



User Manual For Software



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SECTION 1 INTRODUCTION

Introduction

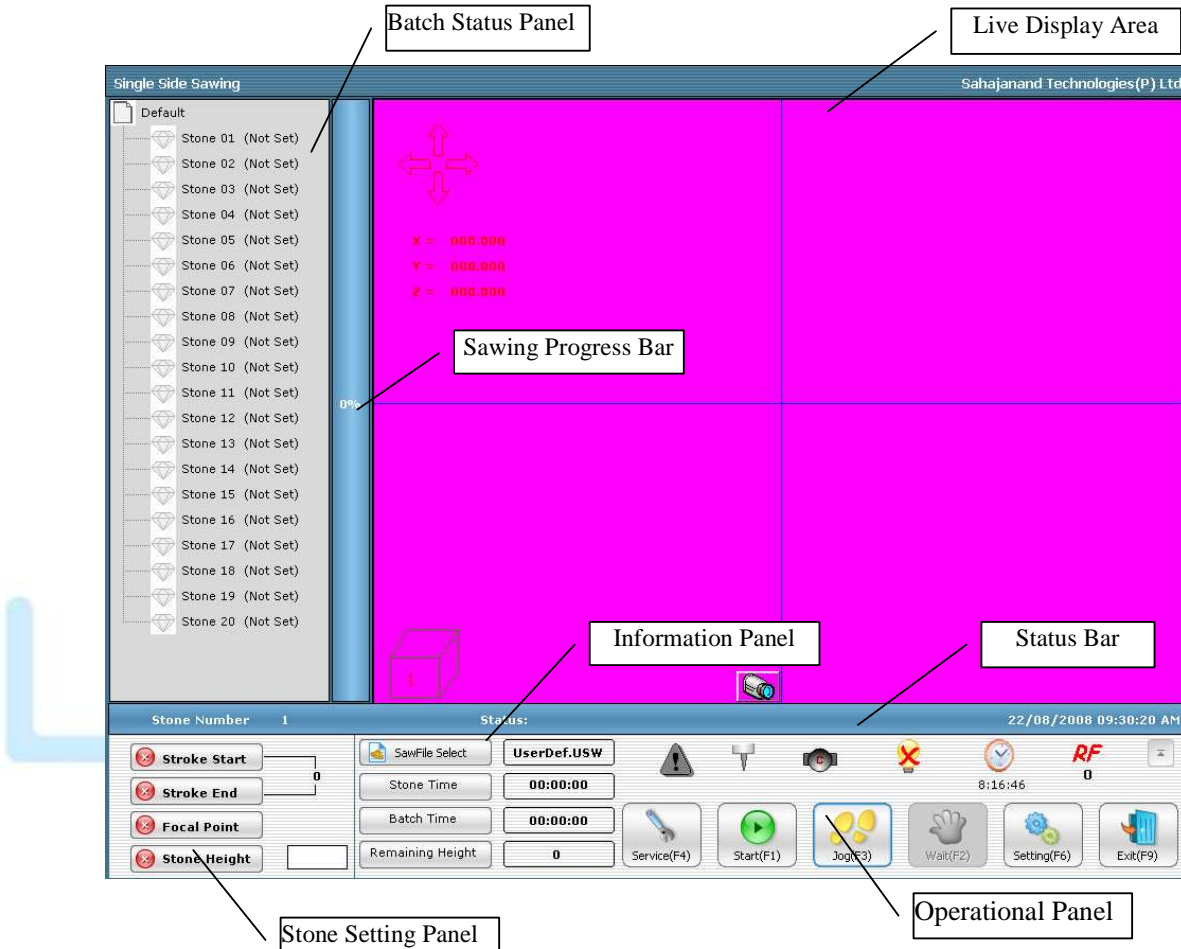


Figure 1: Home page(Main Screen) of Optisaw program

1.1 Main Screen Elements

Batch Status Panel

Displays a tree-view which represents a batch of stone, optionally shows the current status of each stone.

Sawing Progress Bar

Displays sawing progress in terms of percentage.

Live Display Area

This area displays a live view of stone sawing.

