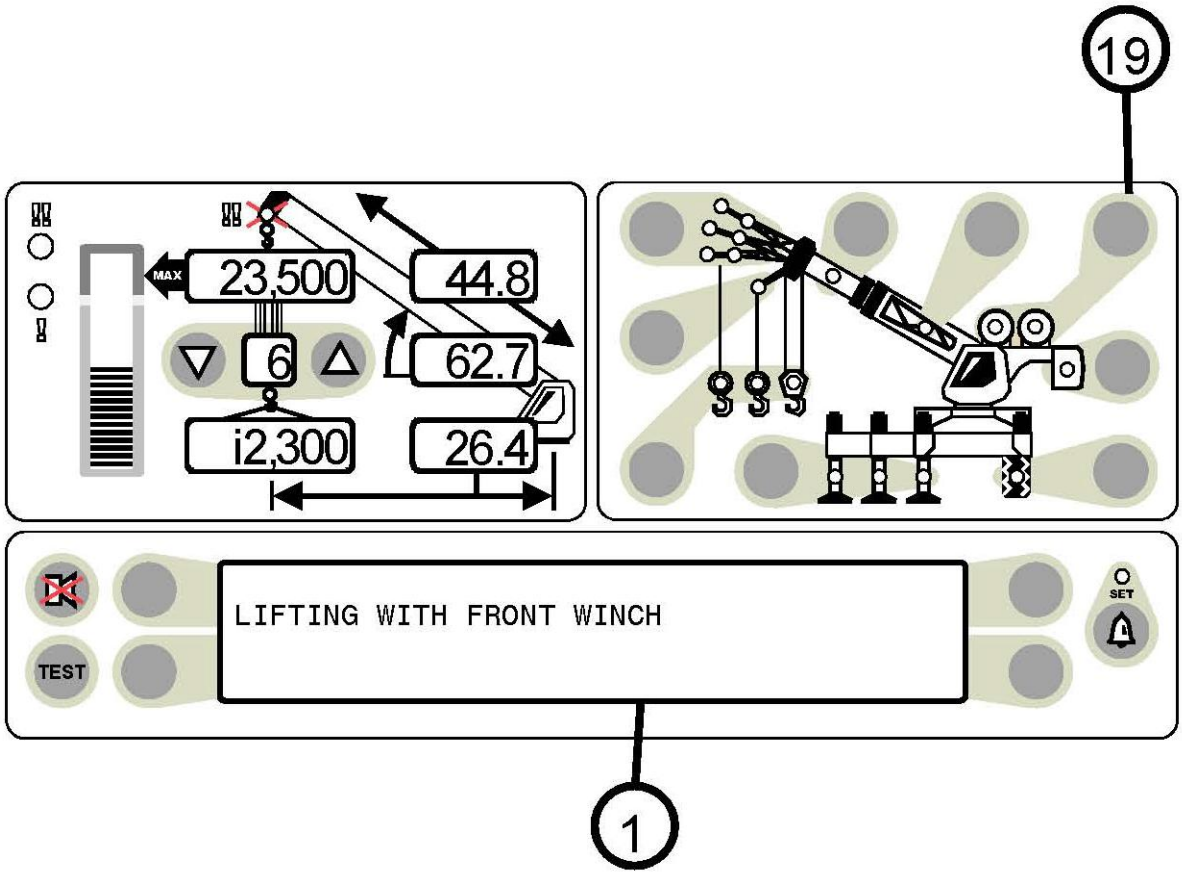
• On machines fitted with an auxiliary head, this must be included in the machine setup.

• To setup the machine with an auxiliary head, press the Auxiliary Head button, (item 15).

• The current selection will appear in the window of the Information Screen (item 1) and the LED will begin to flash. If this is the selection required then no further action is necessary. The system will revert to the working screen using the current selection after a 5-second time out.

• If this is not the selection required then pressing the Auxiliary Head button (item 15) before the 5 second time out will display the other option in the information screen. If this is the selection required then no further action is necessary. The system will revert to the working screen using the new selection which will be displayed in the working screen after the 5 second time out.

• The Auxiliary LED will be ON when the auxiliary head option is selected.



CHOOSING THE WINCH

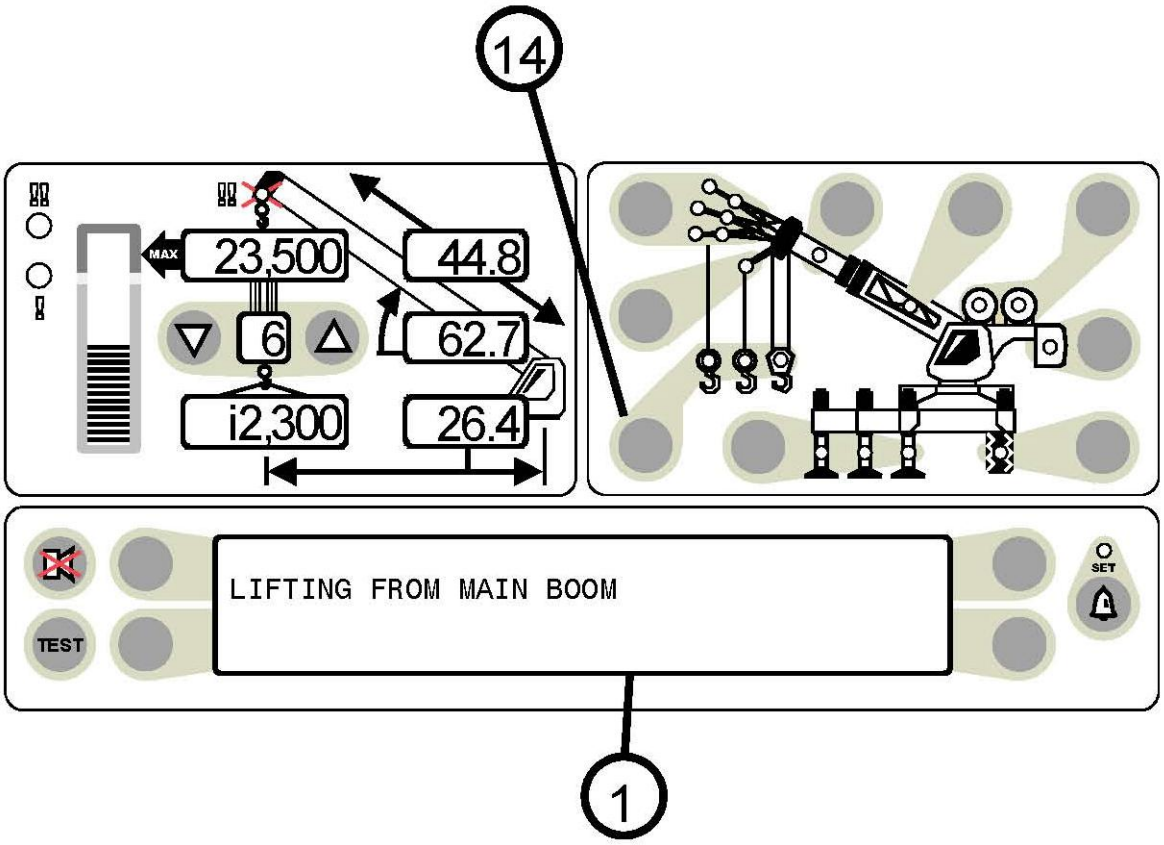
For cranes with two winches, always select the winch to be used for the lift before selecting the point of lift and parts of line. The system stores point of lift and parts of line selections for each winch.

