

## Engine Baler Controls



Figure 1. Control Box for: 270/370 Engine Balers

The control box (see Figure 1) is located at the front of the engine. It is used to start and stop the engine, turn on and off the work lights and monitor engine functions.

1. POWER key switch has three positions:
  - OFF - Motor is off when the key is turned to this position.
  - RUN - Motor can be started and operated when the key is turned to this position. Turning the key to RUN will test the AMPS light.
  - CRANK - While the motor is off, push in and turn the key to the right to test the OIL TEMP, OIL PRESS and HEAD TEMP lamps.
2. LIGHTS switch turns the work lights ON and OFF.
3. THROTTLE. This momentary switch allows variable throttle speeds between engine idle and maximum speed.

For slow speed, press lower half of switch (indicated by turtle symbol).



Figure 2. Control Box Digital Display

For fast speed, press upper half of switch (indicated by rabbit symbol).

Always let the engine warm up before increasing RPM. In normal conditions, the baler will bale most efficiently at full throttle.

4. DIGITAL DISPLAY
5. HOUR METER counts the hours the key is in the RUN position.
6. FUEL GAUGE indicates how much fuel is in the tank.
7. COOLANT TEMP light illuminates when engine oil reaches 130° C (266° F) and the engine will shut down.
8. PTO RPM.
9. OIL PRESS light illuminates when oil pressure drops below set level and the engine will shut down.

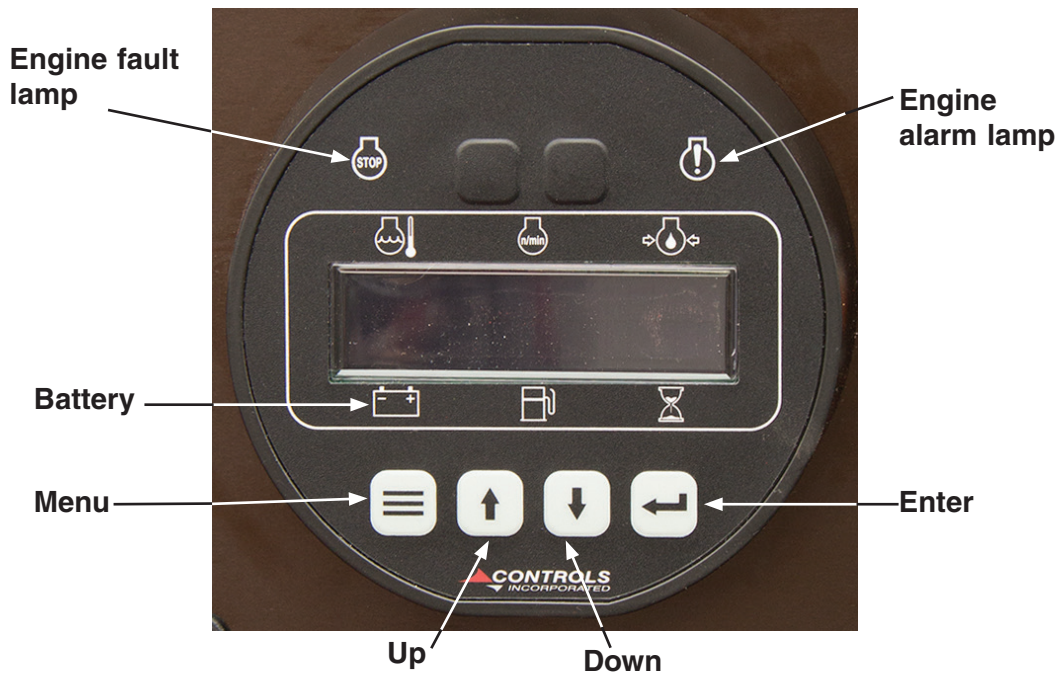


Figure 3. Control Box Digital Display

## Digital Outputs

1. Alarm – Engine shutdown when active with display message as assigned. A red lamp will also be illuminated.
2. Pre Alarm – Warning message will be displayed along with a yellow lamp when active.
3. Pre Alarm & Alarm - Energizes an external audible alarm when a pre alarm or alarm condition is present. Pressing the ENTER button will silence.
4. Alarm Horn - Energizes an external audible alarm when an alarm condition is present. Pressing the ENTER button will silence.
5. Engine Run - Relay will be active when engine RPM is greater than 600. Typically used to drive an auxiliary circuit such as louvers or send a signal to a monitoring station.
6. Low Oil Press Alarm - Relay closes if a low oil pressure shutdown is detected.
7. High Coolant Temp Alarm - Relay closes if a high engine temperature shutdown is detected.
8. Over Speed Alarm - Relay closes if an over speed shutdown is detected.
9. Over Crank Alarm - Relay closes if an over crank alarm is detected.
10. Low Fuel Level Alarm - Relay closes if a low fuel level shutdown is detected.
11. Fuel/ Run - Relay will be active during an engine start request and while the engine is running.
12. Custom 1 - Not used.
13. Preheat - Relay will be active during programmed preheat period. Used to drive a preheat relay.