Status Bar

Displays relevant information related to the ongoing process.

Stone Setting Panel

Stone setting panel allows operator to define the parameters necessary for sawing.

- Stroke Start - Specify the start point of marking sign on Stone.
- Stroke End - Specify the end point of marking sing on Stone.
- Focal Point - Specify the correct Z focal.
- Stone Height - Specify stone height.

Information Panel

- Saw File Select – Allows operator to select a saw file
- Stone Time – Displays sawing time for current stone
- Batch Time – Displays sawing time for entire batch
- Remaining Height – Displays remaining height

Operational Panel

- Restore -
- Laser On/Off – Shows **Laser on/off** status, clicking on the Button on/off the laser
- Air On/Off – Shows **Air on/off** status, clicking on the Button on/off the air
- Light On/Off – Shows **Light on/off** status, clicking on the Button on/off the light
- Lamp Hours – Shows the total lamp life
- RF – Show the currently set frequency
- Sawing Parameter Button – Show sawing parameters
- Service(F4) -
Press F4 key or click on Service(F4) Button - For Service Current Sawing Stone
Figure 2 shows Service Button



Figure 2 : Service Button

- Start(F1) -
Press F1 key or click on Start (F1) Button – To start/pause-stop Current Sawing process.

Figure 3 a shows start Button
Figure 3 b shows pause-stop Button



(a)



(b)

Figure 3: Start / Stop or Pause Button

- Jog(F3) -
Press F3 key or click on Jog(F3) Button – For Jog mode
Figure 4 shows Jog Mode Button



Figure 4 : Jog Mode Button

- Wait(F2) –
Press F2 key or Click on Wait(F2) Button - For Wait
Figure 5 shows Wait Button



Figure 5 : Wait Button

- Setting(F6) –
Press F6 key or click on Setting(F6) Button - For Setting of Current Sawing
stone. Figure 1.5 shows Setting Button



Figure 6: Setting Button

- Exit(F9) –
Press F9 key or click on Exit(F9) Button - For Exit Sawing Process
Figure 1.6 shows Exit Button

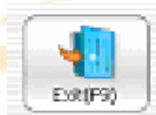


Figure 7: Exit Button

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SECTION 2

HELP TOPICS

- **Help Topics**
 - [User Settings](#)
 - [Sawing a Stone](#)
 - [Using Advanced Feature](#)
 - [Service Options](#)
 - [Keyboard Shortcuts](#)
 - [How Tos](#)



