Larson Systems Inc.

060-1000-0054-00B
Super Presetter User Manual

Current to Software Version 4.23

About This Manual
This manual could contain technical inaccuracies or typographical errors. Changes are periodically made to the information contained herein. These changes will be incorporated in new editions of the manual.

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1   INTRODUCTION

LSI's Super Presetter is an inexpensive hand-loaded presetting machine that may also be used as a fatigue cycling tester. Pneumatically powered for minimum operator fatigue, the standard model is capable of cycling parts up to 500 lbs and 4 inches in diameter. It accommodates a preset rate of up to 2,000 per hour and a fatigue cycling rate of up to 3,000 per hour. A predetermined number of cycles may be programmed enabling the machine to automatically power off when finished. Although there is a force capacity given this model is not equipped with force measuring capability.

1.1   Standard Features

- Thermal, normal, or cold testing applications allowed
- 9" range, 5" stroke, 4" Ø platform
- 3 load capacities:
    - 40 – 100 lb (20 – 45 kg)
    - 100 – 250 lb (45 – 110 kg)
    - 250 – 500 lb (110 – 225 kg)
- Hand-loaded presetting up to 2,000 per hour
- Fatigue cycle rates up to 3,000 per hour
- Auto shut-off programming
- Power supply: 110 – 240 VAC, 50 / 60 Hz
- Air supply: 80 – 120 psi (5.5 – 8.25 bar)

1.2   Optional Features and Equipment

- Optional max range 12"

1.3   Specifications

The Super Presetter can accommodate springs up to 12 inches in height and up to 4 inches in diameter. A combination of the following standard and optional configurations may be selected to customize a Presetter for a specific application:
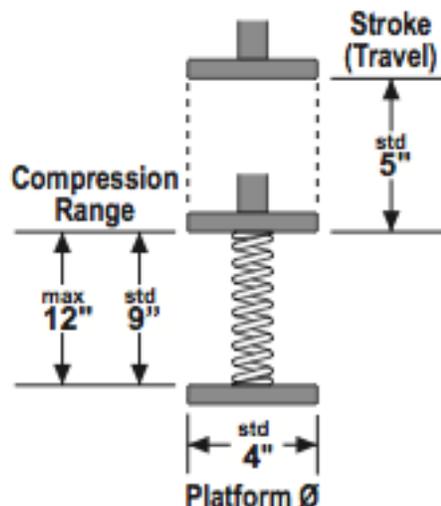
2 GETTING STARTED

2.1 Unpacking

The Super Presetter from LSI is shipped completely assembled. Once the shipping container is opened, this User Manual is easily found with instructions to READ FIRST. Use care when removing the Presetter from the packaging and protective poly bag to avoid damage. Other items ordered may be in their own carton(s) secured inside the shipping container or shipped separately.

2.2 Items Shipped

Locate the following items inside the shipping container:

- Super Presetter testing unit
- Power adapter
- Two 8 ½" X 11" white envelopes:

    1 – User Manual
    2 – Packing List

- Optional equipment ordered
- Any large equipment ordered is shipped separately

Check over the packing list and make sure all items listed were received. Keep items not needed right away in a safe place. Retain shipping container and packaging for future use.

2.3 Using the Manual

Have the Presetter accessible and installed as described in section 2.4 when following along with this manual.

- Be sure to read the Safety and Use Guidelines in section 2.5 before starting.
- Testing procedures and setup are found in section 3.3 and 3.4. The Super Presetter is shipped with a standard sequence programmed that can be used immediately by selecting **Start [F2]** after the machine is turned on and hooked up properly. Setup and sequence programming instructions are also found in section 3.3.
- Any instruction in brackets and bold type refers to a button on the keypad.
- The software and control panel faceplate used for the Presetter application is the same as normally used with the LSI Super Digital Hand Testing equipment with modifications to Presetting and Fatigue testing without a load cell or force / length measurement capability. The instructions cover all menus and keypad buttons – keep in mind that some are not applicable to the Presetter and will be so stated.

2.4 Installation and Setup

Place the Super Presetter on a level and stable work surface where presetting or fatigue testing can be performed in a comfortable manner. The height of the work surface should allow ease of loading, testing and removing parts from the testing area. Accessibility to a power source and air compressor is also required for operation (connections shown in following diagram). Once a location is selected and the Presetter is in place, the control panel should be positioned for viewing and be easy to access during operation.

The mounting holes on the base of the unit may be used to secure the Presetter for increased stability. Keep the work area clean, dry and protected from debris.

Partial View from Back of Presetter
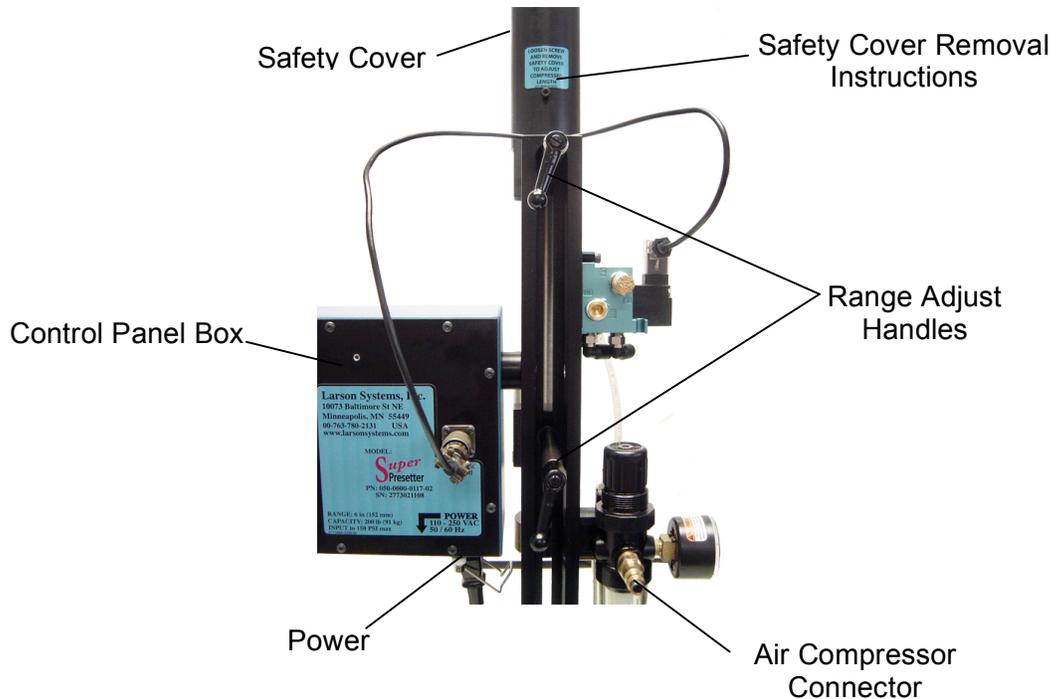
2.5 Safety and Use Guidelines

