GREER COMPANY

Crane Systems

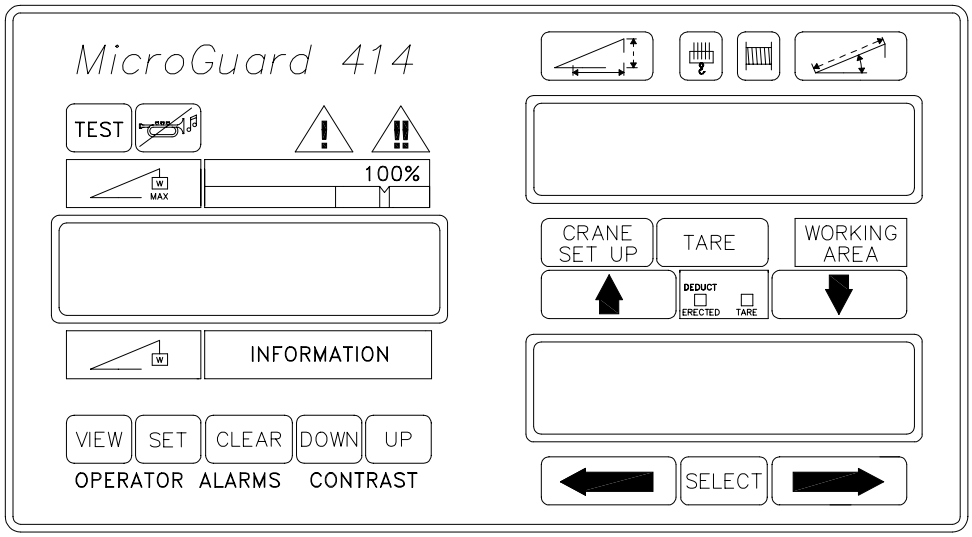
MICROGUARD® 414
RATED CAPACITY INDICATOR (RCI) SYSTEM

LATTICE BOOM CRANES

HORIZONTAL DISPLAY

CLYDE M4190

BARGE MOUNT



OPERATOR'S MANUAL

WARNING

The MicroGuard® 414 Rated Capacity Indicator System (RCI) for Lattice Boom Cranes – Horizontal Display – Clyde M4190 Barge Mount is designed to aid the fully trained and experienced crane operator in safe crane operation. This System may not be used as a substitute for the usual safety practices and precautions required for the safe setup and operation of cranes.

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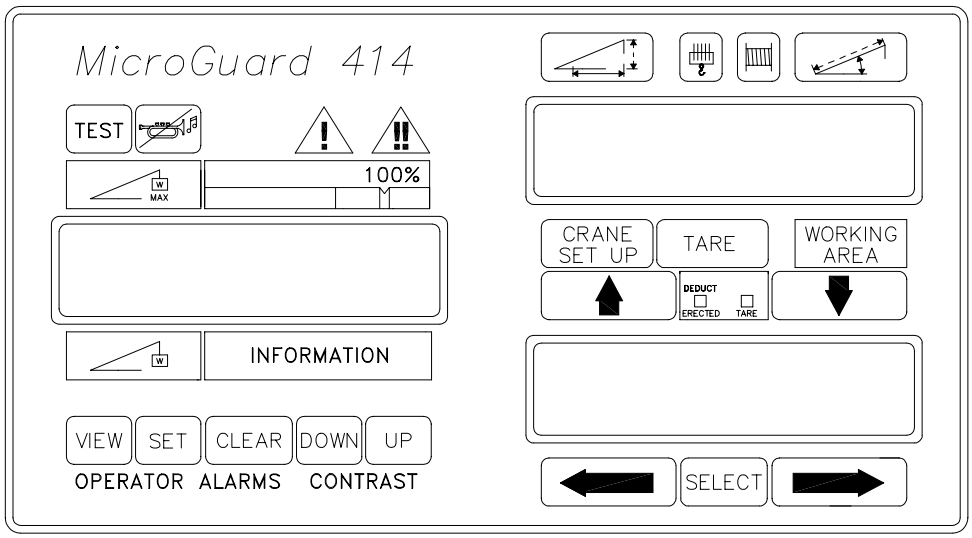
SYSTEM DESCRIPTION

The MicroGuard® 414 Rated Capacity Indicator (RCI) System for lattice boom cranes is intended to aid the crane operator in efficient crane operation by continuously monitoring the load and warning the operator of an approaching overload or Two-Block condition. Monitoring crane functions is accomplished with the use of highly accurate sensors that continuously compare the load suspended below the boom head with a copy of the crane capacity chart stored in the computer memory. When an approaching overload or Two-Block condition is sensed by the system, audible and visual alarms activate. This System can also be configured to cause cessation of boom movement – winch up, boom down, and extend out (function kick-out).

The MicroGuard® 414 Rated Capacity Indicator (RCI) System for lattice boom cranes is used with the MicroGuard® Rated Capacity Indicator (RCI) 414 Display.



