

Freeman 380/385 Engine and DVC-10 Controls

The following pages detail how to use the controls on your Baler. Please consult Operators manual PB00000102 for more information, including SAFETY.

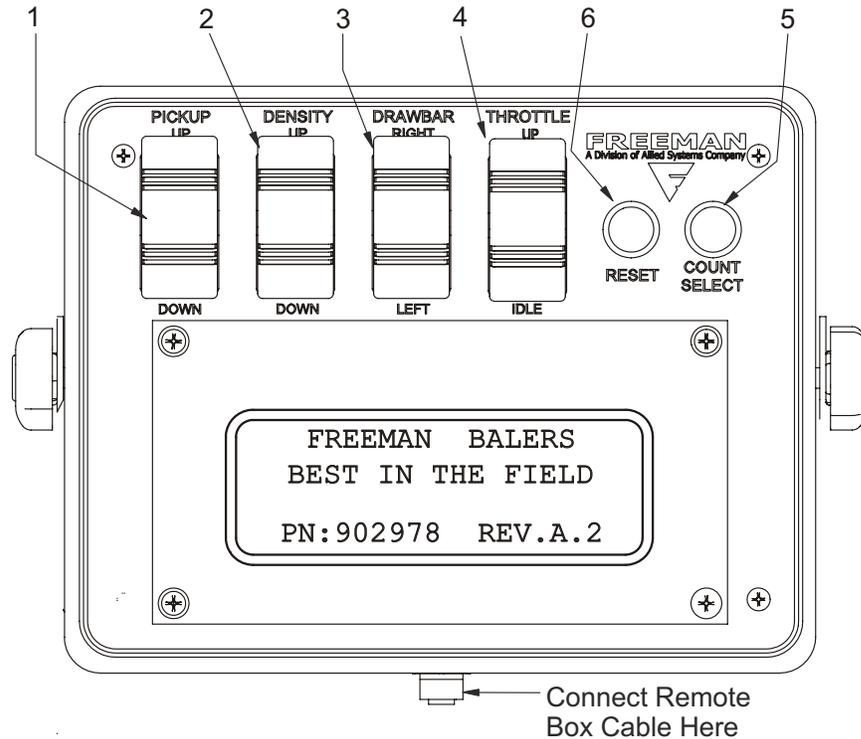


Figure 1 - Remote Controller

Main Controls

1. PICKUP switch controls the pickup for raising and lowering. Push UP for the pickup to raise and DOWN for the pickup to lower. Refer to Pickup Adjustment on page 17 of your Operator’s Manual PB00000102.

2. DENSITY The density switch controls the amount of pressure applied to the cylinders in the tension rail system. When the cylinder pressure is increased it increases the amount of force the tension rails apply to the bales. This increase in force raises the friction between the bale material and the tension rails which requires more compacting force to move the bale through the chamber. The increase in compacting force increases the density of the bale by putting more material into the same volume.

The hydraulic force or “density” applied to the ten-

sion system is displayed as a percentage of the system pressure. See figure 9 on page 7 for an example. The typical system pressure ranges from 0 psi at 0% to 2300 psi at 100% of the density setting. The system pressure can be read from the Tension System Gauge (see Figure 2 page 2) located on the front of the baler.

The type of material, moisture content and other factors will often change how the density setting affects the amount of compacting force required to push the bale through the chamber. Drier materials like Straw and some types of grasses may require more pressure than is possible at the 100% density setting. If this is the case chamber restrictor wedges can be installed. These wedges are designed to further compact the material without the necessity to in-

crease the density setting. However, the installation of wedges may require the Operator to reduce the density setting to maintain the appropriate weight. Please contact your Freeman representative for more information on these and other products.