Read this manual before operating the Super Presetter to learn how to use properly. Important considerations are:

* **Compressed springs have stored potential energy proportional to the spring constant.** Use care and release this energy in a controlled manner to avoid injury.
* Be sure the safety cover is secure before operating to avoid injury from moving parts.
* Do not apply force greater than the tester is designed to accommodate.
* Be sure the operating area is clean and dry.
* All parts to be tested / cycled should be free of oil and contaminants.
* Keep the Presetter from contact with liquid.
* This User Manual should be kept available for quick reference.
* Use of protective eyewear is recommended for safety.
* Follow all instructions and warnings associated with and labeled on the Super Presetter.

IN AN EMERGENCY:
* Press **[ON / CLEAR]** to abort and stop the current sequence, follow subsequent display instructions to continue
* Press **[OFF]** to turn off the machine immediately
* Press any other key to **Pause** the operation, follow display instructions to continue or stop the current operation

3   SUPER PRESETTER USER GUIDE

3.1   The Control Panel

Current Software: PN 050-1000-0005-00M, Version 4.23

The Super Presetter model is configured with the same control panel as is used on LSI's Digital Hand Testers; however, because this model is not equipped to measure length or force, some buttons shown are not applicable, or are used in other functions. The control panel shown below illustrates how the display appears when first turned on.

SUPER PRESETTER CONTROL PANEL

[F1] [F2] – Use in the Option menus to make selections from LED display, enter data, or navigate screen fields.

[OPTION] – Scroll forward through the Option menu items and the submenus as selected.

[UNITS] – Use in navigation to move in the reverse direction of **[F1]** when entering numbers or letters in a field within the Option menus.

[ZERO LENGTH] – Use in navigation to move in the reverse direction of [F2] when entering numbers or letters in a field within the Option menus.

[ON / CLEAR] – Turns the Presetter on and acts as an "enter" or "save settings" button in the Option menus and defaults back to the main Presetter menu shown above. Use to abort the sequence in progress during a Presetting operation.

[MODE] – Use to scroll in reverse through the Option menu items.

[ZERO FORCE] – Not used.

[OFF] – Use to turn power off.

[SEND] – Use in the Option menus to back out of individual menu levels.

[STORE] – Not used.

Note: Low, Good, High, lights at top of control panel are not functional unless Light LEDs is selected as a sequence step in programming to be used only as an operator cue.

3.2 The Option Menus

When the Presetter is turned on using **[ON / CLEAR]**, the LED display shows startup information and stops at the first of eight Option menus. Scroll forward through each menu by pressing **[OPTION]**. Information about using each menu is described in order of appearance in this section. Navigate the Option menus using the following keys:

[OPTION] is used to scroll forward through the menu items
[MODE] scrolls in reverse through the menu items
[F1] and **[F2]** are used to make selections and also to navigate and enter data
[SEND] backs out of menu levels to the main menu
[UNITS] does the reverse of **[F1]** when entering numbers or letters in a field
[ZERO LENGTH] does the reverse of **[F2]** when entering numbers or letters in a field
[ON / CLEAR] saves entered data or current selection and returns to the Presetter menu

3.2.1 Presetter: Setup / Start

The Presetter menu is the first displayed and the primary menu used in the operation of the machine. This menu allows the user to program a presetting sequence (**Setup**) and run the sequence programmed (**Start**). A generic presetting sequence has been programmed at the factory and can be run as soon as the Presetter is turned on and set up properly. Instruction for using the preset program and machine setup begins at section 3.3.

```
Presetter
Setup       Start
```

Setup
With the Presetter menu displayed, press **[F1]** to select **Setup**.

```
Sequence Mode
– Timed Delay  +
```
```
Sequence Mode
–     Manual    +
```

Timed Delay and **Manual** sequence modes are the two choices for preset operation. Use the **[F1]** or **[F2]** to toggle between the selections.

Timed Delay sequence mode allows a specified amount of time from selecting **Start** **[F2]** to the initiation of the first sequence step. After the last step in the sequence has been performed the Presetter will automatically repeat the sequence.

In the **Manual** sequence mode, the operator must press a button to repeat the sequence.

When the desired selection is displayed, press **[OPTION]** to continue to the next **Setup** item. The next setup item will correspond to the sequence mode selected. If **Timed Delay** is selected, the next menu item allows the user to enter the amount of time to delay the first step in the sequence.

```
Seq. Start Delay
nxt   003.0 sec +
```

The amount of time entered represents the delay from the time **Start** is selected and the first step of the sequence programmed is initiated. The values in the underlined fields may be changed using **[F1]** and **[F2]**. **[F1]** moves the cursor to the next field. To back up a field, press **[UNITS]**. Press **[F2]** to increase the value at the flashing cursor. To decrease the value, press **[ZERO LENGTH]**.