•Choose the winch to be used by pressing the WINCH button (item 19).

•The current selection will appear in the window of the Information Screen (item 1) and the corresponding LED will begin to flash.

•If this is the selection required then no further action is necessary. The system will revert to the working screen using the current selection after a 5-second time out.

•If this is not the selection required then pressing the Winch button (item 19) before the 5-second time out will display the other option in the information screen. If this is the selection required then no further action is necessary. After the 5-second time out the system will revert to the working screen using the new selection which will be displayed in the working screen. The corresponding LED will now be ON.



CHOOSING THE POINT OF LIFT

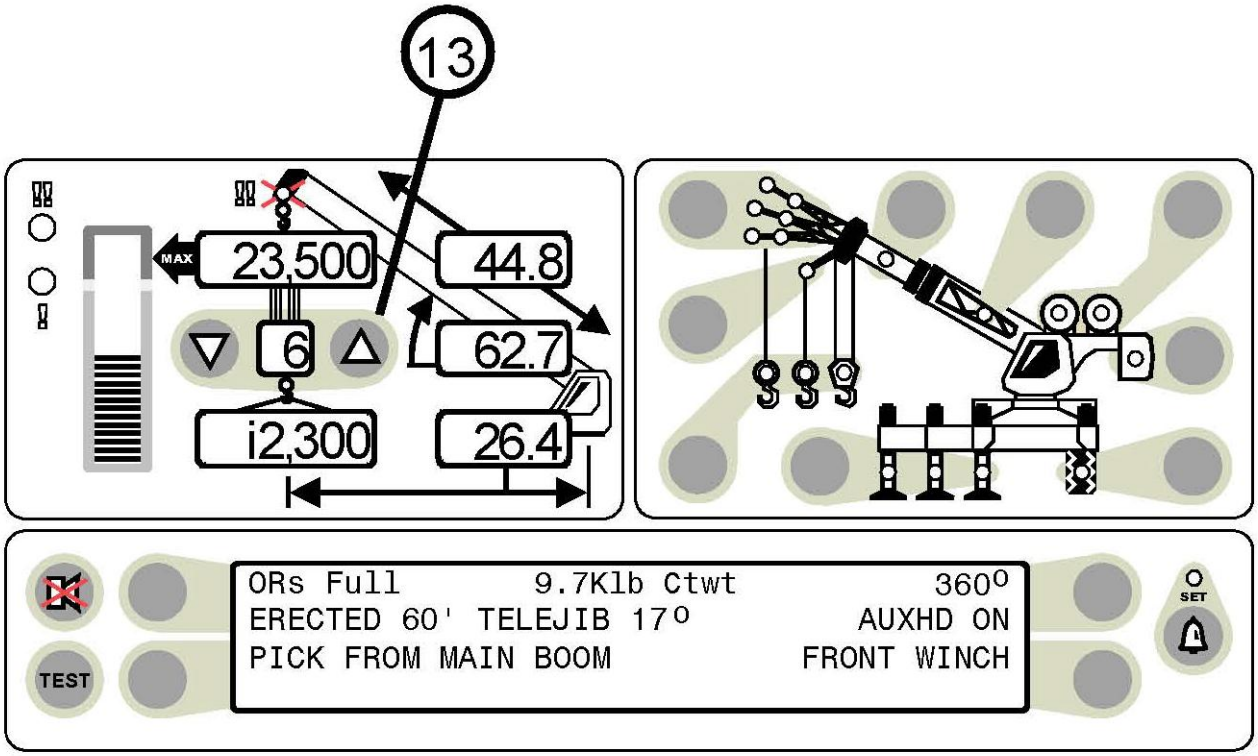
Note: Before choosing the point of lift, check that the correct winch has been selected. Always check the point of lift selection following selection of the winch.

•Choose the point of lift to be either from the main boom, auxiliary head or jib by pressing the POINT OF LIFT button (item 14).

•The current selection will appear in the window of the Information Screen (item 1) and the corresponding LED will begin to flash.

•If this is the selection required then no further action is necessary. The system will revert to the working screen using the current selection after a 5-second time out.

•If this is not the selection required then pressing the Point of Lift button (item 14) before the 5-second time out will display another option in the information screen. If this is the selection required then no further action is necessary. After the 5-second time out the system will revert to the working screen using the new selection which will be displayed in the working screen. The corresponding LED will now be ON.



SETTING THE PARTS OF LINE

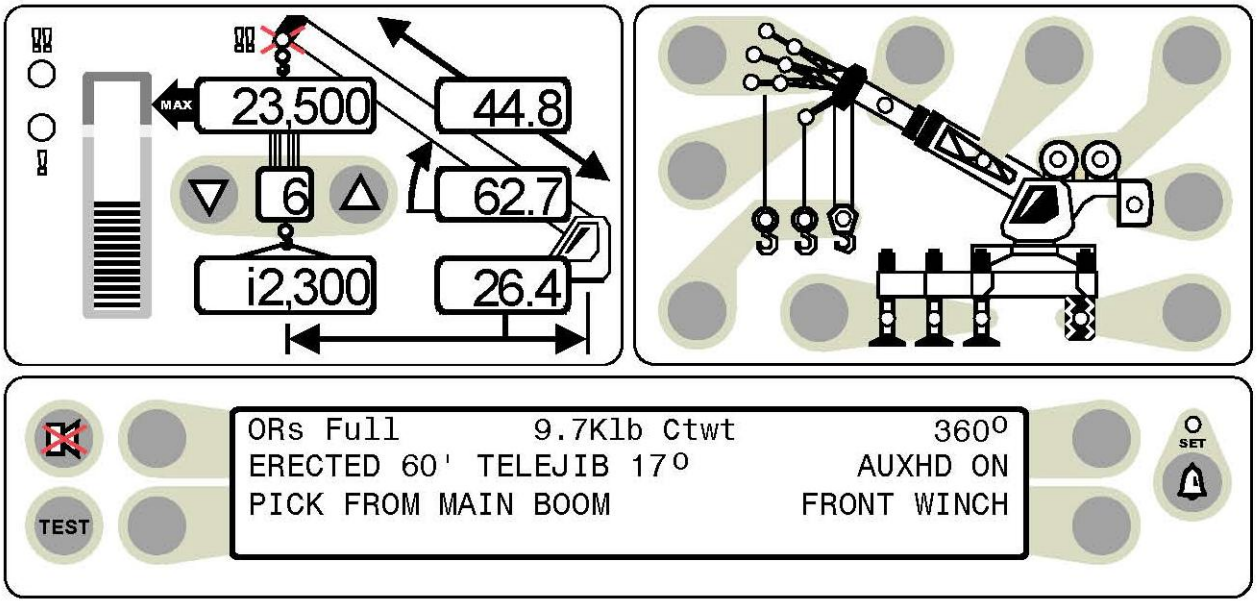
Note: Always check and select parts of line following selection of the winch and point of lift.

