

```
Next --> Pull Handle DOWN...  
534 Rnds  1:37 Time  342 RPHc  299 RPHt
```

## Disclaimer:

Many things can go wrong during the reloading process and it is entirely your responsibility to load ammunition safely using proper reloading precautions. Reloading ammunition requires complete attention to detail. While it is reassuring that the Press Monitor will monitor your press actions electronically, any electronic device can fail. In addition, the Press Monitor can only monitor part of the process and is unable to detect if the wrong load information or wrong powder is used. To be used exclusively as industrial test equipment. For these reasons, SA Development makes no guarantees and is not liable for any issues that may arise from its use or malfunction.



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## **Introduction**

**First, thank you for purchasing a Press Monitor II. We hope you enjoy your monitor for many years to come!**

### **Included items:**

Press Monitor II Main Unit  
Power Supply  
Wiring Harness  
Press Sensors  
Press Light LED  
Press Light Mounting Tube  
Press Light Mounting Wire  
Cable Ties  
Double Stick Tape  
Heat Shrink Tubes

The Press Monitor II is available in two configurations - with or without the battery backup feature.

**With Battery Backup** – Supports two independent power inputs which allows it to switch between either power source instantly. Units shipped within the U.S.A. come with new alkaline batteries preinstalled. The battery backup will keep the unit running if wall power goes out in the middle of a reloading session. If the user has spotty wall power this option is recommended. Technical: Includes an 18V DC wall adapter and an 8xAA 12.8V DC internal battery pack. Both of these voltages feed an internal switching power supply which efficiently converts them to the 5V DC the unit requires. Each power input can handle 7.5V to 20V DC and the higher voltage source will supply the power.

**Without Battery Backup** – Has a single power input. Recommended if the user has rock solid wall power that rarely if ever goes out. If the power does go out, the current session will be lost. The user could always plug it into an uninterruptable power supply (UPS) as another way to provide backup power if desired. Technical: Includes a 5V DC wall adapter. This feeds the circuit the 5V DC it needs directly. Do NOT use any adapter other than 5V DC with this model.

Please email us if you have any questions or issues we can help with!

## **Main Features**

**Press Monitoring:** Watches the actions taken on the press and alerts the user if any action is incorrect or out of sequence. This will alert the user to mistakes such as the press handle is not cycled fully up or fully down. On manual indexing presses such as the Dillon 550 it will also alert the user to the very serious mistake of forgetting to rotate the shellplate. **Press Monitoring can prevent the user from loading a double charged or squib round by catching and reporting these types of errors.**

**Statistics:** Displays **four, six, or eight** statistics about the current session: Loaded Rounds (Rnds), Press Time (Time), Rounds per Hour Current (RPHc, last 3-15 rounds), Rounds per Hour Total (RPHt), Remaining Rounds (RmRd), Remaining Press Time (RmTm), Powder Measure Grains (PmGr), and Powder Measure Rounds (PmRd). Even if only four or six are displayed, they can be rotated so that all eight can be viewed.

**Long Term Statistics:** Stores and displays three long term statistics: Total Rounds, Total Press Time, and Total Rounds per Hour.

**Press Light:** Illuminates the bullet seating station so the user can see that the proper amount of powder is present. The press light is also used as indicator and will flash in an error situation or flicker when in ignore mode.

**Powder Low Reminder:** Powder tracking keeps track of the powder in the powder measure and issues a reminder if the level falls below a specific weight.

**Press Maintenance Reminder:** Keeps track of when maintenance is due on the press. The user can choose to monitor usage by rounds or hours. (optional)

**Interval Reminder:** Can be configured to issue a reminder every 5-1000 rounds. If set to 100 rounds for example, it will remind the user at 100, 200, 300, 400, and so on. Also has a leadoff feature so can make the alert 95, 195, 295, etc.

**Break Reminder:** Reminds the user to take a break periodically. Like all reminders it can be disabled.

**RPHc Too Fast Reminder:** Reminds the user if he is going too fast and exceeding a specific RPH.

**Setup and Diagnostics:** One of the best features of the Press Monitor is that it has easy to use English menus are that consistent and simple. **Setup** is where the user can configure the Press Monitor to their needs. The **Diagnostics** area is where the Press Monitor hardware and sensors can be tested.

**Easy To Use:** Do not be overwhelmed by all the features; Usage is as simple as turning on the unit and beginning loading.

# Press Sensor Installation

## Step 1 – Press Sensors:

The next two chapters have pictures that show the best locations for these sensors on Dillon 550 and Dillon 650 presses.

There are two Press Modes: Monitoring And Statistics or Statistics Only

**Monitoring And Statistics** enables press monitoring and the Press Monitor will watch press actions and report errors. This is the mode that most people should implement. Two sensors are required for auto indexing presses:

The Press Handle Up Sensor must be positioned so that it is hit when the press handle is up. Care must be taken with this sensor because it needs to be hit both when the press handle is up at rest and also when the press handle is being pushed forward to prime as well (if used on a press that primes this way). The shellplate on a 550 is a good place to detect this and a location underneath the shellplate on the back right of the 650 is also a good place.

The Press Handle Down Sensor must be positioned so that it is hit when the press handle is down. The best place to sense this is usually on the press handle somewhere because it moves a lot where other parts of the press move very little when the handle is down near the end of its travel.

In addition to these two sensors, a third sensor is required for manual indexing presses: The Press Rotate Sensor must be positioned so that it is hit when the press is indexed. The most common press this will be used with is the Dillon 550 and a press sensor is provided with half of the lever is cut off. This can be positioned so that the 550's star will press the lever as it goes by when being rotated.

**Statistics Only** disables the monitoring feature and may be a good choice for presses that are already bullet proofed against user mistakes. A Dillon 1050 for example has both auto indexing and a physical short stroke preventer. The benefits of this mode are that the user only needs to mount a single sensor and that all eight statistics are displayed at the same time on the display.

The Advance Counter Sensor must be positioned so that it is hit each time the press is cycled. Usually the best place for this is the same location as the Press Handle Up Sensor.

## **Step 2 – Electrical connections:**

The wiring harness provided has been prepared by stripping off the outer insulation to expose 4 twisted pairs:

Orange Pair = Press Handle Down Sensor (Stripe=Ground, Solid=Sense)

Blue Pair = Press Handle Up Sensor (Stripe=Ground, Solid=Sense)

Green Pair = Shellplate Rotate Sensor or Advance Counter Sensor (Stripe=Ground, Solid=Sense)

Brown Pair = LED Press Light (Stripe=Cathode, Solid=+5V)

The provided press sensors are microswitches that detect when the press is in a specific position. The striped wire is ground and needs to be connected to the "C #1" on the microswitch. The solid is the sense wire and should be connected to the "NO #3" on the microswitch.