Press **[OPTION]** to continue when finished. The following screen appears after the **Sequence Start Delay** time is entered or **Manual** mode is selected from the first menu:

```
Seq. Iterations
nxt  Infinite  +
```
```
Seq. Iterations
nxt    000001    +
```

The first display example represents an entry of "000000" for an Infinite number of iterations. Press **[F2]** to access the second screen above. Enter the number of desired iterations or repetitions of the sequence that the Super Presetter should perform. Use **[F1]** and **[F2]** to navigate and enter values as previously described. Press **[OPTION]** to continue. The first screen that follows appears. Press **[F2]** to scroll through each option for a step. Move backwards using **[F1]**.

```
Sequence Step  1
- Output 1 On  +
```
```
Sequence Step  1
- Output 1 Off +
```

```
Sequence Step  1
- Output 2 On  +
```
```
Sequence Step  1
- Output 2 Off +
```

```
Sequence Step  1
- Output 3 On  +
```
```
Sequence Step  1
- Output 3 Off +
```

```
Sequence Step  1
- Output 4 On  +
```
```
Sequence Step  1
- Output 4 Off +
```

```
Sequence Step  1
-     Delay     +
```
```
Sequence Step  1
- Perform Send +
```

```
Sequence Step  1
- Perform Store+
```
```
Sequence Step  1
-   Light LEDs  +
```
```
Sequence Step  1
- End Sequence +
```
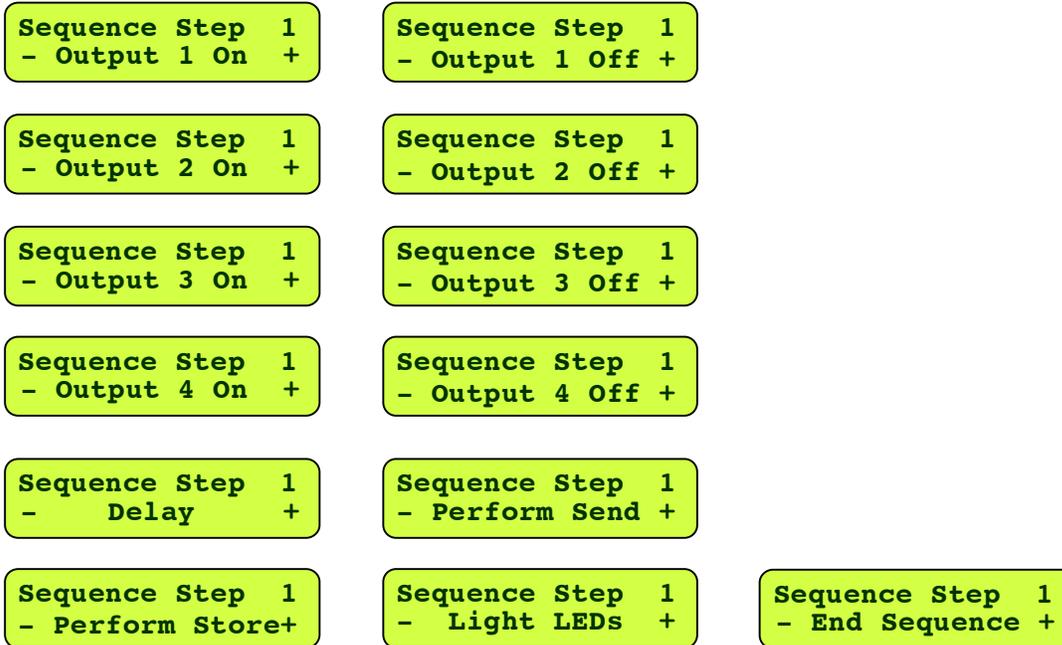
A single iteration is usually made up of multiple Sequence Steps. For each sequence step, choose one of the available selections shown above. To make a selection scroll to the selection desired and press **[OPTION]**. Once a selection is made, the display advances to the next step:

```
Sequence Step  2
- Output 1 On  +
```

Scroll through to the desired operation for the next step and select. Some of the selections require a time value (in seconds) to be entered. Once a sequence of steps has been selected with the last step being "End Sequence" a Presetting operation is ready to be performed. **Note:** Outputs 2, 3, and 4 are not used on the Super Presetter.

What the Selections Do:

"Output 1 On" – turns the air pressure on and moves the upper platform downward to compress the spring / part.

"Output 1 Off" – turns off the air pressure and releases the upper platform.

"Delay" – inserts a desired amount of time to hold and accommodate the previous step movement (stroke length). Usually used after Output On and / or Output Off steps. A prompt to enter the amount of time for the delay appears when selected.

"Light LEDs" – will activate the lights on the front control panel as a cue for the operator if desired; a prompt to enter the amount of time for the lights to be on appears when selected.

"End Sequence" – marks the end of the sequence. If operating in Timed Delay, the sequence will automatically repeat after the set amount of time entered.

"Perform Send" and **"Perform Store"** are not used on the Super Presetter.

In section 3.3.5 – Sequence Setup there are more details about programming a Presetting sequence. In addition, the last section of this manual contains some examples to assist in customizing a sequence for a specific application.

Start
Press **[F2]** to select. The sequence programmed begins immediately and runs until an **End Sequence** step is reached. The sequence repeats automatically if **Timed Delay** mode was selected in the **Setup** menu for the number of iterations entered in the Setup menu. If Manual mode was selected, the operator must press **[F1]** to start the sequence again. The manual mode is also subject to the number of iterations entered.

3.2.2   Option: Store / EndPrint (Not Used)

```
      Option
Store      EndPrint
```

Store (Not Used)
Storing data is not available on the Super Presetter. This selection is normally used to view stored sequence data or clear stored data from memory. If selected the display will read **No information stored**. Press **[SEND]** to return to the previous menu or **[ON / CLEAR]** to return to the main Option menu.

EndPrint (Not Used)
This selection is not available on the Super Presetter as it is not printer accessible. If selected the display will read **Print-out Not in Progress** and return to the main menu.

3.2.3   Option: Offset / Power

```
      Option
Offset      Power
```

Offset (Not Used)
This selection is not available on the Super Presetter as it does not provide force or length measurement. If selected, values may be entered but are not used for anything. To exit and return to the menu, press **[SEND]**.

Power [F2]
This option has only two choices. They are **Stay On [F1]** or **Off [F2]**.

```
Turn Off Power?
Stay On      Off
```

3.2.4   Option: Cal Check (Not Used)

```
      Option
Cal Check
```

Cal Check (Not Used)
This selection does not function on the Super Presetter as there is no load cell for calibration. Do not use. If selected, exit by pressing **[SEND]** to return to the menu. Continue by pressing **[OPTION]**.

