

# Installation & Calibration Manual



## **UT SkidWeigh Plus Series**

Lift Truck Onboard Check Weighing System  
With Monitoring Of All Operational Idling Times

*Automatic Idling Times Notification Within Specific Utilization Factor Measurement Session*

UT V118



## General Installation Guide

This **UT SkidWeigh Plus V118 Series** guide describes how to install, calibrate, test and use your material handling vehicle onboard check weighing & operational idling and downtime events recording system. Following the instructions in the **ADMINISTRATIVE MENU** guide will enable you to get the system up and running. In the event that you require additional assistance, please contact customer support via e-mail at [support@skidweigh.com](mailto:support@skidweigh.com) , visit [www.skidweigh.com](http://www.skidweigh.com) or contact us at the address or contact number below:

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## Safety

Always disconnect the vehicle battery while installing SkidWeigh system or any other electronic product.

Make sure that unit, pressure transducer and any other associated cables are securely mounted and do not impede any of the vehicle's controls. Use care when routing the components cables. Route the cables where they will be protected.

Use commonly accepted install practices for after market industrial vehicle electronic devices.

The installation of the SkidWeigh systems should only be performed by an acknowledged lift truck dealer technician or end user electro and hydraulic technical installer.

Here are two acceptable methods of making a wire connections:

- \* Soldering your connections (recommended)
- \* Crimp connectors ( with the use of the proper crimping tool)

Regardless of the method you choose, ensure that the connection is mechanically sound and properly insulated. Use high quality electrical tape and shrink tubing where necessary. This product is connected directly to the vehicle's ignition switch, 12 to 55 VDC. There is no on-off switch on the unit.

## Electro-Magnetic Compatibility

CE conformity to EC directive 89/336 (EMC) by application of harmonized standards: Interference stability EN 61000-6-2 and EN 61326-1 interference emit EN 61000-6-3, EN 61326-1 for the pressure transducer.

## UT SkidWeigh Plus Series

Our policy is one of continuous improvement and the information in this document is subject to change without notice. The software version is displayed on the LCD display once the power is turned on to the system.

## Overview of components

The standard UT SkidWeigh Plus system consist of two main components:

- \* Digital indicator, wiring harness, mounting bracket and anti-vibration mount (*Optional modules as per UT10 to UT60*)
- \* Hydraulic pressure transducer with 3 wires cable
- \* Installation & calibration manual and operator usage instruction

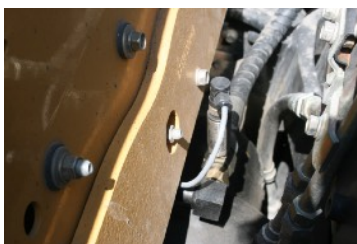
## Operation

The **UT SkidWeigh Plus** operation is based on hydraulic pressure transducer for the load weighing function and monitoring the raw operational data incorporating the proprietary utilization factor software that provides **true material handling vehicle operational idling monitoring, recording and reporting in real time**. Every time the vehicle ignition switch is turned on the recording session is automatically initiated without any input from the operator.

**All true operational idling times are shown to the operator on LCD display in real time**



## Pressure transducer installation



The pressure transducer must be installed in the lifting hydraulic line **between the lift control valve and lift cylinder(s)**.

Mount a T-piece in lifting hydraulic line.

## Pressure transducer installation precautions

Before installation of the pressure transducer the hydraulic lift circuit must be pressure free.

Pressure transducer has 1/4"-18 NPT male thread. Use thread seal to ensure tight fit.

## Selecting the mounting location for digital indicator



**Note:** Use the mounting bracket with the anti vibration mount and fasten digital indicator on the vehicle dashboard. There are many examples of mounting locations that will depend on the vehicle model. However, additional mounting items such as a flat brackets may be needed to help secure digital indicator.

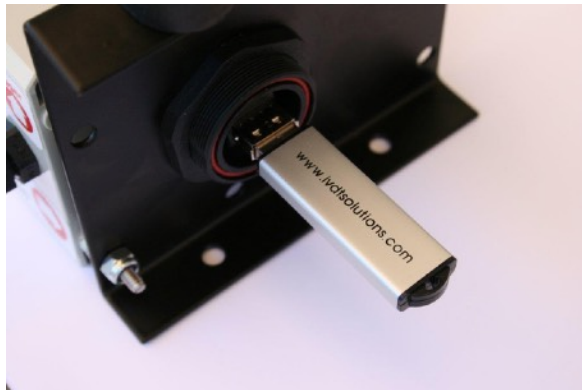
## Electrical connections

All UT SkidWeigh Plus systems operate from 12 to 55 VDC.

