SuperSystems
incorporated

SUPERDATA
STANDARD LOAD ENTRY

OPERATIONS MANUAL

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Introduction

Standard Load Entry software is part of the SSi SuperDATA suite of programs. Load Entry assists with recipe management and tracking by providing a single, PC-based interface to control all activities within a facility. Load Entry is accessible from any SuperDATA workstation, allowing multiple access terminals throughout a facility. Load Entry seamlessly integrates with existing SSi 9000 controllers, allowing Configurator to import recipes. If required, Load Entry allows controllers to extend past the previous limit of 300 recipes.

Load Entry's built-in Recipe Management features allow administrators to "lock" specific recipes, preventing operators from making temporary changes, while providing flexibility by allowing other recipes to remain "unlocked." Recipe revisions are tracked, providing complete visibility for actual recipes run in the equipment.

Load Entry also maintains historical data marking the beginning time, end time, and Operator ID for each charged load. This data helps improve load traceability and increase operator accountability. Historical data can be quickly accessed to generate reports and trend charts (using SDRecorder II). Each report can store detailed part information (part number, quantity, material, etc.) as well associate part images for a specific load.

IMPORTANT!

Standard Load Entry will serve as a recipe manager as well as a load management system. It is intended to replace your existing recipe management software. Attempting to use another recipe manager in addition to Standard Load Entry on the same equipment is likely to result in operational errors and must be avoided.

Prerequisites

The computer on which Standard Load Entry will be run must run Windows XP or higher. Windows 7 or higher is recommended.

▶ .NET Framework 3.5+, SQL Server 2008 or SQL Server 2008 Express

Standard Load Entry requires **Microsoft .NET Framework 3.5 or higher** and **Microsoft SQL Server 2008** or **Microsoft SQL Server 2008 Express.** If not present on the computer where Load Entry is being installed, .NET Framework and SQL Server Express will be installed by the Load Entry installation program when it is run.

▶ Administrative Privileges to SSi Load Database

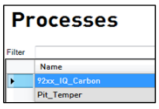
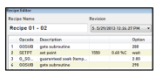
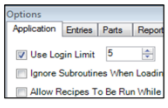
By default, Standard Load Entry will create the SSi Load Database on the computer where Load Entry is being installed. In order to work properly, Standard Load Entry must have administrative privileges to the Load Database.

▶ SDIO

For Standard Load Entry to access furnace and control device data in real time, SDIO (the SuperDATA communications engine) must be running.

The Setup Flowchart below illustrates the recommended steps to follow when setting up and installing Standard Load Entry, especially for the first time. These features will be used after the initial setup as new loads are added, process requirements change, etc.

Setup Flowchart

Step	Result	See Page...
Install and Configure SQL	 SQL Database now exists and can be used by SSi Load Entry software	7
Install Standard Load Entry	 Standard Load Entry is installed. Load Entry database is created.	7
Set Up Users	 Users are created with passwords and needed access levels	10
Set Up Furnaces	 Furnaces and instrumentation are defined	13
Set Up Processes	 Processes are defined (recipes will be added next)	15
Set Up Recipes	 Recipes are defined and associated with Processes	17
Set Up Parts (if applicable)	 *If Parts Database is used:* Parts are defined and associated with recipes and Processes	19
Set Up Options	 Program options are set. Load Entry system is ready to be used.	21

Ready for Operation. Refer to page 31.

Figure 1 - Setup Flowchart

SQL Setup

When setting up the SQL Server, it is important to keep the following in mind:

- SQLServer or SQLServer Express must be installed and a database instance must be defined. "SQLEXPRESS" is common.
- The database instance must be set for mixed mode (Windows and SQL server security). Set this using SQL Server Management Studio SQLEXPRESS properties.
- The SQL Server network access must be set. It is recommended that Shared Memory, Named pipes and TCP/IP all be enabled. Set these properties with SQL Server Configuration Manager.
- The SQL Server Browser service must be running. Set the service to auto with SQL Server Configuration Manager.
- By default, the browser looks for connections on UDP 1434. This must be an exception in your Firewall. (For Windows 7, it must be both incoming and outgoing.)
- By default, SQL connections are made on TCP Port 1433. This must be an exception in your Firewall. (For Windows 7, it must be both incoming and outgoing.)

Installation

To install Standard Load Entry, first double-click on the *SSiLoadEntry_Setup.exe* file provided with the installation disc or installation files you received. A screen similar to the one at right will be shown.

Click the **Install** button to proceed.

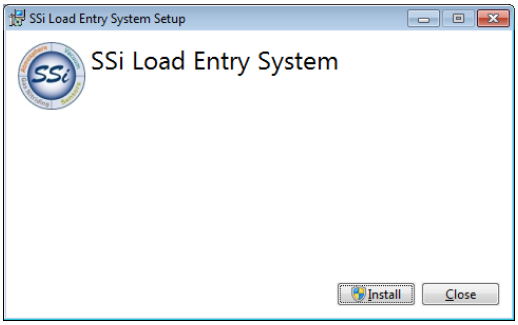


Figure 2 - Initial Install Screen

When the Setup welcome screen appears, click **Next** when ready to proceed.

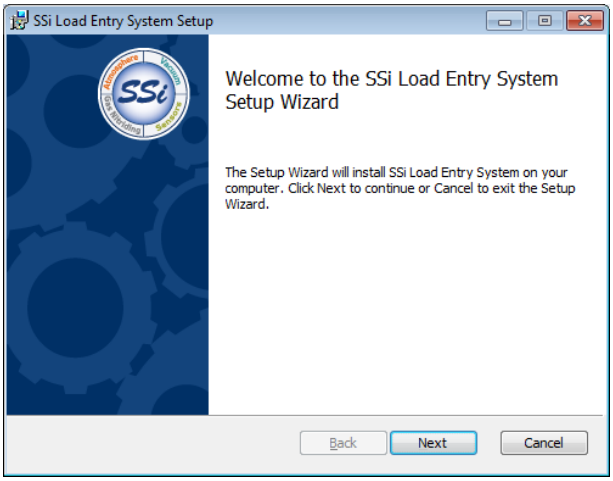


Figure 3 - Setup Welcome Screen

In the next window that appears, enter the name of the folder where Load Entry should be installed. The default will typically be "C:\SSi\Bin\SSi Load Entry System\". If you want to change the default, click the **Change** button.

When ready to proceed, click **Next.**

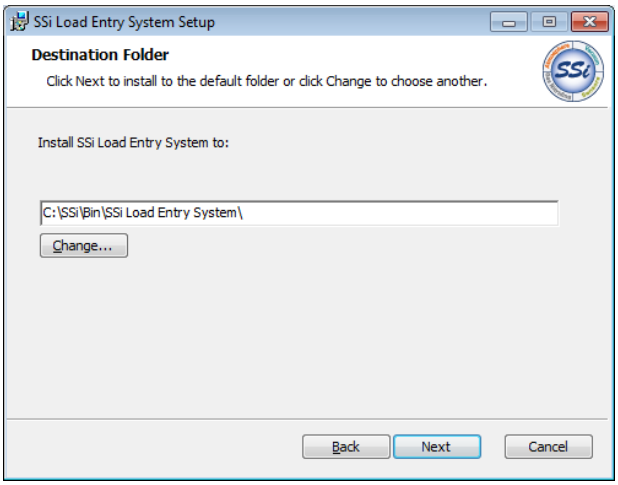


Figure 4 - Destination Folder Screen

Load Entry can be installed as a server package or as workstation software.

NOTE: If installed as Workstation software, Load Entry will not track loads and cannot be used to edit furnace entries.

Click the **Next** button to proceed.

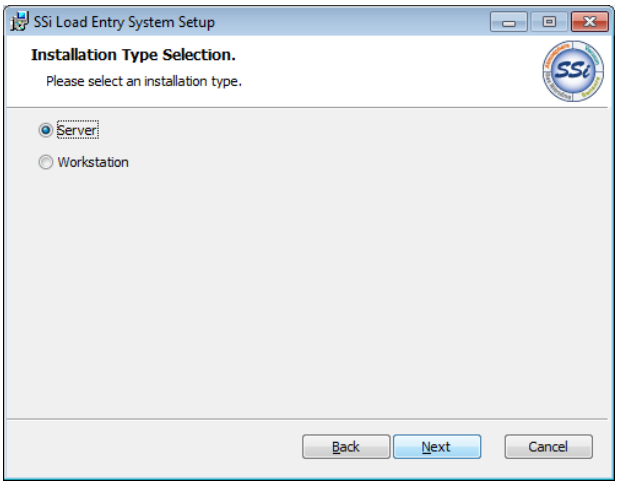


Figure 5 - Installation Type Screen

Load Entry will then ask for an SQL instance and database name. This information is added in the "SQL Database" field.

Information on authentication must then be entered. The login and password provided must allow for administrative access to the Load Entry database. If Windows authentication (Windows network username and password) is sufficient, select "Trusted (Windows Authentication)". If a specific username and password (SQL Authentication) must be used, select "Specify Username and Password (SQL Authentication)" and enter the login and password details.

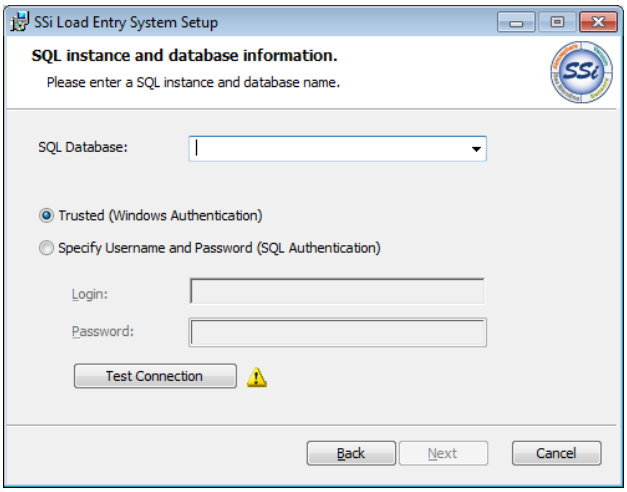


Figure 6 - SQL Database and Login Setup

Before proceeding, you must click the **Test Connection** button to ensure that the authentication details allow for the needed access to the database.

In the next screen, enter the name for the Load Entry database, or you may also keep the default.

Click the **Next** button to proceed.

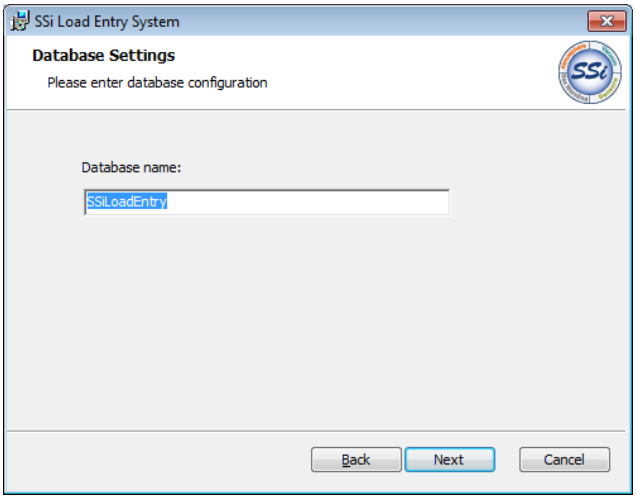


Figure 7 - Database Settings Screen

Click the **Install** button to proceed.

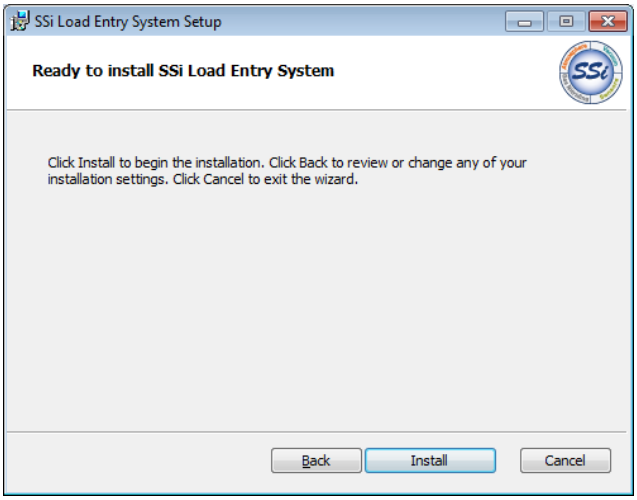


Figure 8 - Ready to Install Screen

The software will install. The remaining screens will confirm the installation.

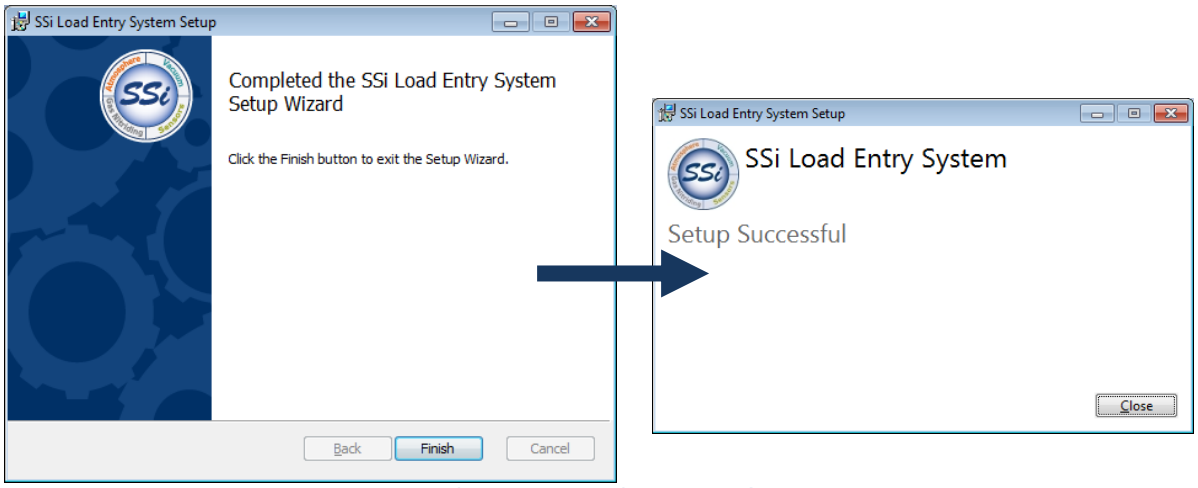


Figure 9 – Installation Completion Screens

Setup

When run for the first time, Load Entry users, furnaces, processes, recipes, and parts (if applicable) must be created. To allow for initial setup, Load Entry (when first installed) has a default administrator login. The default administrator login is as follows:

Username: administrator
Password: 2

This default login can be deleted for security purposes during setup of users. In fact, **it is recommended that the default administrator login be deleted once you have finished setting up all users**.

This manual is written with a suggested order of setting up items. SSi suggests this order based on the most logical progression of steps for configuring Standard Load Entry. The sections below detail setup of the following components, in this order: users, furnaces, processes, recipes, parts, and options.

User Setup

IMPORTANT!

Before running Load Entry for the first time, make sure that the SQL database has been set up properly. The Load Entry software will **not** run properly without an associated SQL database that it can connect to.

To start Load Entry, open the **SSi Load Entry System** program from the Start Menu. By default, this program shortcut is located in the **SuperSystems** program group. The program may take longer to open than other programs due to database connection startup.

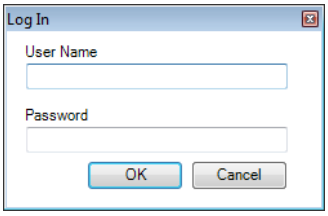


Figure 10 - Log In Screen

When first opened, the Standard Load Entry screen will look similar to the screen pictured below. Notice the line at the bottom of the screen that shows the current logged in user and the time of login: You are currently logged in as: [administrator].Log in time: [07/10/2014 14:00:47] .

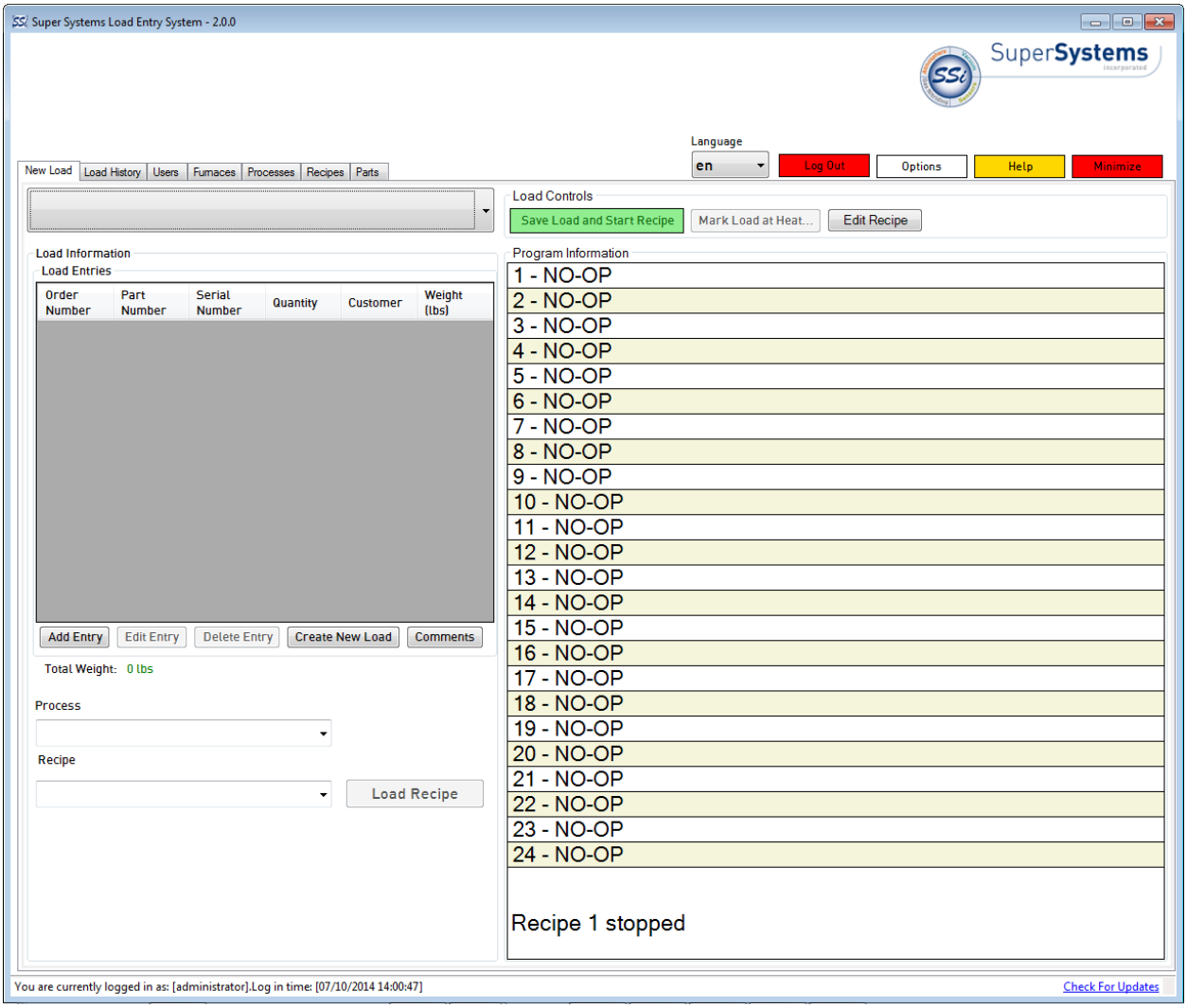


Figure 11 - Standard Load Entry Main Screen

Once logged in with administrator access, you may continue with the setup.

The Users tab provides the means by which to add, edit, and remove users from the list of users authorized to access load data on Standard Load Entry. Administrator-level access is required to edit this list (this includes adding and editing user names, changing passwords, and removing existing users). The default administrator login provided with the initial installation will allow you to set up the initial group of users.

