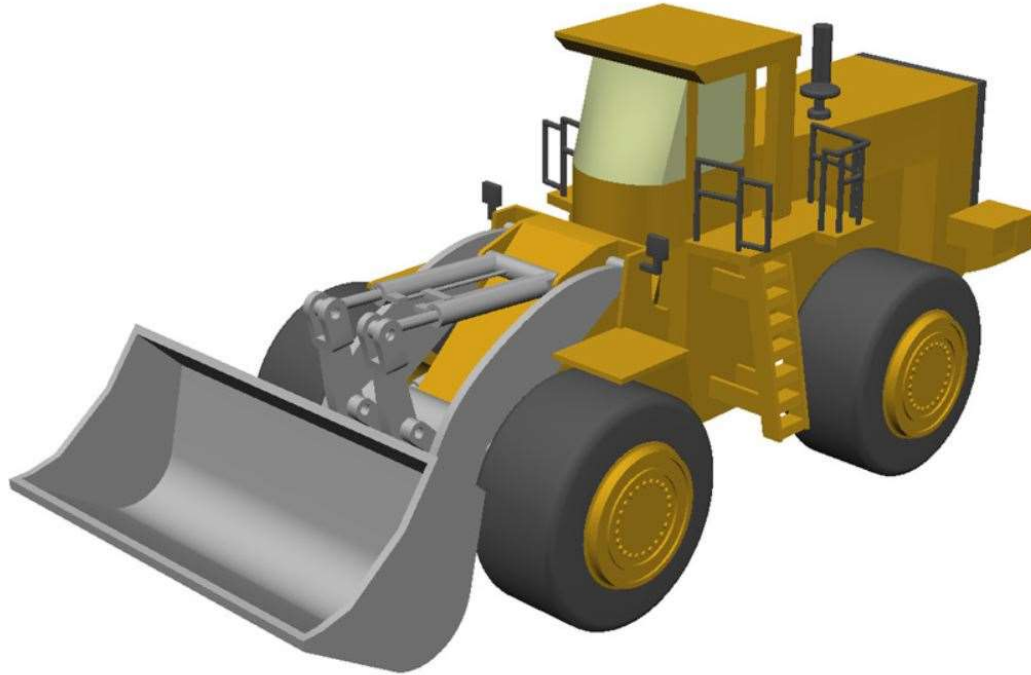# TS350 PAY LOAD INDICATOR
FRONT END LOADER
OPERATORS MANUAL

! WARNING !

THE PURPOSE OF THIS MANUAL IS TO PROVIDE THE USER WITH THE OPERATING PROCEDURES ESSENTIAL FOR THE PROMOTION OF PROPER MACHINE OPERATION FOR ITS INTENDED USE. THE IMPORTANCE OF PROPER USAGE CANNOT BE OVERSTRESSED. ALL INFORMATION IN THIS MANUAL SHOULD BE READ AND UNDERSTOOD BEFORE ANY ATTEMPT IS MADE TO OPERATE THE MACHINE.

SINCE THE MANUFACTURER HAS NO DIRECT CONTROL OVER MACHINE APPLICATION AND OPERATION, CONFORMANCE WITH GOOD SAFETY PRACTICE IN THIS AREA IS THE RESPONSIBILITY OF THE USER AND HIS OPERATING PERSONNEL.

ALL PROCEDURES ARE BASED ON THE USE OF THE SYSTEM UNDER PROPER OPERATING CONDITIONS, WITH NO DEVIATIONS FROM THE ORIGINAL DESIGN. ALTERATION AND OR MODIFICATION OF THE EQUIPMENT IS STRICTLY FORBIDDEN WITHOUT PRIOR WRITTEN APPROVAL FROM ELEC-MECH (PTY) LTD.

BEFORE OPERATING A MACHINE EQUIPPED WITH A SAFE-AID TS350 THE OPERATOR MUST READ THE INFORMATION IN THIS MANUAL CAREFULLY. CORRECT FUNCTIONING OF THE SYSTEM DEPENDS UPON ROUTINE DAILY INSPECTION AND ANY SUSPECTED FAULTS OR APPARENT DAMAGE SHOULD BE IMMEDIATELY REPORTED TO THE RESPONSIBLE PERSON BEFORE USING THE MACHINE.