The MicroGuard® 414 System provides the operator with a continuous display of:

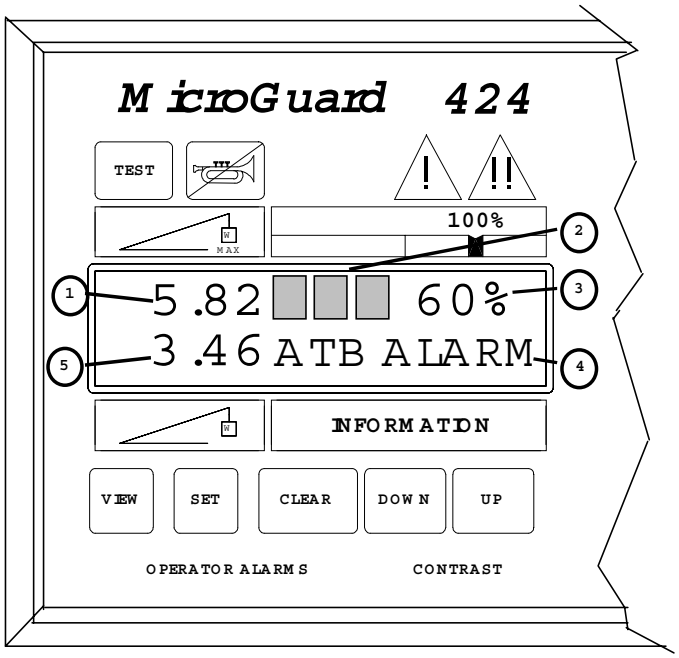
- Rated Capacity
- Actual Load
- Percentage of Rated Capacity
- Radius of the Load
- Angle of the Main Boom
- Working Area (if applicable)
- Crane Configuration

On-screen messages relate to various alarms that may occur during normal operation of the system. These messages are displayed in the left and upper right displays. The lower right display provides information about the currently selected crane configuration.

Use of alternate display push buttons provide the operator with:

- Length of the Main Boom.
- Height of the Boom Head.

THE DISPLAY – UPPER LEFT



MAXMUM RATED CAPACITY (1) is the maximum permitted capacity of the crane. This value, which appears digitally in the left display, is derived from a copy of the crane's capacity chart stored in the memory of the computer.

MAXIMUM RATED CAPACITY is the reference capacity for any lifting operation and is dependent on the crane configuration currently selected. The currently selected configuration must be the same as the actual configuration. The current selection may be viewed in the lower right display. The crane configuration determines the section of the capacity chart used as the capacity reference. If the MAXIMUM RATED CAPACITY is limited by parts-of-line, the DISPLAYED MAXIMUM RATED CAPACITY is the ROPE CAPACITY and the message, ROPE LIMIT will appear in the information area (4).

The **BAR GRAPH (2)** is an analog BAR GRAPH that shows the amount of crane capacity being used and the rate at which an overload is being approached. This BAR GRAPH in conjunction with the 100% capacity marker visually indicates when an overload point is reached.

PERCENT OF RATED CAPACITY (3) is shown as a digital read out in which Actual Load appears as a percentage of Maximum Rated Capacity. For percentages less than 100%, the read out will be at the right side of the bar graph. For percentages over 87%, the display will move to the center of the bar graph to make space for the leading edge of the bar graph.

The **INFORMATION AREA (4)** provides the operator with a visual indicator of the various alarms that may occur during normal operation of the system. For example, PRE-ALARM, OVERLOAD, ATB ALARM, or ROPE LIMIT.

ACTUAL LOAD (5) is a digital display that shows the total load suspended below the boom or jib head. It includes the load, slings, pins, or tackle used to secure the load, and the hook block. Using the STOWED DEDUCT button, the operator can "tare out" the slings and hook (see page 9).

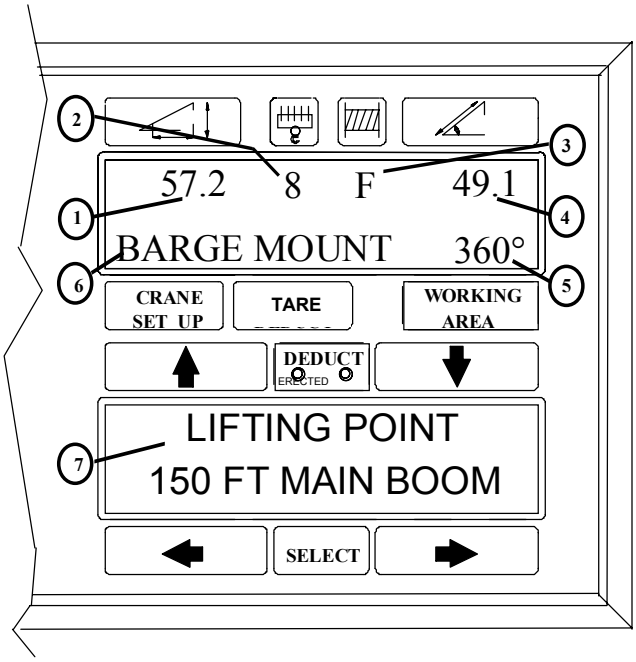
THE DISPLAY – UPPER/LOWER RIGHT

Refer to the illustration below.

RADIUS/HEIGHT (1) gives a continuous indication of the radius of the load, which is the horizontal distance from the centerline of rotation to the centerline of the hook. When the Radius/Height push button is pressed, the display will give a momentary read out of the height of the boom head above ground level, i.e. the vertical distance from the ground to the boom/jib head. Information about height is only displayed while the Radius/Height push button is pressed and held.

PARTS-OF-LINE (2) shows the parts-of-line currently selected. If the parts-of-line selected has a lower safe working strength than the actual capacity, the MAXIMUM RATED CAPACITY display will show the reduced capacity and the message, "ROPE LIMIT" will be displayed in the information area.

WINCH IN USE (3) indicates the selected winch. "M" = MAIN, "A" = AUXILIARY, "F" = FRONT, and "R" = REAR.