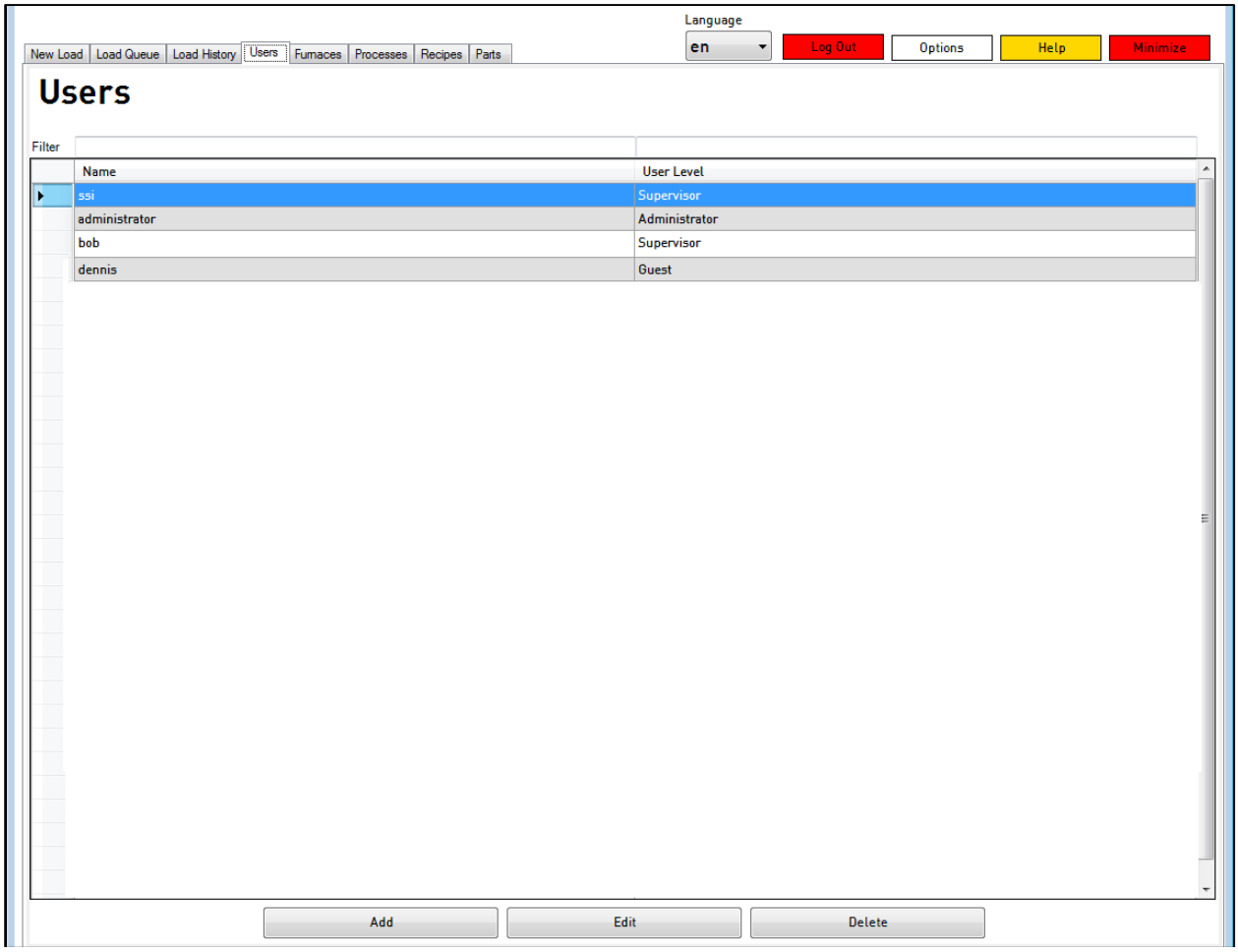


Figure 12 - Users tab and options

The **Add**, **Edit**, and **Delete** buttons perform the functions they indicate.

An access level must be provided with each user name.

User access levels and their permissions are shown in Table 1.

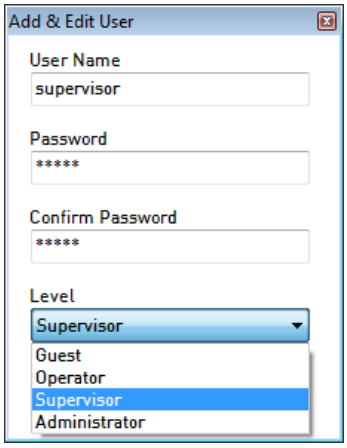


Figure 13 - Add & Edit User Window

1. Guest	2. Operator
View running loads View load history Generate reports View furnace overview View part overview View queue overview View process overview View recipe overview View users overview	Add comments to load (optional permission) Create loads Add/edit/delete entries in new load Load Recipe Start Load
3. Supervisor	**4. Administrator**
Override furnace weight limit Add comments to load Add/edit/delete entries in completed loads Modify load times Manage load queue Approve/Reject entries in completed loads	Delete completed loads Manage application options Manage furnaces Manage parts Manage processes Manage recipes Manage users
NOTE: Each higher-numbered access level includes permissions of the lower-numbered access levels.	

Table 1 - User Level Permissions

Furnace Setup

The Furnaces tab displays the list of furnaces configured for use with Standard Load Entry. The list displays the name of the furnace, the SDIO channel, the controller that is controlling the furnace, and the name of the trend for data logging.

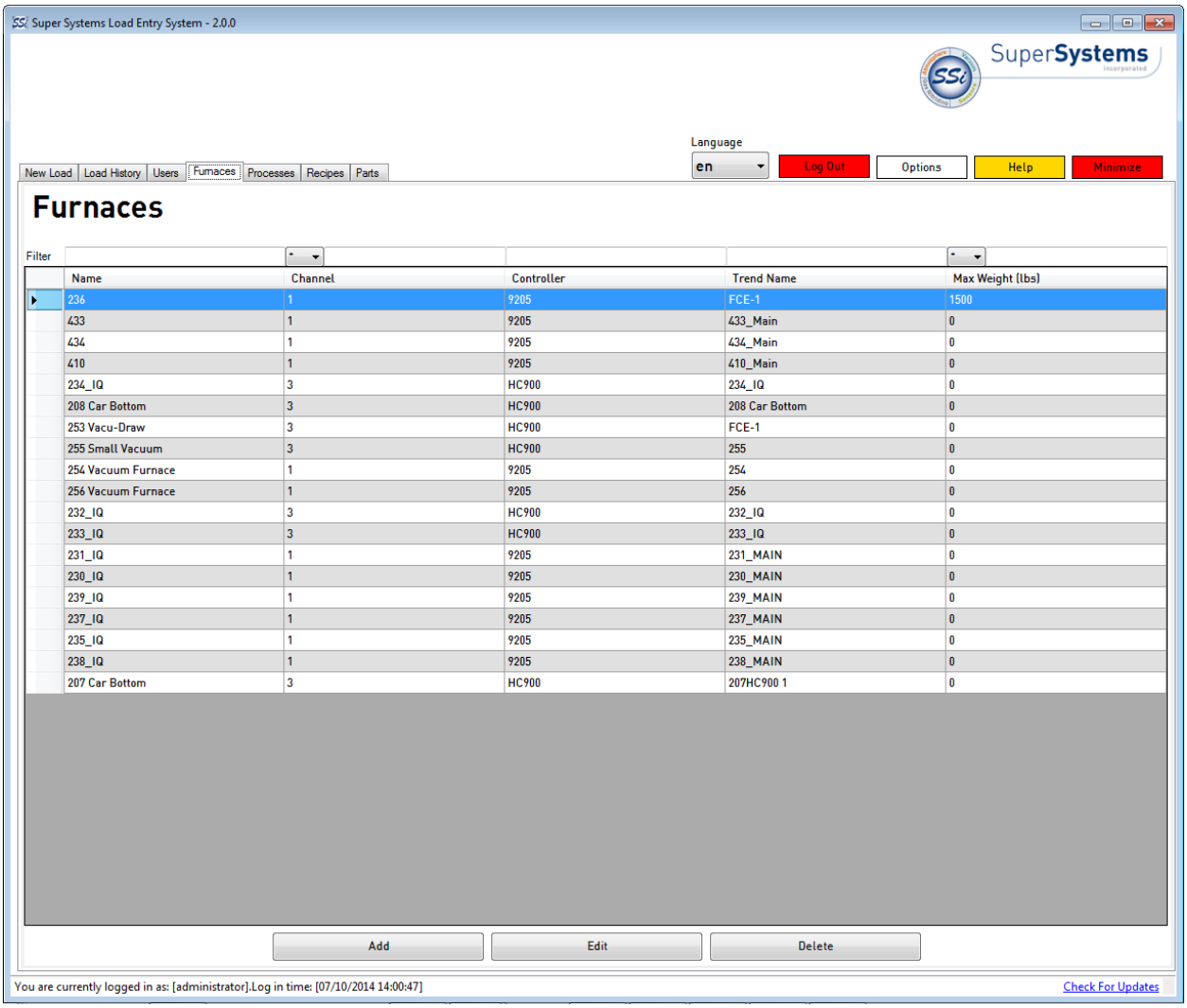


Figure 14 - Furnaces Tab and Options

The **Add, Edit,** and **Delete** buttons are used to add, edit, and remove furnaces in the list, respectively. When **Add** or **Edit** is clicked, a window similar to the one shown at right will appear. In this window, the following are present:

- **Name** field: Defines a name for the furnace used within Standard Load Entry.
- **Maximum Weight:** This is the maximum load weight for the furnace. If weights are configured for each part in a load, and the total calculated weight exceeds the maximum, the weight will be displayed in red on the New Load screen. In addition, when the load is run, a warning will appear. To bypass this warning, supervisor or higher access level is required.

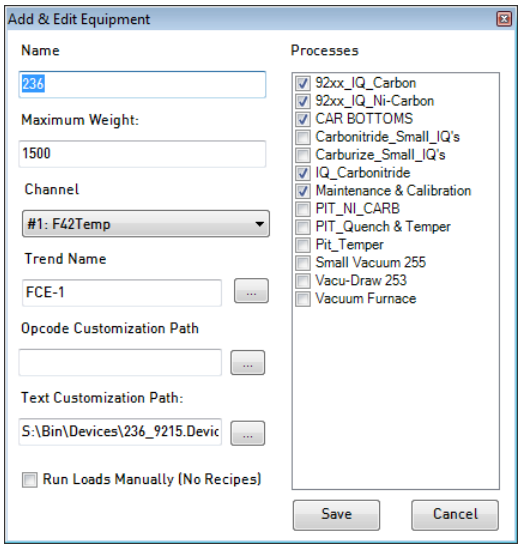


Figure 15 - Add & Edit Equipment Window

- **Channel** drop-down menu: Selects the SDIO channel that corresponds to the desired furnace.
  NOTE: The scspsys.cfg file must contain an *SSI9XXX* (for example, SSI9205) reference in order for recipes to be used in Standard Load Entry.
- **Trend Name** field**:** Identifies the trend that data should be logged to. The  box allows you to browse for a corresponding trend file.
- **Opcode Customization Path** field**:** Identifies the path to opcode customization files, if used. The  box allows you to browse for the path.
- **Text Customization Path** field**:** Identifies the path where custom text files are contained. The  box allows you to browse for the path.
- **Run Loads Manually (No Recipes):** When this option is enabled, recipes will not be used for this furnace. All loads will be charged manually.
- **Processes** selection area: Allows you to select which Processes will be associated with this furnace. Recipes in the associated Processes can be run on the furnace.

Processes Setup

The Processes tab provides a list of all the Processes configured for use in Standard Load Entry. Along with the name of each Process, the controller with which the Process is associated, and whether or not the Process is locked, are displayed. If a Process is locked, the user cannot make temporary edits to the recipes within that Process before running a load.

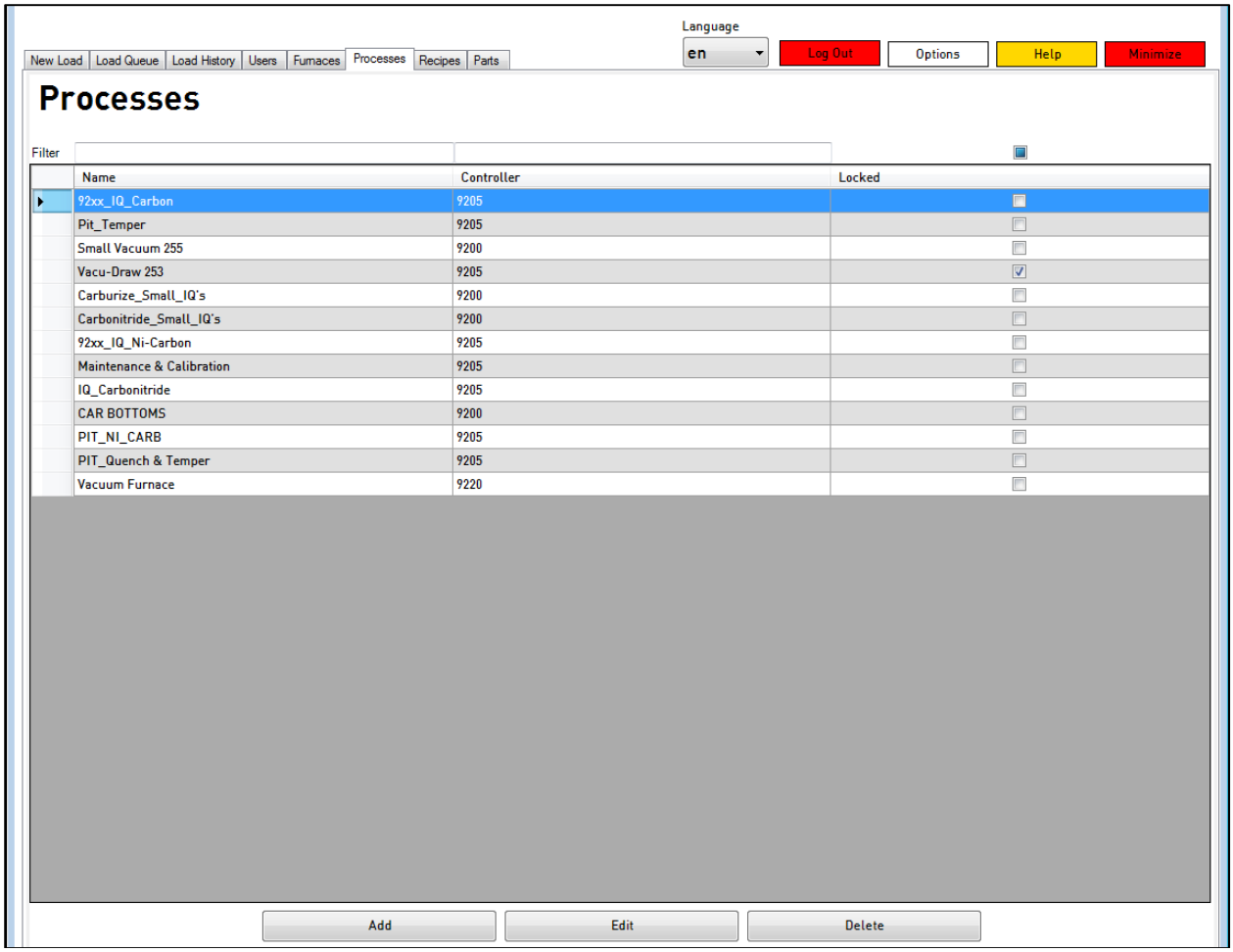


Figure 16 - Processes Tab and Options

The **Add, Edit,** and **Delete** buttons are used to add, edit, or remove Processes, respectively. The **Add** and **Edit** buttons will bring up a window that looks similar to the one pictured at right.

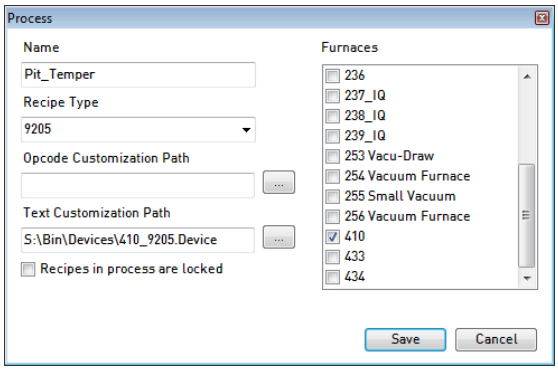


Figure 17 - Process Setup Window

In this window, the following are present:

- **Name** field: Defines a name for the Process.
- **Recipe Type** drop-down menu: Determines which controller the Process applies to.
- **Opcode Customization Path** field: Identifies the path to opcode customization files, if used. The ... box allows you to browse for the path.
- **Text Customization Path** field: Identifies the path where custom text files are

contained. The  box allows you to browse for the path.

- **Recipes in process are locked**: When this option is enabled, the user cannot make temporary edits to the recipes within this Process before running a load.
- **Furnaces** selection area: Allows you to select which **Furnaces** will be associated with this **Processes**. Recipes in this Process can be run on the associated furnaces.

Recipe Setup

The Recipes tab displays a list of recipes with the programmer/controller model associated with each as well as information on whether each recipe is a subroutine and whether each one is locked.

If a recipe is marked as a subroutine, that recipe will appear as an option when creating a JUMP or GOSUB step. Subsequently, when the recipe is selected for a JUMP or GOSUB step, it will be sent to the controller along with the main recipe.

If a recipe is locked, the user cannot make temporary edits to the recipe before running a load.

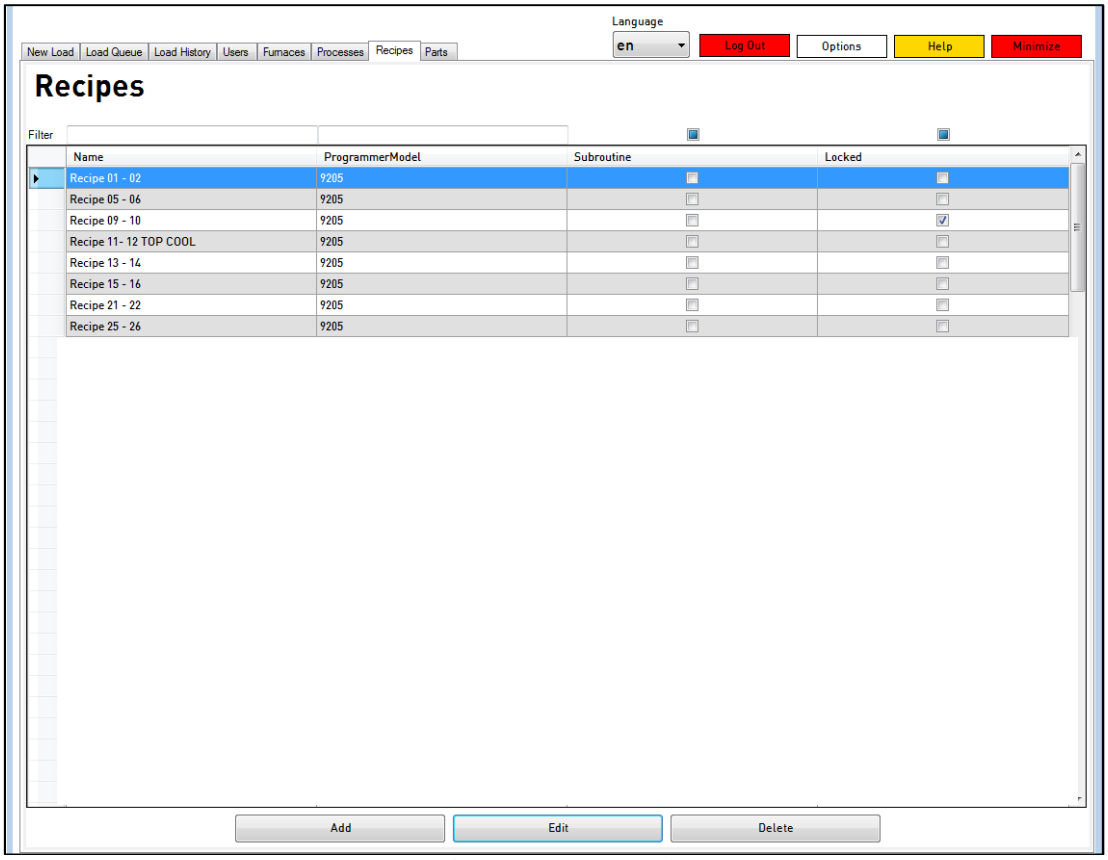


Figure 18 - Recipes Tab and Options

The **Add, Edit,** and **Delete** buttons are used to add, edit, or remove recipes. The **Add** and **Edit** buttons will bring up the **Recipe Editor**, which looks similar to the window pictured below (note that the example window is populated with sample recipe data).

