BALER OPERATING CONTROLS MANUAL
80/85 SERIES, ENGINE SIDE FEED BALERS

This manual details how to use the Baler Operating Controls for Freeman 280/380 and 285/385 engine balers. Read the entire manual before operating the baler. Consult your balers Operator's Manual for more information, including SAFETY PRECAUTIONS.

This Manual is for Freeman 80/85 Series Balers running
Program 903843_0.6
Starting with balers: 380E15-004, 385E15-109

Contents

Overview

INTRODUCTION TO THE BALER OPERATING SYSTEM

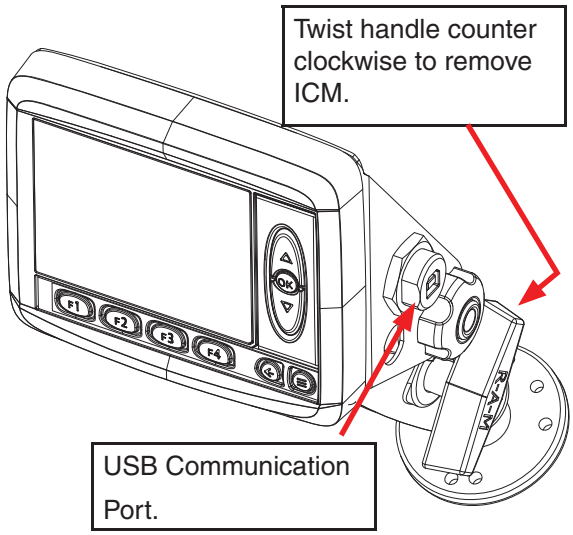

Figure 3-5-1 In-Cab Monitor (ICM)

The Baler Operating System consists of:

- In-Cab Monitor (ICM)
- Input / Output Control Module (XA2)
- Machine / Baler Sensors

The ICM is used to control the functions of the baler and provide a display of its performance during operations. Multiple screens are utilized to monitor the baler and make adjustments to its operation.

The ICM screens are divided into two groups; Baling and Main.

The baling screens consist of two (2) screens; Baling, and Bale Count. Use the Back Arrow to toggle between these two screens.

The Main group consist of Adjust, Measure, Preferences and Info screens.

Pressing the Menu Button will switch between the Main and Baling screens.

The XA2 module receive instructions from the ICM to drive hydraulic and electrically operated components. They also interface with sensors on the machine and relay this information through the communication cable back to the ICM.

Baling Screen

Figure 3-5-2 Baling Screen

To power the ICM on, both the baler key switch and the togle switch on the side of the ICM must be in the on position. When turned on, the ICM will return to the last menu screen displayed when the unit was shut down. The main bale screens may always be accessed by pressing the Menu button.

F1 1. **WINDROW** The Windrow function is used to automatically raise the pickup and decrease the engine rpm when finishing a windrow, then again to lower the pickup to baling position and increasing the engine rpm back to baling speed when starting the next windrow. Using this automatic function will decrease fuel consumption, wear and tear on the baler by not running at full speed when not baling, and help prevent damage to the pickup when traveling between windrows.

Press F1 to start and stop the windrow. If the display reads "Start", pressing F1 will lower the pickup and increase engine RPM for a preset amount of time (starting the windrow). If the display reads "End", pressing F1 will raise the pickup and decrease the engine RPM (ending the windrow). Adjustments can be made to the degree of change in RPM and pickup height in the Windrow screen (see Windrow Function on page 10).

F2 2. **LIGHTS** Press F2 to turn on and off the work lights.

F3 3. Not used on this screen.

