LNW-6

LIFT-N-WEIGH

Lift Truck Scale

ON/OFF SWITCH - ZERO BUTTON
ACCUMULATE-PRINT BUTTON
FRONT PANEL CALIBRATION
OVERLOAD WARNING DISPLAY
RS232 INTERFACE OPTION

Pacific Scale Co.
PO Box 1606 - 16002 SE 106th
Clackamas, OR 97015
Phone 1-503-657-7500 or 1-800-537-1886
www.pacificscale.com & www.forkliftscales.us

LIFT-N-WEIGH

The Lift-N-Weigh model LNW-6 provides a quick and convenient weight check for shipping and receiving. Weighing while handling eliminates those extra time consuming trips to a stationary scale. Mounted for viewing, while not interfering with visibilty, it gives the operator a quick check for unsafe overloads.

The Lift-N-Weigh operates on the principal that there is a direct correlation between the pressure in a lift cylinder and the weight on the forks. A transducer in the instrument changes hydaulic pressure to an electrical signal, which ends up as a weight reading on the display.

Installation consists of mounting the display at a convenient location. "Teeing" into the lift truck hydraulic line and connecting it to the display. The D.C. power line is then connected to the lift truck battery. The unit comes pre-calibrated for a specific lift truck. If the weight reading is incorrect or the scale is installed on a different truck it can be re-calibrated in the field. A 6 foot - high pressure hose and DC wiring harness are included. We do not furnish the "Tee" fitting to connect to your hydraulic lines.

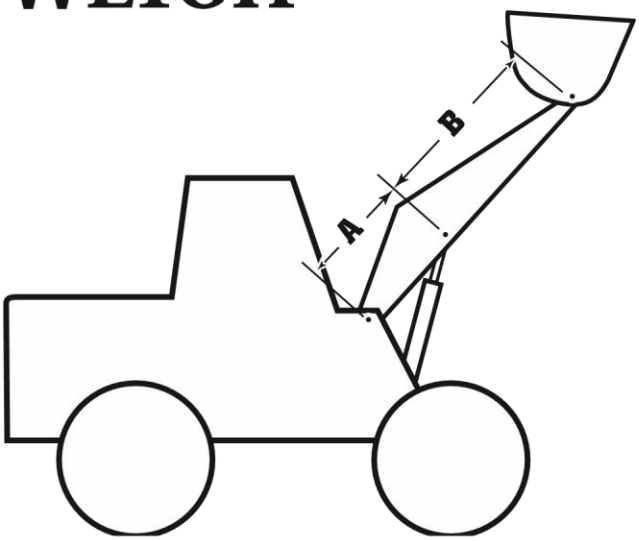
SPECIFICATIONS

CAPACITIES -	To match the vehicle up to 75,000 lbs. Higher capacities using decimal Tons.
DISPLAY -	8 digit liquid crystal display height of numbers 0.70" backlit for high visibility
POWER -	12 volt D.C. to 50 volt D.C.
CONTROLS -	ON/OFF switch, Remote Pushbutton Front Panel buttons Calibration from front panel.
HOUSING -	Cast Aluminum with Polycarbonate bezel
GRADUATIONS -	1, 2, 5, 10, 20, 50 lbs. & decimal Tons
DIMENSIONS -	Housing - 5.75" wide x 3.5" deep x 3.75" high Overall - 6.75" wide x 4.75" deep x 6" high
OPTIONS -	RS232 output for Printer or computer. Total and Load Setpoints to operate display warnings, "TOT OVER" & "WT OVER"

ACCURACY

The operating accuracy, when installed on the vehicle, is governed by the mechanical conditions of the vehicle. The indicator operates off the pressure developed in the main lifting ram. Because of the friction in the piston and the mast, actual weighing accuracy will be from 1% to 2% of the scale capacity for lift trucks. **THIS SCALE IS A WEIGHT ESTIMATOR AND SHOULD NOT BE USED FOR COMMERCE.**

P.O. Box 1606 - 16002 SE 106th
Clackamas, OR 97015
Phone (503) 657-7500 - (800) 537-1886
Fax (503) 657-5561
email - psco@pacifier.com
Web - Pacific Scale Co. - www.pacificscale.com
- LNW Mfg. Dept. - www.forkliftscales.us



ORDERING INFORMATION

LOADER	LIFT TRUCK
1. Make:	1. Make:
2. Model:	2. Model:
3. Capacity:	3. Capacity:
4. No. of Lift Cylinders:	4. No. of Primary Lift Cylinders:
5. Inside Cyl. Dia.:	5. Inside Diameter Primary Cylinder:
6. Distance "A":	6. Lift ratio:
7. Distance "B": Equipped with: ☐ Bucket ☐ Forks	To establish lift ratio raise ram 12" If forks raised 12", ratio is 1:1. if 24" ratio is 2:1, etc.
8. Voltage:	7. Voltage:

Warranty

Pacific Scale Co. warrants to the original purchaser that it will repair or replace any part which in its judgement is defective in material or workmanship. Warranty period is 365 days from date of shipment. Special 5 year warranty on Main board electronics if found to be defective in material or workmanship. See owner's manual for complete warranty and return instructions.

Distributed by:

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Important Notice

Your new LNW-6, Serial No._____, was precalibrated for installation on a **Make** _____

Model _____ before leaving the factory.

