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# 502

**LOADWISE** MODEL 502 RATED  
CAPACITY INDICATOR SYSTEM

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# 502

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**LOADWISE** MODEL 502  
RATED CAPACITY INDICATOR SYSTEM  
CALIBRATION MANUAL

# 502

## **LOADWISE** MODEL 502 RATED CAPACITY INDICATOR SYSTEM

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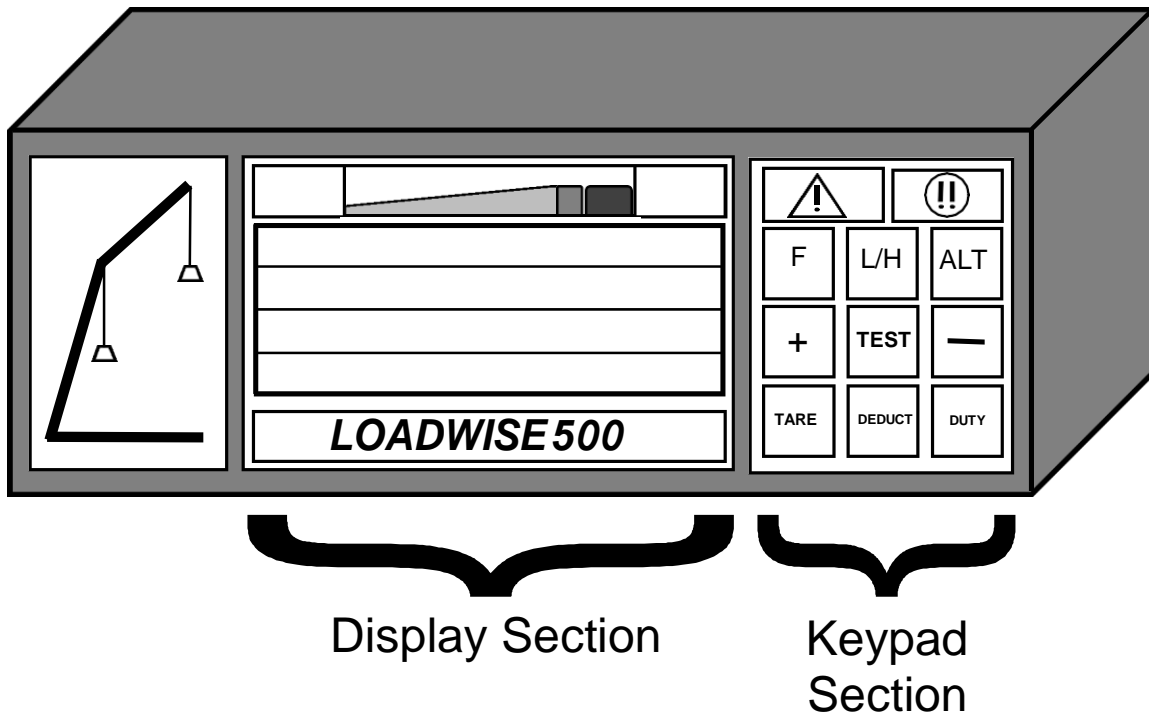
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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

# DISPLAY OPERATION

### DISPLAY CONSOLE

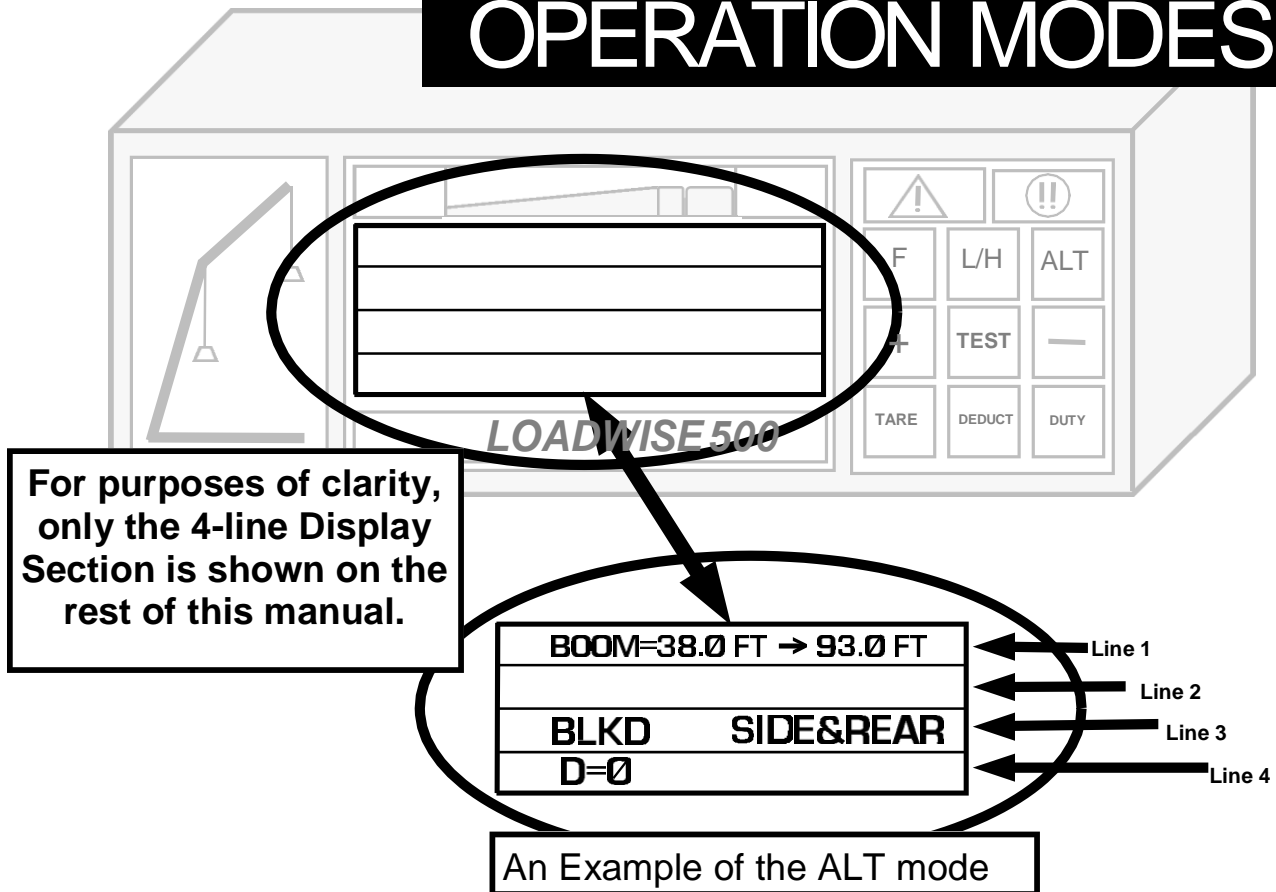
The Display Console is split into two sections. The center section is a four (4) line “alpha-numeric” screen that displays information to the operator, and the right section is a keypad used to enter information into the system and to change the display to the various modes, and is also used in the calibration process.