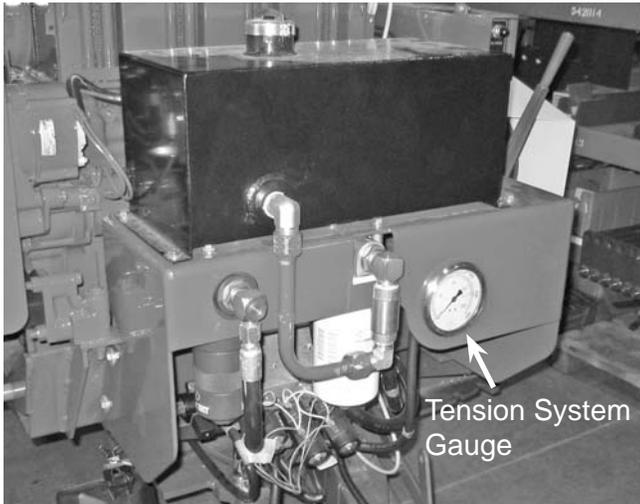


Figure 2 - Baler Control Panel

ing screen (see Figure 9 page 7) will reset the bale count of current field. Pushing RESET when in the main menu (see Figure 10 page 8) will execute the option displayed on the bottom of the screen. Pushing Quickly pressing and releasing the Reset button will toggle work lights. Pushing and holding RESET when the Start-Up screen is displayed will prompt the Max Tension Pressure screen.

3. DRAWBAR switch controls the movement of the drawbar from left to right. Having the drawbar in the far right position is best for towing down the road. Having the drawbar in the far left position is best baling. Push up (RIGHT) to move the drawbar right and down (LEFT) to move it left. Refer to Drawbar Adjustment on page 17 of your Operator's Manual PB00000102.

4. THROTTLE switch is a three position switch, maintained in two positions; center – OFF, and IDLE. To raise engine RPM hold throttle up until desired engine RPM is achieved then release. The engine will return to idle when THROTTLE IDLE is pushed. To idle down in increments quickly return THROTTLE to the center position.

5. COUNT/SELECT button controls field selection and main menu. There are 10 field counts available with your monitor (see Figure 9 page 7). Pushing the count select button will move you from bale count Field 1 through Field 10 while in the bale screen. Push the COUNT/SELECT button for 2 second to access the main menu.

6. RESET controls main menu options, work lights and resets bale count in the bale screen. Pushing RESET for 1.5 seconds while in the bal-

