Pallet Weigh Plus

4100 SERIES
PALLET JACK SCALE

51287

Revision 4   01/19

Amendment Record

PALLET WEIGH
DOCUMENT 51287

Manufactured by Fairbanks Scales Inc.

821 Locust

Kansas City, Missouri 64106

Created	05/2012	
Revision 1	05/2012	Released Manual
Revision 2	10/2013	Updated specifications and Error codes.
Revision 3	09/2018	Updated **Operation** > **Setting Time and Date**
Revision 4	01/2019	Updated Time and Date section

Disclaimer

Every effort has been made to provide complete and accurate information in this manual. However, although this manual may include a specifically identified warranty notice for the product, Fairbanks Scales makes no representations or warranties with respect to the contents of this manual and reserves the right to make changes to this manual without notice when and as improvements are made.

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Section 1: General Information

1.1. DESCRIPTION

The **Pallet Weigh Plus™ Pallet Jack Scale** is a NTEP scale designed for determining pallet shipping weights, checking pallet weights on incoming goods, and helps prevent overloading of trailers. Some of the primary features include the following:

- It includes an easy to read LCD display
- A capacity of 5000 pounds. NTEP approved.
- 0.1% accuracy of applied weight
- Battery operation (12Vdc battery pack).
- Totalizing with a sequential number
- Piece sampling and counting
- Automatic Power Saving feature after 30 minutes of no scale activity.
- Optional printer

1.2. TECHNICAL SPECIFICATIONS

Models	Product No. 32155 [Model 4103] Product No. 32156 [Model 4103] w/Printer	Product No. 32098 [Model 4105] Product No. 32099 [Model 4105] w/Printer
Capacity	[Model 4103] 3000 lbs	[Model 4105] 5000 lbs
Resolution	[Model 4103] 1.0 lbs	[Model 4105] 2.0 lbs
Maximum Inaccuracy	0.1% of applied load	
Power Supply	12 Vdc 1.5Ah (Replaceable Battery Pack)	
Battery Life	Up to 35 hours	
Battery Charging Time	Approximately 6 hours	
Battery Charger	117VAC/ 12Vdc 300mA	
Display	LCD 0.7" height with backlight	
Junction Box	Potentiometers for summing of load cells. Push terminals for load cell connections.	
Load Cells	350 ohm @ 3mV/V	
Excitation	5 Vdc	
Keypad	Five (5) function keys	
Printer	Thermal Roll Tape	
Steering Wheels	Polyurethane	
Loading Wheels	Polyurethane, Single	
Pallet Truck Weight	Approximately 285 lbs	
Color	Yellow epoxy	
Pump	Quick Lift	
Environment		
Ratings	**Indicator:** NEMA 4	**Load cells and cabling:** NEMA 5
Operating Temperature	-10˚C (15˚F) to +40˚C (105˚F)	
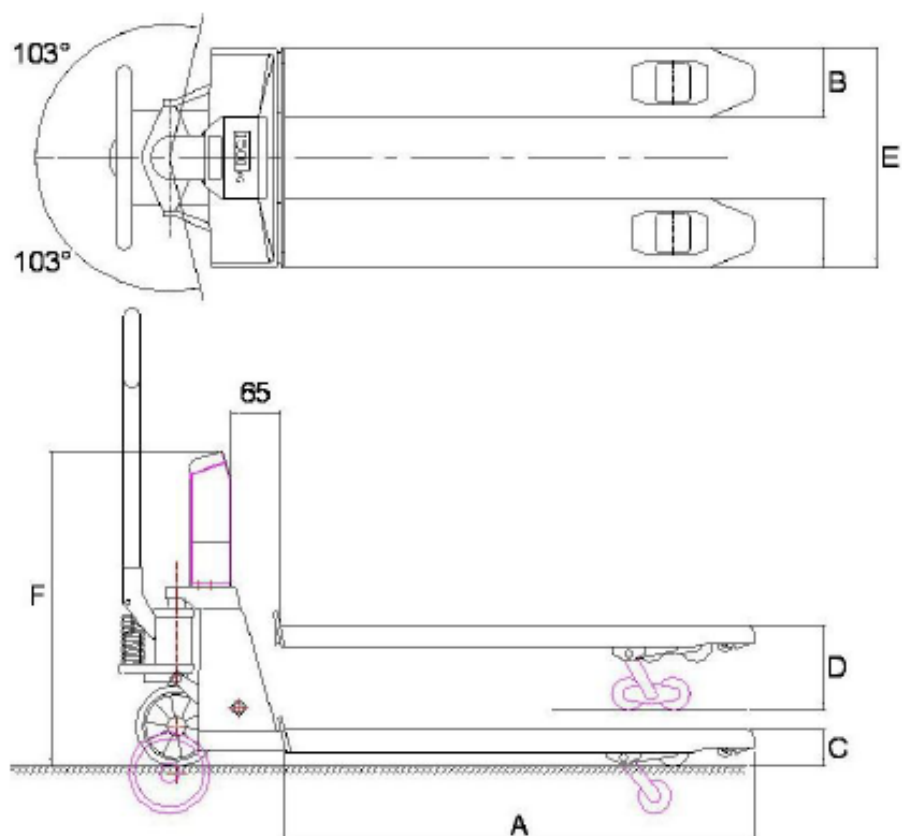
Figure 1-1

