W1258 LOAD MOMENT
Calibration

(Version 1250 V2.0)

Crane Warning Systems Atlanta
1-877-672-2951 Toll Free
1-678-261-1438 Fax
www.craneindicators.com
sales@craneindicators.com

CALIBRATION FOR W1258 V.2.0

The calibration mode is a separate mode of the 1258 system. This mode is totally independent of the regular operating mode just like if it was a different system.

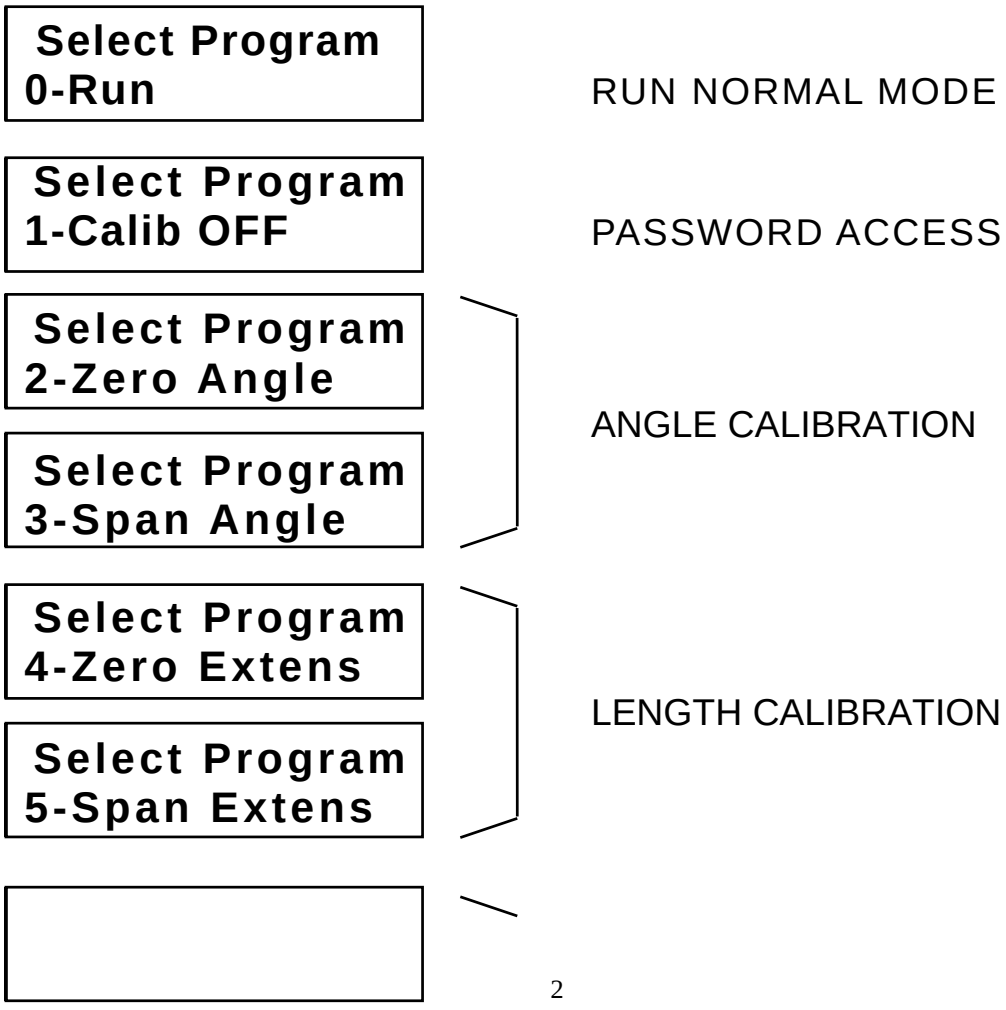
The calibration mode is designed to adjust the angle sensor, the length sensor, the load sensor, the radius adjustment and numerous factors or set points.