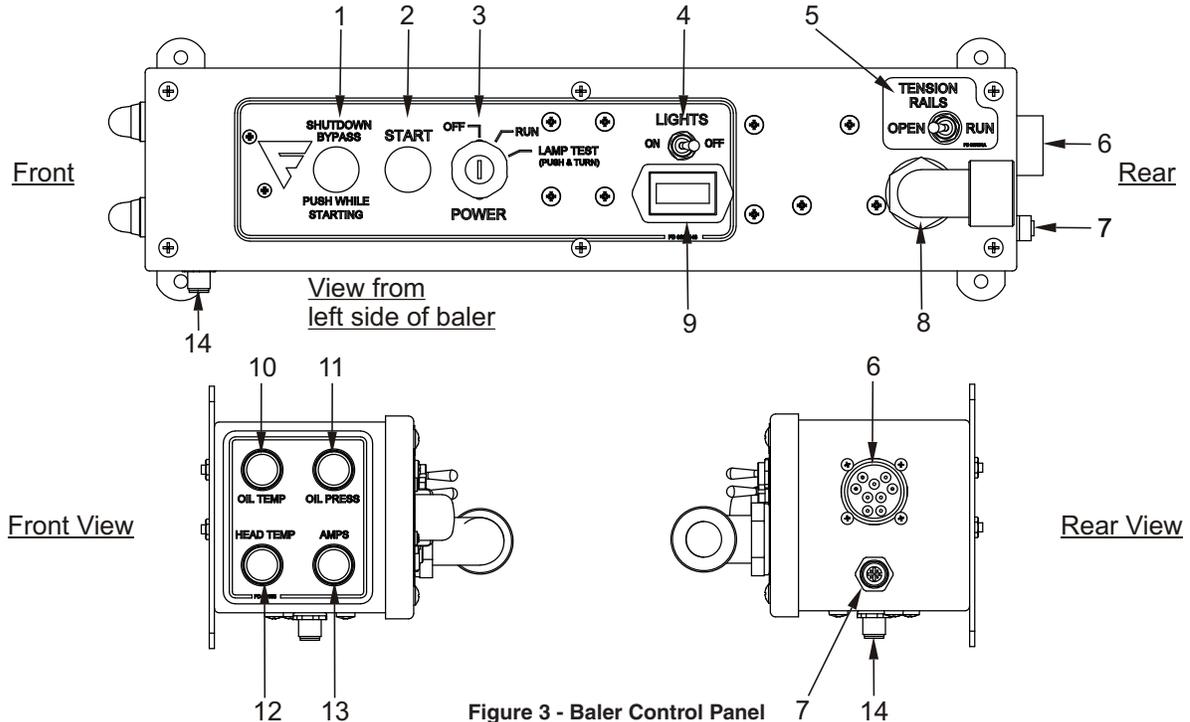


Figure 3 - Baler Control Panel

Baler Control Panel

1. SHUTDOWN BYPASS / PUSH WHILE STARTING button allows the engine to start without oil pressure. Push (until 2 seconds after motor has started) while pressing the start button and the start key is turned to the RUN position.

2. START button starts the motor while pressing the SHUTDOWN BYPASS button and the engine key is in the RUN position.

3. POWER ignition has three modes.

- OFF Motor is off when the key is turned to this mode.
- RUN Motor can be started when key is turned to the RUN mode.
- LAMP TEST While the motor is off, push and turn the key to the right to test the Work Lights, OIL TEMP, OIL PRESS and HEAD TEMP lamps. Turning the key to RUN will test the AMPS light.

4. LIGHTS switch turns lights ON and OFF.

5. TENSION RAILS switch has two modes.

- OPEN releases pressure on the tension rails.
- RUN tension rails are pressurized.

6. VALVE AND SENSOR HARNESS CONNECTION

7. DVC10/CONTROL BOX HARNESS

8. CONNECTOR, CORD

9. HOUR METER keeps track of engine operating time and is not resettable.

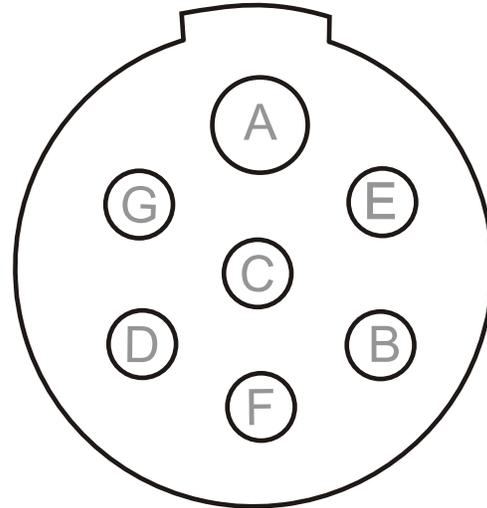
10. OIL TEMP light illuminates when engine oil reaches 130° C or 266° F and the engine will shut down.

11. OIL PRESS light illuminates at .5 bar or when oil pressure drops below 7.25 lbs., and the engine will shut off.

12. HEAD TEMP light illuminates when the air cooled head of the engine reaches 170° C or 338° F, and the engine will shut down.

13. AMPS illuminates when the alternator power drops below 12 volts.

14. REMOTE CONTROL HARNESS CONNECTOR Connect remote control harness that is included with the baler to remote control box connector shown in Figure 1 page 1.



Connecting Lights

Connect the 7 Pole cable to the connector on the drawbar shown in Figure 4 to the tractor.

Please refer to the 370 Operators' manual for more information including SAFETY.

PIN	WIRE/GA.	FUNCTION
A	WHT 12	GROUND
B	GRN 16	RIGHT TURN
C	BLU	NOT USED
D	YEL 16	LEFT TURN
E	BRN 16	TAIL LIGHTS
F	RED 16	BRAKE LIGHTS
G	BLK	NOT USED