3.2.5   Option: User Setup

User Setup [F1]

To enter the main **User Setup** menu press **[F1]**. The display will ask for a pass code or press **[OPTION]** to continue to the next Option menu. To enter pass code, press **[UNITS]**, **[SEND]**, and **[F1]** in sequence.

```
    Option              Authorized           Enter Passcode
 User Setup          Personnel Only          or press Option
```

There are several submenus for entering printing parameters, time and date, company information, backlight timer preference, direction of testing, etc. Some menu items are not applicable to the Super Presetter and are identified as items not used. Press **[OPTION]** to move to each menu. Brief explanations of the unused items are included but not necessary to the operation of the Super Presetter.

3.2.5.1   User Setup: RS232 / Power

RS232 (Not Used)

```
   User Setup
RS232        Power
```

By selecting **RS232 [F1]** on most Larson Systems testers, the communication can be set up to send raw data or a report to equipment such as a data logger or printer. Because the **Super Presetter** is not equipped with **RS232** capability, all of the selections under this menu do not apply. If selected, press **[SEND]** to return to the previous menu.

Power

```
   User Setup            Power Time-out
RS232        Power       next    00:00    +
```

Select **Power [F2]** to set or turn off the timer to use the auto shut-off feature. The timer is displayed in HH:MM format and starts each time a button is pressed. When the machine is idle for the time set, it will turn off automatically. To set the timer, move the cursor **[F1]** to the field to be modified (underlined in LED example above). Use **[F2]** to change each value. Enter 99:**99** to turn off the Power Time-out feature. When finished, press [**SEND**] to save and return to the previous menu. Press **[OPTION]** to move to the next User Setup menu.

3.2.5.2   User Setup: Dampening / Date and Time

```
   User Setup
Dampening     Date
```

Dampening (Not Used)

This feature is used on Larson System testers to provide varied levels of noise reduction or dampening that may contribute to false readings when testing. However, this menu does not apply to the **Super Presetter** because it does not give force or length measurements. Press **[SEND]** to return to the menu where **Date** may be selected.

Date

This menu item may be used if desired on the Super Presetter to indicate the current date and time on the start up LED screen that displays. The Date and Time at the factory location has been preset. Use the following instructions to change if necessary.

```
   User Setup            Date Format             MM:DD:YY
Dampening     Date       -   MM/DD/YY    +       Next 02 01 07    +
```

Choose **Date [F2]** from the first menu above and the next menu shown will appear. Scroll through the three format choices using **[F1]** or **[F2]**. Press **[Option]** to select when the desired format is displayed. Enter the correct date using **[F1]** to advance cursor to the next digit field and **[F2]** to increase digit value. When finished, press **[OPTION]** to advance to the **Time** setting menu.

```
      Time Format                Time Format
  - 12 Hour a/pm +            -   24 Hour    +
```

View the two format choices above using **[F1]** or **[F2]**. Press **[OPTION]** to select the format displayed. Enter the current time in the corresponding screen shown below in the underlined fields. Use **[F1]** to advance to the next digit field and **[F2]** to increase digit value.

```
       HH:MM a/pm                  HH:MM
  next 12:19 p    +            next  12:19    +
```

Press **[OPTION]** to review the Date and Time entries or **[SEND]** to save and return to the previous menu. Press **[OPTION]** to continue to the next menu item.

3.2.5.3   User Setup: Company / City (Optional)

Company / City
This menu item may be used if desired to enter your Company name and Location (City). However, this information is not used on the Super Presetter for any application displayed or printed and may be omitted. Press **[OPTION]** to advance to the next menu item.

```
      User Setup          Company Name 1/4         City Name  1/4
  Company     City        next _____  +         next _____  +
```

To use this feature: Choose **[F1]** to enter your **Company** name, **[F2]** to enter your **City**. In the corresponding screens above where underlined, enter the first letter or digit in field marked using **[F2]** or **[ZERO LENGTH]**. Advance to next character using **[F1]** or go back a field using **[UNITS]** to edit. There are eight characters on each of four possible screen lines. Advance to the next line if needed using **[OPTION]**. Review the entries using **[OPTION]** or when done press **[SEND]** to save and return to the previous menu. Press **[OPTION]** to continue to the next menu item.

3.2.5.4   User Setup: Backlight / Units

Backlight

```
      User Setup           Light  Time-out        Sleeping, press
  Backlight   Units        next    00:00   +       a key to wake up
```

Choose **Backlight [F1]** to enter Backlight Time-out setting in HH:MM format. Advance between the digit fields underlined in the example above using **[F1]** and **[UNITS]**. Adjust digit values using **[F2]** and **[ZERO LENGTH]**. When finished, press **[SEND]** to save and return to the previous menu. If tester is not used for the amount of time entered, it will go to sleep. The display will read like the third LED example above, except the backlight will be dark. Enter 99:99 to turn off the Backlight Time-out feature, the default setting from the factory.

Units (Not Used)
Although accessible by pressing **[F2]**, this menu item is not functional on the Super Presetter. The Presetter does not have a load cell to use this function in the selection of force or length units for measurement.

3.2.5.5   User Setup: 1st Peak / Filter (Not Used)

1st Peak (Not Used)
Used only on LSI testers which test the calibration of click-type torque tools and provide torque measurements using a load cell.

Filter (Not Used)
Used only with load cell equipped testers to effect vibration and noise disturbances that would cause false measurement.

3.2.5.6   User Setup: + / - Rule (Not Used)

This item is only used to allow the tester to give correct measurement (positive or negative) when test is performed in an opposite direction. For clockwise or counter clockwise testing on torsion testers; for compression or tension testing on force testers.

3.2.5.7   User Setup: I / O Polarity

I / O Polarity (Input / Output)

```
   User Setup          Input   2 Pol.         Output   6 Pol.
 I/O Polarity        > LLLLXXXXXXXX +        > XXXXLLLLLLLL +
```

The **I / O Polarity** menu accesses a setup feature for users who need to use the external inputs and outputs on the tester with certain auxiliary equipment. To select, press **[F1]** and the second display example shown above appears. Press **[F1]** to advance through the "**L**" fields underlined. Press **[F2]** to change any "**L**" to "**H**". These 4 fields represent polarities of Inputs 2,3,4, and 5, respectively, from left to right and define the active voltage level for those polarities as high (H) or low (L). Press **[OPTION]** to advance to the third display example shown above. This screen operates the same: Press **[F1]** to advance through the "**L**" fields underlined and press **[F2]** to change any "**L**" to "**H**". These eight fields represent polarities of Outputs 6, 7, 8, 9, 10, 11, 12 and 13 from left to right. Press **[SEND]** to save and return to previous menu.