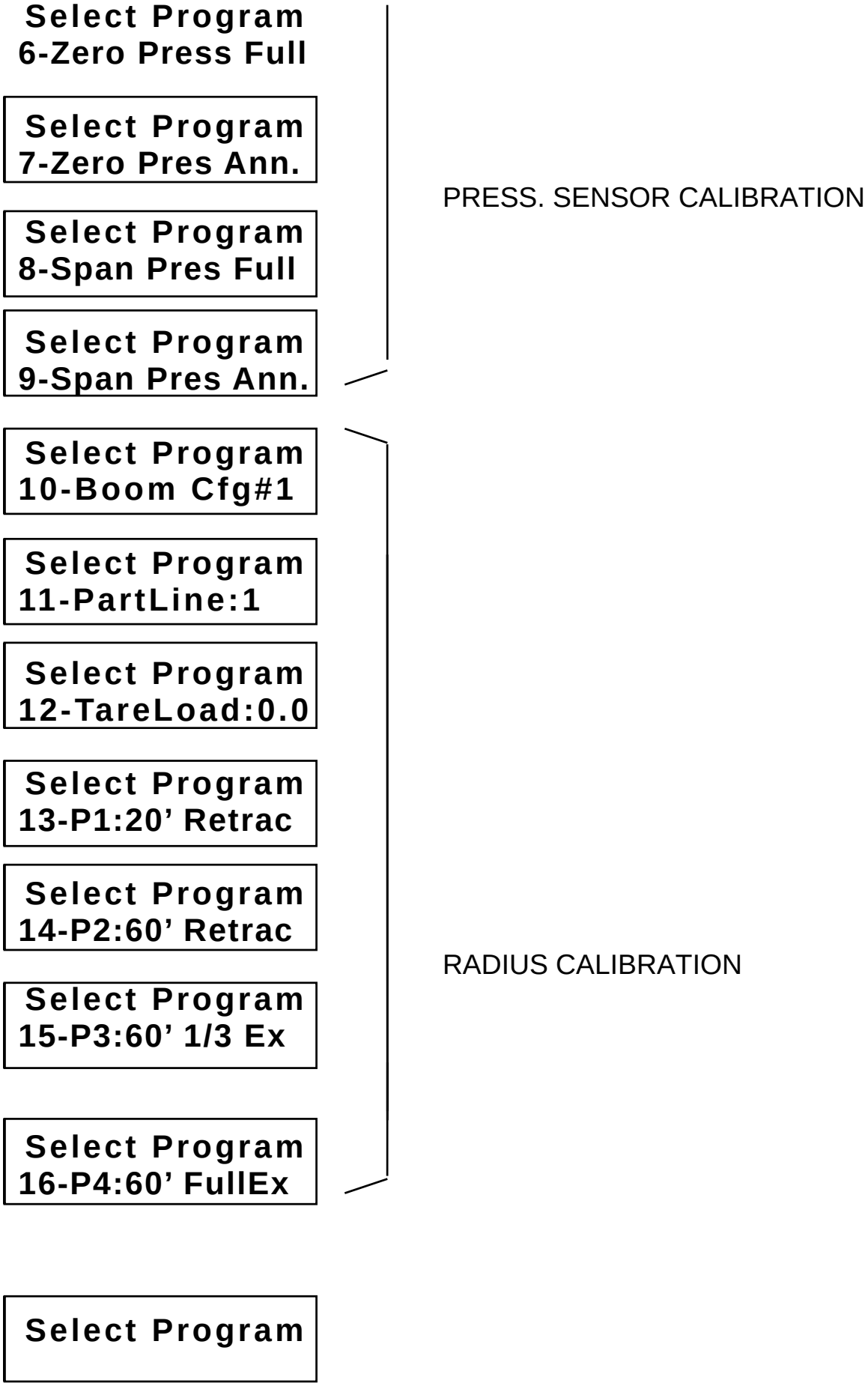
Notes in blue/italic indicate special troubleshooting notes.

This mode is accessed from pressing predetermined buttons on the key pad.

The calibration mode is organized in a linear arrangement. A series of some 20 items or sections starting at zero will appear one after the next by using the ROLL UP or ROLL DOWN buttons.

CALIBRATION MODE MENU: (USE ROLL UP / ROLL DOWN KEYS)




Select Program
6-Zero Press Full
Select Program
7-Zero Pres Ann.
Select Program
8-Span Pres Full
Select Program
9-Span Pres Ann.
PRESS. SENSOR CALIBRATION
Select Program
10-Boom Cfg#1
Select Program
11-PartLine:1
Select Program
12-TareLoad:0.0
Select Program
13-P1:20’ Retrac
Select Program
14-P2:60’ Retrac
Select Program
15-P3:60’ 1/3 Ex
Select Program
16-P4:60’ FullEx
RADIUS CALIBRATION
Select Program

17-Boom Moment	BOOM WEIGHT TARE
Select Program 18-Cal Load:1.0	LOADED BOOM DEFLECTION
Select Program 19-Load Bend Cor	
Select Program 20-Load Adjust	HOOK LOAD CORRECTION
Select Program 21-Backup	SAVING CALIBRATION
Select Program 22-Memory	
Select Program 23-Calib. Data	GENERAL SETTINGS
Select Program 24-Dimensions	DIMENSIONS

ENTER CALIBRATION:

To enter calibration, press button 8, while holding button 8, press button 6 and 5 simultaneously and release all the buttons.

The menu should show :

Select Program
0-Run

The system is now in the calibration mode. By pressing the buttons DOWN (#3)or UP (#1), it is possible to scroll through the calibration menu.

Select Program
0-Run

RUN NORMAL MODE

RETURN TO NORMAL OPERATING MODE:

To leave the calibration mode and return to the normal operating mode, simply scroll all the way up to the very first menu: 0 - RUN. Then press the button ENTER (8). The system will automatically return to the operating mode.

If the system was configured during calibration E.G.: 4 part line, Main boom only; It will not retain that configuration and will return to the last configuration setting done during operating mode.

Select Program
1-Calib OFF

PASSWORD ACCESS

PASSWORD ACCESS:

It is possible to scroll through the entire calibration menu with the calibration enable or disable; however, it is not possible to confirm a new calibration or a recalibration unless the MENU 1 shows: CALIB: ON.