Contents

SYSTEM USE

The Safe-Aid TS350 unit is designed with ease of operation in mind. The system goes directly into the current batch if a batch was running or into a running screen just showing load. All inputs to the system are done by the operator via the touch screen. The touch screen is sensitive to touch therefore it is **not** necessary to **push hard** on the screen (*if touch screen does not work or selects incorrectly see Touch Screen Calibration*).
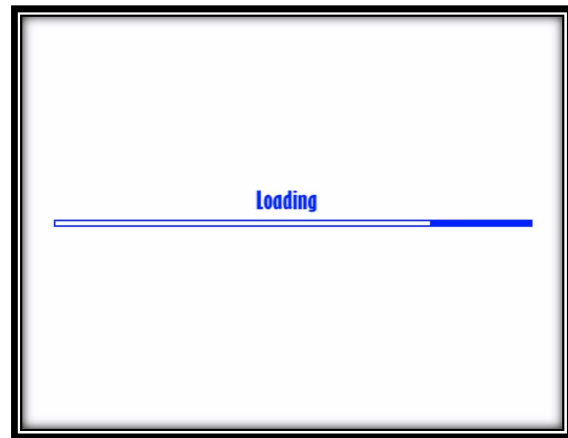
SYSTEM STARTUP

The TS350 display unit will automatically power up when the machine is switched on and the buzzer will sound once.

The system will run a CRC (cyclic redundancy check) to make sure that all raw data is correct.

Once the system has completed the CRC the buzzer will sound again and a set of internal diagnostics (watchdogs) will be utilised to verify that all inputs and outputs are working correctly.

At this point screen calibration can be done if required (see Screen Calibration for process).

This screen displays the display serial number as well as the firmware version:
* S/N CLSS – serial number
* Version – Firmware Version
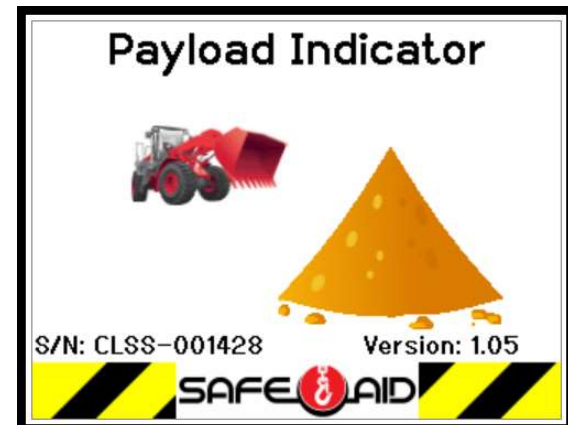
OPERATING SCREENS

The system starts in either of the following screens:
* Load Truck – Batch Stopped
* Running Screen - Batch Running

The following functions can be set:
* Set Date/Time – both screens
* Start Batch – load only screen
* Stop Batch – batch screen only
* Cancel Last Bucket – batch screen only
* Zero Weight – both screens
* Clear Zero Weight – both screens
* View Logged Data – both screens
* Set Trigger Angle – load only screen
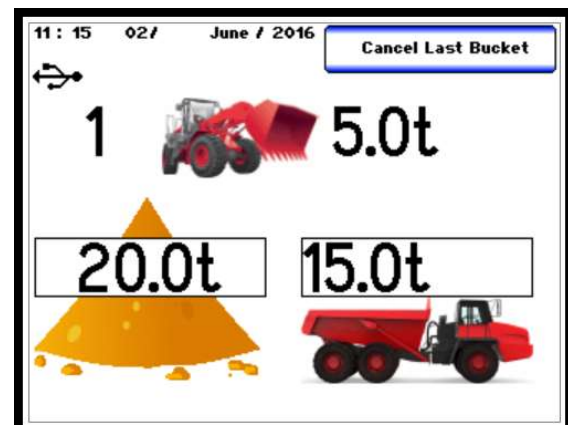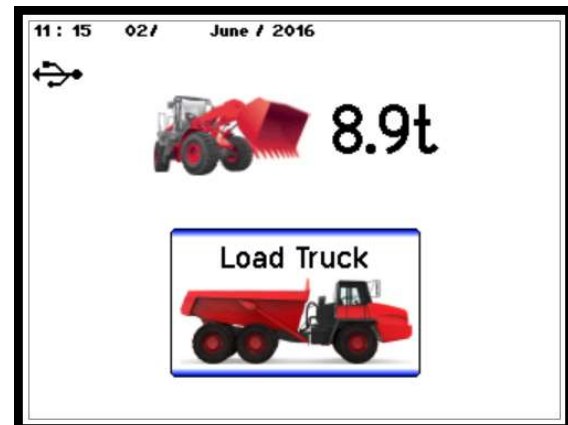
DATE / TIME