The switches can be soldered on the press or ahead of time, whichever is easier. It makes sense to bend the contacts on the back of the switch at an angle if it is put somewhere with limited clearance (like the Dillon 550 column). Just don't bend them back and forth repeatedly because they are copper and a few times back and forth and they will break off. Make sure the shrink wraps are put on the wire ahead of time so they can be slid down over the joint and shrunk into place with a lighter.

## **Step 3 – How to attach the sensors to the press:**

Strong 3M double stick is provided for attaching the sensors to the press. It works very well for this as long as the surfaces of the press and sensor are prepared properly. The 3M technical contact recommended that both sides of the tape are completely "wetted" against the surface they are bonding to. He said to imagine putting a piece of transparent tape down on a table and then pressing it all around to make sure it is completely sealed against the table with no air gaps.

Press preparation: Clean the press surfaces where the tape will connect using a paper towel or q-tip and rubbing alcohol. It won't hurt to repeat with a new paper towel or q-tip again to make sure the surfaces are very clean and free of oil. Allow the rubbing alcohol to evaporate completely.

Sensor preparation: The side of the sensor that will attach to the press should be filed (preferably with a flat file) to give a nice flat rough surface without raised lettering, etc. The rough surface provides a better grip for the tape than the shiny factory surface. Follow up with the same cleaning with rubbing alcohol that was done on the press.

Oversize the tape slightly compared to the sensor size, this will give the tape more grip on the press surface. The sensors are a little smaller than 7/16" x 13/16". Cut the tape to 11/16" x 1 1/16" as this

will give a 1/8" edge all around the switch to grab the press a little more. It may be necessary to do 9/16" x 1 1/16" for the Dillon 550 column (rotate and handle up sensors) since it is only 9/16" wide.

Figure out close to where the sensor will be on the press and figure out where to stick the tape. Stick the tape to the press first so it can be firmly pressed into the press surface. Get a paper towel and rub it into the press from all angles for the best bond. It would probably be easier to put the tape on the sensor first, but the press surface is textured and more difficult to bond to so doing it this way allows the tape to bond the best it can to the press surface.

Once the tape is pressed in good, remove the liner and lightly stick the sensor to it to test it. Don't worry if the sensor isn't centered on the tape as long as it is where it needs to be. Test it to make sure it is activated when it should be and not when it shouldn't by actuating the press. When it is in the right spot, press it firmly and give it a little push in all directions just to make sure it is stuck well. Clamp the sensor using a small clamp. Use some cardboard on the other side of the clamp so it doesn't mar the press. There is no need to apply a ton of pressure, just a little bit. The goal is to make sure it stays firmly put during the curing time and a clamp providing that little pressure will help.

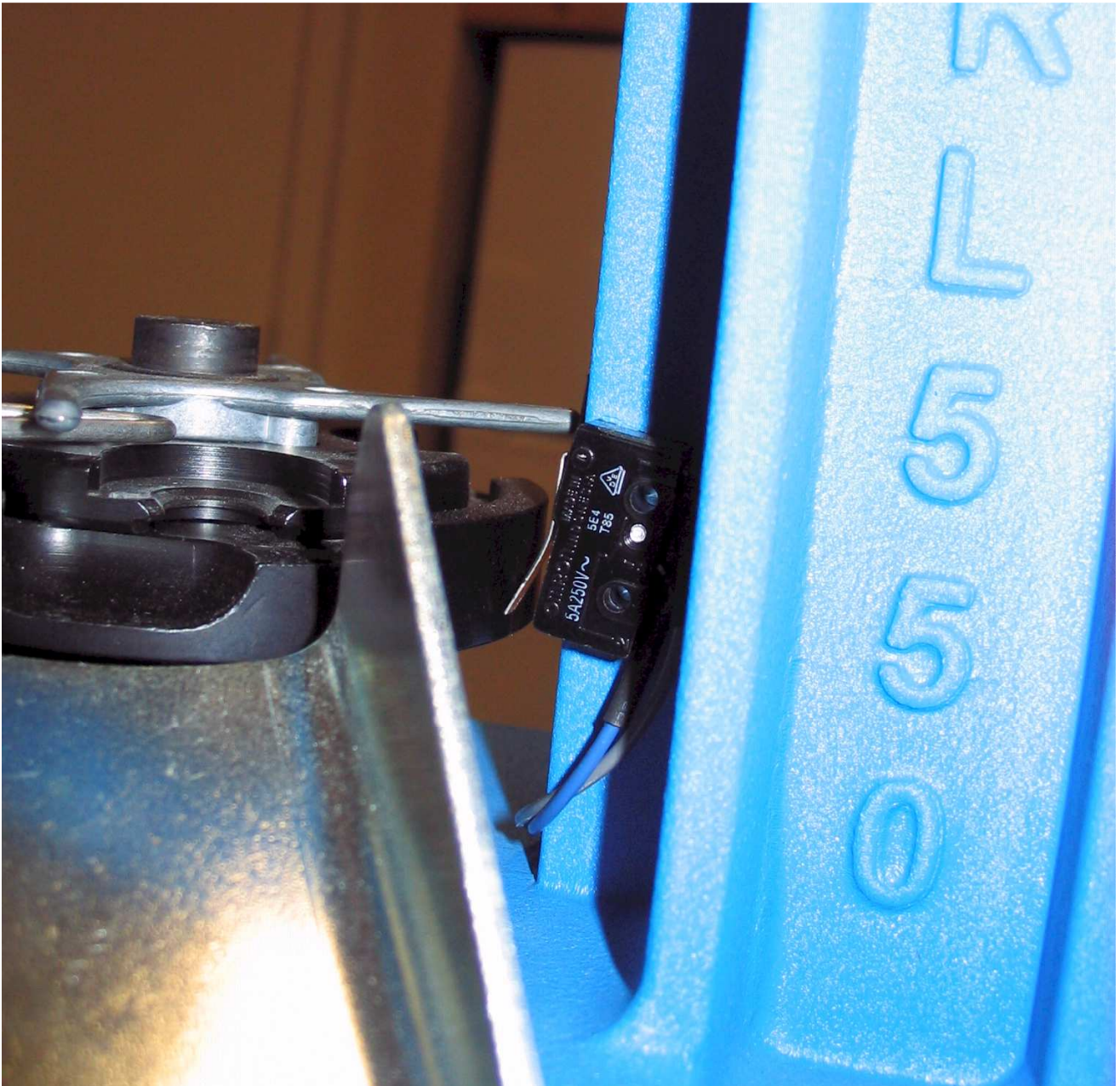
Curing time is 72 hours according to 3M, but it will be pretty good in 24 hours. It is really tempting to get started and use the Press Monitor immediately, but allowing the tape to cure properly will really ensure a good long term bond.