SECTION 2.1

USER SETTINGS

1. User Settings

For user settings Press F6 key or Setting(F6) Button shown in Figure 6

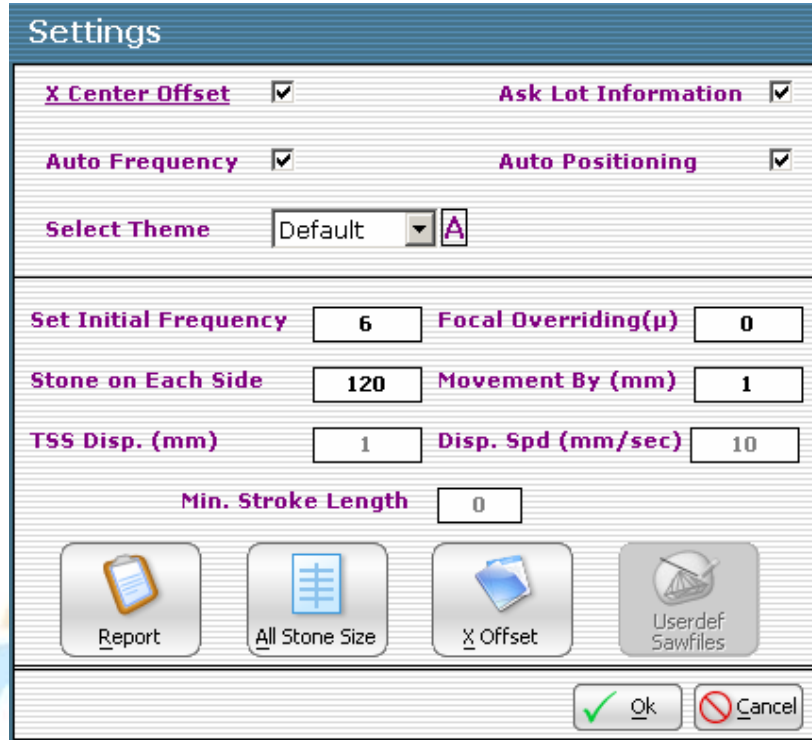


Figure 8: Settings Window

1.1 X Center Offset

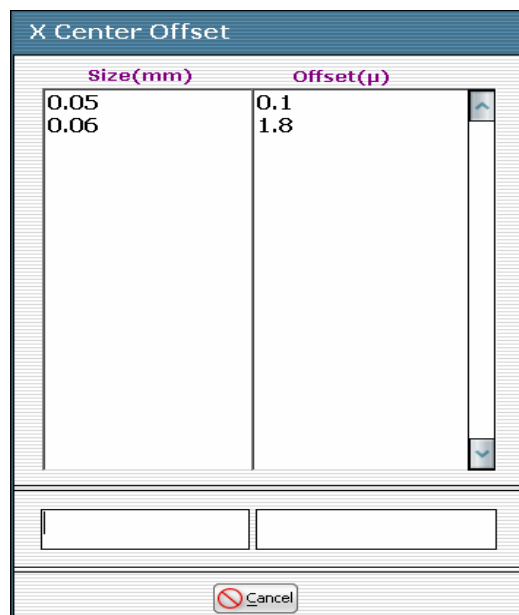


Figure 9: X Center Offset Window

It will show lookup table to specify the X offset (in μ). Which allow user to enter the X offset (μ) based on height of stone (mm). AS shown in **Figure 9**.

1.2 Ask Lot Information

Ask for lot name & other information

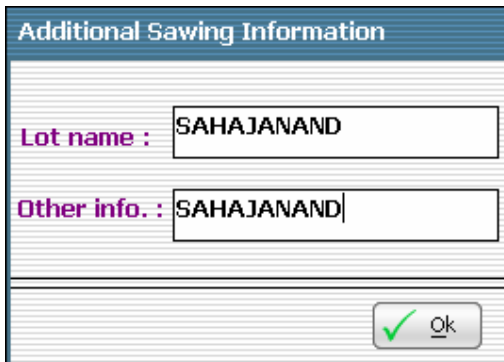


Figure 10 : Ask Lot Information Window

1.3 Auto Frequency

Automatic frequency setting through application.

1.4 Auto Positioning

It will automatically go to next stone while stone fitting.