Baling Screen

4. **SELECT** Press F4 to select: Drawbar, Tension, Throttle or Pickup for adjustment. Each time F4 is pressed, the F4 icon will move next to the active function (the selected function shown in Figure 3-5-2 is Drawbar). The Up/Down Arrows (Item #7 in Figure 3-5-2) are then used to adjust that function.
DRAWBAR - Use the Up Arrow button to move the drawbar to the left, and the Down Arrow button to move it to the right.
TENSION - Use the Up/Down Arrow buttons to adjust the pressure in the bale tension system. The current tension setting (Item #9) is displayed in either psi, or % (see Tension Value Display Format on page 11 for how to change between psi & %).
PICKUP - Use the Up/Down Arrow buttons to raise and lower the Pickup. This will override the position established by the Windrow function (F1).
THROTTLE - Use the Up/Down Arrow buttons to adjust the engine speed. This will override the position established by the Windrow function (F1).

5. **BACK ARROW** Press to switch between the Bale Count screen, and the Baling screen.

6. **MENU** Press to display the Main screen. From the Main screen, you can access the; Adjust, Measure, Preferences, and Info screens.

7. **UP/DOWN ARROWS** Used to adjust the Drawbar, Tension, Throttle and Pickup. These buttons will adjust the item with the F4 icon (Item#14) in front of it (the Drawbar as shown in Figure 3-5-2).

8. OK This button is not used on this screen.

9. **TENSION** Displays the amount of tension applied to the bale chamber. This can be set to read in either psi or % (see Tension Value Display Format on page 11 for how to change between psi & %).

10. **PLUNGER** Displays the plunger speed in strokes per minute. To adjust the plunger speed, adjust the throttle.

11. **BALES** Displays the number of bales made since the bale counter was last reset (see page 6 for how to reset the counter).

12. **STROKES** Displays the number of plunger strokes that were used to make the last bale.

13. **LOW FUEL INDICATOR** The low fuel indicator will illuminate when the fuel level is below 12% of capacity. This equates to about 3.5 US gallons (13 liters). There is also a fuel gauge on the Bale Count screen (see page 7) which can be accessed from here by pressing the Back button (Item #5).

14. **SELECT POSITION** The F4 icon indicates which function the Up/Down Arrows will adjust. Use the F4 Button (Item #4) to scroll between Drawbar, Tension, Pickup, and Throttle.

Bale Count Screen

Figure 3-5-3 Bale Count Screen

The system has two bale counters; Bale Count, which can be reset by the operator at any time, and Lifetime Bales, which can only be reset by a Freeman Service representative.

1. **RESET BALES** Pressing F1 will bring up the Bale Count Reset Confirmation screen (see Figure 3-5-4). Once in the Confirmation screen:

   Pressing F2 will reset the counter.

   Pressing F3 will cancel the operation without changing the bale count.

   Pressing F4 will display help information.

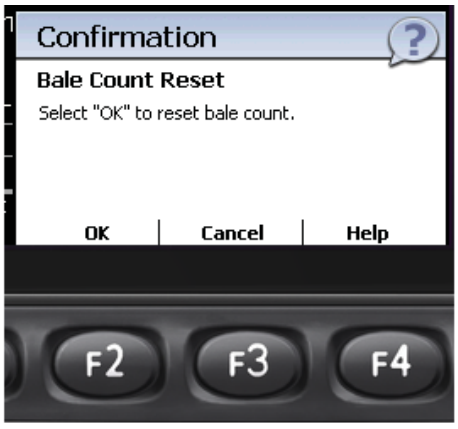

Figure 3-5-4 Bale Count Reset Confirmation

Bale Count Screen

2. **LIGHTS** Press F2 to turn on and off the work lights.

3. **FUEL GAUGE** Green bars represent the quantity of fuel remaining in the fuel tank.

Full:

Almost empty with Low Fuel Indicator on:

4. **LOW FUEL INDICATOR** The low fuel indicator will illuminate when the fuel level is below 12% of capacity. This equates to about 3.5 US gallons (13 liters).

5. **Lifetime Baling Hrs** Measures the time that the key is in the on position and the flywheel is turning.

6. **Lifetime Hrs** Measures the time that the key is in the on position, whether or not the flywheel is turning.

7. **Lifetime Bales** This counter can only be reset by a Freeman Service representative.