YOUR PASSWORD:_____

To enable calibration, scroll to the MENU 1- CALIB OFF. Press button ENTER (#8). Like a teller machine, the system will ask for the password. The password has five numbers. The numbers can be found on the upper right corner of each button. Enter the numbers one after the other. If an error is made, start the entry again at the same point or press the ENTER button twice. Once the system receives the exact password, it will display automatically CALIB ON. The calibration of the system can now be performed.

The CALIB ON will remain activated on a permanent basis wetter or not the system is turned off. The calibration must be disabled once completed to prevent accidental operator access.

To disable the calibration, scroll to MENU 1- CALIB ON. Press ENTER. Enter any wrong password and press ENTER. The CALIB. ON will automatically be disabled and display: CALIB. OFF.

SENSOR CHECK BEFORE CALIBRATION:

Before beginning calibration, it is important to verify that all the sensors are connected properly, that the control unit receive a signal from each sensor, that the signal received from each sensor is within the receiving limits from the minimum to the maximum of the sensor's working range and that each sensor's signal is optimized to improve resolution and accuracy.

Go into the diagnostic menu of the operating mode. Turn off the system. Turn the system on, wait until the display shows the angle, radius, load, etc... Press the DISPLAY button until the display shows DIAGNOSTIC. Press ENTER.

Press the DOWN button until the display shows: AIN0: 0.00 , AIN1: 0.00.

AIN0 is the actual voltage received by the control from the angle sensor. At zero degree, the voltage should be around 1.7 volt and at 70 degrees, the voltage should 3.1 volts. If an amplifier is installed, use a voltmeter directly on the sensor terminals between DR- and SIGNAL (AIN0). The input from the amplifier should be between 1.7 and 2.5 volt when fully retracted and between 3.0 and 4.8 volts when fully extended. Refer to the installation drawings and instructions. The

overall change in voltage from zero degree to 70 degree should be superior to 1.0 volt.

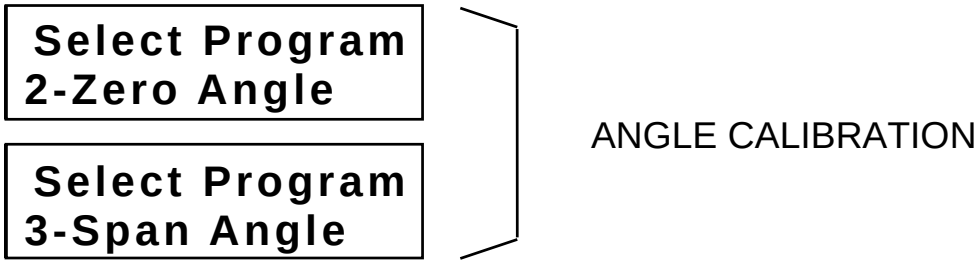
AIN1 is the actual voltage received by the control from the length sensor fully retracted, the voltage should be around 0.5 volt and fully extended, the voltage should be approximately 1 volt per 48ft + the initial 0.5 volt. If an amplifier is installed, use a voltmeter directly on the sensor terminals between DR- and SIGNAL (AIN1). The minimum voltage when using an amplifier should be 0.2 volt rather than 0.5. The input from the amplifier should be between 1.1 and 1.7 volt when fully retracted and between 3.0 and 4.8 volts when fully extended. Refer to the installation drawings and instructions.

Scroll down until TX0 and TX1 are on the screen. TX0 is the full side pressure sensor. The display reading is in units. The total units are 1023. The sensor with no pressure should show around 15 to 100 units. With full pressure simulated by jumping the pressure sensor wires black and white should be between 750 and 1000. If an amplifier is installed, the no pressure reading should be around 250 to 325 and the simulated full pressure between 800 and 1022. Refer to the installation drawing and instruction.

TX1 is the rod side pressure sensor. The display reading is in units. The total units are 1023. The sensor with no pressure should show around 75 to 200 units. With full pressure simulated by jumping the pressure sensor wires black and white should be between 750 and 1000. If an amplifier is installed, the no pressure reading should be around 300 to 425 and the simulated full pressure between 800 and 1022. Refer to the installation drawing and instruction.

GENERAL ORDER OF PROCEDURE:

If the DIMENSIONS and the general CALIBRATION DATA have been entered, proceed forward from step 2 on. If the dimensions and the data have not been entered, scroll down to step 23 and 24 and complete these steps before beginning at step 2. Refer to MENU 23 and MENU 24 for procedures.



ANGLE CALIBRATION (Step 2 to 3)

Scroll down to 2-ZERO ANGLE. Press ENTER.

Boom down to zero degree (main boom parallel to ground). The display will show on the upper right corner the signal in bits. This must be above 250 and normally around 350 except when using an amplifier. Press ENTER to zero and ENTER to confirm.

Scroll down to 3 -SPAN ANGLE. Press ENTER.

Boom up to 70 degrees (main boom referred to ground). The display will show on the upper right corner the signal in bits. This should be around 600 except if using an amplifier.