The following defines what each input or output field represents:

Inputs
2 – Input 1
3 – Input 2
4 – Input 3
5 – Unused

Outputs
6 – Sorting Output Low
7 – Sorting Output Good
8 – Sorting Output High
9 – Unused
10 – Sequence Output 1
11 – Sequence Output 2
12 – Sequence Output 3
13 – Sequence Output 4

This menu feature is not commonly used. Users that would benefit from using this feature should contact LSI for further instruction.

3.2.5.8   User Setup: Cal. Info (Not Used)

This menu is only used to enter calibration information when the tester is equipped with a load cell. If selected, press **[SEND]** to return to previous menu.

Press **[OPTION]** to remain in the User Setup menu and scroll through to view or change menu selections. Press **[SEND]** to return to the Option menu and **[OPTION]** to continue to the next Option menu.

3.2.6 Option: Diagnostic

> Option
> Diagnostic

Diagnostic [F1]

This function allows user to troubleshoot the Super Presetter and assist in diagnosing a problem. Move through each diagnostic category by pressing **[OPTION]**. Many of the items are not applicable or critical to operating the Presetter, unless there is a problem with the display or keypad. **However, section 3.2.6.5 is helpful to adjust the Presetter to the necessary stroke for the application being used.**

3.2.6.1 View Batt Volts (Not Used)

> View Batt Volts
> –   Yes   +

> View Batt Volts
> –   No   +

This selection is not applicable to the Super Presetter as it is not equipped with a battery – a power cord is included for operation.

3.2.6.2 Keypad Check

> Perf Keypad Chck
> Now

> Press Clear to
> Exit Keypad Chck

> Press Any Key

Press **[F1]** to check the keypad. The second screen above will flash and stop at **Press Any Key**. Check the keys by pressing each one and leave **[ON / CLEAR]** till last to exit. As each key is pressed the display should show its name – if not, the keypad is not functioning properly. After exiting, press **[OPTION]** to go to next diagnostic menu item.

3.2.6.3 Screen Check

> Perf Screen Chck
> Now

> Press Clear to
> Exit Screen Chck

Press **[F1]** to check the LED screen. The second screen above will flash and the LED cursor will cycle through each of the fields. When satisfied that each field is operating correctly, press **[ON / CLEAR]** to exit, and then **[OPTION]** to go to next diagnostic menu.

3.2.6.4 External Inputs (Not Used)

Does not apply, information only. Press **[OPTION]** to continue.

#### 3.2.6.5 Output Diag Test

> Output Diag Test
> nxt   1 Off   tgl

> Output Diag Test
> nxt   1 On   tgl

Press **[F2]** to switch output 1 On. This initiates a full stroke and stops the upper platform at the maximum stroke the machine will allow as set up. The distance from the lower platform to the upper platform in stroke position can be measured at this point. To adjust this distance (if needed), do the following:

1. Turn the Output Off by pressing **[F2]** to release the upper platform.
2. Remove the **Safety Cover** as instructed on the machine exposing the threaded rod and lock nut assembly. (See illustration below)
3. Adjust the lower black nut platform by turning upwards to increase the stroke or downwards to decrease.
4. Recheck by pressing **[F2]** to turn the Output On and take a measurement. Repeat steps 1 through 4 until satisfied with the stroke distance.
5. Leave in Output Off position.
6. Tighten silver nut to hold black nut assembly in place.
7. Reinstall and secure the Safety Cover. The Super Presetter should never be operated without the Safety Cover properly installed.

Next, press **[SEND]** or **[OPTION]** to continue. Otherwise, press **[ON / CLEAR]** to return to the main Presetter menu.

Safety Cover

Safety Cover
Instructions

Threaded Rod

Lock Nut
Assembly
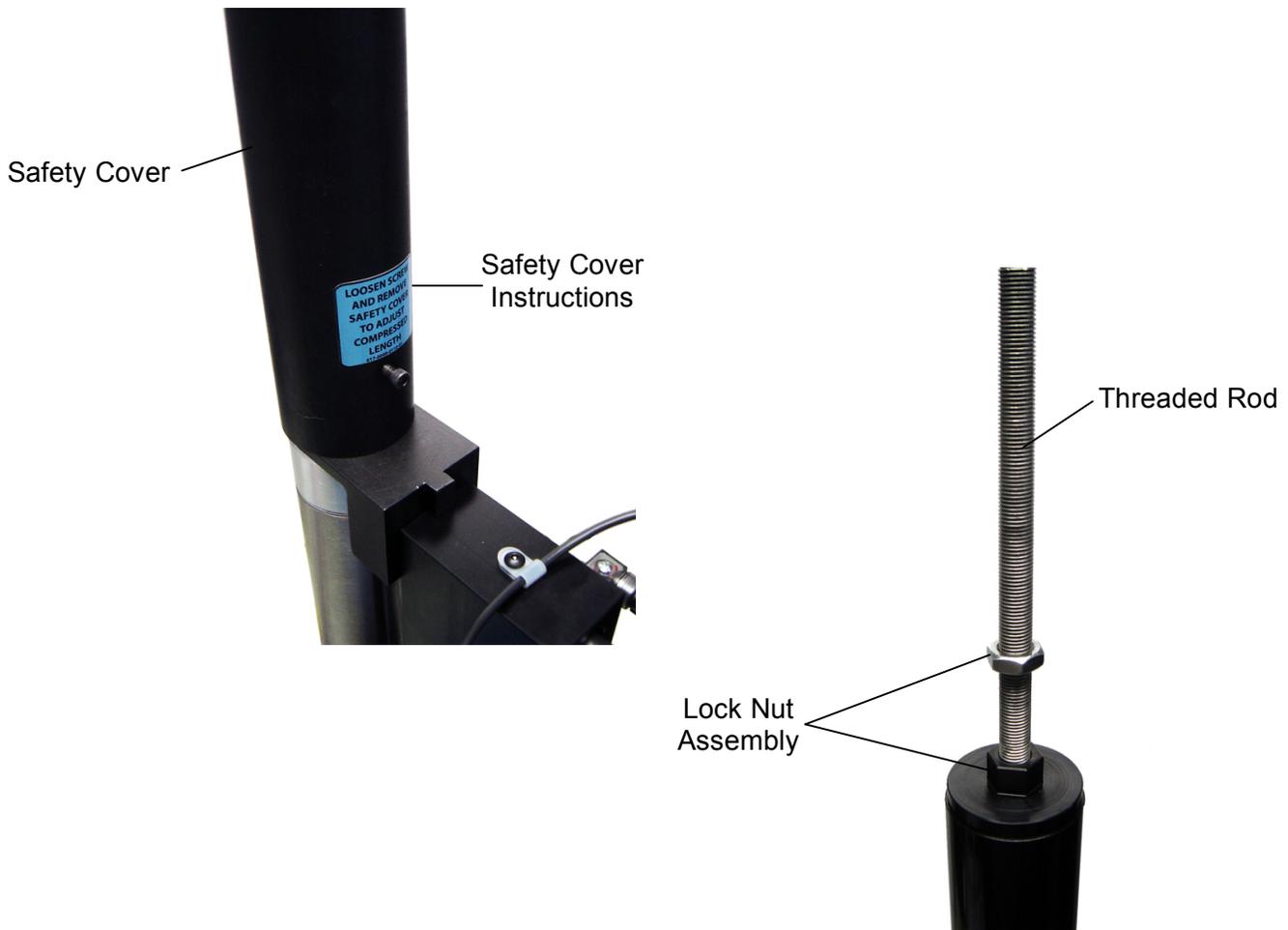
Note: If **nxt [F1]** is selected under **Output Diag Test**, the display shows the same choices for Outputs 2,3, and 4. However, the Super Presetter only uses Output 1.