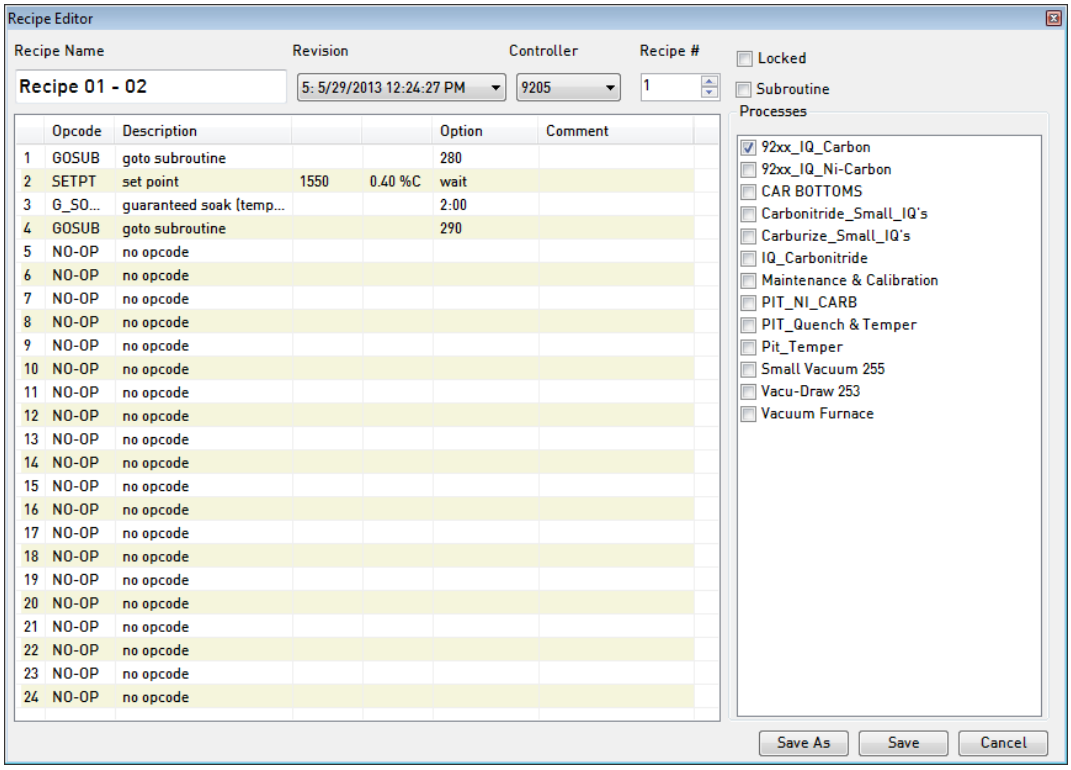


Figure 19 - Recipe Editor Window

Recipe Editor window: If the recipe being created is new, the **Recipe Name** will display as "New Recipe", and then all of the opcodes shown in the recipe steps will be NO-OP. The Revision will be 1. You will need to name the recipe in the **Recipe Name** box, select the applicable controller to which the recipe applies from the **Controller** drop-down menu, enter or select the recipe number in the **Recipe #** field, and also select whether the recipe is locked using the **Locked** checkbox and whether it is a subroutine using the **Subroutine** checkbox. A list of **Processes** on the right side of the window allows you to associate the recipe with one or more Processes by selecting the checkbox for each Process to which the recipe applies.

Use the primary recipe editing area, which occupies most of the left side of the window, to define each of the recipe steps and options. Once the recipe is correctly programmed, click the **Save** button (or the **Save As** button if you want to save it with a different name).

Parts Setup

The Parts tab displays parts that have been configured. **The Parts tab will be visible only when "Use Parts Database" is enabled in the Parts options.**

Process/Part and Recipe/Part associations can be configured using the Processes, Recipes, or Parts tab. The Parts tab provides the greatest flexibility for configuring associations. See page 23.

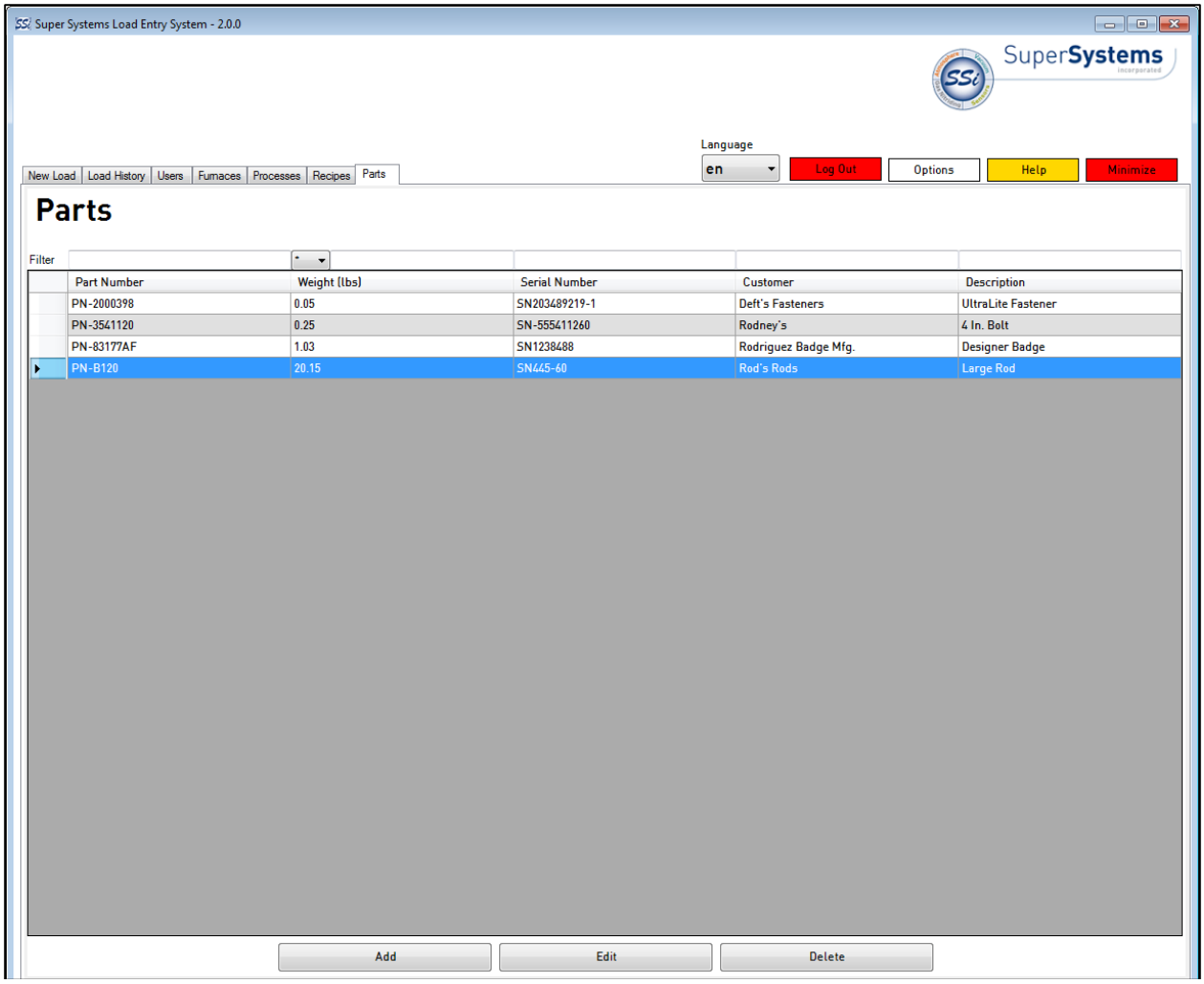


Figure 20 - Parts Tab

The **Add** button allows you to add a part, while **Edit** allows you to edit an existing part's properties in the system. The **Delete** button removes a selected part from the list.

When **Add** or **Edit** is selected, a window similar to the one shown below will appear.

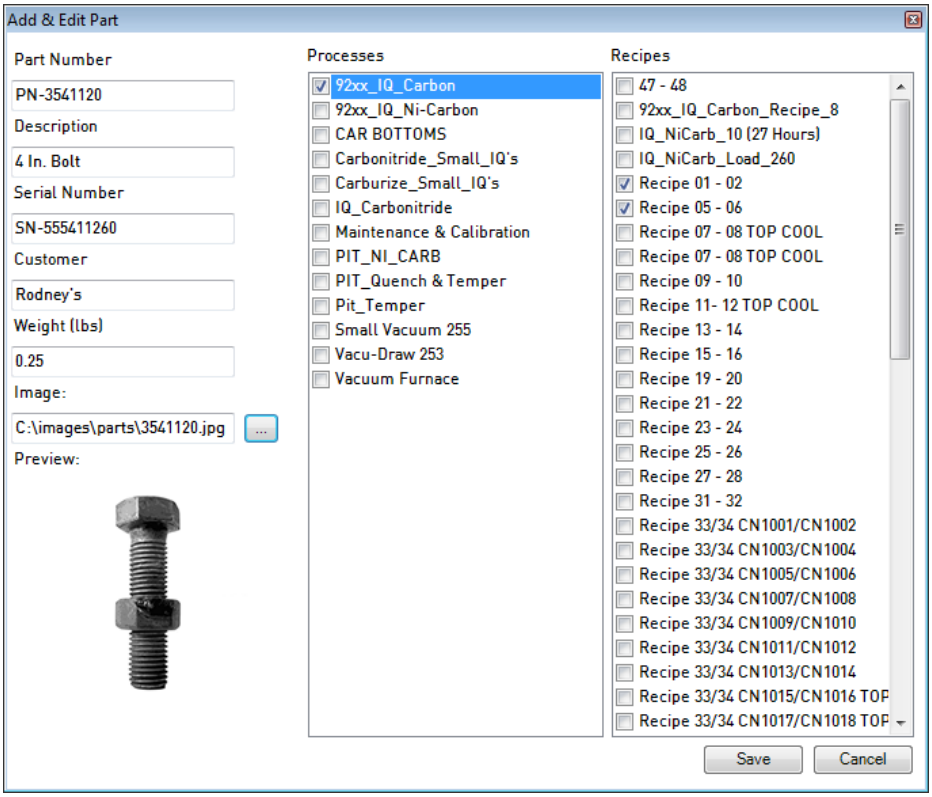


Figure 21 - Add & Edit Part Screen

This window contains these fields and options:

- **Part Number:** The part number of the part.
- **Description:** A description of the part (for reference).
- **Serial Number:** The serial number of the part.
- **Customer:** The customer for whom the part is being treated.
- **Weight:** The numerical weight of the part.
- **Image:** Identifies the location of a part image, if applicable. The ... box allows you to browse for the path and file. Valid formats for the image are BMP, JPG, GIF, and PNG.
- **Preview:** How the image will appear (if one is selected).

The **Processes** and **Recipes** selection areas allow you define under which Processes and recipes the part can be used.

Options Setup

Standard Load Entry includes numerous options for configuring the application itself, entries for the Load Entry system, parts, reports, the load queue, and recipes. These options are detailed in the following subsections.

Application

Application options include options for configuring how Standard Load Entry operates.

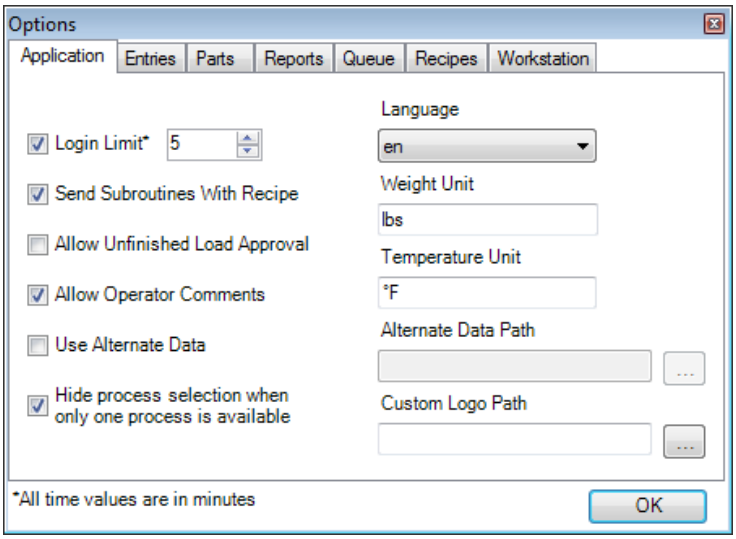


Figure 22 - Application Options

Login Limit: Select this option to automatically log out any user after the set time limit in minutes.

Send Subroutines With Recipe: When this option is checked, Standard Load Entry will download Subroutines and Jump programs referenced in the main recipe. This ensures that Subroutines and Jump programs referenced in the main recipe are up-to-date in Standard Load Entry.

Allow Unfinished Load Approval: When this option is enabled, the user will have the ability to mark orders in unfinished loads as approved or rejected before the load is finished running. If the option is disabled, the user must wait until the load has finished running before orders can be approved or rejected. *Use with Caution!*

Allow Operator Comments: When this option is enabled, a user with Operator access is permitted to add comments to a load entry through the **Comments** button in the "New Load" tab or by using the **View Details** button in the "Load History" tab. When this option is disabled, only a user with Supervisor or Administrator access is permitted to add comments.

Use Alternate Data: If Standard Load Entry is installed as a workstation and that workstation is running its own instance of SDIO, a conflict can be created when the workstation's Load Entry instance attempts to write channel data. In cases like this, **Use Alternate Data** must be enabled on the workstation in order to prevent write conflicts. An **Alternate Data Path** must be entered if this option is used. If SDIO is not running separately on the workstation, this option is not needed and should be disabled.

Weight Unit: This option allows you to enter a unit name that will be used with numerical weights. Examples may include *lbs.* for pounds and *g* for grams.

Temperature Unit: Inputs the units of temperature measurement, either degrees Fahrenheit or degrees Celsius.

Custom Logo: Allows for the addition of a custom logo to the main Standard Load Entry screen (displayed at the upper left corner of the main screen). Use the field below the "Custom Logo" text label as well as the  icon to enter/select the logo file. Allowable file formats are BMP, JPG, GIF, and PNG.

Entries

Options for Entries determine what fields are displayed in the Load Entry list.

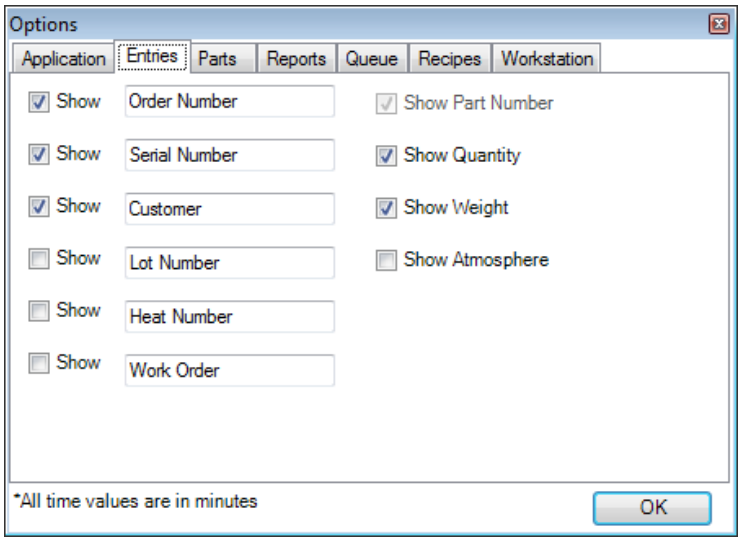


Figure 23 - Entries Options

Standard Load Entry includes the option to display several fields in entries list. By default, **Show Order Number**, **Show Serial Number**, **Show Customer**, **Show Quantity**, and **Show Weight** are enabled. If "Use Parts Database" is enabled in the Parts options, **Show Part Number** will also be enabled.

Show Lot Number, **Show Heat Number**, **Show Work Order**, and **Show Atmosphere** can also be enabled with the proper access level.

Several of the field names can be changed, as indicated by the presence of an editable text field after the word "Show".

Parts

Use Parts Database must be enabled in order for the Parts tab to be displayed in the main Load Entry screen. Parts options determine which fields are show in the Parts tab as well as whether part images are used in Standard Load Entry.

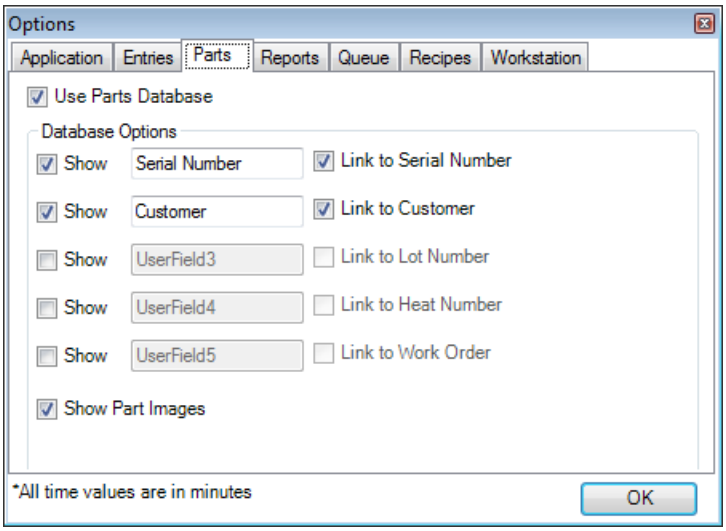


Figure 24 - Parts Options

By default, **Show Serial Number** and **Show Customer** are enabled. Additional user fields can be enabled with the proper access level.

Also, by default, the part number and weight of a part will be shown in any window where part data is being added, viewed, or changed. Additional fields related to parts can be displayed by making adjustments in the Parts option window.

Linking Fields: Optional part fields can be linked to Load Entry fields configured in the Entries option window. This allows for added consistency in part data displayed in Load Entry.

Use Part Images: When this option is enabled, an image can be associated with each part and displayed when part information is shown. An example of the selection area for adding a part image in the "Add & Edit Part" window (accessible from the Parts tab) is shown below.

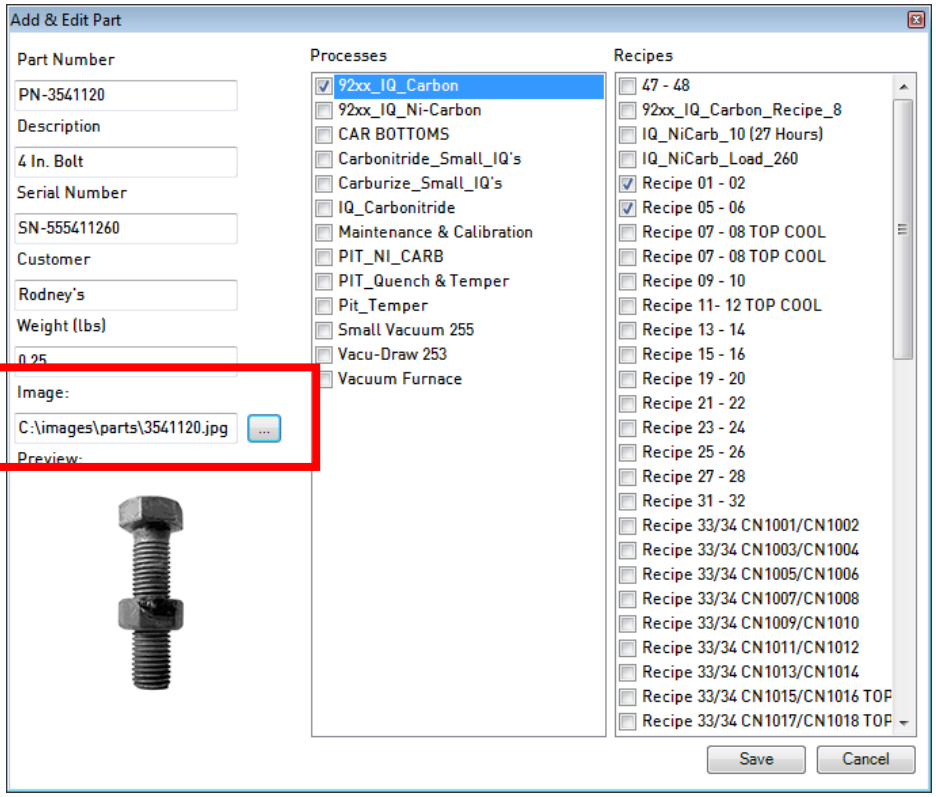


Figure 25 - Add & Edit Part Window

Reports

Options for reports determine how data is recorded, what the path to trend chart data is, whether SDRecorderII is used for load record display, what the SDIO Mode is, and what the SDIO configuration path is.