Dimensions			
A	Fork Length	47.5 inches	
B	Fork Width	6.7 inches	
C	Minimum Fork Height Minimum space between forks and floor	3.25 inches 0.87 inches	
D	Maximum Fork Height Lifting Height	8 inches 4.75 inches	
E	Width over Forks	27 inches	
F	Height to Top of Indicator	30 inches	

Section 2: General Policies

2.1. CUSTOMER RESPONSIBILITY

It is **the customer/operator's responsibility** to ensure the equipment provided by Fairbanks is operated within the parameters of the equipment's specifications and protected from accidental or malicious damage.

> # W A R N I N G !
>
> **Absolutely NO physical, electrical or program modifications** other than selection of standard options and accessories can be made by customers to this equipment
>
> Repairs are to be performed by Fairbanks Scales Service Technicians or Authorized Distributor Personnel ONLY!
>
> *Failure to comply with this policy voids all implied and/or written warranties*

★ ★ IMPORTANT NOTICE ★ ★

Electric arc welding can severely damage scale components such as digital weight indicators, junction boxes, power supplies, and load cells.

NOTE: *For additional information, please contact a* **Fairbanks Scales Service Representative.**

Failure to comply with this policy voids all implied and/or written warranties.

2.1.1. Unpacking

Follow these guidelines when unpacking all equipment:

- Check in all components and accessories according to the customer's order.

- Remove all components from their packing material, checking against the invoice that they are accounted for and not damaged.

- Advise the shipper immediately, if damage has occurred.

- Order any parts necessary to replace those which have been damaged.

- Keep the shipping container and packing material for future use.

- Check the packing list.

- Collect all necessary installation manuals for the equipment and accessories.

- Open the equipment and perform an inspection, making certain that all hardware, electrical connections, and printed circuit assemblies are secure.

- Do not reinstall the cover if the final installation is to be performed after the pre-installation checkout.

2.1.2. Equipment Location

Position the equipment with these points in mind:

- Intense direct sunlight can harm the display.

- Work areas should be relatively free from drafts and vibrations.

- Do not locate near magnetic material or equipment/instruments which use magnets in their design.

- Avoid areas which have extreme variations in room temperatures. Temperatures outside the instrument's specifications will affect the weighing accuracy of this product.

2.1.3. Safety

1. **NEVER** lift a heavy load with just the points of the forks. This could damage the electronic weighing elements permanently.

2. **NEVER** weigh without a pallet. This could affect the accuracy of the weighing result.

3. The unit may be loaded with weights up to 5000 lb. However, we advise you not to **move** any weights above 1650 lb. (750 kg) with the unit. Fairbanks Scales is not responsible for injury that may result when moving heavy loads.

4. Use caution in the vicinity of moving parts - these parts can cut and/or crush hands, arms, feet and legs.

5. Always center the load you are lifting on both of the forks.

6. Do not operate the weighing system on ramps, inclines, or declines, without the addition of our optional parking brake.