8. **Bale Count** Displays the number of bales made since the bale counter was last reset (see Item #1 for how to reset the counter).

Main Screen

Figure 3-5-5 Main Screen

The Main screen can be accessed from either of the Baling screens by pressing the ≡ Menu button.

F1 1. **ADJUST** Pressing F1 will access the Adjust screen where changes can be made to the windrow function, tension system, and fuel gauge calibration (see “Adjust Screen” on page 10).

F2 2. **MEASURE** Pressing F2 will access the Measure screen where system inputs, outputs and control module status can be viewed (see “Measure Screen” on page 12).

F3 3. **PREFERENCES** Pressing F3 will access the Preferences screen where changes can be made to the displays appearance, the date and time, and language (see “Preferences Screen” on page 14).

F4 4. **INFO** Pressing F4 will display information about the system and software (see “Info Screen” on page 16).

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Adjust Screen

Figure 3-5-6 Adjust Screen

From the Adjust screen, changes can be made to the Windrow Function, Tension System, and Fuel Gauge Calibration.

Use the Up/Down Arrow buttons to highlight the desired selection, then press the OK button to select it.

The Back button is used to return to the previous screen, and pressing F1 will return to the Main screen from any of the following screens.

1. **WINDROW FUNCTION** The windrow function (see “Baling Screen” on page 4) is used to automatically raise the pickup and decrease the engine rpm when finishing a windrow, then again to lower the pickup to baling position and increase the engine rpm back to baling speed when starting the next windrow.

Adjustments can be made to the amount of time the electronic/hydraulic actuators are active. These are the Throttle Up/Down times and the Pickup Up/Down times.

Once on the Windrow Function screen (see Figure 3-5-7), the Up/Down Arrows are used to highlight the desired function to adjust. The current value for the highlighted function is shown on the right side of the display. To adjust the value of the highlighted item, press the OK button and a new screen will come up (see Figure 3-5-8, each screen will be similar):

Throttle Down Time - This sets the length of time that the throttle actuator runs when exiting the windrow and closing the throttle. Use the Up/Down Arrow buttons to change the value, then press the OK button to save it.

Pressing F2 will Reset the Throttle Down Time to the default value of 3.00 seconds.

Throttle Up Time - This sets the length of time that the throttle actuator runs when entering the windrow and opening the throttle. Use the Up/Down Arrow buttons to change the value, then press the OK button to save it.

Pressing F2 will Reset the Throttle Up Time to the default value of 2.50 seconds.

Adjust Screen

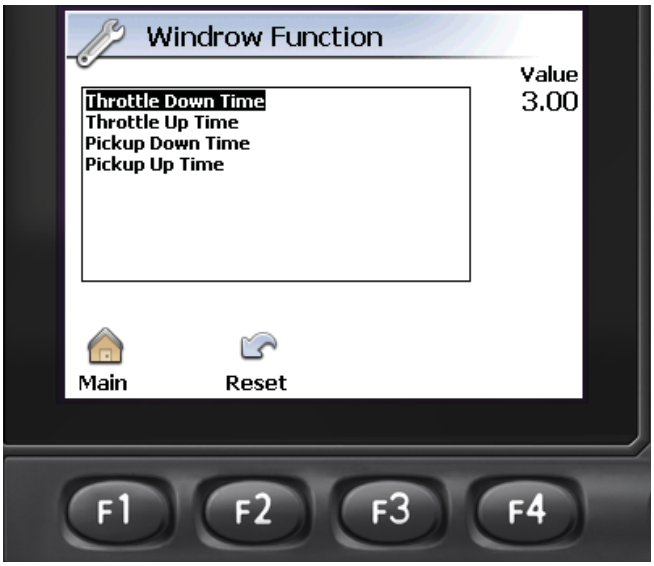

Figure 3-5-7 Windrow Function Screen

Pickup Down Time - This sets the length of time that the pickup actuator runs when entering the windrow and lowering the pickup. Use the Up/Down Arrow buttons to change the value, then press the OK button to save it.