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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### OPERATION MODES



In normal operation, there are four display modes available:

- ALT mode** shows a description of the duty selected. The ALT mode is first displayed on initial power-up.
- NORMAL mode** shows the crane's various functions. This is the main operating mode.
- L/H mode** changes the second line of the display from RADIUS and BOOM ANGLE to BOOM LENGTH and TIP HEIGHT.
- TARE mode** when pushed, will deduct the existing load displayed from itself and any future load, and can be canceled by a second push.
- TEST mode** initiates a test routine that takes approximately 10 seconds.
- DIAGNOSTICS mode** shows the condition(s) of the various sensors.

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## **LOADWISE** MODEL 502 RATED CAPACITY INDICATOR SYSTEM

# TO ENTER CAL MODE

### TO ENTER THE CALIBRATION MODE

The calibration mode is protected by a sequence code which is only available to trained, authorized personnel, at the discretion of the owner.

To enter the calibration mode, press:

**TEST - TEST - TEST - ALT**

The display will show the crane make and model, the increments used in the system and the load chart (“feet - pounds” or “meters - kilos”), the serial number of the system, and the system’s date.

While this data is displayed, (approximately 10 seconds,) the entry code must be pushed. If the incorrect entry code is selected, the display will return to its standard, normal mode.

Once the calibration mode has been entered, the display will be at calibration mode 00, which is the starting point for the calibration process.

### **WARNING**

**THE CALIBRATION MODE ENABLES THE BASIC FUNCTION OF THE INDICATOR TO BE CHANGED. UNAUTHORIZED INTERFERENCE WITH THE CALIBRATION OF THE SYSTEM CAN BE VERY DANGEROUS TO THE SAFETY OF THE CRANE.**

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODES

The calibration mode contains fifteen (15) sections. Not all sections are used on all types of cranes.

MODE	FUNCTION
01	TO ENABLE SENSOR ZEROS TO BE SET
02	TO ENABLE SENSOR SPANS AND SENSITIVITY TO BE SET
03	TO PRESET THE MAIN BOOM WEIGHT IN DIFFERENT CONFIGURATIONS
04	TO PRESET THE JIB WEIGHT COMBINED WITH THE MAIN BOOM WEIGHT
05	CALIBRATION OF THE LOAD ON THE HOOK
06	TO CORRECT FOR DEFLECTION OF THE BOOM AND JIB COMBINATIONS DUE TO THEIR OWN WEIGHT, AND THE HOOK LOAD
07	(RESERVED FOR A MODEL OTHER THAN 502)
08	(RESERVED FOR A MODEL OTHER THAN 502)
09	(RESERVED FOR A MODEL OTHER THAN 502)
10	"LAST-LOADS-RECALL" FUNCTION
11	TO PRE-SET THE ALARMS AND WARNING LIMITS
12	TO PRE-SET THE VARIOUS LOAD LIMITS
13	TO ENTER THE CRANE GEOMETRY (SEE DWG # 94536 OR # 94537)
14	TO ENTER THE WINCH/BOOM HOIST ROPE GEOMETRY (SEE DWG # 94554)
15	MEMORY MOVEMENT SYSTEM

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## **LOADWISE** MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### SEQUENCE OF CALIBRATION

- 1) Go to Mode 15 and carry out "I - A" to ensure that the system is cleared back to the factory standard.
- 2) Ensure that the loadpins are electrically connected before installation, and the zeros are set (in Mode 01, Section 06 & 07) and the sensitivity of each pin is set (in Mode 02, Section 06 & 07).
- 3) Check the geometry dimensions in Mode 13 and 14, ensuring that all data is present and correct.
- 4) Check Mode 11 and 12 for correct settings of alarm percentages, rope limits, etc.
- 5) Complete Mode 01 and 02 for setting the zero and the span of boom angle.
- 6) Initial boom calibrations should be carried out with the shortest boom length with Mode 03 (boom weight) and then Mode 05 (load calibration), to be completed and working correctly before moving on to the next section.
- 7) After ensuring that (# 6 above) has been completed and is correct, increase the boom length to approximately half the full length, or to the shortest boom that will carry a jib. Next, this main boom should be calibrated for boom weight (in Mode 03), and the jib fitted and then calibrated for boom weight (in Mode 04). Boom deflection (in Mode 06) is then carried out at this time and at any other time it is found to be necessary.
- 8) Additional boom and boom / jib combinations should then be rigged and calibrated, to cover the maximum possible boom lengths. Typically at least three (3) boom lengths are calibrated, and more (if practical) will ensure maximum accuracy of calibration. If midpoint suspension is employed, calibration must be carried out at the suspension point boom length and at the boom length immediately prior to midpoint suspension.
- 9) Jib calibrations (in Mode 04) must be carried out for all combinations of jibs (for example, all boom lengths / offsets on the minimum and maximum boom lengths).
- 10) After all the above is completed and double-checked, go to Mode 15 and backup the calibration by copying "A" memory to "B" memory. TAKE GREAT CARE TO NOT DO AN "I - A" COPY AS THIS WILL WIPE OUT THE CALIBRATION.