1.5 Select Theme

Change look of application

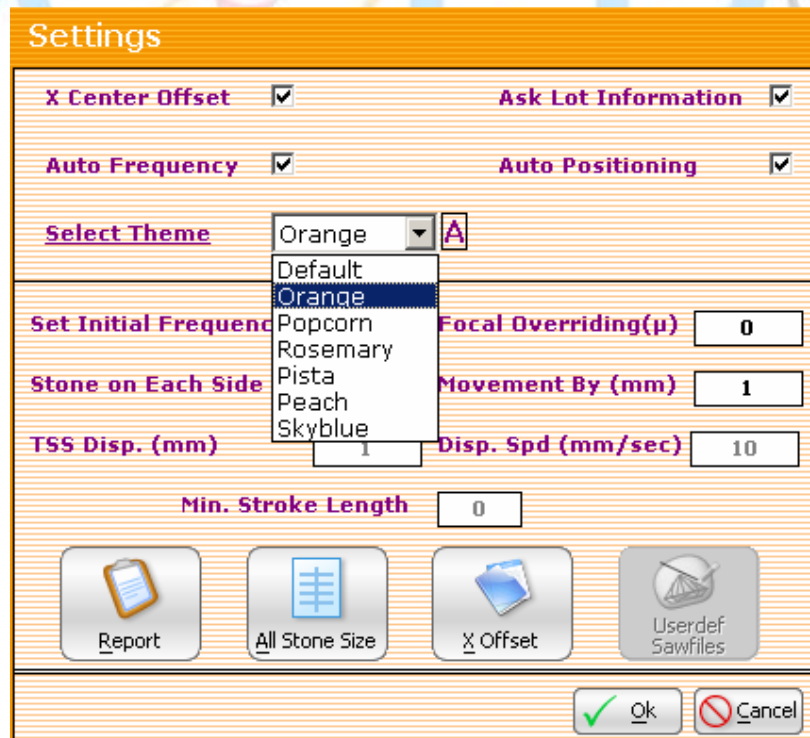


Figure 11 : Select Theme Window

1.6 Set Initial Frequency

It sets specified frequency at start of the application

1.7 Focal Overriding (μ)

It adds the microns (μ) with Focal point.

1.8 Stone on Each Side

It specify the no. of Stones on both side of fixture.
It is necessary for **Auto Positioning**.

1.9 Movement By Mm

It specify the movement at the **Auto Positioning**.

1.10 TSS Disp. (mm)

It specify the TSS Displacement (by mm). It will works when TSS attach option is enable.

1.11 Disp Spd (mm/sec)

It specify the Displacement Speed (by mm/sec). It will works when TSS attach option is enable.

1.12 Min. Stroke Length

It specify Minimum Stroke Length. It will activate when Restrict Stroke Length option is enable.

1.13 Report

It descript all details regarding the Stone Sawing, as shown in **Figure 12**.
(Details will come later)

Full Stone Detail										
Date	LotNo	StoneNo	Height	Stroke	Start-Time	End-Time	Sawing	Per%	Remark	SawFile
01-08-2007 (2)	SAHAJA Lot No 1 (2)	1	4	3,6	16:06:48	16:06:50	00:00:02	1.19	SAHAJA	STPL 3
		2	3,5	0	00:00:00	00:00:00	00:00:00	0	SAHAJA	STPL 3
04-08-2007 (3)	SAHAJA Lot No 1 (2)	2	3,5	0	00:00:00	00:00:00	00:00:00	0	SAHAJA	STPL 3
		1	2,3	0	10:07:07	10:07:11	00:00:04	100	SAHAJA	STPL 3
		1	2,3	0	10:07:21	10:07:25	00:00:04	100	SAHAJA	STPL 3
		1	2,3	0	10:07:27	10:07:29	00:00:02	100	SAHAJA	STPL 3
	2	3,5	0	10:07:11	10:07:18	00:00:07	100	SAHAJA	STPL 3	
	SAHAJA Lot No 2 (1)	1	3	3	11:44:17	11:48:56	00:04:39	100	SAHAJA	STPL 3

Export Options : <input checked="" type="radio"/> Export to Excel <input type="radio"/> Export to HTML		View Options This Month History Present Month	Total Diamonds : 5 Total Cutting Diamonds : 4
<input checked="" type="radio"/> All Diamonds <input type="radio"/> Complete <input type="radio"/> Resaw <input type="radio"/> Skipped	<input type="button" value="Backup Snapshots"/> <input type="button" value="Collapse"/> <input type="button" value="Export"/> <input type="button" value="View Log"/>	<input type="button" value="Graph"/> <input type="button" value="Close"/>	

Figure 12: Report window

1.14 All Stone Size

We can enter the **depth and height** of stone in advance or during sawing.

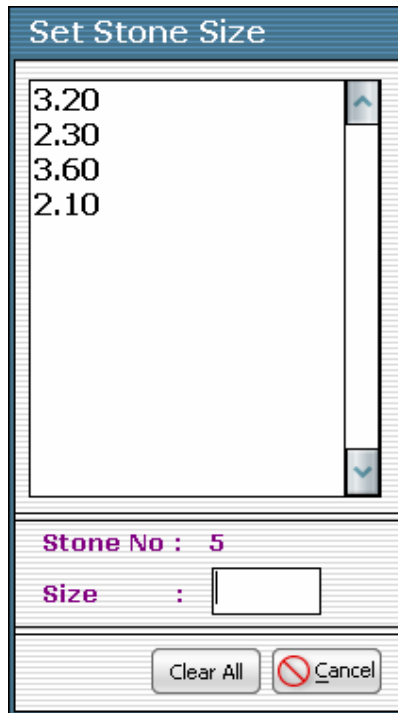


Figure 13: All Stone Size Window

1.15 X Offset



Click on X Offset Button

It will take you to X Offset Value Window (As shown in **Figure 14**)