Note: Unit must be recalibrated after installation on your vehicle.

The Unit can be installed on almost any capacity truck from 1000 lbs capacity to 500,000 lbs. capacity

Please read the Operating Instructions on pages 4 & 5 and Troubleshooting on page 9 before attempting to re-calibrate the indicator.

Do NOT spend over 30 minutes

in testing and adjusting.

If you spend more time than this or are having problems. Please call for technical assistance

1-800-537-1886

LNW Tech ext. 109

If you call, please have available:

1. **LNW Indicator Serial number** _____.
2. **Program version** *(Shown on power up - typ. PR-477C)*_____.
3. **Make (Truck)**_____.
4. **Lift capacity of the vehicle**_____.
5. **Number of Lift cylinders**_____.

6. D.C. voltage supplied by the truck_____.

7. Description of the problem_____.

**** CAUTION ****

Because Lift trucks can vary greatly in their configuration from Manufacturer to Manufacturer and model to model, the instructions for installation of the indicator are general in scope. A qualified lift truck technician may find an alternate means to install the scale which is better suited to the situation.

Pacific Scale Co., Inc. strongly recommends that when installation procedures are followed which depart from those outlined herein, the safety of personnel and equipment must be accorded primary consideration.

LNW-6

Introduction

Your new LIFT-N-WEIGH Model LNW-6 was designed to provide you with a reliable, versatile and compact weighing system. While there are a number of variables affecting the hydraulic system pressure - fluid viscosity, temperature, mechanical friction, leaking seals, etc., this manual is intended to show you how to get the best performance out of your LIFT-N-WEIGH.

Description

Principle of Operation

The lift truck scale works on the principle that the lift truck hoisting pressure is directly proportional to the applied weight on the forks. The hydraulic pressure is converted into an electrical signal by a pressure transducer. After the completion of calibration procedures, the reading on the display is the weight on the forks.

Pressure Transducer

The transducer uses a strain gauge bridge to convert the hydraulic pressure in the lifting cylinder into a proportional electrical output. This unit is capable of sensing pressure from 0 psi. to 5,000 psi at full scale. The transducer is built into the indicator enclosure for maximum protection and easier installation. A high pressure hose from the lift truck (see installation page) connects to a 1/4" NPT female swivel fitting on the back of the indicator housing.

Digital Indication

The LNW indicator uses solid state technology to achieve a high degree of accuracy on the test bench. This however, is downgraded by the friction and slight differences in psi. during the lifting cycle in the lift truck. The load on the forks is displayed on a backlighted liquid crystal display for easy viewing in both bright and poorly lighted situations.

Housing

A heavy cast aluminum housing helps protect the indicator against mechanical damage. All openings are gasketed and sealed to minimize contamination from dust and moisture.

Power Requirements

The LNW-6 indicator has approx. 100 mA current draw. The LNW Units have the Wide Input Voltage Regulator (WIVR) installed, as part of the standard unit, and can operate from 12 to 48 Vdc input and provide regulated power for the Printer and Setpoint options, if purchased, provided reasonably clean power is supplied.

Due to problems of dirty power, including voltage spikes from gear pump motors, if the LNW Unit is to be used on DC systems of greater than 24 volts, or used with options on systems greater than 12 vdc, the installation of a Heavy Duty Line Filter (HD-LF) and a Heavy Duty Voltage Regulator (HD-VR) may be required.
On 36V or greater systems, use without the HD LF & VR cannot be guaranteed.
Note: If supplied Power falls below 11.5 volts on a regular basis, WIVR may need to be bypassed. Contact Pacific Scale for information.

LNW-6

DC Power Filters

Pacific Scale Co. builds LNW Indicators for use on a wide variety of equipment and vehicles. Our internal Wide Input Voltage Regulator (WIVR) will work on an input voltage of 12-48 volts DC and has basic power line noise filtering built in.

Depending on design, some vehicles, particularly electric forklifts, may need additional external power filtering to protect our LNW indicators from surges and power spikes that may damage our WIVR.

We can pass along suggestions from what our customers have used, but each end user must determine what their particular equipment requires to provide adequate clean power.

Due to recent electrical design changes on forklifts, Pacific Scale cannot guarantee that our LNW units will work as is without external power filters and conditioners supplied by the customer or with filter and regulator we have provided.

Pacific Scale Co. has included with this LNW unit:

1 SM480-8 Heavy Duty DC Power Line Filter (HD-LF)

1 SM2412-2.5 Heavy Duty Voltage Regulator (HD-VR)

If the customer wishes to use his own filters or if the Heavy Duty external filter and regulator we have provided are not needed, please return the HD-LF & HD-VR for $25 credit to: Pacific Scale Co.; LNW Mfg. Dept.; PO Box 1602; 16002 SE 106th; Clackamas, OR 97015

The End User and/or Installer should use their own experience and vehicle dealers suggestions on the need for additional power filters and conditioners.

One source for vehicle mounted power conditioning equipment is www.servicemate.com

We hope each customer who solves a particular problem can share their experience with our tech dept. to pass along to new customers via our www.forkliftscales.us website.

