



## American Forklift Scale LLC

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### **2021 LTWS-1 Initial Calibration Procedure** Pg. 1 of 4 pages (Comprehensive description intended for service/calibration technician familiarization.)

#### **Prepare a Test Weight of known weight.**

You want a test weight that you know the actual weight. Guesses can work, but may require a later adjustment of the initial calibration.

When the ("**H**") is displayed under the right hand digits. The ("**H**") icon means the internal calculations for weight have been completed. The displayed weight is frozen and will not change until the load is removed.)

An ideal situation is to provide a test load of known weight where the weight is 50% or more of the truck lift capacity. This procedure makes the presumption that your test weight complies.

However, if you cannot provide a significant weight for your truck capacity, you should modify the calibration process as follows. (The process remains unchanged by this accommodation.)

1. Obtain a test weight of at least 300 pounds.
2. Multiply that weight X 2. (Example, 310 pound weight X 2 = 620 lb. )
3. Round up to the nearest 1,000 lb. (example, 620 rounded up = 1,000 lb)
4. Go to FULL SETUP -> BUILD -> CAP -> Set CAP value to temporary setting of 1,000.
5. Save.

After successfully completing the Initial Calibration Procedure, go to FULL SETUP -> BUILD -> CAP -> Set CAP value to your truck maximum lift capacity and save.

#### **Initial CALIBRATION PROCEDURE:**

Press the **POWER** button to turn on the indicator. The display will show "**READY**".

Press **POWER** and "**F**" buttons, hold them both until the display shows "**FULL SETUP**".

Release the buttons.

The Display will show **BUILD**.

Press the **ZERO** button three (3) times to go to **CAL**.

Press the **TARE** one (1) time to go to **ZERO**.

Press **SELECT** button one (1) time.

Starting from the ground (no pressure on the lift cylinder), lift your empty forks or bucket about a foot and **IMMEDIATELY** press the "**F**" (**OK**) button to save the pressure without going into bleed-off.

The display should momentarily show **Z.in P**, then flash "**0**" or "**-10**" etc.

Press the **TARE** one (2) times to go to **SPAN**.

Press **SELECT** button two (2) times. Enter the weight of your calibration test load.



Press **SELECT** to select a flashing digit. Use **PRINT** to change the number value.

Lift the test weight, stop and IMMEDIATELY press the "**F**" (**OK**) button to save this setting.

*(Do not delay pressing the "**F**" (**OK**) button or you will allow bleed-off which can create serious PDF New Calinrationdifficulty in the attempted calibration or adjustment.)*

Press the **ZERO** button seven (7) times to go to **END**.

Press the **TARE** button.

The Indicator will display **SAVING**, then return to the weighing mode

Lower the test load.

### **Verify Calibration:**

*The displayed weights during this process are not expected to match the actual test load weight. The purpose is to establish reliable repeatability of the calculated weight.*

When the display shows "**READY**":

Without moving the truck, lift the test weight to check calibration.

When the ("**H**") icon appears, note the displayed weight. *(This weight is an intermediate calculation. It is useful, but not accurate, yet.)*

Lower the test load, wait for "**READY**", and without moving the truck. lift the test load again to collect a new weight. Note this new weight. It will be the first adjusted weight reading.

Lower the test load, wait for "**READY**", and without moving the truck. lift the test load again to collect a new weight. Note this new weight. It will be the second adjusted weight reading.

Lower the test load.

### **Check for consistency:**

Move the truck about twenty feet and return to the load, get under the load prepared to lift

Wait for "**READY**", and without moving the truck. lift the test load to collect a new weight. Note this new weight. It will be the first sample to evaluate consistency of the adjusted calibration.

Lower the test load.

Move the truck about twenty feet and return to the load, get under the load prepared to lift.

Wait for "**READY**", and without moving the truck. lift the test load to collect a new weight. Note this new weight. It will be the second sample to evaluate consistency of the adjusted calibration..

Lower the test load.

Move the truck about twenty feet and return to the load, get under the load prepared to lift.

Wait for "**READY**", and without moving the truck. lift the test load to collect a new weight. Note this new weight. It will be the final sample to evaluate consistency of the adjusted calibration..

Lower the test load.

Evaluate the weights collected during truck moves.