To set the date and time or view previously logged data press on the **Date & Time** in the top left-hand corner of the screen.

It is imperative that the date and time are always correct. If the date / time is incorrect, Select **Set Clock** and then press on the area that requires changing, a number keypad will be displayed, key in the correct time / date and press the **Enter** button. Repeat this for all the incorrect data.
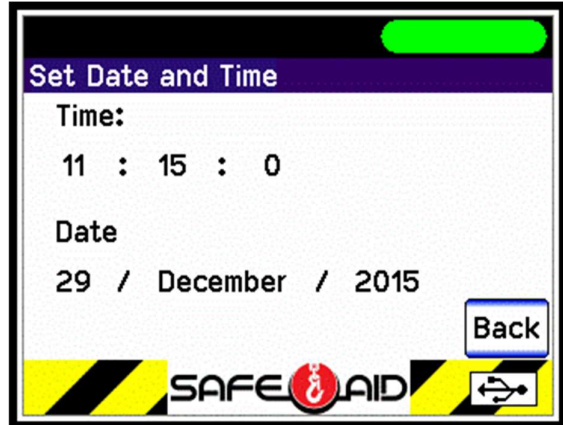
LOGGED DATA

To view previous batches, select **View Log** and scroll down using the slider bar on the right-hand side of the screen through all the batches saved to the USB memory stick. If no memory stick inserted, data cannot be viewed.
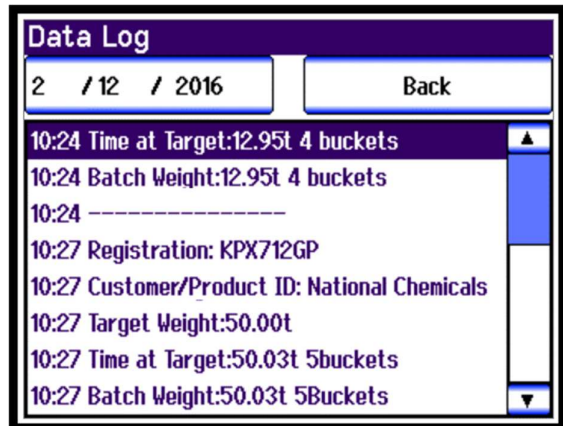
BUCKET WEIGHT

The actual Bucket Weight should always show zero when the empty bucket passes the trigger point.

Build-up of material deposits on the bucket can cause the zero to change so if the displayed bucket weight is not zero follow the procedure below:

- ➢ Raise Arm to **Trigger Point**
- ➢ Press the **Bucket Weight** value
- ➢ Select **Zero Weight**
- ➢ The bucket weight will show **0.0t**

If the bucket has been cleaned & negative values are then displayed Clear the bucket Zero by following the below procedure:
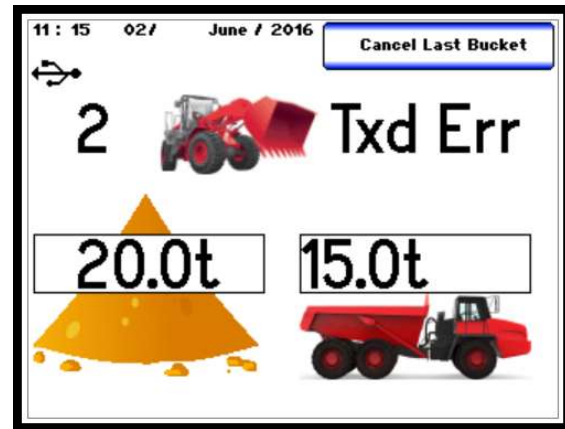
- ➢ Press **Bucket Weight**
- ➢ Select **Clear Zero**
- ➢ The bucket weight will show **0.0t**

