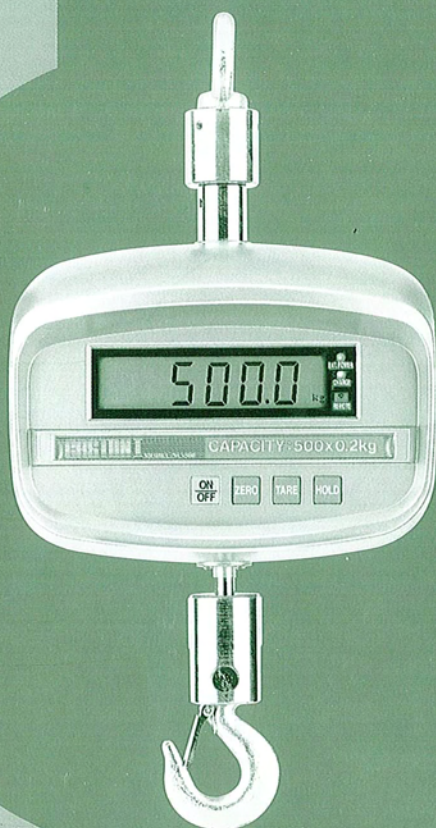


Crane Scale

NC-1 Series

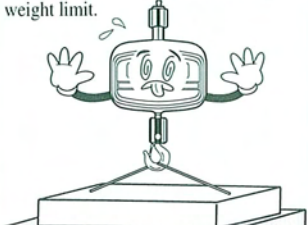
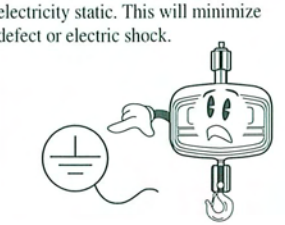
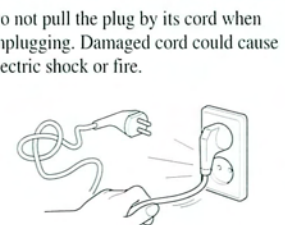
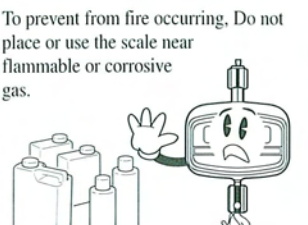
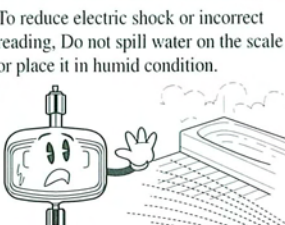
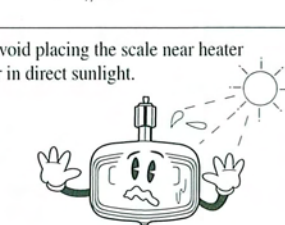
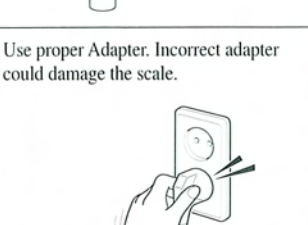
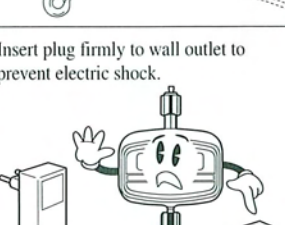
OWNER'S MANUAL

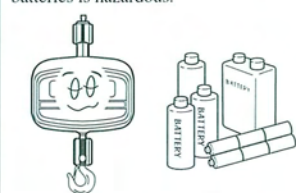
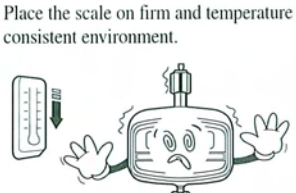
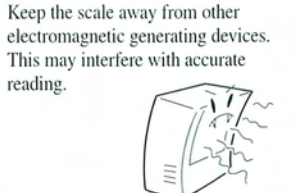
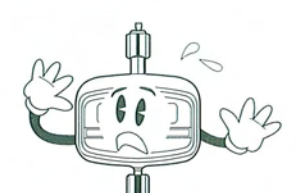