7. Do not operate the weighing system while others are on or near the unit. **No riding!**

8. All modifications must be approved in writing from the supplier, prior to any work being completed.

9. It is the sole responsibility of the purchaser to train their own employees in the proper use and maintenance of this equipment.

10. Do not operate this unit unless you have been fully trained of its capabilities.

11. Do not use the weighing system in potentially explosive areas.

12. Do not carry passengers with the truck.

13. Do not weld or make changes to the weighing system without consulting the supplier.

14. Do not lift unstable loads.

15. Check the accuracy of the scale on a regular basis to prevent faulty readings.

16. Only trained and authorized personnel can operate the truck.

17. Always follow the operating, maintenance and repair instructions of this truck and ask the supplier when in doubt.

18. Never lower loads if you are unsure you can place the goods on a stable surface. Personal injury may result from placement on an unstable environment.

19. Always remain with the scale during dosing applications. Incorrect lifting of the pallet can cause overflowing.

20. Fairbanks Scales is not responsible for errors that occur due to incorrect weighing or inaccurate scales.

2.2. USERS' RESPONSIBILITIES

The equipment consists of printed circuit assemblies which must be handled using ESD handling procedures, and must be replaced as units.

— Replacement of individual components is not allowed.

— The assemblies must be properly packaged in ESD protective material and returned intact for replacement credit per normal procedures.

Failure to comply with this policy voids all implied and/or written warranties.

Section 3: Installation

3.1. SYSTEM SET UP

Installation of pump handle	
Make sure the lever is pushed down to the "pump" position.	Thread the chain through the hole in the triangle and through the hole in the axle.
Place the handle bar onto the triangle and insert the bolts. Tighten the bolts firmly.	Push the silver part "A" on the outside of the pump downwards. At the same time; insert the chain into the open side of the slot "B" on the inside of the pump.
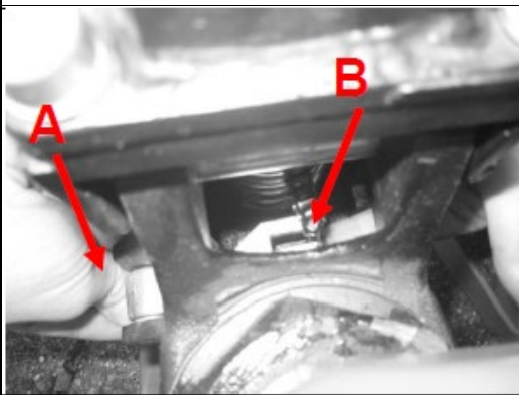
3.2. INSTALLING THE BATTERIES

The power supply to the system utilizes a 12 Vdc battery pack. In the original packing, the battery and charger are in separate boxes. It is recommended to place the battery on the charger before use. The battery will last for approximately 35 hours before a recharge is required. When the voltage level of the batteries is running low, the display will show LobA and or . When the battery output is extremely low, the weighing system will shut down.

To install/ replace the battery pack:

Lift the gray lever and the battery will slide out.

To re-install, slide the battery with the slot on top into the battery holder and push until it snaps into place.

Section 4: Operation

4.1. PROPER OPERATION

The following describes the proper manner of operating the Pallet Weigh pallet jack scale.

- ✓ *For accurate weights, do not weigh on a grade greater than 2 degrees.*

- ✓ *Use the pallet jack scale on a smooth surface. Irregular surfaces may cause damage the scale and inaccurate weights.*

- ✓ *Do not load the scale greater than the rated capacity otherwise the scale can be damaged.*

- ✓ *Do not lift loads by the end of the forks only as this could damage the scale weighing mechanisms.*