Press ENTER to start the blinking and use the set buttons (#2 and #4) to adjust the angle; press ENTER, press ENTER again to confirm.

Select Program 4-Zero Extens

Select Program 5-Span Extens

LENGTH CALIBRATION

LENGTH SENSOR CALIBRATION (Step 4 to 5)

Scroll down to 4-ZERO EXTENS. Press ENTER.

Retract the boom fully. The display will show on the upper right corner the signal in bits. This must be above 50 and around 100 except if using an amplifier.

Press ENTER to zero and ENTER to confirm.

Measure the boom length from foot pin to head sheave pin. Keep this measurement in mind. You will need it for the span calibration.

Scroll down to 5-SPAN EXTENS. Press ENTER.

Extend fully and measure the boom length, subtract the retracted boom length from the extended, the result is the extension. This is the value you need to calibrate. The display will show on the upper right corner the signal in bits. This must be above 200.

Press ENTER to start the blinking and use the set buttons (#2 and #4) to adjust the extension value; press ENTER, press ENTER again to confirm.

CHECK POINT 1:

At this stage, the angle and the extension should be working properly. Scroll up to 0-RUN and press ENTER. The system will return to the normal operating mode. Check your angle to see if it shows properly. Check your boom length. The boom length should show 0 feet when fully retracted and the extension calibrated when fully extended. If this is OK, return to the calibration mode.

Select Program
6-Zero Press Full

PRESS. SENSOR CALIBRATION

Select Program
7-Zero Pres Ann.

PRESSURE SENSOR ZERO CALIBRATION (Step 6 to 7)

To zero the pressure sensors, open the lines conducting to both sensors in order to remove any residual pressure. Make sure the boom is resting at its lowest point to prevent sudden fall when the line is open.

The pressure sensor must be connected according to the schematics for normal operation.

Scroll to menu 6 ZERO PRESS FULL. Press ENTER. The reading on the upper right corner is in bits. The total scale is 1023. The display should read between 20 and 50 bits, 235 and 325 when connected through an amplifier. Press ENTER to zero. Press ENTER to confirm.

With an amplifier, if the reading is above 325 and below 450, the resolution of the system will be lower.

If maximum resolution is desired, proceed with the following: Turn the blue potentiometer on the left most card of the amplifier box to the left until the display shows less than 280. The left side of the amplifier is based on the cable glands pointing down. If the blue potentiometer is turned to the left and the display does not react. Turn to the right past two turns after the number starts to move. This will be the best adjustment possible whether or not the 280 mark was achieved. Note: on the amplifier card, voltage between TP3 and DR- must be above 15mV. Press ENTER twice.

If the reading is above 400, there may be a problem with the pressure sensor or the connections. Disconnect or change the first resistor to the left in the amplifier box.

To zero the ROD PRESS SENSOR (ANN.) Scroll down to 7-ZERO PRES. ANN. Press ENTER. The value on the upper right corner will be greater than the full side pressure sensor since a resistor was added to the connections. This resistor was added to artificially raise the signal of the

pressure sensor in order to handle potential negative pressure on the rod side.

The expected reading should be between 100 to 200, 300 to 400 when using an amplifier. If below, negative pressure may cause load reading to drop substantially when load is left hanging on the hook for an extended period of time. If above 400, the resolution will diminish.

With an amplifier, to correct the reading, turn the second blue pot from the left in the amplifier box to the left or to the right. Again, the pot must be left in a position in which if turned, the display will change and voltage between TP3 on the board and DR- must be above 15 mV. If the potentiometer is insufficient to change the reading, change the third resistor from the left on the terminal strip to a less resistant one to increase the value or to a more resistant one to lower the value.

Select Program
8-Span Pres Full

SPAN PRESSURE SENSOR ON BORE SIDE

The pressure sensor must still be unconnected to the hydraulic line. Then, in the control box or the amplifier box, connect the black and white wires of the full side pressure sensors together in the same terminal as shown on drawing.

Scroll down to 8 - SPAN PRES FULL. Press ENTER. The reading on the bottom represents the bits out of 1023 as seen by the control unit. The reading should be above 800 and not exceed 1020. Press ENTER. The value to enter is engraved on the pressure sensor below the label. A typical value will read: CAL 285.622 BARS. Enter the value engraved on the pressure sensor. If there are two lift cylinders and one pressure sensor on the full side of each cylinder, collect both calibration values engraved on the sensors and average them. Enter the averaged value as the span calibration value. Press ENTER, press ENTER again to confirm. Disconnect the white and black wires and put them in their respective terminal. Reconnect the hydraulic line.

If the bits reading is below or above the recommended values an the pressure sensor connected directly in the control box, change the amplifier jumpers, refer to the amplifier table of the manual.

In the amplifier box, try moving the first jumper on the top left side to the left or the right while the black and white wires are still jumped together. If the reading is still either smaller or greater than the recommended limits, a resistor on the amplifier board will need to be changed.

Select Program
9-Span Pres Ann.