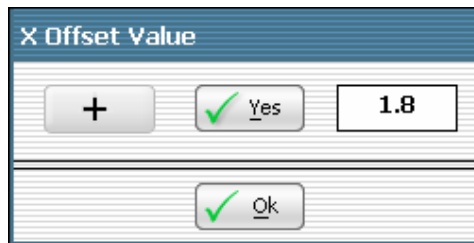


Figure 14: X Offset Value Window

1.16 UserDef SawFiles


It will allow user to create custom sawfiles where user can change parameters of stone. It will work when user define saw file option is enable.

SECTION 2.2

SAWING A STONE

2. Sawing a Stone

To Start Sawing Steps are as follows:

- i) Press F3  button in main screen
Stroke start will start blinking in stone setting panel.
- ii) Jog axes (X,Y,Z) to reach start point of stroke length, press enter to set the **Stroke Start**
- iii) Jog axes (X,Y,Z) to reach end point of stroke length, press enter to set the **Stroke End**
- iv) Jog Z axis to reach the right focal point, press enter to set the **Focal Point**
- v) Enter depth in **Stone Height** text box, press enter to set the Stone Height

Now press F1  button to start sawing



SECTION 2.3

USING ADVANCE FEATURES

3. Using Advanced Features

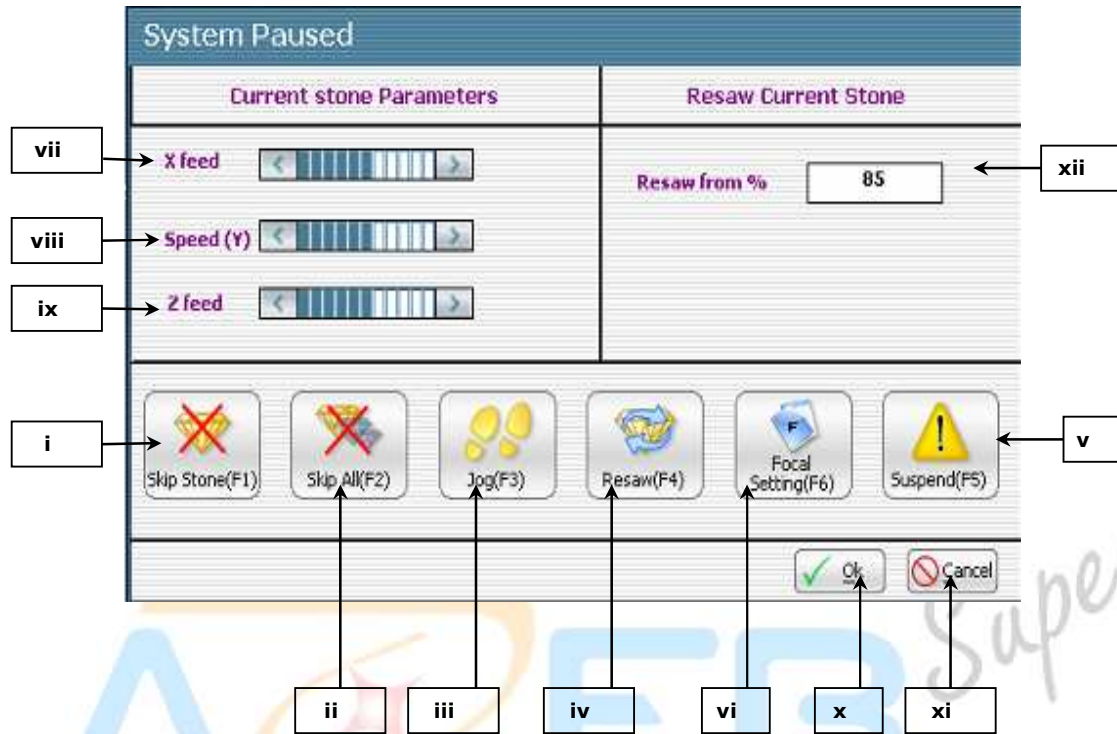


Figure 15: System Paused Sawing Process

o Introduction of Functions on System paused window :-

- i. **Skip Stone(F1)** - To skip stone
- ii. **Skip All(F2)** - To skip entire batch of stone
- iii. **Jog(F3)** - For Jog Mode
- iv. **Resaw(F4)** - To Resaw stone
- v. **Suspend(F5)** - To Suspend a batch
- vi. **Focal Setting(F6)** - For Focal Setting
- vii. **X feed** - To change X feed of current stone
- viii. **Speed (Y)** - To change Y speed of current stone