Figure 5 - 7 Post Connector on Drawbar

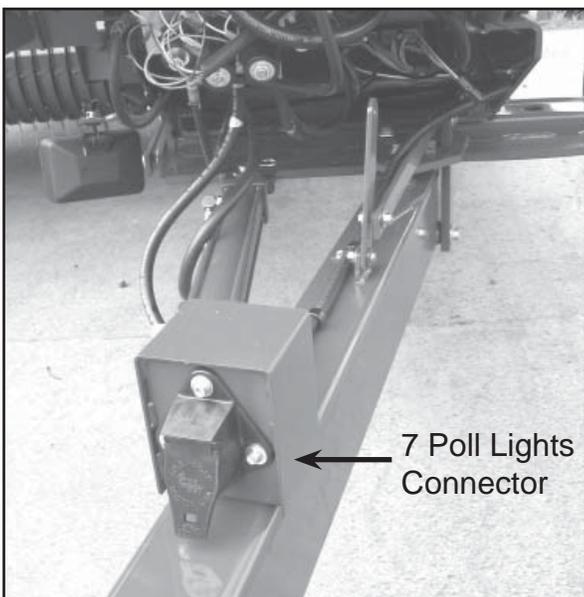


Figure 4 - Lights Connector

DVC-10

DVC10 module is located under the engine. The DVC system is the master controller for the hydraulic system, bale count and stroke count. This DVC system should be adjusted by your local Freeman dealer only. There are LED indicator lights on the DVC system for trouble shooting (see page 5). Flashing NS or MS LEDs on DVC modules indicates service issues. Your dealer's service department may be able to determine if there is a service issue just by letting them know which lights are flashing. The most common problems are communication settings.

P/N 902978 REV.A.2 should be the current program loaded in your DVC10. The 902978 REV.A.2 should be displayed on the start up screen of the remote controller (see Figure 7 page 7). Program 902978 REV.A.2 will run these features: 10 different fields, bale count in each field, total bale count, strokes per bale, density, fuel level, life machine hours, life baling hours, life bale count and sensor troubleshooting.

Note: If any solenoids are disconnected on the main valve, the DVC10 will detect an open circuit and will not operate these valves after being reconnected until the DVC10 power is cycled.

Proximity sensor on Bull Gears should be adjusted between 1/16" and 1/8" from target and Knotter sensor should be adjusted between 3/16" and 1/4" from target.

Properly working sensors must provide a signal back to the DVC10. If there is not a light indicating operation on the DVC10 body, this can be checked most easily at the terminal block. The bull gear and knotter sensors both provide a 12v signal to the DVC10 while the fuel sender is a 0-5v signal.