SPAN THE ROD SIDE PRESSURE SENSOR (ANN)

The pressure sensor must still be disconnected from the hydraulic line.

If the pressure sensor is connected directly in the control box. Jump the black and the white wire of the rod pressure sensor. Scroll down to 9 - SPAN PRES ANN. Press ENTER. The reading on the bottom represents the bits out of 1023 as seen by the control unit. The reading should be above 850 and not exceed 1020. Press ENTER, enter the calibration value on the sensor E.G. 285.662 bars. Press ENTER, press ENTER again to confirm.

If using an amplifier box, connect the resistor already in terminal 6 to terminal 5 and 6 as shown on drawing. Scroll down to 9 - SPAN PRES ANN. Press ENTER. The reading on the bottom represents the bits out of 1023 as seen by the control unit. The reading should be above 850 and not exceed 1020. Press ENTER, enter 100 bars. Press ENTER, press ENTER again to confirm.

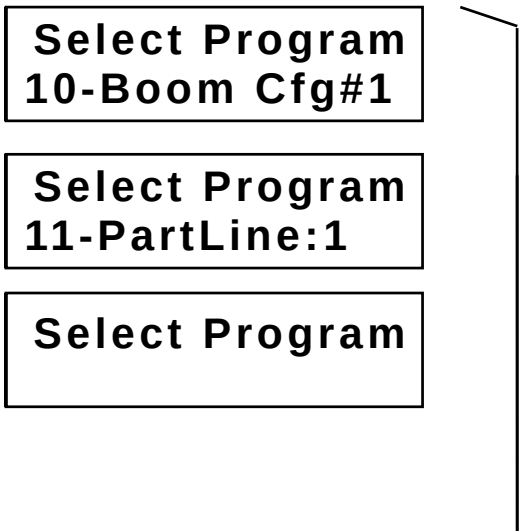
Disconnect the resistor and put it in its respective terminal. Reconnect the hydraulic line.

With amplifier, if the bits reading is below or above the recommended values, try moving the second jumper on the top left side of the amplifier box to the left or the right while the resistor is still jumped

together. If the reading is still either smaller or greater than the recommended limits, a resistor on the amplifier board will need to be changed.

CHECK POINT 2:

At this stage, the pressure sensors should work properly. Scroll up to 0-RUN and press ENTER. The system will return to the normal operating mode. Use the diagnostic menu to visualize in PSI the hydraulic pressure and boom up and down to see the full side pressure decrease as the angle increases and the annular side increase as soon as the boom is lowered. If this is OK, return to the calibration mode. Enable calibration at menu 1-CALIB., scroll down to menu 21- BACKUP and press ENTER.



12-TareLoad:0.0

Select Program
13-P1:20’ Retrac

Select Program
14-P2:60’ Retrac

RADIUS CALIBRATION

Select Program
15-P3:60’ 1/3 Ex

Select Program
16-P4:60’ FullEx

RADIUS CALIBRATION (Step 10 to 16)

Each boom configuration must be passed through the above 7 steps in order to calibrate the radius. The main boom must be calibrated before any other boom configurations like manual, jib at 0 deg., jib at 10 deg, jib at 10 deg with manual, etc...

Since the menu 10 automatically defaults to Cfg #1 (main boom), skip this step.

Scroll down to menu 11- PARTLINE:1. Press ENTER, set the proper parts on lines and press ENTER. This is to account if only on one part of line for the head sheave radius since the ball is in front of the head sheave rather than under.

Scroll down to menu 12 - TARE LOAD: 0.0. Press ENTER. Set the weight of the block as tare load. Press ENTER. This is to account for the weight of the block as a load during unloaded boom deflection in menu 15 and 16 (P3 and P4).

Scroll down to menu 13 - P1:20’ RETRAC. Press ENTER. The display will show the boom extension. If this is the main boom done for the first time, it will read 0.0. On the top right, the boom angle is displayed. As the menu describes it. Boom down to between 15 and 20 degrees, fully retract the boom.

If the angle or the boom length is incorrect, the display will indicate the expected values. If the retracted boom length cannot satisfy the requirement. Press ESC and redo the ZERO EXTENS.

Once at the correct angle and extension. Press ENTER. The radius will blink. Measure the actual radius in feet and decimals of feet and set the value on the display. Press ENTER and ENTER again to confirm.

The system will scroll automatically to menu 14- P2:60' RETRAC. Press ENTER. The displayed radius and boom length will be wrong, do not worry. Boom up to between 60 and 65 degrees. Press ENTER. While the radius blinks, set the correct radius. Press ENTER and ENTER again to confirm.

The system will scroll automatically to menu 15- P3:60' 1/3 EX. Press ENTER. Telescope out about 1/3 of the full extension of the main boom only. Press ENTER. If the length is improper, the system will indicate the acceptable length range. Continue to telescope until within the range. Press ENTER. The radius will blink. Measure the radius. It should be close and greater or equal to the displayed radius. Enter the radius and press ENTER. Press ENTER again to confirm.