Properly installed and clamped, the tape works very well. Experience has shown that a sensor will either stay on until you want it to come off, or it will come off fairly quickly usually in the first few days. If it does come off, resticking it with the same tape is sure to come off again although it may be the thing to do to finish a reloading session. If that happens, start over and clean the surfaces again and use new tape. Sensors can also be attached with #2 56tpi socket head bolts and nuts/tapping. These are quite tiny and only require a very small 3/32" drilled hole. It is recommended that the double stick tape is still used to test switch location before drilling the holes and using some small bolts. Even a mix of using the tape to keep the position of the switch fixed and a single #2 56tpi socket head bolt to keep it tight to the press can be a great compromise.

#### **Step 4 – Press light attachment:**

The Press Light will light up the charged case at the bullet seating station so the user can clearly see if about the correct amount of powder is present or not. **This is one of the most important reloading safety rules: look into each case before putting the bullet on it to make sure it has about the right amount of powder.** Attach the tube to the wire with the wire ties and feed the LED through the center of it. The other side of the wire needs to be attached to the press. On the 550 it can be folded into a spring that fits inside the hole in the left rear side of the press. Polarity is important for these two wires, the solid brown wire must go to the longer lead on the LED. The striped brown goes to the shorter lead. **If the user does not implement the Press Light, make sure the solid brown wire is taped off and not allowed to connect to ground because it is +5V DC.**

## Dillon 550 Recommended Sensor Locations



The best place to sense the handle up on the Dillon 550 is on the right side of the rear column. Note that this shellplate is at rest and that the end of the lever is near the bottom of the shellplate. This allows the shellplate to drop slightly further when priming is occurring and still the end of the lever will be activate and will not reach the top of the shellplate.



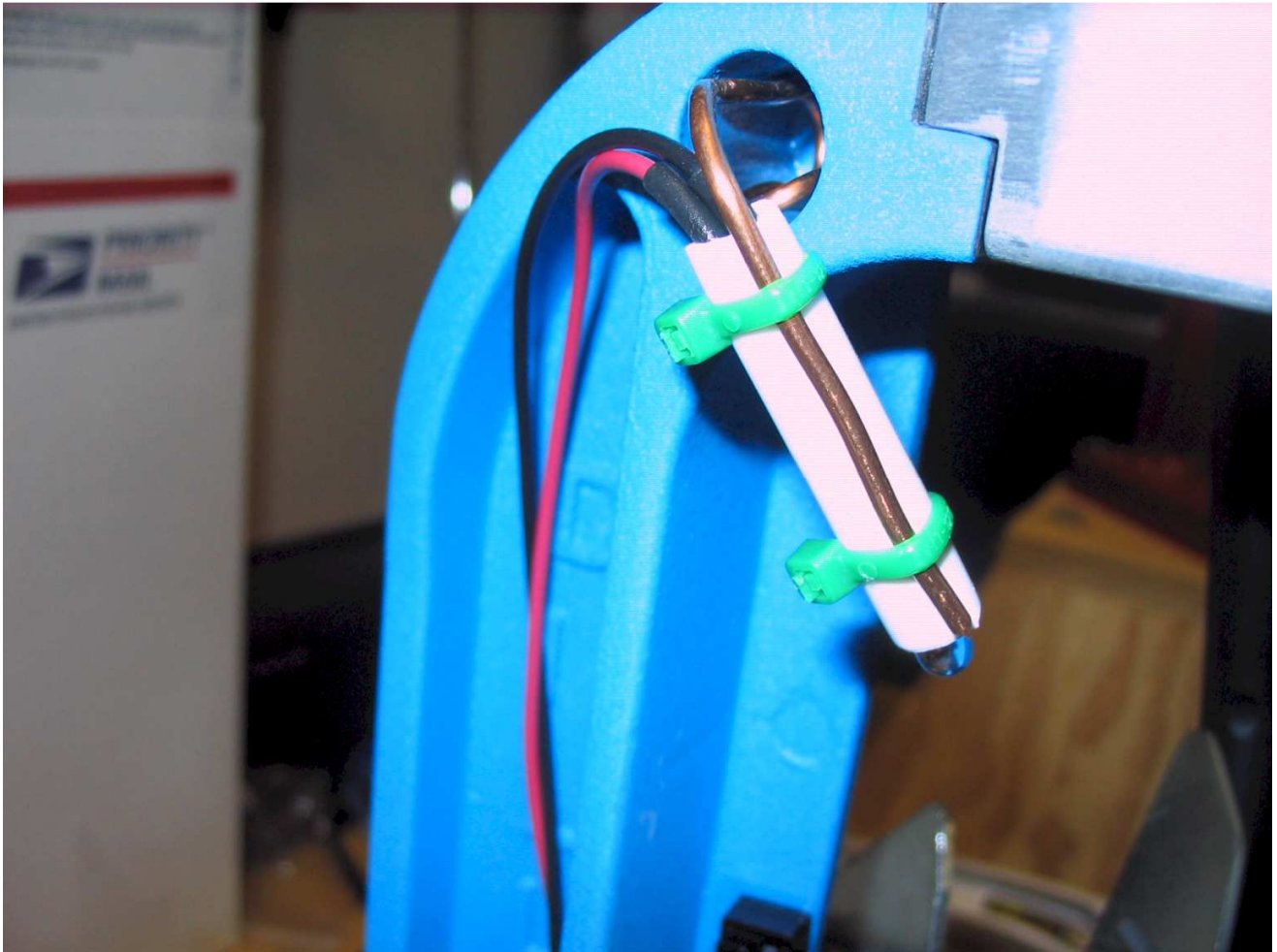


The handle down sensor senses when the handle is down and on the Dillon 550, the best place to sense this is on the handle linkage itself. Note that when the handle is fully down, there is no pressure on the switch itself, just that the switch lever is activated.



This is the switch that detects the star movement when the shellplate is rotated. It should be mounted on the left of the column so that the lever points up so that the star hits it as it goes by. Put the switch in place when the star is contacting it (like in the picture above). A very slight amount of counter clockwise skew helps. Just make sure that when the shellplate comes back down it is nowhere near hitting the end of the lever.

If you go with the bolted mounting method you will note that these two switches are directly across from each other. If you are using double stick tape this is no issue. With bolts you have a couple of options. Option 1 is to simply attach each switch with a single bolt and skip the two that overlap. This option works best with double stick tape because that will keep the switch from rotating and the bolt will keep it from coming off. Option 2 is to line up the overlapping holes with each other and use a single longer bolt to attach both switches. Use the rotation sensor to choose the location of this hole as it is the more sensitive switch to its position. The handle up sensor is more flexible and you can adjust its angle or even bend its lever to make it work properly.