•Set the PARTS OF LINE for the currently selected winch by pressing the UP or DOWN arrow as appropriate, (item 13).

•The number of parts of line will appear in the parts of line display (item 13).

•When another winch is selected it may be necessary to reset the parts of line for the other winch.

•When the number of parts of line on the machine are changed it will be necessary to reset the parts of line on the display.



The system has the capability of remembering all configuration data previously set.
After removing power to the system, and then re-powering , the settings remain intact until reset by the operator.

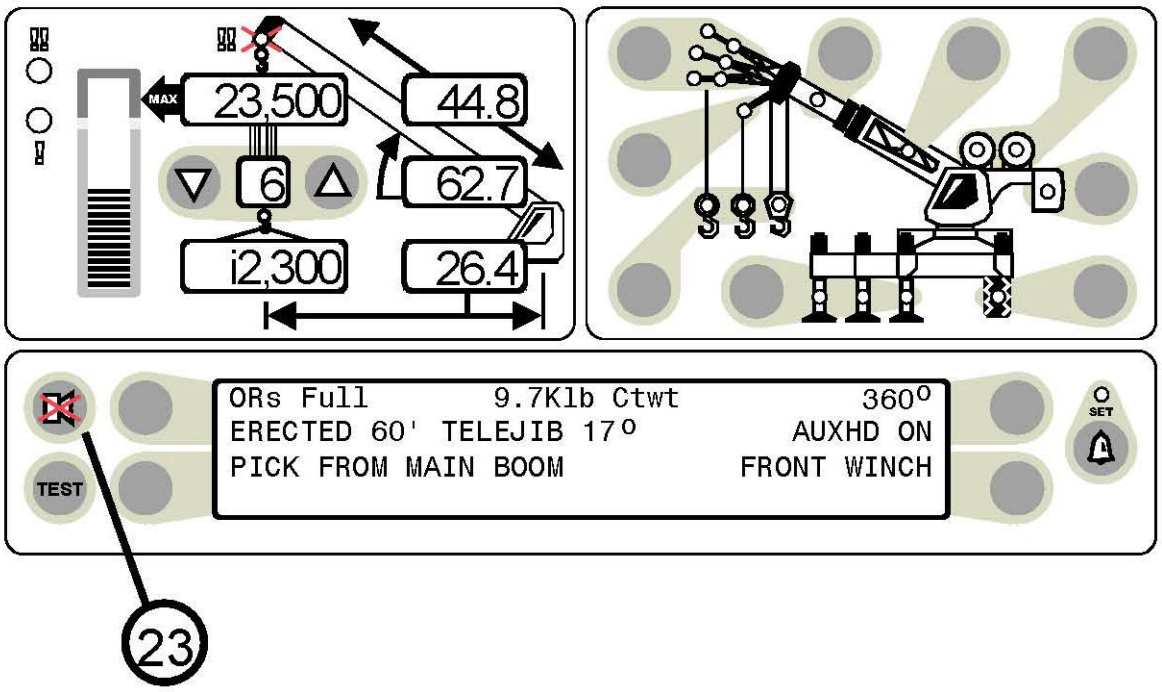
•After the configuration has been set the operation of the system depends only upon setting which winch is in use. Changing the winch will automatically change the lifting point and the parts of line to the values previously set for the selected winch.

Note: Always check the point of lift and parts of line following selection of the winch.

WARNING!

The displayed load and capacity are based upon the current selected point of lift. Neither the RCI 510 system, nor the crane capacity chart allows for lifting from more than one hook at a time.

CANCEL ALARM



CANCEL ALARM BUTTON

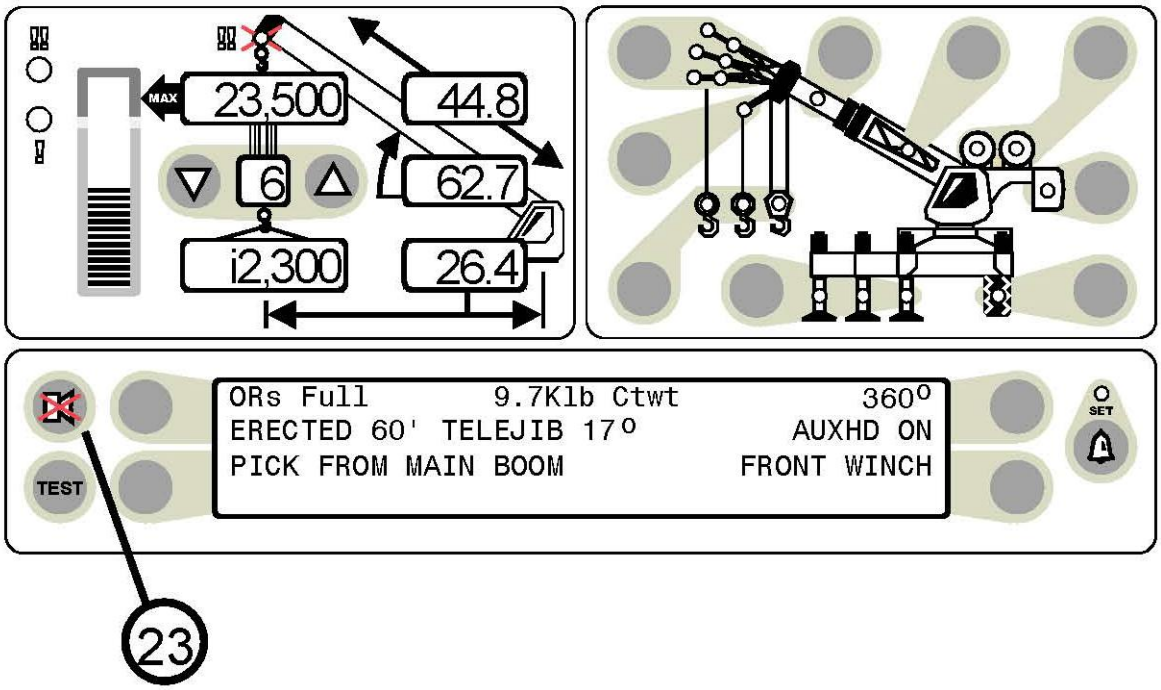
The Cancel Alarm button (item 23) is used to silence the audible alarm. Pressing this button once will cancel an audible alarm which has occurred as a result of either an;

Overload
A2B Alarm
Operator Programmable Alarm

The audible alarm remains cancelled until the condition that caused the alarm has been removed. For example, if the audible alarm sounded because of an overload condition it will remain cancelled until the overload condition has been removed. If another alarm condition that normally causes an alarm to sound, such as A2B, occurs while the audible alarm is cancelled or if the previous condition (overload) is removed and then reoccurs, the new alarm condition will cause the audible alarm to sound again.