- ix. **Z feed** - To change Z feed of current stone
- x. **Ok**
- xi. **Cancel**
- xii. **Resaw from %** - To Resaw current stone

3.1 Resawing a stone

To Resawing Current Stone Steps are as follows:

- i) Press **F1 key** to pause sawing process.
- ii) Then specify (at **xii** as shown in **Figure 15**) from where we want to start resawing.
- iii) Then Press **F4 key** or click on **Resaw(F4)** Button to start resawing.

3.2 Skip a stone

To Skip a Stone from Sawing Process Steps are as follows:

- i) Press **F1 key** (we get window shown in **Figure 3 a**) to pause sawing process.
- ii) Then again press **F1 key** or click on **Skip Stone(F1)** Button, as shown in **Figure 15 (i)**
- iii) Then click on **Ok** Button shown in **Figure 15 (x)**

3.3 Skip all stones

To Skip Entire Batch of Stone from Sawing Process Steps are as follows:

- i) Press **F1 key** to pause sawing process.
- ii) Then press **F2 key** or click on **Skip All(F2)** Button as shown in **Figure 15 (ii)**
- iii) Then press **F9 key** or click on **Exit(F9)** Button to Exit, as shown in **Figure 7**

3.4 Reset focal point

To Reset Focal point Steps are as follows:

- i) Press **F1 key** to pause sawing process.
- ii) Press **F6 key** or **Focal setting(F6)** Button. It will take you to Focal settings window (As shown in **Figure 16**)
- iii) Then reset Focal Point.