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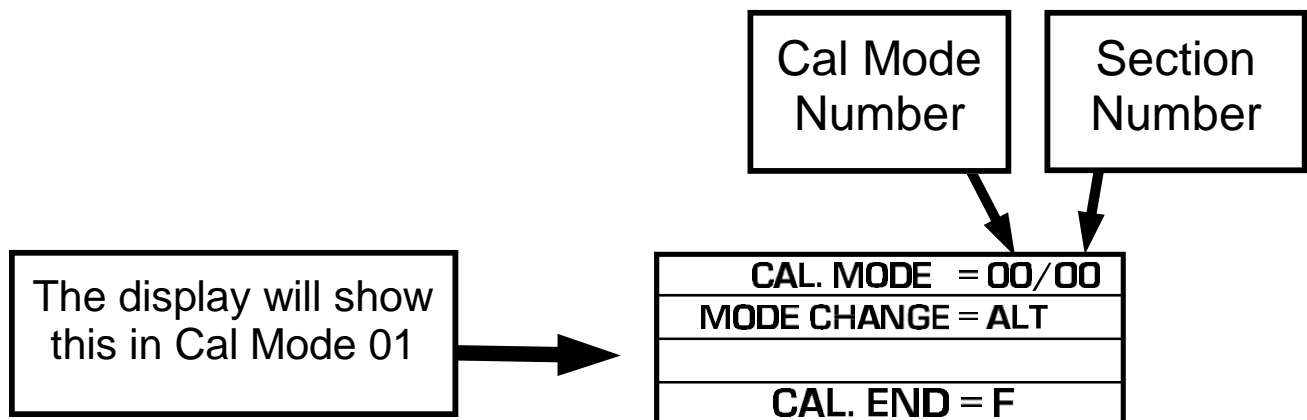
## **LOADWISE** MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### **CAL MODE 00**

Cal Mode 00 is the “index” or starting point, used to access the various Cal Modes.

To exit the calibration mode (while in Cal Mode 00) and return to the normal, operating mode, press “F”.

NOTE: while in the calibration mode, the alarms / cut-outs are suppressed with the exception of (1) “OUT-OF-LEVEL” and (2) “OVERHOIST” (or “Anti Two Block”). Also while in Cal Mode these two messages will not be available on the display.





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### CAL MODE 00

**Notes:**

- 1) In Mode 00, the section number cannot be modified.
- 2) To select a mode, press "ALT". This will cause the Cal Mode number to flash. While it is flashing, press "+" or "-" to select the mode. When the correct Cal Mode number has been selected, press "ALT" to access the Section Number.
- 3) If there is not an available mode for the number selected, the system will return automatically to Cal Mode 00, Section 00.
- 4) While the Cal Mode number is flashing, the "CAL. END=F" message is not available.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 01

Cal Mode 01 is used to “zero” the various sensors:

The display will show this when first in Cal Mode 01

CAL. MODE = 01/00
214.2 = A3 = 0010.50
SECTION CHANGE = ALT
FUNCTION CHANGE = F

Within Cal Mode 01, there are eight (8) sections:

Mode/Section No.	Sensor No.	Sensor Description
01/00	A3	Superstructure Angle Sensor (only on special applications)
01/01	A2	Luffing Jib Angle Sensor (when fitted)
01/02	L2	(Not Applicable to 502 System)
01/03	W3	(Not Applicable to 502 System)
01/04	L1	(Not Applicable to 502 System)
01/05	A1	Boom Angle Sensor
01/06	W2	2nd Load Sensor
01/07	W1	1st Load Sensor

**Note:**  
The Angle “zero” should be done with a small positive boom angle (for example, +2.0°).  
In Mode 01/06 and 01/07, the Load Sensors MUST be “zeroed” before installation to the crane.

To change Sections, press “ALT” - this will cause the Section number to flash. While it is flashing, press “+” or “-” until the correct Section number is displayed. To stop the number flashing, press “ALT”.

The second display line as shown above has two sets of numbers: the left-hand set are for reference only; and the right-hand set are changed to effect the calibration.

To modify the Section, press “F”. This will cause the ‘100’s’ to flash; while flashing, this number can be changed up or down (as required) by pressing “+” or “-”. Once the correct number has been selected, press “F” again to change the flashing digit to the ‘10’s’; a third press of “F” will change the flashing digit to the ‘1’s’ and an additional press of “F” will change the flashing digit to the ‘0.1’s’, etc. While any of these right-hand numbers has a flashing digit, it can be changed up or down (as required) by pressing “+” or “-”.

A final press of the “F” button will stop the flashing and give three choices:

- “ALT” will allow a change to a different Section number.
- “L/H” will store the calibration just performed. (If “+” or “-” have *not* been used, the memory will not be updated (since no change has been made), even if the command to store (“L/H”) is used.) If “L/H” is pressed, the display will change after a delay of approximately three seconds.
- “TARE” will return to Mode 00/00 without saving the calibration just performed.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 02

Cal Mode 02 is used to “*span*” the various sensors:

The display will show this  
when first in Cal Mode 02

CAL. MODE = 02/00
214.2 = A3 = 0010.50
SECTION CHANGE = ALT
FUNCTION CHANGE = F

Within Cal Mode 02, there are eight (8) sections:

Mode/Section No.	Sensor No.	Sensor Description
02/00	A3	Superstructure Angle Sensor (only on special applications)
02/01	A2	Luffing Jib Angle Sensor (when fitted)
02/02	L2	(Not Applicable to 502 System)
02/03	W3	(Not Applicable to 502 System)
02/04	L1	(Not Applicable to 502 System)
02/05	A1	Boom Angle Sensor
02/06	W2	2nd Load Sensor ( <i>SENSITIVITY - SEE NOTE BELOW</i> )
02/07	W1	1st Load Sensor ( <i>SENSITIVITY - SEE NOTE BELOW</i> )

#### Notes:

- In Mode 02/06 and 02/07, enter the *SENSITIVITY* of the load sensors. This information is found on each load sensor, and is expressed as a “mV/V” value such as “1.334”. If more than four digits are shown, only the first four digits are entered, irrespective of where the decimal point is shown on the load sensor.
- Calibration will not be successful if the number on the left-hand side of the second display line is either 000.0 or 409.2. If this occurs, the sensor being calibrated is out of range and must be corrected before proceeding further with the calibration process.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 03

Cal Mode 03 is used to calibrate the boom weight moment

The display will show this  
when in Cal Mode 03

CAL. MODE = 03/00	
A=0°	TARGET=0°
A=TARGET, PRESS ALT	
STORE=H/L	EXIT = TARE

#### NOTES:

While using this mode, the hook block(s) must be on the ground, or the hoist rope(s) must be tied back to the boom and left slack.

During the calibration, the boom angle must be increased slowly and steadily, or stationary. The boom angle must NOT be decreasing. If the boom angle is decreased, the Cal Mode 03 must be redone.