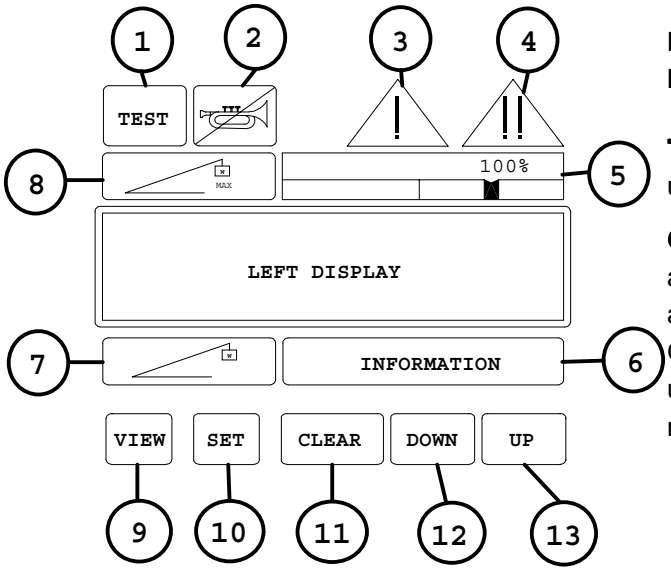
ANGLE/LENGTH (4) gives a continuous indication of the angle of the main boom relative to its horizontal position. When the angle/length push button is pressed and held, the display will give a momentary read out of the length of the Main Boom from the boom foot pin to the shaft of the head machinery. Information about length is only displayed while the Angle/Length push button is pressed and held.

THE BARGE MOUNT SELECTION (6) shown in the lower left of the upper right display is determined by the current duty selection.

THE LIFTING POINT-150 FT FROM MAIN BOOM CONFIGURATION (7) is continuously displayed on the upper line of the lower display.

The **WORKING AREA (5)** is in the lower right section of the upper right display. Descriptions conform to the current configuration selected and to the swing position of the crane upper. On this crane, it will only display 360° (AS SHOWN).

PUSH BUTTONS -- LAMPS -- ICONS



THE DISPLAY -- LEFT

Please refer to the callouts for the push buttons in the illustration shown.

TEST (1) initiates a System self-test and also used to display fault codes.

CANCEL ALARM (2) silences the audible alarm when the alarm has occurred as a result of an Overload, an Anti Two-Block alarm or an Operator Settable alarm. This button is also used to reset the function kick-out relay when it is necessary to by-pass function kick-out.

The **AMBER PRE-ALARM (3)** icon illuminates at a pre-set value of 90% of Maximum Rated Capacity and provides a visual indication of an approach to an overload.

The **OVERLOAD INDICATOR (RED) (4)** icon illuminates at a pre-set value of 100% of Maximum Rated Capacity and provides a visual indication of Maximum Allowed Load. It will also illuminate whenever an Anti Two-Block alarm occurs, a wire rope limit is exceeded, or an operator settable alarm has been reached or exceeded. When the crane is equipped with function kick-out, this indicator will illuminate simultaneously for Overload, Wire Rope Limit, or an Anti Two-Block condition. Function kick-out **will not occur** when exceeding an operator set alarm.

The **BAR GRAPH (5)** is a part of the analog bar graph in the left display. The bar graph indicates the crane capacity being used and the rate at which an overload is being approached. The leading edge of the bar graph aligns with three colored bands in the bar graph indicator. Red indicates an overload. Between the red and amber is a black notch that indicates 100% of rated capacity. The 100% RATED CAPACITY INDICATOR is above the bar graph in the left display and marks the point at which 100% of the rated capacity of the crane has been reached. When the value of 100% has been reached, it corresponds to the Maximum Rated Capacity in the left display.

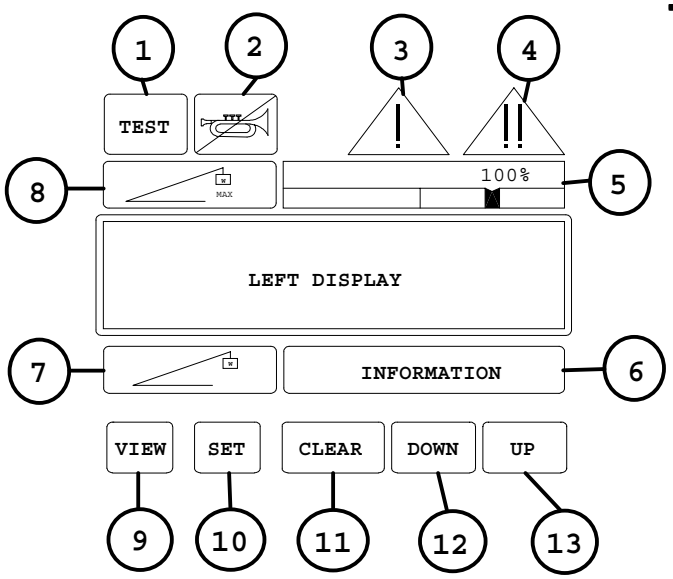
The **INFORMATION AREA (6)** provides the operator with a visual indication of the various alarms that may occur during normal operation of the system. Such data will appear in the line above the letters, “INFORMATION.”

The **ACTUAL LOAD ICON (7)** indicates the area of the display showing the total load suspended below the boom, fly, or jib head. It includes the load, any slings, pins, or tackle used to secure the load and the weight of the hook block. The system will allow the operator to "tare out” the weight of slings and hook (see page 9).