For further information contact LNW Tech Support at 1-800-537-1886

Or email: tech@forkliftscales.us

Installation

LIFT TRUCK CONDITION - While the LNW indicators are capable of very good accuracy on the test bench, the lift truck condition is the primary limit on accuracy. To achieve the best

accuracy possible, usually approximately +/- 1-2% of the capacity of the truck, the lift truck should be in good mechanical and hydraulic condition. The lifting mechanism must be checked for satisfactory operation: leaks; proper fluid level; the mast slides for worn or bent sections and mast rollers for worn bearings; hoist piston and ram seals for wear; insure mast slides are clean and lubricated.

INDICATOR INSTALLATION - Mount the indicator bracket to facilitate viewing and necessary clearances for adjustments (mounting bolts are provided). Connect the power cable to power sources.

WHITE LEAD SHOULD GO TO THE POSITIVE TERMINAL AND BLACK LEAD SHOULD GO TO THE NEGATIVE TERMINAL. CONNECTIONS SHOULD BE MADE DIRECTLY TO THE BATTERY TO AVOID ELECTRICAL NOISE.

Note - If the power source is above 24 VDC, the Heavy Duty Line Filter (HD-LF) and Heavy Duty Voltage Regulator (HD-VR) option may required. Customer can supply their own voltage converter and/or power filters as long as the LNW Indicator unit is supplied with clean DC power.

HOSE INSTALLATION - The Standard LNW-6 comes standard with a 6' hose. Custom lengths are available. One end of the hose is connected between the lift valve and the primary lift cylinder(s). The Indicator has the second end of the hose connected to the fitting on the back. Locate the indicator so the hose and the electrical cable are clear of moving parts and the display can be seen by the operator.

(See page 4 - Installation diagram)

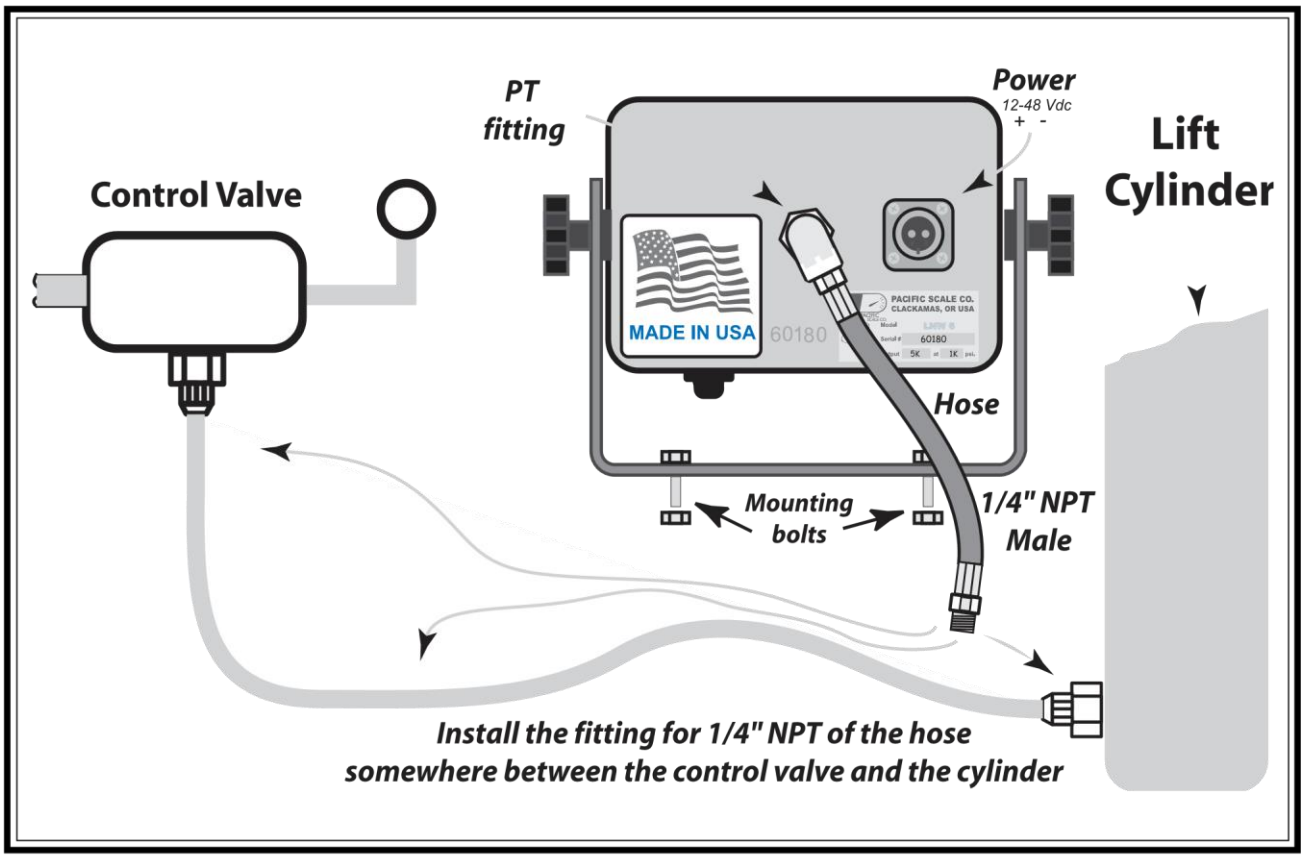
a. Before loosening hydraulic fittings, insure the release of hydraulic pressure by lowering the forks to the ground.

b. Somewhere between the lift valve and the lift cylinder(s), install a fitting (supplied by the customer) that will accept the 1/4" NPT male on the end of the hose. Remember the indicator must see the pressure in the main cylinder when lifting a load so watch for any pressure bypasses. If truck has two (2) lift cylinders, be sure you install the hose so pressure is read from both cylinders. *Reading pressure from only one of two cylinders may be done but may affect accuracy.*

c. With the appropriate fitting installed between the lift cylinder and the valve, install one end of the hose at the fitting and tighten. Attach the other end of the hose to the fitting on the indicator. Before tightening, pressurize the system and bleed air from the hose. d. Start the lift truck and check for leaks.