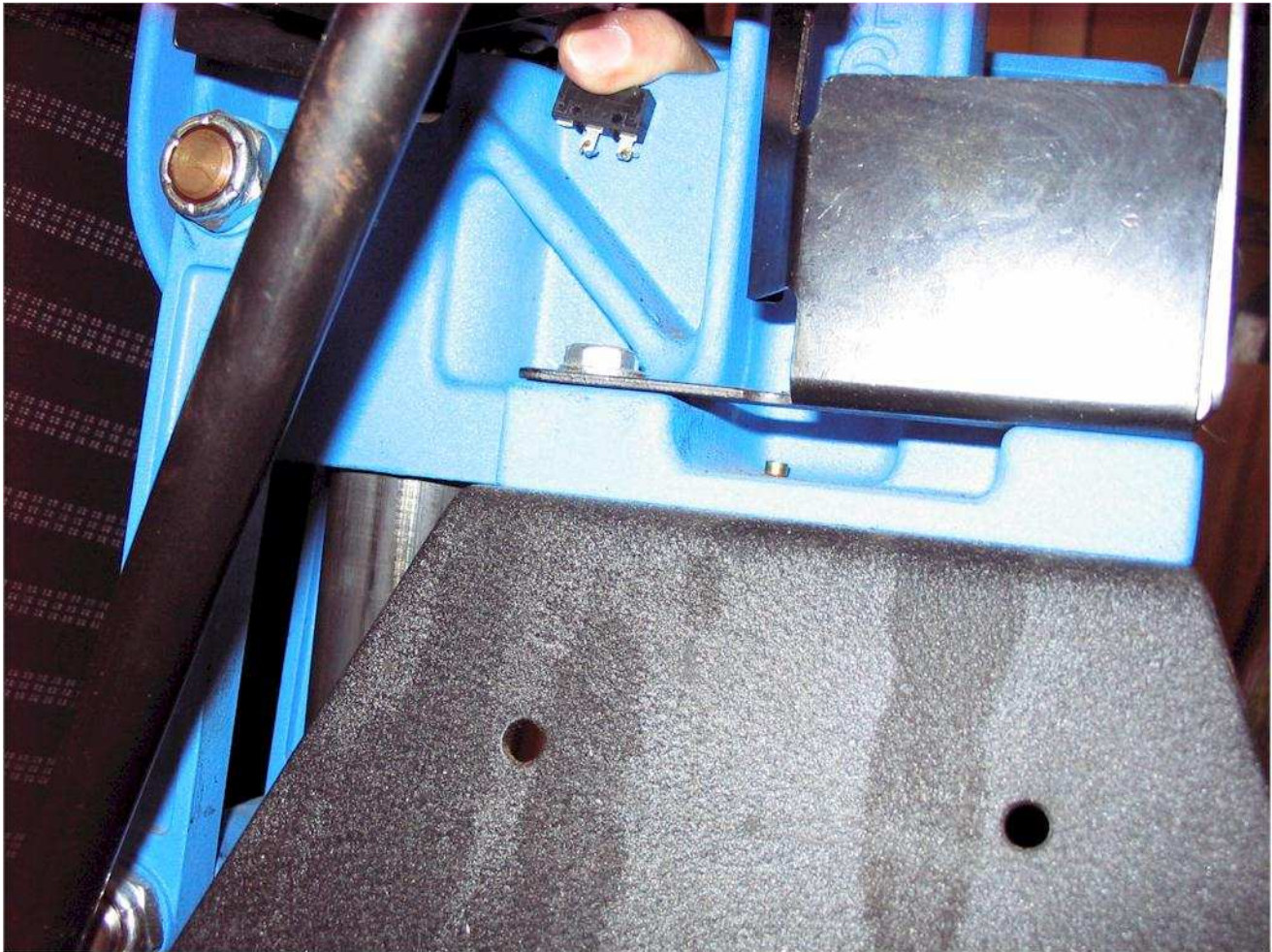


This is an easy way to attach the Press Light on a Dillon 550. Cable tie the plastic tube to the copper folded wire (now in a matching blue) and use the copper like a spring so that its tension will hold it in the hole on the top left side of the press. The copper can be adjusted to that the tube aims perfectly at station 3 where the bullet is seated. The LED simply hangs in the tube, in the picture it somewhat protruding.

**Dillon 650 Recommended Sensor Locations**



This picture shows the recommended location for the press handle down sensor.



This picture shows the recommended location for the press handle up sensor. It is on the right back side of the press where there is a nice flat surface to mount the sensor. It should be mounted so that the lever is pointing towards the user. There is something that comes down with the shellplate that will hit it in this location. One thing about this sensor is that it needs to be set when the press handle is at rest, and also tolerate a little more movement when the user pushes forward on the handle to seat the primer. It is recommended that the lever is bent in the middle perhaps 30 degrees so that it extends upward a little more.

## First Use

When first turned on, the Press Monitor always displays the product name, version, and company name for 3 seconds. You do not need to wait the 3 seconds on any of the startup messages, you can just press ignore to skip by them.

```
Press Monitor II 1.20
SA Development Tech LLC      (s/n PM000001)
```

```
Press Type?
Dillon 550                      SDB  O
```

This is a typical prompt displayed by the Press Monitor. A question is being asked on the top line and the answer or value is at the beginning of the second line. There is a graph at the end of the second line that indicates where the current setting is in relation to all settings available. The graph is not as useful for a yes no question because it is either empty for no, or full for yes. It is much more useful for questions that have a larger range since it indicates both the size of the range and the current position within it. In this case the lowest option is SDB (Square Deal B) and the highest option is O (Other). The user should now select their press type. Use the plus and minus buttons, and then press ignore to continue. The Press Monitor supports 8 popular reloading presses, and can also support presses not listed using the other type. Information on how to do a press not listed is in the Press Types chapter.

```
Press Mode?
Monitoring And Statistics      SO  MAS
```

If you are going to use monitoring select Monitoring and Statistics, otherwise select Statistics Only.

```
Track Press Maintenance?
Yes                            No  Yes
```

Track Press Maintenance specifies whether press maintenance is currently enabled. Normally this is set to yes, but if a Press Monitor is shared between presses, the user may wish to set this to no on the secondary press so it does not add into the maintenance count for the primary press.

**Change Press Settings?**

No

No  Yes

At the end of any section where options are being prompted for, the user will be asked if they wish to re-enter that section again to make any changes. This allows the user to correct any answer if necessary.

Once the initial press settings have been set, the Press Monitor now displays messages it normally does when turned on. Each one is displayed for 3 seconds. Each of these can be disabled for a faster startup if desired, or the user can press ignore to skip by them quickly.

**0 Rounds, 0.0 Hours**

**Press Totals**

The Press Totals display shows the total number of rounds, hours, and rounds per hour for all loading sessions. The Rounds Per Hour statistic is not displayed in the above example because there is no data yet.

**3000 Rounds Remaining (100%)**

0%  100%

**Press Maintenance**

The Press Maintenance display shows the number of rounds until press maintenance is due. The user can track press maintenance by hours instead of rounds if desired. When press maintenance is due a reminder will pop up on the display until the user resets it.

The next display is typically one of the following (monitoring mode):

**Next --> Pull Handle DOWN...**


**-3 Rnds 0:00 Time - RPHc - RPht**

or:



Next --> Unknown State...