4.2. FRONT PANEL LAYOUT
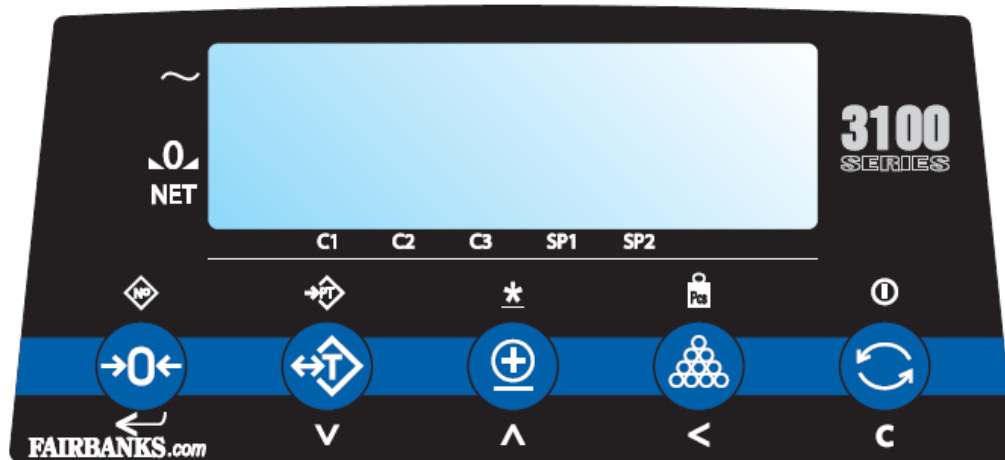
4.3. FRONT KEYS AND INDICATIONS

Key	Function
	On/ Off Power Switch. This also serves as an escape switch during data entry or programming. This key also functions as a Units key if pressed for two (2) seconds).
	Sample Piece Weight Switch. This key permits entry of piece weights and functions as a scroll left key.
	Print Switch. This key functions as a print weight and add to total as well as check subtotal and print total. This key also functions as a Scroll Up key.
	Tare Switch. Allows an Automatic or Manual entry of a tare weight. This key also functions as a Scroll Down key.
	Zero Key. Zeroes the scale. This key also functions as a Select Digit key and allows the user to select the flashing digit. It also serves as an Enter key.

Indication	Function
	Stable/Motion: Indicates the scale weight is stable. The annunciator is off when motion is present.
	Center of Zero: The scale is at an absolute zero condition when displayed.
	Net Mode: The scale is in the Net Mode. The scale is in the Gross Mode when the annunciator is off.
C1 ▼	Displayed weight is in range 1.

Indication	Function
C2 ▼	Displayed weight is in range 2.
C3 ▼	Displayed weight is in range 3.
SP1 ▼	Feature not available.
SP2 ▼	Feature not available.

4.4. OPERATING THE SCALE

4.4.1. Power-Up the Scale

1. Press the [key icon] key for two (2) seconds.

2. Allow 3 to 5 minutes until the electronics and load cells have reached operational temperature. Inaccurate weights of up to 0.3% may occur if this initial warm-up time is not observed.

4.4.2. Zeroing the Scale

1. If the scale does not indicate a zero, press the [key icon] key to zero the scale.

2. The scale will indicate zero and is ready to perform weighments.

3. Before each weighment it is necessary to check whether the system is unloaded and at a zero condition. The indicator is equipped with an automatic zero correction. This means that small deviations of the zero point will be corrected automatically. If the indicator does not determine the zero point

automatically, it must be performed manually using the [key icon] key.

4.4.3. Gross Weight

1. After lifting a load, the display indicates the gross weight of the applied load.

4.4.4. Manual Tare Entry

A tare weight can be entered at any moment, either in a loaded or unloaded condition. For a higher accuracy, a tare weight can be entered with a smaller graduation step, independent of the applied load and the active graduation of the indicator.

Note:
The scale must be at a zero condition to enter a manual tare.

1. Pressing the [key] key for three (3) seconds.

2. The display shows the current tare value.

3. The digit on the right hand side of the display will begin blinking.

4. Press the [key] key if the tare is correct.

OR

5. Pressing the [key] key for three (3) seconds.

6. The display shows the current tare value.

7. The digit on the right hand side of the display will begin blinking.

8. Pressing the [key] key will scroll the digit numeric value down or press the [key] key to increase the numeric value.

9. Press the [key] key to change to the next digit.
10. Repeat this procedure until the required tare value is displayed.

11. Press the [key] key to activate the tare weight.
12. The tare weight is activated.
13. The "NET" pointer lights up.
14. Lift the load
15. When the system is loaded, the NET weight appears in the display

16. When the system is unloaded, the display indicates the negative value of the tare.

17. The entered value remains active until a new tare weight is entered (display shows the new net weight).

18. Press the [key image] key to return to gross weighing mode.

Note:
The scale must be at a zero condition to enter a manual tare.