The **MAXIMUM RATED CAPACITY ICON (8)** indicates the area of the left display that gives a read out of maximum rated capacity for the currently selected configuration.

PUSH BUTTONS -- LAMPS -- ICONS

THE DISPLAY -- LEFT continued



SETTING THE OPERATOR ALARMS

Please refer to the push button callouts in the above illustration.

VIEW (9) starts the operator alarm routine and permits viewing of the current alarm settings.

SET (10) creates a new alarm setting.

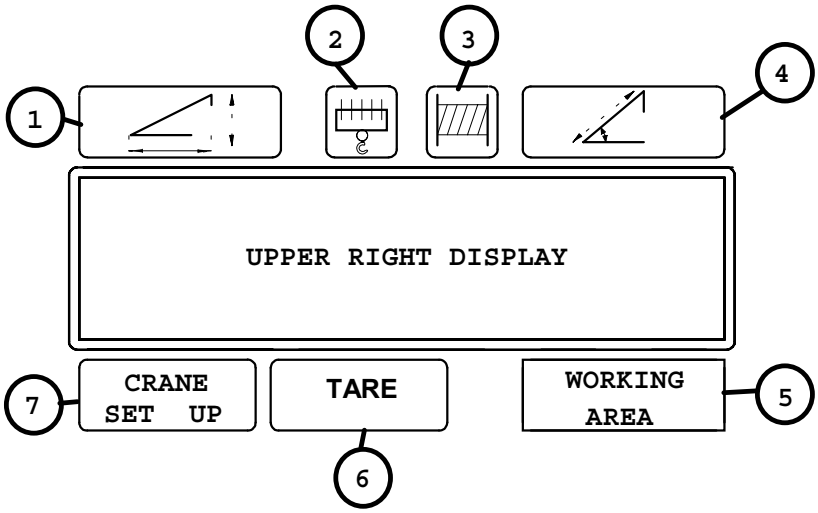
CLEAR (11) clears a current alarm.

CONTRAST (DOWN) (12) decreases the display contrast.

CONTRAST (UP) (13) increases the display contrast.

PUSH BUTTONS -- LAMPS -- ICONS

THE DISPLAY -- UPPER RIGHT



RADIUS/HEIGHT shows the current radius and height. Height is displayed only when the push button is pressed and held.When the push button is not pressed, the read out is always shown as the radius of the load.

PARTS-OF-LINE (20) is used to view the current parts-of-line and to select the parts-of-line in use on the selected winch.

WINCH (3) identifies the winch currently selected. This button is used to alternate between the front and rear winch. When switching between winches, the parts-of-line previously selected and recorded for each winch will be displayed whenever a particular winch is selected.

ANGLE/LENGTH (4) provides a read out of angle or length. Length is displayed only when the push button is pressed and held. When the push button is not pressed, the read out is always shown as the Angle of the main boom.

WORKING AREA (5) receives and displays messages. Messages received in this area will conform to the current duty selection and the swing position of the crane upper for cranes with swing and multiple working swing areas.

TARE (6) extracts or "tares out" the weight of hook and slings. When pushed, this button will show the actual weight of the load being lifted without the weight of the hooks and slings..

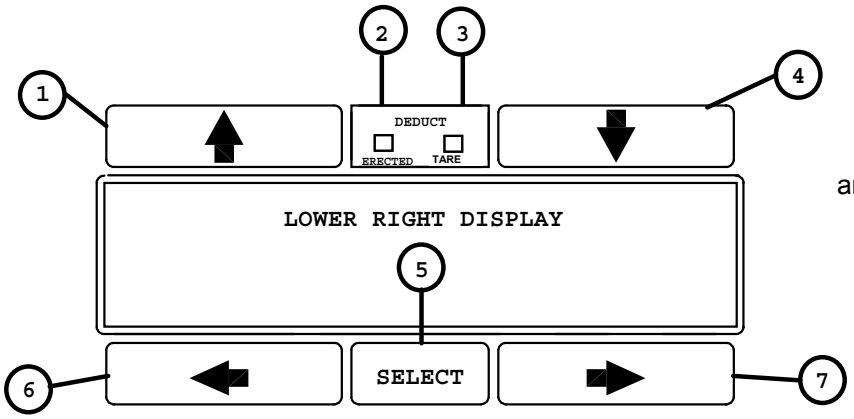
TO SET TARE With the hook and slings lifted, press & hold the TARE button (6) for three seconds. The display console will then beep and "zero" the actual load display. The TARE lamp will then illuminate to indicate that a tare has been set.

TO CLEAR TARE Press the TARE button. The display console will immediately beep, the actual load display will show the total weight below the boom head, and the TARE lamp will be off.

CRANE SETUP (7) indicates the area of the display that provides a read out of the selected configuration. This icon is also a push button used to start the selection of the crane configuration.

PUSH BUTTONS -- LAMPS -- ICONS

THE DISPLAY -- LOWER RIGHT



UP/DOWN ARROWS 1 & 4
are push buttons used for scrolling.

Please refer to the following callouts in the illustration above.

The **DEDUCT INDICATOR (2)** is an amber lamp that indicates erected deducts. When a deduct is selected, the lamp will illuminate to warn the operator that a deduct has been applied to the allowed load. The deduct function only applies to cranes that have boom attachments.

TARE (3) is an amber lamp that illuminates when the actual load value displayed has been "tared" out (page 9).