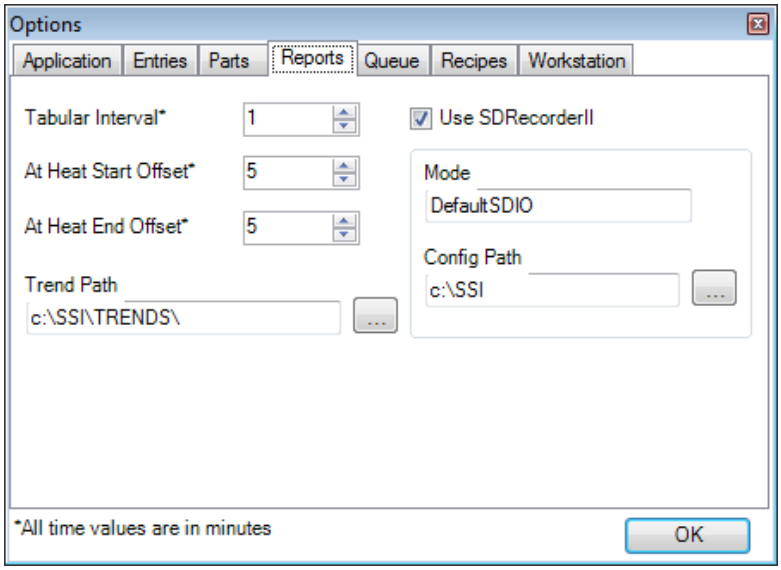


Figure 26 - Reports Options

Tabular Interval: The number of minutes between data points on a tabular load report.

At Heat Start Offset: The number of minutes of record time displayed prior to the load at heat event.

At Heat Stop Offset: The number of minutes of record time displayed after the load at heat event.

Trend Path: Tells Load Entry what the path to the trend charts is. *C:|SSi|Trends* is common.

Use SDRecorderII: Selects the SDRecorderII application for load record display instead of the original SDRecorder.

Mode: If Standard Load Entry is passing data to SDRecorderII to generate trend charts, the SDIO Mode must be set using the editable text field for Mode. The configuration can be found in the SDRecorderII settings for SDIO Mode; an example screen is shown to the right.

If trend charting is being handled by SDRecorder, and not SDRecorderII, this setting is not used.

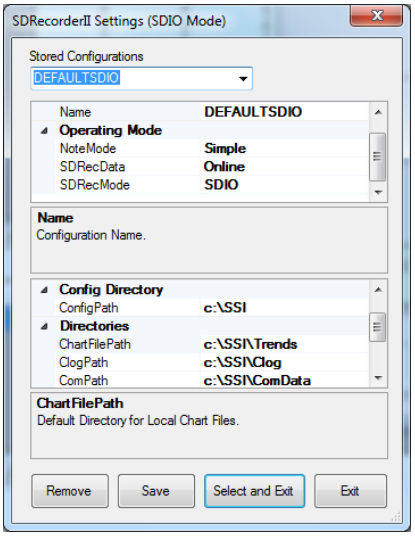


Figure 27 - SDRecorderII Mode Settings

Config Path: The path to the folder where SuperDATA configuration data is held. *C:|SSi* is common.

Queue

Load Queue Mode must be enabled for the Load Queue tab to be displayed in the Load Entry main menu. Queue options allow you to set whether loads will expire and, if so, the number of days that needs to pass before they expire.

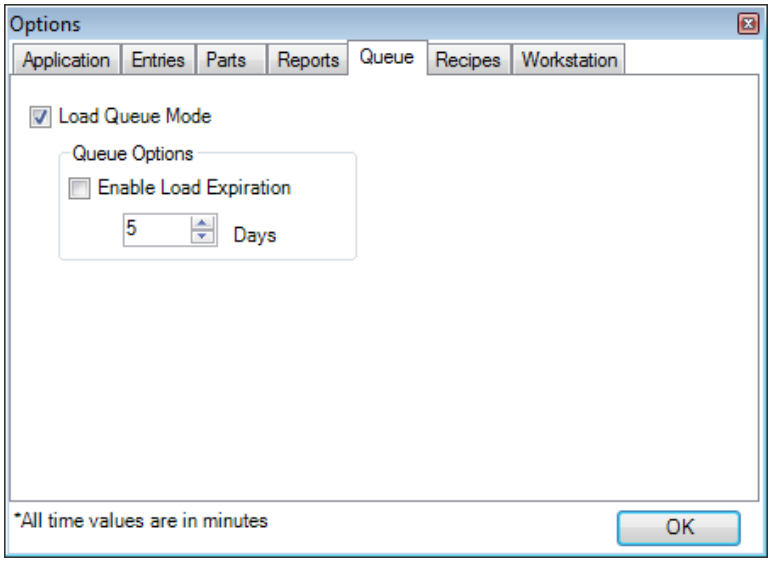


Figure 28 - Queue Options

Load Queue Mode: Enables Load Queue, when checked.

Enable Load Expiration: When enabled, loads will expire after the amount of time entered in the **Days** field.

Recipes

Two types of recipes can be used in Standard Load Entry: SSi recipes and Honeywell recipes. SSi recipes are enabled by default. Honeywell recipes are not enabled by default.

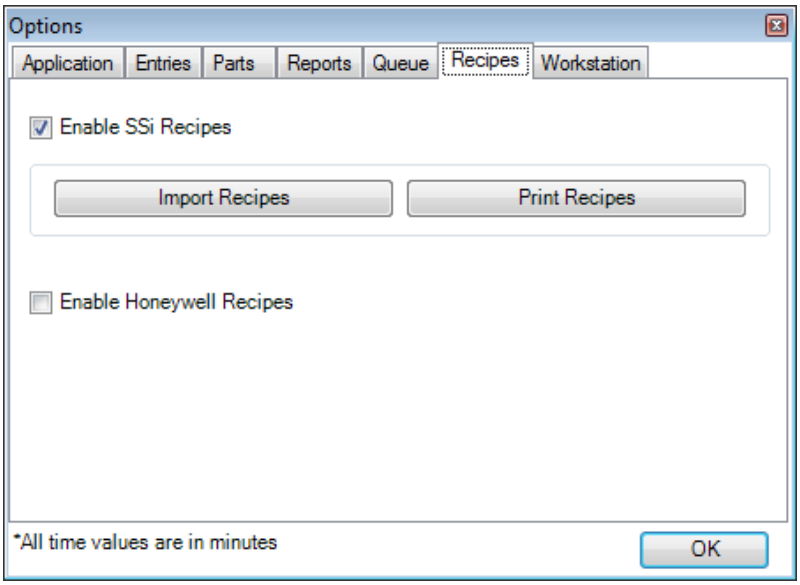


Figure 29 - Recipes Options

Enable SSi Recipes: Turns on SSi recipes and causes the Recipes tab to be displayed in the main Load Entry menu.

Import Recipes: This button brings up a screen allowing you to import into Standard Load Entry recipes saved by SSi Configurator. See the example screen below.

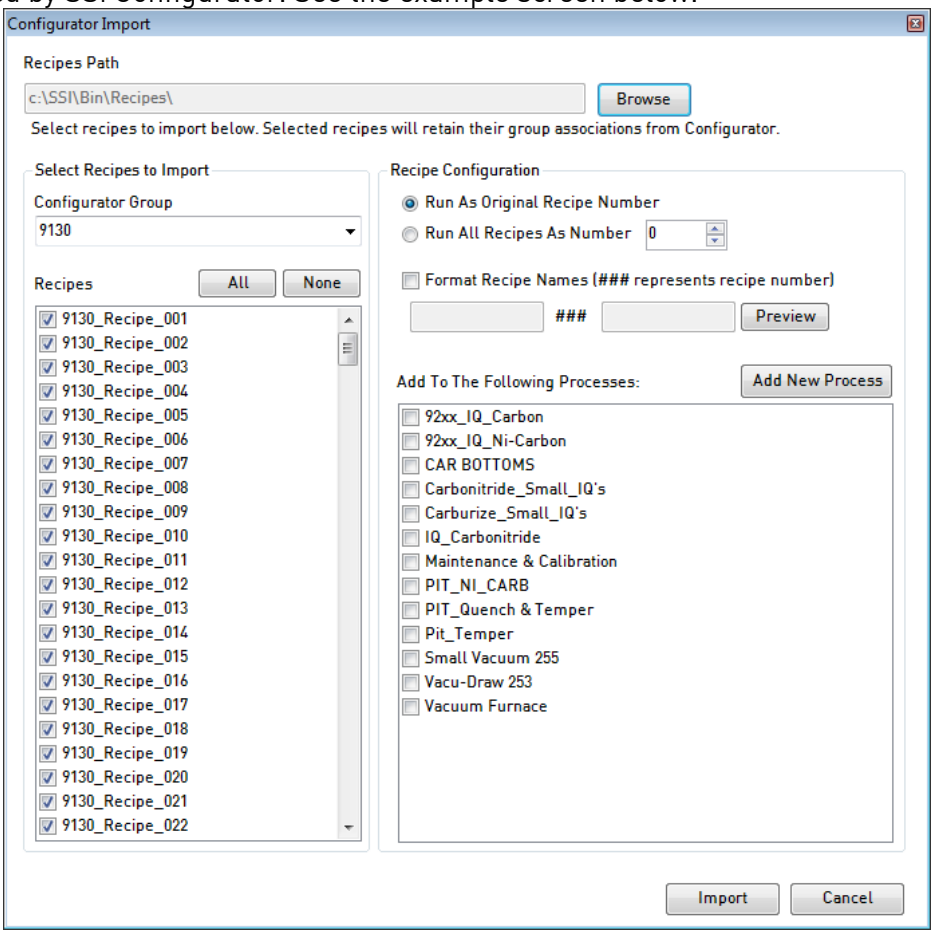


Figure 30 - Configurator Import Window

Standard Load Entry imports recipes saved by SSi Configurator from the folder shown in the Recipes Path. A typical path for saved recipes is *C:|SSI|Bin|Recipes*. If the folder for your system is different, use the **Browse** button to select the proper folder.

On the left side of the Import screen, below the Recipes Path, is an area where you will select the recipes to be imported. The **Configurator Group** drop-down menu shows all of the recipe groups; usually, these will correspond to an instrument (such as the 9130 or 9220 controller).

IMPORTANT!

Configurator Groups will appear only if the 9000 Series instrument recipes have been backed up properly using Configurator. It is always recommended that you perform a backup immediately before importing recipes to ensure that the most recent recipes are downloaded by Standard Load Entry. See the manual for your instrument for more information on using Configurator.

Below the Configurator Group, the recipes for the selected group will be listed (**Recipes**). On the right side of the screen, you can configure how the recipes should be run in Load Entry (**Recipe Configuration**), change the format of recipe names (**Format Recipe Names**), and finally select the process(es) to which the selected recipe(s) should be added (**Add to the Following Processes**). You can also add a new process before adding recipes to it (**Add New Process** button).

Print Recipes: Allows you to print recipes in the system. You may print all recipes, one recipe, or multiple recipes selected in the Print Recipes window.

Enable Honeywell Recipes: Turns on Honeywell recipes and causes the Honeywell Recipes tab to be displayed in the main Load Entry menu.

Workstation

Workstation options are specific to using Load Entry in Workstation mode. Workstation mode itself is enabled here. When Workstation mode is enabled, you can select furnaces for which the workstation will be permitted to set up and charge loads.

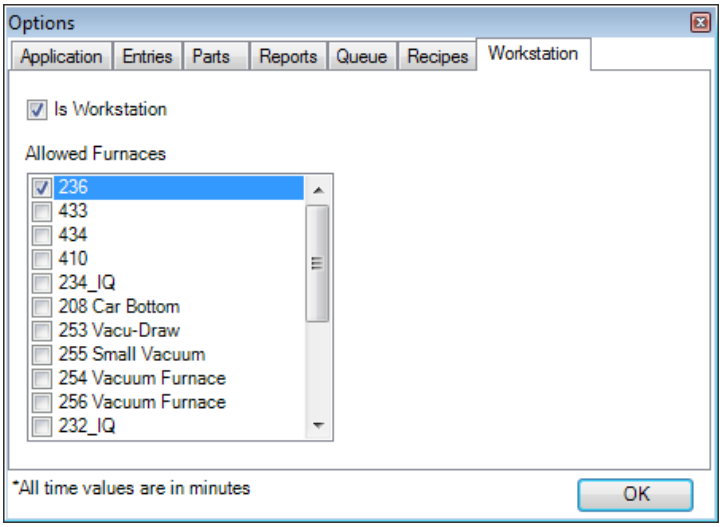


Figure 31 - Workstation Options

Is Workstation: Sets the application to Workstation mode. In this mode, Load Entry does not track loads and cannot be used to edit furnace entries.

Allowed Furnaces: If a furnace is checked, the workstation will be able to set up and charge loads for that furnace. If a furnace is not checked, the furnace will not show up in the list of furnaces for which the workstation can set up and charge loads.

Filters

Many screens in Standard Load Entry include a **filters** feature that the program uses to limit the contents shown in a list to items containing specific numerical values, numerical ranges, or strings of text.

If a field is numerical (for example, weight), a comparison drop-down box will be shown. The drop-down box will include:

- * (asterisk): Treats the numeric field as a text field.
- =: Equal to
- <>: Not equal to
- >: Greater than
- <: Less than
- >=: Greater than or equal to
- <=: Less than or equal to

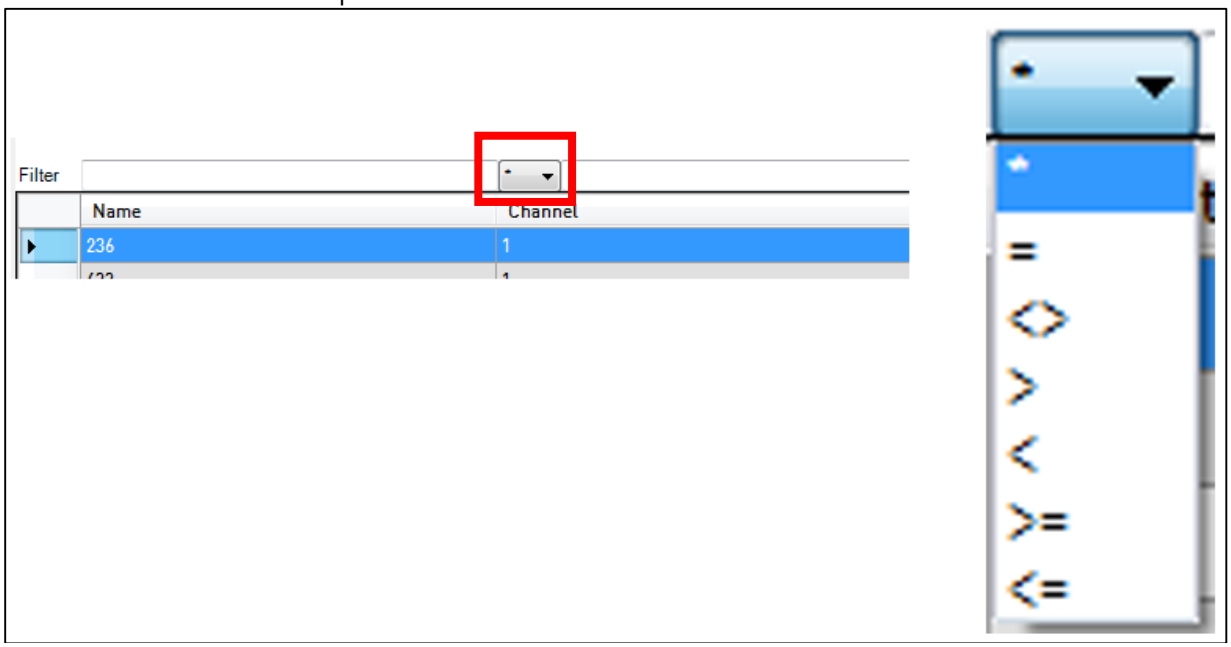


Figure 32 - Search Filters

When used in a text field, *%* (percent sign) acts as a "wild card". When the *%* is used, any text found in a list of items that Load Entry is searching will be allowed as part of the returned search items. For example, if a list of items includes the following:

Furnace Room 220
Bell Furnace 1
Bell Furnace 2
Pit Furnace Room 185
Pit Furnace Room 187
Pit Furnace Room 190

- pit% will return *Pit Furnace Room 185*, *Pit Furnace Room 187*, and *Pit Furnace Room 190*.
- %pit will return no results (because placing the percent sign before *pit* will cause Standard Load Entry to search for items ending with that text string).
- furnace% will return *Furnace Room 220.*
- %furnace% will return ALL items in the list.

Operation

Main Screen

The Main Screen of Standard Load Entry has a large number of features which are accessed in sub-windows, through drop-down list selections, or by pressing certain buttons. Near the top of the screen, on the left side, is a series of tabs used to access information on and change settings related to loads, load history, users, furnaces, processes, recipes, and parts. Near the top of the screen, on the left side, you will see a drop-down menu for language selection, followed by a row of buttons for logging out, setting options, getting help, and minimizing the window.

New Load

When this tab is selected, options for creating a new load are shown.

The upper left corner of the window displays the active furnace. The window is divided into a left and right side, the left side showing load entries, control buttons, process and recipe selections; the right side showing active recipes and associated controls.

On the left side is a sub-window that displays load information with order number, part numbers, and other information related to a furnace selected in the selector drop-down menu located above the "Load Information" text. Directly to the right of the Load Information sub-window is the Program Information sub-window, which displays the current recipe status. Buttons above the Program Information sub-window allow you to run a recipe from the program and also to add an "At Heat Time" stamp to the current load. A button below the Program Information sub-window allows for edits to the current recipe. To the left of the Program Information sub-window, and below the Load Information sub-window, is a drop-down menu for selecting a Process and selecting a Recipe to work with.

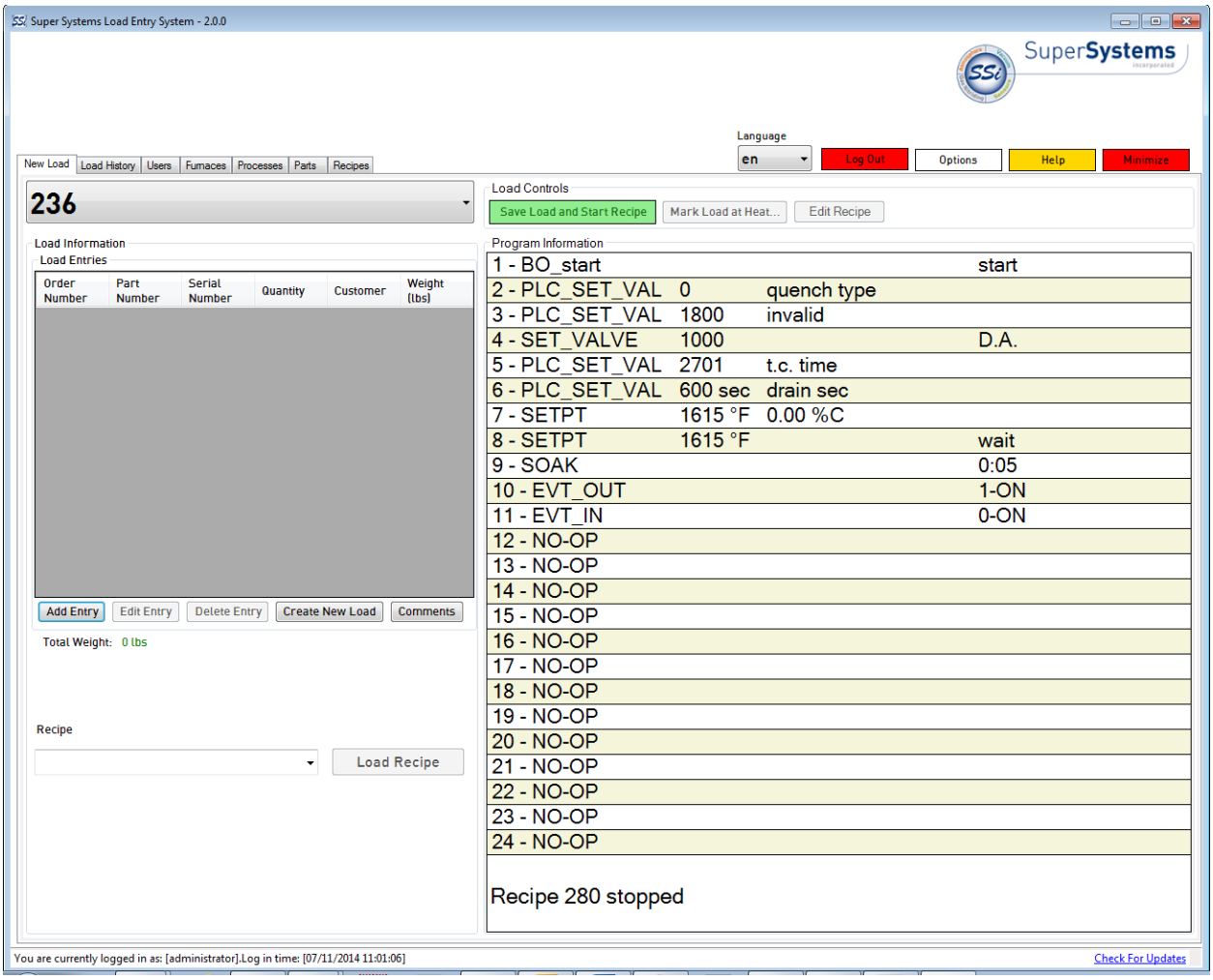


Figure 33 - New Load Tab

The **Add Entry** button allows you to add an entry the load

- If the Parts Database is enabled in Parts options, the part number is selected from a drop-down list. If part images are also enabled in Parts options, the image of the part will be displayed.
- If Load Queue is enabled in Queue options, all of these details will be filled automatically by entering an order number from the queue.