ERROR CONDITIONS

Txd Err - Transducer Error – Pressure transducer faulty or damaged cable – Call Installer if this error occurs

A400NC – No Communication to A400 – The CAN Bus communication line to the A400 board mounted on the arm is faulty – A400 faulty or damaged cable – Call Installer if this error occurs

BUCKET ONLY WEIGHING

Bucket only weighing can be done if no batch has been started. The bucket weight will be shown but no totalising or batching is done just the load in bucket weight is displayed.
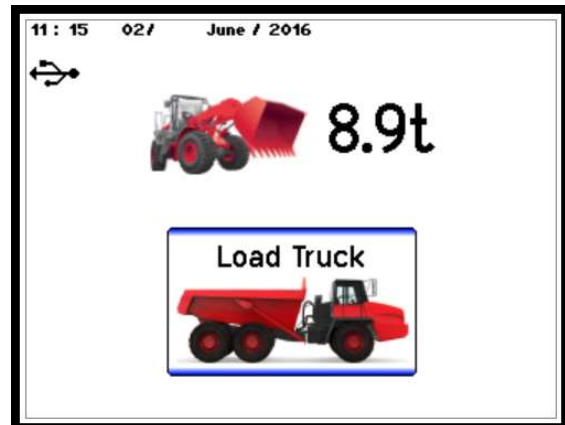

BATCH WEIGHING

When loading trucks batch weighing can be used to keep record of the following:

- Batch Start Time
- Batch End Time
- Target Weight
- Total Weight
- No of Buckets
- Machine ID
- Material / Product ID
- Customer ID

TRIGGER ANGLE

Batch weighing must be **Stopped** to change the trigger angle.

TS350 will capture the load at a predetermined angle when batching. This angle should be set once the height of the truck / trailer has been determined and should as close to the highest
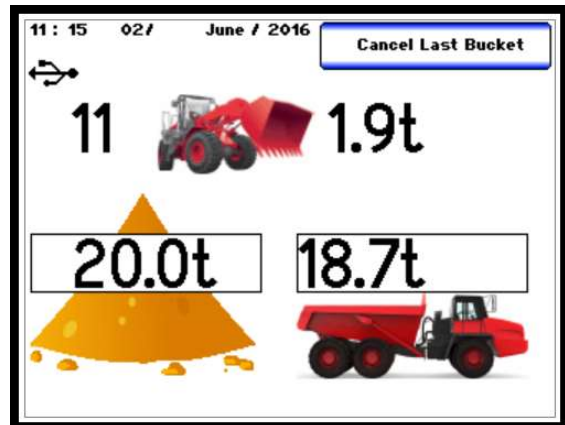
point as possible. If multiple trucks are loaded, try and find the best height that will suit all.

> On the Load Truck screen (Batch stopped) Press the **Front End Loader** picture.
> Select the **Yes** button
> Make sure the bucket is at the height required
> Press the **Enter** button

If the trucks are different and a new point is required, repeat the process.
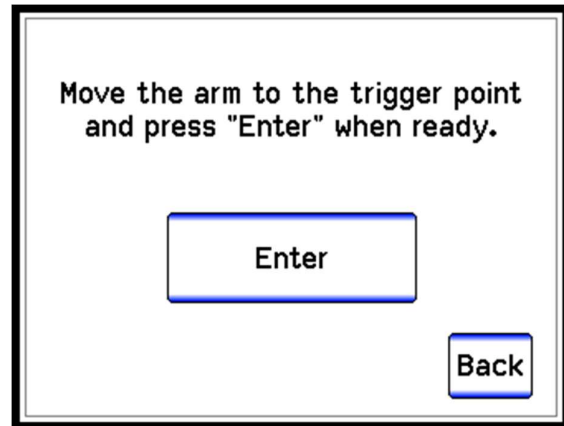
NEW BATCH