Check Operation (see pages 5 & 6)

Indicator Installation



Indicator Installation

1. Power cord should be plugged in and connected preferably direct to the battery.
2. The LNW-6 has it's own ON/OFF switch and internal resettable fuse.

Note: Unless customer requests it, do not wire to ignition switch. As the LNW units draw minimal power, approx. 100 ma, the LNW is unlikely to drain a vehicle battery unless left on for more than several days. Leaving an LNW On allows for better electronic stability.

3. If the lift truck has twin lift cylinders, be SURE that the hydraulic connection to the LNW-6 is plumbed into the system so it sees the pressure from the two (2) lift cylinders.
4. If the lift truck has three (3) cylinders, be SURE that the hydraulic connection to theLNW-6 is plumbed into the cylinder doing the lifting in the first stage. This is usually the Free lift cylinder.

Operation

Weighing Reference Point

Point established for zeroing and weighing. This point must be within the freelift portion of the uprights.

First Stage Cylinder

The LIFT-N-Weigh will weigh most accurately in the first stage on a truck with telescoping hoist cylinders.

Weighing Height

Height that provides for consistent weights. (typically 16” to 20” above ground)
To mark weighing height;

a. Raise forks to approximately 16” to 24” above ground level.
   (or determine operators choice of height.)
b. Apply one (1) of the supplied red arrow decals to the mast (fixed portion) and another to the fork carriage (movable portion) directly opposite the first arrow, within clear view of the operator.
c. Lift a Weight several times and record weight readings. If repeatability is insufficient for the customer, check again using a different Weighing Height.

Consistent use is the key to good Repeatable weighing

Note: Loaders will have a greater error Range than listed below for Forklifts. (normally 5% of Capacity depending on equipment and use)

Get Zero

Pick up the empty forks, at a normal lifting speed, to several inches above the mark and then lower to the mark. Press ZERO

Check for repeating Zero

Repeat procedure several times to assure display repeats within 1% to 2% of the truck capacity. (e.g.: +/- 50 to 100 Lbs. on a 5,000 Lbs capacity truck) Do NOT keep setting ZERO if it repeats within that range.

Check for repeating Weight

Pickup a known load *(approx. 20% to 50% of the truck capacity)* in the same manner and see if it ***repeats*** within the range of 2% of truck capacity.

Then do Calibration if Weight is off

If Display repeats within the 2% range but the weight is wrong, go to the Calibration page and follow the instructions. (Pages 6, 7, 8)

If Weight does not repeat, try different weighing height

Note: *16” is mentioned as a convenient weighing height. If repeatability is better at another level, change the reference mark. While Weighing should be done in the first stage, it really does not matter how it is done as long as you get repeatability at ZERO and with a load - all within 2% of truck capacity.*

Operation (Continued)

Description of Controls

Bottom Controls

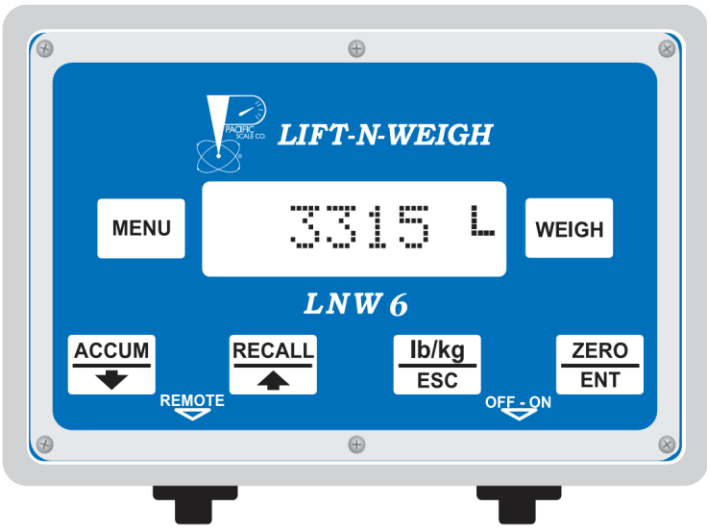
Power Switch

ON/OFF Pushbutton switch on bottom right. (Older versions have Toggle)

Remote Switch

Push button is a second/Remote ACCUM button on left.

Option: Replace Push Button with connector for Remote external ACCUM switch.



