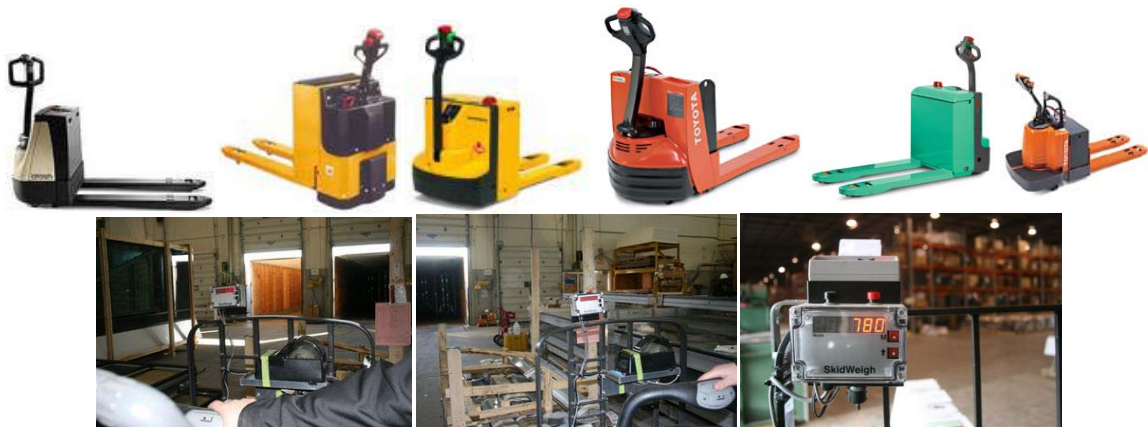


ED2-EPT Series

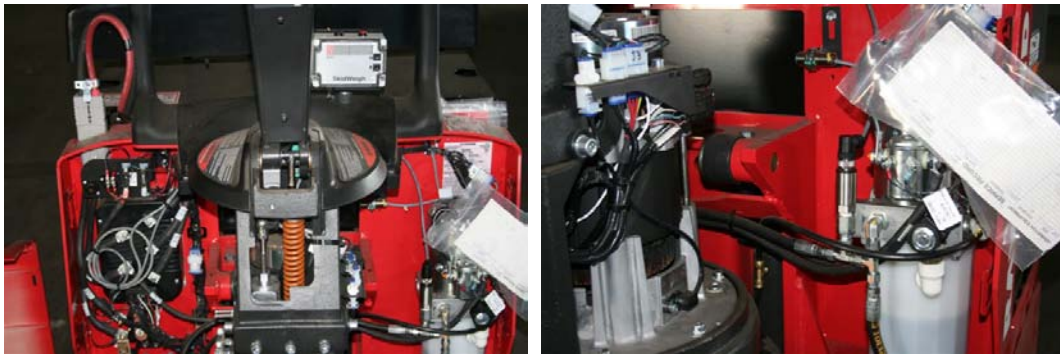
SkidWeigh System

Hydraulic Pressure Transducer

Automatic Check Weighing System for Electric Pallet Trucks



Operating Instructions
Weighing Loads
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Electrical Connections
Pressure Transducer Installation
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The **ED2-EPT Series SkidWeigh System** is automatic electric pallet truck check weighing system used to verify load weights on the move. This is not a “*Legal for Trade*” scale, but an economical retrofit on-board check weighing system based on hydraulic pressure transducer that will allow your lift truck operator to increase vehicle utilization and increase productivity. The load weight readout accuracy will be within +/-1 to 3% of the vehicle’s lifting capacity.

Proper Operator Procedure for Weighing Loads

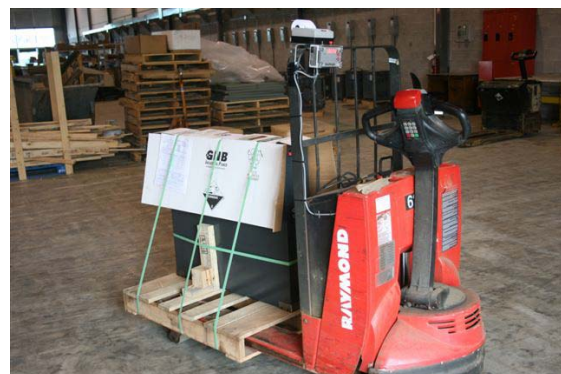
To obtain load weight readout the indicator must show number **8** in the **MODE** display.