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PRECAUTIONS

Warning		
Do not disassemble the scale. When any damage or defect occurs, contact your CAS authorized dealer immediately for proper repair. 	Do not overload beyond the maximum weight limit. 	Scale must be grounded to minimize electricity static. This will minimize defect or electric shock. 
Do not pull the plug by its cord when unplugging. Damaged cord could cause electric shock or fire. 	To prevent from fire occurring, Do not place or use the scale near flammable or corrosive gas. 	To reduce electric shock or incorrect reading, Do not spill water on the scale or place it in humid condition. 
Avoid placing the scale near heater or in direct sunlight. 	Use proper Adapter. Incorrect adapter could damage the scale. 	Insert plug firmly to wall outlet to prevent electric shock. 

Attention		
For consistent and accurate reading, maintain periodical check by your CAS authorized dealer. 	Avoid sudden shock to the scale. Internal mechanism could be damaged. 	Take the battery out when scale is not in use for long time. Leakage from the batteries is hazardous. 
Place the scale on firm and temperature consistent environment. 	Keep the scale away from other electromagnetic generating devices. This may interfere with accurate reading. 	

INSTRUCTION

We greatly appreciate your purchase of the **NC-I**.
These goods perform excellently and exhibit splendid properties through strike tests.
Before using the **NC-I**, it is recommended that you read this manual carefully so you may use this device to its full potential.

FEATURES

Appropriate hoist scale for industrial field
Useful Zero, Tare and Hold function
Weight Back-Up
Easy to move
Be able to control with remote controller

MAIN FUNCTIONS

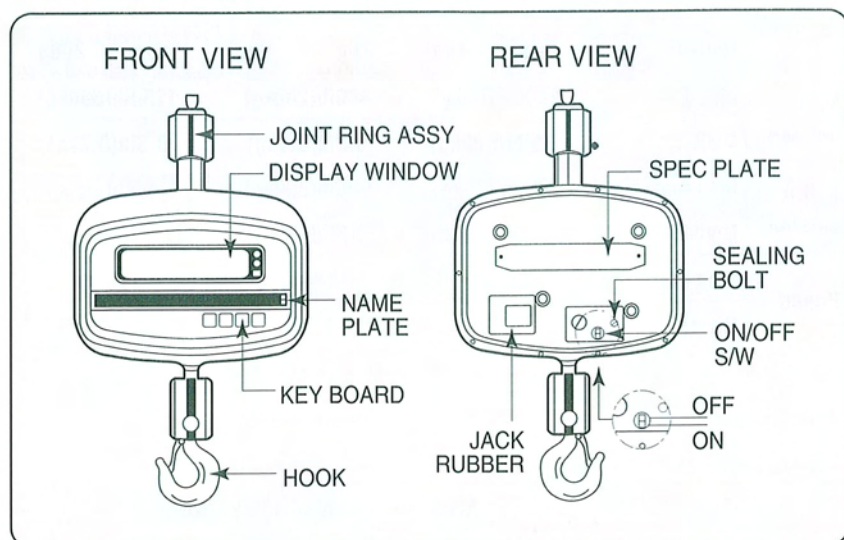
User can change the stable condition and range of digital-filter at user's option
Self Hardware test (internal A/D value, Battery power, key and etc)