4.4.5. Automatic Tare Entry

The indicator offers the possibility to reset tare weights to zero automatically.

1. Lift load.

2. Press the [key image] key.

3. The indicator is set to zero.
4. The "NET" pointer shows that a tare weight is activated.
5. Place or remove the net load.
6. The display shows the net value of the weighed load.
7. When removing load, this is a negative value.

8. By pressing the [key image] key again, the gross weight is displayed.

4.4.6. ID Code Entry

The indicator offers the possibility to enter 1 numeric ID code of 5 digits. Entry of ID codes is useful when the weighing system is connected to a printer or other peripheral equipment, in order to identify various weighments during processing of the information.

1. Press the [key image] key for 3 seconds.
2. The display will show the last used code.
3. The right digit flashing.

4. To accept the old value press the key
5. The ID code is activated and the display returns to the weighing mode.

OR

6. Press the key for 3 seconds.

7. Press the key to go up a value or press the key to go down a value until the required value is reached.

8. Press the key to change to the next digit.
9. Repeat this procedure until the required ID code is displayed.

10. To accept the new ID code press the key
11. The ID code is activated and the display returns to normal weighing mode.
12. You may make a printout and add up the weights. A special printout will be made which includes the code.

NOTE:
if the code is "000000" it will be ignored and not printed on the ticket.

4.4.7. SAMPLE ENTRY

If an unknown piece weight is to be determined, this may be accomplished by sampling a certain number of pieces. The number of pieces taken from or placed on the weighing system determines the accuracy of the sample. The total weight of the pieces taken from or placed on the weighing system for the sample should be no less than 9-12 lbs. The greater the weight difference, the greater accuracy. The standard sample amount is 10 pieces, but this number can be increased up to 95 pieces.

NOTE:
If the accuracy is too low when sampling, the indicator will show "ERR05". Press any
key to return to piece counting mode and increase the sampling amount.

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1. Press the ⬛ key.

2. The display shows "add10". The **lb** indication turns off and the **pcs** indication is indicated.

3. Take or place 10 pieces from/on the weighing system and press the ⬛key.
4. The sampling is done and the display will show the total number of pieces on the weighing system.

<p align="center">**OR**</p>

5. Press the ⬛ key or the ⬛ key to change the number of pieces to add.
6. The display will show the new value to add (for example "add50").
7. Take or place the correct number of pieces from/on the weighing system and

   press the ⬛key.
8. The sampling is done and the display will show the total number of pieces on the weighing system.

You may make a printout and add up the weights. A special printout will be made which includes the piece weight sampled and the number of pieces Return to the normal weighing mode is accomplished by pressing the

⬛ key for 1 second. Upon the return to normal weighing mode, the piece count total will be lost.

4.4.8. PIECE WEIGHT ENTRY

1. Press the ⬛ key for 3 seconds.
2. The last used piece weight will be displayed.
3. The right digit flashing.

4. To accept the old value press ⬛ key.
5. The display shows the number of pieces currently on the weighing system.

<p align="center">**OR**</p>

6. Press the ⬛ key for 3 seconds.

7. Press the [key icon] key to go up a value or press the [key icon] key to go down a value until the required value is reached.

8. Press the [key icon] key to change to the next digit.

9. Repeat this procedure until the required piece weight is displayed.

10. To accept the new value press [key icon] key.

11. The display shows the number of pieces currently on the weighing system.

You may make a printout and add up the weights. A special printout will be made which includes the piece weight sampled and the number of pieces.

Return to the normal weighing mode is accomplished by pressing the [key icon] key for 1 second. Upon the return to normal weighing mode, the piece count total will be lost.

4.4.9. TOTALING

The indicator offers the possibility to add weighments and display the total weight. When a tare weight is active, the net weight is added automatically.

1. Load the system with the weight that should be added.

2. Press the [key icon] key to add the weighed load to the total weight.

3. The display shortly shows the message **ADDED** and then automatically returns to the weighing mode.

4. If a printer is installed, a printout will be made

5. The gross, net and tare weights are totaled.

6. No weight can be recorded twice. The system needs to be returned to the net zero-range before another weight can be added up.