Insert the forks into the pallet or under the product to be weighed. Make sure that the pallet is positioned all the way on the fork’s carriage. The number **8** in the **MODE** display must be shown before you initiate a “**Load Weighing Cycle**”.



Activate lift control valve and lift the loaded forks just above the ground.

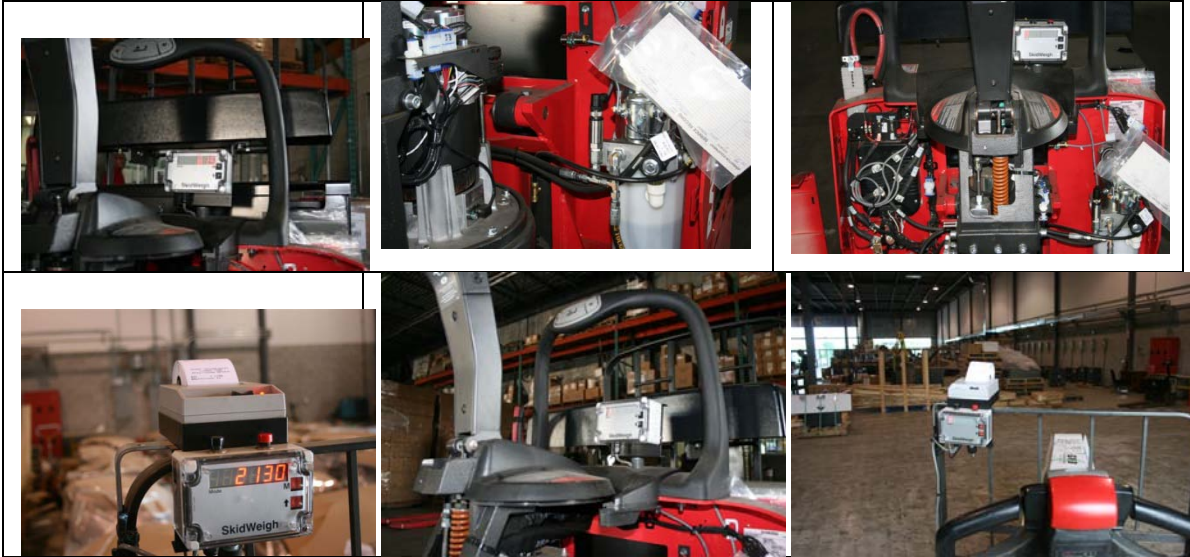
(To obtain the best check weighing accuracy make sure that all load weight readings are taken at the same forks height, just above the ground.)



This load weight value will be displayed on the indicator. The value of the load weight will be shown on LED display until the forks are lowered.

Mounting Location for Digital Indicator

The majority of electric pallet trucks have only a limited space to add any accessories. Install the mounting bracket with the anti-vibration mount and fasten the digital indicator on the vehicle's dashboard. Do not install indicator on removable cover that allows the access for service to the electric control compartment.



Anti-vibration mount, ¼"-20 UNC (25 x 20 mm, vulcanized rubber, Duro5) supplied with every kit.



Pressure Transducer Installation

1. The pressure transducer body itself has a male port ¼"-18 NPT. Standard cable length is 6' (1.5 meters).
2. The pressure transducer must be installed in the **hydraulic line between the lift control valve and the lift cylinder.**
3. The majority of pressure transducer installations into the vehicle hydraulic system will require some kind of T- piece to be connected in the hydraulic line. Hydraulic hose size #6 is very common for this type of vehicles.
4. Make sure that the installed pressure transducer will not touch any moving parts or the assembly of the forklift when the vehicle is in normal operation.