3.2.6.6   RS232 Protocols (Not Used)

Displays fixed protocols set at the factory. Not applicable to the Super Presetter. Press **[OPTION]** to continue.

3.2.6.7   RS232 – Report On (Not Used)

No selection needed. Information only. Not applicable to the Super Presetter. Press **[OPTION]** to continue.

3.2.6.8   Check RS232 Port (Not Used)

This selection is not applicable to the Super Presetter as it is not printer accessible. Press **[OPTION]** to continue. If selected follow instructions – the machine will not be able to "talk" to a printer. Exit as instructed.

3.2.6.9   Display Processor Data

No selection needed. Information only. Press **[OPTION]** to continue.

3.2.6.10   Display Load Cell Data (Not Used)

This item shows load cell data for single and multiple locations when applicable. The Super Presetter is not equipped with a load cell. Press **[OPTION]** to continue.

3.2.6.11   Print Cell Info (Not Used)

Not applicable to the Super Presetter. Press **[OPTION]** to continue.

3.2.6.12   Print All E2 Mem (Not Used)

Not applicable to the Super Presetter. Press **[OPTION]** to continue. This concludes the Diagnostic menu items.

3.2.7   Option: Calib menus (Not Used)

```
          Option
       Calib menus
```

Calib Menus (Not Used)

This selection is not applicable to the Super Presetter as it does not use a load cell for operation. LSI testers equipped with a load cell require calibration using this feature and is only accessible by an LSI authorized technician.

3.2.8   Option: Factory Setup

```
          Option
      Factory Setup
```

Factory Setup [F1]
Used only by LSI.

3.3   Preparation and Setup

3.3.1   Range Adjust

The range of the Super Presetter must be set to accommodate the spring or part being preset. To adjust, carefully loosen the two **Range Adjust Handles** on the back of the column while holding the upper assembly so it does not abruptly fall onto the lower platform. (Range Adjust Handles illustrated in section 2.4.) Allow room for the part itself and to comfortably remove and reset a new part between sequences. Then tighten the Range Adjust Handles to securely hold the upper assembly in place during the presetting operation.

3.3.2   Stroke Adjust

This adjustment is done using the **Output Diag Test** menu within the Option menu for Diagnostic. The instructions are found in section 3.2.6.5 with illustrations.

When finished, press **[ON / CLEAR]** to return to the Presetter menu.

3.3.3   Air Pressure

The air pressure may also be adjusted; however, the factory setting is recommended. If adjustment is needed, set at the lowest pressure needed to achieve the desired results. The maximum pressure allowed is 150 PSI.

3.3.4   Setup Manual Sequence

```
      Presetter
      Setup      Start
```
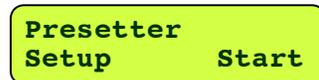
Press **[F1]** to select **Setup**. Switch between **Manual** and **Timed Delay** using **[F1]** or **[F2]**.

```
  Sequence Start          Sequence Start
  -   Manual    +         - Timed Delay  +
```
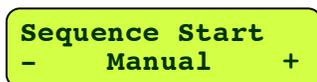
To select **Manual**, press **[OPTION]** when displayed and proceed to section 3.3.5 – Sequence Programming. In a **Manual** sequence mode, **[F1]** is used to start each individual sequence.

3.3.5 Setup Automatic Timed Delay Sequence

Press **[F1]** to select **Setup** from the Presetter menu. Switch between **Manual** and **Timed Delay** using **[F1]** or **[F2]**.

```
Sequence Start          Sequence Start
–    Manual    +        – Timed Delay   +
```

To select **Timed Delay** press **[OPTION]** when **Timed Delay** is displayed. The Timed Delay sequence allows the time between iterations (sequence repetitions) to be set. No need to push a start button to run each sequence repeatedly.

```
Seq. Start Delay
nxt   001.0 sec +
```

Set the preset sequence to begin the desired number of seconds after **Start** is selected from the Presetter menu. Press **[F1]** to go to the next digit in the underlined field of the example above and **[UNITS]** to go back. Press **[F2]** to increase the digit, **[ZERO LENGTH]** to decrease. When desired value is set, press **[OPTION]** and proceed to section 3.3.5 – Sequence Programming.