SELECT (5) is a push button used to terminate all selection and calibration routines.

RIGHT AND LEFT ARROWS (6 &7) are push buttons used in calibration routines.

SYSTEM OPERATION

After performing an automatic self-test at start-up, the system goes directly to the normal working screen. The self-test can be initiated at any time during normal operation by pressing the TEST button.

TEST

One press (press and release) will cause the system to execute a self-test routine at any time. All lamps, audible alarms, and digital displays will be functionally tested and all memory areas checked for accuracy during a self-test. If faults in the system are detected, the information area in the upper display will show the word "**FAULT**." If the word FAULT occurs, ***press*** **and** ***hold*** the TEST button. This will cause the display to change to the FAULT MODE. In this mode, information about the fault condition will be displayed in the upper right display via an error code.

CANCEL ALARM

The CANCEL ALARM button is used to cancel the audible alarm after the alarm has occurred as a result of an OVERLOAD, an ANTI TWO-BLOCK ALARM or an OPERATOR SETTABLE ALARM. The audible alarm may be canceled by pressing and releasing the CANCEL ALARM button.

The audible alarm remains canceled until the condition causing the alarm has been removed. For example, if the audible alarm was canceled because of an overload condition, it will remain canceled until the overload condition is removed. However, if a different alarm, e.g. an anti two-block condition, occurred when the audible alarm was still canceled for an earlier overload condition, the new alarm condition would cause the audible alarm to be restarted.

CANCEL ALARM is also used to reset the function kick-out relay when it is necessary to by-pass function kick-out that has occurred as a result of either an overload or an A.T.B. alarm. The relay is re-set by first canceling the audible alarm [as described above] and then pressing and holding the CANCEL ALARM button for about 3 seconds. The function kick-out relay will then be set to normal operation. However, should another different alarm condition occur when the relay had previously been overridden, then the newly occurring alarm condition would cause the motion cut to be re-started.

CANCEL ALARM is a temporary function. The audible alarm or function kick-out is automatically reset when the condition, which caused the alarm, is no longer present.

WARNING

WHEN FUNCTION KICK-OUT IS RESET USING THE CANCEL ALARM BUTTON, THERE IS NO LONGER PROTECTION AGAINST THE CONDITION THAT CAUSED THE FUNCTION KICK-OUT.

CONFIGURATION SELECTION

In the normal operational mode, the system is programmed to remember the configuration last selected. Each time the system is powered up, it will automatically choose that configuration. Only when the crane is rigged differently must a new configuration be selected.

CRANE SET UP

The menu for the crane set up consists of two consecutive steps.

1. Select auxiliary tip or no erected attachment.
2. Select boom configuration (lifting from main or aux hoist).
   - AFTER COMPLETING THE SELECTIONS FOR CRANE SET UP, USE THE WINCH PUSH BUTTON TO SELECT THE LIFTING POINT.
   - ALL OF THE INFORMATION REQUIRED BY THE SYSTEM IS ENTERED DURING CRANE SET-UP.
   - ENSURE THAT THE PARTS-OF-LINE IN USE FOR EACH WINCH IS SET. IF NOT, THE SYSTEM WILL NOT OPERATE CORRECTLY.

   FOR SPECIFIC EXAMPLES OF CRANE SET-UP, REFER TO PAGE 14.

PARTS-OF-LINE

Press and hold the PARTS-OF-LINE push button to scroll through the available parts-of-line. The new value is automatically registered when the button is released. The number chosen applies only to the winch currently selected. A value must be programmed for both winches.

WINCH

The current selection is shown on the display by selecting the letter "M" for MAIN winch and the letter "A" FOR AUX WINCH. To change the selection, press the winch select push button. Successive pressing of this button will change the selection from one to the other. After the initial setup, the system records and retains the parts-of-line and lifting point for each winch.

DUAL USE PUSH BUTTONS

Some push buttons provide two kinds of information. These are the RADIUS/HEIGHT and LENGTH/ANGLE push buttons.

RADIUS/HEIGHT– When the **RADIUS/HEIGHT** push button is NOT PRESSED, the readout on the display will ALWAYS show the CURRENT RADIUS.

When the SAME PUSH BUTTON is PRESSED AND HELD, the read out on the display will CHANGE TO show the CURRENT HEIGHT. This information will remain on the display only as long as the operator continues to press and hold this push button.

LENGTH/ANGLE– When the **LENGTH/ANGLE** push button is NOT PRESSED, the read out on the display will ALWAYS show the current LENGTH.

When the SAME PUSH BUTTON is PRESSED AND HELD, the read out on the display will CHANGE to show the ANGLE OF THE MAIN BOOM. This information will remain on the display only as long as the operator continues to press and hold this push button.