The CANCEL ALARM button is also used to reset the function kick-out relay when it is necessary to bypass the function disconnects.

Examples of when it may be necessary to override a function disconnect condition are: If the boom hoist cylinder is fully extended the pressure in it will rise. This will be seen by the system as an overload and will not allow the operator to boom down. Using the bypass is necessary in this situation, in order to move away from the fully extended boom hoist cylinder position.

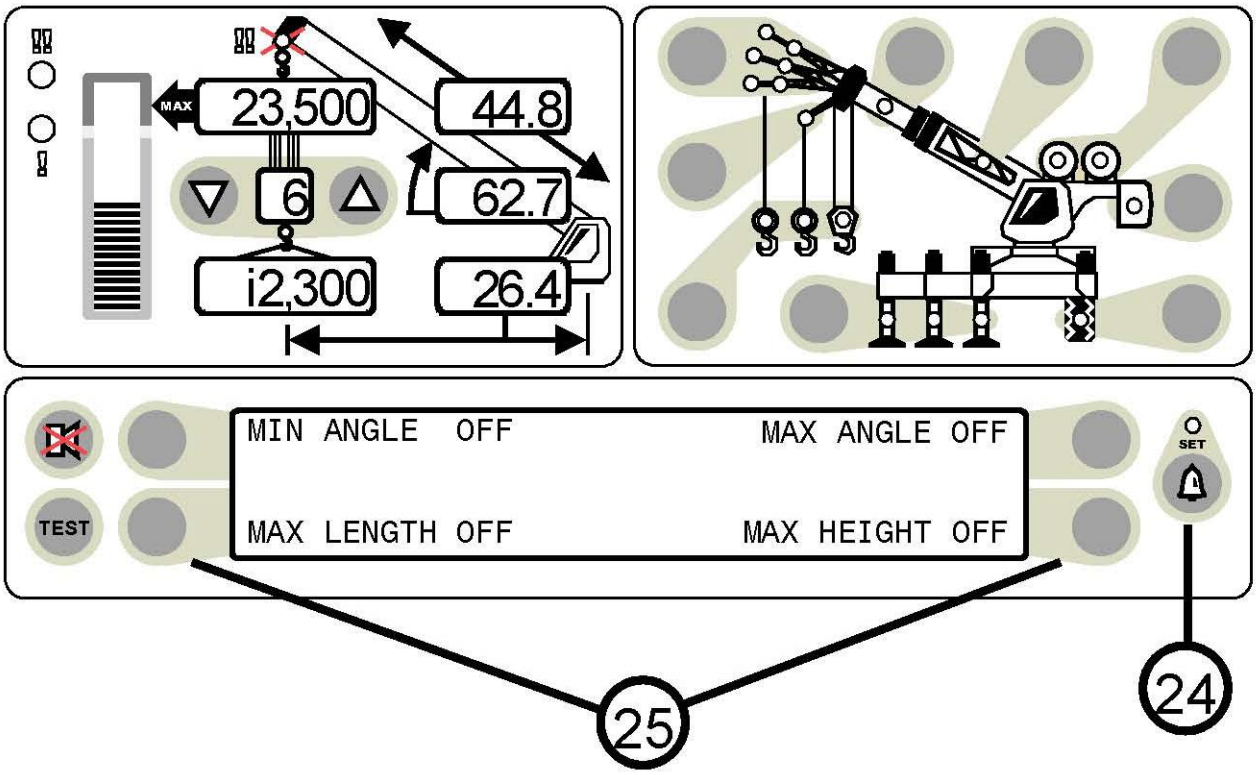


RESET FUNCTION KICKOUT

When the machine is to be rigged it is often necessary to put the boom in a position which could cause function kick-out. Using the bypass is necessary in this situation.

Pressing and holding the CANCEL ALARM button for approximately 5 seconds resets the relay. At this time, a second beep is heard confirming the bypass. When the condition which caused the alarm is no longer present the function disconnect relay will reset to the normal condition. Should a different alarm condition occur while the relay is over-ridden, the new alarm condition will cause the controls to disconnect again.

WHEN THE FUNCTION DISCONNECT RELAY IS RESET BY MEANS OF THE CANCEL ALARM BUTTON THERE IS NO LONGER PROTECTION AGAINST THE CONDITION THAT CAUSED THE FUNCTION KICK-OUT.



ACCESSING THE OPERATOR ALARMS

Access to the Operator Alarms from the main working screen is gained by pressing the OPERATOR ALARM button (item 24).

The Information Screen will show the current status of the OPERATOR ALARMS.

There are four buttons (item 25). Each button relates to the alarm to which it is pointing.

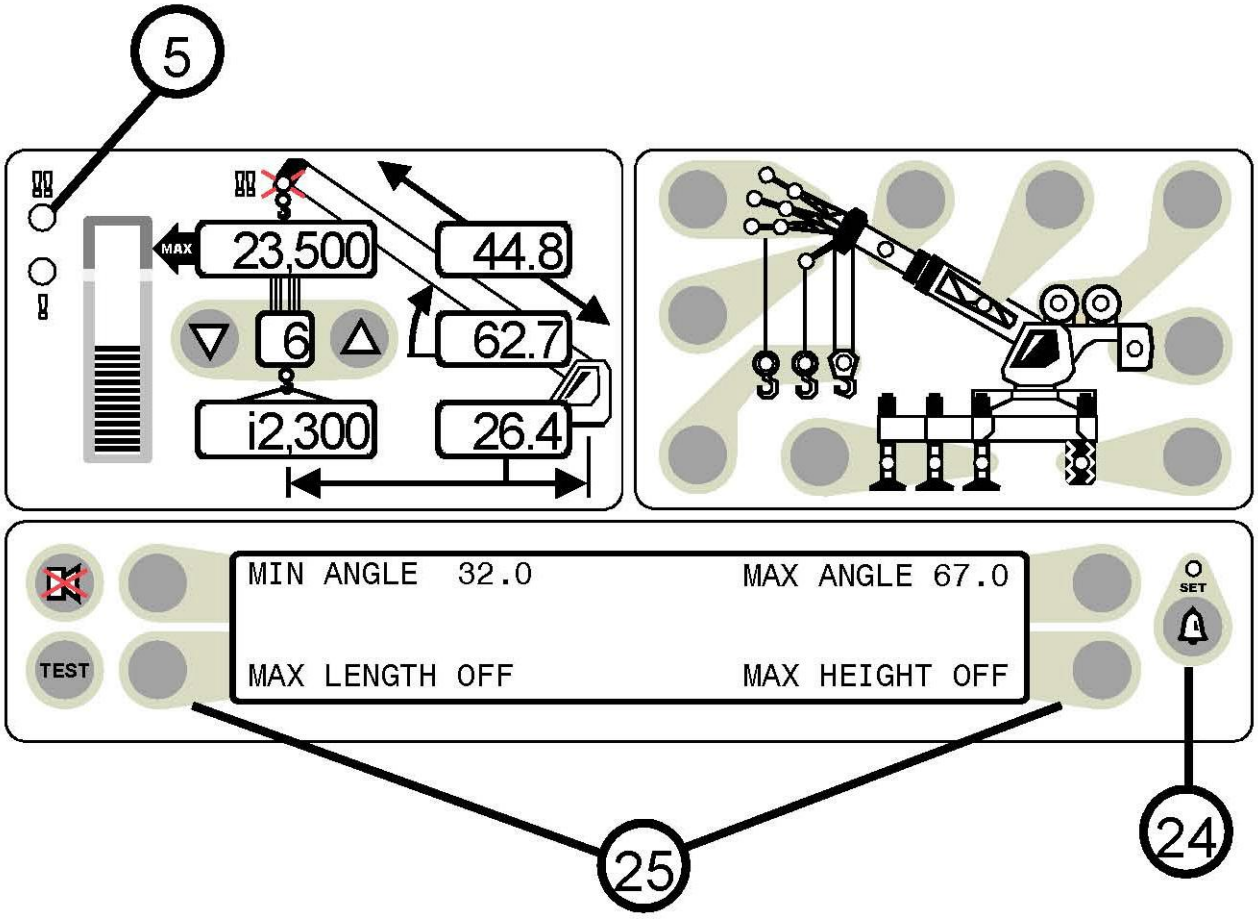
Each button operates as a toggle switch. If the alarm to be set is OFF, pressing the button will turn the alarm ON. If the alarm to be set is ON, pressing the button will turn the alarm OFF.