TECHNICAL SPECIFICATION

Kilogram	Max Capacity	20kg	30kg	50kg	100kg	200kg	500kg
	Division	10g	10g	20g	50g	100g	200g
kg/lb version	Max Cap	200lb(100kg)		400lb(200kg)		1250lb(500kg)	
	Division	0.1lb(0.05kg)		0.2lb(0.1kg)		0.5lb(0.2kg)	
U.S.A version	Max Capacity	250lb(125kg)		500lb(250kg)		1000lb(400kg)	
	Division	0.1lb(0.05kg)		0.2lb(0.1kg)		0.5lb(0.2kg)	
Pound	Max Capacity	250lb		500lb		1000lb	
	Division	0.1lb		0.2lb		0.5lb	
A/D Speed		20 times/second					
Tare Subtraction		Full Capacity					
Display below zero		“ – ” minus sign					
Excessive Weight		Maximum + 9d (display “ OUEr ”)					
Weight Display Type		LCD (5 digit + Sign, 1 Inch Height)					
Character Display		ZERO, TARE, BAT, POWER, CHARGE					
Keys		ON/OFF, ZERO, TARE, kg < – > lb(HOLD)					
Battery		7.2V , 2A (Li – ion)					
Power and Battery consumption		Use the Backlight			Not use the Backlight		
		0.45 W			0.17 W		
		Approximate 22 Hours			Approximate 58 Hours		
Operation Temperature		– 10℃ ~ + 40℃					
Rechargeable Adapter		110/220VAC 12V, 1.5AH					
Rechargeable Time		4 ~ 5 Hours					
Low BAT & Power Off		LOW BAT : Below of 6.7V, POWER OFF : 6.4V					
WEIGHT		Approx. 5.5kg					

DESCRIPTION OF OVERALL

1. OVERALL VIEW



2. DISPLAY



3. LAMP of DISPLAY PART(Front body)

LED	Power	ON	Being connected the Adapter		
	Charge	RED	In charge	GREEN	Charge is completed
	Remocon	Receiving part from remote controller			
LCD	BAT	Display the battery recharging time (rechargeable battery)- about 6.7V remain			
	—	Below zero			
	ZERO	ON when current weight is " 0 "			
	TARE	ON when tare is activated			
	OZ/lb/kg	Weight Unit			

4. KEY

KEYS	FUNCTIONS
ON OFF	Power is ON while pressing for 1 second Power is OFF while pressing for 2.0 seconds Above function is possible while the power switch on the rear part is ON Please turn off the power switch on rear part when not use for a long time.
ZERO	It makes the current weight within the zero range to zero ($\pm 2\%$ of maximum capacity) Pressing ZERO key for 2 second, can enter the TEST Mode
TARE	It is used to weigh with a container If press the tare key at unload state, Tare state is released Pressing the ON/OFF key while tare key is pressed, can enter the SET Mode
HOLD	It is used to weigh the moving things If you press this key once more in the hold mode, hold state is released (at AVERAGE HOLD, at MANUAL HOLD, at PEAK HOLD)
kg↔lb	It is used to change the unit of weight(kg↔lb)Toggle – U.S.A. version This key is not operated in the area which lb unit is used only

5. REAR PART

POWER	Power Switch
	Main Power Switch (If use, you have to turn on this switch)
Jack Cover	Charger Adaptor connector
	If you want to recharge the battery, Connect to the adaptor.

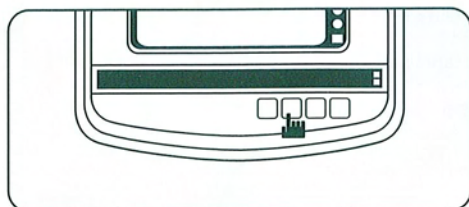
THE OPERATION

1. POWER ON

- Press "ON/OFF" key.

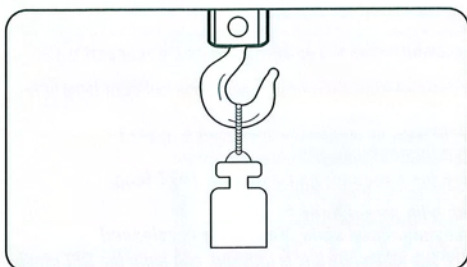
2. ZERO OPERATION

- Press "ZERO" key when the zero point is drifted.



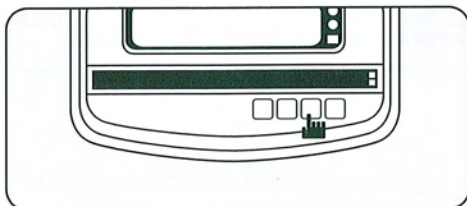
3. TARE OPERATION

- Load tare on the hook.