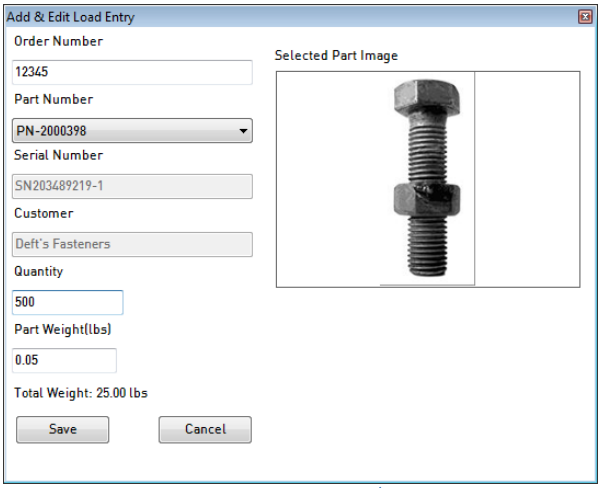


Figure 34 - Add & Edit Load Entry (Typical, When Load Queue Mode is Disabled in Options menu)

The **Edit Entry** button allows you to edit details of a selected item in the Load Entries list. The **Delete Entry** button will delete a selected item from the list. **Create New Load** will clear the current list and allow you to define a new list.

In the "Load Controls" options, you can utilize three options:

- **Save Load and Start Recipe:** Saves the current load entries and begins the recipe displayed.
- **Mark Load at Heat…:** Adds a timestamp to the load to denote when the furnace reached setpoint for the soak.
- **Edit Recipe:** Allows for changes to the current recipe.

The **Comments** button allows a user with proper access level to add comments to the load. Read the explanation of the **Allow Operator Comments** button in the Application section on page 22 for more details about permissions related to this option.

The Process and Recipe associated with the load are selected using the two drop-down lists in the lower left corner of the screen. **The Process and Recipe lists displayed are based on the first part in the load list.**

Figure 35 - Process and Recipe Selections

Load Queue

NOTE: The Load Queue tab will be displayed only when "Load Queue Mode" is enabled in Queue options. See page 26.

The Load Queue tab displays a list of orders that are pre-configured in Load Entry. The order data can be used to populate fields when configuring a new load in the New Load tab.

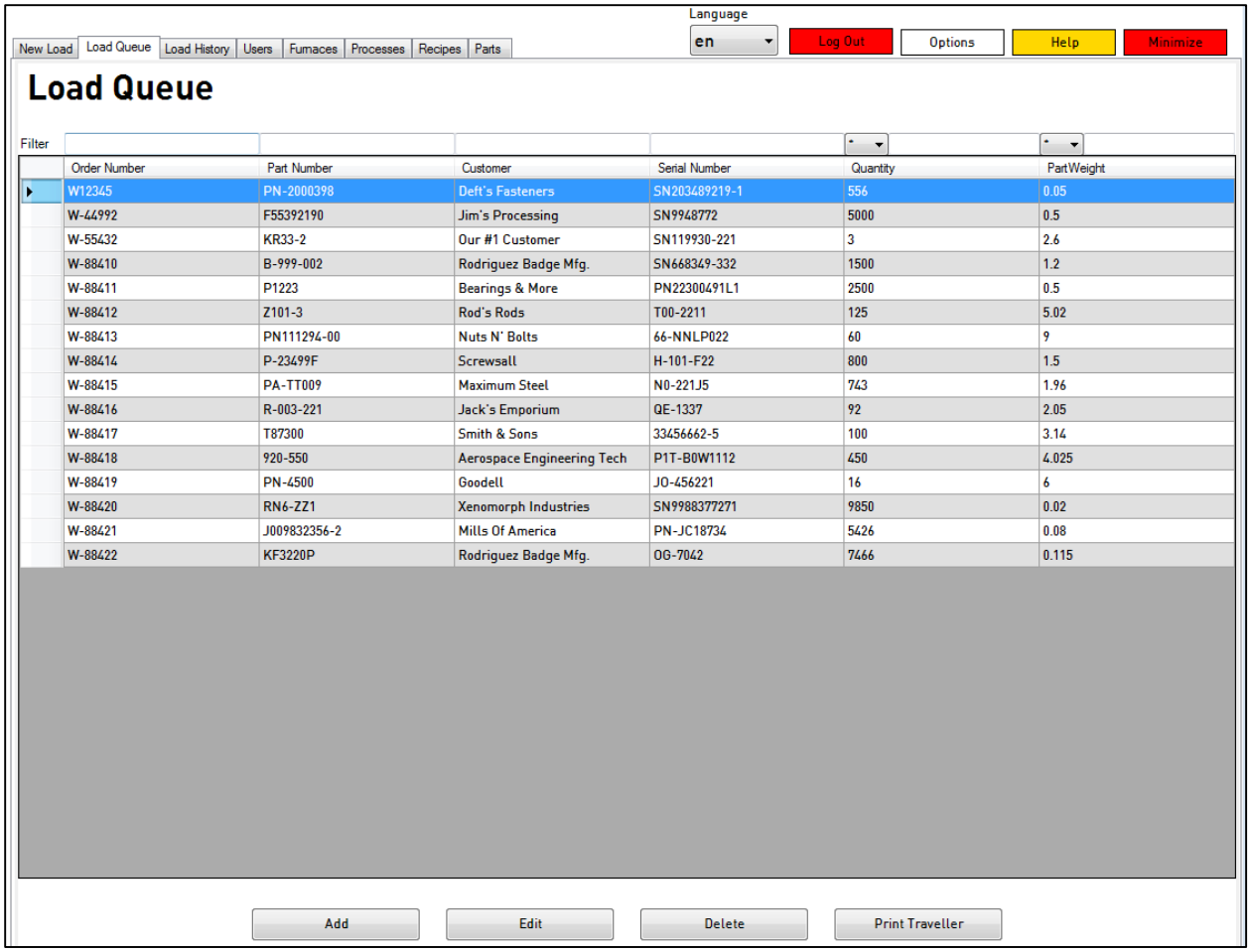


Figure 36 - Load Queue Tab

When selecting order lines, the Ctrl key can be used to select multiple lines.

The **Add, Edit,** and **Delete** options allow for the addition, editing, and removal of an order, respectively.

The **Add Entry** screen (pictured at right) contains fields used to define the properties of an order: the order number itself, part number, customer name, part serial number, quantity, part weight, and the associated Process and Recipe.

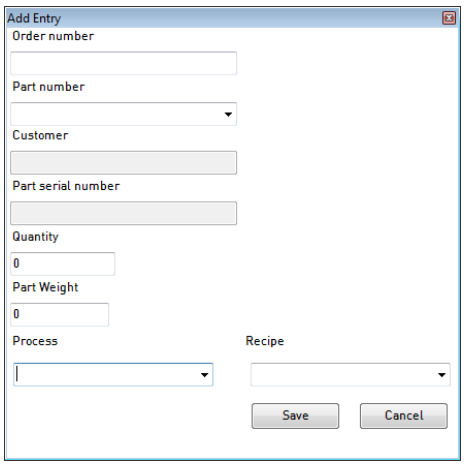


Figure 37 - Add Entry Window

The **Print Traveller** button brings up a printable document (similar to the one pictured below) with one or more bar codes representing orders. When the document is printed, the bar codes can be read by a bar code scanner connected to an SSi touch screen running Compact Load

Entry. When the bar codes are scanned in, Compact Load Entry will use the order information to process loads.

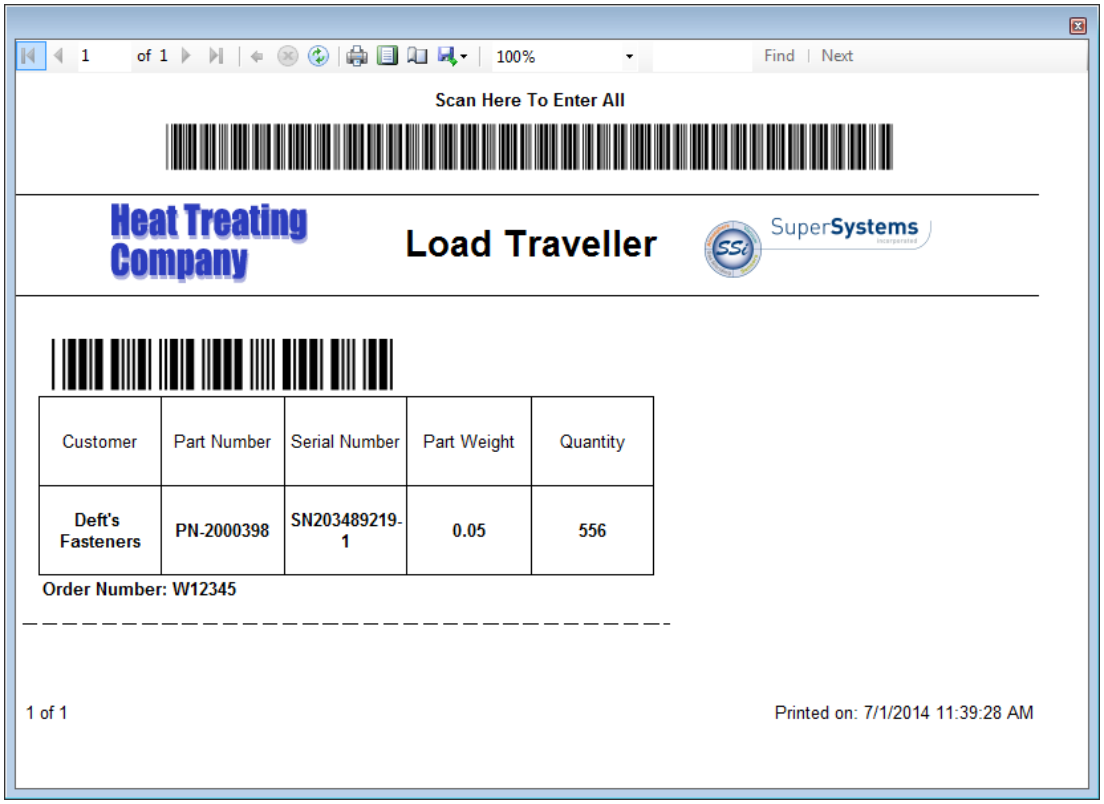


Figure 38 - Load Traveller Window for Printing

The Print Traveller feature will include all selected orders in the bar code document. As a result, some documents may exceed one page when printed.

When Compact Load Entry is used, a load is queued. Load Traveller generates a printed bar code (or series of bar codes), which is scanned by a bar code scanner at the touch screen interface. The load is charged. Compact Load Entry passes the start and end times of the load to the Standard Load Entry server, which updates the load history and load queue. The diagram in Figure 39 illustrates this workflow.

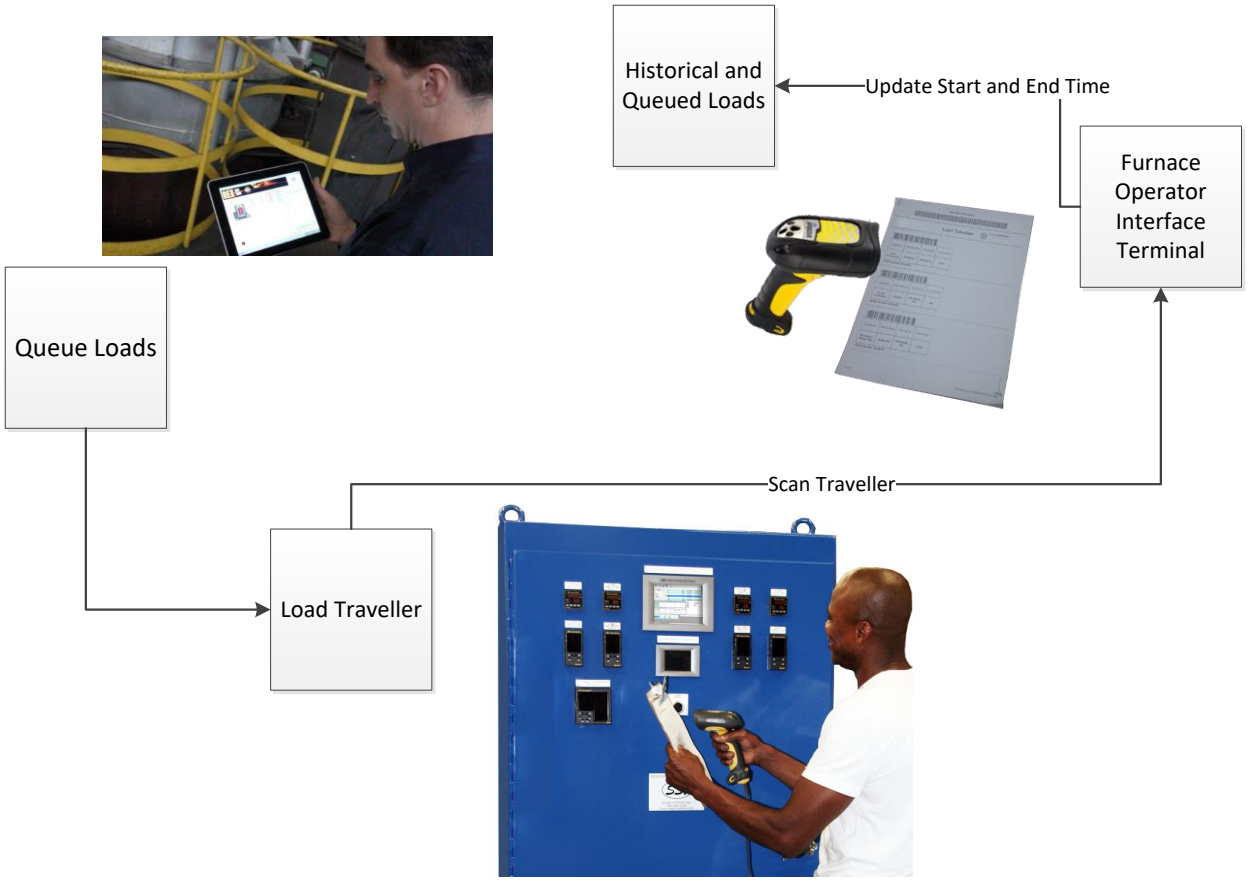


Figure 39 – Load Traveller/Compact Load Entry Workflow

Load History

The purpose of the Load History tab is to provide the user with detailed historical data on previously charged loads.

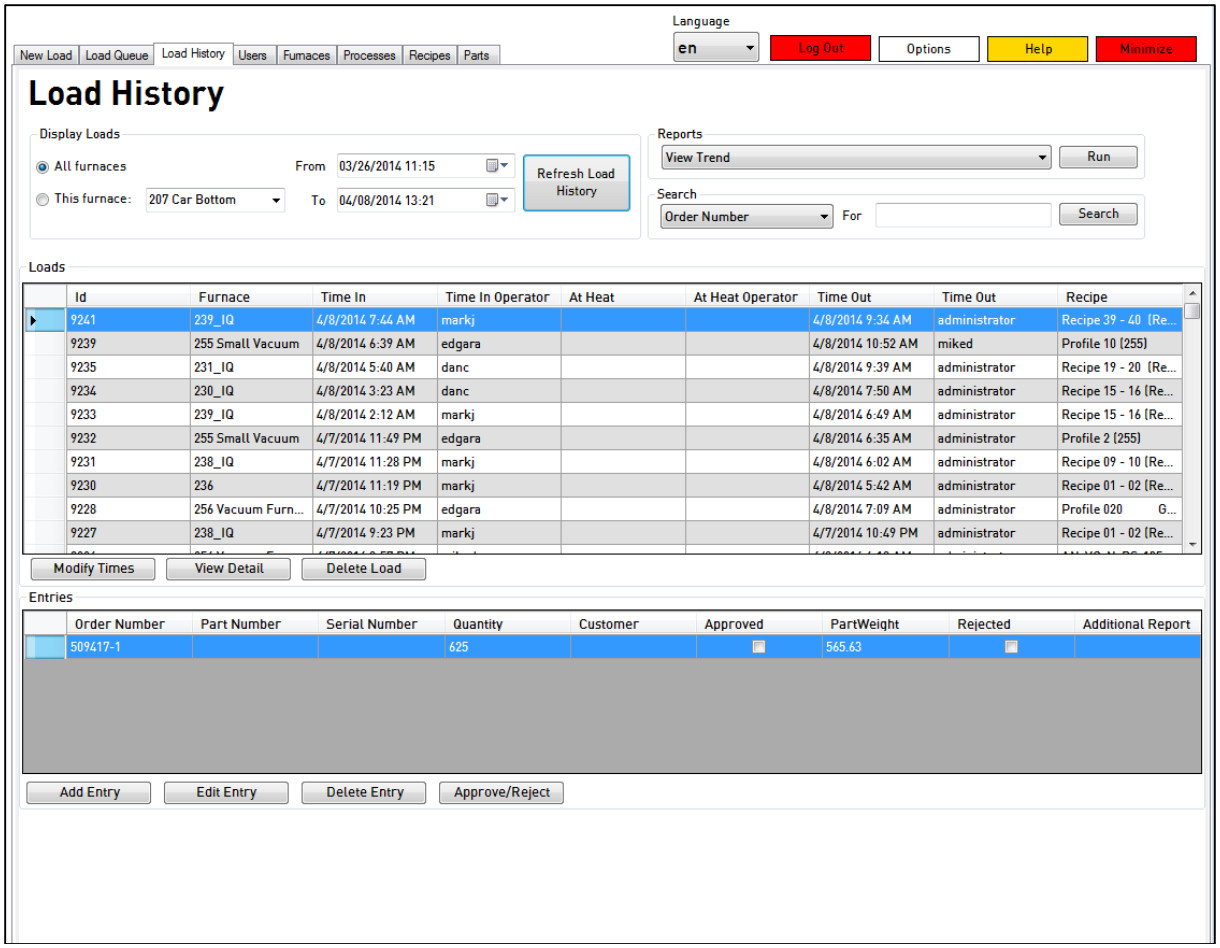


Figure 40 - Load History Tab

A series of selection tools on the left side of the window allows you to choose whether you want to view data for all defined furnaces or just one furnace. These options are found under the **Display Loads** area. The date range for the displayed loads is also defined in this area. Near the middle of the window is a **Refresh Load History** button that is useful for ensuring that the most recent load data is visible. The **Search** option on the right side allows you to search records by order number, part number, customer, or serial number.

Loads that have previously been run and fit the selected display parameters will be shown in the **Load** area. Loads that have been run are assigned an ID number. This ID number is displayed along with additional details: Furnace, Time In (with username), At Heat time (with username), Time Out (with username), and Recipe. The **Modify Times** button allows you to modify the Time In, At Heat, and Time Out times. The **View Detail** button shows details on the load and includes the ability to add and edit comments. To remove the load, click **Delete Load.**

The Entries area shows the orders that make up the currently selected load. The buttons below the Entries area allow for adding (**Add Entry**), editing (**Edit Entry**), or deleting (**Delete Entry**) an entry, as well as approving or rejecting (**Approve/Reject**) an entry in the list.

On the right side, you will also find the **Reports** option. The types of reports that you can have Load Entry run are as follows:

- **View Trend:** Opens SDRecorder (or SDRecorderII if applicable) and displays the trend chart for the time of the load.
- **Load Report with Trend Chart:** Displays report containing the details of the load with an image of the trend data for the time period.
- **Furnace Utilization Report:** Displays reports on the utilization of the selected furnace, based on the historical load data.
- **Production Report – All Furnaces:** Generates a report about all of the loads run in every furnace in the selected time period.
- **Production Report – Current Furnace:** Generates a report covering all of the loads run in the current furnace in the selected time period.
- **Production Report – Currently Displayed Loads:** Generates a report dealing with the loads displayed in the Load History window (no limitation on furnace).