Electrical connections (Vehicle Voltage from 12 to 55V DC)

1. Power Connection

- ORANGE Wire (+)** Connect to ignition switch "ON" position
- BROWN Wire (-)** Connect to battery negative

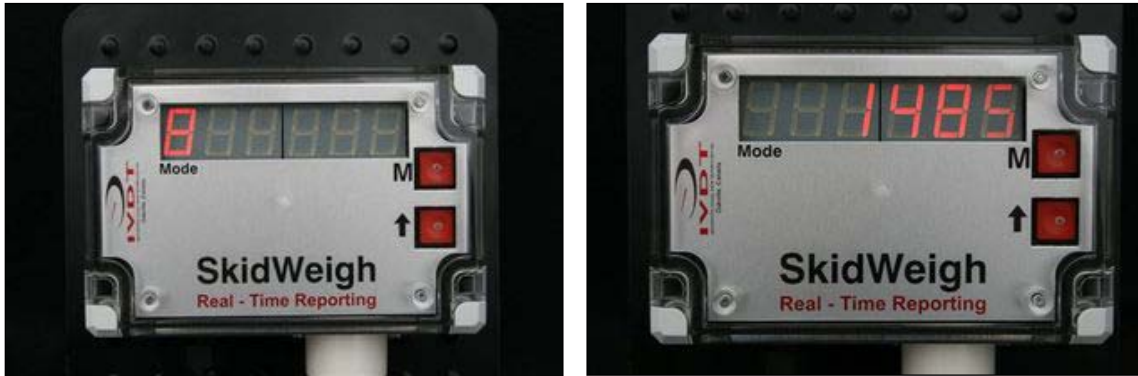
2. Pressure Transducer

RED WIRE of pressure transducer cable to RED WIRE of the seven wires cable from the indicator

BLACK WIRE of pressure transducer cable to BLACK WIRE of the seven wires cable from the indicator

WHITE WIRE of pressure transducer cable to WHITE WIRE of the seven wires cable from the indicator

Digital Indicator Calibration/ Setup Keys Description



Upper Right Key Labeled "M" (Calibration / MODE key)

Lower Right Key Labeled "↑" (0 – 9 numerical increments input key)

MODE

Five Digits Load Weight Readout Display

8	Digit 5	Digit 4	Digit3	Digit 2	Digit 1
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Note: Both keys, **M** and **↑** are used only during the system calibration/set up mode. They can be accessed through two small holes on the polycarbonate cover. (Use a paper clip to activate the keys)

- The left most significant digit represents the **MODE** of operation
- The five other digits represent the load weight readout

Calibration / Setup Procedures Concept

The **ED2-EPT Series** SkidWeigh systems calibration/setup procedures are very simple and consist of a two steps to complete the automatic calibration of the **empty forks and loaded forks with known load weight being lifted just above the ground.**



Note: At any point if you make a mistake, for whatever reason, turn the power to the system “off” and start all over. All calibration values will be automatically stored after the calibration/setup procedure is finished.

- The **ED2-EPT** system has to be calibrated with a known load weight
- Use the customer’s floor scale or find a known load weight within the operating facility
- Keep that known load weight nearby to complete the calibration
- For best results, use at least 30% to 50 % known load weights of the particular lift truck’s lifting capacity.
- **Example:** For 3000 pounds lifting capacity of the vehicle, use at least 1500 pounds or close to that load weight.
- **Note:** If you want the system to show load weight in pounds; use the known load weight in pounds and enter that value accordingly. The same would apply if you want the weight display to show in kilograms. Use a known load weight in kilograms and enter that value into the system accordingly.

Starting Point

Every time the power is turned on, the software version will be displayed on the right hand side of the display for a brief moment. When forks are lowered to the ground, the digital display will show number 8 in the mode window.

MODE	Five Digits Load Weight Readout Display				
8					

Calibration of the Empty Forks *Lifting of the Empty Forks*

Lower the empty forks to the ground (*No hydraulic pressure in the lifting circuit*)

- Press the “M” key (*Use a paper clip*) and hold it down for 5 seconds.



- After 5 seconds, the **MODE** display digit will show “0”. This means that the system is ready for **zeroing the scale**.

MODE	Five Digits Load Weight Readout Display				
0					

- To initiate the zeroing of the SkidWeigh, the mode window must be showing **0**.
- Lift the empty forks just above the ground. The mode number 0 will change from 0 to 1.
- Wait a few seconds, the display will go blank and then it will show **0** or any other number in the furthest right digit display.