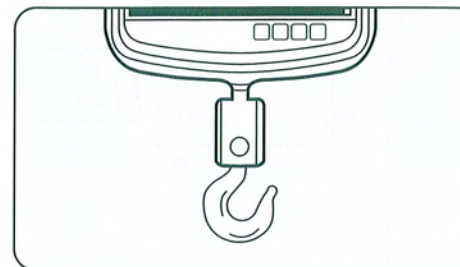


- Press "TARE" key.

"0" is displayed, and the tare is subtracted.

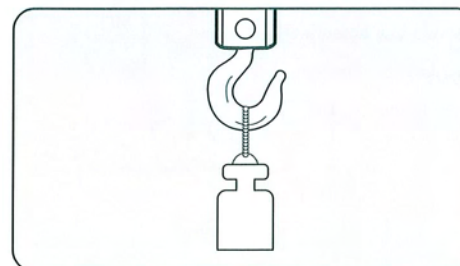


- Remove tare on the hook.



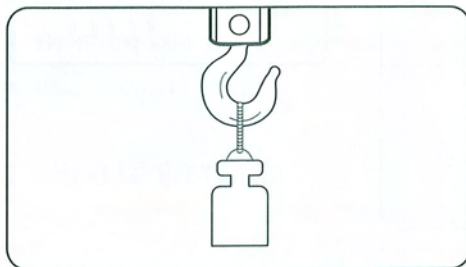
- Press "TARE" key.

The tare weight is cleared appears in the display window.

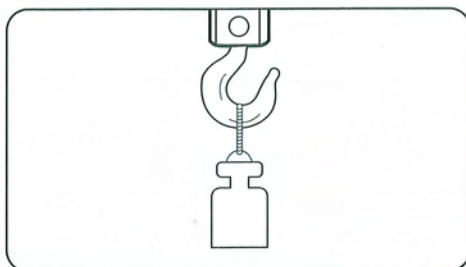


4. UNIT CONVERSIONS

- Place an item to be weight on the hook. (KILOGRAM MODE)



- Remove weight on the hook.
- Press "kg/lb" key. (POUND MODE)
- Place an item to be weight on the hook.



TEST MODE

How to enter TEST Mode

- Pressing the **ZERO** key for 2 seconds in the normal mode, enter the test mode with display the message **tEst 1**. Press the **HOLD** key or **kg↔lb** key to execute the test mode. (test2~5 is same sequence.)

If press the **HOLD** key in the test mode, test mode is ended and then enter the normal mode.

(Ref. You can't enter the test mode while in the state of Hold or Tare.)

Test menu (tEst 1~5)

- tEst 1** : Display Test
- tEst 2** : Load Cell and A/D Conversion Test
- tEst 3** : The IC(CPU) Temperature Test
- tEst 4** : Battery Test
- tEst 5** : Key Test

Available keys

KEYS	FUNCTIONS
ON/OFF	Exit Test mode and then enter the Normal mode
ZERO	Use the backlight(only TEST 1)
HOLD or kg↔lb	Move the next menu and then execute TEST Mode

TEST 1

FUNCTION : LCD TEST

KEYS	LCD SCREEN	DESCRIPTION
ZERO : Backlight		Display TEST 1 state
HOLD , kg↔lb : execute test 1		Display all digits on the screen

TEST 2

FUNCTION : Load Cell and A/D Conversion TEST

KEYS	LCD SCREEN	DESCRIPTION
HOLD or kg↔lb : execute test 2		Display TEST 2 state Display the digital value Corresponding to current weight

TEST 3

FUNCTION : The IC (CPU) Temperature TEST

KEYS	LCD SCREEN	DESCRIPTION
HOLD or kg ↔ lb : execute test 3	24 °C	Display TEST 3 state Display the temperature of IC (CPU)

TEST 4

FUNCTION : Battery TEST

KEYS	LCD SCREEN	DESCRIPTION
HOLD or kg ↔ lb : execute test 4	802	Display TEST 4 state Display the current value of battery

TEST 5

FUNCTION : Key Test

KEYS	LCD SCREEN	DESCRIPTION
HOLD or kg ↔ lb : execute test 5	PUSH Zero	Display TEST 5 state Pressing the key to test shows (Power, Zero, Tare, HoLd)

SET MODE

How to enter SET Mode

- Turn on the power while pressing

TARE

 key , after displaying the message

SEt

 and then enter the SET Mode.
Return to the normal mode if you press the

HOLD

 key or

kg ↔ lb

 key long.