Main Menu Buttons

The main menu buttons allow you to select the interface language, log in and log out a user, open options, open the manual, minimize the main screen, and check for updates to the program.

Language Selection

The Language Selection drop-down menu allows you to select one of two languages for the Load Entry interface: English (en) and Spanish (es).

Log In/Log Out Button

The Log In/Log Out button logs in a user if none is logged in, or logs out the current user, although it does not shut down the Load Entry program. When logged out, Load Entry then defaults to the basic user. Many options will require re-entry of a username and password with access privileges sufficient to utilize the requested option(s).

Options Button (Covered in More Detail in the Options Setup Section)

The Options button contains a large number of settings important to how Load Entry operates. These functions are covered in more detail in the Options Setup section on page 21.

Help Button

The Help button brings up the manual for Standard Load Entry.

Minimize Button

The Minimize button causes the Standard Load Entry window to be moved from the current screen and placed in the Windows system tray. This button has the same functionality as clicking the minimize button in the window that contains the program itself.

Check for Updates option

This option is found in the lower right corner of the main screen. When this option is clicked, Standard Load Entry will check for updates to the software. If updates are found, you will have the option of downloading and installing them. Note that Standard Load Entry will automatically check for updates each time it is run. If Standard Load Entry runs continuously for more than one week, it is recommended that you use this option to keep your software up-to-date.

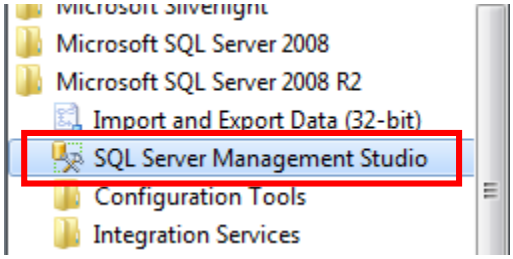
Revision History

Rev.	Description	Date	MCO #
A	First Release	11/15/2012	2109
B	Added content on Honeywell HC900 instrument support and other functional additions and improvements.	05/02/2013	2125
C	Interface changes	7/22/2014	2151

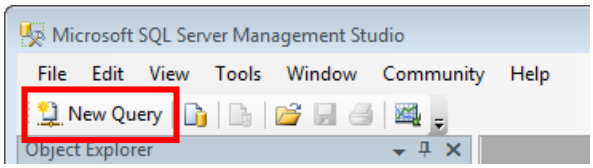
Appendix 1: SSi Load Entry Database Backup Instructions

Step A: Create Load Entry backup procedure.

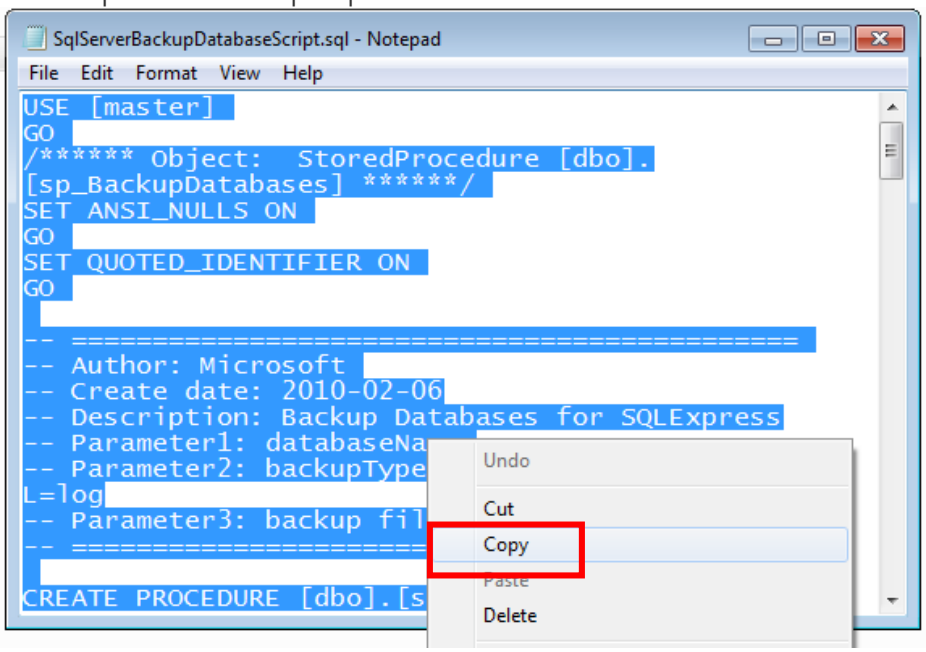
1. Open SQL Server Management Studio from the Windows Start menu.



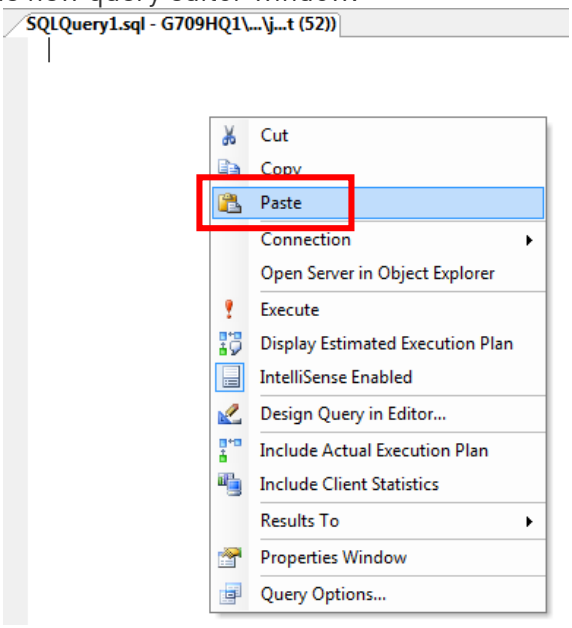
2. Click 'New Query.'



3. Using Windows Notepad, copy the script from the file 'SqlServerbackupDatabaseScript.sql' included with this document.



4. Paste the script into the new query editor window.



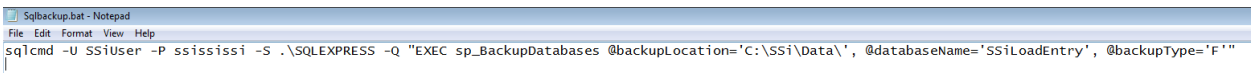
5. Click 'Execute'
6. You should see "Command (s) completed successfully" in the messages window below the query.

Step B: Set up the batch file that will run the procedure you created in Step A.

A batch file is a file containing a set of commands for Windows to execute. The batch file you are creating in this step will run the backup procedure.

1. Using Notepad, open the file 'Sqlbackup.bat' included with this document.

2. Edit the following parameters as necessary to match your settings:
   Note: For most installations of the SSi Load Entry System, these parameters can be left as default.
   a. '-U' – User name. *Default:* SSiUser.
   b. '-P' – Password. *Default:* ssississi
   c. '-S' – Server. *Default:* .\SQLEXPRESS (translates to PCNAME\SQLEXPRESS)
   d. '@backupLocation' – The location to save the backup. Be sure this ends with a trailing backslash. *Default:* C:\SSi\Data\
   e. @databaseName – The database to backup. *Default:* SSiLoadEntry.
   Leave the other parameters as they are unless instructed otherwise.



3. This file can now be used at any time to create an instant backup of the database. To run the file, simply double-click on it.

Optional Step C: Schedule a job by using Windows Task Scheduler to execute the batch file. To do this, follow these steps:

1. On the computer that is running SQL Server Express, click **Start**, **All Programs**, **Accessories**, **System Tools**, and then **Scheduled Tasks.**
2. Double-click **Add Scheduled Task**.
3. In the Scheduled Task Wizard, click **Next**.
4. Click **Browse**, click the batch file that you created in Step B, and then click **Open**.
5. Type **SQLBACKUP** for the name of the task, click **Daily**, and then click **Next**.
6. Specify information for a schedule to run the task. (It is recommended that you run this task at least one time each day.) Then, click **Next**.
7. In the **Enter the user name** field, type a user name, and then type a password in the **Enter the password** field.
8. Click **Next**, and then click **Finish**.
9. Execute the scheduled task at least one time to make sure that the backup is created successfully.

Appendix 2: Example of an Initial Setup

IMPORTANT!

There are many ways in which to configure Load Entry for initial use; the example is a procedure that can be used for many initial setups, depending on your facility's requirements. Call SSi at (513) 772-0060 with questions.

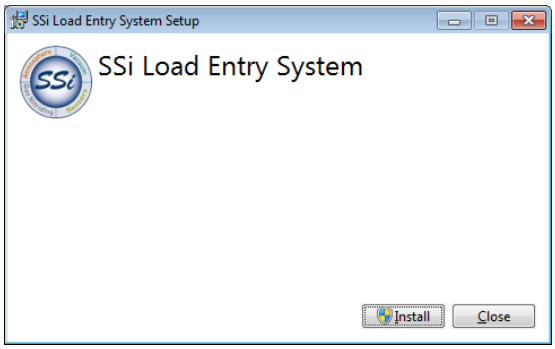
The following procedure is an example procedure for initial setup. Please note that there are many ways in which to configure Load Entry for initial use; the example is a procedure that can be used for many initial setups, depending on your facility's requirements. Also note that the functions used during initial setup will typically need to be used again—for example, to add new users, adjust furnace parameters, etc. If you have questions, call SSi at (513) 772-0060.

Install Standard Load Entry

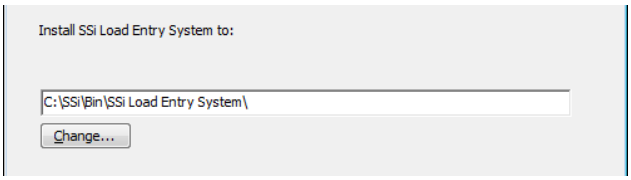
In this example, we will install Standard Load Entry using a new database installed on the local computer. In addition, we will install Standard Load Entry as a **Server** (default) and not as a Workstation.

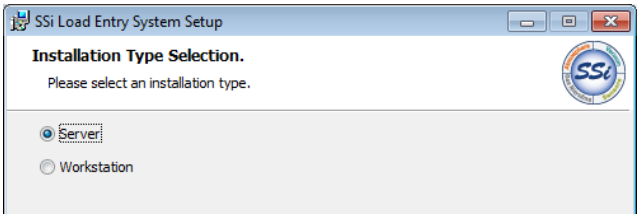
Prerequisites will be installed automatically during the installation process.

To begin the installation, run the file *SSiLoadEntry_Setup.exe.* A screen similar to the one at right will be shown. Click **Install** to begin the installation procedure.

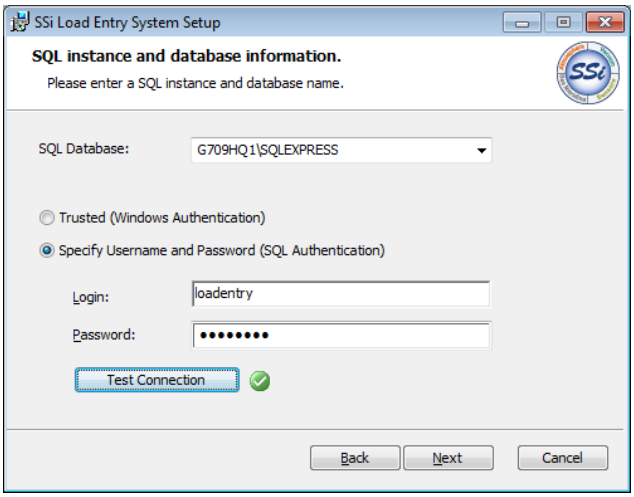


A series of screens will appear allowing you to confirm installation, change the default installation folder, and install Standard Load Entry as a server or as a workstation. SSi recommends using the default installation folder, "C:\SSi\Bin\SSi Load Entry System\". For the installation type, select "Server". Click **Next** in each case to proceed.



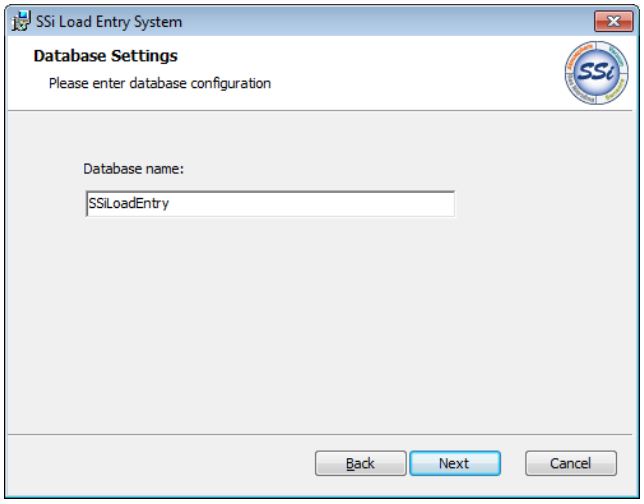


Load Entry requires a SQL database instance for the Load Entry database. The SQL server can be present on the local computer or on a networked computer that the local computer has access to.



Load Entry will create a new database during installation, provided that it can connect to the SQL server with specified credentials. In the example at right, the SQL database instance is "G709HQ1\SQLEXPRESS" and credentials have been entered for a specific login and password. When **Test Connection** is clicked, the setup program will try to connect to the specified database using the credentials provided. A green circle with a check mark in it indicates that the connection was successful. A successful connection is required in order to continue with installation.

See SQL Setup on page 7 for guidelines on SQL server configuration needed for Load Entry. If needed, refer to SQL setup documentation for additional information on configuring the database to your needs.



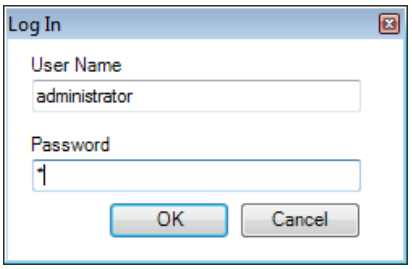
Click **Next** when ready to proceed. Enter a database name for the new database, or proceed with the default, which is "SSiLoadEntry". Click **Next** again.
When ready to proceed, click **Install.** A series of completion screens will appear. Click the necessary buttons to continue and finish the installation.

Create Users

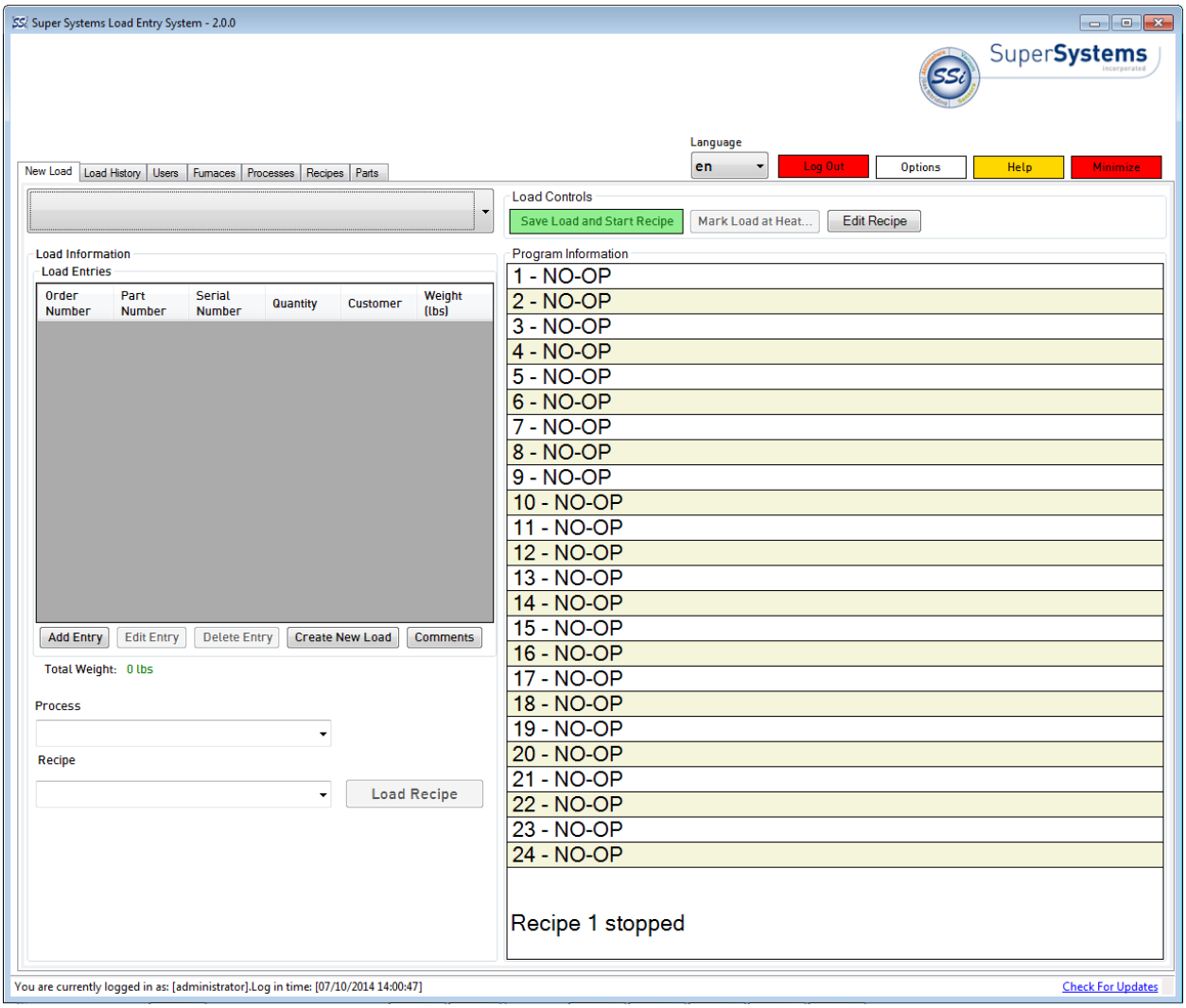
Once the application is installed, you are now ready to add users. This is essential because each user will be associated with a specific, assigned access level providing access to certain features.

To start Load Entry, open the **SSi Load Entry System** program from the Start Menu. By default, this program shortcut is located in the **SuperSystems** program group. The program may take longer to open than other programs due to database connection startup.

When first started, a login window will appear on top of the main screen. A default login is provided for initial setup. Enter the username **administrator** with a password of **2**. Click **OK**.



When first opened, the Standard Load Entry screen will look similar to the screen pictured below. Notice the line at the bottom of the screen that shows the current logged in user and the time of login: You are currently logged in as: [administrator].Log in time: [07/10/2014 14:00:47].



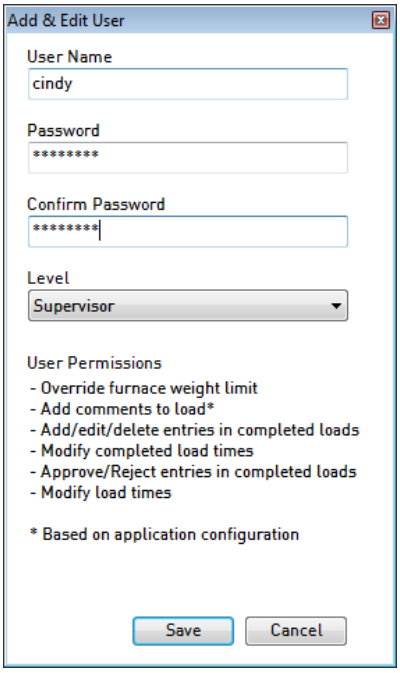
Click on the Users tab near the top of the screen.

In the Users list, you will see the default **administrator** with the Administrator user access level. Other users need to be added. Before adding them, it may be helpful to make a list of people who will be using Standard Load Entry, a user name that will be appropriate for each person, and the access level each person will need. The table below illustrates the functions that are available to the access levels: guest, operator, supervisor, and administrator. Each higher-numbered access level includes permissions of the lower-numbered access levels.