MODE	Five Digits Load Weight Readout Display				
1					0



Zeroing of lifted empty forks of electric pallet truck is done!

Calibration of the Loaded Forks

Lifting of Known Load Weight on the Forks

(Example: Known Load Weight is 1500 Lbs.)

- At this point, drive the vehicle into the skid with a known load weight.
- Make sure that skid load is positioned all the way to the fork's carriage.
- Start entering a known load weight into the indicator. The first value of the known load weight can be entered by pressing the "↑" key.
- The number will increment from 0 to 9 and will wrap around.
- To enter a second digit from the right, press the "M" key and the **MODE** digit will increment to 2.
- Keep pressing "↑" to enter a second value of known load weight.
- Repeat this procedure until the **MODE** digit display is 5.



Note: Make sure that you enter **0** in **MODE 5**, since the known load weight has only 4 digits as in our example of 1500.

MODE	Five Digits Load Weight Readout Display				
1					0
MODE					
2				0	
MODE					
3			5		
MODE					
4		1			
MODE					
5	0				

- Before going to **MODE 6** (Which is automatic calibration function of known load weight on forks being lifted) please make sure that the "Known Load Weight" (as in our example, 1500 pounds or kilograms) is well positioned, lowered to the ground and ready to be lifted.

- Press the “M” key to advance to **MODE 6** and lift the loaded forks just above the ground.

MODE		Five Digits Load Weight Readout Display			
6					



- Digital display will go blank.
- Within a few seconds digital display will show the value of the calibrated known load weight on the forks.



System weigh calibration procedure is completed!

From this point on, the system weight calibration / setup has been successfully done. All calibrating parameters will be saved and will not be lost when the power to the system is turned off or battery is disconnected. Digital display will show the load weight value until the forks are being lowered. Display will automatically reset and the system will go into **MODE 8**; which is a starting point for standard weighing cycle.

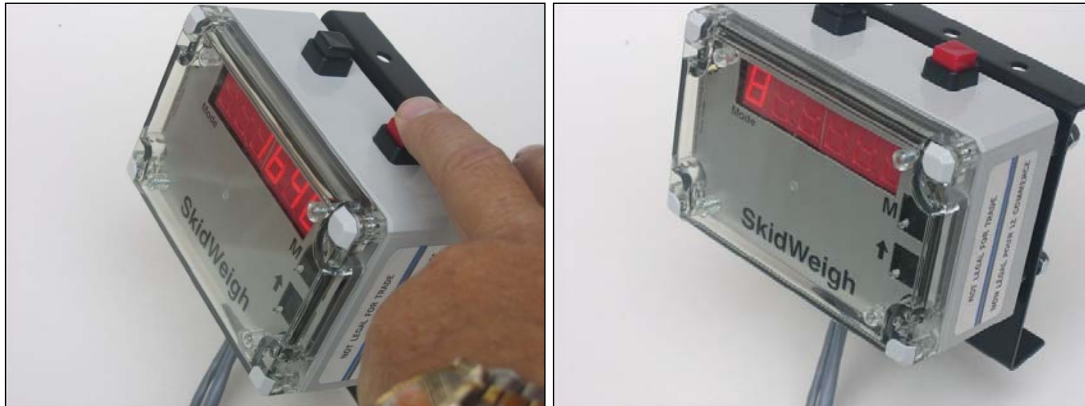
Accumulative Load Weight Function Without Onboard Printer:

Left Button: Accumulative function for load weights



Every time the **indicator shows the load weight** and the **left button** is pressed, the load weight will be added into a weighing counter and will show the current total weight of all load weights entered in the counter. (A quick “blink” on the display indicates that the current load weight has been added into the counter.)

To reset the current load weighing counter or get a printout, press the **right button**. This will reset the current total and the cycle will start all over.



Right Button: Reset

Note: Weight loads can be added only while the indicator shows the load weight. If the load weight is lowered and **Mode 8** is shown on the display, the last load weight will not be added even if the **left button** is pressed.