CONFIGURATION SELECTION

START THE SELECTION OF CRANE CONFIGURATION BY PRESSING **"CRANE SET UP."**

CRANE **SET UP**

SCROLL TO□ AUXILIARY TIP□					
⇧ OR ⇩	AUX TIP	NO ERECTED ATTACHMENTS	ON RAIL FULL OUTRIGGERS	ON RAIL W/O OUTRIGGERS	Rigging/Travel Mode
SELECT□					

SCROLL TO□ MAIN WINCH LIFTING POINT		
⇧ OR ⇩	MAIN BOOM	AUX TIP
SELECT□		
SCROLL TO□ AUX WINCH LIFTING POINT		
⇧ OR ⇩	AUX TIP	MAIN BOOM
SELECT□		

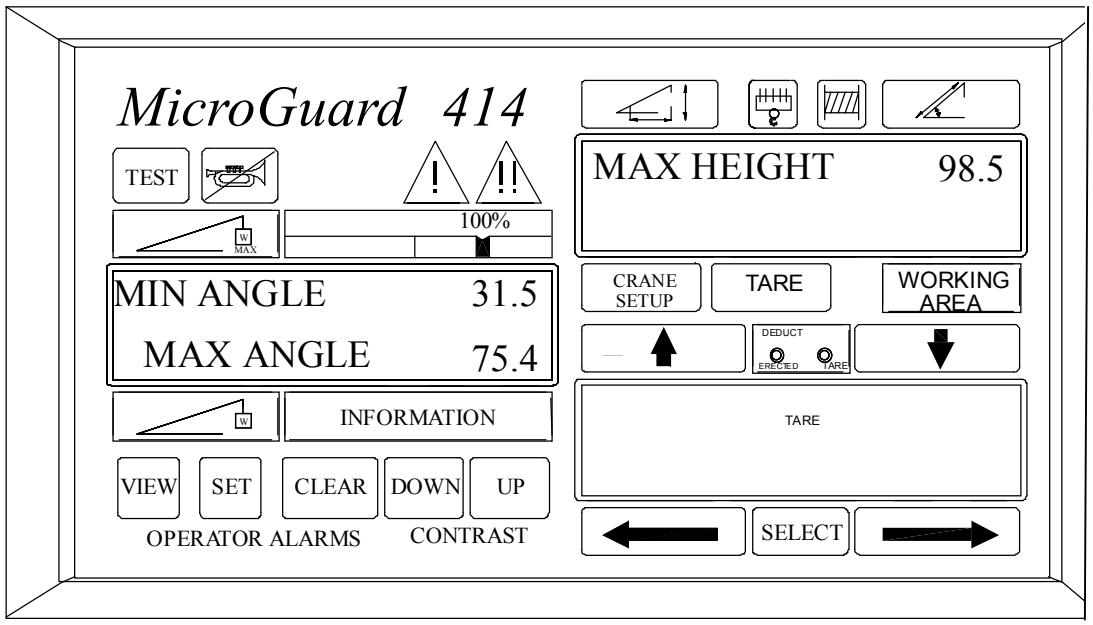
FOLLOWING THE SELECTION OF CRANE SET UP, USE THE WINCH PUSH BUTTON TO SELECT THE LIFTING POINT. SET THE PARTS-OF-LINE IN USE FOR EACH WINCH USING THE PARTS-OF-LINE PUSH BUTTON.

OPERATOR SETTABLE ALARMS

Another feature of the MicroGuard® 414 RCI System is the provision of Operator Settable Alarms. These alarms, when properly set by the operator, provide a method of obstacle avoidance. This is achieved by means of minimum and maximum angle and maximum height alarms. These alarms can be programmed for each job site and set rapidly for the prevailing site conditions, thereby aiding the operator in safe operation of the crane.

Most alarms will occur automatically as a result of limitations imposed by the capacity chart. The operator has control over additional alarms which can be set to define the working range of the crane for particular site requirements and which will provide a measure of obstacle avoidance.

Three alarms are available for operator use.



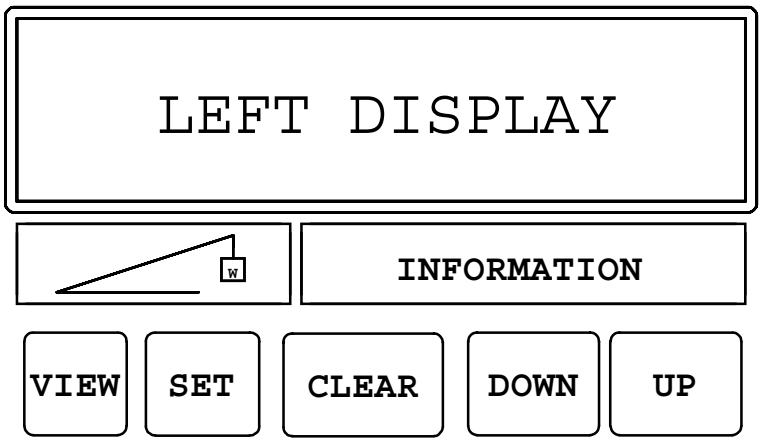
MINIMUM ANGLE

MAXIMUM ANGLE

MAXIMUM HEIGHT

SETTING ALARMS -- METHOD

WARNING: THE FOLLOWING EXAMPLES ILLUSTRATE THE METHOD FOR SETTING ALARMS. THE ACTUAL VALUES GIVEN SHOULD NOT BE USED WITHOUT FIRST CHECKING THE CAPACITY CHART TO ENSURE SAFE, STABLE OPERATION UNDER THE CONDITIONS DESCRIBED.



THE FOLLOWING PROCEDURE DESCRIBES THE METHOD REQUIRED FOR SETTING OR CANCELING ALARMS.

1. FROM THE MAIN WORKING SCREEN, PRESS VIEW TO ACCESS THE OPERATOR ALARM SCREEN.
   NOTE: SET OR CLEAR ALARMS ONLY FROM WITHIN THE ALARM SCREEN.
2. WHEN ENTERING THE ALARM SCREEN, THE CURSOR (ARROW) ALWAYS POINTS TO THE FIRST ALARM. USING THE UP OR DOWN ARROWS, MOVE THE CURSOR TO THE ALARM THAT MUST BE SET OR CLEARED.
3. PRESS SET OR CLEAR, AS APPROPRIATE.