There are four operator alarms available:

Minimum Boom Angle
Maximum Boom Angle
Maximum Boom Length
Maximum Tip Height

When Operator Alarms are set then the light in the button (item 24) will illuminate.

Return to the main screen by pressing button (24) twice.



SETTING MINIMUM BOOM ANGLE ALARM

•Move the boom to the desired minimum angle, in this example, 32°.

•Press the operator alarm button (item 24) to access the operator alarm screen.

•Press the button pointing to Minimum Angle. In this example, the display will read MIN ANGLE 32°.

•The red warning light (item 5) will flash and the audible alarm will sound whenever the boom angle is below 32°.

•Pressing the MIN ANGLE button again will cancel the alarm and the display will read
MIN ANGLE OFF

SETTING MAXIMUM BOOM ANGLE ALARM

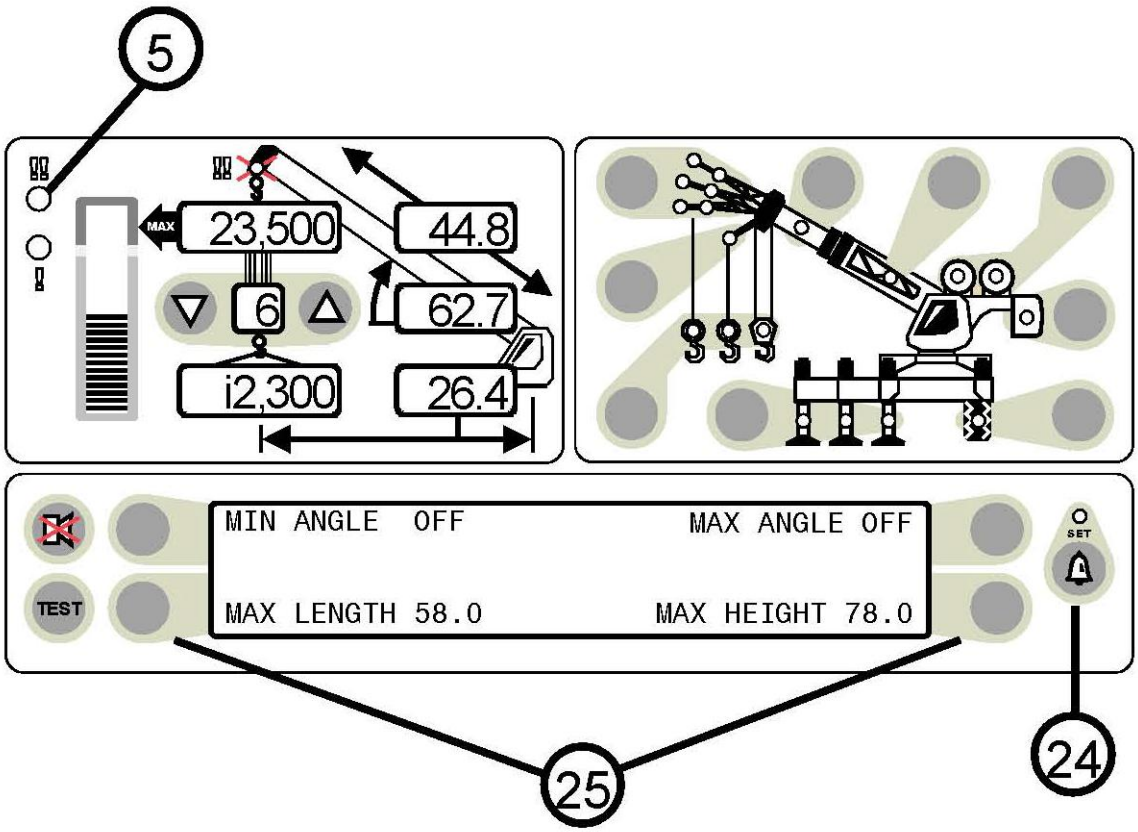
•Move the boom to the desired maximum angle, in this example 67°.

•Press the operator alarm button (item 24) to access the operator alarm screen.

•Press the button pointing to Max Angle. In this example the display will read MAX ANGLE 67°.

•The red warning light (item 5) will flash and the audible alarm will sound whenever the boom angle is above 67°.

•Pressing the MAX ANGLE button again will cancel the alarm and the display will read MAX ANGLE OFF.



SETTING MAXIMUM BOOM LENGTH ALARM

•Move the boom to the desired maximum length, in this example 58ft.

•Press the operator alarm button (item 24) to access the operator alarm screen.

•Press the button pointing to Max Length. In this example the display will read MAX LENGTH 58FT.

•The red warning light (item 5) will flash and the audible alarm will sound whenever the boom length exceeds 58ft.

•Pressing the MAX LENGTH button again will cancel the alarm and the display will read MAX LENGTH OFF

SETTING MAXIMUM TIP HEIGHT ALARM

•Move the boom to the desired maximum height, in this example 78ft.