██████████ IGNORING SENSORS ██████████

The  symbol above blinks to get the users attention. The first message indicates the Press Monitor is monitoring the press and the user can begin loading. The top line shows what the next action should be and the bottom line shows the session statistics.

The number of rounds begins at a negative number because that is the number of stations on the press minus one. This is done so that when the first round hits the finish bin, the loaded rounds will be correct at 1. See the Statistics chapter for information on the other statistics.

**The second message shows what ignore mode looks like.** This mode ignores press sensors and allows the user to correct any issues while the Press Monitor is disabled. Unknown State means that the press is not in a state that can be resumed from. For example, when the shellplate or tool head is not fully up or down, this message is displayed. As soon as the press sensors indicate the press is in a state can be resumed from, this message changes to a message like Next → Push Handle DOWN. Press ignore again to leave ignore mode and resume normal operation. The press light also has a quick flicker in this mode to indicate to the user that they are in ignore mode and not monitor mode.




## Button Usage

The buttons perform differently depending on whether they are pressed and released, or held down.

### **Minus Button:**

In normal mode, the minus button changes the Rnds statistic by decreasing it. This can be used if a round was destroyed or lost during the reloading process.



3994.3 Grains (0 Rounds Loaded)  
578 Rounds Remaining                      Powder Measure

Holding the Display Brightness button shows the current powder measure status including current grains, rounds loaded, and rounds remaining.

In ignore mode, the minus button may be used to change the next action on some press types. If the prompt is Next → Pull Handle DOWN... but the user wants the next action to be rotate, just press the minus (or plus) button and it will change to Next → ROTATE...

If a prompt requests a value or setting, the minus button will make the setting less. Holding the minus button changes the setting faster, and the longer the button is held the faster it changes.

### **Plus Button:**

In normal mode, the plus button changes the Rnds statistic by increasing it. This can be used if a round was completed when the Press Monitor was in ignore mode.

Holding the plus button in normal mode changes the statistics currently displayed. It rotates between Rnds/Time, RmRd/RmTm, and Rnds/RmTm.

In ignore mode the plus button may be used to change the next action on some press types.

If a prompt requests a value or setting, the plus button will make the setting more. Holding the plus button changes the setting faster, and the longer the button is held the faster it changes.

### Ignore Button:

```
Next --> Pull Handle DOWN
██████████ IGNORING SENSORS ██████████
```

In normal mode, pressing the ignore button changes to ignore mode. Pressing the ignore button again returns back to normal mode if the press is ready to do so.

```
Entering Setup...
```

Holding down the ignore button enters setup and diagnostics:

```
Break Reminder
Press + to Disable this Reminder
```

Pressing the ignore button during a reminder allows the user to disable that reminder.

Pressing the ignore button at a prompt tells the monitor to accept the value and continue.

### Specify Session Button:

See the Specify Session chapter for the session options.

```
Press Timer Stopped; EEPROM Values Saved
```

Holding the minus button in normal mode will stop the press timer and write EEPROM values immediately.

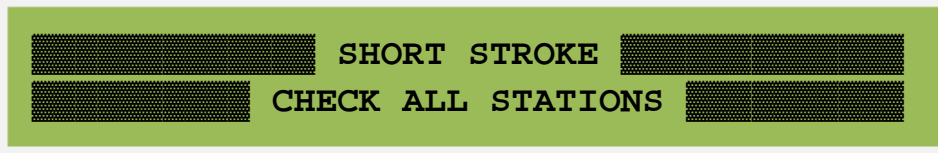
## Errors

When out of ignore mode, the user can begin loading. All the press actions are monitored and if the Press Monitor detects an incorrect action, it will alert the user with an error. This triggers the buzzer, displays the error message, and flashes the press light.

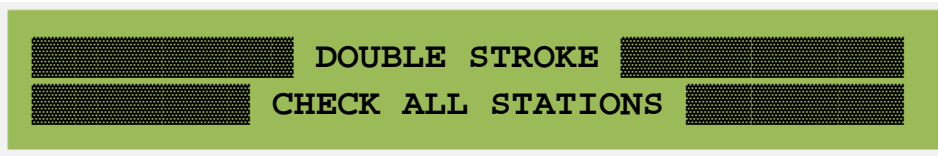
To stop the buzzer and cancel the error, press ignore. This takes the user to ignore mode. The press should be checked and any issues should be corrected. After verifying all stations are ok and ready to resume, the user can press ignore again to leave ignore mode and resume normal monitoring. If a round was finished up when ignore mode was enabled, press the plus button to add that round to the rounds counter. Similarly, the minus button can be used to adjust for a damaged round when the sensors were not being ignored.



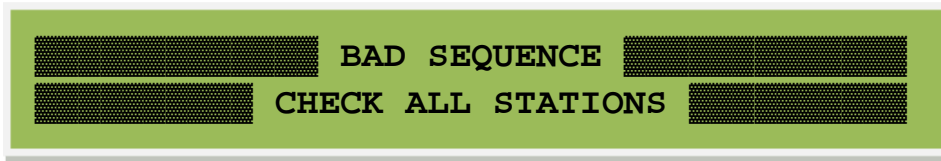
**Double Shellplate Rotate:** Displayed when the shellplate is rotated twice by mistake on a manual indexing press. **This is a very dangerous condition as it usually leads to a no charge event.**



**Short Stroke:** Displayed when the press handle is not pulled fully down. Can cause a round to not have any powder or in it, or less powder than desired if the powder measure was not fully activated.



**Double Stroke:** Displayed when the press handle is cycled twice without rotating the shellplate on a manual indexing press. **This is a very dangerous condition as it usually leads to a double charge event.**



**Bad Sequence:** Displayed when any unexpected action occurs. The Press Monitor expects a very specific sequence of actions and if the actions deviate at all, this error is generated.

## Statistics

```
Next --> Push Handle UP and PRIME...  
534 Rnds  1:37 Time  342 RPHc  299 RPHt
```

There are eleven statistics automatically calculated for the user.

Loaded Rounds (Rnds): Keeps track of the number of rounds loaded. The user can press the minus or plus buttons to change this value if a round is lost or finished during ignore mode.

Press Time (Time): This timer starts and stops automatically based on press sensor activity. The default setting for press timer inactivity is 30 seconds, which means if the press does not change for 30 seconds, then the press timer stops. The user can check if the press timer is running by looking at the colon between the hours and minutes. If the colon is blinking, then the press timer is running. If the colon is not blinking it is stopped. Press Time is used for calculating rounds per hour total, and since the timer stops, the user can walk away from the press for 10 minutes without it affecting the RPHt calculation. A short inactivity of 30 seconds or so would not include tasks such as filling primer tubes or refilling components in the rounds per hour total figure. Selecting a longer Press Timer Inactivity such as 30 minutes allows the user to include these routine tasks in the calculation. In this case, the press timer would continue running for up to 30 minutes even if the press does not change. To walk away from the press and not include that time in the statistics, the user needs to hold the minus button to stop the press timer manually.