Front Panel Buttons - *Note: Do not use sharp objects to press buttons*

MENU	WEIGH	ACCUM	RECALL	lb/kg ESC	ZERO ENT
Access scale setup	Get calibrated weight	Get weight and add to Total	Show Totaled weight	Change Units lb/kg	Zero Scale

Working Display and Weighing cycles

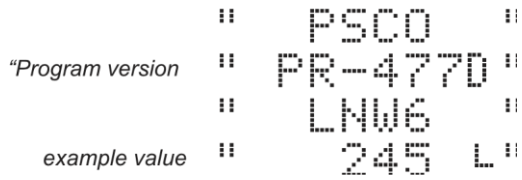
The LNW-6 normally displays a "working" weight reading, but for accuracy, the LNW-6 uses a weighing cycle for a more accurate "calculated" weight.

This eliminates some of the problems of hydraulic weighing systems.

Operation

First step - Turn On Scale

Scale cycles through its power up display. Second item is Program version.



Second - Zero Scale

1. Lift empty forks at normal lifting speed to above the weighing mark
2. Lower to the weighing mark

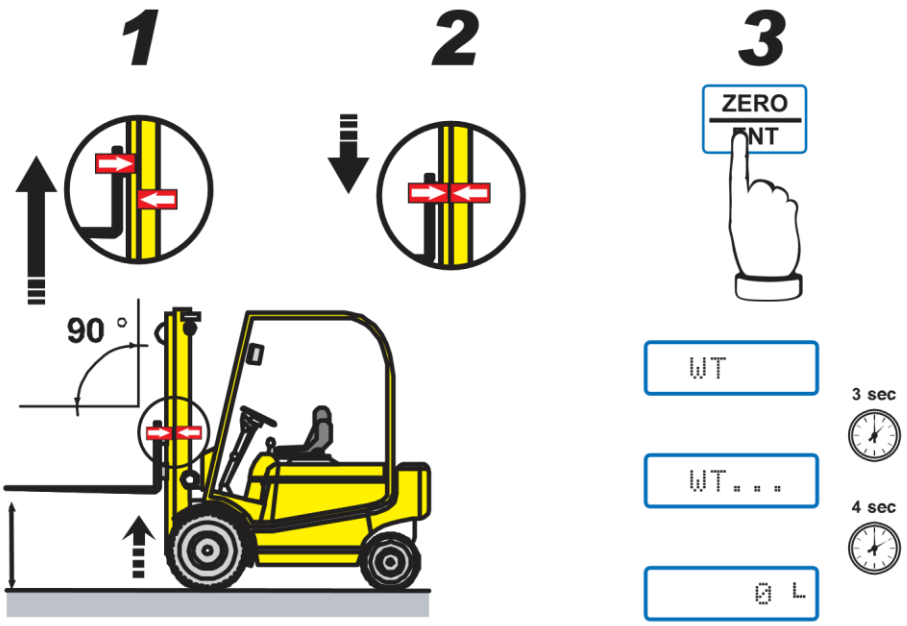
3. Press ZERO ENT to start a weighing cycle.

The Scale cycles through a weigh cycle, getting a Calibrated ZERO

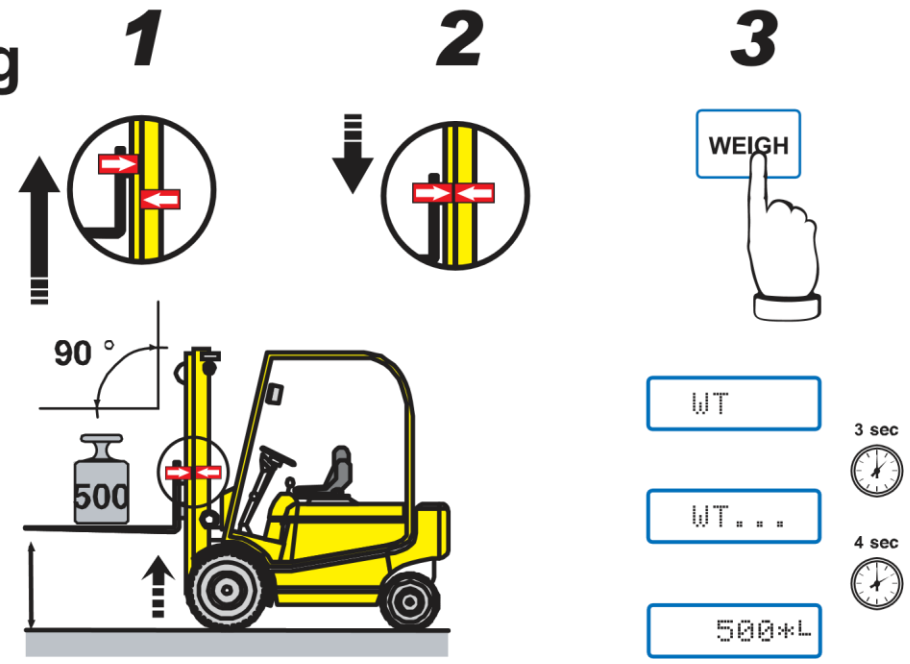
then showing a working ZERO (displayed value)

(continued on next page)