No batch is in process if the bucket weight and the Load Truck picture are displayed. Make sure that the correct Trigger Angle has been set before starting a batch. Start a new batch by pressing the **Load Truck** button, and then press the **Yes** button to continue.
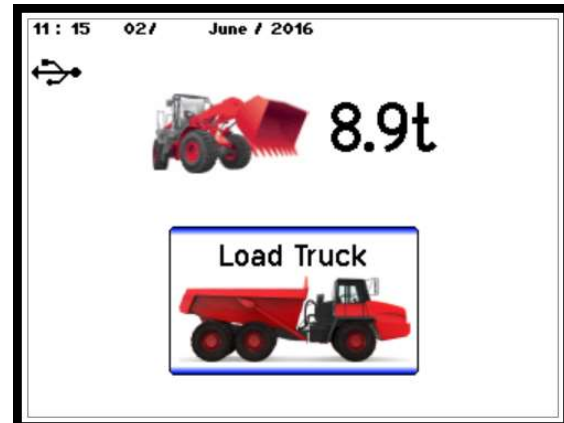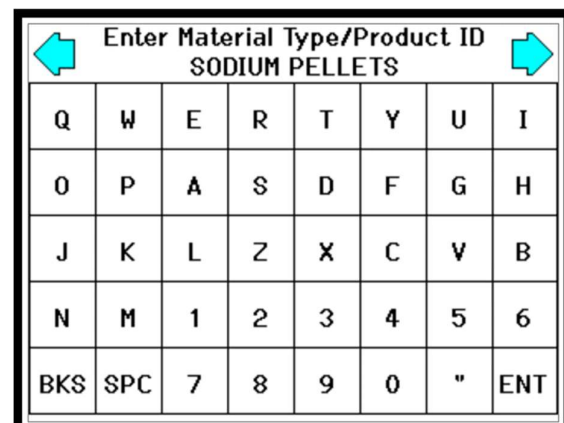
MACHINE IDENTIFICATION

Use the keyboard to type in the Machine ID, Fleet No., or Registration number i.e. identification number of the vehicle that is being loaded. These details are displayed in the final logged data and therefore careful attention should be paid when entering. If the same truck is being loaded the display will keep the last 5 vehicles data until new data is entered.
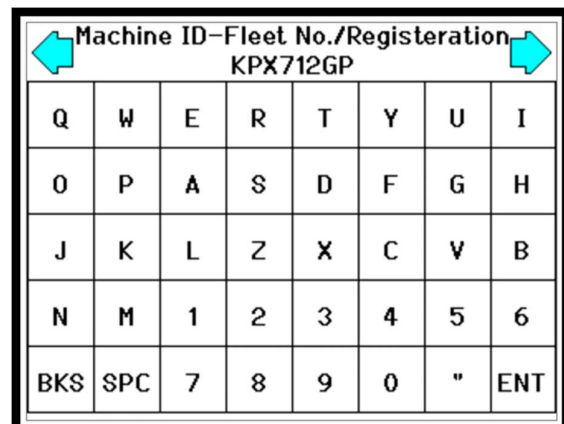
ENTER MATERIAL / PRODUCT ID

Use the keyboard to type in the name or the identification of the product being loaded. These details are displayed in the final logged data and therefore careful attention should be paid when entering. If the same product is being loaded the display will keep the last 5 product's data until new data is entered.

CUSTOMER NAME / ID

Use the keyboard to type in the name or the identification of the customer. These details are displayed in the final logged data and therefore careful attention should be paid when entering. If the same customer is being loaded the display will keep the last 5 customer's details until new data is entered.

ENTER TARGET WEIGHT

Use the number keypad to type in the target weight required for the vehicle. This total is very important as all calculations are based on this this total. Careful attention should be paid when entering. If the same truck is being loaded the display will keep the same data until new data is entered.