- **Orange Wire (+) Ignition switch**
- **Brown Wire (-) Battery negative**
- **Red Wire, connect to RED wire of the pressure transducer cable**
- **Black Wire, connect to BLACK wire of the pressure transducer cable**
- **White Wire, connect to WHITE wire of the pressure transducer cable**

## Power short circuit protection

All SkidWeigh systems are internally short circuit protected with resettable fuse. There is no need to install external inline fuse in orange wire connected to the ignition switch.



**Note:** All data is recorded in excel file.

## Verification of the electrical connections done properly

- Turn on vehicle power switch
- Lower forks to the ground
- Digital LCD display will be activated, showing software version and serial number
- Digital LCD display will show current date and time



If the above test is valid than the system electrical connections are done right.

LCD Display

Special Functions Button

Impact Monitoring

Bluetooth Icon



Toggle Arrows Keys in set up menu

Print key

"Enter key" ↵

**FUNCTION MODE KEY**

**F 9 ADMINISTRATIVE MENU** (Password protected)

**F 0 OPERATOR MENU** (Bluetooth pairing, Tare input, Parts Count, etc. if applicable)

## Administrative Menu

The administration menu allows the *installation technician to calibrate system weighing function (Set Calibration 1), set the overload if applicable* and for the end user to manage data, set vehicle ID#, input proper time and date, modify utilization factor, impacts set up menu and saving data to memory stick.

**Note:** *Data collected will depend on the hardware / software configuration. (UT10 to UT60 series)*



To enter into the **Administration Menu**, press **F** key and then press **9** key. Input password

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Use **left and right arrow keys to scroll for functions** that might apply for your system configuration.

Follow the LCD instructions, use **“Enter key”** ↵ to confirm set up input and use **F key** to exit.



LCD Display  
MENU  
Password = \_\_\_\_

LCD Display  
<> KEY to SCROLL  
F KEY TO EXIT

### Date / Time Set Up

LCD Display  
SET CLOCK  
ENTER TO SELECT

LCD Display  
SET CLOCK  
AUTO \_

Use left ◀ and right ▶ arrow key (*bottom left side of the keypad*) to change from AUTO to MANUAL date/time set up.

**Note:** AUTO set up refers to system utilizing a wireless RF platform with automatic date /time update from IVDT Base station communication and programming hub.

For the applications without Base Station, use **SET CLOCK MANUAL \_** instructions.

LCD Display  
SET CLOCK  
MANUAL \_

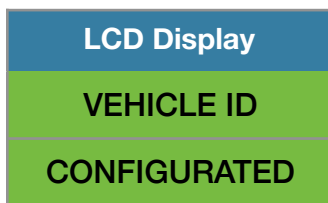
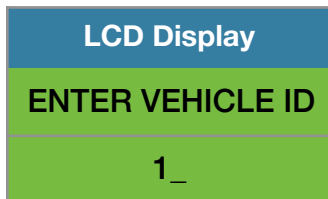
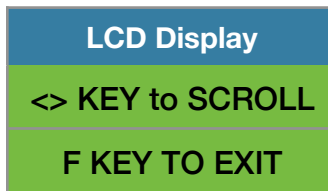
to set clock / date. Follow the LCD instructions and press “Enter key” ↵ to confirm.



Press **“Enter key”** ↵ to confirm the setting. The cursor will automatically move to the next item to be changed ( Month, Day, Year, Hours, Minutes, Seconds). On the last correction, seconds item press **“Enter key”** ↵ to confirm new date / time set up.

## Set vehicle ID#

- Maximum input number for vehicle ID# is 3 digits.





## Saving recorded data to USB memory stick

The UTX SkidWeigh Plus system will allow you to download all recorded data onto a USB drive.