LNW-6 Operating Instructions



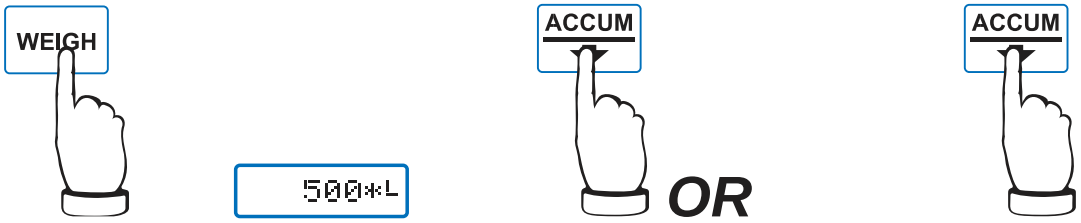
Weighing



Zero

Total Weights - ACCUM

Press to get weight to Total *While showing* *Press to add and automatically add to Total* *Press to start a Weighing cycle* *weight* *Calibrated Weight*



Operation (Continued) LNW-6

Third - Get Weight

1. Lift the load at normal lifting speed to above the weighing mark
2. Lower to the weighing mark
3. Press WEIGH to start a weighing cycle. The Scale cycles through a weigh cycle,
   Getting a Calibrated weight *(indicated by * l b)*
   After approximately 20 secs or the scale is unloaded the Display returns to the working (non-precision) display.

" WT "
" WT... "
" "
" 1245*L "
" 1190 L "

Accumulation - Totaling Weights

1. Lift the load at normal lifting speed to above the weighing mark
2. Lower to the weighing mark
3. Press WEIGH to start a weighing cycle. The Scale cycles through a weigh cycle,
   Getting a Calibrated weight *(indicated by * l b)*
4. While calibrated weight is displayed press ACCUM to add to the Total weight.
   The display shows the Current Total for approximately 3 secs
   Then the Display returns to the Calibrated weight After approximately 20 secs or the scale is unloaded the Display returns to the working (non-precision) display.

" WT "
" WT... "
" "
" 1245*L "
" 1= 1245 "
" 1245*L "
" 1190 L "

Single button Accumulation

1. Lift the load at normal lifting speed to above the weighing mark
2. Lower to the weighing mark
3. Press ACCUM or the Remote button to start a weighing cycle.
   The Scale cycles through a weigh cycle,
   Getting a Calibrated weight, and displays
   The Current Total for approximately 3 secs

Then the Display returns to the Calibrated weight *(indicated by * l*

b) After approximately 20 secs or the scale is unloaded the Display returns to the working (non-precision) display.

Clearing Totals

Remove the load from the forks. While holding the ACCUM button, press and hold the until the Count shows Zero, to clear Totals.

LNW-6

Optional Printer Use Addendum

The optional printer is attached to the LNW-6 with a RS232/PWR 4-pin cable. This supplies power as well as the 9600 8-N-1 RS232 signal.

When the ACCUM button is pressed, the LNW-6 performs a weighing cycle, adds the reading to the total and then outputting the Weight to the printer.

When the LNW-6 is at Zero weight, pressing and holding the ACCUM

then press and hold the ZERO E T

When used with a printer, after pressing the ACCUM button, the current Count and current Weight will be output along with the time and date on a single line.

Example: # 1 WT= 935 16:11 11/ 6/09

When the ACCUM Total is cleared it will output the Total Count and Total amount along with the Time and date.

Example: # 4 T= 6030 16:43 11/ 6/09

LNW Manufacturing Dept.
P.O. Box 1606
16002 SE 106th
Clackamas, OR 97015

LNW 6 Serial Output

9600-N-8-1

On Demand (ACCUM Button)

On Demand examples"

Weight Print w/ Time & Date

```
#   1  WT=   1120  17:26  11/30/10
#   2  WT=    455  17:27  11/30/10
#   3  WT=    860  17:27  11/30/10
#   4  WT=    825  17:27  11/30/10
#   4   T=   3260  17:28  11/30/10
```

Weight Print
Weight Print
Weight Print
Weight Print
Clear Total Print

Weight Print w/ Date

```
#   2  WT=    520  11/30/10
#   3  WT=   1134  11/30/10
#   4  WT=    510  11/30/10
#   4   T=   2953  11/30/10
```

Weight Print
Weight Print
Weight Print
Clear Total Print

Weight Print w/ Time

```
#   1  WT=    825  17:31
#   2  WT=    895  17:31
#   3  WT=    960  17:31
#   3   T=   2680  17:32
```

Weight Print
Weight Print
Weight Print
Clear Total Print

Pacific Scale Co. Inc.
P.O. Box 1606
Clackamas, OR 97015 US

503-657-7500 1-800-537-1886 Fax: 503-657-5561

Calibration

The Lift-N-Weigh is normally setup for and precalibrated to the customer's supplied lift truck specifications. This is a test bench calibration to the calculated pressure. Because of friction in the lifting mechanism and control valve bleedback, weight errors may exist in the system when installed on the customers equipment.

Initial Calibration MUST be done on the vehicle!

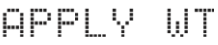
Note: If the SET UP of the unit needs to be changed refer to page 10 and make changes first.

Step 1 - Get Zero. Lift the empty forks at normal lifting speed to about 18" to 24" and lower a couple of inches. Press the ZERO ENT button.

Step 2 - Put into Calibration mode. Press and hold the MENU button then press and release the button. When the display blanks, release the MENU button.

Press the RECALL and cycle through the menu choices to reach the calibration menu (**DO CALIB**).

Step 3 - Get Test Weight. Press ZERO ENT then apply weight.



Lift a known weight equal to approximately 1/4-1/2 of lift truck capacity or more.