RUNNING BATCH

Start loading the vehicle the display will show the following:

> Left of front end loader picture – total number of buckets to get to Total Weight
> Right of front end loader picture – bucket weight – this is the actual load in the bucket. See setting bucket zero for accurate readings
> Product Pile – Target Weight – this weight reduces as the truck is loaded. See cancel last bucket for accurate loading
> Truck Weight – Total Weight – the actual weight loaded into the truck – this will increase as the number of loaded buckets increases. See cancel last bucket for accurate loading
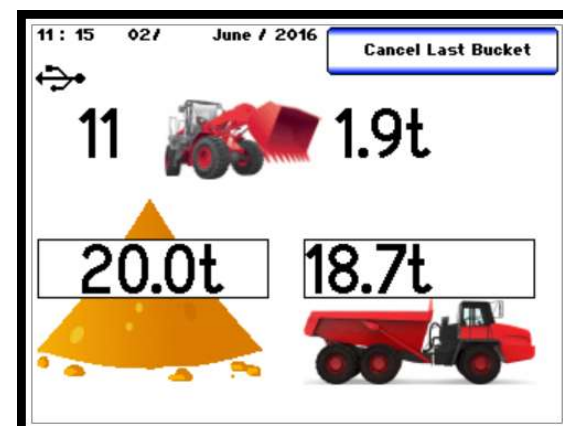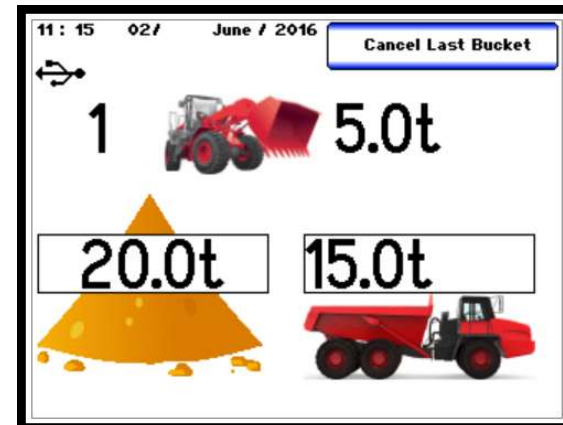
CANCEL LAST BUCKET

Once the Truck Weight is close to the Target weight the **Cancel Last Bucket** option can be used to get as close as possible to the Target weight by following the procedure below:

➢ Take the bucket past the Trigger Angle
➢ Check the target weight
➢ Lower the bucket
➢ Press the **Cancel Last Bucket** button
➢ Press **Yes**
➢ Empty the approximate amount needed to reach the correct Target Weight
➢ Take bucket past Trigger angle
➢ Repeat procedure if necessary until the Total Weight is equal to or slightly less than the Target Weight.
➢ Only the last bucket lifted can be cancelled i.e. Cancel last Bucket button will not show when the number of buckets is 0 or the last bucket has been cancelled.

STOP BATCH

Press the Truck Picture once the Target Weight has been reached and the vehicle completely loaded. Press the Yes button to stop the batch, the screen will now return to the Load Truck screen.

To view previous batches, select **View Log** (see Logged Data) and scroll down using the slider bar on the right-hand side of the screen through all the batches saved to the USB memory stick. If no memory stick inserted, data cannot be viewed

TOUCH SCREEN CALIBRATION

If the screen is not responding correctly to touch, the touch screen may need to be calibrated. Make sure that the Front Facia (Sticker) is in good condition (no dents or damage) as this can affect the touch screen. Replace Front Facia if damaged

Switch the TS350 display power off, power up the TS350 while pressing in the middle of the screen.

While the splash screen is on, keep pressing in the centre of the screen for a full five seconds until the touch calibration is activated and loaded. Immediately lift your finger and follow the on-screen instructions.

If by accident the calibration screen has been entered, press the **Exit** button without pushing anywhere else on the screen to continue with normal start up procedures.

If the touch screen calibration is required, follow the below procedure:

Press and hold finger where the two lines meet inside the small box at the top left-hand corner. Calibration works fine when using a finger but for better results use a pen taking care not to press too hard or the screen will be damaged.

Hold finger/pen in this area until prompted to lift. Prompts will then be given for three more touch zones resulting in co-ordinates for all four corners of the screen.

Once calibration is complete the software automatically goes to the working screen.