Rounds per Hour Current (RPHc): Calculates a rounds per hour value for the last 3 to 15 rounds loaded. If no changes are detected in 30 seconds, it goes to zero and needs 3 loaded rounds to begin calculating again. A reminder can be enabled if this exceeds a specific value.

Rounds per Hour Total (RPHt): Calculates a rounds per hour value for the entire session by dividing the loaded rounds by the press time.

**The next two statistics requires the user to specify the number of rounds being loaded.**

Remaining Rounds (RmRd): Indicates how many rounds are remaining.

Remaining Time (RmTm): Calculates how much time is remaining based on the rounds per hour total and how many rounds are remaining.

**The next two statistics requires the user weigh their powder container before and after dumping powder into the powder measure. The Press Monitor uses these two values to calculate how much powder is in the measure. There is no sensor on the powder measure, but the Press Monitor will keep track based on the information provided to it.**

Powder Measure Grains (PmGr): Displays how many grains are remaining in the powder measure.

Powder Measure Rounds (PmRd): If there is powder in the powder measure and the user has specified the charge weight, this statistic will calculate how many rounds could be loaded until running out of powder.

Of these eight statistics, four or six can be displayed at one time when Press Monitoring is enabled, or all eight can be displayed at one time if Press Monitoring is disabled. For four or six modes, the user can select which of the eight are displayed by holding down the Swap Stats to rotate the currently displayed ones. There is also an option in setup that will automatically rotate which ones are being displayed every so many seconds.

```
Next --> Push Handle UP and PRIME...  
534 Rnds 1:37 Time 342 RPHc 299 RPHt
```

This is an example of full line instructions (Press Monitoring enabled) where the entire top line is used for press instructions and the bottom line has four statistics:

```
8522 PmGr 2:23 RmTm Pull Handle DOWN  
534 Rnds 1:37 Time 342 RPHc 299 RPHt
```

This is an example of half line instructions (Press Monitoring enabled) where half of top line is used for press instructions so there is room for two statistics on the top line and the bottom line has four statistics:

```
123 RmRd 2:23 RmTm 8522 PmGr 1982 PmRd  
534 Rnds 1:37 Time 342 RPHc 299 RPHt
```

This is an example of all eight statistics displayed (Press Monitoring disabled) where both lines are used to display statistics:

**321 Rounds, 1.2 Hours, 268 RPH**

**Press Totals**

The final three statistics are displayed at startup or can be viewed at any time in setup:

Total Rounds: Keeps track of the total rounds loaded.

Total Press Time: Keeps track of the total time the press is used.

Total RPH Average: Calculates a rounds per hour average across all reloading sessions.

## **Reminders**

Reminders are different than errors because they do not interrupt press operation. The user is free to continue working right on through a reminder without stopping. Press actions remain fully monitored during a reminder. A very short buzzer sounds and press light flickers just to let the user know a reminder is on the display for 5 seconds.

If the plus button is pressed during the reminder display, the reminder will be disabled for the entire session. It can be re-enabled by entering setup and re-enabling it.

There are 6 reminders currently available: Powder Low, Interval, Specified Rounds Loaded, RPHc Too Fast, Break, and Press Maintenance. This is the order of their priority as well.

**Powder Low, 922.7 Grains, 214 Rounds  
Press + To Disable This Reminder**

The Powder Low reminder indicates that power remaining in grains along with how many rounds can be made from the remaining powder. The threshold (in this case below 1000 grains) can be set in setup. This reminder will repeat every 60 seconds until the power is no longer below the threshold or this reminder is disabled.

**Interval Reminder, 97 Loaded Rounds  
Press + To Disable This Reminder**

The Interval reminder can be set to remind the user when they reach specific intervals of loaded rounds. The user can specify 100 for the interval and get a reminder at 100, 200, 300, etc. There is also an interval leadoff the user can specify which will warn a number of rounds before the interval. For example, with a interval leadoff of 3, the user will get a reminder at 97, 197, 297, etc. This is very useful and can be used as a primer low reminder for example.

**Specified Rounds Loaded  
Press + To Disable This Reminder**

The Specified Rounds Loaded reminder occurs when the specified number of rounds to be loaded is reached. If the user tells the Press Monitor they want to load 500 rounds, then this reminder will fire when the user hits 500 rounds.



**RPHc Faster Than 1200 RPH**  
**Press + To Disable This Reminder**

The RPHc Too Fast reminder will occur if the rounds per hour current statistic (last 15 loaded rounds) is too fast. The threshold (in this case above 1200) can be set in setup. This can remind the user to slow down and take more time to watch what is going on. This reminder will repeat every 60 seconds until the power is no longer below the threshold or this reminder is disabled.

**Break Reminder**  
**Press + To Disable This Reminder**

The Break reminder reminds the user to take a break periodically to keep sharp. It can be disabled or set to 30 to 120 minutes in 15 minute increments. If there is no press activity for 10 minutes during a session, the Press Monitor will assume the user took a break and restart the count.

**Press Maintenance Is Due**  
**Press + To Disable This Reminder**

The Press Maintenance reminder occurs when the press has loaded the number of rounds or has been operated the number of hours in the Press Maintenance Amount value in setup. This reminder will repeat every 60 minutes until the Press Maintenance is reset. To reset Press Maintenance, simply go into setup and it will prompt automatically if the user wishes to do so.

## Powering Off

All the values in setup as well as the long term statistics, such as total loaded rounds, are stored in EEPROM memory. This is a type of memory that stays intact when the unit is powered off. One of the issues with this type of memory is that it has a design life of 100,000 write cycles, so it is important not to write to it continuously. At the same time, there are values that the Press Monitor needs to constantly update such as total loaded rounds or total press time.

To address this issue, the Press Monitor updates values every 90 seconds instead of as they change. The Press Monitor also rotates the EEPROM writes to successive areas in EEPROM to expand the 100,000 write cycles to over 2 million write cycles. These two techniques allow for a design life of 50,000 press hours.

**What this means for the user** is that when the reloading session is finished, the user should wait a couple of minutes before powering off the Press Monitor. An indicator will show when there is information that needs to be saved, and once the indicator is not present, then it is ok to power off.

It is not critical that this advice is followed; the unit can be safely powered off at any time. The downside to not waiting is that the last couple of rounds or other changed values will not be written.

```
Next --> Push Handle UP and PRIME...  
534 Rnds 1:37 Time 342 RPHc 299 RPHt'
```

The indicator is a blinking apostrophe after the lowercase t in the RPHt statistic. It goes on and off as necessary and can be ignored during use. When any value changes that needs to be written, the indicator blinks until the changes have been written.

If an immediate write is desired, holding down the specify session button stops the press timer and writes EEPROM values immediately.