The maximum number of load weights entered into the accumulative counter is 40. If 40 loads have been reached, the display will show the current total weight of all 40 load weights entered. This current total weight will stay and “flash” on the instrument display for a moment. The current accumulative counter of all 40 load weights will be reset automatically and you can start the new cycle again.

Accumulative Load Weight & Printouts with Onboard Printer:

Left Button: Accumulative function for load weights

Right Button: Print/Reset



Every time the indicator display shows the load weight and the **right button** is pressed, the current load weight ticket will be printed and the system load weight counter will RESET.

Example of single load weight being printed:

IVDT Skidweigh 4380

Every time the indicator shows the load weight and the **left button** is pressed, the load weight will be added into a load weighing counter. It will also show the current total weight of all load weights entered in the load weight counter. (A quick "blink" on the display indicates that the current load weight has been added into the counter)

At any point you can obtain a ticket for all entered load weights stored in the load weighing counter by pressing the **right button**. The printout will show all individual load weights and total weight. As soon as you lower the forks and the last load weight is no longer on the display, the system will be RESET.

Example of two load weights added in the weighing counter and being printed:

IVDT SkidWeigh
#01 = 01550
#02 = 01000
TOTAL = 2550

The maximum number of load weights entered into the accumulative load weigh counter is 40. If the number of 40 loads has been reached, the display will show the current total weight of all 40-load weights entered. This current total weight will stay and "flash" on the instrument display for a moment. The current accumulative counter of all 40 load individual weights and total weight will be printed out. The system will reset automatically and you can start the new cycle again.

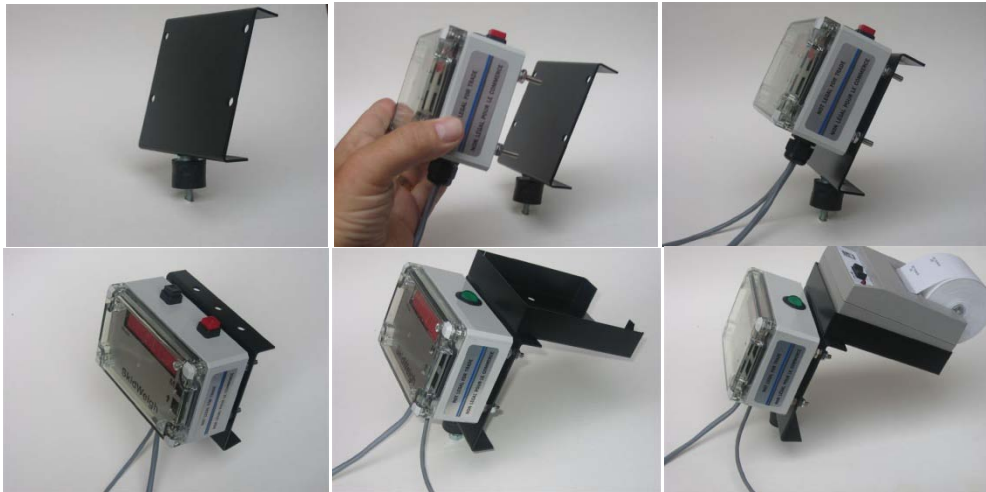
Example of 40 load weights added in the weighing counter and being printed:

IVDT SkidWeigh
#01 = 01550
#02 = 01000

“ “

#40 = 01265
TOTAL = 42550

On-board Printer Mounting Bracket/Cables



MODE Description

MODE 8 Represents standard “Weighing Cycle Mode”
MODE 0 to 6 Represents standard calibration mode
MODE 7 Represents “Overload Warning Setup Input”

MODE	Description	Action	Remarks
8	Standard “Weighing Cycle Mode”	Lower the forks to the ground	MODE 8 must be shown to initiate the weighing cycle
0	Zeroing empty forks mode	Forks must be lowered to the ground. Lift the empty forks	Lift empty forks just above the ground
1	Enter first value of known load weight	0 – 9 numerical increments, use ↑ key	Press the “M” key to advance to the next MODE
2	Enter second value of known load weight	0 – 9 numerical increments, use ↑ key	Press the “M” key to advance to the next MODE
3	Enter third value of known load weight	0 – 9 numerical increments, use ↑ key	Press the “M” key to advance to the next MODE
4	Enter forth value of known load weight	0 – 9 numerical increments, use ↑ key	Press the “M” key to advance to the next MODE
5	Enter fifth value of known load weight	0 – 9 numerical increments, use ↑ key	Press the “M” key to advance to the next MODE
6	Calibration mode with known load weight on the forks	The forks must be on the ground level. Lift the forks with the known load weight	After a few seconds, the display will show the known load weight value
7	Overload Warning Setup	Enter Overload Warning Value as per instructions described above.	Applies only for systems with the overload warning option