NOTE: OPERATOR ALARMS ARE STORED IN THE COMPUTER MEMORY, EVEN AFTER THE CRANE IS SHUT DOWN.

NOTE: ALARMS THAT ARE NOT SET ARE INDICATED BY THE WORD "OFF."

NOTE: WHEN THE CURSOR POINTS TO AN ALARM AND A NUMERICAL VALUE IS DISPLAYED, THE VALUE REPRESENTS THE CURRENT POSITION OF THE CRANE UNLESS THE ALARM HAS BEEN SET PREVIOUSLY. IN THIS CASE, THE "VALUE" WILL ALTERNATE WITH THE WORD, "SET."

NOTE: AN ALARM SHOWING A VALUE WHEN THE CURSOR IS NOT POINTING AT THE ALARM INDICATES A PREVIOUSLY SET VALUE.

THE FUNCTIONS OF THE PUSH BUTTONS WHEN IN THE ALARM SCREEN ARE:

- **VIEW** USED TO ACCESS THE ALARM SCREEN TO VIEW THE CURRENTLY SET ALARMS.
- **SET** USED TO SET THE ALARM VALUE. THE ALARM VALUE IS DETERMINED BY THE POSITION OF THE CRANE AT THE TIME THE SET BUTTON IS PRESSED.
- **CLEAR** USED TO CLEAR A PREVIOUSLY SET ALARM. ALARMS CAN ONLY BE CLEARED WHEN THE CURSOR IS POINTING TO THE ITEM TO BE CLEARED. USE THE UP/DOWN ARROWS TO MOVE THE CURSOR TO THE DESIRED ALARM. PRESS CLEAR TO CANCEL THAT ALARM.
- **UP/DOWN ARROWS** USED TO MOVE THE CURSOR UP OR DOWN THE SCREEN TO THE ALARM, WHICH IS TO BE VIEWED, SET OR CLEARED.
- **SELECT** USED TO RETURN TO THE NORMAL OPERATING SCREEN.

SETTING THE ALARMS

TO SET ALARM POINT POSITION THE CRANE AT THE POINT AT WHICH THE ALARM IS TO SOUND. WHEN IN THE OPERATOR ALARM SCREEN, PRESS THE SET BUTTON TO SET THE ALARM. REFER TO THE EXAMPLES BELOW.

EXAMPLE A

TO SET AN ALARM WHENEVER THE BOOM IS BELOW A 30° ANGLE:

1. PRESS **VIEW** TO ACCESS THE ALARM SCREEN. THE CURSOR WILL BE AT MIN ANGLE.
2. MOVE THE BOOM TO A 30° ANGLE.
3. PRESS **SET** TO ENTER THE ALARM. THE DISPLAYED VALUE WILL BE THE ALARM SETTING, WHICH WILL ALTERNATE WITH THE WORD SET.
4. WHEN THE ALARM IS SET, PRESS **SELECT** TO RETURN TO THE WORKING SCREEN. THE RED LAMP AND THE AUDIBLE ALARM WILL OPERATE WHENEVER THE BOOM IS BELOW 30°.THE MESSAGE MIN ANGLE WILL APPEAR IN THE INFORMATION AREA ON THE LEFT DISPLAY.

EXAMPLE B

TO SET AN ALARM WHENEVER THE BOOM IS ABOVE A 60° ANGLE:

1. BOOM TO A 60° ANGLE.
2. PRESS **SET** TO ENTER THE ALARM. THE DISPLAYED VALUE WILL BE THE ALARM SETTING AND IT WILL ALTERNATE WITH THE WORD SET. PRESS **SELECT** TO RETURN TO THE WORKING SCREEN. THE RED LAMP AND THE AUDIBLE ALARM WILL OPERATE WHENEVER THE BOOM IS ABOVE 60 DEGREES. THE MESSAGE MAX ANGLE WILL APPEAR IN THE INFORMATION AREA ON THE LEFT DISPLAY.

EXAMPLE C

TO HAVE AN ALARM WHENEVER THE BOOM TIP HEIGHT EXCEEDS 75 FEET, USE THE FOLLOWING PROCEDURE.

1. EXTEND THE BOOM AND/OR ADJUST THE BOOM ANGLE SO THAT THE TIP HEIGHT IS 75 FEET.
2. PRESS **VIEW** TO ACCESS THE ALARM SCREEN. THE CURSOR WILL BE AT MIN ANGLE. PRESS THE DOWN ARROW TO MOVE THE CURSOR TO MAX HEIGHT.
3. PRESS **SET** TO ENTER THE ALARM. THE DISPLAYED VALUE WILL BE THE ALARM SETTING AND IT WILL ALTERNATE WITH THE WORD SET. PRESS **SELECT** TO RETURN TO THE WORKING SCREEN. THE RED LAMP AND THE AUDIBLE ALARM WILL OPERATE WHENEVER THE BOOM TIP HEIGHT EXCEEDS 75 FEET. THE MESSAGE MAX HEIGHT WILL APPEAR IN THE INFORMATION AREA ON THE LEFT DISPLAY.

CANCELING ALARMS

CLEAR IS USED TO CANCEL A PREVIOUSLY SET ALARM. ALARMS CAN ONLY BE CLEARED WHEN THE CURSOR IS POINTING TO THE ITEM TO BE CLEARED. CANCELING OF ALARMS CAN BE CARRIED OUT REGARDLESS OF THE POSITION OF THE CRANE.