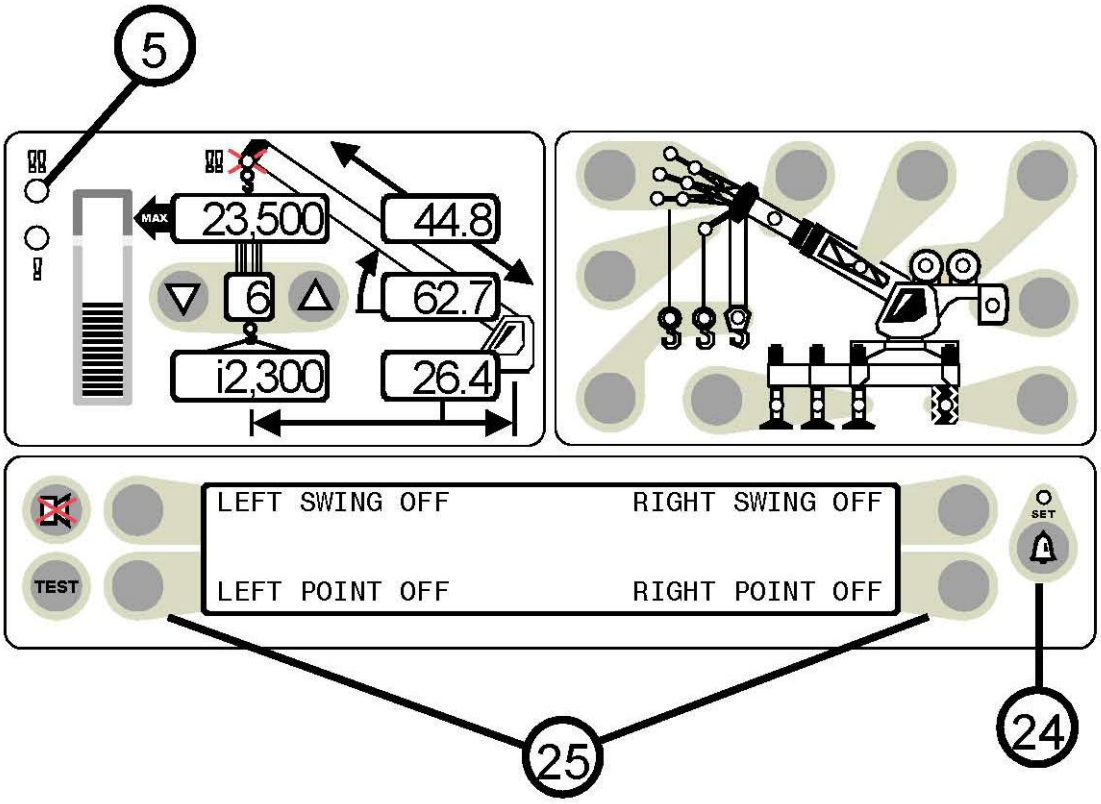
•Press the operator alarm button (item 24) to access the operator alarm screen.

•Press the button pointing to Max Height. In this example the display will read MAX HEIGHT 78FT.

•The red warning light (item 5) will flash and the audible alarm will sound whenever the boom tip height exceeds 78ft.

•Pressing the MAX HEIGHT button again will cancel the alarm and the display will read MAX HEIGHT OFF.

OPERATOR PROGRAMMABLE ALARMS



ACCESSING THE SWING AND WORK AREA ALARMS

Access to the SWING AND WORK AREA ALARMS from the main working screen is by pressing the OPERATOR ALARM button (item 24) twice.

The Information Screen will show the current status of the Swing and Work Area Alarms.

There are four buttons (item 25). Each button relates to the alarm to which it is pointing.

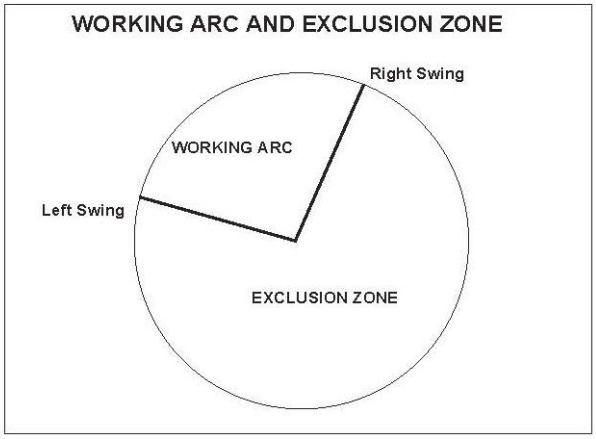
Each button operates as a toggle switch. If the alarm to be set is OFF, pressing the button will turn the alarm ON. If the alarm to be set is ON, pressing the button will turn the alarm OFF.

When Operator Alarms are set the button (item 24) will be illuminated.

Return to the main screen by pressing the OPERATOR ALARM button (24).

SWING ALARMS

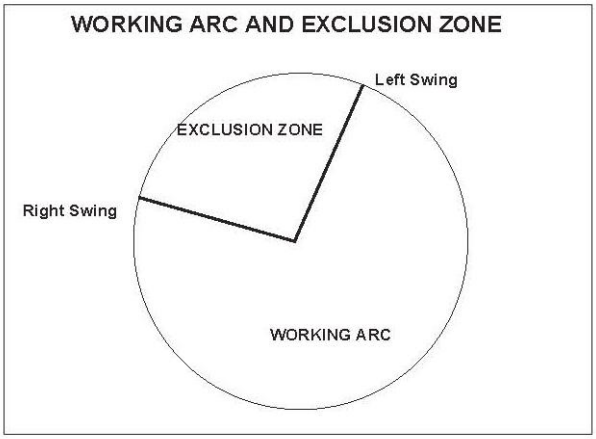
These alarms, when set, permit the operator to define a Working Arc and an Exclusion Zone by two set points. The following diagram illustrates the Working Arc and Exclusion Zone.



A left swing alarm is activated when swinging to the left.

A right swing alarm is activated when swinging to the right

In this example the working arc is the smaller piece of the pie.