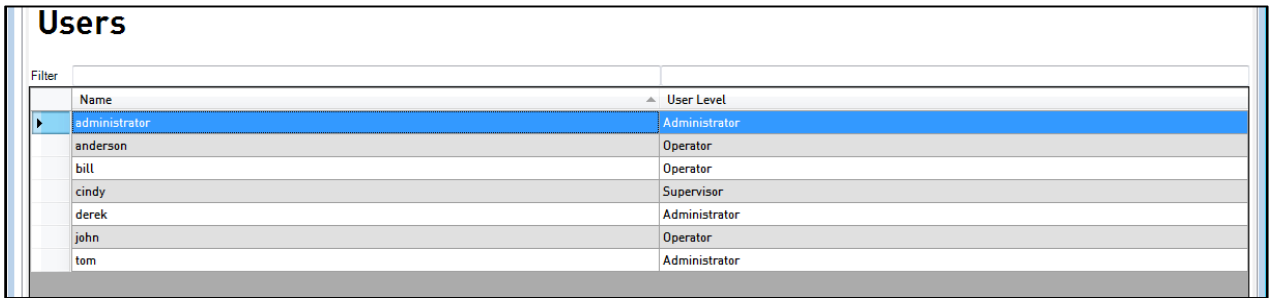
1. Guest View running loads View load history Generate reports View furnace overview View part overview View queue overview View process overview View recipe overview View users overview	**2. Operator** Add comments to load (optional permission) Create loads Add/edit/delete entries in new load Load Recipe Start Load
3. Supervisor Override furnace weight limit Add comments to load Add/edit/delete entries in completed loads Modify load times Manage load queue Approve/Reject entries in completed loads	**4. Administrator** Delete completed loads Manage application options Manage furnaces Manage parts Manage processes Manage recipes Manage users
NOTE: Each higher-numbered access level includes permissions of the lower-numbered access levels.	

To add a user, simply click on the **Add** button near the bottom of the screen. The **Add & Edit User** window will appear. In this window, you will define the user name, password, and access level for the user. Permissions for the selected access level are shown below the drop-down box for reference.

When finished adding a user, click **Save.**



Once users are added, they will be displayed in the Users list. In the example below, six new users have been set up. Once a new user with Administrator user level has been set up, it is recommended that you remove the default **administrator** account for security purposes—or change the password using the **Edit** button.

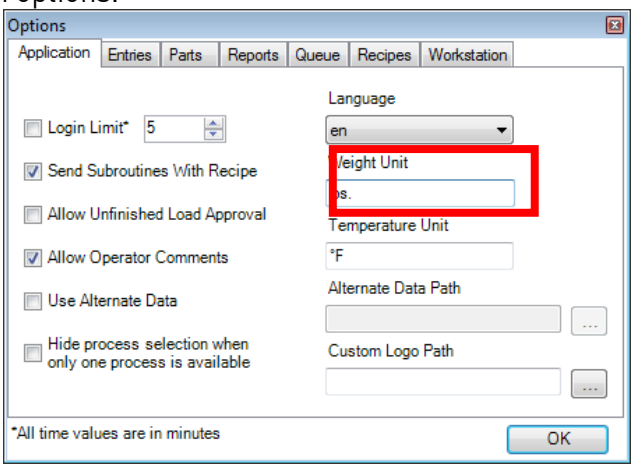


Create Furnaces

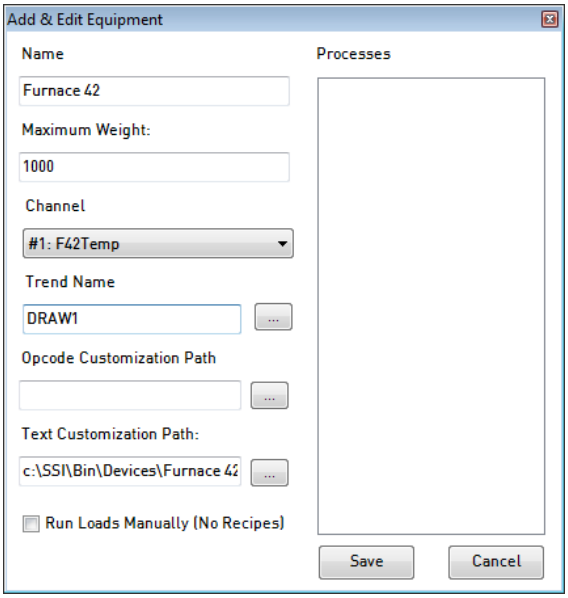
With user setup complete, you are now ready to add furnaces. To do this, first click on the Furnaces tab near the top of the screen.

When setting up furnaces, you have the option of associating weights with each furnace—for example, a maximum load weight and part weights that are cumulatively added together for each load. This option is valuable for heat treaters trying to prevent excessive load weight and trying to estimate load weights based on known part weights. It is important to configure the unit of weight measurement when using this option. To do so, open the **Options** menu by

clicking on the **Options** button near the top right of the screen, then enter the desired weight units in the **Weight Unit** field under Application options.



To add a furnace, click the **Add** button and enter the furnace details.



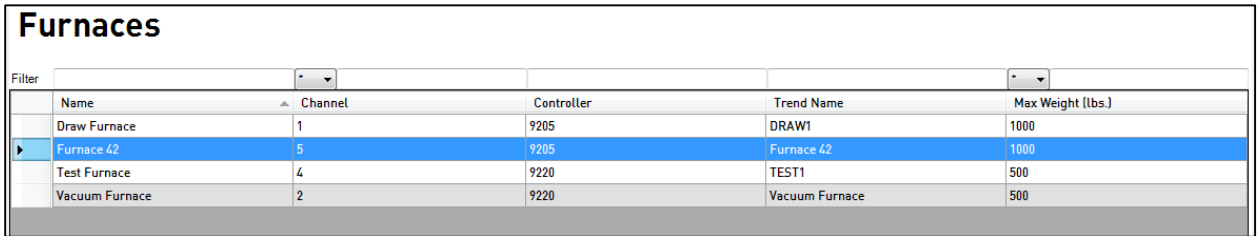
- **Name** field: Defines a name for the furnace used within Standard Load Entry.
- **Maximum Weight:** This is the maximum load weight for the furnace. If weights are configured for each part in a load, and the total calculated weight exceeds the maximum, the weight will be displayed in red on the New Load screen. In addition, when the load is run, a warning will appear. To bypass this warning, supervisor or higher access level is required.

  If the maximum weight is zero, then this feature is disabled for this furnace.
- **Channel** drop-down menu: Selects the SDIO channel that corresponds to the desired furnace.
- **Trend Name** field: Identifies the trend that data should be logged to. The ... box allows you to browse for a corresponding trend file.
- **Opcode Customization Path** field: Identifies the path to opcode customization files, if used. The ... box allows you to browse for the path.
- **Text Customization Path** field: Identifies the path where custom text files are

contained. The ... box allows you to browse for the path.

- **Run Loads Manually (No Recipes):** When this option is enabled, recipes will not be used for this furnace. All loads will be charged manually.
- **Processes** selection area: Allows you to select which Processes will be associated with this furnace. Since no processes have been set up yet, this area will be blank for now.

In the example below, four furnaces are set up. Each furnace has an SDIO channel associated with it. The controller associated with each furnace is shown, along with the trend name and maximum weight, if set.

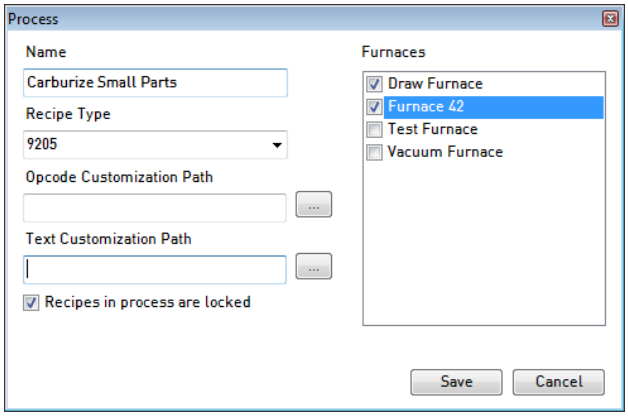


Create Processes

Now it is time to create some Processes. To do this, first click on the Processes tab. Then click on the **Add** button.

With the Process window open, you can now set up a Process.

- **Name** field: Defines a name for the Process.
- **Recipe Type** drop-down menu: Determines which controller the Process applies to.
- **Opcode Customization Path** field: Identifies the path to opcode customization files, if used. The ... box allows you to browse for the path.
- **Text Customization Path** field: Identifies the path where custom text files are contained. The ... box allows you to browse for the path.



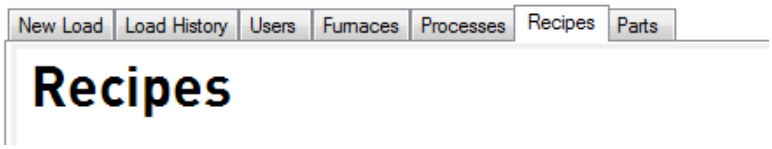
- **Recipes in process are locked**: When this option is enabled, the user cannot make temporary edits to the recipes within this Process before running a load.
- **Furnaces** selection area: Allows you to select which **Furnaces** will be associated with this **Processes**. Recipes in this Process can be run on the associated furnaces.

In the example above, a Process called "Carburize Small Parts" has been created. The recipes will be run on a 9205 controller, so the Recipe Type is 9205. The Process is locked so that no temporary changes can be made before running a load. Two furnaces, Draw Furnace and Furnace 42, are associated with the Process, meaning that recipes in that Process can be run on those furnaces.

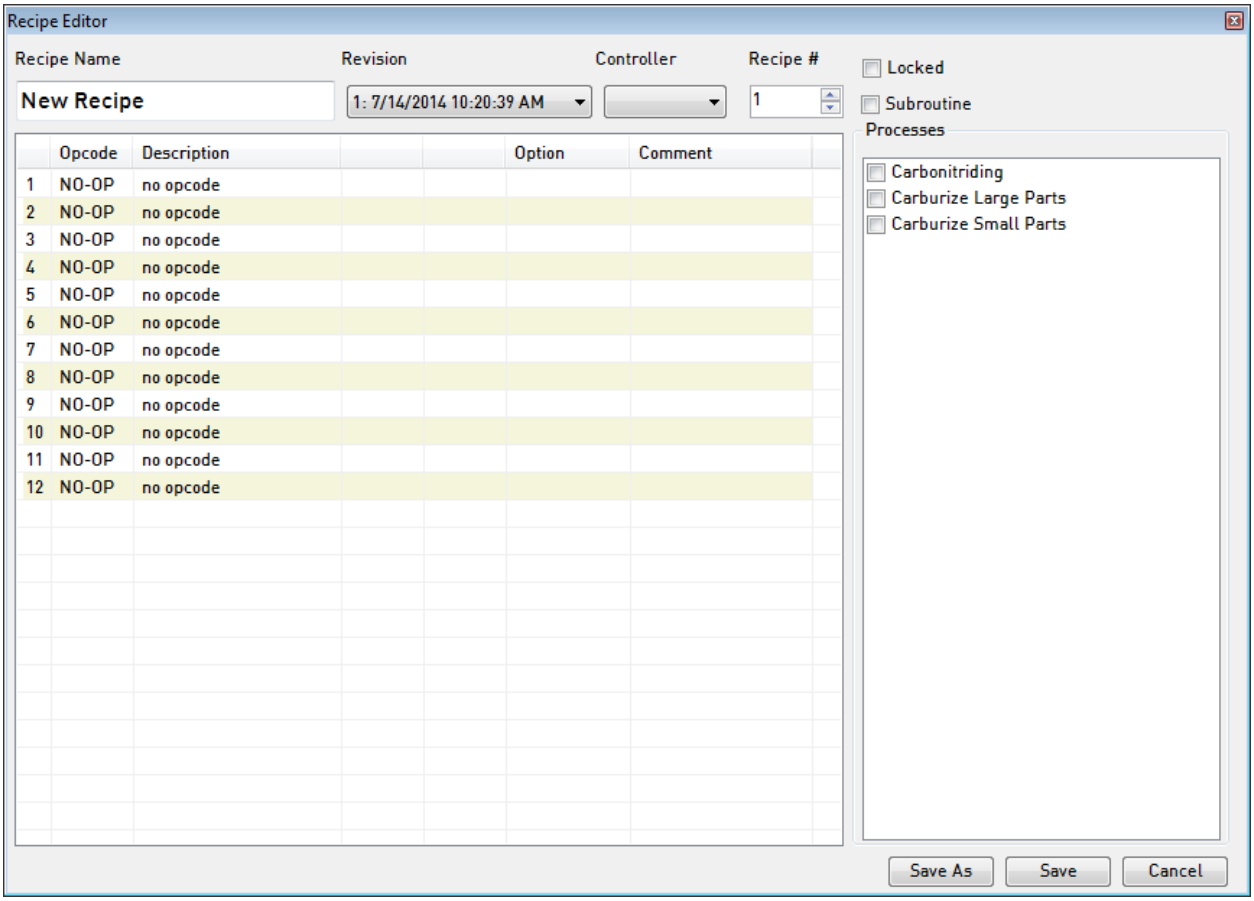
In the below list example, three Processes have been created; each of the Processes is a 9205 Process, and each is locked. After Processes have been defined, you may add recipes to them.

Add Recipes

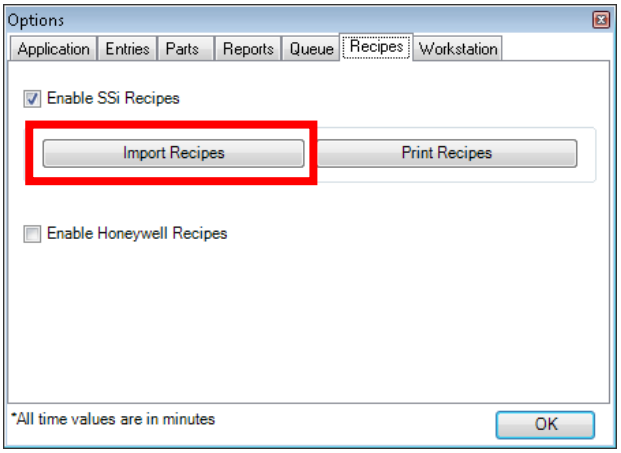
It is now time to add recipes to the Processes.



Under the Recipes tab, you will see that there is an option to **Add** recipes in Standard Load Entry. The Recipe Editor, pictured below, is very similar to the Recipe Editor used in SSi's Configurator software.

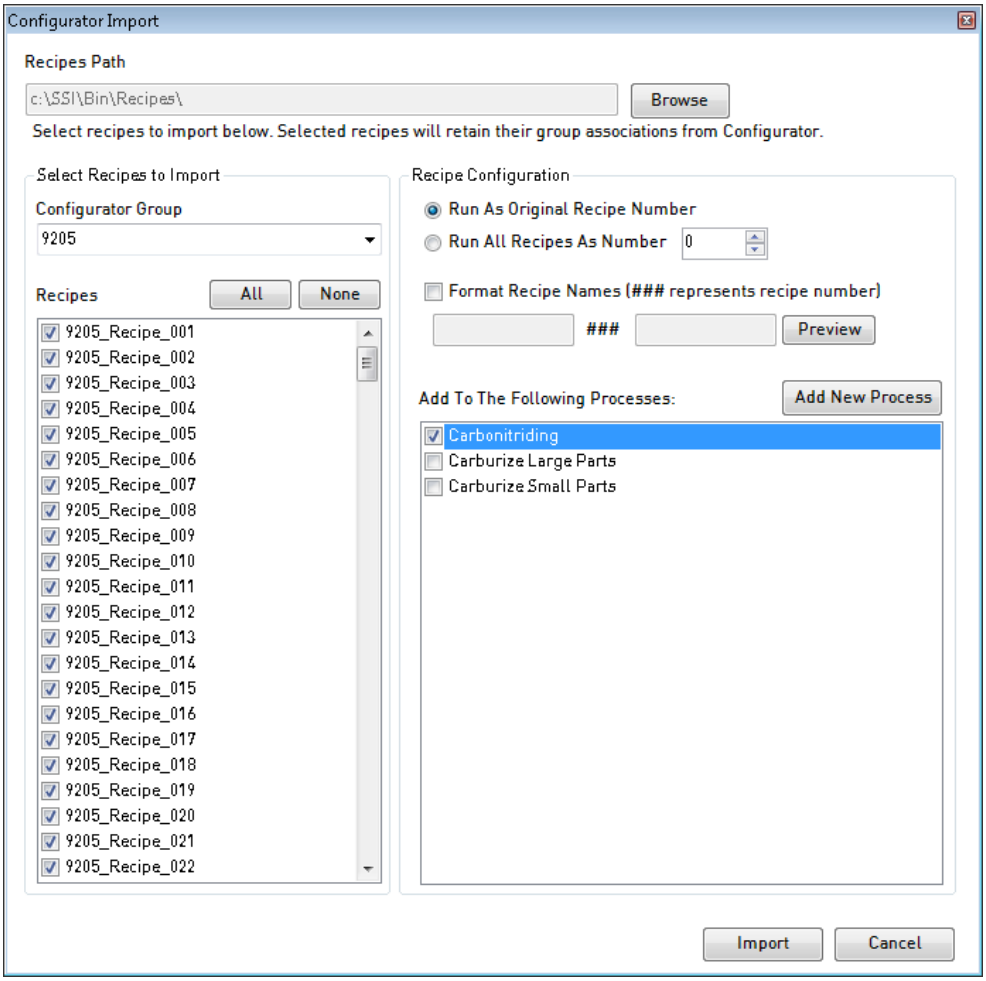


If you have recipes that are already configured for a specific controller, one option that can make the process of adding them to Load Entry easier is the **Import Recipes** option. This option is found in the **Options** menu under the Recipes tab. It is important to note that this Recipes tab is accessed by first pressing the **Options** button in Standard Load Entry (not from the main menu tabs).



For this option to work, Configurator must be installed on the computer where Standard Load Entry is installed. In addition, Configurator must be configured for use with the controller whose recipes you want to import. See the controller manual for more details, if needed.

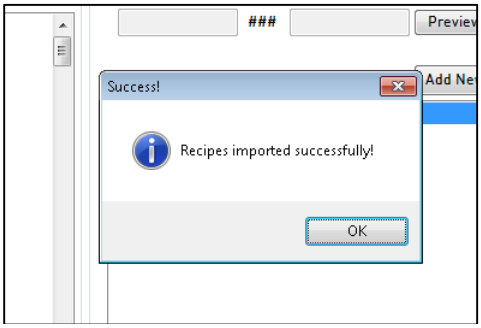
When you click **Import Recipes,** a window similar to the one pictured below will appear.



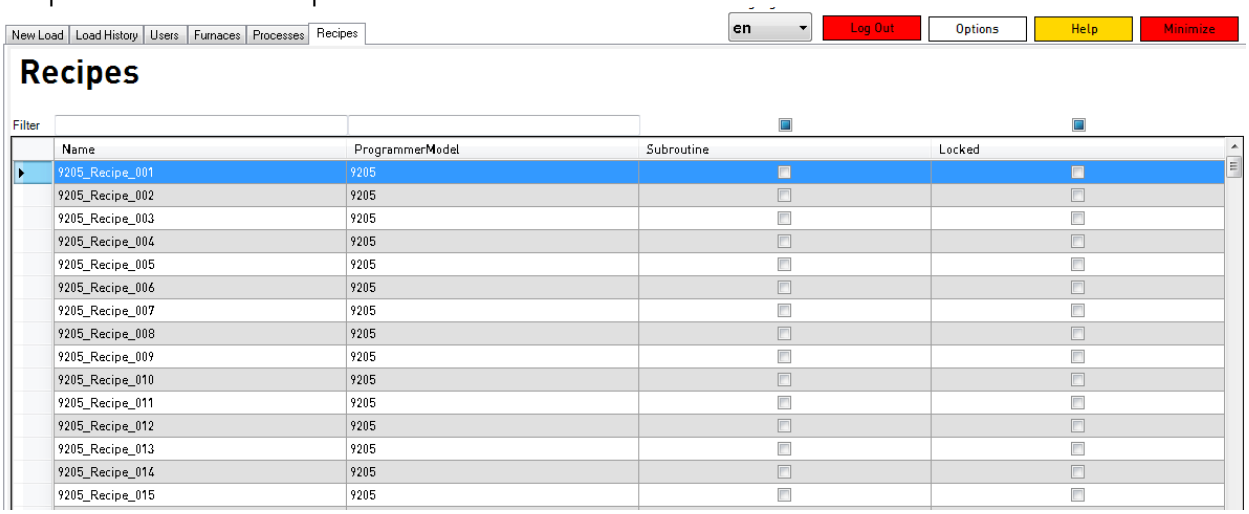
In the Configurator Import window, there are many options related to importing recipes from Configurator. Standard Load Entry imports recipes saved by SSi Configurator from the folder shown in the Recipes Path. A typical path for saved recipes is *C:|SSI|Bin|Recipes*. If the folder for your system is different, use the **Browse** button to select the proper folder.