Select the boom length to be calibrated by selecting the appropriate duty number, prior to entering the Cal Mode. Initial calibration in Mode 03 should be on the shortest boom length, (immediately followed by Mode 05). Next, an intermediate boom is rigged and the appropriate duty selected, and Mode 03 is calibrated for that length. Further boom lengths follow; ordinarily at least three (3) boom lengths, and more if practical (to ensure maximum accuracy of calibration). If mid-point suspension is employed, a Mode 03 calibration must be carried out at the suspension point length and the length immediately prior to the mid-point suspension.

Position the boom at approximately 0° boom angle and press ALT. The Section number will change to 01 and the next target boom angle will be displayed. Raise the boom until the boom angle displayed on the left side is close to the target boom angle, and press ALT. The Section number will again change and the next target boom angle will be displayed. Continue until the max boom angle is reached (or the display offers a target of " - - "). A maximum of twelve (12) Sections are available for a particular boom length.

Not all main boom lengths need to be calibrated in Mode 03; where two lengths have been calibrated, an interpolation of weights is done by the computer for intermediate boom lengths.

To store the results, press L/H. To abort Mode 3 at any time, press TARE.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 04

Cal Mode 04 is used to calibrate the jib weight moment

The display will show this  
when in Cal Mode 04

CAL. MODE = 04/00	
A=0°	TARGET=0°
A=TARGET, PRESS ALT	
STORE=H/L	EXIT = TARE

#### NOTES:

While using this mode, the hook block(s) must be on the ground, or the hoist rope(s) must be tied back to the boom and left slack.

During the calibration, the boom angle must be increased slowly and steadily, or stationary. The boom angle must NOT be decreasing. If the boom angle is decreased, the Cal Mode 03 must be redone.

Select the boom length/ jib length / jib offset to be calibrated by selecting the appropriate duty number, prior to entering the Cal Mode. This procedure must be performed for each jib length / jib offset combination.

Derrick the boom up to approximately 20° boom angle and press ALT. The Section number will change to 01 and the target boom angle will be change to 60°. Raise the boom up to approximately 60° and press ALT; the Section number will change to 02 and the target will show " - - ".

Not all main boom lengths need to be calibrated with specific jibs. Where two lengths have been calibrated, an interpolation of weights is done by the computer for intermediate boom lengths.

To store the results, press L/H. To abort Mode 4 at any time, press TARE.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 05

Cal Mode 05 is used to calibrate the load weight

The display will show this  
when in Cal Mode 05

CAL. MODE M = 05/00
R = 15.8 LOAD = 0000.00
SECTION = ALT FUNCTION = F
STORE = H/L EXIT = TARE

#### NOTES:

Cal Mode 05 should be done with the maximum possible load on a short main boom; at least 75% of maximum capacity, just inside the rated radius.

When entering the gross load value, include the weight of the hook block, slings, shackles, rigging, and hoist rope suspended from the head sheaves.

#### To Enter the Test Load Value:

- Press “F” to start the first digit flashing.
- Press “+” or “-” to adjust the flashing digit to the appropriate value.
- Press “F” to move the flashing digit to the right and press “+” or “-” to adjust this flashing digit to the appropriate value.
- Continue until all the digits have been adjusted to the appropriate value and the flashing stops.
- Proceed to the “Derrick Up Calibration”(see next paragraph).

#### To Enter the Derrick Up Calibration:

- Derrick the boom up gently until the load is clear of the ground.
- Measure the radius of the load and ensure that the displayed radius is correct.
- If the displayed radius is incorrect, press TARE to exit this mode, and investigate and correct the cause of the radius error.
- If the displayed radius is correct press ALT. The Section Number will change to 01; proceed to the “Derrick Down Calibration” (see next paragraph).

#### To Enter the Derrick Down Calibration:

- After ensuring the Section Number is displaying “01” (by completing the “Derrick Up Calibration”), derrick the boom gently down by 2° or more, with the load still suspended.
- Press L/H and wait approximately three seconds while the memory is updated and checked.

**NOTE:** during this Cal Mode, all crane movements should be slow and smooth. All

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**CAL MODE 05**

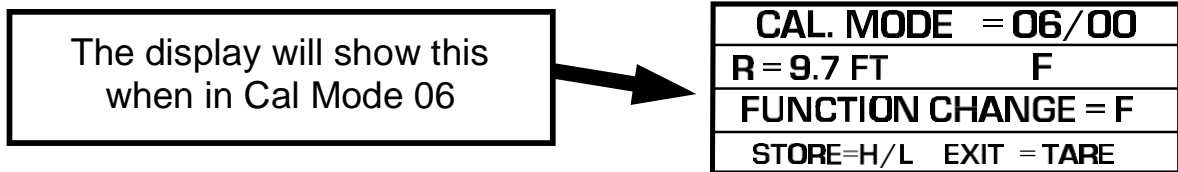
buttons should be pressed only with the load stationary and not swinging or bouncing.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 06

Cal Mode 06 is used to calibrate the boom deflection



Cal Model 06 is used for main boom, or jib, or main boom with the jib erected but not used, to adjust for deflection due to their own weight(s).

Before accessing this mode, ensure the appropriate boom and / or jib is rigged, and the corresponding duty is selected prior to entering the Cal Mode.

Within Cal Mode 06 there is only Section 00 and this cannot be changed.

#### Procedure for Mode 06:

- With an EMPTY hook, (NO load,) position the boom at approximately 40° (within the maximum radius).
- Measure the radius with a tape and record this information.
- Press F - this will cause the displayed F (on line 2 of the display) to flash.
- Derrick the boom slowly UP until the displayed radius matches the taped radius.
- Press F again and the displayed F (on line 2 of the display) will stop flashing.
- Press H/L and wait approximately three seconds while the memory is updated and checked.

#### NOTES:

- TARE can be pressed at any time to exit this calibration mode.
- Pressing H/L will not store the calibration unless the FULL procedure has been completed.