SET Menu (F0 – F6)

Menu	Contents	Menu	Contents
F 0	Setting the value of Digital-Filter	F 4	Weight Backup
F 1	Setting the stable time of weight	F 5	Setting the hold type
F 2	Setting the stable range of weight	F 6	Setting the time of Auto Display Off
F 3	Setting the Back Light		

Available keys

KEYS	DESCRIPTION
ON OFF	Menu Cycle (F0 ~F6F0)
ZERO	Increase the setting value
TARE	Decrease the setting value
HOLD or kg ↔ lb	Store the current setting value (Not exit)
HOLD or kg ↔ lb	After storing all setting value and then exit SET Mode

F 0

FUNCTION : Setting the value of Digital-Filter

KEYS	LCD SCREEN	Setting value	DESCRIPTION
ON OFF , TARE	F0-04	00	00 : Not use Digital-Filter (Speed of display conversion is fast)
HOLD , kg↔lb		0.9	09 : Speed of display conversion is slow

F 1

FUNCTION : Setting the stable time of weight (step : 0.1 sec.)

KEY	LCD SCREEN	Setting value	DESCRIPTION
ON OFF , TARE	F1-04	00	000 : Setting the time within 0.5 second
HOLD , kg↔lb		0.9	09 : Setting the time within 1.4 second

F 2

FUNCTION : Setting the stable range of weight (step : 0.5 division)

KEY	LCD SCREEN	Setting value	DESCRIPTION
ON OFF , TARE	F2-04	00	00 : Setting the range within 0.5 division
HOLD , kg↔lb		0.9	09 : Setting the range within 4.0 division

F 3

FUNCTION : Setting the stable range of weight (step : 0.5 division)

KEY	LCD SCREEN	Setting value	DESCRIPTION
ON OFF , TARE	F3-02	00	Always Off
		01	Always ON
HOLD , kg↔lb		02	Back Light ON whenever weight is loaded
		03	Back Light ON Whenever the weight is stable

F 4

FUNCTION : Weight Backup

KEY	LCD SCREEN	Setting value	DESCRIPTION
ON OFF , TARE	F4-00	00	Not use
HOLD , kg↔lb		01	Use (Zero, Tare, Status)

F 5

FUNCTION : Hold Type

KEY	LCD SCREEN	Setting value	DESCRIPTION	
ON OFF , TARE	F5-00	00	Average Hold	Calculate the average of moving weight
HOLD , kg↔lb		01	Peak Hold	Calculate the peak of moving weight

Description of HOLD Function

1. When the F5 is set to 00

Case 1 (When the hold key is pressed in unloaded state) : Auto-Average Hold Function

If you press the Hold key in unloaded state, after displaying the **RMOn** and the Hold function Is started.

Just When the weight is changed (above the 1division) , being displayed **hold** and the changed weight is hold

If you want to release the Hold function, have to press Hold key in unloaded state certainly

When the Hold function is released, being displayed the message **RMOff**

Case 2 (When the hold key is pressed in loaded state) : Manual Hold Function

When you want to hold the current weight, just press Hold key.

After displaying the **hold** and the Hold function Is started.

In Hold state

- if the weight is not changed, the current weight is not changed
- if the weight is changed(above the 10% of Max capa), the current weight is changed and the Hold function is released
- Whenever unloaded states, the Hold function is released automatically
- Also you want to release the Hold function, have to press Hold key in unloaded state certainly
- If Hold function is released, you can see the message `holdFF` .