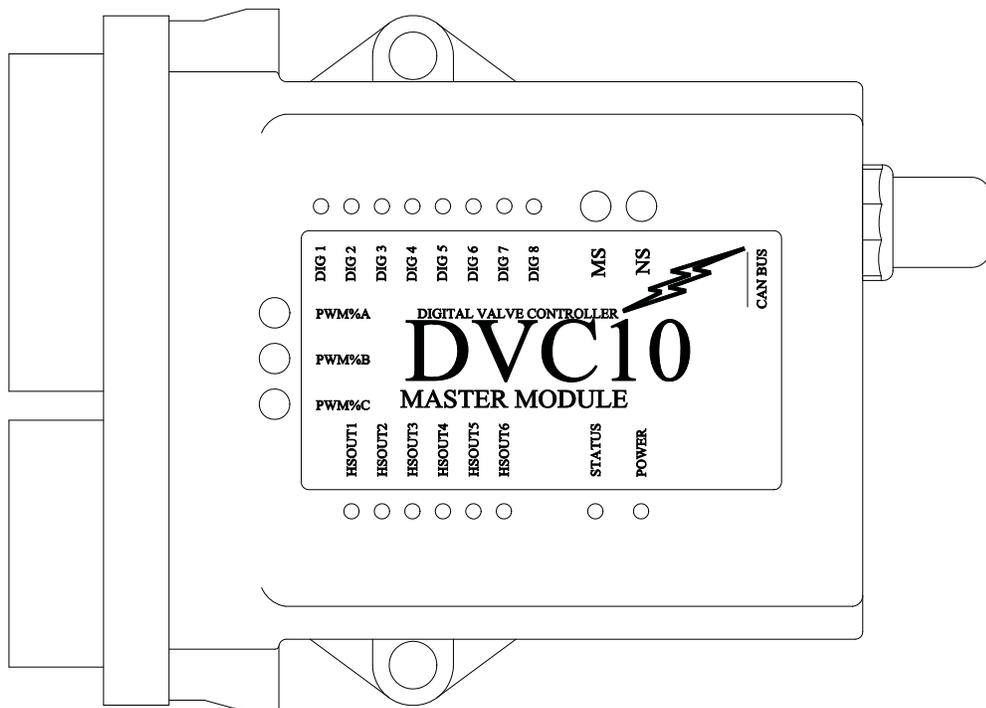


Figure 6 - DVC10

DVC-10 Continued

LED	Function	Normal (Powered) Condition
MS	Module Status	Lit (green) after power-up. While downloading a program to the module, MS and NS LED's will flash in an alternating fashion.
NS	Network Status	Lit or flashing after power-up. While downloading a program to the module, MS and NS LED's will flash in an alternating fashion.
DIG1	Not Used	N/A
DIG2	Not Used	N/A
DIG3	Not Used	N/A
DIG4	Not Used	N/A
DIG5	Not Used	N/A
DIG6	Not Used	N/A
DIG7	Not Used	N/A
DIG8	Not Used	N/A
PWM%A	Work Lights	Red = Off, Green = On
PWM%B	Density	0 to 100% Red to Green
PWM%C	Not Used	N/A
HSOUT1	Throttle UP	Green light on.
HSOUT2	Throttle DOWN	Green light on.
HSOUT3	Drawbar RIGHT	Green light on.
HSOUT4	Drawbar LEFT	Green light on.
HSOUT5	Pickup UP	Green light on.
HSOUT6	Pickup DOWN	Green light on.
STATUS	Not Used	Green light on.
POWER	Power Indicator	Lit after power-up

HS1 – HS 8 are all outputs. If one of these is slowly blinking, there is an open circuit to that output. If it is blinking rapidly, there is a short circuit to that output. Under normal trouble-free operation the LED will either be on or off. If it is on, that output is active, and if the LED is off, the output is inactive.

Dig 1 – Dig 8. These show the state of the digital inputs. If the LED is on, the DVC is receiving a signal from the input. If the LED is not on, there is no signal from the input.

The three LEDs labeled PWM%-A – PWM%-B – PWM%-C change color based on how much current is being pushed through that output. If there is no light, the output is currently not in use. If the light is fully green, the DVC 10 is driving full current through that output. If it is fully red, it is driving minimum or no current through the output. When driving current between min and max, the color will change from bright red (minimum) to lighter red to orange to light green to bright green (maximum). When driving from maximum to minimum, it does the opposite. If one of these LED's is blinking red, there is a short circuit on that output. If it is blinking green, there is an open circuit to the output.

The power LED will flash if there is too much voltage being delivered to the unit. If there is no light at the power LED or it is blinking erratically, there is not enough voltage to power it up, or it has shut down due to too much voltage. In normal operation, this light should be steadily on.

MONITOR SCREENS

Start-Up Screen

The startup screen will display for approximately 5 seconds when there is power to the baler. The current Program Number 902978 REV. A.2 should be displayed. Please contact your dealer if this information isn't correct.

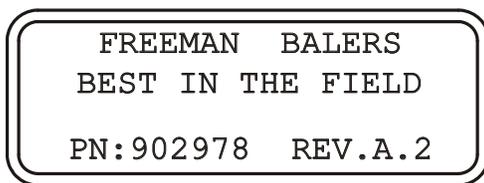


Figure 7 - Start-Up Screen

Dealer Screen

The dealer screen displays after the start-up screen and stays on for approximately 3 seconds.

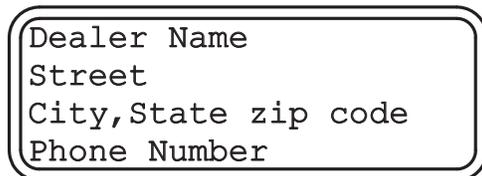


Figure 8 - Local Dealer

Baling Screen

The baling screen displays right after the dealer screen.