## Press Types

**Press Type?**

Hornady Lock N Load

SDB  O

The Press Monitor supports 8 popular presses. The supported presses are: Dillon Square Deal B, Dillon 550, Dillon 650, Dillon 1050, Hornady Lock N Load, Lee Load Master, Lee Pro 1000, RCBS Pro 2000.

There is also a custom press type (other) that allows complete flexibility to support any progressive. If one of the built in 8 press types is selected, then no further prompts appear. If the user selects Other, these are prompted for:

**Press Stations?**

4 Stations

1  8

Press Stations specifies how many stations a press has. It determines the negative starting value for Rnds so that when the first round hits the finish bin, the Rnds counter reads 1. The range is from 1 to 8.

**Press Auto Index?**

No

No  Yes

Press Auto Index indicates whether the press automatically indexes (rotates) to the next station. If not, then the user must perform this action manually and the third sensor to detect rotation is required. This option determines the expected sensor pattern for press actions.

**Press Priming Message Mode?**

On Handle Up

Off  HU

Press Priming Message Mode specifies if and where the “and PRIME” message is added into the next message instruction. It only affects the message and not any other operation. It is also only displayed if full line instructions are used. The values are Off, On Handle Down, On Handle Up. Most presses prime on handle up.

**Press Timer Inactivity?**

30 Seconds

15s  30m

Press Timer Inactivity specifies the inactivity period for the press sensors that will stop the press timer. See the Statistics chapter for more information.

A quick shortcut to change the press type is to press and release the plus and minus buttons at the main menu. This allows a user to quickly change the press type if moving the unit from one press type to another.

## Specify Session

**Specify Rounds To Load?**

**Not Specified**

NS

Specify Rounds To Load indicates the number of rounds the user wishes to load. This is an optional setting that if specified calculates two statistics: remaining rounds (RmRd) and remaining time (RmTm). It will also generate a Specified Rounds All Loaded reminder when all rounds are loaded.

**Specify Charge Weight?**

**4.7 Grains**

NS

Specify Charge Weight indicates the charge weight of each round being loaded. This is an optional setting that if specified turns on powder tracking. Powder tracking can be used to keep track of how much powder is in the powder measure and generate a low powder reminder when the powder gets low. If you aren't going to use powder tracking and the low powder reminder, there is no point in setting this value.

**Current Powder Measure Status?**

**Still Contains 6512.2 Grains**

E   C

If the Press Monitor thinks there is any powder in the powder measure, it will ask if the powder is still present or has it been emptied. The Press Monitor will remember the current amount of powder in the measure even when turned off.

**Add Powder To Powder Measure?**

**Yes**

No  Yes

The next question is whether the user wants to add powder to the powder measure.

**Powder Container Weight Unit?**

Ounces

Gr  Kg

Select the unit of weight that will be used.

**Powder Container Before Weight?**

14.32 Ounces

0  160

Specify the before weight of the powder container and powder. You will want to use a scale that can handle the weight of a powder container and has good accuracy. Many reloading scales can't handle this much weight, but often a kitchen scale will work perfectly.

**Powder Container After Weight?**

4.11 Ounces

0  160

Specify the after weight of the powder container with less powder.

**Are Entered Values Correct?**

Yes

No  Yes

Verify the entered values are correct. If a value was entered wrong, select no and then re-enter it correctly.

6295.5 Grains

1256 Rounds Remaining

Powder Measure

The powder measure status will be displayed. The upper left shows the current grains in the measure. The bottom left shows how many rounds can be loaded with this amount of powder. The message stays on the display until the ignore button is pressed.

**RESET Current Session?**

**No**

**No**  **Yes**

This will reset the current session information as if the user had powered off and back on. All the current statistics will be reset and ready for a new session.

## Setup and Diagnostics

Entering Setup...

Holding down the ignore button for 3 seconds enters setup and diagnostics.

Some options in setup only appear if necessary. For example, Display Options are only prompted for if Press Monitoring is enabled.

RESET Press Maintenance?  
No No  Yes

If press maintenance is due; the user will be prompted if they wish to reset it.

Are You SURE?  
No No  Yes

Many prompts that reset something are followed up with an Are You Sure? prompt to verify.

Re-enable Any Disabled Reminders?  
No No  Yes

If there are any disabled reminders; the user is given an option to re-enable it.

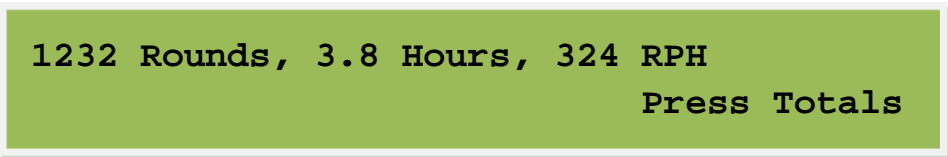
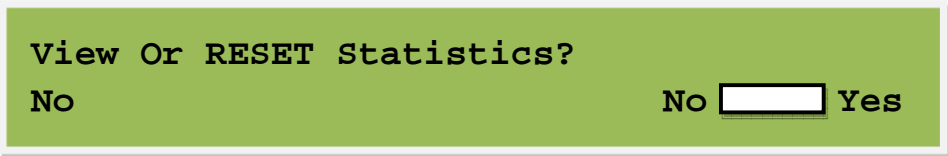
Re-enable Powder Low Reminder?  
No No  Yes

If the user selects yes, then each disabled reminder can be re-enabled.

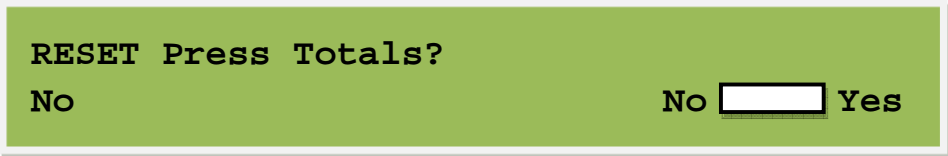


Setup is divided into sections, with a single question asking if the user wishes to enter that section.

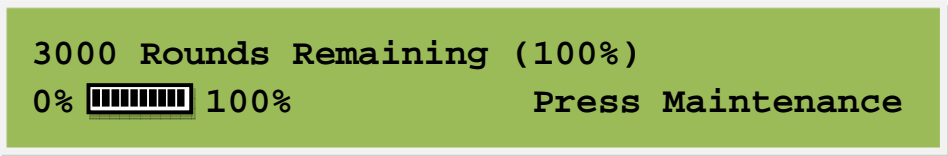
View Or RESET Statistics Section:



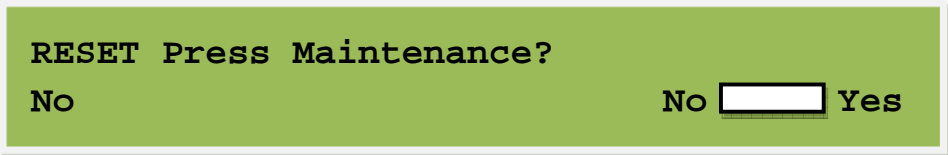
Press Totals will be displayed. The message stays on the display until the ignore button is pressed.