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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 10

Cal Mode 10 is the LAST LOADS RECALL option

The display will show this when in Cal Mode 10

<b>CAL. MODE = 10/00</b>
<b>RAD = 11.0 FT (R) ANGLE = 61.0</b>
<b>150 + % 111 1111 1 111</b>
<b>DUTY = 000 F1 = 01 DED = 0</b>

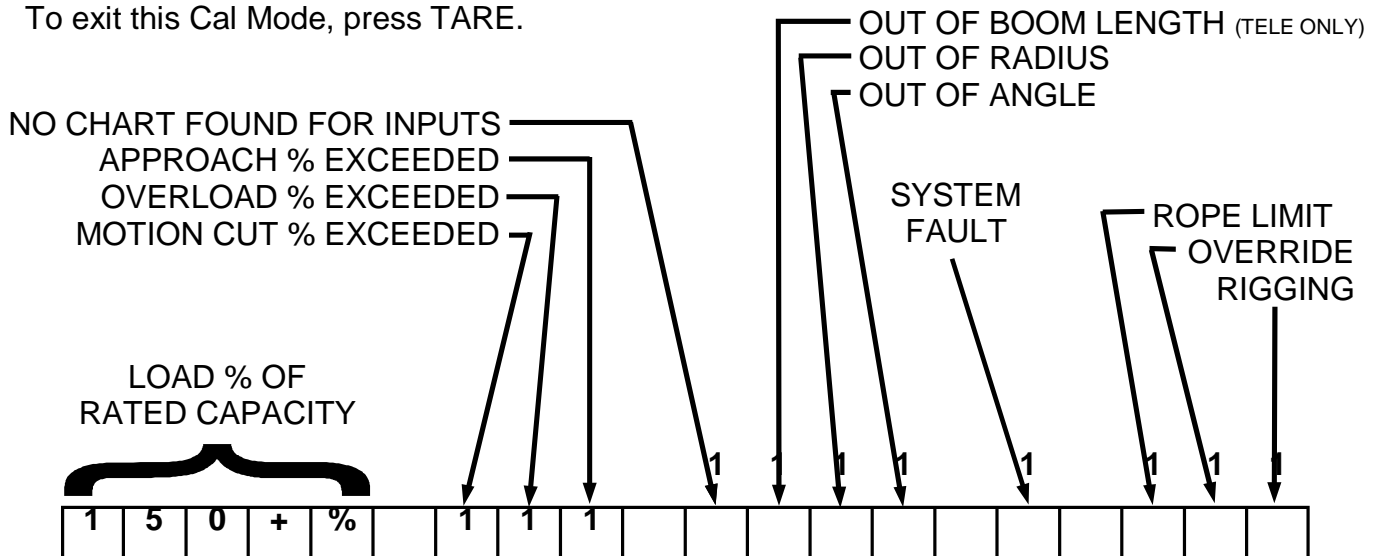
When equipped with the LAST LOADS RECALL option, the 502 System stores the last 100 load movements (above 50% of rated capacity) and displays them, when recalled, on line 3 as show in the example above. It only stores loads above 50% of rated capacity, and only in increments of 10%, up to 150%. Various “flags” are also stored; these “flags” offer data on the state of the 502 System and its various sensor inputs at the time of each individual store.

On initial entry into Cal Mode 10, the display will be on Section 00, which is a test mode that displays the values shown above.

By pressing “+” and “-”, the Section number is changed, starting at 01 and ending at 99.

The third line contains 20 characters as detailed below. On those values that are either a “1” or a “0”, the “1” means the alarm (or the switch) in question is turned ON; the “0” means the alarm (or the switch) in question is turned OFF.

To exit this Cal Mode, press TARE.



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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 11

Cal Mode 11 is used to adjust the Alarm Settings

The display will show this  
when in Cal Mode 11

<b>CAL. MODE = 11/00</b>
<b>APPROACH % = 95.0</b>
<b>SECTION CHANGE = ALT</b>
<b>FUNCTION CHANGE = F</b>

Within Cal Mode 11, there are eight (8) sections:

Mode/Section No.	Description	Factory Default Values	Notes
11/00	APPROACH %	95.0 %	
11/01	OVERLOAD %	105.0 %	
11/02	MOTION-CUT %	110.0%	
11/03	HIGH ANGLE A°	80.0°	
11/04	LOW ANGLE A°	0.0°	
11/05	BOOM SWITCH	0.0	Not Applicable to 502 System
11/06	SHEAVE %	100	For setting in the multiple loads per line
11/07	SCALE FACTOR	0.5	Set to 1.0 for cranes above 650 Tons.

To change Sections, press "ALT" - this will cause the Section number to flash. While it is flashing, press "+" or "-" until the correct Section number is displayed. To stop the number flashing, press "ALT".

To modify the Section, press "F". This will cause the '100's' to flash; while flashing, this number can be changed up or down (as required) by pressing "+" or "-". Once the correct number has been selected, press "F" again to change the flashing digit to the '10's'; a third press of "F" will change the flashing digit to the '1's' and an additional press of "F" will change the flashing digit to the '0.1's', etc. While any of these right-hand numbers has a flashing digit, it can be changed up or down (as required) by pressing "+" or "-". (This mode will only change the function size in 0.5 steps.)

A final press of the "F" button will stop the flashing and give three choices:

- "ALT" will allow a change to a different Section number.
- "L/H" will store the calibration just performed. (If "+" or "-" have *not* been used, the memory will not be updated (since no change has been made), even if the command to store ("L/H") is used.) If "L/H" is pressed, the display will change after a delay of approximately three seconds.
- "TARE" will return to Mode 00/00 without saving the calibration just performed.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 12

Cal Mode 12 is used to adjust the Load Limit Settings

The display will show this  
when in Cal Mode 12

<b>CAL. MODE = 12/00</b>
<b>MAIN WINCH = 0003.00</b>
<b>SECTION CHANGE = ALT</b>
<b>FUNCTION CHANGE = F</b>

Within Cal Mode 12, there are four (4) sections:

Mode/Section No.	Description
12/00	MAIN WINCH (Max Line Pull)
12/01	AUX WINCH (Max Line Pull)
12/02	RIGGING LOAD (Max available load with suppressed alarms)
12/03	INHIBIT LOAD (load above which duty deduct & parts-of-line cannot be changed)

To change Sections, press "ALT" - this will cause the Section number to flash. While it is flashing, press "+" or "-" until the correct Section number is displayed. To stop the number flashing, press "ALT".

To modify the Section, press "F". This will cause the '100's' to flash; while flashing, this number can be changed up or down (as required) by pressing "+" or "-". Once the correct number has been selected, press "F" again to change the flashing digit to the '10's'; a third press of "F" will change the flashing digit to the '1's' and an additional press of "F" will change the flashing digit to the '0.1's', etc. While any of these right-hand numbers has a flashing digit, it can be changed up or down (as required) by pressing "+" or "-". (This mode will allow values up to 655.35.)