3.3.6 Sequence Programming

The following should now be displayed:

```
Seq. Iterations         Seq. Iterations
nxt   Infinite   +      nxt   000001    +
```

If a specific number of sequence iterations or repetitions are desired, press **[F2]** to access the second example above. Navigate the fields using **[F1]** or **[UNITS]**. Increase the field value using **[F2]** or use **[ZERO LENGTH]** to decrease. Up to 999999 finite repetitions may be entered. The entry "000000" represents an infinite number of repetitions. Press **[OPTION]** to continue when finished.

```
Sequence Step   1
– Output 1 On   +
```

One iteration, or cycle is made up of multiple Sequence Steps. Each step may be chosen from the following options:

- Output 1 On
- Output 1 Off
- ~~Output 2 On – NOT USED~~
- ~~Output 2 Off – NOT USED~~
- ~~Output 3 On – NOT USED~~
- ~~Output 3 Off – NOT USED~~
- ~~Output 4 On – NOT USED~~
- ~~Output 4 Off – NOT USED~~
- Delay (measured in seconds)
- ~~Perform Send – NOT USED~~
- ~~Perform Store – NOT USED~~
- Light LEDs (time lights are on measured in seconds)
- End Sequence

These screen selections are identified in detail in section 3.2.1. The following describes the selection of each of the steps that may be used in a sequence setup:

To switch between these options, press **[F1]** or **[F2]**. To make the upper platform descend in step 1 (to compress the spring), use **[F1]** to scroll to **Output 1 On** (to turn on the air pressure) and press **[OPTION]** to select and continue.

```
Sequence Step   1
- Output 1 On   +
```

The initial screen selection for **Sequence Step 2** is displayed. In Step 2 scroll to **Delay** (to keep spring compressed) and press **[OPTION]** to select and continue.

```
Sequence Step   2
-      Delay    +
```

The **Step 2 Delay** value screen is displayed. Use **[F1]** to move cursor right, **[UNITS]** to move left. Use **[F2]** to increase the digit value, **[ZERO LENGTH]** to decrease. Enter the desired time to compress the spring before initiating step 3. This time frame should allow enough time for the upper platform to reach its target position. A longer stroke requires a longer delay, etc. When the desired value is entered press **[OPTION]** to continue to step 3.

```
Step  2 Delay
nxt  00.4 sec  +
```

The initial screen selection for **Sequence Step 3** is displayed. To raise the upper platform in step 3 (to release the spring) scroll to **Output 1 Off** (to turn off the air pressure). Press **[OPTION]** to select and continue.

```
Sequence Step   3
- Output 1 Off  +
```

The initial screen selection for **Sequence Step 4** is displayed. In Step 4 scroll to **Light LEDs** (to turn on LED lights for a set time) and press **[OPTION]** to select and continue.

```
Sequence Step   4
-  Light LEDs   +
```

The **Step 4 Delay** value screen is displayed. The value entered represents the amount of time the LED lights will stay on. This feature is designed to give the operator a visual cue to change out and set a new part for the next repetition of the sequence. Set this value in the same way as done previously for the Step 2 Delay. Press **[OPTION]** to continue to step 5.

```
Step  4 Delay
nxt  00.4 sec  +
```

The initial screen selection for **Sequence Step 5** is displayed. In Step 5 scroll to **End Sequence**. Press **[OPTION]** to select. This should always be the last step of a sequence.

```
Sequence Step   5
- End Sequence  +
```

Press **[OPTION]** to view or edit the steps selected. Press the **[ON / CLEAR]** button to save the setup and return to the Presetter menu.

A sequence may contain up to 60 steps using any combination of the options shown in this example. In this example, there are five steps: 1) Output 1 On, 2) Delay, 3) Output 1 Off, 4) Light LEDs, and 5) End Sequence. When a sequence has been programmed, it may be run without a part if the user would like to view the operation first by pressing **[F2] Start** from the Presetter menu.

In the **Timed Delay** mode, the sequence will repeat until stopped. Press **[ON / CLEAR]** to abort the sequence, press **[OFF]** to turn off the machine, or press any other key to **Pause** the operation. Follow the screen prompts to continue.

3.4 Operation

Proceed to section 3.4.1 for Manual sequence mode preset operation only. If a Timed Delay sequence mode preset cycle has been programmed, proceed to section 3.4.2. The sequence mode can easily be changed in Setup as desired without reprogramming.

CAUTION: THE UPPER PLATFORM MOVES UP AND DOWN VERY QUICKLY. TAKE CARE TO KEEP HANDS AWAY FROM MOVING PARTS DURING OPERATION.

3.4.1 Manual Sequence

Press **[ON / CLEAR]** to display Presetter menu. Select **Start** by pressing **[F2]**. The operator should place the first part to be preset on the center of the lower platform. Any fixtures to make part placement easier should already be installed.

```
Presetter
Setup        Start
```

Press **[F1]** to start the first sequence as prompted. When the sequence stops, change out the part and place the next part to be preset on the center of the lower platform. The display again prompts the user to **Hit [F1] To Start**. The sequence runs again. Each time **[F1]** is pressed one iteration is performed. For a set number of iterations the display counts down as each is performed. For an infinite number of iterations the display will count upwards and start over at 999999.

```
Hit F1 To Start
```
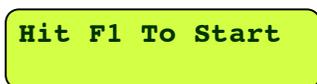
When running a preset sequence this display will very briefly appear:

Remaining Step Delay   Iteration Count

Step #

```
P 3 D   .2 I    12
```
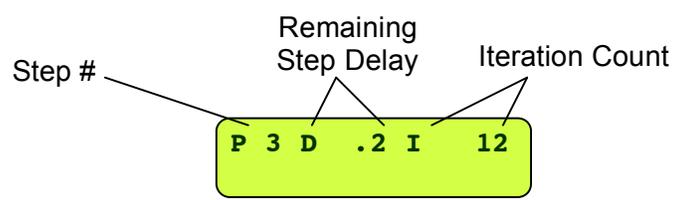
Actions that stop a sequence in the Manual mode are:

[ON / CLEAR] – to abort and display the following:
Choose to continue presetting and press **[F1]**.
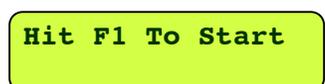
```
Hit F1 To Start
```

[OFF] – to turn off the Presetter. Press **[ON / CLEAR]** to turn on again and start over.