Troubleshooting

For help with general or miscellaneous problems that you may experience with your ED2 Series SkidWeigh; refer to the following table for possible solutions.

Problem	Possible cause	Possible solution
MODE 8 digit is not shown on the instrument display when the ignition switch is turned ON	No power to the system	<ul style="list-style-type: none"> - Check whether the fuse is blown - Check for a bad ground chassis connection - Remove any paint around the ground chassis connection - On electric vehicles, make sure that the "Black wire", negative is connected to the battery negative, not to the frame of the vehicle
When in MODE 8 and the forks with the load weight are lifted, there is no weight readout shown on the instrument display	Pressure transducer or wiring harness	<ul style="list-style-type: none"> - Check all 3 wires connections from the pressure transducer cable - Check the WHITE wire if connection is broken - Check the RED wire - it should have at least 11V DC - Check the pressure transducer for physical damage - Replace the pressure transducer
Weight display shows some random number (Example: 4630) regardless if forks lowered or any weight load lifted	Pressure transducer ground wire (Black wire) is broken or disconnected	<ul style="list-style-type: none"> - Broken Black wire from pressure transducer - Make sure that the "BLACK WIRE" from the pressure transducer to the wiring harness is connected
All display digits are "flashing" 999999 when the ignition switch is turned ON	The pressure transducer is near saturation (> 2.45V)	<ul style="list-style-type: none"> - The load weight is too heavy for this vehicle - Pressure transducer damaged
When the known load weight is lifted, there is a "larger weight readout error"	<ul style="list-style-type: none"> - Follow a proper "weighing cycle". - Calibration required - Faulty pressure transducer 	<ul style="list-style-type: none"> - Recalibrate the system with known load weight - The system is calibrated in kilograms, but the operator thinks that readout is in pounds or vice versa - Follow the "Standard Weighing Cycle" procedure - Replace pressure transducer
The instrument display shows approx. the same weight readout regardless if the forks are loaded or not	Pressure Transducer	<ul style="list-style-type: none"> - The white wire (pressure transducer signal output) is broken or not connected - Faulty pressure transducer
When the load weight is lifted display shows the weight value and display is "flashing"	Overload warning	<ul style="list-style-type: none"> - The preset overload value is too low - Check the overload settings and correct it
The lifted load weights are within the system error of +/- .5 to 1% of the vehicle lifting capacity most of the time; but sometimes a "Larger error might occur"	Follow the proper weighing cycle error	<ul style="list-style-type: none"> - Make sure that the standard weighing procedures are followed. - When the load weight is lifted, do not move the vehicle - When the load weight is lifted, do not tilt the mast - Replace the pressure transducer
The display will not return to the MODE 8 , standard weighing cycle	<ul style="list-style-type: none"> - Forks are not lowered to the ground - Pressure transducer 	<ul style="list-style-type: none"> - Lower the forks (attachment) to the ground (There should be no pressure in the lifting circuit) - Replace the pressure transducer

ED2-EPT Series SkidWeigh Operator User's Manual

To obtain the load weight readout the indicator must show number **8** in the **MODE** display.

Insert the forks into the pallet or under the product to be weighed. Make sure that the pallet is positioned all the way on the fork's carriage. The number **8** in the **MODE** display must be shown before you initiate a "Load Weighing Cycle".



Activate lift control valve and lift the loaded forks just above the ground.

As soon as the load has been lifted digital display on the indicator will go blank for a moment and load weight value of the lifted load will be displayed.



As soon the forks are being lowered system will go back to normal weighing mode and number 8 will be displayed in the Mode LED display.

(To obtain the best check weighing accuracy make sure that all load weight readings are taken at the same forks height, just above the ground.)