A final press of the "F" button will stop the flashing and give three choices:

- "ALT" will allow a change to a different Section number.
- "L/H" will store the calibration just performed. (If "+" or "-" have *not* been used, the memory will not be updated (since no change has been made), even if the command to store ("L/H") is used.) If "L/H" is pressed, the display will change after a delay of approximately three seconds.
- "TARE" will return to Mode 00/00 without saving the calibration just performed.

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 13

Cal Mode 13 is used to enter the crane's geometry

The display will show this  
when first in Cal Mode 13

<b>CAL. MODE</b>	<b>= 13/00</b>
<b>ACMS</b>	<b>= 0026</b>
<b>SECTION CHANGE</b>	<b>= ALT</b>
<b>FUNCTION CHANGE</b>	<b>= F</b>

In Cal Mode 13, there are twelve (12) sections. See Drawing # 94536 (on Page 19 )

Mode/Section No.	Dim No.	Dim (CM)	Description
13/00	A		Upper Pendant Fixing to C/L of Boom
13/01	B		Upper Pendant Fixing to Head Sheave
13/02	C		See Drawing # 94536 or # 94537
13/03	D		See Drawing # 94536 or # 94537
13/04	E		Head Sheave Pivot Pin to C/L of Boom
13/05	F		Boom Pivot Pin to Center of Slew
13/06	S		Head Sheave Radius
13/07	G		See Drawing # 94536 or # 94537
13/08	H		See Drawing # 94536 or # 94537
13/09	X		See Drawing # 94536 or # 94537
13/10	Y		Vertical Distance of Boom Pivot Pin to Ground
13/11	Q		Questions - See Page 21

To change Sections, press "ALT" - this will cause the Section number to flash. While it is flashing, press "+" or "-" until the correct Section number is displayed. To stop the number flashing, press "ALT".

To modify the Section, press "F". This will cause the character directly after the "=" to flash. Either a blank (for a "positive" value) or a "-" (for a "negative" value) can be selected by pressing "+" or "-". Press "F" again and the next character will be flashing, allowing it to be adjusted by using the "+" or "-". Further presses of the "F" button will allow selection of the appropriate character; each can be adjusted by using the "+" or "-".

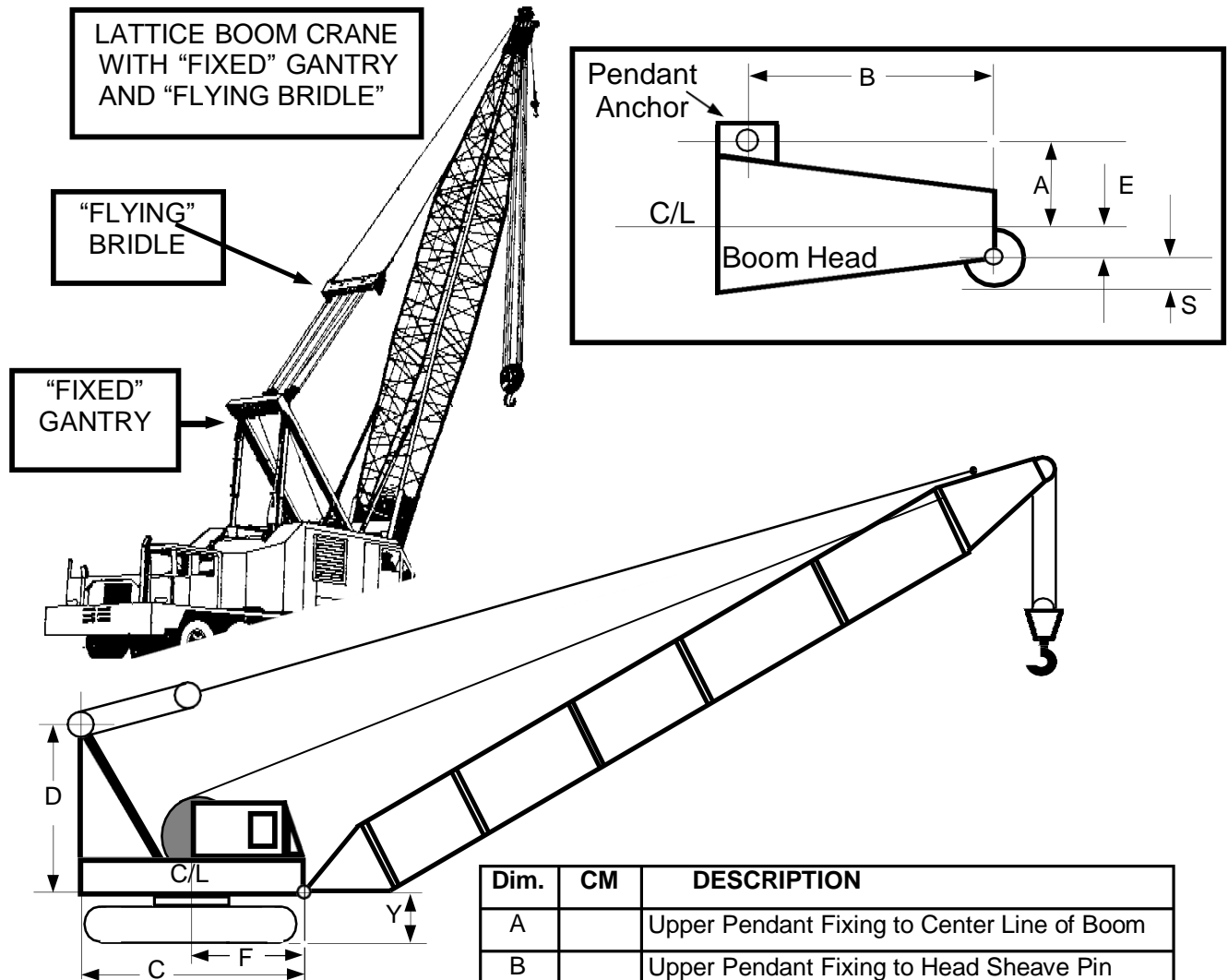
Adjustment range in this mode is from 0000 to 9999.

A final press of the "F" button will stop the flashing.