7. The subtotal can be checked by pressing the [key icon] key for 3 seconds.

8. The display shows the net total weight and the number of weighments totaled thus far repeatedly for 3 seconds.

9. If the [key icon] key is pressed shortly during this period, the total is printed out (if option is installed) and reset to 0.

10. If the key is pressed during this period, the total is reset but not printed out.
11. If no key is pressed during this period, the subtotal stays in memory and the system returns to the weighing mode after 60 seconds.

4.4.10. CHANGE UNITS

The system is set to start up in lb. or in kg. However, you may, at any time in the weighing mode, change to the secondary unit (lb/kg or kg/lb).

1. Press the key for 1 second.

2. The display will show the current weight in the new units for 5 seconds and then automatically change back to the startup units.

The same key is used to change from the piece counting mode back to the weighing mode.

NOTE:
*It is not possible to use any of the scale functions when the display has been
  changed to the secondary unit. If any key is pressed the indicator will display ERR99
and return to normal weighing mode.*

4.4.11. SETTING TIME AND DATE

If the Pallet Weigh Plus system has been equipped with a printer. The date and time can be printed together with the weight information.

1. Press the key for 6 seconds.
2. The display will show "ho_00" or the previous hour time setting

3. The right digit flashing.

4. To accept the old value press the key

OR

5. Press the ⊕ key to go up a value or press the ⬇ key to go down a value until the required value is reached.

6. Press the < key to change to the next digit and use the ⊕ or ⬇ keys to change the value until the required value is reached.

7. To accept the new value press the →0← key

8. The display will show "m_00" or the previous minute time setting.

9. The right digit flashing.

10. Repeat the above procedure to accept or change the minute setting.

11. The display will show "dA_00" or the previous date of the month setting

12. The right digit flashing.

13. Repeat the above procedure to accept or change the date of the month setting.

14. The display will show "m_00" or the previous month setting.

15. The right digit flashing.

16. Repeat the above procedure to accept or change the month setting.

17. The display will show "YE_00" or the previous year setting.

18. The right digit flashing.

19. Repeat the above procedure to accept or change the year setting.

20. The indicator will return to normal weighing mode.

Section 5: Printer

5.1. INTRODUCTION

If the weighing system has been equipped with a printer, obtained, and entered weighing data may be printed. Date and time are only printed out with the option board installed.

5.2. PRINT EXAMPLES

In the printout, a gross weight is indicated with the letters B/G and a net weight with the letter N. A manually entered tare weight will also be printed and is indicated with the letters PT. The total weight is shown with the letters TOT.

Standard printout without code

```
B/G     1234.5  kg.
T         34.5  kg.
N       1200.0  kg.

Nr.              1
10/07/03      17:45
```

Standard printout with code

```
CODE    12345
B/G     1234.5  kg.
T         34.5  kg.
N       1200.0  kg.

Nr.              1
10/07/03      17:45
```