2. When the F5 is set to 01

- The maximum value of weight is showed when the Hold key is pressed
- If the Hold key is pressed once, the peak Hold function is started
- If Hold function is released, you can see the message `holdon` .
- If the Hold key is pressed again, the Hold function is released
- If Hold function is released, you can see the message `holdFF` .
- (Ref> If the weight is '0' lb or '0' kg, this function is not operated.)

F 6

FUNCTION : Setting the time of Display off automatically

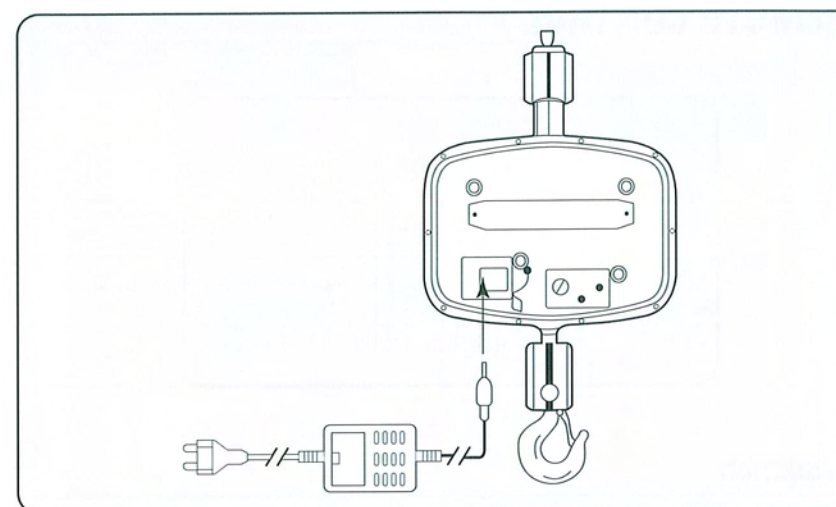
KEY	LCD SCREEN	Setting value	DESCRIPTION
ON OFF , TARE		00	Not use
		01	Display all off in 3 minutes
		02	Display all off in 6 minutes
HOLD , kg↔lb		03	Display all off in 9 minutes

- Ref. 1. Operates the function of F6 which anything is set when the weight is in zero state.
2. The Display is ON when the weight is not in zero state or when the any key In the remote controller and front cover is pressed

BATTERY OPERATION

1. CHARGE

- A. The rechargeable battery inside the NC scale must be charged using the voltage which don't exceed $\pm 10\%$ of the voltage indicated on the adapter.
- B. If the voltage for charging exceed the above limit, the battery would be damage.
- C. Check if an output voltage is DC 12V 1.5A.
- D. Remove ADAPTOR JACK COVER of REAR PANEL and connect adaptor with an scale like the following figure.



- E. If adaptor is connected with the scale, Red lamp is on(Power) and Charge lamp is on(Red : charge, Green : complete charge)
- F. Time of charge is approximate 4~5 hours.
- G. If main power switch is off, charge is not operate.(Red lamp is blinking.)
Do check main power switch(Main power switch is located Rear panel)

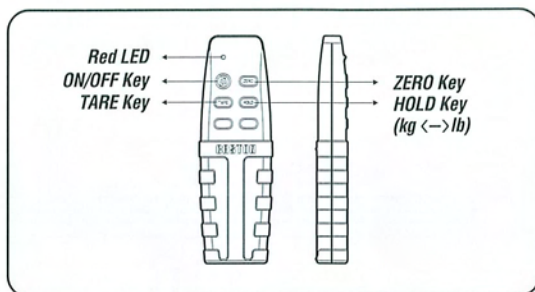
2. Discharge

- If you use the battery continuously, discharge time is as fallows.
- A. with the backlight -> approximate 22 hours
- B. without the backlight -> approximate 50 hours

3. LOW BATTERY("BAT.") SIGNAL

- A. To protect over-discharge of Battery, A. To protect over-discharge of Battery,
 "BAT" LAMP is on when battery has to be charge. (80% of full charged voltage)
- B. A scale turns power off automatically below the fixed voltage
 (75% of full charged voltage). You can show "LobAt" message before turn power off.
 "BAT" LAMP is on when battery has to be charge.
 (80% of full charged voltage)
- B. A scale turns power off automatically below the fixed voltage
 (75% of full charged voltage).
 You can show "LobAt" message before turn power off.