The system will scroll automatically to menu 16- P4:60' FULLEX. Press ENTER and extend fully the main boom only. Press ENTER. Measure the radius. Again it should be close and greater or equal to the displayed radius. Enter the measured radius and press ENTER and ENTER to confirm.

Select Program
17-Boom Moment

BOOM WEIGHT TARE

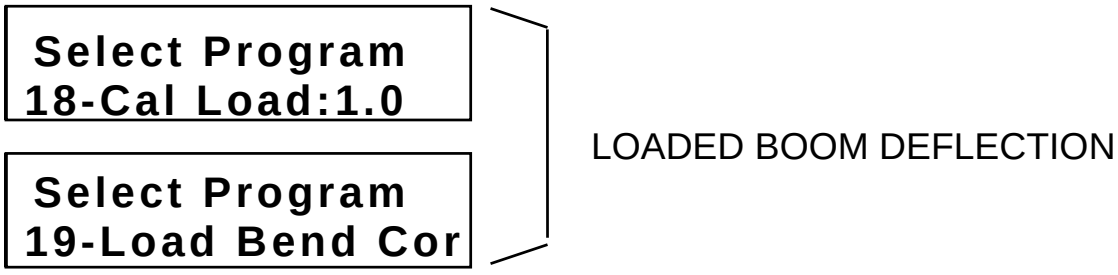
BOOM WEIGHT TARE (BOOM MOMENT) (Step 17)

If the menu 16 - P4 has just been terminated, continue. If scrolling or exiting of the calibration was done between menu 16 and 17, verify the boom configuration in menu 10 and 11.

Scroll down to menu 17- BOOM MOMENT. Press ENTER. If the radius calibration through P4 is complete for the selected boom configuration, the system will allow the boom tare to be performed.

The top display will show number 1 to indicate the sample number; 9 samples will be taken before completing the boom moment. The display will dictate the maneuvers: RETRACT BOOM, EXTENSION OK, EXTEND BOOM on the top line and BOOM UP, BOOM ANGLE OK, BOOM DOWN on the second line.

Always boom down to BOOM ANGLE OK to keep the piston friction on the same side. When both the extension and the angle is OK, put the hook block on the ground with the hoist line totally loose. Then wait approximately 10 seconds and press ENTER. Do not keep the ram cylinder at its end of travel when pressing ENTER. The system will show accepted for a brief moment and then give new instructions for sampling in a different location. Repeat the same procedure 8 more times. When sample 9 is complete, the system will show accepted twice and return to the main menu 17.



LOADED BOOM DEFLECTION (Step 18 to 19)

After completing menu 17, scroll down to menu 18 - CAL LOAD: 0.0. Press ENTER. The value to enter will be the weight used to calibrate the loaded boom deflection. The weight must be between 50% and 100% of the cranes capacity fully telescoped and at an angle between 60 and 70 degrees. The weight will include the hook block, the slings, the hoist line weight and any other load applied to the boom tip. Set the value and press ENTER and ENTER again to confirm.

Scroll down to menu 19 - LOAD BEND COR. Press ENTER. Move the boom to fully telescoped and at an angle between 60 and 70 degrees. Lift the load and measure the radius. It should be close and either equal or greater than the displayed radius. Press ENTER and the radius will blink. Increase to the new radius. Never decrease this value. Press ENTER and ENTER to confirm.

Select Program
20-Load Adjust

HOOK LOAD CORRECTION

HOOK LOAD ADJUSTMENT (Step 20)

This menu is only for the main boom. Do not perform for manual of jibs.

Scroll down to menu 20 - LOAD ADJUST. Press ENTER. Retract the boom, no need to be fully retracted, boom to about 60 degrees. Lift a load equal to 60% to 90% of the crane's capacity. Calculate the load including all the

weight, the block, the rigging and the hoist line. Press ENTER. The load displayed will blink. Use the set buttons to adjust the exact load. Press ENTER and ENTER to confirm.

CHECK POINT 3:

At this stage, the entire system should work properly up to the configuration calibrated. Scroll up to 0-RUN and press ENTER. The system will return to the normal operating mode. Use the HOIST, BOOM, CONFIG and PART buttons to configure the crane properly.

Verify the calibration weight used at menu 20 - LOAD ADJUST at minimum and maximum allowable radiuses. The displayed load should be between 100% and 110% of the actual load.

Verify the weight of the hook block at two angles and two boom lengths. The hook block weight displayed should be equal to hook block plus or minus 0.5% of the maximum rated capacity of the crane. There may be instances like at maximum or minimum boom angle or fully telescoped when the hook block weight may exceed the recommended accuracy.

Pick a small load (90% of capacity at maximum radius) and verify again at two angles and two boom lengths. The displayed load should be between 100% and 110% of the actual load.

Verify that the load is fairly constant while booming up or booming down at constant speed.

Verify the radius, the angle and the capacity at two angles and two boom lengths.

If all the above are OK, return to the calibration mode. Enable calibration at menu 1-CALIB., scroll down to menu 21- BACKUP and press ENTER. Then return to menu 10 to select another boom configuration and proceed from menu 10 to menu 19 for each subsequent boom configuration.