RESET Press Totals allows the user to reset these statistics.



Press Maintenance will be displayed. The message stays on the display until the ignore button is pressed.



RESET Press Maintenance allows the user to reset press maintenance.

**Change Press Settings Section:**

**Change Press Settings?**

No

No  Yes

These settings are covered in the Press Types chapter.

**Change Display Settings Section:**

**Change Display Settings?**

No

No  Yes

**Monitoring Instructions?**

**Half Line (6 Statistics)**

H  F

Half Line displays the press instructions such as Pull Handle DOWN on half of the top line instead of the entire line. This allows two additional statistics to be displayed on the top line, bringing the total to six instead of the usual four. The press instructions are shorter and lack the priming message in this mode. Full Line uses the entire top line for instructions, but only displayed 4 statistics at one time on the display.

**Current Statistics View?**

1

1  4

Use this table to determine which statistics are displayed in which views:

| Instructions | View | Top Line  | Bottom Line         |
|--------------|------|-----------|---------------------|
| Half         | 1    | PmRd RmTm | Rnds Time RPHc RPHt |
| Half         | 2    | RmRd RmTm | Rnds Time RPHc RPHt |
| Half         | 3    | PmGr RmTm | Rnds Time RPHc RPHt |
| Half         | 4    | PmGr PmRd | Rnds Time RPHc RPHt |
| Full         | 1    |           | Rnds Time RPHc RPHt |
| Full         | 2    |           | Rnds RmTm RPHc RPHt |
| Full         | 3    |           | RmRd RmTm RPHc RPHt |
| Full         | 4    |           | PmRd RmTm RPHc RPHt |

**Rotate Statistics View?**

2 Seconds

Off  30s

Rotate Statistics View will automatically change the view every so many seconds. With this option off, the user can just use the swap stats button to change views and it will stay in their selected view.

**Display Press Totals At Startup?**

Yes

No  Yes

Allows the user to specify whether to display Press Totals at startup when the unit is turned on. This will add 3 seconds to the startup sequence.

**Display Press Maintenance At Startup?**

Yes

No  Yes

Allows the user to specify whether to display Press Maintenance at startup when the unit is turned on. This will add 3 seconds to the startup sequence.

**LCD Contrast?**

Level 8

0  12

LCD Contrast is used to adjust the pixel darkness.

**Change Reminder Settings Section:**

**Change Reminder Settings?**  
No  Yes

**Press Maintenance Reminder Type?**  
By Rounds  Rnds  Hrs

Selects whether the user wants to track press maintenance by rounds or by hours.

**Press Maintenance Amount?**  
3000 Rounds  1k  250k

Press Maintenance Amount specifies the number of rounds or hours until the press requires maintenance. The range for rounds is 1,000 to 250,000. The range for hours is 10 to 400.

**Break Reminder?**  
60 Minutes  Off  120m

Break Reminder issues a single reminder to take a break. Unlike all of the other reminders, the break reminder only occurs once and will not occur again until another break is due. The range is Off, or 30 to 120 minutes, in 15 minute increments. It will reset if no press activity occurs for 10 minutes.

**RPHc Too Fast Reminder?**  
1200 Rounds  No  6450

RPHc Too Fast Reminder issues a reminder when the RPHc (RPH of the last 3 to 15 rounds) is above the specified value. The range is Off, or 100 to 6,450 rounds.

**Powder Low Reminder?**

1000 Grains

Off  3500

Powder Low Reminder will trigger a reminder when the powder measure falls below the specified value. The range is Off, or 500 to 3,500 grains.

**Interval Reminder?**

Off

Off  1000

Interval Reminder will trigger a reminder every time this threshold is met. If set to 100 for example, a reminder will be issued at 100, 200, 300, 400, 500, and so on.

**Interval Reminder Leadoff?**

5 Rounds

0  99

Interval Reminder Leadoff will modify the interval reminder by subtracting from it. If the interval reminder is 100 and the leadoff is 5 for example, a reminder will be issued at 95, 195, 295, 395, 495, and so on. This is great to replenish primers before they run out for example.

#### **Diagnostics Section:**

**Enter Diagnostics?**

No

No  Yes

#### **Test Inputs Section:**

**Test Inputs?**

No

No  Yes

- Button Input  
Buzzer Sounds When Active      Off  On

Ignore Button Input  
(+ To Continue)                      Off  On

The most useful area in diagnostics, it allows the user to test all four front panel input buttons, but more importantly it allows the user to test the press sensors. It will scroll through Minus Button, Plus Button, Ignore Button, Specify Button, Press Handle Down Sensor, Press Handle Up Sensor, and Press Rotate Sensor. **This is the very first place to go to test sensors as soon as they are installed.**

The Ignore Button Input uses the plus button to continue to the next input because the ignore button is being tested.

#### Test Outputs Section:

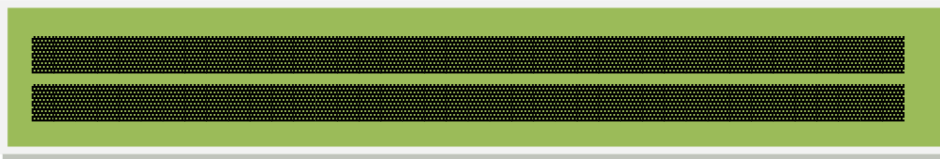
Test Outputs?  
No                                      No  Yes

Buzzer Output  
+ For On, - For Off                      Off  On

Allows testing of the Buzzer and Press Light.

#### Test Display Section:

Test Display?  
No                                      No  Yes



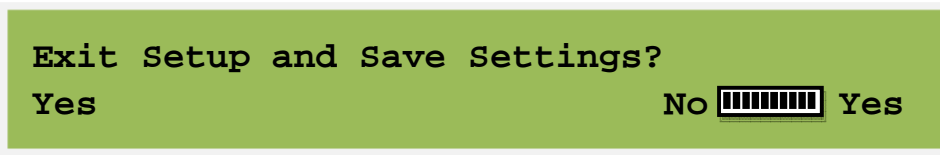
Solid on. Press ignore to continue.



Solid off. Press ignore to continue.



The display will now cycle through many characters endlessly. Press ignore to continue.



The final setup prompt asks the user to exit setup and save settings. Selecting yes will exit and save settings. Selecting No will begin setup again.

## Master Reset

The master reset can be enabled at the first message containing the company name and version by pressing and releasing the minus, plus, and ignore buttons at the same time. The display will then prompt the user to clear all memory and return to defaults:

Clear All Memory And Return To Defaults?  
No  Yes

All settings will revert to factory.



## **Version Notes**

**Version 1.20:**  
Initial release.