Pressing F2 will Reset the Pickup Down Time to the default value of 2.00 seconds.

Pickup Up Time - This sets the length of time that the pickup actuator runs when exiting the windrow and raising the pickup. Use the Up/Down Arrow buttons to change the value, then press the OK button to save it.

Pressing F2 will Reset the Pickup Up Time to the default value of 2.00 seconds.

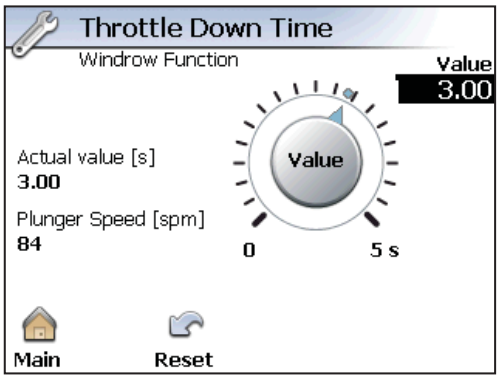

Figure 3-5-8 Value Adjustment Screen

2. **TENSION SYSTEM** There are two adjustments that can be made to the tension system. The Up/Down arrows are used to select the desired function to adjust. The current value for the highlighted function is shown on the right side of the display. To adjust the value of the highlighted item, press the OK button.

Maximum Tension Output - This limits the maximum percent of tension that can be set from the Baling Screen.

Use the Up/Down Arrow buttons to change the value, then press the OK button to save it.

Pressing F2 will Reset the system to the default value of 100%.

Tension Value Display Format - This is used to change the tension units displayed on the Baling Screen between psi and %.

Pressing F2 will Reset the system to the default value of Percent (%).

NOTE: When displayed in psi, this is a calculated number based on the maximum 2025 psi of the system, it is not an actual system pressure reading.

3. **FUEL GAUGE CALIBRATION** The fuel gage calibration is preset to the proper settings. However, should a fuel gauge be out of specs or an alternate fuel gauge used, it may be calibrated here to read correctly in the display. Two points are needed to calibrate the gauge, full and empty. The gauge will read linearly between these two points. Either point may be set at any time.

The Up/Down Arrows are used to select the desired function to adjust. The current value for the highlighted function is shown on the right side of the display. To adjust the value of the highlighted item, press the OK button.

Sender Output Empty - Select this when the tank is empty. Using the Up/Down Arrows, adjust the “Actual Value” to match the reading taken from the fuel tank sending unit. Press OK to save the value.

Pressing F2 will Reset the system to the default empty value of 996 mV.

Sender Output Full - Select this when the fuel tank is full. Using the Up/Down Arrows, adjust the “Actual Value” to match the reading taken from the fuel tank sending unit. Press OK to save the value.

Pressing F2 will Reset the system to the default full value of 162 mV.

Measure Screen

Figure 3-5-9 Measure Screen

From the Measure Screen, the Input, Output and Control Module values can be viewed. Use the Up/Down Arrow buttons to highlight the desired selection, then press the OK button to select it.

The Back button is used to return to the previous screen, pressing F1 will return to the Main screen, and F2 will toggle to the raw values.

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Preferences Screen

Figure 3-5-10 Preferences Screen

From the Preferences Screen, the Display, Date, Time and Language settings can be adjusted.

1. **Display** Pressing F1 will bring up the Display screen (see Figure 3-5-11). Once in the Display screen:

Pressing F2 will highlight the Backlight setting. When highlighted, the brightness of the backlighting of the display can be adjusted by using the Up/Down arrows. Press OK to save your settings. The range is from 10 to 100, the factory setting is 100.

Pressing F3 will highlight the Screen saver setting. Use the up/Down Arrows to select one of three settings:

- **Off** - no screen saver (Factory Setting).
- **Dimmed** - After the "Timeout" period (in minutes), the screen will fade to the "Dimmed light" setting until any button is pressed.
- **Black** - After the "Timeout" period (in minutes), the screen will go black until any button is pressed.