REMOTE CONTROL



■ FUNCTION

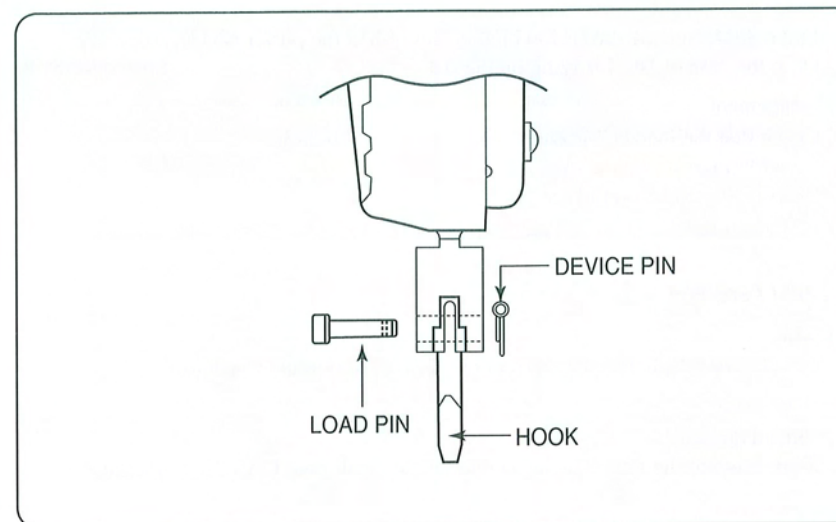
RED LED	<i>Blinking whenever key is pressed</i>
ON/OFF KEY	<i>Display ON/OFF(Toggle)</i>
ZERO KEY	<i>It makes the current weight within the zero range to zero (± 2% of maximum capacity)</i>
TARE KEY	<i>It is used to weigh with a container</i>
HOLD KEY/ Kg -> lb KEY	<i>It is used to weigh the moving things It is used to change the unit of weight (kg <-> lb Toggle - U.S.A. version)</i>

* Remote controller is working within 60° and distance of 7~10m

■ POWER

Voltage	1.5V
Size	AA Size(14.5 X 50.5 m/m) - Battery
Note on the replacing battery	Place batteries in correct polarity(+)(-)direction.
	Do not use new batteries with the used

ASSEMBLE AND DISASSEMBLY



ERROR MESSAGES & TROUBLE SHOOTING

Err 01

- Cause
The Indicator can't be initialized due to platform shaking
- Management
Put the platform on a flat place without shaking and power on
If you can see the same message continuously, call your CAS dealer please.

Err 02

- Cause
Initial A/D value of zero is too high or low, when the power is ON
Or in the case of NC-I is lying on the flat
- Management
Check that the load cell is well connected with main unit
Or calibration is done wrongly
Don't lie the NC-1 on the flat
If you can see the same message continuously, call your CAS dealer please.

Err 09 (Zero Key)

- Cause
The current weight exceeds zero range (2 % of Maximum Capacity)
- Management
Unload the scale
If you can see the same message continuously, call your CAS dealer please.

Err 13 (Zero Range when the Power is ON)

- Cause
The initial zero range exceeds above 10% of maximum capacity
- Management
Unload the scale
If you can see the same message continuously, call your CAS dealer please.

BAT or LobAt

- Cause
Need to recharge of battery
(After display 'LobAt', the power is off automatically in 2 second)
- Management
Connect the adaptor with outlet of charge battery of rear part
(Charging time is about 4~5 hours)
If you can see the same message continuously, call your CAS dealer please.

oUEr

- Cause
Too heavy object is put on platform so that it may exceed the maximum capacity
- Management
Never put the weight exceeding the maximum capacity
If you can see the same message continuously, call your CAS dealer please.
If the load cell is damaged, replace the load cell

* Ref. The function of this manual can be changed without previous warning !!