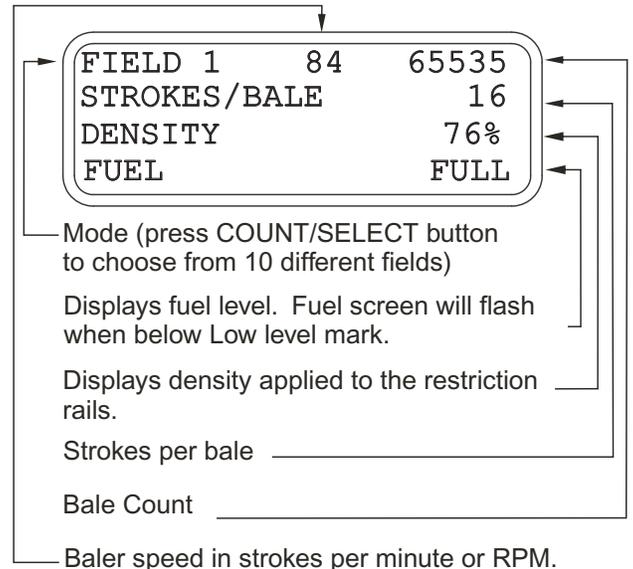


Figure 9 - Baling Screen

The ten fields/bale counts are toggled using the COUNT/SELECT button (see Figure 1 on page 1) and record the number of bales in the displayed field. Each bale count may be reset by holding down the RESET button for 1.5 seconds.

The bale counts are saved to memory every time a bale is counted. The top center number is the baler speed in plunger strokes per minute or RPM. It receives its signal from the proximity sensor (see Figure 17 page 9) on the bull gear and reads real time RPM. This same input is used by the DVC10 to analyze strokes per bale. STROKES/BALE will display 0 or the last bale stroke count. After the knotter cycles, the STROKES/BALE number is displayed until the knotter cycles again.

Density represents the percentage that the density valve is open. 0% represents 0 psi and 100% allows maximum system pressure to the restriction rails.

Fuel will display FULL, 3/4, 1/2, 1/4, LOW and then start flashing LOW when the tank is almost empty.

Menu Screen

The menu screen can be accessed from the baling screen only by pushing and holding down on the COUNT/SELECT button for approximately 2 seconds (see Figure 1 on page 1).

When in the menu screen, push the COUNT/SELECT button to toggle through the following screens:

- Dealer (see Figure 8)
- Bale (see Figure 9)
- Sensor Trouble Shooting (see Figure 14)
- Life Machine Hours (see Figure 11)
- Life Baling Hours (see Figure 12)
- Life Bale Count (see Figure 13)

Push the RESET button to display the screen of choice.



Toggled menu selections will display here.

Figure 10 - Main Menu Screen

Life Machine Hours Screen

The life machine hours screen displays total hours the baler turned on. Push RESET or COUNT/SELECT to exit to baling screen.

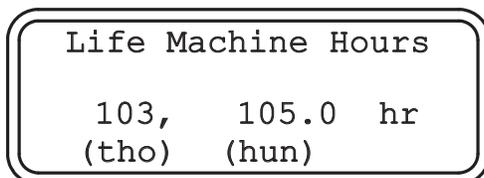


Figure 11 - Life Machine Hours Screen

Life Baling Hours Screen

The life baling hours screen displays total hours of baling. Push RESET or COUNT/SELECT to exit to baling screen.

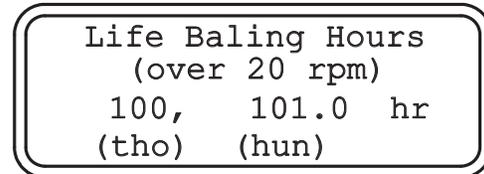


Figure 12 - Life Baling Hours Screen

Life Bale Count Screen

The life bale count screen displays total bale count the baler has baled. Push RESET or COUNT/SELECT to exit to baling screen.

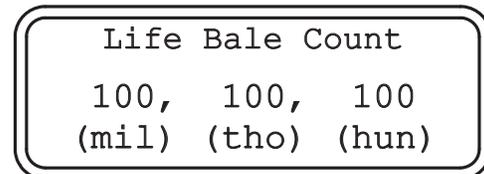


Figure 13 - Life Bale Count Screen

Sensor Troubleshooting Screen

The sensor troubleshooting screen can be accessed by scrolling through the main menu options (see Figure 10 page 8). This screen displays the DVC10 inputs. "Tooth #" is the bull gear tooth counter and maybe reset by pressing the RESET button. To exit the test screen, hold down on the COUNT/SELECT button.