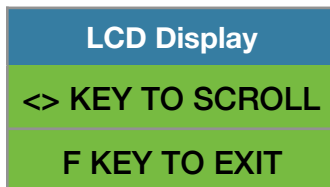
**Follow instructions shown on the LCD display**

This function is located in **Administrative Menu**.



When the system has finished uploading the data to the USB memory stick the LCD display will prompt you to erase the SDRAM , all files contained on the UTX SkidWeigh Plus.

Make selection **Y** or **N** and press “**Enter key**” ↵ to confirm selection and the system will automatically bring you back to the main screen in the administrative menu.



## Weighing scale function calibration

Make sure that forks are on the ground and LCD display is showing time and date.

LCD Display
Aug 28, 2010
12:20:23

To enter into the **Administration Menu**, press **F** key and than press **9** key. Input password \_\_\_\_\_

LCD Display
MENU
Password = ____

Use left and right arrow keys to scroll for CALIBRATION 1 functions to calibrate weighing scale function.

LCD Display
CALIBRATION 1
LIFT EMPTY FORKS

Lift empty forks just above the ground. Do not manipulate the tilt, side shifter or move vehicle. After few seconds system zero weight value will be calibrated and stored. LCD will show.

LCD Display
CALIBRATION 1
LOWER FORKS

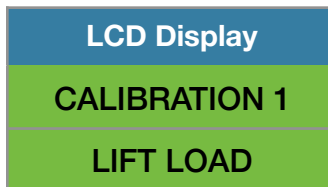
Lower the empty forks to the ground. The LCD display will prompt you to input known calibration load weight. (In our example the known load weight is 2000)

LCD Display
CALIBRATION 1
WEIGHT _

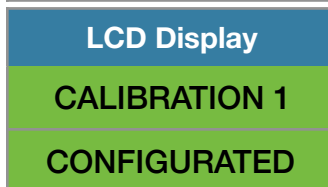
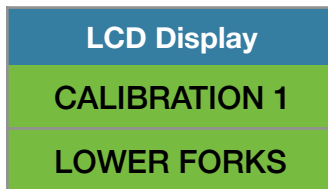
LCD Display
CALIBRATION 1
WEIGHT = 2000



Pick up a known load weight and lower the loaded forks to the ground. Input into the system the known load weight (*Our example is 2000*) and press “**Enter key**” ↵ . The LCD display will show

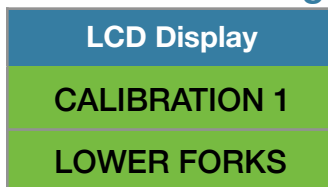


Activate lift control valve and lift loaded forks just above the ground. Do not manipulate the tilt, side shifter or move vehicle. After few seconds calibrated load weight value of 2000 will stored. Within few seconds the LCD will show.

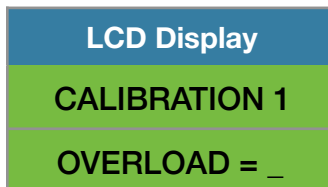


As soon the loaded forks are lowered to the ground the LCD display will show date / time .  
**System check weighing function calibration is completed.**  
**System is ready to be used.**

### Overload Warning Function (Optional)



As soon forks are lowered the LCD display will show



The LCD display will prompt you to input the overload load weight value. Input the applicable overload value and press “**Enter key**” ↵ . Press **F** key to exit the **ADMINISTRATIVE MENU**.

## Default Factory Set Up

- Low impact 6 G , visual and audio
- Audio alarm set to 5 seconds
- High Impact 12 G , visual and audio
- Audio alarm set to 5 seconds
- Optional audio alarm in continuous mode until reseted by supervisor
- Utilization factor, default value set to 30 (*End use programable*)
- Safety checklist start time 7:00 AM (*End use programable*)
- Safety checklist time period 8 hours (*End use programable, 8 or 12 hours*)
- IDLING, automatic unidentify true idling events within utilization factor



Up to 5 valid downtime reasons applicable for material handling operation

\* DEFAULT DOWNTIME EVENTS with audio and visual warning are:

- Other
- No material
- Traffic jams
- Storage issue
- Scheduling
- Unexpected delay