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### 502 CALIBRATION MODE 13 GEOMETRY DATA - "WITHOUT MAST" VERSION

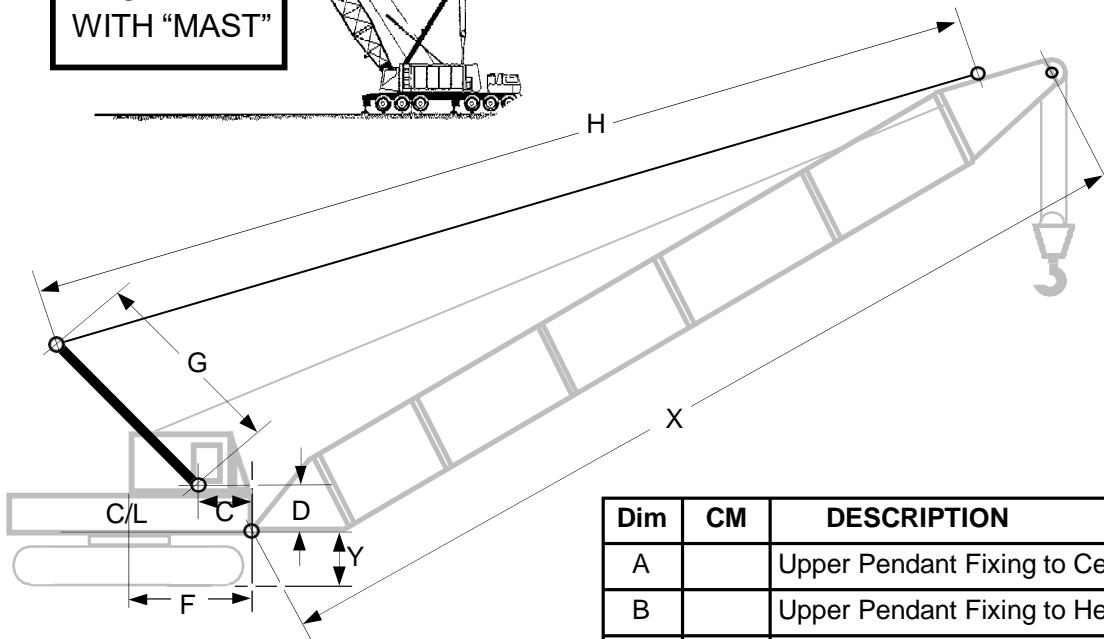
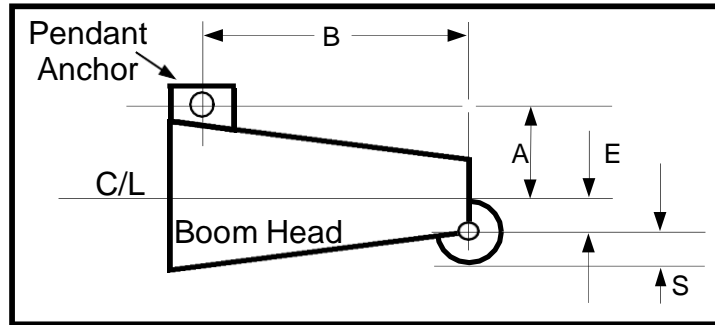
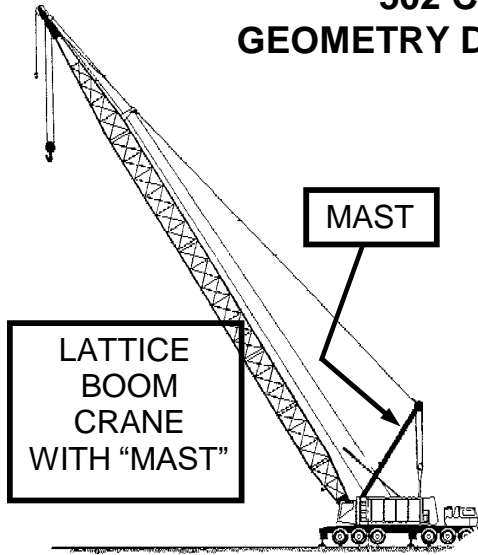


Dim.	CM	DESCRIPTION
A		Upper Pendant Fixing to Center Line of Boom
B		Upper Pendant Fixing to Head Sheave Pin
C		Boom Pivot Pin to Gantry (Horizontal)
D		Boom Pivot Pin to Gantry (Vertical)
E		Head Sheave Pin to C/L of Boom
F		Boom Pivot Pin to Center of Slew
S		Sheave Radius
4 SEP 97	X	Minimum Boom Length
# 94536	Y	Boom Pivot Pin to Ground (Vertical)

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## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### 502 CALIBRATION MODE 13 GEOMETRY DATA - "WITH MAST" VERSION



Dim	CM	DESCRIPTION
A		Upper Pendant Fixing to Center Line of Boom
B		Upper Pendant Fixing to Head Sheave Pin
C		Boom Pivot Pin to Mast Pivot (Horizontal)
D		Boom Pivot Pin to Mast Pivot (Vertical)
E		Head Sheave Pin to C/L of Boom
F		Boom Pivot Pin to Center of Slew
G		Mast Length
H		Pendant Length on Minimum Boom
S		Sheave Radius
4 SEP 97	X	Minimum Boom Length
# 94537	Y	Boom Pivot Pin to Ground (Vertical)

# 502

## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 13

Cal Mode 13/11 selects a range of questions to which the crane operator must respond before the system will operate in the normal operating mode. Three options are available:

- No questions - enter the value 121.2
- Questions # 1 through # 10 - enter the value 111.1
- Questions # 5 through # 10 - enter the value 212.1

1	YOUHAVEAVALID CRANELICENSE PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0	6	CRANE ON LEVEL GROUND PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0
2	CRANE MANUAL READ AND UNDERSTOOD PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0	7	SLI IS SET WITH CORRECT DUTYCODE PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0
3	SLIMANUAL READ AND UNDERSTOOD PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0	8	SLI IS SET WITH CORRECT REEVING PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0
4	SLI SYSTEM IS ONLY A DRIVER AID PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0	9	SLI IS SET WITH CORRECT DEDUCTION PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0
5	YOU ARE RESPONSIBLE AT ALL TIMES PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0	10	CRAWLERS ARE CORRECTLY POSITIONED PRESS ALT TO CONFIRM DUTY=001 F1=06 D=0

# 502

## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 14

Cal Mode 14 is used to enter the winch's geometry

The display will show this  
when first in Cal Mode 14

<b>CAL. MODE</b>	<b>= 14/00</b>
<b>ACMS</b>	<b>= 0000</b>
<b>SECTION CHANGE</b>	<b>= ALT</b>
<b>FUNCTION CHANGE</b>	<b>= F</b>

In Cal Mode 14, there are six (6) sections. Consult Drawing # 945344 (on Page 23).