Piece count printout without code

```
B/G     1234.5  kg.
T         34.5  kg.
N       1200.0  kg.

PcWt    1.234  kg.
Qty    12345  PCs

Nr.              1
10/07/03      17:45
```
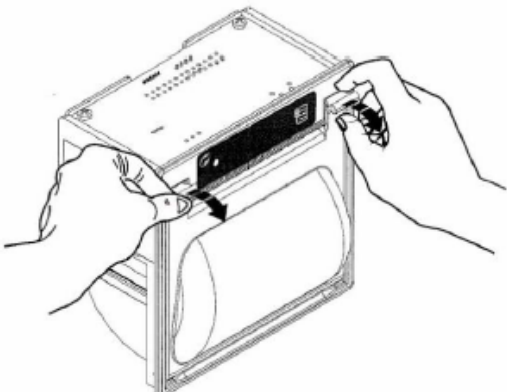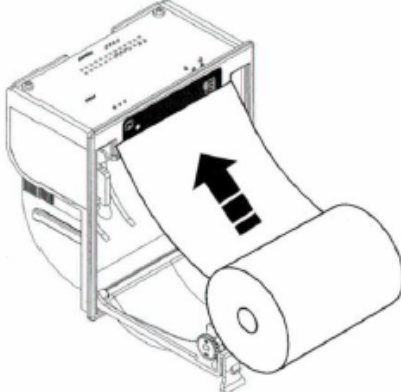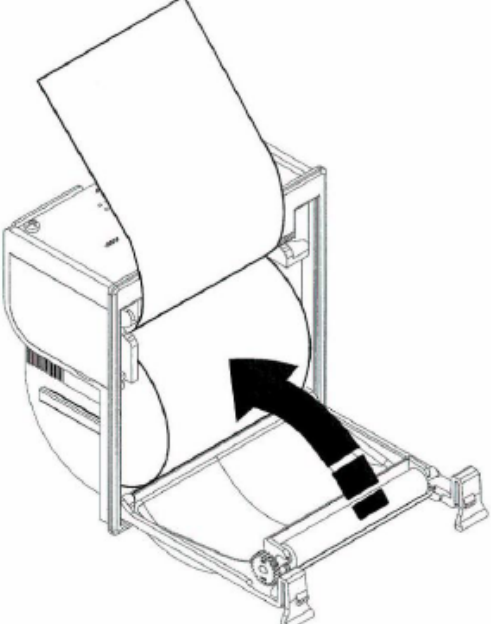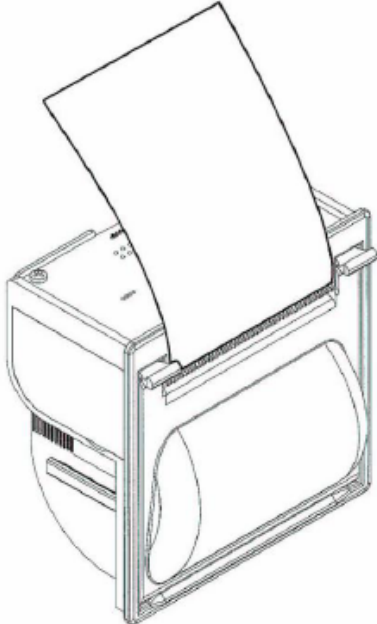
Piece count printout with code

```
CODE    12345
B/G     1234.5  kg
T         34.5  kg
N       1200.0  kg

PcWt    1.234  kg
Qty    12345  PCs

Nr.              1
10/07/03      17:45
```

Total printout (always without code)

```
Tot. B/G 1234.5  kg.
Tot. T     34.5  kg.
Tot. N   1200.0  kg.

Tot. Nr.        999
10/07/03      17:45
```

5.3. CHANGING PRINTER PAPER

Open the printer cover by pressing down the 2 levers and pulling the cover towards you.

Remove the existing paper roll. Position the new paper roll, making sure it unrolls in the correct direction, as shown above.

Unroll the paper slightly. Re-close the cover, holding the edge of the paper.

The printer is now ready for use.

Section 6: Service and Maintenance

6.1. CLEANING

- Wipe the scale assembly with a damp cloth using water *only*.
- **Do not** spray cleaners onto scale indicator.
- **Do not** wash-down with a pressure cleaner or water hose.
- **Do not** allow water or liquids to drip onto scale indicator.

6.2. ERROR MESSAGES

Error	Description	Solution
ERR 1	Weight exceeds scale capacity	Remove weight from scale.
ERR 2	Scale is Overloaded.	Remove weight from scale. If no weight is on scale. contact a Fairbanks service representative.
ERR 3 or 7	Load cell signal is too low or too high.	Contact a Fairbanks service representative.
ERR 4	Out of Zero range.	Contact a Fairbanks service representative.
~	Weight is unstable.	Stabilize the weight on the scale. Excessive vibration on floor. Contact a Fairbanks service representative.
LobA	Battery voltage is low.	Recharge battery.
LL _ _--	Out of level	Move pallet jack to a level surface.

6.3. TROUBLESHOOTING

Problem	Description	Possible Reason	Resolution
No power	No power to indicator		Place Battery on recharger.
Accuracy	No repeatability	Mechanical interference between lower and upper fork construction. One or more bad load cells	Contact a Fairbanks service representative.
Instability	Weight is unstable	Humidity Mechanical bind.	Contact a Fairbanks service representative.

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