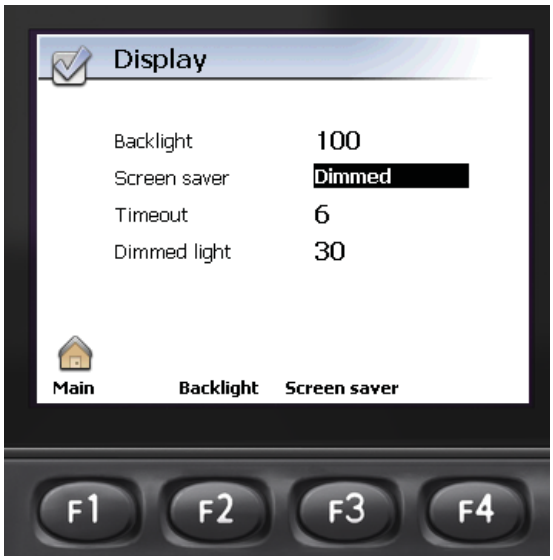

Figure 3-5-11 Display Screen

Preferences Screen

Once the desired screen saver setting has been selected, press OK. If “Dimmed” or “Black” was selected, the Timeout period will be highlighted. Use the Up/Down Arrows to select the amount of time (in minutes) before the screen dims or goes black. Press OK to save. If “Dimmed” was selected, the Dimmed light setting will be highlighted. Use the Up/Down Arrows to set the brightness of the display when it is dimmed. Press OK to save the settings.

Use the Back button to return to the Preferences screen.

F2 2. **Date/Time** Pressing F2 will bring up the Time and Date adjustment screen (see Figure 3-5-12). Once there, press:

- F1 to adjust the Date, the year will be highlighted. Using the Up/Down Arrows, adjust the year, then press OK to move to the month. Use the Up/Down Arrows to now adjust the month, then press OK to move to the day. Use the Up/Down Arrows to set the day, then press OK to save the setting and exit the screen.
- F2 to adjust the Time, the hour will be highlighted. Use the Up/Down Arrows to adjust the hour (a 24 hour clock is used), then press OK to move to the minute. Use the Up/Down Arrows to set the minutes, then press OK to save the setting and exit the screen.

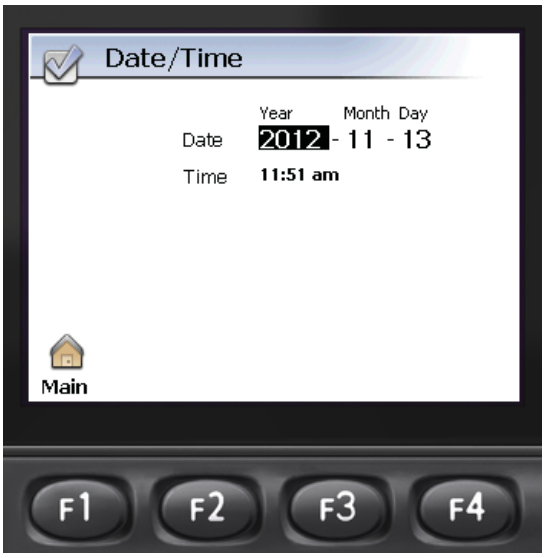

Figure 3-5-12 Date Adjustment

F3 3. **Language** Pressing F3 will bring up the Language selection screen. Use the Up/Down Arrows to select the language preference. Press OK to save the setting.

The Back button is used to return to the previous screen.

Info Screen

Figure 3-5-13 Info Screen

The Info screen provides information about the controls system.

The Info screen lists the baler that it was designed to operate as well as the software that it is running.

1. Pressing F1 will bring up another screen, where you can select to view information for the ICM or the Control Module.

2. Pressing F2 displays information about the modem.

3. Pressing F3 brings up the System log screen. The system logs are only accessible by Freeman Service Technicians.

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