Mode/Section No.	Dim No.	Dim (CM)	Description
14/00	A		Boom Pin to First Winch Center (Horizontal)
14/01	B		Boom Pin to First Winch Center (Vertical)
14/02	C		Radius of First Winch
14/03	D		Boom Pin to Second Winch Center (Horizontal)
14/04	E		Boom Pin to Second Winch Center (Vertical)
14/05	F		Radius of Second Winch Center

To change Sections, press "ALT" - this will cause the Section number to flash. While it is flashing, press "+" or "-" until the correct Section number is displayed. To stop the number flashing, press "ALT".

To modify the Section, press "F". This will cause the character directly after the "=" to flash. Either a blank (for a "positive" value) or a "-" (for a "negative" value) can be selected by pressing "+" or "-". Press "F" again and the next character will be flashing, allowing it to be adjusted by using the "+" or "-". Further presses of the "F" button will allow selection of the appropriate character; each can be adjusted by using the "+" or "-".

Adjustment range in this mode is from 0000 to 9999.

A final press of the "F" button will stop the flashing.

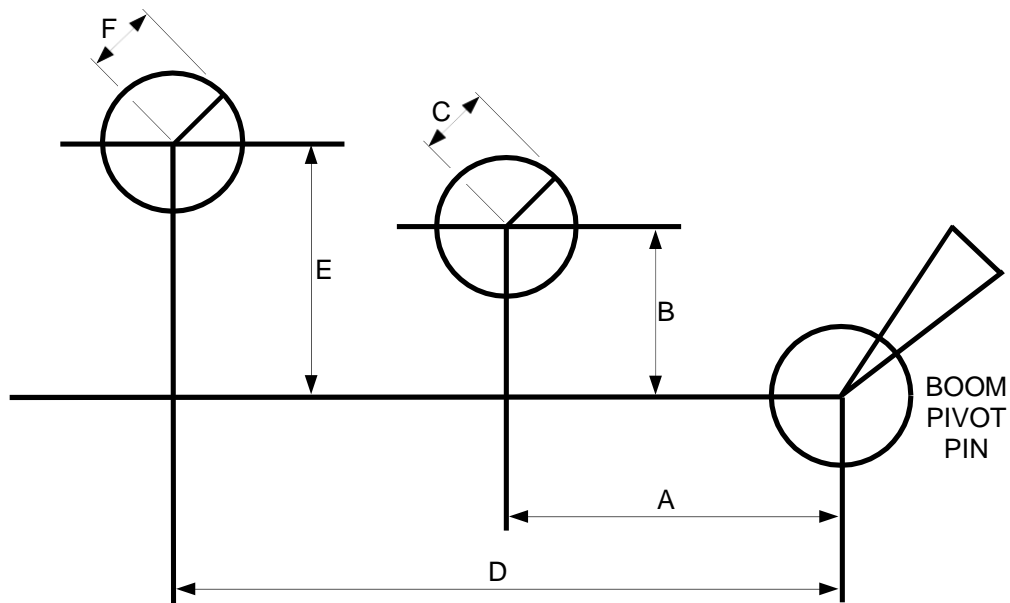


# 502

## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

# CAL MODE 14

### WINCH GEOMETRY



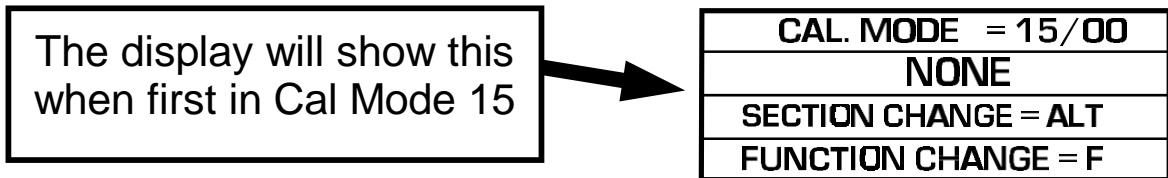
Dimension	CM	DESCRIPTION	
A		MAIN WINCH TO BOOM PIVOT PIN (HORIZONTAL)	
B		MAN WINCH TO BOOM PIVOT PIN (VERTICAL)	
C		MAIN WINCH RADIUS	
D		AUX WINCH TO BOOM PIVOT PIN (HORIZONTAL)	
E		AUX WINCH TO BOOM PIVOT PIN (VERTICAL)	22 SEP 97
F		AUX WINCH RADIUS	# 94554

# 502

## LOADWISE MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### CAL MODE 15

Cal Mode 15 is used to move stored calibration information



Cal Mode 15 is used to move stored calibration data between memory sections. The Loadwise 500 System contains two memory sections: MEMORY A and MEMORY B.

When Power is applied to the system, data in MEMORY A is copied to the active memory which is used for all calibrations, etc. During the calibration process, the data being entered is being placed in the active memory and if the "L/H" button is pressed, this data is copied to MEMORY A. MEMORY B is a backup area that is used to store a copy of MEMORY A for possible future use.

Cal Mode 15 also has a third function: an INITIALIZE sequence allows the calibration to be reset to the factory-default settings, which clears all entered data in MEMORY A. This process must be performed as the first step of the calibration process, and typically is not performed again.

There are three sections in Cal Mode 15:

Mode/Section No.	Description
15/01	Initializes MEMORY A (to factory default values)
15/02	Copies MEMORY A to MEMORY B
15/03	Swaps MEMORY B and MEMORY A

To change Sections, press "ALT" - this will cause the Section number to flash. While it is flashing, press "+" or "-" until the correct Section number is displayed. To stop the number flashing, press "ALT".

To initiate the movements, first press "F", followed by "L/H". To abort at any time, press "TARE" or return to 15/00, where "NONE" is displayed, and then press "F" or "L/H" or "TARE".

# 502

## **LOADWISE** MODEL 502 RATED CAPACITY INDICATOR SYSTEM

### Notes / Additions

The following functions have been added to the 502 program:

Mode/Section No.	Description
01/02	This adds load to all main boom duty loads and should be set as a default to zero.
02/02	This subtracts load from all jib duty loads and should be set as a default to zero.
11/05	Is named "Correction %" and should be set as a default value to 100%. This % is 100% at high angle and progresses toward the set value as the boom angle is reduced. Therefore the load should be calibrated at high angle and corrected plus or minus at a low boom angle.