## Digital Function Activation

1. Off/Always/Run – Describes when the parameter will be monitored for alarm conditions. Run refers to when the engine is running. Off disables the alarm conditions. Always enables the alarm constantly regardless of engine state.
2. Alarm Delay – The time period, after Sender Check Bypass, that the parameter must be on the alarm condition before the alarm becomes latched.

## MENU SYSTEM

### To Enter Menu System

Hold MENU button and press ENTER button.

### Menu Navigation

Press MENU button to scroll menu options.

Press ENTER button to enter the selected menu item.

Press the UP and DOWN arrow buttons to navigate menu sub menus.

### Exit Menu System

Hold MENU button and press ENTER button.

Main Menus	Sub Menus
Active engine fault codes	View/scroll active fault codes
Stored engine fault codes	View/scroll stored fault codes
Operations log	View last 32 events (start, stop, alarms)
Alarm event log	View last 32 ECU & controller alarms
Engine parameters	Total hours
	Requested TSC
	Rated speed
	Low idle speed
	Load at RPM
	Engine torque
	Coolant temp
	Fuel rate
	Manifold temperature
	Potential voltage
Engine identification	Engine model # view
	Engine serial # view
Module information	Control unit part# view
	Control unit software version view
Controller setup	Quick setup
	password protected

Figure 4. Menu System

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## Throttle/Tension Control Box

The throttle/tension control box is mounted to a riser at the front of the drawbar. This control box can be left where it is, or removed from the riser and securely placed in the tractor for more convenient access.

If placing in the tractor, make sure that the cables are carefully and securely routed in a manner that prevents them from catching, binding or interfering with the tractor or baler while turning, or adjusting the drawbar. Secure the control box in the tractor so that it will not interfere with any operations or be accidentally knocked or pulled off of the tractor.

NOTE: Due to the vast differences in potential tow vehicles, Freeman does not supply a tractor mount for the control box.

## Throttle

1. THROTTLE. This momentary switch allows variable throttle speeds between engine idle and maximum speed.

For slow speed, press lower half of switch (indicated by UP).

For fast speed, press upper half of switch (indicated by DOWN).

Always let the engine warm up before increasing RPM. In normal conditions, the baler will bale most efficiently at full throttle.

## Tension

The hand crank at the end of the control box is used to adjust the pressure applied to the tension cylinders.

- Turn the handle clockwise to increase tension.
- Turn the handle counterclockwise to decrease tension.

The white tension indicator will move as the handle is rotated to give a visual indication of the change in pressure setting. See the gauge mounted on the front of the engine for actual system pressure.

The tension pressure will change as the engine RPM changes. Always check your desired pressure when the engine is running at baling RPM.

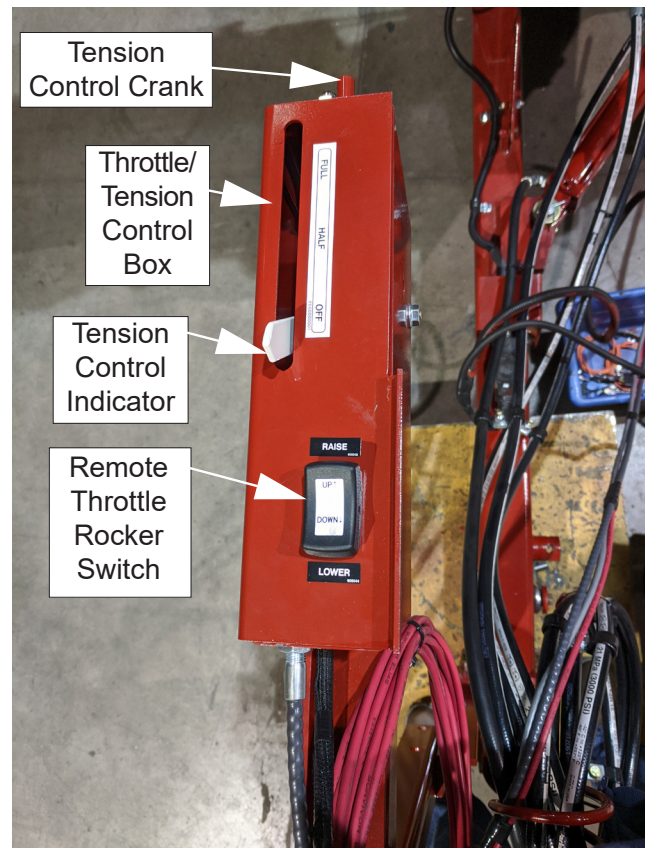


Figure 5. Remote Throttle Location