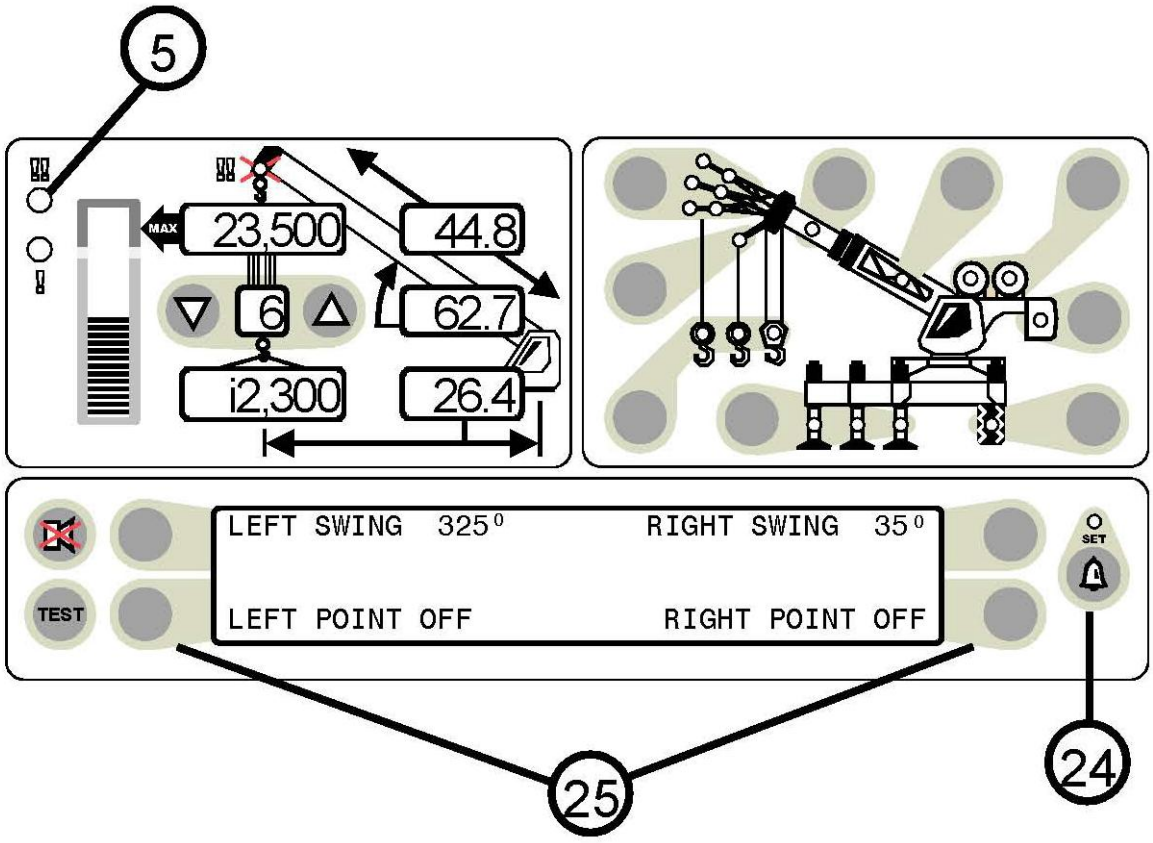
A left swing alarm is activated when swinging to the left.

A right swing alarm is activated when swinging to the right

In this example the working arc is the larger piece of the pie.

WARNING

The operator defined swing alarm is a warning device. All functions remain operational when entering the operator defined Exclusion Zone. It is the responsibility of the operator to set swing alarms that ensure that the cranes boom, attachment, load, rigging etc. maintains a safe working distance from the obstacle. Avoid positioning the boom, attachment, load, rigging etc. in the Exclusion Zone when moving to the Left and Right Swing Points. When selecting Left and Right Swing Points ensure that the load will maintain a safe distance from the obstacle. If the crane or obstacle is moved or if a different size load is lifted the swing alarms must be reset.



SETTING LEFT SWING ALARM

•Swing the boom to the desired Left Swing Limit, for example,, 325°.

•Press the operator alarm button (item 24) twice to access the swing alarm screen.

•Press the button pointing to Left Swing. The display will read LEFT SWING 325°.

Note: Both Left and Right Swing Alarms must be set for the system to operate correctly. The red warning light (item 5) will flash and the audible alarm will sound whenever only one of the left/right swing limits is set.

SETTING RIGHT SWING ALARM

•Move the boom to the desired Right Swing Limit, for example, 35°.

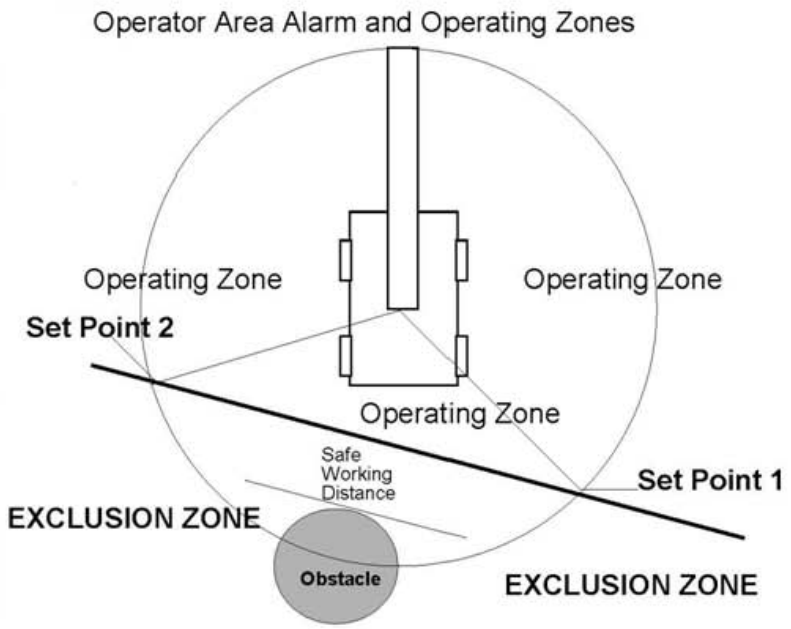
•Press the Right Swing button. The display will read RIGHT SWING 35°.

The red warning light (item 5) will flash and the audible alarm will sound whenever the boom swings past the preset limits.

Pressing the LEFT SWING and RIGHT SWING buttons again will cancel the alarm and the display will read LEFT SWING OFF RIGHT SWING OFF.