1. PRESS **VIEW** TO ACCESS THE ALARM SCREEN.
2. MOVE THE CURSOR TO POINT TO THE ALARM TO BE CANCELED.
3. PRESS **CLEAR** TO CANCEL THE ALARM. THE DISPLAYED VALUE WILL BE THE CURRENT POSITION OF THE CRANE AND THE WORD SET WILL NO LONGER BE DISPLAYED.
4. MOVE THE CURSOR TO POINT TO THE NEXT ALARM TO BE CANCELED.
5. WHEN ALL THE CHOSEN ALARMS ARE CANCELED PRESS **SELECT** TO RETURN TO THE WORKING SCREEN.

PERIODIC INSPECTIONS

CHECKING THE ANTI TWO BLOCK SYSTEM

MAIN SWITCH

1. LOWER THE BOOM SO THAT THE A.T.B. SWITCHES CAN BE REACHED BY HAND.
2. SET THE SELECTOR SWITCH LOCATED ON THE MAIN SWITCH HOUSING TO THE "MAIN" POSITION AND CHECK THAT RAISING THE WEIGHT TO TRIP THE SWITCH CAUSES THE A.T.B. ALARM TO OPERATE.

JIB SWITCHES

IF THE CRANE IS EQUIPPED WITH ADDITIONAL JIB SWITCHES, CHECK AS FOLLOWS.

1. CONNECT THE CABLE FROM THE JIB SWITCH TO THE RECEPTACLE ON THE MAIN SWITCH.
2. SET THE SELECTOR SWITCH TO "BOTH".
3. CHECK THAT RAISING THE WEIGHT AND TRIPPING THE SWITCH ON EITHER THE MAIN OR THE JIB SWITCH CAUSES THE A.T.B. ALARM TO OPERATE.
4. SET THE SELECTOR SWITCH TO "JIB".
5. CHECK THAT RAISING THE WEIGHT ON THE JIB SWITCH ONLY AND TRIPPING THE SWITCH CAUSES THE A.T.B. ALARM TO OPERATE.

FUNCTION KICK-OUT

IF THE CRANE IS EQUIPPED WITH FUNCTION KICK-OUT, CHECK THE OPERATION OF THE SYSTEM AS FOLLOWS.

WITH THE CRANE IN ANY NORMAL WORKING CONFIGURATION, RAISE THE HOOK BLOCK SUFFICIENTLY TO CAUSE THE A.T.B. SWITCH TO OPERATE.

CHECK THAT WHEN THE AUDIBLE ALARM SOUNDS, THE FOLLOWING FUNCTIONS ARE STOPPED:

- FRONT WINCH UP
- REAR WINCH UP
- BOOM HOIST LOWER

CHECK THAT WHEN THE CANCEL ALARM BY-PASS SYSTEM IS ENABLED OR THE RIGGING/TRAVEL MODE IS SELECTED, THE AUDIBLE ALARM IS SILENCED AND THE MOTIONS ARE RESTORED.

CAUTION

WHEN CARRYING OUT THIS TEST THE CRANE IS NOT PROTECTED BY THE FUNCTION KICK-OUT CIRCUITS. TAKE CARE THAT THE CRANE IS NOT PUT INTO AN ACTUAL TWO-BLOCK CONDITION INADVERTENTLY.

DO NOT OPERATE THE CRANE UNDER THE ABOVE CONDITIONS.

SYSTEM CHECKS

- CHECK THAT THE DISPLAYED BOOM ANGLE AGREES WITH THE MEASURED ANGLE.
- CHECK THAT THE DISPLAYED RADIUS AGREES WITH THE MEASURED OPERATING RADIUS.
- CHECK THAT THE DISPLAYED BOOM LENGTH AGREES WITH THE ACTUAL BOOM LENGTH.
- IF A KNOWN TEST WEIGHT IS AVAILABLE, CHECK THAT THE DISPLAYED WEIGHT AGREES WITH THE TEST LOAD. *THE DISPLAYED LOAD INCLUDES THE HOOK BLOCK AND ANY LIFTING ATTACHMENTS SUCH AS SLINGS, PINS AND SHACKLES.*

  NOTE: IF THE "TARE" FUNCTION HAS BEEN USED, THE TARE LAMP WILL BE ILLUMINATED AND THE DISPLAYED LOAD WILL BE THE ACTUAL TEST WEIGHT BEING LIFTED.
- IF THE CAPACITY CHART IS RATED FOR SPECIFIC AREAS E.G. SIDE, FRONT OR REAR, THE SYSTEM SHOULD BE CHECKED BY SWINGING THE BOOM INTO THE PERMITTED AREAS AND CHECKING THAT THE RATED CAPACITY READING AGREES WITH THE CRANE CAPACITY CHART.

ROUTINE MAINTENANCE

THE SYSTEM HAS BUILT-IN SELF-TEST FACILITIES AND CHECKS ITSELF EACH TIME THE SYSTEM IS SWITCHED ON. ONLY A MINIMUM LEVEL OF PREVENTIVE MAINTENANCE IS REQUIRED. THIS IS RESTRICTED TO VISUAL INSPECTIONS OF CABLES AND SENSORS FOR OBVIOUS SIGNS OF WEAR AND TEAR AND INSPECTION OF MECHANICAL PARTS SUCH AS REELING DRUMS, HOIST ROPE TENSIOMETERS AND ANTI TWO-BLOCK SWITCHES.


GREER COMPANY