1. The weights should be within 1% to 2% of each other in either direction. *(A window of 2% to 4% of the test weight value. For example, if the test load weight shows 460 lbs, the variation between the three displayed weights should range between +/- 10 to +/- 20 pounds. The target weight (test weight) should be relatively between the high and low samples.)*

If the variation exceeds this recommendation, truck operation should be carefully examined to improve consistency of physical operation with special attention to lift speed and variation, mast tilt, position of the load on the forks and type of load. *(Flopping, swinging or sloshing loads can produce significant repeatability error.)*



2. If repeatability is satisfactory, proceed to correct for accuracy as follows;

Press the **POWER** button to turn on the indicator. The display will show "**READY**".

Press **POWER** and "**F**" buttons, hold them both until the display shows "**FULL SETUP**".

Release the buttons.

The Display will show **BUILD**.

Press the **ZERO** button three (3) times to go to **CAL**.

Press the **TARE** one (2) times to go to **SPAN**.

Press **SELECT** button two (2) times. Enter the corrected weight of your calibration test load.

(Examples:

**Displayed weight too high:**

*If the known weight is 2,000 pounds and the displayed weight is 2,100 pounds, (100 pounds high), adjust by reducing the **last calibrated weight** by 1/2 of the 100 pound error (-50 pounds). This will **reduce** the displayed weight. (Do not confuse the displayed weight with the last calibration weight!)*

**Displayed weight too low:**

*If the known weight is 2,000 pounds and the displayed weight is 1,900 pounds, (100 pounds low), adjust by increasing the **last calibrated weight** by 1/2 of the 100 pound error (+50 pounds). This will **increase** the displayed weight. (Do not confuse the displayed weight with the last calibration weight!)*

Press **SELECT** to select a flashing digit. Use **PRINT** to change the number value.

Lift the test weight, stop and IMMEDIATELY press the "**F**" (**OK**) button to save this setting.

*(Do not delay pressing the "**F**" (**OK**) button or you will allow bleed-off which can create serious difficulty in the attempted calibration or adjustment.)*

Press the **ZERO** button seven (7) times to go to **END**.

Press the **TARE** button.

The Indicator will display **SAVING**, then return to the weighing mode

**Lower the test load.**

When the display shows "**READY**":

Without moving the truck, lift the test weight to check calibration.

When the ("**H**") icon appears, note the displayed weight. *(This weight is an intermediate calculation. It is useful, but not accurate, yet.)*

Lower the test load, wait for "**READY**", and without moving the truck. lift the test load again to collect a new weight. Note this new weight. It will be the first adjusted weight reading.

Lower the test load, wait for "**READY**", and without moving the truck. lift the test load again to collect a new weight. Note this new weight. It will be the second adjusted weight reading.

Lower the test load.

**Check for consistency:**

Move the truck about twenty feet and return to the load, get under the load prepared to lift

Wait for "**READY**", and without moving the truck. lift the test load to collect a new weight. Note this new weight. It will be the first sample to evaluate consistency of the adjusted calibration.

Lower the test load.



Move the truck about twenty feet and return to the load, get under the load prepared to lift. Wait for "READY", and without moving the truck. lift the test load to collect a new weight. Note this new weight. It will be the second sample to evaluate consistency of the adjusted calibration..

Lower the test load.

Move the truck about twenty feet and return to the load, get under the load prepared to lift.

Wait for "READY", and without moving the truck. lift the test load to collect a new weight. Note this new weight. It will be the final sample to evaluate consistency of the adjusted calibration..

Lower the test load.

Evaluate the weights collected during truck moves.

1. The weights should be within 1% to 2% of each other in either direction. *(A window of 2% to 4% of the test weight value. For example, if the test load weight shows 460 lbs, the variation between the three displayed weights should range between +/- 10 to +/- 20 pounds. The target weight (test weight) should be relatively between the high and low samples.)*

If the variation exceeds this recommendation, truck operation should be carefully examined to improve consistency of physical operation with special attention to lift speed and variation, mast tilt, position of the load on the forks and type of load. *(Flopping, swinging or sloshing loads can produce significant repeatability error.)*

2. If repeatability is not satisfactory, repeat this adjustment process until an acceptable and repeatable weighing result is achieved.

Final note: In pragmatic weighing solutions, the end user may prefer a slightly higher or lower weigh display, depending upon management preferences for the weighing application. The details of error correction may be modified slightly to accommodate accuracy offset preferences.

**This completes the Initial Calibration Procedure.**

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