SAVING CALIBRATION

BACKUP (Step 21)

Scroll to menu 21- BACKUP. Press ENTER. The system will save the calibration in a spare bank called B bank. If in the next calibration stages, an error is made, it will be possible with the menu 22 - MEMORY to discard the new changes and retrieve the previously saved calibration.

The use of this function is not necessary to store calibration. Calibration is when confirmed stored in the calibration bank A. This bank like the bank B are permanent EEPROM bank. They are not battery backed up and are non volatile. The calibration will be stored forever unless changed by recalibration or damaged by powerful electrostatic or electromagnetic fields.

To our knowledge, this is a very improbable situation not yet recorded for this product.

Select Program
22-Memory

MEMORY MANAGEMENT

Scroll to menu 22 - MEMORY. Press ENTER. The top display will indicate the status of both the memory banks A and B. A must read OK for the system to operate. By scrolling up and down, the bottom display will offer many options:

A > B

This is just like the menu 21, by pressing ENTER and the safety access code displayed on the top screen, the content of the bank A will be copied into the bank B.

B > A

This option will copy the content of the bank B into the bank A. The safety code must be entered to proceed.

SWAP A <> B

This option will place the bank A into the bank B and at the same time the bank B in bank A. Both bank will be preserved but switched. The safety code must be entered to proceed.

INIT. MEMORY A

This option will obliterate all calibrations from the bank A. This should only be done when a system is installed for the first time or if an incompatible operating system is installed in the system. This must never be done during or after calibration. The safety code must be entered to proceed.

INIT. MEMORY C

This option is not used.

GENERAL CALIBRATION DATA (Step 23 and 31 to 47)

The general calibration data menu is a sub-menu to access 16 different variables used in various operations of the systems. These variables are located in a sub-menu not to over crowd the main menu. In this menu, the ESC button can be used to return to the main menu at step 23. Also, there is no double confirmation when calibrating.

Scroll through the various variable. Press ENTER to obtain the setting mode. Use the SET buttons to change the value and press ENTER once to confirm. Then scroll to the next value.

The variables are listed below:

The distance between the center of rotation and the boom base pin. Negative if the boom base pin is behind the center of rotation.

Select Program
32-Sheave R:0.3

The radius of the boom head sheave block. It is used to compensate the radius when lifting with one part line.

Select Program
33-Hght Off:6.0

The height offset is the distance between the ground and the boom base pivot. It is used to determine the height of the boom head sheave block from the ground. Add the clearance height above the boom head sheave block to use the height display as the head room height of the crane.

Select Program
34-Rope Mn :4.5

This is the maximum line pull permitted per part of line on the main hoist. This value will be used as the load limitation if lower than the radius capacity.

Select Program
35-Rope Aux:1.0

This is the maximum line pull permitted per part of line on the auxiliary hoist. This value will be used as the load limitation if lower than the radius capacity.

Select Program
36-Max Parts:4

Set the maximum number of parts of lines. This will apply to all hoists when pressing the PART button, the number of parts will increase to the set number and return to one.

Select Program
37-%/Part:2.0 %

This value allows departing of the hoist line capacity when reeving with more than one part. The total rope capacity will derate by the percent set multiplied by the number of parts of lines -1.

Select Program
38-Block 1:50.0

This variable is an internal hook load limit beyond which the operator will not be allowed to change the reeving or the configuration. Outside Europe, it is usually set to a greater value than the crane's capacity. Block 1 only applies to the main boom configuration.

Select Program
39-Block 2:50.0

This variable is an internal hook load limit beyond which the operator will not be allowed to change the reeving or the configuration. Outside Europe, it is usually set to a greater value than the crane's capacity. Block 2 applies to all jib configurations, manual and rooster included.

Select Program
40-Alarm#1:90.0%

This setting is the pre-alarm on load. When the set percentage is reached, an intermittent buzzer is activated as well as blinking of the left most indicator light with the yellow triangle.

Select Program
41-Alarm#2:100.0

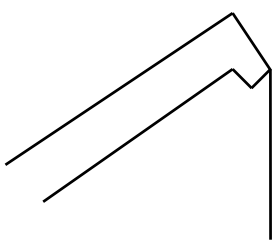
This limit is the maximum load limit set by the rope capacity or the chart. The percent used should be 100%. When reached, the read indicator light with the octagon and the pre-warning indicator light are on and the buzzer is continuous. The lock-out is not activated.

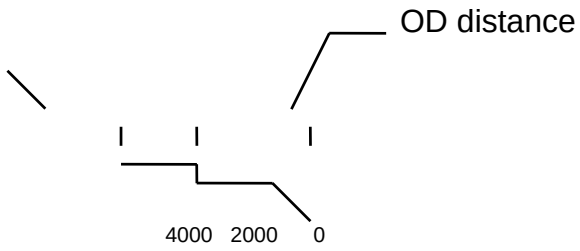
Select Program
42-Alarm#3:102.0

The alarm 3 is the lock-out activation. It is based on the percent of maximum load.