Raise the load in the same manner as when setting zero (Step 1), then press WEIGH

The display will go through the weighing cycle then display the weight.

Step 4 - Adjust Weight. Press ACCUM to lower the weight display reading or press RECALL to raise the weight display reading until the reading is correct for the test weight used.

Note: To speed up the rate of change, while holding the up or down button, press the other arrow button a few times. This can change the rate very much so simply release all buttons if changing too fast.

Once the displayed weight is correct press the ZERO ENT button to return to regular operation.

Step 5 - Check Weight. Lift and weigh the test weight in the normal manner (see page 7)
Do this several times to insure that the system repeats within the 2% tolerance.
Repeatability is the key to good weighments.

REMEMBER - Repeatability & consistency are the key to good weight readings.

IF THE WEIGHT READINGS DON'T REPEAT WITHIN THE 2% TOLERANCE, TRY A DIFFERENT METHOD OF LIFTING. IF A DIFFERENT METHOD WORKS, REMOVE THE LOAD AND RECHECK ZERO USING THE SAME METHOD. IT DOESN'T MAKE ANY DIFFERENCE HOW THE WEIGHMENTS ARE DONE AS LONG AS THE ZERO AND WEIGHT READINGS ARE DONE IN THE SAME MANNER AND THE WEIGHTS REPEAT WITHIN TOLERANCE.

Calibration should take less than 30 minutes.

Should you have any problems call 1-800-537-1886 ext. 109

Also see www.forkliftscales.us *for further information*

LNW-6

Basic Setup - User Controls

The MENU button allows access Time & Date set menu, Total setpoint, and Load setpoint.

After pressing the MENU

" SET T&D" button, use the RECALL and ACCUM buttons to select:

To set the Time & Date for use with a printer or other RS232 device, simply press ZERO ENT

The unit will then display "YR 9 Adjust up and down with the RECALL and ACCUM buttons. Then press ZERO ENT for the next parameter. MO, DAY, HR, MIN will each come up in turn. Adjust up and down with the RECALL and ACCUM buttons then accept by pressing ZERO ENT

When used with a printer, after pressing the ACCUM button, the current Count and current Weight will be output along with the time and date on a single line.

Example: # 1 WT= 935 16:11 11/ 6/09

When the ACCUM Total is cleared it will output the Total Count and Total amount along with the TIme and date.

Example: # 4 T= 6030 16:43 11/ 6/09

"TOTAL SP"

To set the Total Setpoint (SP2) simply press ZERO ENT button.

The unit will then display "SP2 2000 Adjust up and down with the RECALL and ACCUM buttons then accept by pressing ZERO ENT While holding the Up or Down button, you can speed up the rate of change by pressing the opposite button one or more times. (range = 0 to 50,000)

In use, when the ACCUM value is over the value in SP2, the display will flash TOT OVER"

Total SP might be used when loading to prevent overloading.

Example:A Flatbed can handle up to 32,000 lbs., so the Total SP could be set to 31,900 to warn the forklift operator that he had reached capacity, as long as he ACCUM each load, which is easy to do with the single button ACCUM.

"LOAD SP "

To set the Load Setpoint (SP1) simply press ZERO ENT button.

The unit will then display "SP1 1000 Adjust up and down with the RECALL and ACCUM buttons then accept by pressing ZERO ENT While holding the Up or Down button, you can speed up the rate of change by pressing the opposite button one or more times.(range = 0 to 50,000) *In use, when the load value is over the value in SP1, the display will flash* " WT OVER" *typically used to prevent overloading a single lift, ie. max load per pallet.*

Recommended Capacity settings

Use next size up if unavailable *(As of Program PR-477C)*

Capacity	Increments	Count By	Full Scale
3000	INC 1500	CTBY= 2	FS 3002
5000	INC 1000	CTBY=5	FS 5005
10000	INC 1000	CTBY=10	FS 10010
20000	INC1000	CTBY=20	FS 20020
50000	INC 1000	CTBY=50	FS=50050
75000	INC 1500	CTBY=50	FS=75050
100000	INC 2000	CTBY=50	FS100050
125000	INC 2500	CTBY=50	FS125050
150000	INC 3000	CTBY=50	FS150050
250000	INC 5000	CTBY=50	FS250050
500000	INC 10000	CTBY=50	FS500050

Use of other combinations of Settings not recommended.
Consult Pacific Scale before their use.
Pacific Scale Co., Inc. 800-537-1886
LNW- Mfg. Dept ext. 109

Decimal Tons available for 100-5000 Ton capacities

SETUP

The Lift-N-Weigh is normally setup for and precalibrated to the customer's supplied lift truck specifications. If the information supplied was incorrect, or the user changes which vehicle the LNW is installed, the SETUP may need to be done to set the Capacity and associated parameters.

Note: The* SOL TIME *and* FILTER *values should remain as set. Consult with Pacific Scale if you think you need to change those parameters. 1-800-537-1886 LNW Tech at ext. 109

Step 1 - Determine Capacity Consult the Capacity chart on the opposite page to select the Capacity and Step Size (CTBY) Note the INC steps and CTBY size you wish to use.

Example: For 5000 lbs. capacity, by 5 lbs. step size. use INC 1000, CTBY= 5, FS= 5005

Step 2 - Put into Setup mode. While pressing and holding the MENU button, and press release the button. When the display blanks, release the RECALL button.