Press **ANY OTHER KEY** – to **Pause** the operation. The display to the right appears. Press **[F1]** to **Resume** or **[F2]** to **Stop** the sequence and exit.

```
Sequence Paused
Resume        Stop
```

3.4.2 Automatic Timed Delay Sequence

Press **[ON / CLEAR]** to display Presetter menu. The operator should place the first part to be preset on the center of the lower platform. Any fixtures to make part placement easier should already be installed.

```
Presetter
Setup        Start
```
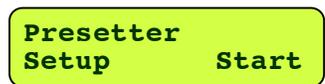
Press **[F2]** to select **Start**. The sequence will start and run in an automatic repetition. When each **End Sequence** step is reached, the operator must exchange out the part before the next sequence repetition begins. During **Setup** a delay should be placed

before the sequence starts and / or at the back end of the sequence to allow for the exchange time. During the operation the same display shown above in the Manual sequence will indicate the Step #, Remaining Step Delay, and Iteration Count.

<u>Actions that stop a sequence in the Automatic Timed Delay mode are</u>:

[ON / CLEAR] – to abort and display the following:
Select **Setup** or **Start**. Choosing start will begin a new sequence repetition over again.

[OFF] – to turn off the Presetter. Press **[ON / CLEAR]** to turn on again and start over.

Press **ANY OTHER KEY** – to **Pause** the operation. The display to the right appears. Press **[F1]** to **Resume** or **[F2]** to **Stop** the sequence and exit.

```
Sequence Paused
Resume      Stop
```

4   EXAMPLES OF PRESETTING SEQUENCES

The following examples show the display screens to select for each step in a sequence and any resulting delay screens where a time value should be entered. See section 3.2.1 for Setup information that describes the Sequence Step choices and section 3.3.6 – Sequence Programming for more information.

4.1   Single Preset Manual Sequence

This sequence is setup with no start delay. When the operator starts the Presetter operation, the sequence runs each time **[F1]** is pressed. This allows the operator to exchange out a part then start the next sequence manually. For a single preset, the machine will perform a single downward movement to compress the part, then release.

Start at the Presetter menu and select Setup **[F1]**.

```
Presetter
Setup      Start
```

Choose Manual and press **[OPTION]**.

```
Sequence Mode
-     Manual    +
```

Press **[OPTION]** again to select infinite or enter 000000 as the number of iterations.

```
Seq. Iterations
nxt  Infinite  +
```

Next make the following step selections:

```
Sequence Step 1
- Output 1 On  +
```

```
Sequence Step 2        Step 2 Delay
-      Delay    +      nxt  00.4 sec  +
```

```
Sequence Step 3
- Output 1 Off +
```

```
Sequence Step 4
- End sequence +
```

This is a basic sequence that can be programmed. The only variables that may need adjustment are the Range, Stroke and Air Pressure to run a particular application and achieve the desired results.

4.2 Single Preset Automatic Timed Delay Sequence

This sequence is setup with a start delay. When the operator starts the Presetter operation, the sequence automatically runs continuously until stopped or if the user chooses to enter a finite number of repetitions. This operator will need to be aware of the amount of time allowed for part exchange between sequences. In this case it would be three seconds.

Start at the Presetter menu and select **Setup [F1]**.

```
Presetter
Setup      Start
```

Choose **Timed Delay** and press **[OPTION]**.

```
Sequence Mode
– Timed Delay  +
```

Enter 3 seconds in the **Seq. Start Delay** screen.
Press **[OPTION]** to continue.

```
Seq. Start Delay
nxt 001.0 sec  +
```

Press **[OPTION]** to select infinite or enter 000000 as the number of iterations.

```
Seq. Iterations
nxt  Infinite  +
```

Next, make the following step selections:

```
Sequence Step 1
– Output 1 On  +
```

```
Sequence Step 2         Step 2 Delay
–     Delay      +      nxt  00.4 sec  +
```

```
Sequence Step 3
– Output 1 Off +
```

```
Sequence Step 4
– End sequence +
```

This is a basic sequence that can be programmed. Here, the **Step 2 Delay** may be adjusted for the application as needed or **Delay** added as Step 4, moving **End Sequence** to Step 5. This would be a good thing to do when using a relatively long stroke for presetting. The only other variables that may need adjustment are the Range, Stroke and Air Pressure to run a particular application and achieve the desired results.

4.3 Three Preset Automatic Timed Delay Sequence

This sequence is setup with a brief sequence start delay then the platform moves downward onto a part and release three times followed by the LED lights flashing to cue the operator to change out the part with a short delay and then sequence end. This sequence will automatically start again after the start time delay programmed.

Start at the Presetter menu and select **Setup [F1]**.

```
Presetter
Setup       Start
```

Choose **Timed Delay** and press **[OPTION]**.

```
Sequence Mode
– Timed Delay  +
```

Enter 1 second in the **Seq. Start Delay** screen shown.
Press **[OPTION]** to continue.

```
Seq. Start Delay
nxt 001.0 sec  +
```

Press **[OPTION]** to select infinite or 000000 as the number of iterations.

```
Seq. Iterations
nxt   Infinite  +
```

Next make the following step selections:

```
Sequence Step 1
- Output 1 On  +
```

```
Sequence Step 2        Step 2 Delay
-      Delay     +     nxt   00.4 sec  +
```

```
Sequence Step 3
- Output 1 Off +
```

```
Sequence Step 4        Step 4 Delay
-      Delay     +     nxt   00.4 sec  +
```

```
Sequence Step 5
- Output 1 On  +
```

```
Sequence Step 6        Step 6 Delay
-      Delay     +     nxt   00.4 sec  +
```

```
Sequence Step 7
- Output 1 Off +
```

```
Sequence Step 8        Step 8 Delay
-      Delay     +     nxt   00.4 sec  +
```

```
Sequence Step 9
- Output 1 On  +
```

```
Sequence Step 10       Step 10 Delay
-      Delay     +     nxt   00.4 sec  +
```

```
Sequence Step 11
- Output 1 Off +
```

```
Sequence Step 12       Step 12 Delay
- Light LEDs     +     nxt   00.4 sec  +
```

```
Sequence Step 13
- End Sequence +
```