Select Program
43-OD Rad:0.5

This variable represents a transition distance between the last radius rating and zero. If the operator is lifting a load at the outer most radius on the chart, the alarm may sound even if there is no overload if the actual or displayed radius exceeds the chart radius even by one inch. The OD (OUT of DUTY on RADIUS) will allow a straight line capacity from the chart value to zero and stretched over the distance set by this variable.





Select Program
44-OD Angle:0.0

The OD variable on the angle applies to angle based charts and allows a smooth transition from the lowest degree capacity on the chart to zero capacity. This variable is set in degrees. Usually 1.

Select Program
45-OD Lgth:0.0

The OD length variable represent the acceptance zone where the specific boom length based capacity chart is still accepted. This is a very important factor for full retracted boom length charts were the length sensor may be off by a few inches due to layering on the cable reel. It is also critical when the real boom length exceeds the maximum boom length on the chart. The distance entered for this variable will extend the acceptable boom length for the specified boom length on the chart.

Select Program
46-ID Lgth:0.0

The ID length variable fulfill the same task as the OD length variable but applies to the minimum retracted boom length acceptable to obtain the retracted boom length chart.

Select Program

47-Rig Ang:-5.0

The RIG ANGLE is a set angle below which the operator can bypass permanently the lock-out by pressing on the RIG button. This function is used to allow the rigging of jibs or reeving at angles below the chart and at which the operator would be locked. The RIG function is canceled when the operator booms up above the set angle or if the system is turned off.

DIMENSIONS (Step 24 and 60 to 73)

The dimensions menu is like the Calibration Data menu an access to numerous variables. In this case, the variables are all dimensions necessary to calculate the hook load from the ram hydraulic pressure.

The dimensions are shown on the 1258 crane dimensions drawing.

In this menu, the ESC button can be used to return to the main menu at step 24. Also, there is no double confirmation when calibrating.

Scroll through the various variable. Press ENTER to obtain the setting mode. Use the SET buttons to change the value and press ENTER once to confirm. Then scroll to the next value.

The variables are listed below:

Select Program
60-P2BLH:6.00

P2BLH: Horizontal distance in feet and tenths of feet between the boom base pin and the lift cylinder base pin.

Select Program
61-P2BLV:6.00

P2BLV: Vertical distance in feet and tenths of feet between the boom base pin and the lift cylinder base pin.

Select Program
62-P2BUH:6.00

P2BUH: Distance parallel to boom between boom base pin and lift cylinder top tin in feet and tenths of feet.

Select Program
63-P2MHH:6.00

P2MHH: Horizontal distance between center of main hoist drum and boom base pin in feet and tenths of feet. If the drum is mounted on the boom, this dimension is 0.00 .

Select Program
64-P2MHV:6.00

P2MHV: Vertical distance between center of main hoist drum and boom base pin in feet and tenths of feet. If the drum is mounted on the boom, this dimension is 0.00 .

Select Program
65-P2AHH:6.00

P2AHH: Horizontal distance between center of auxiliary hoist drum and boom base pin in feet and tenths of feet. If the drum is mounted on the boom, this dimension is 0.00 . If there is no auxiliary drum enter 0.00 .

Select Program
66-P2AHV:0.00

P2AHV: Vertical distance between center of auxiliary hoist drum and boom base pin in feet and tenths of feet. If the drum is mounted on the boom, this dimension is 0.00 . If there is no auxiliary drum enter 0.00 .

Select Program
67-B: 0.00

B: The distance perpendicular to the boom between the boom base pin and the lift cylinder top pin in feet and tenths of feet. When the boom is horizontal, if the boom base pin his higher than the lift cylinder top pin, the distance is positive. If the boom base pin is below the lift cylinder top pin, the distance is negative.

Select Program
68-BoreDiam:4.56

BORE DIAMETER: The inside diameter of the lift cylinder in inches and tenths of inches. If this dimension is not precisely known, the hook load displayed after calibration could be wrong. It can however be corrected by the LOAD ADJUST menu.

Select Program
69-Ann.Gain:0.80

ANNULAR GAIN: The annular gain is the ratio between the full side and the rod side of the lift cylinder. The squared diameter of the rod divided by the squared diameter of the bore minus one will equal the value. The value is

negative and must be entered negative on the display by using the set button to go below zero.

Select Program
70-# of Rams:1

OF RAMS: Enter the number of lift cylinder either one or two.

Select Program
71-Hst M.R:0.8

HST M.R.: The radius of the main hoist drum from the center to the middle of the hoist line layers. This distance is approximate and does not play a critical role in the load accuracy. Enter in feet and tenths of feet.

Select Program
72-Hst A.R:0.7

HST A.R.: The radius of the auxiliary hoist drum from the center to the middle of the hoist line layers. This distance is approximate and does not play a critical role in the load accuracy. Enter in feet and tenths of feet.

Select Program
73-C: 1.00

C: The distance perpendicular to the boom between the boom base pin and the sheave above the boom head sheave block in feet and tenths of feet. If the hoist drum is mounted on the boom this dimension is zero. This

dimension allows to calculate the angle at which the hoist line applies a luffing tension on the boom.