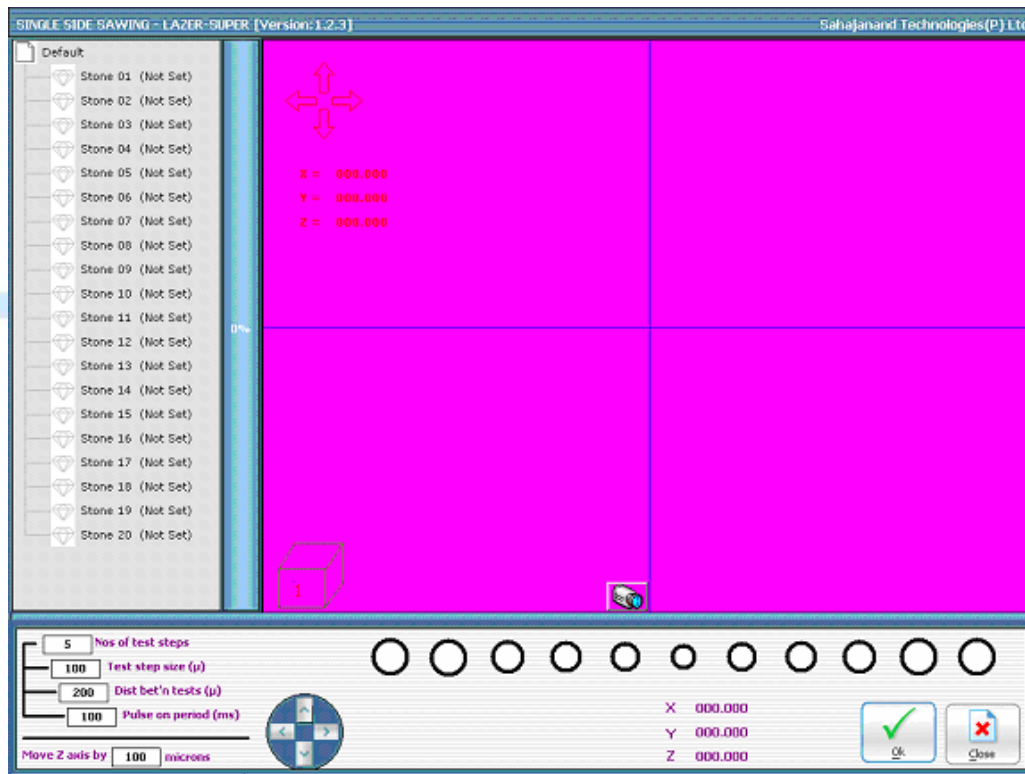


Figure 16: Focal Point Settings Window

3.5 Reset Stroke Length



To Reset Stroke Length Steps are as follows:

- i) Press **F1 key** to pause sawing process.
- ii) Press **F3 key** or **Jog(F3)** for Jog mode.
- iii) Then specify **Stroke Start & Stroke End.**

3.6 Suspend/Restore Batch of stones

To Suspend or Restore Batch of Stones steps are as follows:

- i) Press **F1 key** to pause sawing process.
- ii) Press **F5 key** or click on **Suspend(F5)** Button If we Restore a batch then

Restore Button  starts blinking [like  &  alternately]

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SECTION 2.4

SERVICE OPTIONS

4. Service Options

It generally used by **Service Engineer** through Service Hasp.



SECTION 2.5

KEYBOARD SHORTCUTS

5. Keyboard Shortcuts

5.1 Working with Main Screen

F1

Start/Stop Cutting Process

F2

Wait for next stone

F3

Start Jogging

F6

User Setting Options

F9

Exit from system

F5

Make a dot using laser

F7

On Laser Shutter

F8

Off Laser Shutter

F11

Toggle (Compressor On/Off)

F12

Toggle (Light On/Off)

Ctrl + B

Display list of Saw-files

Ctrl + N

All Stone Size

Ctrl + R

Restore suspend batch

5.2 Video Setting

Ctrl + V

Open/Close to Video Setting

Left – Right Arrow key

Brightness Setting

Up – Down Arrow key

Contrast Setting

Page Up- Page Down key

Change Video Channel

5.3 User Settings

Alt + R

Display Report

Alt + N

Display All Stone Size

Alt + X

X-Offset

Alt + O

Done (ok)

Escape

Cancel

5.4 Report

Alt + P

Expand / Collapse List of diamond

Alt + X

Export the log to either Excel or Html format as per selection

Alt + G

Graphical view of log

Alt + L

View log as per selected criteria

Alt + C

Close Log Report

Left + Right +Up + Down

To move cursor Report log

5.5 Graph

Alt + X

Export the log to either Excel or Html format as per selection

Alt + L

View log as per selected criteria

Alt + G

To view overall graph

Alt + D

To view detail graph

Alt + B

Get back to Report



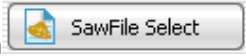
SECTION 2.6

HOW TO

6. How Tos

6.1 Selecting a Sawfile

Steps for Selecting a Sawfile:-

- i) Click on Saw File Select button . It will take you to Select saw file form. (See figure 17)
- ii) Where you can choose a saw file. There are two types of Saw Files :-
 - a. Inbuilt Saw Files
 - b. User defined Saw Files