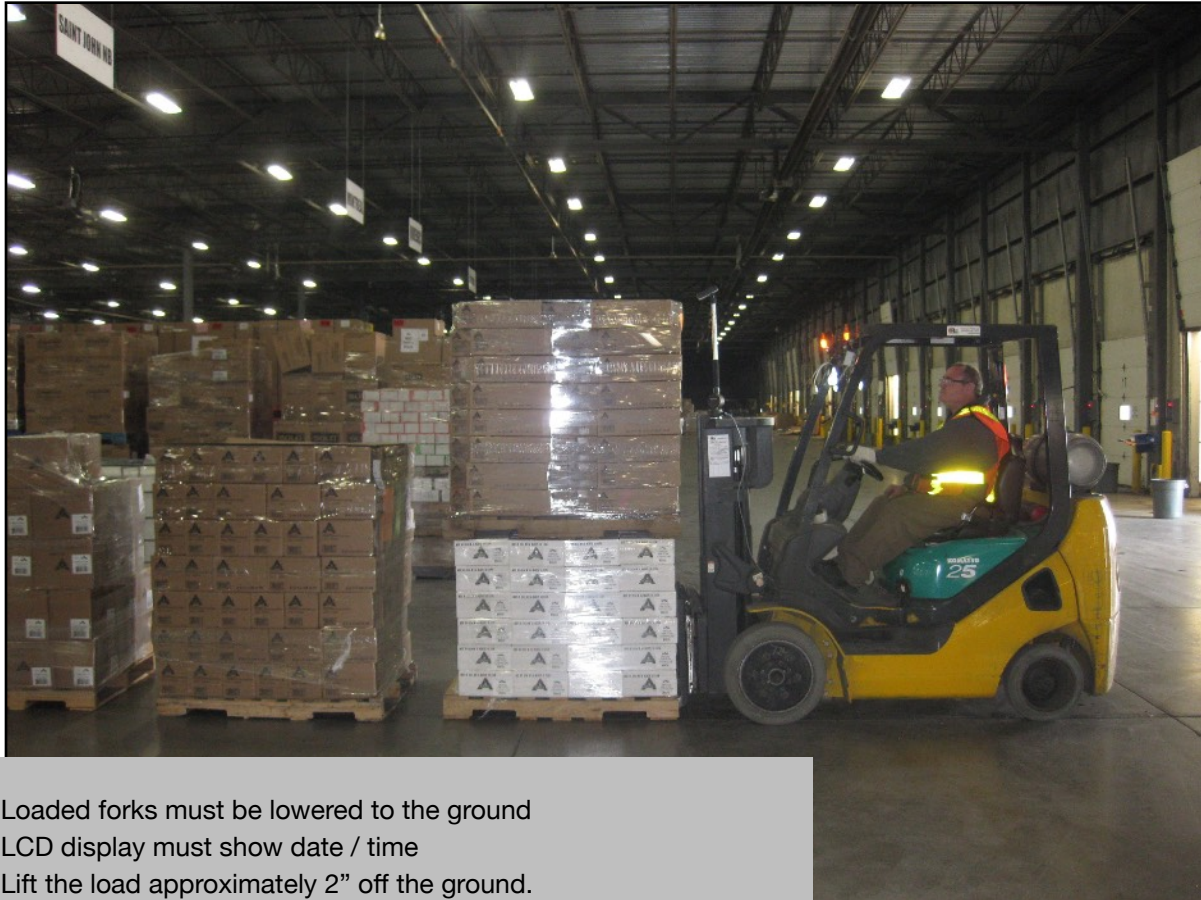
Up to 11 valid safety check messages are available.



**Note:**

For vehicle equipped with hydraulic accumulator please contact us to change sampling rate.

## Lift Truck Operator Weighing Guide



Loaded forks must be lowered to the ground  
LCD display must show date / time  
Lift the load approximately 2" off the ground.

Do not use tilt, side shift or move vehicle during the weighing cycle  
Within few seconds LCD display will show the load weigh

- \* **Impact detection**, no operator input required
- \* **Overload detection**, no operator input required
- \* **Safety checklist**, operator input required

### Vehicle Operational Idling Recordings Within Utilization Factor

Visual /Audio notification of all idling events is shown to the Operator on LCD display

- \* **Unidentify operational idling**, no operator input required
- \* **Valid downtime reasons events**, operator input required