Press the ZERO ENT and cycle through the menu choices to reach SETUP.

Then press to enter the Setup mode.

Step 3 - Select INC Press ACCUM or press RECALL to select the INC steps noted in **Step 1**.

Press ZERO ENT to accept.

Step 4 - Select CTBY Press ACCUM or press RECALL to select the CTBY size noted in **Step 1**.

Press ZERO ENT to accept.

Step 5 - Select CTBY Confirm that the Full Scale (FS=) setting is correct.

Press ZERO ENT to accept and return to regular weighing mode.

If the Full Scale setting is not correct, press the lb/kg ESC and the unit returns to INC - Step 3

Once SETUP is complete, Calibrate the unit per instructions. (Page 8)

REMEMBER - Repeatability & consistency are the key to good weight readings.

IF THE WEIGHT READINGS DON'T REPEAT WITHIN THE 2% TOLERANCE, TRY A DIFFERENT METHOD OF LIFTING. IF A DIFFERENT METHOD WORKS, REMOVE THE LOAD AND RECHECK ZERO USING THE SAME METHOD. IT DOESN'T MAKE ANY DIFFERENCE HOW THE WEIGHMENTS ARE DONE AS LONG AS THE ZERO AND WEIGHT READINGS ARE DONE IN THE SAME MANNER AND THE WEIGHTS REPEAT WITHIN TOLERANCE.

Calibration should take less than 30 minutes.

Should you have any problems call 1-800-537-1886

LNW Tech at Ext. 109

Also see www.forkliftscales.us *for further information*

Trouble Shooting

Malfunction	Probable Cause	Corrective Action
Indicator does not Display numbers	Power leads reversed. • Power not connected. Defective Indicator or plug Blown WIVR	Connect White to Positive, Connect Black to Negative Connect per instructions Replace Indicator or plug Replace WIVR, add power filter if needed.
Indicator readings do not change	Transducer connected to wrong side of lift valve Hydraulic Hose obstruction Loose hydraulic connection Internal PT Wires broken	Reconnect to output of valve • Repair or Replace hose Tighten couplings Check PT wires at terminal
Inconsistent weight	Inconsistent weighing procedure Inconsistent Zero setting Leaking Hoist cylinder Air in hydraulic system Mast not upright Hoist cylinder fluid low Mast slides dirty Mechanical system worn/bent Friction in cylinder, rollers, slides, etc.	Follow recommended method Follow proper procedure Repair cylinder Bleed system Weigh & Zero w/Mast upright Add proper amount of fluid Clean & lubricate Repair as required Lubricate mastparts & be sure load on forks is against the carriage
Display numbers jump up & down erratically or hash is displayed	Electrical interference caused by: Bad ignition system, rotating light, etc. Moisture in case.	Clean or replace plugs; check wiring & replace if needed; clean noisy contacts, etc. Replace Dry-packs inside.
Moisture on inside of lens	Check cover gasket & screws	Tighten screws & or replace gasket, replace Dri-packs

IF PROBLEMS STILL EXIST

Warranty

Pacific Scale Co., Inc. warrants to the original purchaser that it will repair or replace - at its option - any part which in its judgement is defective in material or workmanship. Such repairs or replacements shall be performed without charge at Pacific Scale's service facilities.

The defective unit is to be returned to Pacific Scale Co., Inc. prepaid with a description of the problem, after calling and receiving a **RETURN MATERIAL AUTHORIZATION** (RMA) number. No unit will be accepted for Warranty without an RMA number.

This warranty covers:

Entire unit for a period of one (1) year;

Main electronics board for a period of five (5) years.

from the date of shipment from Pacific Scale Co., Inc. and is subject to the following limitations:

Limitations: This warranty shall not apply to -

a. Damage which in the opinion of Pacific Scale Co., Inc. is the result of overloading, misuse, water damage, negligence, alteration, accident or service performed by other than Pacific Scale Co., Inc. authorized personnel.
b. The replacement of expendable or consumable parts.

c. Normal deterioration due to wear or damage and deterioration due to extended storage or exposure while in the purchaser's possession before installation.

This Warranty is the only warranty expressed or implied. Pacific Scale Co., Inc. neither assumes nor authorizes any other person to assume for it any other obligation or liability. Pacific Scale Co., Inc. will not be responsible or liable for any consequential or contingent damages and its liability is limited to the original purchase price of the equipment sold.

Parts List, (partial)

Description	QTY	Part NO.
Bezel Frame	1	L6-BZ
Bezel screws	4	LC-SZ
Hose, high pressure synthetic, 6', 1/4" NPT Male each end	1	LC-HH-72
Hose Fitting, 360 Deg. swivel ell	1	LC-PT-FS
Main Board	1	L6-MB
ON/OFF Power Switch, Pushbutton (specify for Toggle)	1	LC-PS-ASSY
ON/OFF Power Switch Boot	1	LC-SW-B
Power Cord Assy	1	LC-PC-ASSY
Install Kit (Includes Power Cord, Scotchlok taps, Bolts & Nuts, and misc.)	1	L6-Install Kit
Pressure Transducer	1	LC-PT
U-Bracket Mount (LNW-5/6 w/Knobs)	1	LC-UB-ASSY
U-Bracket Knobs, Black	2	LC-UB-KB