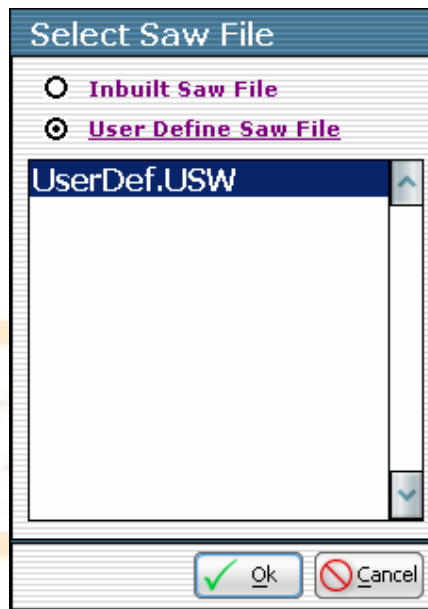


Figure 17: Saw File Selection Form

6.2 How to set Stone Setting?

Press F3 / Jog(F3) Button for Jog mode –

- i) **For Y-Axis Movement** – Press Up and Down arrow key.
- ii) **For X-Axis Movement** – Press Left and Right arrow key.
- iii) **For Z-Axis Movement** – Press Page Up and Page Down key.

On CCTV monitor you will see marking sign on stone.

6.3 How to specify parameter of Stone?

In **Figure 18** there are four parameters –

- i) **Stroke Start** – Specify the reference point from CCTV monitor at the start point of marking sing on Stone and press '**Enter**'
- ii) **Stroke End** - Specify the reference point from CCTV monitor at the end point of marking sing on Stone and press '**Enter**'
- iii) **Focal Point** – Clear the vision of Stone's marking sign on CCTV Monitor by Pressing UP and Down key and press '**Enter**'
- iv) **Stone Height** – Specify stone's height and Press '**Enter**'

After specifying all parameter **Press F1** key to **Start Sawing** process.

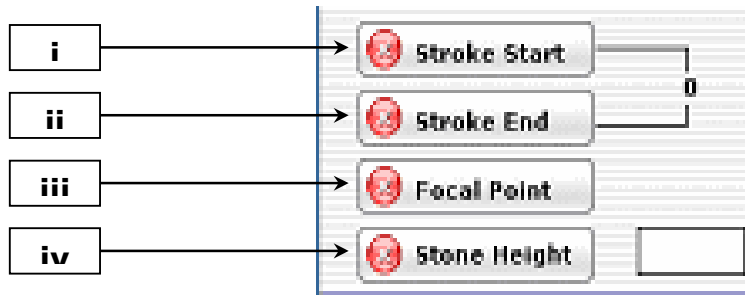


Figure 18: Parameter of Stone

6.4 How to pause sawing process?

- i) Press **F1 key** or click on **Stop Button** on bottom of the application page as shown in **Figure 3 b**, to paused the Cutting Process.
- ii) Then we get window in **Figure 15**.

6.5 How to change X Feed/Y Speed/Z Feed during sawing?

- i) Press **F1 key** or **Stop Button** on bottom of the application page as shown in **Figure 3 b**, to pause the Cutting Process.
- ii) Then we get window as shown in **Figure 15**. By which we can change X Feed, Y Speed & Z Feed of operating Stone.

6.6 How to Resaw any stone?

- i) Press **F1 key** to pause sawing process.
- ii) Press **F2 key** then we get window as shown in **Figure 19**.
- iii) Specify **Stone Number** & **%** from where we want to start resawing a stone.

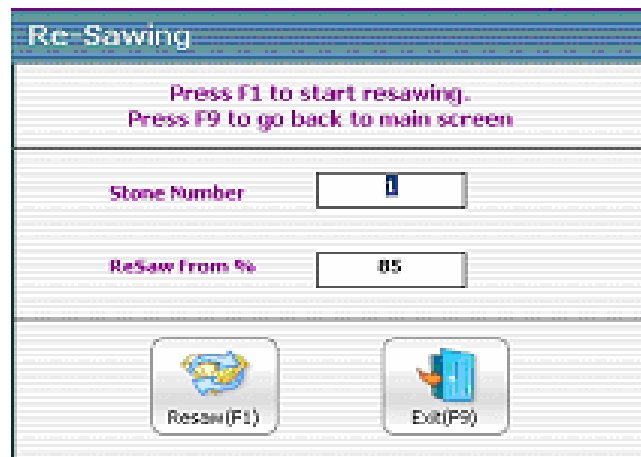


Figure 19: Re-Sawing