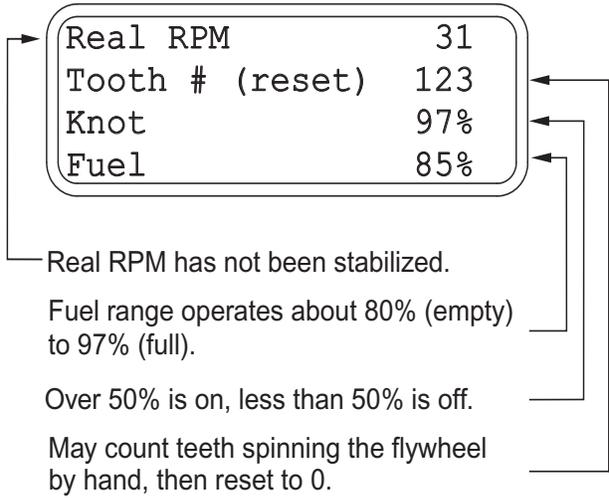


Figure 14 - Sensor Troubleshooting Screen

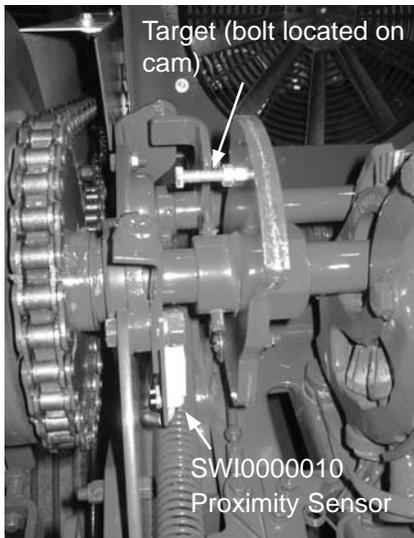


Figure 15 - Location of knotter proximity sensor located on 385 balers.

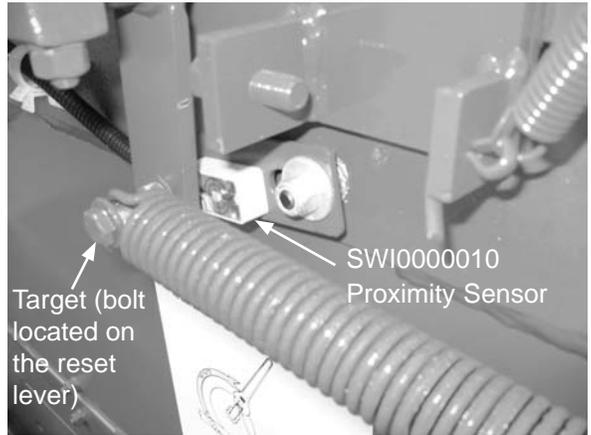


Figure 16 - Location of knotter proximity sensor on 380 balers.



Figure 17 - Stroke sensor located on front face of chamber

Setting Maximum Tension Pressure:

Cycle baler power off and on.

Hold "RESET" in the Freeman startup screen until the "Max Tension Pressure" adjustment screen displays:

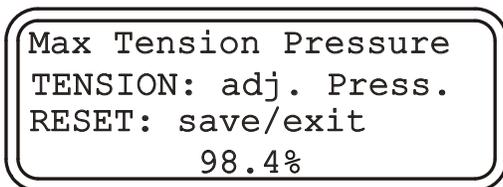


Figure - 18 Tension Adjustment Screen

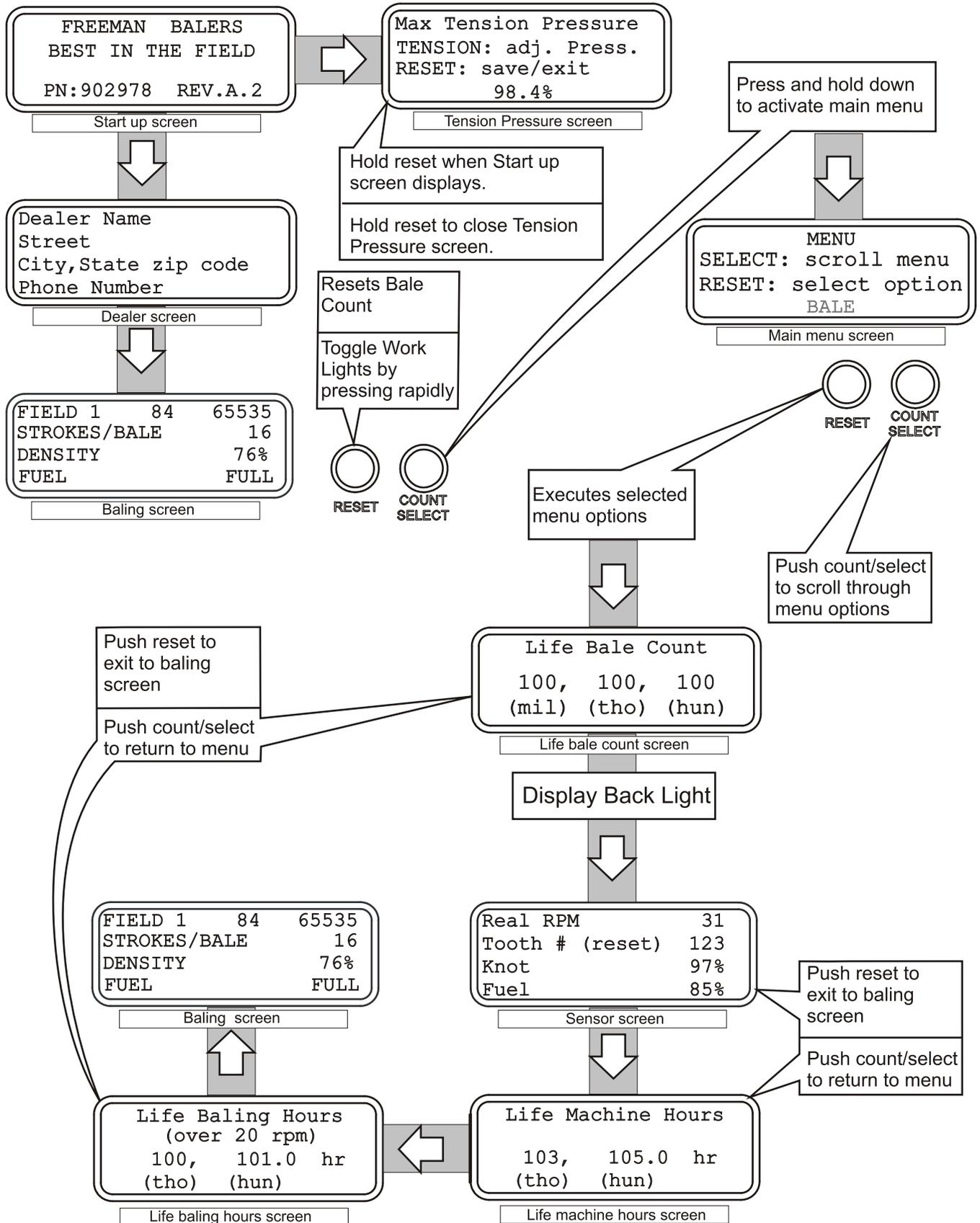
Use the "DENSITY" rocker switch to adjust the gauge pressure to the maximum allowable tension pressure 2100 psi. If during adjustment the tension pressure goes above 2100 psi, reduce the tension pressure below 2100 psi using the rocker switch and then slowly approach 2100 psi without exceeding this pressure.

Hold "RESET" to save pressure cap and exit.

In the "BALE" screen, the tension pressure will go up to 100% but only put out the pre-set pressure cap.

Please contact Allied Systems service department if more than the allowable pressure is needed.

Quick Reference Guide





To find a dealer in your area,
Call: 503-625-2560,
Fax: 503-625-7269, or

Visit our website: <http://www.alliedsystems.com>

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