On the left side of the Import screen, below the Recipes Path, is an area where you will select the recipes to be imported. The **Configurator Group** drop-down menu shows all of the recipe groups; usually, these will correspond to an instrument (such as the 9130 or 9220 controller). Below the Configurator Group, the recipes for the selected group will be listed (**Recipes**). On the right side of the screen, you can configure how the recipes should be run in Load Entry (**Recipe Configuration**), change the format of recipe names (**Format Recipe Names**), and finally select the process(es) to which the selected recipe(s) should be added (**Add to the Following Processes**). You can also add a new process before adding recipes to it (**Add New Process** button).

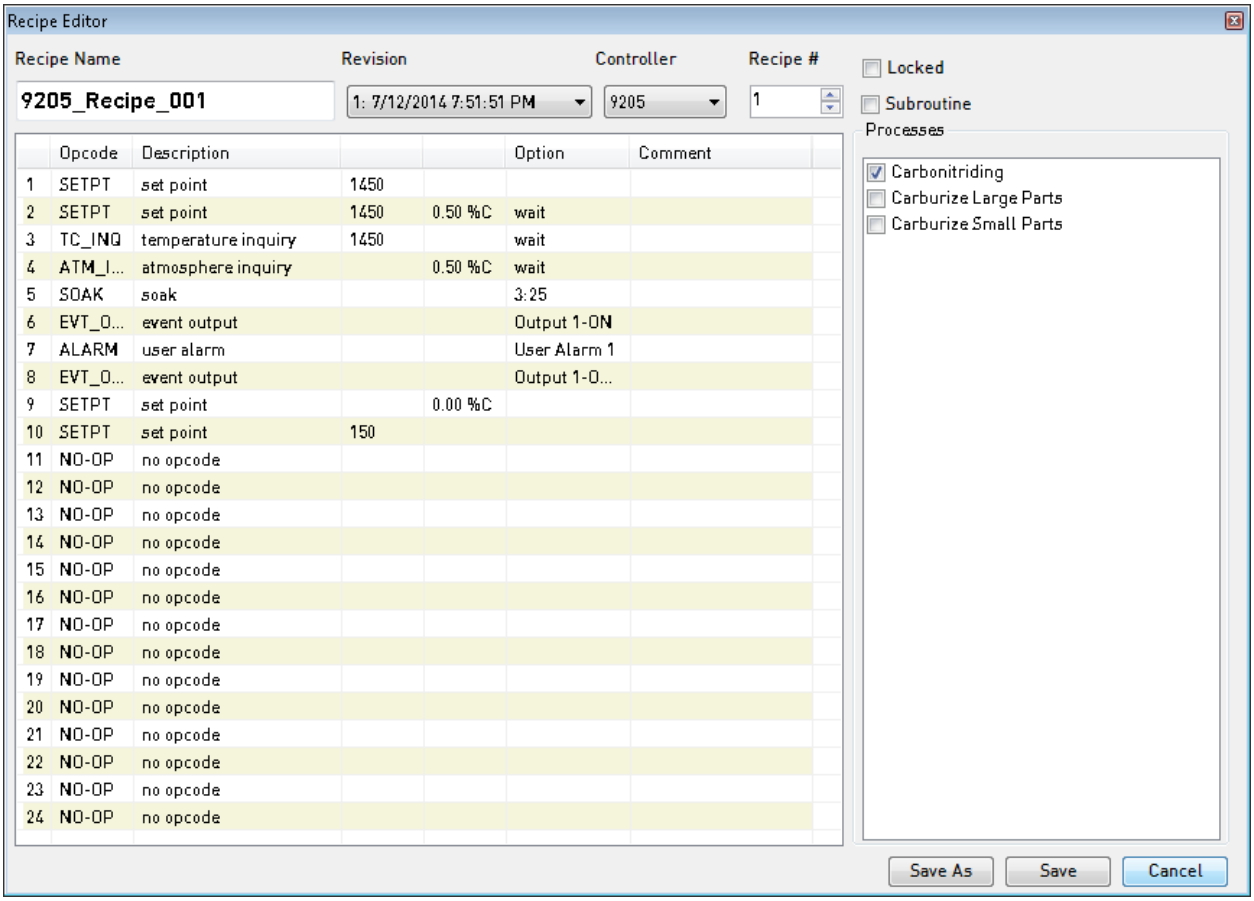
Once the import has been set up, click the **Import** button. Once the import has finished successfully, a "Recipes imported successfully!" window will appear. Click **OK** to close the window.



Exit the Recipe options menu. Under the Recipes main menu tab, you will see the imported recipes in the list of recipes.



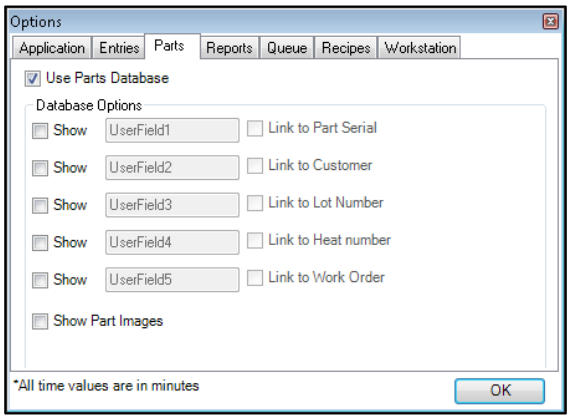
If you click on one of the recipes in the list and then click Edit, you will see all of the steps in that recipe. See the example below.



Create Parts

Once recipes are configured, you are ready to add parts, if you will be using the Parts Database in Standard Load Entry. If you will not be using the Parts Database, proceed to the section Options Setup on page 29.

Before parts can be added, the Parts Database must be enabled in Load Entry Options. To do this, click on the **Options** button and then the Parts tab in the **Options** window.



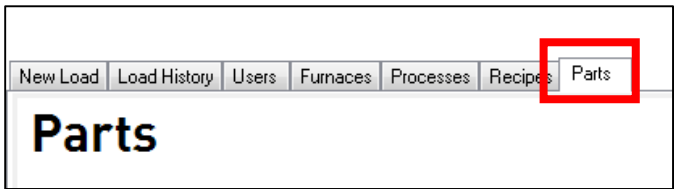
Activate the "Use Parts Database" checkbox. The Parts Database is now active, and the Parts tab will appear in the menu tabs.

If you want to use images for parts in Load Entry, make sure that the "Show Part Images" box is checked.

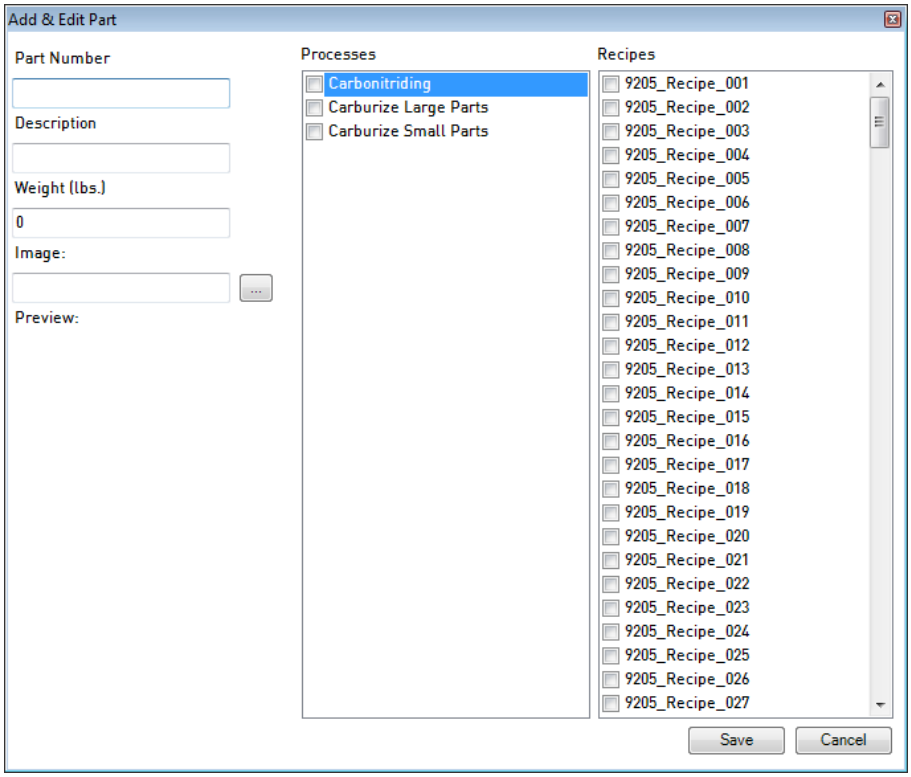
Click **OK** to continue.

(Additional features are available in this menu. These features are described in greater detail in the Parts options section on page 54.)

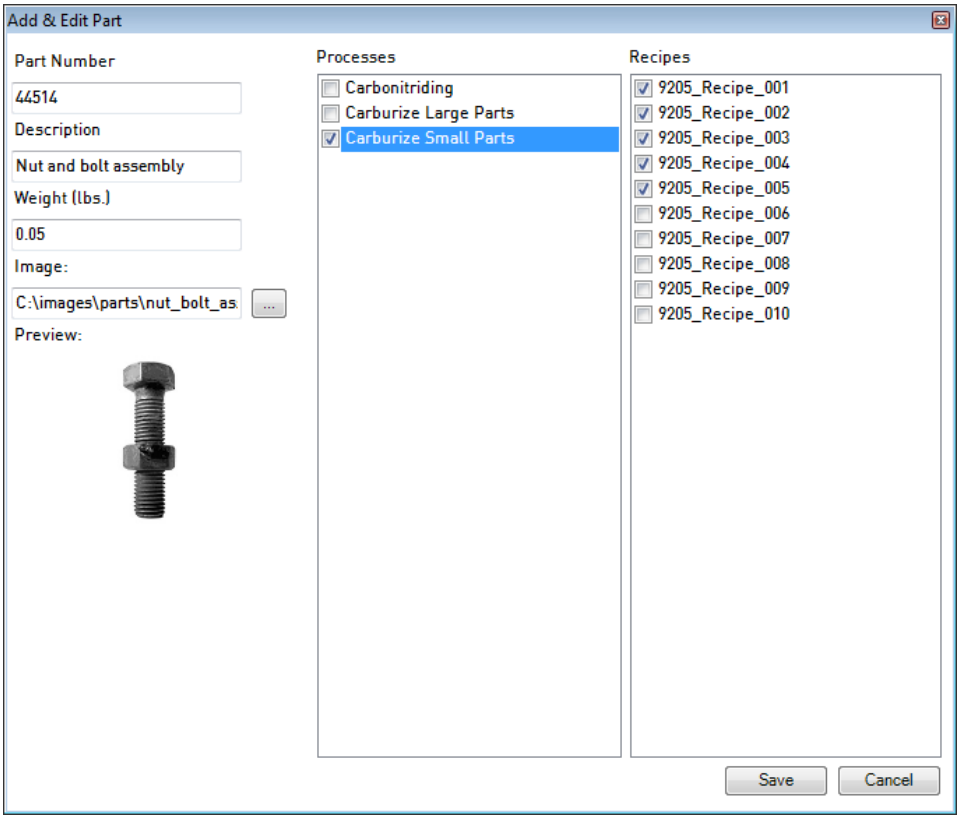
Click on the Parts tab in the main menu.



Click the **Add** button to begin adding parts. A window similar to the one pictured below will appear.



This menu allows you to enter a **Part Number**, a **Description** for the part, and a **Weight** for it. In the example shown above, the "Show Part Images" option is enabled, so an **Image** field is shown, as well as a preview area where the selected image will be shown. In the center column is the **Processes** area; here you will select the Processes that apply to this part. In the far right column, **Recipes**, you will select which recipes can be run on the part.

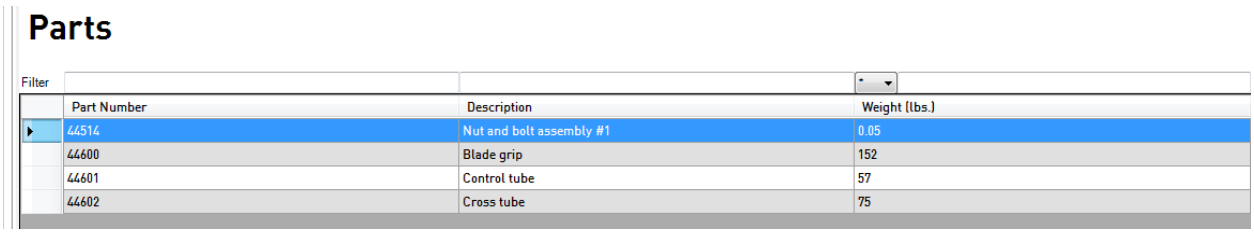


In the above example, a nut and bolt assembly has been added with Part Number 44514 and a weight of 0.05 lbs. An image has been added for the part, and that image is shown in the Preview area. The part will use the process "Carburize Small Parts", under which five 9205 recipes can be used with the part.

Click **Save** when finished setting up the part.

Repeat the above process for each part that you need to set up.

In the example below, four parts have been set up. These parts are ready to be included in a load.



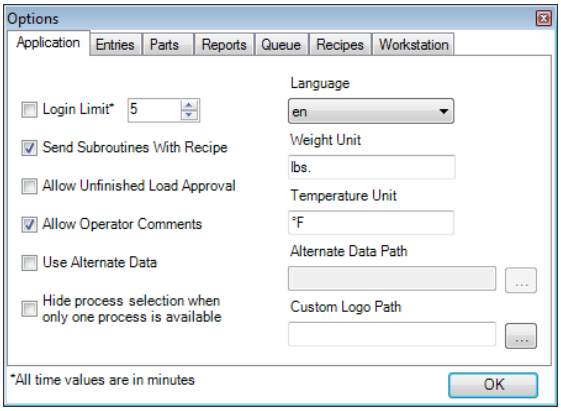
Configure Options

The remaining piece of the initial setup is to configure the options for Standard Load Entry. To configure options, click on the Options button located in the upper right corner of the main Load Entry screen. The following options will be displayed: Application, Entries, Parts, Reports, Queue, Recipes, and Workstation.

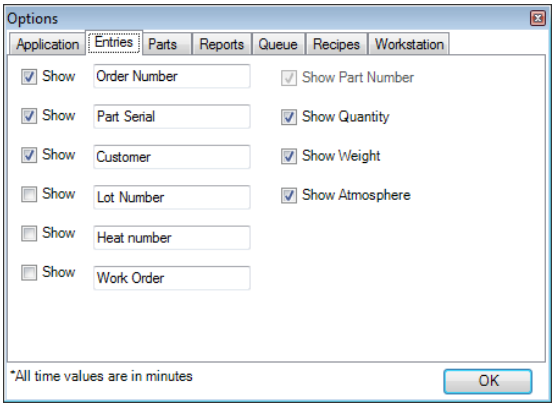
This section is intended as a guide for configuring options suitable for getting started with Standard Load Entry. The specifics of your setup will vary. For more detailed information on all options, refer to the Options Setup section beginning on page 21.

The **Application** option tab includes settings that affect how the program will operate. Typical defaults are shown.

SSi recommends setting a **Login Limit** (in minutes) for security purposes.

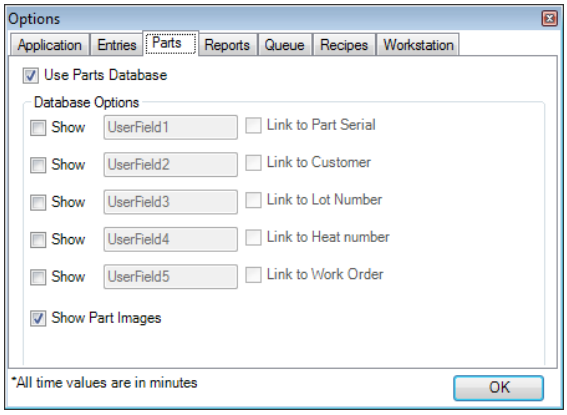


The **Entries** option tab contains settings that affect how Load Entry displays entries added in the **New Load** window. Typical defaults are shown.

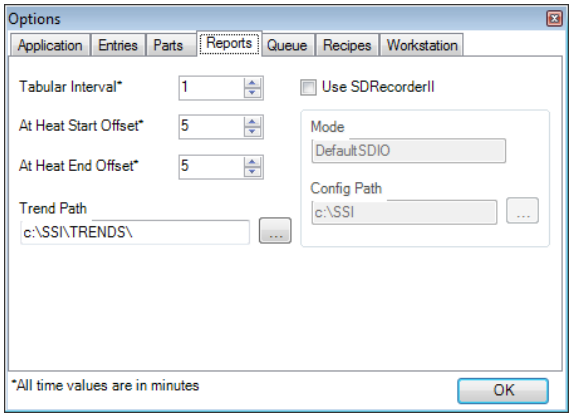


In the **Parts** option tab, you can enable or disable the Parts Database, configure which custom fields are shown in the Parts window, and enable or disable the use and display of part images.

In the example, the Parts Database is enabled, as is "Show Part Images". By default, neither the Parts Database nor part images is enabled.

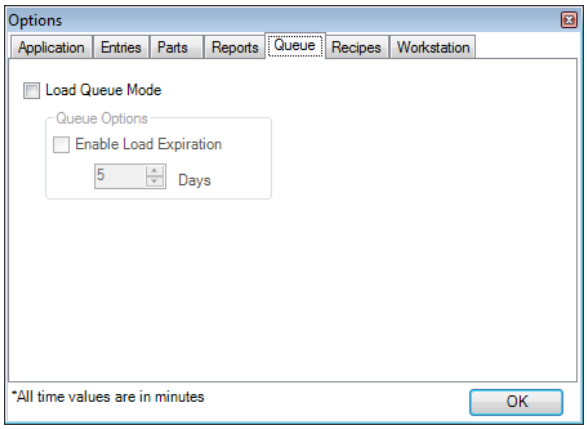


The **Reports** option tab contains settings on how Load Entry builds reports. Typical defaults are shown.



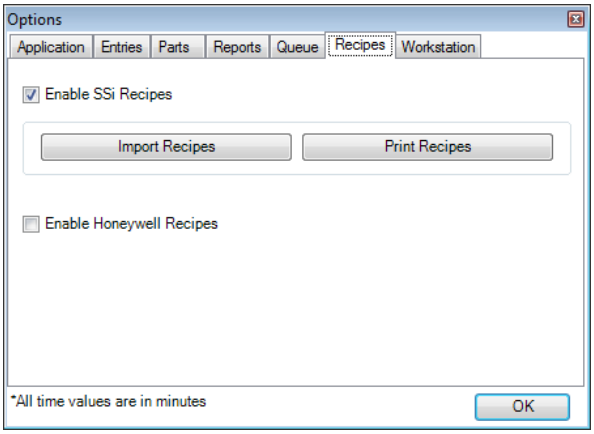
The **Queue** options tab provides the ability to enable or disable Load Queue mode and, if Load Queue mode is active, to set when a load will expire.

By default, Load Queue mode is disabled. When it is enabled, the Load Queue tab will appear in the main menu. See the Load Queue section on page 26 for more information.



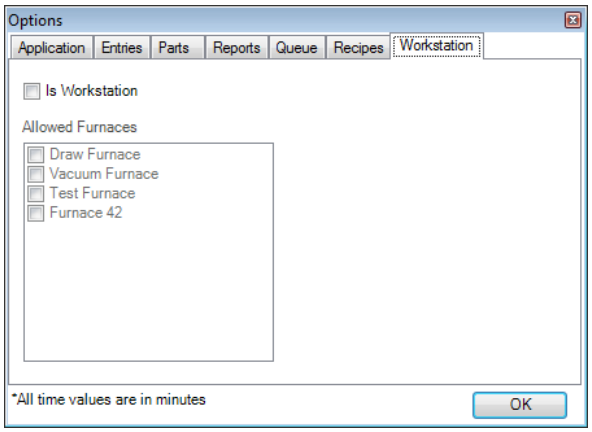
The **Recipes** options tab provides options for enabling or disabling SSi Recipes and Honeywell Recipes. SSi Recipes may be imported from Configurator and may also be printed.

By default, SSi Recipes is enabled and Honywell Recipes is disabled. If both are enabled, one tab in the main menu will read, "SSi Recipes", and the other will read "Honeywell Recipes". If only one is enabled, there will simply be a "Recipes" tab at the top of the main menu containing recipes for the enabled recipe type.



The **Workstation** options tab includes options for enabling or disabling Workstation mode ("Is Workstation") and, when Workstation mode is on, setting up which furnaces the workstation can control loads for.

By default, Workstation mode is disabled.



At this point, the initial setup is ready and Standard Load Entry is ready for operation. More details on operating Standard Load Entry can be found in the Operation section on page 31.