WORK AREA SELECTION MODE

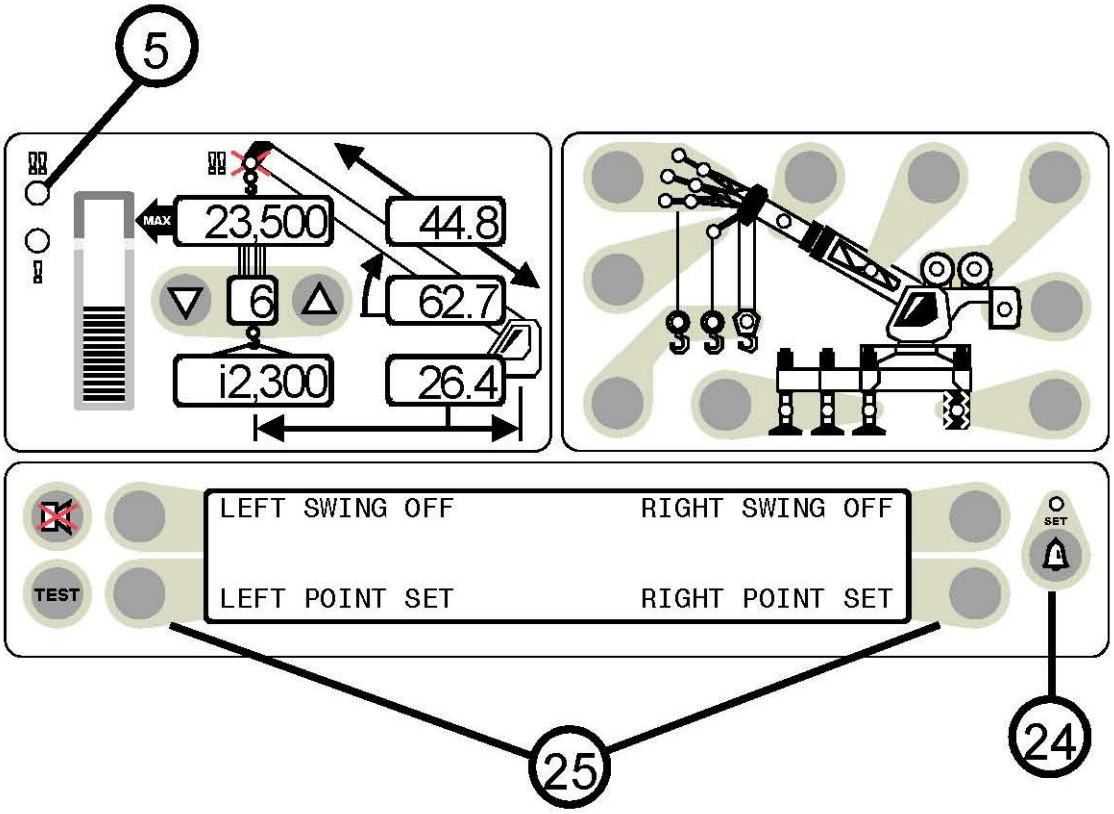
This alarm, when set, permits the operator to define an Operating Zone by only two set points. The use of this method of setting results in a greatly enhanced working area and also clearly defines the Exclusion Zone area more simply. The following diagram illustrates the Operating Zone and the
Exclusion Zone.



The operator defined work area alarm, when set, will define an imaginary vertical plane between two set points to optimize the working area. When passing the plane the red warning lamp will illuminate, the audio alarm will sound and the message "EXCLUSION ZONE" will flash on the display.

WARNING

The operator defined work area alarm is a warning device. All functions remain operational when entering the operator defined Exclusion Zone. "Safe Working Distance" is the time it would take an operator to react to an alarm and for the machine motion to be halted before entering the Exclusion Zone. It is the responsibility of the operator to set points that ensure that the cranes boom, attachment, load, rigging etc. maintains a safe working distance from the obstacle. Avoid positioning the boom, attachment, load, rigging etc. in the Exclusion Zone when moving to Set Points 1 and 2. When selecting Set Points 1 and 2 ensure that the load will maintain a safe distance from the obstacle. If the crane or obstacle is moved or if a different size load is lifted the work area alarm must be reset.



WORK AREA SELECTION MODE

• Press the operator alarm button (item 24) twice to access the Work Area alarm screen.

SETTING POINTS 1 AND 2

• Move the boom, attachment, load, rigging etc. to the desired LEFT SET POINT.

• Press the button pointing to Left Point. The display will read LEFT POINT SET.

Note: Both Left and Right Points must be set for the system to operate correctly. The red warning light (item 5) will flash and the audible alarm will sound whenever only one of the left/right swing limits is set.

• Move the boom, attachment, load, rigging etc. to the desired RIGHT SET POINT.

• Press the button pointing to Right Point.

The display will read :

RIGHT POINT SET

The red warning light (item 5) will flash and the audible alarm will sound whenever the boom tip penetrates the exclusion zone.

Pressing the LEFT POINT and RIGHT POINT buttons again will cancel the alarm and the display will read
LEFT POINT OFF RIGHT POINT OFF

GLOSSARY OF TERMS

INFORMATION SCREEN	A display that gives information supplemental to the information on the pictograph.
INTEGRATED CIRCUITS	A tiny complex of electronic components and connections on a small slice of material (such as silicon).
JIB	Something attached such as a lattice fly or jib on a crane boom.
MANUAL SECTION	The tip section of the main boom that can be telescoped independently of the other sections.
MICROPROCESSOR	A computer processor contained on an integrated chip.
MOMENT	The product of force and distance to a particular axis or point.
OPERATOR ALARMS	Alarms that can be set by the operator which provide working limits additional to the chart limits.
OUT OF DUTY	A point which is either longer than the longest permitted radius or lower than the lowest permitted angle on a capacity chart
OUTRIGGER	A projecting support run out from a main structure to provide additional stability or support.
OVERLOAD	The point at which the actual load exceeds the rated capacity of the crane.
PARTS OF LINE	The number of parts of hoist rope between the upper and lower blocks.
PICTOGRAPH	A pictorial representation of the crane.
POINT OF LIFT	The location of the hoist rope for the current lift e.g. main boom, auxiliary head or jib.
PRE-ALARM	The point at which the actual load is 90% of the rated capacity of the crane.
PRESSURE	Hydraulic pressure in the boom hoist cylinder
RADIUS	The horizontal distance from the centerline of rotation to the center of the hook.
RATED CAPACITY	The lifting capacity of a crane as determined by the published capacity chart.
RATED CAPACITY	The load, which a crane can safely handle, based on factors such as strength, stability and rating.
RATING	A factor determined by legislation that limits the proportion of a cranes capabilities that may be utilized in a lifting operation. Usually expressed as a percentage of strength or stability.
REEVING	A rope system in which the rope travels around drums and sheaves.
ROPE LIMIT	The maximum permitted single line pull determined by the construction and diameter of a wire rope.
ROPE LIMIT	A condition which occurs when the type of rope and the parts of line in use restrict the capacity of the crane.
SENSOR	A device that responds to physical stimulus and transmits a resulting impulse.
SHEAVE	A grooved wheel or pulley.
SLEW OFFSET	The horizontal distance from the boom pivot to the center of rotation
STOWED ATTACHMENT	An attachment usually stowed on the main boom when not in use.
UPPERSTRUCTURE	The structural part of a crane above the carrier, usually rotating.
SWING	The rotation of a crane upper around its center line.

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SWING	The rotation of a crane upper around its center line.

SWING ALARMS	Audible alarms occurring when the upperstructure swings into areas defined by the operator by use of Operator Alarms.
SWL (%SWL)	Percentage of safe working load. The proportion of the crane capacity which is being utilized at any one time expressed as a percentage of rated capacity
TRANSDUCER	A device which is actuated by energy from one system and converts this to another form for use by a different system (as a loudspeaker that is actuated by electrical signals and supplies acoustic power).
TWO-BLOCKING	The condition when the lower load block or hook assembly comes in contact with the upper load block or boom point.
UNLADEN	A boom which has no additional stowed or erected attachments and which is not supporting a load.
WINCH	A hoist drum used in conjunction with a rope for raising and lowering loads.
WORK AREA ALARM	Permits the operator to define an operating zone by the means of only two set points.

Consider Yourself Warned. ™

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